



EPA Consent Decree  
Annual Informational Meeting  
Regional Wet Weather  
Management Plan

January 24, 2017

### Requirements of the Consent Decree

- *“...after providing reasonable notice on its webpage and in a newspaper of general circulation”*
- *“...shall hold an annual informational meeting open to the Localities and the public”*
- *“HRSD shall convey information on the status of the Regional Wet Weather Management Plan, HRSD – Locality cooperation and steps citizens within the Localities can take to protect the receiving waters”*

## Objective of the Consent Decree

- “HRSD, working in consultation with the Localities, to fulfill the objectives of the Clean Water Act with a goal of eliminating Sanitary Sewer Overflows (SSOs)”
- The Regional Wet Weather Management Plan will establish the Level of Service for elimination of SSOs



---

## Regionalized Approach

---

- Localities and HRSD agreed in Memorandum of Agreement to Regionalized Approach
- HRSD will be responsible for capacity in the regional sanitary sewer system
- HRSD completed additional flow monitoring and SSES in Locality systems

---

## Major Change in Compliance Orders

---

- Consent Decree Modification No. 3 in August 2014 puts sole responsibility on HRSD for:
  - Development of Regional Wet Weather Management Plan (RWWMP)
  - Implement RWWMP
  - Capacity in the entire regional sanitary sewer system
- Special Order by Consent (SOC) modified in December 2014 focuses on Localities' Management, Operations and Maintenance (MOM) issues
  - Eliminates HRSD from SOC
  - Adds Norfolk to SOC and terminates prior Order

---

## Overall Regulatory Status

---

- HRSD continues to implement requirements of Federal Consent Decree, which was originally entered with the court on February 23, 2010, and was modified August 2014
- All Consent Decree required submittals have been on time

---

## Rehabilitation Action Plan

---

- Requires addressing specific features with condition defects identified in Consent Decree Condition Assessment Program (CAP)
- EPA/DEQ approved the plan in May 2015
- Addresses more than \$183 M of required improvements in gravity mains, force mains, pump stations, and associated system components
- Implementation Plan has three phases through May 2025

---

## Rehabilitation Action Plan

---

- First phase due May 2018:
  - Approximately 90% complete
  - Remaining 10% ahead of schedule
- Second phase due May 2021:
  - Approximately 10% complete, 10% in construction, 50% in planning/design, 30% in pre-planning
- Third phase due May 2025:
  - Approximately 5% complete or in construction, 15% in planning/design, 80% in pre-planning

---

## Interim System Improvements

---

- Consent Decree includes requirement to complete 45 CIP projects totaling approximately \$383M by February 23, 2018 (with exception of two projects due December 2018)
- Of the 45 projects, thirty-one (31) are completed, thirteen (13) are in construction, and the remaining one (1) is in design
- On track for completion by 2018 deadlines

# Management, Operations, and Maintenance (MOM) Program

- MOM Program approved by EPA/DEQ in 2011
- The MOM Program was updated in July 2015 to reflect:
  - Organizational updates
  - Current programs and updated status of initiatives
- Performance measures are continuing to be tracked to evaluate the effectiveness of the programs
- Continuous improvements initiatives are being completed and new ones added accordingly

---

## FY2016 MOM Program Performance

---

- 56 metrics were tracked for FY2016
- 53 met or exceeded specified goals
  - Includes 6 Consent Decree required metrics
- 2 additional measures are planned to begin tracking with the completion of the RWWMP
- 3 metrics fell short of targets
  - “Miss” Utility Responses – 2 missed out of 52,300
  - SSO Response Plans – 1 SSO follow-up action plan was not developed within the 90-day window due to a pending forensic investigation
  - Capacity/Locality Team Meetings – 1 meeting was delayed a month, which pushed it outside of FY2016 (June to July)

# Consent Decree Performance Measures Review

## Year-over-Year Performance Summary

Metric	Target	FY-12 Actual	FY-13 Actual	FY-14 Actual	FY-15 Actual	FY-16 Actual
Pump Station Annual PM	82	84	83	83	84	85
Back-up Generator Annual PM	55	112	81	121	129	129
Force Main Air Vent PM	1,550	3,096	3,274	3,304	3,486	3,327
Non-Invasive Force Main Inspection (LF)	2,400	15,098	2,800	2,562	4,355	2,562
Gravity Sewer Inspection (LF)	39,600	72,730	98,185	81,841	89,757	71,595
Gravity Sewer Cleaning (LF)	29,400	234,463	207,724	194,838	208,059	190,160

---

## Regional Wet Weather Management Plan (RWWMP)

---

- Alternative Analysis Report submitted in August 2016 as Integrated Plan with SWIFT
- Commit to a 4-year level of service and build 5-year level of service (LOS) improvements
- RWWMP (due October 2017) will finalize the projects, costs and schedule to address capacity challenges to a selected level of service
- Approved RWWMP will be incorporated into the Consent Decree

