

*In the opinion of Bond Counsel, assuming compliance with the provisions of the Internal Revenue Code of 1986, as amended (the "Code"), as described herein, and subject to the conditions described in "TAX MATTERS" herein, interest on the Series 2017A Bonds will not be includable in the gross income of the owners thereof for federal income tax purposes under existing law. Interest on the Series 2017A Bonds will not be an item of tax preference for purposes of the federal individual or corporate alternative minimum tax but will be included in the calculation of a corporation's federal alternative minimum tax liability. The District's Enabling Act provides that the Series 2017A Bonds, their transfer and the income therefrom, including any profit made on the sale thereof, shall be exempt from taxation by the Commonwealth of Virginia and by any political subdivision thereof. See "TAX MATTERS" herein for certain provisions regarding the Code that may affect the tax treatment of interest on the Series 2017A Bonds for certain bondholders.*

**\$83,485,000**

**Hampton Roads Sanitation District, Virginia  
Subordinate Wastewater Revenue Bonds,  
Refunding Series 2017A**

**Dated: Date of Issue****Due: As shown on the inside cover**

The Series 2017A Bonds are being issued under an Amended and Restated Trust Agreement, dated as of March 1, 2016, as amended and supplemented (the "Trust Agreement"), between the Hampton Roads Sanitation District (the "District") and The Bank of New York Mellon Trust Company, N.A., as trustee (in such capacity, the "Trustee"). The proceeds of the Series 2017A Bonds will be used, together with other available funds of the District, (i) to refund a portion of the District's outstanding Senior Bonds (as defined herein) and outstanding Bonds (as defined herein) issued under the Trust Agreement, and (ii) to pay certain costs of issuing the Series 2017A Bonds.

The Series 2017A Bonds are issuable as registered bonds without coupons and will be initially registered only in the name of Cede & Co., as nominee of The Depository Trust Company, New York, New York ("DTC"), serving as securities depository for the Series 2017A Bonds. The Series 2017A Bonds will be available to purchasers in denominations of \$5,000 and any whole multiple thereof only under the book-entry system maintained by DTC through brokers and dealers that are, or that act through, DTC Participants.

Principal and interest will be paid by the Trustee, as bond registrar, to DTC or its nominee, which will remit the payments to the DTC Participants for subsequent disbursement. See "THE SERIES 2017A BONDS—Book-Entry Only System" herein. Interest on the Series 2017A Bonds is payable on each April 1 and October 1, commencing April 1, 2018.

The Series 2017A Bonds are subject to optional redemption prior to maturity as described herein.

THE SERIES 2017A BONDS ARE SPECIAL OBLIGATIONS OF THE DISTRICT PAYABLE SOLELY FROM THE NET REVENUES AVAILABLE FOR DEBT SERVICE AND OTHER FUNDS PLEDGED TO SECURE THE SERIES 2017A BONDS UNDER THE TRUST AGREEMENT. THE SERIES 2017A BONDS SHALL NOT BE DEEMED TO CONSTITUTE A DEBT, OR A PLEDGE OF THE FAITH AND CREDIT, OF THE COMMONWEALTH OF VIRGINIA OR OF ANY COUNTY, CITY, TOWN OR POLITICAL SUBDIVISION THEREOF. THE ISSUANCE OF THE SERIES 2017A BONDS SHALL NOT DIRECTLY OR INDIRECTLY OR CONTINGENTLY OBLIGATE THE COMMONWEALTH OF VIRGINIA OR ANY COUNTY, CITY, TOWN OR POLITICAL SUBDIVISION THEREOF TO LEVY OR TO PLEDGE ANY FORM OF TAXATION WHATEVER THEREFOR.

This cover page contains certain information for quick reference only. It is not a summary of this issue. Investors must read the entire Official Statement to obtain information essential to making an informed investment decision.

*The Series 2017A Bonds are offered when, as and if issued, subject to the approving opinion of Norton Rose Fulbright US LLP, Washington, D.C., Bond Counsel, and to certain other conditions. Certain legal matters will be passed upon for the District by Kellam, Pickrell, Cox & Anderson, a Professional Corporation, Norfolk, Virginia, and for the Underwriters by Kaufman & Canoles, P.C., Norfolk, Virginia. The Series 2017A Bonds are expected be available for delivery to The Depository Trust Company in New York, New York, on or about December 19, 2017.*

**BofA Merrill Lynch****Citigroup****Morgan Stanley**

December 5, 2017

**\$83,485,000**  
**Hampton Roads Sanitation District, Virginia**  
**Subordinate Wastewater Revenue Bonds, Refunding Series 2017A**

**MATURITIES, AMOUNTS, INTEREST RATES AND YIELDS**  
**Base CUSIP Number: 409327**

<b><u>Due October 1</u></b>	<b><u>Principal Amount</u></b>	<b><u>Interest Rate</u></b>	<b><u>Yield</u></b>	<b><u>CUSIP Suffix*</u></b>
2027	\$3,125,000	5.00%	2.21%	JA2
2028	8,095,000	5.00	2.28†	JB0
2029	4,335,000	5.00	2.35†	JC8
2030	4,560,000	5.00	2.41†	JD6
2031	4,790,000	5.00	2.46†	JE4
2032	5,040,000	5.00	2.51†	JF1
2033	5,300,000	5.00	2.56†	JG9
2034	5,570,000	5.00	2.61†	JH7
2035	5,860,000	5.00	2.65†	JJ3
2037	6,440,000	4.00	3.01†	JK0
2038	6,700,000	4.00	3.03†	JL8
2039	4,410,000	3.50	3.15†	JM6
2040	4,565,000	3.50	3.16†	JN4
2041	4,730,000	3.50	3.17†	JP9
2042	4,895,000	3.50	3.18†	JQ7
2043	5,070,000	3.50	3.19†	JR5

\* CUSIP® is a registered trademark of the American Bankers Association. The CUSIP number listed above is being provided solely for the convenience of bondholders only, and the District does not make any representation with respect to such number or undertake any responsibility for its accuracy. The CUSIP number is subject to being changed after the issuance of the Series 2017A Bonds as a result of various subsequent actions including, but not limited to, a change in mode or defeasance as a whole or in part of the Series 2017A Bonds.

† Priced at the stated yield to the October 1, 2027 optional redemption date.

## **HAMPTON ROADS SANITATION DISTRICT**

### **COMMISSIONERS**

FREDERICK N. ELOFSON, CPA, *Chair*

MAURICE P. LYNCH, Ph.D., *Vice-Chair*

MICHAEL E. GLENN  
WILLIE LEVENSTON, JR.  
ELIZABETH A. TARASKI, Ph.D.

VISHNU K. LAKDAWALA, Ph.D.  
STEPHEN C. RODRIGUEZ  
ANN W. TEMPLEMAN

### **STAFF**

EDWARD G. HENIFIN, P.E.  
*General Manager*

JAY A. BERNAS, P.E.  
*Director of Finance and Treasurer*

CHARLES B. BOTT, Ph.D., P.E.  
*Director of Water Technology and  
Research*

DONALD C. CORRADO  
*Director of Information  
Technology*

STEVEN G. de MIK, CPA  
*Director of Operations*

PAULA A. HOGG  
*Director of Talent Management*

PHILLIP L. HUBBARD, P.E.  
*Special Assistant for Compliance  
Assurance*

BRUCE W. HUSSELBEE, P.E.  
*Director of Engineering*

JAMES J. PLETL, Ph.D.  
*Director of Water Quality*

LEILA E. RICE, APR  
*Director of Communications*

JENNIFER L. CASCIO  
*Secretary*

### **COUNSEL, ADVISOR, TRUSTEE**

KELLAM, PICKRELL, COX & ANDERSON, A PROFESSIONAL CORPORATION  
*General Counsel*

JONES, BLECHMAN, WOLTZ & KELLY, P.C.  
*Associate Counsel*

PFM FINANCIAL ADVISORS LLC  
*Financial Advisor*

NORTON ROSE FULBRIGHT US LLP  
*Bond Counsel*

AQUALAW, PLC  
*Special Counsel*

THE BANK OF NEW YORK MELLON TRUST COMPANY, N.A.  
*Trustee and Bond Registrar*

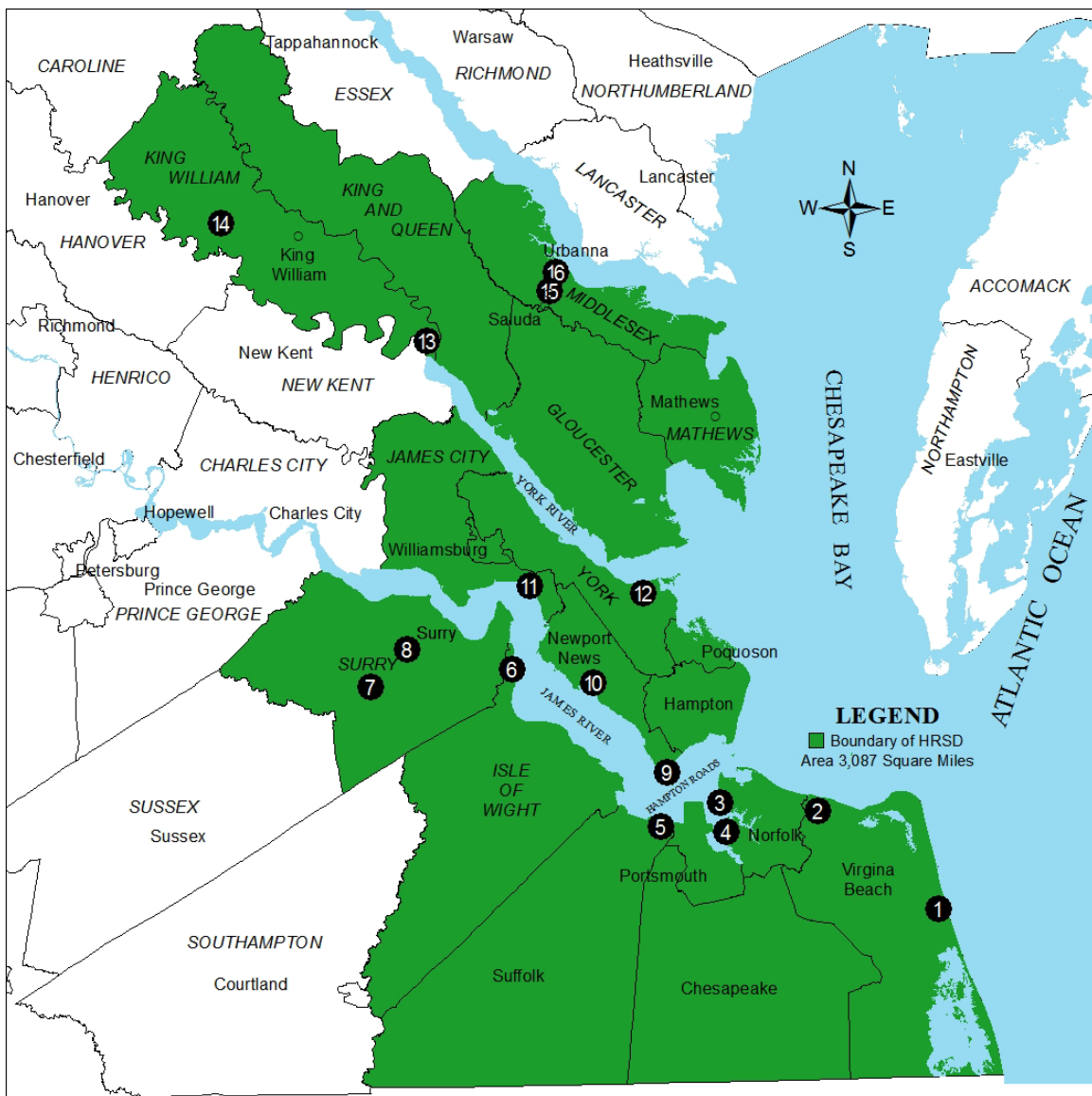
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## HRSD Service Area

Facilities include the following:

- |                                    |   |
|------------------------------------|---|
| 1. Atlantic, Virginia Beach        | 9. Boat Harbor, Newport News            |
| 2. Chesapeake-Elizabeth, Va. Beach | 10. James River, Newport News           |
| 3. Army Base, Norfolk              | 11. Williamsburg, James City County     |
| 4. Virginia Initiative, Norfolk    | 12. York River, York County             |
| 5. Nansemond, Suffolk              | 13. West Point, King William County     |
| 6. Lawnes Point, Smithfield        | 14. King William, King William County   |
| 7. County of Surry                 | 15. Central Middlesex, Middlesex County |
| 8. Town of Surry                   | 16. Urbanna, Middlesex County           |

Serving the Cities of  
Chesapeake, Hampton,  
Newport News, Norfolk,  
Poquoson, Portsmouth, Suffolk,  
Virginia Beach, Williamsburg and the  
Counties of Gloucester,  
Isle of Wight, James City,  
King and Queen, King William,  
Mathews, Middlesex, Surry\* and York  
\*Excluding the Town of Claremont



CERTAIN STATEMENTS INCLUDED IN THIS OFFICIAL STATEMENT CONSTITUTE “FORWARD-LOOKING STATEMENTS” WITHIN THE MEANING OF SECTION 27A OF THE SECURITIES ACT OF 1933, AS AMENDED, AND SECTION 21E OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED. SUCH STATEMENTS ARE GENERALLY IDENTIFIABLE BY TERMS SUCH AS “PLAN,” “PROJECT,” “EXPECT,” “ANTICIPATE,” “INTEND,” “BELIEVE,” “ESTIMATE,” “BUDGET” OR OTHER SIMILAR WORDS. THE ACHIEVEMENT OF CERTAIN RESULTS OR OTHER EXPECTATIONS CONTAINED IN SUCH FORWARD-LOOKING STATEMENTS INVOLVES KNOWN AND UNKNOWN RISKS, UNCERTAINTIES AND OTHER FACTORS THAT MAY CAUSE ACTUAL RESULTS, PERFORMANCE OR ACHIEVEMENTS DESCRIBED TO BE MATERIALLY DIFFERENT FROM ANY RESULTS, PERFORMANCES OR ACHIEVEMENTS EXPRESS OR IMPLIED BY SUCH FORWARD-LOOKING STATEMENTS. EXCEPT AS SPECIFICALLY SET FORTH HEREIN, THE DISTRICT DOES NOT PLAN TO ISSUE ANY UPDATES OR REVISIONS TO THOSE FORWARD-LOOKING STATEMENTS DUE TO CHANGES IN ITS EXPECTATIONS OR SUBSEQUENT EVENTS, CONDITIONS OR CIRCUMSTANCES ON WHICH SUCH STATEMENTS ARE BASED.

This Official Statement speaks as of its date except where specifically noted otherwise and is subject to change without notice. Neither the delivery of this Official Statement, any sale made hereunder, nor any filing of this Official Statement shall under any circumstances create an implication that there has been no change in the affairs of the District since the date of this Official Statement or imply that any information herein is accurate or complete as of any later date.

The Series 2017A Bonds are exempt from registration under the Securities Act of 1933, as amended. As obligations of a political subdivision of the Commonwealth of Virginia, the Series 2017A Bonds are also exempt from registration under the securities laws of Virginia.

No dealer, salesman or any other person has been authorized to give any information or to make any representation, other than the information and representations contained herein, in connection with the offering of the Series 2017A Bonds, and, if given or made, such information or representations must not be relied upon. This Official Statement does not constitute an offer to sell or solicitation of an offer to buy any of the Series 2017A Bonds in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation in such jurisdiction.

*The Underwriters have provided the following sentence for inclusion in this Official Statement.* The Underwriters have reviewed the information in this Official Statement in accordance with, and as part of, their responsibility to investors under the federal securities laws as applied to the facts and circumstances of the transactions contemplated by this Official Statement, but the Underwriters do not guarantee the accuracy or completeness of such information.

IN CONNECTION WITH THIS OFFERING, THE UNDERWRITERS MAY OVERALLOT OR EFFECT TRANSACTIONS THAT STABILIZE OR MAINTAIN THE MARKET PRICE OF THE SERIES 2017A BONDS AT A LEVEL ABOVE THAT WHICH MIGHT OTHERWISE PREVAIL IN THE OPEN MARKET. SUCH STABILIZING, IF COMMENCED, MAY BE DISCONTINUED AT ANY TIME.

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## **Official Statement**

### **Hampton Roads Sanitation District, Virginia**

#### **Relating to its**

**\$83,485,000**

#### **Subordinate Wastewater Revenue Bonds, Refunding Series 2017A**

### **INTRODUCTION**

This Official Statement, which includes the cover and inside cover pages hereof, the map and the appendices hereto, sets forth information concerning the Hampton Roads Sanitation District (the “District” or “HRSD”) and the District’s \$83,485,000 aggregate principal amount of Subordinate Wastewater Revenue Bonds, Refunding Series 2017A (the “Series 2017A Bonds”).

The Series 2017A Bonds are being issued in accordance with the provisions of Chapter 66 of the Acts of Assembly of Virginia of 1960, as amended (the “Enabling Act”). On November 28, 2017, the Hampton Roads Sanitation District Commission (the “Commission”), the governing body of the District, authorized by resolution the issuance of the Series 2017A Bonds. The Commission is issuing the Series 2017A Bonds for the purpose of providing funds, together with other available funds, (i) to refund, in advance of their maturity, certain outstanding Senior Bonds and certain outstanding Bonds (the “Refunding Candidates”) and (ii) to pay certain expenses incurred in connection with the issuance of the Series 2017A Bonds by the District.

The Series 2017A Bonds are special obligations of the District payable solely from the Net Revenues Available for Debt Service (hereinafter defined) derived by the District from the operation of its Wastewater System (hereinafter defined) and other funds pledged to secure the Series 2017A Bonds under the Trust Agreement (hereinafter defined). See “SECURITY AND SOURCES OF PAYMENT” and “THE SYSTEM” herein. The Commission has determined to provide for the issuance of the Series 2017A Bonds under the Amended and Restated Trust Agreement, dated as of March 1, 2016 (the “Amended and Restated Trust Agreement”), as supplemented by the Fifth Supplemental Trust Agreement, dated as of December 1, 2017 (the “Fifth Supplemental Trust Agreement” and the Amended and Restated Trust Agreement, as so supplemented and as the same may be amended and further supplemented, the “Trust Agreement”), each by and between the District and The Bank of New York Mellon Trust Company, N.A., as trustee (in such capacity, the “Trustee”).

This Official Statement contains a brief description of the Series 2017A Bonds and the District, including its service area, governance and information regarding its operations and finances.

Appendix A contains the District’s Comprehensive Annual Financial Report for the Fiscal Year ended June 30, 2017, and includes additional information regarding the District’s operations and financial condition. Appendix B contains the definitions of certain terms used in this Official Statement. Capitalized terms used but not defined herein shall have the meanings given to such terms in the Trust Agreement. Brief descriptions and summaries of certain provisions of the Series 2017A Bonds, the Trust Agreement and the Fifth Supplemental Trust Agreement are included in Appendix C.

## PLAN OF REFUNDING

### Plan of Refunding

A portion of the proceeds of the Series 2017A Bonds will be applied to refund the Refunded Bonds. The District has determined that refunding the Refunded Bonds will produce debt service savings for the District. The Refunded Bonds are set forth below:

#### Wastewater Revenue Bonds, Series 2012A

<u>Maturity (January 1)</u>	<u>Principal Amount</u>	<u>Redemption Date</u>	<u>Redemption Price</u>	<u>CUSIPs</u>
2029	\$4,365,000	January 1, 2021	100%	409327FM0
2030	4,540,000	January 1, 2021	100	409327FN8
2031	4,725,000	January 1, 2021	100	409327FP3
2032	4,910,000	January 1, 2021	100	409327FQ1
2033	5,110,000	January 1, 2021	100	409327FR9
2034	5,315,000	January 1, 2021	100	409327FS7
2039	24,680,000	January 1, 2021	100	409327HY2
2044	25,000,000	July 1, 2022	100	409327FU2

#### Subordinate Wastewater Revenue Bonds, Series 2016A

<u>Maturity (August 1)</u>	<u>Principal Amount</u>	<u>Redemption Date</u>	<u>Redemption Price</u>	<u>CUSIPs</u>
2027*	\$3,460,000	August 1, 2026	100%	409327HE6
2028*	3,970,000	August 1, 2026	100	409327HF3

To effect the refunding, a sufficient amount of the proceeds of the Series 2017A Bonds will be deposited in two separate escrow accounts, one with respect to the Wastewater Revenue Bonds, Series 2012A constituting Refunded Bonds and one with respect to the Subordinate Wastewater Revenue Bonds, Series 2016A constituting Refunded Bonds (collectively, the “Escrow Funds”) established by the District with The Bank of New York Mellon Trust Company, N.A. (in such capacity, the “Escrow Agent”), and will be invested in certain non-callable direct obligations or obligations the principal and interest on which are unconditionally guaranteed by the United States of America (“Defeasance Obligations”) that mature in amounts and pay interest at rates sufficient to pay, when due, the principal, applicable redemption premiums, if any, and interest on the Refunded Bonds through their respective maturity or redemption dates, as applicable. The sufficiency of the Escrow Funds, including Defeasance Obligations and the income thereon, to pay such amounts will be verified by Bingham Arbitrage Rebate Services Inc. See “VERIFICATION OF MATHEMATICAL COMPUTATIONS FOR THE REFUNDED BONDS.” The Escrow Agent will be given irrevocable instructions to call the callable Refunded Bonds for redemption on the applicable redemption dates and at the applicable redemption prices.

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\* Denotes partially refunded maturity. The refunded portion of the 2027 maturity has been assigned the CUSIP Number 409327JS3 and the unrefunded portion of the 2027 maturity has been assigned the CUSIP Number 409327JU8. The refunded portion of the 2028 maturity has been assigned the CUSIP Number 409327JT1 and the unrefunded portion of the 2028 maturity has been assigned the CUSIP Number 409327JV6.

## Future Financings

The District anticipates that it will finance a portion of its Capital Improvement Program (“Capital Improvement Program” or “CIP”) through the issuance of Additional Bonds (as hereinafter defined), VRA Subordinate Obligations (as hereinafter defined), and other Indebtedness subordinate to Indebtedness secured by the Trust Agreement (“Junior Obligations”). See “SECURITY AND SOURCES OF PAYMENT—Outstanding Senior Obligations,” “—Additional Senior Obligations,” “—Parity Obligations,” and “—Additional Parity Obligations.” Any acceleration of the Capital Improvement Program could result in an acceleration of the date and, potentially, an increase the size of any issuance of Indebtedness by the District.

The District has entered into a Credit Agreement, dated as of October 30, 2015, with Bank of America, N.A. (the “Credit Agreement”), pursuant to which the bank provided a line of credit in the aggregate principal amount of up to \$90,000,000 (the “Line of Credit”). In August 2016, the District reduced the maximum outstanding authorization on the Line of Credit to \$1,000,000. The District does not intend to use the Line of Credit prior to February 1, 2018, to provide interim financing for projects included in the CIP. The Line of Credit constitutes a Junior Obligation under the Trust Agreement and is secured on a subordinate basis from the lien on Net Revenues Available for Debt Service securing Parity Obligations.

The District has no current plans to issue additional Senior Obligations under the Senior Trust Agreement and plans to use the Trust Agreement as the principal operating lien for the issuance of indebtedness to finance the District’s Capital Improvement Program. See “SECURITY AND SOURCES OF PAYMENT—Additional Senior Obligations” below.

## SOURCES AND USES OF FUNDS

### Sources

Principal Amount of Series 2017A Bonds.....	\$83,485,000
Bond Premium.....	12,008,924
District Contribution.....	<u>633,644</u>
Total Sources of Funds .....	<u>\$96,127,567</u>

### Uses

Deposit to Escrow Funds.....	\$95,491,615
Costs of Issuance .....	407,308
Underwriters’ Discount .....	<u>228,644</u>
Total Uses of Funds .....	<u>\$96,127,567</u>

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Numbers may not add to totals due to rounding.

## THE SERIES 2017A BONDS

### Description

The Series 2017A Bonds will be dated, bear interest and mature as set forth on the cover and inside cover pages of this Official Statement. The Series 2017A Bonds are issuable as registered bonds without coupons in the denomination of \$5,000 or any whole multiple thereof as provided in the Trust

Agreement. Interest will be payable on each April 1 and October 1, commencing April 1, 2018, to the person in whose name such bond is registered as of the applicable Regular Record Date, which is March 15 for interest due on April 1, and September 15 for interest due on October 1.

### **Book-Entry Only System**

The Depository Trust Company (“DTC”), New York, New York, will act as securities depository for the Series 2017A Bonds. The Series 2017A Bonds will be issued as fully-registered securities registered in the name of Cede & Co. (DTC’s partnership nominee) or such other name as may be requested by an authorized representative of DTC. One fully-registered bond certificate will be issued for each maturity of the Series 2017A Bonds and will be deposited with DTC. Additional information respecting DTC and its book entry system is contained in Appendix F.

*The information in this section and in Appendix F concerning DTC and DTC’s book-entry system has been obtained from sources that the District believes to be reliable, but the District takes no responsibility for the accuracy thereof.*

DTC may discontinue providing its services as depository with respect to the Series 2017A Bonds at any time by giving reasonable notice to the District. Under such circumstances, if a successor depository is not obtained, certificates for the Series 2017A Bonds are required to be printed and delivered.

The District may decide to discontinue use of the system of book-entry transfers through DTC (or a successor securities depository). In that event, certificates for the Series 2017A Bonds will be printed and delivered.

### **Optional Redemption**

The District may, at its option, redeem the Series 2017A Bonds due on and after October 1, 2028, prior to their respective maturities, as a whole or in part, on any date, beginning October 1, 2027, at a redemption price equal to the principal amount thereof, together with interest accrued to the date fixed for redemption.

### **Notice of Redemption**

Notice of redemption is to be given not more than 60 nor less than 30 days before the redemption date by first class mail to the registered owner or owners of the Series 2017A Bonds or portions thereof to be redeemed; provided, however, that any defect in such notice or the failure so to mail any such notice to any owners of any Series 2017A Bonds will not affect the validity of the proceedings for the redemption of any other Series 2017A Bonds. **During the period that DTC or its nominee is the registered holder of the Series 2017A Bonds, the Bond Registrar will not be responsible for mailing notices of redemption to the beneficial owners of the Series 2017A Bonds. See “—Book-Entry Only System” above and Appendix F.** Each such notice will set forth the Series 2017A Bonds or portions thereof to be redeemed, the date fixed for redemption, the redemption price to be paid, and if less than all the Series 2017A Bonds will be called for redemption, the maturities of the Series 2017A Bonds to be redeemed and shall otherwise comply with Securities Exchange Act of 1934 Release No. 34-23856, dated December 3, 1986, including the requirement that notice be given to all organizations registered with the Securities and Exchange Commission as securities depositories, and to one or more information services of national recognition that disseminate redemption information with respect to tax-exempt securities. If any Series 2017A Bond is to be redeemed in part only, the notice of redemption will state also that on or after the redemption date, upon surrender of such Series 2017A Bond, a new Series 2017A Bond in an authorized

denomination and in principal amount equal to the unredeemed portion of such Series 2017A Bond will be issued.

Any notice of optional redemption of the Series 2017A Bonds may state that it is conditioned upon there being available an amount of money sufficient to pay the redemption price, consisting of par plus interest accrued and unpaid to the redemption date, and any conditional notice so given may be rescinded at any time before the payment of the redemption price if any such condition so specified is not satisfied. If a redemption does not occur after a conditional notice is given due to an insufficient amount of funds on deposit with the Trustee, the corresponding notice of redemption will be deemed to be revoked.

If the District gives an unconditional notice of redemption, then on the redemption date the Series 2017A Bonds called for redemption will become due and payable. If the District gives a conditional notice of redemption and money to pay the redemption price of the affected Series 2017A Bonds has been set aside in escrow with the Trustee for the purpose of paying such Series 2017A Bonds, then on the redemption date such Series 2017A Bonds will become due and payable. In either case, if on the redemption date the Trustee holds money to pay the Series 2017A Bonds called for redemption, thereafter no interest will accrue on those Series 2017A Bonds, and a Bondholder's right will be to receive payment of the redemption price upon surrender of those Series 2017A Bonds.

## **SECURITY AND SOURCES OF PAYMENT**

THE SERIES 2017A BONDS ARE SPECIAL OBLIGATIONS OF THE DISTRICT PAYABLE SOLELY FROM THE NET REVENUES AVAILABLE FOR DEBT SERVICE AND OTHER FUNDS PLEDGED TO SECURE THE SERIES 2017A BONDS UNDER THE TRUST AGREEMENT. THE SERIES 2017A BONDS SHALL NOT BE DEEMED TO CONSTITUTE A DEBT, OR A PLEDGE OF THE FAITH AND CREDIT, OF THE COMMONWEALTH OF VIRGINIA OR OF ANY COUNTY, CITY, TOWN OR POLITICAL SUBDIVISION THEREOF. THE ISSUANCE OF THE SERIES 2017A BONDS SHALL NOT DIRECTLY OR INDIRECTLY OR CONTINGENTLY OBLIGATE THE COMMONWEALTH OF VIRGINIA OR ANY COUNTY, CITY, TOWN OR POLITICAL SUBDIVISION THEREOF TO LEVY OR TO PLEDGE ANY FORM OF TAXATION WHATEVER THEREFOR.

### **General**

Principal of and interest on the Series 2017A Bonds will be payable from "Net Revenues Available for Debt Service" of the District pledged to the payment thereof and money held in certain funds and accounts under the Trust Agreement.

"Net Revenues Available for Debt Service" means all Net Revenues less debt service on Senior Obligations.

The realization of amounts to be derived upon the enforcement of the Series 2017A Bonds will depend upon the exercise of various remedies specified in the Trust Agreement. These and other remedies may, in many respects, require judicial action of a nature that is often subject to discretion and delay. Under existing laws, the remedies specified in the Trust Agreement may not be readily available or may be limited. A court may decide not to order the specific performance of the covenants contained in the Trust Agreement. The various legal opinions to be delivered concurrently with the delivery of the Series 2017A Bonds will be qualified as to the enforceability of the various legal instruments by limitations imposed by state and federal laws, rulings and decisions affecting remedies and by

bankruptcy, fraudulent conveyance, reorganization and other laws affecting the enforcement of creditors' rights generally.

Under the Trust Agreement, the District is subject to covenants relating to maintenance of a specified Long-Term Debt Service Coverage Ratio and restricting, among other things, incurrence of Indebtedness and the existence of liens on Property. See “—Limitations on Indebtedness” and “—Limitation on Creation of Liens” in Appendix C hereto.

### **Rate Covenant**

In the Trust Agreement, the District covenants to set and revise its rates and charges for facilities, services and products such that the Net Revenues, calculated at the end of each Fiscal Year, will equal at least 120% of the sum of (a) the Principal and Interest Requirements (as defined in the Senior Trust Agreement) on Senior Obligations and (b) the Principal and Interest Requirements on Parity Obligations (the “Rate Covenant”). If, for any reason, the Net Revenues are insufficient to satisfy the foregoing covenant, the District shall within one hundred and twenty (120) days adjust and increase its rates, fees and other charges (to the extent permitted by the Enabling Act) or reduce its current expenses so as to provide sufficient Net Revenues to satisfy the Rate Covenant.

On or before the last day of each Fiscal Year, the District will review the adequacy of its rates, fees and other charges for the next Fiscal Year, and, if such review indicates the District's rates, fees and other charges are insufficient to satisfy the Rate Covenant, the District will promptly take appropriate action to increase its rates, fees and other charges or reduce its current expenses to cure any deficiency. See “—Rate Covenant” in Appendix C hereto.

### **Outstanding Senior Obligations**

As of December 19, 2017, the District will have outstanding five series of Bonds constituting Senior Obligations under the Senior Trust Agreement, including its Wastewater Revenue Bonds, Series 2008 (the “Senior 2008 Bonds”), of which \$5,465,000 principal amount is outstanding, its Wastewater Revenue Bonds, Series 2009 (the “Senior 2009 Bonds”), of which \$123,940,000 principal amount is outstanding, its Wastewater Revenue Bonds, Series 2011 (the “Senior 2011 Bonds”), of which \$2,990,000 principal amount is outstanding, its Wastewater Revenue Bonds, Series 2012 (the “Senior 2012 Bonds”) of which \$11,030,000 principal amount is outstanding and its Wastewater Revenue Bonds, Refunding Series 2014A (the “Senior 2014 Bonds”) of which \$111,345,000 principal amount is outstanding. See “PLAN OF REFUNDING” above.

Since May 2009, the District obtained seven loans from the Virginia Resources Authority Revolving Fund and issued, in evidence of its obligations to repay such loans, its bonds constituting Senior Obligations under the Senior Trust Agreement (the “VRA Senior Bonds” and, together with the Senior Bonds, “Senior Obligations”). Such VRA Senior Bonds are secured under the Senior Trust Agreement on a parity with all other Senior Obligations, including the Senior 2008 Bonds, the Senior 2009 Bonds, the Senior 2011 Bonds, the Senior 2012 Bonds and the Senior 2014 Bonds. As of October 31, 2017, \$88,047,893 of such VRA Senior Bonds were outstanding, with no remaining undrawn authorized amount. See also “—Parity Obligations” below.

### **Additional Senior Obligations**

Under the Senior Trust Agreement, the District may issue and incur additional Senior Obligations for the District's Capital Improvement Program or to refund outstanding Senior Obligations subject to the

District's demonstrating its compliance with the conditions for the incurrence thereof under the Senior Trust Agreement or the new Senior Obligations qualifying for an exception thereto.

At this time, the District does not currently intend to issue additional Senior Obligations under the Senior Trust Agreement and instead plans to use the Trust Agreement as the principal operating lien for the issuance of indebtedness to finance the District's Capital Improvement Program. In addition, as market conditions permit, the District intends to refund outstanding Senior Obligations with the proceeds of Bonds issued under the Trust Agreement and, subject to certain conditions, certain VRA Senior Bonds will become VRA Subordinate Obligations. Notwithstanding the District's intention to use the Trust Agreement as its principal operating lien, the District has not formally closed the lien of the Senior Trust Agreement and may issue additional Senior Obligations for the purposes described above.

### **Parity Obligations**

As of December 19, 2017, the District will have outstanding four series of Bonds constituting Parity Obligations under the Trust Agreement, including its Subordinate Wastewater Revenue Bonds, Refunding Series 2012 (Federally Taxable) (the "Subordinate 2012 Bonds"), of which \$905,000 principal amount is outstanding, its Subordinate Wastewater Revenue Bonds, Series 2016A (the "Subordinate 2016A Bonds"), of which \$233,490,000 principal amount is outstanding and its variable rate Subordinate Wastewater Revenue Bonds, Series 2016B (the "Subordinate 2016B Bonds," and together with the Subordinate 2016A Bonds, the "Subordinate 2016 Bonds"), of which \$50,000,000 principal amount is outstanding and the Series 2017A Bonds.

In addition to the VRA Senior Bonds described under "—Outstanding Senior Obligations" above, since 1993, the District has borrowed over \$177 million from the Virginia Resources Authority Revolving Loan Fund and issued, in evidence of its obligations to repay such loans, 13 issues of bonds that are outstanding Parity Indebtedness and recognized as such under the Trust Agreement (the "VRA Subordinate Obligations" and collectively, with the Subordinate 2012 Bonds, the Subordinate 2016 Bonds, the Series 2017A Bonds, when, as and if issued, and other Bonds or additional VRA Subordinate Obligations issued from time to time under the provisions of the Trust Agreement, the "Parity Obligations"). As of December 19, 2017, the outstanding drawn amount of the VRA Subordinate Obligations was \$53.2 million and an undrawn authorized amount of \$61.5 million. The terms of the VRA Subordinate Obligations generally state that the lien thereof on the Net Revenues of the District is in all respects subordinate and inferior to the lien thereon of Senior Obligations outstanding under the Senior Trust Agreement. Generally, after an initial period where no interest accrues on such VRA Subordinate Obligations, interest accrues on the disbursed principal of the outstanding VRA Subordinate Obligations at interest rates ranging from 1.70% to 3.75% per annum, and principal and interest are payable in installments over the 20-year terms of the VRA Subordinate Obligations. The VRA Subordinate Obligations have been issued for various improvements and upgrades at several of the District's treatment plants. See the table "DEBT SERVICE REQUIREMENTS FOR SENIOR OBLIGATIONS AND PARITY OBLIGATIONS" and "—Limitation on Creation of Liens" in Appendix C. The Series 2017A Bonds are on parity under the Trust Agreement with the Outstanding VRA Subordinate Obligations as to their subordinate lien on the Net Revenues of the District.

### **Additional Parity Obligations**

Under the Trust Agreement, the District may issue Additional Parity Obligations, including Additional Bonds and VRA Subordinate Obligations, for the District's Capital Improvement Program or to refund outstanding Senior Indebtedness or Parity Obligations subject to the District's demonstrating its compliance with the conditions for the incurrence thereof under the Trust Agreement or qualifying for an exception thereto. The District anticipates that it will finance a portion of its Capital Improvement

Program with future issues of Additional Parity Obligations, which may be evidenced by additional VRA Subordinate Obligations, and Junior Obligations, which are subordinate to Parity Obligations. See “— Limitations on Indebtedness” in Appendix C.

### **Amendments relating to VRA Obligations**

Pursuant to a Master Financing Agreement, dated as of February 1, 2016, as amended and supplemented (the “VRA Financing Agreement”), between the District and VRA relating to the VRA Senior Bonds and the VRA Subordinate Obligations (collectively, the “VRA Obligations”), VRA and the District have amended and restated all of the Financing Agreements pursuant to which the VRA Obligations were issued and have agreed that, under certain conditions set forth in the VRA Financing Agreement, some or all of the VRA Senior Bonds will become VRA Subordinate Obligations secured as Parity Obligations under the Trust Agreement and will no longer be Senior Obligations secured under the Senior Trust Agreement (the “Migrating VRA Senior Bonds”). The Migrating VRA Senior Bonds will, from time to time, convert from senior lien status to parity lien status, subject to the following conditions set forth in the VRA Financing Agreement:

- (a) There are no existing defaults or events of default under the terms of any debt of the District;
- (b) The Senior Trust Agreement is legally closed to the issuance of additional debt;
- (c) The District maintains at least a “AA-” or equivalent rating by two nationally-recognized statistical rating organizations on its debt outstanding under the Trust Agreement;
- (d) The District has not issued any Senior Obligations after the date of the VRA Financing Agreement;
- (e) Beginning with its Fiscal Year ended June 30, 2017, the District demonstrates that it has complied with the budgetary principles of its financial policy in effect as of the dated date of the VRA Financing Agreement to budget for minimum total debt service coverage of 1.4 times, i.e., such budgetary principles providing in pertinent part that the District will adopt operating and capital budgets that it projects will enable the District to maintain net revenues at a minimum of 1.4 times total debt service requirements, and in calculating compliance with the foregoing, the District may make reasonable adjustments to net revenues as presented on a GAAP basis;
- (f) Receipt by the District of various certificates and opinions, in form and substance satisfactory to VRA; and
- (g) The District has amortized or defeased its Senior Obligations such that the total par amount of debt outstanding under the Senior Trust Agreement is 15% or less of the par amount of the District’s total debt outstanding (taking into account the Migrating VRA Senior Bonds).

If only conditions (a) through (f) above are met (and condition (g) is not), the Migrating VRA Senior Bonds are to migrate from time to time to the position of Parity Obligations on a pro rata basis such that the ratio of VRA to District debt with a pledge of Net Revenues senior to the Parity Bonds is maintained at approximately 16.5% per Fiscal Year. Unless VRA and the District agree otherwise in writing, the Migrating VRA Senior Bonds are to migrate to the position of VRA Subordinate Obligations in reverse order of maturity. The Migrating VRA Senior Bonds may become VRA Subordinate Obligations without



meeting any of the incurrence tests set forth in the Trust Agreement. See “—Limitations on Indebtedness” in Appendix C.

Once a Migrating VRA Senior Bond has migrated to the position of a Parity Obligation, such migration will not be reversed at a later date due to the District no longer meeting conditions (a), (c), (e) or (g) set forth above.

The conditions to migration of VRA Senior Bonds to parity lien status are not covenants with VRA (or under the Senior Trust Agreement or the Trust Agreement), and any failure of the District to meet such conditions will not constitute a default under the VRA Financing Agreement, the Senior Trust Agreement or the Trust Agreement. The sole consequence of a failure to meet any such condition under the VRA Financing Agreement would be that the VRA Senior Bonds would not convert from senior lien status to parity lien status pursuant to the VRA Financing Agreement.

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**DEBT SERVICE REQUIREMENTS  
FOR PARITY OBLIGATIONS<sup>(1)</sup>**

<b>Fiscal Year Ending June 30,</b>	<b>Series 2017A Bonds</b>			<b>Outstanding Parity Obligations Debt Service<sup>(2)</sup></b>	<b>Total Parity Obligations Debt Service</b>
	<b><u>Principal</u></b>	<b><u>Interest</u></b>	<b><u>Debt Service</u></b>		
2018	-	\$1,044,877	\$ 1,044,877	\$21,138,226	\$22,183,102
2019	-	3,687,800	3,687,800	21,125,725	24,813,525
2020	-	3,687,800	3,687,800	23,820,088	27,507,888
2021	-	3,687,800	3,687,800	23,301,143	26,988,943
2022	-	3,687,800	3,687,800	25,917,012	29,604,812
2023	-	3,687,800	3,687,800	22,916,926	26,604,726
2024	-	3,687,800	3,687,800	22,707,867	26,395,667
2025	-	3,687,800	3,687,800	22,707,283	26,395,083
2026	-	3,687,800	3,687,800	23,120,432	26,808,232
2027	-	3,687,800	3,687,800	28,419,766	32,107,566
2028	3,125,000	3,609,675	6,734,675	21,935,863	28,670,538
2029	8,095,000	3,329,175	11,424,175	17,196,833	28,621,008
2030	4,335,000	3,018,425	7,353,425	21,264,375	28,617,800
2031	4,560,000	2,796,050	7,356,050	32,049,142	39,405,192
2032	4,790,000	2,562,300	7,352,300	30,061,767	37,414,067
2033	5,040,000	2,316,550	7,356,550	30,056,458	37,413,008
2034	5,300,000	2,058,050	7,358,050	30,057,650	37,415,700
2035	5,570,000	1,786,300	7,356,300	29,801,465	37,157,765
2036	5,860,000	1,500,550	7,360,550	26,818,314	34,178,864
2037	-	1,354,050	1,354,050	32,950,148	34,304,198
2038	6,440,000	1,225,250	7,665,250	26,474,419	34,139,669
2039	6,700,000	962,450	7,662,450	11,770,649	19,433,099
2040	4,410,000	751,275	5,161,275	11,748,265	16,909,540
2041	4,565,000	594,213	5,159,213	11,727,913	16,887,125
2042	4,730,000	431,550	5,161,550	11,702,798	16,864,348
2043	4,895,000	263,113	5,158,113	11,699,900	16,858,012
2044	5,070,000	88,725	5,158,725	11,695,793	16,854,518
2045	-	-	-	11,656,650	11,656,650
2046	-	-	-	11,603,370	11,603,370
2047	-	-	-	8,498,000	8,498,000
2048	-	-	-	78,592	78,592
TOTAL	<u>\$83,485,000</u>	<u>\$62,882,777</u>	<u>\$146,367,777</u>	<u>\$636,022,832</u>	<u>\$782,390,608</u>

(1) Numbers may not add to totals due to rounding.

(2) Assumes that none of the VRA Senior Bonds become Migrating VRA Senior Bonds. The Subordinate 2016B Bonds, which constitute Variable Rate Indebtedness, are assumed to bear interest at 2.5%. No assurance can be given, however, that the rate on the Subordinate 2016B Bonds will not be higher than assumed above. Debt service is shown net of debt service on the Refunded Bonds.

**DEBT SERVICE REQUIREMENTS  
FOR SENIOR OBLIGATIONS AND  
PARITY OBLIGATIONS<sup>(1)</sup>**

<b>Fiscal Year Ending June 30,</b>	<b>Total Senior Obligations Debt Service<sup>(2)</sup></b>	<b>Total Parity Obligations Debt Service<sup>(3)</sup></b>	<b>Total Debt Service</b>
2018	\$35,702,266	\$22,183,102	\$57,885,368
2019	33,591,978	24,813,525	58,405,503
2020	33,531,458	27,507,888	61,039,346
2021	31,909,422	26,988,943	58,898,364
2022	30,373,591	29,604,812	59,978,404
2023	33,556,214	26,604,726	60,160,941
2024	33,473,648	26,395,667	59,869,316
2025	33,388,822	26,395,083	59,783,905
2026	32,632,625	26,808,232	59,440,857
2027	27,162,088	32,107,566	59,269,654
2028	27,061,025	28,670,538	55,731,563
2029	26,951,999	28,621,008	55,573,007
2030	26,838,575	28,617,800	55,456,375
2031	16,466,737	39,405,192	55,871,929
2032	13,327,125	37,414,067	50,741,193
2033	11,374,335	37,413,008	48,787,342
2034	9,257,583	37,415,700	46,673,283
2035	9,121,146	37,157,765	46,278,911
2036	8,979,755	34,178,864	43,158,619
2037	8,832,825	34,304,198	43,137,023
2038	8,679,768	34,139,669	42,819,437
2039	8,519,999	19,433,099	27,953,098
2040	8,352,932	16,909,540	25,262,472
2041	-	16,887,125	16,887,125
2042	-	16,864,348	16,864,348
2043	-	16,858,012	16,858,012
2044	-	16,854,518	16,854,518
2045	-	11,656,650	11,656,650
2046	-	11,603,370	11,603,370
2047	-	8,498,000	8,498,000
2048	-	<u>78,592</u>	<u>78,592</u>
TOTAL	<u>\$509,085,918</u>	<u>\$782,390,608</u>	<u>\$1,291,476,526</u>

(1) Numbers may not add to totals due to rounding.

(2) See "SECURITY AND SOURCES OF PAYMENT—Outstanding Senior Obligations." Debt service is shown net of debt service on the Refunded Bonds.

(3) Assumes that none of the VRA Senior Bonds become Migrating VRA Senior Bonds. The Subordinate 2016B Bonds, which constitute Variable Rate Indebtedness, are assumed to bear interest at 2.5%. No assurance can be given, however, that the rate on the Subordinate 2016B Bonds will not be higher than assumed above. Debt service is shown net of debt service on the Refunded Bonds.

## **HAMPTON ROADS SANITATION DISTRICT**

### **Authorization and Purpose**

Creation of the District was approved in a 1940 public referendum authorized by the Virginia General Assembly. A political subdivision of the Commonwealth of Virginia (the “Commonwealth”), the District was established as a governmental instrumentality to provide for the public health and welfare. Chapter 66, Acts of the Assembly of 1960, validated and confirmed prior legislation creating the District and repealed earlier acts of the Virginia General Assembly enacted with respect to the District.

The District was created for the specific purpose of abating pollution in the Hampton Roads area of Virginia through the interception of existing wastewater outfalls, the construction of wastewater treatment facilities and the installation of interceptors throughout the service area. The District does not provide water, solid waste disposal or storm water mitigation. The cities, counties and military establishments the District serves provide those services. With the exception of the Counties of King William, King and Queen, Middlesex, Mathews and Surry, excluding the Town of Claremont, the collection system, consisting of lateral sewers and sub trunk facilities that carry wastewater from industries, homes, apartments and businesses to the District’s interceptor system, are the responsibility of the various cities, counties and military establishments within the District.

The District is a separate legal entity from the various cities, counties and military establishments within the District. See “—The Commission” below.

### **History**

The District traces its origins to 1925, when the Virginia Department of Health condemned a large oyster producing area in Hampton Roads. The closure resulted in the Virginia General Assembly creating in 1927 a “Commission to Investigate and Survey the Seafood Industry of Virginia.” Subsequent studies recommended a public body to construct and operate a sewage system in the area.

In 1934, the Virginia General Assembly created the Hampton Roads Sanitation Disposal Commission with instructions to plan the elimination of pollution in Hampton Roads. Recommendations were made to the General Assembly which resulted in the Sanitary Districts Law of 1938, along with “An Act to provide for and create the Hampton Roads Sanitation District.” In a referendum held on November 5, 1940, a majority of the voters approved the creation of the District.

The District’s first construction project, the Warwick County Trunk Sewer, began on June 26, 1946. The District commenced operations on July 1, 1946, using facilities acquired from the United States Government. The District’s first treatment plant, the Army Base Plant, commenced operations on October 14, 1947. Since that time, the facilities of the District have been expanded to provide wastewater treatment service to all major population centers within its boundaries.

### **The Commission**

The District operates under the direction of its governing body, the Hampton Roads Sanitation District Commission (the “Commission”), comprised of eight members appointed by the Governor for staggered terms of four years. Members of the Commission may be reappointed without limitation and may be suspended or removed by the Governor at his pleasure. The Commission annually elects one of its members as Chair and another as Vice-Chair. Under the Enabling Act, the eight members of the Commission must be residents of the cities and counties of the District as follows: one member from each of the cities of Chesapeake, Hampton, Newport News, Norfolk, Portsmouth and Virginia Beach; one

member from the City of Suffolk, Isle of Wight County or Surry County; and one member from the City of Williamsburg or Poquoson, or Gloucester, James City, King William, King and Queen, Mathews, Middlesex, or York County or the Town of Urbanna.

The Commission is empowered, among other things, to (1) construct and to improve, extend, enlarge, reconstruct, maintain, equip, repair and operate a wastewater system or systems, either within or without or partly within and partly without the corporate limits of the District, and to construct wastewater improvements within the corporate limits of the District, (2) issue the District's bonds, payable solely from revenues, to pay all or part of the cost of a wastewater system, (3) fix, revise, charge and collect rates, fees and charges for the use of and for the services of any system operated by the District, (4) enter into contracts with any unit, including counties, cities and other authorities, relating to the furnishing of services of the District, and (5) acquire real or personal property necessary in connection with wastewater systems or wastewater improvements.

The current members of the Commission and their biographies are set forth below.

