



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

Permit No.: VA0063177
Effective Date: October 1, 2018
Expiration Date: September 30, 2023

AUTHORIZATION TO DISCHARGE UNDER THE
VIRGINIA POLLUTION DISCHARGE ELIMINATION SYSTEM
AND
THE VIRGINIA STATE WATER CONTROL LAW

In compliance with the provisions of the Clean Water Act as amended and pursuant to the State Water Control Law and regulations adopted pursuant thereto, the following owner is authorized to discharge in accordance with the information submitted with the permit application, and with this permit cover page, and Parts I, II, III, IV and V of this permit, as set forth herein.

Owner: City of Richmond
Facility Name: City of Richmond Department of Public Utilities (DPU)
(Richmond Wastewater Treatment Plant (WWTP),
Richmond Combined Sewer System (CSS) and
Richmond Municipal Separate Storm Sewer System (MS4))
City: Richmond
Facility Location: 1400 Brander Street

The owner is authorized to discharge from the wastewater treatment plant, combined sewer system, and municipal separate storm sewer system to surface waters. The wastewater treatment plant discharges to the following receiving stream:

Outfalls 001, 901, 902 and 903
Name: James River
Basin: James River (Lower)
Subbasin: N/A
Section: 1
Class: II
Special Standards: bb

Deputy Regional Director, Piedmont Regional Office

September 26, 2018

Date

PART I – CITY OF RICHMOND DEPARTMENT OF UTILITIES (DPU) TOTAL ANNUAL LOAD LIMITS AND OTHER CONDITIONS

A. City of Richmond Department of Public Utilities (DPU) Total Loadings

- 1. DPU operates facilities and systems that include discharges from the wastewater treatment plant (WWTP), combined sewer system (CSS) and municipal separate storm sewer system (MS4). All of these discharges are included in the allocations that are part of the Chesapeake Bay Total Maximum Daily Load (TMDL) calculations. The following table provides the loads assigned to the total discharges for DPU.
- 2. During the period beginning with the permit's effective date and lasting until the permit's expiration, the permittee has been allocated the following annual loads based upon the Chesapeake Bay TMDL. The permittee shall monitor discharges contributing to the aggregated annual load allocation for the combined discharges associated with the permittee's WWTP, CSS, and MS4. Monitoring data will include sampling and analysis of the wastewater treatment plant effluent, modeling results for the combined sewer system and modeling for BMP reductions associated with the MS4:

PARAMETER	TOTAL AGGREGATED ANNUAL LOAD (lbs)
Total Nitrogen (TN)	1,658,110
Total Phosphorus (TP)	104,658
Total Suspended Solids (TSS)	9,467,508

- a. The permittee's performance against loadings for each of the above parameters shall be determined on a calendar year basis.
- b. The Total Nitrogen and Total Phosphorus calendar year load limits associated with the WWTP are included in the current Registration List under registration number VAN040085 and are separately enforceable under the General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Dischargers and Nutrient Trading in the Chesapeake Watershed in Virginia. If the discharged load from the WWTP is greater than the annual limit in the Watershed General Permit, the permittee shall acquire credits necessary to comply with the Watershed General Permit.
- c. The permittee's MS4 is subject to the CWA § 402(p) "maximum extent practicable" (MEP) standard and shall develop, implement, and enforce a program to implement best management practices (BMPs) to the MEP. The permittee cohesively administers its CSS and MS4 to meet all applicable requirements while achieving the greatest net pollutant reductions and has developed the RVAH2O Clean Water Plan, which establishes a framework for addressing drainage and wet weather volume in the combined and separate sewer areas. In recognition of the permittee's distinct stormwater administration, and in order to optimize the permittee's stormwater pollutant reductions, MEP factors include, but are not limited to:
 - (1) Adequate funding from the City of Richmond Stormwater Utility;
 - (2) Other stormwater funding allocated to the permittee, such as funding from the City of Richmond Wastewater Utility for the CSS and funding from the Virginia Stormwater Local Assistance Fund;
 - (3) The benefit-cost ratio of CSS projects compared to the benefit-cost ratio of MS4 projects; and,

- (4) The relative spatial and pollutant reduction benefit of CSS projects compared to MS4 projects based upon the outfall location affected.
 3. The permittee shall conduct surface water monitoring on the James River upstream and downstream of the area subject to the requirements of this permit in order to document spatial and temporal variability in water quality of the James River and tributary streams located within the City of Richmond. The purpose of this monitoring program is to characterize the effects on water quality arising from nutrients, sediment and bacteria, and to document long-term recovery following remediation. The permittee shall coordinate with DEQ to ensure the data collected can be used for water quality assessments under CWA §§ 303(d) and 305(b). The permittee shall submit annual assessment reports as part of I.A.4 (Integrated CSS and MS4 Annual Reporting).
 4. Integrated CSS and MS4 Annual Reporting:
The permittee shall submit an annual report by March 31 of each year after the year in which the permit becomes effective to the Department of Environmental Quality's Piedmont Regional Office. The report shall contain, at a minimum, the information specified in Appendix A of this permit for the previous calendar year.
- B. Conditions in Parts II-IV of this permit apply only to the facilities and systems listed in these respective parts. Part V of this permit applies to all of the facilities and systems listed in this permit.

PART II – WASTEWATER TREATMENT PLANT (WWTP)

A. Limitations and Monitoring Requirements

1. During the period beginning with the permit's effective date and lasting until the permit's expiration date, the permittee is authorized to discharge from Outfall 001 (combined discharge(s) from Outfalls 101 and 102).

a. Such discharges shall be limited and monitored specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
	MONTHLY AVERAGE	7-DAY ROLLING AVERAGE*	MINIMUM	MAXIMUM	FREQUENCY	SAMPLE TYPE
Flow (MGD) ^{(1) (3)}	NL	NA	NA	NL	Continuous	Totalizing, Indicating & Recording
pH (standard units) ⁽³⁾	NA	NA	6.0	9.0	1 per Day	Grab
Dissolved Oxygen (DO) ⁽³⁾	NA	NA	5.6 mg/L	NA	1 per Day	Grab
<i>E. coli</i> ^{(2) (3)}	126 N/100mL (Geometric Mean)	NA	NA	NL	1 per Day	Grab (between 7:30 am-1:30pm)

NOTES & FOOTNOTES:

“NL” means no limitation is established. Monitoring and reporting, however, are required.

“NA” means not applicable.

* "7-Day Rolling Average" is defined in Part II.C.4.b.

(1) The dry-weather design flow of this treatment facility is 45 MGD. The combined wet-weather design flow from Outfalls 101 and 102 is 140 MGD.

(2) See Part II.B for alternate disinfection requirements.

(3) When Outfall 102 is not discharging, sampling at Outfall 101 may be used to satisfy the monitoring requirements for Outfall 001.

b. There shall be no discharge of floating solids or visible foam in other than trace amounts.

2. During the period beginning with the permit's effective date and lasting until the permit's expiration date, the permittee is authorized to discharge from Outfall 101 (internal outfall).
 - a. Such discharges shall be limited and monitored specified below:

EFFLUENT CHARACTERISTICS		DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS ⁽⁹⁾			
		MONTHLY AVERAGE		7-DAY ROLLING AVERAGE*		MINIMUM	MAXIMUM	FREQUENCY	SAMPLE TYPE
Flow (MGD) ⁽¹⁾		NL		NA		NA	NL	Continuous	Totalizing, Indicating & Recording
pH (standard units)		NA		NA		6.0	9.0	1 per Day	Grab
Dissolved Oxygen (DO)		NA		NA		5.6 mg/L	NA	1 per Day	Grab
Five Day Carbonaceous Biochemical Oxygen Demand (cBOD ₅) ⁽⁵⁾	June - October	NL mg/L	NL kg/d	8.0 mg/L	1361 kg/d	NA	NA	1 per Day	24 HC
	November - May	14.3 mg/L	2434 kg/d	21.4 mg/L	3651 kg/d				
Total Suspended Solids (TSS) ⁽⁵⁾	June - October	NL mg/L	NL kg/d	10 mg/L ⁽⁶⁾	1703 kg/d	NA	NA	1 per Month	24 HC
	November - May	18 mg/L	3066 kg/d	27 mg/L	4599 kg/d				
Ammonia as N ^{(5) (10)}	<i>Interim</i> June - October	6.4 mg/L	1090 kg/d ⁽⁸⁾	9.36 mg/L (Weekly Average)		NA	NA	1 per Day	24 HC
	<i>Final</i> June - October	5.03 mg/L	1090 kg/d ⁽⁸⁾	6.20 mg/L ⁽⁷⁾ (Weekly Average)					
	November - May	15.2 mg/L	2588 kg/d	22.8 mg/L (Weekly Average)					
Total Phosphorus (as P) - Calendar Year Average ^{(2) (5)}		0.50 mg/L		NA		NA	NA	1 per Year	Calculated
Total Nitrogen (as N) - Calendar Year Average ^{(2) (4) (5)}		8.0 mg/L		NA		NA	NA	1 per Year	Calculated
Total Phosphorus (as P) - Calendar Year to Date Average ⁽²⁾		NL		NA		NA	NA	1 per Month	Calculated
Total Nitrogen (as N) - Calendar Year to Date Average ^{(2) (4)}		NL		NA		NA	NA	1 per Month	Calculated
<i>E.coli</i> ⁽³⁾		126 N/100mL (Geometric Mean)		NA		NA	NL	1 per Day	Grab (between 7:30 am-1:30pm)

NOTES & FOOTNOTES:

"NL" means no limitation is established. Monitoring and reporting, however, are required.