# AAR Estimated Cost Breakdown(5 year LOS)

Wet Weather Capacity Improvements							I/I Reduction Program		Total
Force Main	Gravity Main	Pump Stations	Pressure Reducing Stations	Storage	Siphon	Treatment Plants	Public Asset Costs	Private Asset Costs	
\$243M	\$143M	\$251M	\$206M	\$93M	\$17M	\$99M	\$977M	\$150M	\$2.18B
							<b>\$1.13B</b>		

---

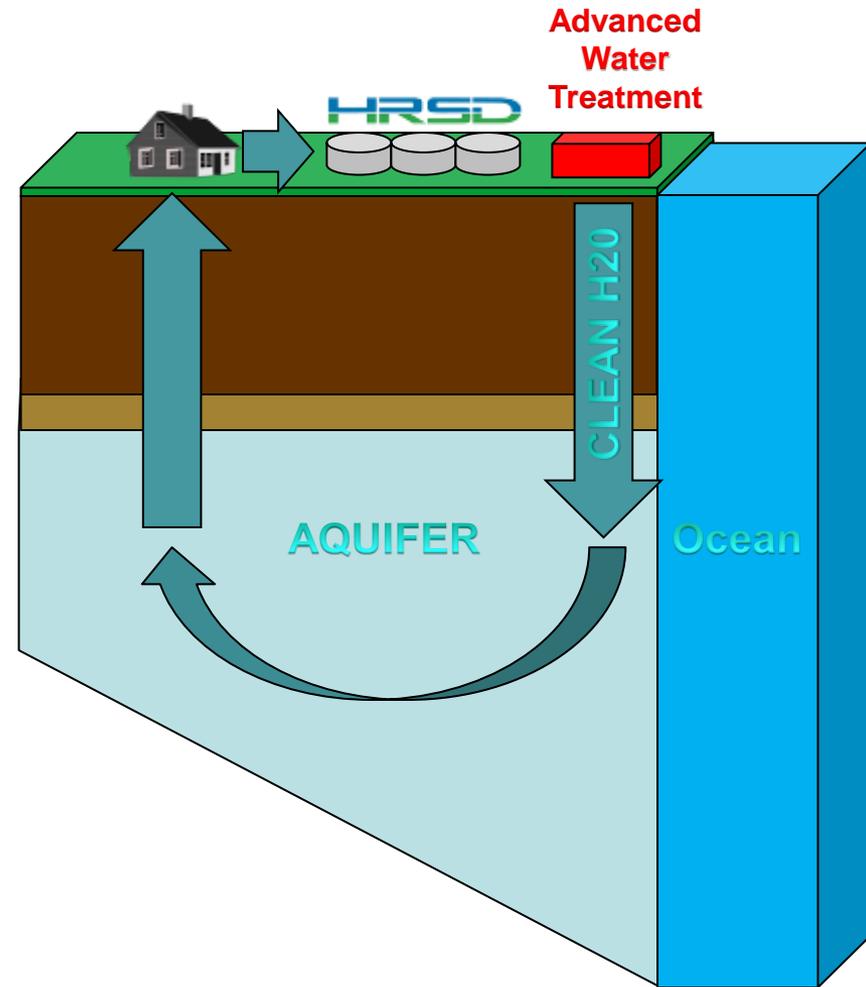
## Water Issues Challenging Virginia and Hampton Roads

---

- Restoration of the Chesapeake Bay
  - Harmful Algal Blooms
  - Localized bacteria impairments
  - Urban stormwater retrofits (cost and complexity)
- Depletion of groundwater resources
  - Including protection from saltwater contamination
- Adaptation to sea level rise
  - Recurrent flooding
- Wet weather sewer overflows
  - Compliance with Federal enforcement action

# SWIFT – Sustainable Water Initiative for Tomorrow

- Treat water to meet drinking water standards and replenish the aquifer with clean water to:
  - Provide regulatory stability for wastewater treatment
  - Reduce nutrient discharges to the Bay
  - Reduce the rate of land subsidence
  - Provide a sustainable supply of groundwater
  - Protect the groundwater from saltwater contamination



