

SEMI-ANNUAL REPORT FY 2019



HRSD
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April 29, 2019

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1. INTRODUCTION AND PURPOSE

On February 23, 2010, HRSD entered into an Amended Consent Decree (“Consent Decree”) with the United States of America and the Commonwealth of Virginia for the purpose of fulfilling the objectives of the Clean Water Act and the Virginia State Water Control Law. This Consent Decree has been modified four times by agreement of all parties in 2011, 2013, 2014, and 2017. In December 2014, the Special Order by Consent (SOC) with the DEQ and thirteen localities was modified and HRSD is no longer part of that order.

The Consent Decree requires HRSD to perform, among other things, the following tasks:

- Implement a flow, pressure, and rainfall monitoring program;
- Coordinate with the Localities to develop a Regional Hydraulic Model;
- Prepare a plan for and conduct a condition assessment program;
- Construct specified interim system improvements;
- Develop and implement a Sanitary Sewer Overflow (SSO) Response Plan;
- Develop a Regional Wet Weather Management Plan in consultation with the Localities;
- Update and implement a Management, Operations and Maintenance (MOM) Program; and
- Prepare and submit a variety of periodic and event-driven reports.

This Semi-Annual Report is submitted pursuant to Section XVII of the Consent Decree. HRSD has prepared this Semi-Annual Report in accordance with the above requirements to apprise the EPA (representing the United States of America) and the DEQ (representing the Commonwealth of Virginia) of steps taken toward meeting the obligations of the Consent Decree. Specifically, this Semi-Annual Report summarizes the work and activities undertaken by HRSD from July 1, 2018, through December 31, 2018, and the planned work for the remainder of FY 2019.

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2. MAJOR COMPLIANCE ACHIEVEMENTS

2.1 Flow, Pressure, and Rainfall Monitoring Program

2.1.1 Ongoing System Monitoring

Following completion of the Consent Decree required 12-month flow, pressure, and rainfall monitoring period on March 11, 2011, HRSD continues to maintain a wide-scale monitoring network. Regular manual data review has been conducted and unreliable data has been flagged in the system. In the first six months of FY 2019, HRSD has:

- Removed two flow meters at MMPS-120 (The old Bridge Street PS) on 8/20/18.
- Removed one pressure sensor from MMPS-120 (The old Bridge Street PS) on 8/20/18.
- Installed one new pressure sensor at MMPS-313 (Hunningdon Lakes Blvd) on 8/23/18.
- Removed one pressure sensor from MMPS-109 (Holland Rd_EOL) on 11/14/18.
- Installed one new pressure sensor at MMPS-314 (Suffolk PS 161) on 11/14/18. This meter was relocated from Holland Rd.

A portal to allow access for the Localities to the HRSD flow, pressure, and rainfall data from the FPR sites (Telog server data) was developed and implemented in February 2009 and continues to be used and enhanced. In addition, a new data historian has been installed and used to store and view HRSD FPR data.

2.2 Condition Assessment Plan

2.2.1 Implementation of the Condition Assessment Plan

2.2.1.1 Condition Assessment Field Activities

HRSD has completed all Consent Decree required Condition Assessment Field Activities per the Preliminary Condition Assessment Report prior to the completion milestone of October 31, 2013. See Section 4 of this report for details on the Condition Assessment Field Activities.

2.2.1.2 Prompt Repairs

HRSD continues to implement a program to identify and address HRSD's collection system infrastructure deficiencies found during the course of condition assessment field activities that require prompt attention (as defined in the approved Condition Assessment Plan). Defects are evaluated to determine if they:

- Pose an immediate threat to the environment;
- Pose an imminent threat to the health and safety of the public;
- Create operational problems that may result in SSOs; or
- Contribute to substantial inflow to the system.

If such a defect is identified through the inspection process, it is assessed to determine the appropriate repair necessary. See Section 4 of this report for details on the Condition Assessment Program Prompt Repair status.

2.2.2 Rehabilitation Action Plan Implementation

The approved Rehabilitation Action Plan contains 67 projects to be completed in three phases. Table 2-1 shows the status of the Plan phases through December 31, 2018. One project in Phase 1 (CE-R3) was cancelled with EPA/DEQ approval and reduces the total to 66 projects.

Phase	Number of Projects Completed	Total Number of Projects	Estimated Cost of Completed Projects	Estimated Total Cost of All Projects in Phase
0	10	10	\$28,178,596	\$28,178,596
1	6	21	\$16,087,231	\$85,135,474
2	2	35	\$7,342,840	\$185,600,246

Projects completed this period are included in Appendix A project certifications and are as follows:

- No projects were completed during this reporting period.