<b><u>Commissioners</u></b>	<b><u>Residence</u></b>	<b><u>Occupation</u></b>	<b><u>Term Expires June 7,</u></b>
Frederick N. Elofson, CPA, <i>Chair</i>	Newport News	Retired Certified Public Accountant and Personal Financial Specialist, Goodman & Company, LLP	2018
Maurice P. Lynch, Ph.D., <i>Vice-Chair</i>	Williamsburg	Professor Emeritus, Virginia Institute of Marine Science, College of William and Mary	2021
Michael E. Glenn	Norfolk	President, Luna Development Services, LLC	2019
Vishnu K. Lakdawala, Ph.D.	Virginia Beach	Associate Professor, Electrical and Computer Engineering, Old Dominion University	2018
Willie Levenston, Jr.	Portsmouth	Retired Supervisor Electronic Engineer, Norfolk Naval Shipyard	2019
Stephen C. Rodriguez	Chesapeake	Owner and President, Cruco, Inc.	2020
Elizabeth A. Taraski, Ph.D.	Suffolk	President and CEO, Nansemond River Preservation Alliance	2021
Ann W. Templeman	Hampton	Senior Business Support Analyst, Virginia Natural Gas	2020

**Frederick N. Elofson, CPA, Chair.** Mr. Elofson, a member of the Commission since July 1, 2006, is a Certified Public Accountant and retired senior partner in Dixon Hughes Goodman LLP, in Newport News. He earned a bachelor's degree in accounting from West Virginia University and has more than 30 years of accounting experience. A former chair of the board and treasurer of the Peninsula Chamber of Commerce, Mr. Elofson remains active in numerous professional and civic organizations. He is a past treasurer and board member of the Schooner Virginia Project, a past president of the Peninsula Estate Planning Council, treasurer and Sunday School teacher at First Baptist Church Newport News, member of the Committee on Investments for the City of Newport News Retirement Fund and has been honored as a Chamber of Commerce Volunteer of the Year. Mr. Elofson resides in the City of Newport News.

**Maurice P. Lynch, Ph.D., Vice-Chair.** Dr. Lynch, a member of the Commission since August 24, 2009, is professor emeritus of the College of William and Mary's Virginia Institute of Marine Science. Upon earning his bachelor's degree from Harvard College, Dr. Lynch was commissioned an ensign in the U.S. Navy Reserve and remained on active duty with the Underwater Demolition Team until July 1962. After filling numerous reserve billets, he retired in 1988 with the rank of Captain USNR. Dr. Lynch earned his master's and doctoral degrees from the College of William and Mary, where he has been a member of the faculty since 1972. He has been a liaison to numerous universities as well as state and federal agencies. He has served as the Virginia Sea Grant director, director of the Chesapeake Bay Research Consortium and director of the Chesapeake Bay National Estuarine Research Reserve in Virginia. He has been an officer of several professional organizations, including the Virginia Academy of Science, the Coastal Society and the National Estuarine Research Reserve Association. Dr. Lynch also has served two terms on the Chesapeake Bay Foundation ("CBF") board of trustees and been a leader of CBF's York chapter. He served on the Middle Peninsula Planning District Commission from 1997 to 2015 and has served as its chair. Dr. Lynch resides in Williamsburg.

**Michael E. Glenn, Commissioner.** Mr. Glenn, a member of the Commission since May 13, 2008, is president of Luna Development Services, LLC. The firm, which offers full-service general contracting and real estate development services, is a Certified Virginia Minority Business Enterprise. Before founding his firm in 2004, Mr. Glenn was Director of Operations, Real Estate Services and Contracts for Troutman Sanders, LLP. He also has served as a development executive for Armada Hoffer Development and as a Wachovia Bank vice president. Mr. Glenn received a bachelor's degree in psychology, with a minor in biology, from Old Dominion University. Mr. Glenn resides in the City of Norfolk.

**Vishnu K. Lakdawala, Ph.D., Commissioner.** Dr. Lakdawala, a member of the Commission since June 8, 2002, obtained his undergraduate degree in electrical engineering from Bangalore University in India in 1972 and his Master of Engineering in High Voltage Engineering from Indian Institute of Science in 1974. He worked as Research and Development Engineer in Jyoti Limited for three years in the high voltage instrument transformers division. He received his Ph.D. in electrical engineering from the University of Liverpool in 1980. After serving as senior research associate in the Department of Electrical Engineering and Electronics in the University of Liverpool for a year, he joined Oak Ridge National Laboratory, Oak Ridge, Tennessee, where he conducted research for a year. He joined the faculty of Old Dominion University in 1983 as Assistant Professor in the Department of Electrical and Computer Engineering. He is currently the Chief Departmental Advisor and Associate Professor of Electrical and Computer Engineering. Dr. Lakdawala has served as the president and chairman of the Board of Trustees of the Hindu Temple of Hampton Roads. Dr. Lakdawala resides in the City of Virginia Beach.

**Willie Levenston, Jr., Commissioner.** Mr. Levenston, a member of the Commission since September 9, 2014, earned his Bachelor of Science in Engineering from Southern University in Baton

Rouge, Louisiana. He retired from the Norfolk Naval Shipyard in 2008 after more than 40 years of service. In his capacity as Supervisor Electronics Engineer, Mr. Levenston was responsible for Surface Ship Exterior Radio Communications, Secure/Communication Information Processing, Naval Tactical Data Systems, Search Radar, Electronics Countermeasure/Navigational Aids, and the Submarine Communication sections. Mr. Levenston resides in the City of Portsmouth.

**Stephen C. Rodriguez, Commissioner.** Mr. Rodriguez, a member of the Commission since October 5, 2012, is the owner and president of Cruco Inc., which provides construction services in Hampton Roads. He currently serves chair of the board of directors of the Outer Banks Hospital. Mr. Rodriguez was named chairman of the Foundation for Virginia Natural Resources and has served as president of the Deep Creek Ruritan Club. He also has been a member of the Chesapeake School Board, the Chesapeake Economic Development Authority and the board of directors of Opportunity, Inc., and has served as vice chairman of the Chesapeake Regional Medical Center Board. He holds a bachelor's degree in civil engineering technology and a certificate in civic leadership from Old Dominion University. Mr. Rodriguez resides in the City of Chesapeake.

**Elizabeth A. Taraski, Ph.D., Commissioner.** Dr. Taraski, a member of the Commission since June 8, 2017, is the president and CEO of the Nansemond River Preservation Alliance in Suffolk, Virginia. Dr. Taraski previously served in senior fundraising management positions at Christopher Newport University, Old Dominion University and the University of Richmond. Before moving to Virginia in 1998, Dr. Taraski was Director, Administration and Industrial Relations, Multi-lifecycle Engineering Research Center, New Jersey Institute of Technology. Dr. Taraski is a member of the Suffolk Branch AAUW, the Suffolk Business Women's Club and she is also a board member of the Suffolk Rotary Club. She holds a Ph.D. from Seton Hall University; a Master of Science degree from New York University and a Master of Education degree from Rutgers University and completed her doctoral internship at the Alfred P. Sloan Foundation, NYC. Dr. Taraski resides in the City of Suffolk.

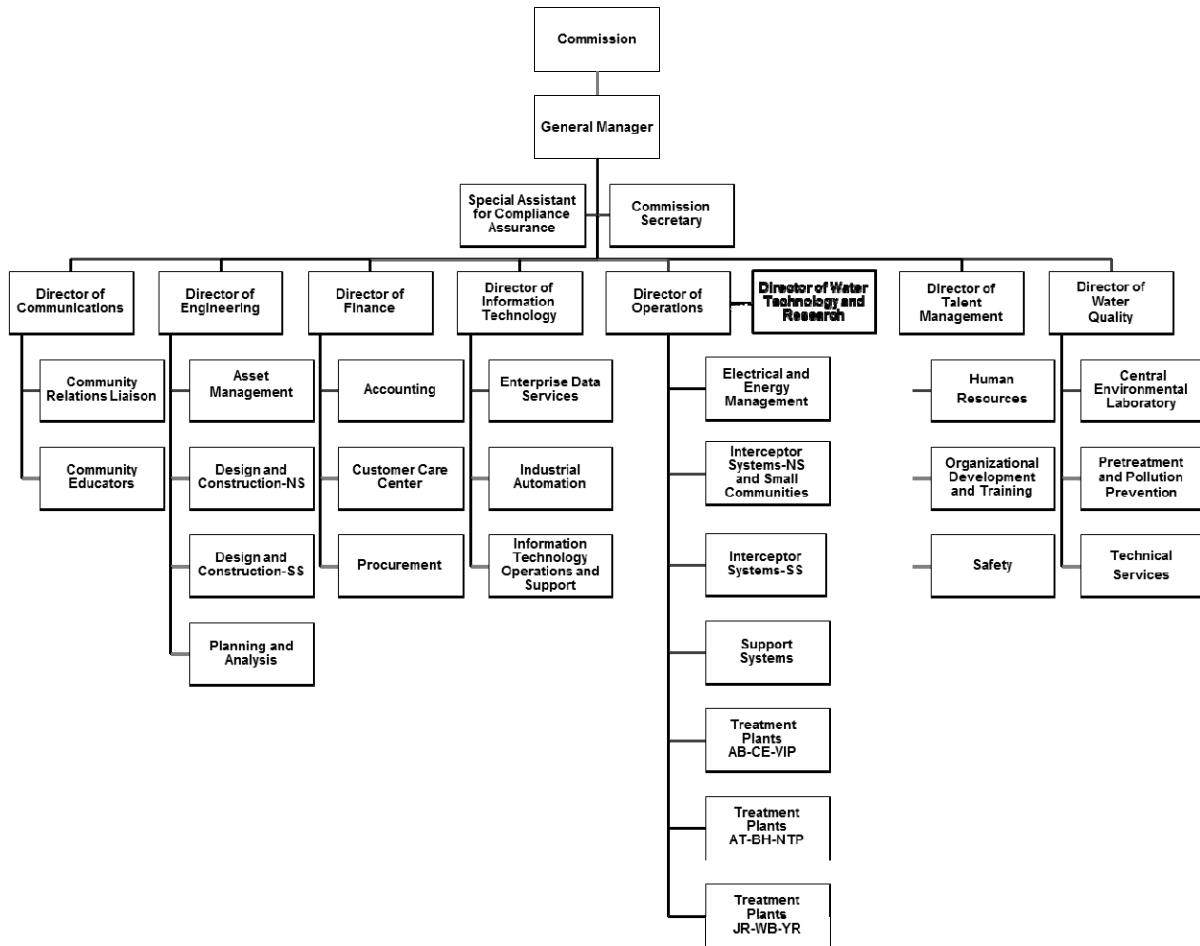
**Ann W. Templeman, Commissioner.** Ms. Templeman was appointed to the Commission on January 25, 2017 to serve an unexpired term. She is a Senior Business Support Analyst with Virginia Natural Gas, which provides natural gas service to approximately 284,000 residential, commercial and industrial customers in Hampton Roads. During her 30 years with the company, she has developed a diversified background in the areas of regulatory compliance, rate setting, forecasting, public affairs and human resources. Ms. Templeman earned a Masters of Business Administration from Old Dominion University and a Bachelor of Science in Business Management from Virginia Tech. Ms. Templeman resides in the City of Hampton.

## **Management and Staff**

The District is managed through seven departments, which are organized into functional divisions with their principal responsibilities summarized after the District's organizational chart set out below.

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## HRSD Organizational Chart



### Communication

- Community Relations: Develops and provides community outreach and engagement around HRSD construction, infrastructure development and new initiatives.
- Community Education: Develops and provides educational materials and outreach related to HRSD's services, mission and vision.



## Engineering

- Design & Construction: Manages projects to ensure that contracted work is performed according to HRSD's quality standards, fiscal policies and environmental commitment.
- Planning & Analysis: Evaluates the service area's needs and determines the new facilities necessary to expand services. Projects future demand flows, and reviews service area expansions. Responsible for the Geographical Information System (GIS), Regional Hydraulic Model, Capital Planning, and Data Analysis.
- Asset Management: Provides systematic and risk-based analysis to manage sustainable lifecycle costs of capital assets and optimize maintenance programs. Responsible for the Computerized Maintenance Management System (CMMS).

## Finance

- Accounting: Performs accounting and budget operations and treasury, debt and risk management functions.
- Procurement: Acquires goods and services.
- Customer Care Center: Responsible for billings, collections, maintenance of customer accounts and liaison with HRSD customers.

## Information Technology

- Enterprise Data Services: Provides programming, configuration and support for enterprise software applications and associated databases.
- Industrial Automation: Provides instrumentation and control automation programming and support for the Interceptor and Treatment plant divisions.
- Information Technology Operations: Provides management and support services for HRSD's networked infrastructure and mobility solutions.

## Operations

- Electrical and Energy Management: Provides and/or coordinates engineering, electrical and instrumentation services to design, modify and implement electrical, instrumentation and energy management projects.
- Interceptor Operations North Shore: Operates and maintains the interceptor system in the Cities of Hampton, Newport News, Poquoson and Williamsburg, the Counties of Gloucester, James City and York.
- Interceptor Operations South Shore: Operates and maintains the interceptor system in the Cities of Chesapeake, Norfolk, Portsmouth, Suffolk and Virginia Beach and the County of Isle of Wight.

- Small Communities: Operates and maintains the collections systems and treatment plants that serve the Counties of King William, King and Queen, Middlesex, Mathews and Surry.
- Support Systems: Coordinates preventive and major corrective maintenance programs including Automotive Maintenance, Carpenter, Electrical and Machine Shop operations.
- Treatment Plants: Operates and maintains the Army Base, Atlantic, Chesapeake-Elizabeth and VIP, Boat Harbor, James River, Nansemond, Williamsburg and York River treatment plants.

#### Talent Management

- Human Resources: Responsible for human resources and benefits.
- Organizational Development and Training: Provides employee training and manages the apprenticeship program.
- Safety: Coordinates the safety program at HRSD.

#### Water Quality

- Central Environmental Laboratory: Performs laboratory accredited analysis for various HRSD programs and coordinates testing by contract laboratories as necessary.
- Pretreatment & Pollution Prevention: Controls all non-domestic waste discharged into the HRSD system.
- Technical Services: Provides scientific/technical support of all HRSD departments and administration of all HRSD permits.

The District's administration is overseen by a General Manager, supported by eight directors and their staffs. For Fiscal Year 2018, the District has budgeted for 830 full-time employees. Current staffing is sufficient to operate all existing facilities. None of its employees is currently represented by a union.

The following individuals are responsible for the daily management and affairs of the District:

#### **Edward G. Henifin, P.E., General Manager**

Ted Henifin joined HRSD November 1, 2006, as General Manager. He previously served as Director of Public Works for the City of Hampton. Mr. Henifin holds a Bachelor's of Science in Civil Engineering from the University of Virginia. His career has spanned more than 35 years with a focus on public works and utilities in federal, regional and local government in Hampton Roads. He is a registered professional engineer and has been active with professional associations throughout his career. He currently serves on the board of directors for the National Association of Clean Water Agencies ("NACWA") and Virginia Forever; is on the steering committee for the US Water Alliance's Value of Water Campaign and is past president of the Virginia Association of Municipal Wastewater Agencies ("VAMWA"). Active in civic associations as well, he is president of the George Wythe Recreation Association, treasurer of the Hampton Neighborhood Development Partnership and is secretary of the board of directors for the Langley Federal Credit Union.

**Jay A. Bernas, P.E., MBA, Director of Finance**

Jay Bernas was promoted to Director of Finance in October 2015. Before his promotion to this position, Mr. Bernas served as Chief of Planning and Analysis for 10 years and was responsible for planning HRSD's \$1.4 billion Capital Improvement Program, performing business case analyses, system capacity analyses to support regional growth and managing four technical sections: Geographic Information Systems, Data Analysis, Hydraulic Modeling and Capital Planning. Prior to joining HRSD, he was a project manager with the City of Virginia Beach. Mr. Bernas graduated from Old Dominion University in 1995 with a Bachelor's Degree in Civil Engineering and earned his MBA from the College of William and Mary in 2013. He also has completed the Kenan-Flagler Water and Wastewater Leadership Program and was part of the 2008 class for LEAD Hampton Roads. He received the George Robert House, Jr. Award for the young public administrator of the year from the American Society for the Public Administration in 2006 and was recognized by Inside Business as a "Top Forty under 40" in 2011. Appointed by the Virginia Beach City Council to serve on the Planning Commission from 2006-2013, Mr. Bernas was its chair for the last two years of his tenure. He is a member of the Dominion Virginia Power Community Advisory Council and currently serves as chair of the St. Gregory the Great's School Board.

**Charles B. Bott, Ph.D., P.E., Director of Water Technology and Research**

Dr. Charles B. Bott joined HRSD in 2009 and is the Director of Water Technology and Research. He manages technology innovation and research and development for HRSD's wastewater treatment plants and interceptor system. Dr. Bott is also an Adjunct Professor in the Departments of Civil and Environmental Engineering at Virginia Polytechnic Institute and State University ("Virginia Tech") and Old Dominion University. He was formerly an Associate Professor in the Department of Civil and Environmental Engineering at the Virginia Military Institute and a consulting engineer with Parsons Engineering Science. Dr. Bott has a Bachelor's Degree in Civil Engineering from the Virginia Military Institute, a Master's Degree in Environmental Engineering from the Johns Hopkins University, and a Ph.D. in Civil and Environmental Engineering from Virginia Tech. He is a fellow of the Water Environment Federation ("WEF") and a member of the Science and Technology Advisory Committee to the Chesapeake Bay Program Executive Council. Dr. Bott is a professional engineer in Virginia, a Board Certified Environmental Engineer, and a licensed Wastewater Treatment Plant Operator – Virginia Class I. He is a two-time winner of the WEF Harrison Prescott Eddy Medal for outstanding contribution to wastewater principles/processes research, he was a previous member of the WEF Board of Trustees, and he is the current co-chair of the WEF and Water Environment & Reuse Foundation Leaders Innovation Forum for Technology ("LIFT") program.

**Donald C. Corrado, Director of Information Technology**

Prior to his appointment in 2008, Don Corrado served as HRSD's Chief of Information Technology for nine years. In that capacity he was responsible for the implementation of a scalable, fully-licensed, standards-based wide area network capable of supporting the various enterprise-class applications required to meet HRSD's business needs. Mr. Corrado's career includes public and private sector experience as an IT manager, enterprise solutions architect, information systems security officer, project leader and contract specialist. He earned a bachelor's degree from Old Dominion University and is a Master Certified NetWare Engineer, Microsoft Certified Systems Engineer and Nortel Certified Enterprise Solutions Provider. Mr. Corrado is also a U.S. Department of Defense Certified Acquisition Professional and Checkpoint Firewall One Certified. He is a member of the Gartner Executive Panel, American Water Works Association ("AWWA") and WEF and has completed the Kenan-Flagler Water and Wastewater Leadership Program.

**Steven G. de Mik, MBA, CPA, Director of Operations**

Steve de Mik, who was named Director of Operations in 2015, joined HRSD in 2008. As Director of Operations, he leads a staff of over 500 who are responsible for the operation of HRSD's treatment plants and interceptor systems as well as various support services such as fleet management, carpentry and a machine shop. In his previous position as Director of Finance and Chief Financial Officer, Mr. de Mik was responsible for HRSD's general financial and business functions, including financial reporting, investment portfolio, debt and risk management, and customer billing. A certified public accountant, he holds an MBA from the College of William and Mary and has completed the Kenan-Flagler Water and Wastewater Leadership Program and the Virginia Natural Resources Leadership Program. Before joining HRSD, Mr. de Mik served for seven years as the Director of Finance and Business Services for the City of Norfolk. His duties in that post included managing the financial operations of the city including a pension system and a debt portfolio of approximately \$1 billion using three different credit structures. In addition, he was responsible for the city's parking, facilities maintenance and fleet operations. Mr. de Mik's years of public and private sector experience also include positions with Knox County, Tennessee; Knoxville, Tennessee; Chipman and McMurray, CPA of Hendersonville, Tennessee; and the Comptroller of the Treasury, Division of State Audit, Nashville, Tennessee. He received a bachelor's degree in accounting and business administration from Southwest Baptist University in Bolivar, Missouri. Mr. de Mik also serves as the treasurer for Heart for Orphans, a nonprofit organization based in the City of Williamsburg, Virginia.

**Paula A. Hogg, Director of Talent Management**

Paula Hogg became Director of Talent Management when the position was established in 2014. A graduate of Virginia Tech and the Kenan-Flagler Water and Wastewater Leadership Program, Ms. Hogg began her HRSD career in 1983. Her progressively responsible positions led to her selection as the Chief of Laboratory in 2005. In that capacity, she oversaw the effective operation of HRSD's state-of-the-art Central Environmental Laboratory and ensured proper internal analysis and regulatory control. Ms. Hogg played a key role in the effort to bring HRSD's laboratory into full compliance with Virginia's Laboratory Accreditation regulation. She also has led various inter-departmental teams, was instrumental in the development of HRSD's quality program and served as one of the first facilitators. Ms. Hogg has been an active member of the WEF and the Virginia Water Environment Association, where she served as chair of the National Laboratory Practices Committee and as a member of the committee Leadership Council. She has also served on the Advocacy Committee for the National Environmental Laboratory Accreditation Conference Institute.

**Phillip L. Hubbard, P.E., Special Assistant for Compliance Assurance**

Phil Hubbard was the Sanitary Sewer Overflow Reduction Manager for the City of Virginia Beach prior to joining HRSD in 2007. In that capacity he ensured full compliance with regulatory orders, represented the City with the Virginia Department of Environmental Quality and the United States Environmental Protection Agency, served as Team Leader for the Regional Capacity Team, and managed contracts with consulting engineers. His extensive experience also includes more than 20 years as an operations manager in the city's public utilities department. A registered professional engineer, Mr. Hubbard holds a bachelor's degree in civil engineering from the Virginia Military Institute and has completed the Kenan-Flagler Water and Wastewater Leadership Program. He is a member of the American Society of Professional Engineers and WEF. He twice received the Virginia Beach City Manager's Creativity, Innovation and Public Service Award, and was named the Hampton Roads American Society Civil Engineers Government Engineer of the Year in 2010.

### **Bruce W. Husselbee, P.E., Director of Engineering**

Bruce Husselbee became Director of Engineering in July 2005. Before his promotion to this senior leadership position, he was a Project Manager in the HRSD Design and Construction Division for nine years. Mr. Husselbee previously worked in the consulting engineering field for 12 years prior to joining HRSD. He holds a Bachelor's Degree in Civil Engineering and a Master's Degree in Environmental Engineering from George Washington University. He also has completed the Kenan-Flagler Water and Wastewater Leadership Program. He is currently pursuing a doctorate in coastal engineering at Old Dominion University. He is active in a number of professional organizations including the Old Dominion University Civil and Environmental Engineering Visiting Council and the WEF Utility Management Committee.

### **James J. Pletl, Ph.D., Director of Water Quality**

Jim Pletl was promoted to Director of Water Quality in December 2011. Previously, he was the Chief of Technical Services for five years. In that capacity, he managed HRSD's environmental monitoring and permitting program. He also served as an Environmental Scientist for 17 years, providing technical reviews and conducting planning for water quality studies. Dr. Pletl holds a bachelor's degree in Biology from Alfred University and a Ph.D. in Biological Oceanography from Old Dominion University. He also is a graduate of the Kenan-Flagler Water and Wastewater Leadership Program. Dr. Pletl is the vice-chair of the NACWA Water Quality Committee and the chair of the VAMWA Water Quality Committee. He has served on two federal advisory committees for EPA and several advisory groups to the Virginia Department of Environmental Quality. Dr. Pletl has also served on numerous Water Environment and Reuse Foundation ("WERF") project oversight committees which define the goals and guide the work of WERF research relevant to wastewater utility issues. Dr. Pletl also serves on the Virginia Nutrient Credit Exchange Association Board of Governors.

### **Leila E. Rice, APR, Director of Communications**

Leila Rice, who joined HRSD in March 2017, directs and guides overall strategic communication initiatives, internal and external communications, media relations, crisis communications, branding and oversight of community relations and community education programs. Prior to joining HRSD, she was the Public Affairs Manager for Elizabeth River Crossings, where she managed internal and external communications, media relations and community outreach for the Elizabeth River Tunnels Project. Her experience also includes serving as Community and Media Relations Manager for Norfolk-based non-profit agency, ForKids, Inc., and more than 20 years of media experience, including traffic reporter for several Hampton Roads radio and television stations and multi-market broadcast management, affiliate relations and product marketing with Westwood One's Metro Networks. She has also served as a morning radio show co-host and News and Public Affairs Director at WAFX-FM. Ms. Rice holds a Bachelor's degree in Communication Arts from James Madison University. She is a member of the Public Relations Society of America and WEF and also serves on the Hampton Roads Chamber of Commerce Regional Communication Committee and the NACWA Communication Committee.

### **Awards**

HRSD has received numerous awards for excellence in plant operations and maintenance, environmental engineering and design, and financial reporting. To date, its treatment plants have earned 317 awards for outstanding compliance with National Pollutant Discharge Elimination System ("NPDES") permits since 1986, when the recognition program was established. All 13 treatment plants qualified for an award for outstanding permit compliance for calendar year 2014, when the Army Base Treatment Plant achieved 28 consecutive years of perfect permit compliance, a record unmatched in the

nation. During Fiscal Year 2013, HRSD received the prestigious Platinum Excellence in Management Award from the NACWA and the Honor Award in the Environmental Sustainability category for “HRSD York River Treatment Plant Demon Sidestream Deammonification Process Implementation” from the American Academy of Environmental Engineers & Scientists (AAEES). In addition, HRSD received the American Council of Engineering Companies (ACEC) Grand Prize for research accomplished in partnership with DC Water. The U.S. Green Building Council awarded Silver Leadership in Energy and Environmental Design (LEED) Certification to HRSD’s North Shore Operations Center, the Elizabeth River Project (ERP) recognized HRSD as a Sustained Distinguished Performance Model Level River Star business, and the Engineers Club of Hampton Roads named HRSD’s Force Main Condition Assessment Program the 2013 Project of the Year. Honors received during Fiscal Year 2014 included the Outstanding Agency Accreditation Achievement Award from the National Institute for Public Procurement (NIGP), a certificate from the Virginia Tech Wastewater Treatment Plant Operator Short School recognizing HRSD’s commitment to improving plant operations within the Commonwealth for 37 consecutive years, and the Hampton Roads Alliance for Environmental Education (HRAEE) 2013 Increasing Communications Award. Also, Team HRSD placed first overall in the Division 2 Operations Challenge competition held during the 2013 Water Environment Federation Technical Exhibition and Conference (WEFTEC) and ERP recognized HRSD for a second consecutive year as a Sustained Distinguished Performance Model Level River Star business.

Honors and awards received during Fiscal Year 2017 from NACWA include National Environmental Achievement Awards (NEAA) in the following categories: Public Information and Education –Education Program for the programs, *H2w0W: Wonders of Water*, Virginia STEAM Academy Program, and for *Living the Legacy: Operations and Environmental Performance for Molecular Tools for Environmental Management: Research and Technology for An International Collaboration: The InDENSE® Process*, and Water Resources Utility of the Future for *Sustainable Water Initiative for Tomorrow (SWIFT)*. Other NACWA awards received in Fiscal Year 2017 include Water Resources Utility of the Future. Thirteen HRSD treatment plants also earned NACWA Peak Performance Awards, including five Platinum, four Silver and three gold awards. Other notable awards include the ERP *Sustained Distinguished Performance as a Model Level River Star Business*: the River Star Hall of Fame Award from *Inside Business* and the 2016 Award of Merit for the HRSD Operations Center, Phase VII from the Design-Build Institute of America (DBIA). Fiscal Year 2018 honors received include the NACWA Excellence in Management Platinum Award and the Virginia Section American Water Works Association 2017 Public Information Award for Community Relations, large division for SWIFT Community Education and Outreach.

## THE SERVICE AREA

The District provides service to 3,087 square miles of land area within the boundaries of its service area. The geographical limits are shown on the map behind the inside front cover and include the following localities:

City of Chesapeake	Gloucester County
City of Hampton	Isle of Wight County
City of Newport News	James City County
City of Norfolk	King and Queen County
City of Poquoson	King William County
City of Portsmouth	Mathews County
City of Suffolk	Middlesex County
City of Virginia Beach	Surry County (excluding Town of Claremont)
City of Williamsburg	York County

The District and the Commission are independent of the localities served by the District. See “HAMPTON ROADS SANITATION DISTRICT—Authorization and Purpose” and “—The Commission.”

On October 1, 2017, Surry County (excluding the Town of Claremont) was added to the District’s service area. Surry County has an estimated 358 wastewater accounts.

### Population Growth

The area within the District has experienced substantial urban and suburban development and consequent population growth. The historical population within the District is presented below. Presently, the District contains approximately 21% of the population of the Commonwealth of Virginia.

#### Historical Population Growth in the District

<u>Year</u>	<u>Population</u> <sup>(1)</sup>	<u>Population Increase (%)</u> <sup>(2)</sup>
1960	660,338	--
1970	973,247	47
1980	1,085,332	12
1990	1,431,000	32
2000	1,551,000	8
2010	1,674,917	8

(1) Source – United States Bureau of the Census.

(2) Increase in population includes both increases in population within the District’s original service area, as well as the expansion of the District’s service area.

The District’s top ten ratepayers represented 9.7% of the District’s total rate base, as measured by wastewater treatment charges, in Fiscal Year 2017. The following table compares the top ten ratepayers in Fiscal Year 2017 with the ten largest ratepayers in Fiscal Year 2008.

**Wastewater Treatment Charges**  
**Ten Largest Customers**

<u>Customer</u>	<u>Type</u>	<u>Fiscal Year 2017</u>		<u>Fiscal Year 2008</u>	
		Amount <sup>(1)</sup>	% of Total	Amount <sup>(1)</sup>	% of Total
U.S. Navy – Norfolk Naval Base	Military Facility	\$4,888	1.9	\$2,765	2.1
Smithfield Foods	Meat Processor	4,723	1.9	2,457	1.9
Anheuser-Busch, Inc.	Brewery	2,819	1.1	5,956	4.6
Huntington Ingalls Industries <sup>(2)</sup>	Shipbuilding	2,138	0.8	871	0.7
Norfolk Navy Shipyard	Military Ship Repair	2,107	0.8	-	-
City of Norfolk	Municipality	1,936	0.8	1,359	1.0
Norfolk Redevelopment and Housing Authority	Housing Authority	1,876	0.7	918	0.7
Joint Expeditionary Base Little Creek – Fort Story <sup>(3)</sup>	Military Facility	1,681	0.7	463	0.4
City of Virginia Beach	Municipality	1,313	0.5	-	-
Fort Eustis	Military Facility	1,290	0.5	-	-
U.S Air Force – Langley	Military Facility	-	-	463	0.4
Marva Maid Dairy	Manufacturer – Dairy Products	-	-	367	0.3
Oceana Naval Air Station	Military Facility	-	-	338	0.3
<b>Totals<sup>(4)</sup></b>		<b><u>\$24,771</u></b>	<b><u>9.7%</u></b>	<b><u>\$15,957</u></b>	<b><u>12.4%</u></b>

<sup>(1)</sup> Dollar amounts in thousands.

<sup>(2)</sup> Formerly Northrop Grumman Newport News/Newport News Shipbuilding and Dry Dock Co.

<sup>(3)</sup> Formerly U.S. Navy – Little Creek Amphibious Base.

<sup>(4)</sup> Totals may not add due to rounding.

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## Wastewater Flow

During the past five years, there has been population growth in the service area, while the number of service connections has remained relatively stable. Billed water consumption has declined modestly during such period because of conservation efforts on the part of utility customers fostered by increasing water rates, improved construction materials and the installation of low flow plumbing fixtures.

### Wastewater Flows and Service Connections

<b><u>Fiscal Year Ended June 30,</u></b>	<b><u>Average Daily Wastewater Flow<sup>(1)</sup></u></b>	<b><u>Total Billed Wastewater Flow<sup>(1,2)</sup></u></b>	<b><u>Service Connections<sup>(3)</sup></u></b>
2013	158	112	460
2014	154	113	462
2015	152	112	465
2016	155	111	467
2017	153	111	470

(1) Millions of Gallons per Day.

(2) Water meters are read for billing purposes by the participating jurisdictions.

(3) Number of service connections in thousands.

## Expansion of Service Area

In most instances, the routine expansion of the service area results from the extension of the interceptor system performed at the request of a local government. The general policy is that HRSD will extend an interceptor sewer when the local government extends a public water system. The interceptor sewer is intended to serve an area within two miles of the interceptor pipeline.

## THE SYSTEM

The Wastewater System consists of nine major treatment plants (248.5 million gallons per day (MGD) capacity), seven smaller plants and its interceptor system consisting of 134 pump and pressure reducing stations and approximately 645 miles of interceptors and collection sewer ranging in diameter from 6 to 66 inches. The interceptors, which are gravity and force mains, convey wastewater from the point of delivery by municipalities, industry and other users of the Wastewater System to the District's treatment plants.

The following table identifies the location of the District's major treatment plants, their design capacities and, for the Fiscal Year ended June 30, 2017, their average daily flows.

**Hampton Roads Sanitation District  
Treatment System Capacity & Flows  
(Millions of Gallons per Day)**

<b><u>Major Treatment Facilities</u></b>	<b><u>Average Design Capacity</u></b>	<b><u>FY 2017 Annual Average Daily Flow</u></b>
Army Base Norfolk	18.0	9.5
Atlantic Virginia Beach	54.0	28.2
Boat Harbor Newport News	25.0	13.9
Chesapeake-Elizabeth Virginia Beach	24.0	18.7
James River Newport News	20.0	12.3
Nansemond Suffolk	30.0	18.8
Virginia Initiative Norfolk	40.0	30.9
Williamsburg James City County	22.5	8.0
York River York County	<u>15.0</u>	<u>12.6</u>
<b>TOTALS</b>	<b><u>248.5</u></b>	<b><u>153.0</u></b>

In addition to the major facilities described above, the District operates seven additional small wastewater treatment plants: two in Middlesex County with a combined capacity of 0.125 MGD, one in West Point (King William County) with a capacity of 0.60 MGD, one in King William (King William County) with a capacity of 0.10 MGD, two in Surry County with a combined capacity of 0.125 MGD and one in Isle of Wight County with a capacity of 0.05 MGD. The interceptor system for these localities includes 39 pumping stations. In the Counties of King William, King and Queen, Middlesex, Mathews and Surry, HRSD is responsible for the collection, conveyance and treatment of wastewater.

### **System Improvements and Innovations**

HRSD has completed significant renewals and improvements to its treatment plants, pump stations, interceptor sewers, operational and administrative facilities in recent years. Electrical equipment upgrades throughout all HRSD facilities have been made to replace aging system components as well as meet new arc flash safety requirements. The on-going infrastructure renewal program has replaced a number of major interceptor pipelines and pump stations in the southern portion of the District's service area over the Norchester Street Pump Station Replacement; the South Trunk Sewer Section G; and the State Street Pump Station Electrical Modifications in Norfolk; the Effingham Street 24-inch Interceptor Force Main Emergency Replacement in Portsmouth, and the Courthouse Pressure Reducing Station Installation in Virginia Beach. In the Peninsula portion of the service area major interceptor pipelines and pump station improvements include: the Center Avenue Pump Station, the Williamsburg to James River

Interceptor Force Main, the Warwick Blvd to James River Interceptor Force Main, the Jefferson Avenue Interceptor Force Main, and the 33rd Street Pump Station.

HRSD has directed significant effort to meet new mass discharge limits on nitrogen and phosphorus as a result of the six state efforts to restore the Chesapeake Bay. As a result of the capital projects at the York River, Nansemond, Army Base and James River Treatment Plants, HRSD has met these new stringent limits since calendar year 2011, the first compliance deadline. Through the use of creative design and phased construction, HRSD deploys cost-effective adaptive technologies to take advantage of the existing facilities and the diversity of treatment processes at each plant. There are over \$166 million in treatment plant improvements under construction at the Virginia Initiative Plant (“VIP”) to meet the next Chesapeake Bay compliance deadline in 2017. Based on these investments, HRSD estimates that additional infrastructure improvements are not needed to meet the projected nutrient limits in 2022, unless the state concludes that more stringent water quality standards are required based on the results of the Lower James River Chlorophyll Criteria Study. The purpose of this study is to provide a scientifically defensible basis for the tidal James River nutrient allocations under the Chesapeake Bay total maximum daily load. The study was designed to identify the causes and consequences of algal blooms and develop models to estimate their occurrence by linking Chlorophyll to nutrients and other environmental factors. In addition, the study is assessing the impact of algal blooms on aquatic life and other water quality indicators. Though the environmental monitoring and data analysis has been completed, the modeling is still in an active stage. HRSD expects the modeling and subsequent policy decisions regarding any changes in standards to be complete by the end of 2018.

A comprehensive metering network has been installed throughout the Wastewater System to aid in optimizing system operations and to provide flow data to HRSD’s new dynamic hydraulic model for calibration and validation purposes. The hydraulic model is one of the most sophisticated sewer modeling efforts in the country and is being used to guide placement and sizing of future system improvements to cost effectively address wet weather peak flows. In addition, HRSD uses the hydraulic model to evaluate new connections to the system to ensure capacity, size new pipelines and pump stations, develop contingency scenarios and improve system operational efficiency. The hydraulic model was also instrumental in HRSD’s decision to take the Chesapeake-Elizabeth Treatment Plant offline and divert the flow to use available capacity at the Atlantic Treatment Plant. To divert the flow and provide reliable service in the future, approximately \$100 million will be spent before December 2021 on various interceptor projects including replacing 7,500 linear feet of force main originally installed in 1965 with larger diameter pipe, wet weather storage, construction of the new Elbow Road Pressure Reducing Station and reliability upgrades at six additional pressure reducing stations. HRSD estimates that the 30-year net present value of savings realized from this decision will be between \$133 million to \$205 million.

HRSD owns the second Ostara nutrient recovery facility in the United States. The patented Ostara process recovers phosphorus and nitrogen from the wastewater treatment process, rather than releasing it into the Chesapeake Bay, and converts it to a slow-release, high-phosphorus content, commercial fertilizer.

The District continues to evaluate potential renewable energy projects, such as the Atlantic Treatment Plant Digester Gas Combined Heat and Power project completed in 2013. This project feeds internal combustion engines with treated digester gas to meet up to 40% of the 2.5 megawatt demand of the treatment plant and provide heating to the administration buildings and digesters. The digester gas treatment system uses a biological hydrogen sulfide gas scrubber, which is the first municipal installation in North America. In 2008, HRSD partnered with the Navy to use the Atlantic Treatment Plant’s effluent to act as a heat sink for a large Navy facility located adjacent to the plant. This system, similar in function to a geothermal system, saves the Navy \$3 million per year and won a Federal Facility Presidential Award in 2009.

HRSD owns 150 pump stations and pressure reducing stations that use various control scenarios using programmable controls to maintain various set points throughout the collection system. To provide a more reliable and robust control and monitoring system cellular communications will be implemented throughout HRSD's service areas and new control panels will be placed at every station and system control points. The new Supervisory Control and Data Acquisition (SCADA) system will allow for future capacity optimization control regimes, including Real Time Control and predictive measures to get the most out of the collection system. Current estimated cost of the system is \$23.5 million. Current completion date is expected to be spring of 2019.

At the Atlantic Treatment Plant, HRSD is constructing a new thermal hydrolysis process for biosolids handling. The process hydrolyzes and disintegrates sludge using pressure and temperature. As a result, biosolids are designated as Class "A," which means they are pathogen free and have far fewer land application restrictions, additional biogas is produced for the Combined Heat and Power system, and the process allows significant additional capacity to be gained from the existing anaerobic digesters. HRSD expects this project to be the second such installation in the United States.

The District is a leading agency in wastewater research and development. In collaboration with an international group of researchers and external partners, the District played a major role in patenting a process using mainstream external selectors to improve biomass settleability and stabilize biological phosphorus removal. This technology was installed at the James River Treatment Plant in 2015 and in one train at the Urbanna Treatment Plant in 2016. In addition, the District is collaborating with an international group of agencies and academic institutions to study a revolutionary wastewater process using a relatively new bacterium called anammox. The District started operating the first two full-scale sidestream treatment processes using anammox in the Western Hemisphere at York River Treatment Plant and James River Treatment Plant. HRSD developed and patented (pending) a new control system for one of those processes known as the AnitaMox process. HRSD, in collaboration with others, patented a suite of technologies associated with the treatment of nitrogen using low energy, low carbon, and intensified (smaller tanks) processes and based on mainstream nitrite shunt and deammonification (anammox). This technology suite is known as "AVN" and has been commercialized through a competitive process with World Water Works, Inc. HRSD installed this control system at the Boat Harbor Treatment Plant with significant improvements in nitrogen removal performance at very low cost.

The District is also investigating other innovative projects to reduce energy usage and limit the discharge of contaminants to the environment. The District is using ammonia-based aeration control at two plants to improve nutrient removal while reducing energy, alkalinity, hypochlorite and supplemental carbon demand. There are only a few plants in the United States using this control strategy.

The District has developed an innovative program called the Sustainable Water Initiative for Tomorrow ("SWIFT") to address the challenges of declining aquifer levels, land subsidence and saltwater intrusion and provide additional benefits to the region, including nutrient credits for urban stormwater and other needs. SWIFT will add advanced water treatment ("AWT") to up to seven of District's existing treatment plants to produce more than 100 MGD of water that meets drinking water standards and is compatible with the receiving aquifer. Water meeting drinking water standards ("SWIFT Water") will be injected into the Potomac Aquifer System as part of a groundwater replenishment program to counter the aquifer challenges described above.

The next step in the SWIFT program is the completion of a 1 MGD demonstration facility, known as the SWIFT Research Center ("SWIFTRC"), to demonstrate, on a meaningful scale, that AWT will produce SWIFT Water that meets primary drinking water standards and is compatible with the receiving aquifer. The SWIFTRC is under construction and will be operational in early 2018, and, assuming successful operation of the demonstration facility, the District is planning on moving forward

with full-scale AWT at up to seven of its existing treatment plants for a combined capacity of over 100 MGD.

### **Capital Improvement Program**

The District's Capital Improvement Program is designed to meet regulatory requirements, including both nutrient reduction and sanitary sewer overflow reduction, aging infrastructure renewals and replacements, biosolids management and increased capacity. The District uses a ten-year planning horizon for the CIP. The CIP is updated each year and modified as circumstances dictate. The Commission approves the overall program and the first year of the plan and appropriates funds on an individual project basis. The District also uses a CIP project prioritization program using a decision-analysis based process. This process allows each proposed project to be considered objectively against the merits of other proposed projects to ensure the right project is completed at the right time. Individual projects are scored using performance measures based on ten criteria and ranked. After the CIP review team considers each project score for consistency, the CIP leadership team makes final decisions on project acceptability and develops a prioritized project schedule based on projected capital funding availability.

The 2018-2027 CIP includes approximately \$2.35 billion in interceptor system, treatment plant and other facility improvements. Of that total, \$575 million is identified for the rehabilitation and upgrade of wastewater treatment plants. A number of interceptor sewer projects, totaling approximately \$527 million are in the planning, design or construction phase. These planned projects are proposed to address aging infrastructure issues within the extensive District interceptor sewer piping system. Upgrades to aging sewer pump stations and new pump stations to serve Hampton Roads are an important part of the CIP with over \$165 million of such improvements planned in the next ten years. The CIP includes \$50 million in anticipated biosolids management improvements.

The District will play a critical role in assisting the localities it serves to address the region's sanitary sewer overflow reduction program as mandated by the Consent Decree (as defined herein). As part of this effort, the District has implemented a significant regional interceptor sewer metering program, a hydraulic sanitary sewer computer model and a sanitary sewer evaluation study to develop a Regional Wet Weather Management Plan ("RWWMP"). In 2011, the District worked with the localities to develop a private property inflow and infiltration program as required by the Consent Decree. This program will reduce inflow and infiltration coming from private house laterals as well as commercial property. See "—State Consent Agreement and EPA Consent Decree" below.

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The following table sets forth the District's anticipated sources of funds for its Capital Improvement Plan in Fiscal Years 2018 through 2022.

**CIP, Fiscal Years 2018 to 2022**  
**(Dollar amounts in thousands)**  
**(As of Fiscal Years ended June 30)<sup>(1)</sup>**

	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	Total (2018-22)
Beginning Capital Reserves <sup>(2)</sup>	37,452	58,722	54,809	-	-	150,983
Debt Funded <sup>(3)</sup>	96,658	21,658	21,188	104,712	90,369	334,584
Cash	58,802	86,071	98,793	105,288	128,631	477,585
Grants and Other Reimbursements	5,810	3,359	210	-	1,000	10,379
Total Sources	<u>198,722</u>	<u>169,809</u>	<u>175,000</u>	<u>210,000</u>	<u>220,000</u>	<u>973,531</u>
Capital Expenditures	140,000	115,000	175,000	210,000	220,000	860,000
Ending Capital Reserves	58,722	54,809	-	-	-	

(1) Totals may not add due to rounding.

(2) Represents initial balance and unexpended Bond proceeds.

(3) Includes expected debt funding and approved Clean Water Revolving Loan Funds.

The District plans to fund the Capital Improvement Program through a combination of cash and debt financing as shown in the above table. The CIP also includes \$1.49 billion in funding in Fiscal Years 2023 through 2027, of which \$775 million is planned to be funded with debt proceeds and \$712 million with operating cash.

In addition to its ten-year planning horizon, the District undertakes preliminary planning for its CIP through 2037. While subject to change, the District estimates additional capital expenditures of \$2.6 billion for years 2028-2037, with approximately half to be financed with new debt. Capital expenditures include estimated costs associated with the RWWMP discussed under “—State Consent Agreement and EPA Consent Decree” below.

### **Regulation and Permits**

The Virginia State Water Control Law (Chapter 3.1, Title 62.1, Code of Virginia, 1950, as amended) provides that the plans and specifications for wastewater facilities to be constructed be approved by the Virginia Department of Health and the Virginia Department of Environmental Quality. The District operates all of its plants and interceptor systems under permits issued by the Virginia Department of Environmental Quality.

Except as described under “—State Consent Agreement and EPA Consent Decree” and described under “—System Improvements and Innovations” above relating to the Lower James River Chlorophyll Criteria Study, the District is not aware of any pending federal or state regulatory requirements proposed in the Federal Register or Virginia Register that, in themselves, would require significant expenditures for additional capital improvements; however, the District cannot predict the scope or effect of future federal or Commonwealth regulatory actions that could require significant expenditures for capital improvements.

## **State Consent Agreement and EPA Consent Decree**

On December 19, 2014, the Commonwealth of Virginia entered into a long-term State Consent Agreement (the “2014 Consent Agreement”) with 14 of the localities that HRSD serves. The 2014 Consent Agreement requires the localities to perform long-term management, operations and maintenance of their sewer systems in support of HRSD’s efforts to provide long-term regional wet weather wastewater capacity. HRSD is not a party to the 2014 Consent Agreement. Instead, HRSD’s obligation to provide regional wet weather sewer capacity is now solely imposed through its federal consent decree (the “Consent Decree”) between HRSD, the Commonwealth and the United States Environmental Protection Agency (“EPA”).

The Consent Decree was entered by the federal district court for the Eastern District of Virginia (the “District Court”) on February 23, 2010. The Consent Decree has been amended four times, most recently on February 21, 2017 (the “Amended Consent Decree”).

The Amended Consent Decree has two major operative requirements. First, it requires HRSD to develop a Regional Wet Weather Management Plan (“RWWMP”) to control capacity related sewer overflows within the 14 localities. However, through the third and fourth amendments, HRSD has now assumed responsibility for planning (in consultation with the 14 affected localities), designing, funding, and implementing the controls in both the Localities’ systems and the HRSD system that will be contained in the approved RWWMP. Through this approach, HRSD estimates the regional ratepayers will achieve significantly reduced program costs than if each locality sought to address peak wet weather wastewater flows on its own. To facilitate these regional cost savings, the Amended Consent Decree extended the RWWMP submission deadline to October 1, 2017, which deadline was met as set forth below. To further facilitate this approach, the 14 affected localities entered into a Memorandum of Agreement with HRSD in 2014 in which they agreed to (1) cooperate with HRSD, (2) facilitate the construction of and accept ownership of any improvements which HRSD may need to construct in the localities’ systems, and (3) maintain the integrity of their systems to industry standards.

The Amended Consent Decree also requires HRSD to implement a total of 45 projects from its ten-year CIP. These 45 projects total approximately \$306 million, the largest of which is its ongoing upgrade to the VIP to add nutrient removal technology required under the Chesapeake Bay Program. The VIP plant upgrade will cost approximately \$166 million. All 45 projects must be completed by February 23, 2018 (except for the VIP upgrade, which must be completed by December 31, 2018). HRSD is on track to timely meet the financial commitment to fund all of the 45 Interim System Improvements identified in the Amended Consent Decree.

The Amended Consent Decree authorizes HRSD to submit the RWWMP as part of an Integrated Management Plan (“IMP”). HRSD intends to use the IMP approach to facilitate the timing and financing of both its RWWMP and its SWIFT Program. This program will assist the Commonwealth to meet its Chesapeake Bay nutrient reduction commitments and save HRSD’s 14 localities approximately \$1 to \$2 billion in avoided Chesapeake Bay-related storm water control costs.

On September 29, 2017, HRSD submitted the IMP to EPA and the Commonwealth for approval. The IMP calls for investing approximately \$200 million in additional wet weather capacity-related sewer overflow controls between now and 2030 along with approximately \$1 billion to implement the SWIFT program. After 2030, the IMP commits HRSD to submit a Final Remediation Plan, which may call for full implementation of the RWWMP, a subset of priority projects from the scenario with the greatest environmental benefits, investments in emerging environmental issues including sea level rise adaptation, or some combination of these or other regional environmental priorities. While cost projections in this

time frame are inherently speculative, this subset of projects could cost \$1 billion or more over a 25-year period (through 2055).

## **FINANCIAL MANAGEMENT**

### **General**

Through its annual budget process, management seeks to ensure that operating revenues are sufficient to meet operating expenditures and sufficient reserves are available in the event actual billings do not meet budget estimates. The construction of new plants and extension of the interceptor system are financed by a combination of operating revenues and debt financing. The following table sets out the District's operating results and debt service coverage for the Fiscal Years ended June 30, 2013, through June 30, 2017.

