



COMMISSION MEETING MINUTES  
July 19, 2017

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Name	Title	Present for Item Nos.
Elofson, Frederick N.	Commission Chair	1-23
Lynch, Maurice P.	Commission Vice-Chair	1-23
Glenn, Michael E.	Commissioner	1-23
Lakdawala, Vishnu K.	Commissioner	1-23
Levenston, Jr., Willie	Commissioner	1-23
Rodriguez, Stephen C.	Commissioner	1-23
Taraski, Elizabeth	Commissioner	1-23
Templeman, Ann	Commissioner	1-23

1. **AWARDS AND RECOGNITION**

**Action: No action required.**

- a. **Service Award** – Chair Elofson presented a service award to Ms. Jennifer Cascio, Commission Secretary, for 25 years of dedicated service. One of the many things that make Jennifer so effective in her current role is her experience in many areas of our organization. Jennifer began her HRSD career in January of 1992 as a part-time Collections Clerk in Customer Service, and was hired full-time on July 8, as a Water Quality Clerk in what was then known as the Industrial Waste Division. Jennifer’s talents were recognized, and she was promoted to Secretary in the Engineering Department in October of 1997, and again to Engineering Administrative Coordinator in November, 2000. Jennifer was named to her current position of Commission Secretary on June 28, 2005 and received a Bachelor of Arts degree in Human Resources Administration in August 2005. Jennifer has edited countless publications used by all departments and coordinated numerous special events. She has also provided her organizational skills to many volunteer efforts throughout her 25-year career, including coordinating the HRSD Pink Plungers in the “Making Strides Against Breast Cancer” walk.
- b. **Method and Apparatus for Wastewater Treatment Using External Selection Patent – Invented by HRSD and DC Water** – HRSD is proud to honor Dr. Charles Bott, Director of Water Technology and Research, with a copy of the patent that he received for the co-invention of a method and an apparatus for biological wastewater treatment. This is one of several patents Dr. Bott has received related to use of aerobic granular sludge (creating the right environment to make sludge heavier) to improve biological phosphorus removal and the settleability of mixed liquor solids, particularly through the use of hydrocyclones and other gravimetric selection devices.

**Attachment:** None

**Public Comment:** None



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2. **CONSENT AGENDA**

**Action:** Approve the items listed in the Consent Agenda.

**Moved:** Vishnu Lakdawala **Ayes:** 8  
**Seconded:** Willie Levenston **Nays:** 0

**Brief:**

- a. Approval of minutes from previous meeting.
- b. Sole Source and Contract Award
  - 1. [Droplet Digital Polymerase Chain Reaction \(ddPCR™\) System Parts, Maintenance and Support](#) \$874,140
  - 2. [Electronic Bill Distribution and other Related Financial Services, Maintenance and Support](#) \$500,000
- c. Sole Source
  - 1. [Automate Schedule Software Licensing and Support](#)
  - 2. [Dionex™ Integrion™ Reagent -Free Ion Chromatography System, Parts and Maintenance](#)
  - 3. [Flowserve Process Pump Parts and Repairs](#)
  - 4. [Watson-Marlow LoadSure™ Process Pump Parts and Repairs](#)

**Item(s) Removed for Discussion:** None

**Attachment #1:** [Consent Agenda](#)

**Public Comment:** None





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4. **ARMY BASE TREATMENT PLANT IMPROVEMENTS – PHASE III  
PRIMARY CLARIFIER COLUMN REPLACEMENT/REPAIR AND REHABILITATION  
COATING  
REJECTION OF ALL BIDS (>\$200,000)**

**Action:** Approve rejection of all bids submitted for the Primary Clarifier Column Replacement/Repair and Rehabilitation Coatings, which is part of the Army Base Treatment Plant Improvements – Phase III.

**Moved:** Michael Glenn **Ayes:** 8  
**Seconded:** Willie Levenston **Nays:** 0

**CIP Project:** AB010100

**Type of Procurement:** Competitive Bid

Bidder	Bid Amount
Vast Solutions of Virginia LLC	\$241,420
Construction Technologies Corporation of Virginia	\$738,482

**HRSD Estimate:** \$1,000,000

**Contract Description:** This contract is to rehabilitate all interior wall surfaces, repair cracks, and provide coating of concrete and replacement of columns on Primary Clarifiers two through four at the Army Base Treatment Plant.

During evaluation it was determined that the bids provided did not accurately account for certain requirements conveyed improperly in the bid specifications. In addition, during the pre-bid conference both bidders were only able to view a clarifier tank already complete whereas the clarifier tanks that required rehabilitation under this project were operational. The bidders were unable to view the aggregate profile of the surface and determine from the deterioration how much buildup of the concrete surface was required. This caused an unknown condition not anticipated when submitting an accurate proposal for materials and labor.

Procurement and Operations agreed that the specifications required revisions to be more defined and conduct another pre-bid conference allowing all bidders to view a clarifier tank covered under the project. Procurement has confirmed there are no other projects on plant site at risk should there be a delay for any reason with this award. Staff recommends rejection of all bids and advertisement of a new solicitation.

**Attachment:** None

**Public Comment:** None



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5. **FOREST HILL AVENUE, GLOUCESTER, VIRGINIA  
DISPOSITION OF PUBLICLY HELD REAL PROPERTY AND  
ACQUISITION OF A PERMANENT UTILITY EASEMENT**

**Actions:**

- a. **Accept the terms and conditions of the conveyance Deed with Ebbitt Corporation for the sale of Tax Map 32-195B in Gloucester, Virginia and acquisition of a permanent utility easement from Tax Map 32-187.**
- b. **Authorize the General Manager to execute forthcoming Deed, which will be reviewed by HRSD staff and legal counsel, conveying the parcel to Buyer, together with such changes, modifications, and deletions as the General Manager may deem necessary.**

<b><u>Moved:</u></b>	Maurice Lynch	<b><u>Ayes:</u></b>	8
<b><u>Seconded:</u></b>	Stephen Rodriguez	<b><u>Nays:</u></b>	0

**Project Description:** The Ebbitt Corporation owns a lot adjacent to the subject parcel, (Tax Map 32-187), and they are under contract to purchase the remaining adjacent parcel currently owned by the Stonehill Professional Group (Tax Map 32-186A). To facilitate development and setback requirements, the Ebbitt Corporation desires to purchase the HRSD owned parcel (Tax Map 32-195B), which is approximately 9,649 SF. To accommodate existing HRSD infrastructure, the Ebbitt Corporation has agreed to convey a 106 SF permanent utility easement from their current parcel (Tax Map 32-187), and reserve a 588 SF permanent utility easement from the proposed HRSD conveyance. After considering market data, county assessments, and current encumbrances on the property, HRSD staff agreed upon a sales price of \$39,000 for Tax Map 32-195B (contingent upon Commission approval). HRSD staff reviewed the request and thought it in HRSD's best interest to convey the parcel in its entirety with the provision that Ebbitt Corporation reserve and convey sufficient easements for maintenance of HRSD infrastructure.

**Funding Description:** No funding required.

**Agreement Description:** The attached [Deed](#) was prepared by HRSD legal counsel. A [plat](#) is also provided for clarification purposes.

**Discussion Summary:** The property is heavily encumbered by a number of obstacles and the valuation of the property was based on the limited economic use of the remaining property. HRSD purchased the property approximately 20 years ago.

**Attachment #3:** [Deed](#)

**Public Comment:** None



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6. **HAMPTON TRUNK SEWER EXTENSION DIVISION B – CLAREMONT FORCE MAIN REPLACEMENT AGREEMENT**

**Action:** Approve the terms and conditions of the agreement with the City of Newport News for the extended use of traffic controls installed as part of the Hampton Trunk Sewer Extension Division B – Claremont Force Main Replacement project and authorize the General Manager to execute same, substantially as presented, together with such changes, modifications and deletions as the General Manager may deem necessary.

**Moved:** Vishnu Lakdawala **Ayes:** 8  
**Seconded:** Maurice Lynch **Nays:** 0

**CIP Project: BH012700**

Budget	\$5,388,000
Previous Expenditures and Encumbrances	(\$4,782,149)
Available Balance	\$605,851

**Project Description:** The project includes a new 36-inch ductile iron pipeline and appurtenant facilities to replace an aging HRSD 34-inch force main along Chesapeake Avenue. The project includes approximately 5,340 linear feet of 36-inch force main from HRSD’s Claremont Pump Station in Hampton along Chesapeake Avenue to the Monitor Merrimac Overlook Park in Newport News. The City of Newport News will be constructing the Chesapeake Avenue Bike Trail and Sidewalk partially within the same corridor as the Hampton Trunk Sewer Extension Division B – Claremont Force Main Replacement.

**Agreement Description:** The [attached agreement](#) between HRSD and the City of Newport News specifies the duration of HRSD-supplied traffic control measures and when the responsibility for traffic control measures in the shared work area will transfer to the City of Newport News. The agreement has been reviewed by HRSD legal counsel.

**Analysis of Cost:** The cost to HRSD for these traffic control measures is already contained within the construction contract for Hampton Trunk Sewer Extension Division B – Claremont Force Main Replacement, which was approved at the June 2017 Commission meeting.

**Discussion Summary:** The elevation along Chesapeake Avenue is not too low and flooding is not a concern.

**Attachment #4:** [Agreement](#)

**Public Comment:** None





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8. **TOWN OF SURRY PUMP STATION AND DISCHARGE FORCE MAIN  
INITIAL APPROPRIATION**

**Action:** Appropriate total project funding in the amount of \$2,686,000.

<b>Moved:</b>	Maurice Lynch	<b>Ayes:</b>	8
<b>Seconded:</b>	Michael Glenn	<b>Nays:</b>	0

**CIP Project:** SU010000

**Project Description:** This project will construct a pump station and discharge force main at the Town of Surry Treatment Plant to convey flow through the County conveyance system to the County Treatment Plant. The project will also construct needed hydraulic and treatment process upgrades at the County Treatment Plant.

**Funding Description:** The total cost for this project is estimated to be \$2,686,000. The estimated project cost is based on a construction cost estimate of \$2,076,000, combined with estimated engineering services and a contingency allowance prepared by HRSD Operations and reviewed by Design and Construction. The total engineering services including preliminary engineering, design, and construction phase services were estimated at approximately \$370,000. Engineering services for this project will be provided by Bowman Consulting. A 20 percent contingency allowance was included in the cost estimate.

<b>Schedule:</b>	PER	September 2017
	Design	June 2018
	Bid	March 2019
	Construction	June 2019
	Project Completion	March 2020

**Discussion Summary:** HRSD was formed to protect the waters of Hampton Roads. The environmental benefits of incorporating this county into the HRSD system outweigh cost recovery. There are approximately 205 customers in the Town.

**Attachment:** None

**Public Comment:** None





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10. VIRGINIA BEACH CITY PUMP STATION UPGRADES, PHASE III  
INITIAL APPROPRIATION

**Action:** Appropriate total project funding in the amount of \$1,006,000.

**Moved:** Vishnu Lakdawala **Ayes:** 8  
**Seconded:** Stephen Rodriguez **Nays:** 0

**CIP Project:** CE011833

**Project Description:** This project is to complete a major upgrade of Pembroke Station (No. 360), an existing Virginia Beach Pump Station that cannot meet the new pressure policy post-2021. The City’s existing parcel is suitable for the upgraded station. This project must be substantially complete by June 2021.

The project is needed to ensure that the Virginia Beach pump station can meet HRSD pressure policy when flow is diverted in support of the Chesapeake-Elizabeth Treatment Plant closure. This project was part of the Chesapeake-Elizabeth offline solution set developed by HRSD, CDM Smith, and Brown and Caldwell assuming a 2-year level of service.

**Funding Description:** The total cost for this project is estimated to be \$1,006,000 and is based on recent locality pump station projects. Kimley-Horn and Associates, Inc. (KHA) will prepare a Preliminary Engineering Report (PER) for this project at a cost of \$62,800. KHA was awarded a contract in September 2016 to perform the Program Definition Phase to develop a coordinated plan of required interceptor system improvements in support of the Chesapeake-Elizabeth Treatment Plant closure. They will continue with preliminary engineering on the individual capital improvement projects identified in the program definition report. Future phases of work will be negotiated after the PER is completed.

**Schedule:**

PER	July 2017
Design	December 2017
Bid	February 2019
Construction	May 2019
Project Completion	July 2020

**Attachment:** None

**Public Comment:** None



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11. VIRGINIA BEACH CITY PUMP STATION UPGRADES, PHASE IV  
INITIAL APPROPRIATION

**Action:** Appropriate total project funding in the amount of \$2,198,000.

**Moved:** Maurice Lynch **Ayes:** 8  
**Seconded:** Stephen Rodriguez **Nays:** 0

**CIP Project:** CE011834

**Project Description:** This project is to complete minor upgrades to three existing Virginia Beach pump stations that cannot meet the new pressure policy post-2021. This project must be substantially complete by June 2021. Currently, Chanticleer (No. 108), Atlantic Park (112), and G.F. Darden (No. 218) are the City stations included in this CIP; however, the previously mentioned stations and the stations included in Phase V may be regrouped if it is determined to be more logical prior to the preconstruction phase.

The project is needed to ensure that the Virginia Beach pump station can meet HRSD pressure policy when flow is diverted in support of the Chesapeake-Elizabeth Treatment Plant closure. This project was part of the Chesapeake-Elizabeth offline solution set developed by HRSD, CDM Smith, and Brown and Caldwell assuming a 2-year level of service.

**Funding Description:** The total cost for this project is estimated to be \$2,198,000 and is based on recent locality pump station projects. Kimley-Horn and Associates, Inc. (KHA) will prepare a Preliminary Engineering Report (PER) for this project at a cost of \$155,800. KHA was awarded a contract in September 2016 to perform the Program Definition Phase to develop a coordinated plan of required interceptor system improvements in support of the Chesapeake-Elizabeth Treatment Plant closure. They will continue with preliminary engineering on the individual capital improvement projects identified in the program definition report. Future phases of work will be negotiated after the PER is completed.

**Schedule:**

PER	July 2017
Design	December 2017
Bid	September 2019
Construction	December 2019
Project Completion	April 2021

**Attachment:** None

**Public Comment:** None



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12. VIRGINIA BEACH CITY PUMP STATION UPGRADES, PHASE V  
INITIAL APPROPRIATION AND TASK ORDER (>\$200,000)

**Actions:**

- a. Appropriate total project funding in the amount of \$2,717,000.
- b. Approve a task order with Kimley-Horn and Associates, Inc. in the amount of \$201,700.

<b><u>Moved:</u></b>	Michael Glenn	<b><u>Ayes:</u></b>	8
<b><u>Seconded:</u></b>	Maurice Lynch	<b><u>Nays:</u></b>	0

**CIP Project: CE011835**

**Project Description:** This project is to complete minor upgrades of four existing Virginia Beach pump stations that cannot meet the new pressure policy post-2021. This project must be substantially complete by June 2021. Currently, Trantwood Blackburn (No. 223), Lake Front Village (No. 309), Lakes Shores West (No. 310), and Presidential Boulevard (No. 517) are the City stations included in this CIP; however, the previously mentioned stations and the stations included in Phase V may be regrouped if it is determined to be more logical prior to the preconstruction phase.

The project is needed to ensure that the Virginia Beach pump station can meet HRSD pressure policy when flow is diverted in support of the Chesapeake-Elizabeth Treatment Plant closure. This project was part of the Chesapeake-Elizabeth offline solution set developed by HRSD, CDM Smith and Brown and Caldwell assuming a 2-year level of service.

**Funding Description:** The total cost for this project is estimated to be \$2,717,000 and is based on recent locality pump station projects. Kimley-Horn and Associates, Inc. (KHA) will prepare a Preliminary Engineering Report (PER) for this project at a cost of \$201,700. KHA was awarded a contract in September 2016 to perform the Program Definition Phase to develop a coordinated plan of required interceptor system improvements in support of the Chesapeake-Elizabeth Treatment Plant closure. They will continue with preliminary engineering on the individual capital improvement projects identified in the program definition report. Future phases of work will be negotiated after the PER is completed.

**Task Order Description:** This task order will provide a Preliminary Engineering Report (PER) with an analysis of required upgrades to four Virginia Beach pump stations.



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**Analysis of Cost:** The cost for this PER and associated studies was negotiated and a fee of \$201,700 was considered to be reasonable. This cost is approximately 12 percent of the construction cost, which is attributed to further evaluation of whether or not new equipment can fit in the superstructure and the additional analysis for future RWWMP implementation.

<b><u>Schedule:</u></b>	PER	July 2017
	Design	December 2017
	Bid	May 2019
	Construction	October 2019
	Project Completion	June 2021

**Discussion Summary:** Phases II through V will all be designed by the engineering team of Rummel, Klepper & Kahl (RK&K) and Kimley-Horn. Each project will be bid separately and may be awarded to more than one contractor. Staff will hold public meetings and issue notices to residents to keep them informed of potential impacts.

**Attachment:** None

**Public Comment:** None



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13. **WILLIAMSBURG TREATMENT PLANT LAND ACQUISITION  
PROPERTY ACQUISITION RESOLUTION**

**Action:** Adopt a resolution approving the public use determination and directing acquisition by condemnation or other means of a portion of the property commonly known as 250 Ron Springs Road, Williamsburg, Virginia, (Parcel ID: 582010002), for construction of additional treatment facilities.

**Moved:** Maurice Lynch **Ayes:** 8  
**Seconded:** Michael Glenn **Nays:** 0

**Brief:** Preliminary facility planning for improvements to the sewage disposal system required to achieve water quality targets for safe underground injection (an alternative to surface water disposal of sewage) has identified the need for additional land at the Williamsburg Treatment Plant. The treatment facilities will not fit on the existing HRSD owned property and as a result, HRSD will need to acquire some of the adjacent property to construct the necessary purification and disposal facilities. The property commonly known as 250 Ron Springs Road, Williamsburg, Virginia, (Parcel ID: 582010002) completely surrounds the HRSD-owned Williamsburg Treatment Plant.

As the improvements to the sewage disposal system are integral to the existing treatment plant operation it is not feasible to construct them at a remote location. As a result, additional land is needed adjacent to the plant. The only option is to acquire a portion of the property commonly known as 250 Ron Springs Road, Williamsburg, Virginia, (Parcel ID: 582010002).

In accordance with Section 15.2-1903.B. of the Code of Virginia, a public hearing was held on June 27, 2017 to determine the public need of the project and the acquisition and to receive public input. The property owner's legal counsel contacted staff to express their opposition to the acquisition.

A negotiated agreement has not been reached with the property owner and condemnation may be necessary to keep the project on schedule. Staff will continue to work to negotiate a settlement with the property owner before commencement of any condemnation process. Condemnation is always the last resort and staff will make every effort to avoid condemnation. The attached [resolution](#) meets the requirements of the Code of Virginia should condemnation be necessary.

**Discussion Summary:** Staff believes the owner has no immediate plans to develop this parcel but wants to maintain it in its entirety as a buffer to other property he owns in the vicinity.

**Attachment #6:** [Resolution](#)

**Public Comment:** None



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14. **HAMPTON ROADS WATER QUALITY CREDIT AGREEMENT FOR CHESAPEAKE BAY RESTORATION**

**Action:** Amend the Commission action taken at the February 28, 2017 meeting approving “*the terms and conditions of the agreement with the City of Hampton for provision of nutrient and sediment credits generated by SWIFT to meet the City of Hampton’s MS4 Chesapeake Bay TMDL reduction requirements and authorize the Chair or his designee to execute same*” to include all similar agreements with other Hampton Roads localities and authorize the General Manager to execute those similar agreements including those executed by the General Manager between February 28, 2017 and July 19, 2017.

<b>Moved:</b>	Maurice Lynch	<b>Ayes:</b>	8
<b>Seconded:</b>	Willie Levenston	<b>Nays:</b>	0

**Brief:** At the February 28, 2017 meeting, the Commission approved the first nutrient credit trading agreement between HRSD and one of our local government partners to provide nutrient and sediment credits to Hampton Roads localities to meet their Chesapeake Bay TMDL load reduction mandates. That action was intended to cover all similar agreements between HRSD and Hampton Roads localities as there are eleven localities with Municipal Separate Storm Sewer System (MS4) permits and the administrative burden of approving 11 similar agreements in individual Commission actions was viewed as unnecessary.

In a review of that action, staff determined the language used in that agenda item “serve as the template for agreements with other Hampton Roads localities” was not clearly expressed in the Commission’s approval action as applicable to other agreements. This action is intended to clarify that action and retroactively authorize the General Manager to approve agreements between the February meeting and this amended action.

The General Manager has executed two such agreements since February 28, 2017 with eight additional agreements in various stages of review prior to execution. The terms remain consistent with the City of Hampton agreement approved in February. The basic terms are as follows:

- HRSD will provide term credits (on an annual basis) to meet 95 percent of the nutrient and sediment load reductions as calculated in accordance with the terms of the locality’s Municipal Separate Storm Sewer System (MS4) permit as of the effective date of the agreement.
- Term credits will transition to a permanent offset once SWIFT is proven at scale, no later than December 31, 2025.
- Credits can only be used to meet TMDL requirements.



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- Regulatory changes or other related issues that impact the credits available from HRSD or required by the locality shall be addressed through an amendment of this agreement if possible. If HRSD is unable to meet the locality's credit demand, the locality is solely responsible for meeting its own permit obligations.

**Attachment:** None

**Public Comment:** None



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15. **CAPITAL IMPROVEMENT PROGRAM (CIP)  
QUARTERLY UPDATE**

**Action:** No action required.

**Brief:** Implementing the CIP continues to be a significant challenge as we address numerous regulatory requirements, SWIFT Program implementation and the need to replace aging infrastructure. Staff will provide a briefing describing the status of the CIP, financial projections, projects of significance and other issues affecting the program.

**Discussion Summary:** Staff explained the reasons for the difference between planned versus actual CIP spending could be due to design or construction delays or changes in project scope and were not related to contractor performance. Staff is very satisfied with the work performed by the contractors. Adding staff and utilizing program management services from consulting engineers has reduced the differential between planned and actual efforts. Program management from consulting engineers also includes inspection services.

**Attachment #7:** [Presentation](#)

**Public Comment:** None



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16. **COMMISSION GOVERNANCE GUIDELINES**

**Actions:**

- a. **Receive report from the Operations and Nominations Committee.**
- b. **Approve recommended changes to the Commission Governance Guidelines.**

**Moved:** Willie Levenston **Ayes:** 8  
**Seconded:** Michael Glenn **Nays:** 0

**Brief:** The Commission reviewed proposed changes to the [Commission Governance Guidelines](#) during its June 27, 2017 meeting. Additional changes suggested at that meeting are presented for approval.

**Attachment #8:** [Commission Governance Guidelines](#)

**Public Comment:** None

17. **UNFINISHED BUSINESS – Poverty Simulation**

Mr. Henifin reminded the Commission of the Poverty Simulation to be held following the August 22, 2017 Commission meeting.



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18. **NEW BUSINESS** – Paradise Creek Nature Park Education Center Displays Funding

**Action:** Approve funding in the amount of \$100,000 for the HRSD sponsorship of two toilet facilities with educational displays at the Paradise Creek Nature Park Education Center in Portsmouth appropriated from General Reserve to the Fiscal Year 2018 Operating Budget.

**Moved:** Michael Glenn **Ayes:** 8  
**Seconded:** Vishnu Lakdawala **Nays:** 0

**Brief:** *The Elizabeth River Project (ERP) expects to educate an anticipated 20,000 visitors a year at Paradise Creek Nature Park. Without a roof yet built to shelter them, this unique 40-acre park ([www.paradisecreeknaturepark.org](http://www.paradisecreeknaturepark.org)) drew 5,000 students for field trips in the last year alone. Among 7,000 total visitors of all ages last year, 30 percent were from Portsmouth and 70 percent were from other areas, led by Norfolk, Virginia Beach and Chesapeake.*

*This broad audience will grow exponentially as ERP brings online the “Phase 2” amenities to be constructed in 2015-16: A kayak launch, the Dominion Wetland Learning Lab, a maritime playground, expanded green parking and the Fred W. Beazley Environmental Education Center. The center will feature a green wall, rain cistern and other sustainable features. A classroom for 30 will host student and public education.*

*ERP has proposed that HRSD sponsor two educational displays that would highlight HRSD’s critical role in restoring the Elizabeth River. The education messages, to be refined with HRSD’s help, would be graffiti-proof permanent tile installations on the walls of two composting toilet facilities. HRSD’s history created for the Commission’s 75<sup>th</sup> anniversary would be a compelling message to relate the HRSD story to a captive audience in one toilet. Our role in the future of wastewater treatment would be highlighted in the second (Excerpt from July 2015 Commission Minutes).*

In July of 2015 the Commission approved a sponsorship of \$75,000 to fund the construction of the toilets and installation of HRSD’s education messages in the corner of the park most likely to have the visitors’ undivided attention.

Delays in fundraising and cost increases set the project back. This week staff met with ERP and they are now ready to move forward. The second bathroom addressing the future has been repurposed to provide SWIFT education, a concept that did not even exist in 2015 when this was originally proposed. Based on cost increases, staff is recommending HRSD increase the sponsorship for this valuable facility to \$100,000 and appropriate the funds from the General Fund Balance.

**Attachment:** None  
**Public Comment:** None



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19. **COMMISSIONER COMMENTS**

Staff explained the language included in the Sole Source justifications on the Consent Agenda are requirements from the Virginia Public Procurement Act. Commissioner Lynch asked if staff could include a distinction in the write-up as to whether the original equipment was bid or procured by sole source when the justification is compatibility with existing equipment or systems.

Commissioner Elofson thanked the Commission for re-electing him as Chair.

20. **PUBLIC COMMENTS NOT RELATED TO AGENDA – None**

21. **INFORMATIONAL ITEMS**

**Action:** No action required.

**Brief:** The items listed below were presented for information.

- a. [Management Reports](#)
- b. [Strategic Planning Metrics Summary](#)
- c. [Effluent Summary](#)
- d. [Air Summary](#)
- e. [Emergency Declaration - Williamsburg Interceptor Force Main Contract C Protection and Channel Stabilization](#)

**Attachment #9:** [Informational Items](#)

**Public Comment:** None



COMMISSION MEETING MINUTES  
July 19, 2017

22. **CLOSED MEETING**

**Action:** Motion to go into Closed Meeting for discussion with legal counsel and staff regarding actual litigation [Specific Exemption: Va. Code §2.2-3711.A7]

**Moved:** Willie Levenston **Ayes:** 8  
**Seconded:** Maurice Lynch **Nays:** 0

**Brief:** Consultation with legal counsel and briefing by staff members or consultants pertaining to actual litigation, where such consultation or briefing in open meeting would adversely affect the negotiating or litigating posture of the public body.

**Roll call vote to return to Open Session:** **Ayes:** 8 **Nays:** 0

23. **RECONVENED MEETING**

**Action:** No action required.

**Attachment:** None

**Public Comment:** None

24. **ANNOUNCEMENTS**

- HRSD's 35<sup>th</sup> Annual Apprentice Graduation will be held on Saturday, August 12.

**Next Commission Meeting Date:** August 22, 2017 at the HRSD South Shore Operations Complex, 1434 Air Rail Avenue, Virginia Beach, VA 23455

**Meeting Adjourned:** 11:17 a.m.

SUBMITTED:

APPROVED:

\_\_\_\_\_  
Jennifer L. Cascio  
Secretary

\_\_\_\_\_  
Maurice P. Lynch, PhD  
Chair

HRSD COMMISSION MEETING MINUTES  
July 19, 2017

ATTACHMENT #1

AGENDA ITEM 1. – Consent Agenda

## CONSENT AGENDA ITEM 2.b.1. – July 19, 2017

**Subject:** Droplet Digital Polymerase Chain Reaction (ddPCR™) System Parts, Maintenance and Support  
Sole Source (>\$10,000) and Contract Award (>\$200,000)

### **Recommended Actions:**

1. Approve Bio-Rad Laboratories, Inc. as the provider of the QX200™ ddPCR™ System parts, maintenance and support for HRSD.
2. Award a blanket purchase contract in the estimated amount of \$174,828 for year one with four annual renewal options and an estimated cumulative value in the amount of \$874,140.

### **Sole Source Justification:**

- Compatibility with existing equipment or systems is required
- Support of a special program in which the product or service has unique characteristics essential to the needs of the program
- Product or service is covered by a patent or copyright
- Product or service is part of standardization program to minimize training for maintenance and operation, and parts inventory
- Only known source

**Details:** Services include proprietary onsite, real-time maintenance and support of system components for the QX200™ ddPCR™ System. Goods include consumables such as reagents, heat seals and cartridges as needed for different sample analysis. The system provides pathogen data using water-oil emulsion droplet technology required for the Sustainable Water Initiative for Tomorrow (SWIFT), multiple Water Environment & Reuse Foundation (WE&RF) projects as well as HRSD facility related projects.

CONSENT AGENDA ITEM 2.b.2. – July 19, 2017

**Subject:** Electronic Bill Distribution and other Related Financial Services,  
Maintenance and Support  
Sole Source (>\$10,000) and Contract Award (>\$200,000)

**Recommended Actions:**

- a. Approve Fiserv, Inc. as the provider of an electronic bill distribution service, maintenance and support for HRSD.
- b. Award a blanket purchase contract in the estimated amount of \$100,000 for year one with four annual renewal options and an estimated cumulative value in the amount of \$500,000.

**Sole Source Justification:**

- Compatibility with existing equipment or systems is required
- Support of a special program in which the product or service has unique characteristics essential to the needs of the program
- Product or service is covered by a patent or copyright
- Product or service is part of standardization program to minimize training for maintenance and operation, and parts inventory
- Only known source

**Details:** Services include electronic distribution of bills to customers who prefer to manage bills with their financial institutions' online bill pay services. Fiserv has an extensive and exclusive network that has access to more than 3,800 financial institutions. Currently, Fiserv provides electronic bill distribution for 33,000 HRSD customers. Electronic data-fed billing and payment process reduces print and mail costs, improves payment accuracy while reducing exceptions and improves customer satisfaction by offering convenience.

## CONSENT AGENDA ITEM 2.c.1. – July 19, 2017

**Subject:** Automate Schedule Software Licensing and Support  
Sole Source (>\$10,000)

**Recommended Action:** Approve HS Group Holdings Inc. DBA Help Systems LLC as the provider of Automate Schedule software licensing and support for Information Technology.

### **Sole Source Justification:**

- Compatibility with existing equipment or systems is required
- Support of a special program in which the product or service has unique characteristics essential to the needs of the program
- Product or service is covered by a patent or copyright
- Product or service is part of standardization program to minimize training for maintenance and operation, and parts inventory
- Only known source

**Details:** Services include licensing and support for the Automate Schedule software. This software automates all workflows across Windows, UNIX, and Linux system platforms and provides overall job schedule management for the Information Technology Division. Features include such functions as event-driven job schedules, centralized monitoring, role-based security options and audit history reporting.

## CONSENT AGENDA ITEM 2.c.2. – July 19, 2017

**Subject:** Dionex™ Integrion™ Reagent-Free Ion Chromatography System, Parts and Maintenance  
Sole Source (>\$10,000)

**Recommended Action:** Approve Thermo Electron North America LLC as the provider of a Dionex™ Integrion™ Reagent-Free Ion Chromatography (RFIC) system, parts and maintenance for HRSD.

### **Sole Source Justification:**

- Compatibility with existing equipment or systems is required
- Support of a special program in which the product or service has unique characteristics essential to the needs of the program
- Product or service is covered by a patent or copyright
- Product or service is part of standardization program to minimize training for maintenance and operation, and parts inventory
- Only known source

**Details:** Product includes the purchase of a single channel Dionex™ Integrion™ RFIC system and consumables required to run various ion analyses in support of the Sustainable Water Initiative for Tomorrow (SWIFT) project. Services include preventive maintenance.

A similar, dual channel instrument is on hand with the Central Environmental Laboratory (CEL) for everyday analysis requirements. The second single channel instrument is on loan from Thermo in order to complete the required analysis for SWIFT. The purchase of the same proprietary brand instrument will alleviate the need for separate consumables and maintain the quality of the analysis results in support of SWIFT. In addition, CEL will not need to purchase another auto-sampler as the existing component can be shared by both instruments.

## CONSENT AGENDA ITEM 2.c.3. – July 19, 2017

**Subject:** Flowserve Process Pump Parts  
Sole Source (>\$10,000)

**Recommended Action:** Approve the purchase of Flowserve Process Pump Parts for use at HRSD.

### **Sole Source Justification:**

- Compatibility with existing equipment or systems is required
- Support of a special program in which the product has unique characteristics essential to the needs of the program
- Product is covered by a patent or copyright
- Product is part of standardization program to minimize training for maintenance and operation, and parts inventory
- Only known source

**Details:** Product includes purchase of various replacement parts to perform preventative maintenance and repairs on existing equipment. The York River Treatment Plant uses four Flowserve pumps in the intermediate pump station. These pumps also exist at other treatment plants. Replacement parts will allow for the reuse of the existing equipment and act as a drop-in place replacement.

## CONSENT AGENDA ITEM 2.c.4. – July 19, 2017

**Subject:** Watson-Marlow Process Pump Parts  
Sole Source (>\$10,000)

**Recommended Action:** Approve Watson-Marlow Process Pump Parts for use at HRSD.

### **Sole Source Justification:**

- Compatibility with existing equipment or systems is required
- Support of a special program in which the product has unique characteristics essential to the needs of the program
- Product is covered by a patent or copyright
- Product is part of standardization program to minimize training for maintenance and operation, and parts inventory
- Only known source

**Details:** Product includes purchase of a close-coupled process pump head, leak detector and associated replacement parts to perform preventative maintenance and repairs on existing equipment. The York River Treatment Plant uses 10 Watson-Marlow pumps for various chemical feed processes. These pumps also exist at other treatment plants. Replacement parts will allow for the reuse of the existing equipment and act as a drop-in place replacement.

HRSD COMMISSION MEETING MINUTES  
July 19, 2017

ATTACHMENT #2

AGENDA ITEM 3.– Ferguson Park Interceptor Force Main - Bridge Span Replacement  
Virginia Clean Water Revolving Loan Fund (VCWRLF) Resolution

*Hampton Roads Sanitation District*  
*Resolution of*  
*July 19, 2017*

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HAMPTON ROADS SANITATION DISTRICT COMMISSION

\*\*\*\*\*

RESOLUTION  
PROVIDING FOR THE ISSUANCE OF

A SUBORDINATE WASTEWATER REVENUE BOND

Adopted July 19, 2017

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Ferguson Park Interceptor Project: #C-515606-02

Resolution

**RESOLUTION AUTHORIZING THE ISSUANCE OF A SUBORDINATE WASTEWATER REVENUE BOND, NOT TO EXCEED \$1,000,000 IN PRINCIPAL AMOUNT, FOR THE PURPOSE OF PROVIDING FUNDS, WITH OTHER AVAILABLE MONEY, TO PAY THE COSTS OF CERTAIN IMPROVEMENTS TO THE FERGUSON PARK INTERCEPTOR, FIXING THE PRINCIPAL INSTALLMENT MATURITY DATES, THE INTEREST RATE, THE REDEMPTION PROVISIONS AND CERTAIN OTHER DETAILS OF THE BOND, DIRECTING THE AUTHENTICATION AND DELIVERY OF THE BOND, AND AUTHORIZING THE EXECUTION OF A FINANCING AGREEMENT WITH THE VIRGINIA RESOURCES AUTHORITY.**

*WHEREAS*, the Hampton Roads Sanitation District (the “Borrower”) entered into a Trust Agreement, dated as of October 11, 2011 (the “Trust Agreement”), with The Bank of New York Mellon Trust Company, N.A., as trustee (the “Trustee”), as amended and restated as of March 1, 2016, pursuant to which the Borrower may incur Parity Obligations, as defined in the Trust Agreement; and

*WHEREAS*, pursuant to Chapter 22, Title 62.1, Code of Virginia of 1950, as amended (the “VWFRF Act”), the General Assembly of the Commonwealth of Virginia created a permanent and perpetual fund known as the Virginia Water Facilities Revolving Fund (the “Fund”); and

*WHEREAS*, the Hampton Roads Sanitation District Commission (the “Commission”) heretofore received an offer from the Virginia Resources Authority (the “Authority”), as Administrator of the Virginia Water Facilities Revolving Fund (the “Fund”), to make a loan from the Fund to the Borrower in an amount not to exceed \$1,000,000 for the purpose of financing a project described in such offer as improvements to the Borrower’s Ferguson Park Interceptor,

together with related expenses; and

*WHEREAS*, the Commission, as the governing body of the Borrower, has determined to accept such offer and close on the loan from the Authority, as Administrator of the Fund, by authorizing and issuing its subordinate wastewater revenue bond for the purpose of financing Capital Improvement Program Costs (as defined in the Trust Agreement) of improvements to the Borrower’s Ferguson Park Interceptor (the “2017 Ferguson Local Bond”), to be payable solely from the Net Revenues Available for Debt Service (as defined in the Trust Agreement) on a parity with all Parity Obligations (as defined in the Trust Agreement) of the Borrower and subordinated to all Senior Indebtedness, as defined in, and to extent set forth, in the Trust Agreement, all in conformity with the terms and provisions of the Trust Agreement; now, therefore,

**BE IT RESOLVED** by the Hampton Roads Sanitation District Commission as follows:

**Section 1. (a) Definitions.** The capitalized terms contained in this Resolution and not defined above shall have the meanings set forth in the Glossary of Defined Terms attached to this Resolution as Exhibit A, unless the context requires otherwise.

**(b) Rules of Construction.** The following rules shall apply to the construction of this Resolution unless the context requires otherwise:

- (i) Singular words shall connote the plural number as well as the singular and vice versa.
- (ii) All references in this Resolution to particular Sections or Exhibits are references to Sections or Exhibits of this Resolution unless otherwise indicated.

**Section 2. Authorization of 2017 Ferguson Local Bond.** Pursuant to Sections 209(b) and 704(a) of the Trust Agreement and for the purpose of financing the Capital Improvement

Program Costs of the Project, which are Project Costs within the definition thereof found in the Financing Agreement, the 2017 Ferguson Local Bond of the Borrower is hereby authorized to be issued in the principal amount not to exceed \$1,000,000. The 2017 Ferguson Local Bond shall be issuable as a single registered bond without coupons and shall be dated as of its date of issue. The 2017 Ferguson Local Bond shall be substantially in the form attached to this Resolution as Exhibit B, with such variations, omissions and insertions as may be necessary or appropriate to conform to the provisions of this Resolution. The 2017 Ferguson Local Bond shall be a Parity Obligation and shall be a VRA Subordinate Obligation, each as defined in the Trust Agreement, shall be secured on a parity with all other Parity Obligations of the Borrower under the Trust Agreement, and shall be senior to all Junior Obligations (as defined in the Trust Agreement), as set forth therein.

The 2017 Ferguson Local Bond shall be dated as of its date of issue and shall bear interest (or “Cost of Funds” as described in the 2017 Ferguson Financing Agreement Supplement) on the disbursed principal balance of the 2017 Ferguson Local Bond at a rate not to exceed 2.70% per annum. Such interest shall be payable as to interest only on September 1, 2018, and commencing on the date set forth in a certificate of the General Manager delivered on the date of issue of the 2017 Ferguson Local Bond (the “General Manager’s Certificate”), such principal and interest shall be payable in essentially equal semi-annual installments (rounded to the nearest \$100), with the balance due on the date set forth in the General Manager’s Certificate, but not later than March 1, 2048.

**Section 3. Redemption Provisions.** The principal installments on the 2017 Ferguson Local Bond shall be subject to redemption prior to their respective maturities, at the option of the Borrower, from any money that may be made available for such purpose, either in whole or in

part on any date at the redemption price of par plus accrued interest on ten (10) days' written notice to the Authority and otherwise as provided in the Financing Agreement. Any such partial redemption shall not postpone the due date of any subsequent payment on the 2017 Ferguson Local Bond, or change the amount of such installment, unless the Borrower and the Authority agree otherwise in writing.

**Section 4. Deposits to Local Bond Fund.** The Borrower shall deposit money with or to the order of the Authority, as Administrator of the Fund, in amounts sufficient to pay in full, when due (whether by maturity, redemption, acceleration or otherwise), the 2017 Ferguson Local Bond issued under this Resolution, together with the interest thereon, all as set forth in the 2017 Ferguson Local Bond.

**Section 5. Authority to Execute 2017 Ferguson Financing Agreement Supplement.** The execution and delivery of the 2017 Ferguson Financing Agreement Supplement, substantially in the form presented at this meeting, relating to the loan from the Authority, as Administrator to the Fund, to the Borrower and the repayment of the loan by the Borrower in accordance with the 2017 Ferguson Local Bond, are hereby authorized, with such changes, insertions and omissions as may be approved by the Chairman or Vice Chairman of the Commission, the execution of the 2017 Ferguson Financing Agreement Supplement by the Chairman or the Vice Chairman to be conclusive evidence of his approval of any changes, insertions and omissions therein.

**Section 6. Manner of Execution of 2017 Ferguson Local Bond.** The 2017 Ferguson Local Bond shall be executed by the Chairman or Vice Chairman and the Secretary or an Assistant Secretary of the Commission, and the seal of the Commission shall be impressed on the 2017 Ferguson Local Bond. The 2017 Ferguson Local Bond shall be delivered to or for the

account of the Authority, as Administrator of the Fund, upon execution and delivery of the 2017 Ferguson Financing Agreement.

**Section 7. Obligations of Borrower Unconditional.** Subject to the terms of the Trust Agreement, nothing contained in this Resolution or the 2017 Ferguson Local Bond is intended to or shall impair, as between the Borrower, its creditors, and the holder of the 2017 Ferguson Local Bond, the obligation of the Borrower, which is absolute and unconditional, to pay to the holder of the 2017 Ferguson Local Bond the principal of, redemption premium, if any, and interest on the 2017 Ferguson Local Bond as and when the same shall become due and payable in accordance with its terms, or affect the relative rights of the holder of the 2017 Ferguson Local Bond and creditors of the Borrower, nor shall anything herein or therein prevent the holder of the 2017 Ferguson Local Bond from exercising all remedies otherwise permitted by applicable law and under the Trust Agreement upon default under the 2017 Ferguson Local Bond and the 2017 Ferguson Financing Agreement Supplement.