2.3 Interim System Improvements (ISI)

Appendix 5 to the Consent Decree lists thirty-three projects that are required to be completed within 8 years of the Date of Entry of the Consent Decree. The modification to the Consent Decree in FY 2013 has added eighteen (18) new projects for a total of fifty-one (51). Modification No. 3 which was entered by the court in August 2014 added two (2) projects and removed eight (8), leaving a total of forty-five (45) Interim System Improvement projects. HRSD has completed all of these projects.

As required by Paragraph 32 of the Consent Decree, HRSD will provide a certification by a Professional Engineer that each of these projects was completed satisfactorily to the EPA and DEQ. HRSD completed the final project required under the ISI on November 1, 2018. A complete update for the fiscal year will be provided in the Annual Report. Table 2-2 provides a list of ISI projects that were completed between July 1, 2018 and December 31, 2018.

CD Ref Number	CIP Number	Project Name	Consent Decree Project Cost	Actual Project Cost
53	VP016320	Virginia Initiative Plant Nutrient Reduction Improvements – Contract B	\$125,000,000	\$141,541,673

2.4 Management, Operations, and Maintenance (MOM) Program

2.4.1 Implementation of MOM Program

HRSD continues to implement its MOM Program. This includes details pertaining to management, operations, and maintenance of nearly all aspects of HRSD's system, including quantitative performance measures, implementation of continuous improvement initiatives, and special programs coordinated in the region such as the HR FOG.

2.4.2 Quantitative Performance Measures

The revised MOM Program, approved on September 27, 2011, included many performance measures to help HRSD understand the performance of program elements. Paragraph 34 of the Consent Decree established a list of six specific measures that are subject to stipulated penalties, including: gravity sewer main inspection, air release valve preventative maintenance, gravity sewer cleaning, pumping station annual preventative maintenance, back-up generator annual preventative maintenance, and non-invasive force main inspection near drinking water supply reservoirs. Work has continued to implement and track these performance measures and the results will be presented in the FY 2019 Annual Report. HRSD is on track to meet or exceed all the performance measures identified in Paragraph 34 of the Consent Decree.

2.5 Regional Wet Weather Management Plan

HRSD completed an Integrated Plan/RWWMP and submitted it to the EPA and DEQ on September 28, 2017, to meet the compliance obligation of the Consent Decree. Negotiations continue with EPA and DEQ primarily around schedule.

2.6 SSO Emergency Response Plan

The annual review of the approved Sanitary Sewer Overflow (SSO) Response Plan to the EPA and DEQ is underway. Any resulting changes to the Plan will be submitted to the EPA/DEQ. The previously approved plan continues to be implemented by HRSD and is posted to the www.HRSD.com website.

2.7 Coordination with Localities

There was a wide variety of coordination activities in the first half of FY 2019 amongst HRSD and the localities. These activities included:

- One Capacity Team Meeting was held with the Localities to review progress;
- Several briefings of the Directors' of Utilities Committee to share progress on compliance with the Consent Decree;
- A regional SharePoint website continues to be updated to collaborate with and provide documents to the regional Capacity Team; and
- Copies of the Annual Report were provided from HRSD to the Localities.

2.8 Public Participation

HRSD held its annual information meeting on January 22, 2019, and published a newsletter by February 23, 2019, the anniversary of the Date of Entry. Information and approved plans continue to be posted to HRSD's website, which is accessible to the public.

2.9 Post-RWWMP Implementation Monitoring and Performance Assessment

No action has been performed for this item as it is a later requirement of the Consent Decree.

2.10 Reporting

2.10.1 Annual Report

HRSD completed an FY 2018 Annual Report as required by the Consent Decree, and submitted it to the EPA and DEQ on October 30, 2018.

2.10.2 Quarterly Briefing

In accordance with Paragraph 90, these are no longer required as HRSD has submitted the Integrated Plan in accordance with the requirements of section XVIII on September 28, 2017.

2.11 Summary of Submittals

Table 2-3 summarizes the status of the documentation that HRSD has submitted to the EPA and DEQ under the Consent Decree in the first half of FY 2019.

Table 2-3. Summary of Consent Decree Submittals	
Consent Decree Submittal	Submittal Date
FY2018 Annual Report	October 30, 2018

3. COMPLIANCE DEADLINES AND MILESTONES

In the first half of FY 2019, all deliverables were submitted on or before their due dates and all milestones were met.

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4. CONDITION ASSESSMENT ACTIVITIES

HRSD has continued with its Condition Assessment Program as required by Section VII, Paragraph 25 of the Consent Decree, in FY 2019 with significant progress made in many aspects of the program. The following subsections describe the progress made in each aspect.