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**Summary of Operating Expenses and Debt Service Coverage**  
**(Dollar Amounts in Thousands)**  
**(As of Fiscal Years ended June 30)<sup>(1)</sup>**

	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>2013<sup>(2)</sup></u>
Operating Revenues					
Wastewater Treatment Charges	\$254,961	\$234,020	\$221,626	\$211,538	\$199,318
Miscellaneous	<u>3,669</u>	<u>3,861</u>	<u>3,935</u>	<u>3,643</u>	<u>3,297</u>
<b>Total Operating Revenues</b>	<u><b>\$258,630</b></u>	<u><b>\$237,881</b></u>	<u><b>\$225,561</b></u>	<u><b>\$215,181</b></u>	<u><b>\$202,615</b></u>
Non-Operating Revenues (Expenses), excluding capital grants received					
Wastewater Facility Charges	\$7,511	\$6,699	\$7,428	\$6,640	\$5,851
Investment Earnings	2,287	1,563	1,695	1,872	1,705
Bond Interest Subsidy <sup>(3)</sup>	2,275	2,399	2,444	2,364	2,602
Disposal of Capital Assets	-	-	-	-	(1,649)
Bond Issue Costs	(42)	(1,713)	(768)	-	(658)
Change in Fair Value of Investments	<u>(1,119)</u>	<u>750</u>	<u>(286)</u>	<u>(422)</u>	<u>(714)</u>
<b>Total Non-Operating Revenues</b>	<u><b>10,912</b></u>	<u><b>9,698</b></u>	<u><b>\$10,513</b></u>	<u><b>\$10,454</b></u>	<u><b>\$7,137</b></u>
<b>Total Revenues</b>	<u><b>\$269,542</b></u>	<u><b>\$247,579</b></u>	<u><b>\$236,074</b></u>	<u><b>\$225,635</b></u>	<u><b>\$209,752</b></u>
Operating Expenses, Excluding Depreciation	<u>153,387</u>	<u>146,601</u>	<u>152,815<sup>(5)</sup></u>	<u>142,161</u>	<u>118,383</u>
<b>Net Revenues</b>	<u><b>\$116,155</b></u>	<u><b>\$100,978</b></u>	<u><b>\$83,259</b></u>	<u><b>\$83,474</b></u>	<u><b>\$91,369</b></u>
Total Senior Obligations Debt Service Coverage on Senior Obligations <sup>(4)</sup>	\$35,279 3.29	\$43,419 2.33	\$44,937 1.85	\$47,220 1.77	\$37,574 2.43
Total Senior Obligations and Parity Obligations Debt Service Coverage on Senior Obligations and Parity Obligations <sup>(4)</sup>	\$57,988 2.00	\$54,643 1.85	\$57,465 1.45	\$59,739 1.40	\$48,823 1.87

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- (1) Revenues and Operating Expenses are presented in accordance with generally accepted accounting principles. Debt Service presented on a cash basis (i.e., debt service actually due during the related Fiscal Year).
- (2) In Fiscal Year 2015, HRSD restated the Fiscal Year 2013 financial statements to include inventory assets.
- (3) Actual Build America Bonds subsidy received from the federal government relating to interest on the Series 2009B Bonds.
- (4) Calculated based on actual debt service payable on a current year basis.
- (5) Effective July 1, 2015, HRSD adopted GASB Statement No. 68, Accounting and Financial Reporting for Pensions and GASB Statement No. 71, Pension Transition for Contributions Made Subsequent to the Measurement Date.

For purposes of the Senior Trust Agreement, the Liquidity Ratio is the resulting dividend of unrestricted cash divided by the Maximum Annual Debt Service on Senior Obligations. Unrestricted cash includes "... cash, cash equivalents and marketable securities that do not constitute Restricted Funds held by the District for its various purposes, but not including cash, cash equivalents and securities which constitute proceeds of Indebtedness issued to finance capital improvements or funds held in the Bond Fund for Senior Obligations (or any similar sinking fund held by a trustee for the payment of Indebtedness) or the Debt Service Reserve Fund." The Senior Trust Agreement requires that the District maintain a minimum Liquidity Ratio of 1.35 or fund the Debt Service Reserve Fund at the Debt Service Reserve Fund Requirement. The following table reflects the Liquidity Ratio for Fiscal Years 2013 to 2017. Amounts held in the Debt Service Reserve Fund for the Senior Obligations are not security for the Subordinate Obligations.

**Historical Liquidity Ratio**  
(Dollar amounts in thousands)  
(As of Fiscal Years ended June 30)

	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>2013</u>
Cash and Cash Equivalents	\$92,076	\$68,314	\$7,825	\$37,924	\$38,355
Investments – Current	14,260	18,544	19,926	-	5,569
Investments - Non-Current	<u>109,489</u>	<u>105,009</u>	<u>101,649</u>	<u>111,861</u>	<u>108,721</u>
<b>Total Cash, Cash Equivalents and Investments – Unrestricted</b>	<b>\$215,763</b>	<b>\$191,867</b>	<b>\$129,400</b>	<b>\$149,785</b>	<b>\$152,645</b>
Cash and Cash Equivalents – Restricted	22,701	91,559	86,451	139,257	179,588
Investments – Current - Restricted	-	-	-	8,600	-
<b>Total Cash, Cash Equivalents and Investments*</b>	<b><u>\$238,464</u></b>	<b><u>\$283,426</u></b>	<b><u>\$215,851</u></b>	<b><u>\$297,642</u></b>	<b><u>\$332,233</u></b>
Maximum Annual Debt Service†	\$60,206	\$57,949	\$57,807	\$59,776	\$60,114
Liquidity Ratio	3.58	3.31	2.24	2.51	2.54
Required Liquidity Ratio†	1.35	1.35	1.35	1.35	1.35

\* Includes amounts set aside pursuant to the Senior Trust Agreement and Subordinate Trust Agreement for debt service.

† Ratio to be maintained without triggering requirement under the Senior Trust Agreement to fund the Debt Service Reserve Fund for Senior Bonds. Debt service is calculated in accordance with the Senior Trust Agreement calculation of the Liquidity Ratio, which includes adjustments for Balloon Long-Term Indebtedness and Variable Rate Long-Term Indebtedness.

Pension Fund and Other Post-Retirement Benefits. For a description of the District's participation in the Virginia Retirement System, a defined benefit plan offered by the Commonwealth of Virginia, and of the post-retirement health benefits for qualifying employees of the District, see the District's Comprehensive Annual Financial Report attached as Appendix A hereto.

Debt Management. The Commission has adopted a comprehensive financial policy designed to promote sound financial management. The policy addresses, but is not limited to the following areas: reserves, budgetary principles and controls, debt affordability, debt management, risk management,

derivatives and investments. The Commission has the right to change the financial policy from time to time.

The policy requires minimum debt service coverage requirements in excess of its obligations under the Trust Agreement. It also requires cash contributions to its capital program of not less than 15% of each year's capital improvement program. Additionally, the policy establishes parameters for the investment of idle funds.

**Projected Operating Results.** The following table shows projected Revenues and Current Expenses for the Fiscal Years ending June 30, 2018, through June 30, 2022, inclusive.

**Summary of Projected Revenues and Current Expenses**  
**(Dollar Amounts in Thousands)**  
**(As of Fiscal Years ended June 30)<sup>(1)</sup>**

	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>
Operating Revenues	\$274,633	\$295,912	\$318,831	\$343,334	\$369,875
Non-Operating Revenues	10,920	11,208	11,143	11,137	11,253
Operating Expenses Excluding Depreciation	<u>164,216</u>	<u>162,904</u>	<u>167,482</u>	<u>180,455</u>	<u>191,125</u>
Net Revenues	<u>\$121,338</u>	<u>\$144,216</u>	<u>\$162,492</u>	<u>\$174,016</u>	<u>\$190,003</u>
Expenses on Assets not Owned by HRSD	<u>(1,831)</u>	<u>(2,164)</u>	<u>(5,740)</u>	<u>(5,515)</u>	<u>(12,120)</u>
Net revenues Less Expenses on Assets not Owned by HRSD	\$123,168	\$146,380	\$168,231	\$179,531	\$202,122
Senior Obligation Debt Service <sup>(2)</sup>	\$35,702	\$33,592	\$33,531	\$31,909	\$30,374
Total Debt Service <sup>(2),(3)</sup>	\$60,967	\$63,802	\$64,628	\$68,313	\$71,074
Total Debt Service Coverage Ratio <sup>(2),(3)</sup>	2.02	2.29	2.60	2.63	2.84
<b>Key Assumptions<sup>(4)</sup></b>					
Rate Increases	9.1%	9.1%	9.1%	9.0%	9.1%
Miscellaneous Revenue Growth	Varies	Varies	Varies	Varies	Varies
Decline in Consumption	1.0%	1.0%	1.0%	1.0%	1.0%
<b>Key Inflation Trends</b>					
Average Inflation	3.0%	3.0%	3.0%	3.0%	3.0%
Personal Services and Employment Benefits	6.5%	6.5%	6.5%	6.5%	6.5%
Utilities/Chemicals/Contractual Services	3.0%	3.0%	3.0%	3.0%	3.0%
Bond Issuance	900	-	-	453	-

(1) Totals may not add due to rounding.

(2) Debt service is shown net of the Refunded Bonds.

(3) Assumes debt service on variable rate Subordinate 2016B Bonds of 2.5% per annum. No assurance can be given, however, that the rate on the Subordinate 2016B Bonds will not be higher than assumed above

(4) While the District believes the assumptions set forth above are reasonable, actual results may vary.

## **Budgeting and Accounting**

**Budgetary Controls.** The District adopts an annual operating budget and a 10-year Capital Improvement Plan. The budget is approved on or before June 30 of each year. The District maintains budgetary controls on a departmental basis. With the exception of capital projects, unused fund appropriations lapse at year end. As part of the budget process, the District adopts a long-range financial forecast.

*Financial Statements.* In accordance with accounting principles generally accepted in the United States, the District's audited general purpose financial statements are prepared on an accrual basis of accounting. The District's audited basic financial statements and the report thereon by KPMG LLP, for the Fiscal Year ended June 30, 2017, are included in Appendix A. The District's independent auditor, KPMG LLP, has not been engaged to perform and has not performed, since the date of its report included in Appendix A, any procedures on the financial statements addressed in that report. KPMG LLP also has not performed any procedures relating to this Official Statement.

The Government Finance Officers Association of the United States and Canada has awarded a Certificate of Achievement for excellence in Financial Reporting to the District for its comprehensive annual financial reports for 34 consecutive Fiscal Years. The District will submit its report for the Fiscal Year ended June 30, 2017, and expects to receive another Certificate of Excellence. In order to be awarded a Certificate of Excellence, a governmental unit must publish an easily readable and efficiently organized comprehensive annual financial report, whose contents conform to program standards. Such reports must satisfy both generally accepted accounting principles and applicable legal requirements.

## **Rates**

The District periodically reviews its rate structure and revises its charges as necessary to generate the revenues required to meet its current financial obligations. The most recent general increase in rates became effective July 1, 2017. The District's full rate schedule as of July 1, 2017, can be found in the District's Comprehensive Annual Financial Report attached as Appendix A hereto.

The District's typical residential customer pays less than \$32 per month for sewage interception and treatment services provided by the District. The District's sewage interception and treatment charge generally is the smallest public service utility bill its customers receive. Generally, the District bills and collects directly from its customers on a monthly, bimonthly, or quarterly basis depending upon the community. The jurisdictions provide the first point of customer contact and appropriate meter readings, which are the basis of the District's billing operation.

Effective July 1, 2012, the District began the process of restructuring its surcharge rates to reflect the incremental cost the District incurs to treat surcharge pollutants discharged by certain industrial customers. This incremental rate structure was fully implemented effective July 1, 2014. Other costs the District incurs to treat normal sewage concentrations from industrial and residential customers are recovered through the District's volumetric rate.

The District provides billing and cashiering services to several of the jurisdictions it serves, including Chesapeake, James City County, Norfolk, Smithfield, Suffolk, King William, Urbanna and Surry County, excluding the Town of Claremont. The combined bill can include jurisdictional charges for water, solid waste disposal, sewage collection, storm water mitigation and District charges for sewage interception and treatment. To date these services have been provided at minimum cost to assist the jurisdictions and customers the District serves to minimize the number of bills the customers receive and number of payments they need to make.

## **Rate Making Process**

The Enabling Act provides that the Commission is to fix and revise rates, fees and charges to provide funds that, with other funds available for such purposes, will be sufficient at all times (a) to pay the cost of maintaining, repairing and operating the Wastewater System and all improvements thereto, including reserves for such purpose and for renewals and replacements and necessary extensions and additions to the Wastewater System, (b) to pay the principal of and the interest on such revenue bonds as

the same shall become due and to provide reserves therefor, and (c) to provide a margin of safety for making such payments.

The Enabling Act provides that before any revision of rates, fees and charges shall become effective the Commission shall publish a copy thereof for four consecutive weeks in a newspaper of general circulation within the District. If, on or before the last publication, the governing body of any city or county constituting a part of the District or five hundred or more qualified voters residing within the District file a petition with the Virginia State Corporation Commission complaining of the proposed revision, the State Corporation Commission may by order suspend the placing in effect of such revision for a period not exceeding sixty days from the filing of any such petition during which time it shall investigate whether such revision is just and equitable and in accordance with the provisions of the Enabling Act. If the State Corporation Commission does not enter an order suspending, approving or disapproving such revision within sixty days from the filing of any such petition, such revision will be deemed to be in effect. The District or the party or parties filing a petition may appeal to the Supreme Court of Virginia from any such order as may be entered by the State Corporation Commission.

### **Collection of Unpaid Wastewater Treatment Charges**

The Enabling Act provides that if any bill for wastewater treatment charges is not paid in full when the same becomes due, the owner, tenant or occupant of such lot or parcel of land shall, until wastewater treatment charges are paid, cease to dispose of wastewater or industrial wastes originating from or on such property by discharge thereof directly or indirectly into the Wastewater System, and if such owner, tenant or occupant does not cease such discharge within two months thereafter, it shall be the duty of each public or private agency supplying water to such property, within five days after receipt of notice of such facts from the District, to cease supplying water to such property. If the water supply is not stopped, the District has the power to enter into any public or private property to shut off the property's water supply.

If any wastewater treatment charges are not paid within 30 days after the same become due, the District may at the expiration of such 30-day period proceed to recover the amount of any such delinquent sewage treatment charges by any action, suit or proceeding permitted by law or in equity.

The District participates in the Virginia Set-Off Debt Collection Program administered by the Virginia Department of Taxation. This program provides a means for government units and courts to collect delinquent debts by attaching individual income tax refunds and certain state lottery winnings. Jurisdictions participating in the Hampton Roads Utility Billing Service (which is managed by the District) may have the District submit their balances along with the District's. This benefits the jurisdictions since, under the Debt Set-Off Collection Program, the District has a higher payoff priority than counties and cities. The following table shows the District's treatment charge collection rate for the last ten Fiscal Years.

**Hampton Roads Sanitation District  
Collection Rate**

<b><u>Fiscal Year Ended June 30,</u></b>	<b><u>Percentage of Wastewater Treatment Charges Collected</u></b>
2008 <sup>(1)</sup>	93.2%
2009	96.5
2010	99.2
2011	98.8
2012	99.1
2013	99.3
2014	99.3
2015	99.1
2016	99.1
2017	99.1

(1) During Fiscal Year 2008, HRSD installed a new customer billing system, which resulted in the removal of certain duplicative and dormant accounts. This resulted in a one-time decline in the collection rate.

**LITIGATION**

There is no litigation pending in any court (either state or federal) or, to the knowledge of the District, threatened against the District that in any way questions or affects the validity of or the security for the Series 2017A Bonds or that would have a material adverse effect on the District's condition, financial or otherwise.

**APPROVAL OF LEGAL PROCEEDINGS**

The Series 2017A Bonds are offered subject to the approving opinion of Norton Rose Fulbright US LLP, Washington, D.C., Bond Counsel. Certain legal matters will be passed upon for the District by its General Counsel, Kellam, Pickrell, Cox & Anderson, A Professional Corporation, Norfolk, Virginia, and for the Underwriters by Kaufman & Canoles, P.C., Norfolk, Virginia.

**TAX MATTERS**

**General**

In the opinion of Norton Rose Fulbright US LLP, Bond Counsel, assuming compliance by the District with its covenant to comply with the requirements of the Internal Revenue Code of 1986, as amended (the "Code"), with respect to the Series 2017A Bonds, and except as provided in the following sentence, interest on the Series 2017A Bonds will not be includable in the gross income of the owners of the Series 2017A Bonds for purposes of federal income taxation under existing law. Interest on the Series 2017A Bonds will be includable in the gross income of the owners thereof retroactive to the date of issue of the Series 2017A Bonds in the event of a failure by the District to comply with applicable requirements of the Code and its covenants regarding use, expenditure and investment of the proceeds of the Series 2017A Bonds and timely payment of certain investment earnings to the United States Treasury. Bond

Counsel renders no opinion as to the exclusion from gross income of the interest on the Series 2017A Bonds for federal income tax purposes on or after the date on which any action is taken or not taken affecting such covenants upon the approval of counsel other than Bond Counsel.

Interest on the Series 2017A Bonds will not be an item of tax preference for purposes of the federal individual or corporate alternative minimum tax. Such interest will, however, be included in the calculation of a corporation's federal alternative minimum tax liability imposed by the Code. The Code contains other provisions that could result in tax consequences, as to which Bond Counsel renders no opinion, as a result of ownership of the Series 2017A Bonds or the inclusion in certain computations (including, without limitation, those related to the corporate alternative minimum tax) of interest that is excluded from gross income.

### **Original Issue Discount**

The excess, if any, of the amount payable at maturity of any maturity of the Series 2017A Bonds over the issue price thereof constitutes original issue discount. The amount of original issue discount that has accrued and is properly allocable to an owner of any maturity of the Series 2017A Bonds with original issue discount (a "Discount Bond") will be excludable from gross income for federal income tax purposes to the same extent as interest on the Series 2017A Bonds. In general, the issue price of a maturity of the Series 2017A Bonds is the first price at which a substantial amount of Series 2017A Bonds of that maturity was sold (excluding sales to bond houses, brokers or similar persons or organizations acting in the capacity of underwriters, placement agents, or wholesalers), which may not be the same as the price shown on the inside cover of this official statement, and the amount of original issue discount accrues in accordance with a constant yield method based on the compounding of interest. A purchaser's adjusted basis in a Discount Bond will be increased by the amount of such accruing discount for purposes of determining taxable gain or loss on the sale, redemption or other disposition of such Discount Bond for federal income tax purposes.

A portion of the original issue discount that accrues in each year to an owner of a Discount Bond that is a corporation will be included in the calculation of the corporation's federal alternative minimum tax liability. In addition, original issue discount that accrues in each year to an owner of a Discount Bond will be included in the calculation of the distribution requirements of certain regulated investment companies and may result in some of the collateral federal income tax consequences discussed herein. Consequently, owners of any Discount Bond should be aware that the accrual of original issue discount in each year may result in an alternative minimum tax liability, additional distribution requirements or other collateral federal income tax consequences although the owner of such Discount Bond has not received cash attributable to such original issue discount in such year.

The accrual of original issue discount and its effect on the sale or other disposition of a Discount Bond that is not purchased in the initial offering at the first price at which a substantial amount of Discount Bonds of that maturity is sold to the public may be determined according to rules that differ from those described above. Owners of Discount Bonds should consult their tax advisors with respect to the determination for federal income tax purposes of the amount of original issue discount or interest properly accruable with respect to such Discount Bonds and with respect to state and local tax consequences of owning and disposing of such Discount Bonds.

### **Original Issue Premium**

The excess, if any, of the tax basis of the Series 2017A Bonds to a purchaser (other than a purchaser who holds such Series 2017A Bonds as inventory, stock in trade or for sale to customers in the ordinary course of business) who purchased such Series 2017A Bonds as part of the initial public offering

and at an issue price greater than the amount payable at maturity is “bond premium.” Bond premium is to be amortized over the term of such Series 2017A Bonds for federal income tax purposes (or, in the case of a bond with bond premium callable prior to its stated maturity, the amortization period and yield may be required to be determined on the basis of an earlier call date that results in the lowest yield on such bond). Owners of such Series 2017A Bonds are required to decrease their adjusted basis in such Series 2017A Bonds by the amount of amortizable bond premium attributable to each taxable year such Series 2017A Bonds are held. The amortizable bond premium on such Series 2017A Bonds attributable to a taxable year will not be deductible for federal income tax purposes; however, bond premium will be treated as an offset to qualified stated interest received on such Series 2017A Bonds. Owners of such Series 2017A Bonds should consult their tax advisors with respect to the determination for federal income tax purposes of the treatment of bond premium upon sale or other disposition of such Series 2017A Bonds and with respect to the state and local tax consequences of owning and disposing of such Series 2017A Bonds.

### **Backup Withholding**

Interest paid on the Series 2017A Bonds is subject to information reporting in a manner similar to interest paid on taxable obligations. While this reporting requirement does not, by itself, affect the excludability of interest from gross income for federal income tax purposes, the reporting requirement causes the payment of interest on the Series 2017A Bonds to be subject to backup withholding if such interest is paid to beneficial owners that (a) are not “exempt recipients,” and (b) either fail to provide certain identifying information (such as the beneficial owner’s taxpayer identification number) in the required manner or have been identified by the IRS as having failed to report all interest and dividends required to be shown on their income tax returns. Generally, individuals are not exempt recipients, whereas corporations and certain other entities are exempt recipients. Amounts withheld under the backup withholding rules from a payment to a beneficial owner are allowed as a refund or credit against such beneficial owner’s federal income tax liability so long as the required information is furnished to the IRS.

### **Collateral Tax Consequences**

Prospective purchasers of the Series 2017A Bonds should be aware that the ownership of tax-exempt obligations may result in collateral federal income tax consequences to certain taxpayers, including, without limitation, financial institutions, property and casualty insurance companies, certain foreign corporations doing business in the United States, certain S corporations with excess passive income, individual recipients of Social Security or Railroad Retirement benefits, taxpayers who may be deemed to have incurred or continued indebtedness to purchase or carry tax-exempt obligations and taxpayers who may be eligible for the earned income tax credit. Prospective purchasers of the Series 2017A Bonds should consult their tax advisors as to the applicability and impact of these consequences.

### **Virginia Taxes**

The Enabling Act provides that the Series 2017A Bonds, their transfer and the income therefrom, including any profit made on the sale thereof, shall be free and exempt from taxation by the Commonwealth of Virginia and by any political subdivision thereof.

### **Future Developments**

Future or pending legislative proposals, if enacted, regulations, rulings or court decisions may cause interest on the Series 2017A Bonds to be subject, directly or indirectly, to federal income taxation or to State or local income taxation, or may otherwise prevent beneficial owners from realizing the full current benefit of the tax status of such interest. Legislation or regulatory actions and future or pending



proposals may also affect the economic value of the federal or state tax exemption or the market value of the Series 2017A Bonds. For example, legislation has been introduced in Congress to significantly change the income tax rates for individuals and corporations and to repeal the alternative minimum tax for individuals and corporations for tax years beginning after December 31, 2017, which, if enacted, may affect the economic and market value of the Series 2017A Bonds. Prospective purchasers of the Series 2017A Bonds should consult their tax advisors regarding any future, pending or proposed federal or state tax legislation, regulations, rulings or litigation as to which Bond Counsel expresses no opinion.

## **UNDERWRITING**

Pursuant and subject to the terms and conditions set forth in a Bond Purchase Agreement (the “Purchase Agreement”) dated December 5, 2017, between the District and Merrill Lynch, Pierce, Fenner & Smith Incorporated, Citigroup Global Markets Inc. and Morgan Stanley & Co. LLC (the “Underwriters”), for whom Merrill Lynch, Pierce, Fenner & Smith Incorporated is acting as representative, and the District, the Underwriters agree to purchase from the District, and the District agrees to sell to the Underwriters, all, but not less than all, of the Series 2017A Bonds at a purchase price that results in an Underwriters’ discount of \$228,643.90 from the initial reoffering prices derived from the yields shown on the inside cover page. The Underwriters have supplied the information as to the prices or yields shown on the inside cover page.

The Underwriters and their respective affiliates are full service financial institutions engaged in various activities, which may include sales and trading, commercial and investment banking, advisory, investment management, investment research, principal investment, hedging, market making, brokerage and other financial and non-financial activities and services. Under certain circumstances, the Underwriters and their affiliates may have certain creditor or other rights against the District and its affiliates in connection with such activities. In the course of their various business activities, the Underwriters and their respective affiliates, officers, directors and employees may purchase, sell or hold a broad array of investments and actively trade securities, derivatives, loans, commodities, currencies, credit default swaps and other financial instruments for their own account and for the accounts of their customers, and such investment and trading activities may involve or relate to assets, securities or instruments of the District (directly, as collateral securing other obligations or otherwise) or persons and entities with relationships with the District. The Underwriters and their respective affiliates may also communicate independent investment recommendations, market color or trading ideas or publish or express independent research views in respect of such assets, securities or instruments and may at any time hold, or recommend to clients that they should acquire, long or short positions in such assets, securities and instruments.

## **FINANCIAL ADVISOR**

The District has retained PFM Financial Advisors LLC, Arlington, Virginia, as financial advisor (the “Financial Advisor”) in connection with the issuance of the Series 2017A Bonds. Although the Financial Advisor assisted in the review of this Official Statement, the Financial Advisor is not obligated to undertake, and has not undertaken to make, an independent verification or to assume responsibility for the accuracy, completeness, or fairness of the information contained in this Official Statement. The Financial Advisor is a financial advisory, investment management and consulting organization and is not engaged in the business of underwriting municipal securities.

## **VERIFICATION OF MATHEMATICAL COMPUTATIONS FOR THE REFUNDED BONDS**

The accuracy of the arithmetical and mathematical computations (a) of the adequacy of the maturing principal amounts of the Defeasance Obligations in the Escrow Funds together with the interest

income thereon and uninvested cash, if any, to pay, when due, the principal of, redemption premium, if any, and interest on the Refunded Bonds, and (b) relating to the determination of compliance with certain regulations and rulings promulgated under the Code will be verified by Bingham Arbitrage Rebate Services Inc. Such verification of arithmetical accuracy and computations shall be based upon information and assumptions supplied by the District and on interpretations of the Code provided by Bond Counsel.

## **RATINGS**

The Series 2017A Bonds have been assigned ratings of “AA” and “AA” by Standard & Poor’s Global Ratings, a division of Standard & Poor’s Financial Services LLC, and Fitch Ratings, respectively. Such ratings reflect only the view of such organizations and a fuller explanation of the significance of such ratings may be obtained from the rating agencies. A rating is not a recommendation to buy, sell or hold the Series 2017A Bonds. The District furnished to such rating agencies certain information regarding its policies, practices and finances, including information that is not included in this Official Statement. There is no assurance that such policies, practices and finances or such ratings will continue for any given period of time or that such ratings will not be revised downward or withdrawn entirely by such rating agencies. Any such downward revision or withdrawal could have an adverse effect on the market price of the Series 2017A Bonds.

## **CONTINUING DISCLOSURE**

The Securities and Exchange Commission has adopted Rule 15c2-12 under the Securities Exchange Act of 1934, as amended (the “Rule”). In general, the Rule prohibits an underwriter from purchasing or selling municipal securities, such as the Series 2017A Bonds, unless it has determined that the issuer of such securities and other persons deemed to be material “obligated persons” have committed to provide to The Electronic Municipal Market Access (“EMMA”) system administered by the Municipal Securities Rulemaking Board (i) on an annual basis, certain financial information and operating data (“Annual Reports”), and audited financial statements, if available, or such unaudited financial statements as may be required by the Rule, and (ii) notice of various events described in the Rule (“Event Notices”).

The District will covenant in the Continuing Disclosure Agreement (the form of which appears in Appendix E) for the benefit of the holders of the Series 2017A Bonds to provide to EMMA annually, not later than December 31 of each year, commencing December 31, 2018, Annual Reports with respect to itself, as issuer. Similarly, the District will promptly provide Event Notices with respect to the Series 2017A Bonds to EMMA. In the five years preceding the date of this Official Statement, the District has materially complied with its other undertakings under the Rule. The District notes, however, that in connection with the District’s determination that it had entered a Reserve Funding Period on December 31, 2010, the District filed notice thereof with EMMA on October 15, 2014.

The Continuing Disclosure Agreement requires the District to provide only that information that is subject to the terms of the Continuing Disclosure Agreement and only at specific times. The District may, from time to time, provide certain information and data in addition to that required by the Continuing Disclosure Agreement. If the District chooses to provide such information and data, it has no obligation to update such information or data or to include it in a future disclosure.

The sole remedy for a default under the Continuing Disclosure Agreement is to bring an action for specific performance of the District’s covenants hereunder, and no assurance can be provided as to the outcome of any such proceeding.

## MISCELLANEOUS

All of the foregoing summaries or descriptions of the provisions of the Enabling Act, the Series 2017A Bonds and the Trust Agreement are made subject to all of the detailed provisions thereof to which reference is made for further information. The foregoing summaries do not purport to be complete statements of any or all of the provisions thereof. Copies of the Trust Agreement are available upon request to the District at the following address: 1434 Air Rail Avenue, Virginia Beach, Virginia 23455, Phone (757) 460-2261.

Any statement in this Official Statement involving matters of opinion whether or not expressly so stated is intended as such and not as a representations of fact. The execution and delivery of this Official Statement have been duly authorized by the Commission.

/s/ Frederick N. Elofson  
Chair  
Hampton Roads Sanitation District Commission

/s/ Edward G. Henifin  
General Manager  
Hampton Roads Sanitation District

/s/ Jay A. Bernas  
Director of Finance  
Hampton Roads Sanitation District

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## **APPENDIX A**

### **Basic Financial Statements and Related Auditor's Report for the Fiscal Year ended June 30, 2017, as rendered by KPMG LLP<sup>(1)</sup>**

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(1) This Appendix comprises the District's Comprehensive Annual Financial Report for the Fiscal Year Ended June 30, 2017. In order to preserve cross-references within such pages, this Appendix has not been repaginated and, accordingly, retains the original pagination.

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# Comprehensive Annual Financial Report

FOR THE FISCAL YEARS ENDED JUNE 30, 2017 AND 2016

*Hampton Roads Sanitation District*  
(A Component Unit Of The Commonwealth Of Virginia)



**HRSD**

Ensuring future generations  
inherit clean waterways



Cleaning wastewater every day for a better Bay.

## **HAMPTON ROADS SANITATION DISTRICT**

*(A Component Unit of the Commonwealth of Virginia)*

# **COMPREHENSIVE ANNUAL FINANCIAL REPORT**

**For the fiscal years ended**

**June 30, 2017 and 2016**

**Prepared by:  
Finance Department**

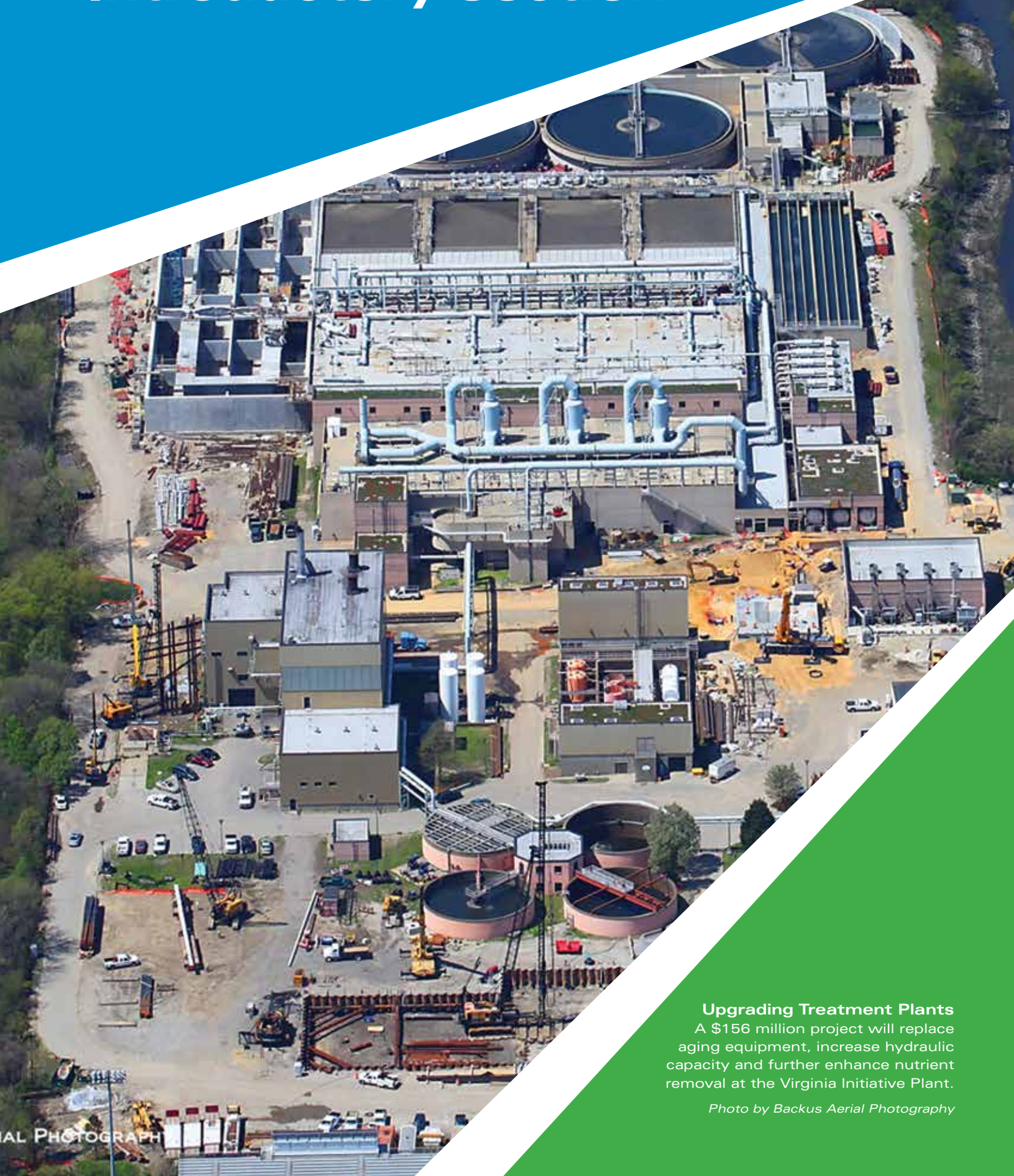


# HAMPTON ROADS SANITATION DISTRICT

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# Introductory Section



## Upgrading Treatment Plants

A \$156 million project will replace aging equipment, increase hydraulic capacity and further enhance nutrient removal at the Virginia Initiative Plant.

*Photo by Backus Aerial Photography*

October 31, 2017

HRSD Commission  
Virginia Beach, Virginia

Dear Commissioners:

Political subdivisions of the Commonwealth of Virginia are required to publish a complete set of audited financial statements. This report fulfills that requirement for the fiscal year ended June 30, 2017.

HRSD's management assumes full responsibility for the completeness and reliability of information contained in this report, based on a comprehensive framework of internal control it has established for this purpose. Because the cost of internal control should not exceed anticipated benefits, the objective is to provide reasonable, rather than absolute, assurance that the financial statements are free of material misstatements.

KPMG LLP, Certified Public Accountants, has issued an unmodified ("clean") opinion on HRSD's financial statements for the year ended June 30, 2017. The independent auditors' report is located at the front of the financial section of this report.

Management's Discussion and Analysis (MD&A) immediately follows the independent auditors' report and provides a narrative introduction, overview and analysis of the basic financial statements. The MD&A, which complements this letter of transmittal, should be read in conjunction with it.

## **PROFILE OF HRSD**

HRSD is an independent political subdivision of the Commonwealth of Virginia (the Commonwealth) created by referendum on November 5, 1940. HRSD was established to abate water pollution in the Hampton Roads area by providing a system of interceptor mains and wastewater treatment plants.

Approximately 1.7 million individuals, more than one-fifth of Virginia's population, reside in HRSD's service area, which is located in the southeastern corner of the Commonwealth. HRSD's territory of approximately 3,100 square miles encompasses nine cities, nine counties and several large military facilities. A brief history of HRSD is provided on page 8. HRSD is required by its enabling act to meet its obligations by charging user fees for its wastewater treatment services; no taxing authority is authorized by the enabling act. Currently, HRSD provides service and bills to approximately 470,000 service connections.

A board of eight commissioners (the Commission), appointed by the Governor of Virginia, governs HRSD. Commission members, who serve four-year staggered terms, can be reappointed without limitation and may be suspended or removed by the Governor at his pleasure. The Commission appoints a General Manager, who appoints the senior staff.

HRSD owns and operates 13 treatment plants. The nine major plants in Hampton Roads have design capacities ranging in size from 15 to 54 million gallons per day (MGD). Five of the major plants are

located south of the James River and four are north of the James River (see map on page 7). The combined capacity of these nine plants is approximately 249 MGD. HRSD's five small rural treatment plants have a combined capacity of almost one MGD.

HRSD maintains 540 miles of pipelines ranging from six inches to 66 inches in diameter. Interceptor pipelines, along with 89 pump stations in Hampton Roads, interconnect into two independent systems, one south of the James River and one north of the James River. The system allows some flow diversions to provide for maintenance or emergency work. HRSD owns and maintains 33 pump stations on the Middle Peninsula.

## **LOCAL ECONOMY**

HRSD's service area includes nearly all of the Virginia Beach-Norfolk-Newport News Metropolitan Statistical Area (MSA). It is the ninth largest MSA in the southeastern United States and the thirty-seventh largest in the nation. Unlike many metropolitan areas, Hampton Roads' population nucleus is not confined to one central city. Instead, the approximately 1.7 million residents are spread among several cities and counties. Virginia Beach is the most populous city in the Commonwealth, with Norfolk and Chesapeake second and third, respectively. Suffolk is the largest city by land area. Unemployment rates remain below national averages in the region, which has a civilian labor force of 830,400.

The regional economy is supported by one of the highest military concentrations in the nation, diverse manufacturing and service sectors, shipbuilding and repair work, international port activities and tourism. Several state and private colleges and a large healthcare infrastructure also lend stability to the region.

A diverse customer base allows HRSD to maintain stable revenues. The ten largest customers account for only 9.7 percent of wastewater revenues for fiscal year 2017. In addition, HRSD's 2017 revenues contained only limited reliance (2.8 percent) on new customer connections.

## **LONG-TERM FINANCIAL PLANNING**

HRSD's Financial Policy helps it maintain its solid fiscal health. Budgetary principles include using ongoing revenues to pay for ongoing expenses, and establishing annual cash contribution goals of at least 15 percent of budgeted capital costs. Under the Financial Policy, senior debt service coverage and total adjusted debt service coverage ratios should not be less than 1.5 and 1.4 times annual debt service, respectively. Operating and ten-year capital improvement budgets are adopted annually. Included in the operating budget is a long-range financial forecast, which is guided by projections of operating and capital needs and the aforementioned Financial Policy requirements.

## **MAJOR INITIATIVES**

HRSD continues its ambitious \$2.4 billion, ten-year Capital Improvement Program. Regulatory requirements to reduce nutrient discharges, initiatives to ensure appropriate wet weather capacity exists within the regional sanitary sewer system, major plant upgrades and replacements of interceptor



pipelines drive the capital program. Major projects are currently under construction at the Army Base Treatment Plant and the Virginia Initiative Plant.

To minimize the impacts of its capital investments on ratepayers, HRSD continues to pursue grant opportunities when available. In 2017, HRSD received approximately \$8.6 million in grant reimbursements for improvements to several of its treatment plants.

## **AWARDS AND ACKNOWLEDGMENTS**

The Government Finance Officers Association (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to HRSD for its comprehensive annual financial report (CAFR) for the fiscal year ended June 30, 2016. This was the 34th consecutive year that HRSD has received this prestigious award. In order to be awarded a Certificate of Achievement, HRSD must publish an easily readable and efficiently organized CAFR that satisfies both generally accepted accounting principles and applicable legal requirements.

A Certificate of Achievement is valid for a period of one year only. We believe our current CAFR continues to meet the Certificate of Achievement Program's requirements, and we are submitting it to the GFOA to determine its eligibility for another certificate.

The preparation of this CAFR was made possible by the dedicated service of the entire Department of Finance staff. All members of the department have our sincere appreciation for their contributions to the preparation of this report. Credit must also be given to the Commission for their support for maintaining the highest standard of professionalism in the management of HRSD's finances.

Respectfully submitted,



Edward Henifin, P.E.  
General Manager



Jay A. Bernas, P.E.  
Director of Finance



Carroll L. Acors, CPA  
Chief of Accounting



Government Finance Officers Association

**Certificate of  
Achievement  
for Excellence  
in Financial  
Reporting**

Presented to

**Hampton Roads Sanitation District  
Virginia**

For its Comprehensive Annual  
Financial Report  
for the Fiscal Year Ended

**June 30, 2016**



Executive Director/CEO

# Principal Officials

June 30, 2017

---

## **COMMISSIONERS**

Frederick N. Elofson, CPA, Chair

Maurice P. Lynch, PhD, Vice-Chair

Michael E. Glenn

Vishnu K. Lakdawala, PhD

Willie Levenston, Jr.

Stephen C. Rodriguez

Elizabeth A. Taraski, PhD

Ann W. Templeman

## **COMMISSION SECRETARY**

Jennifer L. Cascio

## **SENIOR STAFF**

Edward G. Henifin, PE  
General Manager

Jay A. Bernas, PE  
Director of Finance  
and Treasurer

Charles B. Bott, PhD, PE  
Director of Water Technology  
And Research

Donald C. Corrado  
Director of Information  
Technology

Steven G. de Mik, CPA  
Director of Operations

Paula A. Hogg  
Director of Talent Management

Phillip L. Hubbard, PE  
Special Assistant for  
Compliance Assurance

Bruce W. Husselbee, PE  
Director of Engineering

James J. Pletl, PhD  
Director of Water Quality

Leila E. Rice  
Director of  
Communications

## **COUNSEL**

Kellam, Pickrell, Cox & Anderson, PC  
General Counsel

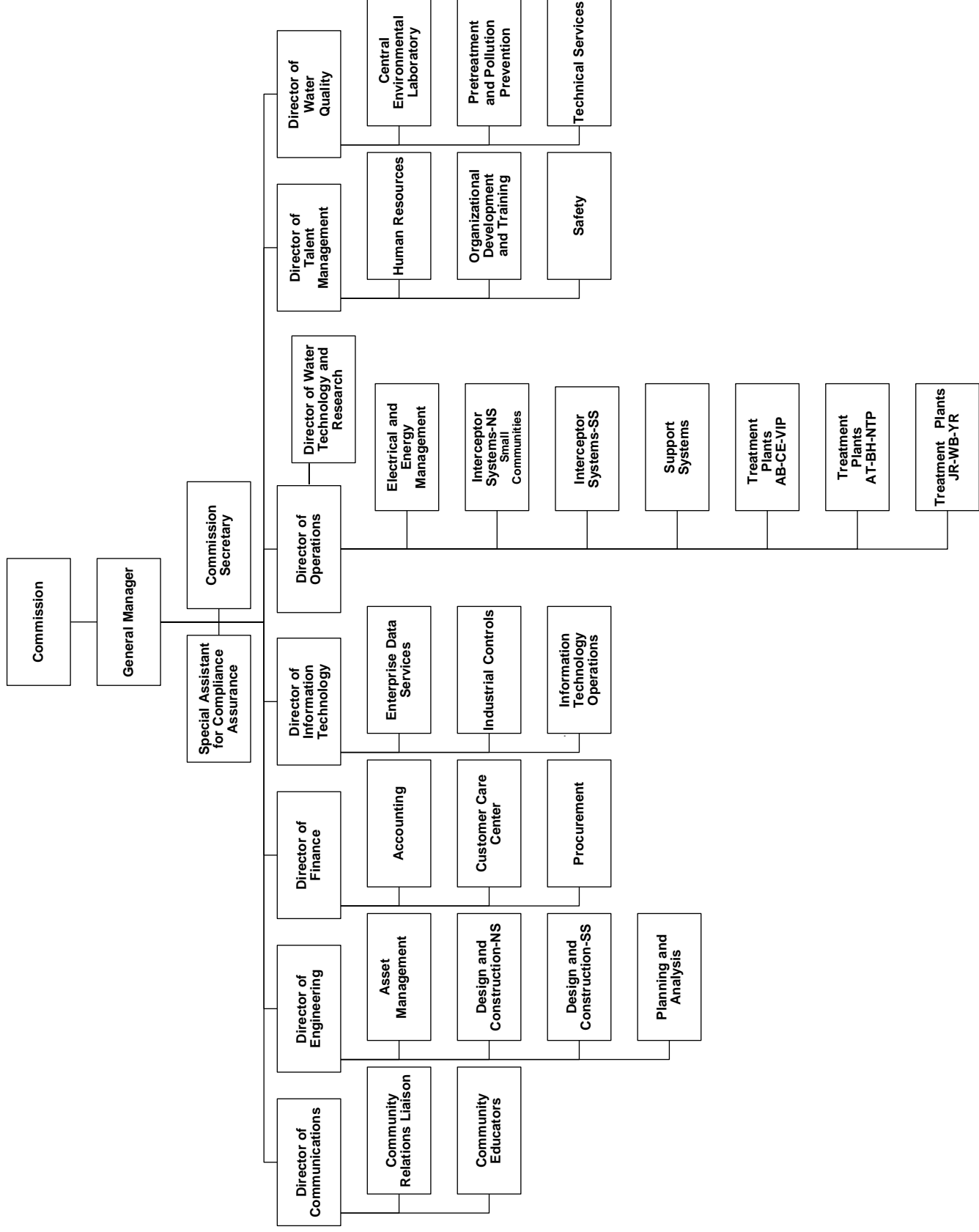
Jones, Blechman, Woltz & Kelly, PC  
Associate Counsel

AquaLaw, PLC  
Special Counsel

Norton Rose Fulbright US, LLP  
Bond Counsel

# HRSD Organization Chart

June 30, 2017





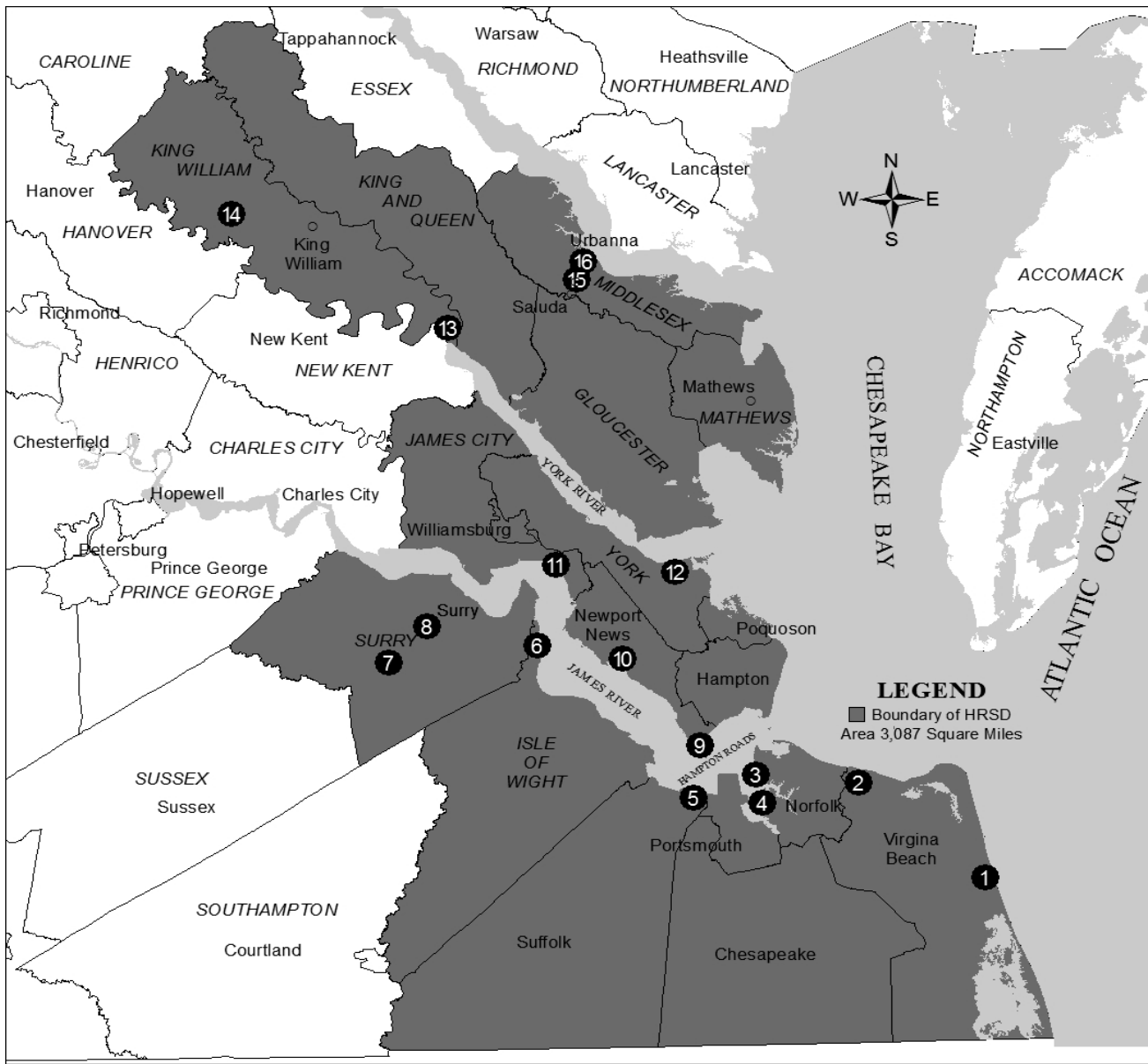
# HRSD Service Area

A Political Subdivision of the Commonwealth of Virginia

Facilities include the following:

1. Atlantic, Virginia Beach
2. Chesapeake-Elizabeth, Va. Beach
3. Army Base, Norfolk
4. Virginia Initiative, Norfolk
5. Nansemond, Suffolk
6. Lawnes Point, Smithfield
7. County of Surry
8. Town of Surry
9. Boat Harbor, Newport News
10. James River, Newport News
11. Williamsburg, James City County
12. York River, York County
13. West Point, King William County
14. King William, King William County
15. Central Middlesex, Middlesex County
16. Urbanna, Middlesex County

Serving the Cities of  
Chesapeake, Hampton,  
Newport News, Norfolk,  
Poquoson, Portsmouth, Suffolk, Virginia  
Beach, Williamsburg and the Counties  
of Gloucester,  
Isle of Wight, James City,  
King and Queen, King William,  
Mathews, Middlesex, Surry\* and York  
\*Excluding the Town of Claremont



05/2017

# History of HRSD

June 30, 2017

---

HRSD can trace its beginnings to 1925 when the Virginia Department of Health condemned a large oyster producing area in Hampton Roads. The closure resulted in the Virginia General Assembly creating in 1927 a "Commission to Investigate and Survey the Seafood Industry of Virginia." Other studies recommended a public body to construct and operate a sewage system in the area. HRSD was named after Hampton Roads, a ship anchorage used for five centuries located near the convergence of the James, Elizabeth and Nansemond Rivers, before they flow into the Chesapeake Bay in southeastern Virginia.

