QUARTERLY REPORT

January 1 – March 31, 2025

Hampton Roads Sanitation District

1434 Air Rail Avenue

Virginia Beach, VA 23455

June 4, 2025

TABLE OF CONTENTS

1. Introduction and Purpose

On September 26, 2007, the Hampton Roads Sanitation District (HRSD) entered into a Special Order by Consent (SOC) with the Virginia Department of Environmental Quality (DEQ) and thirteen (13) area Localities for the purpose of resolving certain alleged violations of environmental laws and regulations related to Sanitary Sewer Overflows (SSOs). 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 six times by agreement of all parties in 2011, 2013, 2014, 2017, 2022, and 2024. In December 2014, the SOC was eliminated by DEQ and HRSD is no longer under state enforcement. On February 8, 2022, the Fifth Amendment to the Consent Decree was entered.

The Fifth Amendment to the Consent Decree requires:

"HRSD will submit quarterly SSO reports to VADEQ and EPA, in which HRSD will identify all SSOs, SSDs, Prohibited Bypasses, or unauthorized discharges from the HRSD SS System or the HRSD STPs. HRSD will identify those SSOs, SSDs, Prohibited Bypasses, or unauthorized discharges for which it asserts a claim of force majeure. If HRSD asserts a force majeure claim, it shall document the basis for such claim in the quarterly SSO reports. It will pay the associated undisputed stipulated penalties for all SSOs, SSDs, Prohibited Bypasses, or unauthorized discharges for which it did not assert a claim of force majeure within 90 days of the close of each calendar quarter. In addition, HRSD will submit all of HRSD's post-storm synopses reports for rain events during the quarterly reporting period to VADEQ and EPA as part of the quarterly reports for rain events that satisfy HRSD's current criteria for publishing a post-storm analysis, i.e.: (a.) one or more rain gauge sites meet a two-year or greater rainfall recurrence interval and at least 50% of sites in any treatment plant service area receive one inch of rainfall or greater; (b.) a rain gauge meets a five-year or greater rainfall recurrence interval; or (c.) a weather-related SSO occurs."

This quarterly report is submitted pursuant to Section XVII.D of the Consent Decree. HRSD has prepared this quarterly 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 quarterly report summarizes all Sanitary Sewer Overflows (SSOs), Sanitary Sewer Discharges (SSDs), Prohibited Bypasses, or unauthorized discharges from the HRSD Sanitary Sewer System or the HRSD Sewage Treatment Plants from January 1, 2025, through March 31, 2025, the associated post-storm synopses reports, claims of force majeure, and undisputed stipulated penalties.

During the reporting period, there were a total of nineteen (19) SSOs, SSDs, Prohibited Bypasses, and unauthorized discharges from the HRSD SS System or the HRSD STPs. These are summarized in Tables 1 & 2.

2. Claim of Force Majeure

2.1. Sanitary Sewer Overflow

There were six (6) SSOs from the HRSD SS System during the 3-month reporting period. HRSD asserts a force majeure claim for none (0) of the SSOs.

2.1.1. Basis of Claim

A description of the circumstances supporting a claim of force majeure is included in Table 1.

2.2. Unusual Discharges (Sanitary Sewer Discharge, Prohibited Bypasses, Unauthorized Discharge)

There were thirteen (13) unusual discharges from the HRSD SS System or the HRSD STPs during the 3-month reporting period. HRSD asserts a force majeure claim for six (6) Unusual Discharges that were non-potable water, final effluent or there was no discharge to waters of Virginia or the United States.

2.2.1. Basis of Claim

A description of the circumstances supporting a claim of force majeure is included in Table 2.

3. Undisputed Stipulated Penalties

3.1. Sanitary Sewer Overflow

There were six (6) SSOs from the HRSD SS System during the 3-month reporting period. HRSD will pay undisputed stipulated penalties in the amount of $25,450 for six (6) of the SSOs.

3.1.1. Basis of Undisputed Stipulated Penalties
Calculation of undisputed stipulated penalties is outlined in Section XX "Stipulated Penalties" paragraph 110 of the Consent Decree. The calculated stipulated penalties are shown in Table 1.

Volume of the SSD or Prohibited Bypass	Penalty from the date of entry
Less than 100 gallons	$ 100
100 to 2,499 gallons	$ 750
2,500 to 9,999 gallons	$ 1,250
10,000 to 99,999 gallons	$ 4,700
100,000 to 999,999 gallons	$ 10,000
1,000,000 gallons or greater	$ 15,000

3.2. Unusual Discharges (Sanitary Sewer Discharge, Prohibited Bypasses, Unauthorized Discharge)
There were thirteen (13) unusual discharges from the HRSD SS System or the HRSD STPs during the 3-month reporting period. HRSD will pay undisputed stipulated penalties in the amount of $11,850 for seven (7) Unusual Discharges.

3.2.1. Basis of Undisputed Stipulated Penalties

Calculation of undisputed stipulated penalties is outlined in Section XX "Stipulated Penalties" paragraph 110 of the Consent Decree. The calculated stipulated penalties are shown in Table 2.

Volume of the SSD or Prohibited Bypass	Penalty from the date of entry
Less than 100 gallons	$ 100
100 to 2,499 gallons	$ 750
2,500 to 9,999 gallons	$ 1,250
10,000 to 99,999 gallons	$ 4,700
100,000 to 999,999 gallons	$ 10,000
1,000,000 gallons or greater	$ 15,000

4. Post-Storm Synopses Reports

Post-Storm Synopses Reports are generated when:

- One or more rain gauge sites meet a two year or greater rainfall recurrence interval and 50% of sites receive one inch or greater rainfall
- A rain gauge meets a five-year or greater rainfall recurrence interval or
- A capacity related wet weather SSO occurs

There were three (3) Post-Storm Synopses Reports for the 3-month reporting period.

Table 1. Detailed Listing of HRSD SSOs

(January 1, 2025 to March 31, 2025)

Date and Time of Incident	Location	Sewer System Component	Potential Receiving Waters	Spilled In Jurisdiction	SSO Classification	Description of Incident from SSORS	SSO Duration	Action Taken and Explanation of SSO	Discharge Quantity (gallons)**	Amount Reaching State Waters (gallons)**	DEQ IR	Force Majeure Rationale or Stipulated Penalty
02/11/2025 18:49	612 N. Hope St.	MH-NG-160-27234	Storm drain to Mill Creek/James River/Chesapeake Bay	Hampton	Capacity-Weather Related	The MH at Hope and Yukon overflowed when wet weather/rainfall increased system flows.	3 hour(s) 45 minute(s)	Responded to the site to verify the problem. Contacted the contractor for Willard PS and Hampton 'K' improvements about the bypass system operation. Informed that the bypass system had been removed due to the completion of work. HRSD personnel opened a closed downstream valve required for the bypass system. After the valving operations were completed, the overflow stopped within minutes. HRSD personnel also pulled rags from the Willard influent. The site was cleaned up of rags and debris. -----February 15, 2025, 10:44 AM-----	36,035	36,035	SSORS#2025-T-106554	$4,700

Table 1. Detailed Listing of HRSD SSOs

(January 1, 2025 to March 31, 2025)

Date and Time of Incident	Location	Sewer System Component	Potential Receiving Waters	Spilled In Jurisdiction	SSO Classification	Description of Incident from SSORS	SSO Duration	Action Taken and Explanation of SSO	Discharge Quantity (gallons)**	Amount Reaching State Waters (gallons)**	DEQ IR	Force Majeure Rationale or Stipulated Penalty
02/26/2025 06:30	1228 Richmond Crescent	Richmond Crescent PS 124	gutter pan to storm inlet to Edgewater Haven to Lafayette River to Elizabeth River	Norfolk	Infrastructure	Station checkers were on site to check on bypass pump operation at Richmond Crescent and found sewage bubbling from ground adjacent to the recent EPC repair dig site. Bubbling was only happening during emergency pump runs and dwindled when pumps were not running.	3 hour(s) 30 minute(s)	Crews established vactor rotation (8:45 AM) to pick up sewage leaking from the ground and called for pump and haul trucks so that the station could be shut down at which point crews began excavating. Thinking issue could be a recent repair, crews dug at the EPC repair location and then chased leak to the mainline valve 30ish feet away. Valve bonnet bolts were found to be in poor condition, and crews witnessed that when the station ran, the bonnet separated from valve body allowing sewage to leak. Bolts were replaced by crew. -----March 2, 2025, 10:58 AM--	55	34	SSORS#2025-T-106567	$100
03/05/2025 18:45	79 East College Place	Standpipe overflow on College Place	Drainage ditch to the Hampton River	Hampton	Capacity-Weather Related	The standpipe overflowed due to increased system flow associated with a severe wet weather event and was further exacerbated by the significant number of rags and debris accumulating on the bar screens. Bridge St. pump station, and the surrounding service area, received over 2 inches of rainfall over a 2-hour period. In a 45-minute period, rainfall totals at Bridge St. Tide Gate recorded approx. 1.2 inches of rain. (a 2-yr rainfall event)	3 hour(s) 15 minute(s)	HRSD personnel verified that the Bridge Street pump station was operating normally. Additionally, staff pulled rags from the wet well bar screen and monitored the overflow. -----March 6, 2025, 12:30 PM--- Debris was removed, and lime was spread on the affected ground. -----March 10, 2025, 09:22 AM-	20,640	20,640	SSORS#2025-T-106573	$4,700

Table 1. Detailed Listing of HRSD SSOs

(January 1, 2025 to March 31, 2025)

Date and Time of Incident	Location	Sewer System Component	Potential Receiving Waters	Spilled In Jurisdiction	SSO Classification	Description of Incident from SSORS	SSO Duration	Action Taken and Explanation of SSO	Discharge Quantity (gallons)**	Amount Reaching State Waters (gallons)**	DEQ IR	Force Majeure Rationale or Stipulated Penalty
03/05/2025 17:31	612 North Hope Street	Hope Street manhole overflow	Storm drain to the Chesapeake Bay	Hampton	Capacity-Weather Related	The manhole overflowed due to increased system flow caused by an extreme wet weather event on 03/05/25. Willard pump station (PS) and the surrounding service area received over 2 inches of rainfall over a 2-hour period. In a 45-minute period, rainfall totals at Bridge St. Tide Gate recorded approximately. 1.2 inches of rain. (a 2-year rainfall event)	2 hour(s) 59 minute(s)	HRSD staff verified that the Willard pump station was operating properly and pulled rags from the wet well bar screen. Staff continued to monitor the overflow throughout the duration. -----March 6, 2025, 01:07 PM----- Debris was removed, and lime was spread on the affected ground. ----March 10, 2025, 09:25 AM----	21,110	21,110	SSORS#2025-T-106574	$4,700
03/05/2025 18:25	360 Ivy Home Road	Ivy Home Road manhole overflow	Storm Drain to the Chesapeake Bay	Hampton	Capacity-Weather Related	The manhole overflowed due to increased system flow caused by an extreme wet weather event. Victoria pump station and the surrounding service area received more than 2 inches of rainfall over a 2-hour period. In a 45-minute period, rainfall totals at Bridge St. Tide Gate recorded approximately. 1.2 inches of rain. (a 2-year rainfall event)	2 hour(s) 20 minute(s)	HRSD staff verified that the Victoria pump station was operating properly and monitored the overflow for the duration of the event. -----March 6, 2025, 01:16 PM----- Debris was removed, and lime was spread on the affected ground. ---March 10, 2025, 09:27 AM----	9,000	9,000	SSORS#2025-T-106575	$1,250

Table 1. Detailed Listing of HRSD SSOs

(January 1, 2025 to March 31, 2025)

Date and Time of Incident	Location	Sewer System Component	Potential Receiving Waters	Spilled In Jurisdiction	SSO Classification	Description of Incident from SSORS	SSO Duration	Action Taken and Explanation of SSO	Discharge Quantity (gallons)**	Amount Reaching State Waters (gallons)**	DEQ IR	Force Majeure Rationale or Stipulated Penalty
03/07/2025 08:40	601 S. Battlefield Blvd.	Battlefield Blvd. at Ashley Road Force Main Break	Storm drain to Cooper's Ditch	Chesapeake	Infrastructure	A 16-inch Asbestos Cement (AC) force main pipe experienced a failure, leading to raw wastewater seeping from the ground, and began to fill a commercial parking lot. The wastewater began to exit via a storm drain leading to a waterway. The issue was found to be a damaged full-circle clamp and an approximate 9-inch x 3-inch hole in the pipe at the 3 o'clock position. The hole and damage to a repair clamp were approximately 1 foot away from each other. The cause of the damage was not apparent.	34 hour(s) 42 minute(s)	HRSD staff are working to divert the flow and isolate the break for repairs. Vac trucks are being utilized to recover as much water as possible. -----March 7, 2025, 04:39 PM----- On Friday, 3/07/2025, crews directed flows to a City sanitary sewer manhole on Ashley Road and started a pump and haul truck rotation to pick up errant flows and to clean up spill areas. Interceptor crews contacted Bridgeman Civil and formulated an approach to remedy the spill. Work was scheduled for Saturday night, as it required a diversion along with several valve operations, and extensive planning was needed to execute the associated work. The damaged pipe and repair clamp were removed, and a new piece of pipe was sleeved in. ----March 10, 2025, 02:32 PM----	453,300	101,830	SSORS#2025-T-106576	$10,000

Table 2. Detailed Listing of HRSD Treatment Plant Unusual Discharges (January 1, 2025, to March 31, 2025)									
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	Force Majeure Rationale Or Stipulated Penalty
1/4/2025	Williamsburg	The Plant Operator noticed NPW coming out of the ground and contacted the standby Lead Operator at 2:23am. One of the main 10-inch underground NPW lines was determined to be the source. This line is located northwest of the contact tank.	702	Standby personnel arrived and started the process of blocking storm drains and setting up pumping to recover the NPW that was leaking. The pumping was set up and capturing what was leaking from the line at 6:00am. We are estimating the leak at 154,200 gallons, but we were able to recover 89,100 gallons. The remaining 65,100 gallons soaked into the ground and went down the storm drain that leads to the James River. The NPW flow to the plant was secured at 10:57am. Bridgeman Civil had the line repaired and back in service at 2:05pm.	154200	65100	Non-Potable Water (NPW)	Ground and James River	NPW
1/8/2025	Nansemond	An NPW line was charged after being drained for winterization, one fitting was left open on top of an Aeration Tank, while most NPW went into the process, some were blown off the side of the tank by the wind, resulting in ~200 gallons of NPW spilling on the ground.	6	Plant Staff closed the valve on top of the Aeration Tank, and are recovering as much NPW from the ground as possible.	2000	185	Non-Potable Water (NPW)	Ground	NPW
1/15/2025	Nansemond	Plant staff discovered NPW running out of the RRF wet well pump hut and discovered the 1" cam-lock connection had corroded and broke at the threads of the joint, causing NPW to run. Due to the wet well pump losing prime, the drain sump for the building was overcome and NPW started leaking out the building.	5	Plant staff secured the NPW valve at the leak and replaced the corroded fittings, allowing them to turn the NPW back on to the wet well pump so that it would prime.	100	50	Non-Potable Water (NPW)	Ground	NPW
1/25/2025	Nansemond	A 1-inch non-potable water (NPW) line, supplying a temporary scrum screen, fractured due to freezing conditions. An estimated 144 gallons of NPW were lost from the time leak was discovered, at 18:10, until isolation of the system, at 18:15. The released NP was captured by the storm drain on Plant site and sent to the retention pond.	5	The NPW line was secured by closing the supply valve inside.	144	144	Non-Potable Water (NPW)	Storm drain, retention pond	NPW
1/25/2025	Williamsburg	The Gravity Belt thickened (GBT) sludge sample line was frozen from extreme low temperatures, causing a fracture in the line. When the line thawed out, the sludge flow filled the basement with 4 inches of sludge, and the sump pumps failed to come on. The solids seeped beneath the back door of the basement and flowed down the hill towards Grove Creek.	46	The Plant Operator caught the spill and quickly dammed up the back door to prevent any more sludge from leaving the building. The Operator got the sump pumps working and started pumping down the sludge in the basement, and promptly started exterior cleanup. Hepaco was mobilized to start cleanup efforts in the creek bottom.	5400	1500	GBT thickened sludge	Ground/ grove creek/ marsh	$750
2/14/2025	Atlantic	Aeration tank #5 was found to be leaking mixed liquor out of an expansion joint for the tank.	210	Staff worked as quickly as possible to get the tank out of service to repair the damaged joint. The tank was empty as of 02/18/25, and repairs will be made ASAP. Staff were able to contain the spill shortly after discovery. with the use of pumps. The pumps contained the spill throughout its duration.	75	50	Mixed Liquor	ground	$100

2/19/2025	Nansemond	Hose left running in Polymer building sump location overcame the capacity of the sump, and approximately <100 gallons total escaped the building and trickled down the street toward the storm drain in a two to three-inch path. No indication of NPW making it into the BMP ditch, as the concrete pipe leading from the storm drain was dry.	1	Turned the hose off, pumped out the sump, and cleaned the area with Vac Truck.	100	50	Non-Potable Water (NPW)	ground	NPW
2/19/2025	Nansemond	Contractors were excavating in a site East of the new Switch Gear Room and struck our Secondary and Contact Tank Scum Line that leads to the Grit channel. All spilled process fluids were contained within the excavation.	14	Contractors immediately notified Plant Staff, who assisted in locating the isolation valves for this location and securing the line. Sump pumps were immediately dropped into the excavation, and the spill was pumped into the Sanitary Drain System and then followed up by the Vac truck to remove the remaining small puddles. Approximate size of excavation 18 ' x12 ' x6', which was filled more than halfway.	9600	100	Secondary Scum	ground	$750
2/26/2025	James River	When the plant operator started a grit pump after a generator test run, a section of pipe at a wye connection failed, discharging an estimated 400 gallons of grit discharge onto the ground.	3	The pump was secured, and the wye, along with the damaged portion of pipe, was replaced.	400	250	Grit Discharge	ground/storm drain	$750
3/7/2025	James River	At 00:17, Raw Influent (RWI) was observed flowing in the street toward the Administration building. The operator determined that the flow was coming from the second floor of the headworks building. Upon entering the building, flow was noticed coming out of the influent well. The step screen in service was heard to be moving, however, no screenings were observed, alluding to a large blockage. It is thought that a potential blockage was the cause of the overflow. All water was lost to a storm drain, entering the Warwick River.	11	Screens 1 and 3 were placed in service manually. Headworks levels returned to normal. The number 2 step screen was taken out of service to inspect and clear any blockage.	98700	98700	Raw Influent (RWI)	ground to storm drain to Warwick River	$4700
3/11/2025	Boat Harbor	HRSD staff used approximately 33 gallons of non-potable water (NPW) to hose down approximately 2 gallons of primary sludge, resulting in approximately 25 gallons of NPW entering a storm drain.	7	The storm drain was subsequently covered with protective matting to prevent any further NPW from entering the system.	35	25	Non-Potable Water (NPW) + Primary Sludge	Storm drain to James River	$100
3/25/2025	Williamsburg	A loss of power to the distributed control system (DCS) cabinet during routine maintenance resulted in the outfall valves failing to close. The contact tank level rose over the short outfall weir for 5 minutes, resulting in 29,100 gallons passing through the short outfall.	5	Power was restored, and outfall valves were opened back up.	29100	29100	Final Effluent (FNE)	James River	FNE
3/26/2025	James River	The three influent screens failed at one time, leaving no screens operating. The influent bypass opened automatically to prevent an overflow, as programmed. The operator reset the three screens locally and closed the bypass, leaving the bypass in a local/manual condition. The three screens failed again, but the bypass did not open due to the valve being left in a local/manual condition, causing an overflow of the influent flow at the headworks building. Approximately half of the overflow water left the plant via a storm drain, with the remainder soaking into the ground on-site.	2	The bypass was quickly reopened to stop the overflow until the screens could be reset. We addressed the need to leave emergency bypass equipment in auto with the operator. The #1 screen was found to have a bad bearing and was taken out of service for repairs. The #2 screen had the no-speed sensor adjusted to lower the failure sensitivity.	12700	12700	Raw Influent (RWI)	ground and storm drain to Warwick River	$4700

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

Appendix A. Post-Storm Synopses Reports

There were three (3) qualifying events this quarter.