4.1 Gravity Main

All gravity sewer main inspections were completed by the November 2011 milestone.

4.2 Force Main

All force main inspections were completed by the October 2013 milestone.

4.3 Pumping Facilities

All pump station inspection work was completed by the November 2011 schedule deadline.

4.4 Prompt Repairs

Through the Condition Assessment Program, HRSD has identified 81 defects in the HRSD sanitary sewer system (primarily gravity sewer pipe and manholes) which have been deemed to be Prompt Repairs. These defects have been grouped into larger repair work orders and are currently in various stages of planning, design, or construction. Seventy-two (72) have been completed. The following Table 4-1 provides details on all known Prompt Repairs as of December 31, 2018.

Table 4-1. Summary of Prompt Repairs						
Name	Location	Jurisdiction	Line Number	Summary of defect	Number of Defects	Status
41st Street	41st Street east of intersection with Jefferson Ave; between MHs NG-112-12175 and NG-112-11783	Hampton	NG-112	Pipe lining failure	1	Complete
Beach Road	West side of Beach Road opposite intersection with Wade Road between MH NG-088-0 and NG-088-155.	Hampton	NG-088	Pipe connection at manhole needs repair	1	Complete
Beach Road	West side of Beach Rd. between intersection with Bonneville Dr. and Catalina Drive between MH NG-088-1654 and NG-088-1863	Hampton	NG-088	Lateral connection to mainline needs repair	4	Complete

Table 4-1. Summary of Prompt Repairs

Name	Location	Jurisdiction	Line Number	Summary of defect	Number of Defects	Status
	Approximately in front of 112 Beach Rd between MH NG-088-0636 and NG-088-0970	Hampton	NG-088	Mainline pipe defects		
	Beach Rd. approximately 170 ft. south of Wade Rd. intersection	Hampton	NG-088	Manhole defects		
	West side of Beach Road opposite intersection with Hall Road. Between MHs NG-088-1260 and NG-088-1316	Hampton	NG-088	Mainline punctured by another utility directional drilling		
Various Manholes	North King St.	Hampton	NG-078	Manhole defects	3	Complete
	E. Pembroke Ave. at Washington St.	Hampton	NG-084	Manhole defects		
	Bainbridge Blvd. between Beech St. and Wilton St.	Norfolk	SG-153	Manhole defects		
Jefferson Ave	Jefferson Ave. between 40th St and 41st St	Newport News	NG-114	Mainline pipe defects	2	Complete
	Jefferson Ave between 39th and 40th St	Newport News	NG-114	Mainline pipe defects		
Newtown Road	Newtown Rd. at Virginia Beach Blvd (ne corner of intersection)	Virginia Beach	SG-112	Manhole defects and mainline pipe defects	3	Complete
	Newtown Rd. approx. 415 ft. north of Princess Anne Rd.	Virginia Beach	SG-113	Manhole defects		
	Newtown Rd. at Elam Ave.	Virginia Beach	SG-113	Manhole defects		
Mercury Blvd	West Mercury Blvd	Hampton	NG-099	Mainline pipe defects	3	To be completed as part of CIP BH-150. Under construction
	West Mercury Blvd	Hampton	NG-057	Mainline pipe defects		
	West Mercury Blvd; near Beechwood Rd.	Hampton	NG-057	Mainline pipe defects		
Various Repairs	North Hope Street	Hampton	NG-160	Pipe lining failure	3	Complete
	Old Atlantic Avenue; near intersection with Liberty Street	Chesapeake	SG-148	Pipe lining failure		
	South of Steamboat Creek PS	Norfolk	SG-102	Manhole defects		