**Section 8. Payments on 2017 Ferguson Local Bond Permitted.** Nothing contained in this Resolution or the 2017 Ferguson Local Bond shall affect the obligation of the Borrower to make, or prevent the Borrower from making, payment of the principal of, redemption premium, if any, or interest on the 2017 Ferguson Local Bond in accordance with the provisions hereof, except as otherwise provided in this Resolution.

**Section 9. Benefits of Resolution.** Nothing in this Resolution or the 2017 Ferguson Local Bond, express or implied, shall give to any person, other than the holder of the 2017 Ferguson Local Bond, any benefit or any legal or equitable right, remedy or claim under this Resolution.

**Section 10. Further Action.** The Chairman, Vice Chairman, the Secretary and any

Ferguson Park Interceptor Project

Assistant Secretary of the Commission and the General Manager, the Director of Engineering and the Director of Finance of the Borrower are authorized and directed (without limitation except as may be expressly set forth therein) to take such action and to execute and deliver any such documents, certificates, undertakings, agreements or other instruments as they, with the advice of counsel, may deem necessary or appropriate to effect the transactions contemplated by the 2017 Ferguson Financing Agreement Supplement.

**Section 11. Effectiveness.** This Resolution shall take effect immediately upon its adoption.

[END OF RESOLUTION]

**Adopted by the Hampton Roads Sanitation District Commission on July 19, 2017.**

  
Frederick N. Elofson, CPA, Chairman

**EXHIBIT A**

**GLOSSARY OF DEFINED TERMS**

“*2017 Ferguson Financing Agreement Supplement*” means the Supplement to Master Financing Agreement relating to the 2017 Ferguson Local Bond, between the Borrower and the Authority, as Administrator of the Fund, together with any amendments or supplements thereto.

“*2017 Ferguson Local Bond*” means the bond in substantially the form attached to this Resolution as Exhibit B, to be issued by the Borrower to the Authority, as Administrator of the Fund, pursuant to this Resolution and the 2017 Ferguson Financing Agreement Supplement.

“*2017 Ferguson Local Bond Proceeds*” means proceeds of the issuance and sale of the 2017 Ferguson Local Bond to the Authority, as Administrator of the Fund, pursuant to the 2017 Ferguson Financing Agreement Supplement.

“*Capital Improvement Program Costs*” means “Capital Improvement Program Costs” as defined in the Trust Agreement.

“*Financing Agreement*” means the Master Financing Agreement, dated as of February 1, 2016, between the Authority, as Administrator of the Fund, and the Borrower, as amended to the date hereof, and as supplemented by the 2017 Ferguson Financing Agreement Supplement.

“*General Manager’s Certificate*” means the certificate of the General Manager delivered on the date of issue of the 2017 Ferguson Local Bond.

“*Junior Indebtedness*” means “Junior Indebtedness,” as defined in the Trust Agreement.

“*Net Revenues*” means “Net Revenues” as defined in the Trust Agreement.

“*Parity Obligations*” means “Parity Obligations,” as defined in the Trust Agreement.

“*Project*” means the project described in Exhibit B to the 2017 Ferguson Financing Agreement Supplement, the costs of the acquisition, construction, improving or equipping of which are to be financed or refinanced in part with the 2017 Ferguson Local Bond Proceeds.

“*Project Budget*” means the budget for the financing or the refinancing of the Project, a copy of which is attached to the 2017 Ferguson Financing Agreement Supplement as Exhibit C, with such changes therein as may be approved in writing by the Authority.

“*Senior Indebtedness*” means “Senior Indebtedness,” as defined in the Trust Agreement.

“*Trust Agreement*” means the Trust Agreement, dated as of October 1, 2011, by and between the Borrower and the Trustee, as amended and restated as of March 1, 2016.

“*Trustee*” means The Bank of New York Mellon Trust Company, N.A., as trustee under the Trust Agreement, and any successor in trust thereto.

**EXHIBIT B**

**FORM OF LOCAL BOND**

United States of America  
Commonwealth of Virginia

**HAMPTON ROADS SANITATION DISTRICT  
Subordinate Wastewater Revenue Bond**

Hampton Roads Sanitation District (the “Borrower”), a political subdivision of the Commonwealth of Virginia, by Hampton Roads Sanitation District Commission (the “Commission”), the governing body of the Borrower, acknowledges itself indebted and, for value received, hereby promises to pay, solely from the revenues and other property hereinafter described and pledged to the payment of this Bond, to the order of the Virginia Resources Authority (the “Authority”), as Administrator of the Virginia Water Facilities Revolving Fund, Richmond, Virginia (the “Fund”), the principal amount equal to the sum of the principal disbursements made by the Authority, as Administrator of the Fund, to the Borrower (as shown in Schedule 1) pursuant to the Master Financing Agreement, dated as of February 1, 2016, between the Authority, as Administrator of the Fund, and the Borrower, as amended to the date hereof, and as supplemented by the Supplement to Master Financing Agreement, dated as of [\_\_\_\_ 1], 2017 (as so amended and supplemented, the “Financing Agreement”) not to exceed \_\_\_\_\_ Dollars (\$\_\_\_\_\_), together with interest (or “Cost of Funds” as described in the Financing Agreement) on the disbursed principal at the rate of [2.70%] per annum, as follows:

Interest shall be payable \_\_\_\_\_ 1, 20\_\_, and thereafter principal and interest due under this Bond shall be payable in essentially equal semi-annual installments (rounded to the nearest one hundred dollars (\$100)) on \_\_\_\_\_ 1 and \_\_\_\_\_ 1 of each year, commencing \_\_\_\_\_ 1, 20\_\_ (as shown on Schedule 2), provided that if not sooner paid, all amounts under this Bond shall be due and payable in full on \_\_\_\_\_ 1, 20\_\_.

In addition, if any installment of principal or interest is not received by the holder of this Bond within ten (10) days from its due date, the Borrower shall pay to the holder of this Bond, a late payment charge in an amount equal to five percent (5.00%) per annum on such overdue installment. Both principal and interest are payable in lawful money of the United States.

No notation is required to be made on this Bond of the payment of any principal or interest on normal installment payment dates. HENCE, THE FACE AMOUNT OF THIS BOND MAY EXCEED THE PRINCIPAL SUM REMAINING OUTSTANDING AND DUE HEREUNDER. This Bond and the premium, if any, and the interest thereon are limited obligations of the Borrower and (except to the extent payment with respect to the Bond shall be made from the proceeds from the sale of the Bond or the income, if any, derived from the investment thereof) are payable solely from Net Revenues Available for Debt Service (as defined in the below-mentioned Trust Agreement) from time to time deposited by the Borrower with or to the order of the Authority, as the Administrator of the Fund pursuant to the Resolution (the “Resolution”) adopted by the Commission on July 19, 2017, authorizing the issuance of this

Bond, which Net Revenues Available for Debt Service have been pledged pursuant to the Financing Agreement to secure payment hereof. Neither the Commonwealth of Virginia nor any political subdivision thereof, including the Borrower, shall be obligated to pay the principal of or premium, if any, or interest on this Bond or other costs incident thereto except from the revenues pledged therefor, and neither the faith and credit nor the taxing power of the Commonwealth of Virginia or any political subdivision thereof, including the Borrower, is pledged to the payment of the principal of or premium, if any, or interest on this Bond or other costs incident thereto.

This Bond shall be a Parity Obligation and a VRA Subordinate Obligation and secured on parity with all other all Parity Obligations and VRA Subordinate Obligations heretofore and hereafter issued and outstanding under the Trust Agreement, dated as of October 1, 2011, as amended and restated as of March 1, 2016 (the "Trust Agreement"), by and between the Borrower and the predecessor in trust to The Bank of New York Mellon Trust Company, N.A., as trustee (the "Trustee"), and shall be senior to all Junior Indebtedness (as defined in the Trust Agreement), to the extent and in the manner set forth therein.

This Bond is being issued pursuant to the terms of the Resolution and the Financing Agreement to evidence a loan from the Authority, as Administrator of the Fund, to the Borrower to finance Capital Improvement Program Costs (as defined in the Trust Agreement).

This Bond is subject to optional prepayment to the extent and on the terms set forth in the Resolution and the Financing Agreement.

If an Event of Default (as defined in the Financing Agreement) occurs, the principal of and accrued interest on this Bond may be declared immediately due and payable by the holder by written notice to the Borrower.

The obligations of the Borrower under this Bond shall terminate when all amounts due and to become due pursuant to this Bond have been paid in full.

All provisions of this Bond are subject to the terms of the Trust Agreement, and all capitalized terms used herein and not otherwise defined herein shall have the meanings assigned thereto by the Resolution and the Financing Agreement.

All acts, conditions and things required to happen, exist or be performed precedent to and in the issuance of this Bond have happened, exist and have been performed.

IN WITNESS WHEREOF, the Borrower has caused this Bond to be signed by the Chairman of its Commission and its seal to be impressed hereon and attested by the Secretary of its Commission all as of July \_\_, 2017.

HAMPTON ROADS SANITATION DISTRICT

By: \_\_\_\_\_  
Chairman of the Hampton Roads Sanitation  
District Commission

(SEAL)  
ATTEST:

\_\_\_\_\_  
Secretary of the Hampton Roads  
Sanitation District Commission

**SCHEDULE OF PRINCIPAL DISBURSEMENTS**

The amount and date of disbursements of the principal of the Bond to which this Schedule is attached, not to exceed \$\_\_\_\_\_, shall be entered hereon by the authorized representative of Virginia Resources Authority when each such disbursement of principal is made to the Borrower.

<u>Date</u>	<u>Amount</u>	<u>Cumulative Amount</u>	<u>Authorized Signature</u>
_____	\$ _____	\$ _____	_____
_____	\$ _____	\$ _____	_____
_____	\$ _____	\$ _____	_____
_____	\$ _____	\$ _____	_____
_____	\$ _____	\$ _____	_____
_____	\$ _____	\$ _____	_____
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_____	\$ _____	\$ _____	_____
_____	\$ _____	\$ _____	_____
_____	\$ _____	\$ _____	_____
_____	\$ _____	\$ _____	_____
_____	\$ _____	\$ _____	_____

**AMORTIZATION SCHEDULE**

**SUPPLEMENT TO  
MASTER FINANCING AGREEMENT**

**dated as of August 1, 2017**

**BETWEEN**

**VIRGINIA RESOURCES AUTHORITY,**

**as Administrator of the  
Virginia Water Facilities Revolving Fund**

**AND**

**HAMPTON ROADS SANITATION DISTRICT**

Virginia Resources Authority  
Virginia Water Facilities Revolving Fund

**Ferguson Park Interceptor Project  
Loan No. C-515606-02**

## SUPPLEMENT TO MASTER FINANCING AGREEMENT

**THIS SUPPLEMENT TO MASTER FINANCING AGREEMENT** (this “Supplement”) is made as of August 1, 2017, between the **VIRGINIA RESOURCES AUTHORITY**, a public body corporate and a political subdivision of the Commonwealth of Virginia (the “Authority”), as Administrator of the **VIRGINIA WATER FACILITIES REVOLVING FUND**, and the **HAMPTON ROADS SANITATION DISTRICT**, a political subdivision of the Commonwealth of Virginia (the “Borrower”), acting by and through the **HAMPTON ROADS SANITATION DISTRICT COMMISSION**, the governing body of the Borrower (the “Commission”).

**A.** The Authority and the Borrower previously entered into a Master Financing Agreement, dated as of February 1, 2016, as previously amended by a First Amendment to Master Financing Agreement, dated as of August 1, 2016 (together, the “Master Financing Agreement”), with respect to certain loans from the Fund evidenced by the Direct Local Bonds the Borrower issued and sold to the Authority, as Administrator of the Fund, and the Leveraged Local Bonds the Borrower issued and sold to (i) the Authority and assigned to the Trustee or (ii) the Trustee on behalf of the Authority, pursuant to the Authority’s Master Indenture.

**B.** The Borrower has requested an additional loan from the Fund and will evidence its obligation to repay such loan by the 2017 Ferguson Local Bond (as defined below) the Borrower will issue and sell to the Authority, as Administrator of the Fund.

**C.** The Borrower will use the proceeds of the sale of the 2017 Ferguson Local Bond to the Authority to finance that portion of the 2017 Ferguson Project Costs (as defined below) not being paid from other sources, all as further set forth in the 2017 Ferguson Project Budget (as defined below).

**D.** The Authority and the Borrower desire to supplement the Master Financing Agreement with respect to the 2017 Ferguson Local Bond, as set forth herein.

**E.** The Authority and the Borrower hereby set forth certain supplements to the Master Financing Agreement.

**NOW, THEREFORE**, in consideration of the premises and the mutual covenants and agreements hereinafter contained, the Authority and the Borrower covenant and agree as follows:

### ARTICLE I

#### DEFINITIONS

**Section 1.1 Definitions.** The capitalized terms contained in this Supplement and not defined above shall have the meanings set forth below unless the context requires otherwise and any capitalized terms not otherwise defined herein shall have the meaning assigned to such terms in the Master Financing Agreement:

“Agreement” means the Master Financing Agreement between the Authority and the Borrower, as supplemented, amended or modified by one or more Supplemental Financing Agreements.

“Annual Administrative Fee” means the portion of the Cost of Funds, if any, specified in Section 5.1 and Exhibit G payable as an annual fee for administrative and management services attributable to the 2017 Ferguson Local Bond.

“Authorized Representative” means any member, official or employee of the Borrower authorized by resolution, ordinance or other official act of the Commission to perform the act or sign the document in question.

“Borrower” means the Hampton Roads Sanitation District, a political subdivision of the Commonwealth of Virginia, created by and acting under Chapter 66 of the Acts of Assembly of Virginia of 1960, as amended by Chapter 584 of the Acts of Assembly of Virginia of 1962, Chapter 520 of the Acts of Assembly of Virginia of 1964, Chapter 112 of the Acts of Assembly of Virginia of 1974, Chapter 637 of the Acts of Assembly of Virginia of 1976, Chapter 271 of the Acts of Assembly of Virginia of 1977, Chapter 30 of the Acts of Assembly of Virginia of 1987, Chapter 350 of the Acts of Assembly of Virginia of 1989, Chapter 153 of the Acts of Assembly of Virginia of 1990, Chapter 210 of the Acts of Assembly of Virginia of 1998, Chapter 120 of the Acts of Assembly of Virginia of 2004, Chapter 574 of the Acts of Assembly of Virginia of 2008, Chapter 724 of the Acts of Assembly of Virginia of 2012, as such acts may be further amended from time to time.

“Cost of Funds” means interest, including the part thereof allocable to the Annual Administrative Fee, if any, payable as set forth in Section 5.1 and Exhibit G with respect to the 2017 Ferguson Local Bond.

“Direct Local Bonds” means, collectively, the bonds and any allonges thereto described in Exhibit F-1 issued by the Borrower to the Authority, including the 2017 Ferguson Local Bond.

“2017 Ferguson Closing Date” means the date of delivery of the 2017 Ferguson Local Bond to the Authority.

“2017 Ferguson Commitment Letter” shall mean the commitment letter from the Authority to the Borrower with respect to the 2017 Ferguson Local Bond, and all extensions, modifications and amendments thereto.

“2017 Ferguson Local Bond” means the Direct Local Bond in substantially the form attached to this Financing Agreement as Exhibit A issued by the Borrower to the Authority, as Administrator of the Fund, pursuant to the Agreement.

“2017 Ferguson Local Bond Proceeds” means the aggregate proceeds from the sale of the 2017 Ferguson Local Bond pursuant to this Supplement.

“2017 Ferguson Local Bond Resolution” means all resolutions adopted by the Commission approving the transactions contemplated by and authorizing the execution and delivery of this Supplement and the execution, issuance, and delivery of the 2017 Ferguson Local Bond.

“2017 Ferguson Project” means the particular project described in Exhibit B, the costs of the acquisition, construction, improving or equipping of which are to be financed in whole or in part with the 2017 Ferguson Local Bond Proceeds.

“2017 Ferguson Project Budget” means the budget for the financing of the 2017 Ferguson Project, a copy of which is attached as Exhibit C, with such changes therein as may be approved in writing by the Authority.

“2017 Ferguson Project Costs” means the costs of the acquisition, construction, improving or equipping of the 2017 Ferguson Project, as further described in the 2017 Ferguson Project Budget, and such other costs as may be approved in writing by the Authority, provided such costs are permitted by the VWFRF Act.

“Local Bonds” means, collectively, the Direct Local Bonds and the Leveraged Local Bonds.

“Parity Bonds” means any of the Borrower’s bonds, notes or other evidences of indebtedness, as further described on Exhibit F-3 or issued under or secured by the Parity Trust Agreement after the date hereof, that are secured on parity by a pledge of Net Revenues Available for Debt Service, including the 2017 Ferguson Local Bond.

“Senior Bonds” means any of the Borrower’s bonds, notes or other evidences of indebtedness; as further described on Exhibit F-3 or issued under or secured by the Senior Trust Agreement after the date hereof; that are secured by or payable from a pledge of Net Revenues all or any portion of which is senior to the pledge of Net Revenues Available for Debt Service securing the Parity Bonds.

“Supplement” means this Supplement to Master Financing Agreement, dated as of \_\_\_\_\_ 1, 2017, supplementing, amending or modifying the provisions of the Agreement entered into by the Authority and the Borrower.

“Taxable Leveraged Local Bonds” means, collectively, the bonds and any allonges thereto described in Exhibit F-2 as the Taxable Leveraged Local Bonds, issued by the Borrower to (i) the Authority and assigned to the Trustee or (ii) the Trustee on behalf of the Authority.

“Tax-Exempt Leveraged Local Bonds” means, collectively, the bonds and any allonges thereto described in Exhibit F-2 as the Tax-Exempt Leveraged Local Bonds, issued by the Borrower to (i) the Authority and assigned to the Trustee or (ii) the Trustee on behalf of the Authority.

## ARTICLE II

### REPRESENTATIONS

**Section 2.1. Representations by Borrower.** The Borrower makes the following representations as the basis for its undertakings under this Supplement:

(a) The Borrower is a duly created and validly existing “local government” (as defined in Section 62.1-224 of the VWFRF Act) of the Commonwealth of Virginia and is vested with the rights and powers conferred upon it by Virginia law.

(b) The Borrower has full right, power and authority to (i) adopt the 2017 Ferguson Local Bond Resolution and execute and deliver this Supplement and the other documents related thereto, (ii) issue, sell and deliver the 2017 Ferguson Local Bond to the Authority, as Administrator of the Fund, (iii) own and operate the System, (iv) construct, acquire or equip the 2017 Ferguson Project and finance or refinance the 2017 Ferguson Project Costs by borrowing money for such purpose pursuant to this Supplement and the issuance of the 2017 Ferguson Local Bond, and (v) carry out and consummate all of the transactions contemplated by the 2017 Ferguson Local Bond Resolution, this Supplement and the 2017 Ferguson Local Bond.

(c) This Supplement and the 2017 Ferguson Local Bond were duly authorized by the 2017 Ferguson Local Bond Resolution and this Supplement and the 2017 Ferguson Local Bond are in substantially the same form as presented to the governing body of the Borrower at its meeting at which the 2017 Ferguson Local Bond Resolution was adopted.

(d) All governmental permits, licenses, registrations, certificates, authorizations and approvals required to have been obtained as of the date of the delivery of this Supplement have been obtained for (i) the Borrower’s adoption of the 2017 Ferguson Local Bond Resolution, (ii) the execution and delivery by the Borrower of this Supplement and the 2017 Ferguson Local Bond, (iii) the performance and enforcement of the obligations of the Borrower thereunder, (iv) the acquisition, construction, improving, equipping, occupation, operation and use of the 2017 Ferguson Project, and (v) the operation and use of the System and the performance by the Borrower of its obligations under the Senior Trust Agreement and the Parity Trust Agreement. The Borrower knows of no reason why any such required governmental permits, licenses, registrations, certificates, authorizations and approvals not obtained as of the date hereof cannot be obtained as needed.

(e) The Agreement, the Senior Trust Agreement, the Parity Trust Agreement and the 2017 Ferguson Local Bond have been executed and delivered by duly authorized officials of the Borrower and constitute the legal, valid and binding obligations of the Borrower enforceable against the Borrower in accordance with their terms.

(f) The 2017 Ferguson Local Bond has been executed and delivered by duly authorized officials of the Borrower and constitutes a legal, valid and binding limited obligation of the Borrower enforceable against the Borrower in accordance with its terms.

(g) The issuance of the 2017 Ferguson Local Bond and the execution and delivery of this Supplement and the performance by the Borrower of its obligations thereunder

are within the powers of the Borrower and do not conflict with, or constitute a breach or result in a violation of, (i) to the best of the Borrower's knowledge, any Federal or Virginia constitutional or statutory provision, including the Borrower's charter or articles of incorporation, if any, (ii) any agreement or other instrument to which the Borrower is a party or by which it is bound or (iii) any order, rule, regulation, decree or ordinance of any court, government or governmental authority having jurisdiction over the Borrower or its property.

(h) The Borrower is not in default in the payment of the principal of or interest on any of its indebtedness for borrowed money and is not in default under any instrument under and subject to which any indebtedness for borrowed money has been incurred. No event or condition has happened or existed, or is happening or existing, under the provisions of any such instrument, including but not limited to the Agreement, the Senior Trust Agreement and the Parity Trust Agreement, which constitutes, or which, with notice or lapse of time, or both, would constitute an event of default thereunder.

(i) The Borrower (i) to the best of the Borrower's knowledge, is not in violation of any existing law, rule or regulation applicable to it in any way which would have a material adverse effect on its financial condition or its ability to perform its obligations under the Agreement, the Senior Trust Agreement, the Parity Trust Agreement or the 2017 Ferguson Local Bond and (ii) is not in default under any indenture, mortgage, deed of trust, lien, lease, contract, note, order, judgment, decree or other agreement, instrument or restriction of any kind to which the Borrower is a party or by which it is bound or to which any of its assets is subject, which would have a material adverse effect on its financial condition or its ability to perform its obligations under the Agreement, the Senior Trust Agreement, the Parity Trust Agreement or the 2017 Ferguson Local Bond. The execution and delivery by the Borrower of this Supplement or the 2017 Ferguson Local Bond and the compliance with the terms and conditions thereof does not conflict with or result in a breach of or constitute a default under any of the foregoing.

(j) There are not pending or, to the best of the Borrower's knowledge, threatened against the Borrower, any actions, suits, proceedings or investigations of a legal, equitable, regulatory, administrative or legislative nature, (i) affecting the creation, organization or existence of the Borrower or the title of its officers to their respective offices, (ii) seeking to prohibit, restrain or enjoin the approval, execution, delivery or performance of the 2017 Ferguson Local Bond Resolution, the Agreement, the Senior Trust Agreement, the Parity Trust Agreement or the 2017 Ferguson Local Bond or the issuance or delivery of the 2017 Ferguson Local Bond, (iii) in any way contesting or affecting the validity or enforceability of the 2017 Ferguson Local Bond Resolution, the Agreement, the Senior Trust Agreement, the Parity Trust Agreement, the 2017 Ferguson Local Bond or any agreement or instrument relating to any of the foregoing, (iv) in which a judgment, order or resolution may have a material adverse effect on the Borrower or its business, assets, condition (financial or otherwise), operations or prospects or on its ability to perform its obligations under the 2017 Ferguson Local Bond Resolution, the Agreement, the Senior Trust Agreement, the Parity Trust Agreement or the 2017 Ferguson Local Bond, or (v) the undertaking of the 2017 Ferguson Project. Notwithstanding the preceding sentence, the Borrower references the ongoing matter described in Exhibit H. The status of the matter is essentially the same as described herein.

(k) There has been no change in the Borrower's AA ratings by S&P Global Ratings and Fitch Ratings, respectively, on its debt outstanding under the Parity Trust Agreement;

(l) To the best of the Borrower's knowledge, the Borrower is in material compliance with its financial policies in effect as of June 30, 2016.

(m) No material adverse change has occurred in the financial condition of the Borrower as indicated in the financial statements, applications and other information furnished to the Authority.

(n) There have been no defaults by any contractor or subcontractor under any contract made by the Borrower in connection with the construction, improving or equipping of the 2017 Ferguson Project.

(o) Except as may otherwise be approved by the Authority or permitted by the terms of the Senior Trust Agreement or the Parity Trust Agreement or the terms hereof, the 2017 Ferguson Project and the System at all times will be owned by the Borrower and will not be operated or controlled by any other entity or person.

(p) There is no indebtedness of the Borrower secured by or payable from a pledge of Net Revenues with respect to the Senior Bonds or Net Revenues Available for Debt Service with respect to the Parity Bonds on a parity with or prior to the lien of the pledge of Revenues securing the 2017 Ferguson Local Bond except any Parity Bonds or Senior Bonds set forth on Exhibit F-3.

(q) No Event of Default or Default has occurred and is continuing.

### **ARTICLE III**

#### **ISSUANCE AND DELIVERY OF THE 2017 Ferguson Local Bond**

##### **Section 3.1. Loan to Borrower and Purchase of the 2017 Ferguson Local Bond.**

The Borrower agrees to borrow from the Authority and the Authority agrees to lend to the Borrower, from the Fund, the principal amount equal to the sum of the principal disbursements made pursuant to Section 4.1, but not to exceed \$\_\_\_\_\_, for the purposes herein set forth. The Borrower's obligation shall be evidenced by the 2017 Ferguson Local Bond, which shall be in substantially the form of Exhibit A attached hereto and made a part hereof and delivered to the Authority on the 2017 Ferguson Closing Date. The 2017 Ferguson Local Bond shall bear a Cost of Funds, mature and be payable as hereinafter provided.

##### **Section 3.2. Conditions Precedent to Purchase of the 2017 Ferguson Local Bond.**

The Authority shall not be required to make the loan to the Borrower and purchase the 2017 Ferguson Local Bond unless the Authority shall have received the following, all in form and substance satisfactory to the Authority:

(a) The 2017 Ferguson Local Bond.

(b) A certified copy of the 2017 Ferguson Local Bond Resolution.

(c) A certificate of appropriate officials of the Borrower as to the matters set forth in Section 2.1 and such other matters as the Authority may reasonably require.

(d) A closing certificate from the Department certifying that the 2017 Ferguson Project is in compliance with all federal and state laws and project requirements applicable to the Fund and evidencing the Board's concurrence in the closing of the loan with the Borrower.

(e) A certificate of the Consulting Engineer estimating the total 2017 Ferguson Project Costs to be financed with the 2017 Ferguson Local Bond Proceeds, which estimate is in an amount and otherwise compatible with the financing plan described in the 2017 Ferguson Project Budget.

(f) A certificate, including supporting documentation, of the District Engineer or the General Manager to the effect that in the opinion of the District Engineer or the General Manager (i) the 2017 Ferguson Project will be a part of the System, (ii) the 2017 Ferguson Local Bond Proceeds and funds available from the other sources specified in the 2017 Ferguson Project Budget will be sufficient to pay the estimated 2017 Ferguson Project Costs, and (iii) during the first two complete Fiscal Years of the Borrower following completion of the 2017 Ferguson Project, the projected Net Revenues Available for Debt Service will satisfy the Rate Covenant set forth in Section 705 of the Parity Trust Agreement with respect to the Parity Bonds. In providing this certificate, the District Engineer or the General Manager may take into consideration future System rate increases, provided that such rate increases have been duly approved by the governing body of the Borrower and any other person or entity required to give approval for the rate increase to become effective. In addition, the District Engineer or the General Manager may take into consideration additional future revenues to be derived under existing contractual arrangements entered into by the Borrower and from reasonable estimates of growth in the consumer base of the Borrower.

(g) A certificate of the District Engineer as to the date the Borrower is expected to complete the acquisition, construction, improving and equipping of the 2017 Ferguson Project.

(h) Evidence satisfactory to the Authority that all governmental permits, licenses, registrations, certificates, authorizations and approvals for the 2017 Ferguson Project required to have been obtained as of the date of the delivery of this Supplement have been obtained and a statement of the District Engineer that he knows of no reason why any future required governmental permits, licenses, registrations, certificates, authorizations and approvals cannot be obtained as needed.

(i) Evidence satisfactory to the Authority that the Borrower has obtained or has made arrangements satisfactory to the Authority to obtain any funds or other financing required to provide funds in excess of the 2017 Ferguson Local Bond Proceeds for the 2017 Ferguson Project as contemplated in the 2017 Ferguson Project Budget.

(j) Evidence satisfactory to the Authority that the Borrower has performed and satisfied all of the terms and conditions contained in this Supplement to be performed and satisfied by it as of such date.

(k) An Opinion of Bond Counsel, substantially in the form of Exhibit D, addressed to the Fund and the Authority.

(l) An opinion of counsel to the Borrower in form and substance reasonably satisfactory to the Authority.

(m) Evidence satisfactory to the Authority that the Borrower has complied with the insurance provisions set forth in the Agreement.

(n) Copies of any and all documents, certificates or instruments required to be delivered to the Local Trustee pursuant to Section 704 of the Parity Trust Agreement as a condition precedent to the issuance of the 2017 Ferguson Local Bond, and such other evidence satisfactory to the Authority that the 2017 Ferguson Local Bond will be issued as VRA Subordinate Obligations under and as defined in the Parity Trust Agreement on a parity with the Parity Bonds.

(o) Such other documentation, certificates and opinions as the Authority, the Board or the Department may reasonably require.

#### **ARTICLE IV**

#### **USE OF LOCAL BOND PROCEEDS AND CONSTRUCTION OF 2017 Ferguson Project**

##### **Section 4.1. Application of Proceeds.**

(a) The Borrower agrees to apply the 2017 Ferguson Local Bond Proceeds solely and exclusively to the payment, or to the reimbursement of the Borrower for the payment, of 2017 Ferguson Project Costs and further agrees to exhibit to the Department or the Authority receipts, vouchers, statements, bills of sale or other evidence of the actual payment of such 2017 Ferguson Project Costs. The Authority shall disburse money from the Fund to or for the account of the Borrower not more frequently than once each calendar month (unless otherwise agreed by the Authority and the Borrower) upon receipt by the Authority (with a copy to be furnished to the Department) of the following:

(1) A requisition (upon which the Authority, the Board and the Department shall be entitled to rely) signed by an Authorized Representative and containing all information called for by, and otherwise being in the form of, Exhibit E to this Supplement;

(2) If any requisition includes an item for payment for labor or to contractors, builders or materialmen,

(i) a certificate, signed by the District Engineer, stating that such work was actually performed or such materials, supplies or equipment were

actually furnished or installed in or about the construction of the 2017 Ferguson Project; and

(ii) a certificate, signed by an Authorized Representative, stating either that such materials, supplies or equipment are not subject to any lien or security interest or that such lien or security interest will be released or discharged upon payment of the requisition.

Upon receipt of each such requisition and accompanying certificate or certificates and approval thereof by the Department, the Authority shall disburse 2017 Ferguson Local Bond Proceeds hereunder to or for the account of the Borrower in accordance with such requisition in an amount and to the extent approved by the Department and shall note the date and amount of each such disbursement on a schedule of principal disbursements to be included on the 2017 Ferguson Local Bond. The Authority shall have no obligation to disburse any such 2017 Ferguson Local Bond Proceeds if the Borrower is in default hereunder nor shall the Department have any obligation to approve any requisition if the Borrower is not in compliance with the terms of the Agreement.

(b) Upon receipt of each such requisition and accompanying certificate or certificates and approval thereof by the Department, the Authority shall disburse 2017 Ferguson Local Bond Proceeds hereunder to or for the account of the Borrower in accordance with such requisition in an amount and to the extent approved by the Department and shall note the date and amount of each such disbursement on a schedule of principal disbursements to be included on the 2017 Ferguson Local Bond. The Authority shall have no obligation to arrange for the disbursement of any such 2017 Ferguson Local Bond Proceeds if the Borrower is in default hereunder nor shall the Department have any obligation to approve any requisition if the Borrower is not in compliance with the terms of the Agreement.

(c) The Borrower shall comply with all applicable laws of the Commonwealth of Virginia, including but not limited to, the Virginia Public Procurement Act, as amended, regarding the awarding and performance of public construction contracts. Except as may otherwise be approved by the Department, disbursements shall be held at ninety-five percent (95%) of the maximum authorized amount of the 2017 Ferguson Local Bond to ensure satisfactory completion of the 2017 Ferguson Project. Upon receipt from the Borrower of the certificate specified in Section 4.2 and a final requisition detailing all retainages to which the Borrower is then entitled, the Authority, to the extent approved by the Department and subject to the provisions of this Section and Section 4.2, will arrange for the disbursement of Local Bond Proceeds to or for the account of the Borrower to the extent of such approval.

The Authority shall have no obligation to disburse Local Bond Proceeds in excess of the amount necessary to pay for approved Project Costs. If principal disbursements up to the maximum authorized amount of the 2017 Ferguson Local Bond are not made, installments due on the 2017 Ferguson Local Bond shall be reduced in accordance with Section 5.1.

**Section 4.2. Agreement to Accomplish Project.** The Borrower agrees to cause the 2017 Ferguson Project to be acquired, constructed, expanded, renovated or equipped as described in Exhibit B and in accordance with the 2017 Ferguson Project Budget and the plans,

specifications and designs accepted by the District Engineer and approved by the Department. The Borrower shall use its best efforts to complete the 2017 Ferguson Project by the date set forth in the certificate provided to the Authority pursuant to Section 3.2(f). All plans, specifications and designs shall be approved by all applicable regulatory agencies. The Borrower agrees to maintain complete and accurate books and records of the 2017 Ferguson Project Costs and permit the Authority and the Department through their duly authorized representatives to inspect such books and records at any reasonable time in accordance with Section 8.4 of the Master Financing Agreement. The Borrower and the Authority, with the consent of the Department, may amend the description of the 2017 Ferguson Project set forth in Exhibit B.

When the 2017 Ferguson Project has been completed, the Borrower shall promptly deliver to the Authority and the Department a certificate signed by an Authorized Representative of the Borrower and by the District Engineer stating (i) that the 2017 Ferguson Project has been completed substantially in accordance with this Section, the plans and specifications as amended from time to time, as approved by the Department, and in substantial compliance with all material applicable laws, ordinances, rules and regulations, (ii) the date of such completion, (iii) that all certificates of occupancy or other material permits necessary for the 2017 Ferguson Project's use, occupancy and operation have been issued or obtained, and (iv) the amount, if any, to be reserved for payment of 2017 Ferguson Project Costs.

**Section 4.3. Permits.** The Borrower, at its sole cost and expense, shall comply with, and shall obtain all permits, consents and approvals required by local, state or federal laws, ordinances, rules, regulations or requirements in connection with the acquisition, construction, improving, equipping, occupation, operation or use of the 2017 Ferguson Project. The Borrower shall, upon request, promptly furnish to the Authority and the Department copies of all such permits, consents and approvals. The Borrower shall also comply with all lawful program or procedural guidelines or requirements duly promulgated and amended from time to time by the Department in connection with the acquisition, construction, improving, equipping, occupation, operation or use of projects financed under the Act, including, but not limited to, those pertaining to the adoption of any requisite sewer use ordinance. The Borrower shall also comply in all respects with all applicable federal, state and local laws, regulations and other requirements relating to or arising out of or in connection with the 2017 Ferguson Project and the funding thereof from the Fund. Where noncompliance with such requirements is determined by the Authority or the Board, the issue shall be referred to the proper governmental authority or agency for consultation or enforcement action.

**Section 4.4. Construction Contractors.** Each construction contractor employed in the accomplishment of the 2017 Ferguson Project shall be required in the construction contract to furnish a performance bond and a payment bond each in an amount equal to one hundred percent (100%) of the particular contract price. Such bonds shall list the Borrower, the Fund, the Authority, the Department and the Board as beneficiaries. Each contractor shall be required to maintain during the construction period covered by the particular construction contract builder's risk insurance, workers' compensation insurance, public liability insurance, property damage insurance and vehicle liability insurance in amounts and on terms satisfactory to the District Engineer. Upon request of the Authority, the Department or the Board, the Borrower shall cause

each contractor to furnish evidence of such bonds and insurance to the Authority, the Board or the Department.

**Section 4.5. Engineering Services.** The Borrower shall designate a District Engineer to provide engineering services covering the operation of the System and the supervision and inspection of the construction of the 2017 Ferguson Project. The District Engineer shall certify to the Authority and the Department as to the various stages of the completion of the 2017 Ferguson Project as disbursements of Local Bond Proceeds are requested and shall upon completion of the 2017 Ferguson Project provide to the Fund, the Authority and the Department the certificates required by Sections 4.1 and 4.2.

**Section 4.6. Borrower Required to Complete Project.** If the 2017 Ferguson Local Bond Proceeds, together with amounts made available to the Borrower pursuant to the Funding Agreement, are not sufficient to pay in full the cost of the 2017 Ferguson Project, the Borrower will complete the 2017 Ferguson Project at its own expense and shall not be entitled to any reimbursement therefor from the Fund, the Authority or the Department or any abatement, diminution or postponement of the Borrower's payments under the 2017 Ferguson Local Bond or the Agreement.

**Section 4.7. Davis-Bacon Act.** The Borrower agrees to comply with the Davis-Bacon Act and related acts, as amended, with respect to the 2017 Ferguson Project and require that all laborers and mechanics employed by contractors and subcontractors for the 2017 Ferguson Project shall be paid wages at rates not less than those prevailing on projects of a similar character, as determined by the United States Secretary of Labor in accordance with Section 513 of the Federal Water Pollution Control Act, as amended.

**Section 4.8. American Iron and Steel.** The Borrower agrees to comply with Section 608 of the Federal Water Pollution Control Act and related acts, as amended, with respect to the 2017 Ferguson Project and require that all iron and steel products used for the 2017 Ferguson Project are to be produced in the United States as required under such act. The term "iron and steel products" is defined to mean the following products made primarily of iron or steel: lined or unlined pipes and fittings, manhole covers and other municipal castings, hydrants, tanks, flanges, pipe clamps and restraints, valves, structural steel, reinforced precast concrete and construction materials.

**Section 4.9. Fiscal Sustainability Plan.** The Borrower agrees to develop and implement a fiscal sustainability plan ("FSP") to the reasonable satisfaction of the Department that includes but is not limited to: (1) an inventory of critical assets that are part of the treatment works, (2) evaluation of the condition and performance of inventoried assets or asset groupings, (3) certification that the recipient has evaluated and will be implementing water and energy conservation efforts as part of the plan, and (4) a plan for maintaining, repairing, funding, and as necessary, replacing the treatment works. Except as may otherwise be approved by the Department, disbursements shall be held at eighty percent (80%) of the maximum authorized amount of the 2017 Ferguson Local Bond until a draft FSP is submitted to the Department and at ninety-five percent (95%) of the maximum authorized amount of the 2017 Ferguson Local Bond until a final FSP is submitted and approved by the Department.

## ARTICLE V

### PAYMENTS

**Section 5.1. Payment of 2017 Ferguson Local Bond.** The 2017 Ferguson Local Bond shall be dated the 2017 Ferguson Closing Date. The Cost of Funds of the 2017 Ferguson Local Bond shall be computed on the disbursed principal balance thereof from the date of each disbursement at the rate set forth on Exhibit G with respect to the 2017 Ferguson Local Bond. Principal and the Cost of Funds due under the 2017 Ferguson Local Bond shall be payable in equal installments as set forth on Exhibit G with respect to the 2017 Ferguson Local Bond. All amounts due under the Agreement and the 2017 Ferguson Local Bond shall be due and payable in full with the final installment of principal and Cost of Funds due as set forth on Exhibit G with respect to the 2017 Ferguson Local Bond. Each installment shall be applied first to payment of the Cost of Funds accrued and unpaid to the payment date and then to principal. If principal disbursements up to the maximum authorized amount of the 2017 Ferguson Local Bond are not made, the principal amount due on the 2017 Ferguson Local Bond shall not include such undisbursed amount. However, unless the Borrower and the Authority agree otherwise in writing, until all amounts due hereunder and under the 2017 Ferguson Local Bond shall have been paid in full, less than full disbursement of the maximum authorized amount of the 2017 Ferguson Local Bond shall not postpone the due date of any semi-annual installment due on the 2017 Ferguson Local Bond, or change the amount of such installment unless the principal amount due under the 2017 Ferguson Local Bond is less than the amount of such installment. If any installment of principal or the Cost of Funds on the 2017 Ferguson Local Bond is not paid within ten (10) days after its due date, the Borrower agrees to pay the Authority a late payment charge in an amount equal to five percent (5.0%) of the overdue installment on the 2017 Ferguson Local Bond.

## ARTICLE VI

### PREPAYMENTS

**Section 6.1. Prepayment of 2017 Ferguson Local Bond.** Upon completion of the 2017 Ferguson Project and after giving at least ten (10) days' written notice to the Authority, the Borrower may prepay the 2017 Ferguson Local Bond at any time, in whole or in part and without penalty. Such written notice shall specify the date on which the Borrower will make such prepayment and whether the 2017 Ferguson Local Bond will be prepaid in full or in part, and if in part, the principal amount to be prepaid. Any such partial prepayment shall be applied against the principal amount outstanding under the 2017 Ferguson Local Bond but shall not postpone the due date of any subsequent payment on the 2017 Ferguson Local Bond, or change the amount of such installment, unless the Authority and the Borrower agree otherwise in writing.

## ARTICLE VII

### MISCELLANEOUS

**Section 7.1. Successors and Assigns.** This Supplement shall be binding upon, inure to the benefit of and be enforceable by the parties and their respective successors and assigns.

**Section 7.2. Applicable Law.** This Supplement shall be governed by the laws of the Commonwealth of Virginia.

**Section 7.3. Authorization of Supplement.** All terms, covenants, conditions and agreements of the Master Financing Agreement shall apply with full force and effect to the 2017 Ferguson Local Bond, except as otherwise provided herein.

**Section 7.4. Ratification of Master Financing Agreement.** All of the representations and warranties of the Borrower contained in Article II of the Master Financing Agreement are true and correct as of the date hereof. All terms of the Master Financing Agreement except as amended or modified by the terms of this Supplement are hereby reaffirmed, ratified and confirmed.

**Section 7.5. Severability.** If any clause, provision or section of this Supplement shall be held illegal or invalid by any court, the illegality or invalidity of such clause, provision or section shall not affect the remainder of this Supplement which shall be construed and enforced as if such illegal or invalid clause, provision or section had not been contained in this Supplement. If any agreement or obligation contained in this Supplement is held to be in violation of law, then such agreement or obligation shall be deemed to be the agreement or obligation of the Authority and the Borrower, as the case may be, only to the extent permitted by law.

