



**U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION III WATER BRANCH, ENFORCEMENT
AND COMPLIANCE ASSURANCE DIVISION
CLEAN WATER ACT
COMPLIANCE INSPECTION REPORT**

for

Name of Facility: AdvanSix Resins & Chemicals LLC
Facility Address: 905 E. Randolph Street, Hopewell, VA 23860
Mailing Address: 905 E. Randolph Street, Hopewell, VA 23860

Report Prepared on: July 12, 2022 By: KH Rupnik
Date Signature
Kettie Rupnik, Environmental Scientist
(PG Environmental)

Report Final as of: July 19, 2022 By: _____, EPA
Date Signature

General Information

Type of Inspection:	Industrial Stormwater and Wastewater CEI
Owner:	AdvanSix Resins & Chemicals LLC
Operator:	AdvanSix Resins & Chemicals LLC
Permittee:	AdvanSix Resins & Chemicals LLC
NPDES Permit No:	VA0005291 (Individual Permit)
NPDES Permit Effective Date:	August 1, 2016
NPDES Permit Expiration Date:	July 31, 2021 (Administratively Extended)
Receiving Water:	Gravelly Run, Poythress Run, and James River
Latitude and Longitude:	37.303141, -77.274155

On-Site Facility Inspection Overview

On April 25 through 27, 2022, representatives from U.S. Environmental Protection Agency (EPA) Region III, and EPA's contract inspectors from PG Environmental (collectively, EPA Inspection Team), conducted a compliance evaluation inspection at the AdvanSix Resins & Chemicals LLC (Facility) in Hopewell, Virginia. AdvanSix Resins & Chemicals LLC is identified as the Permittee and owns and operates the Facility. Representatives from the Virginia Department of Environmental Quality were present for the inspection on April 25 and 26, 2022.

Approximate Entry Time: 9:10 AM (EDT) 4/25/22 **Approximate Exit Time:** 5:45 PM (EDT) 4/27/22

Unique Project Identifier (UPI): 3E22MM041A

TABLE OF CONTENTS

	Page
I. INTRODUCTION.....	3
Facility History, Description, and Operations.....	5
Raw/Intake Water.....	6
Stormwater	6
Wastewater.....	7
Review of Recent Compliance/Enforcement History	7
II. INSPECTION PROCESS	8
Inspection Opening Conference	8
Facility Site Walk.....	9
Records Review	16
Summary of Observations.....	17
Closing Conference.....	33

List of Attachments

NPDES Appendix A:..... Photograph Log

NPDES Appendix B:..... Exhibit Log

- NPDES Exhibit 1 – Overhead Facility Map (from 2022 SWPPP)
- NPDES Exhibit 2 – VA0005291 Permit
- NPDES Exhibit 3 – Permittee Notification of Bypass, Upset, and Non-Routine Discharges
- NPDES Exhibit 4 – Enforcement Action Taken by VDEQ
- NPDES Exhibit 5 – Permittee’s Response to Enforcement Action Taken by VDEQ
- NPDES Exhibit 6 – EPA Region 3 Inspection (4/27/2021) and Permittee’s Response
- NPDES Exhibit 7 – VDEQ Inspection (March 2022) and Permittee’s Response
- NPDES Exhibit 8 – 2022 SWPPP (Including Spill Log and List of BMPs)
- NPDES Exhibit 9 – TMDL Action Plan, Stormwater Adaptive Management Plan and 2020 Annual Report and VDEQ’s Response (2021)
- NPDES Exhibit 10 – Stormwater Corrective Action Plan (First Quarter 2022)
- NPDES Exhibit 11 – ICIS Data (VA0005291)
- NPDES Exhibit 12 – Summary of Benchmark and Comparative Value Data Exceedances
- NPDES Exhibit 13 – Rock Check Dam Installation Specifications

I. INTRODUCTION

From April 25 through 27, 2022, representatives from U.S. Environmental Protection Agency (EPA) Region III and EPA’s contract inspectors from PG Environmental (hereinafter, collectively referred to as the EPA Inspection Team) inspected the AdvanSix Resins & Chemicals LLC (hereinafter, Facility) in Hopewell, Virginia. Representatives from the Virginia Department of Environmental Quality (VDEQ) attended the inspection on April 25 and 26, 2022. AdvanSix Resins & Chemicals LLC (AdvanSix or Permittee) is identified as the Permittee and owns and operates the Facility.

Wastewater and stormwater discharges at the Facility are regulated by several permits, including an individual Virginia Pollutant Discharge Elimination System (VPDES) permit (VA0005291), the VPDES General Permit for Stormwater Discharges Associated with Industrial Activity (VAR052505), an industrial user permit for discharges to the Hopewell Water Renewal Facility (Hopewell WRF) (Industrial Wastewater Discharge Permit Number 1), and the General Permit for Total Nitrogen and Total Phosphorus discharges and Nutrient Trading in the Chesapeake Watershed in Virginia (VAN040082).

The Facility’s Individual VPDES Permit (VA0005291) was the focus of this inspection (VA0005291 or “Permit”). The Permit has been administratively extended, and the Permittee had applied for a new Individual Permit at the time of the inspection. The Facility representatives stated that they had submitted their application, which they hoped would cover all discharges from the Facility so that they could forgo coverage under the General Permit (VAR052505). A summary of the Facility’s VPDES permits, their outfall numbers, and types of discharges are presented in Table 1.

Table 1. List of Water-related Permits at the Facility, Permitted Outfalls, Descriptions of Authorized Discharges, and Associated Notes

Permit Number	Permitted Outfall Number	Description of Authorized Discharges	Notes
VA0005291 (Individual VPDES Permit)	Outfall 001	Once through, non-contact cooling water; Outfalls 101; 301; and 401; stormwater	
	Outfall 101	Contact cooling water from ammonium fertilizer manufacturing	Combined discharges from two barometric condensers
	Outfall 999	Once through, non-contact cooling water, cooling tower blowdown; emergency deluge system; regeneration wastewater from ion exchange units; Outfalls 101; 301; and 401; and stormwater	Not an actual discharge location. Calculation of discharges from Outfalls 001, 002, and 003.
	Outfall 998		Not an actual discharge location. Calculation of discharges from Outfalls 001 and 002.
	Outfall 301	Stormwater collected by the #6 fuel oil storage containment dike	
	Outfall 401	Discharge from the oil/water separator on the floor drain system from steam generation	
	Outfall 002	Once through, non-contact cooling water, cooling tower blowdown;	

Permit Number	Permitted Outfall Number	Description of Authorized Discharges	Notes
		emergency deluge system; and stormwater	
	Outfall 003	Once through, non-contact cooling water, cooling tower blowdown; regeneration wastewater from ion exchange units; and stormwater	
	Stormwater Outfall 904	Stormwater	Marine Operations Area, to James River
	Stormwater Outfall 905	Stormwater	Marine Operations Area, to James River
	Stormwater Outfall 906	Stormwater	Marine Operations Area, to James River
	Stormwater Outfall 907	Stormwater	Discharge to Poythress Run
	Stormwater Outfall 908	Stormwater	Discharge to Gravelly Run
	Stormwater Outfall 909	Stormwater	Discharge to Gravelly Run
	Stormwater Outfall 910	Stormwater	Discharge to Gravelly Run
	Stormwater Outfall 911	Stormwater	Marine Operations Area, to James River
VAR005205 (General Stormwater Permit)	Stormwater Outfall 912	Stormwater	Discharge to Poythress Run
	Stormwater Outfall 913	Stormwater	CPEC facility
Industrial User Discharge Permit (Industrial Wastewater Discharge Permit Number 1)	Outfall H-1	Process wastewater	Facility refers to this outfall as “Outfall 004”.
	Outfall H-1B	Domestic wastewater (south)	
	Outfall H-1C	Domestic wastewater (north)	Process and domestic wastewaters from Praxair and Airgas (separate neighboring industrial entities that lease property from AdvanSix) combine with the Advansix discharge at Outfall H-1C. The discharge from Advansix at this location is non-contact cooling water from the Kellogg process area (identified as process wastewater by the Facility).
VAN040082 (Bay TMDL Permit)	Outfall 500		Calculated total of 501, 502, and 503
	Outfall 501		Outfall 001 VA0005291
	Outfall 502		Outfall 002 VA0005291
	Outfall 503		Outfall 003 VA0005291

The primary purpose of the inspection was to review basic production and treatment processes at the Facility, evaluate operations related to the management of stormwater and waste streams, review the accuracy and reliability of the Permittee's self-monitoring and reporting program, and obtain information that will assist EPA in assessing the Permittee's compliance with the requirements of the Permit. The weather on April 25, 2022 was sunny, sunny and rained on the afternoon of April 26, 2022, and was mild and sunny on April 27, 2022.

Facility History, Description, and Operations

The Facility has been in operation since the early 1910s, and underwent several expansions during the 1950s, 1960s, and 1970s. The Facility was once owned by Dupont, then Honeywell. On October 1, 2016 the Facility was purchased by AdvanSix from Honeywell. The Facility representatives stated that no significant changes in process operations have occurred since the Facility was purchased in 2016. AdvanSix produces various products at the Facility, including caprolactam, ammonium sulfate, cyclohexanone, cyclohexanol, and other specialty chemicals.

The Facility receives phenol, molten sulfur, and natural gas to produce caprolactam, a component of Nylon. The Facility also produces ammonium sulfate to support the generation of industrial fertilizers and various intermediate chemicals including high-purity solvents for the electronics industry. The Facility has 13 sub-areas that house various mixing, distilling, purifying, and evaporating processes for chemical formulation. Process wastewater generated from these operations is collected in the process sewer and receives flow equalization and pH adjustment prior to discharge to Hopewell WRF.

The Permittee receives phenol via barge, which is unloaded at the Marine Operations Area of the Facility and is stored in several holding tanks before being processed in Area 6 where synthesis gas (containing hydrogen and nitrogen from natural gas) is added to form cyclohexanone. Ammonia and other intermediate chemicals are added to the cyclohexanone in Area 8 for additional processing and then the products go to Area 16 for the production of crude caprolactam and crude ammonium sulfate.

Area 16 is used for the generation of crude ammonium sulfate and caprolactam through distillation. The crude ammonium sulfate is further processed in Area 11 where water is evaporated from the product. The final solid ammonium sulfate products are then stored in Building 12 and 12A, before being shipped by rail or truck, or are stored in Buildings 40, 41, and 42 of the Marine Operations Area before they are shipped by barge to customers. The crude caprolactam is sent to Area 7 and is further distilled and liquid is evaporated before the final product is shipped offsite to customers via truck or rail.

The Permittee also receives molten sulfur via rail, which is housed in storage tanks VT-441 and VT-442 before going to the sulfuric acid plant (SAP) where the sulfur is processed into oleum (high-strength sulfuric acid) and is sent to Area 8 and Area 16 to produce crude caprolactam and ammonium sulfate. A portion of the synthesis gas from the molten sulfur processing is sent to Area 6 to support cyclohexanone and cyclohexanol production. Another portion of the molten sulfur is sent to Area 9, which has five different trains for generating hydroxylamine. A portion of the hydroxylamine is sent to Area 8. Natural gas is delivered to the Facility via pipeline and is processed in the Kellogg/Girdler plant. A portion of the synthesis gas is directed to Area 6 for cyclohexanone and cyclohexanol production. Ammonia from the Kellogg plant is sent to Area 9 to support the hydroxylamine process or to Area 14. At Area 14, methyl ethyl ketone and acetaldehyde are added to form the oxime versions of the chemicals (i.e., acetaldehyde oxime methyl ethyl ketone oxime). At Area 14, methyl propyl ketone is added to the ammonia to form a final product of 2-pentanone oxime.

The Facility is characterized under standard industrial classification (SIC) codes 2819 (Industrial Inorganic Chemicals), 2869 (Industrial Organic Chemicals), and 2873 (Agricultural Chemicals). The Permittee manufactures over 1 billion tons per year of ammonium sulfate at the Facility, which makes up approximately one third of the fertilizer on the U.S. Market. The Permittee ships and receives raw and final

materials by barge, truck, and rail and stores approximately 20 million pounds of chemicals onsite. The Facility is operational 24 hours, seven days a week and employs approximately 750 individuals over four 12-hour shifts. The Permittee temporarily closes some areas of the Facility for maintenance activities, during what is referred to as the “Spring Turn Around” and “Fall Turn Around” events, which may last from a few days to a month. There are some other short term maintenance activities that occur at the Facility, for between 24 and 36 hours.

During maintenance periods, the Permittee may generate “non-routine” materials, which are collected and characterized (as hazardous or non-hazardous). The Permittee then works with a contracted service to generate a hazardous waste profile, as needed. Based on the results of the profile, the waste may be disposed of as hazardous or hauled to the Shoosmith Landfill or discharged to the Hopewell WRF. The Facility representatives stated that they may or may not notify the Hopewell WRF of the discharge of the waste, depending on its profile.