Table 4-1. Summary of Prompt Repairs

Name	Location	Jurisdiction	Line Number	Summary of defect	Number of Defects	Status
Witchduck	South Witchduck Road	Virginia Beach	SF-141	Corroded FM bolts	1	Complete
Pin Oak Rd	Pin Oak Road; Residential neighborhood	Newport News	NG-175	Mainline Pipe Defects	1	Complete
Bainbridge Blvd	Bainbridge Blvd near I-464	Norfolk	SG-145	Mainline Pipe Defects	2	Complete
	Bainbridge Blvd near I-464 just upstream of PS	Norfolk	SG-145	Mainline Pipe Defects		
Shell Rd - Hampton	Shell Road	Hampton	NG-141	Mainline Pipe Defects	2	Complete
	Harris Creek Road	Hampton	NG-086	Mainline Pipe Defects		
Pearl Street	Pearl Street near Ligon Street near I-464/I-262 Interchange	Norfolk	SG-202	Mainline Pipe Defects	2	Complete
	Pearl Street near Ligon Street near I-464/I-262 Interchange	Norfolk	SG-202	Mainline Pipe Defects		
Deep Creek	Deep Creek force main on suction side of Deep Creek PRS	Chesapeake	SF-143	FM defects	1	Complete
Wythe Lagoon	Wythe Lagoon Siphon	Hampton	NG-151	Siphon defects	1	Complete
Pump Station Hatches	Ingleside Road Pump Station	Norfolk	PS#148	Wet Well Hatch	1	Complete
Pump Station Wet Wells	Rodman Ave Pump Station Wet Well	Portsmouth	PS#145	Wet Well Defects	1	Complete
Luxemburg Ave	Influent line to Luxemburg Avenue pump station.	Norfolk	SPS-113	Defect at manhole connection	1	Complete
Gowrie and Farragut	Manhole near creek at end of Gowrie Avenue	Norfolk	SG-068	Manhole defects	2	Complete
	Manhole near creek at end of Farragut Avenue	Norfolk	SG-068	Manhole defects		
Shipyard Sewer	Outside of 33 rd street Pump Station	Newport News	33 rd Street	Mainline pipe defects	3	33 rd Street Repair Completed. Remaining two being completed in CIP BH014600.
	31 st Street	Newport News	31 st Street	Mainline pipe defects		
	38 th Street	Newport News	38 th Street	Mainline pipe defects		
Chesterfield Blvd	Gravity influent to Chesterfield PS	Norfolk	SG-207	Mainline pipe defects	2	Complete
	Gravity influent to Chesterfield PS	Norfolk	SG-207	Mainline pipe defects		
State Street FM	Force main at State St Pump Station	Norfolk	SF-097	Thin wall	1	Complete
Berkley Avenue	Manholes on Berkley Avenue	Norfolk	SG-098	Manhole defects	2	Complete
	Manholes on	Norfolk	SG-098	Manhole		

Table 4-1. Summary of Prompt Repairs

Name	Location	Jurisdiction	Line Number	Summary of defect	Number of Defects	Status
	Berkley Avenue			defects		
Newmarket Creek	Orcutt Avenue and Paul street at influent to Newmarket Creek PS	Newport News	NG-127	Manhole Defects	2	To be completed as part of CIP BH-150
	Orcutt Avenue and Paul street at influent to Newmarket Creek PS	Newport News	NG-127	Pipeline defects		
Laskin Road	Laskin Road Force Main	Virginia Beach	SF-135	Hit by third party	1	Complete
Elizabeth River	East side of Elizabeth River Crossing	Chesapeake	SF-143	Thin wall	1	Complete
14 th Street	Manhole at Jefferson Ave and 14 th street	Newport News	NG-130X	Manhole Defect	1	Complete
Army Base	Baker Street and Hampton Blvd	Norfolk	SF-003	Pipeline defect	1	Complete
Mercury and Orcutt Intersection	W Mercury Blvd	Hampton	NG-127	Manhole Defect	1	Complete
Claremont Avenue Discharge	Harbor Lane and 14 th Street	Newport News	NG-130	Pipeline Defect	1	Complete
Boat Harbor Outlet	Jefferson Avenue and 25 th Street	Newport News	NG-169	Pipeline Defect	1	Complete
Hickman Branch	Factory Street	Portsmouth	SG-193	Pipeline Defect	1	Complete
Terminal Avenue	Terminal Avenue	Newport News	NG-125	Pipeline Defect	1	Complete
Swannanoa and Summerset	Intersection of Swannanoa Drive and Summerset Drive	Portsmouth	SF-206	Pipeline Defect	1	Complete
Orcutt Avenue Liner	Orcutt Avenue and 79 th Street	Hampton / Newport News	NG-127	Pipeline Defect	1	Complete
Bay Shore Lane	Bay Shore Lane	Hampton	NG-095	Manhole Defects	7	Complete
Warwick Blvd	Warwick Blvd	Newport News	NG-130	Pipeline Defect	1	Complete
Warwick and Woodhaven	Warwick Blvd to Thorncliff Drive	Newport News	NF-015	Pipeline Defect	1	Complete
Woodland Avenue	Woodland Avenue and Ballentine Blvd	Norfolk	SG-089	Manhole Defects	6	Complete
Indian River Road	Indian River Road near Campostella	Norfolk	SF-106	Pipeline Defect	1	Complete
Powhatan Ave	Powhatan Ave	Norfolk	SG-044	Manhole Defect	1	Complete