Appendix B. Definitions

"Bypass" shall mean the intentional diversion of waste streams from any portion of a treatment facility, as defined by 40 C.F.R. § 122.41(m).

"HRSD SS System" or "HRSD Sanitary Sewer System" shall mean the wastewater collection and transmission systems, including all pipes, Force Mains, Gravity Sewer Lines, lift stations, Pumping Stations, Pressure Reducing Stations, manholes, and any other appurtenances thereto, which are owned or operated by HRSD as of the Effective Date of this Consent Decree, and which serve the Localities. It does not include the portions of the sewer system that serves the Middle Peninsula communities within King William County, King and Queen County, Middlesex County, and Mathews County.

"Non-potable water (NPW)" is fully treated and chlorinated final effluent.

"Prohibited Bypass" shall mean a Bypass within the meaning of 40 C.F.R § 122.41(m)(4).

"Sanitary Sewer Overflow" or "SSO" shall mean an overflow, spill, diversion, or release of wastewater from or caused by the Regional SS System. This term shall include: (i) discharges to waters of the State or United States from the Regional SS System and (ii) any release of wastewater from the Regional SS System to public or private property that does not reach waters of the United States or the State, including Building/Private Property Backups.

"Sanitary Sewer Discharge" or "SSD" shall mean any discharge to waters of the State or the United States from the HRSD SS System through a point source not authorized in any Permit.

Hampton Roads Sanitation District

Post-Storm Report

2/11/2025 – 2/13/2025

HRSD
Cleaning wastewater every day for a better Bay.

DISCLAIMER:

About the information on this HRSD server

This report is intended to provide the HRSD regional community summary information about the HRSD system during select wet weather events/anomalies. The attached report contains a selection of *official* Interceptor and Treatment data, as well as other environmental and meteorological data provided through other services. In an effort to enhance the HRSD system, the attached products have been made accessible on this server and care must be taken when using such products as they are intended for informational and not operational, legal, or other purposes.

This report is located on an HRSD server and is intended to be available 24 hours a day, seven days a week. However, timely availability and/or delivery of data and products from this server through the Internet is subject to numerous potential constraints and is, therefore, not guaranteed. Official HRSD dissemination of information is available only through a written response to a formal written request for data from the user.

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These data are part of HRSD’s governmental function and HRSD reserves all rights and immunities relating to these data and the terms and manner in which it is made available.

Summary

From February 11th through February 13th , there was an approximate 52-hour rainfall event that resulted in 0 sites on the North Shore that met a 1-year rainfall recurrence interval throughout the HRSD rain gauge network. A stationary front to our south along with an area of low pressure brought a wintry mix and temperatures in the 30s to 40s to the region at first. This wintry mix was then followed by occasional heavy showers that caused any snow that had fallen to melt. On the final day there were a few scattered showers in the region along with rising temperatures into the 50s and 60s. North Shore sites averaged around 2.26 inches of rain. There was minimal impact on groundwater levels compared to February 2024. See Appendix C for the Historical Shallow Well comparison. This report will be for North Shore only.

1 HRSD interceptor weather-related overflow(s) were reported.

HRSD flow and pressure meters met data reliability requirements per the MOM program. For all pressure meters in the aggregate and all pressure-side flow meters in the aggregate for each treatment plant service area listed below, at least 90% reliable data was achieved, based on the duration of system response to this rainfall event. The data reliability for the gravity flow meters is not included in this synopsis.

- Duration of system response: See Table Below
- Aggregate flow meter validity: 97.74%
- Aggregate pressure meter validity: 98.98%

Currently, rainfall recurrence intervals are only analyzed for a maximum of 96-hours. Rainfall analysis begins after 0.1 inches of rain has occurred. A 72-hour dry period of less than 0.1 inches of rain is typically used to signify two separate events. However, if a site returns to "dry weather" conditions prior to the next rainfall that occurs within 72 hours of the previous event, it is also considered for separate analysis. See Appendix A for the Rainfall Total System Maps.

The current criteria for publishing a post-storm analysis are the following:

- One or more rain gauge sites meet a two-year or greater RRI (rainfall recurrence interval) and at least 50% of sites in any treatment plant service area receive one inch of rainfall or greater,
- A rain gauge site meets a five-year or greater RRI, or
- A weather-related SSO occurs.

Sanitary Sewer Overflow

Location	Jurisdiction	Start Date
612 N. Hope St.	Hampton	2/11/2025

Treatment Plant Data: *(Data obtained from Telog Database)*
See Appendix B for HRSD Treatment Plant Flows

HRSD Treatment Plant Data
2/11/2025 – 2/13/2025

North Shore				
Treatment Plant	**Date of Peak Hourly Flow**	**Peak Hourly Flow (MGD)**	**Peak Hour**	**TPSA Total Rainfall Avg (in)**
Boat Harbor	2/11/2025	28.83	23:00	1.29
	2/12/2025	30.61	12:00	0.73
	2/13/2025	28.57	11:00	0.23
James River	2/11/2025	32.25	20:00	1.23
	2/12/2025	27.29	19:00	0.82
	2/13/2025	23.83	09:00	0.31
Williamsburg	2/11/2025	24.62	21:00	0.89
	2/12/2025	19.05	10:00	0.88
	2/13/2025	18.88	09:00	0.52
York River	2/11/2025	23.09	20:00	1.18
	2/12/2025	23.91	20:00	0.83
	2/13/2025	23.80	07:00	0.36

North Shore

Weather:

Rainfall (HRSD Rainfall Gauges): *Recurrence intervals based on NOAA Atlas 14*

Rain Gauge Site	Peak Rainfall RI (Duration)	Locality
Boat Harbor Treatment Plant Service Area[1]		
Bayshore PS	DNQ	HAMP
Bridge Street Tide Gate	DNQ	HAMP
Boat Harbor	DNQ	NEWP
Copeland Park PS	DNQ	NEWP
Hampton PS 159	DNQ	HAMP
James River Treatment Plant Service Area[1]		
Hilton School PS	DNQ	NEWP
James River Main Flow (Influent)	DNQ	NEWP
Lee Hall PRS	DNQ	NEWP
Lucas Creek PS	DNQ	NEWP
Morrison PS	DNQ	NEWP
Williamsburg Treatment Plant Service Area[1]		
Ford's Colony	DNQ	JCSA
Fort Eustis PS	DNQ	NEWP
Greensprings PS	DNQ	JCA
Solarex	DNQ	JCSA
Williamsburg Main Flow (Effluent)	DNQ	JCSA
Williamsburg PS	DNQ	WILL
York Skimino Hills PS	DNQ	YORK
York River Treatment Plant Service Area[1]		
Big Bethel PRS	DNQ	HAMP
Freeman PS	DNQ	HAMP
Gloucester Court House	DNQ	GLOU
Guinea Rd at Maryus Rd	DNQ	GLOU
Ordinary PCV	DNQ	GLOU
Poquoson PS 6	DNQ	POQ
Wolf Trappe PCV	DNQ	YORK
York Kiln Creek 1 PS	DNQ	YORK
York PS 15	DNQ	YORK
York River Main Flow (Influent)	DNQ	YORK
York River Crossing (York River Rectifier)	DNQ	GLOU

Note:

1. Typical treatment plant service area.

Newport News-Williamsburg International (PHF)

- Wind and Rainfall (daily total):

Date	Gust (max)	Sustained (max)	Sustained (avg)	Direction	Rainfall (in)
2/11/2025	21 mph	15 mph	5 mph	NE	1.17
2/12/2025	18 mph	12 mph	5 mph	NE	0.83
2/13/2025	28 mph	20 mph	7 mph	SW	0.29

Tide:

- Yorktown USCG Training Center:
  - Storm Surge: An approximate 1.5-foot storm surge was observed.

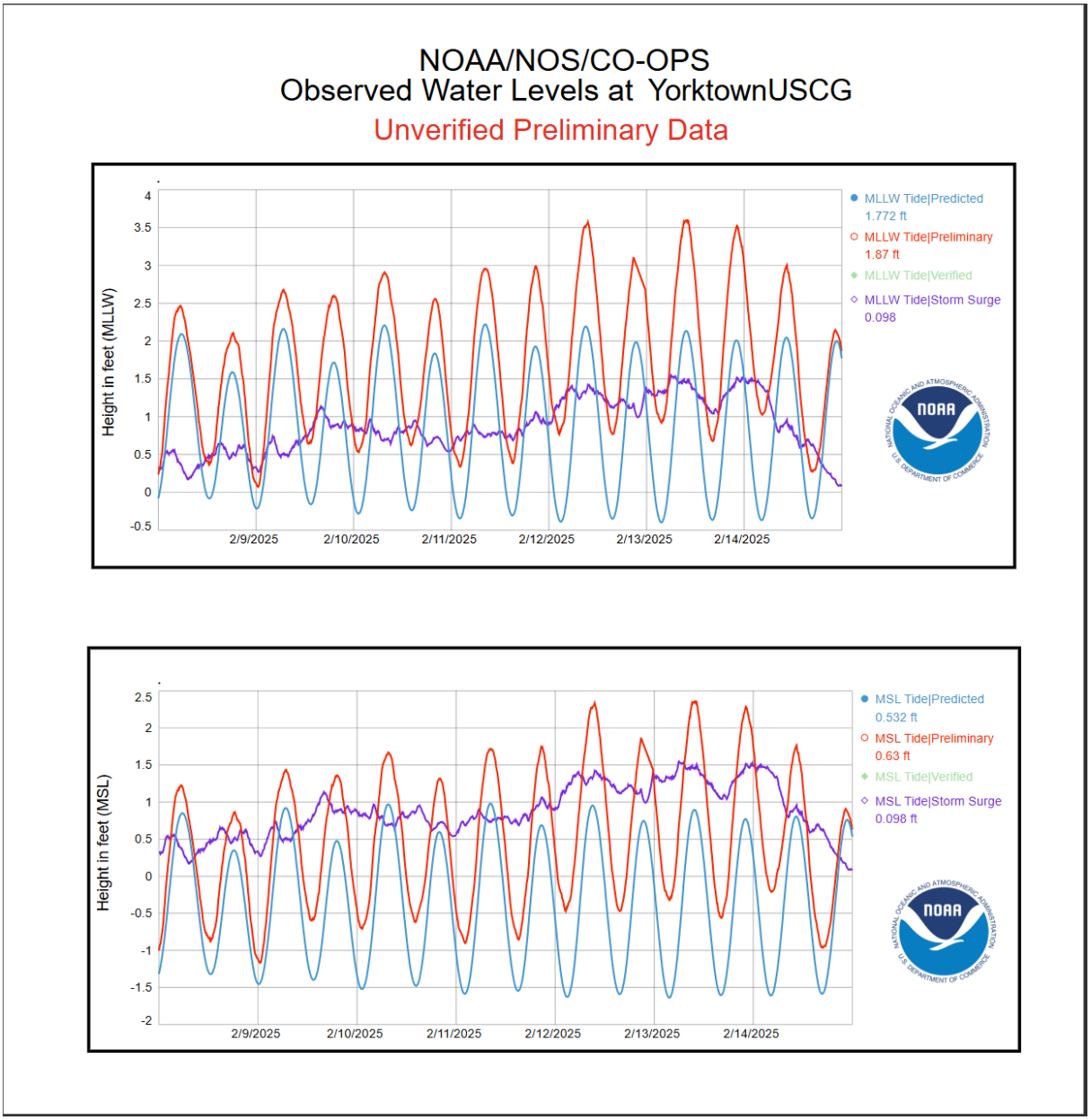


Figure 1. Preliminary data obtained from NOAA and a connection with Open Weather

- Sewells Point Tide Station:
  - Storm Surge: An approximate 1.5 foot storm surge was observed.

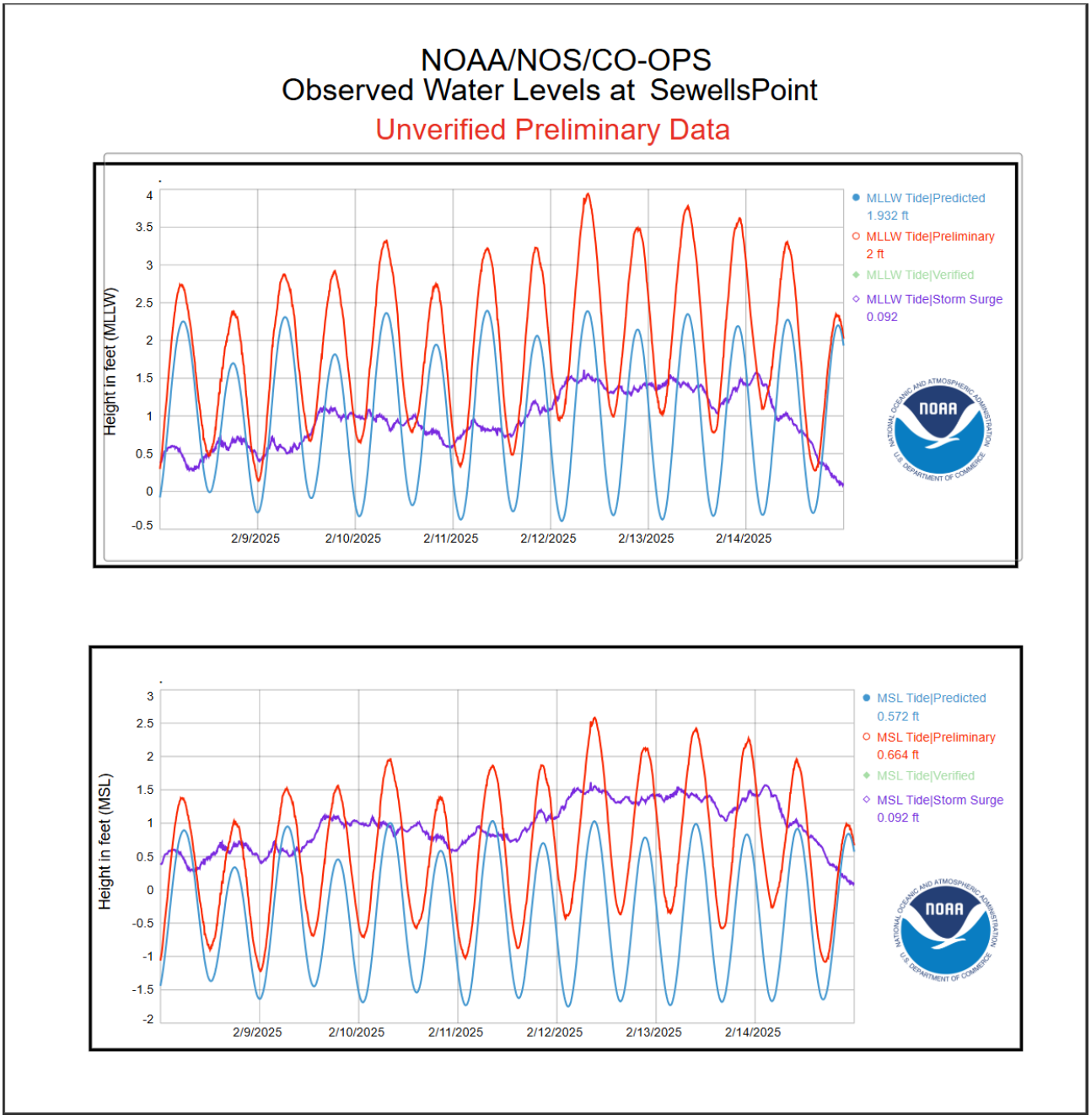


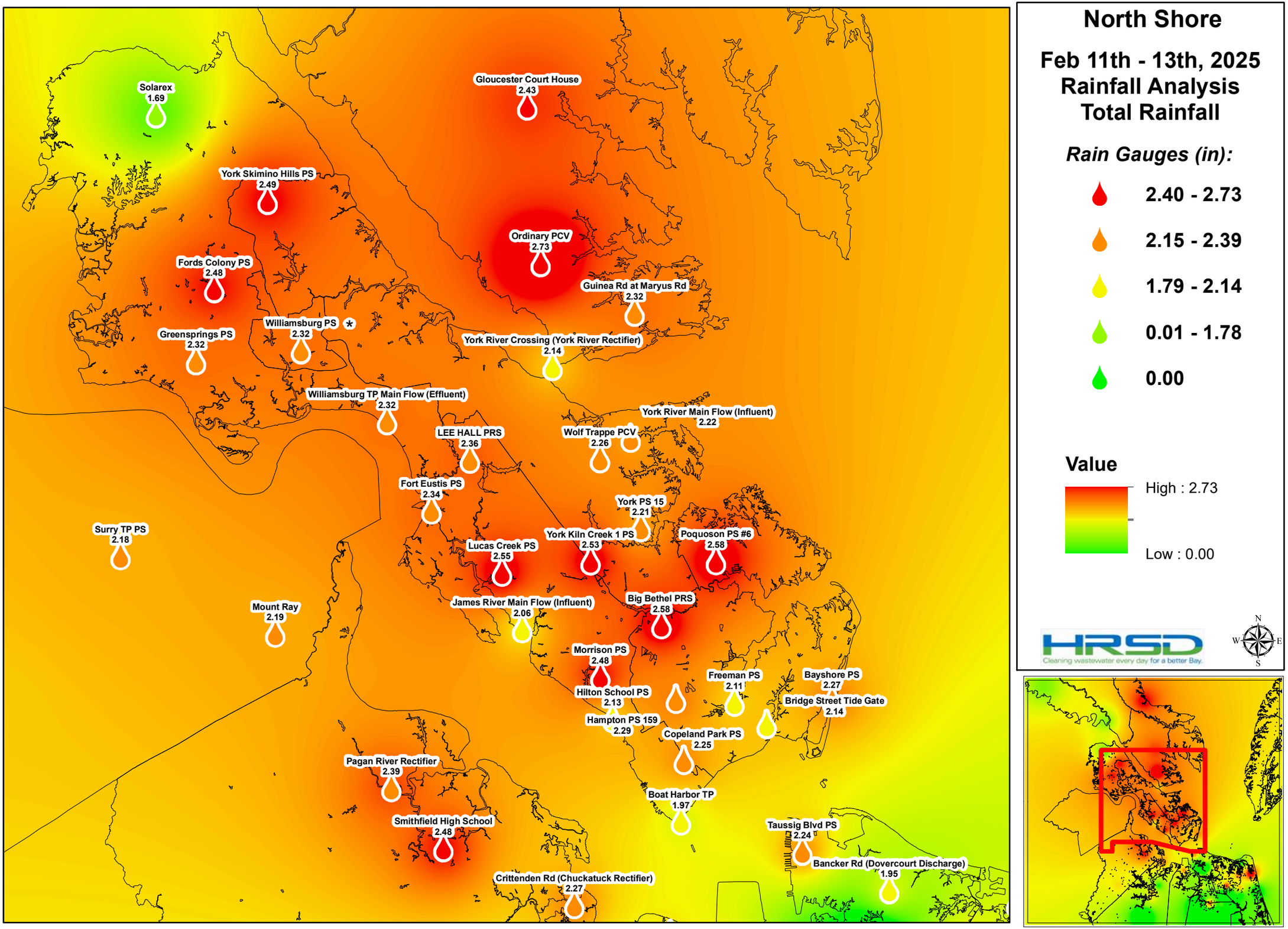
Figure 2. Preliminary data obtained from NOAA and a connection with Open Weather

Shallow Well Analysis:

Shallow wells are located at/or near HRSD Pump Stations to measure groundwater levels. The water column is measured using a pressure transducer located near the bottom of the well. The installed sensor measures gauge pressure in inches of water. The Shallow Well_NAVD88 measurement referenced in Appendix C refers to the elevation (referenced as NAVD 88) of the sensor plus the gauge measurement in feet.