The Facility encompasses 483 acres, approximately 53 percent of which is used for industrial purposes. The remaining 227 acres of the site are undeveloped. Generally, the Facility is divided into a northern and southern half by Industrial Street. The eastern side of the Facility houses the Marine Operations Area, along the James River where barge loading and unloading of raw and final products occur. The Facility is bordered by WestRock on the southeastern side, by Virginia American Water on the southwestern side, and by Airgas and Praxair on the northwest. Gravelly Run is located along the southern border and Poythress Run to the north, both of which ultimately lead to the James River.

During the opening conference the Facility representatives stated that AdvanSix had recently purchased the previous City Point Energy Center (CPEC) facility, located on East Randolph Road to the south of AdvanSix. The CPEC facility once housed natural gas boilers and coal storage areas. The Facility representatives stated that the equipment and structures on the CPEC property have been demolished and the property was purchased by AdvanSix during 2018/2019. CPEC has a single permitted outfall (Stormwater Outfall 913) and is covered under the General Stormwater Permit (VAR005205).

An overhead map of the Facility is provided in Appendix B, Exhibit 1.

Raw/Intake Water

The Facility has raw water intakes near the Marine Operations Area, along the eastern perimeter of the Facility, south of the pier. Raw water from the James River is not pre-treated prior to use as once-through non-contact cooling water throughout the Facility, apart from debris removal through a 3-inch screen. The cooling water is then discharged through Outfall 001 to Gravelly Run. The Facility also purchases approximately 8 million gallons per day (MGD) of water from Virginia American Water, which is drawn from the Appomattox River, for both potable and industrial non-potable uses. The water from Virginia American Water is used in the Kellogg process and powerhouse units (both are steam generated processes); the water passes through resin beds for softening prior to use.

Stormwater

The Facility is divided into 13 stormwater drainage basins and has 13 permitted outfalls where stormwater discharges from the Facility. Outfalls 003, 912, and 907 are located along the northern property boundary and discharge to Poythress Run. Outfalls 906, 905, 904, and 911 are located along the northeastern property boundary and discharge to the James River. Outfalls 001, 002, 908, 909 and 910 are located in the southern area of the Facility and discharge to Gravelly Run. Stormwater Outfall 913 is located at the City Point Energy Center (CPEC), south of AdvanSix and was not visited as part of the inspection. The Facility Environmental Engineer mentioned that there are between 30-40 acres of the Facility that are considered as “sheet flow”, in which stormwater flows offsite from areas other than permitted stormwater discharge locations, as depicted on the 2022 [Stormwater Pollution Prevention Plan] SWPPP Site Map (refer to

Appendix B, Exhibit 1). Refer to the *Facility Site Walk* and *Summary of Observations* for additional information.

Wastewater

The Facility generates process wastewater through various operations, including cooling water, steam condensate, boiler blowdown, discharge from air pollution control devices, equipment wash waters, and others. Wastewater discharged to the process sewer is collected in a lift station and is pH adjusted with caustic before being pumped to one of two equalization ponds and then being discharged to the Hopewell WRF. The Facility representatives explained that the Facility began discharging process wastewater to the Hopewell WRF after it was constructed during the 1970s.

The Hopewell WRF was initially built to treat discharges from the nearby industries and industrial sources make up approximately 80 percent of the WRF influent. The local industries contributed funding to the construction and operation of the Hopewell WRF. Several industrial members are on the Hopewell WRF board, providing technical and administrative oversight. According to the Facility representatives, on July 1, 2025, the Hopewell WRF will be owned independently of the industries. The Facility representatives explained that the Facility has three discharge locations to the Hopewell WRF, (as described in Table 1), one line conveys process wastewater (approximately 6.5 MGD) and two domestic lines (approximately 1 MGD).

Once-through non-contact cooling water, discharge from barometric condensers, cooling tower blowdown, regeneration wastewater from ion exchange units, flow treated by oil and water separators, and stormwater are authorized by VA0005291 (Appendix B, Exhibit 2) to be discharged from the permitted outfalls to the receiving waters. The Facility representatives stated that the Facility has two independent Dominion Power Stations that provide power and has backup generators to support critical systems in the event of a power outage.

Review of Recent Compliance/Enforcement History

As a component of the inspection, the EPA Inspection Team reviewed the Permittee's compliance history as well as enforcement actions taken by the state and EPA. Although not a focus of this inspection, it should be noted that the Facility continues to be subject to a 2013 federal consent decree with the Department of Justice, EPA, and the Commonwealth of Virginia.

Permittee Notification of Bypass, Upset, and Non-Routine Discharges (refer to Appendix B, Exhibit 3 for additional information)

- The Permittee notified VDEQ, via email on June 16, 2021 and in writing on June 21, 2021, of a sanitary sewer overflow that occurred at the Facility on June 16, 2021, resulting in approximately 90 gallons of sewage discharged to Outfall 001.
- The Permittee notified VDEQ via email on December 7, 2021 and in writing on December 10, 2021, of a monthly average exceedance of carbonaceous biological oxygen demand (cBOD) loading during November 2021 at Outfall 101 related to a process upset.
- The Permittee notified VDEQ via email on December 16, 2021 and in writing on December 21, 2021, of a cBOD exceedance that was the result of an unrepresentative sample collected at Outfall 101.
- The Permittee notified VDEQ, via email on March 18, 2022 and in writing on March 22, 2022, of a non-routine discharge of cooling water to Outfall 003 on March 17, 2022. The Permittee stated that one of the underground lines conveying cooling water through the Kellogg Cooling Tower experienced a failure. The discharge occurred for approximately 32 hours, with a flow rate of 100 gallons per minute (gpm), then reduced to 40 gpm. The Permittee corrected the leak and planned to conduct additional evaluations to identify the source of the failure.

Enforcement Action taken by VDEQ (refer to Appendix B, Exhibits 3 through 5 for additional information)

- VDEQ issued an Order By Consent to the Facility on April 15, 2020 for an unauthorized discharge of phenol occurring on October 12, 2017 to Outfall 002, which resulted in a fish kill of 1,452 dead and moribund fish in Gravelly Run. VDEQ issued a civil charge of \$51,885 to the Permittee. The Permittee took the corrective actions to correct the issue that resulted in the phenol discharge and fish kill.
- VDEQ issued a Warning Letter to the Facility on July 23, 2021 for exceeding the total suspended solids (TSS) limit from Outfall 401 during May 2021.
- VDEQ issued a Notice of Violation to the Facility on September 14, 2021 for exceeding the TSS limit from Outfall 401 during April and May 2021.
- VDEQ issued a Notice of Violation to the Facility on February 3, 2022 for exceeding the CBOD5 Average daily loading limit from Outfall 101 during November 2021 and for submitting Discharge Monitoring Report (DMR) data for Outfalls 101, 904, 905, 906, 907, 908, 909, 910, 911, and 999 past their due date.
- VDEQ issued a Notice of Violation to the Facility on March 15, 2022 for failing to submit DMRs with CBOD5 data for January 2022, as required by VA0005291.

Summary of Deficiencies identified during EPA Region 3 Inspection (4/27/2021) (refer to Appendix B, Exhibit 6 for the inspection report and the Permittee's response)

- Outdated SWPPP and SWPPP site map inconsistencies
- Pollution prevention and good housekeeping issues
 - Soil erosion near Stormwater Outfall 912
 - Collapsed concrete stabilization in the northeast corner of the Facility
 - Unknown white substance in multiple areas of the Facility
 - Ammonium sulfate fertilizer tracking
 - Dry weather flows

Summary of Deficiencies identified during the VDEQ Inspection (3/1/22 and 3/7/22) (refer to Appendix B, Exhibit 7 the inspection report and the Permittee's response)

- Inconsistent SWPPP training documentation dates
- Late submittal of required monitoring reports
- Unpermitted outfall adjacent to Stormwater Outfall 907
- Inappropriate claim of substantially identical outfalls for Stormwater Outfall 906 and 912 (these outfalls are covered by different permits)
- Pollution prevention and good housekeeping issues
 - Unidentified white substance accumulated in ditches leading to Stormwater Outfall 906
 - Spilled white substance on the perimeter of the gravel road adjacent to the Stormwater Outfall 906 drainage area
 - Tracked material on the pavement outside of Buildings 12, 40, 41, and 42 and on the railway of the Outfall 912 drainage area
 - Unknown white material around the dumpsters near the sand blast area and dried sulfur materials near the railcar unloading areas

II. INSPECTION PROCESS

Inspection Opening Conference

The EPA Inspection Team arrived at the Facility at 9:10 AM (EDT) on April 25, 2022 for the inspection. Kettie Rupnik of PG Environmental displayed her CWA inspector credential to Mr. Philip Sparks, Environmental Lead, at the outset of the inspection. Mr. Bruce Augustine of EPA Region III explained the purpose of the inspection was to observe compliance with the Permit. The EPA Inspection Team informed

the Permittee that any information that the Facility deemed to be confidential business information (“CBI”) should be identified to EPA representatives during the inspection and it would be handled as CBI according to EPA’s CBI procedures. Table 2 describes the individuals that participated in the inspection.

Table 2. Inspection Attendee List

Name and Dates Attended	Affiliation	Telephone	Email
EPA Region III Inspectors and Contractors			
Bruce Augustine (April 25-27, 2022)	EPA Region III	215-814-2131	augustine.bruce@epa.gov
Chad Harsh (April 25-27, 2022)	EPA Region III	215-814-2633	harsh.chad@epa.gov
Rebecca Serfass (April 25-27, 2022)	EPA Region III	215-814-2047	serfass.rebecca@epa.gov
Eric Greenwood (April 25-27, 2022)	EPA Region III	215-814-2057	greenwood.eric@epa.gov
Kettie Rupnik (April 25-27, 2022)	PG Environmental	540-420-3254	kettie.rupnik@pgenv.com
Chuck Durham (April 25-27, 2022)	PG Environmental	615-888-2928	chuck.durham@pgenv.com
Virginia Department of Environmental Quality			
Tiffany Severs (April 25-26, 2022)	VDEQ	804-698-4512	tiffany.severs@deq.virginia.gov
Shawn Weimer (April 26, 2022)	VDEQ	804-659-2704	shawn.weimer@deq.virginia.gov
Jeremy Hicks (April 26, 2022)	VDEQ	804-659-2687	jeremy.hicks@deq.virginia.gov
Facility Representatives			
Phillip Sparks (April 25-27, 2022)	Environmental Lead, AdvanSix	804-541-5119	Phillip.Sparks@advansix.com
Andrew Parker (April 25-27, 2022)	Environmental Engineer, AdvanSix	804-541-5734	Andrew.Parker2@advansix.com
Melvin LeSane (April 25-27, 2022)	Compliance Coordinator, AdvanSix	804-712-0634	Melvin.lasane@advansix.com
Mason McElroy (April 25-27, 2022)	One Environmental (Contractor to AdvanSix)	804-239-2767	mmcelroy@oneenv.com

Facility Site Walk

The EPA Inspection Team visually observed the site conditions in the presence of the Facility representatives listed in Table 2. The primary purpose of the inspection was to review industrial processes at the Facility, evaluate the accuracy and reliability of the Permittee’s self-monitoring and reporting program, and to obtain information that will assist EPA in assessing the Permittee’s compliance with the requirements of the Permit. Photographs were taken during the inspection by Kettie Rupnik and Chuck Durham. Photographs used to support the observations in this report are included in Appendix A, Photograph Log. Photographs not used are kept on file at EPA, Region III. Documents used to support the observations in this report are included in Appendix B, Exhibit Log.

Over the course of the three-day inspection the EPA Inspection Team reviewed documents and observed various areas of the Facility. Due to the size of the Facility, members of the EPA Inspection Team split into groups to observe different areas of the Facility and were always accompanied by a Facility representative. A summary of the inspection observations for the various areas are further detailed below.

Buildings 12 and 12A and Stormwater Outfall 909 Drainage Area

Buildings 12 and 12A are in the southern area of the Facility, northwest of the wastewater ponds, and are used for dry material storage of ammonium sulfate. On April 25, 2022, the EPA Inspection Team observed ammonium sulfate track out from Buildings 12 and 12A onto the asphalt surface, in the vicinity of drains leading to the process wastewater sewer and to storm drains leading to Outfall 001, according to the Facility Environmental Engineer (refer to Appendix A, Photographs 1 through 3). The EPA Inspection Team observed three process drains along the southern side of the buildings that were in need of repair and had accumulated sludge (refer to Appendix A, Photographs 4 through 5). The Facility Environmental Engineer stated that the drains were in the process of being rehabilitated.

The EPA Inspection Team returned to the area near Buildings 12 and 12 A on April 26, 2022 during a rain event and observed an employee driving a front-end loader, transporting uncovered ammonium sulfate product outside of Buildings 12 and 12A, in the vicinity of a storm drain inlet (refer to Appendix A, Photograph 6). The Facility Environmental Engineer directed the employee to halt performing the activity. The Facility Environmental Engineer explained that ammonium sulfate is highly concentrated and turns to black when mixed with water. The EPA Inspection Team observed black stormwater accumulated in the areas, most of which was observed entering the process wastewater drains along the southern side of Buildings 12 and 12A (refer to Appendix A, Photograph 7).