## Potential to offset stormwater reductions

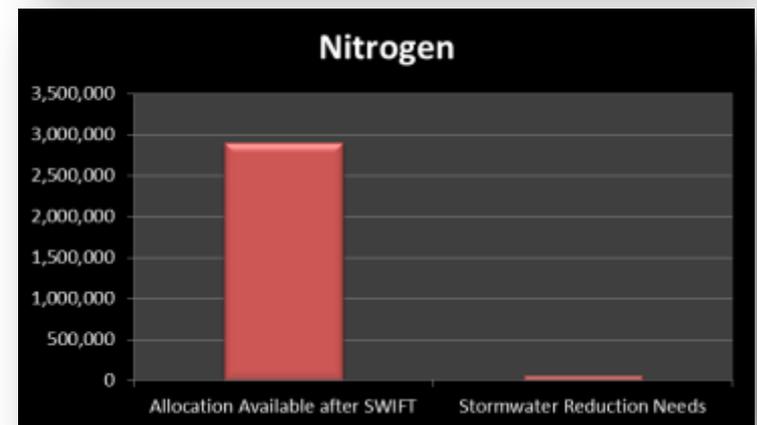
	HRSD Bay TMDL Allocations	HRSD Post SWIFT Loads (2030)	Available for other needs	Stormwater Reduction Needs*
<b>Nitrogen</b>				
James	3,400,000	500,000	2,900,000	63,039
York	275,927	25,000	250,927	19,114
<b>Phosphorus</b>				
James	300,009	50,000	250,009	13,088
York	18,395	2,000	16,395	3,887
<b>Sediment</b>				
James	14,000,000	700,000	13,300,000	5,269,142
York	1,400,000	98,000	1,302,000	1,413,762