"NA" means not applicable.

"24 HC" means twenty-four hour composite.

* "7-Day Rolling Average" is defined in Part II.C.4.b.

- (1) The dry-weather design flow of this treatment facility is 45 MGD.
 - (2) See Parts II.C.9 and II.C.10 for nutrient reporting requirements.
 - (3) See Part II.B for alternate disinfection requirements.
 - (4) Total Nitrogen, which is the sum of TKN and Nitrate plus Nitrite, shall be derived from the results of those tests.
 - (5) This facility shall comply with all of the discharge limitations listed above when treating a dry-weather flow up to 45 MGD. This facility shall comply with all of the discharge concentration limitations when treating a combination of dry-weather flow and stormwater at flows of up to 75 MGD. In the event that concentration and/or loading limitations are met without regard to the flow tiering, then the facility will be considered to be in compliance with the applicable limitation. This facility shall comply with all of the discharge limitations listed above for TRC, pH, and *E.coli* regardless of flow. Dry-weather flow = Total sanitary sewage, industrial wastewater, and Infiltration/Inflow (I/I).
 - (6) This limitation is expressed in two significant digits.
 - (7) This limitation is expressed in three significant digits.
 - (8) This limitation is expressed in four significant digits.
 - (9) Effluent samples shall be collected immediately following treatment and disinfection prior to comingling with outfall 102.
 - (10) See Part II.H for the Schedule of Compliance.
- b. There shall be no discharge of floating solids or visible foam in other than trace amounts.
- c. In addition to any Total Nitrogen or Total Phosphorus concentration limits (or monitoring requirements without associated limits) listed above, this facility has Total Nitrogen and Total Phosphorus calendar year load limits associated with this outfall included in the current Registration List under registration number VAN040085, enforceable under the General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Dischargers and Nutrient Trading in the Chesapeake Watershed in Virginia.

3. Discharge from Outfall 102 (internal outfall) is approved, provided the permittee is in compliance with the Long Term Control Plan (LTCP) implementation schedule requirements of the March 17, 2005 Consent Order, and any supplements or modifications thereto and subject to the following conditions, discharge limitations and monitoring requirements. Beginning from the effective date of this permit and lasting through the expiration date, influent flow discharged from Outfall 102 shall receive at a minimum treatment as follows: screening, grit removal, primary sedimentation and disinfection.

- a. Such discharges shall be limited and monitored as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS					MONITORING REQUIREMENTS ⁽³⁾		
	MONTHLY AVERAGE		WEEKLY AVERAGE		MINIMUM	MAXIMUM	FREQUENCY	SAMPLE TYPE ⁽⁴⁾
Flow (MGD) ⁽¹⁾	NL		NA		NA	NL	Continuous	Totalizing, Indicating & Recording
pH (standard units)	NA		NA		NL	NL	1 per Day	Grab
Five Day Carbonaceous Biochemical Oxygen Demand (cBOD ₅)	NL mg/L	NL kg/d	NL mg/L	NL kg/d	NA	NA	1 per Day	24 HC ⁽²⁾
Total Suspended Solids (TSS)	NL mg/L	NL kg/d	NL mg/L	NL kg/d	NA	NA	1 per Day	24 HC ⁽²⁾
Ammonia as N	NL mg/L	NL kg/d	NL mg/L		NA	NA	1 per Day	24 HC ⁽²⁾
Total Phosphorus (as P)	NL mg/L		NA		NA	NA	1 per Month	24 HC ⁽²⁾
Total Nitrogen (as N)	NL mg/L		NA		NA	NA	1 per Month	24 HC ⁽²⁾
<i>E.coli</i>	NL N/100mL (Geometric Mean)		NA		NA	NL	1 per Day	Grab

NOTES & FOOTNOTES:

“NL” means no limitation is established. Monitoring and reporting, however, are required.

“NA” means not applicable.

(1) Conditions and limitations for influent flow discharged from Outfall 102 shall be as follows:

FLOW CONDITION AND PERIOD		TIMES	MEASURED FLOW RATES FOR OUTFALL 102
Dry Weather Flow (Influent Flow \leq 45 MGD)		All times	No discharge permitted. Complete treatment required for all influent.
Wet Weather Flow ($45 \leq$ Influent Flow \leq 75* MGD)		All times	No discharge permitted. Complete treatment required for all influent.
Wet Weather Flow (Influent Flow \geq 75* MGD) during wet weather events. Flow emptied from retention basins is not authorized to be discharged through this outfall.	Before the final CTO is issued for the Outfall 102 Treatment (Demonstration Testing).	All times	Up to 65 MGD. Total influent flow to the plant shall be authorized up to 140 MGD.
	After the final CTO is issued for the Outfall 102 Treatment.		

* The 75 MGD threshold applies during normal operating conditions. See Part III.A.1.d.1.b for the definition of abnormal conditions, under which the 75 MGD threshold may be adjusted.

- (2) Take consecutive 24 hour flow-proportioned composite samples for the duration of the discharge. For discharges less than 24 hours, flow-proportioned composite samples for the duration of the discharge event.
 - (3) Effluent samples at Outfall 102 shall be collected immediately following disinfection.
 - (4) All pollutant sampling shall commence no later than two hours after a discharge has begun to occur at Outfall 102. Samples are not required for discharges lasting less than two hours. The two hour delay does not apply to flow monitoring.
- b. The permittee shall submit a log with each monthly Discharge Monitoring Report that identifies all days in which a discharge from Outfall 102 occurred.
 - c. The permittee shall evaluate performance of this CSO control method in accordance with Part III.A.1.d.3.

4. During the period beginning with the permit's effective date and lasting until the permit's expiration date, the permittee is authorized to discharge stormwater from Outfalls 901, 902 and 903.
- a. Such discharges shall be limited and monitored specified below:

PARAMETERS	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS ⁽¹⁾	
	MINIMUM	MAXIMUM	FREQUENCY	SAMPLE TYPE
Flow	NA	NL	1 per 3 Months	Estimate
pH (standard units)	NL	NL	1 per 3 Months	Grab
Total Suspended Solids (TSS) (mg/L)	NA	NL	1 per 3 Months	Grab
<i>E.coli</i> (N/100mL)	NA	NL	1 per 3 Months	Grab
Total Nitrogen (TN) mg/L)	NA	NL	1 per 6 Months (for first two years)	Grab
Total Phosphorus (TP) (mg/L)	NA	NL	1 per 6 Months (for first two years)	Grab
Total Kjeldahl Nitrogen (TKN) (mg/L)	NA	NL	1 per 6 Months (for first two years)	Grab
Nitrite + Nitrate (mg/L)	NA	NL	1 per 6 Months (for first two years)	Grab

NOTES & FOOTNOTES:

"NL" = No Limitation, monitoring only

"NA" = Not Applicable

(1) See Part II.G.2.a. – e. for additional monitoring requirements.

(2) "1 per 3 Months" = One sample taken during each three consecutive calendar month period following the effective date of the permit in accordance with the following schedule:

MONITORING PERIOD	DMR DUE DATE
January - March	April 10 th
April - June	July 10 th
July - September	October 10 th
October - December	January 10 th

(3) "1 per 6 Months (for first two years)" = One sample taken during each six consecutive calendar month period for the first two years following the effective date of the permit in accordance with the following schedule:

MONITORING PERIOD	DMR DUE DATE
January - June	July 10 th
July - December	January 10 th

- b. In addition to the analytical results, the permittee shall provide the date and duration (in hours) of the storm event(s) sampled; rainfall total (in inches) of the storm event that generated the sampled runoff; and the duration between the storm sampled and the end of the previous measurable storm event (a "measurable storm event" is defined as a storm event that results in an actual discharge from the site).
- c. There shall be no discharge of waste, garbage, or floating debris in other than trace amounts.

5. Biosolids Limitations and Monitoring Requirements

During the period beginning with the permit's effective date and lasting until the permit expiration date, the permittee is authorized to manage Class B biosolids in accordance with 9VAC25-31-420 through 720 and 9VAC25-32-303 through 358, the limitations, conditions and requirements set forth in this permit and the approved Biosolids Management Plan.

All biosolids samples shall be collected and analyzed in accordance with Title 40 of the Code of Federal Regulations, Part 503 and 136, and the approved Biosolids Management Plan. Analyses shall be conducted by a VELAP accredited environmental laboratory. The permittee shall ensure that all biosolids generated under authority of this permit and provided to other persons, for the purpose of land application or further treatment, are monitored in accordance with the monitoring requirements as specified below in Part II.A.5.b.

- a. Sewage Sludge Annual Production Monitoring (SP1)
 The permittee shall report the annual total amount of sludge produced (in dry metric tons) and annual amount of Class B biosolids (in dry metric tons) distributed for land application. Data shall be reported on the Discharge Monitoring Report (DMR) for discharge number SP1.

- b. Biosolids - Metals Limitations and Monitoring Requirements (S01)
 Pollutants in Class B biosolids that are generated and provided to a land applier under the authority of this permit shall be monitored and limited as specified below. Biosolids shall not be provided for land application if the concentration of any pollutant in the biosolids exceeds the ceiling limitation of that pollutant.