Table 4-1. Summary of Prompt Repairs

Name	Location	Jurisdiction	Line Number	Summary of defect	Number of Defects	Status
Euclid Road	Euclid Road and Southern Blvd	Virginia Beach	SF-197	Pipeline Defect	1	Complete
Dovercourt Road	Dovercourt Road	Norfolk	SPS-108	Manhole Defect	1	Complete
Beach Road South	Beach Road between Catalina Drive and Westlawn Drive	Hampton	NG-088	Pipeline Defect	1	Complete
Hampton Institute	Hampton Institute Pump Station	Hampton	NPS-211	Pipeline Defect	1	Developing Work Order
Portsmouth Blvd	Portsmouth Blvd	Newport News	NG-125	Pipeline Defect	1	Complete
Boat Harbor Influent	Terminal Avenue Junction Box	Newport News	NG-125	Pipeline Defect	1	Complete
Mercury/Big Bethel Manhole	Intersection of Mercury Blvd. and Big Bethel Road	Hampton	NG-057	Manhole Defect	1	Complete
Berkley Trunk Sewer Section S	State Street	Norfolk	SG-202	Pipeline Defect	1	Developing Work Order

It is important to note that some Prompt Repairs were discovered after the FCAR and are being addressed under HRSD's ongoing MOM Program.

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5. SYSTEM PERFORMANCE

5.1 STP Performance

The HRSD system was influenced by wet weather events in the first half of FY 2019 that led to flow increases at the treatment facilities. In addition, construction related to the nutrient control program was ongoing at several of the treatment plants with minor operational events that contributed to unusual discharges from the facilities. Table 5-1 provides details on the unusual discharges from July 1 to December 31, 2018. Eight of the eleven occurrences were fully treated effluent.

5.2 HRSD Conveyance System Performance

For the reporting period of July 1 through December 31, 2018, HRSD experienced 5 capacity-related sanitary sewer overflows (SSOs) from its system and one release related to infrastructure that has been determined to be related to high-pressures in the system during a rainfall event and is included as a capacity SSO although classified as infrastructure failure in SSORS. All of these events are detailed in the Sanitary Sewer Overflow Reporting System (SSORS). Details on these 6 events are available in Table 5-2.

5.3 Capacity Related SSOs

As part of the Third Amended Consent Decree, Paragraph 88.a. requires the Semi-Annual Report to include “a discussion of the cause, significance, and response to any wet weather or capacity related SSO that occurred in the Region [sic] SS System.” As discussed with and accepted by EPA/DEQ, HRSD will provide information related to these events in the Annual Reports rather than the Semi-Annual Reports.

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Table 5-1. Detailed Listing of HRSD Treatment Plant Unusual Discharges (July 1 to December 31, 2018)

Date	Location	Description/Cause	Duration of Event (minutes)	Corrective Action	Estimated Quantity Discharged (gallons)	Estimated Quantity to State Waters (gallons)	Type of Overflow	Receiving Water	Comments
7/27/2018	Chesapeake Elizabeth	While taking a contact tank out of service, the bypass gate failed to open causing water to come out of the contact tank.	5	The contact tank was put back in service.	8000	1500	NPW	Grassy area next to the tank	infrastructure
8/10/2018	Chesapeake Elizabeth	Non-Potable Water (NPW) leaked from a fire hydrant. Approximately 250 gallons of NPW entered a storm drain that leads to the on-site BMP (pond) and Outfall #4 and approximately 250 gallons soaked into the ground across a plant drive where the fire hydrant is located.	1	Valve was secured.	500	500	NPW	BMP Pond/ SW outfall #4 and ground	infrastructure
8/24/2018	Williamsburg	Tested short outfall for upcoming maintenance.	70	Test concluded, and main outfall was placed back in service	438000	438000	FNE	James River	maintenance
10/19/2018	Atlantic	At 08:45 A 2" Non-Potable Water (NPW) line located in the ground under the street on the south side of the solids handling shop was damaged by construction contractors. This resulted in the loss of ~1000 gallons of NPW.	9	At 08:54 NPW pumps were secured. The discharged NPW was pumped to a nearby manhole in the plant drain system. The line was repaired and the NPW system was put back into service. Almost all of the released NPW was recovered.	1000	25	NPW	ground	Third party
10/22/2018	James River	Non-potable water (NPW) line near aeration influent chamber started leaking. The leaking pipe is about 3 feet below grade. NPW bubbled up out of the ground and ran down the street into a stormwater collection box.	200	A plug was put into the discharge pipe of the stormwater collection box. A sump pump was placed in the collection box and the NPW was pumped back into the plant flow. On 10/23 the leaking pipe was excavated and repaired.	1000	50	NPW	Creek, Warwick River, James River	infrastructure
10/25/2018	Army Base	NPW line blew apart in disinfection building and leaked outside of the building onto the ground.	5	Secured supply valve for NPW which stopped leak	5000	100	NPW	Elizabeth River	infrastructure
11/7/2018	Army Base	A PVC pipe leak occurred inside of the disinfection building. Approximately 30 gallons of sodium hypochlorite left the containment area and could not be recovered.	9	The pumps were secured and the sodium hypochlorite in the containment area was removed. The leak was repaired.	50	30	Sodium Hypochlorite	ground	infrastructure