In 1934, the Virginia General Assembly created the Hampton Roads Sanitation Disposal Commission with instructions to plan the elimination of pollution in Hampton Roads. Recommendations were made to the General Assembly, which resulted in the Sanitary Districts Law of 1938, along with "an Act to provide for and create the Hampton Roads Sanitation District." This Act required the qualified voters within HRSD to decide in a general election on November 8, 1938, if they favored creation of such a District. This referendum failed to gain a majority by about 500 votes out of nearly 20,000 votes cast. This led to a revision of the Act and another referendum was held on November 5, 1940, which resulted in a majority vote for the creation of the Hampton Roads Sanitation District.

The Enabling Act provides for HRSD to operate as a political subdivision of the Commonwealth of Virginia for the specific purpose of water pollution abatement in Hampton Roads by providing a system of interceptor mains and wastewater treatment plants. Its affairs are controlled by a Commission of eight members appointed by the Governor for four-year terms. Administration is under the direction of a General Manager, supported by department directors and their staffs.

HRSD began operations on July 1, 1946, using facilities acquired from the United States Government. The Warwick County Trunk Sewer, HRSD's first construction project, began on June 26, 1946, and was funded by HRSD's \$6.5 million Primary Pledge Sewer Revenue Bonds, dated March 1, 1946. The first treatment plant, the Army Base Plant, began operation on October 14, 1947. Since that time, the facilities of HRSD have grown to provide sanitary sewer service to all major population centers in southeastern Virginia. The population served has increased from nearly 288,000 in 1940 to about 1.7 million in 2017.

Throughout its rich history HRSD has earned many of its industry's most prestigious awards. This tradition continued as the National Association of Clean Water Agencies (NACWA) presented Peak Performance Awards for outstanding compliance with National Pollutant Discharge Elimination System (NPDES) permits to every HRSD treatment plant during calendar year 2016. The major treatment plants received the following awards in recognition of their outstanding permit compliance status: Atlantic—Gold, Boat Harbor—Platinum (15 consecutive years), Chesapeake-Elizabeth—Silver, James River—Gold, Nansemond—Platinum (15 consecutive years), Virginia Initiative Plant—Platinum (21 consecutive years), Williamsburg—Platinum (22 consecutive years) and York River—Platinum (9 consecutive years). Three treatment plants in the Small Communities Division, Central Middlesex, King William and West Point, earned Silver Awards while Urbanna received a Gold Award.

HRSD's other Fiscal Year 2017 honors included the Virginia Section American Water Works Association 2017 Public Information Award for Community Relations, large division for SWIFT Community Education and Outreach. In addition, HRSD earned National Environmental Achievement Awards (NEAA) in the following categories: Operations and Environmental Performance for *Molecular Tools for Environmental Management*; Research and Technology for *An International Collaboration: The InDENSE® Process*; Public Information & Education, Education Program for *Living the Legacy*; and Water Resources Utility of the Future for *Sustainable Water Initiative for Tomorrow (SWIFT)*.

# Financial Section



## Building New Pipelines

Microtunneling is one of the methods used to replace 6,000 linear feet of pipe in Downtown Norfolk installed in the 1940s.

*Photo by Will Gibson, PE, AECOM Project Manager*



KPMG LLP  
Suite 1900  
440 Monticello Avenue  
Norfolk, VA 23510

## **Independent Auditors' Report**

The Commissioners  
Hampton Roads Sanitation District:

We have audited the accompanying financial statements of the Hampton Roads Sanitation District (HRSD), a component unit of the Commonwealth of Virginia, as of and for the years ended June 30, 2017 and 2016, and the related notes to the financial statements, which collectively comprise HRSD's basic financial statements for the years then ended 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 U.S. generally accepted accounting principles; 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.

### **Auditors' Responsibility**

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. 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 auditors' 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 HRSD as of June 30, 2017 and 2016, and the changes in its financial position and its cash flows for the years then ended in accordance with U.S. generally accepted accounting principles.





## **Other Matters**

### *Required Supplementary Information*

U.S. generally accepted accounting principles require that Management's Discussion and Analysis on pages 11 through 15 and the Schedule of Changes in Net Pension Liability and Related Ratios on page 39, the Schedule of Employer Contributions and notes to required supplementary information on page 40, and the Schedule of Funding Progress on page 41 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 audits 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.

### *Supplementary and Other Information*

Our audits were conducted for the purpose of forming an opinion on the financial statements that collectively comprise HRSD's basic financial statements. The Introductory Section, Statistical Section and Other Supplemental Section are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The Schedule of Operating Expenses, Net Position by Component, and Debt Service Expenditures, is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the Schedule of Operating Expenses, Net Position by Component, and Debt Service Expenditures is fairly stated in all material respects in relation to the basic financial statements taken as a whole.

The Introductory Section, the remaining schedules in the Statistical Section, and the Other Supplemental Section 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.

*KPMG LLP*

November 15, 2017

## **MANAGEMENT'S DISCUSSION AND ANALYSIS (Unaudited)**

This narrative overview and analysis of the financial activities of the Hampton Roads Sanitation District (HRSD) for the fiscal year ended June 30, 2017 is provided by HRSD's management. Readers of the accompanying financial statements are encouraged to consider this information in conjunction with that furnished in the letter of transmittal, which can be found on pages 1 through 3 of this report.

### **FINANCIAL HIGHLIGHTS**

- Total net position increased \$52.7 million, or 8.8 percent, in 2017 as a result of this year's operations.
- Total revenues increased \$20.3 million, or 8.1 percent. This increase is primarily attributable to wastewater revenue rate increases.
- Operating expenses increased \$10.4 million, or 5.4 percent, principally due to a \$5.4 million increase in contractual services and a \$3.6 million increase in depreciation expense, which was primarily due to the completion of major expansions of treatment plants and interceptor systems in 2016 and 2017.
- Non-operating expenses decreased \$3.8 million, or 14.3 percent, primarily due to a \$3.1 decrease in capital distributions to localities.
- HRSD received \$7.5 million in capital grants from the Commonwealth of Virginia in 2017 to help finance its capital improvement program.
- Restricted cash and cash equivalents decreased \$68.9 million, or 75.2 percent, primarily because \$67.8 million in bonds that were restricted for construction in 2016 were used to build capital asset. Unrestricted cash and cash equivalents and investments increased \$23.9 million, or 12.5 percent, primarily as a result of increased cash flows from wastewater rate increases.
- Net Property, Plant and Equipment increased \$55.5 million, or 4.6 percent, primarily due to expansion of treatment plants and interceptor systems.

### **OVERVIEW OF FINANCIAL STATEMENTS**

HRSD's Basic Financial Statements are comprised of the financial statements and the notes to the financial statements. This report also contains required supplementary information and other supplementary information in addition to the Basic Financial Statements.

The Basic Financial Statements, found on pages 16 through 19 of this report, are designed to provide readers with a broad overview of HRSD's finances in a manner similar to a private sector business.

The Statements of Net Position, found on pages 16 and 17 of this report, present information on all of HRSD's assets, deferred outflows of resources, liabilities, and deferred inflows of resources; the difference between these components is reported as net position. Over time, changes in net position may serve as a useful indicator of whether the financial position of HRSD is improving or deteriorating.

The Statements of Revenues, Expenses and Changes in Net Position, found on page 18 of this report, present all of HRSD's revenues and expenses, showing how HRSD's net position changed during the year. All changes in net position are reported as soon as the underlying event takes place, thus giving rise to the changes, regardless of the timing of the cash flows. Thus, revenues and expenses are reported for some items that will only result in cash flows in future fiscal periods.

The Notes to Financial Statements, found on pages 20 through 38 of this report, provide additional information that is essential to a full understanding of the data provided in the financial statements.

In addition to the basic financial statements and the related notes, this report also presents certain required supplementary information concerning HRSD's progress in funding its obligations to provide pension and other post employment benefits to its employees.

Required Supplementary Information can be found beginning on page 39 of this report.

### **FINANCIAL ANALYSIS**

As noted earlier, net position may serve over time as a useful indicator of HRSD's financial position. Assets exceeded liabilities by \$654.3 million at June 30, 2017 and by \$601.6 million at June 30, 2016.

By far, the largest portion of HRSD's net position (65.5 percent and 68.2 percent at June 30, 2017 and 2016, respectively) reflects its net investment in capital assets (e.g., land, buildings, machinery and equipment) less any related debt used to acquire those assets still outstanding, net of unspent bond proceeds. HRSD uses these

capital assets to provide services to its customers; consequently, these assets are not available for future spending. Although HRSD's net investment in its capital assets is reported net of related debt, it should be noted that the resources needed to repay this debt must be provided from other sources, because the capital assets themselves cannot be liquidated to reduce these liabilities.

HRSD's net position is summarized in the following condensed Statements of Net Position as of June 30:

#### HRSD's Condensed Statements of Net Position

(in thousands)	2017	2016	2015	2017 vs. 2016	
				Dollars	Percent
Capital assets	\$ 1,255,952	\$ 1,200,404	\$ 1,101,351	\$ 55,548	4.6%
Current assets and noncurrent assets	310,534	357,804	291,573	(47,270)	-13.2%
<b>Total assets</b>	<b>\$ 1,566,486</b>	<b>\$ 1,558,208</b>	<b>\$ 1,392,924</b>	<b>\$ 8,278</b>	<b>0.5%</b>
<b>Deferred outflows of resources</b>	<b>\$ 30,822</b>	<b>\$ 25,638</b>	<b>\$ 16,587</b>	<b>\$ 5,184</b>	<b>20.2%</b>
Long-term liabilities	\$ 805,685	\$ 826,393	\$ 724,251	\$ (20,708)	-2.5%
Current liabilities	134,353	147,339	118,035	(12,986)	-8.8%
<b>Total liabilities</b>	<b>\$ 940,038</b>	<b>\$ 973,732</b>	<b>\$ 842,286</b>	<b>\$ (33,694)</b>	<b>-3.5%</b>
<b>Deferred inflows of resources</b>	<b>\$ 2,992</b>	<b>\$ 8,510</b>	<b>\$ 10,400</b>	<b>\$ (5,518)</b>	<b>-64.8%</b>
Net investment in capital assets	\$ 428,670	\$ 410,287	\$ 385,597	\$ 18,383	4.5%
Restricted for debt service	22,701	23,798	22,070	(1,097)	-4.6%
Restricted for debt service reserve fund	-	-	44,118	-	-
Unrestricted	202,907	167,519	105,040	35,388	21.1%
<b>Total net position</b>	<b>\$ 654,278</b>	<b>\$ 601,604</b>	<b>\$ 556,825</b>	<b>\$ 52,674</b>	<b>8.8%</b>

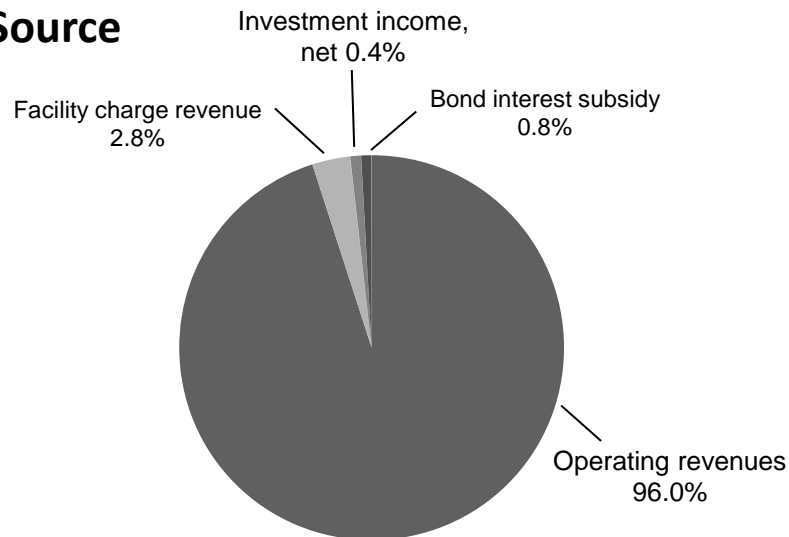
At June 30, 2017 HRSD had no unspent bond proceeds and at 2016 retained \$67.8 million of unspent bond proceeds. The increase in capital assets and the corresponding changes in current assets and noncurrent investments from 2015 through 2017 are primarily the result of issuing bonds in 2015 and 2016 and using these proceeds to fund capital improvements.

The changes in HRSD's net position can be determined by reviewing the following condensed Statements of Revenues, Expenses and Changes in Net Position:

#### HRSD's Condensed Statements of Revenues, Expenses and Changes in Net Position

(in thousands)	2017	2016	2015	2017 vs. 2016	
				Dollars	Percent
Operating revenues	\$ 258,630	\$ 237,881	\$ 225,561	\$ 20,749	8.7%
Facility charge revenues	7,511	6,699	7,428	812	12.1%
Investment income, net	1,168	2,313	1,409	(1,145)	-49.5%
Bond interest subsidy	2,275	2,399	2,444	(124)	-5.2%
<b>Total revenues</b>	<b>269,584</b>	<b>249,292</b>	<b>236,842</b>	<b>20,292</b>	<b>8.1%</b>
Operating expenses:					
Wastewater treatment	113,100	106,575	114,137	6,525	6.1%
General and administrative	40,287	40,026	38,678	261	0.7%
Depreciation and amortization	49,311	45,670	41,871	3,641	8.0%
Total operating expenses	202,698	192,271	194,686	10,427	5.4%
Non-operating expenses:					
Bond issuance costs	42	1,713	768	(1,671)	-97.5%
Capital distributions to localities	138	3,287	-	(3,149)	-95.8%
Interest expense	22,630	21,631	22,958	999	4.6%
Total non-operating expenses	22,810	26,631	23,726	(3,821)	-14.3%
<b>Total expenses</b>	<b>225,508</b>	<b>218,902</b>	<b>218,412</b>	<b>6,606</b>	<b>3.0%</b>
Income before capital contributions	44,076	30,390	18,430	13,686	45.0%
Capital contributions	8,598	14,389	19,519	(5,791)	-40.2%
Change in net position	52,674	44,779	37,949	7,895	17.6%
Total net position - beginning	601,604	556,825	518,876	44,779	8.0%
<b>Total net position - ending</b>	<b>\$ 654,278</b>	<b>\$ 601,604</b>	<b>\$ 556,825</b>	<b>\$ 52,674</b>	<b>8.8%</b>

## Revenues By Source



Operating revenues increased 8.7 percent in 2017 and 5.5 percent in 2016. The majority of these increases are attributable to various rate increases in metered public wastewater services. Facility charge revenues increased \$0.8 million, or 12.1 percent, in 2017 due to an increase in new construction activity across the region after decreasing \$0.7 million, or 9.8 percent, in 2016.

Operating expenses increased 5.4 percent in 2017 and decreased 1.2 percent in 2016. Increases in 2017 were principally due to a \$5.4 million increase in contractual services and a \$3.6 million increase in depreciation expense. Decreases in 2016 were principally due to a \$5.3 million decrease in capital improvement asset expense, partially offset by a \$3.8 million increase in depreciation expense.

In 2017 and 2016, HRSD received \$8.6 million and \$14.4 million, respectively, in capital grants to help finance its capital improvement program.

## CAPITAL ASSETS AND DEBT ADMINISTRATION

### Capital Assets

At the end of 2017 and 2016, HRSD had approximately \$1.3 billion and \$1.2 billion, respectively, invested in a broad range of capital assets, including wastewater treatment plants, interceptor mains, pump stations, automotive, administrative and maintenance buildings, and office and computer software and equipment. These amounts represent a net increase of \$55.5 million, or 4.6 percent, in 2017 and \$99.1 million, or 9.0 percent, in 2016.

The following summarizes HRSD's capital assets, net of accumulated depreciation, as of June 30:

### HRSD's Capital Assets

(in thousands)	2017	2016	2015
Land	\$ 12,174	\$ 12,174	\$ 12,160
Treatment plants	543,616	557,145	446,624
Interceptor systems	368,666	351,828	329,271
Buildings	32,345	30,428	32,758
Small community facilities	18,288	18,649	15,446
Office equipment	3,774	5,314	6,909
Automotive	2,070	1,935	1,501
Other equipment	10,344	11,002	11,484
Software and intangible assets	16,616	21,108	15,817
	1,007,893	1,009,583	871,970
Construction in progress	248,049	190,821	229,381
<b>Net property, plant and equipment</b>	<b>\$ 1,255,942</b>	<b>\$ 1,200,404</b>	<b>\$ 1,101,351</b>



The following summarizes the changes in capital assets for the years ended June 30:

(in thousands)	2017	2016	2015
Balance at beginning of year	\$ 1,200,404	\$ 1,101,351	\$ 1,013,958
Additions	47,631	183,283	96,191
Retirements	-	-	(508)
Depreciation and amortization	(49,311)	(45,670)	(41,871)
Accumulated depreciation retired	-	-	508
Net increase (decrease) in construction in progress	57,228	(38,560)	33,073
<b>Balance at end of year</b>	<b>\$ 1,255,952</b>	<b>\$ 1,200,404</b>	<b>\$ 1,101,351</b>

The largest increase in capital assets in the past two years has been in treatment plant construction and interceptor system construction, which includes pipeline replacements, pump station rehabilitations and other improvements to the infrastructure. During 2017, HRSD invested significant funds in improvements to the Virginia Initiative and York River treatment plants, the Nansemond interceptor system, and the SWIFT Research facility. During 2016, HRSD invested significant funds in improvements to the Army Base and Virginia Initiative treatment plants and the Nansemond, Virginia Initiative and Williamsburg interceptor systems.

### Long-Term Debt

At June 30, 2017, HRSD had a total of \$846.8 million in revenue bonds outstanding versus \$879.3 million in 2016, a decrease of 3.7 percent. This decrease is due to payments on existing senior and subordinate debt.

The following summarizes HRSD's outstanding debt principal at June 30:

### HRSD's Outstanding Debt

(in thousands, net of premium)	2017	2016	2015
Senior revenue bonds	\$ 429,165	\$ 444,616	\$ 609,005
Subordinate revenue bonds	350,347	361,463	99,195
<b>Total outstanding debt</b>	<b>\$ 779,512</b>	<b>\$ 806,079</b>	<b>\$ 708,200</b>

HRSD's financial strengths are reflected in its high credit ratings:

Ratings Agency	Senior Debt	Subordinate Long-term	Subordinate Short-term
Standard & Poor's	AA+	AA	A-1+
Fitch Ratings	AA+	AA	F1+
Moody's Investors Service	Aa2	n/a	n/a

The development of HRSD's Capital Improvement Program and its related debt programs are governed by revenue Trust Agreements. The Senior Trust agreement requires the senior debt coverage to be 1.2 times maximum annual debt service and total debt service coverage of 1.0 times maximum annual debt service both on a GAAP basis. One of the reasons the Amended and Subordinate Trust agreement was amended in 2016 was to account for future Consent Decree expenses related to Locality wet weather improvements that HRSD will not own. In the amended trust, Operating Expenses was redefined as shown below for the purposes of calculating an "Adjusted" debt service coverage on a cash basis:

"Operating Expenses" as defined by the Enabling Act and as used in the Senior Trust Agreement, operating expenses includes the cost of maintaining, repairing and operating such system or systems or sewer improvements and to provide such reserves therefor as may be provided in the resolution providing for the issuance of such revenue bonds or in the trust agreement securing the same. As defined in the Subordinate Trust Agreement, Operating Expenses includes those expenses required to pay the cost of maintaining, repairing and operating the Wastewater System, including, but not limited to, reasonable and necessary usual expenses of administration, operation, maintenance and repair, costs for billing and collecting the rates, fees and other charges for the use of or the services furnished by the Wastewater System, insurance premiums, credit enhancement and liquidity support fees, legal, engineering, auditing and financial advisory expenses, expenses and compensation of the Trustee, and deposits into a self-insurance program. Operating Expenses shall exclude allowance for depreciation and amortization and expenditures for extraordinary maintenance or repair or improvements. Operating Expenses shall also exclude expenses for improvements that will not be owned by HRSD but which will, in the reasonable

determination of the Commission, as evidenced by a resolution thereof, maintain or improve the integrity of the Wastewater System.

The Amended and Subordinate Trust agreement requires total debt service coverage to be 1.2 times Maximum Annual Debt Service (MADS) on an Adjusted basis. HRSD's Financial Policy and operating and capital improvement plans were developed with the intent to maintain coverage ratios in excess of these requirements. HRSD's Financial Policy requires senior debt service coverage to be 1.5 times and total debt service coverage to be 1.4 times.

	Senior Debt Service Coverage		Total Debt Service Coverage	
	GAAP	Adjusted	GAAP	Adjusted
Senior Trust Agreement	1.20x (MADS)	None	1.00x (MADS)	None
Amended Subordinate Trust Agreement	None	None	None	1.20x (Current Year)
Financial Policy	None	1.50x (Current Year)	None	1.40x (Current Year)

More detailed information regarding HRSD's capital assets and long-term debt is presented in Notes 5 and 8, respectively.

### **ECONOMIC FACTORS AND RATES**

The five-year rolling average billed consumption has decreased over the last three fiscal years from approximately 114 million gallons per day (MGD) to approximately 112 MGD. HRSD's experience, primarily resulting from water conservation efforts throughout the region, is consistent with national trends.

In 2017, wastewater revenues increased as a result of planned rate increases needed, in large part, to fund HRSD's capital improvement program. Facility charge revenues, which are generally dependent on new growth and economic expansion, increased \$0.8 million, or 12.1 percent, in 2017 after decreasing \$0.7 million, or 9.8 percent, in 2016. Facility charge revenues comprised only 2.8 and 2.7 percent, respectively, of HRSD's total revenues in both 2017 and 2016.

Wastewater treatment rates for the 2017 fiscal year were increased by approximately 9 percent at the beginning of the year for the vast majority of HRSD customers. The increases are necessary to meet growing capital improvement needs and the increased cost of treatment operations.

It is anticipated that the average residential customer bill will rise by less than \$2.67 per month in fiscal year 2018.

### **CONTACTING HRSD'S FINANCIAL MANAGEMENT**

This financial report is designed to provide a general overview of HRSD's finances for all those with an interest. Questions concerning the information provided in this report or any requests for additional information should be addressed to the Director of Finance, 1434 Air Rail Avenue, Virginia Beach, Virginia 23455.

**HAMPTON ROADS SANITATION DISTRICT**  
**STATEMENTS OF NET POSITION**  
**AS OF JUNE 30, 2017 AND 2016**

**ASSETS AND DEFERRED OUTFLOWS OF RESOURCES**

(in thousands)

	2017	2016
<b>CURRENT ASSETS</b>		
Cash and cash equivalents	\$ 92,076	\$ 68,314
Cash and cash equivalents - Restricted	22,701	48,952
Investments	14,260	18,544
Accounts receivable, net	39,627	38,796
Accrued interest	447	288
Other current assets	3,644	7,188
<b>TOTAL CURRENT ASSETS</b>	<b>172,755</b>	<b>182,082</b>
<b>NON-CURRENT ASSETS</b>		
Cash and cash equivalents - Restricted	-	42,607
Investments	109,427	105,009
Inventory	28,352	28,106
	<b>137,779</b>	<b>175,722</b>
<b>NET PROPERTY, PLANT AND EQUIPMENT</b>		
Land	12,174	12,174
Treatment plants	1,184,198	1,170,180
Interceptor systems	525,473	498,952
Buildings	48,735	45,359
Small community facilities	25,529	25,305
Office equipment	44,613	44,612
Automotive	18,180	17,342
Other equipment	36,066	34,011
Software and intangible assets	39,624	39,027
	1,934,592	1,886,962
Less: Accumulated depreciation and amortization	926,689	877,379
	1,007,903	1,009,583
Construction in progress	248,049	190,821
<b>NET PROPERTY, PLANT AND EQUIPMENT</b>	<b>1,255,952</b>	<b>1,200,404</b>
<b>TOTAL NON-CURRENT ASSETS</b>	<b>1,393,731</b>	<b>1,376,126</b>
<b>TOTAL ASSETS</b>	<b>1,566,486</b>	<b>1,558,208</b>
<b>DEFERRED OUTFLOWS OF RESOURCES</b>		
Deferred loss on debt refunding	19,501	21,416
Differences between expected and actual experience	2,404	-
Net difference between projected and actual earnings on pension plan investments	4,591	-
Pension contributions subsequent to measurement date	4,326	4,222
<b>TOTAL DEFERRED OUTFLOWS OF RESOURCES</b>	<b>30,822</b>	<b>25,638</b>
<b>TOTAL ASSETS AND DEFERRED OUTFLOWS OF RESOURCES</b>	<b>\$ 1,597,308</b>	<b>\$ 1,583,846</b>

(continued)

See Accompanying Notes to Financial Statements

**HAMPTON ROADS SANITATION DISTRICT**  
**STATEMENTS OF NET POSITION**  
**AS OF JUNE 30, 2017 AND 2016**

**LIABILITIES, DEFERRED INFLOWS OF RESOURCES AND NET POSITION**

(in thousands)

	2017	2016
<b>CURRENT LIABILITIES</b>		
Trade and contracts payable	\$ 21,573	\$ 32,718
Contract retention	6,527	7,742
Accrued salaries and wages	2,211	1,906
Current portion of bonds payable	31,895	32,421
Variable rate demand bonds	50,000	50,000
Current portion of compensated absences	5,279	4,672
Debt interest payable	11,803	10,818
Other liabilities	5,065	7,062
TOTAL CURRENT LIABILITIES	<u>134,353</u>	<u>147,339</u>
<b>LONG-TERM LIABILITIES</b>		
Compensated absences	3,124	3,403
Net pension liability	37,673	26,117
Bonds payable	764,888	796,873
TOTAL LONG-TERM LIABILITIES	<u>805,685</u>	<u>826,393</u>
<b>TOTAL LIABILITIES</b>	<u>940,038</u>	<u>973,732</u>
<b>DEFERRED INFLOWS OF RESOURCES</b>		
Differences between expected and actual experience	2,992	3,951
Net difference between projected and actual earnings on pension plan investments	-	4,559
TOTAL DEFERRED INFLOWS OF RESOURCES	<u>2,992</u>	<u>8,510</u>
<b>NET POSITION</b>		
Net investment in capital assets	428,670	410,287
Restricted for debt service	22,701	23,798
Unrestricted	202,907	167,519
TOTAL NET POSITION	<u>654,278</u>	<u>601,604</u>
<b>TOTAL LIABILITIES, DEFERRED INFLOWS OF RESOURCES AND NET POSITION</b>	<u><u>\$ 1,597,308</u></u>	<u><u>\$ 1,583,846</u></u>

See Accompanying Notes to Financial Statements

**HAMPTON ROADS SANITATION DISTRICT**  
**STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION**  
**FOR THE FISCAL YEARS ENDED JUNE 30, 2017 and 2016**

(in thousands)

	2017	2016
<b>OPERATING REVENUES</b>		
Wastewater treatment charges	\$ 254,961	\$ 234,020
Miscellaneous	3,669	3,861
<b>TOTAL OPERATING REVENUES</b>	<u>258,630</u>	<u>237,881</u>
<b>OPERATING EXPENSES</b>		
Wastewater treatment	113,100	106,575
General and administrative	40,287	40,026
Depreciation and amortization	49,311	45,670
<b>TOTAL OPERATING EXPENSES</b>	<u>202,698</u>	<u>192,271</u>
<b>OPERATING INCOME</b>	<u>55,932</u>	<u>45,610</u>
<b>NON-OPERATING REVENUES (EXPENSES)</b>		
Wastewater facility charges	7,511	6,699
Investment income	2,287	1,563
Bond interest subsidy	2,275	2,399
Change in fair value of investments	(1,119)	750
Capital distributions to localities	(138)	(3,287)
Bond issuance costs	(42)	(1,713)
Interest expense	(22,630)	(21,631)
<b>NET NON-OPERATING EXPENSES</b>	<u>(11,856)</u>	<u>(15,220)</u>
<b>INCOME BEFORE CAPITAL CONTRIBUTIONS</b>	<u>44,076</u>	<u>30,390</u>
<b>CAPITAL CONTRIBUTIONS (DISTRIBUTIONS)</b>		
State capital grants received	7,462	14,389
Other capital contributions	1,136	-
<b>CAPITAL CONTRIBUTIONS</b>	<u>8,598</u>	<u>14,389</u>
<b>CHANGE IN NET POSITION</b>	52,674	44,779
<b>TOTAL NET POSITION - Beginning</b>	<u>601,604</u>	<u>556,825</u>
<b>TOTAL NET POSITION - Ending</b>	<u><u>\$ 654,278</u></u>	<u><u>\$ 601,604</u></u>

See Accompanying Notes to Financial Statements

**HAMPTON ROADS SANITATION DISTRICT**  
**STATEMENTS OF CASH FLOWS**  
**FOR THE FISCAL YEARS ENDED JUNE 30, 2017 and 2016**

(in thousands)

	2017	2016
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>		
Cash received from customers	\$ 256,532	\$ 235,808
Other operating revenues	3,669	3,861
Cash payments to suppliers for goods and services	(105,998)	(102,740)
Cash payments to employees for services	(52,768)	(51,006)
Net cash provided by operating activities	<u>101,435</u>	<u>85,923</u>
<b>CASH FLOWS FROM NONCAPITAL FINANCING ACTIVITIES</b>		
Capital distributions to localities	<u>(138)</u>	<u>(3,287)</u>
<b>CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES</b>		
Wastewater facility charges	7,511	6,699
Acquisition and construction of property, plant and equipment	(110,822)	(137,316)
Proceeds from capital debt	-	150,022
Bond interest subsidy	2,275	2,399
Principal paid on capital debt	(26,568)	(28,181)
State capital grants	10,658	17,367
Other capital contributions	1,136	-
Bond issuance costs	(42)	(1,713)
Interest paid on capital debt	(31,416)	(26,600)
Net cash used in capital and related financing activities	<u>(147,268)</u>	<u>(17,323)</u>
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>		
Purchases of investments	(97,549)	(181,239)
Sales and maturities of investments	96,296	180,011
Interest and dividends on investments	2,128	1,512
Net cash provided by investing activities	<u>875</u>	<u>284</u>
<b>NET INCREASE/(DECREASE) IN CASH AND CASH EQUIVALENTS</b>	(45,096)	65,597
<b>CASH AND CASH EQUIVALENTS, AT BEGINNING OF YEAR</b>	159,873	94,276
<b>CASH AND CASH EQUIVALENTS, AT END OF YEAR</b>	<u><u>\$ 114,777</u></u>	<u><u>\$ 159,873</u></u>

**Reconciliation of Operating Income to Net Cash Provided by Operating Activities**

(in thousands)

Operating income	\$ 55,932	\$ 45,610
Adjustments to reconcile operating income to net cash provided by operating activities		
Depreciation and amortization	49,311	45,670
(Increase) decrease in operating assets		
Accounts receivable	(831)	(658)
Inventory	(246)	(553)
Net change in other current assets	348	(372)
Increase (decrease) in operating liabilities		
Trade and contracts payable	(654)	(3,255)
Accrued salaries and wages	305	424
Compensated absences	328	371
Net change in other liabilities	(1,997)	1,938
Pension liabilities	(1,061)	(3,252)
<b>NET CASH PROVIDED BY OPERATING ACTIVITIES</b>	<u><u>\$ 101,435</u></u>	<u><u>\$ 85,923</u></u>
<b>Noncash Capital and Related Financing Activities:</b>		
Proceeds of refunding debt principal	\$ -	\$ 170,785
Refunding of debt principal	-	(170,785)
Accrual for capital expenditures	(10,491)	(304)
Amortization of premium	(5,943)	(4,360)
Amortization of deferred loss on bond refunding	(1,915)	(1,433)

See Accompanying Notes to Financial Statements

**HAMPTON ROADS SANITATION DISTRICT  
NOTES TO FINANCIAL STATEMENTS  
JUNE 30, 2017 and 2016**

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**NOTE 1 - GENERAL INFORMATION**

Organization and Administration

The Hampton Roads Sanitation District (HRSD) was created by the Virginia General Assembly in 1940, as a political subdivision of the Commonwealth of Virginia (the Commonwealth), to construct, maintain, and operate a wastewater treatment system in the Hampton Roads area. The Hampton Roads Sanitation District Commission (the Commission) is HRSD's governing body and consists of eight members, appointed by the Governor. The Commission's functions were updated by Chapter 66 of the Acts of the Assembly of Virginia of 1960, as amended. The administration of HRSD is under the direction of a General Manager, supported by seven department directors.

Regulatory Oversight

HRSD's operations are subject to regulations established by the United States Environmental Protection Agency and the Virginia Department of Environmental Quality. HRSD currently meets all of its permit requirements. Changes in these regulations could require HRSD to modify its treatment processes and require additional capital investment and/ or incur additional costs.

Purpose of HRSD

HRSD was created for the specific purpose of abating pollution in the Hampton Roads area through the interception of wastewater outfalls, installation of interception service into new areas as necessary and providing treatment facilities. HRSD provides points of interception throughout the region. The responsibility of providing lateral sewers and subtrunk facilities to carry sewage from industries, residences and businesses is generally the responsibility of the local municipal governments.

Corporate Limits of HRSD

The geographical limits of HRSD include:

City of Chesapeake	City of Suffolk	King and Queen County
City of Hampton	City of Virginia Beach	King William County
City of Newport News	City of Williamsburg	Mathews County
City of Norfolk	Gloucester County	Middlesex County
City of Poquoson	Isle of Wight County	Surry County*
City of Portsmouth	James City County	York County
*Excluding the Town of Clarendon		

**NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

Reporting Entity

HRSD is a political subdivision of the Commonwealth and a government instrumentality. The Commission is granted corporate powers by the *Code of Virginia*. The Governor of the Commonwealth appoints the Commission members, who serve at his pleasure. HRSD is reported in the Commonwealth's Comprehensive Annual Financial Report as a discretely presented component unit. The Commonwealth is not obligated to repay HRSD's debt. HRSD derives its revenues primarily from charges for wastewater treatment services. HRSD has no taxing authority.

Basis of Accounting

The accompanying financial statements report the financial position and results of operations of HRSD in accordance with U.S. generally accepted accounting principles (GAAP). Because HRSD is a political subdivision of the Commonwealth, the preparation of HRSD's financial statements are governed by the pronouncements of the Governmental Accounting Standards Board (GASB). These statements are prepared on an enterprise fund basis and present HRSD's operating revenues and expenses in a manner similar to a private business, where the costs, including depreciation, of providing services to the general public on a continuing basis are financed or recovered primarily through user charges.

An enterprise fund, a proprietary fund type, is accounted for on an economic resources measurement focus. All assets and liabilities, whether current or noncurrent, associated with its activities are included on its statements of net position. Proprietary fund type operating statements present increases (revenues) and decreases (expenses) in fund equity. The financial statements are presented using the accrual basis of accounting, whereby revenues are recognized when earned and expenses are recognized when incurred.

Budgetary Accounting and Control

HRSD operates in accordance with annual operating and capital budgets prepared on a basis of accounting that is different from generally accepted accounting principles. The operating budget is adopted by department, with budgetary controls exercised administratively by management at the department level. The General Manager is authorized to transfer funds among departments without further approval by the Commission. Appropriations lapse at the end of the fiscal year. The Capital Budget represents a ten-year plan. Funds for the Capital Budget are appropriated throughout a fiscal year on a project basis. Transfers among projects require approval by the Commission. Appropriations for these budgets continue until the purpose of the appropriation has been fulfilled.

Cash Equivalents

All short-term investments that are highly liquid are considered to be cash equivalents. Cash equivalents are readily convertible to cash, and at the day of purchase, have an original maturity date of no longer than three months. Current restricted cash and cash equivalents are revenue bond proceeds held for construction of assets within the next 12 months, as well as cash restricted for debt service payments payable within the next year. Money market investments include accounts that are invested in government securities and are valued at net asset value (NAV) and in the Commonwealth of Virginia Local Government Investment Pool (LGIP), which is measured at amortized cost. See Notes 3 and 12 for additional discussion of cash and cash equivalent and investment valuations. Noncurrent restricted cash and cash equivalents are revenue bond proceeds held for the construction of noncurrent assets expected to be spent after 12 months (see Note 3).

Investments

Investments, which consist of U.S. government obligations including agencies, FDIC-guaranteed corporate notes and other corporate notes and bonds, and municipal bonds, are reported at fair value. HRSD’s investment practices are governed by its formal investment policy.

Allowance for Uncollectible Accounts

HRSD provides an allowance for estimated uncollectible accounts receivable based on its bad debt experience. The balance in the allowance for uncollectible accounts is considered by management to be sufficient to cover anticipated losses on reported receivable balances.

Inventory

Inventory is carried at the lower of cost or market value and consists primarily of operating and maintenance materials.

Property, Plant and Equipment

HRSD funds its capital improvement program through the issuance of debt and its own resources. The proceeds of debt are reported as restricted assets. Generally, for projects funded with both debt proceeds and other resources, it is HRSD’s policy to use available debt proceeds to pay project expenditures prior to using its own resources.

Property, plant and equipment purchased or constructed are reported at cost, including interest cost on funds borrowed to finance the construction of major capital additions. The capitalization threshold is \$5,000. Donated assets are reported at acquisition value at the date of donation. Property, plant and equipment are depreciated using the straight-line method over the following estimated useful lives:

Treatment plants, buildings and facilities	30 years
Interceptor systems	50 years
Office furniture and equipment	5-10 years
Software and intangible assets	5-7 years
Automotive	5 years

Depreciation and amortization recognized on property, plant and equipment is an operating expense.



### Deferred Outflows and Inflows of Resources

In addition to assets, the statements of net position reports a separate section for deferred outflows of resources. This separate financial statement element, deferred outflows of resources, represents a consumption of net position that applies to future periods and so will not be recognized as an outflow of resources (expenses) until then. HRSD has four items that qualify for reporting in this category. The first is the deferred charge on refunding reported in the statements of net position. A deferred charge on refunding results from the difference in the carrying value of refunded debt and its reacquisition price. This amount is deferred and amortized over the shorter of the life of the refunded or refunding debt. The second and third amounts are differences between expected and actual experience and the net difference between projected and actual earnings on pension plan investments, which will be recognized in pension expense in future reporting periods. The fourth is pension contributions to the Virginia Retirement System made subsequent to the measurement dates of June 30, 2016 and 2015. These contributions will be recognized as a reduction of the Net Pension Liability during the years ended June 30, 2018 and 2017, respectively.

In addition to liabilities, the statements of net position reports a separate section for deferred inflows of resources. This separate financial statement element, deferred inflows of resources, represents an acquisition of net position that applies to a future period and so will not be recognized as an inflow of resources (revenue) until that time. HRSD has two types of this item, the differences between expected and actual experience and the net difference between projected and actual earnings on pension plan investments, which will be recognized in pension expense in future reporting periods.

### Revenue Recognition

Generally, wastewater treatment charges are computed based on a user's water consumption. These charges are recognized as revenue when billed. Revenues earned but unbilled through June 30 of each fiscal year are accrued at year-end. Wastewater facility charges are computed based on a new connection's water meter size and potential for high strength pollutant discharges, and are recognized as revenue prior to the issuance of a building or operating permit.

### Operating and Non-operating Revenues and Expenses Recognition

HRSD distinguishes operating revenues and expenses from non-operating items. Operating revenues and expenses result from providing services and producing and delivering goods in connection with HRSD's principal service of providing wastewater treatment. The majority of operating revenues are from wastewater treatment, but other associated miscellaneous income from other related services and charges are also included. Revenues and expenses not meeting the operating definition are reported as non-operating. These consist mainly of wastewater facility charges, investment income, capital contributions and interest expense.

### Compensated Absences

All permanent employees earn leave upon starting a full-time position. The amount and type of leave earned is based upon the employee's date of hire and years of service and is expensed as employees earn the right to these benefits.

Permanent employees hired prior to January 1, 2014 earn from 15 to 27 days of annual leave per year. The maximum annual leave an employee may accumulate at year-end varies by the years of service, with the maximum being 54 days. An employee has a vested right to their annual leave when earned. These employees also earn eight hours per month of sick leave regardless of the number of years of service. The amount of sick leave that may be accumulated is unlimited. After five years of service with HRSD, an employee has vested rights to 35 percent of accumulated sick leave to a maximum of \$10,000. For these employees, long-term disability (LTD) insurance is an optional employee paid benefit that replaces part of their income if the employee suffers a serious illness or injury and can't work for an extended period of time.

Permanent employees hired after January 1, 2014 earn 8 hours of paid time off for each two-week pay period. Employees may use accumulated paid time off for any type of absence from work, subject to supervisor approval. The maximum paid time off an employee may accumulate at year-end is 208 hours. After five years of service with HRSD, an employee has vested rights to 50 percent of their accumulated paid time off at separation. For these employees, HRSD also provides a state mandated long-term disability (LTD) benefit since these employees are not eligible for disability retirement benefits through Virginia Retirement System. The long-term disability benefit provides income replacement for employees who become disabled and unable to work for an extended period of time due to a non work-related or work-related condition (as determined under the Virginia Workers' Compensation Act). Long-term disability benefits begin at the expiration of an additional state mandated employer paid short-term disability (STD) benefit period of 125 days.

## Pensions

HRSD employees participate in an agent multiple-employer defined benefit pension plan administered by the VRS, which acts as a common investment and administrative agent for political subdivisions in the Commonwealth. For purposes of measuring the net pension liability, deferred outflows of resources and deferred inflows of resources related to pensions, and pension expense, information about the fiduciary net position of HRSD's Retirement Plan and the additions to or deductions from HRSD's Retirement Plan's net fiduciary position have been determined on the same basis as they were reported to HRSD by VRS. For this purpose, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with the benefit terms.

## Use of Estimates

The preparation of these financial statements requires management to make estimates and assumptions. These estimates affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results may differ from management's estimates.

## **NOTE 3 - DEPOSITS AND INVESTMENTS**

### Deposits

*Custodial Credit Risk.* This risk is associated with the inability of a governmental entity to recover deposits from a financial institution in the event of a failure. At June 30, 2017 and 2016, the carrying values of HRSD's deposits were \$21,904,000 and \$47,891,000, respectively, and the bank balances were \$25,325,000 and \$48,864,000, respectively. All of the bank balances at June 30, 2017 were covered by federal depository insurance or collateralized in accordance with the Virginia Security for Public Deposits Act (the Act). In accordance with the Act, the depository institution pledged collateral in the form of federal obligations with a fair value equal to 110 percent of HRSD's deposits with a third party trustee in the name of the Treasurer of the Commonwealth. In the event that the banking institution fails, the Treasurer will take possession of the collateral, liquidate it and reimburse HRSD up to the value of its deposits. 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 banks.

*Credit Risk.* HRSD invests overnight in money market accounts that are invested in government securities and the PFM Funds Prime Series – SNAP Fund Class (SNAP) and in the Commonwealth of Virginia Local Government Investment Pool (LGIP), for which oversight is provided by the Treasury Board of Virginia. As of June 30, 2017 and 2016, HRSD had deposits in Merrill Lynch's FFI Government Fund and Fidelity's Government Money Market Fund that were rated AAAM by Standard & Poor's. HRSD's investment in the LGIP was rated AAAM by Standard & Poor's.

### Investments

As of June 30, HRSD had the following investments and maturities:

		<u>Investment Maturities (in years)</u>		
		Fair Value	Less Than 1	1-3
<b>As of June 30, 2017</b>				
<u>Investment Type</u>				
U.S. Treasury Securities	\$	38,809	\$ -	\$ 38,809
Federal Agency Notes / Bonds		33,688	-	33,688
Certificates of Deposit		12,110	7,207	4,903
Commercial Paper		2,424	2,424	-
Corporate Notes / Bonds		24,913	3,503	21,410
Municipal Bonds		2,166	-	2,166
Supranationals		9,577	1,126	8,451
<b>Total</b>	<b>\$</b>	<b>123,687</b>	<b>\$ 14,260</b>	<b>\$ 109,427</b>
<b>As of June 30, 2016</b>				
<u>Investment Type</u>				
U.S. Treasury Securities	\$	57,220	\$ 7,792	\$ 49,428
Federal Agency Notes / Bonds		23,471	1,000	22,471
Certificates of Deposit		9,704	-	9,704
Commercial Paper		9,752	9,752	-
Corporate Notes / Bonds		19,815	-	19,815
Supranationals		3,591	-	3,591
<b>Total</b>	<b>\$</b>	<b>123,553</b>	<b>\$ 18,544</b>	<b>\$ 105,009</b>

**Interest Rate Risk.** In accordance with its investment policy, HRSD manages its exposure to declines in fair values by limiting the weighted average maturity of various portfolios in a manner that meets HRSD's liquidity needs.

**Custodial Credit Risk.** For an investment, custodial credit risk is the risk that, in the event of the failure of the counterparty, HRSD will not be able to recover the value of its investments or collateral securities that are in the possession of an outside party. HRSD's policy is to utilize its Trustee for its investments, The Bank of New York Trust Department, as recipient of all investment transactions on a delivery versus pay basis. The Trustee may not be a counterparty to the investment transaction. At June 30, 2017 and 2016, the Trust Department of the Bank of New York held approximately \$123,687,000 and \$123,553,000, respectively, in investments in the Trustee's name for HRSD.

**Credit Risk.** HRSD's Trust Agreement permits HRSD to invest in investment instruments that are authorized by the Commonwealth. HRSD's investment securities using the Standard & Poor's credit quality ratings scale are presented below:

As of June 30, 2017

Standard & Poor's Credit Rating by Investment Type

<u>Investments</u>	AAA	AA+	AA	AA-	A+	A-1+	A-1	Total
(in thousands)								
U.S. Treasury Securities	\$ -	\$ 38,809	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 38,809
Federal Agency Notes / Bonds	-	33,688	-	-	-	-	-	33,688
Certificates of Deposit	-	-	-	9,608	-	2,502	-	12,110
Commercial Paper	-	-	-	-	-	-	2,424	2,424
Corporate Notes / Bonds	3,015	5,245	1,867	12,581	2,205	-	-	24,913
Municipal Bonds	-	-	-	-	2,166	-	-	2,166
Supranationals	9,577	-	-	-	-	-	-	9,577
<b>Total Investments</b>	<b>\$ 12,592</b>	<b>\$ 77,742</b>	<b>\$ 1,867</b>	<b>\$ 22,189</b>	<b>\$ 4,371</b>	<b>\$ 2,502</b>	<b>\$ 2,424</b>	<b>\$ 123,687</b>

As of June 30, 2016

Standard & Poor's Credit Rating by Investment Type

<u>Investments</u>	AAA	AA+	AA	AA-	A-1+	A-1	Total
(in thousands)							
U.S. Treasury Securities	\$ -	\$ 57,220	\$ -	\$ -	\$ -	\$ -	\$ 57,220
Federal Agency Notes / Bonds	-	23,471	-	-	-	-	23,471
Certificates of Deposit	-	-	-	4,727	4,977	-	9,704
Commercial Paper	-	-	-	-	-	9,752	9,752
Corporate Notes / Bonds	3,047	2,851	1,326	12,591	-	-	19,815
Supranationals	3,591	-	-	-	-	-	3,591
<b>Total Investments</b>	<b>\$ 6,638</b>	<b>\$ 83,542</b>	<b>\$ 1,326</b>	<b>\$ 17,318</b>	<b>\$ 4,977</b>	<b>\$ 9,752</b>	<b>\$ 123,553</b>

**Concentration of Credit Risk.** HRSD's investment policy includes a maximum exposure for each individual issuer for its permitted investment categories. U.S. Treasury obligations, collateralized bank deposits, money market funds and local government investment pools, however, are not subject to these issuer limits. Federal agency obligations and repurchase agreements are limited to 35 percent per issuer. Municipal obligations, commercial paper, and bankers acceptances are limited to 5 percent per issuer. Corporate notes and negotiable certificates of deposit are limited to 3 percent per issuer.

The change in fair value for the years ended June 30 is calculated as follows:

(in thousands)	2017	2016
Fair value of investments, end of year	\$ 123,687	\$ 123,553
Add: Proceeds of investments sold or maturing during the year	96,296	180,011
Less: Cost of investments purchased during the year	(97,549)	(181,239)
Less: Fair value of investments, beginning of year	(123,553)	(121,575)
Change in fair value of investments	<u>\$ (1,119)</u>	<u>\$ 750</u>

The components of restricted cash and cash equivalents and investments at June 30 are as follows:

(in thousands)	2017	2016
Debt service	\$ 22,701	\$ 23,798
Revenue bond construction funds - current	-	25,154
Revenue bond construction funds - noncurrent	-	42,607
Total cash, cash equivalents and investments - restricted	<u>\$ 22,701</u>	<u>\$ 91,559</u>

#### NOTE 4 - ALLOWANCE FOR UNCOLLECTIBLE ACCOUNTS

An analysis of the allowance for uncollectible accounts for the years ended June 30 is as follows:

(in thousands)	2017	2016
Balance, beginning of year	\$ 2,282	\$ 1,949
Add: Current provision for uncollectible accounts	2,402	2,446
Less: Charge-off of uncollectible accounts	(2,239)	(2,113)
Balance, end of year	<u>\$ 2,445</u>	<u>\$ 2,282</u>

HRSD's collection ratio for the years ended June 30, 2017 and 2016 was 99.1 percent for each year.