\* DEQ Regulated Stormwater w/o federal lands 17

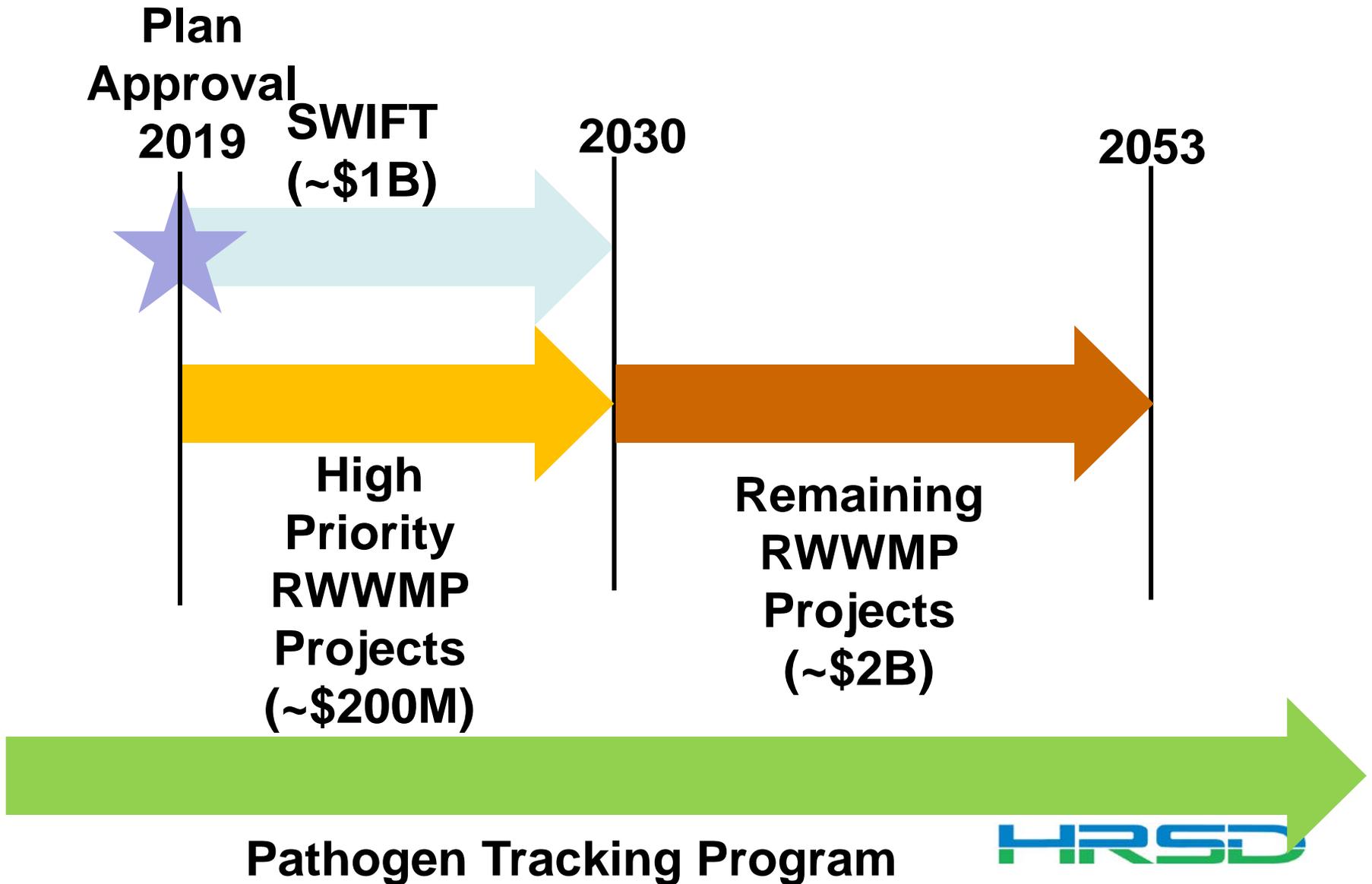


# Hampton Roads' Localities Stormwater Nutrient & Sediment Reductions

- Required in Virginia's Watershed Implementation Plan (WIP)
- Localities expected to spend \$2.0B (proposed IP reduces to \$500M)
- SWIFT will essentially eliminate HRSD's dry weather discharges
- Virginia has required laws, regulations and infrastructure to facilitate trading
- Draft agreements provided to Localities
- Term credits used to meet TMDL schedule
- Permanent credits offset once SWIFT is in place



# Sequence Places the Greatest Water Quality Benefits First



## Possible Criteria for Prioritizing RWWMP Projects During SWIFT Implementation

- Pollutant Load Reduction
- Benefit to Public Beaches
- Benefit to Drinking Water Sources
- Benefit to Open Shellfish Grounds
- Drains to Bacterially Impaired Waters
- I/I Reduction

## Activities and Schedule to Complete the RWWMP

<b>Activity</b>	<b>Start</b>	<b>Completion</b>
Optimization	Underway	April 2017
Cost Estimation	March 2017	June 2017
High Priority Project Selection	April 2017	July 2017
Sequencing/Scheduling	May 2017	August 2017
Affordability Analysis	July 2017	August 2017
Prepare RWWMP	June 2017	September 2017

## Recent HRSD SSOs

Calendar Year	# of SSOs	Volume (gal)	# of Unknown SSO Volumes (during wet weather)	Total Inches of Rain near ORF
2011	35	1,880,086	13	55
2012	40	22,850,543*	6	52
2013	14	722,237	2	50
2014	29	2,250,915	10	45
2015	18	516,704	3	53
2016	49**	6,148,239**	23**	69**

\*Included single SSO at Wilroy Road of 18,352,000 gallons. Remaining volume ~4,500,000 gallons for 2012

\*\*Included two major weather events in Hurricane Matthew and Tropical Storm Hermine

## Capacity Related SSO's

Calendar Year	Total # of SSOs	Total Volume Of SSO's (gal)	Volume for Capacity (Gals)	# of Capacity SSOs	# of SSO at or Below LOS	Volume of SSO's Below LOS	Named Storm
2011	35	1,880,086	1,409,796	16	4	230,920	Hurricane Irene
2012	40	22,850,543	4,249,483	31	8	387,463	Hurricane Sandy
2013	14	722,237	584,784	5	3	19,628	Remnants of Hurricane Andrea (1)
2014	29	2,250,915	681,392	15	5	267	None
2015	18	516,704	207,177	15	0	207,177	None
2016	49	6,148,239	2,133,775	35	6	109,675	TS Julia & Hurricane Matthew

---

## Coordination with Localities

---

- Meetings with individual Localities to review capacity enhancements in their systems
- Periodic meetings of Capacity Team
- Monthly Directors of Utilities meetings
- HRSD providing GIS, flow, pressure and rainfall data to Localities

- Annual newsletter (due out before February 23, 2017)
- Annual public informational meeting with public notice (January 24, 2017)

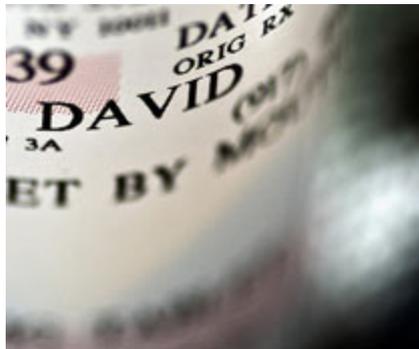
# Steps Citizens Can Take to Protect Receiving Waters

- Report Sanitary Sewer Overflows – Call your local utility department
- Inspect home, yard and sewer service pipes to ensure separation between storm and sanitary systems
- Reduce storm water runoff by using rain barrels, rain gardens and establishing a buffer



## Steps Citizens Can Take to Protect Receiving Waters (Cont.)

- Practice proper disposal of pharmaceuticals, household chemicals, food wastes and kitchen grease – minimize use of or eliminate garbage disposal



---

## Steps Citizens Can Take to Protect Receiving Waters (Cont.)

---

- Improve water quality by raising oysters
- Limit synthetic fertilizer and other lawn chemical applications – use natural products like compost



## Steps Citizens Can Take to Protect Receiving Waters (Cont.)

- Pick up animal waste
- Avoid feeding wildlife
- Support “No Dumping” and use boater pump out facilities



---

Questions?

---