Table 5-1. Detailed Listing of HRSD Treatment Plant Unusual Discharges (July 1 to December 31, 2018)

Date	Location	Description/Cause	Duration of Event (minutes)	Corrective Action	Estimated Quantity Discharged (gallons)	Estimated Quantity to State Waters (gallons)	Type of Overflow	Receiving Water	Comments
11/28/2018	Virginia Initiative	Plant was setting up Classifying Selector Solids Pumping system for service. Staff opened the spray water valve (NPW supply) to fill the vault before starting pumps. Staff left the area and returned to find NPW leaking from between the Classifying Selector Solids vault and the adjoining structure. The seal around the pipe going into the vault is thought to be leaking. The cold weather may have caused the concrete to contract and allow a leak around the pipe.	45	The spray water valve was secured. The leak was in an area where the water could not be stopped from entering a storm drain. Plant staff and contractors opened valves to drain vault into the plant drain system.	180	180	NPW	ground to storm drain	infrastructure
12/6/2018	Virginia Initiative	Plant staff opened a 6" NPW valve to fill the Equalization tank for testing next week. Staff checked the tank after starting the NPW and found everything working well. Plant staff returned to the site to secure the valve until the next day. A manway gasket was found leaking on the Equalization tank and flowing into the storm drain which was only feet away.	56	The drain on the equalization tank was opened to drain the tank back into the plant process. This is a large valve requiring 30 minutes to open. The tank drained down below the manway and stopped leaking. The tank was drained completely until the manway can be repaired.	280	280	NPW	storm drain to drainage ditch	Infrastructure
12/13/2018	James River	Approximately 300 gallons of well water from Schultes well drilling site (Aquifer test dig site) overwhelmed the plant drain pumping system. One of the drain pumps in the Drain Pump Station stopped pumping and flow from contractor dig site into plant drain was too much for one pump. High level alarm for DPS did not activate. Overflow went into Storm Water Outfalls No 005 and 006.	15	Absorbent socks were placed at both drains. Maintenance used a carboy container and pump to collect water pooled on the street and were able to recover approx. 25 gallons. Electrician identified and corrected the issue with the high level alarm. The maintenance crew deragged the pump. Schultes will no longer be discharging well water into the plant drain system.	300	275	Used Potable	stormdrain	Third Party
12/25/2018	Boat Harbor	Initial plant power loss around 5:15; generator power to head of plant included the influent pumps, but not to the back end of the plant (substations 4 and 5), which include the IPS (intermediate pump station) pumps. These pumps lift flow from the primary clarifiers to the aeration tanks. The electricians were called in for the initial power loss and were on site trouble shooting when the spill began.	41	The electricians were able to manually run one generator and supply the power needed to the substations 4 and 5. The IPS pumps turned on and eventually pumped down enough to catch up with the flow.	625,500	625,000	Primary Clarifier	Small Boat Harbor to James River, ground	Other

*NPW (non-potable water) is fully treated and chlorinated final effluent.

Table 5-2. Detailed Listing of HRSD Capacity Related SSOs (July 1 to December 31, 2018)