**Section 7.6. Headings.** The headings of the several articles and sections of this Supplement are inserted for convenience only and do not comprise a part of this Supplement.

**Section 7.7. Term of Supplement.** This Supplement shall be effective upon its execution and delivery, provided that the 2017 Ferguson Local Bond previously or simultaneously has been executed and delivered. Except as otherwise specified, the Borrower's obligations under the 2017 Ferguson Local Bond and this Supplement shall expire upon payment in full of the 2017 Ferguson Local Bond and all other amounts payable by the Borrower under the Agreement.

**Section 7.8. 2017 Ferguson Commitment Letter.** The 2017 Ferguson Commitment Letter is an integral part of this Supplement and shall survive closing hereunder.

**Section 7.9 Counterparts.** This Supplement may be executed in any number of counterparts, each of which shall be an original and all of which together shall constitute but one and the same instrument.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

14. The official seal of the Commission is the same seal of which an impression appears below and which is impressed on the Local Bond.

WITNESS our hands as of the \_\_ day of July, 2017.



By: *Andrew H. Eloff*  
Chairman of the Hampton Roads  
Sanitation District Commission

By: *Jennifer A. Casco*  
Secretary of the Hampton Roads  
Sanitation District Commission

[Signature Page to General Certificate of Commission]

**EXHIBIT A**  
**Form of Local Bond**  
**Hampton Roads Sanitation District**  
**Ferguson Park Interceptor Project**  
**Loan No. C-515606-0\_**

[To Come from Borrower's Bond Counsel]

**EXHIBIT B**  
**2017 Ferguson Project Description**  
**Hampton Roads Sanitation District**  
**Ferguson Park Interceptor Project**  
**Loan No. C-515606-0\_**

The 2017 Ferguson Project includes financing improvements to the Ferguson Interceptor, along with related expenses.

**EXHIBIT C**  
**2017 Ferguson Project Budget**  
**Hampton Roads Sanitation District**  
**Ferguson Park Interceptor Project**  
**Loan No. C-515606-0\_**

[To Come]

**EXHIBIT D**  
**Opinion of Bond Counsel**  
**Hampton Roads Sanitation District**  
**Ferguson Park Interceptor Project**  
**Loan No. C-515606-0\_**

[To Come from Borrower's Bond Counsel]

**EXHIBIT E**  
**Form of Requisition**  
**Hampton Roads Sanitation District**  
**Ferguson Park Interceptor Project**  
**Loan No. C-515606-0\_**

**(To Be on Borrower's Letterhead)**

[Date]

Walter A. Gills, Program Manager  
Construction Assistance Program  
Department of Environmental Quality  
P. O. Box 1105  
Richmond, Virginia 23218

Re: Hampton Roads Sanitation District  
Loan No. C-515606-0\_

Dear Mr. Gills:

This requisition, Number \_\_\_\_\_, is submitted in connection with the Master Financing Agreement, dated as of March 1, 2016, between the Authority, as Administrator of the Fund, and the Borrower, as amended to the date hereof, and as supplemented by the Supplement to Master Financing Agreement, dated as of \_\_\_\_ 1, 2017 (as so amended and supplemented, the "Agreement"), between the Virginia Resources Authority, as Administrator of the Virginia Water Facilities Revolving Fund, and the Hampton Roads Sanitation District (the "Borrower"). Unless otherwise defined in this requisition, all capitalized terms used herein shall have the meaning set forth in the Agreement. The undersigned Authorized Representative of the Borrower hereby requests disbursement of loan proceeds under the Agreement in the amount of \$\_\_\_\_\_, for the purposes of payment of the 2017 Ferguson Project Costs as set forth in Schedule 1 attached hereto.

Attached hereto are invoices relating to the items for which payment is requested.

The undersigned certifies that (a) the amounts requested by the requisition will be applied solely and exclusively to the payment, or to the reimbursement of the Borrower for the payment, of the 2017 Ferguson Project Costs, and (b) any materials, supplies or equipment covered by this requisition are not subject to any lien or security interest or such lien or security interest will be released upon payment of the requisition. In addition, to the extent applicable, the undersigned certifies that the Borrower has conducted adequate oversight for compliance with the Davis-Bacon Act and related acts through (a) the review of payrolls and associated certifications, (b) the conducting of employee interviews, and (c) the posting of all wage determinations and additional classifications (as appropriate) on the work site, and through this oversight, the Borrower has determined to the best of its ability that the 2017 Ferguson Project complies with the requirements of the Davis-Bacon Act and related acts. The Borrower further certifies that all products included in

this request satisfy the appropriate provisions of the American Iron and Steel requirements included in the Agreement.

The undersigned further certifies that (a) no Event of Default or Default has occurred and is continuing, and no condition exists which, with the passing of time or with the giving of notice or both, would constitute an Event of Default hereunder, and (b) the representations and warranties of the Borrower contained in the Agreement are true, correct and complete and the Borrower has performed all of its obligations thereunder required to be performed as of the date hereof.

This requisition includes an accompanying Certificate of the Consulting Engineer as to the performance of the work.

Very truly yours,

By: \_\_\_\_\_

Its: \_\_\_\_\_

Attachments

cc: DEQ Regional Engineer (with all attachments)

CERTIFICATE OF THE CONSULTING ENGINEER  
FORM TO ACCOMPANY REQUEST FOR DISBURSEMENT

This Certificate is being executed and delivered in connection with Requisition Number \_\_\_\_, dated \_\_\_\_\_, 20\_\_, submitted by the Hampton Roads Sanitation District (the “Borrower”), pursuant to the Master Financing Agreement, dated as of March 1, 2016, between the Authority, as Administrator of the Fund, and the Borrower, as amended to the date hereof, and as supplemented by the Supplement to Master Financing Agreement, dated as of \_\_\_\_ 1, 2017 (as so amended and supplemented, the “Agreement”), between the Virginia Resources Authority, as Administrator of the Virginia Water Facilities Revolving Fund (the “Authority”), and the Borrower. Capitalized terms used herein shall have the same meanings set forth in the Agreement.

The undersigned Consulting Engineer for the Borrower hereby certifies to the Authority that, insofar as the amounts covered by this Requisition include payments for labor or to contractors, builders or materialmen, such work was actually performed or such materials, supplies or equipment were actually furnished to or installed in the construction portion of the 2017 Ferguson Project.

\_\_\_\_\_  
[Consulting Engineer]

By: \_\_\_\_\_

Date: \_\_\_\_\_

**SCHEDULE 1**  
**VIRGINIA WATER FACILITIES REVOLVING FUND**  
**FORM TO ACCOMPANY REQUEST FOR DISBURSEMENT**

**REQUISITION #** \_\_\_\_\_  
**BORROWER:** HAMPTON ROADS SANITATION DISTRICT  
**LOAN NUMBER:** C-515606-0\_  
**CERTIFYING SIGNATURE:** \_\_\_\_\_  
**TITLE:** \_\_\_\_\_

Cost Category	Amount Budgeted	Previous Disbursements	Expenditures This Period	Total Expenditures to Date	Net Balance Remaining
<b>TOTALS:</b>					

**Total Loan Amount \$** \_\_\_\_\_  
**Previous Disbursements \$** \_\_\_\_\_  
**This Request \$** \_\_\_\_\_  
**Loan Proceeds Remaining \$** \_\_\_\_\_

**EXHIBIT F-1**  
**Direct Local Bonds**  
**Hampton Roads Sanitation District**  
**Ferguson Park Interceptor Project**  
**Loan No. C-515606-0\_**

\$1,759,000 Hampton Roads Sanitation District Subordinate Pledge Sewer Revenue Bond, dated January 31, 2002 (Army Base Aeration and James River Thickener Projects), as amended on January 9, 2013

\$2,476,000 Hampton Roads Sanitation District Subordinate Pledge Sewer Revenue Bond, dated April 3, 2002 (York River STP-Wastewater Reuse Project), as amended on January 9, 2013

\$40,338,298 Hampton Roads Sanitation District Subordinate Pledge Sewer Revenue Bond, dated February 26, 2004 (Chesapeake-Elizabeth Treatment Plant Project), as amended on January 9, 2013

\$1,235,000 Hampton Roads Sanitation District Subordinate Pledge Sewer Revenue Bond, dated July 29, 2005 (Army Base Treatment Plant Project), as amended on January 9, 2013

\$7,339,600 Hampton Roads Sanitation District Subordinate Pledge Sewer Revenue Bond, dated June 22, 2006 (Atlantic Wastewater Treatment Plant Project), as amended on January 9, 2013

\$1,605,200 Hampton Roads Sanitation District Subordinate Pledge Sewer Revenue Bond, dated June 22, 2006 (Colonial Williamsburg Pump Station Project), as amended on January 9, 2013

\$6,318,000 Hampton Roads Sanitation District Wastewater Revenue Bond, Series 2012, dated March 13, 2012 (Atlantic Treatment Plant: Digester Gas to Energy Project)

**EXHIBIT F-2**  
**Tax-Exempt Leveraged Local Bonds and Taxable Leveraged Local Bonds**  
**Hampton Roads Sanitation District**  
**Ferguson Park Interceptor Project**  
**Loan No. C-515606-0\_**

**Tax-Exempt Leveraged Local Bonds.**

\$6,490,000 Hampton Roads Sanitation District Subordinate Pledge Sewer Revenue Bond, dated July 19, 2000 (Disinfection Projects)

\$2,380,185 Hampton Roads Sanitation District Subordinate Pledge Sewer Revenue Bond, dated September 28, 2000 (Odor Control Projects)

\$1,070,000 Hampton Roads Sanitation District Subordinate Pledge Sewer Revenue Bond, dated May 31, 2002 (Chesapeake-Elizabeth Incinerator Project)

**Taxable Leveraged Local Bonds.**

\$30,000,000 Hampton Roads Sanitation District Subordinate Pledge Sewer Revenue Bond, dated December 17, 2008 (York River Wastewater Treatment Plant Project), as amended on January 15, 2015

\$19,410,226 Hampton Roads Sanitation District Wastewater Revenue Bonds, Series 2009, dated May 28, 2009 (Nansemond Treatment Plant Project), as amended on September 11, 2015

\$13,718,671 Hampton Roads Sanitation District Wastewater Revenue Bonds, Series 2009, dated November 20, 2009 (James River Treatment Plant Project), as amended on September 11, 2015

\$11,418,372 Hampton Roads Sanitation District Wastewater Revenue Bonds, Series 2009, dated December 18, 2009 (Interceptor System Metering Project), as amended on September 11, 2015

\$50,000,000 Hampton Roads Sanitation District Wastewater Revenue Bonds, Series 2010, dated June 29, 2010 (Army Base Wastewater Treatment Plant Project), as amended on August 31, 2016

\$5,924,715 Hampton Roads Sanitation District Wastewater Revenue Bonds, Series 2010, dated June 29, 2010 (Williamsburg Oxidation Towers Project), as amended on August 31, 2016

\$7,583,771 Hampton Roads Sanitation District Wastewater Revenue Bonds, Series 2010, dated June 29, 2010 (Boat Harbor Treatment Project), as amended on August 31, 2016

**EXHIBIT F-3**  
**Senior Bonds, Migrating Senior Bonds and Parity Bonds**  
**Hampton Roads Sanitation District**  
**Ferguson Park Interceptor Project**  
**Loan No. C-515606-0\_**

**Senior Bonds.**

\$223,170,000 Hampton Roads Sanitation District Wastewater Revenue Bonds, Series 2008, dated March 31, 2008

\$152,640,000 Hampton Roads Sanitation District Wastewater Revenue Bonds, Series 2009, dated November 12, 2009

\$45,705,000 Hampton Roads Sanitation District Wastewater Revenue Bonds, Series 2011, dated October 20, 2011

\$130,480,000 Hampton Roads Sanitation District Wastewater Revenue Bonds, Series 2012, dated December 27, 2012

\$111,345,000 Hampton Roads Sanitation District Wastewater Revenue Bonds, Refunding Series 2014A, dated November 12, 2014

**Migrating Senior Bonds.**

\$19,410,226 Hampton Roads Sanitation District Wastewater Revenue Bonds, Series 2009, dated May 28, 2009 (Nansemond Treatment Plant Project), as amended on September 11, 2015

\$13,718,671 Hampton Roads Sanitation District Wastewater Revenue Bonds, Series 2009, dated November 20, 2009 (James River Treatment Plant Project), as amended on September 11, 2015

\$11,418,372 Hampton Roads Sanitation District Wastewater Revenue Bonds, Series 2009, dated December 18, 2009 (Interceptor System Metering Project), as amended on September 11, 2015

\$50,000,000 Hampton Roads Sanitation District Wastewater Revenue Bonds, Series 2010, dated June 29, 2010 (Army Base Wastewater Treatment Plant Project), as amended on August 31, 2016

\$5,924,715 Hampton Roads Sanitation District Wastewater Revenue Bonds, Series 2010, dated June 29, 2010 (Williamsburg Oxidation Towers Project), as amended on August 31, 2016

\$7,583,771 Hampton Roads Sanitation District Wastewater Revenue Bonds, Series 2010, dated June 29, 2010 (Boat Harbor Treatment Project), as amended on August 31, 2016

\$6,318,000 Hampton Roads Sanitation District Wastewater Revenue Bond, Series 2012, dated March 13, 2012 (Atlantic Treatment Plant: Digester Gas to Energy Project)

### **Parity Bonds.**

\$6,490,000 Hampton Roads Sanitation District Subordinate Pledge Sewer Revenue Bond, dated July 19, 2000 (Disinfection Projects)

\$2,380,185 Hampton Roads Sanitation District Subordinate Pledge Sewer Revenue Bond, dated September 28, 2000 (Odor Control Projects)

\$1,759,000 Hampton Roads Sanitation District Subordinate Pledge Sewer Revenue Bond, dated January 31, 2002 (Army Base Aeration and James River Thickener Projects), as amended on January 9, 2013

\$2,476,000 Hampton Roads Sanitation District Subordinate Pledge Sewer Revenue Bond, dated April 3, 2002 (York River STP-Wastewater Reuse Project), as amended on January 9, 2013

\$1,070,000 Hampton Roads Sanitation District Subordinate Pledge Sewer Revenue Bond, dated May 31, 2002 (Chesapeake-Elizabeth Incinerator Project)

\$40,338,298 Hampton Roads Sanitation District Subordinate Pledge Sewer Revenue Bond, dated February 26, 2004 (Chesapeake-Elizabeth Treatment Plant Project), as amended on January 9, 2013

\$1,235,000 Hampton Roads Sanitation District Subordinate Pledge Sewer Revenue Bond, dated July 29, 2005 (Army Base Treatment Plant Project), as amended on January 9, 2013

\$7,339,600 Hampton Roads Sanitation District Subordinate Pledge Sewer Revenue Bond, dated June 22, 2006 (Atlantic Wastewater Treatment Plant Project), as amended on January 9, 2013

\$1,605,200 Hampton Roads Sanitation District Subordinate Pledge Sewer Revenue Bond, dated June 22, 2006 (Colonial Williamsburg Pump Station Project), as amended on January 9, 2013

\$30,000,000 Hampton Roads Sanitation District Subordinate Pledge Sewer Revenue Bond, dated December 17, 2008 (York River Wastewater Treatment Plant Project), as amended on January 15, 2015

\$25,000,000 Hampton Roads Sanitation District Subordinate Wastewater Revenue Bonds, Series 2011, dated October 20, 2011

\$22,680,000 Hampton Roads Sanitation District Subordinate Wastewater Revenue Bonds, Refunding Series 2012, dated December 27, 2012

\$246,845,000 Sanitation District Subordinate Wastewater Revenue Bonds, Refunding Series 2016A, dated March 17, 2016

\$50,000,000 Sanitation District Subordinate Wastewater Revenue Bonds, Refunding Series 2016B, dated April 1, 2016

\$\_\_\_\_\_ Sanitation District Subordinate Wastewater Revenue Bonds, Series 2017\_, dated  
\_\_\_\_\_, 2017

**EXHIBIT G**  
**Debt Service Schedule**  
**Hampton Roads Sanitation District**  
**Ferguson Park Interceptor Project**  
**Loan No. C-515606-0\_**

[To Come]

**EXHIBIT H**  
**EPA Consent Order**  
**Hampton Roads Sanitation District**  
**Ferguson Park Interceptor Project**  
**Loan No. C-515606-0\_**

[To Come from Borrower's Bond Counsel]

HRSD COMMISSION MEETING MINUTES  
July 19, 2017

ATTACHMENT #3

AGENDA ITEM 5. – Forest Hill Avenue, Gloucester, Virginia  
Disposition of Publicly Held Real Property and  
Acquisition of a Permanent Utility Easement

602397

Consideration: \$39,000.00  
Assessed Value: \$69,020.00

**PREPARED BY AND RETURN TO:**  
Conway H. Sheild, III, Esquire  
Jones, Blechman, Woltz & Kelly, P.C.  
701 Town Center Drive, Suite 800  
Newport News, Virginia 23606  
VSB #06893

TAX EXEMPT PURSUANT TO VA CODE SECTION 58.1-811 (C5)

Title policy: UNKNOWN

Tax Map ID: 32 parcel 195B

**THIS DEED OF CONVEYANCE AND DEED OF EASEMENT** (the "Agreement"), made this \_\_\_\_ day of \_\_\_\_\_, 2017, and between **HAMPTON ROADS SANITATION DISTRICT**, a political subdivision of the Commonwealth of Virginia ("HRSD"), whose mailing address is: P.O. Box 5911, Virginia Beach, Virginia, 23471-0911 to be indexed as GRANTOR and GRANTEE, and **EBBITT CORPORATION**, A Washington, D.C. Corporation ("**EBBITT**"), to be indexed as GRANTEE and GRANTOR, whose mailing address is 2614 Bastian Lane, Suite 115, Herndon, Virginia 20171.

**WITNESSETH:** That for and in consideration of the sum of TEN DOLLARS (\$10.00), cash in hand paid, and other good and valuable consideration, the receipt of which is hereby acknowledged, HRSD does grant and convey with SPECIAL WARRANTY, unto the EBBITT, its successors and assigns, the following described property, to wit:

All that certain lot, piece or parcel of land, situate, lying and being in the County of Gloucester, Virginia, containing 0.2215 acres, as shown on that certain plat entitled, 'PLAT OF 0.2215 ACRE TO BE CONVEYED TO THE EBBITT CORPORATION, YORK MAGISTERIAL DISTRICT, GLOUCESTER, VIRGINIA', dated June 28, 2017 and made by Alistair J. Ramsay, L.S. (the "Plat"), copy of which Plat is attached hereto and made a part hereof, to which reference is here made.

It being the same property conveyed to HRSD by deed recorded in the Clerk's Office of the Circuit Court for the County of Gloucester, Virginia, in Deed Book 467, page 92.

Subject to restrictions, covenants, conditions and easements of record.

Together with all and singular the buildings and improvements thereon, rights and privileges, tenements, hereditaments, easement and appurtenances unto the said land belonging or in anywise appertaining.

Further, HRSD hereby reserves unto itself a variable width utility easement known as a "588 S.F. VARIABLE WIDTH UTILITY EASEMENT HEREBY RESERVED BY HRSD", as shown and described on the above Plat; and

EBBITT further grants to HRSD a variable width utility easement known as a "106 S.F. VARIABLE WIDTH UTILITY EASEMENT HEREBY GRANTED TO HRSD", as shown and describe on the above Plat.

HRSD and EBBITT enter into this Agreement as their evidence of their acknowledgment of the terms and conditions contained herein and its agreement to abide by same.

WITNESS the following signatures and seals.

INTENTIONALLY LEFT BLANK

This signature page is a part of the Deed of Conveyance and Deed of Easement between Hampton Roads Sanitation and Ebbitt Corporation.

HAMPTON ROADS SANITATION DISTRICT  
a political subdivision of the Commonwealth  
of Virginia

BY \_\_\_\_\_  
Edward G. Henifin, P.E.  
General Manager

STATE OF VIRGINIA  
CITY OF VIRGINIA BEACH, to-wit:

I hereby certify on this \_\_\_\_ day of \_\_\_\_\_, 2017, that Edward G. Henifin, P.E., General Manager, Hampton Roads Sanitation District, acknowledged the foregoing Deed of Conveyance and Deed of Easement before me. He is personally known to me.

\_\_\_\_\_  
Notary Public

My commission expires:

Registration No.:

**EBBITT CORPORATION**

**BY** \_\_\_\_\_

COMMONWEALTH OF VIRGINIA

City/County of \_\_\_\_\_ to-wit:

The foregoing instrument was acknowledged before me this \_\_\_\_ day of \_\_\_\_\_,  
2017, by \_\_\_\_\_, \_\_\_\_\_ of EBBITT CORPORATION.

\_\_\_\_\_

Notary Public Registration No. \_\_\_\_\_

My comm. expires: \_\_\_\_\_

TAX MAP 32 PARCEL 187  
 N/F EBBITT CORPORATION  
 INST. 16-5308  
 INST. 16-5307  
 INST. 16-5306  
 C.P.B. 26 PG. 558  
 "TRACT 4"

EXISTING 30'  
 NON-EXCLUSIVE  
 INGRESS/EGRESS  
 EASEMENT  
 D.B. 494 PG. 377  
 PLAT 381

N51°02'05"W 127.77'

EXPRESS DRIVE

FOREST HILL AVENUE

TAX MAP 32 PARCEL 187  
 N/F EBBITT CORPORATION  
 INST. 16-5308  
 INST. 16-5307  
 INST. 16-5306  
 C.P.B. 26 PG. 558

TAX MAP 32 PARCEL 186A  
 N/F STONEHILL PROFESSIONAL  
 GROUP LLC

TAX MAP 32 PARCEL 186  
 N/F McDONALDS CORP.  
 484 PG. 689 D.B. 488 PG. 687  
 485 PG. 671 D.B. 388 PG. 795  
 486 PG. 810 C.P.B. 22 PG. 810  
 C.P.B. 21 PG. 1045

N38°56'00"E 100.00'

TAX MAP 32 PARCEL 195B  
 N/F HAMPTON ROADS  
 SANITATION DISTRICT  
 D.B. 467 PG. 92  
 C.P.B. 22 PG. 892  
 0.2215 ACRE

588 S.F.  
 VARIABLE WIDTH  
 UTILITY EASEMENT  
 HEREBY RESERVED  
 BY HRSD

106 S.F.  
 VARIABLE WIDTH  
 UTILITY EASEMENT  
 HEREBY GRANTED  
 TO HRSD

TAX MAP 32 PARCEL 195  
 N/F 8639 FOREST HILL  
 AVE HOLDINGS LLC  
 "TRACT 5"

GEORGE WASHINGTON  
 MEMORIAL HIGHWAY

U.S. 17  
 166' RIGHT-OF-WAY



LINE	BEARING	DISTANCE
L1	N36°26'30"E	16.15'
L2	S40°08'09"W	100.60'

GRAPHIC SCALE

1" = 50'



**Legend**

PROPERTY LINE  
 RIGHT-OF-WAY  
 EASEMENT

PLAT OF 0.2215 ACRE  
 TO BE CONVEYED TO  
 THE EBBITT CORPORATION

YORK MAGISTERIAL DISTRICT  
 GLOUCESTER COUNTY, VIRGINIA  
 SCALE: 1" = 50' DATE: 06/28/2017



**ALISTAIR J. RAMSAY L.S., P.C.**

7319 MARTIN STREET SUITE 6 GLOUCESTER, VIRGINIA 23061 804-824-9374

HRSD COMMISSION MEETING MINUTES  
July 19, 2017

ATTACHMENT #4

AGENDA ITEM 6. – Hampton Trunk Sewer Extension Division B – Claremont Force  
Main Replacement Agreement

**AGREEMENT FOR COST SHARING OF THE  
HAMPTON ROADS SANITATION DISTRICT  
HAMPTON TRUNK SEWER EXTENSION DIVISION B - CLAREMONT FORCE MAIN  
REPLACEMENT (BH-012700)**

**AND**

**CITY OF NEWPORT NEWS  
CHESAPEAKE AVENUE BIKE TRAIL AND SIDEWALK**

THIS AGREEMENT FOR temporary traffic control coordination (the "Agreement"), between the CITY OF NEWPORT NEWS ("CITY") and the HAMPTON ROADS SANITATION DISTRICT ("HRSD"), is entered into this 19<sup>th</sup> day of December, 2017 (the "Effective Date").

**RECITALS**

R:1 HRSD is constructing its Hampton Trunk Sewer Extension Division B — Claremont Force Main Replacement project as shown on Exhibit 1 partially within the City of Newport News (the "HRSD Facilities"); and

R:2 CITY is constructing its Chesapeake Avenue Bike Trail and Sidewalk in the same project area as shown on Exhibit 2 (the "CITY Facilities") as part of the City of Newport News Capital Improvement Program; and

R:3 The construction of the HRSD Facilities will necessitate the removal of curb and gutter, removal of a three foot wide strip of concrete road from Pear Avenue to Monitor Merrimac Overlook Park, and installation of related temporary traffic control measures; and

R:4 HRSD and the CITY agree that it is in the best interest of the parties to coordinate the temporary traffic control measures necessary for the HRSD Facilities and the City Facilities; and

R:5 HRSD agrees to pay for, install, and maintain temporary traffic control measures during the construction of the HRSD Facilities. The traffic control measures will remain in place through January 31, 2018 or until such time as the construction of the HRSD Facilities are complete, whichever date is later; and

R:6 CITY agrees to pay for, install, and maintain temporary traffic control measures located in the City of Newport News commencing February 1, 2018 or at such time as the HRSD Facilities are complete, whichever date is later.

## TERMS

NOW THEREFORE, in consideration of the above recitals and agreements set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties agree as follows

### I. IMPROVEMENTS

#### A. Payment of Temporary Traffic Control Costs

1. Costs shall be apportioned among the parties as follows:
  - a. HRSD will administer and be responsible for bearing one hundred percent (100%) of the cost of the HRSD Facilities including temporary traffic control measures through January 31, 2018 or until such time as the construction of the HRSD Facilities are complete, whichever date is later.
  - b. CITY will administer and will be responsible for bearing one hundred percent (100%) of the cost of the CITY Facilities and pay for, install, and maintain temporary traffic control measures located within the City of Newport News commencing February 1, 2018 or at such time as the construction of the HRSD Facilities are complete, whichever date is later.
  - c. Costs associated with any change to the initial construction cost ("Change Order") shall be as follows:
    - (1) HRSD shall be solely responsible for costs due to any Change Order requested by HRSD; and
    - (2) The CITY shall be responsible for costs due to any Change Order requested by the CITY.

#### B. Operation and Maintenance of the Temporary Traffic Control during and after Construction

1. HRSD shall be responsible for operation and maintenance of the HRSD Facilities and temporary traffic control measures during construction of HRSD Facilities.
2. CITY shall be responsible for operation and maintenance of the CITY Facilities and temporary traffic control measures during construction of the City Facilities.

3. HRSD and the CITY agree to cooperate and coordinate for the operations and maintenance of any interconnections between the HRSD Facilities and CITY Facilities.

## II. SCHEDULE

Construction of the HRSD Facilities is anticipated to begin by August 2017 and is anticipated to be complete by January 31, 2018 except for the work located at the Monitor Merrimac Overlook Park. There is no temporary traffic control measures associated with the work at the Monitor Merrimac Overlook Park. If the construction dates listed herein are substantially delayed, either party may terminate this agreement in accordance with Section IV.

## III. OBLIGATIONS OF HRSD AND THE CITY

### A. Administration

HRSD shall provide contract administration for the HRSD Facilities. The CITY shall provide contract administration for the City Facilities.

### B. Inspection

HRSD shall provide full-time inspection for the HRSD Facilities.

## IV. GOVERNING LAW

This Agreement shall be deemed to be a Virginia contract and shall be governed as to all matters whether of validity, interpretations, obligations, performance or otherwise exclusively by the laws of the Commonwealth of Virginia, and all questions arising with respect thereto shall be determined in accordance with such laws. Regardless of where actually delivered and accepted, this contract shall be deemed to have been delivered and accepted by the parties in the Commonwealth of Virginia.

## TERMINATION

Anything herein or elsewhere to the contrary notwithstanding, this Agreement and the obligations of the parties hereunder may be terminated by the CITY or HRSD in the event that the other party breaches or violates any material provision of this Agreement or fails to perform any material covenant or agreement to be performed by either party under the terms of this Agreement and such breach, violation or failure is not cured within sixty (60) days of the defaulting party's receipt of written notice of such breach from the non-defaulting party; or by mutual agreement of the CITY and HRSD.

VI. NOTICE

Any notice, communication or request under this Agreement shall be provided in writing by either (a) certified mail, return receipt requested, postage prepaid, or (b) a nationally recognized overnight delivery service (next business day service), or (c) hand-delivery, if the receipt of the same is evidenced by the signature of the addressee or authorized agent, and addressed to the following:

For: HRSD

If by U.S. Postal Service:  
HRSD  
General Manager  
P. O. Box 5911  
Virginia Beach, VA 23471-0911  
Telephone: (757) 460-4242

If by Overnight Mail:  
HRSD  
General Manager  
1434 Air Rail Avenue  
Virginia Beach, VA 23455

With Copy to:

Conway H. Sheild, III  
Jones, Blechman, Woltz and Kelly  
701 Town Center Drive, Suite 200  
Newport News, VA 23606

For: City of Newport News

Cynthia D. Rohlf  
City Manager  
City of Newport News  
2400 Washington Avenue Newport News, VA 23607  
Telephone: (757) 926-8411  
Facsimile: (757) 926-3503

With Copy to:

City Attorney  
City of Newport News  
2400 Washington Avenue  
Ninth Floor City Hall  
Newport News, VA 23607

VII. ASSIGNMENT

No party may assign its rights in this Agreement without the prior written consent of the other party.

VIII. AMENDMENT

This Agreement may be amended only by a written instrument duly executed by the parties.

**IX. SEVERABILITY**

If any provision of this Agreement or the application thereof to any circumstance shall be determined to be invalid, illegal or unenforceable to any extent, the remainder of this Agreement and the application thereof shall not be affected and shall continue to be valid, in effect and enforceable to the fullest extent permitted by law.

**X. DAMAGES**

Subject to each party's defenses of sovereign or statutory immunity and statutory and constitutional debt limits, each party is responsible for its negligence, willful misconduct, failure to abide by engineering standards, or failure to abide by the Final Plans and Specifications.

**XI. INSURANCE**

HRSD and the CITY have the right to review and approve insurance coverage in the various insurance categories that HRSD and the CITY deem necessary to be carried by the Contractor or any other parties to this Agreement. Proof of insurance shall be provided at the request of HRSD or the CITY and the insurance coverage shall be maintained during the term of this Agreement.

**XII. TERM OF AGREEMENT**

The term of the Agreement will commence on the date the Agreement is entered into and be completed when each party has completely performed its obligations hereunder.

**XIII. FORCE MAJEURE**

In the event of enforced delay in the performance of such obligations due to unforeseeable causes beyond the control of the CITY or HRSD or the Contractor and without their fault or negligence, including, but not restricted to, acts of God or of the public enemy, acts of the government, fires, floods, epidemics, quarantine restrictions, strikes, freight embargos, and unusually severe weather or delays of subcontractors due to such causes; it being the purpose and intent of this provision that in the event of the occurrence of any such enforced delay, the time or times for performance of the obligations of the parties shall be extended for the period of the enforced delay.

**XIV. INDEPENDENT CONTRACTOR**

If the Contractor(s) hire subcontractors or independent contractors, HRSD and the CITY have the right to approve them by reviewing their requisite experience and knowledge to complete the work assigned.

XV. SUBCONTRACTOR

If any Contractors or subcontractors are selected by any party to this Agreement for completion of the work contemplated herein, HRSD and the City have the right to approve the same.

XVI. WAIVER

No waiver of the breach of any term or provision of this Agreement shall be construed to be, or shall constitute, a waiver of any other breach of this Agreement. No waiver shall be binding unless in writing and signed by the parties waiving the breach.

The failure of any party to seek redress for violation of or to insist upon the strict performance of any covenant or condition of this Agreement shall not prevent a subsequent act, which would have originally constituted a violation, from having the effect of an original violation.

The rights and remedies provided by this Agreement are cumulative and the use of any one right or remedy by any party shall not preclude or waive the right to use any or all other remedies. Such rights and remedies are given in addition to any other rights the parties may have by law, statute, ordinance or otherwise.

XIV. INTEGRATION

This Agreement constitutes the entire understanding among the parties. No provision of this Agreement may be waived, modified or amended except by an instrument signed by the party against whom the enforcement of such waiver, modification or amendment is sought. No waiver by either party of any failure or refusal by the other party to comply with its obligations hereunder shall be deemed a waiver of any other or subsequent failure or refusal to comply.

Agreement for Cost Sharing of the HRSD Hampton Trunk Sewer Extension Division B — Claremont Force  
Main Replacement (BH012700) and City of Newport News

IN WITNESS WHEREOF, the City of Newport News (CITY) has caused this Agreement to be signed by the City Manager on its behalf pursuant to Resolution adopted by the City Council on February 13, 2018,

CITY OF NEWPORT NEWS

By Cynthia D. Rohlf  
Cynthia D. Rohlf, City Manager

ATTEST:

Mabel Washington Serkin  
City Clerk

COMMONWEALTH OF VIRGINIA,  
CITY OF NEWPORT NEWS, to-wit:

The foregoing Agreement was acknowledged before me this 28<sup>th</sup> day of November, 2017, by Cynthia D. Rohlf, City Manager, City of Newport News, Virginia.



Debra H. Beecher  
Notary Public

My commission expires: 12/31/2021

Registration No.: 338742

Approved as to Form and Correctness:

[Signature]  
Deputy City Attorney

Approved as to Content:

[Signature]  
Director of Engineering

Agreement for Cost Sharing of the HRSD Hampton Trunk Sewer Extension Division B - Claremont Force  
Main Replacement (BH012700) and City of Newport News

IN WITNESS WHEREOF, the Hampton Roads Sanitation District Commission (HRSD) has caused this Agreement to be signed on its behalf by its General Manager in accordance with authorization granted at its regular meeting held on July 19, 2017.

HAMPTON ROADS SANITATION DISTRICT

By   
Edward G. Henifin, P.E. General Manager

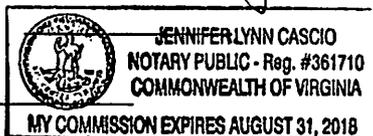
COMMONWEALTH OF VIRGINIA,  
CITY OF VIRGINIA BEACH, to-wit:

The foregoing agreement was acknowledged before me this 19<sup>th</sup> day of December, 2017, by Edward G. Henifin, P.E., General Manager, Hampton Roads Sanitation District.

  
Notary Public

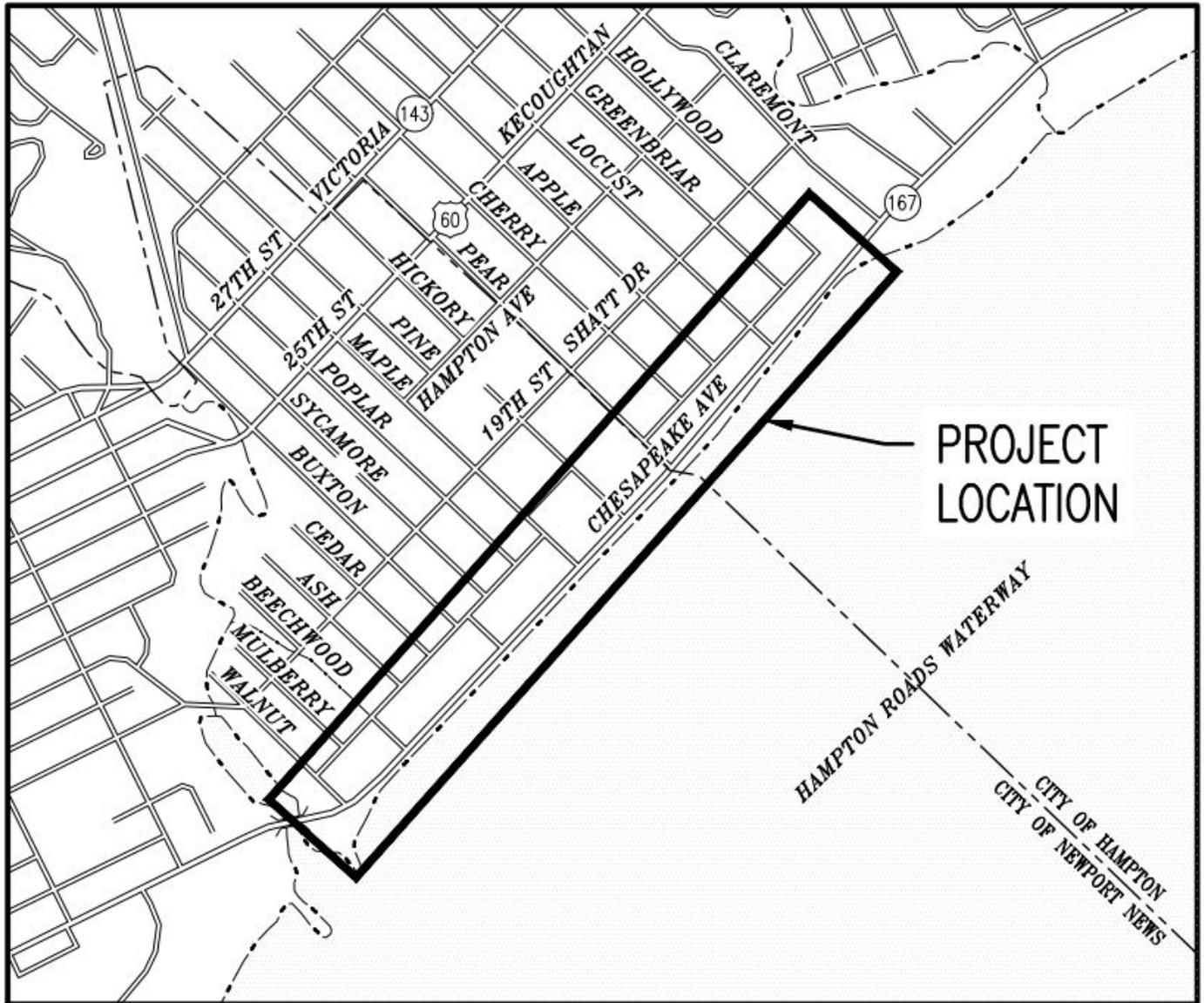
My commission expires:

Registration No.:



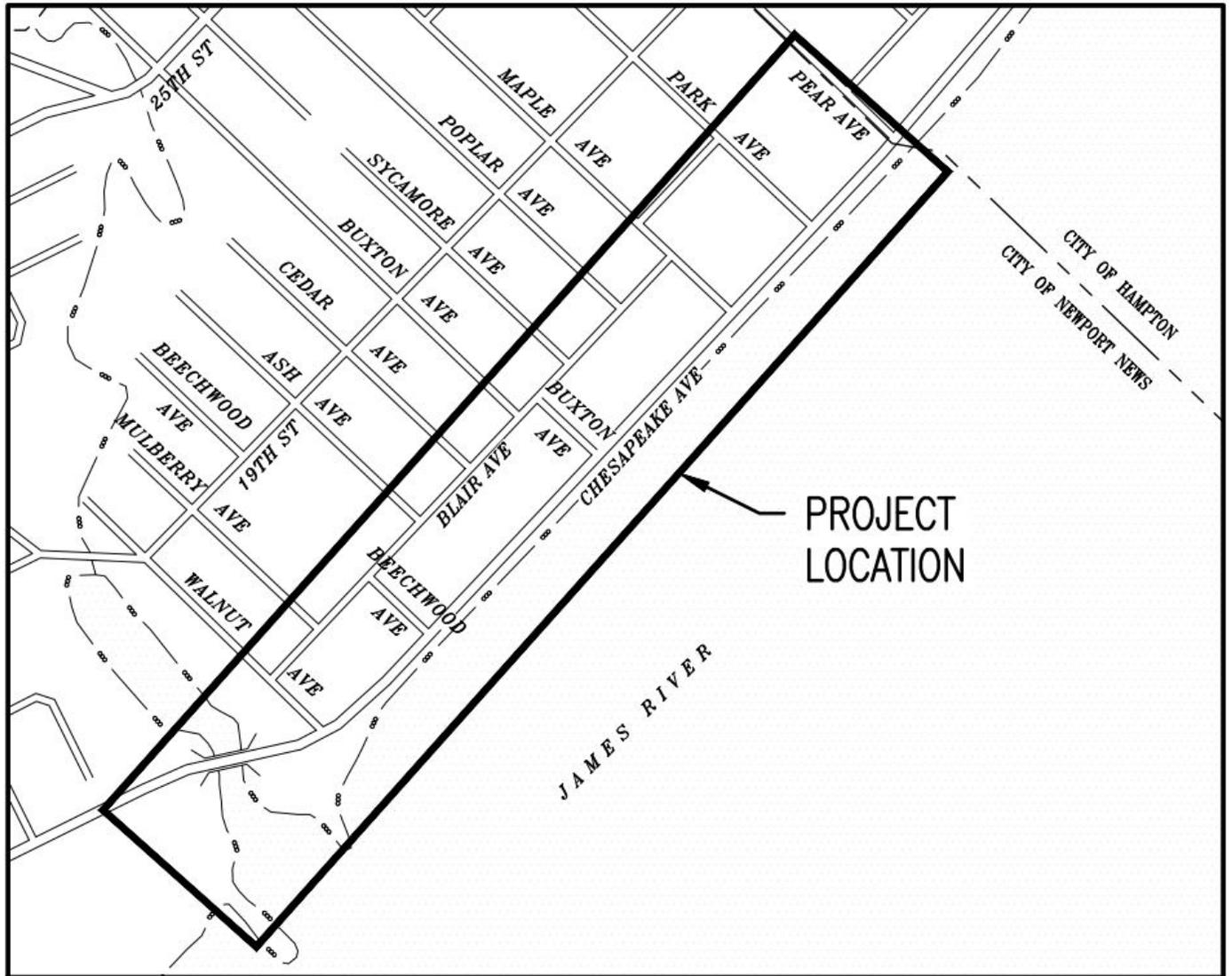
**Exhibit 1**

**HRSD Facilities Location Map**



**Exhibit 2**

**City Facilities Location Map**



RESOLUTION NO. 13109-18

A RESOLUTION RATIFYING, AUTHORIZING AND DIRECTING THE CITY MANAGER TO EXECUTE AND THE CITY CLERK TO ATTEST, ON BEHALF OF THE CITY OF NEWPORT NEWS, VIRGINIA, THAT CERTAIN AGREEMENT FOR COST SHARING BETWEEN THE HAMPTON ROADS SANITATION DISTRICT AND THE CITY OF NEWPORT NEWS

WHEREAS, the City Council of the City of Newport News adopted Resolution No. 12581-13 on November 26, 2013 endorsing a Transportation Alternatives Project for the Chesapeake Avenue Bike Trail and authorizing the City Manager to execute a project administration agreement with the Virginia Department of Transportation to administer, maintain and operate a federally funded transportation project; and

WHEREAS, the Hampton Roads Sanitation District ("HRSD") is engaged in a project known as the Hampton Trunk Sewer Extension Division B - Claremont Force Main Replacement (BH-012700), which will be constructed along Chesapeake Avenue in the same area as part of the Chesapeake Avenue Bike Trail; and

WHEREAS, HRSD has approached the City with an agreement that would require coordination between the parties on their respective projects ("the Cost Sharing Agreement"); and

WHEREAS, HRSD would construct its project and pay for the project and traffic control during its project, which will be concluded before the City's project begins; and

WHEREAS, the City would be obligated to construct and provide traffic control at its cost during the pendency of its project; and

WHEREAS, the City Manager recommends that City Council approve the proposed Cost Sharing Agreement by and between the City of Newport News, Virginia, and the HRSD; and

WHEREAS, in anticipation of the possibility of subsequent proposed changes to the Cost Sharing Agreement, the City Manager recommends to City Council that she be authorized to sign, and the City Clerk be authorized to attest, any and all future amendments to the Cost Sharing Agreement, so long as the City is not required to assume costs for any part of the HRSD project.