While in the southern area of the Facility on April 25, 2022, the EPA Inspection Team observed Stormwater Outfall 909, south of Buildings 12 and 12A, along the Facility's fence line. The EPA Inspection Team observed a sock filter best management practice (BMP) in addition to a cement block and gravel BMP at Stormwater Outfall 909. The EPA Inspection Team observed evidence of erosion along the hillside to the east of Stormwater Outfall 909, indicating that stormwater was bypassing the BMPs and Stormwater Outfall 909, and discharging directly to Gravelly Run (refer to Appendix A, Photographs 8 through 10). The Facility Environmental Engineer explained that the monitoring point for Stormwater Outfall 909 was a conveyance channel, toward Gravelly Run, downgradient of the Stormwater Outfall 909. Samples collected from this location would not be representative of the stormwater discharge that bypasses the BMPs and Stormwater Outfall 909 and discharges directly to Gravelly Run. The EPA Inspection Team returned to this area on April 26, 2022 during a rain event and observed that additional gravel had been applied to the east of Stormwater Outfall 909 (refer to Appendix A, Photograph 11). It was unclear to the EPA Inspection Team if the gravel was meant to function as a BMP and what efficacy, if any, this approach would have on eliminating the apparent unpermitted discharge.

Wastewater Treatment and Outfall 004

Wastewater from the process sewer (as previously discussed in the Introduction section of this report) is collected at a lift station in the southern area of the Facility where the influent pH is measured and automatically adjusted using caustic. The Facility Environmental Engineer stated that the pH probes are calibrated on a weekly basis and that they are replaced regularly throughout the Facility, due to failure. The EPA Inspection Team observed a bypass line in the lift station that leads to Gravelly Run. The Facility Environmental Engineer stated that the Permittee has never discharged from the bypass line.

Wastewater is pumped from the lift station (using one of four pumps) to the equalization pond or the diversion pond (refer to Appendix A, Photographs 17 and 18). The Facility Environmental Engineer explained that the lead pump is changed approximately once every 10 days. A sample of wastewater from the lift station is collected and analyzed in the analyzer shed for total organic carbon (TOC), ammonia, conductivity, and pH. If the wastewater is within the predetermined limits of these parameters, based on instrumentation readings, it is pumped to the equalization pond. If the wastewater is outside of the limits of these parameters, the wastewater is automatically routed to the diversion pond.

Both the equalization pond and the diversion pond are double-lined with leak detection equipment and are located above 18 inches of compacted clay. According to the Facility representatives, sludge was cleaned

and removed from the equalization pond in 2020 and from the diversion pond in 2021; these structures are generally cleaned on a five-year basis. They further stated the liners of the ponds were also changed during the dredging process. The sludge from the pond was characterized prior to landfill disposal. The Permittee does not routinely collect samples from the ponds for quality control purposes.

The equalization pond has a capacity of approximately 3.5 million gallons and a retention time of between five and six hours. The diversion pond has a capacity of approximately 6 million gallons. The Facility has the ability to discharge from either of the ponds to the flume leading to the Hopewell WRF. However, the Permittee does not have the ability to move wastewater from one pond to the other without the use of a hose and portable pumping system. The Permittee slowly releases wastewater collected in the diversion pond while releasing wastewater from the equalization pond to the final flume leading to the Hopewell WRF. Effluent from the ponds combine before a series of baffles that flow to the flume before being discharged to the Hopewell WRF (refer to [Appendix A, Photograph 19](#)). Composite samples are collected from the flume while grab samples are collected from the analysis shed. The Permittee continuously monitors the discharge from Outfall 004 for flow and temperature. The EPA Inspection Team observed that the temperature instrumentation at the Outfall 004 compliance point was reading, “FAIL” (refer to [Appendix A, Photograph 20](#)).

After viewing the lift station and on the way to the wastewater ponds, the EPA Inspection Team observed an unidentified white granular substance on the ground surface near the oil shed in the southern area of the Facility, east of Gravelly Run and west of the wastewater ponds (refer to [Appendix A, Photographs 12 through 14](#)). Stormwater that collects in this area would flow west to Gravelly Run. The Facility Environmental Engineer explained that stormwater from this area is considered “industrial sheet flow” and does not discharge from a permitted stormwater outfall to a receiving water.

Outfall 001

The EPA Inspection Team observed wastewater discharges from outlets 1, 2, and 3 to Outfall 001 (refer to [Appendix A, Photograph 15](#)). The discharge was slightly cloudy, with foam in some areas. The EPA Inspection Team observed an abandoned oil skimmer boom near Outfall 001 (refer to [Appendix A, Photograph 16](#)). The discharge from Outfall 001 is continuously monitored for pH, conductivity, flow, ammonia, and TOC.

Stormwater Outfall 910 Drainage Area

The EPA Inspection Team observed the channel running along the southeastern perimeter of the Facility, where Stormwater Outfall 910 discharged to Gravelly Run. An abandoned pipeline ran parallel to the Facility’s property boundary. The EPA Inspection Team observed pipes and equipment stored along the fence line, upgradient of Stormwater Outfall 910 without overhead cover or containment (refer to [Exhibit A, Photographs 21 and 22](#)). The EPA Inspection Team proceeded to the dumpster storage area to the east of the equalization pond, upgradient of the channel leading to Stormwater Outfall 910. The Facility Environmental Engineer explained that the dumpsters are used for storing deep poly resin waste. The EPA Inspection Team observed berms around the southern and eastern boundary of the dumpster storage area. The ground sloped north towards a sump under the garbage compactor, with a sump, leading to the process wastewater sewer. The EPA Inspection Team observed a sheen on the pavement surface and trash and debris upgradient of Stormwater Outfall 910 (refer to [Appendix A, Photographs 23 and 24](#)).

Outfall 003

On April 26, 2022, the EPA Inspection Team began the field component of the inspection at Outfall 003 in the northwestern area of the Facility (refer to [Appendix A, Photograph 25](#)). Outfall 003 discharges to Poythress Run, which flows along the northern border of the Facility. The Facility Environmental Engineer explained that the Facility discharges approximately 9 MGD from Outfall 003 and that the effluent is continuously measured for flow, pH, and temperature for compliance purposes and ammonia, EC, and TOC for process control. The discharge from 003 includes both stormwater and non-contact cooling water. The

nearby facilities of Airgas, Praxair, and Messmer also discharge stormwater from this location. The EPA Inspection Team observed that the discharge was slightly cloudy.

Stormwater Outfall 912 Drainage Area

The EPA Inspection Team proceeded to the Stormwater Outfall 912 drainage area, located near Buildings 61 and 63 in the northcentral area of the Facility. The EPA Inspection Team observed a materials and equipment storage area where rusted metal materials were stored without overhead coverage or containment, near a storm drain inlet leading to Stormwater Outfall 912 (refer to [Appendix A, Photograph 26](#)). The storm drain inlet was not fitted with a structural BMP.

The EPA Inspection Team observed an uncovered dumpster in the area, containing metal and electronic wastes stored near a storm drain inlet, without structural BMPs (refer to [Appendix A, Photographs 26 through 28](#)). The EPA Inspection Team also observed a hose leading toward a storm drain inlet, conveying boiler blowdown from inside Building 63 to the storm drain inlet, ultimately discharging to Stormwater Outfall 912. The EPA Inspection Team observed a stormwater inlet, outside of Building 63. The sides of the inlet were bent and in need of repair (refer to [Appendix A, Photographs 29 through 31](#)).

The EPA Inspection Team proceeded to the railyard area north of Building 63 where railcars of final ammonium sulfate product were located, prior to leaving the Facility. The EPA Inspection Team observed final ammonium sulfate product on the railway and on the ground adjacent to the railway, which was exposed to stormwater (refer to [Appendix A, Photographs 33 and 34](#)). The EPA Inspection Team observed a similar yellow powder substance accumulated on various debris throughout the area, which was also exposed to stormwater (refer to [Appendix A, Photographs 35 through 39](#)). Stormwater collected in this area would discharge to Stormwater Outfall 912.

The EPA Inspection Team proceeded to the storm drain inlet north of the railyard, which consisted of an unsecured grate surrounded by rock and gravel (refer to [Appendix A, Photograph 40](#)). The structural integrity of this asset was of concern, as the grate did not appear to be secured to the ground surface. The EPA Inspection Team observed the sampling structure for Stormwater Outfall 912, located along the northern perimeter of the Facility's fence line, approximately 500 feet southwest of the outfall location (refer to [Appendix A, Photographs 41 and 42](#)). The Facility Environmental Engineer explained that the outlet pipe from the sampling structure to the outfall had been clogged for several years. According to the Facility Environmental Engineer, during rain events, stormwater accumulates within the sampling structure then overflows from the top of the structure and flows to the receiving water over land instead of through the outlet pipe.

Marine Operations Area and Stormwater Outfalls 904, 905, and 906 Drainage Areas

The EPA Inspection Team proceeded to the Marine Operations Area of the Facility, located in the northeastern area of the Facility. On the way to the Marine Operations Area, the EPA Inspection Team observed pooling liquid around Tank VT-510, used for storing ammonium carbonate, with a capacity of approximately 5,270,000 gallons (refer to [Appendix A, Photograph 43](#)). The Facility Environmental Engineer stated that the liquid was pooled stormwater from a previous rain event. According to rainfall data, the most recent storm event had occurred on April 19, 2022, when the area received 0.05 inches of rain.

The EPA Inspection Team proceeded to the equipment washing area, located southeast of Tank VT-510. The area was bermed with pipes that led to the process sewer. The Facility Environmental Engineer explained that equipment washed in this area included tanks and heat exchangers and that sometimes acidic cleaners or polymers were used for equipment washing. The EPA Inspection Team observed rusted and abandoned materials stored within the bermed area, product residue from washdown, staining on the asphalt, and areas where drums and wastes were stored, including waste piles of ammonium sulfate (refer to [Appendix A, Photographs 44 through 47](#)). The EPA Inspection Team observed white staining on the ground surface outside of the bermed area, that had the potential to come in contact with stormwater flowing to storm drain inlets leading to Stormwater Outfall 907 (refer to [Appendix A, Photographs 44 and 45](#)). The

EPA Inspection Team walked from the equipment washing area along the access road toward Tanks VT-511 and VT-512, in the northern area of the Facility. The EPA Inspection Team observed erosion along the access road and trash and debris accumulated within the eroded flow path, toward Stormwater Outfall 907 (refer to [Appendix A, Photograph 48](#)).

The EPA Inspection Team proceeded to Buildings 41 and 42 in the northeastern area of the Facility. The EPA Inspection Team observed sand and ammonium sulfate accumulated near the storm drain inlet along the western border of Building 42 (refer to [Appendix A, Photographs 49 and 50](#)). The EPA Inspection Team also observed ammonium sulfate track out from Building 41 onto the pavement, in the direct vicinity of a storm drain inlet leading to Stormwater Outfall 906. The storm drain was not fitted with a structural BMP. The EPA Inspection Team observed that the western door to Building 41 was open and was not fitted with a Foreign Object Debris (FOD) System to assist with the prevention of material track out (refer to [Appendix A, Photographs 51 through 53](#)). The EPA Inspection Team observed similar conditions at the eastern door of Building 41, including track out of ammonium sulfate onto the pavement in the vicinity of storm drain inlets, lack of FOD System implementation and door covers, and BMPs in need of maintenance or repair (refer to [Appendix A, Photographs 54 through 56](#)). The EPA Inspection Team observed ammonium sulfate track out from the northeastern door of Building 42 onto the pavement, near a storm drain inlet. The storm drain inlet had a stained sock filter BMP. The EPA Inspection Team observed that the northeastern door to Building 42 was fitted with a cover, which was open, and had a FOD System with accumulated ammonium sulfate (refer to [Appendix A, Photographs 57 through 59](#)). The EPA Inspection Team observed ammonium sulfate track out from door 2 of Building 40, near a storm drain. The EPA Inspection Team observed that the door was fitted with a cover, which was open at the time of the inspection and that a FOD System had been deployed. An additional FOD System was observed unused, outside of door 2 of Building 40 (refer to [Appendix A, Photograph 60](#)).

The EPA Inspection Team proceeded to the storm drain inlet at the northwestern corner of Building 41 and consisted of an unsecured grate surrounded by rock and gravel (refer to [Appendix A, Photograph 61](#)). The structural integrity of this asset was of concern, as the storm drain grate was not secured to the ground surface. The EPA Inspection Team observed a series of sock filters installed around the drainageways northeast of Building 40, near the phenol storage tanks. Small rock piles, which appeared to be check dams, were placed near the sock filters. The EPA Inspection Team observed that the check dams had not been properly installed and the sock filter BMPs needed maintenance (refer to [Appendix A, Photographs 62 through 65](#)).