#### NOTE 5 - PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment activity for the years ended June 30 was as follows:

(in thousands)	Balance 6/30/15	Additions	Transfers/ Retirements	Balance 6/30/16	Additions	Transfers/ Retirements	Balance 6/30/17
<u>Non-Depreciable Capital Assets</u>							
Land	\$ 12,160	\$ 14	\$ -	\$ 12,174	\$ -	\$ -	\$ 12,174
Construction in progress	229,381	108,420	(146,980)	190,821	101,957	(44,729)	248,049
<u>Depreciable Capital Assets</u>							
Treatment plants	1,036,055	134,125	-	1,170,180	14,018	-	1,184,198
Interceptor systems	467,277	31,675	-	498,952	26,521	-	525,473
Buildings	45,296	63	-	45,359	3,376	-	48,735
Small community facilities	22,551	2,754	-	25,305	224	-	25,529
Office equipment	44,364	248	-	44,612	1	-	44,613
Automotive	16,217	1,125	-	17,342	838	-	18,180
Other equipment	31,976	2,035	-	34,011	2,055	-	36,066
Software and intangible assets	27,783	11,244	-	39,027	598	(1)	39,624
Total	<u>\$ 1,933,060</u>	<u>\$ 291,703</u>	<u>\$ (146,980)</u>	<u>\$ 2,077,783</u>	<u>\$ 149,588</u>	<u>\$ (44,730)</u>	<u>\$ 2,182,641</u>
Less accumulated depreciation and amortization							
Treatment plants	(589,431)	(23,604)	-	(613,035)	(27,547)	-	(640,582)
Interceptor systems	(138,006)	(9,119)	-	(147,125)	(9,683)	-	(156,808)
Buildings	(13,489)	(1,441)	-	(14,930)	(1,451)	-	(16,381)
Small community facilities	(6,154)	(502)	-	(6,656)	(585)	-	(7,241)
Office equipment	(37,455)	(1,843)	-	(39,298)	(1,541)	-	(40,839)
Automotive	(14,716)	(691)	-	(15,407)	(703)	-	(16,110)
Other equipment	(20,492)	(2,517)	-	(23,009)	(2,712)	-	(25,721)
Software and intangible assets -amortization	(11,966)	(5,953)	-	(17,919)	(5,089)	1	(23,007)
Total	<u>(831,709)</u>	<u>(45,670)</u>	<u>-</u>	<u>(877,379)</u>	<u>(49,311)</u>	<u>1</u>	<u>(926,689)</u>
Net property, plant and equipment	<u>\$ 1,101,351</u>	<u>\$ 246,033</u>	<u>\$ (146,980)</u>	<u>\$ 1,200,404</u>	<u>\$ 100,277</u>	<u>\$ (44,729)</u>	<u>\$ 1,255,952</u>

Additions include \$5,743,000 and \$6,135,000 capitalized interest June 30, 2017 and 2016, respectively.

## NOTE 6 - COMPENSATED ABSENCES

The liability for vested annual, sick, paid time off and compensatory leave at June 30 is as follows:

(in thousands)	Balance			Balance			Balance
	<u>6/30/15</u>	<u>Earned</u>	<u>Taken</u>	<u>6/30/16</u>	<u>Earned</u>	<u>Taken</u>	<u>6/30/17</u>
Annual leave	\$ 4,841	\$ 3,216	\$ (3,063)	\$ 4,994	\$ 3,384	\$ (3,326)	\$ 5,052
Sick leave	2,687	1,312	(1,288)	2,711	1,416	(1,348)	2,779
Paid time off	<u>176</u>	<u>515</u>	<u>(321)</u>	<u>370</u>	<u>807</u>	<u>(605)</u>	<u>572</u>
Total	7,704	<u>\$ 5,043</u>	<u>\$ (4,672)</u>	8,075	<u>\$ 5,607</u>	<u>\$ (5,279)</u>	8,403
Less: Current liability	<u>2,696</u>			<u>4,672</u>			<u>5,279</u>
Long-term liability	<u>\$ 5,008</u>			<u>\$ 3,403</u>			<u>\$ 3,124</u>

## NOTE 7 - DEFINED BENEFITS PLANS

### Post-Retirement Health Benefit Plan

#### Plan Description

HRSD provides other postemployment benefits (OPEB) for its employees through the Hampton Roads Sanitation District Retiree Health Plan (the Plan), a single employer defined benefit plan. The Plan was established and may be amended by the Commission. HRSD administers the Plan through the Hampton Roads Sanitation District Retiree Health Trust (the Trust), an irrevocable trust to be used solely for providing benefits to eligible retired employees and their beneficiaries (members) in the Plan. HRSD's contributions to the Trust are dedicated irrevocably to providing post-retirement health benefits, the Plan assets are exclusively dedicated to providing benefits to members, and the Plan assets of the Trust are not subject to the claims of HRSD creditors or the Plan administrator. Employer contributions are recorded in the year they are made. Investments are reported at market value based on published prices and quotations. The Plan does not issue stand-alone financial statements.

HRSD's plan provides two different health and dental benefit plans for eligible members. Members become eligible for benefits provided the retired HRSD employee has 15 years of service with HRSD or 10 years of service with HRSD plus 10 years of service with a Virginia Retirement System (VRS) employer with a retiree health plan; are qualified for unreduced retirement benefits from VRS; and are enrolled in the HRSD Health Insurance Plan prior to retirement. Participating beneficiaries may continue coverage under the plan after the death of the retiree. Medicare-eligible members may participate in a Medicare supplement plan. Members not eligible for Medicare may participate in a high deductible health plan.

#### Funding Policy

Contribution requirements are actuarially determined. Funding is subject to approval by the Commission. Medicare-eligible members contribute \$45 per month for retiree-only coverage and from \$442 to \$460 per month for retiree and dependent coverage. Members not eligible for Medicare contribute \$120 per month for retiree-only coverage and from \$517 to \$535 per month for retiree and dependent coverage. HRSD shares the cost of coverage under the plan with participating retirees by paying the difference between the contributions it requires retirees to make and the annual required contribution (ARC). The current contribution rate is 5 percent of annual covered payroll.

## Annual OPEB Cost

HRSD's annual OPEB cost is calculated based on an actuarially determined ARC. The ARC represents a level of funding that, if paid on an ongoing basis, is projected to cover normal cost each year and to amortize any unfunded actuarial liabilities (or funding excess) over a period not to exceed 30 years. Information related to the HRSD's annual OPEB cost, ARC, actual contributions, and changes to the net OPEB obligation is as follows:

(in thousands)					Percentage of	
Fiscal Year Ended	ARC	Actuarial Adjustment	Annual OPEB Cost	Annual ARC Contributed	Net OPEB Obligation	
2017	\$ 2,558	\$ -	\$ 2,558	100%	\$ -	
2016	\$ 2,178	\$ -	\$ 2,178	100%	\$ -	
2015	\$ 2,177	\$ -	\$ 2,177	100%	\$ -	

## Funded Status and Funding Progress

The funded status of the plan as of June 30, 2017 and 2016 was as follows:

(in thousands)	2017	2016
Actuarial accrued liability (AAL)	\$ 49,303	\$ 45,337
Actuarial value of plan assets	42,468	39,272
Unfunded actuarial accrued liability (UAAL)	<u>\$ 6,835</u>	<u>\$ 6,065</u>
Funded ratio (actuarial value of plan assets/AAL)	86.1%	86.6%
Annual covered payroll (active plan members)	\$ 49,286	\$ 47,838
UAAL as a percentage of covered payroll	13.9%	12.7%

Actuarial valuations involve estimates of the value of reported amounts and assumptions about the possibility of occurrence of events far into the future. Examples include assumptions about future employment, investment returns, mortality and healthcare cost trends. Amounts determined regarding the funded status of the plan and the annual required contributions of the employer are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future.

The schedule of funding progress, presented as required supplementary information following the notes to the financial statements, presents multiyear trend information that shows whether the actuarial value of plan assets is increasing or decreasing over time relative to the actuarial accrued liabilities for benefits.

## Actuarial Methods and Assumptions

Projections of benefits for financial reporting purposes are based on the substantive plan (the plan as understood by HRSD and the plan members) and include the types of benefits provided at the time of each valuation and the historical pattern of sharing of benefit costs between the employer and plan members to that point. The actuarial methods and assumptions used include techniques that are designed to reduce short-term volatility in actuarial accrued liabilities and the actuarial value of assets, consistent with the long-term perspective of the calculations.

The information presented in the required supplemental schedules was determined as part of the actuarial valuations at the dates indicated. The actuarial value of plan assets is equal to fair value.

Additional information at June 30, 2017, the date of the most recent valuation, follows:

Actuarial cost method	Projected unit credit method
Amortization method	Level percent of pay, closed
Amortization period	An experience gain/loss base is created each year and amortized over a 15 year period
Asset valuation	Smoothed market value with phase-in, using a 5-year smoothing period
Actuarial assumptions:	
Discount Rate	6%
Medical cost trend:	
Pre Medicare	5.3%, stable at 5.3% after 3 years and decreasing to 3.6% after 53 years
Post Medicare	5.3%, stable at 5.3% after 3 years and decreasing to 3.4% after 53 years
Assumed rate of inflation	2.2%

## **Defined Benefit Pension Plan**

### **Plan Description**

HRSD employees participate in an agent multiple-employer defined benefit pension plan administered by the Virginia Retirement System (VRS). All full-time, salaried permanent employees of HRSD are automatically covered by the Plan upon employment. Members earn one month of service credit for each month they are employed and for which they and their employer pay contributions to VRS. Members are eligible to purchase prior service, based on specific criteria as defined in the *Code of Virginia*, as amended. Eligible prior service that may be purchased includes prior public service, active military service, certain periods of leave and previously refunded service.

VRS administers three different benefit structures for covered employees – Plan 1, Plan 2 and the Hybrid Retirement Plan (HRP). The specific information for each plan is set out below:

- Plan 1 is a defined benefit plan. The retirement benefit is based on a member's age, creditable service and average final compensation at retirement using a formula. Employees are eligible for Plan 1 if their membership date is before July 1, 2010 and they were vested as of January 1, 2013. Non-hazardous duty members are eligible for an unreduced retirement benefit beginning at age 65 with at least five years of service credit or at age 55 with at least 30 years of service credit. They may retire with a reduced benefit as early as age 55 with at least five years of service credit or age 50 with at least 10 years of service credit.
- Plan 2 is a defined benefit plan. The retirement benefit is based on a member's age, creditable service and average final compensation at retirement using a formula. Employees are eligible for Plan 2 if their membership date is on or after July 1, 2010, and they were not vested as of January 1, 2013. Non-hazardous duty members are eligible for an unreduced benefit beginning at their normal Social Security retirement age with at least five years of service credit or when the sum of their age and service equals 90. They may retire with a reduced benefit as early as age 60 with at least five years of service credit.
- The Hybrid Retirement Plan (HRP) combines the features of a defined benefit plan and a defined contribution plan. Most members hired on or after January 1, 2014 are in this plan, as well as Plan 1 and Plan 2 members who were eligible and opted into the plan during a special election window from January 1 through April 30, 2014. The employee's retirement benefit is funded through mandatory and voluntary contributions made by the employee and HRSD to both the defined benefit and the defined contribution components of the plan. Non-hazardous duty members are eligible for an unreduced benefit beginning at their normal Social Security retirement age with at least five years of service credit or when the sum of their age and service equals 90. They may retire with a reduced benefit as early as age 60 with at least five years of service credit.

Members in Plan 1 and Plan 2 contribute 5% of their compensation each month to their member contribution account through a pre-tax salary reduction. HRSD makes a separate actuarially determined contribution to VRS for all covered employees. The retirement benefit for members in the HRP is funded through mandatory and voluntary contributions made by the member and HRSD to both the defined benefit and the defined contribution components of the plan. Mandatory contributions are based on a percentage of the employee's creditable compensation and are required from both the member and the employer. Additionally, members may choose to make voluntary contributions to the defined contribution component of the plan, and the employer is required to match those voluntary contributions according to specified percentages.

Members in Plan 1 and Plan 2 earn creditable service for each month they are employed in a covered position, and vest when they have at least five years (60 months) of creditable service. Members in the HRP earn one month of service credit for each month they are employed in a covered position for the defined benefit component, and service credits are used to determine vesting for the employer contribution portion of the plan. HRP members are always 100% vested in the defined contributions they make, and upon retirement or leaving covered employment are eligible to withdraw employer contributions of 50%, 75%, or 100% after two, three, or four years of service, respectively.

The VRS Basic Benefit for Plan 1 and Plan 2 members, and the defined benefit component for HRP members, is a lifetime monthly benefit based on a retirement multiplier as a percentage of the member's average final compensation multiplied by the member's total service credit. Under Plan 1, average final compensation is the average of the member's 36 consecutive months of highest compensation. Under Plan 2 and the HRP, average final compensation is the average of the member's 60 consecutive months of highest compensation. The retirement multiplier for non-hazardous duty members in Plan 1 is 1.7%; in Plan 2 the multiplier is 1.7% for service earned, purchased or granted prior to January 1, 2013 and 1.65% after that date. The multiplier is 1% for members in the

HRP. At retirement, members can elect the Basic Benefit, the Survivor Option, a Partial Lump-Sum Option Payment (PLOP) or the Advance Pension Option. A retirement reduction factor is applied to the Basic Benefit amount for members electing the Survivor Option, PLOP or Advance Pension Option or those retiring with a reduced benefit.

Retirees are eligible for an annual cost-of-living adjustment (COLA) effective July 1 of the second calendar year of retirement. Under Plan 1, the COLA cannot exceed 5%; under Plan 2 and for the HRP defined benefit component, the COLA cannot exceed 3%. During years of no inflation or deflation there is no COLA adjustment. The VRS also provides death and disability benefits.

VRS issues a publically available comprehensive annual financial report that includes financial statements and required supplementary information for VRS. A copy of that report may be downloaded from their website at <http://www.varetire.org/publications/index.aspx> or obtained by writing to VRS at P.O. Box 2500, Richmond, Virginia 23218-2500.

#### Employees Covered by Benefit Terms

As of the June 30, 2015 and 2014 actuarial valuation dates, the following employees were covered by the benefit terms of the pension plan:

	<u>2015</u>	<u>2014</u>
Inactive Members or Their Beneficiaries Currently Receiving Benefits	343	301
Inactive Members		
Vested	107	103
Non-Vested	141	180
Active Elsewhere in VRS	<u>77</u>	<u>81</u>
Total Inactive Members	325	364
Active Members	<u>752</u>	<u>759</u>
Total	<u><u>1,420</u></u>	<u><u>1,424</u></u>

#### Contributions

The contribution requirement for active employees is governed by Section 51.1-145 of the Code of Virginia, as amended, but may be impacted as a result of funding options provided to political subdivisions by the Virginia General Assembly. Employees are required to contribute 5% of their compensation toward their retirement. Prior to July 1, 2012, all or part of the 5% member contribution may have been assumed by the employer. Beginning July 1, 2012, new employees were required to pay the 5% member contribution. In addition, for existing employees, employers were required to begin making the employee pay the 5% member contribution. This could be phased in over a period of up to 5 years and the employer is required to provide a salary increase equal to the amount of the increase in the employee-paid member contribution. HRSD's contractually required contribution rate for the year ended June 30, 2017 and 2016 were 7.70% and 8.96% of covered compensation. These rates are based on actuarially determined rates from actuarial valuations as of June 30, 2015 and 2014.

These rates, when combined with employee contributions, are expected to finance the costs of benefits earned by employees during the year, with an additional amount to finance any unfunded accrued liability. Employer contributions to the pension plan were \$4,327,000 and \$4,222,000 for the years ended June 30, 2017 and 2016, respectively.

#### Net Pension Liability

HRSD's net pension liability as of June 30, 2017 and 2016 was measured as of June 30, 2016 and 2015, respectively. The total pension liability used to calculate the net pension liability was determined by an actuarial valuation performed as of June 30, 2015 and 2014, using updated actuarial assumptions, applied to all periods included in the measurement and rolled forward to the measurement dates of June 30, 2016 and 2015.



## Actuarial Assumptions

The total pension liability as of June 30, 2017 and 2016 for employees in HRSD's retirement plan was based on actuarial valuations as of June 30, 2015 and 2014, using the Entry Age Normal actuarial cost method and the following assumptions, applied to all periods included in the measurement and rolled forward to the measurement dates of June 30, 2016 and 2015, respectively.

Inflation	2.5%
Salary increases, including inflation	3.5% to 5.35%
Investment rate of return	7%, net of pension plan investment expense, including inflation *
Cost of living adjustments	2.25% to 2.50%

\* Administrative expenses as a percent of the market value of assets for the last experience study were found to be approximately 0.06% of the market assets for all of the VRS plans. This would provide an assumed return rate for GASB purposes of slightly more than the assumed 7.0%. However, since the difference was minimal, and a more conservative 7.0% investment return assumption provided a projected plan net position that exceeded the projected benefit payments, the long-term expected rate of return on investments was assumed to be 7% to simplify preparation of pension liabilities.

Mortality rates: 14% of deaths are assumed to be service related

Pre Retirement, RP-2000 Employee Mortality Table Projected with Scale AA to 2020 with males set forward 4 years and females set back 2 years

Post Retirement, RP-2000 Employee Mortality Table Projected with Scale AA to 2020 with males set forward 1 year

Post Disablement, RP-2000 Employee Mortality Table Projected with Scale AA to 2020 with males set back 3 years and no provision for future mortality improvement

The actuarial assumptions used in the June 30, 2015 and 2014 valuations were based on the results of an actuarial experience study for the period July 1, 2008 through June 30, 2012. Changes to the actuarial assumptions as a result of the experience study are as follows:

- Update mortality table
- Decrease in rates of service retirement
- Decrease in rates of disability retirement
- Reduce rates of salary increase by 0.25% per year

## Long-Term Expected Rate of Return

The long-term expected rate of return on pension system investments was determined using a log-normal distribution analysis in which best-estimate ranges of expected real rates of return (expected returns, net of pension system 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.

The asset target allocation and best estimate of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class (Strategy)	Target Allocation	Arithmetic Long-Term Expected Rate of Return	Weighted Average Long-Term Expected Rate of Return
U.S. Equity	19.50%	6.46%	1.26%
Developed Non-U.S. Equity	16.50%	6.28%	1.04%
Emerging Market Equity	6.00%	10.00%	0.60%
Fixed Income	15.00%	0.09%	0.01%
Emerging Debt	3.00%	3.51%	0.11%
Rate Sensitive Credit	4.50%	3.51%	0.16%
Non-Rate Sensitive Credit	4.50%	5.00%	0.23%
Convertibles	3.00%	4.81%	0.14%
Public Real Estate	2.25%	6.12%	0.14%
Private Real Estate	12.75%	7.10%	0.91%
Private Equity	12.00%	10.41%	1.25%
Cash	1.00%	-1.50%	-0.02%
Total	<u>100.00%</u>		<u>5.83%</u>
		Inflation	<u>2.50%</u>
	* Expected arithmetic nominal return		<u>8.33%</u>

\* Using stochastic projection results provides an expected range of real rates of return over various time horizons. Looking at one year results produces an expected real rate of 8.33% but also has a high standard deviation, which means there is high volatility. Over larger time horizons the volatility declines significantly and provides a median return of 7.44%, including expected inflation of 2.50%.

#### Discount Rate

The discount rate used to measure the total pension liability, as of June 30, 2016 and 2015, was 7.0%. The projection of cash flows used to determine the discount rate assumed that VRS member contributions will be made per the VRS statutes and the employer contributions will be made in accordance with the VRS funding policy at rates equal to the difference between actuarially determined contribution rates adopted by the VRS Board of Trustees and the member rate. Through the fiscal year ending June 30, 2018, the rate contributed by the HRSD for the retirement plan will be subject to the portion of the VRS Board-certified rates that are funded by the Virginia General Assembly. From July 1, 2018 on, participating employers are assumed to contribute 100% of the actuarially determined contribution rates. 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 active and inactive employees. Therefore, the long-term expected rate of return was applied to all periods of projected benefit payments to determine the total pension liability.

### Changes in Net Pension Liability

(in thousands)	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) - (b)
Balances at June 30, 2014	\$ 197,928	\$ 170,464	\$ 27,464
Changes for the year - Increase (Decrease):			
Service cost	4,115	-	4,115
Interest	13,559	-	13,559
Difference between expected and actual experience	(4,910)	-	(4,910)
Contributions - employer	-	4,099	(4,099)
Contributions - employee	-	2,314	(2,314)
Net investment income	-	7,807	(7,807)
Benefit payments, including refunds of employee contributions	(8,446)	(8,446)	-
Administrative expense	-	(107)	107
Other changes	-	(2)	2
Net changes	4,318	5,665	(1,347)
Balances at June 30, 2015	202,246	176,129	26,117
Changes for the year - Increase (Decrease):			
Service cost	4,025	-	4,025
Interest	13,872	-	13,872
Difference between expected and actual experience	2,980	-	2,980
Contributions - employer	-	4,083	(4,083)
Contributions - employee	-	2,286	(2,286)
Net investment income	-	3,062	(3,062)
Benefit payments, including refunds of employee contributions	(8,161)	(8,161)	-
Administrative expense	-	(109)	109
Other changes	-	(1)	1
Net changes	12,716	1,160	11,556
Balances at June 30, 2016	\$ 214,962	\$ 177,289	\$ 37,673

### Sensitivity of the Net Pension Liability to Changes in the Discount Rate

Net Pension Liability (in thousands)	1% Decrease (6.00%)	Current Discount Rate (7.00%)	1% Increase (8.00%)
June 30, 2016	\$ 67,989	\$ 37,673	\$ 12,576
June 30, 2015	\$ 55,532	\$ 26,117	\$ 1,774

### Pension Expenses and Deferred Outflows of Resources and Deferred Outflows of Resources Related to Pensions

HRSD recognized pension expense of \$3,126,000 and \$863,000 for the years ended June 30, 2017 and 2016, respectively. At June 30, 2017 and 2016, HRSD 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
	(in thousands)	
Year ended June 30, 2017:		
Differences between expected and actual experience	\$ 2,404	\$ 2,992
Net difference between projected and actual earnings on plan investments	4,591	-
Employer contributions subsequent to the measurement date	4,326	-
	<u>\$ 11,321</u>	<u>\$ 2,992</u>
Year ended June 30, 2016:		
Differences between expected and actual experience	\$ -	\$ 3,951
Net difference between projected and actual earnings on plan investments	-	4,559
Employer contributions subsequent to the measurement date	4,222	-
	<u>\$ 4,222</u>	<u>\$ 8,510</u>

HRSD reported \$4,326,000 and \$4,222,000 as of June 30, 2017 and 2016, respectively, as deferred outflows of resources resulting from HRSD's contributions subsequent to the measurement date, which will be recognized as reductions of the Net Pension Liability in the years ended June 30, 2018 and 2017, respectively. Other amounts reported as deferred outflows and inflows of resources related to pensions will be recognized in pension expense in future reporting periods as follows:

Year ended June 30, 2017:	(in thousands)
2018	\$ 332
2019	332
2020	(2,268)
2021	(2,301)
2022	(98)
Thereafter	-
Year ended June 30, 2016:	(in thousands)
2017	\$ 2,749
2018	2,749
2019	2,749
2020	148
2021	115
Thereafter	-

## NOTE 8 – LONG-TERM DEBT

HRSD issues revenue bonds for various capital improvements including but not limited to wastewater treatment plants and interceptor system improvements. In addition to HRSD's publicly issued revenue bonds, HRSD is indebted for bond issues payable to the Virginia Resources Authority (VRA) as administrator of the Virginia Water Facilities Fund. HRSD is required to adhere to and is in compliance with the rebate and reporting requirements of the federal regulations pertaining to arbitrage.

HRSD has \$50 million outstanding in subordinate variable rate demand bonds, Series 2016B, to partially finance its capital improvement plan. The bonds bear interest in either a Weekly Period or a Long-term Period, as defined. The bonds were initially issued in a Weekly Interest Period and bear interest at a varying interest rate until, at HRSD's option, they are converted to the Long-term Period. Liquidity to pay the purchase price of the bonds that are tendered and not remarketed is provided by HRSD. Maturities of the principal and interest for these bonds are shown in the following table as if held to maturity. The bonds are subject to optional redemption by HRSD prior to their maturity. Through June 30, 2017, the bonds have been successfully remarketed by the Remarketing Agent. The interest rate for the bonds at June 30, 2017 and 2016 was 0.82% and 0.38%, respectively. The 2017 rate was used to calculate interest maturity amounts shown below.

All bonds are secured by the revenues of HRSD and are payable over the duration of that issue. A summary of activity for the years ended June 30 is as follows:

(in thousands)	Balance at 6/30/15	Additions	Deductions	Balance at 6/30/2016	Additions	Deductions	Balance at 6/30/2017	Due within One year
Series-2016A	\$ -	\$ 246,845	\$ -	\$ 246,845	\$ -	\$ (3,525)	\$ 243,320	\$ 2,400
Series-2016B VR	-	50,000	-	50,000	-	-	50,000	50,000
Series-2014	111,345	-	-	111,345	-	-	111,345	-
Series-2012 A	111,915	-	(19,760)	92,155	-	(2,480)	89,675	2,580
Series-2012 Subordinate	8,955	-	(4,925)	4,030	-	(2,825)	1,205	300
Series-2011FR	32,545	-	(26,785)	5,760	-	(1,360)	4,400	1,410
Series-2011VR	25,000	-	(25,000)	-	-	-	-	-
Series-2009B	134,725	-	(3,505)	131,220	-	(3,590)	127,630	3,690
Series-2008	113,410	-	(104,945)	8,465	-	(3,000)	5,465	5,465
Series-2003	4,645	-	(4,645)	-	-	-	-	-
Virginia Resources Authority								
Senior bonds	100,420	-	(4,749)	95,671	-	(5,021)	90,650	5,235
Subordinate bonds	65,240	-	(4,652)	60,588	-	(4,767)	55,821	4,882
	708,200	296,845	(198,966)	806,079	-	(26,568)	779,511	75,962
Unamortized bond premiums	40,197	42,244	(9,226)	73,215	-	(5,943)	67,272	5,933
Total Bonds Outstanding	<u>\$ 748,397</u>	<u>\$ 339,089</u>	<u>\$ (208,192)</u>	<u>\$ 879,294</u>	<u>\$ -</u>	<u>\$ (32,511)</u>	<u>\$ 846,783</u>	<u>\$ 81,895</u>

A summary of the senior bonds outstanding at June 30, 2017 is as follows:

(in thousands)	Issue Amount	Principal Outstanding			Interest to Maturity	Interest Rates	Duration of Issue	Final Maturity
		Total	Current	Long-Term				
Series 2014	\$ 111,345	\$ 111,345	\$ -	\$ 111,345	\$ 41,408	5.00%	15 years	July 1, 2029
Series 2012A	130,480	89,675	2,580	87,095	69,129	4.00 - 5.00%	30 years	January 1, 2044
Series-2011FR	45,705	4,400	1,410	2,990	269	3.00 - 4.00%	8 years	November 1, 2019
Series-2009B	134,725	127,630	3,690	123,940	96,873	4.51 - 5.81%	30 years	November 1, 2039
Series-2008	223,170	5,465	5,465	-	218	4.00 - 5.07%	10 years	April 1, 2018
VRA - Metering	9,989	7,758	465	7,293	1,578	2.65%	20 years	March 1, 2031
VRA - WTP	5,727	4,476	279	4,197	696	2.05%	20 years	March 1, 2031
VRA - NTP	19,395	15,024	899	14,125	3,056	2.65%	20 years	March 1, 2031
VRA - JRTP	13,431	10,267	642	9,625	2,013	2.65%	20 years	September 1, 2030
VRA - ABTP	50,000	41,763	2,315	39,448	7,198	2.05%	20 years	September 1, 2032
VRA - BHTP	7,584	5,967	357	5,610	961	2.05%	20 years	September 1, 2031
VRA - ATP	6,318	5,395	278	5,117	1,188	2.31%	20 years	February 1, 2033
Total		<u>\$ 429,165</u>	<u>\$ 18,380</u>	<u>\$ 410,785</u>	<u>\$ 224,587</u>			

Maturities of senior bond principal and interest as of June 30, 2017 are as follows:

(in thousands)

June 30,	Principal	Interest
2018	\$ 18,380	\$ 19,046
2019	18,801	18,237
2020	19,520	17,457
2021	18,682	16,673
2022	17,977	15,842
2023-2027	112,462	64,980
2028-2032	104,196	41,143
2033-2037	57,451	23,034
2038-2042	51,105	7,537
2043-2047	10,591	638
	<u>\$ 429,165</u>	<u>\$ 224,587</u>

A summary of the subordinate revenue bonds outstanding at June 30, 2017 is as follows:

(in thousands)	Issue Amount	Principal Outstanding			Interest to Maturity	Interest Rates	Duration of Issue	Final Maturity
		Total	Current	Long-term				
Series-2016A	\$ 246,845	\$ 243,320	\$ 2,400	\$ 240,920	\$ 171,537	3.74%-5.00%	27 years	August 1, 2043
Series-2012 Sub	22,680	1,205	300	905	42	1.19% - 1.92%	8 years	October 1, 2020
Disinfection	6,490	1,305	420	885	81	3.50%	20 years	March 1, 2020
BH Odor	2,380	690	144	546	62	3.50%	20 years	September 1, 2021
York River Reuse	2,476	811	142	669	42	1.70%	20 years	September 1, 2022
AB Aeration	1,759	608	106	502	31	1.70%	20 years	October 1, 2022
Ches-Eliz Off Gas	1,070	393	60	333	49	3.75%	20 years	March 1, 2023
AB Generator	1,235	648	66	582	63	2.00%	20 years	April 1, 2026
Atlantic Expansion	7,340	4,241	385	3,856	483	2.10%	20 years	February 1, 2027
Ches-Eliz Expansion	40,330	23,183	2,106	21,077	2,641	2.10%	20 years	June 1, 2027
Williamsburg PS	1,605	965	83	882	115	2.10%	20 years	July 1, 2027
York River Expansion	29,683	22,977	1,369	21,608	4,806	2.72%	20 years	March 1, 2031
		300,346	7,581	292,765	179,952			
						Variable (0.82% at June 30, 2017)		
Series-2016B VR	50,000	50,000	50,000	-	10,111		30 years	August 1, 2046
Total		<u>\$ 350,346</u>	<u>\$ 57,581</u>	<u>\$ 292,765</u>	<u>\$ 190,063</u>			

Maturities of subordinate bond principal and interest as of June 30, 2017 are as follows:

(in thousands)

June 30,	Principal	Interest
2018	\$ 57,582	\$ 12,903
2019	7,826	12,656
2020	8,085	12,399
2021	9,235	12,101
2022	10,687	11,735
2023-2027	47,035	54,172
2028-2032	66,724	43,075
2033-2037	99,900	22,530
2038-2042	29,040	7,165
2043-2047	14,232	1,327
	<u>\$ 350,346</u>	<u>\$ 190,063</u>

## NOTE 9 – NET POSITION

### Restricted Portions of Net Position

*Restricted for debt service and restricted for debt service reserve fund.* HRSD's Trust Agreement requires that funds be set aside for its revenue bond debt service and, if needed, for a debt service reserve fund. No funds were required for the debt service reserve fund during the fiscal years ended June 30, 2017 and 2016.

### Unrestricted Portion of Net Position

*Reserved for Improvement.* HRSD's Master Trust Agreement requires a reserve for improvements. There is no specific funding mechanism established by the Trust Agreement. At June 30, 2017 and 2016, \$902,000 and \$2,065,000, respectively, was contained in the unrestricted net position. HRSD was in compliance with all funding requirements of this reserve during the fiscal years ended June 30, 2017 and 2016.

*Reserved for Construction.* A reserve for the construction program is based on funds designated by HRSD's Commission for such purposes. At June 30, 2017 and 2016, \$37,452,000 and \$12,525,000, respectively, was contained in the unrestricted net position.

## NOTE 10 - RISK MANAGEMENT

HRSD is exposed to various risks of loss related to torts; theft of, damage to and destruction of assets; employee dishonesty; injuries to employees; and natural disasters. HRSD purchases commercial insurance for specific types of coverage including property, liability, auto, crime, public officials and worker's compensation. There were no significant reductions in insurance coverage from the prior year. Claim settlements and judgments not covered by commercial insurance are covered by operating resources. The amount of settlements did not exceed insurance coverage for each of the past three years. Claim expenditures and liabilities are reported when it is probable that a loss has occurred and the amount of the loss can be reasonably estimated.

HRSD has a self-insured health, dental and vision care benefits program for all employees. Certain health claims expenses paid on behalf of each employee during a single policy year are covered by excess loss insurance with a specific stop-loss limit of \$250,000. HRSD also maintains an aggregate insurance policy whereby total medical claims costs in excess of 125 percent of expected costs are subject to reimbursement. Claims processing and payments for all health care claims are made through third-party administrators. HRSD uses the information provided by the third-party administrators and a health care benefits consultant to aid in the determination of self-insurance reserves.

Changes in HRSD's claims liability for fiscal years 2016 through 2017 are as follows:

(in thousands)	Beginning of Fiscal Year	Estimated Claims Incurred	Claims Paid	End of Fiscal Year
2016	\$ 4,316	\$ 10,326	\$ (10,646)	\$ 3,996
2017	\$ 3,996	\$ 9,704	\$ (10,345)	\$ 3,355

## NOTE 11 – COMMITMENTS AND CONTINGENCIES

HRSD is party to a federal consent decree with the federal and state governments (the Consent Decree), which requires HRSD to evaluate the wet weather capacity of the regional sewer system, including collection systems owned by 14 of the localities which HRSD serves in the Hampton Roads area. Based upon that evaluation, HRSD, in consultation with the localities, has developed a regional wet weather management plan (RWWMP) for submittal to the federal and state environmental agencies for their approval. The recommended plan includes an implementation schedule, identifies the attainable level of wet weather capacity in individual areas of the region and/or on a region-wide basis, and summarizes the major projects and programs that must be implemented in order to achieve the specified level of regional wet weather capacity.

HRSD and the localities believe that addressing wet weather capacity issues from a regional perspective will result in the most affordable and cost-effective approach for ratepayers throughout the region. Toward that end, HRSD and the localities entered into a legally binding Memorandum of Agreement in March of 2014 (the MOA). The MOA commits HRSD to (1) develop the RWWMP in consultation with the localities, (2) fund the approved plan through a regional rate imposed on all regional ratepayers, (3) design and construct the necessary improvements, and (4) assume responsibility for wet weather capacity throughout the region in each area once the RWWMP is implemented. In exchange, the localities have agreed to (1) cooperate with HRSD, (2) facilitate the construction of

and accept ownership of any improvements which HRSD may need to construct in the localities' systems, and (3) maintain the integrity of their systems to industry standards.

HRSD has also developed an Integrated Management Plan (IMP). The IMP includes a combination of projects that will improve water quality of the Chesapeake Bay. The first project will be the Sustainable Water Initiative for Tomorrow (SWIFT) initiative, which will allow HRSD to reduce nitrogen, phosphorus and total suspended solids. This program is estimated to cost \$1 billion and may take approximately 10 years to implement. During this time HRSD will be investing approximately \$200 million in additional wet weather capacity-related sewer overflow controls between now and 2030. After 2030, the IMP commits HRSD to submit a Final Remediation Plan which may call for full implementation of the RWWMP, a subset of priority projects from the scenario with the greatest environmental benefits, investments in emerging environmental issues including sea level rise adaptation, or some combination of these or other regional environmental priorities. While speculative at this time, those needs could cost upwards of \$1 billion over a 20-25 year period (through 2055). HRSD has submitted the IMP to the federal and state governments for approval.

The Consent Decree and MOA also contemplate that the localities' obligation to maintain the integrity of their sewer systems to industry standards was embodied in a State administrative order. Management currently believes that HRSD is on schedule to complete these projects.

HRSD has a major capital improvement and expansion program funded through the issuance of debt and its own resources. At June 30, 2017, HRSD has outstanding commitments for contracts in progress of approximately \$113,977,000.

## **NOTE 12 – FAIR VALUE MEASUREMENTS**

HRSD categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on valuation inputs used to measure the fair value of the asset. Level 1 inputs are quoted prices in active markets for identical assets. Level 2 inputs are significant other observable inputs. Level 3 inputs are significant unobservable inputs.

Debt securities reported as investments are classified in Level 2 of the fair value hierarchy and are valued using the following approaches:

- U.S. Treasury securities are valued using quoted prices for identical or similar securities.
- All other investments are valued based on matrix pricing using observable data of securities with similar attributes.

Investments reported as cash and cash equivalents are not included of the fair value hierarchy and are valued using the following approaches:

- SNAP Fund – money market mutual funds. HRSD's holdings of the PFM Prime Series (SNAP) fund units are valued at NAV, which is used as a practical expedient for fair value. There are no imposed redemption restrictions and the plan does not have any contractual obligations to further invest in the fund. The underlying investments of the fund are primarily short-term, high quality debt instruments including U.S. Treasuries, U.S. Agencies, U.S. Municipals, and repurchase agreements secured by U.S. Government Obligations. Underlying investments are measured at amortized cost, which approximates fair value.
- Local Government Investment Pool (LGIP) – HRSD holdings of the Virginia LGIP fund units are valued at amortized cost based on their qualification under GASB 79 as being managed as a "2a-7 like" investment. The fund does not have any limitations or restrictions on withdrawals such as redemption notice periods, maximum transaction amounts, or liquidity fees or redemption gates. The underlying investments of the fund are primarily short-term, high quality debt instruments including U.S. Treasuries, U.S. Agencies, U.S. Municipals, and repurchase agreements secured by U.S. Government Obligations. Underlying investments are measured at amortized cost, which approximates fair value. HRSD's total investment in the LGIP was \$92,714,000 and \$44,120,000 as of June 30, 2017 and 2016, respectively.



**Balance at June 30, 2017 (in thousands)****Investments by Fair Value Level**

	<b>Fair Value</b>	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>
U.S. Treasury Securities	\$ 38,809	\$ -	\$ 38,809	\$ -
Federal Agency Notes / Bonds	33,688	-	33,688	-
Corporate Notes / Bonds	24,913	-	24,913	-
Commercial Paper	2,424	-	2,424	-
Certificates of Deposit	12,110	-	12,110	-
Municipal Bonds	2,166	-	2,166	-
Supranationals	9,577	-	9,577	-
Total Investments by Fair Value Level	<u>\$ 123,687</u>	<u>\$ -</u>	<u>\$ 123,687</u>	<u>\$ -</u>

**Cash Equivalents Measured at Net Asset Value**

Fidelity	<u>\$ 157</u>
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**Balance at June 30, 2016 (in thousands)****Investments by Fair Value Level**

	<b>Fair Value</b>	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>
U.S. Treasury Securities	\$ 57,220	\$ -	\$ 57,220	\$ -
Federal Agency Notes / Bonds	23,471	-	23,471	-
Corporate Notes / Bonds	19,815	-	19,815	-
Commercial Paper	9,752	-	9,752	-
Certificates of Deposit	9,704	-	9,704	-
Supranationals	3,591	-	3,591	-
Total Investments by Fair Value Level	<u>\$ 123,553</u>	<u>\$ -</u>	<u>\$ 123,553</u>	<u>\$ -</u>

**Cash and Cash Equivalents Measured at Net Asset Value**

Fidelity	\$ 96
SNAP	<u>67,761</u>
Total Cash Equivalents measured at Net Asset Value	<u>\$ 67,857</u>

# Required Supplementary Information (Unaudited)



## **Increasing Energy Efficiency**

The Atlantic Treatment Plant system that generates renewable power and heat from digester gas provides 35 percent of the plant's electricity.

*Photo by Mark Rhodes*

**HAMPTON ROADS SANITATION DISTRICT  
SCHEDULE OF CHANGES IN  
NET PENSION LIABILITY AND RELATED RATIOS**

	(in thousands)	2016	2015	2014
<b>Total pension liability</b>				
Service cost	\$	4,025	\$ 4,115	\$ 3,943
Interest		13,872	13,559	12,907
Differences between expected and actual experience		2,980	(4,910)	-
Benefit payments, including refunds of employee contributions		(8,161)	(8,446)	(6,607)
<b>Net change in total pension liability</b>		12,716	4,318	10,243
<b>Total pension liability - beginning</b>		202,246	197,928	187,686
<b>Total pension liability - ending (a)</b>	\$	214,962	\$ 202,246	\$ 197,929
<b>Plan fiduciary net position</b>				
Contributions - employer	\$	4,083	\$ 4,099	\$ 4,114
Contributions - employee		2,286	2,314	2,267
Net investment income		3,062	7,807	23,313
Benefit payments, including refunds of employee contributions		(8,161)	(8,446)	(6,607)
Administrative expense		(109)	(107)	(125)
Other		(1)	(2)	1
<b>Net change in plan fiduciary net position</b>		1,160	5,665	22,963
<b>Plan fiduciary net position - beginning</b>		176,129	170,464	147,501
<b>Plan fiduciary net position - ending (b)</b>	\$	177,289	\$ 176,129	\$ 170,464
<b>Net pension liability - ending (a) - (b)</b>	\$	37,673	\$ 26,117	\$ 27,465
<b>Plan fiduciary net position as a percentage of the total pension liability (b)/(a)</b>		82.47%	87.09%	86.12%
<b>Covered-employee payroll ( c )</b>	\$	49,286	\$ 47,838	\$ 47,674
<b>Net pension liability as a percentage of the covered-employee payroll ((a)-(b))/( c )</b>		76.44%	54.59%	57.61%

This schedule is presented to show information for 10 years. However, until a full ten-year trend is compiled, HRSD will present information for those years for which information is available.

Unaudited – See accompanying independent auditors' report and notes to required supplementary information

**HAMPTON ROADS SANITATION DISTRICT  
SCHEDULE OF EMPLOYER CONTRIBUTIONS  
FOR THE YEARS ENDED JUNE 30, 2008 THROUGH 2017**

Date	Contractually Required Contribution	Contributions in Relation to Contractually Required Contribution	Contribution Deficiency (Excess)	Employer's Covered Payroll	Contributions as a % of Covered Payroll
2017	\$ 4,326,000	\$ 4,326,000	-	\$ 49,286,000	8.78%
2016	4,222,000	4,222,000	-	47,838,000	8.83%
2015	4,207,000	4,207,000	-	47,674,000	8.82%
2014	4,107,000	4,107,000	-	46,096,000	8.91%
2013	4,075,000	4,075,000	-	45,044,000	9.05%
2012	4,580,000	4,580,000	-	42,166,000	10.86%
2011	4,438,000	4,438,000	-	40,462,000	10.97%
2010	3,900,000	3,900,000	-	39,407,000	9.90%
2009	3,699,000	3,699,000	-	37,608,000	9.84%
2008	4,363,000	4,363,000	-	34,050,000	12.81%

**Changes of benefit terms** - There have been no actuarially material changes to the VRS benefit provisions since the prior actuarial valuation. The 2014 valuation includes Hybrid Retirement Plan members for the first time. The hybrid plan applies to most new employees hired on or after January 1, 2014 and not covered by enhanced hazardous duty benefits. Because this was a new benefit and the number of participants was relatively small, the impact on the liabilities as of the measurement date of June 30, 2016 WAS not material.

**Changes of assumptions** - The following changes in actuarial assumptions were made effective June 30, 2013 based on the most recent experience study of the retirement system for the four-year period ending June 30, 2012:

- Update mortality table
- Decrease in rates of service retirement
- Decrease in rates of disability retirement
- Reduce rates of salary increase by 0.25% per year

Information pertaining to Pensions can be found in Notes 2 and 7 to the financial statements.

Unaudited – See accompanying independent auditors' report and notes to required supplementary information

**HAMPTON ROADS SANITATION DISTRICT  
SCHEDULE OF FUNDING PROGRESS  
FOR THE YEARS ENDED JUNE 30, 2013 THROUGH 2017**

The table below provides detail on the funding progress for the Post-Retirement Health Benefit Plan for HRSD.

Valuation as of	Actuarial Value of Assets	Actuarial Accrued Liability (AAL)	Unfunded AAL (UAAL) (2) - (1)	Funded Ratio Assets as % of AAL (1) / (2)	Annual Covered Payroll	UAAL as a % of Covered Payroll (3) / (5)
(in thousands)	(1)	(2)	(3)	(4)	(5)	(6)
6/30/2017	\$42,468	\$49,303	\$6,835	86.1%	\$49,286	13.9%
6/30/2016	\$39,272	\$45,337	\$6,065	86.6%	\$47,838	12.7%
6/30/2015	\$37,008	\$42,017	\$5,009	88.1%	\$47,674	10.5%
6/30/2014	\$34,115	\$39,422	\$5,307	86.5%	\$46,096	11.5%
6/30/2013	\$28,030	\$35,552	\$7,522	78.8%	\$45,032	16.7%

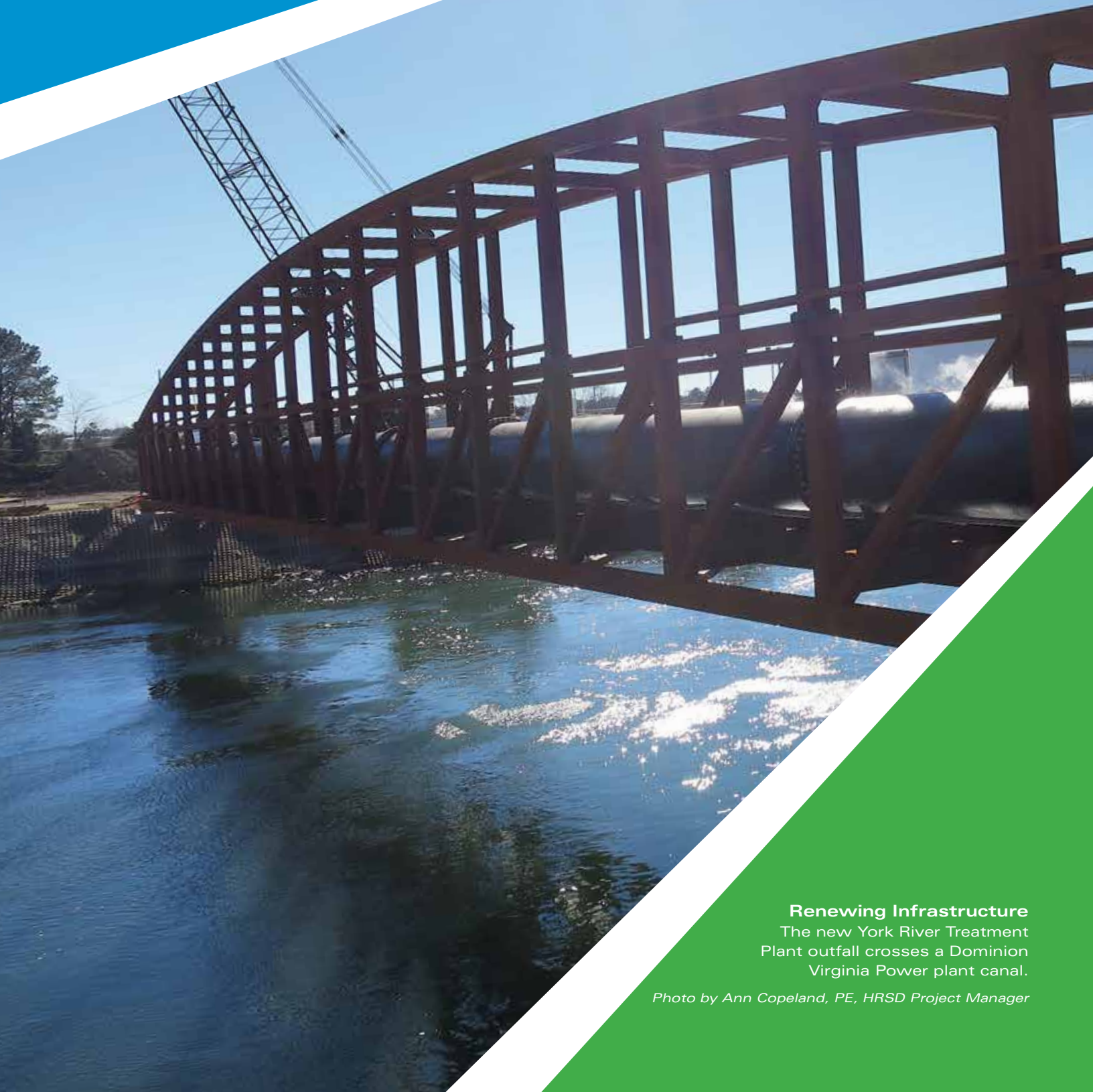
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# Statistical Section

(Unaudited)



## Renewing Infrastructure

The new York River Treatment Plant outfall crosses a Dominion Virginia Power plant canal.

*Photo by Ann Copeland, PE, HRSD Project Manager*

## **HAMPTON ROADS SANITATION DISTRICT STATISTICAL SECTION (UNAUDITED)**

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This section of HRSD's comprehensive annual financial report presents detailed information as a context for understanding what the information in the financial statements, note disclosures and required supplementary information says about HRSD's overall financial health.

<b>Contents</b>	<b>Page(s)</b>
<b>Demographic and Economic Information</b>	
This schedule offers demographic and economic indicators to help the reader understand the environment within which HRSD's financial activities take place and to help make comparisons over time and with other governments.	45
<b>Financial Trends</b>	
These schedules contain trend information to help the reader understand how HRSD's financial performance and well-being have changed over time.	46-48
<b>Debt Capacity</b>	
This schedule presents information to help the reader assess the affordability of HRSD's current levels of outstanding debt and HRSD's ability to issue additional debt in the future.	49
<b>Revenue Capacity</b>	
These schedules contain information to help the reader assess the factors affecting HRSD's ability to generate revenue from rate payers.	50-51 54-56
<b>Operating Information</b>	
These schedules contain information about the HRSD's operations and resources to help the reader understand how the HRSD's financial information relates to the services HRSD provides and the activities it performs.	52-53 57

**Sources:** Unless otherwise noted the information in these schedules is derived from the comprehensive annual financial reports and accounting records for the relevant year.