Appendix A

HRSD Rain Gauge Network
Rainfall Totals



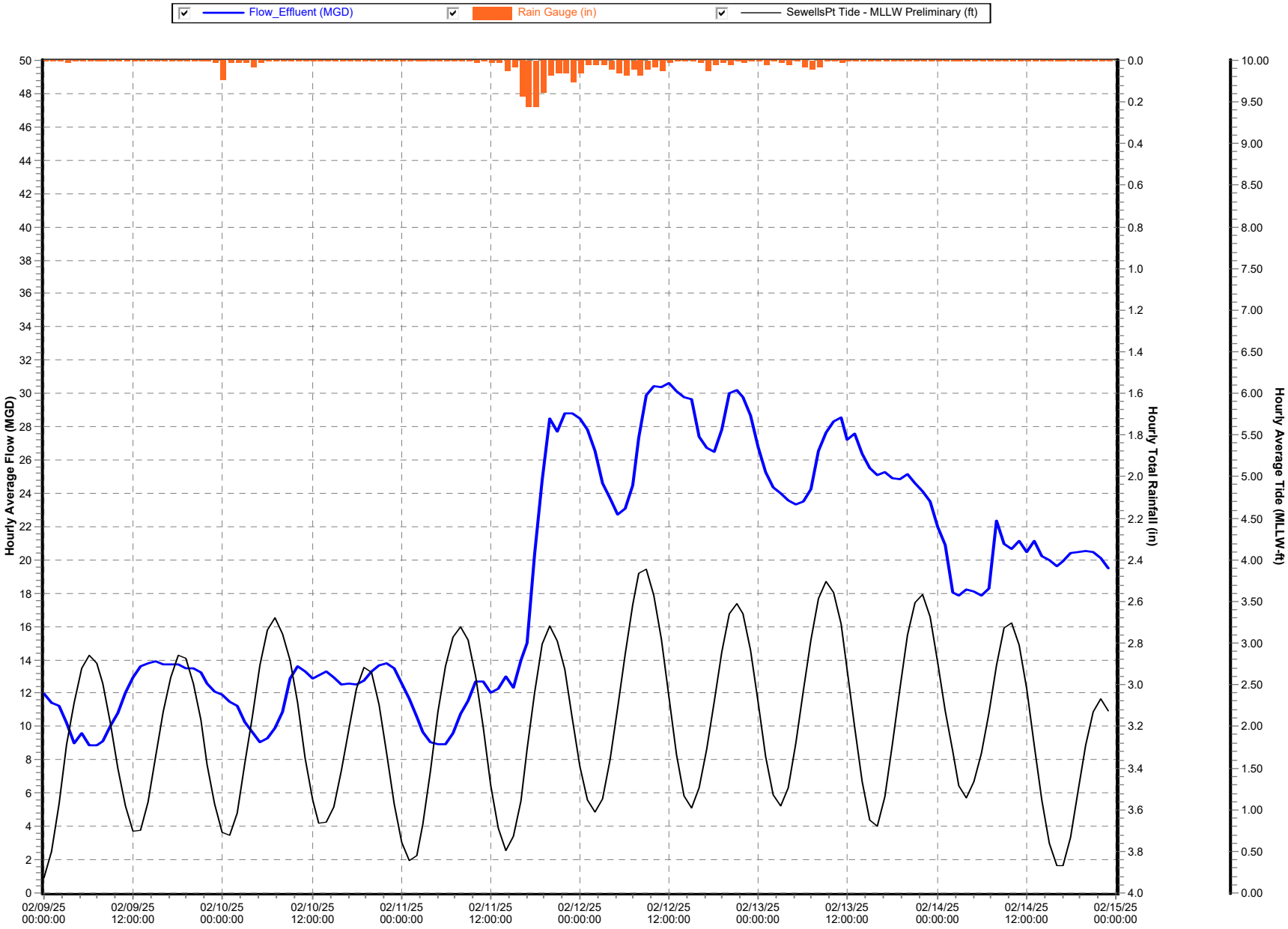
*Note: Rain Gauge was invalid for event and an average of surrounding sites was used. **Rain Gauge disconnected during event

Appendix B

HRSD Treatment Plant Flows

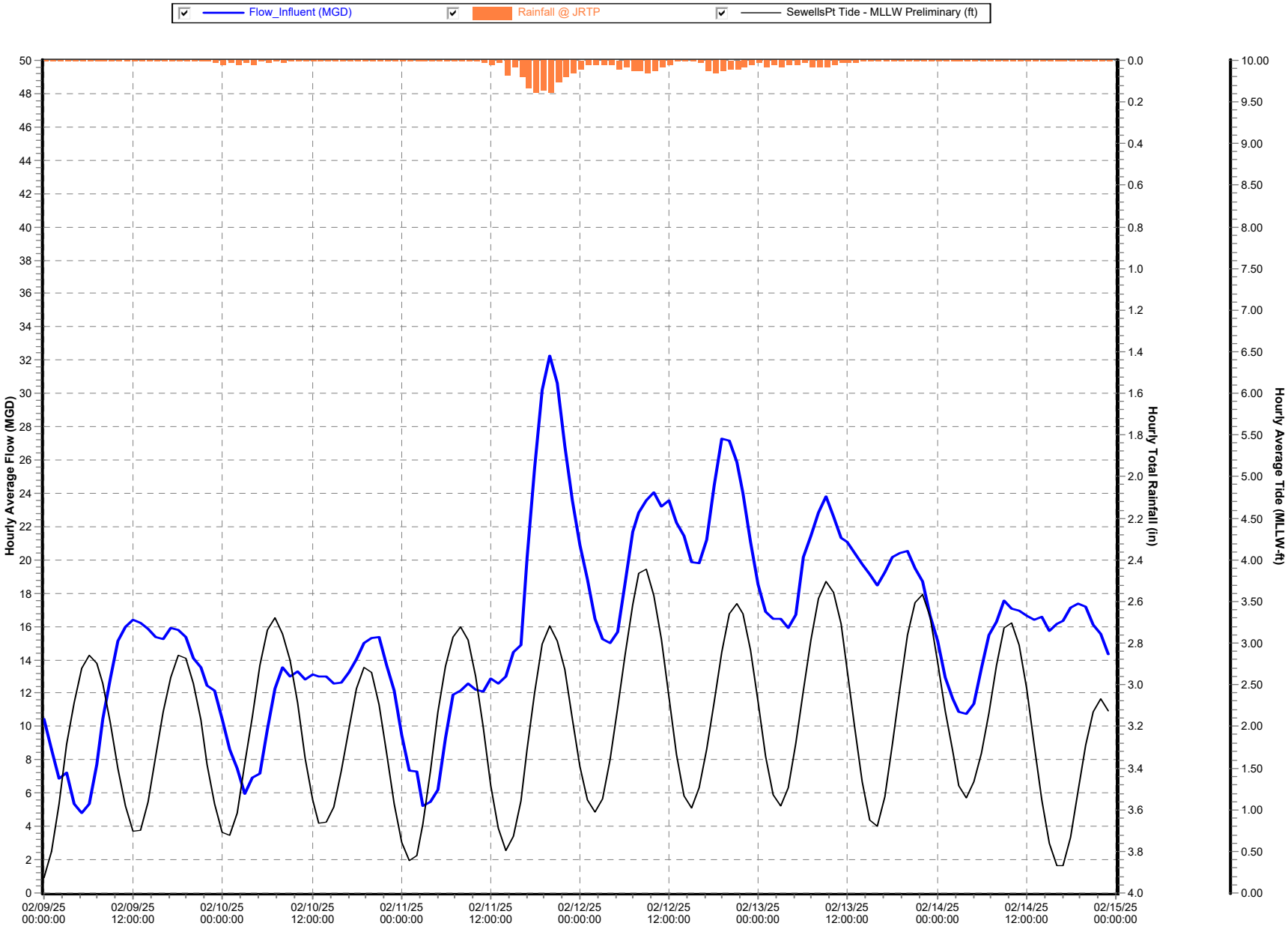
Boat Harbor Treatment Plant

MMPS-075 (02/09/25 to 02/15/25)



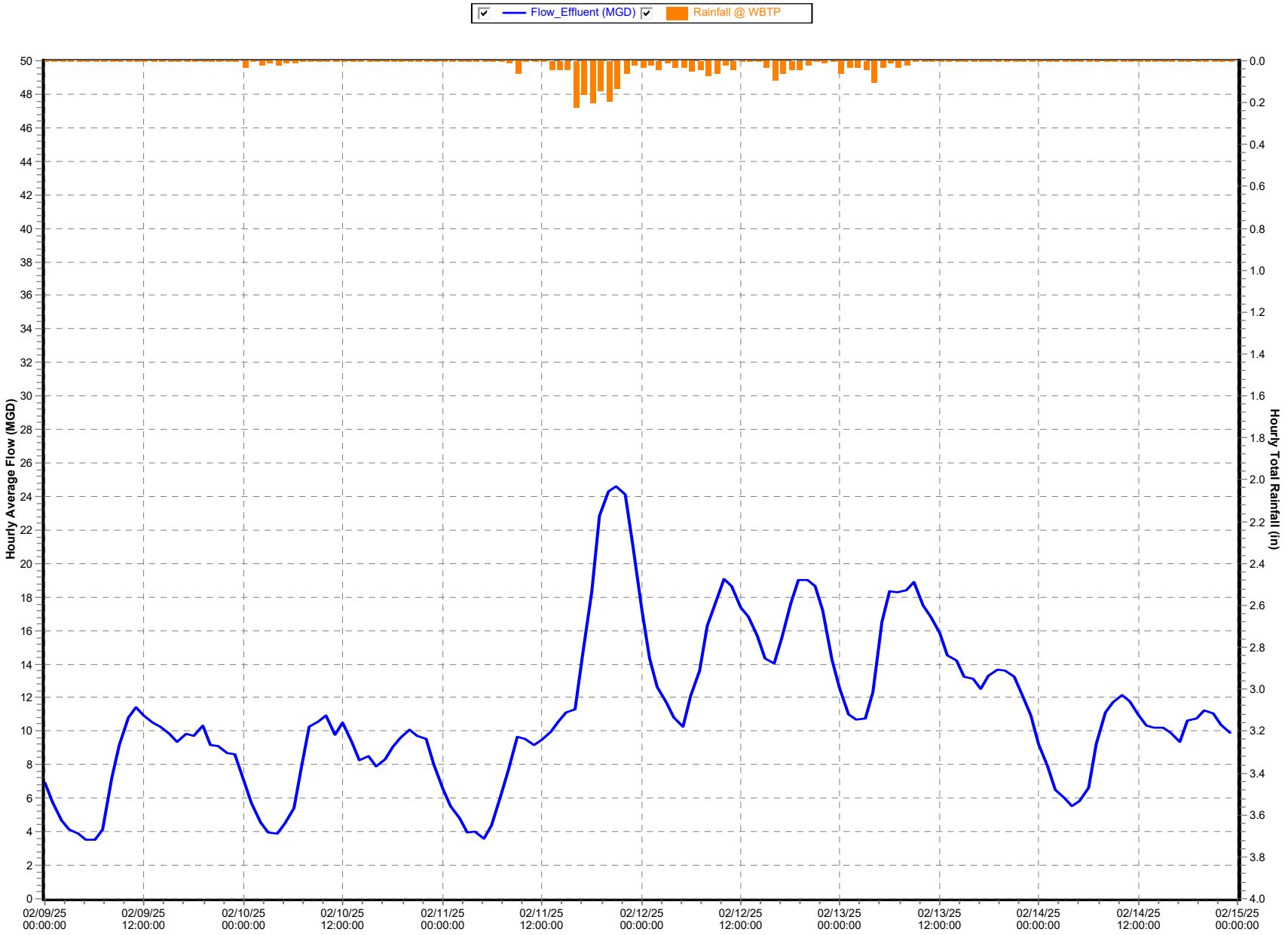
James River Treatment Plant

MMPS-184 (02/09/25 to 02/15/25)



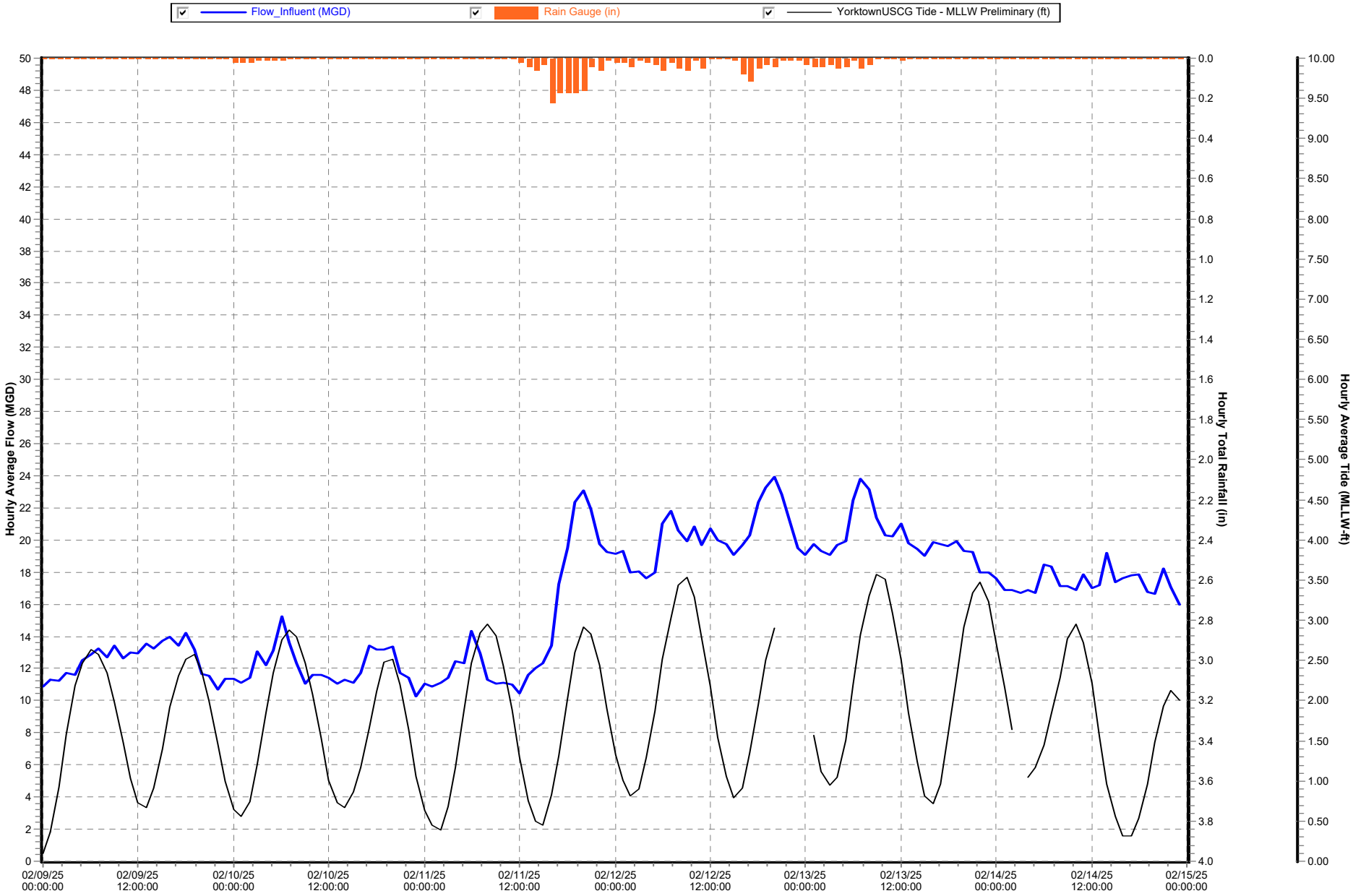
Williamsburg Treatment Plant

MMPS-222 (02/09/25 to 02/15/25)



York River Treatment Plant

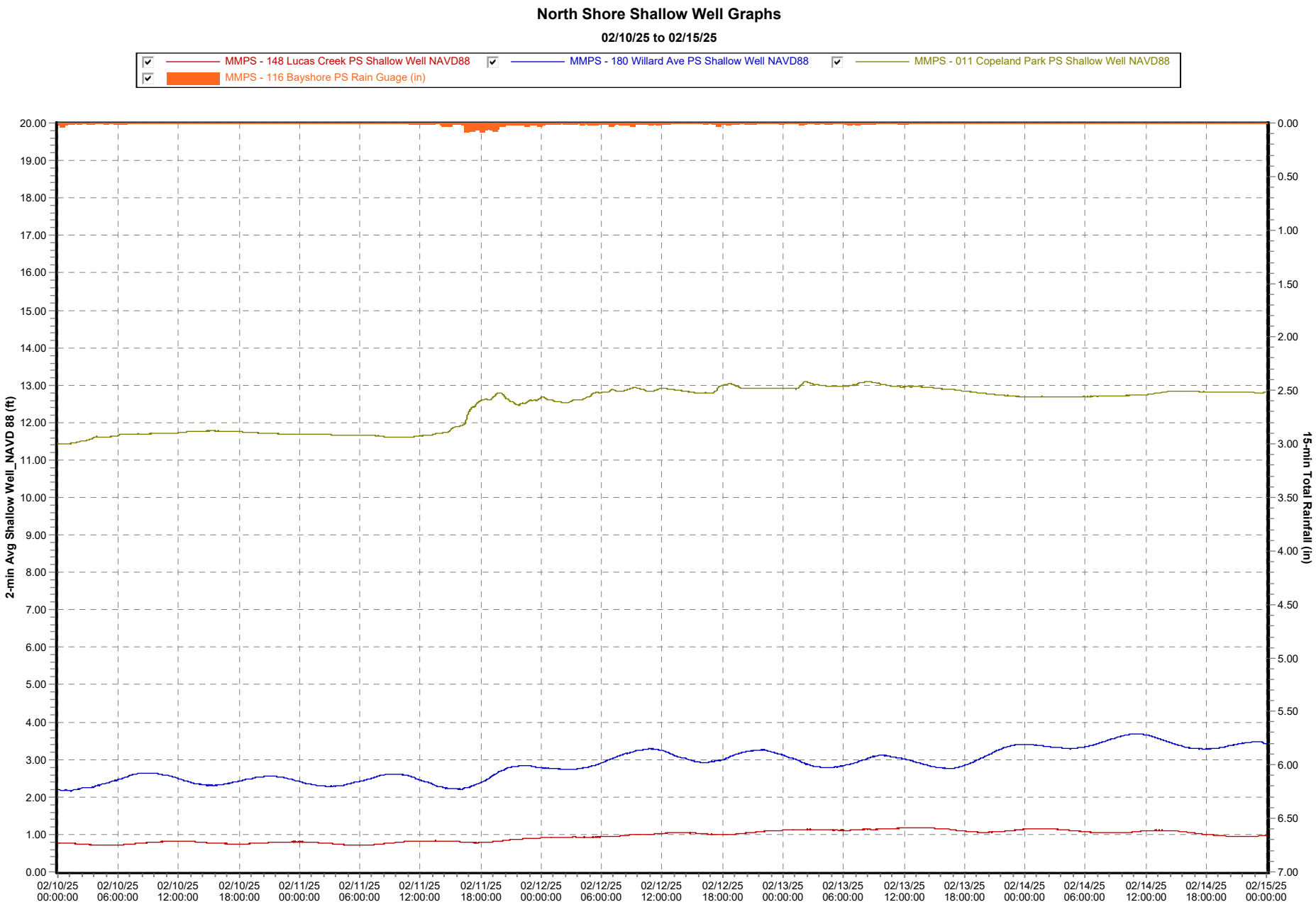
MMPS-235 (02/09/25 to 02/15/25)