The EPA Inspection Team observed a hill leading from east of the phenol storage tanks, near Building 40, to the access road parallel to the James River. Concrete applied to the hillside had caved in several locations and had eroded and was dilapidated (refer to [Appendix A, Photograph 66](#)). The Facility Environmental Engineer stated that the concrete on the hillside was over 40 years old and that the Permittee planned to rehabilitate the hill, which was anticipated to be completed during 2024. The EPA Inspection Team also observed steam condensate collecting at the top of the hill, leading to a pipe, which discharged to the conveyance channel upgradient of Stormwater Outfall 904 (refer to [Appendix A, Photographs 67 and 84](#)).

The EPA Inspection Team observed several dry weather flows and discharges in the Marine Operations Area of the Facility. The EPA Inspection Team observed dry weather flows in the conveyance channels on the northern and southern sides of the access road south of Building 40. The EPA Inspection Team traced one source of dry weather flow to a fire hydrant, located near a guard shack south of Building 40 and north of Industrial Street (refer to [Appendix A, Photographs 68 through 70](#)). The Facility Environmental Engineer stated that the leak had been occurring for approximately two months.

The EPA Inspection Team observed another dry weather flow in the conveyance channel south of the access road, collecting in the storm drain inlet discharging to Stormwater Outfall 904. The EPA Inspection Team observed wire, rocks, and gravel around and on the storm drain inlet but no other structural BMPs (refer to [Appendix A, Photographs 71 through 75](#)).

The EPA Inspection Team observed another dry weather flow in the storm drain inlet at the southeastern corner of Building 40. The Facility Environmental Engineer explained that the dry weather flow was potable water from a leaking pipe/valve in the area east of Building 40 (refer to [Appendix A, Photographs 71 and 76 through 82](#)). The dry weather flow from the leaking equipment was collecting in several storm drain inlets and in the conveyance channel north of the access road, leading to Stormwater Outfall 904. The EPA Inspection Team observed additional dry weather flow in the conveyance channel leading to Stormwater Outfall 904. Some of the flow had a milky-white tint and the source of the flow was unclear (refer to [Appendix A, Photographs 79 through 82](#)). The EPA Inspection Team observed the structural BMPs around Stormwater Outfall 904, where sediment had accumulated, were stained and growing vegetation, indicating they needed maintenance (refer to [Appendix A, Photograph 82](#)).

The EPA Inspection Team observed moisture accumulated along the hillside between Buildings 41 and 42 and the pier. Several pipes were located along the hillside, conveying very low volumes to the conveyance channel discharging to Stormwater Outfall 904. One line was from steam condensate located near the phenol tank. The source of the other pipes was unknown. The EPA Inspection Team observed an unknown milky-white liquid accumulated within the conveyance channel (refer to [Appendix A, Photographs 83 and 84](#)).

The EPA Inspection Team observed a storm drain inlet as the sampling location for Stormwater Outfall 905. A sock filter BMP was located around the storm drain inlet, which had vegetative growth and was stained. The EPA Inspection Team observed a pipe discharging into the storm drain inlet, leading to Stormwater Outfall 905, with a label stating “WTO-HVAC HDO-DISCHARGE” (refer to [Appendix A, Photographs 85 and 86](#)). The Facility Environmental Engineer explained that the source of the flow was air conditioner condensate from a shed located on the pier. However, the volume of flow appeared to be much higher than that which would be expected from air conditioner condensate. Additional conversations with Facility representatives indicated that the flow was non-contact cooling water that passes through heat exchangers. The flow from the pipe was discharging to a storm drain inlet leading to Stormwater Outfall 905 and to the James River (refer to [Appendix A, Photograph 87](#)).

The EPA Inspection Team proceeded to inspect the barge loading and unloading area and observed solids, debris, and a yellow powder substance on the edge of the pier, which appeared to be ammonium sulfate. This area of the pier had a wooden perimeter board that was not flush with the pier. As a result, stormwater at this location has the potential to collect on the pier and discharge directly to the James River (refer to [Appendix A, Photographs 88 and 89](#)). The Facility Environmental Engineer mentioned that a covered conveyance structure is used to reduce the exposure of raw and final products to stormwater as they are moved to and from the barges and to the storage areas of the Facility.

The EPA Inspection Team observed erosion along the northeastern fence line, near the pier. Specifically, erosion was present directly south of Stormwater Outfall 905 and between Stormwater Outfalls 904 and 905 (refer to [Appendix A, Photographs 90 through 93](#)). During a rain event, stormwater had the potential to discharge from the eastern boundary of the Facility, between Outfalls 904 and 905, directly to the James River. The Facility Environmental Engineer stated that the area between Outfalls 906 and 911 was considered as “industrial sheet flow”. However, these locations had not been authorized as stormwater discharge locations in VA0005291. Perimeter BMPs had not been installed onsite to prevent the discharge of stormwater from unpermitted locations.

The EPA Inspection Team observed that the Permittee had installed a “TSS box”. The Facility Environmental Engineer explained that the TSS box was part of an experiment that the Permittee was conducting to reduce the pollutant loading in stormwater after first flush events. The Permittee was utilizing the secondary containment unit of the VT-518 and VT-519 tanks (Oleum Tanks, one of which had leaked earlier in the year) and a pump to circulate water from the TSS box to and from the secondary containment unit (refer to [Appendix A, Photograph 94](#)).

The EPA Inspection Team proceeded northwest on the access road along the railway, north of Buildings 41 and 42. The EPA Inspection Team observed a white foam-like liquid within the ditch along the train tracks (refer to [Appendix A, Photographs 95 through 98](#)). The Facility Environmental Engineer explained that the

source of the liquid was unknown but that the Permittee had recently submitted samples of it to various labs, each of which presented different results. The accumulation of this foam-like liquid was identified in both the EPA Region 3 Inspection Report (April 27, 2021) and the VDEQ inspection report (March 1 and 7, 2022) (refer to [Appendix B, Exhibit 6 and Exhibit 7](#)). In response to the VDEQ inspection report, the Permittee stated that the foam-like liquid is likely due to bacterial activity and the biodegradation of dead algae (refer to [Appendix B, Exhibit 7](#)). Stormwater had the potential to co-mingle with the unidentified liquid in the ditch and discharge to Stormwater Outfall 906.

Laboratory

On April 26, 2022, the EPA Inspection Team met with members of the onsite lab who explained that the Facility is certified to analyze samples for pH, ammonia, and TOC. Samples are collected throughout the Facility and are brought to the onsite lab for analysis. The results of the onsite analysis are uploaded to the Facility's Laboratory Information Management System (LIMS). The lab representatives stated that the pH and ammonia instrumentation are calibrated on an annual basis and their calibration is verified daily and documented in a logbook. The instrumentation for TOC analysis is calibrated every two months and also receives a daily check for standards verification. The lab representatives stated that annual calibrations are done in-house and are not conducted by an independent third party.

The laboratory is audited by the Virginia Division of Consolidated Lab Services once every two to three years and was most recently audited in July 2021. At the time of the inspection, the pH meters were due for calibration on June 28, 2022 and the ammonia instrumentation was due for calibration on September 28, 2022. The TOC instrumentation was forty-seven days overdue for calibration at the time of the inspection (due on March 6, 2022). The lab representatives stated they were in the process of calibrating the TOC analyzers and hoped to have the calibrations completed by the end of the week (i.e., April 29, 2022) (refer to [Appendix A, Photograph 99](#)). The Facility contracts with J.R. Reed & Associates (Newport News, VA) to analyze samples for compliance parameters that the Facility is not VLAB certified for. The Facility's contractor, One Environmental, picks up the samples and transports them to JR Reed for analysis. The Permittee also analyzes samples for methyl ethyl ketoxime (MEKO), but these values are used for process control, not for compliance purposes.

Stormwater Outfall 911 Drainage Area

On April 27, 2022, the EPA Inspection Team returned to the Marine Operations Area to observe Stormwater Outfall 911. The EPA Inspection Team observed dry weather flow collecting in the conveyance channel and discharging from Stormwater Outfall 911 to the James River (refer to [Appendix A, Photographs 100 through 102](#)). The EPA Inspection Team observed trash and debris at the outfall. The Facility Environmental Engineer identified the source of the dry weather flows as a leaking header that is part of the raw water system. The EPA Inspection Team observed that the flow in the conveyance channel had a red tint and staining was present in the conveyance channel. The Facility Environmental Engineer explained that the red staining is likely due to oxidation and the high iron content present in the water and soils in the area. The EPA Inspection Team observed that the surface of the water had a sheen, which dispersed in plates when disturbed with a stick, indicating that it was not of petroleum origin. The Facility Environmental Engineer explained that the header had been leaking for approximately five years and that to fix the leak, the Permittee would have to excavate to find and isolate the line and would have to shut the Facility down for multiple weeks.

Stormwater Outfall 907 and Poythress Run

The EPA Inspection Team proceeded to the northern border of the Facility to observe Stormwater Outfalls 912, 907, and Poythress Run. The EPA Inspection Team observed erosion along the Facility's fence line, and the potential for stormwater to flow from the northern area of the Facility to Poythress Run from locations other than the permitted Stormwater Outfalls 912 and 907 (refer to [Appendix A, Photograph 103](#)). The EPA Inspection Team observed three sink holes upgradient of Stormwater Outfall 907. The Facility Environmental Engineer explained that collapsed conveyance pipes were located under the sinkholes. The

EPA Inspection Team observed dry weather flow from Outfall 007, the source of which was unclear (refer to [Appendix A, Photographs 104 and 105](#)). Poythress Run was flowing with slightly murky water.

VT-444, Outfall 301

The EPA Inspection Team proceeded to Tank VT-444 in the central area of the Facility, immediately south of Industrial Street (refer to [Appendix A, Photograph 106](#)). The Facility Environmental Engineer explained that the tank is an abandoned fuel oil tank with a capacity of 3.2 million gallons. The tank was last utilized in 2015 and was decommissioned after a leak was detected. The EPA Inspection Team observed an active steam condensate line near VT-444. The Facility Environmental Engineer was unsure about why the steam condensate line was still active since the tank was no longer in use. The EPA Inspection Team observed a small oil and water separator (referred to as “301 small”) with accumulated solids (refer to [Appendix A, Photograph 107](#)). The EPA Inspection Team proceeded to observe Internal Outfall 301. A small volume of flow was entering the chamber and the accumulated wastewater was a dark green color. The chamber was fitted with absorbent materials and baffles (refer to [Appendix A, Photograph 108](#)). The Facility Environmental Engineer explained that staff typically allow the wastewater to accumulate to approximately 2-3 feet high before conducting a visual check for an oil sheen. Staff then open a valve to allow wastewater to flow to a flume, and ultimately discharge from Outfall 001.

Building 118, Fire Pumphouse

The EPA Inspection Team proceeded to Building 118 in the southwest area of the Facility. The Facility Environmental Engineer explained that the stormwater run-off from the parking lot and surrounding areas feed into trench drains that lead to Stormwater Outfall 908 and ultimately discharge to Gravelly Run between Outfalls 001 and 002.

Outfall 002

The EPA Inspection Team proceeded to Outfall 002. Sources of wastewater in this area consisted of feedback from the sample shed where the discharge is analyzed for pH, conductivity, TOC, ammonia, and temperature; internal outlet 4 (clean water: non-contact cooling water and stormwater from Areas 6 and 7); and internal Outlet #55 (clean water from Areas 8 and 9). The Facility generates and discharges an average of approximately 45.2 MGD from Outfall 002. According to Facility representatives, all process drains in and around Outfall 002 flow to H-1.

Building 16 and Area 7

The EPA Inspection Team proceeded to Building 16, the Caprolactam Recovery Unit, which houses the process to extract impurities from the caprolactam. Solids generated during this process are collected on a conveyor belt and dumped into a 15-yard roll-off bin and transported to a municipal landfill for disposal. The EPA Inspection Team also observed Area 7, where additional caprolactam processing occurs. Trench drains in the containment area drain to a sump which is pumped into a storage tank (VT-162). When the volume in the storage tank reaches a designated level, liquid is monitored and then pumped to the wastewater equalization ponds. Outlet 87 captures cooling water from Area 6 and some stormwater, and discharges to Outfall 002.

Records Review

The EPA Inspection Team conducted a records review to evaluate the Permittee’s compliance with VPDES Permit No. VA0005291. Most of the records and reports required by the Permit were available for review prior to and after the inspection. Most of the documents were reviewed offsite after the onsite inspection in order to maximize time inspecting the Facility while onsite. The EPA Inspection Team reviewed the following:

- NPDES Permit (VA0005291, [refer to Appendix B, Exhibit 2](#))
- SWPPP and site maps (dated January 2022 [refer to Appendix B, Exhibits 1 and 8](#))

- Operations and Maintenance Manual (October 2017)
- AdvanSix Hopewell Bay [Total Maximum Daily Load] TMDL Action Plan, Stormwater Adaptive Management Plan and 2020 Annual Report (Stormwater Action Plan Update, June 29, 2021, refer to Appendix B, Exhibit 9)
- Stormwater Corrective Action Plan (Stormwater CAP, 2022, refer to Appendix B, Exhibit 10)
- Facility Data in EPA’s Integrated Compliance Information System (ICIS) Database (March 31, 2017 – March 31, 2022, refer to Appendix B, Exhibit 11)
- eDMRs and supporting documentation (bench sheets, excel summary spreadsheets, analytical data from laboratory, “clear water” summary sheets; dissolved oxygen lab sheets, VPDES entry form) (December 2021 and January and February 2022)
- Slug Discharge Control Plan (2018)
- VPDES Permit Application Supplement: Proposed Compliance Program
- Notifications of Noncompliance (June 2021, December 2021, and March 2022, refer to Appendix B, Exhibit 3)
- Pollution Prevention Quarterly Inspections (2020 and 2021)
- Quarterly Inspection Checklists (First, second, and third quarter 2021)
- Quarterly Visual/Monitoring Stormwater Examination (2021)

Summary of Observations

The following section summarizes the EPA Inspection Team’s observations relative to the Permit requirements, including operation and maintenance practices, and the Permittee’s monitoring and reporting documentation.