Unaudited – See accompanying independent auditors' report



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**HAMPTON ROADS SANITATION DISTRICT  
DEMOGRAPHIC AND OTHER MISCELLANEOUS STATISTICS  
JUNE 30, 2017**

	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>2012</u>	<u>2011</u>	<u>2010</u>	<u>2009</u>	<u>2008</u>
Date of Incorporation - 1940										
Area in Square Miles (1)	3,087	2,808	2,808	2,808	2,808	2,808	2,808	2,808	2,808	2,808
Present Service Area in Square Miles (1)	758	672	672	672	672	672	672	672	672	672
Treatment Plants (Major)	9	9	9	9	9	9	9	9	9	9
Plant Capacity (Millions of Gallons per Day)										
Army Base Plant, Norfolk	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
Atlantic Plant, Virginia Beach	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0
Boat Harbor Plant, Newport News	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
Chesapeake-Elizabeth Plant, Virginia Beach	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
James River Plant, Newport News	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Nansemond Plant, Suffolk	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Virginia Initiative Plant, Norfolk	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
Williamsburg Plant, James City County	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
York River Plant, York County	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Total Treatment Plants (Major) Capacity	248.5	248.5	248.5	248.5	248.5	248.5	248.5	248.5	248.5	248.5
Small Communities Treatment Plants	5	4	4	4	4	5	5	4	4	4
Central Middlesex, Middlesex County	0.025	0.025	0.025	0.03	0.03	0.03	0.03	-	-	-
King William Plant, King William County	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Mathews Plant, Mathews County (2)	-	-	-	-	-	0.10	0.10	0.10	0.10	0.10
Urbanna Plant, Middlesex County	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
West Point Plant, King William County	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
Lawnes Point, Isle of Wight County (2)	0.05	-	-	-	-	-	-	-	-	-
Total Small Communities Treatment Plants Capacity	0.875	0.825	0.825	0.83	0.83	0.93	0.93	0.90	0.90	0.90
Miles of Interceptor Systems (3)	540	536	532	531	531	532	528	483	483	514
Interceptor Pump Stations	89	88	83	83	83	83	82	81	82	82
Small Communities Pump Stations (3)	38	33	33	33	29	29	29	25	20	20
Maintenance Facilities	2	2	2	2	2	2	2	2	2	2
Number of Service Connections (in thousands)	470	467	465	462	460	458	457	455	452	442
Daily Average Treatment in Millions of Gallons	153	155	152	154	158	147	144	171	151	146
Bond Ratings										
Moody's Investors Service	Aa2	Aa2	Aa2	Aa2	Aa2	Aa2	Aa2	Aa2	Aa3	Aa3
Standard & Poor's	AA+	AA+	AA+	AAA	AAA	AAA	AAA	AAA	AA+	AA+
Senior	AA	AA	AA	AA+	AA+	AA+	-	-	-	-
Subordinate Long-term	A-1+	A-1+	A-1+	A-1+	A-1+	A-1+	-	-	-	-
Subordinate Short-term	AA+	AA+	AA+	AA+	AA+	AA+	AA+	AA+	AA	AA
Fitch	AA	AA	AA	AA	AA	AA	-	-	-	-
Senior	F1+	F1+	F1+	F1+	F1+	F1+	-	-	-	-
Subordinate Long-term										
Subordinate Short-term										

(1) HRSD added additional service areas in the counties of Isle of Wight and Surry

(2) The Mathews Treatment Plant has been closed. Wastewater from the area is now handled by the York River Treatment Plant. Lawnes Point was acquired during the year ended June 30, 2017.

(3) HRSD conducted evaluations of the system during the years ended June 30, 2009 and 2011 and revised the miles of pipes and the number of small community pump stations.

**HAMPTON ROADS SANITATION DISTRICT**  
**SCHEDULE OF OPERATING EXPENSES, NET POSITION BY COMPONENT**  
**AND DEBT SERVICE EXPENDITURES LAST TEN FISCAL YEARS**

(in thousands)					
	2017	2016	2015	(adjusted) 2014	(adjusted) 2013
<b>OPERATING REVENUES</b>					
Wastewater treatment charges	\$ 254,961	\$ 234,020	\$ 221,626	\$ 211,538	\$ 199,318
Miscellaneous	3,669	3,861	3,935	3,643	3,297
<b>TOTAL OPERATING REVENUES</b>	<b>258,630</b>	<b>237,881</b>	<b>225,561</b>	<b>215,181</b>	<b>202,615</b>
<b>OPERATING EXPENSES</b>					
Wastewater treatment	113,100	106,575	114,137	109,149	86,973
General and administrative	40,287	40,026	38,678	33,012	31,410
Depreciation	49,311	45,670	41,871	42,761	45,414
<b>TOTAL OPERATING EXPENSES</b>	<b>202,698</b>	<b>192,271</b>	<b>194,686</b>	<b>184,922</b>	<b>163,797</b>
<b>OPERATING INCOME</b>	<b>55,932</b>	<b>45,610</b>	<b>30,875</b>	<b>30,259</b>	<b>38,818</b>
<b>NON-OPERATING REVENUES (EXPENSES)</b>					
Wastewater facility charges	7,511	6,699	7,428	6,640	5,851
Investment income	2,287	1,563	1,695	1,872	1,705
Bond interest subsidy	2,275	2,399	2,444	2,364	2,602
Change in fair value of investments	(1,119)	750	(286)	(422)	(714)
Capital distributions to localities	(138)	(3,287)	-	-	-
Bond issuance costs	(42)	(1,713)	(768)	-	(658)
Disposal of capital assets	-	-	-	-	(1,649)
Interest expense	(22,630)	(21,631)	(22,958)	(25,650)	(24,330)
<b>NET NON-OPERATING REVENUES (EXPENSES)</b>	<b>(11,856)</b>	<b>(15,220)</b>	<b>(12,445)</b>	<b>(15,196)</b>	<b>(17,193)</b>
<b>INCOME (LOSS) BEFORE CONTRIBUTIONS</b>	<b>44,076</b>	<b>30,390</b>	<b>18,430</b>	<b>15,063</b>	<b>21,625</b>
<b>CAPITAL CONTRIBUTIONS</b>					
State capital grants	7,462	14,389	16,519	13,888	10,172
Other capital contributions	1,136	-	3,000	-	-
<b>CHANGE IN NET POSITION</b>	<b>\$ 52,674</b>	<b>\$ 44,779</b>	<b>\$ 37,949</b>	<b>\$ 28,951</b>	<b>\$ 31,797</b>
<b>NET POSITION</b>					
Net Investment in capital assets	\$ 428,670	\$ 410,287	\$ 385,597	\$ 351,191	\$ 337,342
Restricted for debt service	22,701	23,798	22,070	24,064	23,843
Restricted for debt service reserve fund	-	-	44,118	45,207	-
Unrestricted	202,907	167,519	105,040	134,485	164,811
<b>TOTAL NET POSITION</b>	<b>\$ 654,278</b>	<b>\$ 601,604</b>	<b>\$ 556,825</b>	<b>\$ 554,947</b>	<b>\$ 525,996</b>
<b>DEBT SERVICE EXPENDITURES</b>					
Senior debt	\$ 35,837	\$ 38,198	\$ 43,842	\$ 47,331	\$ 37,574
Subordinate debt	\$ 23,603	\$ 17,068	\$ 13,091	\$ 14,112	\$ 11,243
Senior Debt Service Coverage (GAAP)	3.10	2.56	1.90	1.76	2.48
Subordinate Debt Service Coverage (GAAP)	5.09	5.72	6.36	5.92	8.27
Total Debt Service Coverage (GAAP)	1.93	1.77	1.46	1.36	1.91
Total Debt (Adjusted Cash Basis)	\$ 57,988	\$ 54,643	-	-	-
Total Debt Service Coverage (Adjusted Cash Basis)	2.00	1.85	-	-	-

Notes:

FY2013 - HRSD implemented GASB Statement 65 effective July 1, 2012, which requires expensing bond issuance costs in the year incurred.

FY2013 - HRSD adjusted the financial records to include inventory assets.

FY2014 - HRSD implemented GASB Statements 68 and 71 effective July 1, 2014, which requires recording pension liability.

FY2016 - HRSD is showing Debt Service Coverage on both a GAAP basis and an Adjusted Cash basis to account for distributions to localities in accordance with its Amended Subordinate Trust Agreement Section 705(a) enacted in March 2016.

**HAMPTON ROADS SANITATION DISTRICT**  
**SCHEDULE OF OPERATING EXPENSES, NET POSITION BY COMPONENT**  
**AND DEBT SERVICE EXPENDITURES LAST TEN FISCAL YEARS**

(in thousands)					
	(adjusted) 2012	2011	2010	2009	2008
<b>OPERATING REVENUES</b>					
Wastewater treatment charges	194,817	\$ 183,526	\$ 167,807	\$ 156,642	\$ 129,583
Miscellaneous	2,996	3,890	3,645	3,088	2,623
<b>TOTAL OPERATING REVENUES</b>	<b>197,813</b>	<b>187,416</b>	<b>171,452</b>	<b>159,730</b>	<b>132,206</b>
<b>OPERATING EXPENSES</b>					
Wastewater treatment	110,783	103,225	98,022	86,850	72,034
General and administrative	31,163	28,622	29,435	28,853	31,756
Depreciation	41,250	36,191	30,441	28,414	27,282
<b>TOTAL OPERATING EXPENSES</b>	<b>183,196</b>	<b>168,038</b>	<b>157,898</b>	<b>144,117</b>	<b>131,072</b>
<b>OPERATING INCOME</b>	<b>14,617</b>	<b>19,378</b>	<b>13,554</b>	<b>15,613</b>	<b>1,134</b>
<b>NON-OPERATING REVENUES (EXPENSES)</b>					
Wastewater facility charges	6,276	5,083	5,754	5,086	8,339
Investment income	1,681	1,699	1,541	3,998	3,999
Bond interest subsidy	2,602	2,602	1,655	-	-
Change in fair value of investments	(224)	(19)	40	162	656
Capital distributions to localities	-	-	-	-	-
Bond issuance costs	(2,206)	-	-	-	-
Disposal of capital assets	-	-	-	-	-
Interest expense	(22,760)	(20,516)	(19,973)	(15,263)	(5,867)
<b>NET NON-OPERATING REVENUES (EXPENSES)</b>	<b>(14,631)</b>	<b>(11,151)</b>	<b>(10,983)</b>	<b>(6,017)</b>	<b>7,127</b>
<b>INCOME (LOSS) BEFORE CONTRIBUTIONS</b>	<b>(14)</b>	<b>8,227</b>	<b>2,571</b>	<b>9,596</b>	<b>8,261</b>
<b>CAPITAL CONTRIBUTIONS</b>					
State capital grants	14,806	16,097	41,606	16,678	-
Other capital contributions	-	-	-	-	-
<b>CHANGE IN NET POSITION</b>	<b>14,792</b>	<b>\$ 24,324</b>	<b>\$ 44,177</b>	<b>\$ 26,274</b>	<b>\$ 8,261</b>
<b>NET POSITION</b>					
Net Investment in capital assets	348,407	\$ 351,618	\$ 348,572	\$ 319,594	\$ 301,760
Restricted for debt service	15,736	14,896	12,253	7,542	7,377
Restricted for debt service reserve fund	-	-	-	-	-
Unrestricted	130,056	110,688	92,053	81,565	73,290
<b>TOTAL NET POSITION</b>	<b>494,199</b>	<b>\$ 477,202</b>	<b>\$ 452,878</b>	<b>\$ 408,701</b>	<b>\$ 382,427</b>
<b>DEBT SERVICE EXPENDITURES</b>					
Senior debt	33,023	\$ 28,257	\$ 21,081	\$ 17,453	\$ 4,699
Subordinate debt	13,694	\$ 10,640	\$ 10,695	\$ 10,694	\$ 11,992
Senior Debt Service Coverage (GAAP)	1.94	2.30	2.51	3.05	8.81
Subordinate Debt Service Coverage (GAAP)	4.67	6.10	4.95	4.98	3.45
Total Debt Service Coverage (GAAP)	1.37	1.67	1.67	1.89	2.48
Total Debt (Adjusted Cash Basis)	-	-	-	-	-
Total Debt Service Coverage (Adjusted Cash Basis)	-	-	-	-	-

Unaudited – See accompanying independent auditors' report

**HAMPTON ROADS SANITATION DISTRICT**  
**OBJECTIVE CLASSIFICATION OF DEPARTMENTAL EXPENDITURES**  
**FOR OPERATIONS - LAST TEN FISCAL YEARS**

(in thousands)	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Personal Services	\$ 53,401	\$ 51,801	\$ 52,357	\$ 50,538	\$ 49,361	\$ 47,319	\$ 44,284	\$ 42,529	\$ 40,840	\$ 37,333
Fringe Benefits	19,106	17,974	18,249	20,170	20,039	17,800	17,692	15,217	12,410	12,573
Repairs and Maintenance (1)	19,933	22,824	31,451	22,320	23,075	26,057	21,234	23,445	14,176	10,704
Materials and Supplies	8,310	7,843	4,343	5,764	5,700	6,143	8,381	6,284	5,715	5,965
Transportation	1,386	1,537	1,297	1,417	1,376	1,319	1,196	1,009	972	965
Utilities	11,523	11,249	10,503	11,126	12,295	12,027	11,026	10,755	13,218	11,601
Chemicals	8,020	7,512	7,119	7,752	7,892	8,587	8,084	7,571	8,342	8,032
Contractual Services	26,977	21,573	15,127	14,222	13,993	12,312	11,118	10,333	8,642	9,064
Miscellaneous	2,329	1,842	2,880	1,274	1,172	1,324	1,148	1,049	1,028	897
General (2)	2,402	2,446	9,489	7,578	6,487	6,852	7,684	9,265	10,360	6,656
Subtotal, Expense before Depreciation	153,387	146,601	152,815	142,161	141,390	139,740	131,847	127,457	115,703	103,790
Depreciation	49,311	45,670	41,871	42,761	45,414	41,250	36,191	30,441	28,414	27,282
Total Operating Expenses	\$ 202,698	\$ 192,271	\$ 194,686	\$ 184,922	\$ 186,804	\$ 180,990	\$ 168,038	\$ 157,898	\$ 144,117	\$ 131,072

- (1) Excludes capital distributions to localities  
(2) Includes bad debt expense

Unaudited – See accompanying independent auditors' report

**HAMPTON ROADS SANITATION DISTRICT  
RATIOS OF OUTSTANDING DEBT BY TYPE  
JUNE 30, 2017**

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As of June 30,	No. Of Service Connections	(in thousands)		Total Outstanding Debt	Debt Per Service Connection
		Senior Revenue Bonds	Subordinate Revenue Bonds		
2017	470,000	\$ 429,165	\$ 350,347	\$ 779,512	\$ 1,659
2016	467,000	476,734	402,560	879,294	1,883
2015	465,000	649,202	99,195	748,397	1,609
2014	462,000	656,503	109,850	766,353	1,659
2013	460,000	670,272	120,231	790,503	1,718
2012	458,000	510,951	128,335	639,286	1,396
2011	457,000	450,335	110,661	560,996	1,228
2010	455,000	395,215	152,103	547,318	1,203
2009	452,000	250,165	109,971	360,136	797
2008	442,000	255,635	104,269	359,904	814

Note: Unamortized bond premiums are included in both senior and subordinate revenue bonds.

Unaudited – See accompanying independent auditors' report

**HAMPTON ROADS SANITATION DISTRICT  
RATE SCHEDULE  
WASTEWATER TREATMENT CHARGES  
LAST TEN FISCAL YEARS**

	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
<u>Residential - Metered</u>										
Per CCF * (single step)	\$ 4.51	\$ 4.13	\$ 3.83	\$ 3.55	\$ 3.29	\$ 3.05	\$ 2.82	\$ 2.52	-	-
First 30 CCF* per 30-day period	-	-	-	-	-	-	-	-	\$ 2.28	\$ 1.98
In excess of 30 CCF* per 30-day per	-	-	-	-	-	-	-	-	2.06	1.79
Minimum Charges										
Per day	0.30	0.25	0.25	0.25	0.25	0.25	0.25	0.25	-	-
2 CCF* or less per 30-day period	-	-	-	-	-	-	-	-	6.50	5.65
<u>Residential - Unmetered per 30-day period</u>										
Flat rate accounts	29.32	26.32	26.32	26.32	26.32	24.40	22.56	20.16	-	-
First toilet	-	-	-	-	-	-	-	-	10.25	8.91
Second toilet	-	-	-	-	-	-	-	-	6.83	5.94
Additional, each	-	-	-	-	-	-	-	-	3.42	2.97
<u>Non-Residential - Special Category</u>										
Biochemical Oxygen Demand (BOD)										
Excess over 250 mg/liter										
Per mg/liter per CCF	0.000206	0.000485	0.000612	0.001558	0.002451	-	-	-	-	-
Per Hundred Pounds	-	-	-	-	-	46.77	39.71	35.39	31.95	27.71
Total Suspended Solids (TSS)										
Excess over 250 mg/liter										
Per mg/liter per CCF	0.000454	0.000448	0.000417	0.001244	0.001865	-	-	-	-	-
Per Hundred Pounds	-	-	-	-	-	36.70	34.73	30.25	28.54	24.82
Total Phosphorus (TP)										
Excess over 6 mg/liter										
Per mg/liter per CCF	0.011642	0.004361	0.004344	0.011714	0.012790	-	-	-	-	-
Per Hundred Pounds	-	-	-	-	-	300.57	300.57	293.41	283.10	252.52
Total Kjeldahl Nitrogen (TKN)										
Excess over 35 mg/liter										
Per mg/liter per CCF	0.001660	0.000917	0.000756	0.001752	0.002085	-	-	-	-	-
Per Hundred Pounds	-	-	-	-	-	74.51	63.39	61.88	59.73	53.96
Unusual wastes not covered by this schedule may be assigned a special rate.										
<u>Septic Tank Waste</u>										
Per gallon	0.1366	0.1362	0.1267	0.1258	0.1146	-	-	-	-	-
Per each 500 gallons or part thereof	-	-	-	-	-	48.57	44.46	38.51	35.84	31.21

\*CCF = 100 Cubic Feet (Approx. 748 gallons)

Note: Rates can be adjusted by the Commission.

Unaudited – See accompanying independent auditors' report

**HAMPTON ROADS SANITATION DISTRICT  
RATE SCHEDULE  
WASTEWATER FACILITY CHARGES  
LAST TEN FISCAL YEARS**

	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
	\$ 1,895	\$ 1,895	\$ 1,895	\$ 1,895	\$ 1,895	\$ 1,895	\$ 1,715	\$ 1,715	\$ 1,655	\$ 1,607
Residential										
Commercial/Industrial										
Volume based facility charges:										
5/8" Meter	\$ 1,895	\$ 1,895	\$ 1,895	\$ 1,895	\$ 1,895	\$ 1,895	\$ 1,715	\$ 1,715	\$ 1,655	\$ 1,607
3/4" Meter	4,830	4,830	4,830	4,830	4,510	2,885	2,605	2,605	2,515	2,443
1" Meter	8,170	8,170	8,170	8,170	7,630	5,370	4,850	4,850	4,685	4,548
1 1/2" Meter	17,260	17,260	17,260	17,260	16,130	13,035	11,780	11,780	11,365	11,040
2" Meter	30,510	29,420	29,420	29,420	27,490	24,420	22,065	22,065	21,290	20,681
3" Meter	70,800	67,350	63,600	62,270	58,180	59,140	53,440	53,440	51,565	50,088
4" Meter	128,660	122,400	115,580	106,060	99,110	110,860	100,175	100,175	96,660	93,892
6" Meter	298,610	284,070	268,250	224,650	209,920	268,675	242,780	242,780	234,260	227,556
8" Meter	542,680	516,260	487,510	382,670	357,580	503,350	454,835	454,835	438,875	426,315
10" Meter	862,550	820,560	774,860	587,820	540,610	819,310	740,340	740,340	714,355	693,915
12" Meter	1,259,520	1,198,210	1,131,490	-	-	-	-	-	-	-
14" Meter	1,734,700	1,650,250	1,558,360	-	-	-	-	-	-	-
16" Meter	2,289,010	2,177,580	2,056,330	-	-	-	-	-	-	-
Strength based facility charges: (per permitted pound)										
Biochemical Oxygen Demand (BOD) Excess over 250 mg/liter	-	-	\$ 728	\$ 987	\$ 928	-	-	-	-	-
Total Suspended Solids (TSS) Excess over 250 mg/liter	-	-	424	624	587	-	-	-	-	-
Total Phosphorus (TP) Excess over 6 mg/liter	-	-	8,420	5,846	5,502	-	-	-	-	-
Total Kjeldahl Nitrogen (TKN) Excess over 35 mg/liter	-	-	3,812	1,313	1,235	-	-	-	-	-

**Notes:**

One charge per connection.  
HRSD eliminated strength based facility charges effective 7/1/2015.

Unaudited – See accompanying independent auditors' report



**HAMPTON ROADS SANITATION DISTRICT  
TREATMENT PLANT OPERATING SUMMARY  
LAST TEN FISCAL YEARS  
(Average Quantity per Day)**

	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
<b>District Total</b>										
Flow (MGD)	152.9	155.1	152.2	154.0	157.9	147.1	144.4	170.9	151.4	146.3
Influent (1,000 lbs.)										
BOD	288.2	282.5	286.0	288.6	274.4	254.6	273.1	275.2	300.9	332.1
TSS	215.9	228.8	198.6	204.7	198.1	200.3	205.9	210.7	203.6	211.3
TP	7.0	6.9	8.6	6.8	6.6	6.7	7.0	7.4	7.8	6.7
TKN	46.4	45.7	45.8	47.9	48.9	48.3	49.8	48.2	49.0	51.4
Effluent (1,000 lbs.)										
BOD	8.9	9.8	9.9	9.6	9.3	7.5	9.3	11.5	8.7	9.2
TSS	9.4	9.3	8.9	9.1	9.3	10.5	9.2	13.1	10.5	10.8
TP	0.9	0.9	1.0	1.1	1.0	1.1	1.0	1.0	1.0	1.1
TKN	7.7	8.0	9.8	11.2	12.0	10.1	12.3	14.9	13.3	11.2
<b>Army Base Plant</b>										
Flow (MGD)	9.5	9.6	9.9	10.7	11.8	10.2	10.0	12.6	10.4	9.7
Influent (1,000 lbs.)										
BOD	13.2	13.3	16.4	19.0	18.5	17.4	16.9	17.0	18.1	18.9
TSS	11.7	13.3	12.5	14.2	14.4	13.7	12.9	13.5	12.9	13.0
TP	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
TKN	2.7	2.7	2.9	3.5	3.7	3.5	3.2	3.2	3.1	3.4
Effluent (1,000 lbs.)										
BOD	0.3	0.3	0.8	0.8	0.8	0.9	0.8	1.0	0.8	1.0
TSS	0.4	0.5	0.6	0.8	0.9	0.8	1.0	1.1	0.8	1.1
TP	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
TKN	0.1	0.1	2.1	2.6	2.8	2.5	2.3	2.3	2.3	2.4
<b>Atlantic Plant</b>										
Flow (MGD)	28.2	27.2	30.9	25.7	26.7	29.0	29.7	30.4	26.6	26.3
Influent (1,000 lbs.)										
BOD	53.2	55.6	66.6	52.7	51.3	56.0	58.6	55.1	52.0	55.7
TSS	38.7	38.5	42.9	37.3	36.4	43.8	46.9	43.3	40.2	41.7
TP	1.4	1.4	1.5	1.3	1.3	1.5	1.8	1.8	1.9	-
TKN	11.0	10.9	11.4	10.4	10.5	11.7	12.3	11.3	10.5	10.7
Effluent (1,000 lbs.)										
BOD	2.3	2.7	3.0	2.2	2.6	2.0	3.0	2.3	1.8	1.9
TSS	1.9	1.9	2.4	2.0	1.9	1.8	2.0	2.9	2.2	2.0
<b>Boat Harbor Plant</b>										
Flow (MGD)	13.9	15.6	14.4	14.9	15.5	13.6	12.6	16.7	13.0	11.6
Influent (1,000 lbs.)										
BOD	17.4	18.3	20.0	19.2	19.3	19.9	19.4	19.9	19.9	19.6
TSS	15.7	18.1	16.3	16.7	16.0	16.9	15.6	17.5	15.2	14.6
TP	0.5	0.5	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.5
TKN	3.8	3.8	3.6	3.7	3.7	3.7	3.8	3.7	3.6	3.6
Effluent (1,000 lbs.)										
BOD	0.6	1.0	0.7	0.7	0.7	0.6	0.6	1.1	0.6	0.9
TSS	0.7	0.9	0.6	0.8	0.8	0.9	0.7	1.3	0.7	0.7
TP	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
TKN	1.2	1.8	2.2	2.4	2.9	3.0	2.8	2.8	2.6	2.3
<b>Chesapeake-Elizabeth Plant</b>										
Flow (MGD)	18.7	18.0	16.3	19.1	18.4	15.2	16.3	20.1	19.5	18.7
Influent (1,000 lbs.)										
BOD	35.4	35.2	30.2	38.7	32.1	24.8	30.1	32.7	36.0	38.3
TSS	26.6	26.1	22.9	26.6	25.1	21.0	22.6	26.9	27.1	27.5
TP	0.8	0.8	2.7	0.8	0.8	0.7	0.7	0.8	0.9	1.0
TKN	6.6	6.4	5.1	6.7	6.4	5.4	6.1	6.2	6.9	7.2
Effluent (1,000 lbs.)										
BOD	2.8	2.3	2.0	2.5	2.2	1.5	1.8	2.2	2.1	2.0
TSS	3.2	2.3	1.8	1.9	2.1	1.8	1.9	2.2	2.2	2.1
TP	0.2	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.2
TKN	4.5	4.1	3.6	4.5	4.2	3.2	3.9	3.9	4.2	3.8

Unaudited – See accompanying independent auditors' report

**HAMPTON ROADS SANITATION DISTRICT  
TREATMENT PLANT OPERATING SUMMARY  
LAST TEN FISCAL YEARS  
(Average Quantity per Day)**

	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
<b>James River Plant</b>										
Flow (MGD)	12.3	13.2	12.7	13.6	14.3	12.9	12.2	14.9	12.3	12.7
Influent (1,000 lbs.)										
BOD	25.5	24.4	25.7	27.5	25.5	25.3	26.2	24.7	23.0	25.4
TSS	17.4	17.8	18.0	19.4	19.2	19.0	19.8	19.9	17.6	19.6
TP	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.7
TKN	4.3	4.2	4.0	4.2	4.4	4.4	4.4	4.3	4.2	4.2
Effluent (1,000 lbs.)										
BOD	0.4	0.4	0.3	0.5	0.7	0.7	0.9	1.2	0.8	1.1
TSS	0.4	0.5	0.4	0.6	0.8	0.8	0.9	1.8	1.4	1.5
TP	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
TKN	0.5	0.4	0.4	0.2	0.6	0.5	2.3	2.6	1.2	1.0
<b>Nansemond Plant</b>										
Flow (MGD)	18.8	18.5	16.6	16.9	17.1	16.2	15.9	18.0	17.1	17.2
Influent (1,000 lbs.)										
BOD	40.7	35.8	28.5	29.0	27.0	23.7	27.9	30.2	31.6	32.3
TSS	40.3	38.4	21.9	23.1	22.9	22.6	22.6	24.5	23.1	24.5
TP	1.5	1.5	1.1	1.1	1.1	1.0	1.0	1.1	1.1	1.3
TKN	7.4	7.0	5.6	5.8	5.9	6.0	6.1	6.0	6.2	6.4
Effluent (1,000 lbs.)										
BOD	0.8	0.7	0.8	0.9	0.6	0.6	0.8	1.2	0.7	0.6
TSS	0.8	0.9	0.9	1.1	0.8	0.9	1.1	1.3	1.0	1.4
TP	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2
TKN	0.5	0.5	0.6	0.5	0.3	0.3	0.5	2.3	1.3	0.3
<b>Virginia Initiative Plant</b>										
Flow (MGD)	30.9	31.7	30.5	30.7	31.9	29.8	28.5	35.7	29.9	25.4
Influent (1,000 lbs.)										
BOD	50.1	50.4	47.5	45.8	45.8	42.3	42.8	43.0	46.9	47.2
TSS	31.3	32.0	30.2	30.6	31.6	32.3	31.8	31.7	31.1	27.3
TP	1.0	1.0	1.1	1.2	1.1	1.1	1.1	1.2	1.3	1.4
TKN	7.3	7.4	7.1	7.4	7.5	7.6	7.3	7.2	7.5	7.1
Effluent (1,000 lbs.)										
BOD	1.2	1.7	1.9	1.4	0.9	0.8	0.7	1.7	1.3	1.2
TSS	1.4	1.9	1.6	1.7	1.4	1.5	1.1	1.7	1.5	1.2
TP	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.2
TKN	0.4	0.7	0.8	0.6	0.5	0.5	0.4	0.8	1.5	1.1
<b>Williamsburg Plant</b>										
Flow (MGD)	8.0	8.6	8.4	9.2	8.9	9.1	8.6	10.0	12.0	14.4
Influent (1,000 lbs.)										
BOD	36.1	33.2	34.7	40.4	37.7	33.5	37.5	37.9	59.9	79.0
TSS	19.1	27.9	16.2	19.9	16.8	16.7	19.0	19.6	23.4	30.6
TP	0.5	0.5	0.5	0.6	0.5	0.5	0.6	0.6	0.8	1.0
TKN	3.3	3.6	3.2	3.3	3.3	3.4	3.5	3.5	4.3	5.2
Effluent (1,000 lbs.)										
BOD	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.4
TSS	0.2	0.3	0.3	0.3	0.4	0.6	0.3	0.4	0.3	0.5
TP	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
TKN	0.1	0.1	0.1	0.2	0.3	0.2	0.2	0.2	0.3	0.2
<b>York River Plant</b>										
Flow (MGD)	12.6	12.7	12.6	13.2	13.3	11.2	10.8	12.5	10.7	10.2
Influent (1,000 lbs.)										
BOD	16.7	16.3	18.2	17.9	17.2	13.3	15.5	16.3	15.5	15.8
TSS	15.1	16.7	16.9	16.4	15.7	14.1	14.3	14.0	12.6	12.4
TP	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5
TKN	3.6	3.5	3.5	3.6	3.5	3.2	3.6	3.3	3.3	3.7
Effluent (1,000 lbs.)										
BOD	0.3	0.4	0.4	0.4	0.5	0.2	0.5	0.4	0.4	0.3
TSS	0.2	0.1	0.2	0.1	0.2	0.1	0.3	0.5	0.5	0.4
TP	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
TKN	0.2	0.3	0.3	0.3	0.4	0.1	0.1	0.2	0.3	0.1

Note: HRSD implemented a surcharge for Total Kjeldahl Nitrogen (TKN) on July 1, 2007.

**HAMPTON ROADS SANITATION DISTRICT  
TEN LARGEST CUSTOMERS  
CURRENT YEAR AND NINE YEARS AGO**

(in thousands)

<u>Customer</u>	<u>Type</u>	<u>2017</u>		<u>2008</u>	
		<u>Amount</u>	<u>Percent</u>	<u>Amount</u>	<u>Percent</u>
U.S. Navy - Norfolk Naval Base	Military Facility	\$ 4,888	1.9%	\$ 2,765	2.1%
Smithfield Foods	Meat Processor	4,723	1.9%	2,457	1.9%
Anheuser - Busch, Inc.	Brewery	2,819	1.1%	5,956	4.6%
Huntington Ingalls Industries (formerly Northrop Grumman Newport News/ Newport News Shipbuilding and Drydock)	Shipbuilding	2,138	0.8%	871	0.7%
Norfolk Naval Shipyard	Military Ship Repair	2,107	0.8%	-	-
City of Norfolk	Municipality	1,936	0.8%	1,359	1.0%
Norfolk Redevelopment & Housing Authority	Housing Authority	1,876	0.7%	918	0.7%
Joint Expeditionary Base Little Creek - Fort Story (formerly U.S. Navy - Little Creek Amphibious Base)	Military Facility	1,681	0.7%	463	0.4%
City of Virginia Beach	Municipality	1,313	0.5%	-	-
Fort Eustis	Military Facility	1,290	0.5%	-	-
U.S. Air Force - Langley	Military Facility	-	-	463	0.4%
Marva Maid Dairy	Manufacturer - Dairy Products	-	-	367	0.3%
Oceana Naval Air Station	Military Facility	-	-	338	0.3%
Total		<u>\$ 24,771</u>	<u>9.7%</u>	<u>\$ 15,957</u>	<u>12.4%</u>

Unaudited – See accompanying independent auditors' report

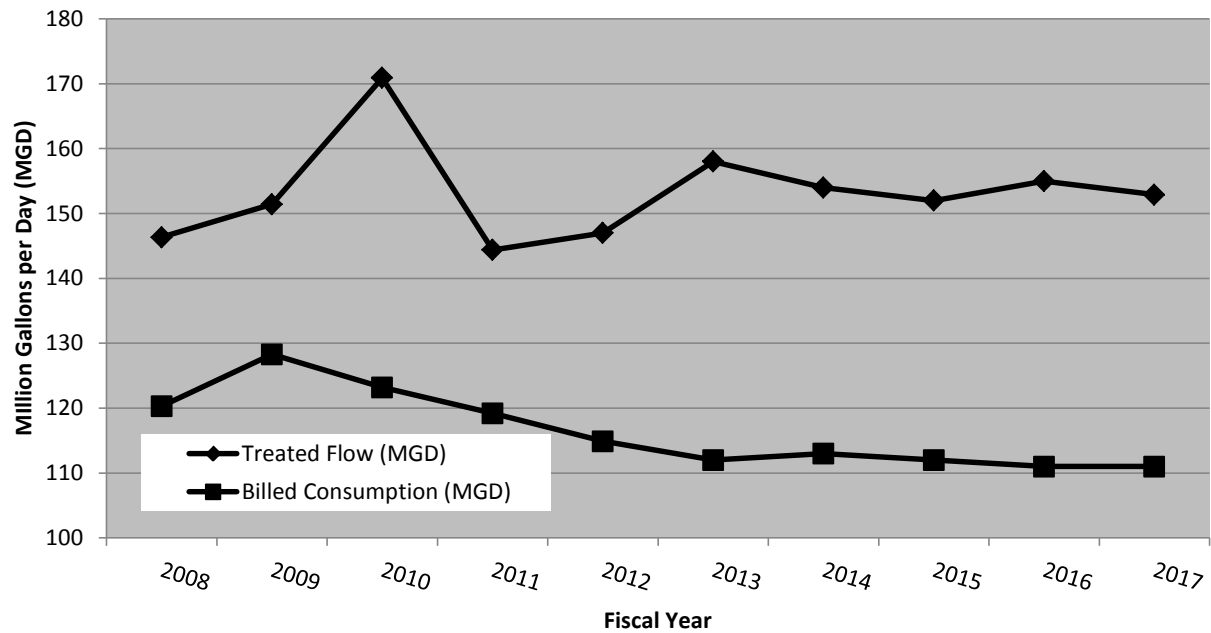
**HAMPTON ROADS SANITATION DISTRICT  
WASTEWATER TREATMENT CHARGES  
TEN LARGEST EMPLOYERS  
CURRENT YEAR AND NINE YEARS AGO**

<u>Employer</u>	<u>Type</u>	2017			2008		
		Number of Employees	Rank	Percent of Regional Employment	Number of Employees	Rank	Percent of Regional Employment
Naval Station Norfolk	Military Facility	64,828	1	7.0%	96,000	1	9.2%
Huntington Ingalls Industries	Shipbuilding and repair	24,000	2	2.6%	19,000	3	1.8%
Sentara Healthcare	Health care network	22,000	3	2.4%	17,000	4	1.6%
Joint Expeditionary Base Little Creek - Fort Story	Military Facility	19,668	4	2.1%	16,372	5	1.6%
Joint Base Langley-Eustis	Military Facility	19,624	5	2.1%	21,182	2	2.0%
Oceana Naval Air Station	Military Facility	16,555	6	1.8%	16,261	6	1.6%
Norfolk Naval Shipyard	Shipbuilding and repair	14,124	7	1.5%	7,500	8	0.7%
Virginia Beach Public Schools	Public schools	10,576	8	1.1%	10,527	7	1.0%
Riverside Health System	Health care network	8,000	9	0.9%	7,050	9	0.7%
Norfolk City Public Schools	Public schools	7,000	10	0.8%	6,917	10	0.7%
Total		<u>206,375</u>		<u>22.3%</u>	<u>217,809</u>		<u>21.0%</u>

Sources:

Hampton Roads Economic Development Alliance  
Hampton Roads Statistical Digest  
Confirmation with employers

# HAMPTON ROADS SANITATION DISTRICT COMPARISON OF TREATED FLOW TO BILLED FLOW LAST TEN FISCAL YEARS



<u>Year ended June 30,</u>	<u>Treated Flow (MGD)</u>	<u>Billed Consumption (MGD)</u>
2008	146	120
2009	151	128
2010	171	123
2011	144	119
2012	147	115
2013	158	112
2014	154	113
2015	152	112
2016	155	111
2017	153	111

Unaudited – See accompanying independent auditors' report

**HAMPTON ROADS SANITATION DISTRICT**  
**NUMBER OF EMPLOYEES BY IDENTIFIABLE ACTIVITY**  
**LAST TEN FISCAL YEARS**

	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
<u>General Management</u>										
General Manager	3	3	3	3	3	4	4	4	4	4
Support Staff	1	1	1	1	1	1	1	1	1	1
	<u>4</u>	<u>4</u>	<u>4</u>	<u>4</u>	<u>4</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>5</u>
<u>Talent Management</u>										
Human Resources	6	5	5	5	5	5	6	6	5	5
Safety	3	3	0	0	0	0	0	0	0	0
Training	2	2	2	2	2	2	2	2	2	0
Support Staff	4	4	3	3	3	3	3	3	3	2
Total Finance & Administration	<u>15</u>	<u>14</u>	<u>10</u>	<u>10</u>	<u>10</u>	<u>10</u>	<u>11</u>	<u>11</u>	<u>10</u>	<u>7</u>
<u>Finance &amp; Administration</u>										
Accounting & Finance	10	10	10	10	10	10	10	10	10	10
Customer Care Center	77	77	69	69	68	69	69	69	63	61
Procurement	10	10	9	9	9	7	7	8	8	8
Support Staff	3	2	3	3	3	3	3	3	3	2
Total Finance & Administration	<u>100</u>	<u>99</u>	<u>91</u>	<u>91</u>	<u>90</u>	<u>89</u>	<u>89</u>	<u>90</u>	<u>84</u>	<u>81</u>
<u>Information Technology</u>										
Information Technology	47	45	39	35	35	33	33	33	21	21
Support Staff	1	1	1	1	1	2	2	2	3	3
Total Information Services	<u>48</u>	<u>46</u>	<u>40</u>	<u>36</u>	<u>36</u>	<u>35</u>	<u>35</u>	<u>35</u>	<u>24</u>	<u>24</u>
<u>Operations</u>										
Army Base Treatment Plant	34	31	32	32	32	32	32	32	32	32
Atlantic Base Treatment Plant	35	32	33	33	33	32	32	32	33	33
Boat Harbor Treatment Plant	35	32	33	33	33	33	33	34	34	34
Chesapeake-Elizabeth Treatment Plant	32	31	32	32	32	32	32	32	32	32
Interceptor System Maintenance	117	115	120	120	120	121	122	122	106	93
James River Treatment Plant	22	20	21	21	21	21	21	21	21	21
Maintenance Shops	70	83	86	86	86	86	86	86	81	78
Nansemond Treatment Plant	32	30	31	31	31	30	30	30	30	30
Virginia Initiative Plant	33	30	31	31	31	31	31	31	31	31
Williamsburg Treatment Plant	29	28	29	29	29	31	31	31	31	34
York River Treatment Plant	24	22	23	23	23	23	23	23	23	23
Small Communities Division	23	21	17	17	17	17	17	15	15	15
Support Staff	23	24	25	25	25	24	24	24	24	30
Total - Operations	<u>509</u>	<u>499</u>	<u>513</u>	<u>513</u>	<u>513</u>	<u>513</u>	<u>514</u>	<u>513</u>	<u>493</u>	<u>486</u>
<u>Engineering</u>										
Design and Construction	25	25	21	19	19	17	15	15	15	14
Support Staff	14	14	14	14	14	14	14	14	14	13
Total - Engineering	<u>39</u>	<u>39</u>	<u>35</u>	<u>33</u>	<u>33</u>	<u>31</u>	<u>29</u>	<u>29</u>	<u>29</u>	<u>27</u>
<u>Water Quality</u>										
Pretreatment & Pollution Prevention	26	26	25	24	24	24	24	24	24	24
Technical Services	29	28	25	23	21	21	21	20	20	20
Laboratory	45	42	40	38	38	38	38	38	38	38
Support Staff	6	6	6	6	6	3	3	3	3	3
Total - Water Quality	<u>106</u>	<u>102</u>	<u>96</u>	<u>91</u>	<u>89</u>	<u>86</u>	<u>86</u>	<u>85</u>	<u>85</u>	<u>85</u>
<u>Total Employees</u>	<u>821</u>	<u>803</u>	<u>789</u>	<u>778</u>	<u>775</u>	<u>769</u>	<u>769</u>	<u>768</u>	<u>730</u>	<u>715</u>

Unaudited – See accompanying independent auditors' report

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# Other Supplemental Section (Unaudited)



**Inspiring  
the next  
generation  
to pursue  
environmental  
careers**

HRSD offers challenging internship opportunities that attract top students. HRSD continues to lead international research efforts to reduce the cost of removing nutrients from wastewater. HRSD's research work is leveraged with partnerships with leading universities and other innovative wastewater utilities throughout the world. Putting the knowledge gained into practice is yielding a significant return on our investment by reducing operational costs for nutrient removal as well as minimizing the capital investment required to construct new systems.

*Photo by Mark Rhodes*



**HAMPTON ROADS SANITATION DISTRICT  
SUMMARY OF PRIMARY BONDED DEBT SERVICE  
JUNE 30, 2017**

(in thousands)

As of June 30,	Senior Bonds			Subordinate Bonds	Total Debt
	Principal	Interest	Debt Service	Debt Service	Service
2018	18,380	19,046	37,426	20,485	57,911
2019	18,801	18,237	37,038	20,482	57,520
2020	19,520	17,457	36,977	20,484	57,461
2021	18,682	16,673	35,355	21,336	56,691
2022	17,977	15,842	33,819	22,422	56,241
2023	22,000	15,002	37,002	19,184	56,186
2024	22,882	14,038	36,920	18,973	55,893
2025	23,821	13,013	36,834	18,976	55,810
2026	24,134	11,944	36,078	19,387	55,465
2027	19,625	10,983	30,608	24,687	55,295
2028	20,390	10,117	30,507	21,575	52,082
2029	25,548	9,215	34,763	17,164	51,927
2030	26,550	8,100	34,650	17,160	51,810
2031	17,093	7,188	24,281	27,945	52,226
2032	14,615	6,523	21,138	25,955	47,093
2033	13,296	5,892	19,188	25,954	45,142
2034	11,780	5,292	17,072	25,953	43,025
2035	12,295	4,640	16,935	25,701	42,636
2036	12,835	3,960	16,795	22,760	39,555
2037	7,245	3,250	10,495	28,952	39,447
2038	13,985	2,817	16,802	22,532	39,334
2039	14,595	2,044	16,639	7,887	24,526
2040	12,730	1,238	13,968	7,923	21,891
2041	4,800	815	5,615	7,968	13,583
2042	4,995	623	5,618	8,005	13,623
2043	5,190	424	5,614	8,015	13,629
2044	5,401	214	5,615	8,021	13,636
2045	-	-	-	8,090	8,090
2046	-	-	-	8,173	8,173
2047	-	-	-	8,260	8,260
Totals	<u>\$ 429,165</u>	<u>224,587</u>	<u>\$ 653,752</u>	<u>\$ 540,409</u>	<u>\$ 1,194,161</u>

Unaudited – See accompanying independent auditors' report

**HAMPTON ROADS SANITATION DISTRICT  
BUDGETARY COMPARISON SCHEDULE  
JUNE 30, 2017**

(in thousands)

	<u>Budgeted Amounts</u>		<u>Actual</u>	<u>Variance</u>	<u>Percent</u>
	<u>Original</u>	<u>Final</u>	<u>Amounts</u>	<u>under</u> <u>Final</u> <u>Budget</u>	<u>Variance</u>
<b>OPERATING BUDGET EXPENSES</b>					
General Management	\$ 953	\$ 1,080	\$ 1,054	\$ 26	2.4%
Talent Management	2,243	2,299	2,062	237	10.3%
Finance	13,274	13,390	12,282	1,108	8.3%
Information Technology	15,319	16,908	13,739	3,169	18.7%
Operations	90,914	97,333	90,425	6,908	7.1%
Engineering	5,667	6,094	5,713	381	6.3%
Water Quality	13,478	13,771	13,027	744	5.4%
General	4,177	7,766	3,034	4,732	60.9%
Debt Service	63,847	59,132	58,030	1,102	1.9%
TOTAL	209,872	217,773	199,366	<u>\$ 18,407</u>	8.5%
Transfer to CIP	52,101	52,101			
Transfer to Risk Management	260	260			
	<u>\$ 262,233</u>	<u>\$ 270,134</u>			
Add:					
Unbudgeted Depreciation			49,311		
Unbudgeted Bad Debt Expense			2,402		
Capital Improvement Program items expensed			12,641		
Less:					
Capitalized Assets			2,854		
Debt Service			58,030		
Capital distributions to localities			138		
TOTAL OPERATING EXPENSES			<u>\$ 202,698</u>		

Unaudited – See accompanying independent auditors' report

**HAMPTON ROADS SANITATION DISTRICT  
NOTE TO BUDGETARY COMPARISON SCHEDULE  
JUNE 30, 2017**

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**BUDGETARY HIGHLIGHTS**

HRSD's Commission adopts an Annual Operating Budget that contains the day-to-day operating expenses of the District. The Operating Budget as adopted for FY-17 was \$209,871,702 and contains personnel costs, fringe benefits, material and supplies, electricity, chemicals, insurance, contractual services, debt service and other miscellaneous expenses. There were several modifications to the Operating Budget during the year to reflect changes in spending patterns. Transfers totaling \$7,901,331 for major repairs and equipment replacements resulted in a final budget of \$217,773,033. All adjustments to the Annual Budget were approved from surplus fund balances or from transfers within or among departments.

**NOTE – BUDGETARY ACCOUNTING AND CONTROL**

**Budget Preparation**

HRSD prepares its Annual Budget under the provisions of its enabling legislation, used to establish rates, fees and other charges, and of Section 3.12 of the Master Trust Indenture, dated December 1, 1993, and the Trust Agreement, dated March 1, 2008. In accordance with those provisions, the following process is used to adopt the Annual Budget:

The process begins in late December with the issuance of the Annual Budget Instructions by the General Manager. Each department completes its Operating and Improvement Budgets by March 1 for the General Manager's review.

The HRSD Commission appoints a Finance Committee consisting of two Commissioners. The two Commissioners meet in early April to review the Budgets, which are presented by staff at the April Commission meeting. HRSD's Commission reviews these budgets at that meeting.

The final Annual Budget, which incorporates the Operating and Capital Budgets, is presented at the May Commission meeting for adoption. The Commission simultaneously adopts the budget and any resulting wastewater rate schedule. All rate adjustments must be publically advertised four consecutive weeks before they can take effect.

The HRSD Commission approves any budget amendments during the ensuing year.

The 2008 Trust Agreement requires Debt Service Coverage of 1.20 times for senior and 1.00 times for total debt based on maximum annual debt service. The 2008 Subordinate Trust Agreement was amended in 2016 to account for Consent Decree expenses related to Locality wet weather improvements that HRSD will not own and requires total debt service coverage to be 1.2 times on an adjusted cash basis. There are no adjustments that would affect coverage at this time. The HRSD Commission has a policy of providing senior revenue and total revenue bonded debt service coverage ratios of not less than 1.5 and 1.4 times annual debt service on an adjusted cash basis, respectively.

**Budget Accounting**

The Annual Budget is prepared on a basis of accounting consistent with accounting principles generally accepted in the United States of America, however, no provision is provided for non-cash items such as depreciation and bad debt expense. The FY-17 Annual Budget consists of two parts: an operating budget that covers day-to-day operations and a capital budget that identifies all major capital project requirements over the next ten years. All operating budget amounts lapse at year-end. The Commission annually adopts only the first year of the capital budget. HRSD's Commission separately approves all contracts that are awarded under the capital budget.