Appendix C

Shallow Well Analysis

5 Day


North Shore Shallow Well Graphs
02/10/25 to 02/15/25
MMPS - 148 Lucas Creek PS Shallow Well NAVD88
MMPS - 180 Willard Ave PS Shallow Well NAVD88
MMPS - 011 Copeland Park PS Shallow Well NAVD88
MMPS - 116 Bayshore PS Rain Guage (in)
2-min Avg Shallow Well_NAVD 88 (ft)
15-min Total Rainfall (in)
20.00
19.00
18.00
17.00
16.00
15.00
14.00
13.00
12.00
11.00
10.00
9.00
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02/10/25 00:00:00
02/10/25 06:00:00
02/10/25 12:00:00
02/10/25 18:00:00
02/11/25 00:00:00
02/11/25 06:00:00
02/11/25 12:00:00
02/11/25 18:00:00
02/12/25 00:00:00
02/12/25 06:00:00
02/12/25 12:00:00
02/12/25 18:00:00
02/13/25 00:00:00
02/13/25 06:00:00
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02/14/25 00:00:00
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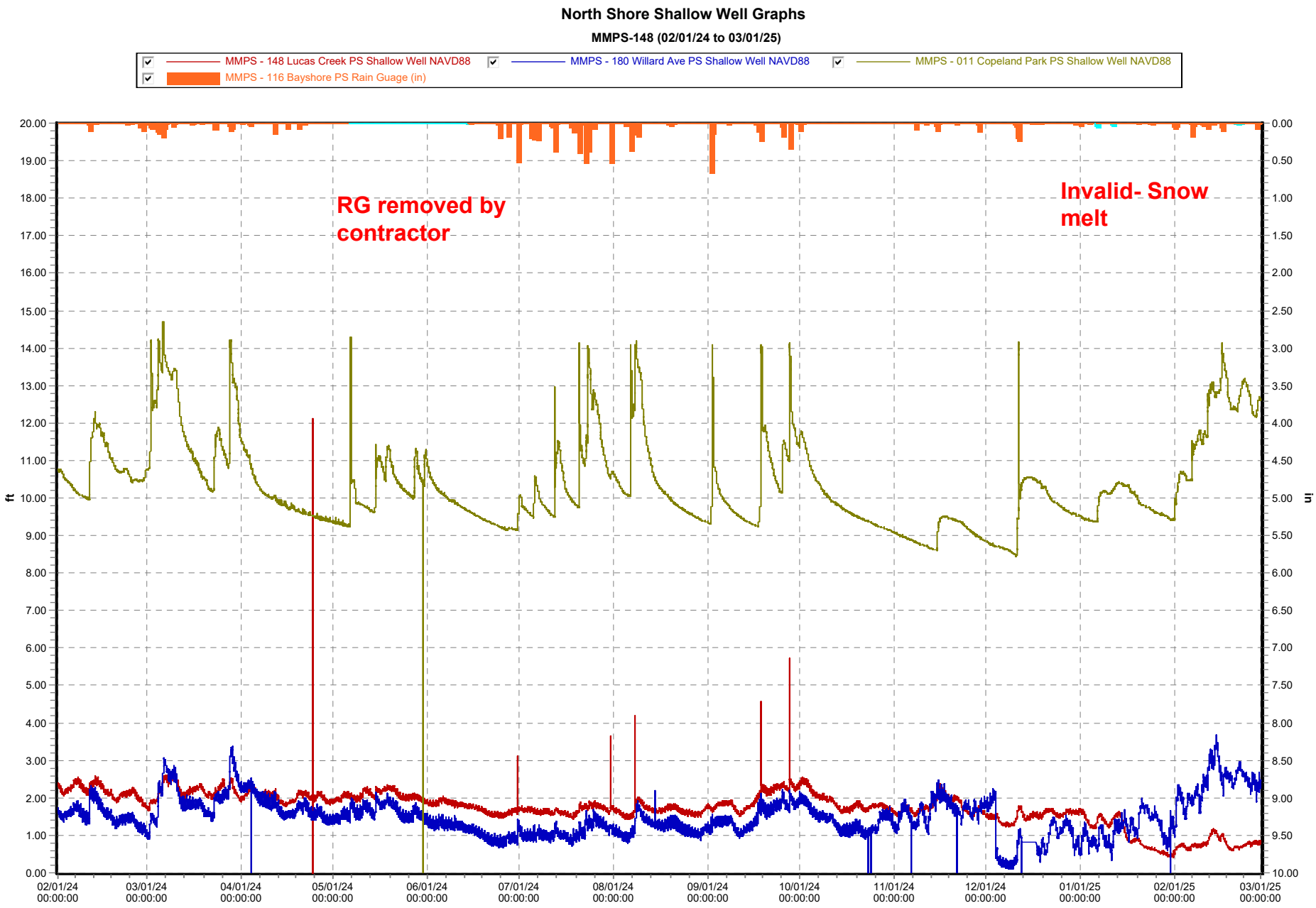
02/14/25 12:00:00
02/14/25 18:00:00
02/15/25 00:00:00

1 Year


North Shore Shallow Well Graphs
MMPS-148 (02/01/24 to 03/01/25)
MMPS - 148 Lucas Creek PS Shallow Well NAVD88
MMPS - 180 Willard Ave PS Shallow Well NAVD88
MMPS - 011 Copeland Park PS Shallow Well NAVD88
MMPS - 116 Bayshore PS Rain Guage (in)
RG removed by contractor
Invalid- Snow melt
ft
in
20.00
19.00
18.00
17.00
16.00
15.00
14.00
13.00
12.00
11.00
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05/01/24 00:00:00
06/01/24 00:00:00
07/01/24 00:00:00
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12/01/24 00:00:00
01/01/25 00:00:00
02/01/25 00:00:00
03/01/25 00:00:00

Hampton Roads Sanitation District

Post-Storm Report

3/5/2025

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This report is located on an HRSD server and is intended to be available 24 hours a day, seven days a week. However, timely availability and/or delivery of data and products from this server through the Internet is subject to numerous potential constraints and is, therefore, not guaranteed. Official HRSD dissemination of information is available only through a written response to a formal written request for data from the user.

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These data are part of HRSD’s governmental function and HRSD reserves all rights and immunities relating to these data and the terms and manner in which it is made available.

Summary

On March 5th, there was an approximate 11-hour rainfall event that resulted in 5 sites on the North Shore that met a 1 to 5-year rainfall recurrence interval (2-3hr) throughout the HRSD rain gauge network. A big frontal system coming from the west brought severe weather to the area. There were high winds throughout the day with thunderstorms and heavy rain in the afternoon. There was a sharp contrast in rainfall experienced in the North Shore area. Bands of heavy rainfall were fell rapidly and were concentrated in the southern part of the area. Tornado watches were in effect for most of the day throughout the area. North Shore sites averaged around 1.01 inches of rain. There was an impact on groundwater levels in areas of heavy, rapid rainfall compared to March 2024. See Appendix C for the Historical Shallow Well comparison. See Appendix D for location of interceptor weather-related overflows. This report will be for North Shore only.

3 HRSD interceptor weather-related overflow(s) were reported.

2 Locality interceptor weather-related overflow(s) were reported.

HRSD flow and pressure meters met data reliability requirements per the MOM program. For all pressure meters in the aggregate and all pressure-side flow meters in the aggregate for each treatment plant service area listed below, at least 90% reliable data was achieved, based on the duration of system response to this rainfall event. The data reliability for the gravity flow meters is not included in this synopsis.

- Duration of system response: See Table Below
- Aggregate flow meter validity: 94.12%
- Aggregate pressure meter validity: 96.33%

Currently, rainfall recurrence intervals are only analyzed for a maximum of 96-hours. Rainfall analysis begins after 0.1 inches of rain has occurred. A 72-hour dry period of less than 0.1 inches of rain is typically used to signify two separate events. However, if a site returns to "dry weather" conditions prior to the next rainfall that occurs within 72 hours of the previous event, it is also considered for separate analysis. See Appendix A for the Rainfall Total System Maps.

The current criteria for publishing a post-storm analysis are the following:

- One or more rain gauge sites meet a two-year or greater RRI (rainfall recurrence interval) and at least 50% of sites in any treatment plant service area receive one inch of rainfall or greater,
- A rain gauge site meets a five-year or greater RRI, or
- A weather-related SSO occurs.

Sanitary Sewer Overflow

HRSD - North Shore

Location	Jurisdiction	Start Date
360 Ivy Home Road	Hampton	3/5/2025
612 North Hope Street	Hampton	3/5/2025
79 East College Place	Hampton	3/5/2025

Locality

Location	Jurisdiction	Start Date
163 Lasalle Av	Hampton	3/5/2025
2213 Shell Rd	Hampton	3/5/2025

Treatment Plant Data: *(Data obtained from Telog Database)*
See Appendix B for HRSD Treatment Plant Flows

HRSD Treatment Plant Data
3/5/2025

North Shore

Treatment Plant	Date of Peak Hourly Flow	Peak Hourly Flow (MGD)	Peak Hour	TPSA Total Rainfall Avg (in)
Boat Harbor	3/5/2025	41.97	20:00	1.99
James River	3/5/2025	27.18	17:00	0.72
Williamsburg	3/5/2025	14.18	17:00	0.73
York River	3/5/2025	24.48	18:00	0.91

North Shore

Weather:

Rainfall (HRSD Rainfall Gauges): *Recurrence intervals based on NOAA Atlas 14*

Rain Gauge Site	Peak Rainfall RI (Duration)	Locality
Boat Harbor Treatment Plant Service Area[1]		
Bayshore PS	1- to 2-year (2hr)	HAMP
Bridge Street Tide Gate	2- to 5-year (2hr)	HAMP
Boat Harbor	2-year (3hr)	NEWP
Copeland Park PS	2-year (2hr)	NEWP
Hampton PS 159	DNQ	HAMP
James River Treatment Plant Service Area[1]		
Hilton School PS	DNQ	NEWP
James River Main Flow (Influent)	Invalid	NEWP
Lee Hall PRS	DNQ	NEWP
Lucas Creek PS	DNQ	NEWP
Morrison PS	DNQ	NEWP
Williamsburg Treatment Plant Service Area[1]		
Ford's Colony	DNQ	JCSA
Fort Eustis PS	DNQ	NEWP
Greensprings PS	DNQ	JCA
Solarex	DNQ	JCSA
Williamsburg Main Flow (Effluent)	DNQ	JCSA
Williamsburg PS	DNQ	WILL
York Skimino Hills PS	DNQ	YORK
York River Treatment Plant Service Area[1]		
Big Bethel PRS	DNQ	HAMP
Freeman PS	2-year (2hr)	HAMP
Gloucester Court House	DNQ	GLOU
Guinea Rd at Maryus Rd	DNQ	GLOU
Ordinary PCV	DNQ	GLOU
Poquoson PS 6	DNQ	POQ
Wolf Trappe PCV	DNQ	YORK
York Kiln Creek 1 PS	DNQ	YORK
York PS 15	DNQ	YORK
York River Main Flow (Influent)	DNQ	YORK
York River Crossing (York River Rectifier)	DNQ	GLOU

Note:

1. Typical treatment plant service area.

Newport News-Williamsburg International (PHF)

- Wind and Rainfall (daily total):

Date	Gust (max)	Sustained (max)	Sustained (avg)	Direction	Rainfall (in)
3/5/2025	62 mph	45 mph	15 mph	S	0.65

Tide:

- Yorktown USCG Training Center:
  - Storm Surge: An approximate 0.80-foot storm surge was observed.

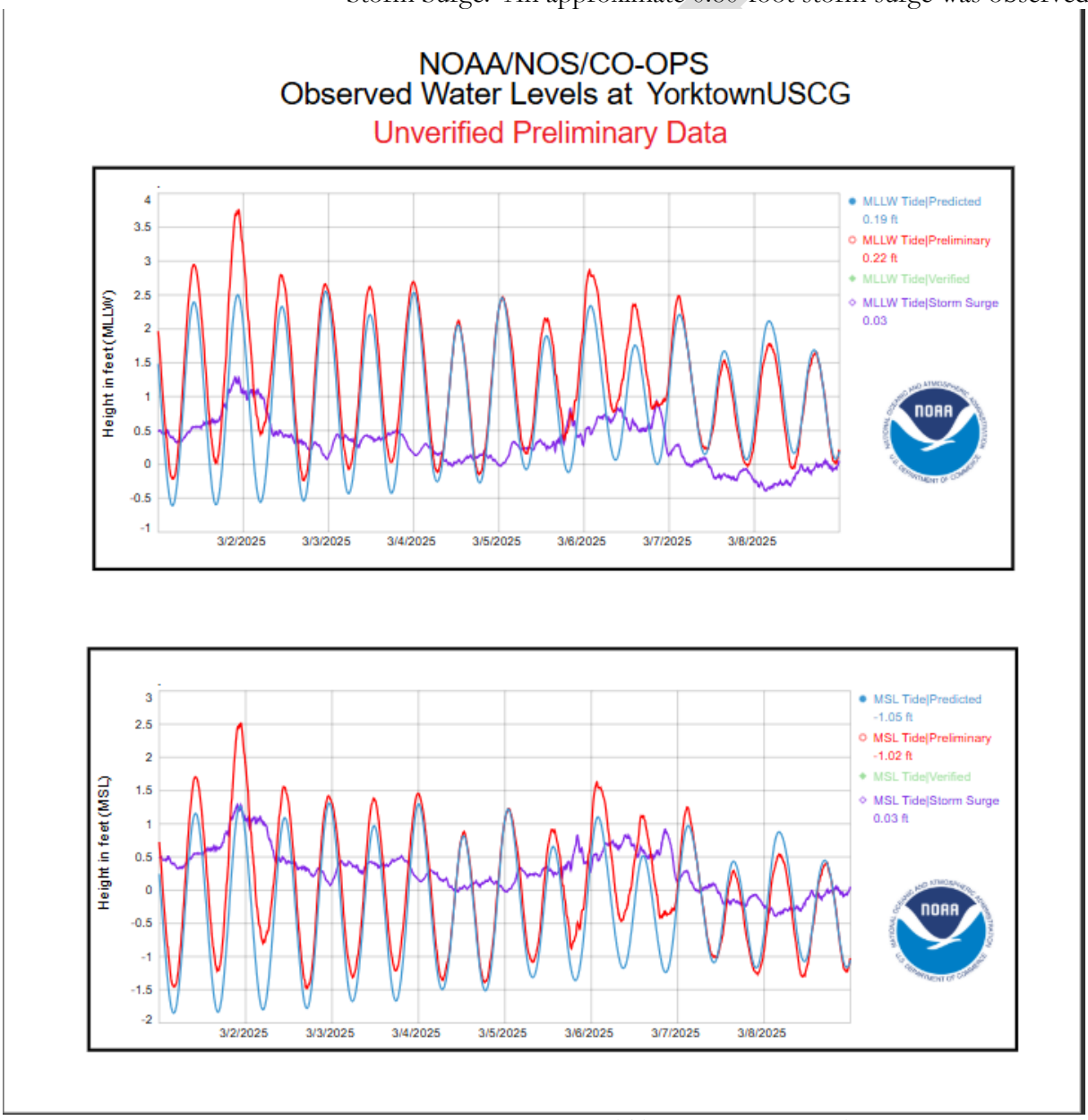


Figure 1. Preliminary data obtained from NOAA and a connection with Open Weather

- Sewells Point Tide Station:
  - Storm Surge: An approximate 0.70 foot storm surge was observed.