PARAMETERS	PC/CPLR LIMITATIONS	CEILING CONCENTRATION	MONITORING REQUIREMENTS	
	MONTHLY AVERAGE (mg/kg) ⁽¹⁾⁽²⁾	CONCENTRATION MAXIMUM (mg/kg) ⁽¹⁾⁽²⁾	FREQUENCY	SAMPLE TYPE
Percent Solids (%)	NL	NA	1 per 2 Months ⁽⁴⁾	Composite
Arsenic, Sludge	41	75	1 per 2 Months ⁽⁴⁾	Composite
Cadmium, Sludge	39	85	1 per 2 Months ⁽⁴⁾	Composite
Copper, Sludge	1,500	4,300	1 per 2 Months ⁽⁴⁾	Composite
Lead, Sludge	300	840	1 per 2 Months ⁽⁴⁾	Composite
Mercury, Sludge	17	57	1 per 2 Months ⁽⁴⁾	Composite
Molybdenum, Sludge	NL ⁽³⁾	75	1 per 2 Months ⁽⁴⁾	Composite
Nickel, Sludge	420	420	1 per 2 Months ⁽⁴⁾	Composite
Selenium, Sludge	100	100	1 per 2 Months ⁽⁴⁾	Composite
Zinc, Sludge	2,800	7,500	1 per 2 Months ⁽⁴⁾	Composite

NOTES & FOOTNOTES:
 "NL" = No Limitation, monitoring only

“NA” = Not Applicable

- (1) All parameters are subject to pollutant concentrations (PC), cumulative pollutant loading rates (CPLR), and ceiling limits. PC biosolids contain the constituents identified above at concentrations below the monthly average specified. CPLR biosolids contain the constituents identified above at concentrations above the monthly average and each sample must be below the maximum concentration specified.
- (2) All limits and criteria are expressed on a dry weight basis.
- (3) The monthly average concentration for molybdenum is currently under study by USEPA. Research suggests that a monthly average molybdenum concentration below 40 mg/kg may be appropriate to reduce the risk of copper deficiency in grazing animals.
- (4) “1 per 2 Months” = One sample taken per two calendar months in accordance with the following schedule:

MONITORING PERIOD	DMR DUE DATE
January - February	March 10 th
March - April	May 10 th
May - June	July 10 th
July - August	September 10 th
September - October	November 10 th
November - December	January 10 th

c. Pathogen Reduction and Vector Attraction Reduction (VAR) Requirements
 Class B - Biosolids generated and provided to a land applier under this permit shall be treated to meet no less than Class B Pathogen Reduction Alternative and VAR Option 1 prior to delivery to a land application site. The biosolids shall be monitored and limited in accordance with the treatment options selected as identified in the table below:

TREATMENT OPTION		CLASS B PATHOGEN REDUCTION & VAR TREATMENT & STANDARDS	MONITORING REQUIREMENTS
PATHOGEN REDUCTION ALTERNATIVE	PROCESS TO SIGNIFICANTLY REDUCE PATHOGENS (PSRP) OPTION		
2	3	PSRP: Anaerobic digestion for a mean cell residence time between 15 days at 35°C - 55°C up to 60 days at 20°C (9VAC25-31-710.D.3).	1 per 2 Months
VAR OPTION	VECTOR ATTRACTION REDUCTION TREATMENT STANDARD		MONITORING REQUIREMENTS
1	38% Reduction of volatile solids by digestion (9VAC25-31-720.B.1.).		1 per 2 Months

NOTES & FOOTNOTES:
 “1 per 2 Months” = One sample taken during each two consecutive calendar month period following the effective date of the permit.

- (1) Between sampling events, operating records must demonstrate that the Wastewater Treatment Plant (WWTP) is operating at a performance level known to meet pathogen reduction and VAR standards.
 - (2) Process monitoring must be sufficient to demonstrate compliance with PSRP and VAR treatment requirements.
- d. See Part II.F for biosolids management and reporting requirements.

B. Alternate Disinfection Limitations and Monitoring Requirements

1. If chlorine is chosen as a disinfection method, total residual chlorine (TRC) shall be limited and monitored by the permittee as specified below:
 - a. The permittee shall monitor the TRC at the outlet of each operating chlorine contact tank every two hours by grab sample.
 - b. No more than **36** of all samples taken at the outlet of each operating chlorine contact tank shall be less than **1.0 mg/L** for any one calendar month (DMR parameter 157).
 - c. No TRC sample collected at the outlet of each operating chlorine contact tank shall be less than **0.60 mg/L** (DMR parameter 213) unless the *E. coli* in the final effluent is also less than 126 N/100mL. When the TRC concentration after the contact tank and prior to dechlorination is less than 0.60 mg/L, an *E. coli* sample of the final effluent may be taken within 15 minutes. If the *E. coli* sample is taken within fifteen minutes and is less than 126 N/100 mL, then the original TRC samples shall not be reported as one of the 36 allowable excursions identified in B.1.b above.
 - d. If dechlorination facilities exist, the samples above shall be collected prior to dechlorination.
2. If chlorine is chosen as a disinfection method, effluent TRC shall be limited and monitoring, following dechlorination, by the permittee as specified below:

PARAMETER	MONTHLY AVERAGE	WEEKLY AVERAGE	FREQUENCY	SAMPLE TYPE
TRC (mg/L)	36 µg/L	38 µg/L	1 per 2 hours	Grab (between 7:30 am-1:30 pm)

C. Other Requirements or Special Conditions

1. Operation and Maintenance Manual Requirement

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 (for sewage treatment plants) Sewage Collection and Treatment Regulations, 9VAC25-790.

The O&M Manual and subsequent revisions shall include the manual effective date and meet Part V.K.2 and Part V.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 shall 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, stormwater and sludge samples;
- b. Procedures for measuring and recording the duration and volume of treated wastewater discharged;
- c. Discussion of Best Management Practices, if applicable;
- d. Procedures for handling, storing, and disposing of all wastes, fluids, and pollutants characterized in Part II.C.5 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;
- e. Discussion of treatment works design, treatment works operation, routine preventative maintenance of units within the treatment works, critical spare parts inventory and record keeping;
- f. Plan for the management and/or disposal of waste solids and residues;
- g. Hours of operation and staffing requirements for the plant to ensure effective operation of the treatment works and maintain permit compliance;
- h. List of facility, local and state emergency contacts; and,
- i. Procedures for reporting and responding to any spills/overflows/treatment works upsets.

2. Licensed Operator Requirement

The permittee shall employ or contract at least one Class 1 licensed wastewater works operator for this facility. The license shall be issued in accordance with Title 54.1 of the Code of Virginia and the Board for Waterworks and Wastewater Works Operators and Onsite Sewage System Professionals Regulations. The permittee shall notify the Department in writing whenever he is not complying, or has grounds for anticipating he will not comply with this requirement. The notification shall include a statement of reasons and a prompt schedule for achieving compliance.

3. Reliability Class

The permitted treatment works shall meet Reliability Class I.

4. Compliance Reporting

- a. The quantification levels (QLs) shall be less than or equal to the following concentrations:

EFFLUENT CHARACTERISTIC	QUANTIFICATION LEVEL (QL)
cBOD5	2 mg/L
TSS	1.0 mg/L
Ammonia as N	0.20 mg/L
TRC	0.10 mg/L (100 µg/L)

The QL is defined as the lowest concentration used to calibrate a measurement system in accordance with the procedures published for the method. It is the responsibility of the permittee to ensure that proper quality assurance/quality control (QA/QC) protocols are followed during the sampling and analytical procedures. QA/QC information shall be documented to confirm that appropriate analytical procedures have been used and the required QLs have been attained. The permittee shall use any method in accordance with Part V.A of this permit.

b. Reporting

Monthly Average -- Compliance with the monthly average limitations and/or reporting requirements for the parameters listed in subsection a. of this permit condition shall be determined as follows: All concentration data below the QL used for the analysis (QL must be less than or equal to the QL listed in a. above) shall be treated as zero. All concentration data equal to or above the QL used for the analysis (QL must be less than or equal to the QL listed in a. above) shall be treated as it is reported. An arithmetic average shall be calculated using all reported data for the month, including the defined zeros. This arithmetic average shall be reported on the Discharge Monitoring Report (DMR) as calculated. If all data are below the QL used for the analysis (QL must be less than or equal to the QL listed in a. above), then the average shall be reported as "<QL". If reporting for quantity is required on the DMR and the reported monthly average concentration is <QL, then report "<QL" for the quantity. Otherwise use the reported concentration data (including the defined zeros) and flow data for each sample day to determine the daily quantity and report the monthly average of the calculated daily quantities.

Weekly Average -- Compliance with the weekly average limitations and/or reporting requirements for the parameters listed in subsection a. of this permit condition shall be determined as follows: All concentration data below the QL used for the analysis (QL must be less than or equal to the QL listed in a. above) shall be treated as zero. All concentration data equal to or above the QL used for the analysis (QL must be less than or equal to the QL listed in a. above) shall be treated as reported. An arithmetic average shall be calculated using all reported data, including the defined zeros, collected within each complete calendar week and entirely contained within the reporting month. The maximum value of the weekly averages thus determined shall be reported on the DMR. If all data are below the QL used for the analysis (QL must be less than or equal to the QL listed in a. above), then the weekly average shall be reported as "<QL". If reporting for quantity is required on the DMR and the reported weekly average concentration is <QL, then report "<QL" for the quantity. Otherwise use the reported concentration data (including the defined zeros) and flow data for each sample day to determine the daily quantity and report the maximum weekly average of the calculated daily quantities.