NOW, THEREFORE, BE IT RESOLVED by the Council of the City of Newport News, Virginia:

1. That it hereby ratifies the Cost Sharing Agreement and authorizes and directs the City Manager to execute and the City Clerk to attest, on behalf of the City of Newport News, Virginia, the proposed Cost Sharing Agreement, dated the 19<sup>th</sup> day of December, 2017.
2. That a copy of the proposed Cost Sharing Agreement is attached as Exhibit A.

3. That (a) the City Manager be and is hereby authorized and directed to execute, and the City Clerk is hereby authorized and directed to attest, on behalf of the City of Newport News, any future amendments to the Cost Sharing Agreement so long as the City is not required to assume costs for any part of the HRSD project and (b) any amendments are first reviewed and approved by the City Attorney as being consistent with this authorization.

4. That this resolution shall be in effect on and after the date of its adoption, February 13, 2018.

PASSED BY THE COUNCIL OF THE CITY OF NEWPORT NEWS ON FEBRUARY 13, 2018

Mabel Washington Jenkins, MMC  
City Clerk

McKinley L. Price, DDS  
Mayor

A true copy, teste:

City Clerk

HRSD COMMISSION MEETING MINUTES  
July 19, 2017

ATTACHMENT #5

AGENDA ITEM 7. – Lucas Creek - Woodhaven Interceptor Force Main  
Replacement - Phase I Easement Acquisition

170016059

602501

PREPARED BY AND RETURN TO:  
Conway H. Sheild, III, Esq. (VSB 06893)  
Jones, Blechman, Woltz & Kelly, P.C.  
701 Town Center Drive, Suite 800  
Newport News, Va. 23606

Tax ID : GPIN 087000507

**TAX EXEMPT PURSUANT TO VA CODE SECTION 58.1-811 A3 & C6**  
**DEED OF EASEMENT**

THIS DEED OF EASEMENT, Made this 9th day of November, 2017, by and between **LIVING FAITH CHRISTIAN CENTER**, a Church incorporated under the laws of the Commonwealth of Virginia, **GRANTOR**, (whether one or more) and **HAMPTON ROADS SANITATION DISTRICT**, a political subdivision of the Commonwealth of Virginia, **GRANTEE**, whose mailing address is: P.O. Box 5911, Virginia Beach, Virginia, 23471-0911.

**WITNESSETH:**

That for and in consideration of the sum of TEN AND 00/100 (\$10.00) DOLLARS and other good and valuable consideration, receipt of which is hereby acknowledged, **GRANTOR** does hereby grant and convey with **GENERAL WARRANTY OF TITLE**, unto **GRANTEE**, its successors and assigns, forever, the perpetual right, privilege, easement and right-of-way, hereinafter described, for the purpose of laying, erecting, constructing, operating, and maintaining underground wastewater and/or water reuse force mains and/or gravity mains together with above and/or below ground equipment, accessories, and appurtenances thereto, hereinafter called "facilities," on the lands of the **GRANTOR**, said Easement (the "Easement") being further described as follows:

**ALL THAT** certain lot, piece or parcel of land lying, situate and being in the City of Newport News, Virginia, designated and described as: "VARIABLE WIDTH TEMPORARY CONSTRUCTION EASEMENT" as shown on that certain plat entitled: "PLAT SHOWING VARIABLE WIDTH PERMANENT UTILITY EASEMENT TO BE ACQUIRED FROM TRUSTEES FOR THE LIVING FAITH CHRISTIAN CENTER BY HAMPTON ROADS SANITATION DISTRICT FOR LUCAS CREEK-WOODHAVEN INTERCEPTOR FORCE MAIN REPLACEMENT, NEWPORT NEWS, VIRGINIA" made by Rouse-Sirine Associates, Ltd., dated November 7, 2016, attached hereto, made a part hereof, and to be recorded herewith in the Clerk's Office of the Circuit Court for the City of Newport News, Virginia, to which reference is here made.

And

**ALL THAT** certain lot, piece or parcel of land lying, situate and being in the City of Newport News, Virginia, designated and described as: "VARIABLE WIDTH HRSD PERMANENT UTILITY EASEMENT TO BE ACQUIRED" as shown on the certain plat entitled "PLAT SHOWING VARIABLE WIDTH PERMANENT UTILITY EASEMENT TO BE ACQUIRED FROM TRUSTEES FOR THE LIVING FAITH CHRISTIAN CENTER BY HAMPTON ROADS SANITATION DISTRICT FOR LUCAS CREEK-WOODHAVEN INTERCEPTOR FORCE MAIN REPLACEMENT, NEWPORT NEWS, VIRGINIA" made by Rouse-Sirine Associates, Ltd., dated November 7, 2016, attached hereto, made a part hereof, and to be recorded herewith in the aforesaid Clerk's Office, to which reference is here made.

It being a part of the same property conveyed to the Grantor herein by deed of Rap East, LLC, dated October 31, 2007, and duly recorded in the aforesaid Clerk's Office as Instrument No. 070030606.

This easement is subject to the following conditions and provisions:

A. The facilities existing or constructed on or under the Easement shall remain the property of **GRANTEE**. **GRANTEE** shall have the right to inspect, rebuild, remove, repair, improve, and make such changes, alterations, additions to or extensions of its facilities within the boundaries of said right of way as are consistent with the purpose expressed herein. All construction, maintenance, equipment and facilities shall comply with all applicable laws, ordinances, codes and regulations.

B. Any disturbance of the premises by the **GRANTEE** or its contractor will be restored by the **GRANTEE** as nearly as practicable. This includes paving, fences, backfilling of trenches, grass, reseeding, replacing or replanting landscaping, and removal of trash or debris. Landscaping will be replaced with immature trees, shrubs, and ground cover.

C. **GRANTEE** shall have the right to trim, cut and remove trees, shrubbery or other obstructions which interfere with or threaten the efficient and safe operation, construction and maintenance of said facilities. All trees and limbs cut by **GRANTEE** shall remain the property of **GRANTOR**. All brush, branches, and other debris resulting from any cutting, trimming, or clearing of said right of way shall be removed from lands of **GRANTOR** for disposal.

D. **GRANTEE** shall have the right of ingress to and egress from said right of way over the lands of **GRANTOR**. **GRANTEE** shall exercise such right in such manner as shall not occasion injury and inconvenience to **GRANTOR**. **GRANTEE** shall at **GRANTEE'S** election pay for or repair any injury to any of **GRANTOR'S** land, structures, roads, fences and other improvements caused by **GRANTEE**, its

employees, agents or contractors.

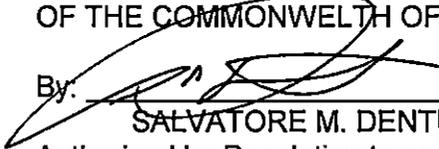
E. **GRANTOR**, its successors and assigns, may use said right of way for any purpose not inconsistent with the rights hereby granted, provided such use does not interfere with the safe and efficient construction, operation or maintenance of said facilities, and further provided that such use is not inconsistent with any laws, ordinances or codes pertaining to the construction, operation or maintenance of said facilities. **GRANTOR** shall not place any permanent improvements within the easement without permission of **GRANTEE**, or its successors, including but not limited to houses, buildings, pools, sheds, signs, or similar permanent structures. **GRANTOR** may install fences, driveways, pavement and landscaping (trees and shrubs shall be varieties that will not exceed 20 feet tall at maturity).

F. It is understood and agreed that the consideration paid to the **GRANTOR** in connection herewith constitutes payment in full for the property hereby conveyed and for damages, if any, to the residue or other property of the **GRANTOR** resulting from the project and use made of the property conveyed.

G. Notwithstanding the above, should the property on which the aforesaid perpetual easement lies be subdivided, then the access rights to the easement as above enumerated shall be along the publicly dedicated streets within the said subdivision as far as practical, and then the access shall be on subdivided lots within the subdivision which shall efficiently provide access for the purposes of the **GRANTEE** as herein enumerated.

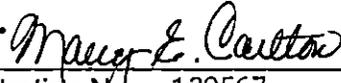
**WITNESS** the following signature and seal all as of the day and year first above written.

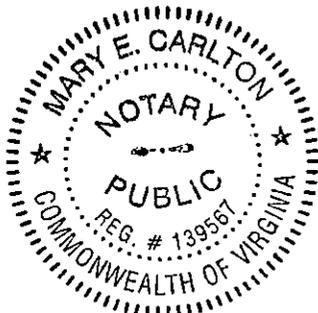
LIVING FAITH CHRISTIAN CENTER, A  
CHURCH INCORPORATED UNDER THE LAWS  
OF THE COMMONWEALTH OF VIRGINIA

By:  (SEAL)  
SALVATORE M. DENTU, DIRECTOR  
Authorized by Resolution to execute this instrument

COMMONWEALTH OF VIRGINIA  
CITY/COUNTY OF NEWPORT NEWS, to-wit:

The foregoing instrument was acknowledged before me this 10 day of November 2017 by Salvatore M. Dentu, Director, who is authorized by Resolution to executive this instrument on behalf of Living Faith Christian Center, a Church incorporated under the laws of the Commonwealth of Virginia.

My commission expires: February 28, 2019.   
Notary Public Registration No: 139567



**NOTES:**

1. MERIDIAN SOURCE IS BASED ON VIRGINIA STATE PLANE COORDINATE SYSTEM 1983 (SOUTH ZONE) NAD83 (1983) HARN). COORDINATE VALUES SHOWN ARE EXPRESSED IN U.S. SURVEY FEET.
2. THIS PLAT WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND THEREFORE MAY NOT SHOW ALL EASEMENTS OR MATTERS THAT MAY AFFECT THIS PROPERTY.
3. THIS SURVEY DOES NOT CONSTITUTE A BOUNDARY SURVEY AND THEREFORE PARCEL AREAS SHOWN ARE APPROXIMATE AND TAKEN FROM PLATS AND DEEDS OF RECORD.



DENOTES AREA OF VARIABLE WIDTH PERMANENT UTILITY EASEMENT TO BE ACQUIRED.



DENOTES AREA OF VARIABLE WIDTH TEMPORARY CONSTRUCTION EASEMENT. AREA = 2,350 S.F. OR 0.054 AC.

AREA TABLE	
TOTAL PARCEL	SQUARE FEET
PERMANENT UTILITY EASEMENT TO BE ACQUIRED	33,529
RESIDUAL PARCEL	0.770
PERMANENT UTILITY EASEMENT TO BE ACQUIRED	2,520
RESIDUAL PARCEL	0.058
PERMANENT UTILITY EASEMENT TO BE ACQUIRED	31,009
RESIDUAL PARCEL	0.712



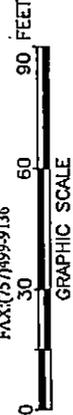
PLAT SHOWING  
VARIABLE WIDTH PERMANENT UTILITY  
EASEMENT  
TO BE ACQUIRED FROM  
TRUSTEE'S FOR THE  
LIVING FAITH CHRISTIAN CENTER

BY  
HAMPTON ROADS SANITATION DISTRICT  
FOR  
LUCAS CREEK-WOODHAVEN INTERCEPTOR  
FORCE MAIN REPLACEMENT  
NEWPORT NEWS, VIRGINIA

SCALE 1"=30'  
NOVEMBER 7, 2016

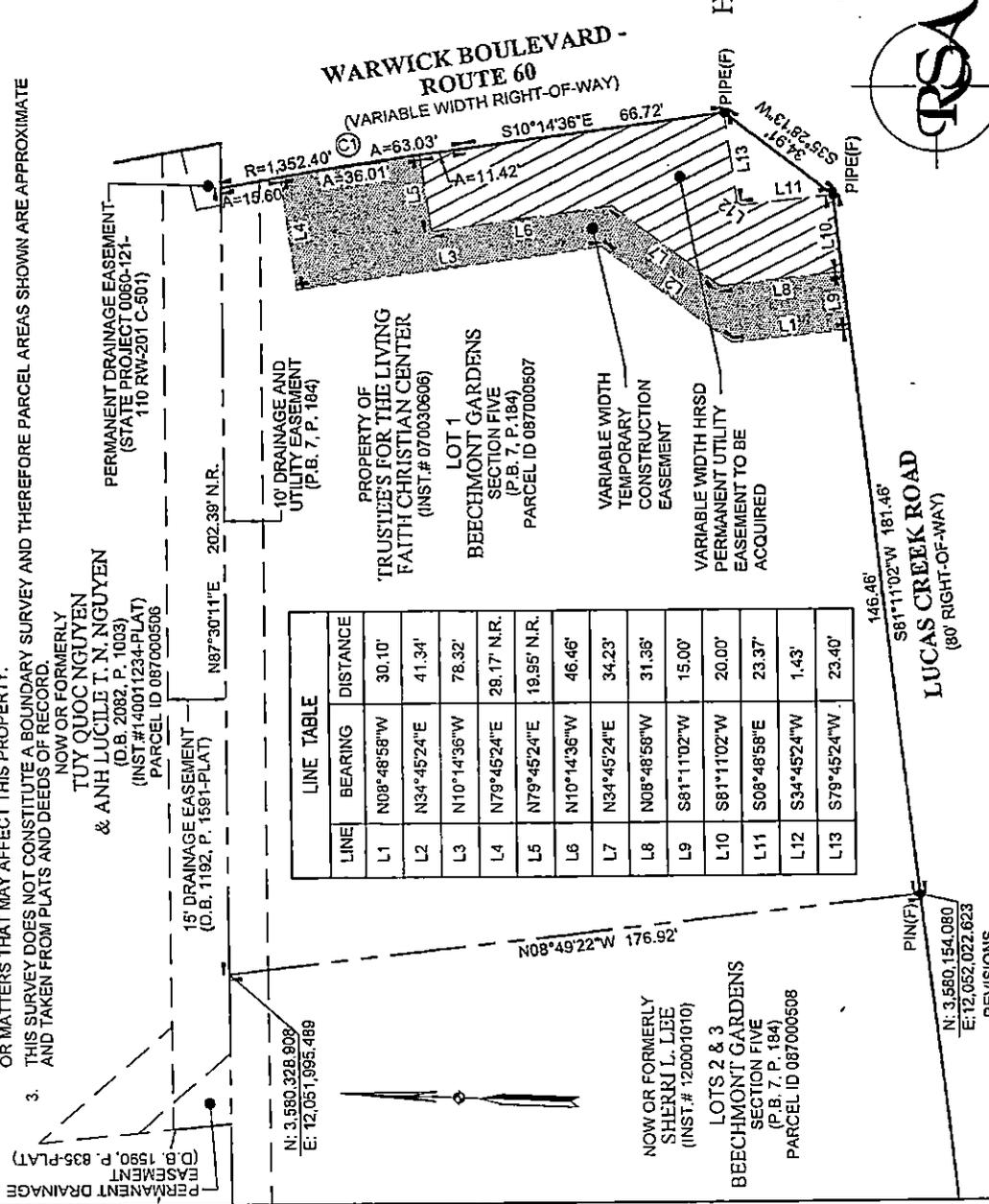
**ROUSE-SIRINE ASSOCIATES, LTD.**  
LAND SURVEYORS, MAPPING CONSULTANTS & S.U.F. QUALITY LEVEL S "A-D"  
WWW.ROUSE-SIRINE.COM

333 OFFICE SQUARE LANE  
VIRGINIA BEACH, VIRGINIA 23462  
TEL: (757) 490-2300  
FAX: (757) 499-9136



SHEET 1 OF 1

J.O.# 13457-1 ACAD:13457-1 LIVING FAITH-REV.dwg



LINE	BEARING	DISTANCE
L1	N08°48'58"W	30.10'
L2	N34°45'24"E	41.34'
L3	N10°14'36"W	78.32'
L4	N79°45'24"E	28.17' N.R.
L5	N79°45'24"E	19.85' N.R.
L6	N10°14'36"W	46.46'
L7	N34°45'24"E	34.23'
L8	N08°48'58"W	31.35'
L9	S81°11'02"W	15.00'
L10	S81°11'02"W	20.00'
L11	S08°48'58"E	23.37'
L12	S34°45'24"W	1.43'
L13	S79°45'24"W	23.40'

CURVE TABLE				
CURVE	RADIUS	ARC	DELTA	TANGENT
C1	1,352.40'	63.03'	02°40'14"	31.52'
		63.03'		63.03'
				S11°34'43"E

1	01/11/17	CLIENT REVISIONS
2	06/27/17	NEW EASEMENT LOCATION



J.O.# 13457-1 ACAD:13457-1 LIVING FAITH-REV.dwg

INSTRUMENT 170016059  
RECORDED IN THE CLERK'S OFFICE OF  
NEWPORT NEWS CIRCUIT COURT ON  
November 15, 2017 AT 11:07 AM  
GARY S. ANDERSON, CLERK  
RECORDED BY: SLD

170016059

DOC. NO. RECORDED

2017 NOV 15 AM 11:07

901-802 TAX PAID \$  
NEWPORT NEWS CIRCUIT COURT  
GARY S. ANDERSON, CLERK: BY

1/3

4 pgs.

\$ 22.00

Jones, Blechman, Woltz & Kelly, P.C.

701 Town Center Drive  
Suite 800

Post Office Box 12888

Newport News, Virginia 23612-2888

*Mary Elizabeth*

**NOTES:**

1. MERIDIAN SOURCE IS BASED ON VIRGINIA STATE PLANE COORDINATE SYSTEM 1983 (SOUTH ZONE) NAD83 (1993) HARN. COORDINATE VALUES SHOWN ARE EXPRESSED IN U.S. SURVEY FEET.
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DENOTES AREA OF VARIABLE WIDTH PERMANENT UTILITY EASEMENT TO BE ACQUIRED.



DENOTES AREA OF VARIABLE WIDTH TEMPORARY CONSTRUCTION EASEMENT. AREA = 2,350 S.F. OR 0.054 AC.

AREA TABLE		
	SQUARE FEET	ACRES
TOTAL PARCEL	33,529	0.770
PERMANENT UTILITY EASEMENT TO BE ACQUIRED	2,520	0.058
RESIDUAL PARCEL	31,009	0.712

NOW OR FORMERLY  
TUY QUOC NGUYEN  
& ANH LUCILE T. N. NGUYEN  
(D.B. 2082, P. 1003)  
(INST.#140011234-PLAT)  
PARCEL ID 087000506

PERMANENT DRAINAGE EASEMENT  
(STATE PROJECT 0060-121-110 RW-201 C-501)

15' DRAINAGE EASEMENT  
(D.B. 1192, P. 1591-PLAT)

N87°30'11"E 202.39' N.R.

10' DRAINAGE AND UTILITY EASEMENT  
(P.B. 7, P. 184)

PROPERTY OF  
TRUSTEE'S FOR THE LIVING  
FAITH CHRISTIAN CENTER  
(INST.# 070030606)

LOT 1  
BEECHMONT GARDENS  
SECTION FIVE  
(P.B. 7, P.184)  
PARCEL ID 087000507

VARIABLE WIDTH  
TEMPORARY  
CONSTRUCTION  
EASEMENT

VARIABLE WIDTH HRSD  
PERMANENT UTILITY  
EASEMENT TO BE  
ACQUIRED

WARWICK BOULEVARD -  
ROUTE 60  
VARIABLE WIDTH RIGHT-OF-WAY



PLAT SHOWING  
VARIABLE WIDTH PERMANENT UTILITY  
EASEMENT  
TO BE ACQUIRED FROM  
TRUSTEE'S FOR THE  
LIVING FAITH CHRISTIAN CENTER  
BY  
HAMPTON ROADS SANITATION DISTRICT  
FOR  
LUCAS CREEK-WOODHAVEN INTERCEPTOR  
FORCE MAIN REPLACEMENT  
NEWPORT NEWS, VIRGINIA

SCALE 1"=30'

NOVEMBER 7, 2016

**ROUSE-SIRINE ASSOCIATES, LTD.**

LAND SURVEYORS, MAPPING CONSULTANTS & S.U.E. QUALITY LEVELS "A-D"

www.rouse-sirine.com

333 OFFICE SQUARE LANE  
VIRGINIA BEACH, VIRGINIA 23462  
TEL.(757)490-2300  
FAX:(757)499-9136

362 McLAWS CIRCLE, SUITE 1  
WILLIAMSBURG, VIRGINIA 23185  
TEL.(757)903-4695  
FAX:(757)903-4469



0 30 60 90 FEET

GRAPHIC SCALE

SHEET 1 OF 1

LINE TABLE		
LINE	BEARING	DISTANCE
L1	N08°48'58"W	30.10'
L2	N34°45'24"E	41.34'
L3	N10°14'36"W	78.32'
L4	N79°45'24"E	29.17' N.R.
L5	N79°45'24"E	19.95' N.R.
L6	N10°14'36"W	46.46'
L7	N34°45'24"E	34.23'
L8	N08°48'58"W	31.36'
L9	S81°11'02"W	15.00'
L10	S81°11'02"W	20.00'
L11	S08°48'58"E	23.37'
L12	S34°45'24"W	1.43'
L13	S79°45'24"W	23.40'

CURVE TABLE						
CURVE	RADIUS	ARC	DELTA	TANGENT	CHORD	CHORD BEARING
C1	1,352.40'	63.03'	02°40'14"	31.52'	63.03'	S11°34'43"E

PERMANENT DRAINAGE  
EASEMENT  
(D.B. 1590, P. 835-PLAT)

N: 3,580,328.908  
E: 12,051,995.489



N08°49'22"W 176.92'

NOW OR FORMERLY  
SHERRI L. LEE  
(INST.# 120001010)

LOTS 2 & 3  
BEECHMONT GARDENS  
SECTION FIVE  
(P.B. 7, P. 184)  
PARCEL ID 087000508

PIN(F)

N: 3,580,154.080  
E: 12,052,022.623

REVISIONS

1	01/11/17	CLIENT REVISIONS
2	06/27/17	NEW EASEMENT LOCATION

146.46'  
S81°11'02"W 181.46'  
**LUCAS CREEK ROAD**  
(80' RIGHT-OF-WAY)

15043

15055

935

939

941

14901

Lucas Creek Rd

Warwick Blvd

Warwick Blvd

15030

15014

Georgetown Loop

350

352

354

356

358

360

351

353

355

357

359

361

363

365

14859

14861

15010

HRSD COMMISSION MEETING MINUTES  
July 19, 2017

ATTACHMENT #6

AGENDA ITEM 13. – Williamsburg Treatment Plant Land Acquisition Resolution



**RESOLUTION**

***Approving the proposed public use and directing acquisition by condemnation or other means of a portion of the property commonly referred to as 250 Ron Springs Road, Williamsburg, Virginia***

**WHEREAS**, Chapter 66 of the 1960 Acts of Assembly (as amended) validated the creation of Hampton Roads Sanitation District (hereinafter "HRSD"), managed and controlled by a commission, known as the Hampton Roads Sanitation District Commission (hereinafter the Commission) and authorized and empowered the Commission to construct, improve, extend, maintain, repair and operate a sewer system among other related powers for the benefit of the inhabitants of the Commonwealth and for the promotion of their safety, health, welfare, convenience and prosperity; and

**WHEREAS**, HRSD provided proper public notice, duly published in a newspaper of general circulation, and held a public hearing at 1434 Air Rail Avenue, Virginia Beach, Virginia on June 27, 2017; and

**WHEREAS**, at said public hearing, the Commission heard public comment in accordance with §15.2-1903 of the Code of Virginia, with respect to HRSD's need to acquire a portion of property commonly known as 250 Ron Springs Road in Williamsburg, Virginia to support construction of improvements to the sewage disposal system at the Williamsburg Treatment Plant by condemnation or other means; and

**WHEREAS**, one comment was received by the owner of the property at 250 Ron Springs Road in Williamsburg, Virginia objecting to the acquisition of any portion of the property for any reason;

**NOW, THEREFORE, BE IT RESOLVED**, that the Commission has determined the proposed use of the portion of the property known as 250 Ron Springs Road in Williamsburg, Virginia is a public use in accordance with the Section §1-219.1 of the Code of Virginia for the provision of an authorized utility service; and

**BE IT FURTHER RESOLVED**, that the Commission has determined the construction of improvements to the sewage disposal system at the Williamsburg Treatment Plant are necessary for promotion of the safety, health and welfare of the inhabitants of the Commonwealth and cannot be accommodated on existing HRSD property; and

**BE IT FURTHER RESOLVED**, that the Commission found no alternatives to acquisition of the property commonly known as 250 Ron Springs Road in Williamsburg, Virginia as it completely surrounds the HRSD-owned Williamsburg Treatment Plant, and

**BE IT FURTHER RESOLVED**, that the Commission directs acquisition of a portion of the property commonly known as 250 Ron Springs Road in Williamsburg, Virginia (Parcel ID: 58201002) by condemnation or other means.

This resolution shall take effect immediately upon its adoption.

The undersigned further certifies that the foregoing has been properly approved and adopted in accordance with all applicable requirements of the HRSD Commission.

*Adopted by the HRSD Commission on the 19<sup>th</sup> day of July, 2017.*

  
Frederick N. Elofson, Chair



HRSD COMMISSION MEETING MINUTES  
July 19, 2017

ATTACHMENT #7

AGENDA ITEM 15. – Capital Improvement Program (CIP) Quarterly Update  
PowerPoint Presentation



## Capital Improvement Program Commission Briefing

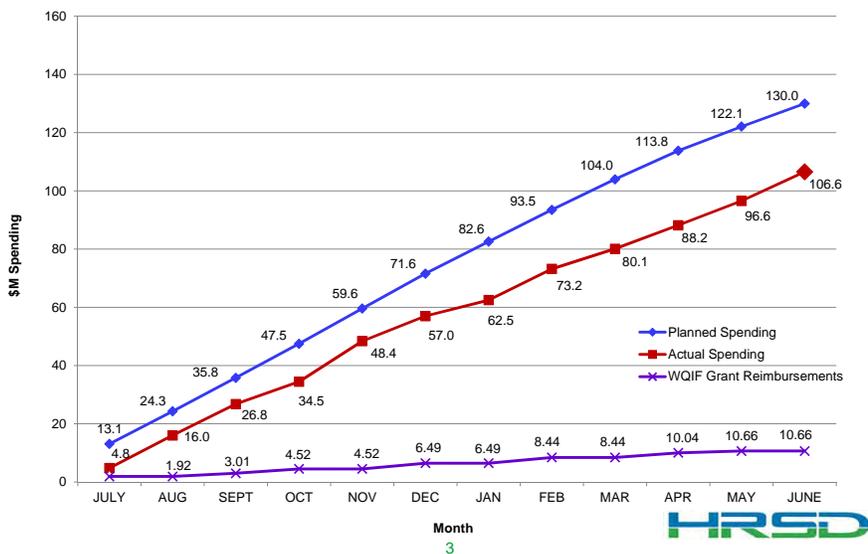
July 19, 2017

### Outline

- CIP Expenditures for FY-2017
- CIP Performance Metrics
- Water Quality Improvement Fund (WQIF) Program Update
- Significant Project Updates
- Consent Decree/SSO Reduction Project Updates
- Engineering Services Fee Comparison
- Firms Used for Engineering and Construction

## CIP Expenditures for FY-2017

### Cumulative Monthly Expenditures & Reimbursements



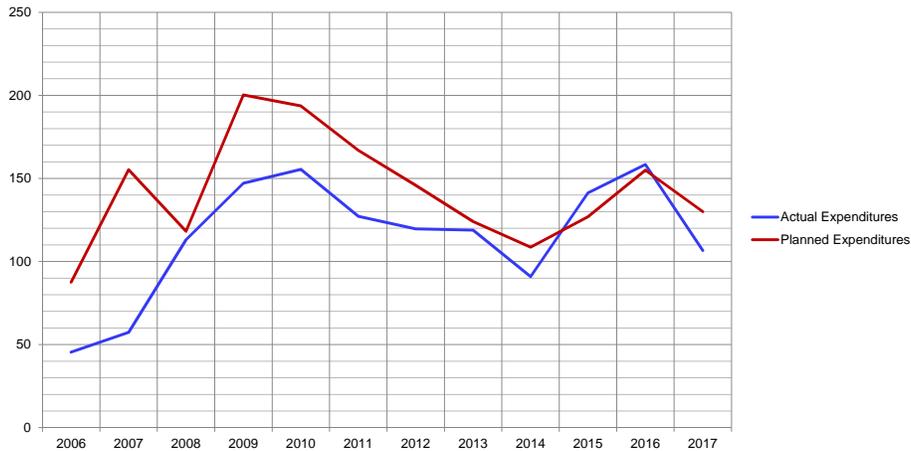
## CIP Expenditures for FY-2017 (cont.)

Project Name	Planned Spending for FY	Actual Spending in FY	Differential
Virginia Initiative Plant Nutrient Reduction Improvements – Contract B	\$33,396,000	\$20,655,624	-\$13,280,376
Interceptor System Pump Station Controls and SCADA Upgrades	\$7,643,000	\$4,433,412	-\$3,209,588
Bridge Street Pump Station Replacement	\$6,788,000	\$4,322,302	-\$2,465,698
York River Treatment Plant Outfall and Diffuser Modifications	\$6,521,000	\$6,800,631	\$279,631
Holland Road Section A – Phase I	\$6,290,000	\$5,847,613	-\$442,387
Warwick Boulevard to James River Influent Section 2	\$5,496,000	\$5,167,783	-\$328,217
Regional Hydraulic Model & Other Consent Order Requirements	\$4,600,000	\$5,554,796	\$954,796
South Trunk Sewer Section G	\$4,064,000	\$1,477,069	-\$2,586,931
Williamsburg IFM Contract A Replacement	\$3,094,000	\$619,681	-\$2,474,319
Total =			-\$23,553,089



## CIP Expenditures for FY-2017 (cont.)

### Planned vs. Actual Spending



5



## CIP Performance Metrics

### CIP Projects Completed in FY-2017:

Projects Planned to be Completed = 28

Projects Actually Completed = 20

% of Projects Completed = 71%

### Past Performance:

	<u>% Complete by End of FY</u>	<u>% Complete by End of FY-2017</u>
FY-2013	46%	100%
FY-2014	66%	97%
FY-2015	70%	95%
FY-2016	75%	91%

6



CIP Performance Metrics (cont.)

**CIP Projects Completed in FY-2017:**

<u>Reasons for Projects Completed Late</u>	<u># of Projects</u>
Construction related delays	5
Added scope to project	2
Design related delays	1

7



CIP Performance Metrics (cont.)

**SSO Reduction/Consent Decree  
Interim System Improvement Project Spending:**

FY-2010 Spending	=	\$14.1M
FY-2011 Spending	=	\$25.8M
FY-2012 Spending	=	\$15.6M
FY-2013 Spending	=	\$17.6M
FY-2014 Spending	=	\$43.4M
FY-2015 Spending	=	\$62.3M
FY-2016 Spending	=	\$71.8M
FY-2017 Spending	=	\$47.9M
		<hr/>
Total	=	\$298.5M

8



## Water Quality Improvement Fund (WQIF) Program

- In 2007, the General Assembly approved the disbursement of grants for the design and installation of nutrient removal technologies at publicly owned treatment works...
- The WQIF reimburses for upgrades to treatment works related to nutrient removal technologies. Numerous requirements were included as part of the program including:
  - Significant dischargers only
  - Financial need (range 35% to 100%)
    - ↳ 60% for HRSD projects
  - Twenty year compliance program

9



## WQIF Program (cont.)

Project Name	Total Project Cost	Total WQIF Grant Amount	% of Project Grant Funded	WQIF Grant Amount Received to Date
<b>Active Projects:</b>				
Army Base Treatment Plant Improvements Phase III	\$122.0	\$39.5	32%	\$39.5
James River Treatment Plant Improvement Phase I	\$32.6	\$17.1	52%	\$17.1
King William Treatment Plant Expansion Phase I	\$3.5	\$0.8	23%	\$0.8
Nansemond Treatment Plant Nutrient Reduction Improvements	\$42.8	\$21.9	51%	\$21.9
York River Treatment Plant Expansion Phase I – Contract A	\$60.4	\$28.6	47%	\$28.6
Virginia Initiative Plant Nutrient Reduction Improvements	\$161.4	\$46.8	29%	\$41.4

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## Significant Project Updates

- Atlantic Treatment Plant Thermal Hydrolysis Process and FOG Receiving Station
- Virginia Initiative Plant Nutrient Reduction Improvements

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## Atlantic Treatment Plant Thermal Hydrolysis Process and FOG Receiving Station

### Engineer(s):

HDR Engineering, Inc. / Brown & Caldwell

### Construction Manager:

Crowder Construction Company

### Schedule Completion:

October 2020

### Project Value: \$55.9M

### Funding:

HRSD Revenue Bond  
VRLF Loan Application Pending



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## Virginia Initiative Plant Nutrient Reduction Improvements

**Engineer:**  
HDR Engineering, Inc.

**Contractor:**  
Contract A – PC Construction  
Contract B – MEB General Contractors  
Procurement – Emergency Generators

**Schedule Completion (Contract B):**  
March 2017 – Nutrient Work  
July 2018 – Other Work

**Project Value:** \$161.4M

**Funding:** WQIF Grant (\$46.8M)



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HRSD

## Virginia Initiative Plant Nutrient Reduction Improvements (cont.)



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Virginia Initiative Plant Nutrient Reduction Improvements (cont.)

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Virginia Initiative Plant Nutrient Reduction Improvements (cont.)

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## Virginia Initiative Plant Nutrient Reduction Improvements (cont.)



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HRSD

## Consent Decree/SSO Reduction Project Updates

- 33 CIP projects were included in the original Federal Consent Decree.
- 18 CIP projects were added to the Federal Consent Decree as part of the negotiation to consider regionalization of the sanitary sewer system.
- These projects involve improvements to the interceptor sewer system and numerous pump stations.
- HRSD has until **February 23, 2018** to complete these projects.
- 2 CIP projects were added to the Federal Consent Decree as part of the final negotiation to implement the Regional Wet Weather Program. HRSD has until **Dec. 31, 2018** to complete these projects.

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HRSD

Ref No.	Project Title	Consent Decree Estimate	Authorized/ Completed	Status
1	Claremont Avenue Pump Station Rehabilitation	\$1,500,000	\$2,202,900	Complete
2	Atlantic Pressure Reducing Station Emergency Generator Replacement	\$1,000,000	\$1,281,055	Complete
3	Lake Ridge Interceptor Force Main Section B - Contract 2 (Land)	\$3,000,000	\$2,676,670	Complete
4	Big Bethel Road to J Clyde Morris Boulevard Interceptor Force Main Replacement	\$2,500,000	\$2,865,502	Complete
5	Williamsburg-James River Connection Force Main Section II and Lucas Creek-Woodhaven Interceptor Force Main Replacements - Phase I	\$4,000,000	\$1,965,951	Complete
6	Route 171 Interceptor Force Main	\$8,000,000	\$6,487,309	Complete
7	Kiln Creek Interceptor Force Main	\$7,000,000	\$6,629,172	Complete
8	South Trunk Sewer Section F 20-Inch, Section H 8-Inch, and Section H 12-Inch Interceptor Force Main Replacement and Gravity Sewer Chesterfield Blvd. Replacement	\$11,000,000	\$6,366,600	Complete
9	Eastern Branch Sections A & B, Green Run Section C, and 24-Inch Kempsville Road Force Main Replacements	\$6,000,000	\$5,585,872	Complete
10	North Trunk Sewer Section W 8-Inch and 12-Inch Force Mains and Larchmont Force Mains (Formerly Siphon Lines) Replacements*	NA	NA	Project Deleted

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Ref No.	Project Title	Consent Decree Estimate	Authorized/ Completed	Status
11	North Trunk Sewer Section R 6-Inch Interceptor Force Main and 10-Inch Gravity Replacement	\$1,000,000	\$1,879,294	Complete
12	North Trunk Sewer Section D 24-Inch Interceptor Force Main Replacement	\$6,000,000	\$5,798,029	Complete
13	Hilltop/Point O'Woods Interceptor Force Main Replacements; Section B	\$6,000,000	\$7,122,565	Complete
14	Hilltop/Point O'Woods Interceptor Force Main Replacements; Section A	\$5,000,000	\$7,122,565	Complete
15	Williamsburg Interceptor Force Main Contract A Replacement	\$6,000,000	\$8,445,783	Complete
16	33rd Street Pump Station Replacement/Rehabilitation	\$3,000,000	\$7,046,000	Complete
17	Sanitary Sewer System Portsmouth VA Contract A Clifford Street Force Main	\$1,000,000	\$1,174,254	Complete
18	James River Diversion 35th Street Phase III and Boat Harbor Outlet Sewer Relocation I-664 Rehabilitation	\$2,000,000	\$979,053	Complete
19	Hampton Trunk Sewer Division A Replacement	\$1,000,000	\$5,011,437	Complete
20	Lucas Creek Pump Station Upgrade*	NA	NA	Project Deleted

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Ref No.	Project Title	Consent Decree Estimate	Authorized/ Completed	Status
21	South Trunk Sewer Section C-42 inch Force Main Replacement	\$4,000,000	\$13,857,340	Complete
22	Section W Force Main Replacement*	NA	NA	Project Deleted
23	Coliseum Drive Pressure Reducing Station	\$6,000,000	\$10,785,839	Complete
24	Center Avenue Pump Station Replacement	\$4,000,000	\$3,454,200	Complete
25	Norchester St Pump Station Replacement/Rehabilitation	\$2,000,000	\$7,538,145	Complete
26	Providence Road Pressure Reducing Station Modifications	\$2,000,000	\$4,041,725	Complete
27	58th Street Connecting Sewer Rehabilitation	\$1,000,000	\$2,978,845	Construction
28	Bridge St. Pump Station Replacement/Rehabilitation	\$2,000,000	\$14,123,400	Construction
29	South Trunk Sewer Section G-36 inch Force Main Replacement	\$3,000,000	\$13,656,685	Construction
30	Interceptor Systems Pump Station Control and SCADA Upgrades and Enhancements	\$10,000,000	\$24,849,471	Construction
31	Wilroy Pressure Reducing Station, Pughsville PRS Upgrades, Suffolk PS Upgrades*	NA	NA	Project Deleted
32	Army Base 24-Inch and 20-Inch Transmission Main Replacements*	NA	NA	Project Deleted
33	Normandy Lane Interceptor Force Main Replacement*	NA	NA	Project Deleted
		<b>\$109,000,000</b>	<b>\$179,208,547</b>	

Ref No.	Project Title	Consent Decree Estimate	Authorized/ Completed	Status
34	Great Neck Road IFM Replacement – Section A	\$4,500,000	\$6,828,269	Complete
35	Military Highway Interim Pressure Reducing Station	\$750,000	\$220,572	Complete
36	Hampton Trunk Sewer Extension Division E – Gravity Replacement	\$750,000	\$2,254,489	Construction
37	Victoria Boulevard Pump Station	\$3,600,000	\$3,706,218	Complete
38	Ivy Home – Shell Road Sewer Extension Division I – Replacement*	NA	NA	Project Deleted
39	South Shore Interceptors Air Vent Rehabilitation	\$2,500,000	\$3,141,000	Construction
40	North Shore Air Vent Replacements	\$1,200,000	\$786,528	Complete
41	Center Avenue Pump Station Service Area I/I Remediation	\$4,000,000	\$5,308,000	Construction
42	Middle Ground Boulevard – City Center Interconnect Force Main	\$5,000,000	\$6,593,520	Complete
43	Center Avenue I&I Remediation – Phase II	\$3,000,000	\$2,431,000	<b>Complete</b>
44	Jefferson Avenue IFM Replacement – Phase I	\$4,500,000	\$4,091,934	Complete

Ref No.	Project Title	Consent Decree Estimate	Authorized/ Completed	Status
45	Warwick Boulevard to James River Influent Force Main - Section 3*	NA	NA	Project Deleted
46	Holland Road 24-inch IFM – Section A	\$14,000,000	\$22,315,000	Construction
47	Pughsville Pressure Reducing Station Upgrades	\$5,000,000	\$2,720,000	<b>Construction</b>
48	Sewerage System Improvements Division C	\$750,000	\$1,649,455	Complete
49	Lafayette River Crossing/Norview – Estabrook Force Main Replacement	\$3,000,000	\$4,091,609	Complete
50	Courthouse Interim Pressure Reducing Station	\$1,500,000	\$2,840,627	Complete
51	Hampton Pump Station 023 Upgrades and Discharge Force Main	\$750,000	\$800,097	Complete
		<b>\$54,800,000</b>	<b>\$69,778,318</b>	

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Ref No.	Project Title	Consent Decree Estimate	Authorized/ Completed	Status
52	Virginia Initiative Plant Nutrient Reduction Improvements, Contract A	\$18,000,000	\$18,343,768	Complete
53	Virginia Initiative Plant Nutrient Reduction Improvements, Contract B	\$125,000,000	\$135,284,000	Construction
		<b>\$143,000,000</b>	<b>\$153,627,768</b>	
	Total for all work:	<b>\$306,800,000</b>	<b>\$402,614,633</b>	

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## Engineering Services Fee Comparison

### Consulting Fee Components:

	<u>Typical % of Construction</u>
1. Study or Preliminary Engineering Report (PER) Phase	1-5%
2. Final Design and Bidding Phase	5-15%
3. Construction Services (Contract Administration, Inspection and Closeout) Phase	5-15%
<b>Total:</b>	<b>10-35% of Construction</b>

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## Engineering Services Fee Comparison (cont.)