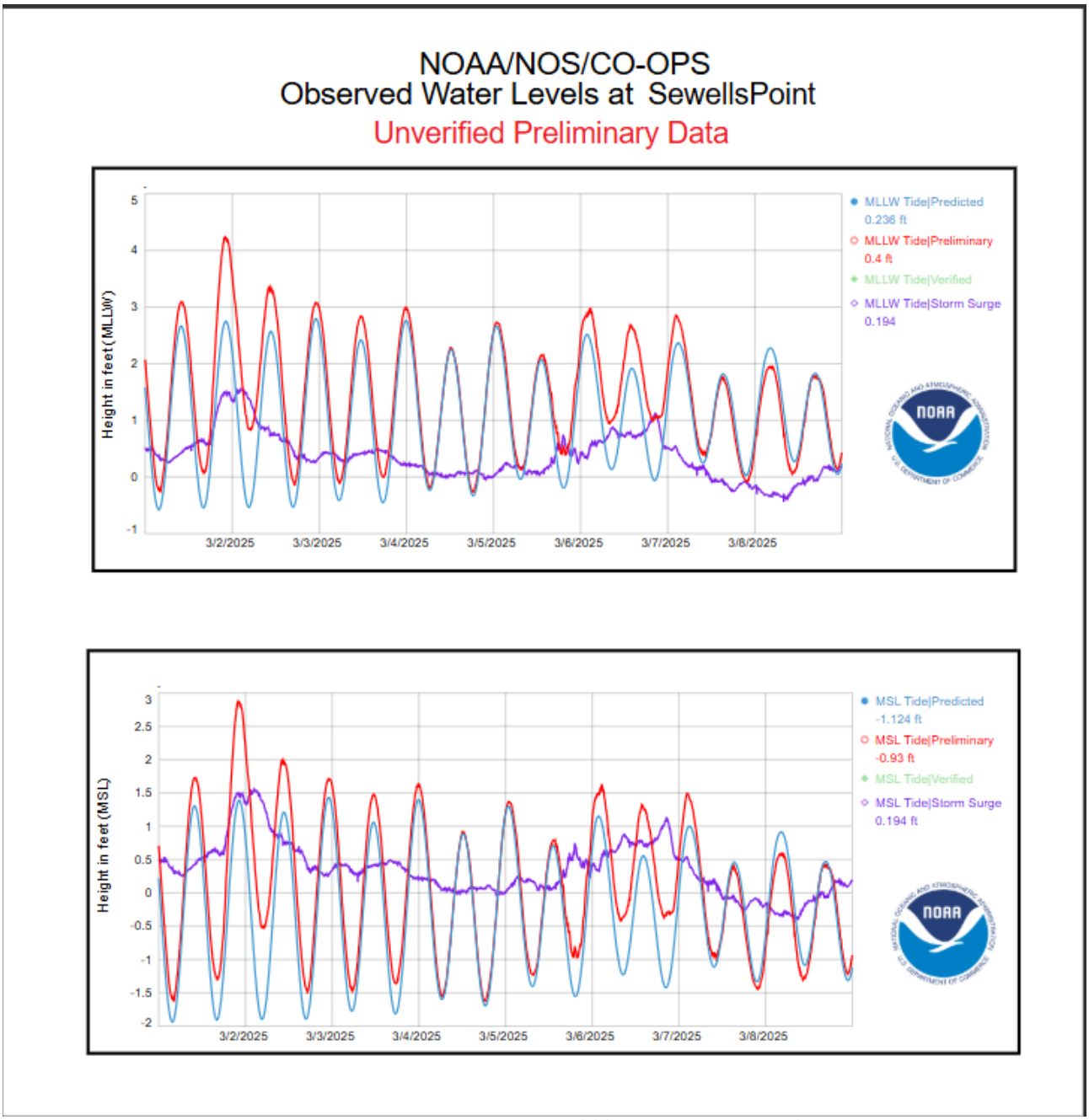


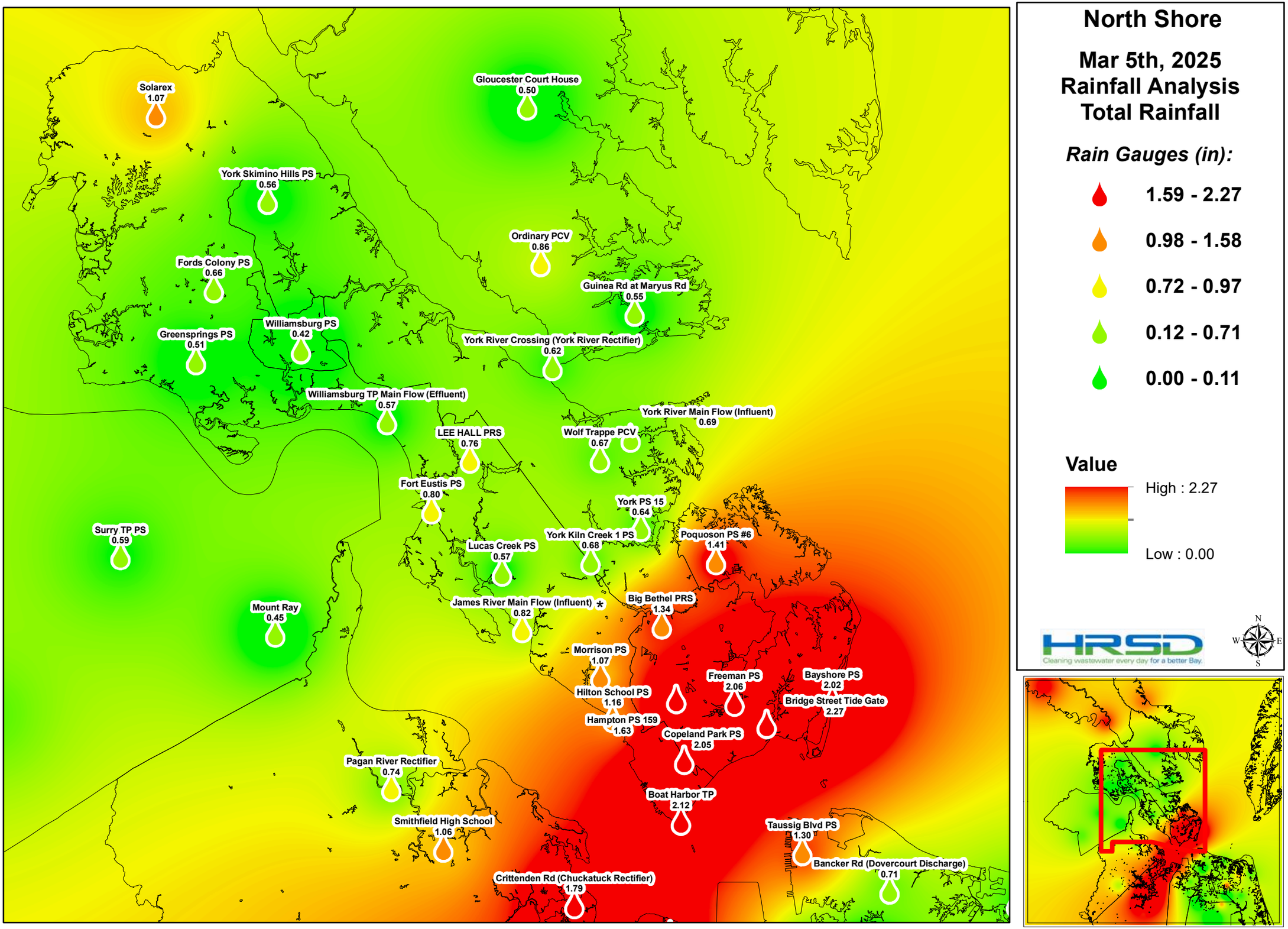
Figure 2. Preliminary data obtained from NOAA and a connection with Open Weather

Shallow Well Analysis:

Shallow wells are located at/or near HRSD Pump Stations to measure groundwater levels. The water column is measured using a pressure transducer located near the bottom of the well. The installed sensor measures gauge pressure in inches of water. The Shallow Well_NAVD88 measurement referenced in Appendix C refers to the elevation (referenced as NAVD 88) of the sensor plus the gauge measurement in feet.

Appendix A

HRSD Rain Gauge Network
Rainfall Totals



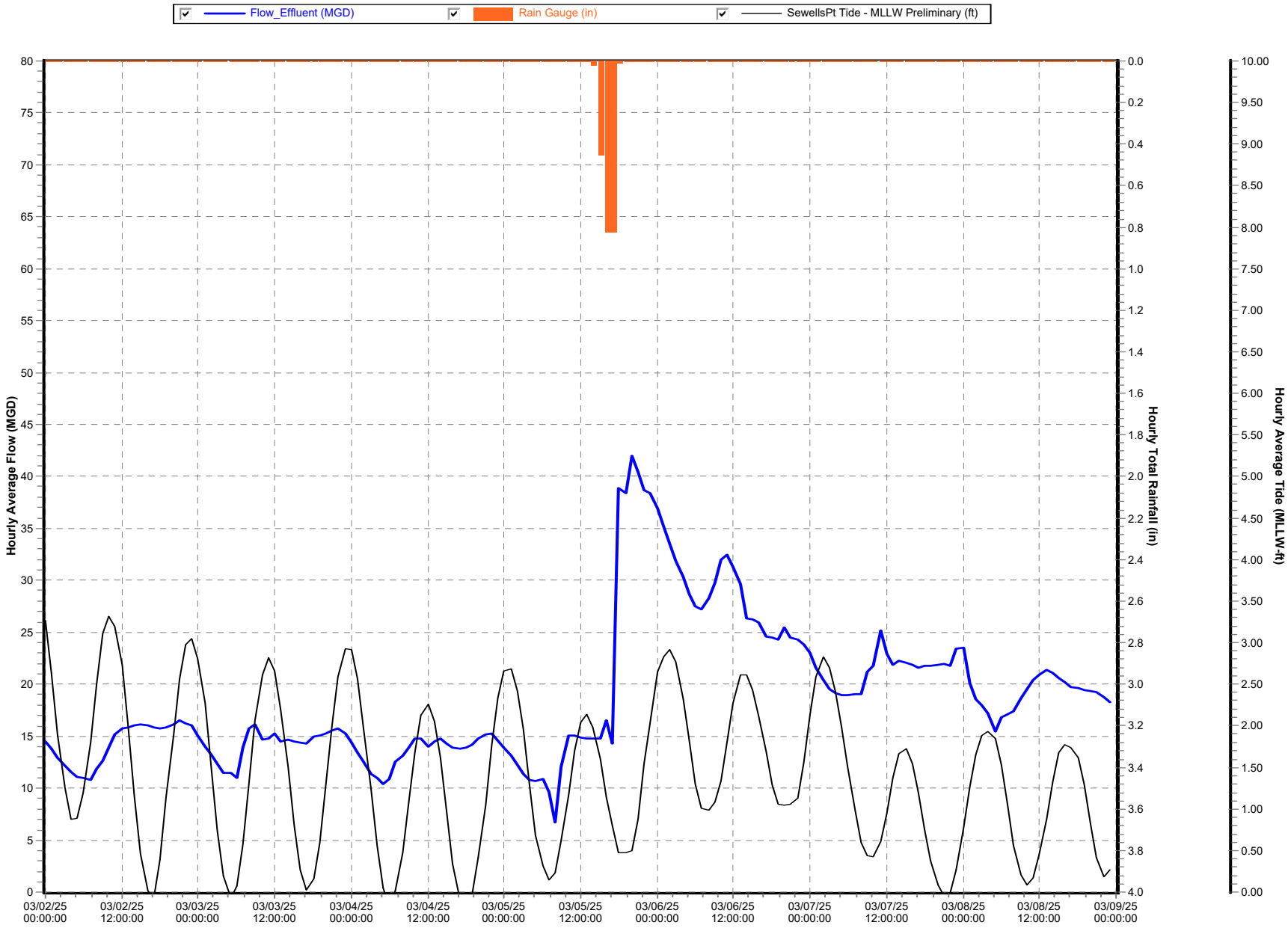
*Note: Rain Gauge was invalid for event and an average of surrounding sites was used. **Rain Gauge disconnected during event

Appendix B

HRSD Treatment Plant Flows

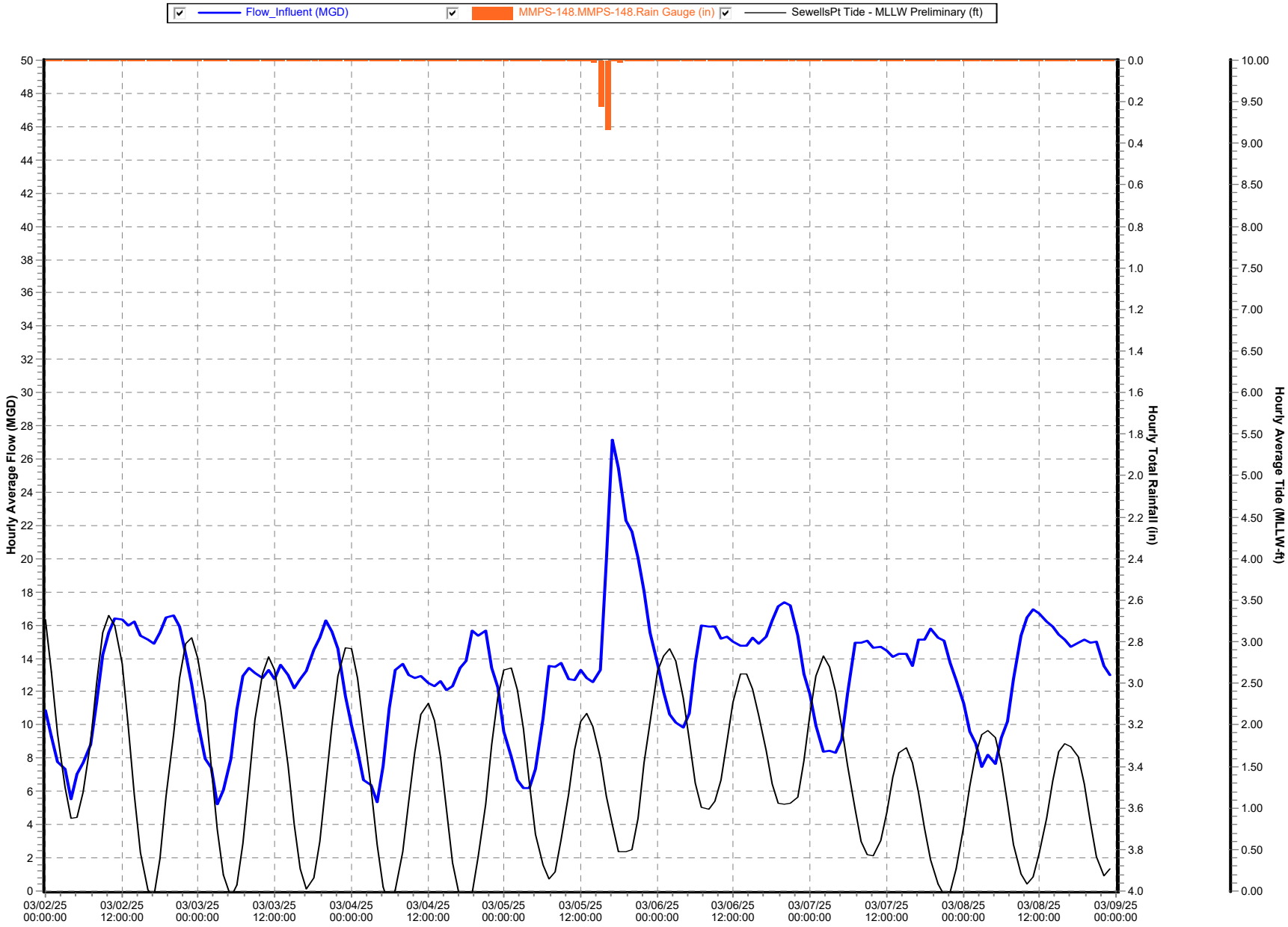
Boat Harbor Treatment Plant

MMPS-075 (03/02/25 to 03/09/25)



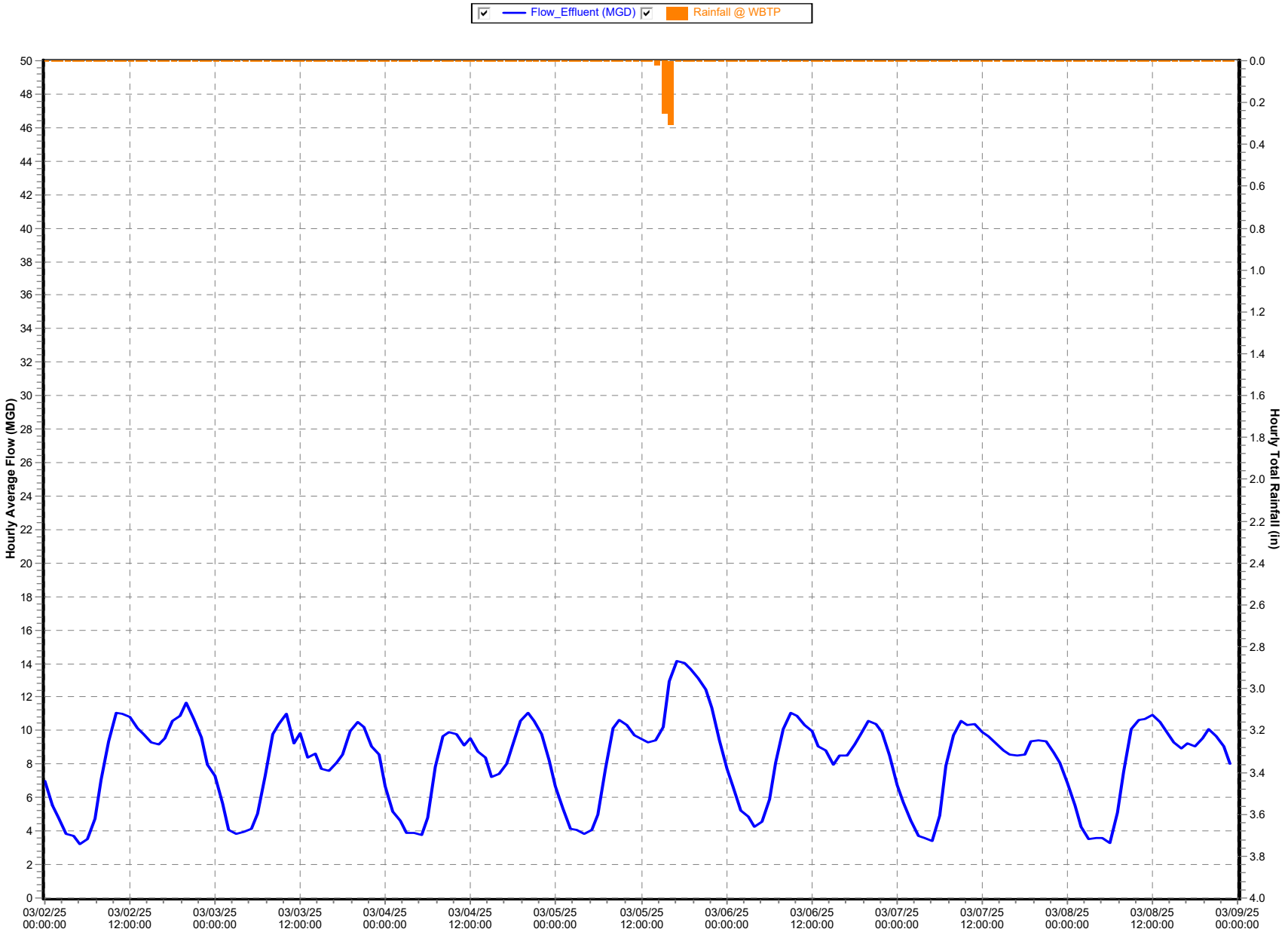
James River Treatment Plant

MMPS-184 (03/02/25 to 03/09/25)