7-Day Rolling Average -- Compliance with the 7-Day Rolling average limitations and/or reporting requirements for the parameters listed in subsection a. of this permit condition shall be determined as follows: All concentration data below the QL used in the analysis shall be treated as zero. All concentration data equal to or above the QL used in the analysis shall be treated as reported. An arithmetic average shall be calculated using all reported data, including the defined zeros, collected within each seven day period (except when $Q_D > 75$ MGD). The maximum value of the 7-Day Rolling averages thus determined shall be reported on the DMR. If all data are below the QL used for the analysis, then the 7-Day Rolling average shall be reported as "<QL". If reporting for quantity is required on the DMR and the reported 7-Day Rolling average concentration is <QL, then report "<QL" for the quantity. Otherwise, use the reported concentration data (including the defined zeros) and

flow data for each sample day (except when $Q_D > 45$ MGD) to determine the daily quantity and report the maximum 7-Day Rolling average of the calculated daily quantities.

$Q_D \leq 45$ MGD = Total mass for any calendar day summed with the preceding six calendar days (with flow less than or equal to 45 MGD) divided by seven.

$Q_D \leq 75$ MGD = Average daily concentration for any calendar day summed with the preceding six calendar days (with flow less than or equal to 75 MGD) divided by seven.

Where Q_D = Daily Flow

Flow tiered 7-Day Rolling Averages calculated in accordance with directions above shall not include data from more than two consecutive months. If seven days within the flow tier are not available over the two consecutive month period, then sum the data from the available days within the flow tier and divide by the number of applicable calendar days. If available, seven calendar days shall be included in all 7-Day Rolling Averages. For calendar days with flow greater than 45 MGD, the 7-Day Rolling Average mass is not calculated. For calendar days above 75 MGD, the 7-Day Rolling Average concentration is not calculated.

- c. Any single datum required shall be reported as "<QL" if it is less than the QL used for the analysis (QL must be less than or equal to the QL listed in a. above). Otherwise, the numerical value shall be reported.
- d. The permittee shall report at least the same number of significant digits as the permit limit for a given parameter. Regardless of the rounding convention used (i.e. 5 always rounding up or to the nearest even number) by the permittee, the permittee shall use the convention consistently and shall ensure that consulting laboratories employed by the permittee use the same convention.
- e. The compliance reporting calculations outlined in Part II.C.4.b shall apply only to parameters not addressed in Part II.C.9, Nutrient Reporting Calculations.
- f. Nutrients - For Total Phosphorus, all daily concentration data below the quantification level (QL) for the analytical method used shall be treated as half the QL. All daily concentration data equal to or above the QL for the analytical method used shall be treated as it is reported.

For Total Nitrogen (TN), if none of the daily concentration data for the respective species (i.e., TKN, Nitrates/Nitrites) are equal to or above the QL for the respective analytical methods used, the daily TN concentration value reported shall equal one half of the largest QL used for the respective species. If one of the data is equal to or above the QL, the daily TN concentration value shall be treated as that data point is reported. If more than one of the data is above the QL, the daily TN concentration value shall equal the sum of the data points as reported.

5. Materials Handling and Storage

Any and all product, materials 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, or other wastes to State waters, except as expressly authorized.

6. Reopeners

This permit may be modified, or alternatively, revoked and reissued:

- a. If any approved wasteload allocation procedure, pursuant to Section 303(d) of the Clean Water Act, imposes wasteload allocations, limits or conditions on the facility that are not consistent with the permit requirements;
- b. To incorporate technology-based effluent concentration limitations for nutrients in conjunction with the installation of nutrient control technology, whether by new construction, expansion or upgrade, or
- c. To incorporate alternative nutrient limitations and/or monitoring requirements, should:

(1) The State Water Control Board adopt new nutrient standards for the water body receiving the discharge, including the Chesapeake Bay or its tributaries, or

(2) A future water quality regulation or statute require new or alternative nutrient control.

7. Indirect Dischargers

The permittee shall provide adequate notice to the Department of the following:

- a. Any new introduction of pollutants into the treatment works from an indirect discharger which would be subject to Section 301 or 306 of the Clean Water Act and the State Water Control Law if it were directly discharging those pollutants; and
- b. Any substantial change in the volume or character of pollutants being introduced into the treatment works by a source introducing pollutants into the treatment works at the time of issuance of this permit.

Adequate notice shall include information on (i) the quality and quantity of effluent introduced into the treatment works, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the treatment works.

8. CTC & CTO Requirement

For non-Water Quality Improvement Fund (WQIF) projects: The permittee shall, in accordance with the DEQ Sewage Collection and Treatment Regulation (9VAC25-790), obtain a Certificate to Construct (CTC), and a Certificate to Operate (CTO) from the DEQ Piedmont Regional Office. The design plans shall be submitted by the design engineer and owner to the DEQ Piedmont Regional Water Permit Manager prior to constructing the wastewater treatment works and operating the treatment works, respectively. Non-compliance with the CTC or CTO shall be deemed a violation of the permit.

For WQIF projects: The permittee shall, in accordance with the DEQ Sewage Collection and Treatment Regulation (9VAC25-790), obtain a Certificate to Construct (CTC), and a Certificate to Operate (CTO) from the DEQ Office of Wastewater Engineering. Non-compliance with the CTC or CTO shall be deemed a violation of the permit.

Upon issuance of a CTO, any nutrient removal facilities installed shall be operated to achieve design effluent Total Nitrogen and Total Phosphorus concentrations.

9. Nutrient Reporting Calculations

The reporting calculations below shall be performed using the concentration monitoring required by the general permit, VAN040085.

For each calendar month, the DMR shall show the calendar year-to-date average concentration (mg/L) calculated in accordance with the following formulae:

$$AC_{\text{avg-YTD}} = \left(\sum_{(\text{Jan-current month})} MC_{\text{avg}} \right) \div (\# \text{ of months })$$

where:

$AC_{\text{avg-YTD}}$ = calendar year-to-date average concentration (mg/L)(parameter codes 805 and 806)

MC_{avg} = monthly average concentration (mg/L) as reported on the Nutrient General Permit DMR

The total nitrogen and phosphorus average concentrations (mg/L) for each calendar year (AC) shall be shown on the December DMR due January 10th of the following year. These values shall be calculated in accordance with the following formulae:

$$AC_{\text{avg}} = \left(\sum_{(\text{Jan-Dec})} MC_{\text{avg}} \right) \div 12$$

where:

AC_{avg} = calendar year average concentration (mg/L) (parameter codes 792 and 794)

MC_{avg} = monthly average concentration (mg/L) as reported on the Nutrient General Permit DMR

10. Suspension of Annual Average Concentration Limitations for E3/E4 Facilities

The annual average concentration limitations for Total Nitrogen and/or Total Phosphorus are suspended during any calendar year in which the facility is considered by DEQ to be a participant in the Virginia Environmental Excellence Program in good standing at either the Exemplary Environmental Enterprise (E3) level or the Extraordinary Environmental Enterprise (E4) level, provided that the following conditions have also been met:

- a. The facility has applied for (or renewed) participation, been accepted, maintained a record of sustained compliance and submitted an annual report according to the program guidelines;
- b. The facility has demonstrated that they have in place a fully implemented environmental management system (EMS) with an alternative compliance method that includes operation of installed nutrient removal technologies to achieve the annual average concentration limitations, and
- c. The E3/E4 designation from DEQ and implementation of the EMS has been in effect for the full calendar year.

The annual average concentration limitations for Total Nitrogen and/or Phosphorus, as applicable, are not suspended in any calendar year following a year in which the facility failed to achieve the annual average concentration limitations as required by b. above.

11. Closure plan

If the permittee plans an expansion or upgrade to replace the existing treatment works, or if facilities are permanently closed, the permittee shall submit to the DEQ Piedmont Regional Office a closure plan for the existing treatment works. The plan shall address the following information as a minimum: verification of elimination of sources and/or alternate treatment scheme; treatment, removal and final disposition of residual wastewater and solids; removal/demolition/disposal of structures, equipment, piping and appurtenances; site grading, and erosion and sediment control; restoration of site vegetation; access control; fill materials; and proposed land use (post-closure) of the site. The plan should contain proposed dates for beginning and completion of the work. The plan must be approved by the DEQ prior to implementation. Once approved, the plan shall become an enforceable part of this permit and closure shall be implemented in accordance with the approved plan. No later than 14 calendar days following closure completion, the permittee shall submit to the DEQ Piedmont Regional Office written notification of the closure completion date and a certification of closure in accordance with the approved plan.

12. Water Quality Criteria Reopener

Should effluent monitoring indicate the need for any water quality-based limitations, this permit may be modified or alternatively revoked and reissued to incorporate appropriate limitations.