A. Final Effluent Exceedances

Part I.A of VA0005291 defines discharge limitations for the various outfalls at the Facility.

Observation 1. Based on a review of EPA’s ICIS database and the Facility’s eDMR submittals, the EPA Inspection Team observed 9 effluent limit exceedances from various outfalls between March 2017 and March 2022 (refer to Appendix B, Exhibit 11 for the ICIS Data and Table 3 below for a summary of exceedances).

Table 3. Final Effluent Exceedances for VA0005291 (March 2017 through March 2022)

Monitoring Period End Date	Outfall	Parameter	DMR Value	Permit Limit	Units	Limit Type
02/28/2018	101	CBOD5	7,046	6,200	kg/d	Daily Max.
12/31/2019	101	CBOD5	1,326	1,247	kg/d	Monthly Avg.
01/31/2020	101	pH	9.2	9	su	Maximum
12/31/2020	101	pH	9.4	9	su	Maximum
04/30/2021	001	TOC	10.6	10	mg/L	Daily Max.
04/30/2021	401	TSS	57	30	mg/L	Monthly Avg.
05/31/2021	401	TSS	46	30	mg/L	Monthly Avg.
11/30/2021	101	CBOD5	1,318	1,247	kg/d	Monthly Avg.
12/31/2021	101	CBOD5	9,595	6,200	kg/d	Daily Max.

In response to these exceedances, the following activities occurred between VDEQ and the Permittee (refer to Appendix B, Exhibits 3 through 5):

- VDEQ issued a Warning Letter to the Facility on July 23, 2021 for exceeding the TSS limit from Outfall 401 during May 2021.
 - The Permittee submitted information to VDEQ stating that the sample was not representative of the outfall’s effluent for the monitoring period. The Permittee also stated that the oil and water separator leading to Outfall 401 and the surrounding area was cleaned to remove debris and loose materials.
- VDEQ issued a Notice of Violation to the Facility on September 14, 2021 for exceeding the TSS limit from Outfall 401 during April and May 2021.
- VDEQ issued a Notice of Violation to the Facility on February 3, 2022 for exceeding the CBOD5 Average daily loading limit from Outfall 101 during November 2021 and for submitting DMR data for Outfalls 101, 904, 905, 906, 907, 908, 909, 910, 911, and 999 past their due date.
 - The Permittee stated that the exceedance was the result of a process upset occurring on November 3, 2021, during which cyclohexanone was discharged from the contact barometric system in Area 11. The Permittee stated that the cause of the discharge may be related to an operational upset that occurred within Area 8, where the oximation and rearrangement processes occur.
 - The Permittee submitted information to VDEQ regarding the CBOD5 exceedances during December 2021, stating that the sample was likely not representative due to an administrative processing error and that no abnormal process activities occurred during that time.
- VDEQ issued a Notice of Violation to the Facility on March 15, 2022 for failing to submit DMRs with CBOD5 data for January 2022, as required by the VA0005291.

B. Stormwater Benchmark and Comparative Value Exceedances

Part I.F.2 of VA0005291 requires the Permittee to monitor stormwater for specific parameters, based on the industrial operations that occur at the Facility. Part I.F.2 of VA0005291 further states, “Benchmark concentrations are not effluent limitations. Exceedance of a benchmark concentration does not constitute a violation of this permit and does not indicate that violation of a water quality standard has occurred; however, it does signal that modifications to the SWPPP may be necessary, unless justification is provided in the comprehensive site compliance evaluation (Part I.D.2.d). In addition, exceedance of benchmark concentrations may indicate the requirement for more specific pollution prevention controls. The permittee is expected to minimize (reduce or eliminate) the pollutants listed below in the stormwater to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practice.”

Table 4. Benchmark Monitoring Requirements (Part I.F.2 of Permit)

Pollutants of Concern	Benchmark Concentration
Chemical Oxygen Demand (COD)	120 mg/L
Total Suspended Solids (TSS)	100 mg/L
Total Kjeldahl Nitrogen (TKN)	1.5 mg/L
Total Nitrogen (TN)	2.2 mg/L
Total Phosphorus (TP)	2.0 mg/L
Total Recoverable Aluminum	750 µg/L
Total Recoverable Iron	1.0 mg/L

Additionally, Part I.D.9.a.1 of VA0005291 states, “If the benchmark monitoring result exceeds the benchmark concentration value for that parameter, the permittee shall review the SWPPP and modify it as necessary to address any deficiencies that caused the exceedance. Revisions to the SWPPP shall be

completed within 30 days after an exceedance is discovered. When control measures need to be modified or added (distinct from regular preventive maintenance of existing control measures described in Part I.E.3 Maintenance), implementation shall be completed before the next anticipated storm event if possible, but no later than 60 days after the exceedance is discovered, or as otherwise provided or approved by the DEQ Piedmont Regional Office. In cases where construction is necessary to implement control measures, the permittee shall include a schedule in the SWPPP that provides for the completion of the control measures as expeditiously as practicable, but no later than three years after the exceedance is discovered. Where a construction compliance schedule is included in the SWPPP, the plan shall include appropriate nonstructural and temporary controls to be implemented in the affected portion(s) of the facility prior to completion of the permanent control measure. Any control measure modifications shall be documented and dated, and retained with the SWPPP, along with the amount of time taken to modify the applicable control measure or implement additional control measures. Additional updates to the SWPPP for previously documented corrective actions are not necessary while the corrective actions are in progress.”

Part I.G.1 of VA0005291 requires the Permittee’s SWPPP shall “have a goal of minimizing pollutants discharged at all the regulated stormwater outfalls to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practice.” The Permit goes on to list the requirements for pollutant specific screening, stating, “One goal of the SWPPP shall place emphasis on reducing, to the maximum extent practicable, the following pollutants in the outfalls noted below. In addition to the comparative values noted below, the SWPPP may assess these pollutants on a load basis to identify pollutant reductions.”

Table 5. Pollutant Specific Screening (Part I.G.1 of Permit)

Pollutants	Comparative Value	
	Stormwater Outfall 904	Stormwater Outfall 909
pH	6.0 – 9.0	6.0 – 9.0
Ammonia	109 mg/L	109 mg/L
Total Recoverable Copper	55 ug/L (0.055 mg/L)	9.9 ug/L (0.0099 mg/L)
Total Recoverable Zinc	450 ug/L (0.45 mg/L)	95 ug/L (0.095 mg/L)

Additionally, Part I.G.2.d states, “The effectiveness of the SWPPP will be evaluated via the required monitoring for all parameters listed in Part I.A of this permit for the regulated stormwater outfalls, including the specific pollutants noted in Part I.G.1 above and the toxicity screening required by this special condition. Monitoring results that are above the comparative value for the specific pollutants in a. above or, in the case of toxicity, result in an LC50 of less than 100% effluent, will justify the need to reexamine the SWPPP and any best management practices (BMPs) being utilized for the affected outfalls. In addition, the permittee shall amend the SWPPP whenever there is a change in the facility or its operation which materially increases the potential for activities to result in a discharge of significant amounts of pollutants.”

Observation 2. The EPA Inspection Team observed numerous stormwater benchmark and comparative value exceedances occurring between September 7, 2016 through March 9, 2022, as reported by the Permittee. Documentation provided by the Permittee shows 530 exceedances for Stormwater Outfalls 904, 905, 906, 907, 909, 911, and 912 during the period of review ([Appendix B, Exhibit 12](#)). In response to these exceedances, the Permittee provided a TMDL Action Plan, Stormwater Adaptive Management Plan and 2020 Annual Report (dated June 29, 2021), and the first quarter Stormwater Corrective Action Plan (CAP) for 2022 (refer to [Appendix B, Exhibit 9 and Exhibit 10](#)), highlighting the historical and current BMPs that have been installed and plans for making improvements to the hillside of the Marine Operations Area. VDEQ provided a response to the Action Plan on July 12, 2021 with concerns regarding the Permittee’s approach to trading and offsetting nutrient credits, stormwater toxicity, benchmark and comparative

value exceedances, and management of stormwater contaminated with fertilizer production (refer to [Appendix B, Exhibit 9](#)).

The Permittee has continued to exceed the stormwater benchmarks and comparative values listed in the Permit from 2016 to present. The Permittee last updated the SWPPP during January 2022. According to the data provided by the Permittee, benchmark and comparative value exceedances occurred on March 9, 2022, and the SWPPP had not been updated within 30 days of discovering the exceedance, as required by Part I.D.9.a.1 and Part I.G.2.d of VA0005291. Further, the SWPPP does not include the schedule for completing the installation of control measures as expeditiously as practicable. Lastly, the schedule presented in the 2020 Stormwater Action Plan Update has a start date of January 2020, indicating that benchmark and comparative value exceedances have been ongoing since September 2016 and that construction projects to address these issues have not been completed within three years of discovering the initial exceedances.

Additionally, the schedule presented in the 2020 Stormwater Action Plan states that FOD Systems to control building tracking will be installed by June 2020. The EPA Inspection Team observed that FOD Systems had not been installed at Building 41 and ammonia sulfate track out was observed onto the pavement, near unprotected storm drain inlets. The EPA Inspection Team observed several FOD Systems stored outside of Building 41, that had yet to be installed. The EPA Inspection Team also observed a FOD System installed at Building 42, but it had not been maintained. Table 6 presents a summary of other discrepancies observed by the EPA Inspection Team between the information in the 2020 Stormwater Action Plan and onsite conditions observed during the inspection (and are further detailed in Observation 17).

Lastly, the Permittee reported benchmark and comparative value exceedances for Stormwater Outfalls 911 and 912. Appendix D of the 2022 SWPPP lists Structural and Non-structural BMPs that are to be installed or implemented at the Facility. Appendix D does not list specific BMPs for drainage areas to Stormwater Outfalls 911 and 912, nor did the EPA Inspection Team observe BMPs applied to these areas at the time of the inspection.

Table 6. Summary of Discrepancies Observed with the 2020 Stormwater Action Plan and Site Conditions.

BMPs identified in 2020 Stormwater Action Plan	Site Conditions observed during 2022 Inspection
Drainage Area and Stormwater Outfall 904	
Installation of TSS and/or filtration controls along conveyance system and drop inlets.	BMPs had not been maintained (refer to Appendix A, Photographs 74, 75, and 82).
Install check dam north of hillside drop inlet.	Check dams had not been properly installed (refer to Appendix A, Photographs 62 and 63).
Drainage Area and Stormwater Outfall 905	
Installation of TSS and/or filtration controls along conveyance system and drop inlets.	BMPs had not been maintained (refer to Appendix A, Photographs 85 and 86).
Installation of block and gravel inlet sediment filters using granite and limestone gravel, granite riprap stabilizers, Filtrexx booms, silt saver inlet frame filters, and a silt sack to filter out sediment.	BMPs had not been maintained (refer to Appendix A, Photographs 85 and 86).
Install check dam south of drop inlet.	No check dam observed
Drainage Area and Stormwater Outfall 906	
Install check dams both north and south of rehabbed drop inlet.	No check dams observed

BMPs identified in 2020 Stormwater Action Plan	Site Conditions observed during 2022 Inspection
Limestone riprap and gravel check dams.	No check dams observed
Filtrexx booms at storm inlets and drainage ditch.	BMPs not present or not maintained (refer to <u>Appendix A, Photographs 49 through 61</u>).
Drainage Area and Stormwater Outfall 909	
Installation of metals filtration at drop inlets.	No metals filtration drop inlets observed near Building 12 and 12A (refer to <u>Appendix A, Photographs 1 through 3</u>).
Installation of block and gravel inlet sediment filter, Filtrexx boom, and silt saver inlet frame filter.	No silt saver inlet frame filter observed, erosion indicated that BMPs at this outfall were being bypassed (refer to <u>Appendix A, Photographs 8 through 11</u>).
Drainage Area and Stormwater Outfall 911	
Installation of TSS and/or filtration controls along conveyance systems and drop inlets.	No TSS and/or filtration controls observed along conveyance systems. No drop inlets observed.