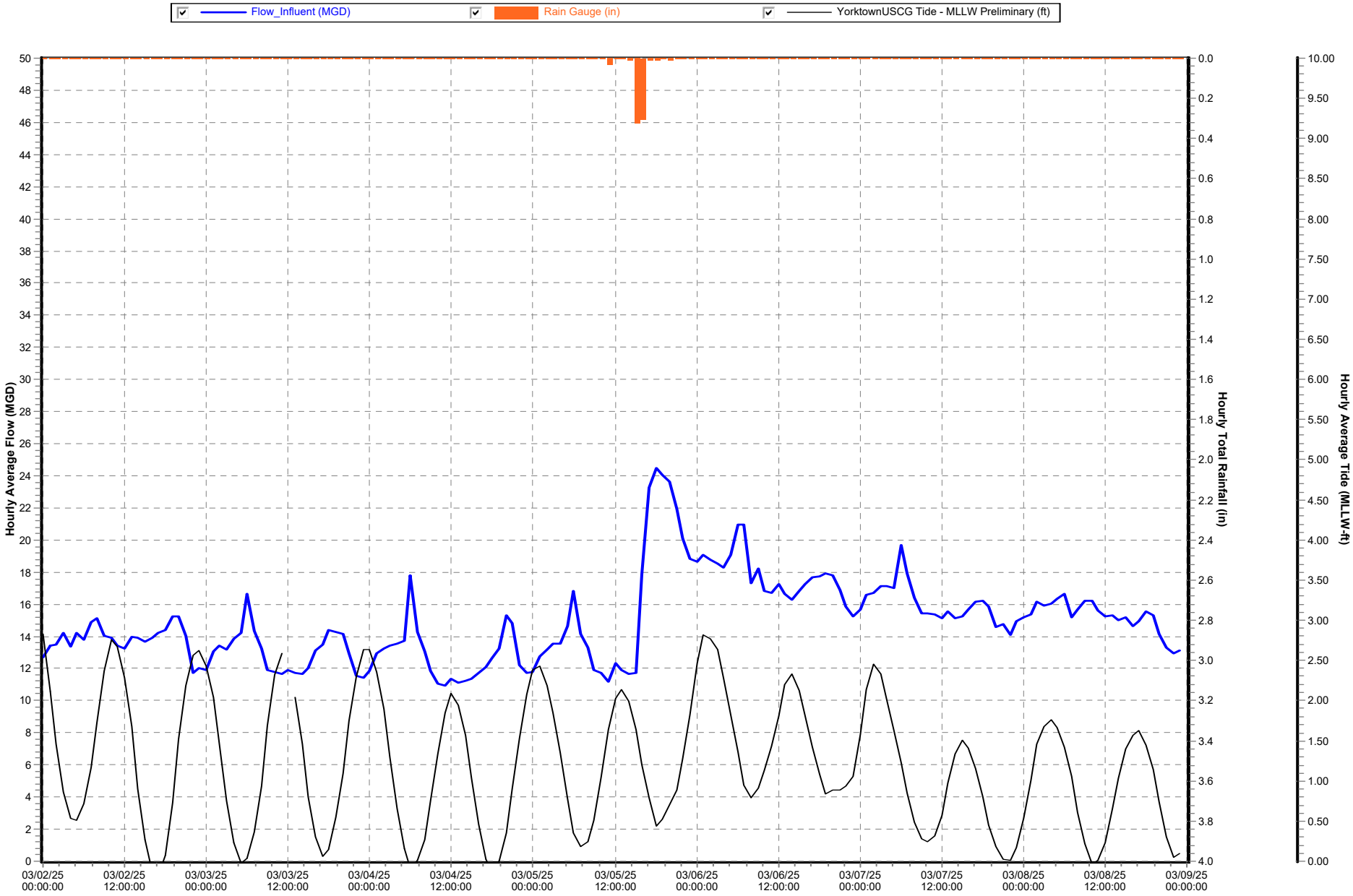
Williamsburg Treatment Plant

MMPS-222 (03/02/25 to 03/09/25)



York River Treatment Plant

MMPS-235 (03/02/25 to 03/09/25)



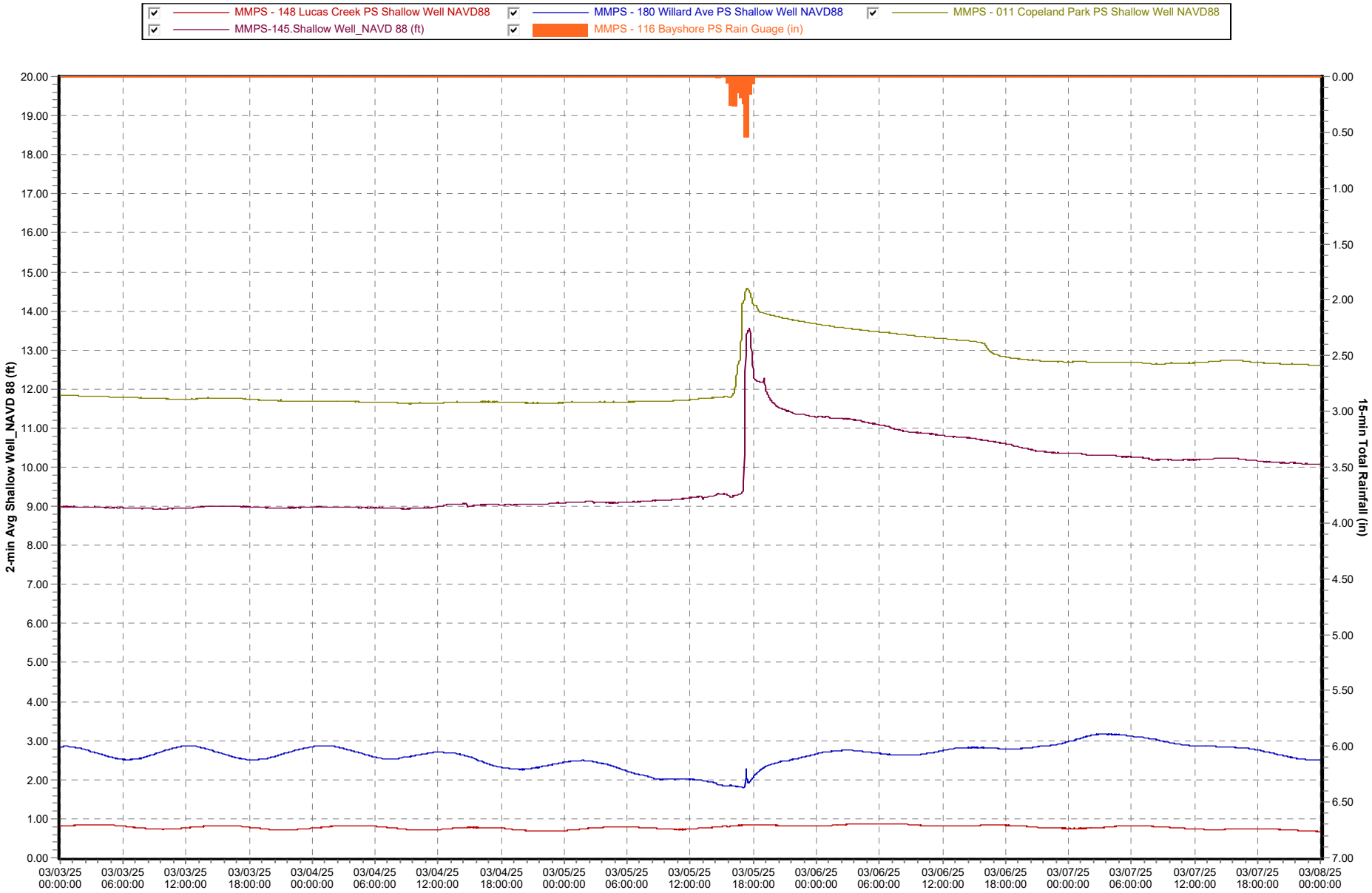
Appendix C

Shallow Well Analysis

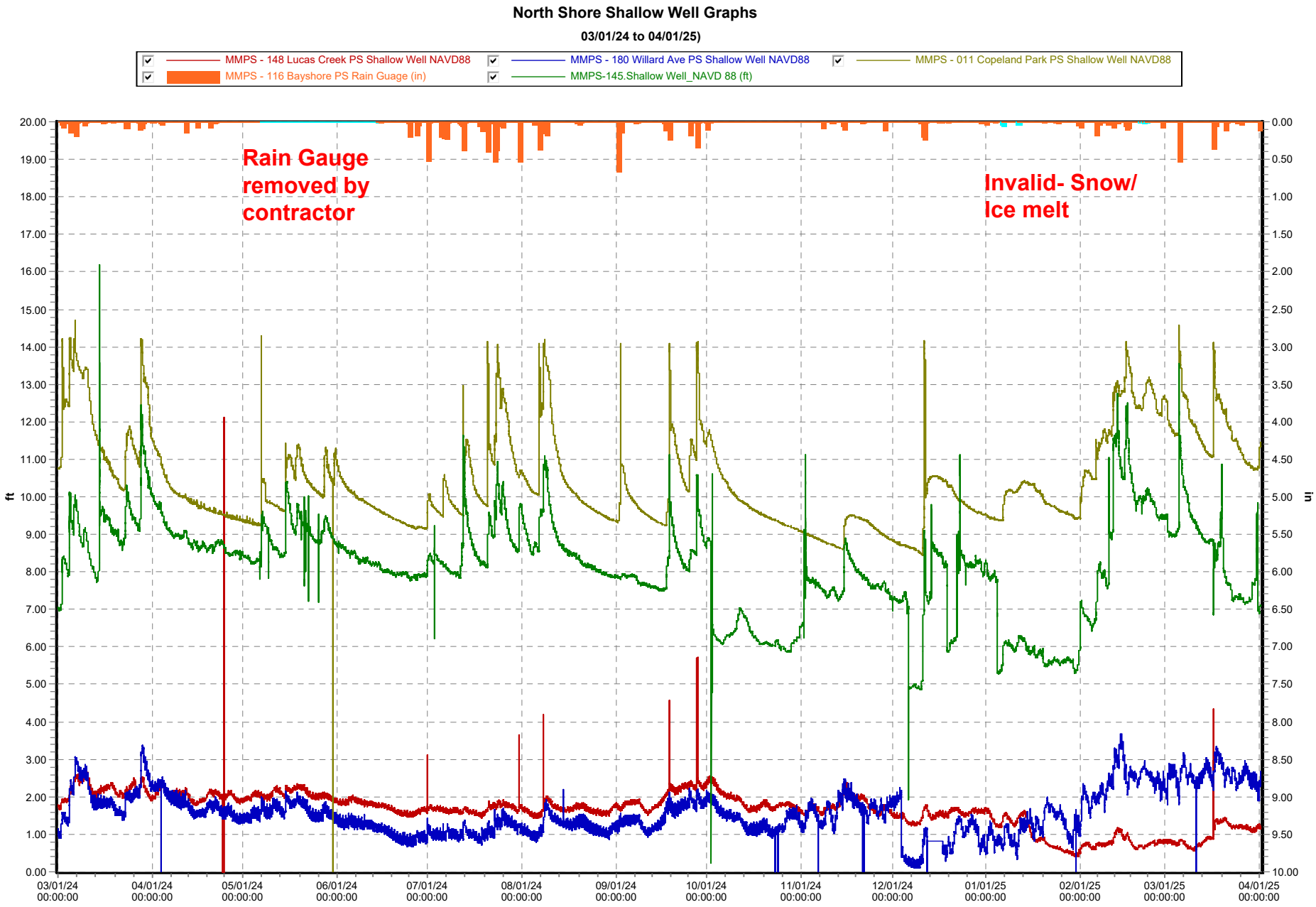
5 Day

North Shore Shallow Well Graphs

03/03/25 to 03/08/25



1 Year


North Shore Shallow Well Graphs
03/01/24 to 04/01/25)
MMPS - 148 Lucas Creek PS Shallow Well NAVD88
MMPS - 180 Willard Ave PS Shallow Well NAVD88
MMPS - 011 Copeland Park PS Shallow Well NAVD88
MMPS - 116 Bayshore PS Rain Guage (in)
MMPS-145.Shallow Well_NAVD 88 (ft)
Rain Gauge removed by contractor
Invalid- Snow/ Ice melt
ft
in
20.00
19.00
18.00
17.00
16.00
15.00
14.00
13.00
12.00
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03/01/24 00:00:00
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06/01/24 00:00:00
07/01/24 00:00:00
08/01/24 00:00:00
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11/01/24 00:00:00
12/01/24 00:00:00
01/01/25 00:00:00
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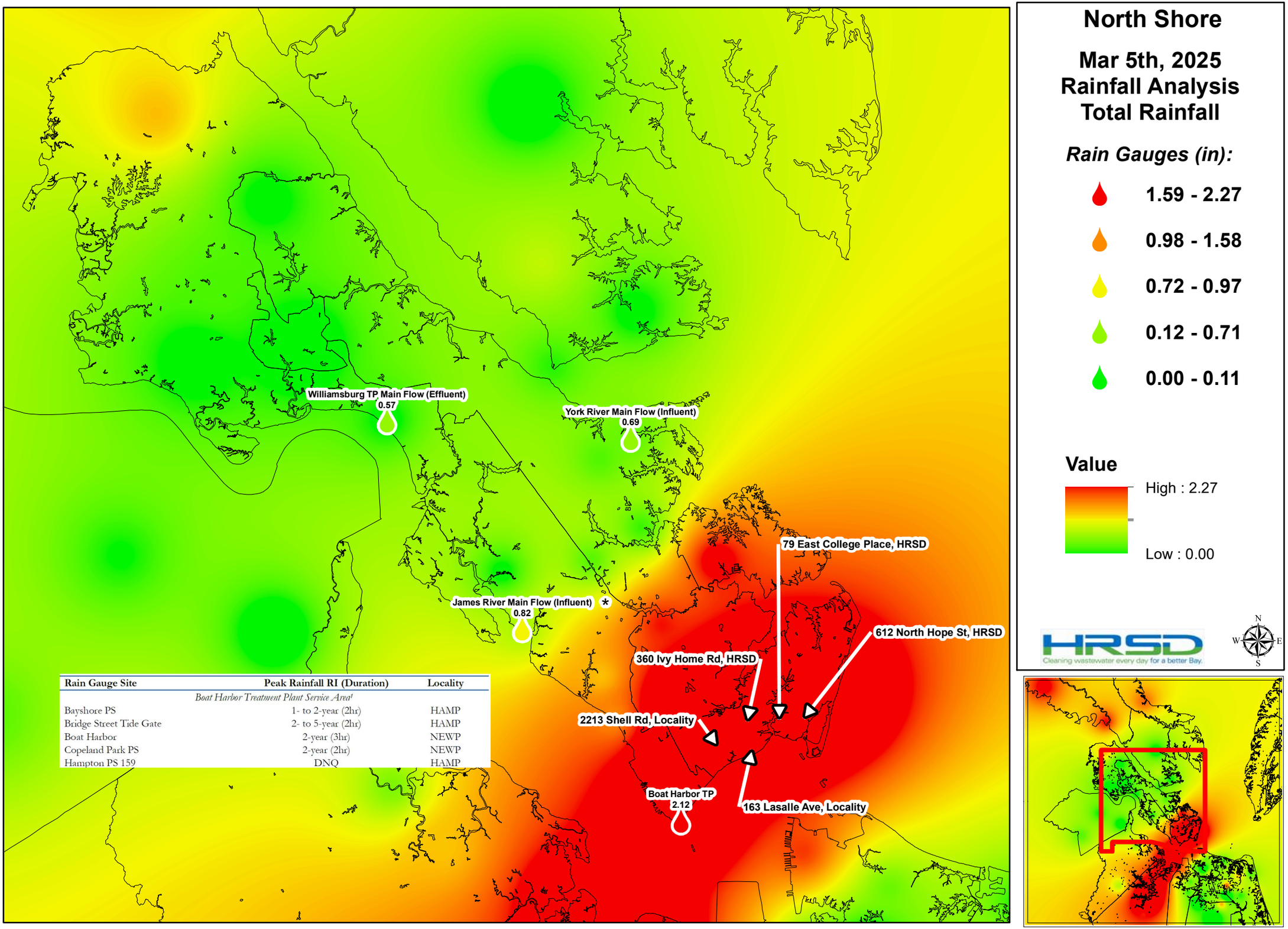
Appendix D

HRSD SSO Map



Rain Gauge Site	Peak Rainfall RI (Duration)	Locality
Boat Harbor Treatment Plant Service Area[1]		
Bayshore PS	1- to 2-year (2hr)	HAMP
Bridge Street Tide Gate	2- to 5-year (2hr)	HAMP
Boat Harbor	2-year (3hr)	NEWP
Copeland Park PS	2-year (2hr)	NEWP
Hampton PS 159	DNQ	HAMP

*Note: Rain Gauge was invalid for event and an average of surrounding sites was used. **Rain Gauge disconnected during event

Hampton Roads Sanitation District

Post-Storm Report

3/16/2025 – 3/17/2025

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Summary

From March 16th through March 17th , there was an approximate 23-hour rainfall event that resulted in 12 sites on the North Shore that met a 1 to 5-year rainfall recurrence interval throughout the HRSD rain gauge network. The day started dry but winds picked up as the day went on with gusts peaking at 40mph. Thunderstorms moved into the area in the afternoon into the night. Heavy rain after midnight prompted flash flood warnings and rotation observed in the storm caused tornado warnings to be triggered in northeast North Carolina. North Shore sites averaged around 2.36 inches of rain. There was a noticeable impact on groundwater levels compared to March 2024. See Appendix C for the Historical Shallow Well comparison. This report will be for North Shore only.

1 Locality interceptor weather-related overflow(s) were reported.

HRSD flow and pressure meters met data reliability requirements per the MOM program. For all pressure meters in the aggregate and all pressure-side flow meters in the aggregate for each treatment plant service area listed below, at least 90% reliable data was achieved, based on the duration of system response to this rainfall event. The data reliability for the gravity flow meters is not included in this synopsis.

- Duration of system response: See Table Below
- Aggregate flow meter validity: 96.84%
- Aggregate pressure meter validity: 98.31%

Currently, rainfall recurrence intervals are only analyzed for a maximum of 96-hours. Rainfall analysis begins after 0.1 inches of rain has occurred. A 72-hour dry period of less than 0.1 inches of rain is typically used to signify two separate events. However, if a site returns to "dry weather" conditions prior to the next rainfall that occurs within 72 hours of the previous event, it is also considered for separate analysis. See Appendix A for the Rainfall Total System Maps.

The current criteria for publishing a post-storm analysis are the following:

- One or more rain gauge sites meet a two-year or greater RRI (rainfall recurrence interval) and at least 50% of sites in any treatment plant service area receive one inch of rainfall or greater,
- A rain gauge site meets a five-year or greater RRI, or
- A weather-related SSO occurs.