D. Pretreatment Program

The permittee's pretreatment program has been approved. The program is an enforceable part of this permit. The permittee shall:

1. Implement a pretreatment program that complies with the Clean Water Act, Water Control Law, State regulations and the approved program.
2. Submit to the DEQ Piedmont Regional Office an annual report that describes the permittee's program activities over the previous year. The annual report shall be submitted no later than January 31 of each year and shall include:
 - a. An updated list of the Significant Industrial Users* (SIUs) noting all of the following:
 - (1) facility address (mailing and physical), phone and contact name, title and email;
 - (2) explanation of SIUs deleted from the previous year's list;
 - (3) identify which Industrial Users (IUs) are subject to Categorical Standards and note which Standard (i.e. metal finishing);
 - (4) specify which 40 CFR part(s) is/are applicable;
 - (5) indicate which IUs are subject to local standards that are more stringent than Categorical Pretreatment Standards;
 - (6) indicate which IUs are subject only to local requirements;
 - (7) identify which IUs are subject to Categorical Pretreatment Standards that are subject to reduced reporting requirements under 9VAC25-31-840 E.3;
 - (8) identify which IUs are non-significant Categorical Industrial Users;
 - (9) applicable Standard Industrial Classification (SIC) and North American Industry Classification System (NAICS) codes;
 - b. A summary of the compliance status of each Significant Industrial User with pretreatment standards and permit requirements.
 - c. A summary of the number and types of Significant Industrial User sampling and inspections performed by the Publically Owned Treatment Works (POTW).
 - d. All information concerning any interference, upset, VPDES permit or Water Quality Standards violations directly attributable to Significant Industrial Users and enforcement actions taken to alleviate said events.
 - e. A description of all enforcement actions taken against Significant Industrial Users during the reporting period.
 - f. A summary of any changes to the submitted pretreatment program that have not been previously reported to the DEQ Piedmont Regional Office.
 - g. A summary of the permits issued to Significant Industrial Users since the last annual report.
 - h. POTW and self-monitoring results for Significant Industrial Users determined to be in significant non-compliance during the reporting period.
 - i. Results of the POTW's influent/effluent/sludge sampling, not previously submitted to DEQ.

- j. Copies of newspaper publications of all Significant Industrial Users in significant non-compliance that are published during the reporting period.
 - k. Signature of an authorized representative.
3. Submit any changes to the approved pretreatment program to the DEQ Piedmont Regional Office and obtain approval before implementation of the changes.
4. Ensure all Significant Industrial Users' permits are issued and reissued in a timely manner and that the Significant Industrial User permits issued by the POTW are effective and enforceable.
5. Inspect and sample all Significant Industrial Users at a minimum of once a year.
 - a. Sampling shall include all regulated parameters, and shall be representative of the wastewater discharged. All Significant Industrial Users requiring sampling shall be sampled at the end of any categorical process or at the entrance to the treatment works.
 - b. Inspection of the Significant Industrial Users shall cover all areas which could result in wastewater discharge to the treatment works including manufacturing, chemical storage, pretreatment facilities, spill prevention and control procedures, hazardous waste generation and Significant Industrial User's self monitoring and records.
 - c. If an industry claims a no discharge status, a certification of the no discharge status shall be submitted to the Control Authority 30 days following the status change; within 90 days of receiving the no discharge status certification, the Control Authority shall terminate the pretreatment permit or modify the pretreatment permit to incorporate a clause ensuring that the Control Authority receives timely and proper notification in the event of an episodic or unforeseen discharge to the POTW. This notification shall allow sampling to occur if the industrial user discharges to the Control Authority; additionally, the modified permit shall include a requirement to notify the Control Authority 90 days prior to reverting from a no discharge status to a discharging status. Documentation to support the disposition of waste or wastewater shall be available to the Control Authority or Approval Authority upon request or during inspections. The no discharge status certification shall be submitted annually to the Control Authority. The status of the no discharge industries shall be reported with the supporting information in the Control Authority's annual report. This certification may satisfy the sampling requirements of Part II.D.5.a above.
6. Implement the reporting requirements of Part VII of the VPDES Permit Regulation.
7. Review the existing Enforcement Response Plan (ERP) to ensure it meets state and federal regulatory requirements and notify the DEQ Piedmont Regional Office, in writing within 90 days of the effective date of this permit, whether it is still accurate and complete. If the ERP is no longer accurate and complete, a revised ERP shall be submitted for approval to the DEQ Piedmont Regional Office within 90 days of the effective date of this permit. The approved ERP is an enforceable part of this permit and shall be implemented.
8. Develop local limits or reevaluate local limits using current influent, effluent and sludge monitoring data and submit the data and results of the evaluation to the DEQ Piedmont Regional Office within one year following the effective date of this permit.
9. Ensure that adequate resources are available to implement the approved program.
10. Meet all public participation requirements and annually public notice Significant Industrial Users in significant non-compliance with pretreatment standards and requirements for the previous 12 months, or since publication of the previous annual public notice, whichever is longer.
11. Within 180 days of the effective date of this permit, submit to the DEQ Piedmont Regional Office a survey of all Industrial Users discharging to the POTW. The information shall be submitted on the DEQ's Discharger Survey Form or an equivalent form that includes the quantity and quality of the wastewater.

Survey results shall include the identification of significant industrial users of the POTW. In lieu of the survey, the permittee may elect to develop, submit for DEQ Piedmont Regional Office approval, and implement a plan to survey (using internal work processes and systems controls), on pre-established intervals throughout the term of this permit, the industrial community in their jurisdiction; if an alternative plan is developed, the permittee shall submit the plan to the DEQ Piedmont Regional Office for approval 90 days after the effective date of this permit.

12. The DEQ may require the POTW to institute changes to its pretreatment program:
- a. If implementation of the approved program is determined by DEQ to not meet the requirements of the Clean Water Act, Water Control Law or State regulations;
 - b. If problems such as pass-through, interference, water quality standards violations or sludge contamination develop or continue; or
 - c. If federal, state or local requirements change.

*A significant industrial user is one that:

- a. Has an average flow of 25,000 gallons or more per workday of process (**) wastewater;
- b. Contributes a process waste stream which makes up 5.0-percent or more of the average dry weather hydraulic or organic capacity of the POTW;
- c. Is subject to the categorical pretreatment standards; or
- d. Has significant impact, either singularly or in combination with other Significant Dischargers, on the treatment works or the quality of its effluent.

**Excludes sanitary, non-contact cooling water and boiler blowdown.

E. Whole Effluent Toxicity (WET) Monitoring Program

1. Biological Monitoring

- a. In accordance with the schedule in Part II.E.2 below, the permittee shall perform annual chronic toxicity testing on Outfall 001 using 24-hour flow-proportioned composite samples for the duration of the permit. The chronic tests to use are:
- Chronic 3-Brood Survival and Reproduction Static Renewal Test with *Ceriodaphnia dubia*
 - Chronic 7-Day Survival and Growth Static Renewal Test with *Pimephales promelas*

These chronic tests shall be conducted in such a manner and at sufficient dilutions (minimum of five dilutions, derived geometrically) to determine the "No Observed Effect Concentration" (NOEC) for survival and reproduction or growth. Results which cannot be quantified (i.e., a "less than" NOEC value) are not acceptable, and a retest will have to be performed. A retest of a non-acceptable test must be performed during the same compliance period as the test it is replacing. Express the test NOEC as TUC (Chronic Toxic Units), by dividing 100/NOEC for DMR reporting. Report the LC₅₀ at 48 hours and the IC₂₅ with the NOEC's in the test report.

- b. The test dilutions should be able to determine compliance with the following endpoint(s):
Outfall 001:
- Chronic NOEC ≥ 8.0 %, equivalent to a TUC ≤ 12.5 %
- c. The permittee may provide additional samples to address data variability. These data shall be reported and may be included in the evaluation of effluent toxicity. Test procedures and reporting shall be in accordance with the WET testing methods cited in 40 CFR 136.3.
- d. The test data will be statistically evaluated by DEQ for reasonable potential at the conclusion of the test period. The data may be evaluated sooner if requested by the permittee, or if toxicity has been noted. Should DEQ evaluation of the data indicate that a limit is needed, the permit may be modified or, alternatively, revoked and reissued to include a WET limit and compliance schedule. Following written notification from DEQ of the need for including a WET limitation, the toxicity tests of Part II.E.1.a. may be discontinued.
- e. The permit may be modified or revoked and reissued to include pollutant specific limits in lieu of a WET limit should it be demonstrated that toxicity is due to specific parameters. The pollutant specific limits must control the toxicity of the effluent.