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**HAMPTON ROADS SANITATION DISTRICT  
SCHEDULE OF REVENUES , EXPENDITURES AND  
DEBT SERVICE FOR OPERATIONS - ACTUAL TO BUDGET  
FOR THE FISCAL YEAR ENDED JUNE 30, 2017**

(in thousands)

	<u>Actual</u>	<u>Amended Budget</u>	<u>Variance Favorable/ (Unfavorable)</u>	<u>Budget Variance Percentage</u>
<b>OPERATING REVENUE</b>				
Wastewater Treatment Charges	\$ 254,961	\$ 249,743	\$ 5,218	2%
Miscellaneous	3,669	2,840	829	29%
<b>TOTAL OPERATING REVENUE</b>	<u>258,630</u>	<u>252,583</u>	<u>6,047</u>	2%
<b>CURRENT EXPENDITURES</b>				
General Management	1,054	1,080	26	2%
Talent Management	2,062	2,299	237	10%
Finance	12,282	13,390	1,108	8%
Information Technology	13,739	16,908	3,169	19%
Operations	90,425	97,333	6,908	7%
Engineering	5,713	6,094	381	6%
Water Quality	13,027	13,771	744	5%
General	3,034	7,766	4,732	61%
<b>TOTAL CURENT EXPENDITURES</b>	<u>141,336</u>	<u>158,641</u>	<u>17,305</u>	11%
<b>EXCESS OF OPERATING REVENUES OVER EXPENDITURES</b>	<u>117,294</u>	<u>93,942</u>	<u>23,352</u>	25%
<b>NON-OPERATING REVENUE (EXPENSE)</b>				
Wastewater Facility Charge	7,511	5,850	1,661	28%
Interest Income	1,168	1,400	(232)	-17%
Bond Interest Subsidy	2,275	2,400	(125)	-5%
Capital distributions to localities	-	-	-	0%
<b>TOTAL NON-OPERATING REVENUE</b>	<u>10,954</u>	<u>9,650</u>	<u>1,304</u>	14%
<b>INCOME BEFORE CAPITAL CONTRIBUTIONS</b>	128,248	103,592	24,656	24%
<b>CAPITAL CONTRIBUTIONS</b>				
State Capital Grants	8,598	-	8,598	100%
<b>AMOUNT AVAILABLE FOR DEBT</b>	136,846	103,592	33,254	32%
<b>DEBT EXPENDITURES</b>				
Principal & Interest	57,988	58,232	244	0%
Cost of Issuance	42	900	858	95%
<b>TOTAL DEBT EXPENDITURES</b>	<u>58,030</u>	<u>59,132</u>	<u>1,102</u>	2%
<b>AMOUNT AVAILABLE TO REINVEST</b>	<u>\$ 78,816</u>	<u>\$ 44,460</u>	<u>\$ 34,356</u>	77%

Unaudited – See accompanying independent auditors' report

**HAMPTON ROADS SANITATION DISTRICT  
OBJECTIVE CLASSIFICATION OF DEPARTMENTAL EXPENDITURES  
FOR OPERATIONS - ACTUAL TO BUDGET  
FOR THE FISCAL YEAR ENDED JUNE 30,2017**

(in thousands)

	General Management	Talent Management	Finance	Information Technology	Operations	Engineering
Personal Services	\$ 704	\$ 1,273	\$ 5,412	\$ 3,885	\$ 31,549	\$ 3,370
Fringe Benefits	205	505	2,380	1,411	14,205	1,249
Materials & Supplies	11	54	105	1,062	5,696	25
Transportation	35	30	83	60	963	54
Utilities	-	-	215	1,323	9,484	-
Chemical Purchases	-	-	-	-	8,020	-
Contractual Services	89	21	3,875	4,339	11,689	903
Major Repairs	-	-	-	1,509	5,663	-
Capital Assets	-	-	57	1	2,370	-
Miscellaneous Expense	10	179	155	149	786	112
<b>Total Department Expenditures</b>	<b>\$ 1,054</b>	<b>\$ 2,062</b>	<b>\$ 12,282</b>	<b>\$ 13,739</b>	<b>\$ 90,425</b>	<b>\$ 5,713</b>

Unaudited – See accompanying independent auditors' report

**HAMPTON ROADS SANITATION DISTRICT  
OBJECTIVE CLASSIFICATION OF DEPARTMENTAL EXPENDITURES  
FOR OPERATIONS - ACTUAL TO BUDGET  
FOR THE FISCAL YEAR ENDED JUNE 30, 2017**

(in thousands)

	Water Quality	General	Total	Percent of Total	FY-2017 Budget	Variance Favorable/ (Unfavorable)
Personal Services	\$ 6,931	\$ 277	\$ 53,401	27%	\$ 54,711	\$ 1,310
Fringe Benefits	2,855	(3,704)	19,106	10%	24,788	5,682
Materials & Supplies	1,337	20	8,310	4%	7,375	(935)
Transportation	156	5	1,386	1%	1,474	88
Utilities	2	499	11,523	6%	12,361	838
Chemical Purchases	-	-	8,020	4%	9,361	1,341
Contractual Services	700	5,361	26,977	13%	32,595	5,618
Major Repairs	258	-	7,430	4%	9,846	2,416
Capital Assets	426	-	2,854	1%	3,252	398
Miscellaneous Expense	362	576	2,329	1%	2,878	549
<b>Total Department Expenditures</b>	<b>\$ 13,027</b>	<b>\$ 3,034</b>	<b>141,336</b>	<b>71%</b>	<b>158,641</b>	<b>17,305</b>
Debt Service			57,988	29%	58,232	244
Cost of Issuance Bonds			42	0%	900	858
Total Debt Expenditures			<u>58,030</u>	<u>29%</u>	<u>59,132</u>	<u>1,102</u>
Total Department and Debt Expenditures			<u>\$ 199,366</u>	<u>100%</u>	<u>\$ 217,773</u>	<u>\$ 18,407</u>

Unaudited – See accompanying independent auditors' report

**HAMPTON ROADS SANITATION DISTRICT  
DEPARTMENT SUMMARY OF EXPENDITURES  
ACTUAL TO BUDGET  
FOR THE FISCAL YEAR ENDED JUNE 30, 2017**

(in thousands)

	Actual	Amended Budget	Variance Favorable/ (Unfavorable)
General Management			
Personal Services	\$ 704	\$ 714	\$ 10
Fringe Benefits	205	200	(5)
Materials & Supplies	11	10	(1)
Transportation	35	33	(2)
Contractual Services	89	106	17
Miscellaneous Expense	10	17	7
	<u>1,054</u>	<u>1,080</u>	<u>26</u>
Talent Management			
Personal Services	1,273	1,330	57
Fringe Benefits	505	558	53
Materials & Supplies	54	66	12
Transportation	30	26	(4)
Contractual Services	21	64	43
Miscellaneous Expense	179	255	76
	<u>2,062</u>	<u>2,299</u>	<u>237</u>
Finance			
Personal Services	5,412	5,868	456
Fringe Benefits	2,380	2,622	242
Materials & Supplies	105	132	27
Transportation	83	108	25
Utilities	215	267	52
Contractual Services	3,875	4,089	214
Capital Assets	57	63	6
Miscellaneous Expense	155	241	86
	<u>12,282</u>	<u>13,390</u>	<u>1,108</u>
Information Technology			
Personal Services	3,885	4,230	345
Fringe Benefits	1,411	1,579	168
Materials & Supplies	1,062	1,011	(51)
Transportation	60	69	9
Utilities	1,323	1,425	102
Contractual Services	4,339	6,333	1,994
Major Repairs	1,509	1,899	390
Capital Assets	1	104	103
Miscellaneous Expense	149	258	109
	<u>13,739</u>	<u>16,908</u>	<u>3,169</u>

(Continued)

Unaudited – See accompanying independent auditors' report



**HAMPTON ROADS SANITATION DISTRICT  
DEPARTMENT SUMMARY OF EXPENDITURES  
ACTUAL TO BUDGET  
FOR THE FISCAL YEAR ENDED JUNE 30, 2017**

(in thousands)

	Actual	Amended Budget	Variance Favorable/ (Unfavorable)
<b>Operations</b>			
Personal Services	\$ 31,549	\$ 31,696	\$ 147
Fringe Benefits	14,205	14,905	700
Materials & Supplies	5,696	4,871	(825)
Transportation	963	973	10
Utilities	9,484	10,133	649
Chemical Purchases	8,020	9,361	1,341
Contractual Services	11,689	14,301	2,612
Major Repairs	5,663	7,707	2,044
Capital Assets	2,370	2,465	95
Miscellaneous Expense	786	921	135
	<u>90,425</u>	<u>97,333</u>	<u>6,908</u>
<b>Engineering</b>			
Personal Services	3,370	3,527	157
Fringe Benefits	1,249	1,403	154
Materials & Supplies	25	25	-
Transportation	54	72	18
Contractual Services	903	936	33
Miscellaneous Expense	112	131	19
	<u>5,713</u>	<u>6,094</u>	<u>381</u>
<b>Water Quality</b>			
Personal Services	6,931	6,996	65
Fringe Benefits	2,855	2,966	111
Materials & Supplies	1,337	1,200	(137)
Transportation	156	193	37
Utilities	2	-	(2)
Contractual Services	700	1,125	425
Major Repairs	258	240	(18)
Capital Assets	426	620	194
Miscellaneous Expense	362	431	69
	<u>13,027</u>	<u>13,771</u>	<u>744</u>
<b>General</b>			
Personal Services	277	350	73
Fringe Benefits	(3,704)	555	4,259
Materials & Supplies	20	60	40
Transportation	5	-	(5)
Utilities	499	536	37
Contractual Services	5,361	5,641	280
Miscellaneous Expense	576	624	48
	<u>3,034</u>	<u>7,766</u>	<u>4,732</u>
<b>TOTAL DEPARTMENTAL EXPENDITURES</b>	<u>\$ 141,336</u>	<u>\$ 158,641</u>	<u>\$ 17,305</u>

Unaudited – See accompanying independent auditors' report

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The logo for the Hampton Roads Sanitation District (HRSD) features the letters "HRSD" in a bold, white, sans-serif font. The letters are positioned between two horizontal white lines of equal length, one above and one below the text.

**HRSD**

1434 Air Rail Avenue  
Virginia Beach, VA 23455  
[www.hrsd.com](http://www.hrsd.com)

*Printed on recycled paper using environmentally friendly inks*

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## APPENDIX B

### CERTAIN DEFINITIONS

*The following is a brief summary of certain definitions of certain terms contained in the Trust Agreement and the Fifth Supplemental Trust Agreement and used in this Official Statement. This summary does not purport to be complete or definitive and qualified in its entirety by reference to the Trust Agreement and the Fifth Supplemental Trust Agreement, copies of which are available for examination at the offices of the Trustee.*

**“Additional Bonds”** means Bonds, if any, issued by the District, subsequent to the issuance of the Subordinate 2011 Bonds, pursuant to the Trust Agreement, including Additional Bonds issued in exchange for other such Additional Bonds or in replacement for mutilated, destroyed, stolen or lost Additional Bonds.

**“Audited Financial Statements”** means the annual financial statements of the District as audited and reported on by a firm of independent public accountants, for a twelve-month period constituting a Fiscal Year or other period indicated, prepared in accordance with generally accepted accounting principles.

**“Balloon Long-Term Indebtedness”** means Long-Term Indebtedness 25% or more of the principal payments of which is due in a single year, which portion of the principal is not required by the documents pursuant to which such Indebtedness is issued to be amortized by redemption prior to such date.

**“Bond Registrar”** means the Bond Registrar at the time serving as such under the Trust Agreement whether the original or a successor bond registrar.

**“Bonds”** means, the Subordinate 2012 Bonds, the Subordinate 2016 Bonds, the Series 2017A Bonds, and any Additional Bonds under the Trust Agreement, including such Bonds issued in exchange for other such Bonds and Bonds issued in replacement for and upon the cancellation of mutilated Bonds or in lieu of and in substitution for destroyed, stolen or lost Bonds.

**“Capital Appreciation Bonds”** means Bonds the interest on which is compounded at the rates and on the dates set forth in the Series Agreement authorizing the issuance of such Bonds and is payable upon redemption or on the maturity date of such Bonds. Nothing in the Trust Agreement prohibits the District from designating in such Series Agreement any such Bonds by a name other than Capital Appreciation Bonds.

**“Coincidental Maximum Annual Debt Service”** means the highest amount of debt service due and payable on the Senior Obligations and Parity Obligations in the then-current or any succeeding Fiscal Year. For purposes of this definition, debt service due and payable on the Senior Obligations for any Fiscal Year is to be determined by reference to the Principal and Interest Requirements (as defined in the Senior Trust Agreement) and debt service due and payable on Parity Obligations for any Fiscal Year is to be determined by reference to the Principal and Interest Requirements (as defined in the Trust Agreement).

**“Commission”** means the Hampton Roads Sanitation District Commission, which is the governing body of the District.

**“Contracted Services”** means services rendered or facilities provided to the District for the performance for or on behalf of the District of functions similar to those performed by the District from a specific project, projects or systems, pursuant to a contract, whether a financing lease, a service agreement or another arrangement.

**“Credit Facility”** means a line of credit, letter of credit, standby bond purchase agreement or similar credit enhancement or liquidity facility, including self-liquidity provided by the District, established to provide credit or liquidity support for Indebtedness.

**“Cross-over Date”** means, with respect to Cross-over Refunding Indebtedness, the date on which the principal portion of the related Cross-over Refunded Indebtedness is to be paid or redeemed from the proceeds of such Cross-over Refunding Indebtedness.

**“Cross-over Refunded Indebtedness”** means Indebtedness refunded by Cross-over Refunding Indebtedness.

**“Cross-over Refunding Indebtedness”** means Indebtedness issued for the purpose of refunding other Indebtedness if the proceeds of such refunding Indebtedness are irrevocably deposited in escrow to secure the payment on the applicable redemption date or maturity date of the refunded Indebtedness, and the earnings on such escrow deposit (i) are required to be applied to pay interest on such Refunding Indebtedness until the Cross-over Date and (ii) are not to be used directly or indirectly to pay interest on the Refunded Indebtedness.

**“Current Interest Bonds”** means Bonds the interest on which is payable on the Interest Payment Dates provided therefor in the Series Agreement authorizing the issuance of such Bonds.

**“Debt Service Component of Contracted Services”** means that part of the payment for Contracted Services for which the District is obligated to pay that the chief financial officer of the District shall have determined in writing in an Officer’s Certificate at the time the District commits to receive such Contracted Services to be for the purpose of paying a fixed charge or the principal of and interest on obligations, directly or indirectly associated with rendering the Contracted Services, of the person providing the Contracted Services.

**“Debt Service Reserve Fund”** means the Hampton Roads Sanitation District (Virginia) Subordinate Wastewater Revenue Bonds 2011 Trust Agreement Debt Service Reserve Fund created and so designated by the Trust Agreement.

**“Debt Service Reserve Fund Requirement”** means (i) on the date of issuance of the Series 2017A Bonds, zero (0) and (ii) if, and to the extent, the District in its sole discretion determines to fund the Debt Service Reserve Fund, the Debt Service Reserve Fund Requirement specified in a Series Agreement.

**“Defaulted Interest”** means any interest on any Bond which is payable, but is not punctually paid or duly provided for, on any Interest Payment Date.

**“Defeasance Obligations”** means, except as otherwise provided in a Series Agreement, noncallable (i) Government Obligations, (ii) Obligations issued or guaranteed by any of the following: (1) Federal Home Loan Bank System, (2) Export-Import Bank of the United States, (3) Federal Financing Bank, (4) Government National Mortgage Association, (5) Federal Home Loan Mortgage Company, (6) Federal Housing Administration, (7) Private Export Funding Corp., (8) Federal National Mortgage Association, (9) Federal Farm Credit Bank, (10) Resolution Funding Corporation, and (11) Rural

Economic Community Development Administration (formerly, Farmers Home Administration), (iii) evidences of ownership of a proportionate interest in specified Government Obligations, which Government Obligations are held by a bank or trust company organized and existing under the laws of the United States of America or any state thereof in the capacity of custodian, (iv) obligations issued pursuant to Section 21B(d)(3) of the Federal Home Loan Bank Act, as amended by Section 511(a) of the Financial Institutions Reform, Recovery and Enforcement Act of 1989, and commonly known as “interest strips” of the Resolution Funding Corporation, (v) Defeased Municipal Obligations, and (vi) evidences of ownership of a proportionate interest in specified Defeased Municipal Obligations, which Defeased Municipal Obligations are held by a bank or trust company organized and existing under the laws of the United States of America or any state thereof in the capacity as custodian.

**“Defeased Municipal Obligations”** means, except as otherwise provided in a Series Agreement, obligations of state or local government municipal bond issuers which are rated at the time of acquisition the highest rating by at least two of the three Rating Agencies, meeting the following conditions:

- (i) (A) such obligations are not to be redeemed prior to maturity or the Trustee has been given irrevocable instructions concerning their call for redemption, and (B) the issuer of such obligations has covenanted not to redeem such obligations other than as set forth in such instructions;
- (ii) such obligations are secured by Government Obligations that may be applied only to interest, principal, and premium payments on such obligations;
- (iii) the principal of and interest on such Government Obligations (plus any cash in the escrow fund with respect to such pre-refunded obligations) are sufficient to meet the liabilities of the obligations;
- (iv) the Government Obligations serving as security for the obligations are held by an escrow agent or trustee; and
- (v) such Government Obligations are not available to satisfy any other claims, including those against the trustee or escrow agent.

**“Derivative Agreement”** means, without limitation, (i) any contract known as or referred to or which performs the function of an interest rate swap agreement, forward payment conversion agreement or futures contract; (ii) any contract providing for payments based on levels of, or changes or differences in, interest rates or other indices; (iii) any contract to exchange cash flows or payments or series of payments; (iv) any type of contract called, or designed to perform the function of, interest rate floors or caps, options, puts or calls, to hedge or minimize any type of financial risk, including, without limitation, payment, rate or other financial risk; and (v) any other type of contract or arrangement that the District determines is to be used, or is intended to be used, to manage or reduce the cost of Indebtedness, to convert any element of Indebtedness from one form to another or to protect against any type of financial risk or uncertainty.

**“Derivative Agreement Counterparty”** means, with respect to a Derivative Agreement, the person that is identified in such agreement as the counterparty to, or contracting party with, the District.

**“Derivative Indebtedness”** means all or any portion of Indebtedness of the District, which bears interest at

(a) a variable rate for any period of time meeting the following requirements: (i) the District has issued or entered into a Derivative Agreement in respect of all or such portion of such Indebtedness, and (ii) such Derivative Agreement provides that, during the period that such Indebtedness bears interest at a variable rate, the District will pay a fixed rate and the provider of the Derivative Agreement will pay a variable rate, then in such case such Indebtedness, taken together with the Derivative Agreement, is to be deemed to result in a net fixed rate payable by the District for such period of time (the “Hedged Fixed Rate”), for so long as the District and the party with whom the District has entered into the Derivative Agreement makes all payments required to be made by the terms of the Derivative Agreement, or

(b) a fixed rate for any period of time meeting the following requirements: (i) the District has issued or entered into a Derivative Agreement in respect of all or such portion of such Indebtedness, and (ii) such Derivative Agreement provides that during the period that such Indebtedness bears interest at a fixed rate the District will pay a variable rate and the provider of the Derivative Agreement will pay a fixed rate, then such Indebtedness, taken together with the Derivative Agreement, is to be deemed to result in a net variable rate payable by the District for such period of time (the “Hedged Variable Rate”), assuming the District and the party with whom the District has entered into the Derivative Agreement make all payments required to be made by the terms of the Derivative Agreement.

“**Designated Office**” of the Trustee means the designated office of the Trustee, which office at the date of acceptance by the Trustee of the duties and obligations imposed on the Trustee by the Fifth Supplemental Trust Agreement is located at 500 Ross Street, 12<sup>th</sup> Floor, Pittsburgh, Pennsylvania 15262.

“**District**” means the Hampton Roads Sanitation District, a political subdivision of the Commonwealth of Virginia.

“**District Representative**” means each of the persons at the time designated to act on behalf of the District in a written certificate furnished to the Trustee, which certificate is to contain the specimen signature(s) of such person(s) and is to signed on behalf of the Commission by its Chairman or Vice Chairman or the General Manager of the District.

“**Financial Statements**” means the unaudited financial statements of the District for the Fiscal Year or other period indicated, pro forma or otherwise, and containing the same financial information as the Audited Financial Statements.

“**Fiscal Year**” means the twelve-month period beginning on July 1 of one calendar year and ending on June 30 of the following calendar year or such other twelve-month period designated by the Commission.

“**Government Obligations**” means direct obligations of, or obligations the payment of principal of and interest on which are fully and unconditionally guaranteed by, the United States of America.

“**Hedged Fixed Rate**” means Hedged Fixed Rate as defined in the definition of Derivative Indebtedness.

“**Hedged Variable Rate**” means Hedged Variable Rate as defined in the definition of Derivative Indebtedness.

“**Holder**” means an owner of any Obligation issued in other than bearer form.



**“Indebtedness”** means (i) all indebtedness of the District for borrowed money, (ii) all installment sales, conditional sales and capital lease obligations incurred or assumed by the District, and (iii) the Debt Service Component of Contracted Services.

**“Independent Consultant”** means a firm or firms which are not, and no member, stockholder, director, officer, trustee or employee of which is, an officer, director, trustee or employee of the District, and which is a professional management or engineering consultant of national repute for having the skill and experience necessary to render the particular report required by the provision of the Trust Agreement in which such requirement appears.

**“Independent Insurance Consultant”** means a firm or person selected by the District, who is not an officer, director, trustee or employee of the District, and which or who is qualified to survey risks and to recommend insurance coverage for wastewater treatment systems and organizations engaged in such operations and is selected by the District.

**“Interest Payment Date”** means each date described as such in a Series Agreement, and, for the Series 2017A Bonds, means each April 1 or October 1, as the case may be, beginning April 1, 2018.

**“Interest Requirements”** for any Fiscal Year means the amount that is required to pay interest on all Outstanding Parity Obligations.

**“Investment Obligations”** means any and all investment obligations authorized by (A) the Investment of Public Funds Act, being Section 2.2-4500 *et seq.*, Code of Virginia, 1950, as amended, (B) the Government Non-Arbitrage Investment Act, being Section 2.2-4700 *et seq.*, Code of Virginia, 1950, as amended, and (C) successor statutes to those described in (A) and (B) above, as the same may be from time to time amended.

**“Issuance Costs”** means all issuance costs incurred in connection with the Bonds. Examples of such issuance costs include, but are not limited to, the following, if any: (a) counsel fees; (b) financial advisor fees incurred in connection with the issuance of the Bonds; (c) Rating Agency fees; (d) depository fees incurred in connection with the issuance of the Bonds; (e) trustee, paying agent and certifying and authenticating agent fees related to the issuance of the Bonds; (f) accountant fees related to the issuance of the Bonds; (g) printing costs; (h) costs incurred in connection with the required public approval process; and (i) costs of engineering and feasibility studies necessary to the issuance of the Bonds.

**“Junior Obligations”** means Indebtedness of the District the terms of which shall provide that it will be subordinate and junior in right of payment to the prior payment in full of the Senior Obligations and the Parity Obligations to the extent and in the manner set forth below:

In the event (a) of any insolvency or bankruptcy proceedings, and any receivership, liquidation, reorganization, arrangement or other similar proceedings in connection therewith, relative to the District or to its Property, or in the event of any proceedings for voluntary liquidation, dissolution or other winding-up of the District whether or not involving insolvency or bankruptcy, (b) any Junior Obligation is declared or otherwise becomes due and payable before its expressed maturity because of the occurrence of an event of default occurring under the documents pursuant to which such Junior Obligation is issued; and such declaration has not been rescinded and annulled, or (c) any “Event of Default” (as defined in the Senior Trust Agreement) under the Senior Trust Agreement shall occur and be continuing with respect to any Senior Obligation or any Event of Default under the Trust Agreement shall occur and be continuing with respect to any Parity Obligation and (1) written notice of such default shall have been given to the District and (2) judicial proceedings shall be commenced in respect of such Event of Default within 180 days in the case of a default in payment of principal or interest on Senior Obligations or Parity

Obligations and within 90 days in the case of any other default after the giving of such notice, then, *first*, the Holders of Senior Obligations shall be entitled to receive payment in full of all principal, premium and interest on all Senior Obligations before the Holders of the Parity Obligation are entitled to receive any payment on account of principal or interest upon the Parity Obligations and, *second*, the Holders of Parity Obligations shall be entitled to receive payment in full of all principal, premium and interest on all Parity Obligations before the Holders of the Junior Obligations are entitled to receive any payment on account of principal, premium or interest upon the Junior Obligations.

“**Lien**” means any mortgage, deed of trust or pledge of, security interest in or encumbrance on any Property of the District which secures any Indebtedness or any other obligation of the District.

“**Long-Term Debt Service Coverage Ratio**” means, for any period of time, the ratio determined by dividing the Net Revenues by Coincidental Maximum Annual Debt Service.

“**Long-Term Debt Service Requirement**” means, for any period of 12 consecutive calendar months for which such determination is made, the aggregate of the payments to be made in respect of principal and interest (whether or not separately stated) on Outstanding Long-Term Indebtedness during such period, also taking into account:

(i) with respect to Balloon Long-Term Indebtedness that is not amortized by the terms thereof (a) the amount of principal that would be payable in such period if such principal were amortized from the date of incurrence thereof over a period of the lesser of 30 years and the number of years until the final maturity of such Indebtedness on a level debt service basis, at an interest rate equal to the market rate for a fixed rate obligation set forth in an opinion, delivered to the District and the Trustee, of a banking institution, an investment banking institution or an independent registered municipal advisor, selected by the District and knowledgeable in municipal finance, as the interest rate at which the District could reasonably expect to borrow the same by incurring Indebtedness with the same term as the period assumed above; provided, however, that if the date of calculation is within 12 calendar months of the actual final maturity of such Indebtedness, the full amount of principal payable at maturity is to be included in such calculation or (b) principal payments or deposits with respect to Indebtedness secured by an irrevocable letter of credit issued by, or an irrevocable line of credit with, a bank or other financial institution, provided such credit arrangement is rated in one of the three highest rating categories by at least two of the Rating Agencies or rated in the highest short-term rating category by at least two of the Rating Agencies, nominally due in the last Fiscal Year in which such Indebtedness matures may, at the option of the District, be treated as if such principal payments or deposits were due as specified in any credit agreement issued in connection with such letter of credit, line of credit or insurance policy or pursuant to the repayment provisions of such letter of credit, line of credit or insurance policy, and interest on such Indebtedness after such Fiscal Year is to be assumed to be payable pursuant to the terms of such credit agreement or repayment provisions;

(ii) with respect to Long-Term Indebtedness which is Variable Rate (but not Hedged Fixed Rate) Indebtedness, the interest on such Indebtedness is to be calculated at 120% of the rate which is equal to the average of the actual interest rates which were in effect (weighted according to the length of the period during which each such interest rate was in effect) for the most recent twelve-month period immediately preceding the date of calculation for which such information is available (or shorter period if such information is not available for a twelve-month period), except that with respect to new Variable Rate Indebtedness the interest rate for such Indebtedness for the initial interest rate period is 120% of the average of the SIFMA Swap Index for last 12 whole months for which such Index is available and thereafter will be calculated as set forth above;

(iii) with respect to any Credit Facility, (a) to the extent that such Credit Facility has not been used or drawn upon, the principal and interest relating to such Credit Facility will not be included in the Long-Term Debt Service Requirement and (b) to the extent such Credit Facility has been drawn upon, the payment provisions of such Credit Facility with respect to repayment of principal and interest thereon will be included in the Long-Term Debt Service Requirement;

(iv) with respect to Derivative Indebtedness, (i) for any historical computation, the interest on such Indebtedness is to be calculated by adding (A) the amount of interest payable by the District on such Derivative Indebtedness pursuant to its terms and (B) the amount of regularly scheduled payments made by the District pursuant to the Derivative Agreement and subtracting (C) the amount of regularly scheduled payments made by the Derivative Agreement Counterparty pursuant to the Derivative Agreement; (ii) for any historical pro forma or forecasted computation, if the Derivative Agreement Counterparty has a long-term credit rating of at least “A” (without regard to any rating refinement or gradation by numerical modifier or otherwise) assigned to it by at least one Rating Agency then rating the Indebtedness and does not have a long-term rating of less than “A” (without regard to any rating refinement or gradation by numerical modifier or otherwise) from any Rating Agency then rating the Indebtedness and has not defaulted on its payment obligations thereunder as of the date of computation, the interest on such Derivative Indebtedness is to be calculated at the Hedged Fixed Rate or the Hedged Variable Rate, as the case may be; and (iii) in all other instances, the amount of interest payable by the District on such Derivative Indebtedness is to be calculated as if such Derivative Agreement had not been executed; and

(v) in the case of Indebtedness having the benefit of a Credit Facility that provides for a term loan facility that requires the payment of the principal in one year or more, the Indebtedness is to be considered Balloon Long-Term Indebtedness and is to be assumed to have the maturity schedule described in paragraph (i)(a) of this definition;

provided, however, that (i) interest is to be excluded from the determination of Long-Term Debt Service Requirement to the extent the same is provided from the proceeds of the Long-Term Indebtedness, (ii) the aggregate of the payments to be made with respect to principal and interest on Outstanding Long-Term Indebtedness will not include principal and interest payable from Qualified Escrow Funds, and (iii) principal is to be excluded from the determination of Long-Term Debt Service Requirement on Short-Term Indebtedness described in paragraph (c) under the caption “—Limitations on Indebtedness in Appendix C.

**“Long-Term Indebtedness”** means all obligations having a maturity of a term longer than one year for borrowed money incurred or assumed by the District, including (a) Short-Term Indebtedness if secured by a Credit Facility containing a commitment to provide financing to retire such Short-Term Indebtedness and such commitment provides for the repayment of principal on terms which would, if such commitment were implemented, constitute Long-Term Indebtedness, and (b) the current portion of Long-Term Indebtedness, for any of the following:

(1) money borrowed for an original term, or renewable at the option of the borrower for a period from the date originally incurred, longer than one year;

(2) leases which are required to be capitalized in accordance with generally accepted accounting principles having an original term, or renewable at the option of the lessee for a period from the date originally incurred, longer than one year;

(3) installment sale or conditional sale contracts having an original term in excess of one year; and

(4) the Debt Service Component of Contracted Services in connection with Contracted Services rendered or provided pursuant to a contract having an original term of more than one year.

**“Maximum Annual Debt Service”** means, at any given time of determination, the greatest Long-Term Debt Service Requirement for the then current or any succeeding Fiscal Year.

**“Maximum Annual Debt Service on the Parity Obligations”** means, at any given time of determination, the maximum coincidental Principal and Interest Requirements for the Parity Obligations for the then-current or any succeeding Fiscal Year.

**“Maximum Interest Rate”** means, for all Series 2017A Bonds, the lesser of (i) 12% per annum and (ii) the maximum rate permitted by law.

**“Net Book Value”** when used in connection with Property, Plant and Equipment or other Property, means the value of such property, net of accumulated depreciation, as recognized by the District in conformity with generally accepted accounting principles.

**“Net Revenues”** means all revenues received by the District from its Wastewater System less Operating Expenses, provided that Net Revenues will not include any Transition charge.

**“Net Revenues Available for Debt Service”** means all Net Revenues less debt service on Senior Obligations.

**“Officer’s Certificate”** means a certificate signed by a District Representative. Each Officer’s Certificate presented pursuant to the Trust Agreement is to state that it is being delivered pursuant to (and is to identify the section or subsection of), and incorporate by reference and use in all appropriate instances all terms defined in, the Trust Agreement. Each Officer’s Certificate is to state (i) that the terms thereof are in compliance with the requirements of the section or subsection pursuant to which such Officer’s Certificate is delivered or to state in reasonable detail the nature of any non-compliance and the steps being taken to remedy such non-compliance and (ii) that it is being delivered together with any opinions, schedules, statements or other documents required in connection therewith.

**“Operating Expenses”** means those current expenses paid by the District that may be required to pay the cost of maintaining, repairing and operating the Wastewater System, including, but not limited to, reasonable and necessary usual expenses of administration, operation, maintenance and repair, costs for billing and collecting the rates, fees and other charges for the use of or the services furnished by the Wastewater System, insurance premiums, credit enhancement and liquidity support fees, legal, engineering, auditing and financial advisory expenses, expenses and compensation of the Trustee, and deposits into a self-insurance program. Operating Expenses excludes allowance for depreciation and amortization and expenditures for extraordinary maintenance or repair or improvements. Operating Expenses also excludes expenses for improvements that will not be owned by the District but that will, in the reasonable determination of the Commission, as evidenced by a resolution thereof, maintain or improve the integrity of the Wastewater System.

**“Opinion of Bond Counsel”** means an opinion in writing signed by an attorney or firm of attorneys acceptable to the Trustee and experienced in the field of municipal bonds whose opinions are generally accepted by purchasers of municipal bonds.

**“Opinion of Counsel”** means an opinion in writing signed by an attorney or firm of attorneys who may be counsel for the District or other counsel selected by the District.

**“Outstanding,”** when used with reference to Bonds or other Parity Obligations, means, as of a particular date, all Bonds and Parity Obligations theretofore issued under the Trust Agreement, except:

(1) Bonds and Parity Obligations theretofore cancelled by the Bond Registrar or delivered to the Bond Registrar for cancellation;

(2) Bonds and Parity Obligations for the payment of which money, Defeasance Obligations, or a combination of both, sufficient to pay, on the date when such Bonds are to be paid, the principal amount of, and the interest accruing to such date on, the Bonds to be paid, has been deposited with the Trustee or the Bond Registrar in trust for the Holders of such Bonds; Defeasance Obligations shall be deemed to be sufficient to pay Bonds on a specified date if the principal of and the interest on such Defeasance Obligations, when due, will be sufficient to pay on such date the principal of, and the interest accruing on, such Bonds to such date;

(3) Bonds and Parity Obligations in exchange for or in lieu of which other Bonds or Parity Obligations have been issued; and

(4) Bonds and Parity Obligations deemed to have been paid in accordance with the provisions for defeasance contained in such Bonds or Parity Obligations (See “Defeasance” in Appendix C);

provided, however, that Bonds and Parity Obligations owned or held by or for the account of the District or any affiliate or any subsidiary or controlled affiliate of the District shall not be deemed Outstanding Bonds or Outstanding Parity Obligations for the purpose of any consent or other action or any calculation of Outstanding Bonds or Outstanding Parity Obligations provided for in the articles of the Trust Agreement relating to default and remedies, Supplemental Agreements and release of the Trust Agreement, and neither the District nor any affiliate, subsidiary or controlled affiliate of the District as registered owners of such Bonds or Parity Obligations shall be entitled to consent or take any other action provided for in default and remedies, Supplemental Agreements and release of the Trust Agreement. Notwithstanding the foregoing, Bonds or Parity Obligations owned or held for the account of the District or an or any affiliate or any subsidiary or controlled affiliate of the District shall not be deemed to be paid unless the District delivers, or causes such Bonds or Parity Obligations to be delivered, to the Trustee with the express written instructions of a District Representative directing the Trustee to cancel such Bonds in accordance with the procedures set forth in the Trust Agreement.

**“Parity Obligations”** means Bonds and VRA Subordinate Obligations.

**“Principal and Interest Requirements”** for any Fiscal Year means the sum of the Principal Requirements and Interest Requirements for such Fiscal Year.

**“Principal Payment Date”** means each date described as such in a Series Agreement.

**“Principal Requirements”** for any Fiscal Year means the amount required to pay the principal of all Parity Obligations coming due in such Fiscal Year.

**“Property”** means any and all rights, titles and interests in and to any and all property whether real or personal, tangible or intangible and wherever situated.

**“Property, Plant and Equipment”** means all Property of the District which is property, plant and equipment under generally accepted accounting principles.

**“Qualified Escrow Funds”** means amounts deposited in a segregated escrow fund, or other similar fund or account, in connection with the issuance of Indebtedness which fund is required by the documents establishing such fund to be applied toward the District’s payment obligations with respect to principal or interest on (a) the Indebtedness secured thereby which is issued under the documents establishing such fund or (b) Indebtedness secured thereby which was issued prior to the establishment of such fund.

**“Qualified Reserve Fund Substitute”** means (i) an irrevocable letter of credit, naming the Trustee as beneficiary, issued by any domestic or foreign bank, or any branch or agency thereof, whose long-term debt obligations are rated in one of the two highest rating categories by at least two of the Rating Agencies that will rate such obligations, or (ii) a policy of reserve fund insurance naming the Trustee as beneficiary, issued by an insurance company or financial institution whose claims paying ability is rated in one of the two highest rating categories by at least two of the Rating Agencies that rate such obligations, in either case (A) in an amount not less than the Debt Service Reserve Fund Requirement, (B) the terms of which allow the Trustee to make the draws required to fund the Debt Service Reserve Fund if and as required (See “Debt Service Reserve Fund; Qualified Reserve Fund Substitute” in Appendix C) and (C) that provides that the issuer of which has not been given a lien on any portion of the property of the District unless such lien also secures the Bonds on a parity basis.

**“Rate Covenant”** means the rate covenant of the District set out in the Trust Agreement and described under the caption “—Rate Covenant” in Appendix C hereto.

**“Rating Agency”** or **“Rating Agencies”** means one or more of Fitch, Moody’s or Standard & Poor’s for so long as it is a nationally recognized statistical rating organization and any new nationally recognized statistical rating organization.

**“Senior Bonds”** has the meaning given the term “Bonds” by the Senior Trust Agreement.

**“Senior Debt Service Reserve Fund”** means the Hampton Roads Sanitation District (Virginia) Wastewater Revenue Bonds Debt Service Reserve Fund created and so designated by the Senior Trust Agreement.

**“Senior Indebtedness”** means Indebtedness secured on a parity with the Senior Bonds under the terms of the Senior Trust Agreement.

**“Senior Obligations”** means, collectively, Senior Bonds and Senior Indebtedness, and, if the District is required to fund the Senior Debt Service Reserve Fund pursuant to the terms of the Senior Trust Agreement, the District’s funding obligations thereunder.

**“Senior Trust Agreement”** means that certain trust agreement, dated as of March 1, 2008, as the same may be supplemented and amended from time to time, between the District and The Bank of New York Mellon Trust Company, N.A., as successor Trustee (in such capacity, the **“Senior Trustee”**).

**“Series Agreement”** means a supplemental trust agreement entered into or the resolution adopted by the Commission providing for the issuance of Bonds or Parity Obligations pursuant to the Trust Agreement. A Series Agreement will include any Officer’s Certificate delivered by a District Representative or Representatives to whom authority has been delegated by the terms of the Series Agreement to provide the details of such Bonds and, for purposes of additional VRA Subordinate

Obligations, a Series Agreement will include such resolutions adopted by the Commission or financing agreements authorized thereby specifying the details of such additional VRA Subordinate Obligations.

**“Short-Term Indebtedness”** means all obligations for borrowed money, other than the current portion of Long-Term Indebtedness, incurred or assumed by the District for any of the following:

- (1) money borrowed for an original term, or renewable at the option of the borrower for a period from the date originally incurred, of one year or less;
- (2) leases which are capitalized in accordance with generally accepted accounting principles having an original term, or renewable at the option of the lessee for a period from the date originally incurred, of one year or less; and
- (3) installment purchase or conditional sale contracts having an original term of one year or less.

**“SIFMA Swap Index”** means The Securities Industry and Financial Market Association Municipal Swap Index as of the most recent date for which such index was published or such other weekly, high-grade index comprised of seven-day, Tax-Exempt variable rate demand notes published by Bloomberg, or its successor, or otherwise designated by The Securities Industry and Financial Market Association; provided, however, that, if such index is no longer available or its successor, the “SIFMA Swap Index” will mean such other reasonably comparable index selected by the remarketing agent appointed by the District in connection with Variable Rate Indebtedness.

**“Supplement”** means an agreement, including a Series Agreement, supplemental to, and authorized and executed pursuant to the terms of, the Trust Agreement.

**“Tax-Exempt”** with reference to Bonds or other Parity Obligations means any Bonds or Parity Obligations so designated in the related Series Agreement.

**“Tax Certificate”** means a certificate or comparable instrument of the District that contains undertakings of the District with reference to Tax-Exempt Parity Obligations.

**“Total Operating Revenues”** means, with respect to the District, as to any period of time, as total operating revenues as determined in accordance with generally accepted accounting principles.

**“Transition Charge”** means any rates, fees, charges or surcharges relating to the Wastewater System or the customers thereof established by irrevocable rate order or other action or instrument, and applicable to or by the District, in conjunction with the issuance of debt or other securities under a separate resolution, indenture or similar instrument (other than the Senior Trust Agreement, the Trust Agreement or other instrument securing Indebtedness secured by revenues of the Wastewater System) to the extent such rates, fees, charges or surcharges are pledged or otherwise encumbered or conveyed as security for such debt or other securities.

**“Trust Agreement”** means the trust agreement entered into by and between Hampton Roads Sanitation District and The Bank of New York Mellon Trust Company, N.A., as Trustee, dated as of October 1, 2011, as amended and restated as of March 1, 2016, including any Series Agreement and any other trust agreement amendatory thereto or supplemental thereto.

**“Variable Rate Indebtedness”** means any portion of Indebtedness the interest rate on which is not established at the time of incurrence at a fixed or constant rate until maturity.

**“VRA Subordinate Obligations”** means the District’s VRA Subordinate Obligations or other evidences of indebtedness heretofore issued, and such additional Parity Obligations issued to VRA payable on a parity with Parity Obligations issued pursuant to the Trust Agreement.

**“Wastewater System”** means the wastewater treatment system of the District as it may exist at any time and includes all improvements and expansions thereof and additions thereto except as may otherwise be provided by resolution of the Commission.



## **APPENDIX C**

### **SUMMARY OF CERTAIN PROVISIONS OF THE TRUST AGREEMENT**

*The following is a brief summary of certain provisions of the Trust Agreement. This summary does not purport to be complete or definitive and qualified in its entirety by reference to the Trust Agreement, a copy of which is available for examination at the offices of the Trustee.*

#### **Establishment of Funds**

The Trust Agreement provides for an Issuance Fund, a Construction Fund, a Bond Fund, and a Debt Service Reserve Fund. It requires that the money and securities in each Fund be held in trust by the Trustee and applied as provided in the Trust Agreement, and pending such application be subject to a lien and charge in favor of the Holders and for the further security of the Holders until paid or transferred pursuant to the Trust Agreement.

#### **Issuance Fund and Construction Fund**

The Trust Agreement also requires that money in the Issuance Fund be applied to the payment of Issuance Costs incurred in connection with the issuance of the Bonds, to be financed from Bonds proceeds. Money in the Construction Fund will be applied to Capital Improvement Program Costs. Unexpended fund balances in the Issuance Fund and the Construction Fund will be applied as provided in the applicable Series Agreement. The Series Agreement for the Series 2017A Bonds provides any such unexpended fund balances are to be applied as directed by the District.

The District may, in any Series Agreement, create Subfunds within the Issuance Fund and the Construction Fund.

#### **Bond Fund**

The District will make payments directly to the Trustee for deposit in the Bond Fund in amounts sufficient to pay in full, when due, all Bonds issued under the Trust Agreement, together with the interest thereon. In the event the balance in the Bond Fund is insufficient for such purposes, upon notification by the Trustee, the District is to deliver to the Trustee an amount sufficient to cure the same. If such amount is insufficient, the Trustee is required to transfer to the Bond Fund the amount necessary to remedy the deficiency from the Debt Service Reserve Fund. Each such payment shall be made only in the event and to the extent that, as of the date of such payment, the District shall have paid to the Senior Trustee for the account of the Senior Bond Fund all amounts attributable to the principal of and interest on any outstanding Senior Obligations due and owing thereon, plus any amounts required to be deposited to the credit of the Senior Debt Service Reserve Fund in accordance with the terms of the Senior Trust Agreement, as of such date.

#### **Debt Service Reserve Fund; Qualified Reserve Fund Substitute**

No funds will be deposited to the credit of the Debt Service Reserve Fund upon the delivery of the Series 2017A Bonds. If the District elects to fund the Debt Service Reserve Fund, then an amount equal to the Debt Service Reserve Fund Requirement, as the same shall be specified in a Supplemental Agreement, shall be deposited to the Debt Service Reserve Fund Requirement.

The Trustee will use amounts in the Debt Service Reserve Fund to make transfers to the Bond Fund to the extent necessary to pay interest on and principal of the Bonds, whenever and to the extent that

the money on deposit in the Bond Fund is insufficient for such purposes and the District has failed to cure such deficiency.

The District may, at any time, deliver to the Trustee a Qualified Reserve Fund Substitute. In such event, if the District also delivers to the Trustee a written statement setting forth the use of the cash and Investment Obligations then on deposit to the credit of the Debt Service Reserve Fund, accompanied by an Opinion of Bond Counsel to the District, addressed to the Trustee, to the effect that such proposed use will not cause the interest on the Tax-Exempt Bonds to be includable in the gross income of the owners thereof for purposes of federal income taxation, the Trustee is to transfer to the District all amounts on deposit to the credit of the Debt Service Reserve Fund. If any Qualified Reserve Fund Substitute is in effect, the Trustee is to give such notices and execute such documents as required to assure that funds (i) are available in such amounts and at such times to assure timely payment of principal of and interest on the Bonds and (ii) are drawn to fund the Debt Service Reserve Fund in an amount equal to the Debt Service Reserve Fund Requirement at least six months prior to the expiration date of the Qualified Reserve Fund Substitute unless (a) the Trustee has received a substitute Qualified Reserve Fund Substitute to replace such expiring Qualified Reserve Fund Substitute or (b) the expiration date of the expiring Qualified Reserve Fund Substitute is no earlier than the final stated maturity date of the Bonds.

### **Payment of Principal and Interest**

The District will cause to be paid, when due, the principal of (whether at maturity, by acceleration or otherwise) and interest on the Bonds at the places, on the dates and in the manner provided in the Trust Agreement and in said Bonds; provided that it is understood that the Bonds are not general obligations of the District but are special obligations and are payable solely from Net Revenues Available for Debt Service derived by the District from its Wastewater System and the money attributable to proceeds of Bonds and the income from the investment thereof and not from any other fund or source. To secure the prompt payment of the principal of, redemption premium, if any, and the interest on the Senior Obligations and the performance by the District of its other obligations under the Trust Agreement, the District grants to the Trustee a security interest in its Net Revenues Available for Debt Service.

### **Investment of Money**

Money held for the credit of all funds and accounts created under the Trust Agreement is to be continuously invested and reinvested by the Trustee in Investment Obligations, to the extent practicable in accordance with the instructions of a District Representative, subject to the yield restrictions set forth in the Tax Certificate. The Trust Agreement requires that any Investment Obligations mature not later than the respective dates when the money held for the credit of such funds or accounts will be required for the purposes intended; provided, however, that Investment Obligations deposited in the Debt Service Reserve Fund mature no later than the final maturity date of the Bonds secured by the Debt Service Reserve Fund.

Unless a Qualified Reserve Fund Substitute is in effect, the District is to reimburse the Debt Service Reserve Fund for any loss resulting from a decline in the value of Investment Obligations in which money held for the credit of the Debt Service Reserve Fund is invested if on any date of valuation the amount on deposit in the Debt Service Reserve Fund is less than the Debt Service Reserve Fund Requirement.

Investment Obligations acquired with money and credited to any fund or account established under the Trust Agreement are required to be held by or under the control of the Trustee and will be deemed at all times to be part of such fund or account in which such money was originally held. Interest accruing on such Investment Obligation and any profit or loss realized upon the disposition or maturity of such investment will be credited to or charged against such fund or account. The Trustee is required to

sell at the best price attainable or reduce to cash a sufficient amount of such Investment Obligations whenever it is necessary to provide money to make any payment or transfer of money from any such fund or account. The Trustee will not be liable or responsible for any loss resulting from any such investment.

### **Valuation**

For the purpose of determining the amount on deposit in any fund or account, Investment Obligations in which money in such fund or account is invested are to be valued (a) if such Investment Obligations mature, or are subject to redemption at the option of the holder thereof, within five years or less from the date of valuation thereof, such Investment Obligations are to be valued at amortized cost, and (b) if such Investment Obligations mature, or are subject to redemption at the option of the holder thereof, more than five years from the date of valuation thereof, such Investment Obligations are to be valued at the market value or the amortized cost thereof, whichever is lower.

The Trustee will value the Investment Obligations in the funds and accounts five Business Days prior to each Interest Payment Date. In addition, subject to prior notice, the Investment Obligations will be valued by the Trustee at any time requested by the District Representative, but not more than once in any calendar month other than as provided in the Trust Agreement.

### **Limitations on Indebtedness**

The District may issue Additional Bonds or incur other Parity Obligations, provided that, after giving effect to all other Indebtedness incurred by the District, such Additional Bonds or other Parity Obligations are incurred only in the manner and pursuant to the terms set forth below provided, however, that VRA Senior Obligations may become VRA Subordinate Obligations without limitation:

(a) Long-Term Indebtedness may be incurred if, prior to incurrence of the Long-Term Indebtedness, there is delivered to the Trustee:

(i) an Officer's Certificate of a District Representative certifying that the Long Term Debt Service Coverage Ratio for the most recent period of twelve (12) full consecutive calendar months preceding the date of delivery of the certificate of the District Representative for which there are Financial Statements available, adjusted for revenues and expenses resulting from anticipated new customers and any planned program of rate increases that has been approved by the Commission, taking all Long Term Indebtedness incurred after such period and the proposed Long Term Indebtedness into account as if such Long Term Indebtedness had been incurred at the beginning of such period, is not less than 120%;

(ii) an Officer's Certificate of a District Representative certifying that the District is expected to comply with the Rate Covenant set forth in the Trust Agreement for the five Fiscal Years following the date of issuance of the proposed Long-Term Indebtedness. Such certificate is to be accompanied by a statement of the relevant assumptions upon which such pro forma Financial Statements for the District are based, including but not limited to, adjustments to revenues and expenses resulting from anticipated new customers and any planned program of rate increases that has been approved by the Commission;

(iii) if the Long-Term Indebtedness is authorized for any purpose other than the refunding of the outstanding Senior Obligations or Outstanding Parity Obligations, an Officer's Certificate of a District Representative to the effect, and to the extent applicable, that in his or her opinion (a) the improvements or property to which the proceeds from the issuance of the Long-Term Indebtedness are to be applied will be a part of the Wastewater System, (b) the

proceeds of the Long-Term Indebtedness and other specified sources will be sufficient to pay the estimated cost of such improvements or property, (c) the period of time that will be required to complete such improvements or acquire such property, and (d)(1) the proceeds of the Long-Term Indebtedness are necessary to complete the project to be financed thereby, (2) the failure to make such improvements or acquire or construct such property will result in an interruption or reduction of Net Revenues, or (3) during the first two Fiscal Years following the completion of the improvements or the acquisition of the property, the projected Net Revenues will satisfy the Rate Covenant described below. In providing this certificate, the District Representative may take into consideration future Wastewater System rate increases, provided that such rate increases have been duly approved by the Commission and any other person and entity required to give approval for the rate increase to become effective. In addition, he or she may take into consideration additional future revenues of the Wastewater System to be derived under then existing contractual agreements entered into by the District and from reasonable estimates of growth in the customer base of the District; or

(iv) an Officer's Certificate of a District Representative certifying compliance with the Rate Covenant set forth in the Trust Agreement for the most recent period of 12 full consecutive calendar months for which there are Financial Statements available preceding the date of delivery of the certificate.

(b) Long-Term Indebtedness may be incurred for the purpose of refunding Outstanding Long-Term Indebtedness if, either (i) a certificate of an independent financial advisor to the effect that, the Long-Term Indebtedness issued to refund outstanding Senior Obligations or Outstanding Parity Obligations will have, in the aggregate, a lower Long-Term Debt Service Requirement than the Long-Term Debt Service Requirement on the Senior Obligations or Outstanding Parity Obligations to be refunded with the proceeds thereof, or (ii) an Officer's Certificate of a District Representative to the effect that during the first two complete Fiscal Years following the issuance of the refunding Long-Term Indebtedness, the projected Net Revenues will satisfy the Rate Covenant described under the heading "—Rate Covenant" below. In providing the certificate described in clause (b), the Officer's Certificate may take into account the factors described in the last two sentences of subsection (a)(iii) of this Section. In addition, the Trustee shall receive an Opinion of Counsel stating that upon the incurrence of such proposed Long-Term Indebtedness and application of the proceeds thereof (on the Cross-over Date, in the case of Cross-over Refunding Indebtedness), the Outstanding Long-Term Indebtedness to be refunded thereby will no longer be Outstanding.