C. 2017 Operation and Maintenance (O&M) Plan

Part I.C.2 of VA0005291 states, “The permittee shall maintain a current Operations and Maintenance (O&M) Manual for the treatment works that is in accordance with Virginia Pollutant Discharge Elimination System Regulations, 9VAC25-31 and Sewage Collection and Treatment Regulations, 9VAC25-709. The O&M Manual and subsequent revisions shall include the manual effective date and meet Part I.K.2 and Part II.K.4 Signatory Requirements of the permit. Any changes in the practices and procedures followed by the permittee shall be documented in the O&M Manual within 90 days of the effective date of the changes. The permittee shall operate the treatment works in accordance with the O&M Manual and shall make the O&M manual available to Department personnel for review during facility inspections. Within 30 days of a request by DEQ, the current O&M Manual shall be submitted to the DEQ Regional Office for review and approval.

The O&M manual shall detail the practices and procedures which will be followed to ensure compliance with the requirements of this permit. This manual shall include, but not necessarily be limited to, the following items, as appropriate:

- a. Permitted outfall locations and techniques to be employed in the collection, preservation, and analysis of effluent samples;
- b. Procedures for measuring and recording the duration and volume of treated wastewater discharged;
- c. Procedures for reporting any gaps in continuous pH data monitoring at the permitted outfalls;
- d. Documentation of known underground sewer integrity (infiltration/exfiltration) issues;
- e. Description of pretreatment activities (process sewer ponds and wet well);
- f. Discussion of Best Management Practices, if applicable;
- g. Procedures for handling, storing, and disposing of all wastes, fluids, and pollutants characterized in Part I.C.15 that will prevent these materials from reaching state waters. List type and quantity of wastes, fluids, and pollutants (e.g. chemicals) stored at this facility;
- h. Discussion of treatment works design, treatment works operation, routine preventative maintenance of units within the treatment works, critical spare parts inventory and record keeping;
- i. Plan for the management and/or disposal of waste solids and residues;
- j. Hours of operation and staffing requirements for the plant to ensure effective operation of the treatment works and maintain permit compliance;
- k. List of facility, local and state emergency contacts; and,
- l. Procedures for reporting and responding to any spills/overflows/treatment works upsets.”

Observation 3. The EPA Inspection Team observed that the 2017 O&M Manual did not include the following elements as required by Part I.C.2 of VA0005291.

- A. The 2017 O&M Manual does not list the type and quantity of wastes, fluids, and pollutants (e.g., chemicals) stored at the Facility.
- B. The 2017 O&M Manual does not discuss the treatment works design, operation, or routine preventative maintenance at the Facility.

Observation 4. The EPA Inspection Team observed that Section 3.3 of the 2017 O&M Manual states that Virginia Environmental Laboratory Accreditation Program (VELAP) Certification is maintained for all compliance analysis completed onsite, including: pH, total organic carbon (TOC), total residual chlorine (TRC), Ammonia Nitrogen (NH₃N), and Dissolved Oxygen (DO).” During discussions with the Facility’s lab representatives, they stated that the lab is VELAP certified for pH, ammonia, and TOC analysis.

D. 2022 SWPPP Maps

Part I.E.2.b.3 of VA0005291 requires that the SWPPP include a site map, identifying the following:

- “(a) The boundaries of the property and the size of the property (in acres);
- (b) The location and extent of significant structures and impervious surfaces (roofs, paved areas and other impervious areas);
- (c) Locations of all stormwater conveyances including ditches, pipes, swales, and inlets, and the directions of stormwater flow (use arrows to show which ways stormwater will flow);
- (d) Locations of all existing structural and source control measures, including BMPs;
- (e) Locations of all surface water bodies, including wetlands;
- (f) Locations of potential pollutant sources identified under Part E.2.c (summary of potential pollutant sources);
- (g) Locations where significant spills or leaks identified under Part E.2.d (spills and leaks) have occurred;
- (h) Locations of the following activities where such activities are exposed to precipitation: fueling stations; vehicle and equipment maintenance and/or cleaning areas; loading and unloading areas; locations used for the treatment, storage or disposal of wastes; liquid storage tanks; processing and storage areas; access roads, rail cars and tracks; transfer areas for substances in bulk; and machinery;
- (i) Locations of stormwater outfalls and an approximate outline of the area draining to each outfall, and location of municipal storm sewer systems, if the stormwater from the facility discharges to them;
- (j) Location and description of all non-stormwater discharges;
- (j) Location of any storage piles containing salt used for deicing or other commercial or industrial purposes; and
- (k) Locations and sources of runoff to the site from adjacent property where the runoff contains significant quantities of pollutants; and
- (l) Locations of all stormwater monitoring points.”

Observation 5. The 2022 SWPPP site maps do not include the following elements, as required by Part I.E.2.b.3 of VA0005291.

- A. SWPPP map 4-9 showing Stormwater Outfall 909 does not depict the pipe configuration connecting the three storm drain inlets south of Buildings 12 and 12A to a stormwater outfall.
- B. The SWPPP maps do not depict the location of all existing structural and source control measures, including BMPs. Although the SWPPP maps include a statement directing the reader to Appendix D of the 2022 SWPPP for information on structural and non-structural BMPs, Appendix D of the 2022 SWPPP does not provide sufficient information to identify the specific locations (e.g., storm drain inlets) where BMPs are to be applied.
- C. The SWPPP maps do not depict areas where significant spills or leaks identified under Part I.E.2.d (spills and leaks) have occurred. The SWPPP maps include a

statement, directing the reader to Appendix B of the 2022 SWPPP (refer to Appendix B, Exhibit 8). However, Appendix B of the 2022 SWPPP does not provide sufficient information to identify the location where the spills and leaks have occurred.

- D. The SWPPP maps do not depict the non-stormwater discharges occurring at Stormwater Outfall 904 and 907, as further described in Observation 13.
- E. SWPPP map 4-8 showing Stormwater Outfall 908 does not identify the stormwater monitoring point.
- F. SWPPP map 4-10 showing Stormwater Outfall 910 does not identify the stormwater monitoring point.
- G. SWPPP map 4-12 showing Stormwater Outfall 913 does not identify the stormwater monitoring point.

E. 2022 SWPPP Contents

Part I.E.2.d of VA0005291 states, “The SWPPP shall clearly identify areas where potential spills and leaks that can contribute pollutants to stormwater discharges can occur and their corresponding outfalls. The plan shall include a list of significant spills and leaks of toxic or hazardous pollutants that actually occurred at exposed areas, or that drained to a stormwater conveyance during the three-year period prior to the date this SWPPP was prepared or amended.”

Observation 6. The 2022 SWPPP and Appendix B of the SWPPP did not clearly identify areas where potential spills and leaks may occur that contribute pollutants to stormwater and their corresponding outfalls in accordance with Part I.E.2.d of VA0005291. Although Appendix B of the 2022 SWPPP provides a list of spills that have occurred in the past, it does not specifically identify where the leaks or spills occurred and other areas where leaks or spills are likely to occur (refer to Appendix B, Exhibit 8).

Observation 7. The Facility representatives explained that a leak occurred from a tank storing high-strength sulfuric acid (Oleum) on March 29, 2022. The spill log presented in Appendix B of the 2022 SWPPP does not include an entry for this release.

F. Stormwater Inspection Documents

Part I.E.2.f.2.e of VA0005291 states, “Facility personnel who possess the knowledge and skills to assess conditions and activities that could impact stormwater quality at the facility, and who can also evaluate the effectiveness of control measures shall regularly inspect all areas of the facility where industrial materials or activities are exposed to stormwater. These inspections are in addition to, or as part of, the comprehensive site evaluation required under Part I.E.4. At least one member of the Pollution Prevention Team shall participate in the routine facility inspections.

The inspection frequency shall be specified in the plan based upon a consideration of the level of industrial activity at the facility, but shall be a minimum of quarterly unless more frequent intervals are specified elsewhere in the permit or written approval is received from the Department for less frequent intervals. At least once each calendar year, the routine facility inspection must be conducted during a period when a stormwater discharge is occurring.

Any deficiencies in the implementation of the SWPPP that are found shall be corrected as soon as practicable, but not later than within 30 days of the inspection, unless permission for a later date is granted in writing by the Director. The results of the inspections shall be documented in the SWPPP, and shall include at a minimum:

- (i) The inspection date and time;
- (ii) The name and signature of the inspector(s);
- (iii) Weather information and a description of any discharges occurring at the time of the inspection;

- (iv) Any previously unidentified discharges of pollutants from the site;
- (v) Any control measures needing maintenance or repairs;
- (vi) Any failed control measures that need replacement;
- (vii) Any incidents of noncompliance observed; and
- (viii) Any additional control measures needed to comply with the permit requirements.”

Observation 8. The EPA Inspection Team requested documentation of the quarterly inspection report for the fourth quarter of 2021. A report for this period was not provided; therefore, it is unclear whether a quarterly inspection was conducted during the required timeframe per Part I.E.2.f.2.e of VA0005291.

Observation 9. The most recent quarterly inspection report submitted at the time of the EPA inspection (“Pollution Prevention Quarterly Inspections”) was from the first quarter of 2022 (dated 3/14/22). The EPA Inspection Team observed the following discrepancies with the information recorded on the Permittee’s quarterly inspection report and the site conditions at the time of the inspection:

- A. The inspection form identifies that there was no evidence of an outfall discharge at Stormwater Outfall 911 (refer to Appendix A, Photographs 100 through 102). However, the EPA Inspection Team observed an active non-stormwater discharge from Stormwater Outfall 911 to the James River during the inspection. According to the Facility Environmental Engineer, this discharge had been occurring for multiple years from a leaking raw water intake header. This non-stormwater discharge was identified in both the EPA inspection report (April 27, 2021) and the VDEQ inspection report (March 1 and 7, 2022). The inspection form also did not include information regarding the non-stormwater discharges observed at Stormwater Outfalls 904, 905, and 907, which were similar nature, with continuous, long-term discharges.
- B. The checklist also asks for the condition of the BMPs for Outfalls 904, 905, 906, 907, and 912, which were marked as “good” However, The EPA Inspection Team observed that several BMPs in the northeastern area of the Facility needed maintenance or repair (refer to Observation 25 for additional information). The form also did not include information to identify which BMPs were considered in “good” condition.

Observation 10. The EPA Inspection Team observed that the quarterly inspection reports (“Pollution Prevention Quarterly Inspections”) from 2022 were conducted by “Tyler Markham” who was not listed as a member of the pollution prevention team in the 2022 SWPPP, as required by Part I.E.2.f.2.e of VA0005291. Although “ONE Environmental” is listed as a pollution prevention team member, it does not specify individuals.

Observation 11. The EPA Inspection Team observed that the most recent quarterly inspection report (“Pollution Prevention Quarterly Inspections”) from 2022 (dated 3/14/22) did not include the following information as required by Part I.E.2.f.2.e.ii and iii of VA0005291:

- A. The signature of the inspector.
- B. Weather information and a description of any discharges occurring at the time of the inspection.

G. Stormwater Training

Part I.E.2.f.2.f of VA0005291 states, “The permittee shall implement a stormwater employee training program for the facility. The SWPPP shall include a schedule for all types of necessary training, and shall document all training sessions and the employees who received the training. Training shall be provided for all employees who work in areas where industrial materials or activities are exposed to stormwater, and for employees who are responsible for implementing activities identified in the SWPPP (e.g., inspectors,

maintenance personnel, etc.). The training shall cover the components and goals of the SWPPP, and include such topics as spill response, good housekeeping, material management practices, control measure operation and maintenance, etc. The SWPPP shall include a summary of any training performed.”

Observation 12. Section 8.2 of the 2022 SWPPP states that the Permittee provides annual training on response plans, storm water program, health and safety procedures, general environmental and regulatory topics, spill response and prevention procedures, and hazardous waste material storage. The EPA Inspection Team requested stormwater training documents for 2020 and 2021. Documentation was provided identifying employees that had received “Hopewell Environmental Clear Water and Process Sewer” training completed during 2020 and “Hopewell General Spill Training” during 2021. However, documentation was not provided, showing stormwater training on all subjects prescribed by the Permit was provided to staff during 2021, as required by Part I.E2.f.2.f of VA0005291.

H. Non-Stormwater Discharges

Part I.D.6.a of VA0005291 states, “The following non-stormwater discharges are authorized by this permit provided the nonstormwater component of the discharge is in compliance with 6.b.

- (1) Discharges from fire fighting activities;
- (2) Fire hydrant flushings;
- (3) Potable water including water line flushings;
- (4) Uncontaminated air conditioners, coolers, and other compressors and from the outside storage of refrigerated gases or liquids;
- (5) Irrigation drainage;
- (6) Landscape watering provided all pesticides, herbicides, and fertilizer have been applied in accordance with the approved labeling;
- (7) Pavement wash waters where no detergents are used and no spills or leaks of toxic or hazardous materials have occurred (unless all spilled material has been removed);
- (8) Routine external building wash down which does not use detergents;
- (9) Uncontaminated groundwater or spring water;
- (10) Foundation or footing drains where flows are not contaminated with process materials such as solvents;
- (11) Incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of the facility, but NOT intentional discharges from the cooling tower (e.g., "piped" cooling tower blowdown or drains).”