2. Reporting Schedule

The permittee shall submit the toxicity test reports with the DMR for the tests specified in accordance with the following schedule:

PERIOD	COMPLIANCE DATE	SUBMITTAL DATE
Annual 1	12/31/2019	01/10/2020
Annual 2	12/31/2020	01/10/2021
Annual 3	12/31/2021	01/10/2022
Annual 4	12/31/2022	01/10/2023

F. Record Keeping Special Conditions for Land Application of Sewage Sludge

1. Only biosolids from a source that has been approved by the DEQ, as identified on the DEQ's *Sources of Biosolids, Industrial Sludges, WTP Residuals* list and treated to meet metals limits in Parts II.A.5.b and pathogen reduction and VAR standards in Parts II.A.5.c shall be given to any person for the purpose of land application.
2. Biosolids Monitoring Frequency and Reporting Requirements
 - a. Monitoring Frequency

The monitoring frequency is 1 per 2 months. The monitoring frequency may be increased during this permit term if DEQ deems it necessary.
 - b. Annual Report

The permittee shall submit an Annual Report not later than February 19th of each year to the DEQ-Piedmont Regional Office. Each report is for the previous calendar year's activity. If no biosolids were generated and provided to a land applier under this permit during the reporting year, a report shall be submitted stating that no biosolids were generated or delivered during the year. The report shall include at minimum:

 - (1) Part II.A.5.a Sewage Sludge Annual Production Monitoring;
 - (2) Biosolids Monitoring Data:
 - (a) Part II.A.5.b Biosolids - Metals Limitations;
 - (b) Part II.A.5.c Biosolids - Pathogen Reduction and Vector Attraction Reduction (VAR) Requirements;
 - (c) Supporting documentation, including laboratory chain of custody forms and certificates of analyses, shall be submitted with the report;
 - (d) Monthly average shall be reported as the average of the results of all samples collected within a calendar month and analyzed using an approved method, in accordance with Part V.A.1-2 of this permit. For monitoring periods which include multiple months, if one sample is collected during the monitoring period, that result shall be reported as the monthly average. If samples are collected in multiple months during the monitoring period, a monthly average shall be calculated for each month in which samples were collected during the monitoring period and the highest monthly average reported. Individual results and calculations shall be submitted with the report; and
 - (e) The maximum concentration shall be reported as the highest single result from all samples collected and analyzed during a monitoring period.
 - (3) A summary of biosolids disposal contracts, if any, currently held with other generators, as well as any other biosolids or sludges currently being handled through subcontracts or other agreements. Include biosolids or sludges given to other generators, contractors or land filled, and biosolids or sludges accepted from other generators for treatment or land application.
 - (4) Identify other methods used to dispose of or use biosolids or sludge produced during the previous calendar year. Report the annual total amount of biosolids or sludge (in dry metric tons) disposed of or used by each method identified; and
 - (5) The annual report shall be certified and signed in accordance with Part V.K.
3. Record Keeping - The permittee is required to retain the following information for at least five years:
 - a. The concentrations of each pollutant in Part II.A.5.b

- b. A description of how the pathogen reduction requirements in Parts II.A.5.c are met;
 - c. A description of how the vector attraction reduction requirements in Part II.A.5.c are met;
 - d. A description of how the management practices specified in the approved Biosolids Management Plan and this permit are met;
 - e. The reports required in Part II.F.2.b;
 - f. The NANI's required in Part II.F.4; and
 - g. The following certification statement(s) as applicable:
"I certify, under penalty of law, that the information that will be used to determine compliance with the Class A pathogen requirements in 9VAC25-31-710 A, the Class B pathogen requirements in (insert, B 2, B 3, or B 4 when one of those requirements is met) and the vector attraction reduction requirements in (insert one of the vector attraction reduction requirements in 9VAC25-31-720 B 1 through B 8 when one of those requirements is met) was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."
4. Notice and Necessary Information (NANI) – A NANI shall be provided to any person to whom biosolids are provided for the purpose of further treatment or land application. The NANI shall be provided at the time the biosolids are provided if available, but no later than 45 days after the last day of the month in which biosolids were provided. The NANI shall represent the most recent monitoring period. The NANI shall be on the form provided with this permit and include at minimum:
- a. A statement that Class B pathogen requirements in 9VAC25-31-710.B were met and the alternative used;
 - b. A statement that one of the VAR requirements in 9VAC25-31-720.B.1 through B.8 was met and the alternative used; or
 - c. A statement that one of the VAR requirements in 9VAC25-31-720.B.1 through B.8 was not met and incorporation or injection was required;
 - d. The notice(s) provided to the land applier when biosolids provided did not meet VAR and required incorporation or injection;
 - e. The concentration of total nitrogen (as N on a dry weight basis) of the biosolids; and
 - f. The following certification statement:
"I certify, under penalty of law, that the information that will be used to determine compliance with the Class B pathogen requirements in 9VAC25-31-710.B and the VAR requirement in (insert one of the VAR requirements in 9VAC25-31-720.B.1 through B.8, if one of those requirements is met) was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification, including the possibility of fine and imprisonment".
5. Biosolids Management Plan (BSMP)
- a. The permittee shall conduct all biosolids/sewage sludge use or disposal activities in accordance with the Biosolids Management Plan approved with the issuance of this permit. The permittee shall maintain the BSMP which consists of the following components:
 - (1) The materials developed and submitted at the time of permit application or permit modification in accordance with 9VAC25-31-100.Q;

- (2) The Operations and Maintenance (O&M) Manual (Sections regarding solids handling and biosolids production and management, etc); and
 - (3) The Odor Control Plan
- b. Odor Control Plan (OCP) Requirement – If an OCP is not on file at DEQ, an OCP shall be submitted to DEQ within 90 days of the modification/effective date of this permit. The OCP shall include at a minimum:
- (1) Methods used to minimize odor in producing biosolids;
 - (2) Methods used to identify malodorous biosolids before delivery to the land applier (at the generating facility);
 - (3) Methods used to identify and abate malodorous biosolids if delivered to the field, prior to land application; and
 - (4) Methods used to abate malodor from biosolids if land applied.
- Malodor shall mean an unusually strong or offensive odor associated with biosolids or sewage sludge as distinguished from odors normally associated with biosolids or sewage sludge.
- c. The BSMP and all of its components are an enforceable part of the permit.
- d. Any proposed changes in the biosolids/sewage sludge use or disposal practices or procedures followed by the permittee shall be documented and submitted for DEQ-Piedmont Regional Office (DEQ-PRO) approval 90 days prior to the effective date of the changes. Upon approval, the revised Biosolids Management Plan becomes an enforceable part of the permit. The permit may be modified or alternatively revoked and reissued to incorporate limitations or conditions necessitated by substantive changes in biosolids/sewage sludge use or disposal practices.
6. Biosolids/Sludge Reopener
The Board may promptly modify or revoke and reissue this permit if any applicable standard for biosolids/sewage sludge use or disposal promulgated under Section 405(d) of the Clean Water Act is more stringent than any requirements for biosolids/sludge use or disposal in this permit, or controls a pollutant or practice not limited in this permit.

G. Management of Industrial Stormwater Associated with the WWTP

1. Stormwater Management Evaluation

- a. The Stormwater Pollution Prevention Plan (SWPPP), which is to be developed and maintained in accordance with subsection 3 below, shall have a goal of reducing pollutants discharged from all the regulated stormwater outfalls. One goal of the SWPPP shall place emphasis on reducing the following pollutants in the outfalls noted below:

OUTFALL NO.	POLLUTANTS	COMPARATIVE VALUE
901	<i>E.coli</i>	126 N/100 mL
902	<i>E.coli</i>	126 N/100 mL
903	<i>E.coli</i>	126 N/100 mL

- b. The effectiveness of the SWPPP will be evaluated via the required monitoring for all parameters listed in Part II.A.4 of this permit for the regulated stormwater outfalls, including the specific pollutants noted above. Monitoring results that are above the comparative value for the specific pollutants above will justify the need to reexamine the effectiveness of 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 that materially increases the potential for activities to result in a discharge of significant amounts of pollutants.

2. General Stormwater Special Conditions

a. Sample Type

For all stormwater monitoring required in Part II.A.4 or other applicable sections of this permit, a minimum of one grab sample shall be taken. Unless otherwise specified, all such samples shall be collected from the discharge resulting from a storm event that occurs at least 72 hours from the previously measurable storm event (a "measurable storm event" is defined as a storm event that results in an actual discharge from the site). The required 72-hour storm event interval is waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first three hours of the discharge, and the permittee shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable. If stormwater discharges associated with industrial activity commingle with process or non-process water, then where practicable the permittee must attempt to sample the stormwater discharge before it mixes with the non-stormwater discharge.

In the event that sampling of an outfall is not possible due to the absence of effluent flow during a particular testing period, the permittee shall provide written notification to DEQ with the DMR for the month following the period in which samples were to be collected.

b. Recording of Results

For each measurement or sample taken pursuant to the storm event monitoring requirements of this permit, the permittee shall record and report with the Discharge Monitoring Reports (DMRs) the following information:

- (1) The date and duration (in hours) of the storm event(s) sampled;
- (2) The rainfall total (in inches) of the storm event which generated the sampled discharge; and
- (3) The duration between the storm event sampled and the end of the previous measurable storm event.

c. Sampling Waiver

When a permittee is unable to collect stormwater samples required in Part II.A.4 or other applicable

sections of this permit within a specified sampling period due to adverse climatic conditions, the permittee shall collect a substitute sample from a separate qualifying event in the next period and submit these data along with the data for the routine sample in that period. Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

d. Representative Outfalls – Substantially Identical Discharges

If the facility has two or more outfalls that discharge substantially identical effluents, based on similarities of the industrial activities, significant materials, size of drainage areas, and stormwater management practices occurring within the drainage areas of the outfalls, the permittee may conduct monitoring on the effluent of just one of the outfalls and report that the observations also apply to the substantially identical outfall(s). The substantially identical outfall monitoring provisions apply to quarterly visual monitoring, benchmark monitoring and impaired waters monitoring. The substantially identical outfall monitoring provisions are not available for numeric effluent limits monitoring.