Sanitary Sewer Overflow

Locality

Location	Jurisdiction	Start Date
115 Depot Street	James City	3/16/2025

Treatment Plant Data: *(Data obtained from Telog Database)*
See Appendix B for HRSD Treatment Plant Flows

HRSD Treatment Plant Data
3/16/2025 - 3/17/2025

North Shore				
Treatment Plant	**Date of Peak Hourly Flow**	**Peak Hourly Flow (MGD)**	**Peak Hour**	**TPSA Total Rainfall Avg (in)**
Boat Harbor	3/16/2025	17.88	22:00	0.55
	3/17/2025	29.58	10:00	0.99
James River	3/16/2025	27.50	20:00	1.31
	3/17/2025	41.21	03:00	1.40
Williamsburg	3/16/2025	21.92	20:00	1.19
	3/17/2025	26.38	03:00	1.20
York River	3/16/2025	18.76	20:00	1.26
	3/17/2025	26.91	03:00	1.17

North Shore

Weather:

Rainfall (HRSD Rainfall Gauges): *Recurrence intervals based on NOAA Atlas 14*

Rain Gauge Site	Peak Rainfall RI (Duration)	Locality
Boat Harbor Treatment Plant Service Area[1]		
Bayshore PS	DNQ	HAMP
Bridge Street Tide Gate	DNQ	HAMP
Boat Harbor	DNQ	NEWP
Copeland Park PS	DNQ	NEWP
Hampton PS 159	DNQ	HAMP
James River Treatment Plant Service Area[1]		
Hilton School PS	DNQ	NEWP
James River Main Flow (Influent)	1-year (12hr)	NEWP
Lee Hall PRS	1- to 2-year (12hr)	NEWP
Lucas Creek PS	2- to 5-year (12hr)	NEWP
Morrison PS	DNQ	NEWP
Williamsburg Treatment Plant Service Area[1]		
Ford's Colony	1- to 2-year (12hr)	JCSA
Fort Eustis PS	1-year (12hr)	NEWP
Greensprings PS	DNQ	JCA
Solarex	Invalid	JCSA
Williamsburg Main Flow (Effluent)	1- to 2-year (12hr)	JCSA
Williamsburg PS	DNQ	WILL
York Skimino Hills PS	1- to 2-year (12hr)	YORK
York River Treatment Plant Service Area[1]		
Big Bethel PRS	DNQ	HAMP
Freeman PS	DNQ	HAMP
Gloucester Court House	Invalid	GLOU
Guinea Rd at Maryus Rd	2- to 5-year (12hr)	GLOU
Ordinary PCV	Invalid	GLOU
Poquoson PS 6	DNQ	POQ
Wolf Trappe PCV	DNQ	YORK
York Kiln Creek 1 PS	1-year (12hr)	YORK
York PS 15	1- to 2-year (12hr)	YORK
York River Main Flow (Influent)	2- to 5-year (12hr)	YORK
York River Crossing (York River Rectifier)	1- to 2-year (12hr)	GLOU

Note:

1. Typical treatment plant service area.

Newport News-Williamsburg International (PHF)

- Wind and Rainfall (daily total):

Date	Gust (max)	Sustained (max)	Sustained (avg)	Direction	Rainfall (in)
3/16/2025	36 mph	22 mph	14 mph	S	1.51
3/17/2025	39 mph	23 mph	12 mph	VAR	1.24

Tide:

- Yorktown USCG Training Center:
  - Storm Surge: An approximate 1.06-foot storm surge was observed.

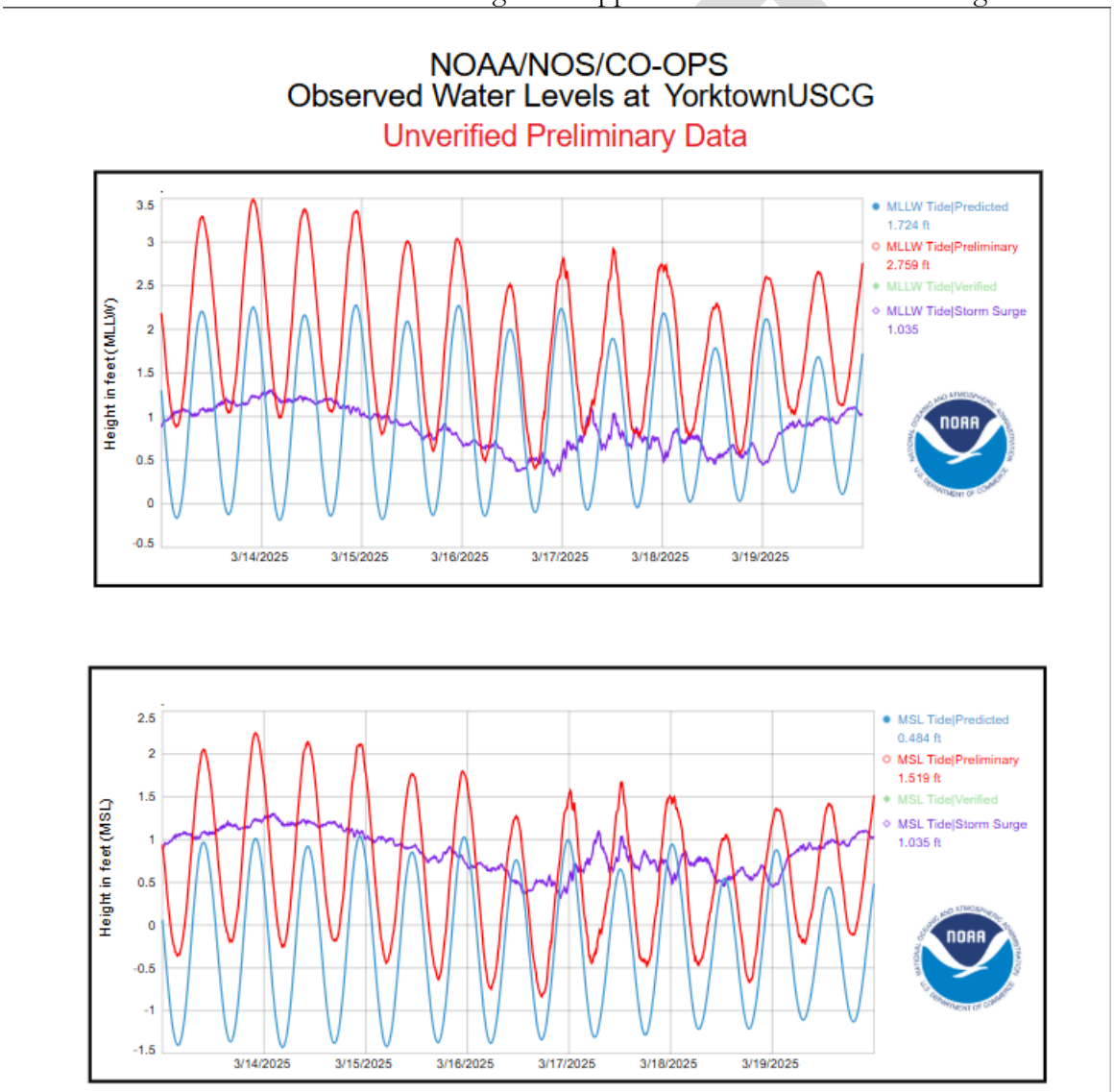


Figure 1. Preliminary data obtained from NOAA and a connection with Open Weather

- Sewells Point Tide Station:
  - Storm Surge: An approximate 0.94 foot storm surge was observed.

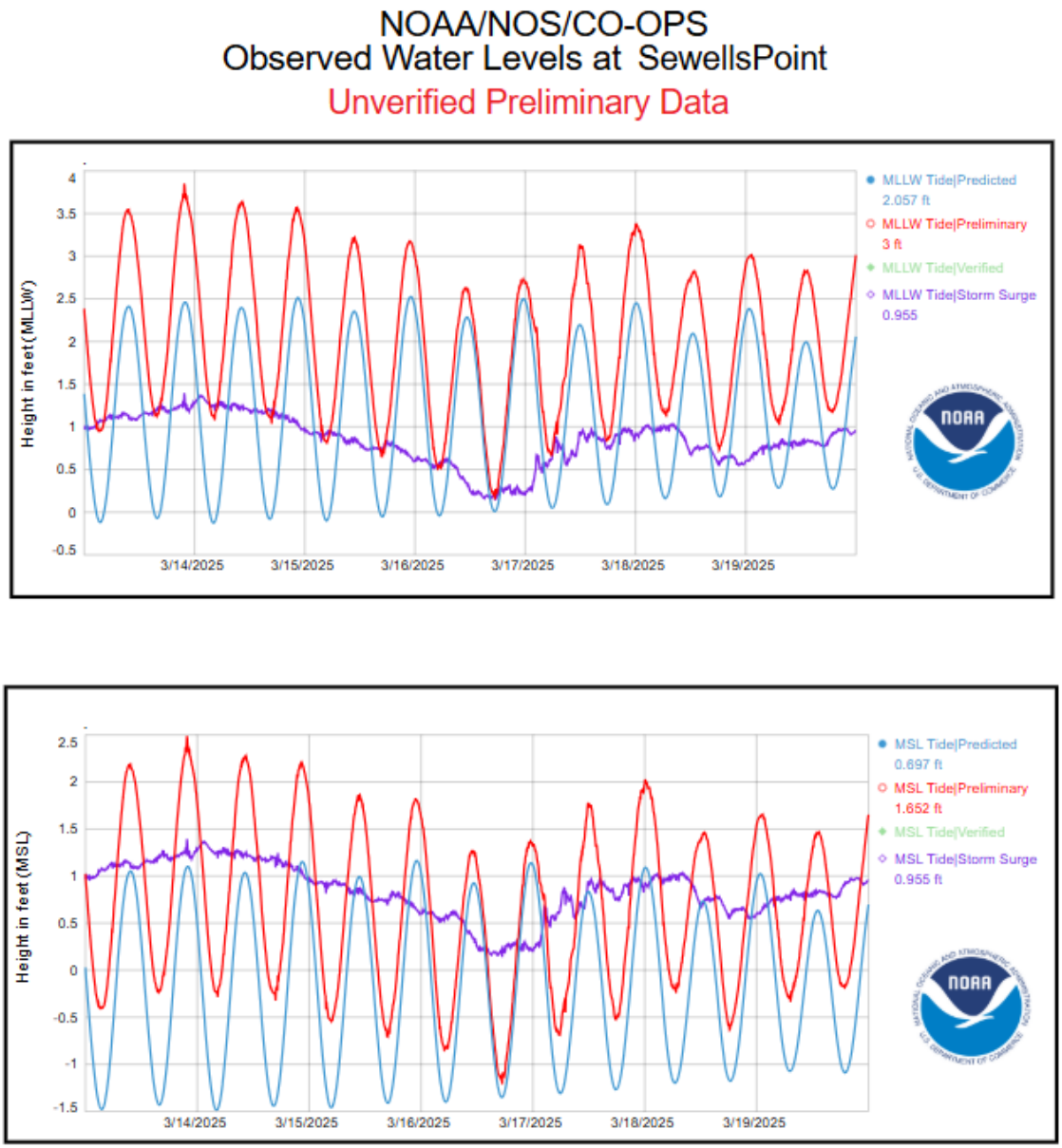


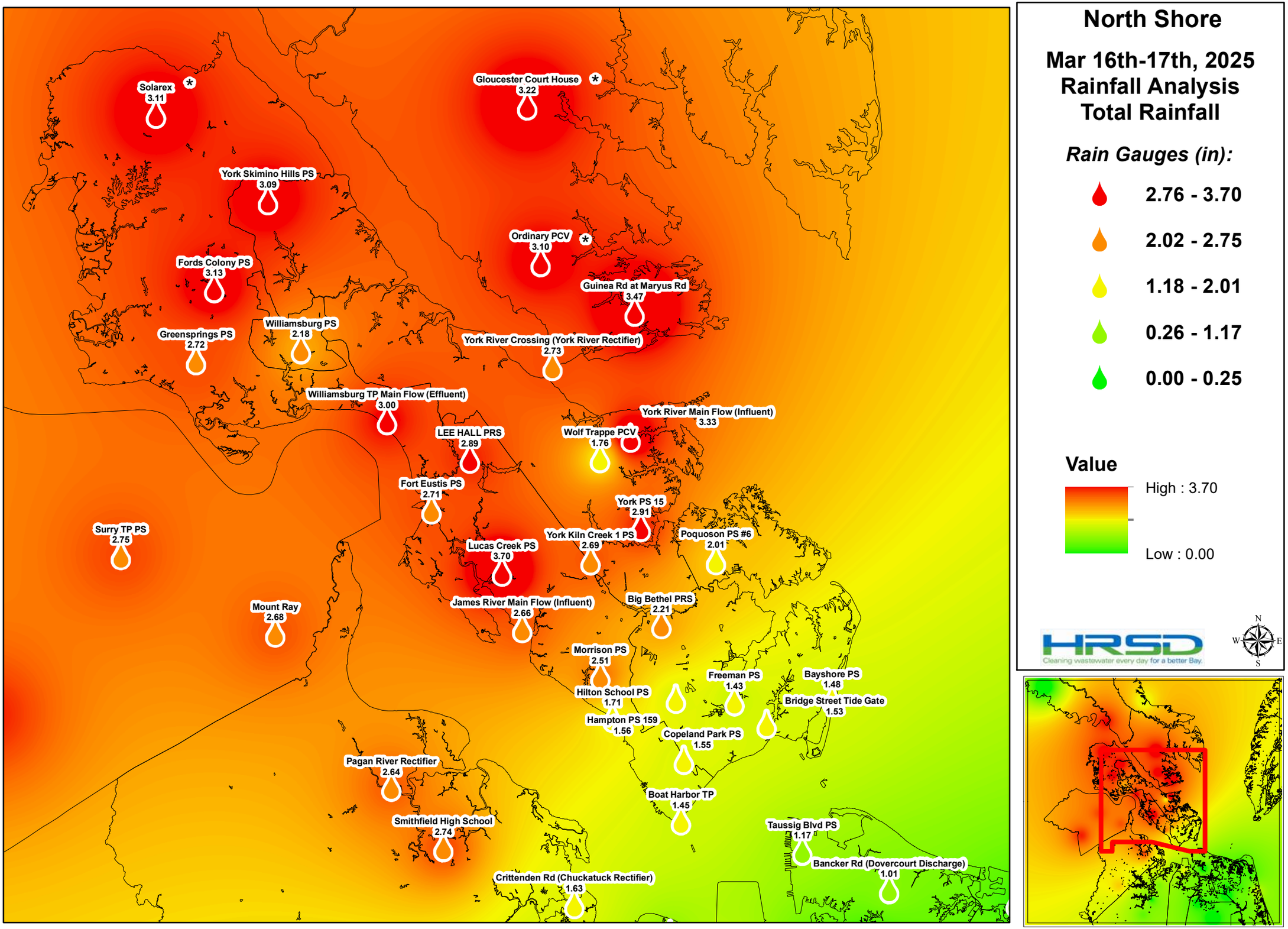
Figure 2. Preliminary data obtained from NOAA and a connection with Open Weather

Shallow Well Analysis:

Shallow wells are located at/or near HRSD Pump Stations to measure groundwater levels. The water column is measured using a pressure transducer located near the bottom of the well. The installed sensor measures gauge pressure in inches of water. The Shallow Well_NAVD88 measurement referenced in Appendix C refers to the elevation (referenced as NAVD 88) of the sensor plus the gauge measurement in feet.

Appendix A

HRSD Rain Gauge Network
Rainfall Totals



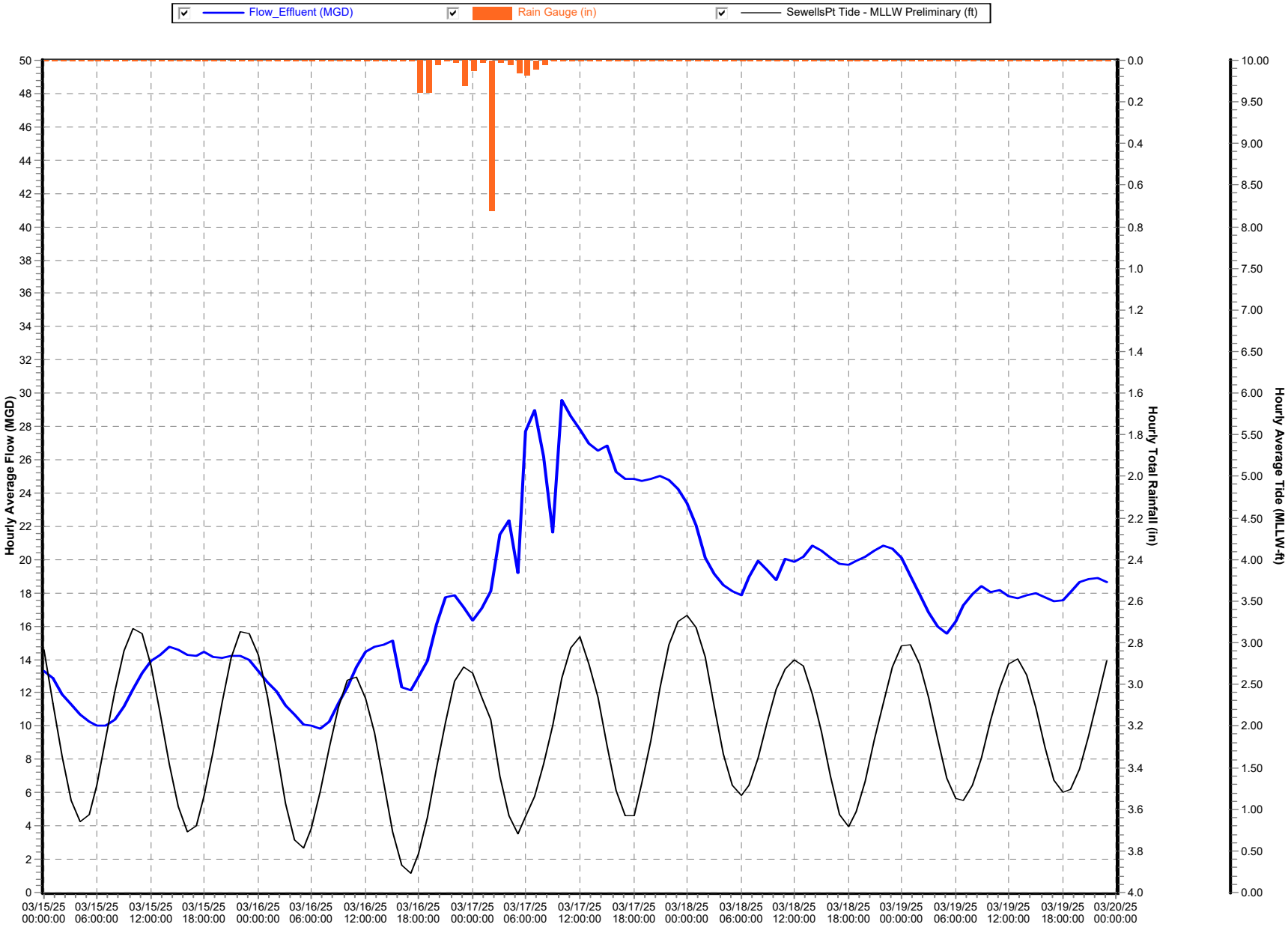
*Note: Rain Gauge was invalid for event and an average of surrounding sites was used. **Rain Gauge disconnected during event