Total Engineering Services:	Engineering Cost	Construction Cost	% of Construction
Large Plant Projects			
- Atlantic	\$13,238,700	\$156,897,000	8.4%
- Army Base	\$19,697,400	\$81,134,500	24.3%
- VIP	\$24,800,000	\$136,600,000	18.2%
Interceptor Sewer Projects			
- South Trunk Sewer Sect. B&C	\$2,500,800	\$12,656,300	19.8%
- Great Neck IFM Sect. A	\$1,352,400	\$4,294,000	31.5%
- Lafayette River Crossing	\$642,700	\$3,494,200	18.4%
Pump Station Projects			
- Coliseum Dr. PRS & Storage	\$2,584,200	\$10,117,800	25.6%
- Center Ave. PS	\$665,600	\$2,707,400	24.6%
- Victoria Blvd. PS	\$964,400	\$3,095,600	31.2%

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## Firms Used for Engineering and Construction

### Engineering Services – Annual Contracts:

Contract	Firm	# Task Orders	Active Contract Value
A/M/E	Guernsey Tingle	7	\$895,000
Corrosion	Pond	4	\$153,000
Environmental	Kimley Horn	5	\$153,000
GES	CH2M Hill	11	\$5,287,000
	HDR	16	\$962,000
	Hazen & Sawyer	5	\$967,000
Interceptor Systems	AECOM/URS	3	\$486,000
	Whitman Requardt	22	\$1,376,000
Land Surveying	PMI	5	\$75,000
Real Estate	Divaris	2	\$9,000
Structural	Collins	13	\$180,000

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## Firms Used for Engineering and Construction (cont.)

### Engineering Services – Individual Contracts:

Firm	# of Contracts	Active Contract Value
AECOM/URS	8	\$5,161,307
Arcadis	1	\$1,323,232
Brown & Caldwell	1	\$52,635,713
CDM Smith	1	\$29,011,724
Draper Aden	1	\$252,821
Gannett Fleming	4	\$2,147,373
Hazen & Sawyer	1	\$2,045,557
HDR Engineering	5	\$39,383,849
Johnson, Mirmiran & Thompson (JMT)	1	\$605,181
Kimley Horn	13	\$2,473,389

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Firms Used for Engineering and Construction (cont.)

**Engineering Services – Individual Contracts (cont.):**

Firm	# of Contracts	Active Contract Value
Michael Baker	4	\$5,216,181
Rummel Klepper and Kahl (RK&K)	6	\$1,343,450
Westin	2	\$4,952,682
Whitman Requardt	3	\$2,250,553
Woolpert	1	\$51,036

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Firms Used for Engineering and Construction (cont.)

**Construction Services – Annual Contracts:**

Contract	Firm	# Task Orders	Active Contract Value
Force Main Inspections – Phase 2	T.A. Sheets	4	\$3,377,686

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Firms Used for Engineering and Construction (cont.)

**Construction Services – Individual Contracts:**

Firm	# of Contracts	Active Contract Value
Archer Western	1	\$89,765,455
Basic Construction	4	\$15,206,326
Branscome	1	\$1,771,967
Conrad Brothers	1	\$2,281,000
Corman Construction	1	\$15,264,212
Crowder Construction	2	\$24,572,000
Franklin Mechanical	1	\$1,521,361
Gaston Brothers Utilities	1	\$563,855
J. Sanders Construction	1	\$343,872
Lisbon Buildings & Infrastructure	1	\$1,008,595

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Firms Used for Engineering and Construction (cont.)

**Construction Services – Individual Contracts:**

Firm	# of Contracts	Active Contract Value
MEB General Contractors	10	\$151,982,326
Prism Contractors	1	\$1,209,213
REW Corporation	3	\$21,348,646
Shaw Construction	5	\$7,688,609
T.A. Sheets General Contractors	13	\$42,904,762
Tidewater Utility Construction	5	\$22,155,635
Tri-State Utilities	1	\$1,230,813
W.M. Jordan	1	\$360,785

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Questions?

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HRSD COMMISSION MEETING MINUTES  
July 19, 2017

ATTACHMENT #8

AGENDA ITEM 16. – Commission Governance Guidelines

## **HRSD Commission Governance Guidelines**

The Commission is charged with managing and controlling the functions, affairs and property of the Hampton Roads Sanitation District (HRSD). HRSD's operation is accomplished by its employees under the direct supervision of the General Manager. These governance guidelines are intended to support the Commission in its oversight role, which is set forth in the Acts of Assembly. Some additional Commission responsibilities are specified in HRSD's Trust Agreements, required by federal law or mandated by the Virginia Public Procurement Act.

The Commission and HRSD's management recognize that the interests of HRSD are advanced by responsibly addressing the concerns of other constituencies, including employees, customers and the communities in which HRSD provides services. The Commission will review these guidelines regularly in its continuing effort to achieve this goal.

### **SECTION 1. ROLE AND FUNCTION OF THE COMMISSION**

#### **A. Composition**

1. The Commission consists of eight members appointed by the Governor of Virginia to four-year terms.
2. At the time of their appointment, Commissioners shall reside in the locality from which they were appointed. Moving from this locality terminates the appointment.
3. With the exception of the aforementioned residency restriction, a Commissioner's term continues until the successor is appointed. Any person appointed to fill a vacancy shall serve for the unexpired term.
4. Commissioners are eligible for reappointment without limitation to the number of terms. Members may be suspended or removed at the Governor's pleasure.

#### **B. Structure**

1. The Commission shall annually elect one of its members as chair and another as vice-chair. These officers shall not serve more than two consecutive one-year terms in each office. These officers may be re-elected after being out of office for one full term.
2. The Commission's committees are (1) Finance and (2) Operations and Nominations (O&N). These committees report as needed to the full Commission. The Commission may elect to form a new standing or special committee or to disband an existing committee.

## HRSD Commission Governance Guidelines

- a. The Finance Committee shall review the Comprehensive Annual Financial Report; ensure the annual audit is completed and receive the audit report from the external auditor; review the work plan and receive reports from the audit firm performing internal audits; review the financial forecast and the annual operating and capital budgets and report out to the full Commission prior to Commission action on the annual budgets; participate in selection of internal and external auditors; and other financial related matters as may be referred to the committee by the chair.
  - b. The O&N Committee shall prepare a slate of officers for Commission consideration annually; review the Governance Guidelines on a regular basis; review the Remote Participation Policy annually; and review other Commission policies as required or directed by the chair.
3. The Commission chair annually appoints the committee members and chairs. Committees are composed of two Commissioners and both are required for a quorum. All Commissioners are invited to participate in all Committee meetings.

### C. Operation

1. The Commission has the authority to adopt bylaws and to make rules and regulations for the management of its affairs and the conduct of its business.
2. Unless otherwise announced, the Commission meets on the fourth Tuesday of each month January through November and on the third Tuesday of December. Special meetings are held when necessary. The General Manager sets the meeting agendas with advice from the Department Directors and the chair. Agendas, with any relevant accompanying information or reports, are distributed to the Commissioners prior to meetings for review. When circumstances require, items may be added to the agenda after it has been distributed.
3. Four members shall constitute a quorum.
4. The rules contained in the current edition of ***Rosenberg's Rules of Order*** shall govern the Commission in all cases to which they are applicable and in which they are not inconsistent with state law or any special rules of order the Commission may adopt.

## HRSD Commission Governance Guidelines

### D. Commissioner Policies

1. Newly appointed Commissioners will receive a briefing from the General Manager and Department Directors regarding matters related to HRSD's mission and core services. At a minimum, Commissioners are briefed on operations, financial matters and strategic directions. The Commission Secretary will provide information related to [Virginia's Freedom of Information Act](#) and Commission membership. In addition, new Commissioners shall tour HRSD facilities as their schedules permit and be introduced to the chief elected officials of their localities as appropriate and practical to facilitate effective working relationships.
2. Commissioners are expected to devote as much time and attention as necessary to discharge their duties. This includes attending all monthly Commission meetings and the meetings of any committees on which they may serve. Commissioners should notify the Commission Secretary whenever they are unable to attend a scheduled meeting. Commissioners may participate remotely in accordance with the Remote Participation Policy. Commissioners must notify the Chair of their desire to participate remotely prior to the meeting. Commissioners also may be asked to participate in special events and to represent HRSD at public meetings.
3. Commissioners shall be mindful of the best interest of the HRSD service area at large as opposed to those of the localities in which they reside.
4. At the request of the Commission, individual Commissioners may serve as liaisons to officials in the communities in which they reside or other localities within HRSD's service area.
5. Commissioners receive no salary but are compensated for travel and expenses associated with meeting attendance at the rate paid to members of the Commonwealth Transportation Board.
6. Each Commissioner shall be covered by a public official's liability policy paid for by HRSD.
7. Commissioners are expected to recuse themselves from discussion and abstain from voting on matters in which they may have a personal or professional conflict, and to announce the recusal or abstention in advance.

## HRSD Commission Governance Guidelines

### E. Responsibilities

The Acts of Assembly authorize and empower the Commission to perform a variety of specified acts by means of its own officers, agents and employees or by contracts with any persons. Some of the most significant functions are:

1. To construct, improve, extend, enlarge, reconstruct, maintain, equip, repair and operate a sewage disposal system or systems.
2. To issue revenue bonds, notes or other obligations.
3. To fix and collect rates, fees and other charges for the services.
4. To acquire land, structures, property, rights, rights-of-way and easements by purchase, lease, grant or the exercise of the right of eminent domain.
5. To employ, in its discretion, consulting engineers, attorneys, accountants, construction and financial experts, managers and other such officers, employees and agents as may be necessary, and to fix their compensation.
6. To sue and to be sued.
7. To prevent any person, jurisdiction or corporation from discharging into District waters any sewage, industrial wastes or other refuse that would pollute these waters.
8. To seek civil penalties or civil charges against owners in violation of pretreatment standards in permits.
9. To make and enter into all contracts and agreements necessary or incidental to the performance of its duties and execution of its powers.
10. The Commission does not have the power to mortgage, pledge, encumber or otherwise dispose of any part of the sewerage system except that which may no longer be necessary or useful.

## HRSD Commission Governance Guidelines

### SECTION 2. HRSD MANAGEMENT AND THE COMMISSION

Commissioners have complete access to the General Manager, who may refer them to Department Directors or other appropriate resources for assistance. The Commission Secretary shall assist Commissioners with matters related to scheduling, expense reimbursement, access to information and meeting attendance.

#### a. Staff Relations

1. The Commission appoints a General Manager, who serves at the pleasure of the Commission. As the chief administrative officer, the Commission delegates day-to-day operations to the General Manager within the broad framework of Commission established policies and strategies. The Commission shall review the General Manager's performance and set compensation at least annually.
2. The Commission appoints a Secretary and a Treasurer who serve in these roles at the pleasure of the Commission. These appointments are made from existing staff positions. The Commission fixes their compensation through the annual budget process as these positions are in the HRSD position classification and compensation system.
3. The Commission periodically reviews and assesses the compensation paid to all HRSD employees as part of the annual budget process.
4. Establishment and maintenance of appropriate human resource policies have been delegated to the General Manager.

#### B. Financial Oversight

1. The Commission approves HRSD's Financial Policy.
2. The Commission approves the Annual Budget, Capital Improvement Program (CIP), Financial Plan and Schedule of Rates.
3. The Finance Committee meets as required to perform their financial oversight duties, including overseeing the Financial and Internal Auditors, and reports to the Commission regarding these activities.

### SECTION 3. COMMISSION ACTIONS

#### A. Commission Approval Items

1. Policies – All policies that govern HRSD business processes, financial practices, service to localities, etc.

## HRSD Commission Governance Guidelines

2. Annual Operating Budget – Budget policy allows General Manager to transfer between budget object codes within total approved budget without further Commission action. Additional action is only required if total annual operating budget is amended.
3. Capital Improvement Program
  - a. 10-year program without authorization of specific projects
  - b. Authorization of projects in first year without appropriation
  - c. Changes in program that impact first-year projects previously authorized
4. Capital Improvement Projects
  - a. Appropriation of full project funding specific to each project at time first dollar is to be spent
  - b. Changes requiring additional funding
  - c. Changes resulting in significant reduction in scope (greater than 25 percent of appropriation)
5. Schedule of rates including facility charges
6. Resolutions authorizing issuance of definitive bonds, interim receipts or temporary bonds, notes or other obligations
7. Acceptance or award of grants
8. Procurement
  - a. The HRSD Procurement Policy
  - b. Use of alternative project delivery methods prior to solicitation (Design-Build, Construction Management, etc.)
  - c. Agreements – Contracts, task orders or purchase orders where the total value is projected to exceed \$200,000

## HRSD Commission Governance Guidelines

- d. Rejection of bids for all contracts where total value is projected to exceed \$200,000
  - e. Change orders to contracts that will result in changing the total value of the contract inclusive of all change orders to either 125 percent or more of the original contract award amount or \$50,000, whichever is greater
  - f. HRSD use of an existing competitively awarded contract vehicle (State contract, cooperative procurement, General Services Administration, etc.) where the total value of HRSD participation is projected to exceed \$200,000
  - g. Sole Source Procurement – Initial sole source determination for specific vendor, item(s) and location(s) where total value is projected to exceed \$10,000
  - h. Debarment – Review staff recommendation and make the final determination of all firm/contractor debarment, the conditions and length of term for the debarment.
  - i. Real Property
    - 1. Acquisition by condemnation in accordance with the Code of Virginia §15.2
    - 2. Acquisitions by purchase, lease, grant or conveyance
    - 3. Sale, lease or permanent encumbrance of HRSD property
    - 4. Easements or Right of Entry Agreements (temporary or permanent) with value in excess of \$25,000
9. Intellectual Property (IP)
- a. IP rights agreements
  - b. Royalty distribution agreements

## HRSD Commission Governance Guidelines

10. Personnel
  - a. Compensation of General Manager
  - b. Compensation of Treasurer, Secretary and other employees through annual budget process
11. Regulations
  - a. HRSD Industrial Wastewater Discharge Regulations
  - b. Enforcement Response Plan
12. Selection of Commission consultants
  - a. Legal
  - b. Auditors
    - (1) Financial Auditors
    - (2) Internal Auditors
13. Agreements with other entities meeting one of the following criteria:
  - a. Design or construction of infrastructure with a constructed value in excess of \$50,000
  - b. Provides use of real property for temporary (greater than one year) or permanent use
  - c. Provides use of personal property valued at more than \$50,000 for temporary (greater than one year) or permanent use
  - d. Provides a service or other benefit that spans multiple years
  - e. Obligates significant financial resources (\$200,000 or more)
  - f. Obligates significant personnel resources (one full time employee or more)

## **HRSD Commission Governance Guidelines**

- g. Is or has the potential to be politically significant

### **B. Commission Recognition Items**

1. Employees celebrating length of service 20 years and above (in increments of 5)
2. New employees Grade 9 and above
3. Awards and recognition earned by HRSD
4. Awards and recognition granted by HRSD

### **C. Commission Information Items**

1. Monthly reports from General Manager and each Department Director
2. Monthly Interim Financial Report (included in Director of Finance report)
3. Notice of declaration of emergency
4. Internal Audit Reports and updates
5. Quarterly Investment Report
6. Quarterly CIP Update

## **SECTION 4. COMMISSION MEETINGS**

All meetings of the Commission shall be held in accordance with the Virginia Freedom of Information Act. Remote participation in meetings shall be in accordance with the Remote Participation policy.

### **A. Commission Meeting Agenda**

The Commission meeting agenda shall be prepared by the General Manager and distributed to the Commission typically five calendar days prior to the meeting date. Public notice of the meeting and posting of the agenda shall be in accordance with the Virginia Freedom of Information Act (§ 2.2-3700 et. Seq. of the Code of Virginia). The General Manager shall review the agenda prior to the meeting with the chair.

## HRSD Commission Governance Guidelines

The agenda shall be structured to ensure efficient and effective use of Commissioner's time and expertise.

1. Full agenda items with briefings may be provided for the following items and other items as deemed appropriate:
  - a. Annual Budget
  - b. Capital Improvement Program
  - c. Individual Capital Improvement Projects when requesting appropriation or additional appropriations to individual Capital Improvement Projects
  - d. Changes in CIP that impact first-year projects
  - e. Schedule of Rates
  - f. Resolutions related to bonds, notes or other obligations
  - g. Resolutions related to certain employee benefit plans
  - h. Acceptance or award of grants
  - i. New, modified, amended or reissued Commission approved policies
  - j. Use of alternative project delivery methods for contracts
  - k. Agreements
  - l. Rejection of bids for contracts
  - m. Real estate acquisitions by condemnation including requisite public hearings
  - n. Real estate acquisitions
  - o. Sale, lease or conveyance of HRSD property

## HRSD Commission Governance Guidelines

- p. Intellectual property agreements
  - q. Patent applications
  - r. Changes, amendments or reissuance of the Industrial Wastewater Discharge Regulations or Enforcement Response Plan
  - s. Selection of Commission consultants
  - t. Agreements requiring Commission approval
2. Consent agenda items shall be limited to items meeting the requirements for Commission approval as detailed herein but not typically warranting of a full briefing due to the nature of the action or previous communication with the Commission.
- a. Contract awards
  - b. Contract Change orders
  - c. Task orders
  - d. HRSD use of existing competitively awarded contract vehicle
  - e. Sole source procurement
3. Informational agenda items (with or without briefings) may be presented with the agenda as appropriate.
- a. Monthly reports
  - b. Quarterly investment reports
  - c. Emergency declarations
  - d. CIP update
  - e. Other items as needed

## HRSD Commission Governance Guidelines

### B. Commission Workshops

Workshops shall be scheduled as needed to allow informal dialogue on a topic or narrow range of topics. Appropriate staff shall be available to brief and facilitate as well as provide subject matter expertise. No official actions shall be taken during workshops. Workshops are public meetings and shall be held in conformance with Virginia's Freedom of Information Act.

### C. Committee Meetings

Committee meetings shall be scheduled as needed. Committee meetings are public meetings and shall be held in conformance with Virginia's Freedom of Information Act. Remote participation in committee meetings is not allowed. The Commission Chair shall be an ex-officio member of all committees, with voice and vote. However, the Commission Chair shall not be counted in determining the number required for a Committee quorum or in determining whether or not a quorum is present.

## SECTION 5. ANNUAL CALENDAR OF COMMISSION ACTIONS

Action	Schedule
Quarterly CIP Update	January
Finance Committee Meeting to Review Operating Budget	March
Quarterly CIP Update	April
Receive Finance Committee report	April
Appoint Operations & Nominations (O&N) Committee	May
Approve Annual Budget, CIP, Financial Plan, and Schedule of Rates	May
O&N Committee Meeting after Regular Meeting	May
O&N Committee Meeting before Regular Meeting	June
Elect Officers	June
Quarterly CIP Update	July
Appoint Finance Committee	July
Finance Committee Meeting to Review Comprehensive Annual Financial Report (CAFR)	September - October
Accept CAFR	September-October
Quarterly CIP Update	October
Diversity Procurement Report	October
Evaluate General Manager's Performance	October

## HRSD Commission Governance Guidelines

### SECTION 6. ADVISORY ROLE OF FORMER COMMISSIONERS

So as not to lose the benefit of the insights gained during their years of service, former Commissioners may be asked to serve in advisory role following the end of their term. Equipment required to facilitate communications with the General Manager and Commission officers may be provided to those serving in an advisory role.

### SECTION 7. MODIFICATIONS

The operation of HRSD is a dynamic and evolving process. As such, the O&N Committee annually reviews these Guidelines and recommends proposed modifications to the Commission when appropriate and when statutes or regulations dictate changes.

The O&N Committee also annually reviews the schedule of items to be considered by the Commission to ensure effective oversight and efficient meetings.

### SECTION 8. APPENDIX

*The most current versions of the following documents are available on HRSD.com or, upon request, in hard copy.*

- Budget
- Capital Improvement Program
- Comprehensive Annual Financial Report
- Enabling Act
- Schedule of Rates
- Trust Agreements

HRSD COMMISSION MEETING MINUTES  
July 19, 2017

ATTACHMENT #9

AGENDA ITEM 21. – Informational Items

- a. Management Reports
  - (1) [General Manager](#)
  - (2) [Communications](#)
  - (3) [Engineering](#)
  - (4) [Finance](#)
  - (5) [Information Technology](#)
  - (6) [Operations](#)
  - (7) [Special Assistant for Compliance Assurance](#)
  - (8) [Talent Management](#)
  - (9) [Water Quality](#)
  - (10) [Report of Internal Audit Activities](#)
- b. [Strategic Planning Metrics Summary](#)
- c. [Effluent Summary](#)
- d. [Air Summary](#)
- e. [Emergency Declaration – Williamsburg Interceptor Force Main Contract C Protection and Channel Stabilization](#)



July 11, 2017

Re: General Manager's Report

Dear Commissioners:

Vince Lombardi has been credited with saying “perfection is not attainable, but if we chase perfection we can catch excellence.” For HRSD, perfection is measured in permit compliance. We report the number of permit exceedances as well as the total possible exceedances each month within our strategic metrics. In a typical year we may have a few exceedances out of the more than 50,000 permitted parameters we monitor and report in a given year.

I have always believed life is all about balancing perfection with production. While we strive for perfection, we must also actually get things done. This requires an acceptance of some risk and the acknowledgment that perfection cannot always be achieved. That lesson was driven home this month with the Chesapeake-Elizabeth Treatment Plant losing a battle to control suspended solids created by filamentous bulking when it was hit with significant wet weather flows. As a result, we missed a weekly maximum concentration limit and a weekly maximum loading for Total Suspended Solids (TSS). Those two exceedances bring our fiscal year 2017 total up to 9 out of 53,236 opportunities; a great record, but not perfection.

Water quality is what we are all about. It is the reason we were created and the driving force behind everything we do. The rare and sporadic occasions when we narrowly fail to meet a particular permit parameter do not impact water quality. The key is that they are rare, sporadic and close to the permitted limits.

Despite the unattainable nature of perfection, we will continue the chase to catch excellence. In the case of the Chesapeake-Elizabeth Treatment Plant, operational changes have been made and more are in progress to minimize the chances of repeating a TSS exceedance. Learning from experience, working together to find solutions, balancing perfection and production and managing risk appropriately are how we chase perfection and arguably proof that HRSD has already caught excellence.

The highlights of this month's chase of perfection are detailed in the attached monthly reports.

1. **Treatment Compliance and System Operations:** All plants, with the exception of Chesapeake-Elizabeth as outline above, met all VPDES and air

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Commissioners: Frederick N. Elofson, CPA, Chair • Maurice P. Lynch, PhD, Vice-Chair • Vishnu K. Lakdawala, PhD  
Michael E. Glenn • Stephen C. Rodriguez • Willie Levenston, Jr. • Ann W. Templeman • Elizabeth A. Taraski, PhD  
[www.hrsd.com](http://www.hrsd.com)

permit requirements during the month with three reportable events in the interceptor system and one in the small communities collection systems.

2. **Internal Communications:** I participated in the following meetings/ activities with HRSD personnel:
  - a. Two new employee orientation sessions
  - b. Two meetings on updating the HRSD Strategic Plan
  - c. A review of a masonry specialist's report on flashing on 1434 Air Rail
  - d. A review of options available to address the failure of the methanol storage tank at Army Base Treatment Plant
  - e. Discussion of the options available for a storage tank at Providence Road
  - f. Multiple calls to review the draft recommendations of the Eastern Virginia Groundwater Area Committee
  - g. Two Sustainable Water Initiative for Tomorrow (SWIFT) updates for employees
  - h. Several meetings and calls in preparation for the July 20 oversight and monitoring workshop
  - i. A meeting to review facility plans for Williamsburg Treatment Plant
  - j. A review of the property issues and options related to siting the Mathews Courthouse pump station
  - k. A meeting to review development issues in King William County
  - l. A review of issues related to potential claims associated with the City of Hampton contract to replace the Bridge Street bridge
  
3. **External Communications:** I participated in the following meetings/ activities:
  - a. A DEQ-sponsored meeting at the Hampton Roads Planning District Commission (HRPDC) in preparation of beginning the WIP III for the Commonwealth
  - b. A briefing about various HRSD insurance coverages
  - c. A discussion with the Sr. Extension Associate and Program Coordinator, Virginia Household Water Quality Program, Biological Systems Engineering Department (all a part of the Virginia Tech) and Virginia Cooperative Extension regarding a partnership for education of private well owners in the region
  - d. An interview by consultants preparing a Joint Land Use Study for the HRPDC and the Department of Defense
  - e. A meeting with the Executive Director of Lynnhaven River NOW
  - f. A neighborhood meeting in Hampton to discuss repurposing the old Bridge Street Pump Station
  - g. The quarterly membership meeting of VAMWA
  - h. The quarterly board meeting of Virginia Forever

- i. The CFO of the Year Award ceremony
- j. A meeting with the regional utility directors to address lingering questions about the Regional Wet Weather Management Plan (RWWMP) and the integration with SWIFT
- k. Moderated a panel of regulatory officials at the US Water Alliance's One Water Summit
- l. Presented a SWIFT update via webinar for the EPA's Utility of the Future series
- m. Conducted an introductory briefing for Commissioner Taraski
- n. Met with the Virginia Department of Health (VDH) Commissioner (Dr. Levine) to discuss communications and support of SWIFT
- o. Met with the Surry Town Council to discuss the draft service agreement with Surry
- p. Presented a SWIFT update to the Poquoson City Council

This summer is packed with important events - several related to SWIFT. Next week we are convening a distinguished group of stakeholders for an all-day workshop to define the appropriate model for long-term SWIFT oversight and monitoring. We have begun the detailed technical discussions with VDH to identify the appropriate water quality targets for SWIFT to be included in the US EPA permit for full-scale SWIFT. The 11 Hampton Roads localities with stormwater permits have stepped up efforts to get nutrient trading agreements in place before the October 1, 2017 submittal date for our integrated plan. Additionally, planning continues for the August 22 poverty simulation.

Thanks for your continued dedicated service to HRSD, the Hampton Roads region, the Commonwealth and the environment. **I look forward to seeing you on Wednesday, July 19, 2017 in Newport News.**

Respectfully submitted,

*Ted Henifin*

Ted Henifin, P.E.  
General Manager

TO: General Manager  
FROM: Director of Communications  
SUBJECT: Monthly Report for June 2017  
DATE: July 5, 2017

A. Publicity and Promotion

1. "Report: Virginia making overall progress in Chesapeake Bay cleanup,"  
June 22, 2017 | Daily Press  
<http://www.dailypress.com/news/science/dp-nws-bay-milestone-report-20170621-story.html>
2. "HRSD study to focus on providing sewer to several areas in Middlesex,"  
June 21, 2017 | Southside Sentinel  
[http://www.ssentinel.com/index.php/news/article/hrsd\\_study\\_to\\_focus\\_on\\_providing\\_sewer\\_to\\_several\\_areas\\_in\\_middlesex/](http://www.ssentinel.com/index.php/news/article/hrsd_study_to_focus_on_providing_sewer_to_several_areas_in_middlesex/)
3. "Main Street renovation delays largely resolved," June 21, 2017 |  
Gloucester-Mathews Gazette-Journal  
[http://www.gazettejournal.net/index.php/news/news\\_article/main\\_street\\_renovation\\_delays\\_largely\\_resolved](http://www.gazettejournal.net/index.php/news/news_article/main_street_renovation_delays_largely_resolved)

B. Social Media and Online Engagement

1. Facebook Reach: 4.434
2. Twitter: 7,984 impressions
3. SWIFT website visits: 388
4. LinkedIn: 816 impressions
5. Blog posts: 2 (featured on AskHRGreen.org)
  - a. Composting: A Lazy Gardener's Guide -  
<http://askhrgreen.org/composting-lazy-gardeners-guide/>
  - b. Meat Water: Not A Thing - <http://askhrgreen.org/meat-water-thing/>
6. Construction Project Page Hits: 6158

C. News Releases, Advisories and Project Notices

1. [Temporary Lane Closures Scheduled on Portion of Independence Boulevard for Sanitary Sewer Maintenance](#)
2. [Update: Sanitary Sewer Maintenance Work on Independence Boulevard Postponed Due to Weather](#)
3. Project Notices:
  - a. Bridge Street Pump Station Replacement, Hampton
  - b. Center Avenue Phase II, Newport News
  - c. Ingleside Road Pump Station Control Panel Replacement, Norfolk

D. Special Projects

1. The Director of Communications and communications staff attended an exploratory meeting with WHRO's education vice president to learn more about co-educational partnering opportunities available through WHRO's Jane Batten Education Initiative Grant.
2. The Director of Communications attended the United Way's Campaign Awards Finale with several commissioners and staff from North Shore Operations and Customer Care.
3. Communications staff continued working with the SWIFT Research Center project manager and external consultants on coordinating and conceptualizing educational features and tools for the SWIFT Research Center.
4. The Director of Communications attended the Hampton Roads Media Council monthly meeting and the Hampton Roads Chamber quarterly communications committee meeting.
5. The Director of Communications worked with City of Virginia Beach public affairs personnel and HRSD customer care to coordinate messaging related Virginia Beach's changes to billing.
6. The Director of Communications joined the General Manager and Community Relations Liaison at the Little England Community Meeting to provide an update on the Bridge Street Pump Station.

## E. Internal Communications

1. The Director of Communications attended an Operations orientation and tour which included tours of automotive, machine and carpentry shops, interceptors, Norchester Pump Station and James River Treatment Plant.
2. Communications staff participated in the askHRgreen.org Mini-grant Advisory Committee meeting.
3. The Director of Communications attended the learning week session, *How do they do it? Incorporating SWIFT into HRSD's Financial Plan*
4. Communications staff prepared and submitted three (3) awards submissions:
  - a. 2017 Virginia Section AWWA Public Information Award, Public Relations Program
  - b. 2017 WateReuse Young Professional of the Year, submitting Germano Salazar-Benitez as nominee
  - c. 2017 WateReuse Industrial Project of the Year, submitting SWIFT
5. Communications staff developed and produced five SWIFT outreach and education video clips, "SWIFT Remarks: Answers from the Experts"
6. Communications staff developed an update to the HRSD Style Guide.

## F. Metrics

1. Educational and Outreach Activities: 9
  - a. Fort Story Library – What Not to Flush (25 students) – 6/1
  - b. NASA Annual Safety and Health Expo (200 estimated attendees) – 6/8
  - c. Newport News Juvenile Detention Center – Water Quality and Careers Presentation (20 students) – 6/14
  - d. MOCA Boardwalk Art Festival (100 estimated participants) – 6/17
  - e. Bridge Street PS – Historic Little England Community Meeting – 6/19
  - f. STARBASE Victory Envirobase summer camp (4) – SWIFT, Water Quality and Amazing Aquifers (60 students) – 6/19, 6/20, 6/26 & 6/27

2. Number of Community Partners: 7

- a. Fort Story Library
- b. NASA
- c. Newport News Public Schools
- d. Virginia Museum of Contemporary Art
- e. Portsmouth Public Schools
- f. Historic Little England Civic League (Hampton)
- g. AskHRGreen.org

3. Additional Activities Coordinated by Department: 2

- a. CEL/CETP Combo Tour for ODU students – 6/19
- b. STEM Career Fair at Slover Library (coordinated materials) – 6/30

<b>Item #</b>	<b>Strategic Planning Measure</b>	<b>Unit</b>	<b>June 2017</b>
M-1.4a	Total Training Hours per Full Time Employee (1) - Current Month	Hours / #FTE	12.5
M-1.4b	Total Training Hours per Full Time Employee (1) - Cumulative Fiscal Year-to-Date	Hours / #FTE	23.5
M-5.2	Educational and Outreach Events	Number	9
M-5.3	Number of Community Partners	Number	7

Leila Rice

Director of Communications

TO: General Manager

FROM: Director of Engineering

SUBJECT: Engineering Monthly Report for June 2017

DATE: July 10, 2017

A. General

1. Capital Improvement Program (CIP) spending for the 11th month of Fiscal Year-2017 was \$8.3 million and the planned expenditure for the month was estimated at \$8.3 million. CIP spending continues to track below planned estimates. The largest three CIP projects are a total of \$10 million behind planned spending estimates for the fiscal year. A Water Quality Improvement Fund (WQIF) grant reimbursement of \$0.6 million was received for the Virginia Initiative Plant (VIP) Nutrient Reduction Improvements project.
2. Due to the recent retirement of Ms. Karen Harr, we recently conducted interviews for the Condition Assessment Manager position within the Asset Management Division. We are excited to have selected Ms. Christene Mitchell to this position. Ms. Mitchell brings a wealth of experience from both the public and private sectors. She will assist this group as we develop the new Asset Management Program here at HRSD. We were fortunate to have a large number of very qualified candidates to consider as part of this recruitment effort. The number and quality of the candidates is a testament to HRSD and the strong team we have in place here to accomplish our mission.

B. Asset Management Division

1. Staff efforts continue for the pilot study at the Atlantic Treatment Plant to evaluate data gaps in the Computerized Maintenance Management System (CMMS) and to assess critical assets. The study is now 70 percent complete. The work this month included the conversion of CAD drawings of the plant piping into the GIS (Geographic Information System) for validating as-built conditions. The goal of mapping the plant piping systems is to develop a routine camera inspection and condition assessment of aging pipes at the plant. This study should be completed later this year.
2. Efforts continued this month to create a Transition Plan for the Interceptor System Condition Assessment Program (CAP). Several meetings were held with the current CAP Program manager (Brown & Caldwell) as well as

internal meetings with the Special Assistant for Compliance Assurance to outline all the elements of the existing CAP. The goal is to develop and present a Transition Plan in October 2017.

### C. North Shore and South Shore Design & Construction Divisions

1. The region is now moving forward with numerous transportation improvement projects. These projects are being administered by both VDOT and many of the local jurisdictions in the region. Many of these roadway projects will impact existing HRSD assets. We are working closely to coordinate these projects and to be sure our assets are being protected and/or relocated as needed. Some of these roadway projects include:

- Bridge Street Replacement – Hampton
- Shore Drive Widening – Virginia Beach
- High Rise Bridge Replacement/I-264 Widening – VDOT
- Laskin Road Improvements – Virginia Beach
- I-264 Widening/Witchduck Road – VDOT

There are numerous other roadway projects in the planning phase that could also impact HRSD infrastructure. We are monitoring these projects closely and will work to assure that HRSD's assets are protected and will coordinate if relocations are necessary.

2. Equipment challenges have delayed the schedule for the Interceptor Systems Pump Station Control and SCADA Upgrade project. The planned use of a UHF Radio System to transmit data will not meet the project goals related to the speed of data transmission. Evaluation and discussions of alternate communication systems continues. Efforts are proceeding to test a Verizon LTE network solution for communications. A test plan for the Verizon system has been prepared and submitted to the contractor for review and to price the additional work.

### D. Planning & Analysis Division

1. The CIP Enhancement Team continues their efforts to consider improvements to the overall program. The list of issues under consideration includes those items suggested in the audit prepared last year. Current efforts are focused on a Document Management Policy, refining the process to prepare project scope/costs, refining the internal QA/QC process and creating a project risk management process. The last two areas under review are improvements to the document management process and the project risk register guidelines.

2. Staff continues to assist with the SWIFT Program. An alternatives analysis effort is underway to determine the best way to address SWIFT at the Boat Harbor and Army Base Treatment Plants. This analysis will be completed later this year and will be an important part of the overall program, which will begin in 2018 with the selection of a firm to assist with Program Management.

E. Strategic Planning Metrics Summary

1. Educational and Outreach Events: 3
  - a. Staff assisted as a moderator for the Virginia Water Environment Association (VWEA) Design-Build Seminar on June 1.
  - b. Staff made a presentation to the Former Nansemond Ordinance Depot - Restoration Advisory Board (FNOD-RAB) Group on the SWIFT Program on June 1.
  - c. Staff participated in the Chesapeake Bay Foundation Clean the Bay Day on June 3.
2. Number of Community Partners: 3
  - a. VWEA
  - b. FNOD-RAB
  - c. Chesapeake Bay Foundation
3. Number of Research Partners: 0

<b>Item #</b>	<b>Strategic Planning Measure</b>	<b>Unit</b>	<b>June 2017</b>
M-1.4a	Total Training Hours per Full Time Employee (39) - Current Month	Hours / #FTE	3.96
M-1.4b	Total Training Hours per Full Time Employee (39) - Cumulative Fiscal Year-to-Date	Hours / #FTE	43.29
M-5.2	Educational and Outreach Events	Number	3
M-5.3	Number of Community Partners	Number	3
M-5.4	Number of Research Partners	Number	0

4. Annual Metrics

<b>Item #</b>	<b>Strategic Planning Measure</b>	<b>Unit</b>	<b>FY-2017</b>
M-2.1	CIP Delivery – Budget	Percentage	*
M-2.2	CIP Delivery – Schedule	Percentage	*

\* These metrics will be reported upon completion of the annual financial statements.

Bruce W. Husselbee, P.E.

Bruce W. Husselbee, P.E.

TO: General Manager  
FROM: Director of Finance  
SUBJECT: Monthly Report for June 2017  
DATE: July 6, 2017

A. General

1. The Federal Reserve raised interest rates a quarter-point as expected. This is the second rate hike for 2017. As a result, the \$93 million HRSD has invested in the Local Government Investment Pool (LGIP) is now earning 1.12 percent versus 0.99 percent. This is approximately \$120,000 more in interest annually.
2. As the short-end of the yield curve rises, the long-end has declined slightly which is known as a flattening of the yield curve. As long-term rates have unexpectedly declined over the last few months, the Virginia Resources Authority has allowed us to postpone the Virginia Clean Water Revolving Loan Fund (VCWRLF) closing for the Atlantic Plant Thermal Hydrolysis and FOG project to take advantage of the lower rates. The 25-year subsidized rate for a May closing was 2.45 percent and it is now 2.25 percent for a July closing. The interest savings is approximately \$2 million on \$57 million.
3. Staff is preparing the next request for VCWRLF due in July 2017. Unfortunately, there are not many projects going to construction in calendar year 2018. In addition, the market is projecting a 0.75 percent increase in long-term interest rates in the next twelve to eighteen months. Considering the market opportunity on long-term rates and less than unexpected VCWRLF requests, staff is evaluating issuing new HRSD subordinate revenue bonds this fall. One option would be to prepare to issue new revenue bonds simultaneously with reopening the interim financing. This flexibility would allow us to reopen the interim financing if the market conditions are unfavorable to sell bonds. As an example, long-term rates unexpectedly increased by 0.50 percent after the presidential election last fall.
4. As projected, water consumption ended fiscal year 2017 essentially flat (-0.2 percent) relative to fiscal year 2016. Although this is good news, we remain cautious on making any changes to our long-term revenue forecast until we are confident this trend will continue as it is still -1.3 percent less than the three-year average. With higher than expected water consumption, revenues ended the fiscal year higher than budget on a cash basis. Facility Charges ended the fiscal year strong with new development ramping up this summer, which is a good sign for our regional economy. On a cash basis, expenses ended the year lower than budget, but the difference should be smaller on an accrual basis. As we start preparing the Comprehensive Annual Financial Report (CAFR), we expect to report revenues comfortably exceeding expenses.

5. Staff provided tours and presentations for LEAD Peninsula's Environment Day on June 1. LEAD Peninsula fosters opportunities for increased communication and cooperation among the private, public and nonprofit sectors. This year's class included thirty-five professionals from various business sectors.
6. The Director of Finance held an organizational lunch and learn to walk-through HRSD's Financial Plan. This event was intended to create a broader understanding of how water consumption trends, wastewater rates, operating budget, capital planning and strategic objectives all come together to build the financial plan.
7. In June, the Customer Interaction Center experienced a service level decline due to position vacancies and an increase in seasonal interactions. Recruitment is complete for two positions within the Customer Interaction Center and training will begin in August. Staff continues to look for ways to provide excellent service while managing the service level.
8. Quarterly investment reports for [HRSD's Operating Funds](#) and the [Retiree Health Plan Trust](#) are attached.