The permittee shall include the following information in the SWPPP:

- (1) The locations of the outfalls;
- (2) Why the outfalls are expected to discharge substantially identical effluents, including evaluation of monitoring data, where available; and,
- (3) Estimates of the size of the drainage area (in square feet) for each of the outfalls.

e. Quarterly Visual Examination of Stormwater Quality

- (1) The permittee shall perform and document a quarterly visual examination of a stormwater discharge associated with industrial activity from each outfall, except discharges exempted below. The examination(s) shall be made at least once in each of the following three-month periods: January through March, April through June, July through September, and October through December. The visual examination must be made during daylight hours (e.g., normal working hours). If no storm event resulted in runoff from the facility during a monitoring quarter, the permittee is excused from visual monitoring for that quarter provided that documentation is included with the monitoring records indicating that no runoff occurred. The documentation must be signed and certified in accordance with Part V.K (Signatory Requirements).
- (2) Visual examinations shall be made of samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed one hour) of when the runoff or snowmelt begins discharging from the facility. The examination must document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of stormwater pollution. The examination must be conducted in a well-lit area. No analytical tests are required to be performed on the samples. All samples (except snowmelt samples) must be collected from the discharge resulting from a storm event results in an actual discharge from the site (defined as a "measurable storm event"), and that occurs at least 72 hours from the previously measurable storm event. The 72-hour storm interval is waived if the permittee is able to document that less than a 72-hour interval is representative for local storm events during the sampling period. Where practicable, the same individual should carry out the collection and examination of discharges for the entire permit term. If no qualifying storm event resulted in runoff during daylight hours from the facility during a monitoring quarter, the permittee is excused from visual monitoring for that quarter provided that documentation is included with the monitoring records indicating that no qualifying storm event occurred during daylight hours that resulted in stormwater runoff during that quarter. The documentation must be signed and certified in accordance with Part V.K (Signatory Requirements).
- (3) The visual examination reports shall be maintained on-site with the Stormwater Pollution Prevention Plan (SWPPP). The report must include the outfall location, the examination date and

time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the stormwater discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of stormwater pollution), and probable sources of any observed stormwater contamination.

- (4) When the permittee is unable to conduct the visual examination due to adverse climatic conditions, the permittee shall document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examinations. Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

f. Authorized Non-Stormwater Discharges

- (1) The following non-stormwater discharges are authorized by this permit provided the non-stormwater component of the discharge is in compliance with subpart f.(2) below:
 - (a) Discharges from fire-fighting activities;
 - (b) Fire hydrant flushings;
 - (c) Potable water including water line flushings;
 - (d) Uncontaminated air conditioning or compressor condensate;
 - (e) Irrigation drainage;
 - (f) Landscape watering provided all pesticides, herbicides, and fertilizer have been applied in accordance with manufacturer's instructions;
 - (g) 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);
 - (h) Routine external building wash down which does not use detergents;
 - (i) Uncontaminated ground water or spring water;
 - (j) Foundation or footing drains where flows are not contaminated with process materials; and
 - (k) 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).
- (2) All other non-stormwater discharges are not authorized and shall either be eliminated or covered under a separate VPDES permit.

g. Releases of Hazardous Substances or Oil in Excess of Reportable Quantities

The discharge of hazardous substances or oil in the stormwater discharge(s) from the facility shall be prevented or minimized in accordance with the stormwater pollution prevention plan for the facility. This permit does not authorize the discharge of hazardous substances or oil resulting from an on-site spill. This permit does not relieve the permittee of the reporting requirements of 40 CFR 110, 40 CFR 117 and 40 CFR 302 or § 62.1-44.34:19 of the Code of Virginia. Where a release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR 110, 40 CFR 117 or 40 CFR 302 occurs during a 24-hour period:

- (1) The permittee is required to notify the Department in accordance with the requirements of Part V.G (Reports of Unauthorized Discharges) as soon as he or she has knowledge of the discharge;

- (2) Where a release enters a municipal separate storm sewer system (MS4), the permittee shall also notify the owner or the MS4; and
- (3) The stormwater pollution prevention plan required by this permit shall be reviewed to identify measures to prevent the reoccurrence of such releases and to respond to such releases, and the plan shall be modified where appropriate.

h. Water Quality Protection

The discharges authorized by this Part shall be controlled as necessary to meet applicable water quality standards. DEQ expects that compliance with the conditions in this permit will control discharges as necessary to meet applicable water quality standards.

i. Corrective actions

(1) Data exceeding benchmarks concentration values:

- (a) 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 II.G.3.c (*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.
- (b) Natural background pollutant levels. If the concentration of a pollutant exceeds a benchmark concentration value, and the permittee determines that exceedance of the benchmark is attributable solely to the presence of that pollutant in the natural background, corrective action is not required provided that:
 - (i) The concentration of the benchmark monitoring result is less than or equal to the concentration of that pollutant in the natural background;
 - (ii) The permittee documents and maintains with the SWPPP the supporting rationale for concluding that benchmark exceedances are in fact attributable solely to natural background pollutant levels. The supporting rationale shall include any data previously collected by the facility or others (including literature studies) that describe the levels of natural background pollutants in the facility's stormwater discharges; and
 - (iii) The permittee notifies the DEQ Piedmont Regional Office on the DMR that the benchmark exceedances are attributable solely to natural background pollutant levels.

Natural background pollutants include those substances that are naturally occurring in soils or groundwater. Natural background pollutants do not include legacy pollutants from earlier activity on the facility's site, or pollutants in run-on from neighboring sources which are not naturally occurring.

(2) Corrective actions. The permittee shall take corrective action whenever:

- (a) Routine facility inspections, comprehensive site compliance evaluations, inspections by local, state or federal officials, or any other process, observation or event result in a determination that modifications to the stormwater control measures are necessary to meet the permit requirements; or
- (b) There is any exceedance of an effluent limitation (including coal pile runoff), or TMDL wasteload allocation; or
- (c) The DEQ Piedmont Regional Office determines, or the permittee becomes aware, that the stormwater control measures are not stringent enough for the discharge to meet applicable water quality standards.

The permittee shall review the SWPPP and modify it as necessary to address any deficiencies. Revisions to the SWPPP shall be completed within 30 days following the discovery of the deficiency. When control measures need to be modified or added (distinct from regular preventive maintenance of existing control measures described in Part II.G.3.c (*Maintenance*), implementation shall be completed before the next anticipated storm event if possible, but no later than 60 days after the deficiency 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 deficiency is discovered. Where a construction compliance schedule is included in the SWPPP, the plan shall include appropriate nonstructural and/or temporary controls to be implemented in the affected portion(s) of the facility prior to completion of the permanent control measure. The amount of time taken to modify a control measure or implement additional control measures shall be documented in the SWPPP.

Any corrective actions taken shall be documented and retained with the SWPPP. Reports of corrective actions shall be signed in accordance with Part V.K (*Signatory Requirements*).

- (3) Follow-up reporting. If at any time monitoring results indicate that discharges from the facility exceed an effluent limitation or a TMDL wasteload allocation, or the DEQ Piedmont Regional Office determines that discharges from the facility are causing or contributing to an exceedance of a water quality standard, immediate steps shall be taken to eliminate the exceedances in accordance with the above Part II.G.2.i.(2) (*Corrective actions*). Within 30 calendar days of implementing the relevant corrective action(s) an exceedance report shall be submitted to the DEQ Piedmont Regional Office. The following information shall be included in the report: permit number; facility name, address and location; receiving water; monitoring data from this event; an explanation of the situation; description of what has been done and the intended actions (should the corrective actions not yet be complete) to further reduce pollutants in the discharge; and an appropriate contact name and phone number.
- j. Additional Requirements for Salt Storage
Storage piles of salt or piles containing salt used for deicing or other commercial or industrial purposes shall be enclosed or covered to prevent exposure to precipitation. The permittee shall implement appropriate measures (e.g., good housekeeping, diversions, containment) to minimize exposure resulting from adding to or removing materials from the pile. All salt storage piles shall be located on an impervious surface. All runoff from the pile, and/or runoff that comes in contact with salt, including under drain systems, shall be collected and contained within a bermed basin lined with concrete or other impermeable materials., or within an underground storage tank(s), or within an above ground storage tank(s), or disposed of through a sanitary sewer (with the permission of the treatment facility). A combination of any or all of these methods may be used. In no case shall salt contaminated stormwater be allowed to discharge directly to the ground or to state waters.

3. Stormwater Pollution Prevention Plan

Refer to Part II.G.4 for sector-specific stormwater management requirements.

A stormwater pollution prevention plan (SWPPP) shall be developed and implemented for the facility. The plan shall include Best Management Practices (BMPs) that are reasonable, economically practicable, and appropriate in light of current industry practices. The BMPs shall be selected, designed, installed, implemented and maintained in accordance with good engineering practices to eliminate or reduce the pollutants in all stormwater discharges from the facility. The plan shall also include any control measures necessary for the stormwater discharges to meet applicable water quality standards.

The permittee shall implement the provisions of the stormwater pollution prevention plan as a condition of this permit.

The stormwater pollution prevention plan requirements of this permit may be fulfilled, in part, by incorporating by reference other plans or documents such as a spill prevention control and countermeasure (SPCC) plan developed for the facility under Section 311 of the Clean Water Act, or best management practices (BMP) programs otherwise required for the facility, provided that the incorporated plan meets or exceeds the plan requirements of Part II.G.3.b (*Contents of the Plan*). All plans incorporated by reference into the stormwater pollution prevention plan become enforceable under this permit. If a plan incorporated by reference does not contain all of the required elements of the SWPPP of Part II.G.3.b the permittee shall develop the missing SWPPP elements and include them in the required plan.

a. Deadlines for Plan Preparation and Compliance.