(c) Short-Term Indebtedness may be incurred as a Parity Obligation subject to the same tests that apply to the incurrence of Parity Obligations generally; provided, however, that notwithstanding such limitation, the District may incur as a Parity Obligation from time to time and have outstanding at any one time Short-Term Indebtedness in an amount up to 10% of its Total Operating Revenues as reflected in the Financial Statements of the District for the most recent period of twelve consecutive months for which Financial Statements are available, and provided, further, that the District may incur Short-Term Indebtedness secured by a Credit Facility without limitation. Short-Term Indebtedness may be incurred as Junior Obligations without compliance with the tests that apply to the incurrence of Parity Obligations.

(d) Additional VRA Subordinate Obligations may be incurred by the District subject to the delivery of an Officer's Certificate of a District Representative demonstrating compliance with the incurrence test for the issuance of Long-Term Indebtedness described above in paragraphs (a) or (b) above and the Rate Covenant described below, *provided, however*, anything in the Trust Agreement notwithstanding, the District may make such additional covenants in a supplemental resolution, financing agreement or other agreement authorizing and securing a VRA Subordinate Obligations as may be required by VRA as a condition of selling such VRA Subordinate Obligations.

(e) Junior Obligations may be incurred without limitation.

(f) For purposes of demonstrating compliance with the incurrence test for the issuance of Long-Term Indebtedness described above in paragraph (a), the District may (but is not required to) elect in the applicable Series Agreement to treat all or any Parity Obligations authorized in a Credit Facility (including, for example and without limitation, a self-liquidity arrangement provided by the District, a line of credit or a liquidity facility supporting a commercial paper program), but not immediately issued or incurred under such Credit Facility, as subject to such incurrence test as of a single date, notwithstanding that none, or less than all, of the authorized principal amount of such Parity Obligations have been issued or incurred as of such date.

(g) Notwithstanding the foregoing provisions regarding limitations on Indebtedness described above, nothing contained in the Trust Agreement will preclude the District from incurring any obligation under a Credit Facility.

### **Rate Covenant**

(a) The District has covenanted and agreed in the Trust Agreement that it will fix and collect rates, fees and other charges for the use of and for services furnished or to be furnished by the Wastewater System, and will from time to time revise such rates, fees and other charges so that in each Fiscal Year the Net Revenues will equal at least 120% of the sum of (a) the Principal and Interest Requirements (as defined in the Senior Trust Agreement on Senior Obligations and (b) the Principal and Interest Requirements. If, for any reason, the Net Revenues are insufficient to satisfy the foregoing covenant, the District shall within one hundred twenty (120) days adjust and increase its rates, fees and other charges (to the extent permitted by the Enabling Act), or reduce its operating and maintenance expenses so as to provide sufficient Net Revenues to satisfy such requirement.

(b) If at any time the District fails to comply with its Rate Covenant described in paragraph (a) above, the District is to immediately notify the Trustee, such notice also containing an Officer's Certificate of a District Representative as to (i) the amount of the deficiency in Net Revenues which existed for the applicable period and the rates, fees and other charges which must be established by the District to cure such deficiency, and (ii) during the Fiscal Year in which the certificate is delivered, the projected Net Revenues will satisfy the Rate Covenant made by the District and described in paragraph (a) above, or, if not, the rates, fees and other charges the District must establish to satisfy such rate covenant. In addition, the District agrees, to the extent permitted by law, to take appropriate action to increase its rates, fees and other charges or reduce its operating and maintenance expenses to cure any deficiency.

(c) On or before the last day of each Fiscal Year, the District will review the adequacy of its rates, fees and other charges for the next Fiscal Year, and, if such review indicates the District's rates, fees and other charges are insufficient to satisfy the Rate Covenant described in paragraph (a) above, the District is to promptly take appropriate action to increase its rates, fees and other charges or reduce its operating and maintenance expenses to cure any deficiency.

### **Limitation on Creation of Liens**

The District agrees that it will not create or permit the existence of any Lien on its Property or upon its Net Revenues other than Permitted Liens.

"Permitted Liens" consist of the following:

(a) Liens arising by reason of good faith deposits with the District in connection with leases of real estate, bids or contracts (other than contracts for the payment of money), deposits by the District to secure public or statutory obligations, or to secure, or in lieu of, surety, stay or appeal bonds, and deposits as security for the payment of taxes or assessments or other similar charges;

(b) Any Lien arising by reason of deposits with, or the giving of any form of security to, any governmental agency or any body created or approved by law or governmental regulation as a condition to the transaction of any business or the exercise of any privilege or license, or to enable the District to maintain self-insurance or to participate in any funds established to cover any insurance risks or in connection with any workers' compensation, unemployment insurance, pension or profit sharing plans or other social security, or to share in the privileges or benefits required for companies participating in such arrangements;

(c) Any judgment lien against the District so long as such judgment is being contested in good faith and execution thereon is stayed;

(d) (i) Rights reserved to or vested in any municipality or public authority by the terms of any right, power, franchise, grant, license, permit or provision of law, affecting any Property; (ii) any liens on any Property for taxes, assessments, levies, fees, water and sewer rents, and other governmental and similar charges and any liens of mechanics, materialmen, laborers, suppliers or vendors for work or services performed or materials furnished in connection with such Property, which are not due and payable or which are not delinquent or which, or the amount or validity of which, are being contested and execution thereon is stayed or, with respect to liens of mechanics, materialmen, laborers, suppliers or vendors, have been due for less than 90 days; (iii) easements, rights-of-way, servitudes, restrictions, oil, gas or other mineral reservations and other minor defects, encumbrances, and irregularities in the title to any Property which do not materially impair the use of such Property or materially and adversely affect the value thereof; (iv) to the extent that it affects title to any Property, the Trust Agreement; and (v) landlord's liens;

(e) Any Lien that was existing on the date of authentication and delivery of the Series 2011 Bonds issued under the Trust Agreement; provided that no such Lien may be increased, extended, renewed or modified to apply to any Property of the District not subject to such Lien on such date or to secure Indebtedness not Outstanding on the date of issuance of the Series 2011 Bonds, unless such Lien as so extended, renewed or modified otherwise qualifies as a Permitted Lien under the Trust Agreement;

(f) Any lien on pledges, gifts or grants to be received in the future, including any income derived from the investment thereof;

(g) The Lien of the Senior Trust Agreement;

(h) Any Lien securing Parity Obligations on a parity basis;

(i) Any Liens on Property received by the District through gifts, grants or bequests, such liens being due to restrictions on such gifts, grants or bequests of Property or the income thereon;

(j) Any Lien on moveable equipment securing Indebtedness incurred to purchase such moveable equipment, provided that the total of such Indebtedness does not exceed 15% of

the Net Book Value of the Property, Plant and Equipment of the District as shown on the Financial Statements for the prior Fiscal Year; and

(k) Any Lien on Net Revenues securing Junior Indebtedness; provided that such lien is expressly subordinate and junior to the Lien on Net Revenues Available for Debt Service granted to the Trustee for the payment of principal of, redemption premium, if any, and the interest on the Parity Obligations and to secure the prompt payment of the and the performance by the District of its other obligations under the Trust Agreement.

### **Designation of Funds**

No later than the last Business Day of each month, the District will specifically earmark cash, cash equivalents or marketable securities or any combination thereof in an amount equal to the interest on and the principal of Bonds that will accrue in the next month, taking into account any scheduled maturities of interest or principal scheduled to become due and payable in such month and the funds theretofore earmarked for such purpose. The District may assume that both interest and principal accrue daily from the prior payment date or date of issuance but not more than 12 months prior to a payment date.

### **Maintenance of Properties**

The District covenants in the Trust Agreement:

(a) to cause its Property to be maintained, preserved and kept in good repair, working order and condition and all needed and proper repairs, renewals and replacements thereof to be made; provided, however, that nothing described in this paragraph (a) will be construed to (i) prevent it from ceasing to operate any portion of its Property, if in its judgment (supported, in the case of such a cessation other than in the ordinary course of business by an opinion or certificate of an Independent Consultant) it is advisable not to operate the same, or if it intends to sell or otherwise dispose of the same and within a reasonable time endeavors to effect such sale or other disposition, or (ii) obligate it to retain, preserve, repair, renew or replace any Property, leases, rights, privileges or licenses no longer used or, in the judgment of the Commission, useful in the conduct of its business;

(b) To do all things reasonably necessary to conduct its affairs and carry on its business and operations in such manner as to comply with any and all applicable laws of the United States and the Commonwealth of Virginia and duly observe and conform to all valid orders, regulations or requirements of any governmental authority relative to the conduct of its business and the ownership of its Properties; provided, nevertheless, that nothing contained in the Trust Agreement requires it to comply with, observe and conform to any such law, order, regulation or requirement of any governmental authority so long as the validity thereof or the applicability thereof to it is contested in good faith;

(c) To pay promptly all lawful taxes, governmental charges and assessments at any time levied or assessed upon or against it or its Property; provided, however, that it will have the right to contest in good faith any such taxes, charges or assessments or the collection of any such sums and pending such contest may delay or defer payment thereof;

(d) To pay promptly or otherwise satisfy and discharge all of its Indebtedness and all demands and claims against it as and when the same become due and payable, other than any

thereof (exclusive of the Indebtedness created and Outstanding under the Trust Agreement) whose validity, amount or collectability is being contested in good faith;

(e) At all times to comply with all terms, covenants and provisions of any Liens at such time existing upon its Property or any part thereof or securing any of its Indebtedness; and

(f) To procure and maintain all necessary licenses and permits for the operation of its Wastewater System;

provided, however, that it need not comply with the covenants described in this section if and to the extent that the Commission determines in good faith, evidenced by a resolution of the Commission, that such compliance is not in its best interests and that lack of such compliance would not materially impair its ability to pay its Indebtedness when due.

### **Insurance**

(a) The District agrees that it will maintain, or cause to be maintained, the following types of insurance, subject to the provisions described in subsection (b) below, in such amounts as, in its judgment, are adequate to protect it and its Property and operations from material financial loss: (i) comprehensive general liability insurance, and (ii) property coverage on an “all risk” basis.

(b) If the District is self-insured (excluding deductibles) for any coverage described in (a) above, the District is to provide the Trustee a report of an Independent Insurance Consultant selected by the District not less than every three years, which report is to state whether the anticipated funding of any self-insurance fund is sufficient, and if not, the required funding to obtain such result, and any such self-insurance coverage will be reviewed by the Independent Insurance Consultant not less frequently than annually. If the Independent Insurance Consultant determines in any such report that the anticipated funding of any self-insurance fund is not sufficient, the District covenants that it will undertake to fund such self-insurance fund in the manner recommended by the Independent Insurance Consultant.

### **Insurance and Condemnation Proceeds**

(a) Amounts that do not exceed 20% of the Net Book Value of the Property, Plant and Equipment of the District received by the District as insurance proceeds with respect to any casualty loss or as condemnation awards may be used in such manner as the District may determine, including, without limitation, applying such money to the partial payment or prepayment of any Indebtedness in accordance with the terms thereof and of any pertinent Supplement.

(b) Amounts that exceed 20% of the Net Book Value of the Property, Plant and Equipment received by the District as insurance proceeds with respect to any casualty loss or as condemnation awards will be applied in such manner as the District may determine; provided, however, that the District is to notify the Trustee and within 12 months after the casualty loss or taking, deliver to the Trustee a report of an Independent Consultant stating the Independent Consultant’s recommendations, including recommendations as to the use of such proceeds or awards, to cause the Long-Term Debt Service Coverage Ratio for each of the two periods of 12 full consecutive calendar months following the date on which such proceeds or awards are expected to have been fully applied to be not less than 120%, or, if in the opinion of the Independent Consultant the attainment of such level is impracticable, at the highest practicable level.



## **Annual Budget**

The District covenants that on or before the first day of the last month preceding the beginning of each Fiscal Year the Commission will adopt a budget of operating and non-operating revenues and expenses for the ensuing Fiscal Year.

## **Senior Trust Agreement**

The District covenants to observe the covenants of the Commission contained in the Senior Trust Agreement, which are expressly incorporated by reference by the Trust Agreement until there shall be no outstanding Senior Obligations. To the extent the covenants in the Trust Agreement and the covenants contained in the Senior Trust Agreement conflict, for so long as there shall be any outstanding Senior Obligations, the provisions of the covenants contained in the Senior Trust Agreement shall control.

## **Events of Default**

Events of Default under the Trust Agreement are as follows: (a) payment of the purchase price of any Bond shall not be made by the District when the same shall become due and payable; or (b) payment of any installment of interest on any Bond is not made by the District when the same becomes due and payable; or (c) payment of the principal of any Bond is not made by the District when the same becomes due and payable, whether at maturity or by acceleration or otherwise; or (d) default in the due and punctual performance of any other of the covenants, conditions, agreements and provisions contained in the Trust Agreement or any Supplement to the Trust Agreement, including any covenant, condition, agreement or provision in the Trust Agreement applicable to the District and incorporated by reference in the Trust Agreement, and such default continues for 30 days after receipt by the District of a written notice from the Trustee specifying such default and requiring the same to be remedied; provided, however, if prior to the expiration of such 30 day period the District institutes action reasonably designed to cure such default, no Event of Default is to be deemed to have occurred upon the expiration of such 30-day period for so long as the District pursues such curative action with reasonable diligence and provided that such curative action can be completed within a reasonable time.

## **Remedies for Default**

Upon the happening and continuance of an Event of Default, the Trustee may take whatever action at law or in equity is necessary or desirable (i) in the case of an Event of Default specified in (a), (b) or (c) in the immediately preceding paragraph, to collect the payments of interest installments or principal then due under the Trust Agreement or the Bonds, or (ii) in the case of an Event of Default specified in (d) in the immediately preceding paragraph, to enforce performance, observance or compliance by the District with any covenant, condition, agreement or provision under the Trust Agreement.

Upon the happening and continuance of an Event of Default, the Trustee may, and upon the written request of the Holders of not less than a majority in aggregate principal amount of Bonds then Outstanding is required to, by notice in writing to the District, declare the principal of all Bonds then Outstanding (if not then due and payable) to be due and payable immediately.

However, if at any time after the principal of Bonds has been declared to be due and payable, and before the entry of final judgment or decree in any suit, action or proceeding instituted on account of such default, or before the completion of the enforcement of any other remedy under the Trust Agreement, (i) money has accumulated in or has been paid into the Bond Fund sufficient to pay the principal of all matured Bonds and all arrears of interest, if any, upon all Bonds then Outstanding (except the principal of

any Bond not then due and payable by its terms and the interest accrued on such Bond since the last Interest Payment Date), and the charges, compensations, expenses, disbursements, advances and liabilities of the Trustee and (ii) all amounts then payable by the District under the Trust Agreement have been paid or a sum sufficient to pay the same has been deposited with the Trustee, and (iii) every other default known to the Trustee in the observance or performance of any covenant, condition or agreement contained in the Bonds or in the Trust Agreement (other than a default in the payment of the principal of such Bonds then due only because of a declaration of acceleration of maturities) has been remedied to the satisfaction of the Trustee, then the Trustee may, and upon the written request of the Holders of not less than a majority in aggregate principal amount of Bonds not then due and payable by their terms (Bonds then due and payable only because of a declaration of acceleration will not be deemed to be due and payable by their terms) and then Outstanding is required to, by written notice to the District, rescind and annul such declaration and its consequences, but no such rescission or annulment will extend to or affect any subsequent Event of Default or impair any right consequent thereon.

Upon the happening and continuance of an Event of Default, the Trustee may, and upon the written request of the Holders of not less than a majority in aggregate principal amount of Bonds then Outstanding, and upon satisfactory indemnification, is required to, proceed either at equity or at law, or by proceedings in the office of any board or officer having jurisdiction to protect and enforce its rights and the rights of the Holders under the laws of the Commonwealth of Virginia or under the Trust Agreement as the Trustee, being advised by counsel chosen by the Trustee, deems most effectual to protect and enforce such rights. The Holders of not less than a majority in aggregate principal amount of Bonds then Outstanding, upon indemnification satisfactory to the Trustee, have the right to direct the method and place of all remedial proceedings to be taken by the Trustee, provided that such direction is in accordance with law and the provisions of the Trust Agreement.

### **Restrictions upon Actions by Individual Holders**

Except for the right of any Holder to enforce the payment of the principal of and interest on such Holder's Bond, no Holder will have any right to institute any suit, action or proceeding in equity or at law on any Bond or for the execution of any trust under the Trust Agreement or for any other remedy under the Trust Agreement unless (a) such Holder previously has given to the Trustee written notice of the particular Event of Default, (b) also the Holders of not less than a majority in aggregate principal amount of Bonds then Outstanding have made a request of the Trustee after the right to exercise such powers or right of action has accrued, and such Holder has afforded the Trustee a reasonable opportunity either to proceed to exercise the powers granted in the Trust Agreement or to institute such action, suit or proceedings in its or their name, and (c) there has been offered to the Trustee reasonable security and indemnity against the costs, expenses and liabilities (including attorney's fees, costs and expenses to be incurred therein or thereby, and the Trustee has refused or neglected to comply with such request within a reasonable time. Notwithstanding the foregoing provisions and without complying therewith, the Holders of not less than a majority in aggregate principal amount of Bonds then Outstanding may institute any such suit, action or proceeding in their own names for the benefits of all Holders of the Bonds.

### **Notice of Default to Holders**

The Trustee is required to give written notice to all Holders of the occurrence of any Event of Default within 30 days after the Trustee has actual notice thereof, provided, however, except upon the occurrence of an Event of Default due to failure by the District to make payments of any installment of interest on or principal or purchase price of any Bond when the same become due and payable within 30 days after the Trustee received notice of the same, the Trustee may withhold such notice to the Holders if in its opinion such withholding is in the interest of the Holders.

## **Pro-Rata Application of Funds**

Notwithstanding anything in the Trust Agreement to the contrary, if at any time the money in the Bond Fund is not sufficient to pay the interest on or the principal of Bonds as the same become due and payable (either by their terms or by acceleration of maturities under the provisions of the Trust Agreement), such money, together with any money then available or thereafter becoming available for such purpose, is to be applied, subject to the compensation and indemnification to the Trustee and Bond Registrar, as follows:

(a) if the principal of all Bonds has not become or has not been declared due and payable, all such money in the Bond Fund is to be applied:

first: to the payment to the persons entitled thereto of all installments of interest on Bonds then due and payable in the order in which such installments became due and payable and, if the amount available is not sufficient to pay in full any particular installment, then to the payment, ratably according to the amounts due on such installment, to the persons entitled thereto, without any discrimination or preference except as to any difference in the respective rates of interest specified in such Bonds;

second: to the payment to the persons entitled thereto of the unpaid principal of any Bonds that have become due and payable (other than Bonds called for redemption for the payment of which money is held pursuant to the provisions of the Trust Agreement), in the order of their due dates, and, if the amount available is not sufficient to pay in full the principal of Bonds due and payable on any particular date, then to the payment ratably according to the amount of such principal due on such date, to the persons entitled thereto without any discrimination or preference; and

third: to the payment of the interest on and the principal of Bonds, to the purchase and retirement of Bonds due to the redemption of Bonds in accordance with the Trust Agreement and the applicable Series Agreement.

(b) If the principal of all Bonds has become or has been declared due and payable, all such money is to be applied to the payment of principal and interest then due upon the Bonds without preference to the persons entitled thereto, without preference or priority of principal over interest or interest over principal, or of any installment of interest over any other installment of interest or any Bond over any other Bond ratably, according to the amounts due respectively for principal and interest, to the persons entitled thereto, without any discrimination or preference.

(c) If the principal of all Bonds has been declared due and payable and if such declaration is thereafter rescinded and annulled due to the remediation of an Event of Default, then, subject to the provisions described in paragraph (b) of this section, in the event that the principal of all Bonds later becomes due and payable or is declared due and payable, the money then remaining in and thereafter accruing to the Bond Fund is to be applied in accordance with the provisions described in paragraph (a) above.

## **Subordination**

Notwithstanding any other provision of the Trust Agreement to the contrary:

(a) In the event of any insolvency or bankruptcy proceedings, and any receivership, liquidation, reorganization or other similar proceedings in connection therewith, relative to the

District, as such, or to its property, and in the event of any proceedings for voluntary liquidation, dissolution or other winding up of the District, whether or not involving insolvency or bankruptcy, the holders of all Senior Obligations then outstanding shall be entitled to receive payment in full of all principal and interest due on all such Senior Obligations in accordance with the provisions of Senior Trust Agreement and the resolutions or other instruments authorizing their issuance before the Trustee and the Holders of the Parity Obligations are entitled to receive any payment from the Net Revenues Available for Debt Service or other money pledged to the Parity Obligations on account of principal (and premium, if any) or interest upon the Parity Obligations.

(b) In the event that the Parity Obligations are declared due and payable before their stated maturity because of the occurrence of an Event of Default (under circumstances when the provisions described in paragraph (a) above are not applicable), the holders of all Senior Obligations outstanding at the time the Parity Obligations become due and payable because of such occurrence of such an Event of Default shall be entitled to receive payment in full of all principal and interest on all such Senior Obligations before the Holders of the Parity Obligations are entitled to receive any accelerated payment from the Net Revenues Available for Debt Service and other money pledged to the Parity Obligations of principal (and premium, if any) or interest upon the Parity Obligations.

(c) If any event of default with respect to the Senior Obligations shall have occurred and be continuing (under circumstances when the provisions described in paragraph (a) above are not applicable), the holders of all such Senior Obligations then outstanding shall be entitled to receive payment in full of all principal and interest on all such Senior Obligations as the same become due and payable before the Holders of the Parity Obligations are entitled to receive, subject to the provisions of paragraph (e) below, any payment from the Net Revenues Available for Debt Service and other money pledged to the Parity Obligations under the Trust Agreement of principal (and premium, if any) or interest upon the Parity Obligations.

(d) No holder of Senior Obligations shall be prejudiced in his right to enforce subordination of the Parity Obligations by any act or failure to act on the part of the District.

(e) The provisions described in paragraphs (a), (b), (c) and (d) above are solely for the purpose of defining the relative rights of the holders of the Senior Obligations on the one hand, and the Holders of Parity Obligations on the other hand, and nothing in the Trust Agreement is to impair, as between the District and the Holders of the Parity Obligations, the obligation of the District, which shall be unconditional and absolute, to pay to the Holders of the Parity Obligations the principal thereof and premium, if any, and interest on the Parity Obligations, respectively, in accordance with their terms, nor shall anything in the Trust Agreement prevent the Holders of the Parity Obligations from exercising all remedies otherwise permitted by applicable law or thereunder upon default thereunder, subject to the rights described in paragraphs (a), (b), (c) and (d) above of the holders of the Senior Obligations to receive cash, property or securities from the Net Revenues and other money pledged to such Senior Obligations otherwise payable or deliverable to the Holders of the Parity Obligations; and insofar as the Bond Registrar, Depository or Trustee is concerned, the foregoing provisions shall not prevent the application of any money deposited with the Bond Registrar, Depository or Trustee for the purpose of the payment of or on account of the principal (and premium, if any) and interest on the Parity Obligations if it did not have written notice or actual knowledge at the time of such application that such payment was prohibited by the foregoing provisions.

### **Supplemental Trust Agreements without Consent of Holders**

The District and the Trustee may without the consent of or notice to any of the Holders, enter into agreements supplemental to the Trust Agreement as are substantially consistent with the terms and provisions of the Trust Agreement:

- (a) to cure any ambiguity or formal defect or omission, to correct or supplement any provision of the Trust Agreement that may be inconsistent with any other provision of the Trust Agreement, to make any other provisions with respect to matters or questions arising under the Trust Agreement, or to modify, alter, amend, add to or rescind, in any particular, any of the terms or provisions contained in the Trust Agreement, or
- (b) to grant to or confer upon the Trustee for the benefit of the Holders any additional rights, remedies, powers, authority or security that may lawfully be granted to or conferred upon the Holders or the Trustee, or
- (c) to add to the provisions of the Trust Agreement other conditions, limitations and restrictions thereafter to be observed, or
- (d) to add to the covenants and agreements of the District in the Trust Agreement other covenants and agreements thereafter to be observed by the District or to surrender any right or power reserved in the Trust Agreement to or conferred upon the District, or
- (e) to permit the qualification of the Trust Agreement under any federal statute now or hereafter in effect or under any state Blue Sky law, and, in connection therewith, if the District so determines, to add to the Trust Agreement or any supplemental trust agreement such other terms, conditions and provisions as may be permitted or required by such federal statute or Blue Sky law, or
- (f) to provide for the issuance of Bonds under a book-entry system, or
- (g) to make any other change in the Trust Agreement that, in the judgment of the District, expressed in a resolution of the Commission, and the Trustee, each of which may rely upon a written Opinion of Counsel, will not materially and adversely affect the Holders of the Bonds of each series that will be affected by such supplement.

### **Modification of Trust Agreement with Consent of Holders**

The Holders of not less than a majority of the aggregate principal amount of Bonds then Outstanding will have the right to consent to and approve the execution and delivery by the District and the acceptance by the Trustee of such trust agreement or trust agreements supplemental to the Trust Agreement as deemed necessary or desirable by the District for the purpose of modifying, altering, amending, adding to or rescinding, in any particular, the Trust Agreement; provided, however, that nothing contained in the Trust Agreement will permit, or be construed as permitting (a) an extension of the maturity of the principal of or the interest on any Bonds issued under the Trust Agreement without the consent of the Holders of such Bonds, or (b) a reduction in the principal amount of any Bonds or the rate of interest thereon without the consent of the Holders of such Bonds, or (c) the creation of a pledge of receipts and revenues superior to the pledge created by the Trust Agreement without the consent of the Holders of all Bonds Outstanding, or (d) a preference or priority of any Bond over any other Bond without the consent of the Holders of all Bonds Outstanding, or (e) a reduction in the aggregate principal

amount of Bonds required for consent to such supplemental trust agreement without the consent of the Holders of all Bonds Outstanding.

If the District requests the Trustee to enter into any supplemental trust agreement described in the immediately preceding paragraph, the Trustee will cause notice of the proposed supplemental trust agreement to be mailed to all Holders. If the Holders of not less than a majority in aggregate principal amount of Bonds Outstanding at the time of the execution of such supplemental trust agreement have consented to and approved the execution, no Holder will have any right to object to the adoption of such supplemental trust agreement.

### **Defeasance**

(a) When the Bonds become due and payable and the whole amount of the principal and the interest so due and payable upon all Bonds is required to be paid, and (b) if the Bonds have not become due and payable, the Trustee or the Bond Registrar holds, sufficient money or Defeasance Obligations, or a combination of money and Defeasance Obligations, the principal of and the interest on which, when due and payable, will provide sufficient money to pay the principal of, and the interest on, all Bonds then Outstanding to the maturity date or dates of such Bonds and (c) sufficient funds also have been provided or provision has been made for paying all other obligations payable under the Trust Agreement by the District, then and in that case the right, title and interest of the Trustee in the funds and accounts mentioned in the Trust Agreement will thereupon cease, determine and become void and, on demand of the District and upon being furnished with an opinion, satisfactory to the Trustee, of counsel approved by the Trustee, to the effect that all conditions precedent to the release of the Trust Agreement have been satisfied, the Trustee will release the Trust Agreement and will execute such documents to evidence such release as may reasonably be required by the District and will turn over to the District any surplus in, and all balances remaining in, all funds and accounts.

Otherwise, the Trust Agreement will continue to be and remain in full force and effect; provided, that, in the event Defeasance Obligations are deposited with and held by the Trustee or the Bond Registrar as provided for above, (i) the Trustee will nevertheless retain such rights, powers and privileges under the Trust Agreement as may be necessary and convenient in respect of the Bonds for the payment of the principal and interest for which such Defeasance Obligations have been deposited, and (ii) the Bond Registrar will retain such rights, powers and privileges under the Trust Agreement as may be necessary and convenient for the registration, transfer and exchange of Bonds.

### **Release of Fifth Supplemental Trust Agreement**

When (a) the Series 2017A Bonds have become due and payable in accordance with their terms or otherwise as provided in the Fifth Supplemental Trust Agreement, the whole amount of the principal and the interest so due and payable upon all Series 2017A Bonds is paid, (b) if the Series 2017A Bonds have not become due and payable in accordance with their terms, the Trustee or the Bond Registrar holds, sufficient money or Defeasance Obligations, or a combination of money and Defeasance Obligations, the principal of and the interest on which, when due and payable, will provide sufficient money to pay the principal of, and the interest on, all Series 2017A Bonds then Outstanding to the maturity date or dates of such Series 2017A Bonds and (c) sufficient funds also have been provided or provision made for paying all other obligations payable under the Fifth Supplemental Trust Agreement by the District, then and in that case the right, title and interest of the Trustee in the funds and accounts mentioned in the Fifth Supplemental Trust Agreement will thereupon cease, determine and become void and, on demand of the District and upon being furnished with an opinion, in form and substance satisfactory to the Trustee, of Bond Counsel, to the effect that all conditions precedent to the release of the Fifth Supplemental Trust Agreement and the defeasance of the Series 2017A Bonds have been satisfied, the Trustee is to release the

Fifth Supplemental Trust Agreement and is to execute such documents to evidence such release as may reasonably be required by the District and, subject to the provisions of the Trust Agreement, is to turn over to the District any surplus in, and all balances remaining in, all funds and accounts.

### **Removal of Trustee**

The Trustee may be removed at any time by an instrument or concurrent instruments in writing, (i) executed by the Holders of not less than a majority in aggregate principal amount of Bonds then Outstanding and filed with the District, or (ii) so long as no Event of Default has occurred and is continuing, an instrument executed by the District, not less than 60 days before such removal is to take effect as stated in said instrument or instruments. The Trustee may also be removed at any time for acting or proceeding in violation of, or for failing to act or proceed in accordance with, any provisions of the Trust Agreement with respect to the duties and obligations of the Trustee by any court of competent jurisdiction upon the application of the District or the Holders of not less than a majority in aggregate principal amount of Bonds then Outstanding.

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## **APPENDIX D**

### **PROPOSED OPINION OF BOND COUNSEL**

\_\_\_\_\_, 2017

Hampton Roads Sanitation District Commission  
Virginia Beach, Virginia

We have examined Chapter 66 of the Acts of Assembly of Virginia of 1960, as amended (the “Act”), and certified copies of the proceedings of the Hampton Roads Sanitation District Commission (the “Commission”), the governing body of Hampton Roads Sanitation District (a political subdivision of the Commonwealth of Virginia and herein sometimes called the “District”), authorizing the execution and delivery of a Trust Agreement, dated as of October 1, 2011, as amended and restated as of March 1, 2016, and as supplemented (the “Trust Agreement”), including as supplemented by the Fifth Supplemental Trust Agreement, dated as of December 1, 2017, each by and between the District and The Bank of New York Mellon Trust Company, N.A., as trustee (the “Trustee”), and the issuance of

**\$83,485,000**

#### **HAMPTON ROADS SANITATION DISTRICT**

#### **Subordinate Wastewater Revenue Bonds, Refunding Series 2017A**

Dated, maturing, subject to redemption, and bearing interest,  
all as provided in the Trust Agreement.

Pursuant to the Trust Agreement, as security for the payment of the amounts due on the above-captioned bonds (the “Bonds”), the District has pledged its Net Revenues Available for Debt Service to the Trustee. The District’s Net Revenues Available for Debt Service consist of all revenues derived by the District from the Wastewater System (as defined in the Trust Agreement) except such part of such revenues as may be required to pay (i) the cost of maintaining, repairing and operating such Wastewater System and (ii) Senior Obligations.

For purposes of the opinions in paragraphs 1, 2 and 3 below, we have relied upon the opinion of Kellam, Pickrell, Cox & Anderson, A Professional Corporation, to the effect that the resolutions of the Commission authorizing the Bonds and approving the Trust Agreement were duly adopted.

We have also examined one of the Bonds, as executed and authenticated.

Based upon such examination, we are of the opinion that:

1. The Bonds have been duly authorized, executed and issued for the purpose of providing funds, together with other available funds, to refund certain of the District’s outstanding bonds and to pay certain costs of issuing the Bonds.

2. The Trust Agreement has been duly authorized and executed by the District and, assuming due authorization and execution by the Trustee, is a valid, binding and enforceable obligation of the District in accordance with its terms.

3. The Bonds are valid and binding special obligations of the District payable solely from the Net Revenues Available for Debt Service and other funds pledged as security therefor under the Trust Agreement.

4. The Bonds do not constitute a debt of the Commonwealth of Virginia or of any county, city, town or political subdivision thereof, or a pledge of the faith and credit of the Commonwealth of Virginia or of any county, city, town or political subdivision thereof. The issuance of the Bonds does not directly or indirectly or contingently obligate the Commonwealth of Virginia or any county, city, town or political subdivision thereof to levy or to pledge any form of taxation whatever therefor.

5. Assuming compliance by the District with its covenant to comply with the requirements of the Internal Revenue Code of 1986, as amended (the "Code"), with respect to the Bonds, and except as provided in the following sentence, interest on the Bonds is not includable in the gross income of the owners of the Bonds for purposes of federal income taxation under current law. Interest on the Bonds will be includable in the gross income of the owners thereof retroactive to the date of issue of the Bonds in the event of a failure by the District to comply with applicable requirements of the Code, and its covenants regarding use, expenditure, and investment of proceeds of the Bonds and the timely payment of certain investment earnings to the United States Treasury. We render no opinion as to the exclusion from gross income of the interest on the Bonds for federal income tax purposes on or after the date on which any action is taken affecting such covenants upon the approval of counsel other than us. Interest on the Bonds is not an item of tax preference for purposes of the federal individual or corporate alternative minimum tax. Such interest will, however, be included in the calculation of the federal alternative minimum tax imposed on corporations by the Code. The Code contains other provisions that could result in tax consequences, as to which we express no opinion, as a result of ownership of the Bonds or the inclusion in certain computations (including without limitation those related to the corporate alternative minimum tax) of interest that is excluded from gross income.

6. As provided by the Act, the Bonds, their transfer and the income therefrom, including any profit made on the sale thereof, shall be free and exempt from taxation by the Commonwealth of Virginia and any political subdivision thereof.

The enforceability of the Trust Agreement and the obligations of the District with respect to such documents described above are subject to bankruptcy, insolvency, fraudulent conveyance, reorganization and other laws affecting creditors' rights generally. To the extent that the remedies under the Trust Agreement require enforcement by a court of equity, the enforceability thereof may be limited by such principles of equity as the court having jurisdiction may impose.

Respectfully submitted,

**APPENDIX E**  
**FORM OF**  
**CONTINUING DISCLOSURE AGREEMENT**

This Continuing Disclosure Agreement (this “Disclosure Agreement”), dated as of December 19, 2017, is executed and delivered by Hampton Roads Sanitation District (the “District”) in connection with the issuance by the District of its Subordinate Wastewater Revenue Bonds, Refunding Series 2017A (the “Bonds”), pursuant to the provisions of an Amended and Restated Trust Agreement, dated as of March 1, 2016, as supplemented (the “Trust Agreement”), by and between the District and The Bank of New York Mellon Trust Company, N.A., as trustee. The proceeds of the Bonds are being used by the District to provide funds for to finance a portion of the District’s capital improvement program and to refund certain senior indebtedness. The District hereby covenants and agrees as follows:

SECTION 1. Purpose of the Disclosure Agreement. This Disclosure Agreement is being executed and delivered by the District for the benefit of the holders of the Bonds and in order to assist the Participating Underwriters (defined below) in complying with the Rule (defined below). The District acknowledges that it is undertaking primary responsibility for any reports, notices or disclosures that may be required under this Disclosure Agreement.

SECTION 2. Definitions. In addition to the definitions set forth in the Trust Agreement, which apply to any capitalized term used in this Disclosure Agreement unless otherwise defined in this Section, the following capitalized terms shall have the following meanings:

“Annual Report” shall mean any Annual Report provided by the District pursuant to, and as described in, Sections 3 and 4 of this Disclosure Agreement.

“Dissemination Agent” shall mean the District, acting in its capacity as Dissemination Agent hereunder, or any successor Dissemination Agent designated in writing by the District and which has filed with the District a written acceptance of such designation.

“Filing Date” shall have the meaning given to such term in Section 3(A) hereof.

“Fiscal Year” shall mean the twelve-month period at the end of which financial position and results of operations are determined. Currently, the District’s Fiscal Year begins July 1 and continues through June 30 of the next calendar year.

“Holder” or “holder” shall mean, for purposes of this Disclosure Agreement, any person who is a record owner or beneficial owner of a Bond.

“Listed Events” shall mean any of the events listed in subsection (b)(5)(i)(C) of the Rule, which are as follows:

- (i) principal and interest payment delinquencies;
- (ii) non-payment related defaults, if material;
- (iii) unscheduled draws on debt service reserves reflecting financial difficulties;
- (iv) unscheduled draws on credit enhancements reflecting financial difficulties;
- (v) substitution of credit or liquidity providers, or their failure to perform;

- (vi) adverse tax opinions, the issuance by the Internal Revenue Service of proposed or final determinations of taxability, Notices of Proposed Issue (IRS Form 5701-TEB) or other material notices or determinations with respect to the tax status of the Notes, or other material events affecting the tax status of the Notes;
- (vii) modifications to rights of security holders, if material;
- (viii) bond calls, if material, and tender offers;
- (ix) defeasances;
- (x) release, substitution, or sale of property securing repayment of the Notes, if material;
- (xi) rating changes;
- (xii) bankruptcy, insolvency, receivership or similar event of the District;
- (xiii) the consummation of a merger, consolidation, or acquisition involving the District or the sale of all or substantially all of the assets of the District, other than in the ordinary course of business, the entry into a definitive agreement to undertake such an action or the termination of a definitive agreement relating to any such actions, other than pursuant to its terms, if material; and appointment of a successor or additional paying agent or the change of name of a paying agent, if material; and
- (xiv) appointment of a successor or additional paying agent or the change of name of a paying agent, if material.

“Participating Underwriter” shall mean each original underwriter of the Bonds required to comply with the Rule in connection with the offering of such Bonds.

“Repository” shall mean The Electronic Municipal Market Access (“EMMA”) system administered by the Municipal Securities Rulemaking Board. EMMA is recognized as the sole Repository for purposes of the Rule.

“Rule” shall mean Rule 15c2-12 adopted by the Securities and Exchange Commission under the Securities Exchange Act of 1934, as the same may be amended from time to time.

### SECTION 3. Provision of Annual Reports.

A. The District shall, or shall cause the Dissemination Agent to, provide to the Repository an Annual Report which is consistent with the requirements of Section 4 of this Disclosure Agreement. Such Annual Report shall be filed on a date (the “Filing Date”) that is not later than December 31 after the end of any Fiscal Year (commencing with its Fiscal Year ending June 30, 2018). Not later than ten (10) days prior to the Filing Date, the District shall provide the Annual Report to the Dissemination Agent (if applicable). In such case, the Annual Report (i) may be submitted as a single document or as separate documents comprising a package, (ii) may cross-reference other information as provided in Section 4 of this Disclosure Agreement and (iii) shall include the District’s audited financial statements or, if audited financial statements are not available, such unaudited financial statements as may be required by the Rule.

In any event, audited financial statements of the District must be submitted, if and when available, together with or separately from the Annual Report.

B. The annual financial statements of the District shall be prepared on the basis of generally accepted accounting principles and will be audited. Copies of the audited annual financial statements, which may be filed separately from the Annual Report, will be filed with the Repository when they become publicly available.

C. If the District fails to provide an Annual Report to the Repository by the date required in subsection A hereto or to file its audited annual financial statements with the Repository when they become publicly available, the District shall send a notice to the Repository in substantially the form attached hereto as Exhibit B.

SECTION 4. Content of Annual Reports. Except as otherwise agreed, any Annual Report required to be filed hereunder shall contain or incorporate by reference, at a minimum, annual financial information relating to the District, including operating data, updating such information relating to the District as described in Exhibit A, all with a view toward assisting the Participating Underwriter in complying with the Rule.

Any or all of such information may be incorporated by reference from other documents, including official statements of securities issues with respect to which the District is an “obligated person” (within the meaning of the Rule), which have been filed with the Repository or the Securities and Exchange Commission. If the document incorporated by reference is a final official statement, it must be available from the Repository. The District shall clearly identify each such other document so incorporated by reference.

SECTION 5. Reporting of Listed Events. The District will provide in a timely manner, not in excess of ten business days after the occurrence of the event, to the Repository, notice of any of the Listed Events, if material.

SECTION 6. Termination of Reporting Obligation. The District’s obligations under this Disclosure Agreement shall terminate upon the earlier to occur of the legal defeasance and final retirement of all the Bonds.

SECTION 7. Dissemination Agent. The District may, from time to time, appoint or engage a Dissemination Agent to assist it in carrying out its obligations under this Disclosure Agreement and may discharge any such Dissemination Agent, with or without appointing a successor Dissemination Agent. If at any time there is not any other designated Dissemination Agent, the District shall be the Dissemination Agent.

SECTION 8. Amendment. Notwithstanding any other provision of this Disclosure Agreement, the District may amend this Disclosure Agreement, if such amendment is supported by an opinion of independent counsel with expertise in federal securities laws, to the effect that such amendment is permitted or required by the Rule.

SECTION 9. Additional Information. Nothing in this Disclosure Agreement shall be deemed to prevent the District from disseminating any other information, using the means of dissemination set forth in this Disclosure Agreement or any other means of communication, or including any other information in any Annual Report or notice of occurrence of a Listed Event, in addition to that which is required by this Disclosure Agreement. If the District chooses to include any information in any Annual Report or notice of occurrence of a Listed Event, in addition to that which is specifically required by this

Disclosure Agreement, the District shall have no obligation under this Disclosure Agreement to update such information or include it in any future Annual Report or notice of occurrence of a Listed Event.

SECTION 10. Default. Any person referred to in Section 12 (other than the District) may take such action as may be necessary and appropriate, including seeking mandate or specific performance by court order, to cause the District to file its Annual Report or to give notice of a Listed Event. The holders of not less than a majority in aggregate principal amount of Bonds Outstanding may take such actions as may be necessary and appropriate, including seeking mandate or specific performance by court order, to challenge the adequacy of any information provided pursuant to this Disclosure Agreement, or to enforce any other obligation of the District hereunder. A default under this Disclosure Agreement shall not be deemed an event of default under the Trust Agreement or the Bonds, and the sole remedy under this Disclosure Agreement in the event of any failure of the District to comply herewith shall be an action to compel performance. Nothing in this provision shall be deemed to restrict the rights or remedies of any holder pursuant to the Securities Exchange Act of 1934, the rules and regulations promulgated thereunder, or other applicable laws.

SECTION 11. Format of Filings. Unless otherwise required by the Repository, all notice, documents and information provided to the Repository pursuant to this Disclosure Agreement shall be provided to EMMA, the current Internet address of which is [www.emma.msrb.org](http://www.emma.msrb.org). All notices, documents and information provided to the EMMA shall be provided in an electronic format prescribed by the Repository (currently, portable document format (pdf) which must be word-searchable except for non-textual elements) and shall be accompanied by identifying information as prescribed by the Repository.

SECTION 12. Beneficiaries. This Disclosure Agreement shall inure solely to the benefit of the District, the Participating Underwriters and the holders from time to time of the Bonds, and shall create no rights in any other person or entity.

HAMPTON ROADS SANITATION DISTRICT

By: \_\_\_\_\_  
Director of Finance

**CONTENT OF ANNUAL REPORT  
HAMPTON ROADS SANITATION DISTRICT**

(a) **Financial Information.** Updated information including summary financial results, treatment charge collection rate, revenue collections from the District's largest customers, and a five-year comparison of revenues, expenses, debt service and debt service coverage ratios.

(b) **Debt Information.** Updated information including the debt service requirements of long-term indebtedness.

(c) **Operating Data.** Updated operating data including wastewater flows to the Wastewater System and its major treatment plants, the treatment capacities of its major treatment plants, total billed wastewater flows, and changes in rates and charges.

In general, the foregoing will include information as of the end of the most recent fiscal year or as of the most recent practicable date. Where information for the fiscal year just ended is provided, it may be preliminary and unaudited. Where information has historically been provided for more than a single period, comparable information will in general be provided for the same number of periods where valid and available. Where comparative demographic or economic information for the District and the United States as a whole is contemporaneously available and, in the judgment of the District, informative, such information may be included. Where, in the judgment of the District, an accompanying narrative is required to make data presented not misleading, such narrative will be provided.

**NOTICE OF FAILURE TO FILE ANNUAL REPORT  
[AUDITED ANNUAL FINANCIAL STATEMENTS]**

**Re: HAMPTON ROADS SANITATION DISTRICT  
SUBORDINATE WASTEWATER REVENUE BONDS,  
REFUNDING SERIES 2017A**

**CUSIP NO.: 409327 JA2 – JR5**

Dated: December \_\_, 2017

NOTICE IS HEREBY GIVEN that Hampton Roads Sanitation District has not provided an Annual Report [Audited Annual Financial Statements] as required by Section 3 of the Continuing Disclosure Agreement, which was entered into in connection with the above-named bonds, the proceeds of which were used to finance a portion of the District's capital improvement program. [The District anticipates that the Annual Report [Audited Annual Financial Statements] will be filed by \_\_\_\_\_.]

Dated: \_\_\_\_\_

HAMPTON ROADS SANITATION DISTRICT

By \_\_\_\_\_



## **APPENDIX F**

### **THE DEPOSITORY TRUST COMPANY**

The Depository Trust Company (DTC), the world's largest depository, is a limited-purpose trust company organized under the New York Banking Law, a "banking organization" within the meaning of the New York Banking Law, a member of the Federal Reserve System, a "clearing corporation" within the meaning of the New York Uniform Commercial Code, and a "clearing agency" registered pursuant to the provision of Section 17A of the Securities Exchange Act of 1934. DTC holds and provides asset servicing for over 2.2 million issues of U.S. and non-U.S. equity issues, corporate and municipal debt issues, and money market instruments from over 100 countries that DTC's participants ("Direct Participants") deposit with DTC. DTC also facilitates the post-trade settlement among Direct Participants of sales and other securities transactions in deposited securities, through electronic computerized book-entry transfers and pledges between Direct Participants' accounts. This eliminates the need for physical movement of securities certificates. Direct Participants include both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, clearing corporations, and certain other organizations. DTC is a wholly-owned subsidiary of The Depository Trust & Clearing Corporation ("DTCC"). DTCC, in turn, is owned by a number of Direct Participants of DTC and Members of the National Securities Clearing Corporation, Fixed Income Clearing Corporation, and Emerging Markets Clearing Corporation, (NSCC, FICC, and EMCC, also subsidiaries of DTCC), as well as by the New York Stock Exchange, Inc., the American Stock Exchange LLC, and the National Association of Securities Dealers, Inc. Access to the DTC system is also available to others such as both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, and clearing corporations that clear through or maintain a custodial relationship with a Direct Participant, either directly or indirectly ("Indirect Participants"). The DTC Rules applicable to its Participants are on file with the Securities and Exchange Commission. More information about DTC can be found at [www.dtcc.com](http://www.dtcc.com).

Purchases of Series 2017A Bonds under the DTC system must be made by or through Direct Participants, which will receive a credit for the Series 2017A Bonds on DTC's records. The ownership interest of each actual purchaser of each Series 2017A Bond (the "Beneficial Owner") is in turn to be recorded on the Direct and Indirect Participants' records. Beneficial Owners will not receive written confirmation from DTC of their purchase. Beneficial Owners are, however, expected to receive written confirmations providing details of the transaction, as well as periodic statements of their holdings, from the Direct or Indirect Participant through which the Beneficial Owner entered into the transaction. Transfers of ownership interests in the Series 2017A Bonds are to be accomplished by entries made on the books of Direct and Indirect Participants acting on behalf of Beneficial Owners. Beneficial Owners will not receive certificates representing their ownership interests in the Series 2017A Bonds, except if use of the book-entry system for the Series 2017A Bonds is discontinued.

To facilitate subsequent transfers, all Series 2017A Bonds deposited by Direct Participants with DTC are registered in the name of DTC's partnership nominee, Cede & Co., or such other name as may be requested by an authorized representative of DTC. The deposit of Series 2017A Bonds with DTC and their registration in the name of Cede & Co. or such other DTC nominee do not effect any change in beneficial ownership. DTC has no knowledge of the actual Beneficial Owners of the Series 2017A Bonds; DTC's records reflect only the identity of the Direct Participants to whose accounts such Series 2017A Bonds are credited, which may or may not be the Beneficial Owners. The Direct and Indirect Participants will remain responsible for keeping account of their holdings on behalf of their customers.

Conveyance of notices and other communications by DTC to Direct Participants, by Direct Participants to Indirect Participants, and by Direct Participants and Indirect Participants to Beneficial

Owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time.

Redemption notices shall be sent to DTC. If less than all of the Series 2017A Bonds within a maturity are being redeemed, DTC's practice is to determine by lot the amount of the interest of each Direct Participant in such maturity to be redeemed.

Neither DTC nor Cede & Co. (nor any other DTC nominee) will consent or vote with respect to the Series 2017A Bonds unless authorized by a Direct Participant in accordance with DTC's procedures. Under its usual procedures, DTC mails an Omnibus Proxy to the District as soon as possible after the record date. The Omnibus Proxy assigns Cede & Co.'s consenting or voting rights to those Direct Participants to whose accounts the Series 2017A Bonds are credited on the record date (identified in a listing attached to the Omnibus Proxy).

Principal, premium, if any, and interest payments on the Series 2017A Bonds will be made to Cede & Co., or such other nominee as may be requested by an authorized representative of DTC. DTC's practice is to credit Direct Participants' accounts upon DTC's receipt of funds and corresponding detail information from the District on the payable date in accordance with their respective holdings shown on DTC's records. Payments by Participants to Beneficial Owners will be governed by standing instructions and customary practices, as is the case with securities held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of such Participant and not of DTC nor its nominee, or the District, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of principal, premium, if any, and interest to Cede & Co. (or such other nominee as may be requested by an authorized representative of DTC) is the responsibility of the District, disbursement of such payments to Direct Participants will be the responsibility of DTC, and disbursement of such payments to the Beneficial Owners will be the responsibility of Direct and Indirect Participants.

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