## B. Interim Financial Report

### 1. Operating Budget for the Period Ended June 30, 2017

	Amended Budget	Current YTD	Current YTD as % of Budget (100% Budget to Date)	Prior YTD as % of Prior Year Budget
<b>Operating Revenues</b>				
Wastewater	\$ 242,810,000	\$ 245,716,819	101%	102%
Surcharge	1,500,000	1,773,932	118%	108%
Indirect Discharge	2,500,000	2,701,094	108%	104%
Norfolk Sludge	90,000	71,548	79%	63%
Fees	2,843,000	2,865,992	101%	98%
Municipal Assistance	1,250,000	981,112	78%	103%
Miscellaneous	750,000	909,701	121%	74%
<b>Total Operating Revenue</b>	<b>251,743,000</b>	<b>255,020,198</b>	<b>101%</b>	<b>102%</b>
<b>Non Operating Revenues</b>				
Facility Charge	5,850,000	6,780,155	116%	100%
Interest Income	1,400,000	1,309,260	94%	164%
Build America Bond Subsidy	2,400,000	2,361,607	98%	100%
Other	840,000	770,165	92%	115%
<b>Total Non Operating Revenue</b>	<b>10,490,000</b>	<b>11,221,187</b>	<b>107%</b>	<b>110%</b>
<b>Total Revenues</b>	<b>262,233,000</b>	<b>266,241,385</b>	<b>102%</b>	<b>102%</b>
Transfers from Reserves	7,901,331	7,901,331	100%	100%
<b>Total Revenues and Transfers</b>	<b>\$ 270,134,331</b>	<b>\$ 274,142,716</b>	<b>101%</b>	<b>102%</b>
<b>Operating Expenses</b>				
Personal Services	\$ 54,711,153	\$ 52,772,488	96%	99%
Fringe Benefits	24,787,503	24,430,191	99%	94%
Materials & Supplies	7,374,956	7,820,920	106%	121%
Transportation	1,473,541	1,323,370	90%	108%
Utilities	12,361,132	11,185,027	90%	88%
Chemical Purchases	9,360,735	7,913,957	85%	81%
Contractual Services	32,595,100	24,793,460	76%	76%
Major Repairs	9,846,266	6,721,841	68%	62%
Capital Assets	3,252,171	2,473,981	76%	75%
Miscellaneous Expense	2,878,476	2,146,114	75%	63%
<b>Total Operating Expenses</b>	<b>158,641,033</b>	<b>141,581,349</b>	<b>89%</b>	<b>89%</b>
<b>Debt Service and Transfers</b>				
Debt Service	58,232,000	57,988,141	100%	96%
Cost of Issuance Bonds	900,000	23,435	3%	190%
Transfer to CIP	52,101,298	52,101,298	100%	100%
Transfer to Risk management	260,000	260,012	100%	100%
<b>Total Debt Service and Transfers</b>	<b>111,493,298</b>	<b>110,372,886</b>	<b>99%</b>	<b>99%</b>
<b>Total Expenses and Transfers</b>	<b>\$ 270,134,331</b>	<b>\$ 251,954,235</b>	<b>93%</b>	<b>93%</b>

## 2. Notes to Interim Financial Report

The Interim Financial Report summarizes the results of HRSD's operations on a basis of accounting that differs from generally accepted accounting principles. Revenues are recorded on an accrual basis, whereby they are recognized when billed; expenses are generally recorded on a cash basis. No provision is made for non-cash items such as depreciation and bad debt expense.

This interim report does not reflect financial activity for capital projects contained in HRSD's Capital Improvement Program (CIP).

Transfers represent certain budgetary policy designations as follows:

- a. Transfer to CIP: represents current period's cash and investments that are designated to partially fund HRSD's capital improvement program.
- b. Transfers to Reserves: represents the current period's cash and investments that have been set aside to meet HRSD's cash and investments policy objectives.

## 3. Reserves and Capital Resources (Cash and Investments Activity) for the Period Ended June 30, 2017

	General	Risk Management	Reserve	Capital
<b>Beginning of Period - July 1, 2016</b>	\$ 155,644,784	\$ 2,740,508	\$ -	\$ 124,405,496
<b>Add: Current Year Sources of Funds</b>				
Cash Receipts	271,223,855			
Capital Grants				10,658,061
Line of Credit				-
Bond Proceeds (includes interest)				97,253
Transfers In		260,012	31,754,250	53,095,219
<b>Sources of Funds</b>	<u>271,223,855</u>	<u>260,012</u>	<u>31,754,250</u>	<u>63,850,533</u>
<b>Total Funds Available</b>	<u>\$ 426,868,639</u>	<u>\$ 3,000,520</u>	<u>\$ 31,754,250</u>	<u>\$ 188,256,029</u>
<b>Deduct: Current Year Uses of Funds</b>				
Cash Disbursements	205,236,125			119,049,554
Transfers Out	52,361,310		993,920	31,754,250
<b>Uses of Funds</b>	<u>257,597,435</u>	<u>-</u>	<u>993,920</u>	<u>150,803,804</u>
<b>End of Period - June 30, 2017</b>	<u>\$ 169,271,204</u>	<u>\$ 3,000,520</u>	<u>\$ 30,760,330</u>	<u>\$ 37,452,225</u>

4. Capital Improvements Budget and Activity Summary for Active Projects for the Period Ended June 30, 2017

Classification/ Treatment Service Area	Expenditures		Year to Date		Total Expenditures	Outstanding Encumbrances	Available Balance
	Budget	prior to June 30, 2016	FY2017 Expenditures				
Administration	\$ 42,661,073	\$ 35,489,810	\$ 3,363,747	\$ 38,853,557	\$ 1,187,027	\$ 2,620,489	
Army Base	156,834,000	117,268,663	1,979,559	119,248,222	3,943,407	33,642,371	
Atlantic	116,079,479	37,540,037	4,078,369	41,618,406	8,350,117	66,110,956	
Boat Harbor	86,813,683	33,305,878	7,915,913	41,221,791	8,502,399	37,089,493	
Ches-Eliz	128,489,317	4,781,814	1,406,348	6,188,162	2,867,282	119,433,873	
James River	75,114,256	36,167,539	13,248,537	49,416,076	4,515,312	21,182,868	
Middle Peninsula	38,036,619	5,170,712	894,014	6,064,726	4,367,676	27,604,217	
Nansemond	76,560,570	24,996,903	8,338,133	33,335,036	5,841,826	37,383,708	
VIP	271,381,603	195,724,685	28,264,151	223,988,836	21,889,924	25,502,843	
Williamsburg	11,396,383	7,646,446	697,592	8,344,038	1,147,141	1,905,204	
York River	45,160,886	30,560,270	7,987,015	38,547,285	1,890,757	4,722,844	
General	240,112,369	141,618,472	18,306,147	159,924,619	49,473,692	30,714,058	
	<u>\$ 1,288,640,238</u>	<u>\$ 670,271,229</u>	<u>\$ 96,479,525</u>	<u>\$ 766,750,754</u>	<u>\$ 113,976,560</u>	<u>\$ 407,912,924</u>	

5. Debt Management Overview

	Debt Outstanding (\$000's)				
	Principal May 2017	Principal Payments	Net Refunding	Principal June 2017	Interest Payments
<b>Fixed Rate</b>					
Senior	\$ 429,165	\$ -	\$ -	\$ 429,165	\$ -
Subordinate	301,383	1,037	-	300,346	254
<b>Variable Rate</b>					
Subordinate	50,000	-	-	50,000	34
<b>Line of Credit</b>	-	-	-	-	-
<b>Total</b>	<u>\$ 780,548</u>	<u>\$ 1,037</u>	<u>\$ -</u>	<u>\$ 779,511</u>	<u>\$ 288</u>

Series 2016 Variable Rate Interest Summary - Variable Rate Debt Benchmark (SIFMA) as of 07/06/17

	SIFMA Index	HRSD	Spread to SIFMA
Maximum	0.92%	0.93%	0.01%
Average	0.21%	0.20%	-0.01%
Minimum	0.01%	0.01%	0.00%
As of 07/06/17	0.86%	0.84%	-0.02%

\* Since October 20, 2011 HRSD has averaged 20 basis points on Variable Rate Debt

6. Financial Performance Metrics for the Period Ended June 30, 2017

	Current YTD	Policy Minimum
Capital % Cash Funded	40%	15%
General Reserve as % of Operations	107%	75-100%
Risk Management Reserve as % of Projected Claims Costs	25%	25%

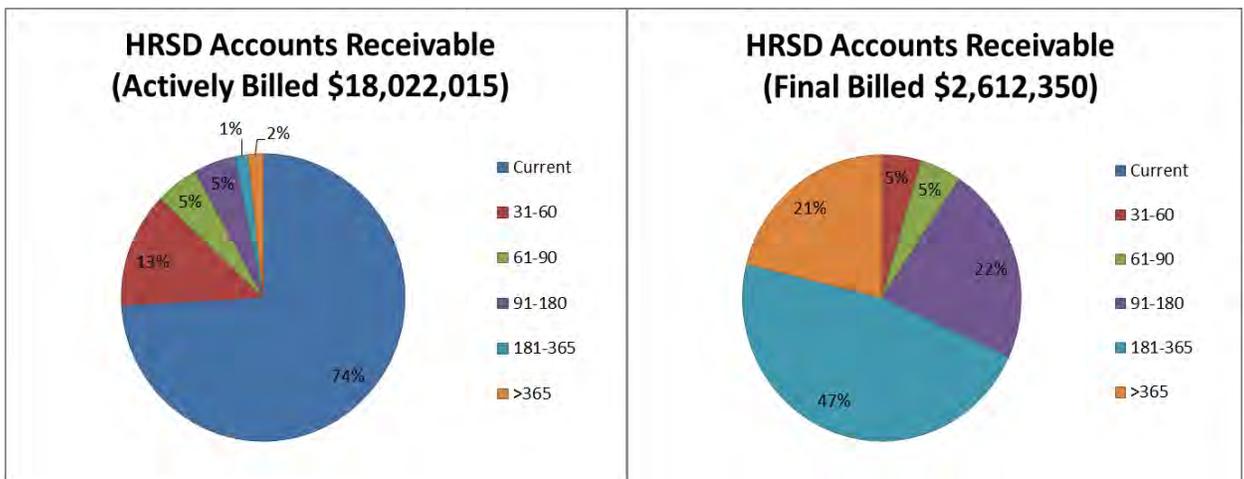
## 7. Summary of Billed Consumption

Summary of Billed Consumption (ccf)							
Month	Cumulative 3 Year Average	Cumulative 2016 Actual	2017		% Difference		
			Cumulative Budget Estimate	2017 Cumulative Actual	From Budget	From 2016	From 3 Year Average
July	4,902	4,819	4,784	4,776	-0.2%	-0.9%	-2.6%
Aug	9,774	9,783	9,382	9,275	-1.1%	-5.2%	-5.1%
Sept	14,337	14,290	13,595	14,227	4.6%	-0.4%	-0.8%
Oct	19,210	18,976	18,284	19,017	4.0%	0.2%	-1.0%
Nov	23,362	23,486	22,761	23,282	2.3%	-0.9%	-0.3%
Dec	27,733	27,627	26,918	27,761	3.1%	0.5%	0.1%
Jan	31,997	31,844	31,009	32,036	3.3%	0.6%	0.1%
Feb	36,132	35,960	34,750	36,263	4.4%	0.8%	0.4%
March	40,991	40,706	40,257	40,516	0.6%	-0.5%	-1.2%
Apr	45,205	44,834	44,861	44,383	-1.1%	-1.0%	-1.8%
May	49,487	49,022	48,879	48,553	-0.7%	-1.0%	-1.9%
June	54,069	53,503	52,788	53,373	1.1%	-0.2%	-1.3%

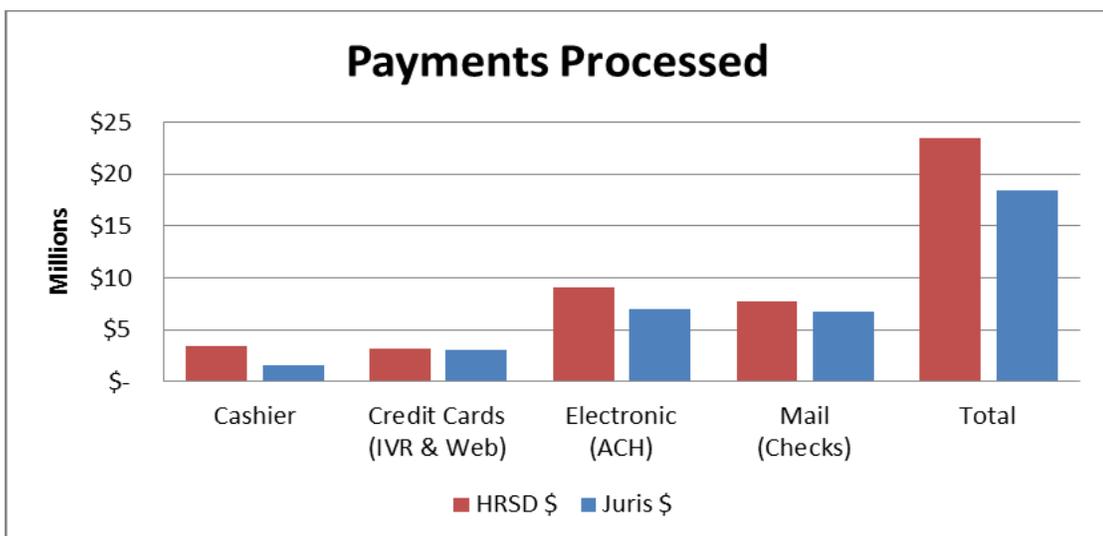
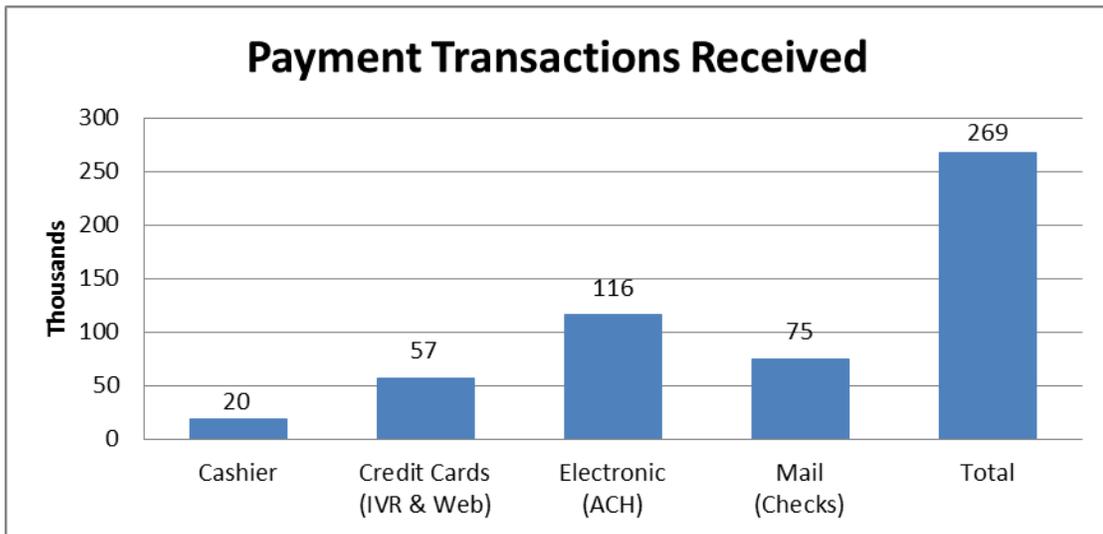
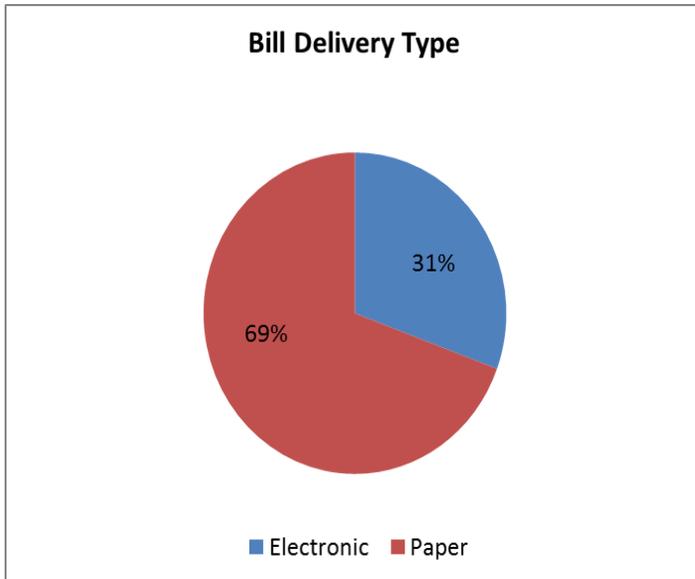
## C. Customer Care Center

### 1. Accounts Receivable Overview

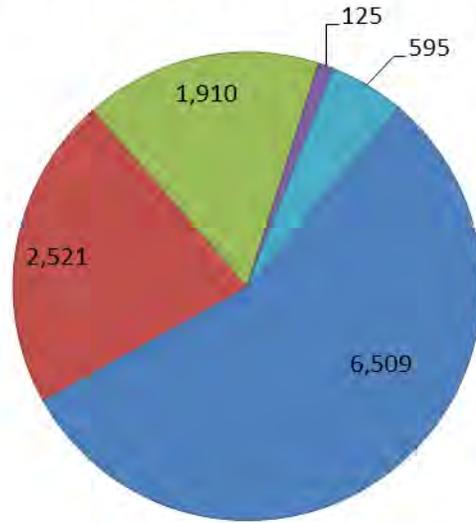
	HRSD	Juris	Total
<b>Roll Forward</b>			
<b>May A/R Balance</b>	\$ 18,685,653	\$ 22,248,894	\$ 40,934,547
Billings	23,455,678	25,673,454	49,129,132
Payments	(24,024,529)	(18,929,873)	(42,954,402)
Delinquency Activity Fees	141,675	-	141,675
Late Payment Charges	69,897	21,630	91,527
Adjustments	2,511,360	(2,552,164)	(40,804)
Balances Written Off	(205,369)	(261,288)	(466,657)
<b>June A/R Balance</b>	<b>\$ 20,634,365</b>	<b>\$ 26,200,653</b>	<b>\$ 46,835,018</b>



2. Customer Care Center Statistics for the Period Ended June 30, 2017

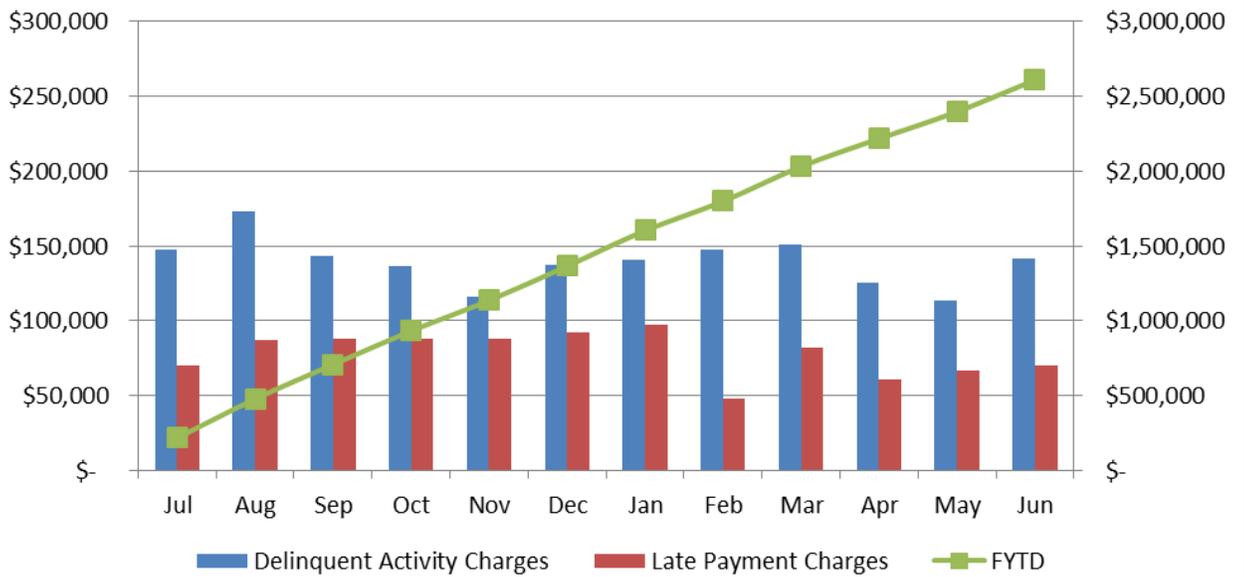


## Delinquent Field Activity

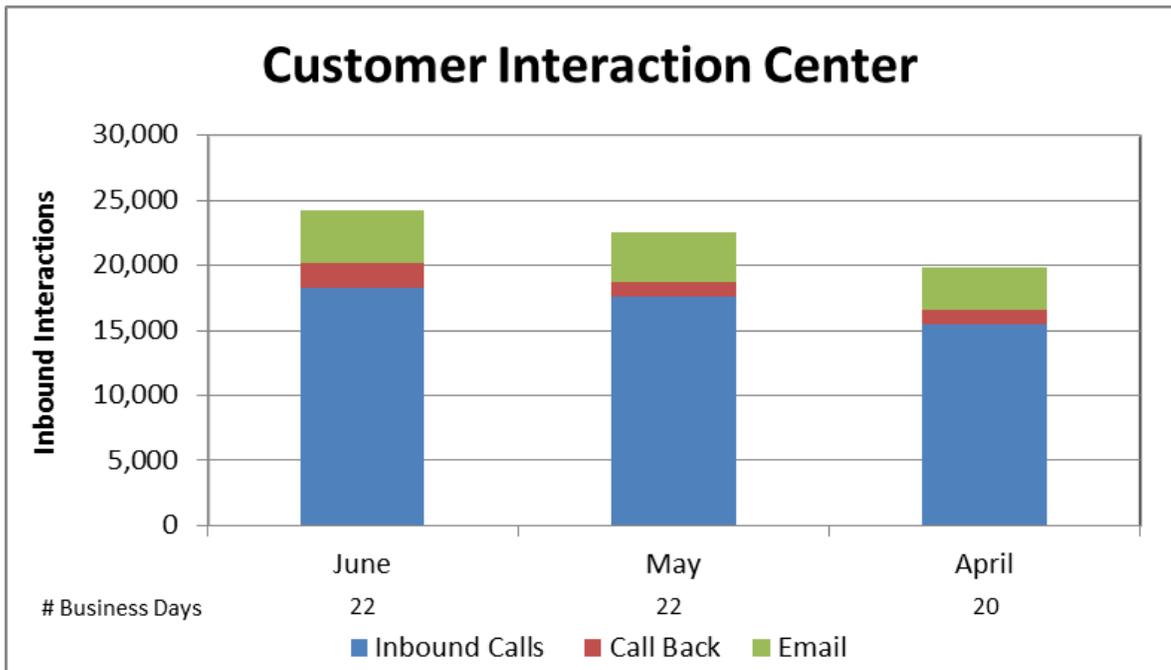


■ Leave Tag   
 ■ Cut off   
 ■ Turn On   
 ■ Lock Meter   
 ■ Back Check

## Delinquent Fees



■ Delinquent Activity Charges   
 ■ Late Payment Charges   
 ■ FYTD



Customer Interaction Statistics	June	May	April
Calls Answered within 3 minutes	70%	80%	79%
Average Wait Time	2:25	1:37	1:44
Calls Abandoned	2,128	1,441	1,230

D. Procurement

1. Procurement Statistics

	Current Period	FYTD
Bid Cost Savings	\$ 919,455	\$6,173,244
Negotiated Cost Savings	\$ 63,050	\$ 398,842
Salvage Revenues	\$ 3,414	\$ 45,031
Corporate VISA Card - Estimated Rebate	\$ 23,349	\$ 226,708

Average Cycle Time (Receipt of Requisition to Award)					
Solicitation Types	Award Amounts	May-17		Jun-17	
		No. Days	Count	No. Days	Count
RFQs	< \$10,000	43	10	15	28
	\$10,000 - \$50,000	43	17	41	30
IFBs	\$50,000 - \$100,000	38	14	48	17
IFBs/RFPs	>\$100,000	50	6	42	26

Requisition Volume Comparison			
Requisition Amounts	7/1/2015 - 6/30/2016 Requisitions	7/1/2016 - 6/30/2017 Requisitions	Percent Comparison of Past Year
< \$10,000	260	241	93%
\$10,000 – \$50,000	274	252	92%
\$50,000 – \$100,000	47	74	157%
>\$100,000	78	93	119%
<b>Total</b>	<b>659</b>	<b>660</b>	<b>100%</b>

2. Some of the more formal technical competitive bid solicitations for the month include:
  - a. Ash Hopper Protective Coatings at the Boat Harbor Treatment Plant
  - b. Rehabilitation and Coating for Primary Influent Channel of Primaries Number One through Four for the Atlantic Treatment Plant
  - c. Protective Coating Rehabilitation for Chemical Caustic Odor Control System A Tank at the Army Base Treatment Plant
  - d. Baffle Skirt Replacement for Gravity Thickener Number One at the James River Treatment Plant
  - e. Lunchroom renovation and expansion at the Nansemond Treatment Plant
  - f. Coating And Fiberglass Rehabilitation for Gravity Thickener Tank Number One at the James River Treatment Plant
  - g. Cleaning and Hauling of Digester Number Two at the Nansemond Treatment Plant

E. Business Intelligence – Enterprise Resource Planning (ERP)

1. ERP Helpdesk currently has 230 open work orders in the following statuses: 5 escalated, 72 in progress, 15 on hold, 129 open, 9 waiting on user. ERP Helpdesk received 264 work orders in June. In June, 275 work orders were closed and 99 were closed within one hour.
2. ERP staff attended Oracle Human Capital Management Users Group Global Conference (OHUG)
3. ERP staff continues to work with consultants on functionality and improvements to the system.

F. Strategic Planning Metrics Summary

1. Educational and Outreach Events: 0
2. Community Partners: 0

### 3. Monthly Metrics

Item #	Strategic Planning Measure	Unit	June 2017
M-1.4a	Training During Work Hours Per Full Time Employee (100) – Current Month	Hours / #FTE	2.52
M-1.4b	Total Training During Work Hours Per Full Time Employee (100) – Cumulative Fiscal Year-to-Date	Hours / #FTE	36.43
M-5.2	Educational and Outreach Events	Number	0
M-5.3	Number of Community Partners	Number	0
	Wastewater Revenue	Percentage of budgeted	101%
	General Reserves	Percentage of Operating Budget less Depreciation	107%
	Accounts Receivable (HRSD)	Dollars	\$20,634,365
	Aging Accounts Receivable	Percentage of receivables greater than 90 days	18%

### 4. Annual Metrics

Item #	Strategic Planning Measure	Unit	FY-2017
M-2.4	Infrastructure Investment	Percentage of Total Cost of Infrastructure	*
M-4.3	Labor Cost/MGD	Personal Services + Fringe Benefits/365/5-Year Average Daily Flow	*
M-4.4	Affordability	6.5 CCF Monthly Charge/Median Household Income <sup>1</sup>	*
M-4.5	Operating Cost/MGD	Total Operating Expense /365/5-Year Average Daily Flow	*

<sup>1</sup> Median Household Income is based on the American Community Survey (US Census) for Hampton Roads

	Billed Flow	Percentage of Total Treated	*
	Senior Debt Coverage	Cash Reserves/ Senior Annual Debt Service	*
	Total Debt Coverage		*

\* These metrics will be reported upon completion of the annual financial statements.

Respectfully,

*Jay A. Bernas*

Jay A. Bernas, P.E.

Director of Finance

Attachments:

[HRSD Operating Funds Quarterly Investment Report](#)

[Retiree Health Plan Trust Quarterly Investment Report](#)

## Hampton Roads Sanitation District – Operating Funds

Investment Report – Quarter Ended June 30, 2017

### Portfolio Summary

	Yield as of	Market Value	
	June 30, 2017	June 30, 2017	March 31, 2017
Operating Liquidity Strategy	0.62%	\$ 47,980,543	\$ 38,962,428
Total Return Strategy	1.27%	\$ 155,051,511	\$ 155,698,603
Capital Investment Strategy	1.05%	\$ 37,452,225	\$ 44,380,277
<b>Total Portfolio</b>		<b>\$ 240,484,280</b>	<b>\$ 239,041,309</b>

### Investment Recap and Strategies

- The **Operating Liquidity Strategy** is managed to provide liquidity for day-to-day cash needs and unforeseen events. Currently, the Operating Liquidity Strategy funds are held in an account meeting the requirements of the Security for Public Deposits Act (SPDA) and a local government investment pool (LGIP).
- The **Total Return Strategy** consists of operating funds that will not be a major source of day-to-day disbursement requirements and operational needs. The strategy includes a portfolio invested in longer-term securities in order to generate a higher investment rate of return. The strategy also includes funds designated as a reserve that are invested in an LGIP.
- The **Capital Investment Strategy** is managed to provide liquidity for capital projects. Currently, the Capital Investment Strategy funds are held in an LGIP.

### Portfolio Performance Summary

- Performance for the Operating Liquidity Strategy and Capital Investment Strategy is measured by comparing the average current yield of the portfolios to the average yield of a short term index. During the quarter, the Operating Liquidity Strategy had an average yield of 0.63% and the Capital Investment Strategy had an average yield of 1.02%, compared to the Merrill Lynch 3-month Treasury Bill's average yield of 0.90%. The one-year trailing return for the Operating Liquidity Strategy and the Capital Investment Strategy, were 0.49%, and 0.67%, respectively, compared to the benchmark's return of 0.55%.
- Performance for the Total Return Strategy is measured on a total return basis, which captures interest income, realized gains/losses, and unrealized gains/losses. This performance calculation methodology is most appropriate for investment portfolios that have longer-term investment horizons. During the quarter, the Total Return Strategy Portfolio generated a total return of 0.27% (1.11% annualized), outperforming the Merrill Lynch 1 - 3 Year U.S. Treasury Index's return of 0.22% (0.90% annualized).

### **Portfolio Summary** *(continued)*

#### **Total Return Strategy Managed Portfolio**

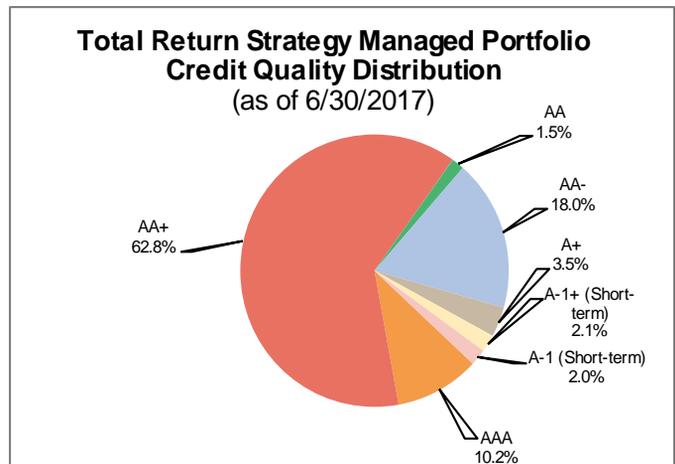
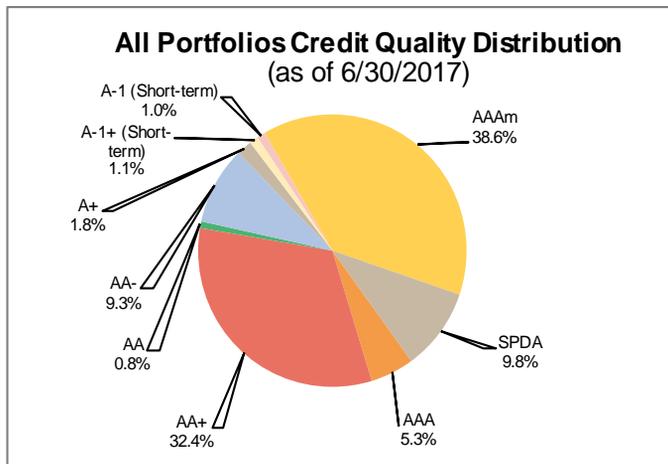
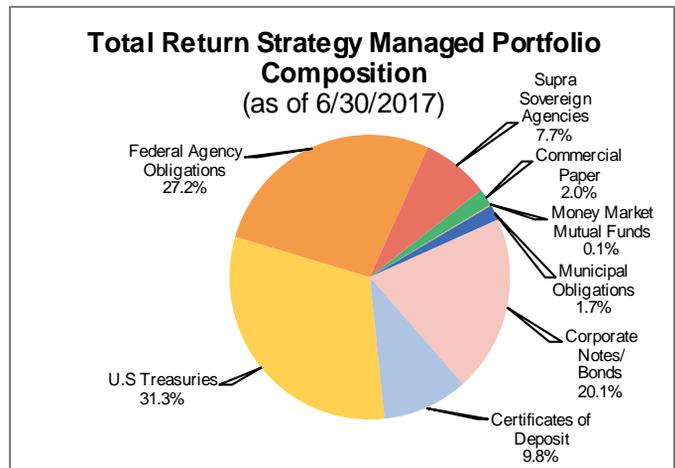
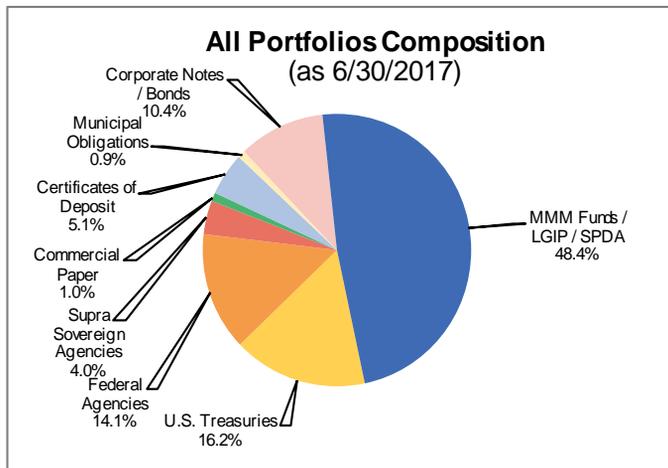
- The Total Return Strategy Managed Portfolio (the “Portfolio”) is well diversified among U.S. Treasury securities, federal agency securities, supra sovereign agencies, certificates of deposit, municipal bonds, corporate notes, commercial paper, and high quality money market mutual funds. The Portfolio’s average credit quality is AA+.
- In the second quarter of 2017, the Total Return Strategy Managed Portfolio, which does not include the reserve fund, generated a total return of 0.28% (1.13% annualized), outperforming the Merrill Lynch 1 - 3 Year U.S. Treasury Index’s return of 0.22% (0.90% annualized). The one-year trailing return for the Total Return Strategy Managed Portfolio was 0.29% compared to the benchmark’s return of -0.11%.
- Short-term and long-term Treasury yields diverged during the second quarter as short-term (three years and under) yields moved higher, pricing in the Fed’s June rate hike, while yields on longer-term maturities fell amid muted inflation and fading prospects for stimulative fiscal policy. As a result, the yield curve flattened, retracing all steepening that took place following the U.S. presidential election.
- Since market conditions were consistent with moderate growth and the Fed is on track to gradually raise rates, the portfolio was positioned to be equal to the benchmark to start the second quarter. During May and June, however, the duration was allowed to drift shorter with the view that markets were not adequately pricing in the likelihood of another Fed rate increase. The portfolio’s duration positioning will continue to be assessed as more clarity surrounding Fed policy and trajectory of the U.S. and global economies develops. As of June 30, 2017 the Managed Portfolio’s duration was 1.79 years.
- Agency yield spreads remain at or near historically tight levels as demand remains strong and supply minimal. As a result, the current investment strategy will generally favor U.S. Treasuries over agencies. Supranational issues may offer alternatives, but yield spreads in that sector have tightened since the start of the year when most issuance takes place.
- Corporate yield spreads are near the tightest levels since the post-recession tights of 2014. The strategy for the Portfolio will be to be more selective with regard to the choice of industry, issuer and maturity, while maintaining broad issuer diversification. Given the flatness of the yield curve, somewhat shorter maturities may be more favorable.

# Hampton Roads Sanitation District – Operating Funds

Investment Report – Quarter Ended June 30, 2017

## Portfolio Composition

Security Type	June 30, 2017	% of Portfolio	March 31, 2017	% of Portfolio	Permitted by Policy
U.S. Treasuries	\$38,861,265	16.2%	\$34,652,195	14.5%	100%
Federal Agencies	33,798,728	14.1%	38,592,667	16.1%	100%
Supra Sovereign Agencies	9,617,338	4.0%	9,601,896	4.0%	15%
Commercial Paper	2,424,162	1.0%	2,441,366	1.0%	25%
Certificates of Deposit	12,221,421	5.1%	12,196,058	5.1%	10%
Municipal Obligations	2,174,917	0.9%	2,175,704	0.9%	15%
Corporate Notes / Bonds	25,035,933	10.4%	24,155,782	10.1%	25%
Money Market Mutual Funds / LGIP / Cash	116,350,516	48.4%	115,225,641	48.2%	100%
<b>Totals</b>	<b>\$240,484,280</b>	<b>100.0%</b>	<b>\$239,041,309</b>	<b>100.0%</b>	

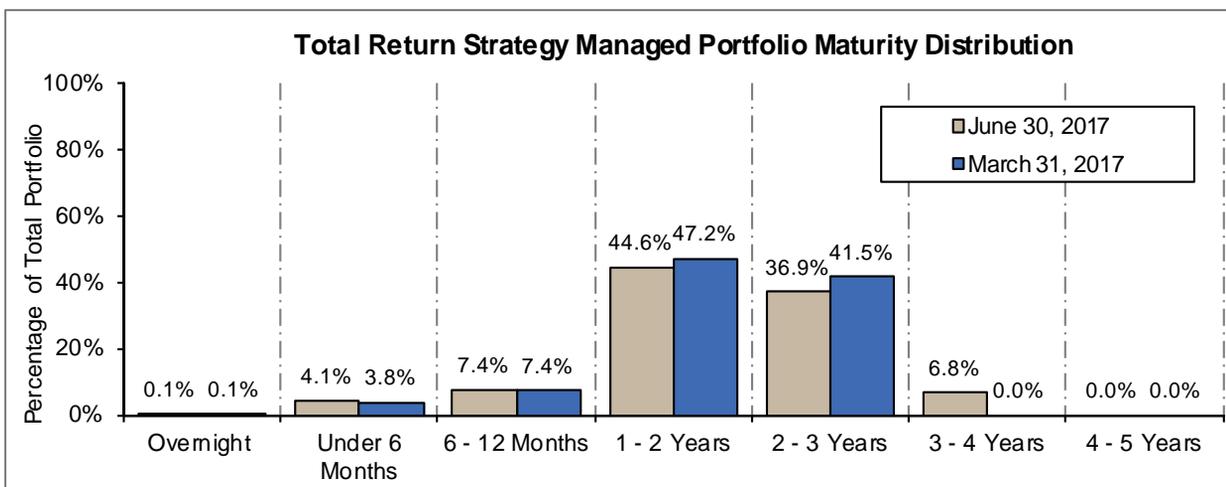
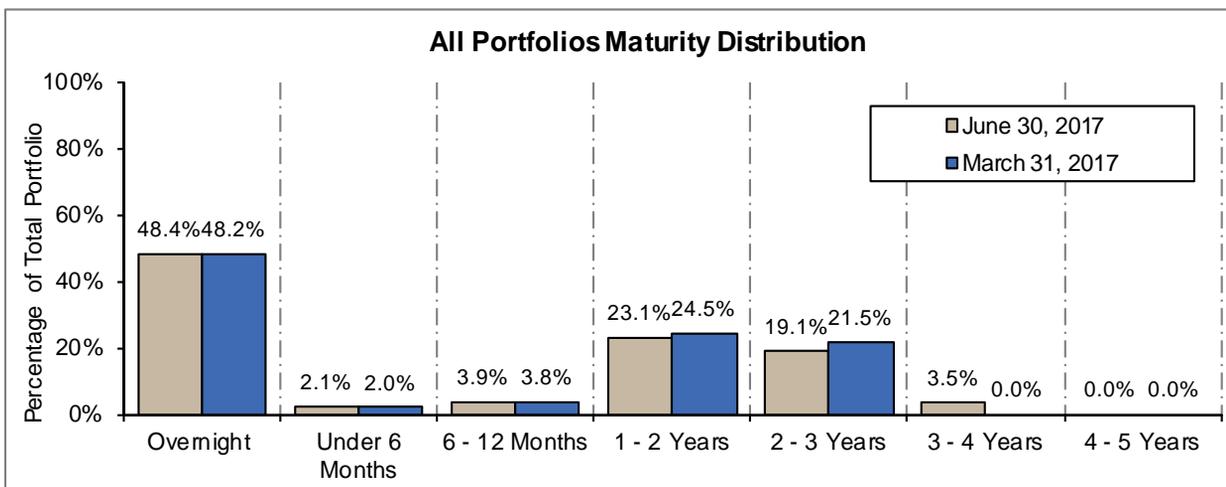


# Hampton Roads Sanitation District – Operating Funds

Investment Report – Quarter Ended June 30, 2017

## Portfolio Maturity Distribution

Maturity Distribution	June 30, 2017	March 31, 2017
Overnight	116,350,516	115,225,641
Under 6 Months	5,114,756	4,695,951
6 - 12 Months	9,259,056	9,132,762
1 - 2 Years	55,487,841	58,532,303
2 - 3 Years	45,856,972	51,454,651
3 - 4 Years	8,415,138	0
4 - 5 Years	0	0
5 Years and Over	0	0
<b>Totals</b>	<b>\$240,484,280</b>	<b>\$239,041,309</b>

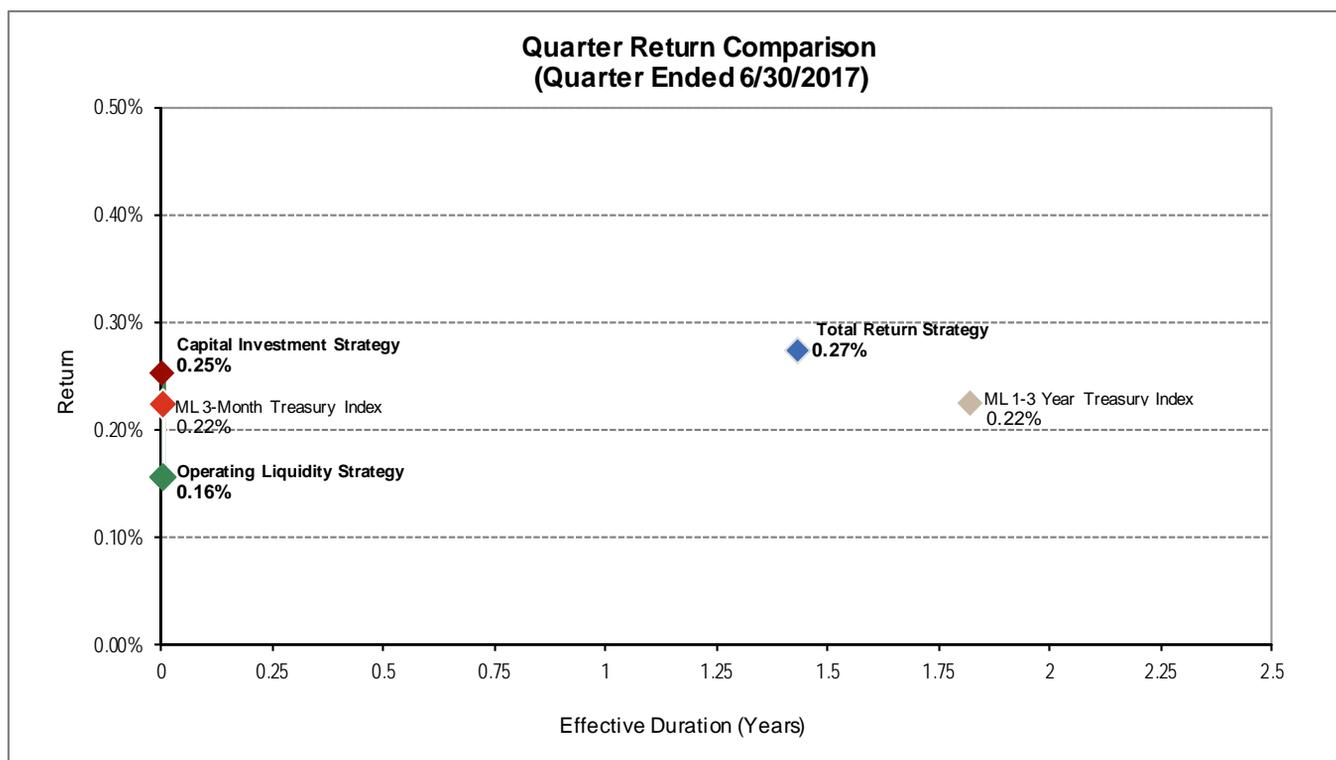


# Hampton Roads Sanitation District – Operating Funds

## Investment Report

### Portfolio Performance

	Quarter Ended June 30, 2017	Annualized Quarterly Return	Last 24 Months	Last 36 Months	Annualized Since Inception*
<b>Total Return Performance</b>					
<b>Total Return Strategy</b>	0.27%	1.11%	1.00%	0.96%	1.12%
Total Return Strategy Managed	0.28%	1.13%	0.97%	0.94%	1.11%
Merrill Lynch 1-3 Year Treasury Index	0.22%	0.90%	0.60%	0.69%	0.93%
<b>Book Value Performance</b>					
<b>Operating Liquidity Strategy</b>	<b>0.16%</b>	<b>0.63%</b>	<b>0.37%</b>	<b>0.33%</b>	<b>0.30%</b>
<b>Capital Investment Strategy</b>	<b>0.25%</b>	<b>1.02%</b>	<b>0.50%</b>	<b>0.39%</b>	<b>0.30%</b>
Merrill Lynch 3 Month Treasury Bill Index	0.22%	0.90%	0.36%	0.24%	0.14%



\*Since inception returns are calculated since September 30, 2009 to present. Performance for the Operating Liquidity Strategy and Capital Investment Strategy is calculated using a weighted average yield of cash and investments, including the monthly bank earnings credit rate and interest rate and the monthly distribution yield of the local government investment pools or money market mutual funds, and book value earnings on short-term fixed income securities. Performance for the Total Return Strategy Managed Portfolio is calculated as the total return, which captures interest income, realized gains/losses, and unrealized gains/losses, on the managed portfolio of short-term fixed income securities. The Total Return Strategy performance is calculated as the weighted average of the total return of the Managed Portfolio and average yield of cash balances. Calculations are based on provided information and are believed to be accurate based upon available data.