Date and Time of Incident	Sewer System Component	Location	Potential Receiving Waters	Spilled in Jurisdiction	SSO Classification	Description of Incident from SSORS	SSO Duration	Action Taken and Explanation of SSO	Discharge Quantity	Amount Reaching State Waters	DEQ IR	Occurred within past 5 years
7/30/2018 2:45:00 PM	manhole	602 S ENGLAND ST	ground; leading to Paper Mill Creek	Williamsburg	Capacity – Weather Related	Heavy rainfall (1.6 inches between 2:00 pm and 2:30 pm and 2.83 inches over 11 hours) from a storm in the area produced high flows which caused the pump station wetwell to overflow.	1:35	Checked station to ensure all pumps were operating properly. Cleaned affected area and put lime down to neutralize contaminated soil after rain stopped.	13110	13,110	105229	Yes
8/11/2018 5:53:00 PM	Pump station	5734 CHESAPEAKE BLVD	Wayne Creek	Norfolk	Capacity – Weather Related	High flows from heavy rainfall caused the pump station to go into alarm status for overflow. All pumps in the station were working properly but were not able to keep up with the increased flow. This overflow was verified through a visual check at the tide gate.	4:27	HRSD staff verified that all pumps were operating properly. The overflow event ended as flow subsided, and the pumps were able to maintain flows.	45800	45,800	105242	Yes
8/20/2018 8:12:00 AM	Force main	1081 KEMPSVILLE RD	Lakes on Hunningdon Lakes Blvd; these lakes	Chesapeake	Infrastructure	Pipe failure caused by pop up thunderstorm and high pressures as a result of inflow and infiltration. Once uncovered, it was discovered that multiple holes were caused by internal corrosion and deterioration of pipe.	0:33	Areas surrounding the spill site were cleaned and pelletized lime was applied to grassy areas. CCTV and ultrasonic thickness testing was utilized to determine pipe condition. Approximately 60 ft of the existing pipeline were replaced.	27060	27,060	105249	Yes
9/8/2018 9:26:00 PM	manhole	2295 HARBOR RD	Storm drain to James River	Newport News	Capacity – Weather Related	Significant rainfall (more than 3.5" in one hour with 4.25" over 6.5 hours at the Boat Harbor Treatment Plant) resulted in increased flows.	1:38	Verified pump station operating properly and monitored overflow. Cleaned area upon completion of rain event and drainage of stormwater. A quantity released estimate was not possible because the manhole was submerged under approximately 2 feet of water.	-1	-1	105259	No
9/9/2018 9:39:00 AM	manhole	720 BAY SHORE LN	ground to Chesapeake Bay	Hampton	Capacity – Weather Related	Significant rain (over 2.8" in one hour with 6.03" in 13 hours at Bridge St.) resulted in increased system flows.	4:44	Verified pump station operating properly. Cleaned area upon completion of rain event and drainage of stormwater. A quantity released could not be estimated because the manhole was submerged underwater.	-1	-1	105261	Yes
9/9/2018 9:38:00 AM	manhole	612 N HOPE ST	Chesapeake Bay	Hampton	Capacity – Weather Related	Significant rain (over 2.8" in one hour with 6.03" in 13 hours at Bridge St.) resulted in increased system flows.	2:10	Verified pumps at Willard were operating properly. Cleaned area upon completion of rain event and drainage of stormwater.	390	390	105262	No

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6. PLANNED ACTIVITIES

HRSD will be continuing the overall program outlined in the Consent Decree in the remainder of FY 2019. The following sub-sections provide specifics on this work.

6.1 Flow, Pressure, and Rainfall Monitoring Program

6.1.1 Implementation of the FPR Monitoring Plan

Although not required by the Consent Decree, HRSD intends to continue to collect data from flow, pressure, and rainfall sensors in FY 2019, and plans to continue to operate a portal to allow access for the Localities to the HRSD flow, pressure, and rainfall data from the FPR sites (Telog server data). HRSD will continue regular modifications of the network and delete and/or relocate some monitoring points as determined to be most efficient and effective to meet on-going operational requirements.

6.1.2 Capacity Related SSOs

HRSD will continue to coordinate with Localities following capacity-related SSOs in the Localities system. This will include coordinating with the Locality to review the occurrence, assist with evaluation of the problem, and, if practicable, help the Locality with interim or final solutions to mitigate the LOP.

HRSD will begin providing post-storm synopses and annual post-SSO analyses to EPA and DEQ fifteen days after each report is completed.

6.2 Condition Assessment Plan

6.2.1 Implementation of the Condition Assessment Plan

6.2.1.1 Prompt Repairs

HRSD will continue to implement action plans to address the Prompt Repairs identified.

6.2.2 Rehabilitation Action Plan

In the remainder of FY 2019, HRSD will continue implementing the approved Rehabilitation Action Plan.

6.3 Interim System Improvements

All interim system improvement projects have been completed. The certification for the final project, the Virginia Initiative Plant Nutrient Reduction Improvements – Contract B, is included with this semi-annual report.

6.4 Management, Operations, and Maintenance Program

6.4.1 Implementation of MOM Program

HRSD will continue to implement its MOM Program in FY 2019.

6.4.2 Quantitative Performance Measures

In the second half of FY 2019, HRSD will continue tracking the performance measures to determine how HRSD is implementing the program. This will include the list of six measures that are subject to stipulated penalties per Paragraph 34 of the Consent Decree. Progress on these measures will be documented in the FY 2019 Annual Report.

6.5 Regional Wet Weather Management Plan

HRSD will respond to comments and question regarding the submitted Integrated Plan/RWWMP and then implement the plan upon approval.