Observation 13. The EPA Inspection Team observed the following unauthorized non-stormwater flows during the inspection:

- A. A hose was leading toward a storm drain inlet, conveying boiler blowdown from inside Building 63 to the storm drain inlet, ultimately discharging to Stormwater Outfall 912 (refer to Appendix A, Photographs 29 and 30).
- B. Steam condensate was collecting at the top of the hill in the Marine Operations Area, leading to a pipe, which discharged to the conveyance channel upgradient of Stormwater Outfall 904 (refer to Appendix A, Photographs 67 and 84).
- C. The EPA Inspection Team observed a pipe discharging into the storm drain inlet, leading to Stormwater Outfall 905, with a label stating “WTO-HVAC HDO-DISCHARGE” (refer to Appendix A, Photographs 85 and 86). The Facility Environmental Engineer explained that the source of the flow was air conditioner condensate from a shed located on the pier. However, the volume of flow appeared to be much more than would be expected for air conditioner condensate. Additional conversations with Facility representatives indicated that the flow was non-contact cooling water that passes through heat exchangers. The flow from the pipe was discharging to storm drain inlet leading to Stormwater Outfall 905 and to the James River (refer to Appendix A, Photograph 87).

I. Stormwater Discharge Locations and Representative Monitoring

Part I.A of VA0005291 authorizes the Permittee to discharge stormwater from the permitted outfalls listed in the Permit, including Outfall 001, Outfall 002, Outfall 003, Outfall 301, Stormwater Outfalls 904 through 911. The General Industrial Stormwater Permit (VAR052505) authorizes discharges from Stormwater Outfall 912.

Observation 14. The EPA Inspection Team observed several areas throughout the Facility with erosion, and pooled stormwater, indicating that stormwater was discharging from the Facility from locations other than permitted stormwater outfalls. The SWPPP site map identifies several of these locations throughout the Facility as “Industrial Sheet Flow”. VA0005291 does not authorize the discharge of “Industrial Sheet Flow”. Based on the benchmark and comparable value exceedances presented in Observation 1, it is of concern that pollutant-laden stormwater is discharging from the Facility to receiving waters from areas that are not authorized by VA0005291 and in a manner that is inconsistent with BMPs to reduce pollutant loading to the receiving waters. The EPA Inspection Team observed the following conditions, indicating that stormwater is discharging from the Facility at unpermitted locations.

- A. The EPA Inspection Team observed evidence of erosion along the hillside to the east of Stormwater Outfall 909, indicating that stormwater was bypassing the stormwater BMP and Stormwater Outfall 909, and discharging to Gravelly Run at a location other than the permitted outfall (refer to [Appendix A, Photographs 9 through 10](#)). The EPA Inspection Team returned to this area on April 26, 2022 during a rain event and observed that additional gravel had been applied to the east of Stormwater Outfall 909. It was unclear to the EPA Inspection Team if the gravel was meant to function as a BMP and what efficacy, if any, this approach would have on eliminating the unpermitted discharge (refer to [Appendix A, Photograph 11](#)).
- B. After viewing the lift station and on the way to the diversion ponds, the EPA Inspection Team observed an unidentified white granular substance on the ground surface near the oil shed in the southern area of the Facility, east of Gravelly Run and west of the wastewater ponds (refer to [Appendix A, Photographs 12 through 14](#)). Stormwater that collects in this area would flow west to Gravelly Run. A permitted stormwater outfall was not present in this location.
- C. The EPA Inspection Team observed evidence of erosion along the northeastern fence line, near the pier between Stormwater Outfalls 904 and 905 (refer to [Appendix A, Photographs 90 through 93](#)). During a rain event, stormwater had the potential to discharge from the eastern boundary of the Facility at this location, between Outfalls 906 and 911, directly to the James River.
- D. The EPA Inspection Team proceeded to the northern border of the Facility to observe Outfalls 912, 907, and Poythress Run. The EPA Inspection Team observed erosion along the Facility’s fence line, during rain events stormwater had the potential to discharge from the northern area of the Facility to Poythress Run.

Further, Part II.A.1 of VA000529 requires, “Samples and measurements required by this permit shall be taken at the permit designated or approved location and be representative of the monitored activity.”

Observation 15. The samples collected at the conveyance structure for Stormwater Outfall 909 would not be representative of all industrial activity occurring in the drainage area. As described previously, some stormwater runoff bypasses the BMPs and Stormwater Outfall 909 and discharges to Gravelly Run via an eroded channel (i.e., unpermitted location).

Observation 16. The EPA Inspection Team observed the potential for the samples collected from the stormwater outfalls with dry weather flows (e.g., Outfalls 904, 905, and 911) to not be representative of stormwater discharged from the Facility in the respective locations. Specifically, the river water and potable water flows present at these outfalls may dilute the “Industrial Flow” pollutant samples at these locations, altering the perception of the industrial activity impact.

J. Material Storage and Housekeeping

Part I.C.15 of VA0005291 states, “Any and all product, materials, industrial wastes, and/or other wastes resulting from the purchase, sale, mining, extraction, transport, preparation, and/or storage of raw or intermediate materials, final product, by-product or wastes, shall be handled, disposed of, and/or stored in such a manner and consistent with Best Management Practices, so as not to permit a discharge of such product, materials, industrial wastes, and/or other wastes to State waters, except as expressly authorized.”

Additionally, Part I.E.2.f.2.a of VA0005291 states, “The permittee shall keep clean all exposed areas of the facility that are potential sources of pollutants to stormwater discharges. Typical problem areas include areas around trash containers, storage areas, loading docks, and vehicle fueling and maintenance areas. The plan shall include a schedule for regular pickup and disposal of waste materials, along with routine inspections for leaks and conditions of drums, tanks, and containers.”

Observation 17. The EPA Inspection Team observed the following conditions at the Facility, which were inconsistent with the requirements listed in Part I.C.15 and Part I.E.2.f.2.a of VA0005291.

- A. The EPA Inspection Team observed ammonium sulfate track out from Buildings 12 and 12A onto the asphalt surface, near storm drains that were not fitted with structural BMPs (refer to [Appendix A, Photographs 1 through 3](#)). It was unclear where the discharge from these storm drains would lead to because it was not depicted on the 2022 SWPPP maps.
- B. The EPA Inspection Team observed track out of ammonium sulfate at Buildings 41 and 42. The FOD System was not in place in Building 41 and roll up doors were not closed, allowing product to migrate beyond the covered containment. Pollutants at this location had the potential to co-mingle and migrate via runoff to Stormwater Outfall 906 (refer to [Appendix A, Photographs 51 through 60](#)). Appendix D of the 2022 SWPPP identifies the FOD System as a structural BMP to be implemented in this area of the Facility (refer to [Appendix B, Exhibit 8](#)).
- C. The EPA Inspection Team observed ammonium sulfate product on the railway and on the ground adjacent to the railway, which was exposed to stormwater (refer to [Appendix A, Photographs 33 and 34](#)). The EPA Inspection Team observed a ammonium sulfate accumulated on various debris throughout the area, which was also exposed to stormwater (refer to [Appendix A, Photographs 35 through 37](#)). Stormwater collected in this area would discharge to Stormwater Outfall 912. Attachment D of the 2022 SWPPP did not list BMPs in this area.
- D. The EPA Inspection Team observed a white power substance along rail tracks in northwestern area of the Facility, upgradient of Stormwater Outfall 912 refer to [Appendix A, Photographs 38 and 39](#)). Appendix D of the 2022 SWPPP did not list BMPs in this area.
- E. The EPA Inspection Team observed an unidentified white granular substance on the ground surface near the oil shed in the southern area of the Facility, east of Gravelly Run and west of the wastewater ponds, with the potential to discharge directly to Gravelly Run (refer to [Appendix A, Photographs 12 through 14](#)).
- F. The EPA Inspection Team observed rusted and abandoned materials stored within the bermed equipment washing area, including product residue from washdown, staining on the asphalt, and areas where drums and wastes were stored, including waste piles of ammonium sulfate (refer to [Appendix A, Photographs 46 and 47](#)).

- The EPA Inspection Team observed white staining on the ground surface outside of the bermed area, that had the potential to come in contact with stormwater flowing to storm drain inlets leading to Stormwater Outfall 907 (refer to [Appendix A, Photographs 44 and 45](#)).
- G. The EPA Inspection Team walked from the equipment washing area along the road toward Tanks VT-511 and VT-512, in the northern area of the Facility. The EPA Inspection Team observed trash and debris accumulated along the roadway, as well as evidence of erosion leading toward Stormwater Outfall 907 (refer to [Appendix A, Photograph 48](#)).
- H. The EPA Inspection Team proceeded to Buildings 41 and 42 in the northeastern area of the Facility. The EPA Inspection Team observed sand and ammonium sulfate accumulated near the storm drain inlet along the western border of Building 42 (refer to [Appendix A, Photographs 49 and 50](#)). These storm drains led to Stormwater Outfall 906.
- I. The EPA Inspection Team observed ammonium sulfate track out from Building 41 onto the pavement, in the direct vicinity of a storm drain inlet leading to Stormwater Outfall 906. The storm drain was not fitted with a structural BMP. The EPA Inspection Team observed that the western door to Building 41 was open and was not fitted with a FOD System to assist with the prevention of material track out (refer to [Appendix A, Photographs 51 through 53](#)).
- J. The EPA Inspection Team observed track out of ammonium sulfate onto the pavement in the vicinity of storm drain inlets and lack of FOD System implementation and door covers at the eastern door of Building 41 in the Stormwater Outfall 906 drainage area (refer to [Appendix A, Photographs 54 through 56](#)).
- K. The EPA Inspection Team observed ammonium sulfate track out from the northeastern door of Building 42 onto the pavement, near a storm drain inlet (refer to [Appendix A, Photograph 57](#)).
- L. The EPA Inspection Team observed ammonium sulfate track out from door 2 of Building 40, near a storm drain. The EPA Inspection Team observed that the door was fitted with a cover, which was open (refer to [Appendix A, Photograph 60](#)).
- M. The EPA Inspection Team observed solids, debris, and a yellow powder substance on the edge of the pier in the barge loading area, which appeared to be ammonium sulfate. This area of the pier had a wooden perimeter board that was not flush with the pier. As a result, stormwater had the potential to collect on the pier and discharge directly to the James River (refer to [Appendix A, Photographs 88 and 89](#)).
- N. The EPA Inspection Team proceeded northwest on the access road along the railway, north of Buildings 41 and 42. The EPA Inspection Team observed a white foam-like liquid within the ditch along the train tracks (refer to [Appendix A, Photographs 97 and 98](#)). The accumulation of this foam-like liquid was identified in both the EPA Region 3 Inspection Report (April 27, 2021) and the VDEQ inspection report (March 1 and 7, 2022). In response to the VDEQ inspection report, the Permittee stated that the foam-like liquid is likely due to bacterial activity and the biodegradation of dead algae (refer to [Appendix B, Exhibit 7](#)). Stormwater had the potential to co-mingle with the unidentified liquid in the ditch and discharge to Stormwater Outfall 906.
- O. The EPA Inspection Team observed liquid (reported by the Permittee as river water) collecting in the conveyance channel and discharging from Stormwater Outfall 911 to the James River (refer to [Appendix A, Photographs 100 through 102](#)). Appendix D of the SWPPP did not identify BMPs for this area of the Facility. The EPA Inspection Team observed trash and debris at the outfall.

- P. The EPA Inspection Team observed an active steam condensate line near Tank VT-444. The Facility Environmental Engineer was unsure about why the steam condensate line was still active since the tank was no longer in use. The EPA Inspection Team observed a small oil and water separator (referred to as “301 small” with accumulated solids and a small volume of liquid inside (refer to Appendix A, Photograph 107).

K. Eliminating and Minimizing Exposure

Part I.E.2.f.2.b of VA0005291 states, “To the extent practicable, manufacturing, processing and material storage areas (including loading and unloading, storage, disposal, cleaning, maintenance, and fueling operations) shall be located inside, or protected by a storm-resistant covering to prevent exposure to rain, snow, snowmelt, and runoff.”

Observation 18. The EPA Inspection Team observed the following conditions at the Facility during the inspection, which were inconsistent with the requirement for material protection from stormwater listed in Part I.E.2.f.2.b of VA0005291:

- A. The EPA Inspection Team observed an employee driving a front-end loader, transporting uncovered ammonium sulfate product outside of Buildings 12 and 12A, in the vicinity of a storm drain inlet during a rain event (refer to Appendix A, Photograph 6). The Facility Environmental Engineer directed the employee to halt performing the activity at the time of the inspection.
- B. The EPA Inspection Team observed pipes and rusted equipment stored along the fence line, upgradient of Stormwater Outfall 910, without overhead cover or containment (refer to Appendix A, Photographs 21 and 22).
- C. The EPA Inspection Team observed a materials and equipment storage area where rusted metals materials were stored without overhead coverage or containment, near storm drain inlets ultimately leading to Stormwater Outfall 912 (refer to Appendix A, Photographs 26 and 27). Appendix D of the 2022 SWPPP did not list BMPs in this area.
- D. The EPA Inspection Team observed an uncovered dumpster in the area north of Building 63, containing metal and electronic wastes stored near a storm drain inlet, without structural BMPs (refer to Appendix A, Photographs 27 and 28). The EPA Inspection Team also observed a stormwater inlet, outside of Building 63. The sides of the inlet were bent and in need of repair (refer to Appendix A, Photographs 31 and 32).