## Portfolio Summary

### Total Portfolio Value

	<u>June 30, 2017</u>	<u>March 31, 2017</u>
Investment Assets	<b>\$ 42,430,142</b>	\$ 40,972,970
Combined Assets	<b>\$ 42,526,387</b>	\$ 40,983,033

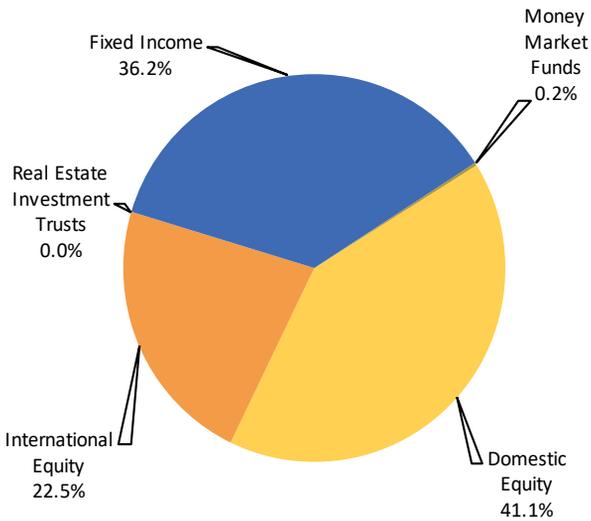
### Portfolio Recap & Strategy

- The Retiree Health Plan Trust portfolio returned 3.14% (combined assets) for the quarter ended June 30, 2017, above the 2.74% return of the blended benchmark of 33% Russell 3000, 21% MSCI ACWI ex US (net), 3% NAREIT Equity REITs, 3% Bloomberg Commodity TR and 40% Barclays Aggregate. \* The one-year trailing return for the Retiree Health Plan Trust portfolio was 10.68% compared to the benchmark return of 9.70%. The weighted average credit quality of fixed income holdings for the Retiree Health Plan Trust portfolio is A.
- Domestic equity markets, as represented by the S&P 500 Index, sustained rallies during the second quarter that date back to mid-February of last year. Markets rose 3.1% over the quarter, raising the year-to-date (YTD) return up to 9.3%, as optimism continued about proposed Trump administration policies and strong corporate earnings readings. After a relatively neutral March, markets rose steadily during each month of the quarter amid historically low volatility levels. On a market-capitalization basis, large-caps (Russell 1000 Index) again finished the quarter on top, rising 3.1%. Mid-caps (Russell Mid Cap Index) finished slightly behind, gaining 2.7%, while small-caps (Russell 2000 Index) once again lagged, rising 2.5%.
- Developed markets outside of North America, as measured by the MSCI EAFE Index, increased 6.1% during the second quarter, with a year-to-date return of 13.8%. Following a weak 2016, developed markets were bolstered by stronger-than-expected economic data, cheaper valuations, and the continuation of an accommodative monetary policy. Austria was the strongest performer, posting a return of 21.8% as European economic growth improved and political risk began to subside. Denmark (15.3%) and Finland (13.4%) followed, with France posting a return of 9.1% as political concerns eased after Emmanuel Macron's victory in their presidential election. Australia was the biggest laggard (-1.9%).
- Following a robust 2016, emerging markets (EM) continue to outperform other regions, returning 18.4% year-to-date. EM equities have been helped by a weaker dollar, cheaper relative valuations and mitigated geopolitical concerns. Almost all individual EM country performance was positive. Greece was the top performer, rising 33.8% after the release of the next tranche of debt relief and tentative signs of fiscal and economic stability. Hungary, Turkey, Poland, China, and Korea posted returns ranging from 10% to 20% over the quarter. Russia, following poor performance in the first quarter, was the worst performer, falling more than 10% amidst declining energy prices and increased geopolitical concerns. Brazil (-6.7%) and Chile (-2.1%) were the only other countries with negative quarterly performance.
- The U.S. Treasury yield curve continued to flatten over the second quarter, building off the decline in yields on the intermediate to longer term maturities during the first quarter. Yields picked up once again on the short-end of the curve as the Fed increased the Fed Funds Rate target range by a quarter of a percentage point in June, with the target range now between 1.00% - 1.25%. However, yields stayed roughly flat on the intermediate portion and declined on the long-end, reflecting uncertainty about inflation and economic growth expectations. Maturities of one year and less all rose more than 20 basis points, while the 10 and 30 year both dropped 8 and 18 basis points respectively. Investment grade fixed income returns were positive as intermediate to longer-term yields saw declines. The Bloomberg Barclays (Blmbg BC) U.S. Aggregate index rose 1.5% on the quarter while the Blmbg BC U.S. Universal Bond Index, which includes a small high yield allocation, also rose 1.5%. Investment-grade credit continued a strong first quarter with a 2.4% gain during the second quarter.

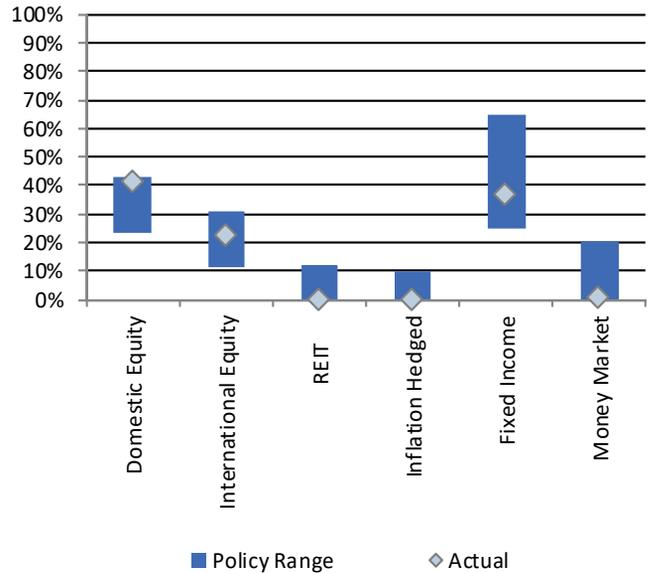
## Portfolio Composition

Security Type	June 30, 2017	% of Portfolio	March 31, 2017	% of Portfolio	Permitted by Policy
Domestic Equity	\$ 17,475,082	41.1%	\$ 17,162,195	41.9%	23% - 43%
International Equity	\$ 9,559,777	22.5%	\$ 8,689,264	21.2%	11% - 31%
Real Estate Investment Trusts	\$ 0	0.0%	\$ 0	0.0%	0% - 12%
Inflation Hedge	\$ -	0.0%	\$ -	0.0%	0% - 10%
Fixed Income	\$ 15,395,281	36.2%	\$ 15,121,496	36.9%	25% - 65%
Money Market Funds	\$ 96,246	0.2%	\$ 10,077	0.0%	0% - 20%
<b>Totals</b>	<b>\$ 42,526,387</b>	<b>100.0%</b>	<b>\$ 40,983,033</b>	<b>100.0%</b>	

**Portfolio Composition**  
(as of 6/30/2017)



**Asset Allocation**  
(as of 6/30/2017)

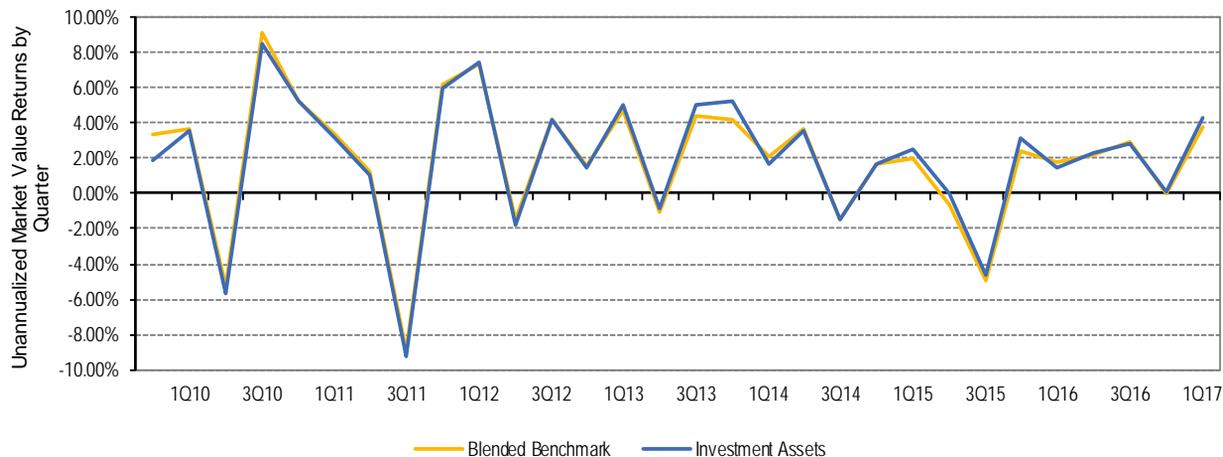


# Portfolio Performance – Investment Assets

Quarter Ended March 31, 2017

Index	Market Values	%	1 Quarter	Year to Date	Trailing 1 Year	Trailing 3 Years	Trailing 5 Years	Apr 2013 to Mar 2017*	Since Inception	Inception Date
<b>Domestic Equity</b>										
Vanguard Total Stock Market Index	\$ 14,104,082	34.4%	5.79%	5.79%	18.07%	9.69%	13.14%	12.81%	14.20%	9/1/2009
<i>Russell 3000 Index</i>			5.74%	5.74%	18.07%	9.76%	13.18%	12.84%	14.17%	9/1/2009
T. Rowe Price Dividend Growth	\$ 1,364,834	3.3%	5.00%	5.00%	14.66%	9.92%	12.87%	12.30%	6.34%	12/1/2016
<i>S&amp;P 500</i>			6.07%	6.07%	17.17%	10.37%	13.30%	13.14%	8.16%	12/1/2016
Vanguard Small Cap Index Fund	\$ 1,693,279	4.1%	3.74%	3.74%	21.51%	7.41%	12.89%	11.62%	10.07%	10/1/2016
<i>Russell 2000 Index</i>			2.47%	2.47%	26.22%	7.22%	12.35%	11.39%	11.52%	10/1/2016
<b>International Equity</b>										
Vanguard Total International Stock Index Fund	\$ 2,598,449	6.3%	8.47%	8.47%	13.74%	1.10%	4.83%	3.91%	6.37%	10/1/2016
<i>MSCI AC World ex USA (Net)</i>			7.86%	7.86%	13.13%	0.56%	4.36%	3.38%	6.51%	10/1/2016
Vanguard International Value	\$ 2,170,528	5.3%	8.06%	8.06%	13.46%	-0.46%	5.20%	4.19%	10.67%	5/1/2016
<i>MSCI AC World ex USA (Net)</i>			7.86%	7.86%	13.13%	0.56%	4.36%	3.38%	10.23%	5/1/2016
J. O. Hambro International Select	\$ 2,611,859	6.4%	7.87%	7.87%	11.65%	4.62%	9.80%	8.98%	10.64%	1/1/2016
<i>MSCI AC World ex USA (Net)</i>			7.86%	7.86%	13.13%	0.56%	4.36%	3.38%	10.04%	1/1/2016
Oppenheimer International Small Company	\$ 1,308,429	3.2%	9.40%	9.40%	11.76%	6.88%	14.72%	13.75%	8.61%	4/1/2015
<i>MSCI AC World ex USA Small Cap (Net)</i>			8.52%	8.52%	11.26%	2.16%	6.06%	5.24%	4.17%	4/1/2015
<b>Fixed Income</b>										
Metropolitan West Total Return	\$ 3,775,692	9.2%	0.90%	0.90%	0.93%	2.57%	3.70%	2.25%	2.25%	4/1/2013
<i>Bloomberg Barclays U.S. Aggregate</i>			0.82%	0.82%	0.44%	2.68%	2.34%	1.98%	1.98%	4/1/2013
Baird Core Plus	\$ 5,022,152	12.3%	1.19%	1.19%	2.82%	3.40%	3.44%	2.70%	3.18%	5/1/2014
<i>Bloomberg Barclays U.S. Aggregate</i>			0.82%	0.82%	0.44%	2.68%	2.34%	1.98%	2.46%	5/1/2014
Vanguard Intermediate-Term Investment Grade	\$ 4,968,613	12.1%	1.33%	1.33%	1.69%	3.46%	3.61%	2.76%	2.76%	4/1/2013
<i>Bloomberg Barclays Capital U.S. Credit: 5 - 10 Yr</i>			1.49%	1.49%	2.62%	3.92%	4.11%	3.03%	3.03%	4/1/2013
Vanguard High Yield Corporate	\$ 1,355,040	3.3%	2.25%	2.25%	11.22%	4.59%	6.18%	4.85%	11.22%	4/1/2016
<i>Bloomberg Barclays US Corp: High Yield</i>			2.70%	2.70%	16.39%	4.56%	6.82%	5.30%	16.39%	4/1/2016
<b>Aggregate</b>										
Retiree Health Plan Trust	\$ 40,972,970		4.29%	4.29%	9.76%	5.18%	7.20%	6.74%	8.16%	9/1/2009
<i>33% Russell 3000 / 21% MSCI ACWI ex USA (net) / 3% FTSE NAREIT Equity REITs / 3% Bloomberg Commodity TR / 40% Barclays Aggregate</i>										
			3.82%	3.82%	9.15%	4.42%	6.43%	5.75%	7.94%	9/1/2009

Performance Comparison



\*Active Strategy implemented April 1, 2013.

TO: General Manager

FROM: Director of Information Technology (IT)

SUBJECT: Information Technology Department Report for June 2017

DATE: July 6, 2017

A. General

1. The Operations and IT Departments are beginning to explore the potential use of artificial intelligence, machine-to-machine learning, and neural networking to further improve and enhance HRSD's conveyance and treatment of wastewater.
2. Working closely with members of the Engineering and Operations Departments and several contractors, staff assisted in the development of a configuration and testing plan for the integration of broadband cellular technologies to effectively handle the data requirements of the new Supervisory Control And Data Acquisition (SCADA) platform. The installation and testing is scheduled to begin in August.
3. Over the past year, staff has successfully managed the rewrite of a critical legacy software application known as OTIS, Operations Technology Information System. The application, used for over twenty years in various forms, lacked both security features and compatibility with other applications. Developed using Microsoft's SharePoint portal product, the new OTIS is both secure and user friendly, providing managed access to operational and infrastructure-related documents, manuals, processes, and procedures for all HRSD treatment plants.
4. Millions of computer users around the world were infected by a new and potentially destructive type of malware. Unlike last month's global ransomware incidents, the new threat is believed to target industrial control systems. Staff responded immediately and without issue.

B. Strategic Planning Metrics Summary

1. Educational and Outreach Events: 0
2. Number of Community Partners: 0

### 3. Monthly Metrics

<b>Item #</b>	<b>Strategic Planning Measure</b>	<b>Unit</b>	<b>June 2017</b>
M-1.4a	Training During Work Hours Per Full Time Employee (48) – Current Month	Total Training Hours / # FTE	10.72
M-1.4b	Total Training During Work Hours Per Full Time Employee (48) – Cumulative Fiscal Year-to-Date	Total Training Hours / # FTE	23.45
M-5.2	Educational and Outreach Events	Number	0
M-5.3	Number of Community Partners	Number	0

Respectfully,  
*Don Corrado*

TO: General Manager  
FROM: Director of Operations  
SUBJECT: Operations Report for June 2017  
DATE: July 6, 2017

A. Highlights

1. Nansemond Treatment Plant (NTP) staff earned first place in the HRSD Safety Innovation Challenge for their innovative approach in installing new media into the odor scrubbers. By using the suction from the scrubber fan, staff can now complete this task in a matter of hours versus days. A video of the timesaving innovation is available on the HRSD SharePoint site.
2. Atlantic Treatment Plant (ATP) staff earned second place in the HRSD Safety Innovation Challenge for their research and purchase of a portable banner system that sets up an Arc Flash boundary around an area where staff are working.
3. A new section – Surry, is included in this report to reflect some of the activities associated with Operations in the Town of Surry and County of Surry.

B. Interceptor Systems

1. North Shore (NS) Interceptor Systems
  - a. There were three Sanitary Sewer Overflows (SSOs) this month. Two SSOs occurred along Rudd Lane in Hampton on June 5 and were associated with heavy rainfall resulting in 10,335 gallons lost. The third SSO occurred on June 15 in Newport News along Jefferson Avenue at 58th Street. This SSO occurred when a contractor's equipment malfunctioned, resulting in 19,500 gallons spilled.
  - b. There were three interceptor complaints and seven system alarms. Staff followed up with each of these issues and each was fully resolved.
  - c. Staff replaced all three of the discharge valves on the discharge header at Kingsmill Pump Station (PS). Work included setting up a complete bypass of the PS and critical dewatering operations.

## 2. South Shore (SS) Interceptor Systems

- a. There were no SSOs or odor complains this month.
- b. The recently rebuilt Norchester PS is HRSD's first PS to have a combination biological-carbon odor control system. In late May, staff received an odor complaint from residents near the station. Through the month, staff and an odor expert ran multiple tests on the odor control system to determine the cause of the odors. Based on results of these tests, a new mixture of activated carbon will be installed to improve performance. A housing will also be installed around a portion of the unit to minimize risk of odors at the blower fan and to abate the noise of the fan's motor. In addition to the odor complaint, the system began suffering from low flow issues, jeopardizing the biology and causing staff to respond repeatedly to alarms at the station. Flows have been stabilized through additional testing and monitoring of the water supply system and staff adjusted the alarm's settings in order to inform staff of performance issues more accurately.
- c. Staff held several field meetings and attended workshops for the Elbow Road Pressure Reducing Station (PRS) and are evaluating the pros and cons of a traditional style PRS versus an above ground style PRS similar to the Courthouse PRS.
- d. Staff performed condition assessment on a force main near Battlefield Road in Chesapeake by taking a portion of the asbestos concrete out of service to inspect the interior surface of the pipe and to define the limits of deteriorated pipe further. Staff believes the project scope may be reduced from an estimated cost of \$4 million dollars to around \$500,000 because of this work.
- e. Staff removed media from one of the air scrubber units at the NTP.

## C. Major Treatment Plant Operations

### 1. Army Base Treatment Plant (ABTP)

- a. Sewage Treatment reported one odor incident. Influent sulfides surged above normal. Operations responded with increased chemical feed. Odor B station is operating as a single stage system. The adjacent tower 1 is out of service for maintenance.

- b. The Department of Environmental Quality (DEQ) performed an air permit inspection this month. HRSD received a letter of compliance. The temporary glycerin storage tank arrived on site. Staff connected feed pumps and power to the system.
- c. Contactors installed new raw influent pump platforms and secondary clarifier ladder platforms, providing a safer work condition.
- d. Contractors installed one contact tank stainless steel gate.
- e. Staff completed seal modifications to the return biosolids columns for Secondary Clarifiers 1 and 2.

## 2. ATP

- a. The contractor is progressing with the installation of the air headers in the primary influent channels. Mid-Eastern Builders (MEB) is expecting to finish the project by the end of July. The addition of air to the channels for primary clarifiers #5 and #6 significantly reduced the amount of scum in these clarifiers.
- b. Construction began on the new Administration Building.

## 3. Boat Harbor Treatment Plant (BHTP)

- a. On June 22, a power anomaly resulted in a 2 hour and 55 minute use of the bypass stack because of a fault on the drive unit of the induced draft fan. As a result, staff reported two air permit deviations: one in the 12-hour average permit requirements and one for the burn zone temperature and scrubber differential pressure.
- b. Staff continues to optimize nitrification efforts in order to support the lower James River bubble permit.
- c. Contractors completed the aeration and secondary tank repairs and coatings project. This work greatly improved both the on-and-offsite aesthetics of the plant.
- d. Staff completed the rehabilitation of #1 primary clarifier. This project included replacement of upper flight brackets and tracks with fiberglass-reinforced plastic.

4. Chesapeake Elizabethher Treatment Plant (CETP)

- a. Staff reported an exceedance of the Virginia Pollution Discharge Elimination System (VPDES) permit requirement for the weekly final effluent Total Suspended Solids (TSS) limit during the week of June 4 due to loss of solids from the secondary clarifiers. CETP is unique in that it does not have primary clarifiers, nor an optimum oxygen control/monitoring system for this plant. This combination resulted in filamentous growth that quickly caused very poor solids settling in the secondary clarifiers. When the service area was hit with heavy rains, the plant experienced an unusually high effluent TSS. The flows increased from 18 Million Gallons per Day (MGD) to a peak of 34MGD resulting in the weekly exceedance. To prevent such occurrence in the future, the staff implemented a new strategy to deal with wet weather that closely controls/monitors dissolved oxygen and chlorinates the return solids for filamentous growth control.
- b. Plant staff completed the work of replacing the air stones in twelve aeration tanks with membrane diffusers.
- c. Staff rebuilt a Non-Potable Water (NPW) pump.

5. James River Treatment Plant (JRTP)

- a. Staff completed installation of a cylinder screen on the #2 Nitrified Recycle (NRCY) pipeline on Integrated Fixed Film Activated Solids (IFAS) tank #6. The screen will prevent media from flowing through the pipe to the IFAS effluent during conditions where NRCY pumps might be off while the tank is in operation. IFAS tank #6 was placed back in service and staff began work on modifying the #2 NRCY pipeline in IFAS tank #4 to create an anaerobic zone at the influent of the tank to include installation of a cylinder screen.
- b. Staff continued construction on the digested solids, magnesium hydroxide feed system that will aid with phosphorus removal. Construction focused on welding the digested solids and magnesium hydroxide feed and mix tank.
- c. Testing of Ammonia Based Aeration Control (ABAC) and Ammonia Versus Nitrate (AVN) control on the IFAS tanks was temporarily suspended until #2 NRCY pipeline work is completed on all IFAS tanks. Taking tanks out of service may affect the results of the two control methods.

- d. Staff removed and replaced the worn out 16-inch check and gate valves to return activated solids pump #5. These were large valves in a tight space. Once the valves were removed, the pump was removed to make repairs.
- e. Concrete paving work was completed at the ferric sulfate unloading station, emergency generator and several sidewalks. The ferric sulfate unloading station driveway was installed to allow delivery trucks to back in closer to the unloading station. The emergency generator driveway replaced a worn out stone drive. Several sidewalks had cracked and broken concrete needing repair.

## 6. NTP

- a. On June 12, one reportable NPW spill occurred from a broken 3/4 inch line carrying NPW. The line burst inside a room next to the chlorine contact tank. The NPW left the room, and was released outside onto a grassy area behind the building. The 700 gallons of NPW was entirely contained to the grass on plant site and did not reach a storm drain.
- b. Staff continues to focus on the recovery of Digester #1. Staff began feeding Digester #1 with five percent of total waste sludge production on June 26. The Digester responded well to the sludge feeding and staff will continue to evaluate the health and stability of the digester and increase feed sludge to Digester #1 accordingly.
- c. On June 27, a contractor delivered two rental storage tanks (frac tanks) that staff will utilize as temporary storage for sludge not fed to Digester #1. These tanks will allow the plant to remove Digester #2 from service and complete coating and cleaning of Digester #2. Once the cleaning and coating of Digester # 2 is complete, Digester #2 will return to service as an anaerobic digester and waste sludge will be digested equally in Digesters Nos. 1 and 2. The rental storage tanks will be removed following successful Digester # 2 start-up.
- d. Staff continues to address the high solids concentrations at the Lawnes Point Treatment Plant.
- e. Staff continues to work on plant improvement projects, to include a recently completed piping project for the primary solids. Once the electrical and instrumentation components are completed, the plant staff will have better control of primary solids management.

7. Virginia Initiative Plant (VIP)

- a. Approximately 56,000 gallons of chlorinated, but not dechlorinated, effluent flowed to the receiving stream during a diversion into the new contact channel.
- b. Staff contracted with a service provider to fully investigate and review the entire generator control system following the May 23 power loss when the generators failed to start automatically. However, prior to the investigation, a similar incident occurred on June 5. The subsequent investigation (the next day) revealed a lack of coordination between the protective device for the main breakers and generators. Staff discovered that the protective devices were functioning properly, but corrected the original system settings, which were not in accordance with the original design and did not allow a long enough lead-time to allow the system to “ride” through start-up power anomaly.
- c. The power loss on June 5 resulted in an odor control exception for use of the incinerator bypass damper and a 2.1 parts per million hourly Hydrogen Sulfide reading due to the headworks scrubber system shutdown.
- d. Staff diverted effluent flow to the new contact channel for contractor work. 56,000 gallons of chlorinated effluent inadvertently overflowed into the receiving stream through the effluent chamber under construction. This flow was not dechlorinated.
- e. Staff began feeding Methanol to the second anoxic zone.

8. Williamsburg Treatment Plant (WBTP)

- a. Staff continued working on the fourth aeration tank to include an anaerobic selector zone. We are expecting to have this modified tank in service in early July.
- b. Staff started a coatings project in the gravity thickener and grease trap waste PS, which will take approximately one month to complete. This basement was last coated about 15 years ago.

9. York River Treatment Plant (YRTP)

- a. There were two reportable events in June, both related to loss of chlorination for more than 10 minutes.

- (1) On June 15, 2017, the hypochlorite pump stopped pumping, creating a no flow situation exceeding ten minutes. The monitoring system set up to alert operators of extended no-flow conditions did not function properly. That problem is resolved. Staff discovered the no-flow issue the following day during Daily Plant Operations Report (DPOR) review. Plant Staff notified DEQ within 35 minutes of problem discovery.
- (2) On June 18, 2017, debris in the hypochlorite pump caused a 14-minute hypochlorite flow stoppage. The problem began at 09:58 a.m. Staff discovered and corrected the problem at 10:12 a.m. Plant Staff completed all notification within the allotted time.

D. Small Communities Division (SCD)

1. SC experienced one sanitary sewer overflow (SSO):

A line blockage in the Rappahannock PS discharge force main coupled with pump blockage in the submersible pumps caused the liquid level in the PS wet well to rise. Subsequently a SSO was observed in the collection system at the manhole with the lowest rim elevation in a quantity of 600 gallons. SCD operations took immediate action to reduce the levels in the manhole while clearing the blockages out of the pumps and force main.

2. SC Treatment:

- a. Urbanna Treatment Plant (UBTP)  
Work commenced on the new laboratory building.
- b. Lawnes Point Treatment Plant (LPTP)  
SCD continues to utilize the Heavy Equipment Operator (HEO) and septic truck in conjunction with a helper from NS Interceptors to pump and haul Lawnes Point Treatment Plant at an average of one day every two weeks.

3. SC Collections:

- a. King William System  
HRSD Planning & Analysis tentatively approved the first phase of a multi-purpose development. The first phase of this development will bring an estimated 20,000 GPD to the King William Treatment Plant (KWTP), exceeding the current capacity of 50,000 GPD on the only current operational train.

- b. Urbanna System  
Staff attended a pre-construction meeting for the Cross Street PS rehabilitation. This project should last approximately four months with construction and punch list items wrapping up in late September/early October.
- c. Mathews System  
Phase V of the valve replacement capital improvement project commenced.

## E. Surry

### 1. County of Surry

- a. Staff corrected safety discrepancies and minor maintenance items at the County of Surry Treatment Plant. Work included installing more safety related signs; placing storage shelves and units; repairs to the restroom; constructing stands for safety equipment and clearing the fence of vegetation. Work to replace the cover of the sand filter unit with a new lighter weight cover commenced. Other maintenance items addressed included clearing solids off the aerobic digester; replacement of aerator cables; repairs to handrails; installation of catwalks and a chemical room exhaust fan, and repairs to leaks on the aerobic digester and coatings. Work also continued on electrical and instrumentation items needing repair or replacement at both the treatment plant and pump stations.
- b. It is anticipated that the Sussex Service Authority will be operating the Surry County Plant on behalf of HRSD for August.

### 2. Town of Surry

Staff toured the Town of Surry Plant with representatives from the town. The plant is in poor condition and much of the equipment does not appear to be in working order. Staff is preparing to assume responsibility of the plant and collection system operation August 1.

## F. Support Systems

### 1. Automotive

- a. Staff performed generator building load tests at the South Shore (SS) Main Office Complex and the NS Operations Center. All generators operated as designed. Staff also performed annual preventive

maintenance on the SS Main Office switchgear. The system was tested and operated as designed.

- b. Staff performed load bank tests at Bay Shore, Bridge Street, Pughsville Road and Quail Avenue Pump Stations. Staff found the generators operating as designed and returned them to service.

## 2. Carpentry Shop

Staff completed eight projects to include the completion of numerous laboratory room remodels in the Technical Services Division (TSD) building.

## 3. Condition Assessment (Coatings and Concrete)

- a. The Supervisory Control and Data Acquisition (SCADA) project continues. Condition Assessment (CA) Superintendent toured 24 NS pump stations and provided SS PS tours. Staff is preparing to expand HRSD's current Closed-Circuit Television (CCTV) program to support the entire service area.
- b. Staff conducted inspection assessments on gravity thickener #1 and primary tanks #3 and #4 at JRTP and on the exterior walls and roof decks of Boat Harbor Treatment Plant's (BHTP) secondary clarifiers. Staff also inspected aeration tank #3 at Nansemond Treatment Plant (NTP) and two manholes on 58th Street and Jefferson Avenue in Newport News.

## 4. Facilities Maintenance

- a. Work on the HVAC portion of the Central Environmental Laboratory project is 95 percent complete. Commissioning of new HVAC equipment is slated for July. The roof portion of the project is now complete.
- b. Staff worked in numerous areas regarding installation of old and new HVAC systems.
- c. Contractor replaced the 5-ton HVAC split system unit in the Centrifuge Motor Control Center (MCC) Room at JRTP .

## 5. Machine Shop

The Machine Shop completed 20 projects within the month of June. These include: rebuilding the #2 Returned Activated Solids (RAS) pumps at both

BHTP and WBTP; repairing bar screen drive shafts; fabricating machined flanges for the Sustainable Water Initiative for Tomorrow (SWIFT) project; removing large shafts from two 4-ft diameter, 700-lb sprockets for ABTP; removing stuck drive shafts from gearboxes at YRTP; and fabricating and replacing said gearboxes with new shafts.

G. Electrical and Energy Management (EEM)

1. Staff contracted work with electrical contractors to install 1,500 feet of various sized conduit at ABTP, ATP and CETP. One of the contractors is building racks and installing 600 feet of one-inch, rigid conduit for the aeration system at CETP while the other contractor has installed 620 feet of one-inch, rigid conduit for electrically-operated valves at ABTP as well as 280 feet of three-inch, rigid conduit between the Distributed Control System (DCS) to scum troughs at ATP. Most of the ATP work required a lift. Staff will complete control work and integrate new systems for all three projects.
2. Staff continues to wire/program the solids handling operations on the Digital Control System at BHTP.
3. Two pumps at Shippo's Corner PRS would not ramp up to full operating speed. Staff found disintegrated control wiring created by exposure to hydrogen sulfides (H<sub>2</sub>S). Staff made repairs to the control wiring and returned the station to service.
4. Staff repaired diesel tank level indicators, which resolved indicator problems at Quail PRS.
5. Staff removed antiquated Flomatcher pump controls and installed new Variable Frequency Drive (VFD) pump controls at Suffolk PS. The project involved: bypass pumping with temporary alarms; removing existing alarms, controls and equipment; integrating the VFDs and alarms with the SCADA control panel; installing a new compressor and piping for control air; and reconnecting the rotor windings of two 150 horsepower (HP) wound rotor motors so they are compatible with the new VFD controls.
6. Staff completed diagrams for all Small Communities Division (SCD) treatment plants.
7. Project Team repaired electrical anomalies identified through thermographic inspections at Williamsburg Treatment Plant (WTP) and SS pump stations. Thermographic inspections identify abnormal heat signatures in the electrical equipment before they become a serious problem.

8. Staff attended Tuning Direct Digital Control (DDC)/Process Control Loops training as part of continued cross training activities.
9. Staff attended training on the updated Electrical Safety Program at ABTP, CETP, JRTP, the Main Office, NTP and WTP.

#### H. Water Technology and Research

Results from the SWIFT pilot facility have been instrumental in guiding the SWIFT Research Center process design, including a solids recirculation system for the flocculation/sedimentation process, ozone dosing and control, final chlorination system design, biofiltration and Granular Activated Carbon (GAC) process sizing and design, and chemical system sizing. In fact, results from the SWIFT pilot were responsible for many of the recent changes in the design. The SWIFT pilot continues to provide fascinating results with respect to removal of organics and chemicals of emerging concern. This is directly related to GAC reactivation interval, which will be by far the most significant operating cost element for the full-scale SWIFT facilities.

A SWIFT pilot review meeting took place on June 2 to consider data collected through the winter and spring of 2016-2017 and to make plans for coming months of pilot testing in order to continue refining design and operating requirements for the full-scale SWIFT facilities. Although staff expected this, it was quite apparent from the data that winter conditions are really a worst case scenario in terms of organics removal in the SWIFT facilities. Winter conditions are also the periods when secondary effluent Total Organic Carbon (TOC) is the highest. This suggests that winter operation could control biofiltration and GAC sizing, and winter periods could require considerably more removal of TOC by GAC, possibly suggesting increased reactivation frequency and operating cost.

Unfortunately, it was not possible to make definite conclusions from the pilot data over the past winter because several other variables were changing during this period that could have significantly affected TOC removal through biofiltration. In the meeting on June 2, staff concluded that there is a need to modify the SWIFT pilot to cool the feed water to simulate winter conditions - regardless of York River Treatment Plant secondary effluent temperature. This will require the installation of a large chiller, circulation pump, and other appurtenances to integrate with the pilot feed tank. The total cost estimate of this upgrade is about \$15,000, but this is well worth the expense given the fact that "creating winter" would never be realistic at the 1 MGD scale of the SWIFT Research Center. We actually considered this in the design of the original pilot facility, but abandoned it because the much higher flow rate of the membrane-based pilot train would have resulted in prohibitively costly and complex chillers. The lower flow of the

carbon-based pilot makes this upgrade much more reasonable. The upgrade should be complete within approximately two months.

I. Strategic Measurement Data

1. Education and Outreach Events: 12

- a. Charles Bott gave a presentation on SWIFT as part of a WateReuse Webinar Associated
- b. Stephanie Klaus gave a podium presentation at the WEF Nutrient Symposium
- c. Amanda Ford gave a podium presentation at the WEF Nutrient Symposium
- d. Stephanie Klaus gave a podium presentation at the IWA Instrumentation, Control, and Automation (ICA) Conference
- e. Alexandria Gagnon gave a podium presentation at the IWA ICA Conference
- f. Kshitiz Uprety gave a podium presentation at the IWA ICA Conference
- g. Stephanie Klaus and Alexandria Gagnon gave a podium presentation in an invited workshop at IWA ICA Conference
- h. Stephanie Klaus gave a poster presentation at the annual conference of the Association of Environmental Engineering and Science Professors
- i. CETP Tour ODU Environmental Science Students
- j. Staff participated in Clean the Bay Day
- k. The NS Electrical Manager and NS Material Operations Coordinator attended the United Way Day of Action at Tidewater Park Elementary School in Norfolk on June 17.
- l. VIP tour for Hampton Roads Public Works Academy Students

2. Community Partners: 6

- a. Virginia Institute of Marine Science
- b. Old Dominion University
- c. United Way
- d. Chesapeake Bay Foundation – oyster restoration
- e. Tidewater Park Elementary School
- f. Hampton Roads Public Works Academy

### 3. Monthly Metrics

Item #	Strategic Planning Measure	Unit	June 2017
M-1.4a	Training During Work Hours per Full Time Employee (FTE) (507) – Current Month-	Hours / FTE	4.46
M-1.4b	Total Training During Work Hours per FTE (507) – Cumulative Year-to-Date	Hours / FTE	49.88
M-2.3a	Planned Maintenance Total Maintenance Hours	Total Recorded Maintenance Labor Hours	32,276.25
M-2.3b	Planned Maintenance – Preventive and Condition Based	% of Total Maintenance Hours	40.35
M-2.3c	Planned Maintenance - Corrective Maintenance	% of Total Maintenance Hours	24.25
M-2.3d	Planned Maintenance-Projects	% of Total Maintenance Hours	35.4
M- 4.1a	Energy Use: Treatment <b>*reported for May 2017</b>	kWh/MG	2,125
M-4.1b	Energy Use: Pump Stations <b>*reported for May 2017</b>	kWh/MG	151
M-4.1c	Energy Use: Office Building <b>*reported for May 2017</b>	kWh/MG	82
M-5.2	Educational and Outreach Events	Number	12
M-5.3	Number of Community Partners	Number	6

#### 4. Annual Metrics

<b>Item #</b>	<b>Strategic Planning Measure</b>	<b>Unit</b>	<b>FY-2017</b>
M-2.3a	Planned Maintenance Total Maintenance Hours	Total Recorded Maintenance Labor Hours(average)	28,785.90
M-2.3b	Planned Maintenance – Preventive and Condition Based	% of Total Maintenance Hours (average)	43.38
M-2.3c	Planned Maintenance-Corrective Maintenance	% of Total Maintenance Hours (average)	25.04
M-2.3d	Planned Maintenance-Projects	% of Total Maintenance Hours (average)	31.58
M-3.6	Alternate Energy	Total KWH	6,052,142
M- 4.1a	Energy Use: Treatment	kWh/MG	*
M-4.1b	Energy Use: Pump Stations	kWh/MG	*
M-4.1c	Energy Use: Office Building	kWh/MG	*

\* These metrics will be reported next month.

Respectfully submitted,  
**Steve de Mik**  
 Director of Operations

TO: General Manager  
FROM: Special Assistant for Compliance Assurance  
SUBJECT: Monthly Report for June 2017  
DATE: July 5, 2017

A. General

HRSD continues implementing the hybrid regionalized approach to the Regional Wet Weather Management Plan (RWWMP) with the next major Consent Decree milestone, the submittal of the Integrated Plan/RWWMP, scheduled for October 1, 2017.

B. Submittals Completed in June 2017 – No submittals required during this period.

C. Activities

1. **Phase 6 – Rehabilitation Plan.** Work continues on the Rehab Action Plan projects with the next major milestone on May 5, 2018, for Phase 0. Several projects are underway with completions reported in the Semi-Annual and Annual Report.
2. **Phase 7 – RWWMP.** Preliminary selection of the High Priority Project was completed and sequencing and scheduling the RWWMP projects is underway. A review meeting to discuss the approach was held on **June 26**.

The Technical Coordination Team met on **June 8 and 22** to review overall progress. The HRSD project manager for the Chesapeake-Elizabeth Treatment Plant Closure continues attending monthly coordination meetings as part of an ongoing effort to ensure that closure of this treatment plant is properly modeled and accounted for in the final RWWMP.

3. **Phase 8 – EPA Consent Decree Services.** HRSD continues sharing information with the localities through the regional SharePoint site and flow, pressure and rainfall data portal. The Capacity Team met on **June 19** to review the High Priority Projects, Integrated Plan/RWWMP progress and preliminary affordability.

4. **Phase 9 – Supplemental Services.** At the April 5 monthly compliance program meeting, attendees agreed to move the meeting to a quarterly basis. The next compliance program meeting will be held on July 5 to review overall progress. A quarterly review meeting of the Interim System Improvement projects and Rehab Action Plan projects was held on **June 21**.

Management, Operations and Maintenance (MOM) Program elements are ongoing, including the Hydrogen Sulfide (H<sub>2</sub>S) Monitoring Program and implementation of a Business Intelligence (BI) system for the Small Communities Division (SCD). This includes a MOM update manual guidance document for use on the next major update, expected in 2018.