Appendix B

HRSD Treatment Plant Flows

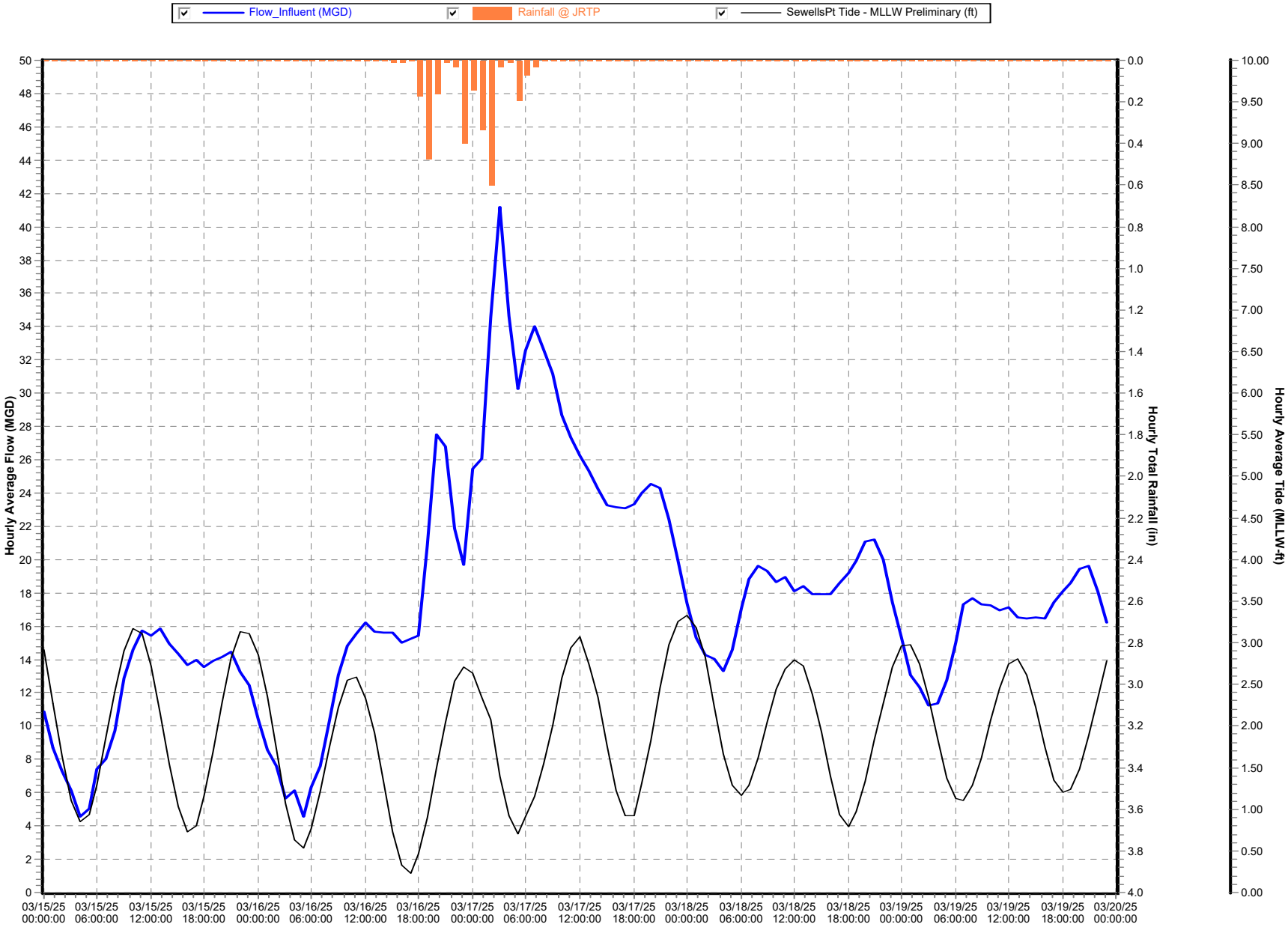
Boat Harbor Treatment Plant

MMPS-075 (03/15/25 to 03/20/25)



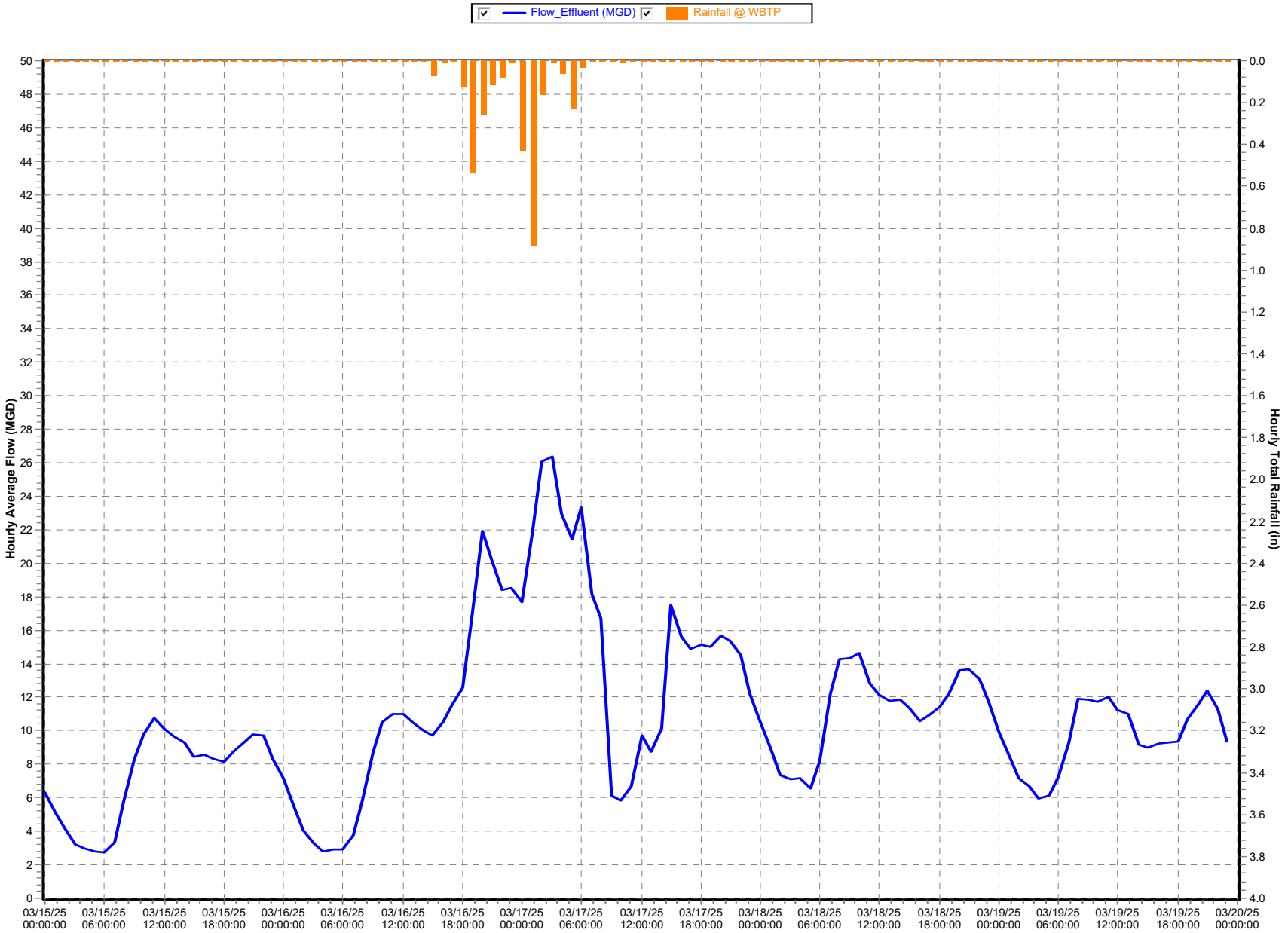
James River Treatment Plant

MMPS-184 (03/15/25 to 03/20/25)



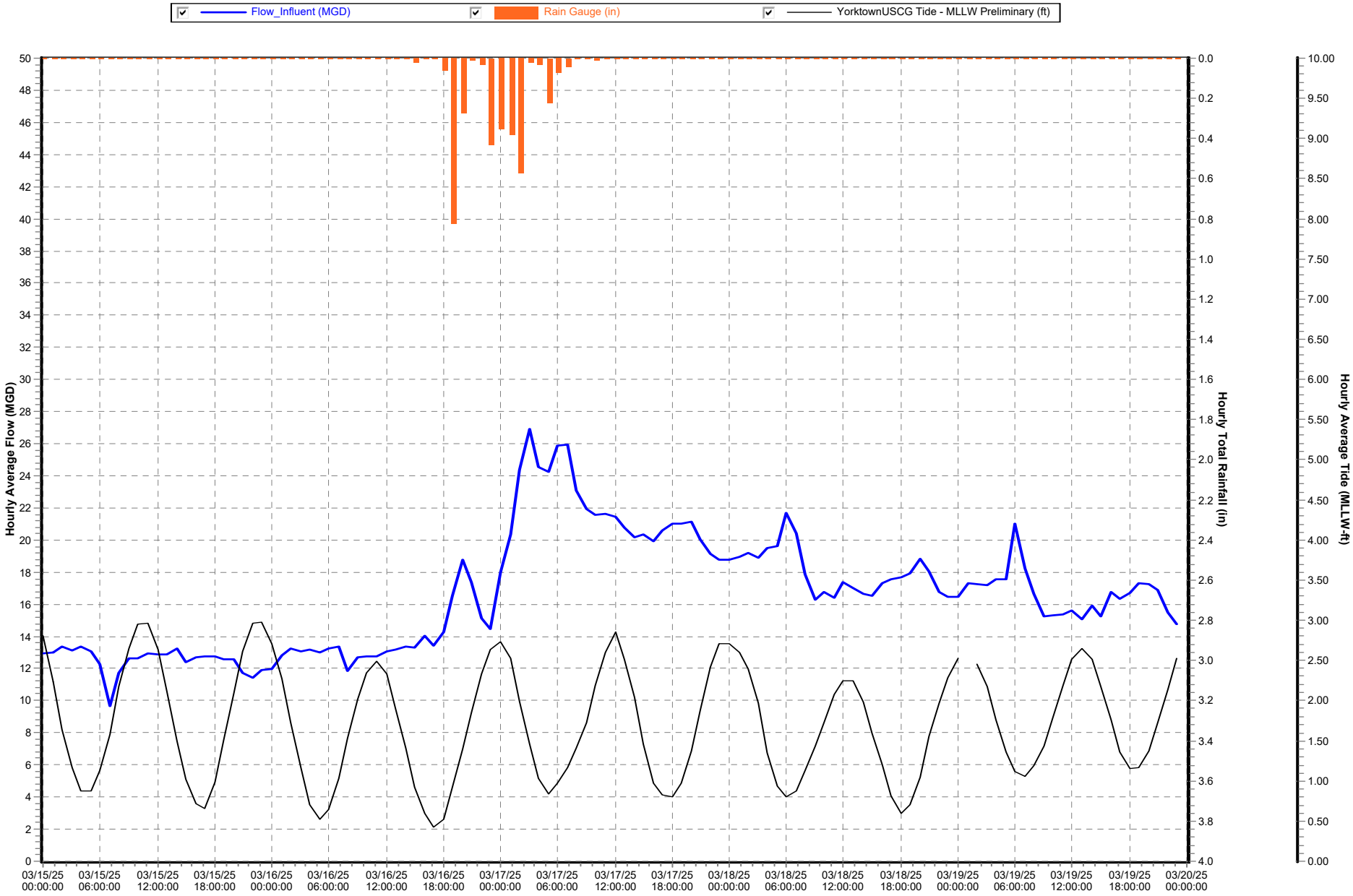
Williamsburg Treatment Plant

MMPS-222 (03/15/25 to 03/20/25)



York River Treatment Plant

MMPS-235 (03/15/25 to 03/20/25)



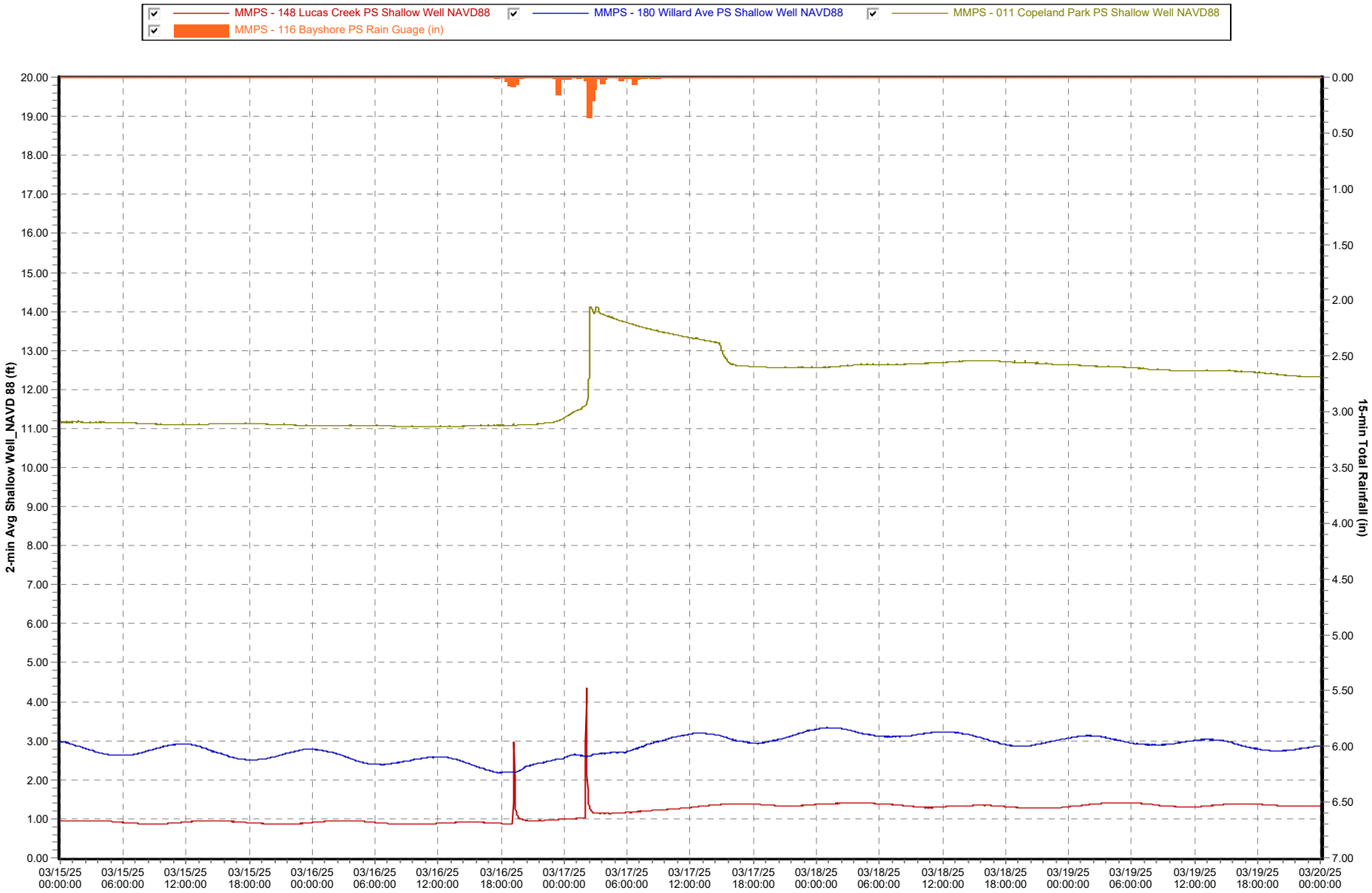
Appendix C

Shallow Well Analysis

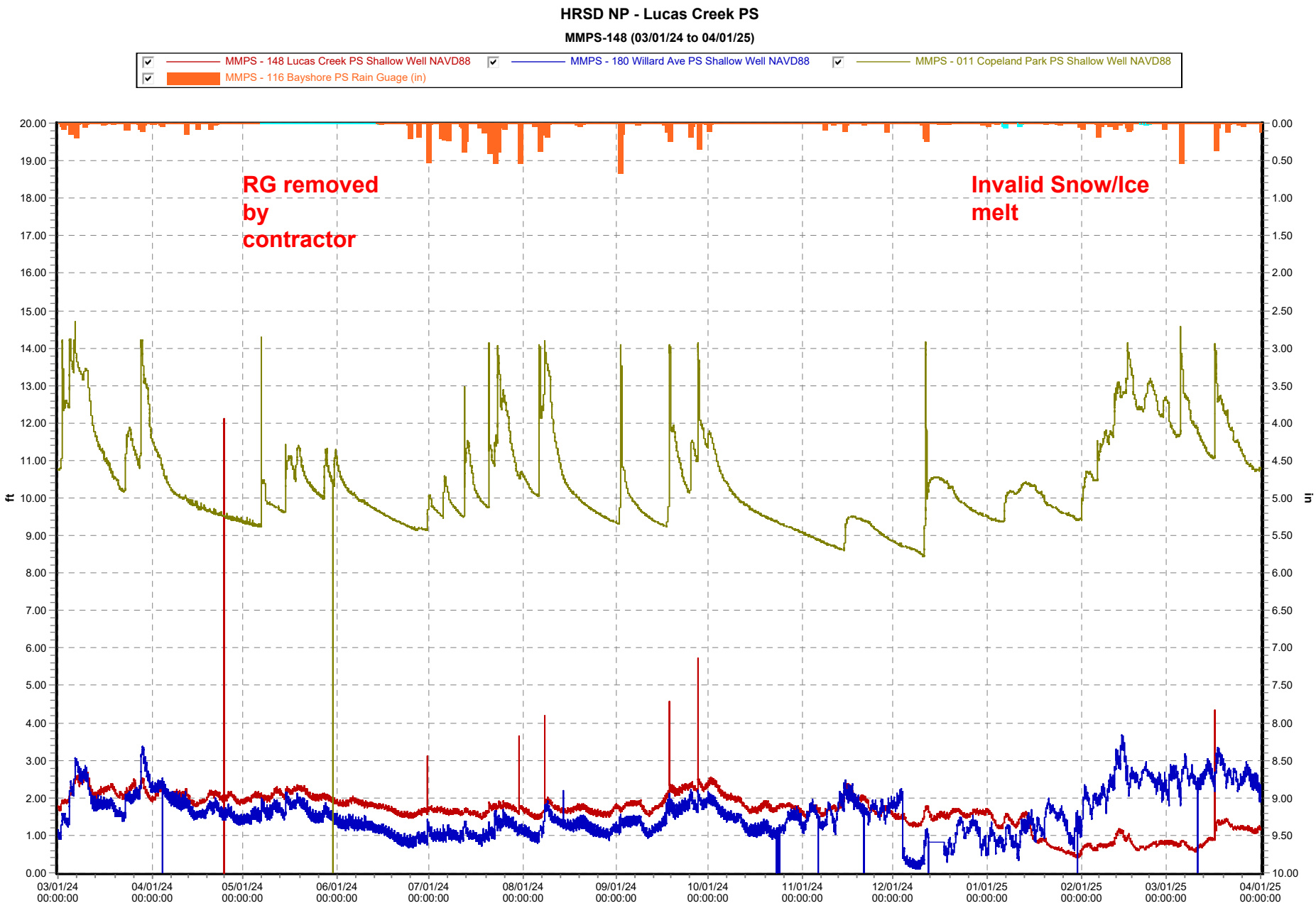
5 Day

North Shore Shallow Well Graphs

03/15/25 to 03/20/25



1 Year


HRSD NP - Lucas Creek PS
MMPS-148 (03/01/24 to 04/01/25)
MMPS - 148 Lucas Creek PS Shallow Well NAVD88
MMPS - 180 Willard Ave PS Shallow Well NAVD88
MMPS - 011 Copeland Park PS Shallow Well NAVD88
MMPS - 116 Bayshore PS Rain Guage (in)
RG removed by contractor
Invalid Snow/Ice melt
ft
in
20.00
19.00
18.00
17.00
16.00
15.00
14.00
13.00
12.00
11.00
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
0.00
0.50
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9.50
10.00
03/01/24 00:00:00
04/01/24 00:00:00
05/01/24 00:00:00
06/01/24 00:00:00
07/01/24 00:00:00
08/01/24 00:00:00
09/01/24 00:00:00
10/01/24 00:00:00
11/01/24 00:00:00
12/01/24 00:00:00
01/01/25 00:00:00
02/01/25 00:00:00
03/01/25 00:00:00
04/01/25 00:00:00