L. Proper Operation and Maintenance

Part II.Q of VA0005291 states, “The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes effective plant performance, adequate funding, adequate staffing, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by the permittee only when the operation is necessary to achieve compliance with the conditions of this permit.”

Instrumentation

Observation 19. The EPA Inspection Team observed that the temperature reading at the Outfall 004 compliance point was reading, “FAIL” (refer to Appendix A, Photograph 20). It was unclear how the Permittee was ensuring compliance with the temperature discharge limits at the outfall and if the issue was reported to the appropriate representatives (i.e., Hopewell WRF and VDEQ).

Observation 20. On April 26, 2022, the EPA Inspection Team observed that the TOC meter at the onsite laboratory was due for calibration on March 6, 2022, and thus, was past its calibration due date (refer to [Appendix A, Photograph 99](#)). The meter is used for Permit-required TOC compliance analyses by the lab. The Lab representatives stated that they were in the process of calibrating the TOC analyzers and hoped to have the calibrations completed by the end of the week (i.e., April 29, 2022).

BMP Installation

Observation 21. The EPA Inspection Team observed small rock piles, which appeared to be check dams, placed near the sock filters around the drainageway northeast of Building 40. The EPA Inspection Team observed that the check dams had not been properly installed in accordance with the specifications in Virginia's Erosion and Sediment Control Handbook (refer to [Appendix A, Photographs 62 and 63](#) and [Appendix B, Exhibit 13](#)). Specifically, the rock piles were spread out, and the height and width of the check dams did not appear to be in accordance with Virginia's Erosion and Sediment Control Handbook.

Observation 22. The EPA Inspection Team observed evidence of erosion along the hillside to the east of Stormwater Outfall 909, indicating that stormwater was bypassing the stormwater BMP and Stormwater Outfall 909, and discharging to Gravelly Run at an unpermitted location (refer to [Appendix A, Photographs 9 through 11](#)). The EPA Inspection Team returned to this area on April 26, 2022 during a rain event and observed that additional gravel had been applied to the east of Stormwater Outfall 909. It was unclear to the EPA Inspection Team if the gravel was meant to function as a BMP and what efficacy, if any, this approach would have in eliminating the apparent unpermitted discharge.

Water Leaks

Observation 23. The EPA Inspection Team observed the following dry weather flows, which were reported to be from raw intake river water or potable water sources:

- A. The EPA Inspection Team observed dry weather flows in the conveyance channels on the northern and southern sides of the access road south of Building 40. The EPA Inspection Team traced one source of dry weather flow to a fire hydrant, located near a guard shack south of Building 40 and north of Industrial Street (refer to [Appendix A, Photographs 68 through 70](#)). The Facility Environmental Engineer stated that the leak had been occurring for approximately two months.
- B. The EPA Inspection Team observed a dry weather flow in the storm drain inlet at the southeastern corner of Building 40. The Facility Environmental Engineer explained that the dry weather flow was potable water from a leaking pipe/valve in the area east of Building 40 (refer to [Appendix A, Photographs 71 and 76 through 82](#)). The dry weather flow from the leaking equipment was collecting in several storm drain inlets and in the conveyance channel north of the access road, leading to Stormwater Outfall 904.
- C. The EPA Inspection Team observed a dry weather flow in the conveyance channel south of the access road, collecting in the storm drain inlet discharging to Stormwater Outfall 904. The EPA Inspection Team observed wire, rocks, and gravel around and on the storm drain inlet but no other structural BMPs (refer to [Appendix A, Photographs 79 through 82](#)). The EPA Inspection Team observed additional dry weather flow in the conveyance channel leading to Stormwater Outfall 904. Some of the flow had a milky-white tint and the source of the flow was unclear (refer to [Appendix A, Photographs 79 through 82](#)). The EPA Inspection Team observed the structural sock filter BMPs around Stormwater Outfall 904, where sediment had accumulated. The BMPs were stained and were growing vegetation, indicating they needed maintenance (refer to [Appendix A, Photograph 82](#)).

- D. The EPA Inspection Team observed moisture accumulated along the hillside between Buildings 41 and 42 and the pier. Several pipes were located along the hillside, conveying very low volumes to the conveyance channel discharging to Stormwater Outfall 904. One line was from steam condensate located near the phenol tank. The source of the other pipes was unknown. The EPA Inspection Team also observed an unknown milky-white liquid accumulated within the conveyance channel (refer to [Appendix A, Photographs 83 and 84](#)).
- E. The EPA Inspection Team observed a storm drain inlet as the sampling location for Stormwater Outfall 905. A sock filter BMP was located around the storm drain inlet, which had vegetative growth and was stained. The EPA Inspection Team observed a pipe discharging into the storm drain inlet, leading to Stormwater Outfall 905, with a label stating “WTO-HVAC HDO-DISCHARGE” (refer to [Appendix A, Photographs 85 through 86](#)). The Facility Environmental Engineer explained that the source of the flow was air conditioner condensate from a shed located on the pier. However, the volume of flow appeared to be higher than would be expected of air conditioner condensate. Additional conversations with Facility representatives indicated that the flow was non-contact cooling water that passes through heat exchangers. The flow from the pipe was discharging to Stormwater Outfall 905 to the James River (refer to [Appendix A, Photograph 87](#)).
- F. The EPA Inspection Team observed dry weather flow collecting in the conveyance channel and discharging from Stormwater Outfall 911 to the James River (refer to [Appendix A, Photographs 100 through 102](#)). The Facility Environmental Engineer identified the source of the dry weather flows as a leaking header that is part of the raw water system. The EPA Inspection Team observed that the flow in the conveyance channel had a red tint and staining was present in the conveyance channel. The surface of the water had a sheen, which dispersed in plates when disturbed with a stick, indicating that it was not of petroleum origin. The Facility Environmental Engineer explained that the header had been leaking for approximately five years and that to fix the leak, the Permittee would have to excavate to find and isolate the line and would have to shut the Facility down for multiple weeks.
- G. The EPA Inspection Team observed three sink holes upgradient of Stormwater Outfall 907. The Facility Environmental Engineer explained that collapsed conveyance pipes were located under the sinkholes. The EPA Inspection Team observed dry weather flow from Stormwater Outfall 907, the source of which was unclear (refer to [Appendix A, Photographs 104 and 105](#)). Poythress Run was slightly murky at this location.

Structural Integrity of Assets

Observation 24. The EPA Inspection Team observed the following O&M issues regarding structural integrity of stormwater and wastewater assets:

- A. The EPA Inspection Team observed three process drains along the southern side of the Buildings 12 and 12A that needed repair, and had accumulated sludge (refer to [Appendix A, Photographs 4 and 5](#)). The Facility Environmental Engineer stated that the drains were in the process of being rehabilitated.
- B. The EPA Inspection Team observed a stormwater inlet, outside of Building 63. The sides of the inlet were bent and in need of repair (refer to [Appendix A, Photographs 31 and 32](#)).
- C. The EPA Inspection Team proceeded to the storm drain inlet north of the railyard, which consisted of an unsecured grate surrounded by rock and gravel (refer to [Appendix A, Photograph 40](#)). The structural integrity of this asset was of concern. The EPA Inspection Team then observed the sampling structure for Stormwater Outfall 912, located along the northern perimeter of the Facility’s fence line,

approximately 500 feet southwest of the outfall location (refer to [Appendix A, Photographs 41 and 42](#)). The Facility Environmental Engineer explained that the outlet pipe from the sampling structure to the outfall had been clogged for several years. According to the Facility Environmental Engineer, during rain events, stormwater accumulates within the sampling structure, then overflows from the top of the structure and discharges offsite to the outfall, instead of through the outlet pipe. The EPA Inspection Team proceeded to the storm drain inlet at the northwestern corner of Building 41 and consisted of an unsecured grate surrounded by rock and gravel (refer to [Appendix A, Photograph 61](#)). The structural integrity of this asset was of concern.

- D. The EPA Inspection Team observed a hill leading from east of the phenol storage tanks near Building 40 to the access road parallel to the James River. Concrete applied to the hill had caved in several locations and was in need of repair (refer to [Appendix A, Photograph 66](#)). The Facility Environmental Engineer stated that the Facility planned to rehabilitate the hill.
- E. The EPA Inspection Team observed an abandoned oil skimmer boom near Outfall 001 (refer to [Appendix A, Photograph 16](#)).

M. Stormwater BMP Maintenance

Part I.E.3 of VA0005291 states, “All control measures identified in the SWPPP shall be maintained in effective operating condition and shall be observed at least annually during active operation to ensure that they are functioning correctly.”

Page 19 of the 2022 SWPPP states, “BMPs have been installed such as gravel check dams and gravel bags to filter sediment in the existing concrete ditch beneath the slope and around drop inlets that convey stormwater to OF-904 and OF-905. These BMPs are inspected every quarter during the pollution prevention inspection and are maintained on an as needed basis and corrective actions are generated appropriately. Figures 4-4a and 4-5a show BMPs and their locations around these areas. Additional Sediment and Erosion control measures were constructed in 2021 including the installation of block and gravel inlet sediment filters using granite and limestone gravel, granite riprap stabilizers, filtrex booms, silt saver inlet frame filters, and granite riprap and gravel check dams around drop inlets and ditches that convey stormwater to OF-904 through OF-906.”

Observation 25. The EPA Inspection Team observed that the following structural BMPs had not been maintained:

- A. The sock filter BMP applied to a storm drain inlet on the eastern side of Building 41 was stained, potentially indicating pollutants in the discharge (refer to [Appendix A, Photograph 54 and 55](#)).
- B. The FOD System applied to the entrance/exit on the northeastern side of Building 42 had accumulated ammonium sulfate, causing track out onto the asphalt (refer to [Appendix A, Photographs 57 through 59](#)).
- C. The sock filter BMP installed downgradient of the sampling location for Stormwater Outfall 905 was submerged in an unknown liquid (refer to [Appendix A, Photograph 85](#)).
- D. The sock filter BMP installed around the storm drain inlet (and sampling location) for Stormwater Outfall 905 had vegetation growing from it (refer to [Appendix A, Photograph 86](#)).
- E. The BMPs around Stormwater Outfall 904, where sediment had accumulated, were stained and were growing vegetation (refer to [Appendix A, Photograph 82](#)).

N. Trash and Debris

Part I.A.9.c of VA0005291 states, “There shall be no discharge of waste, garbage, or floating debris in other than trace amounts.”

Observation 26. The EPA Inspection Team observed trash and debris at Stormwater Outfall 911, immediately upgradient of the James River (refer to Appendix A, Photograph 102). The EPA Inspection Team also observed trash throughout the Facility, including upgradient of Stormwater Outfall 910 and in an eroded flow pathway, leading towards Stormwater Outfall 907 (refer to Appendix A, Photographs 23 and 24 and 48).

Areas of Concern

The EPA Inspection Team observed the following areas of concern during the inspection that may warrant further investigation or consideration regarding their impact on Permit compliance and water quality.

- A. The Permittee slowly releases wastewater collected in the diversion pond while releasing wastewater from the equalization pond to the final flume leading to the Hopewell WRF. Apart from settling, flow equalization, and pH adjustment, the Facility does not provide additional treatment for the wastewater in the diversion pond that is discharged to Hopewell WRF.
- B. TOC and pH for Outfall 004 are monitored in the sampling shed adjacent to the flume, prior to discharging to the Hopewell WRF. Hopewell WRF has permanently installed a composite sampler within the flume building, which pulls samples daily. The composite sampler indicated an internal temperature of 5°C. The Facility's sampler temperature recorder was not working properly; the backup digital reading showed a temperature of 22°C. The Facility Environmental Engineer acknowledged the wastewater temperature device was not working properly, noting it was currently under repair.
- C. Based on files reviewed during the inspection, the H-1 outfall is permitted in the Facility's Industrial User (IU) permit (from Hopewell WRF) for 6.4 MGD flow. The Facility exceeded this flow limit 18 of 28 days in February, averaging 6.68 MGD, with a max of 8.23 MGD. It is of concern that the discharges from the Facility may be exceeding the hydraulic capacity of the Hopewell WRF assets.

Closing Conference

After the Facility site walk, the EPA Inspection Team met with the Facility representatives for a closing conference and shared preliminary observations. The EPA Inspection Team reiterated that all preliminary observations discussed were not compliance determinations. Any and all preliminary observations shared were subject to further investigation by the EPA Inspection Team upon the additional review of records and documentation. Additional observations may be contained in this inspection report that were not identified at the time of the closing conference after the additional review of materials following the inspection.

The inspection concluded at approximately 5:45 PM (EDT) on April 27, 2022.