The Flow, Pressure and Rainfall (FPR) monitoring program continued in June with data collection and analysis being performed as part of the MOM Program.

Condition assessment work under Phase II of the Force Main Condition Assessment (FMCA) program progressed in June. Force main inspection work order status is as follows:

- FMP2 035 Hampton Trunk: Draft Work Order under development.
- FMP2 039 Bowers Hill: Commission approved. Final Work Order signed and issued to contractor. Work is scheduled for early August.
- FMP2 043 Kempsville Road: Final Work Order signed and issued to contractor. Work is scheduled for early July.
- FMP2 044 Battlefield: Follow-up field work completed. Draft lab report on pipe samples is being reviewed.

Gravity inspection work order status is as follows:

- Work order GMP2 043 FY17 SS MH Inspection has been signed and is scheduled to be completed in July.
- GMP2 044 Berkley Trunk Sect SS: Completed in May with the exception of follow up work to inspect 3 pipe segments (SG 202-13703, SG 202-13704, and SG 202-19923) upstream the State Street PS due to surcharged conditions.
- Work Order GMP2 052 Ingleside Rd is scheduled for inspection in August due to ongoing PS repairs.

Work on the Fiscal Year 2016 Condition Assessment Annual Report continued in June. A meeting was conducted on **June 6** to review findings of the 2016 Condition Assessment Annual Report. A draft has been completed.

D. Next Submittals

Quarterly Briefing – We will not be holding a Quarterly Briefing with EPA/DEQ due to the submission of the RWWMP on October 1, 2017. However, we will provide a written update to EPA/DEQ by July 28, 2017.

RWWMP – Due October 1, 2017

E. Program Budget Status

The overall program budget is **\$131,191,858**, excluding the Master Metering Program. A summary of appropriations and expenses is attached.

F. Strategic Planning Metrics Summary

1. Educational and Outreach Events: 0
2. Number of Community Partners: 0

<b>Item #</b>	<b>Strategic Planning Measure</b>	<b>Unit</b>	<b>June 2017</b>
M-1.4a	Total Training Hours Per Full Time Employee (1) – Current Month	Total Training Hours / # FTE	0
M-1.4b	Total Training Hours Per Full Time Employee (1) – Cumulative Fiscal Year to Date	Total Training Hours / # FTE	72
M-5.2	Educational and Outreach Events	Number	0
M-5.3	Number of Community Partners	Number	0

Respectfully submitted,

*Phil Hubbard, P.E.*

Attachments: [Consent Order State & EPA Expenditures](#)

## Consent Order State & EPA Expenditures

	<b>Total Appropriation</b>	<b>June 2017 Obligations</b>	<b>Available Balance</b>
<b>Regional Consent Order and Other Consent Order Requirements</b>			
Regional Hydraulic Model	\$106,041,987	\$109,752,320	-\$3,710,333
Manhole Rehab/Replacement Phase I & North Shore Siphon Chamber	\$2,834,000	\$441,823	\$2,392,177
Pump Station Wet Well Rehabilitation Phase I	\$3,243,231	\$918,907	\$2,324,324
Locality System Monitoring and Condition Assessment	\$21,219,146	\$20,566,571	\$652,575
Subtotal - In progress	\$133,338,364	\$131,679,621	\$1,658,743

## Completed Work

Regional Consent Order and Other Consent Order Requirements	(Included in subtotal above)
Master Metering Program III	\$2,005,140
Master Metering Program IV	\$13,628,635
<b>Total</b>	<b>\$147,313,396</b>

TO: General Manager  
FROM: Director of Talent Management  
SUBJECT: Monthly Report for June 2017  
DATE: July 5, 2017

A. Human Resources (HR)

1. Recruitment

a. Summary

New Recruitment Campaigns	14
Job Offers Accepted	
Internal Selections	5
External Selections	10
Internal Applications	38
External Applications	98
Average Days to Fill Position	74

b. Seven Public Works Academy high school students were recruited and hired as summer interns for several HRSD work centers.

2. Enterprise Resource Planning (ERP)

a. Fiscal Year 18 (FY18) changes were completed including position and pay table updates.

b. HRSD worked with AST Managed Services on the following:

- (1) CIGNA Interface
- (2) Benefit setup

c. The HR Business Analyst attended the Oracle Human Capital Management Users group meeting to obtain information and provide feedback on HR applications.

3. Benefits and Compensation

a. Employee benefit changes were completed based on Open Enrollment selections for the new plan year to begin July 1<sup>st</sup>.

- b. The Compensation and Classification team completed position evaluations in relation to FY18 changes.
- c. Staff worked with Finance staff and HRSD's Benefits consultant to complete the Medical Stop Loss Plan renewal.
- d. HRSD's Benefits consultant presented HRSD's 2016 Health Outcomes Analysis.

4. Wellness

- a. Participation Activities

<b>Year 3 Participation Activities</b>	<b>Unit</b>	<b>June 2017</b>	<b>Year to Date (March 2017–February 2018)</b>
Biometric Screenings	Number	0	3
Preventive Health Exams	Number	1	12
Preventive Health Assessments	Number	11	52
Coaching Calls	Number	0	0
On-Line Health Improvement Programs	Number	12	101
Web-MD Online Health Tracking	Number	132	532
Challenges Completed	Number	0	0
Fit-Bit Promotion	Number	8	53

- b. The Wellness Specialist presented *Take a Stand on Sitting* and *Squashing the 3PM Slump – Eating for Energy* for Learning Week.
- c. *Yoga and Mindfulness* classes began at the Main Office.
- d. The Wellness Specialist assisted an employee with a Your Role in Quality project proposal.

5. Workers Compensation

Five new cases were opened with fourteen cases remaining active.

## 6. Employee Relations

HR staff continued to partner and meet with work center supervisors and employees to support employee relations and address HR issues. Input was provided on several revised job descriptions and staff participated in interviews for Operations.

## 7. General

a. Staff attended the following training:

- (1) Equal Employment Opportunity Commission's Technical Assistance Program
- (2) Oracle Human Capital Management Users Group
- (3) HRSD Learning Week
- (4) HRSD First Aid and CPR Training
- (5) Two Employee Assistance Program (EAP) Seminars, *Resiliency and Assertive Communication*
- (7) Main Office Emergency Response Procedures
- (8) Society of Human Resource Management's Annual Conference
- (9) Family Medical and Leave Act Communications Webinar

c. Staff participated in the following HRSD activities:

- (1) HRSD Strategic Planning teams
- (2) A Department Briefing for new Commissioners
- (3) HRSD Insurance Policies briefing

## B. Organization Development and Training

1. The sixth annual Learning Week, "*Be a Learning Hero,*" was held. Employees attended events conducted over five days at the North Shore and South Shore Operations Centers. Topics included health and wellness, nutrition, personal and HRSD finance, gardening and composting and communication.
2. The HRSD University team continued developing two e-learning pilot projects: *HR Open Enrollment (Benefits)* is in the final phase and *Introduction to Biological Nutrient Removal* is complete.
3. A *Your Role in Quality* class was held.
4. The OD&T Manager Conducted a *Strengths Finder* workshop for South Shore Operations leadership.

5. Work continued with Engineering to develop an *Effective Collaborative Meeting Workshop*. A pilot will be presented to the QST in August.
6. A kick-off meeting was held to develop a Project Management class in collaboration with employees holding Project Management certifications.
7. Army Base TP continued to pilot EAP's *Emotional Intelligence* training.
8. Apprenticeship Program
  - a. The Training Superintendent continued work on curriculums: *Wastewater Analysis, Wastewater Laboratory, Disinfection, and Collection System Maintenance*.
  - b. Staff reviewed Virginia Department of Professional and Occupational Regulation revisions to Wastewater Operator requirements and monitored the status of planned implementation.
  - c. Staff made preparations for the 2017/2018 Apprenticeship School Year, including entry of schedules into ERP and evaluation of classes to enhance student learning.
9. Staff attended the following training:
  - a. *Positive Psychology and Intensive Group Coaching* by Mentor Coach

C. Safety

1. Mishaps and Work Related Injuries
  - a. HRSD-Wide Injury Mishap Status to Date (OSHA Recordable)

	<u>2016</u>	<u>2017</u>
<b>Mishaps</b>	42	20
<b>Lost Time Mishaps</b>	8	4
<i>Numbers subject to change pending HR review of each case.</i>		

b. MOM Program Year Performance Measure Work Related Injuries

<b>June 2017 Injuries For Operations</b>	<b>June 2017 Injuries for Other HRSD Departments</b>	<b>Total Lost Time Injuries Since July 2016</b>	<b>Total HRSD Injuries Since July 2016</b>
4	1	7	41

c. Follow-up investigations were performed on five work related injuries, two auto accidents and two property damage accidents.

2. HRSD Safety Training

<b>Strategic Planning Measure</b>	<b>Unit</b>	<b>June 2017</b>
Total Safety Training Hours per Full Time Employee (814) All HRSD – June 2016	923.22 Hours / 814 FTE	0.60
Total Safety Training Hours Per Full Time Employee (814) – Cumulative July 2015	5451.73 Hours / 769 FTE	6.70

3. In addition to regularly scheduled safety training and medical monitoring, the following sessions were conducted:

- a. Six external briefings for contractors working at HRSD treatment plants and pump stations
- b. Two Main Office Emergency Response Procedure classes
- c. Two Scaffold Safety Training sessions for North Shore Electrical and Energy Management employees
- d. Electrical Safety Program training at the following work centers
  - (1) Army Base Treatment Plant (TP)
  - (2) Atlantic TP
  - (3) Boat Harbor TP
  - (4) Chesapeake-Elizabeth TP
  - (5) James River TP
  - (6) Nansemond TP
  - (7) North Shore Interceptor Systems

- (8) South Shore Electrical and Energy Management
- (9) Williamsburg TP

4. Safety Inspections, Testing and Monitoring

a. Weekly on-site inspections of the following construction sites:

- (1) Sustainable Water Initiative for Tomorrow (SWIFT) Demonstration at Nansemond TP
- (2) Virginia Initiative Plant (VIP)
- (3) 33<sup>rd</sup> Street Pump Station
- (4) James River TP

b. Quarterly safety inspections of the following work centers:

- (1) Chesapeake-Elizabeth TP
- (2) Nansemond Treatment Plant
- (3) Williamsburg TP
- (4) Atlantic TP
- (5) South Shore Interceptor Systems
- (6) South Shore Automotive, Carpentry, Machine and Electrical Shops
- (7) Small Communities treatment plants and pump stations

c. Monitoring and testing for the following:

- (1) Monthly hood velocity tests on Central Environmental Laboratory and Technical Services lab hoods

d. The following safety walk-throughs or inspections were conducted:

- (1) Escorted Virginia Occupational Safety and Health Administration (OSHA) staff on a walk-through of the VIP construction site
- (2) Escorted City of Chesapeake's Fire Marshall on walk-throughs of the Quail, Deep Creek, Bowers Hill and 337 pump stations
- (3) Annual fire extinguisher inspections with Priority Fire Protection for the Air Rail Avenue complex

e. Industrial Hygienists audited hurricane lockers at all work centers

## 5. Safety Programs

- a. National Safety Awareness month was celebrated in June. Staff worked with the HRSD Safety Team to recognize safety innovations and with IT and Communications staff to promote and highlight HRSD activities on SharePoint. Nansemond TP employees received recognition for developing an automatic method for replacing air scrubber media, minimizing heavy lifting. Atlantic TP employees implemented retractable barriers for areas surrounding electrical panels to improve electrical safety.
- b. The Safety Manager responded to a Virginia OSHA administrative letter as a result of a serious finger injury which occurred at the Quail pump station.
- c. The HRSD Safety Shoe Guide and FY18 vendor information was distributed to HRSD work centers.
- d. The Safety Manager provided input on SWIFT Demonstration project drawings.
- e. Staff coordinated follow-up physicals for the Respiratory Protection Program.
- f. Safety staff and the HRSD Safety Team attended a web-based demonstration of an on-line Material Safety Data Sheet program.
- g. The following was performed for Confined Spaces:
  - (1) Evaluated confined spaces at the Surry County TP and prepared space specific permits
  - (2) Updates to confined space permits for VIP and James River TP
- h. The Safety Coordinator continued maintaining the Operations Safety Accident Tracking report.

## 6. General

- a. An Industrial Hygienist presented information on TP Chemical Delivery procedures in order to establish consistent practices.

- b. Staff attended the following training:
  - (1) Asbestos Recertification at Applied Labs, Inc.
  - (2) A Water Quality Lunch and Learn on Ticks and Tick Pathogens
  - (3) HRSD Learning Week
  - (4) EAP Seminar on *Resiliency*
  
- c. Staff participated in the following HRSD activities:
  - (1) HRSD Strategic Planning Infrastructure Work Group
  - (2) HRSD Video Surveillance Policy Team
  - (3) HRSD SWIFT Update
  - (4) HRSD Insurance Policies Briefing

D. Monthly Strategic Planning Metrics Summary

- 1. Education and Outreach Events: 3
  - a. City of Suffolk’s Former Nansemond Ordinance Depot Advisory Board meeting
  - b. Collaborative Oracle Roundtable for e-Business (CORE) meeting
  - c. Virginia Department of Labor Apprenticeship Expo at Norfolk Scope
  
- 2. Community Partners: 2
  - a. City of Suffolk
  - b. Virginia Department of Labor
  
- 3. Monthly Metrics

Item #	Strategic Planning Measure	Unit	June 2017
M-1.1a	Employee Turnover Rate (Total)	Percentage	0.51
M-1.1b	Employee Turnover due to Service Retirements	Percentage	0.25
M-1.4a	Total Training Hours Per Full Time Employee (14) – Current Month	Total Training Hours/ FTE	8.80
M-1.4b	Total Training Hours Per FTE (14) Cumulative Fiscal Year-to-Date	Total Training Hours/ FTE	49.77
M-5.2	Educational and Outreach Events	Number	3
M-5.3	Community Partners	Number	2

4. Annual Strategic Planning Metrics Summary

<b>Item #</b>	<b>Strategic Planning Measure</b>	<b>Unit</b>	<b>FY-2017</b>
M-1.1a	Employee Turnover Rate (Total)	Percentage	6.66
M-1.1b	Employee Turnover due to Service Retirements	Percentage	0.77
M-1.1c	Employee Turnover Rate within Probationary Period	Percentage	0.90
M-1.2	Internal Employee Promotion Eligible	Percentage	68
M-1.3	Average Time to Fill a Position	Calendar Days	67
M-1.5a	Safety OSHA 300 Incidence Rate Total Cases	# per 100 Employees	*
M-1.5b	Safety OSHA 300 Incidence Rate Cases with Days Away	# per 100 Employees	*
M-1.5c	Safety OSHA 300 Incidence Rate Cases with Restriction, etc.	# per 100 Employees	*

\* These metrics will be reported upon completion of the annual financial statements.

Respectfully submitted,

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

TO: General Manager  
FROM: Director of Water Quality (WQ)  
SUBJECT: Monthly Report for June 2017  
DATE: July 6, 2017

A. General

1. Pretreatment and Pollution Prevention (P3) division staff assessed no civil penalties this month.
2. The Director, as a Board member, participated in a Virginia Nutrient Credit Exchange Association Board quarterly meeting. The Board is developing and considering options for responding to Virginia Executive Order 52 Report on “Development of Long-Term, Offsetting Methods Within the Virginia Nutrient Credit Exchange Program”, prepared by the Governor’s cabinet. The Executive Order requires that Virginia develop a nutrient trading platform that allows new nutrient dischargers to acquire offsets for their respective nutrient loads to Chesapeake Bay estuaries. Currently new dischargers do not have a well-defined vehicle to obtain these offsets. The Executive Order also requires that the new trading platform provide for trading of Total Suspended Solids (TSS) credits since the Chesapeake Bay Total Maximum Daily Load (TMDL) study addresses TSS loads in addition to that of nitrogen and phosphorous. This change is primarily needed to support trades related to stormwater TSS loads. The changes are expected to develop over the next 2.5 years. Staff will continue to participate in this and other state and federal Chesapeake Bay TMDL activities to monitor implications for HRSD customers, as well as support the use of sound science.

B. Quality Improvement and Strategic Activities

1. The Sustainability Advocacy Group (SAG) did not report activity for the month of June.
2. The TSD Technology Team is currently evaluating the ESRI ArcGIS Data Collector application to see if this will aid in TSD’s field data and post-laboratory data capture needs. A kick off meeting was held in June and the process of collecting information relating to output needs is underway. Future meetings are planned for July.

3. The WQ Communication Team continues monitoring and measuring inter-divisional communication issues within the WQ Department.

C. Municipal Assistance

1. HRSD provided sampling and analytical services to Bedford County and King George County to support their respective Virginia Pollution Discharge Elimination System (VPDES) permit application processes.
2. The [Municipal Assistance Billed Reimbursements](#) per service collected for the second quarter of the 2017 calendar year are attached.
3. The [Municipal Assistance Invoice Summary](#) for the second quarter of the 2017 calendar year is attached.

D. Strategic Planning Metrics Summary

1. Educational and Outreach Events: 1
  - a. CEL and TSD staff provided a tour for Old Dominion University students.
2. Community Partners: 10
  - a. City of Norfolk
  - b. City of Newport News
  - c. Virginia Department of Health Division of Shellfish Sanitation
  - d. Virginia Department of Environmental Quality
  - e. City of Chesapeake
  - f. Elizabeth River Project
  - g. Lynnhaven River NOW
  - h. Virginia Department of Health Office of Epidemiology
  - i. United Way
  - j. Hampton Roads Planning District Commission
3. IWD Related System Issues: 2
  - a. Virginia Initiative Plant staff notified P3 of an elevated influent pH. Industries were contacted and nothing unusual was noted. HRSD Interceptors staff was in the area and was asked to perform pH strip testing at pump stations. Strip tests showed nothing unusual. VIP reported that pH soon returned to normal. Treatment was not affected and an external source was not identified.

- b. Small Communities staff notified P3 of possible discoloration in the Central Middlesex Plant influent. The jail was contacted and was not performing any activities that would account for the potential discoloration. Treatment was not affected.

#### 4. Monthly Metrics

<b>Item #</b>	<b>Strategic Planning Measure</b>	<b>Unit</b>	<b>June 2017</b>
M-1.4a	Training During Work Hours Per Full Time Employee (105) (Current Month)	Total Hours / # FTE	6.48
M-1.4b	Total Training During Work Hours Per Full Time Employee (105) (Cumulative Fiscal Year-to-Date)	Total Hours / # FTE	66.50
M-2.5	North Shore/South Shore Capacity Related Overflows	# within Level of Service	2
M-3.1	Permit Compliance	# of Exceedances: # of Permitted Parameters	9:53,236
M-3.2	Odor Complaints	#	0
M-3.4	Pollutant Removal	Total Pounds Removed	189,765,922
M-3.5	Pollutant Discharge	% Pounds Discharged/Pounds Permitted	22%
M-5.2	Educational and Outreach Events	#	1
M-5.3	Community Partners	#	10
	Average Daily Flow	Total MGD for all Treatment Plants	153.24
	Industrial Waste Related System Issues	#	2

## 5. Annual Metrics

<b>Item #</b>	<b>Strategic Planning Measure</b>	<b>Unit</b>	<b>FY-2017</b>
M-3.3	Carbon Footprint	Tons per MG	*
M-4.2	R & D Budget	Percentage of Total Revenue	*
M-5.4	Value of Research	Number	*
M-5.5	Number of Research Partners	Number	*
	Rolling 5 Year Average Daily Flow	MGD	*
	Rainfall reported at Norfolk International Airport	Number	*

\*These metrics will be reported upon closeout of fiscal year financials.

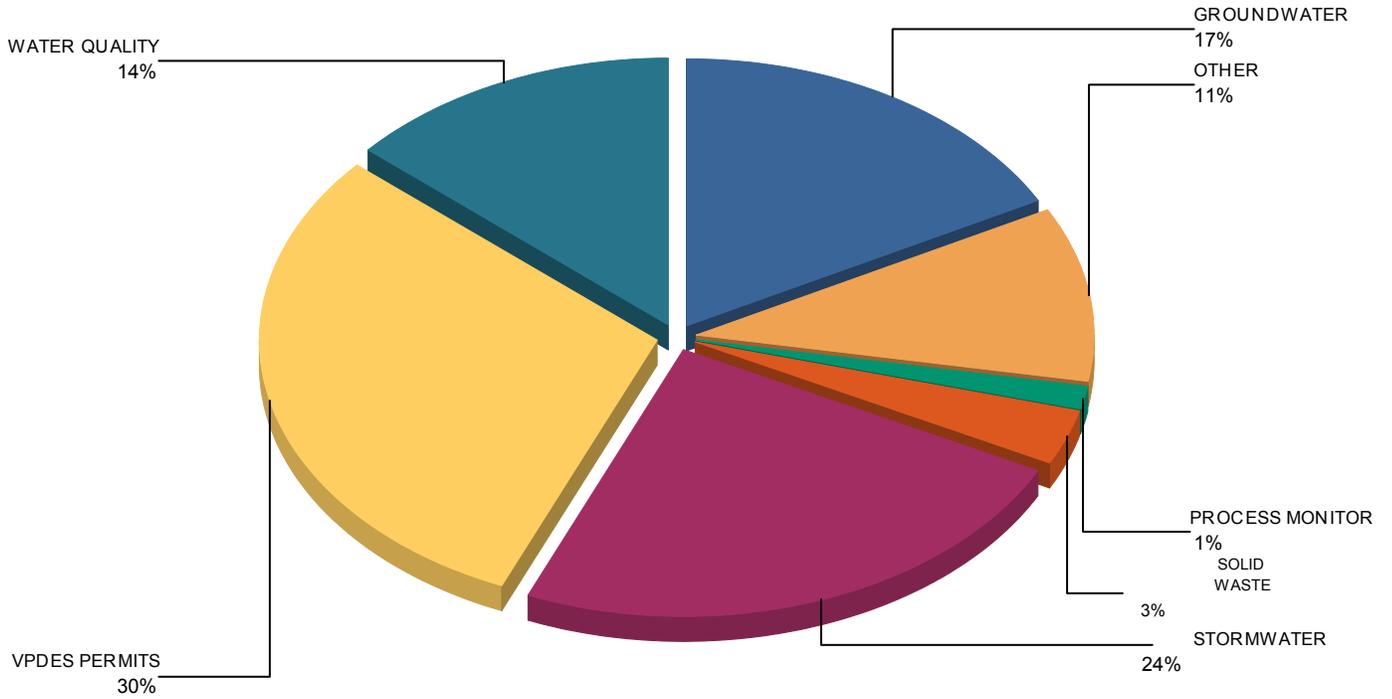
Respectfully submitted,

*James Plett, PhD*

Director of Water Quality

# Municipal Assistance Billed Reimbursements per Service From 04/01/2017 to 06/30/2017

## Attachment 1



*Notes: Other = Equipment purchase, consultation, validation studies, boater pump-out program, etc.*

# Municipal Assistance Invoice Summary

## From 04/01/2017 - 06/30/2017

<b>Municipality</b>	<b>Reimbursements</b>	<b>Reimbursements Fiscal Year 2017</b>
Accomack County	\$34,724.69	\$206,869.45
Appomattox River Water Authority	\$7,744.20	\$7,744.20
Arlington County DES	\$5,842.17	\$5,842.17
Bedford County PSA	\$18,607.94	\$28,191.25
Buckingham County	\$791.86	\$3,044.48
City of Boise	\$0.00	\$502.34
City of Chesapeake	\$2,489.23	\$18,105.87
City of Emporia	\$215.60	\$859.68
City of Franklin	\$1,303.32	\$5,189.62
City of Fredericksburg	\$8,824.50	\$14,710.81
City of Lynchburg	\$17,144.85	\$17,560.98
City of Meridian WRRF	\$992.25	\$992.25
City of Nampa WWTP	\$0.00	\$3,734.80
City of Newport News	\$0.00	\$457.74
City of Norfolk	\$7,987.81	\$29,217.84
City of Portsmouth	\$2,156.09	\$8,506.69
City of Richmond	\$0.00	\$4,950.38
City of Suffolk	\$8,112.05	\$32,352.35
City of Virginia Beach	\$34,461.91	\$68,171.41
Dept of Corrections	\$0.00	\$822.22
Frederick County	\$0.00	\$6,267.12
HRPDC	\$73,787.66	\$218,995.71
Hanover County	\$6,214.51	\$50,490.60
Henrico County	\$0.00	\$6,119.54
Hopewell RWTF	\$3,892.46	\$11,630.42
James City County Service Authority	\$0.00	\$1,074.00
Loudoun Water	\$0.00	\$3,824.94
METRO WASTEWATER RECLAMATION DIST	\$0.00	\$899.12
New Kent County	\$8,761.11	\$30,428.85
Northampton County	\$19,471.48	\$40,443.51
Prince William County	\$3,503.59	\$9,266.88
South Central Wastewater Authority	\$0.00	\$9,473.02
Spotsylvania County	\$664.49	\$664.49
Stafford County	\$0.00	\$6,665.10

Star Sewer and Water District	\$412.34	\$412.34
Town of Blackstone	\$0.00	\$5,541.49
Town of Cape Charles	\$6,076.28	\$23,382.25
Town of Lawrenceville	\$3,880.94	\$15,059.52
Town of South Hill	\$387.13	\$9,366.40
Upper Occoquan Service Authority	\$14,541.78	\$14,725.58
Virginia Department of Health	\$17,340.34	\$57,863.51
Virginia Port Authority	\$0.00	\$814.38
Warm Springs Sanitation	\$0.00	\$804.24
Warsaw WWTP	\$533.64	\$2,134.22
Western VA Water Authority	\$1,246.80	\$3,140.84
Westmoreland County	\$1,016.56	\$3,989.81
<b>Totals:</b>	<b>\$313,129.58</b>	<b>\$991,304.41</b>



The following Internal Audit Status document has been prepared by SC&H for the HRSD Commission. Below is a summary of projects in process, upcoming projects, and the status of current management action plan (MAP) monitoring.

## ***I. Projects in Process***

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### **Procurement/ ProCard Process Review**

- **Tasks Completed (June 2017)**
  - Finalized final project report
  - Delivered final draft report to management
  
- **Upcoming Tasks (July 2017)**
  - Obtain and review management action plan responses to recommendations
  - Finalize report for distribution to HRSD Commission

### **Engineering Procurement Process Review**

- **Tasks Completed (June 2017)**
  - Reviewed process documentation as received
  - Conducted walkthrough discussions to gain an understanding of various sub-processes associated with the Engineering Procurement function
  - Documented process flowcharts and prepared the risk and control matrix
  
- **Upcoming Tasks (July 2017)**
  - Finalize project objectives
  - Draft audit work program and request testing documentation
  - Conduct testing to complete steps outlined in the audit work program
  - Draft final project report

### **IT: Network Security/ Cybersecurity**

- **Upcoming Tasks (July 2017)**
  - Identify applicable process owners and communicate audit announcement
  - Conduct audit entrance meeting
  - Communicate initial document request list
  - Schedule/ conduct walkthrough discussion meetings

### ***\*Engagement Notes/ Delays***

SC&H has noted delays in the scheduling of process walkthrough meetings in the performance of the Engineering Procurement review that were the result of timing and availability constraints for process owners. These delays have not been significant and SC&H is continuing to work with the team to move this project forward.



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## ***II. Upcoming Projects (FY2018)***

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The following projects are scheduled to be performed during FY2018 based upon the risk assessment previously performed by SC&H.

- Q2- Corporate Governance: Ethics Function
- Q2- Risk Assessment: Year 3 Refresh
- Q3- Operations: Treatment Plants
- Q4- Finance and Accounting: Customer Care (Billing, Mail Center & Payments, A/R & Delinquent Accounts)

## ***III. Management Action Plan (MAP) Monitoring***

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SC&H is performing on-going MAP monitoring for internal audits previously conducted for HRSD. SC&H begins MAP follow-up approximately one year following the completion of each audit and will assess bi-annually.

For each recommendation noted in an audit report, SC&H gains an understanding of the steps performed to address the action plan and obtains evidence to confirm implementation, when available.

The following describes the current project monitoring status and upcoming monitoring timeframes.

### **Design and Construction: CIP Project Management Review MAP Status**

- Audit Report Date: May 11, 2016
- Next Follow-up: September 2017
- Total Recommendations: 13
- Recommendations Closed: 9 (Pending review and validation)
- Recommendations Open: 4 (Anticipated to be closed by December 2017)

### **Upcoming MAP Monitoring**

- Biosolids
  - Report Date: October 8, 2016
  - Anticipated MAP Follow-up: October 2017
- HR Administration of Employee Health Insurance
  - Report Date: November 22, 2016
  - Anticipated MAP Follow-up: December 2017
- Inventory Management
  - Report Date: April 20, 2017
  - Anticipated MAP Follow-up: April 2018

Annual Metrics											
Item	Strategic Planning Measure	Unit	Target	FY-10	FY-11	FY-12	FY-13	FY-14	FY-15	FY-16	FY-17
M-1.1a	Employee Turnover Rate (Total)	Percentage	< 8%	5.63%	4.09%	6.64%	7.62%	8.22%	9.97%	6.75%	6.66%
M-1.1b	Employee Turnover Rate within Probationary Period		0%		2.22%	8.16%	14.58%	9.68%	0.66%	0.13%	0.90%
M-1.2	Internal Employee Promotion Eligible	Percentage	100%		59%	80%	69.57%	71.43%	64.00%	69.00%	68.00%
M-1.3	Average Time to Fill a Position	Calendar Days	< 30		70	60	52	43.76	51	56	67
M-1.4	Training Hours per Employee - cumulative fiscal year-to-date	Hours	> 40		30.0	43.8	37.5	35.9	42.8	49.0	48.4
M-1.5a	Safety OSHA 300 Incidence Rate Total Cases	# per 100 Employees	< 3.5	6.57	6.15	5.8	11.2	5.07	3.87	7	*
M-1.5b	Safety OSHA 300 Incidence Rate Cases with Days Away	# per 100 Employees	< 1.1	0.74	1.13	1.33	0.96	1.4	0.82	1.9	*
M-1.5c	Safety OSHA 300 Incidence Rate Cases with Restriction, etc.	# per 100 Employees	< 0.8	3.72	4.27	2.55	4.5	2	1.76	3.6	*
M-2.1	CIP Delivery - Budget	Percentage			113%	96%	124%	149%	160%	151%	*
M-2.2	CIP Delivery - Schedule	Percentage			169%	169%	161%	150%	190%	172%	*
M-2.3a	Total Maintenance Hours	Total Available Mtc Labor Hours Monthly Avg			16,495	22,347	27,615	30,863	35,431	34,168	28,786
M-2.3b	Planned Maintenance	Percentage of Total Mtc Hours Monthly Avg			20%	27%	70%	73%	48%	41%	43%
M-2.3c	Corrective Maintenance	Percentage of Total Mtc Hours Monthly Avg			63%	51%	12%	10%	18%	25%	25%
M-2.3d	Projects	Percentage of Total Mtc Hours Monthly Avg			18%	22%	20%	18%	32%	34%	32%
M-2.4	Infrastructure Investment	Percentage of Total Cost of Infrastructure	2%		8.18%	6%	6%	4%	7%	7%	*
M-3.3	Carbon Footprint	Tons per MG Annual Total			1.61	1.57	1.47	1.46	1.44	1.45	*
M-3.6	Alternate Energy	Total KWH			0	0	0	5,911,289	6,123,399	6,555,096	6,052,142
M-4.1a	Energy Use: Treatment	kWh/MG Monthly Avg			2,473	2,571	2,229	2,189	2,176	2,205	*
M-4.1b	Energy Use: Pump Stations	kWh/MG Monthly Avg			197	173	152	159	168	163	*
M-4.1c	Energy Use: Office Buildings	kWh/MG Monthly Avg			84	77	102	96	104	97	*
M-4.2	R&D Budget	Percentage of Total Revenue	> 0.5%		1.0%	1.4%	1.0%	1.3%	1.0%	0.8%	*
M-4.3	Total Labor Cost/MGD	Personal Services + Fringe Benefits/365/5-Year Average Daily Flow		\$1,028	\$1,095	\$1,174	\$1,232	\$1,249	\$1,279	\$1,246	*
M-4.4	Affordability	8 CCF Monthly Charge/Median Household Income	< 0.5%		0.48%	0.48%	0.41%	0.43%	0.53%	0.55%	*
M-4.5	Total Operating Cost/MGD	Total Operating Expense/365/5-Year Average Daily Flow		\$2,741	\$2,970	\$3,262	\$3,316	\$3,305	\$3,526	\$3,434	*
M-5.1	Name Recognition	Percentage (Survey Result)	100%	67%	71%	N/A	62%	N/A	60%	N/A	N/A
M-5.4	Value of Research	Percentage - Total Value/HRSD Investment			129%	235%	177%	149%	181%	178%	*
M-5.5	Number of Research Partners	Annual Total Number			42	36	31	33	28	35	*
	Rolling 5 Year Average Daily Flow	MGD		157.8	155.3	152	154.36	155.2	151.51	153.09	*
	Rainfall	Annual Total Inches		66.9	44.21	56.21	46.65	46.52	51.95	54.14	*
	Billed Flow	Annual Percentage of Total Treated		71.9%	82.6%	78%	71%	73%	74%	72%	*
	Senior Debt Coverage	Net Revenue/Senior Annual Debt Service	> 1.5	2.51%	2.30%	2.07%	1.88%	1.72%	1.90%	2.56%	*
	Total Debt Coverage	Net Revenue/Total Annual Debt	>1.4	1.67%	1.67%	1.46%	1.45%	1.32%	1.46%	1.77%	*

Monthly Updated Metrics													
Item	Strategic Planning Measure	Unit	Target	FY-10	FY-11	FY-12	FY-13	FY-14	FY-15	FY-16	FY-17	May-17	Jun-17
	Average Daily Flow	MGD at the Plants	< 249		136	146.5	158.7	156.3	153.5	155.8	153.5	159.0	153.2
	Industrial Waste Related System Issues	Number	0		3	6	6	6	2	4	7	1	2
	Wastewater Revenue	Percentage of budgeted	100%		97%	96%	98%	107%	102%	104%	103%	100%	101%
	General Reserves	Percentage of Operating and Improvement Budget	75% - 100%		72%	82%	84%	92%	94%	95%	104%	109%	107%
	Accounts Receivable (HRSD)	Dollars (Monthly Avg)			\$ 17,013,784	\$ 17,359,488	\$ 18,795,475	\$ 20,524,316	\$ 20,758,439	\$ 22,444,273	\$ 22,572,788	\$18,685,380	\$20,634,365
	Aging Accounts Receivable	Percentage of receivables greater than 90 days			21%	20%	18%	19%	21%	20%	18%	20%	18%
M-2.5	Capacity Related Overflows	Number within Level of Service	0		25	1	30	5	11	16	6	0	2
M-3.1	Permit Compliance	# of Exceedances to # of Permitted Parameters	0		12:55,045	1:51995	2:52491	1:52491	2:52491	2:52,491	9:53236	7:48800	9:53236
M-3.2	Odor Complaints	Number	0		6	2	7	11	5	9	7	0	0
M-3.4	Pollutant Removal (total)	Total Pounds Removed			178,163,629	171,247,526	176,102,248	185,677,185	180,168,546	193,247,790	189,765,922	175,394,642	189,765,922
M-3.5	Pollutant Discharge (% of permitted)	Pounds Discharged/Pounds Removed	< 40%		25%	22%	22%	22%	22%	20%	22%	22%	22%
M-5.2	Educational and Outreach Events	Number			302	184	238	322	334	443	502	39	41
M-5.3	Number of Community Partners	Number			280	289	286	297	321	354	345	28	30

**EFFLUENT SUMMARY FOR JUNE 2017**

PLANT	FLOW mgd	% of Design	BOD mg/l	TSS mg/l	FC #/UBI	ENTERO #/UBI	TP mg/l	TP CY Avg	TN mg/l	TN CY Avg	TKN mg/l	NH3 mg/l	CONTACT TANK EX
ARMY BASE	9.24	51%	4	5.4	12	4	0.52	0.64	10	6.8	NA	NA	19
ATLANTIC	29.09	54%	12	5.3	3	1	NA	NA	NA	NA	NA	NA	4
BOAT HARBOR	14.15	57%	4	5.3	3	3	0.60	0.42	11	13	NA	NA	3
CENT. MIDDLESEX	0.015	59%	<2	<1.0	<1	<1	NA	NA	NA	NA	NA	NA	NA
CHES-ELIZ	18.89	79%	20	30	61	7	2.0	1.3	32	31	NA	NA	11
JAMES RIVER	12.91	65%	2	2.3	2	<1	0.28	0.50	8.7	10	NA	NA	0
KING WILLIAM	0.043	43%	<2	<1.0	NA	<1	0.03	0.03	0.31	0.97	0.11	NA	NA
NANSEMOND	18.45	62%	6	2.6	1	1	0.56	0.83	5.7	7.2	NA	NA	8
URBANNA	0.058	58%	8	28	5	2	7.4	5.2	22	23	NA	<0.20	NA
VIP	28.67	72%	1	3.0	16	2	1.0	0.74	5.9	7.8	NA	NA	3
WEST POINT	0.351	59%	18	13	5	4	3.2	2.8	17	16	NA	8.7	0
WILLIAMSBURG	8.26	37%	1	2.4	7	4	1.1	0.53	4.9	4.8	NA	NA	7
YORK RIVER	13.11	87%	1	1.4	1	1	0.34	0.28	1.7	2.1	NA	NA	2
	<u>153.24</u>												

	% of Capacity
North Shore	59%
South Shore	63%
Mid Peninsula	54%

<b>Tributary Summary</b>						
Tributaries	Annual Total Nitrogen			Annual Total Phosphorus		
	Discharged	Operational		Discharged	Operational	
	YTD	Projection	CY17	YTD	Projection	CY17
	%	Lbs	%	%	Lbs	%
James River	45%	4,033,331	89%	40%	269,949	85%
York River	19%	184,956	64%	38%	15,438	80%
Rappahannock	118%	NA	NA	398%	NA	NA

Permit Exceedances: Total Possible Exceedances, FY17 to Date: 9:53,236  
Pounds of Pollutants Removed in FY17 to Date: 189,765,922  
Pollutant Lbs Discharged/Permitted Discharge FY17 to Date: 22%

	<b>Rainfall (inch)</b>		
	<u>North</u>	<u>South</u>	<u>Small</u>
	<u>Shore</u>	<u>Shore</u>	<u>Communities</u>
	(PHF)	(ORF)	(FYJ)
Month	4.96"	3.27"	2.23"
Normal for Month	4.53"	4.96"	4.85"
Year to Date Total	24.71"	25.09"	22.26"
Normal for YTD	22.68"	21.22"	22.79"

**AIR EMISSIONS SUMMARY FOR JUNE 2017**

MHI PLANT	No. of Permit Deviations below 129 SSI Rule Minimum Operating Parameters								Part 503e Limits		
	BZ Temp	Venturi(s) PD	Precooler Flow	Spray Flow	Venturi Flow	Tray/PBs Flow	Scrubber	Any	THC	THC	BZ Temp
	12 hr ave	12 hr ave	12 hr ave	12 hr ave	12 hr ave	12 hr ave	pH	Bypass	Mo. Ave	DC	Daily Ave
(F)	(in. WC)	(GPM)	(GPM)	(GPM)	(GPM)	(GPM)	3 hr ave	Stack Use	(PPM)	(%)	Days >Max
ARMY BASE	0	0	0	0	0	0	0	0	35	100	0
BOAT HARBOR	1	1	0	n/a	0	0	0	1	60	99	0
CHES-ELIZ	0	0	0	0	0	0	0	0	26	100	0
VIP	0	0	0	n/a	0	0	0	1	73	100	0
WILLIAMSBURG	0	0	0	n/a	0	0	0	0	11	99	0

**ALL OPERATIONS**

DEQ Reportable Air Incidents:	1	No. of Permit Deviations/Possible No. of Permit Deviations (6/17) = 4/2970
DEQ Request for Corrective Action (RCA):	0	No. Permit Deviations/No. Possible Permit Deviations (CY17 to date) = 56/17,837
DEQ Notice of Violation (NOV):	0	Total Time on Bypass/Total Time Operating (6/17) = 3.2 hrs/3326 hrs Total Time on Bypass/Total Time Operating (CY17 to date) = 14.45 hrs/19,826 hrs
Other Air Permit Deviations:	0	Dry Tons Solids Processed (6/17) = 2581
Odor Complaints Received:	0	Total Dry Tons Solids Processed (CY17 to date) = 14,864 Monthly average Dry Ton per Day (DTD) per MHI unit = 17.4
Odor Scrubber HRSD Exceptions:	2	

## AGENDA ITEM 20.e.1.– July 19, 2017

**Subject:** Operations Department Williamsburg Force Main NF-004 Relocation  
Emergency Declaration

**Recommended Action:** No action is required. Information Only

**Brief:** HRSD North Shore Interceptors discovered a washout along NF-004 force main located in Williamsburg between S. England Street and Colonial Parkway at the Paper Mill Creek Crossing. The existing force main has been exposed due to extensive erosion from flows within Paper Mill Creek.

North Shore Interceptors took immediate action to temporarily stabilize the force main and surrounding area. Due to the inability to divert flows and continued exposure of the force main there is an increased possibility for a large scale spill event and service to Williamsburg would be halted. Weekly site visits are required to survey the pipe condition and frequent site visits to temporarily stabilize the surrounding area are conducted after each rain event.

Kimley-Horn provided HRSD with a preliminary hydraulic and hydrology analysis. Models were developed using available City of Williamsburg drainage area and land cover data, National Oceanic and Atmospheric Administration Lidar elevation data, plans of the upstream golf course lakes and survey information of the stream location. Preliminary model results show that the current level of service of the three temporary culverts under the force main is less than a 2-year rainfall event in the upstream watershed. Overtopping of the force main by stream flow will occur when the culvert level of service is exceeded, leading to continued scouring and erosion around the force main.

To mitigate this erosion and scour around the force main, three alternatives were developed and alternative two was selected to relocate the force main below the channel bottom as the preferred solution.

An emergency declaration was authorized on June 29, 2017

This emergency was declared for services to be provided by Kimley Horn and Associates Inc., TA Sheets General Contractors Inc. and other required contractors for the performance of emergency repair services, equipment and parts.

The estimated cost is \$495,322.