6.6 SSO Emergency Response Plan

HRSD will continue to implement the approved plan and review annually as required. If review results in changes to the plan, the plan will be revised and submitted for approval.

6.7 Consultation with Localities

HRSD will continue to actively participate and facilitate a wide variety of consultation activities in FY 2019 amongst the regional parties. These activities included:

- Meetings of the Capacity Team, as needed, to discuss issues related to the Consent Decree;
- Periodic briefings of the Directors' of Utilities Committee to share progress on compliance with the Consent Decree; and
- Maintain a regional SharePoint website to collaborate with and provide documents to the regional Capacity Team.

6.8 Public Participation

HRSD will continue to hold annual information meetings and publish newsletters by the anniversary of the Date of Entry. Information and approved plans continue to be posted to HRSD's website which is accessible to the public.

7. FORESEEABLE ISSUES RELATED TO UPCOMING COMPLIANCE DEADLINES AND MILESTONES

HRSD has identified a scheduling issue with the VIP-R3 (Park Avenue Pump Station Replacement) Rehab Action Plan Project. This project is in Phase 1 of the Rehab Action Plan but is upstream of the VIP-R6 (Ferebee Avenue Pump Station Replacement) which is in Phase 2. VIP-R6 must be completed prior to VIP-R3. This scheduling conflict was missed during the development of the Rehab Action Plan phasing but has come to light with preliminary engineering work underway on VIP-R3. HRSD will be requesting approval to move VIP-R3 to Phase 2 of the Rehab Action Plan to allow appropriate coordination of these interrelated projects.

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8. SIGNIFICANT ISSUES THAT REQUIRE A CHANGE IN THE CONSENT DECREE REQUIREMENTS

Consistent with 13 U.S.C. 1319(h), HRSD believes the Consent Decree should be modified to accommodate HRSD's Adaptive Regional Plan approach used to develop the Integrated Plan submitted on September 28, 2017. Significantly, both newly enacted CWA Section 309(h) and Attorney General Session's November enforcement directive support HRSD's proposed adaptive program. The essence of integrated planning is to deliver the greatest public benefits first and then on an ongoing basis. That requires implementing activities that provide the greatest benefits up front and then building in reevaluation points so that additional activities which will provide the next greatest benefits can be identified and scheduled for priority implementation.

DEQ and EPA must be vigilant not to derail the benefits of integrated planning by inappropriately forcing the acceleration of low benefit activities (such as further wet weather capacity controls). Moreover, as Attorney General Sessions noted, programming in expenditures to or beyond (in the case of EPA's proposal) HRSD's financial capability deprives HRSD's management - and that of the localities served - of their local democratic and legislative responsibilities over the funding of competing social needs.

To the extent EPA and DEQ do not expeditiously approve HRSD's September 2017 Integrated Plan developed as an Adaptive Regional Plan, HRSD intends to petition the Court to modify the Consent Decree consistent with 13 U.S. C. 1319(h).

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9. IDENTIFICATION OF CHANGES IN KEY PERSONNEL DIRECTLY RESPONSIBLE FOR COMPLIANCE ACTIVITIES

With the planning effort completed in September 2017, HRSD is transitioning some of the on-going condition assessment and prompt repair management to our in-house staff. As a result our contract with Brown and Caldwell has been closed out and Phil Hubbard is transitioning to a full-time project management position in Engineering. Ted Henifin will be the primary point of contact for consent decree issues through final negotiations of an approved Integrated Plan.

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APPENDIX A: INTERIM SYSTEM IMPROVEMENTS AND
REHABILITATION ACTION PLAN PROJECT VERIFICATION OF
COMPLETION

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Interim System Improvements
Verification of Completion

As required by Section IX of the Amended Consent Decree dated February 23, 2010, a set of Interim System Improvements have been identified that must be completed within 8 years of the Date of Entry. Paragraph 32 of that section requires a written certification of completion of each project or group of projects. For capital projects in excess of \$1,000,000, Paragraph 87a of the Consent Decree requires that verification be made by a Professional Engineer that the project was completed satisfactorily.

Between the periods of February 23, 2018 through December 31, 2018, the last remaining project on the list for HRSD was completed satisfactorily and consistent with the scope provided to the EPA and DEQ in the Consent Decree:

Ref No.	CIP No.	Project Name	Project Cost	Completion Date
53	VP016320	Virginia Initiative Plant Nutrient Reduction Improvements - Contract B	\$141,541,673	November 1, 2018

Hereby verified by

Gary Hart, PE (No. 017583)
Chief of Design and Construction, South Shore
Hampton Roads Sanitation District