- (1) The facility shall prepare and implement the plan as expeditiously as practicable, but not later than 90 days from the effective date of the permit.
- (2) Measures That Require Construction. In cases where construction is necessary to implement measures required by the plan, the plan shall contain a schedule that provides compliance with the plan as expeditiously as practicable, but no later than 3 years after the effective date of this permit. Where a construction compliance schedule is included in the plan, the schedule shall include appropriate nonstructural and/or temporary controls to be implemented in the affected portion(s) of the facility prior to completion of the permanent control measure.

b. Contents of the Plan.

The contents of the SWPPP shall comply with the requirements listed below and those in Part II.G.4. The plan shall include, at a minimum, the following items:

- (1) Pollution Prevention Team. The plan shall identify the staff individuals by name or title that comprise the facility's stormwater pollution prevention team. The pollution prevention team is responsible for assisting the facility or plant manager in developing, implementing, maintaining, revising, and ensuring compliance with the facility's SWPPP. Specific responsibilities of each staff individual on the team shall be identified and listed.
- (2) Site Description. The plan shall include the following:
 - (a) Activities at the Facility. A description of the nature of the industrial activities at the facility.
 - (b) General Location Map. A general location map (e.g., USGS quadrangle or other map) with enough detail to identify the location of the facility and the receiving waters within one mile of the facility.
 - (c) Site Map. A site map identifying the following:
 - (i) The size of the property (in acres);
 - (ii) The location and extent of significant structures and impervious surfaces (roofs, paved areas and other impervious areas);

- (iii) 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);
 - (iv) Locations of all existing structural and source control BMPs;
 - (v) Locations of all surface water bodies, including wetlands;
 - (vi) Locations of potential pollutant sources identified under Part II.G.3.b.(3);
 - (vii) Locations where significant spills or leaks identified under Part II.G.3.b.(4) have occurred;
 - (viii) Locations of the following activities where such activities are exposed to precipitation: fueling stations; vehicle and equipment maintenance and/or cleaning areas; loading/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;
 - (ix) 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;
 - (x) Location and description of all non-stormwater discharges;
 - (xi) Location of any storage piles containing salt used for deicing or other commercial or industrial purposes; and
 - (xii) Locations and sources of runoff to the site from adjacent property, where the runoff contains significant quantities of pollutants.
 - (xiii) Locations of all stormwater monitoring points.
- (d) Receiving Waters and Wetlands. The name of all surface waters receiving discharges from the site, including intermittent streams, dry sloughs, and arroyos. Provide a description of wetland sites that may receive discharges from the facility. If the facility discharges through a municipal separate storm sewer system (MS4), identify the MS4 operator, and the receiving water to which the MS4 discharges.
- (3) Summary of Potential Pollutant Sources. The plan shall identify each separate area at the facility where industrial materials or activities are exposed to stormwater. Industrial materials or activities include, but are not limited to: material handling equipment or activities, industrial machinery, raw materials, industrial production and processes, intermediate products, byproducts, final products, and waste products. Material handling activities include, but are not limited to: the storage, loading and unloading, transportation, disposal, or conveyance of any raw material, intermediate product, final product or waste product. For each separate area identified, the description shall include:
- (a) Activities in Area. A list of the activities (e.g., material storage, equipment fueling and cleaning, cutting steel beams); and
 - (b) Pollutants. A list of the associated pollutant(s) or pollutant constituents (e.g., crankcase oil, zinc, sulfuric acid, cleaning solvents, etc.) for each activity. The pollutant list shall include all significant materials handled, treated, stored or disposed that have been exposed to stormwater in the three years prior to the date this SWPPP was prepared or amended. The list shall include any hazardous substances or oil at the facility.

- (4) Spills and Leaks. 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. The list shall be updated if significant spills or leaks occur in exposed areas of the facility during the term of the permit. Significant spills and leaks include releases of oil or hazardous substances in excess of reportable quantities, and may also include releases of oil or hazardous substances that are not in excess of reporting requirements.
- (5) Sampling Data. The plan shall include a summary of existing stormwater discharge sampling data taken at the facility. The summary shall include, at a minimum, any data collected during the previous permit term.
- (6) Stormwater Controls.
 - (a) Control measures shall be implemented for all the areas identified in Part II.G.3.b.(3) (*Summary of Potential Pollutant Sources*) to prevent or control pollutants in stormwater discharges from the facility. Regulated stormwater discharges from the facility include stormwater runoff that commingles with stormwater discharges associated with industrial activity at the facility. The SWPPP shall describe the type, location and implementation of all control measures for each area where industrial materials or activities are exposed to stormwater. Selection of control measures shall take into consideration
 - (i) That preventing stormwater from coming into contact with polluting materials is generally more effective, and less costly, than trying to remove pollutants from stormwater;
 - (ii) Control measures generally shall be used in combination with each other for most effective water quality protection;
 - (iii) Assessing the type and quantity of pollutants, including their potential to impact receiving water quality, is critical to designing effective control measures;
 - (iv) That minimizing impervious areas at the facility can reduce runoff and improve groundwater recharge and stream base flows in local streams (however, care must be taken to avoid ground water contamination);
 - (v) Flow attenuation by use of open vegetated swales and natural depressions can reduce in-stream impacts of erosive flows;
 - (vi) Conservation or restoration of riparian buffers will help protect streams from stormwater runoff and improve water quality; and
 - (vii) Treatment interceptors (e.g., swirl separators and sand filters) may be appropriate in some instances to minimize the discharge of pollutants.
 - (b) Nonnumeric technology-based effluent limits.

The permittee shall implement the following types of control measures to prevent and control pollutants in the stormwater discharges from the facility, unless it can be demonstrated and documented that such controls are not relevant to the discharges (e.g., there are no storage piles containing salt).

 - (i) Good Housekeeping. 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.

- (ii) **Eliminating and Minimizing Exposure.** 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. Note: Eliminating exposure at all industrial areas may make the facility eligible for the "Conditional Exclusion for No Exposure" provision of 9VAC25-31-120 E, thereby eliminating the need to have a permit. .
- (iii) **Preventive Maintenance.** The permittee shall have a preventive maintenance program that includes regular inspection, testing, maintenance and repairing of all industrial equipment and systems to avoid breakdowns or failures that could result in leaks, spill and other releases. This program is in addition to the specific control measure maintenance required under Part II.G.3.c (*Maintenance*).
- (iv) **Spill Prevention and Response Procedures.** The plan shall describe the procedures that will be followed for preventing and responding to spills and leaks.
 - (A) Preventive measures include barriers between material storage and traffic areas, secondary containment provisions, and procedures for material storage and handling.
 - (B) Response procedures shall include notification of appropriate facility personnel, emergency agencies, and regulatory agencies, and procedures for stopping, containing and cleaning up spills. Measures for cleaning up hazardous material spills or leaks shall be consistent with applicable RCRA regulations at 40 CFR Part 264 and 40 CFR Part 265. Employees who may cause, detect or respond to a spill or leak shall be trained in these procedures and have necessary spill response equipment available. If possible, one of these individuals shall be a member of the Pollution Prevention Team.
 - (C) Procedures for plainly labeling containers (e.g., "used Oil," "Spent Solvents," "Fertilizers and Pesticides," etc.) that could be susceptible to spillage or leakage to encourage proper handling and facilitate rapid response if spills or leaks occur; and
 - (D) Contact information for individuals and agencies that must be notified in the event of a spill shall be included in the SWPPP, and in other locations where it will be readily available.
- (v) **Routine Facility Inspections.** 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 BMPs 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 II.G.3.d. 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 shall 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:

- (A) The inspection date and time;
 - (B) The name and signature of the inspector(s);
 - (C) Weather information and a description of any discharges occurring at the time of the inspection;
 - (D) Any previously unidentified discharges of pollutants from the site;
 - (E) Any control measures needing maintenance or repairs;
 - (F) Any failed control measures that need replacement;
 - (G) Any incidents of noncompliance observed; and
 - (H) Any additional control measures needed to comply with the permit requirements.
- (vi) **Employee Training.** 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, BMP operation and maintenance, etc. The SWPPP shall include a summary of any training performed.
- (vii) **Sediment and Erosion Control.** The plan shall identify areas at the facility that, due to topography, land disturbance (e.g., construction, landscaping, site grading), or other factors, have a potential for soil erosion. The permittee shall identify and implement structural, vegetative, and/or stabilization BMPs to prevent or control on-site and off-site erosion and sedimentation. Flow velocity dissipation devices shall be placed at discharge locations and along the length of any outfall channel if the flows would otherwise create erosive conditions.
- (viii) **Management of Runoff.** The plan shall describe the stormwater runoff management practices (i.e., permanent structural BMPs) for the facility. These types of BMPs are typically used to divert, infiltrate, reuse, or otherwise reduce pollutants in stormwater discharges from the site.
- Structural BMPs may require a separate permit under § 404 of the CWA and the Virginia Water Protection Permit Program Regulation (9 VAC 25-210) before installation begins.
- (ix) **Dust suppression and vehicle tracking of industrial materials.** The permittee shall implement control measures to minimize the generation of dust and off-site tracking of raw, final, or waste materials. Stormwater collected on site may be used for the purposes of dust suppression or for spraying stockpiles. Potable water, well water and uncontaminated reuse water may also be used for this purpose. There shall be no direct discharge to surface waters from dust suppression activities or as a result of spraying stockpiles.

c. Maintenance.

The SWPPP shall include a description of procedures and a regular schedule for preventive maintenance of all control measures, and shall include a description of the back-up practices that are in place should a runoff event occur while a control measure is off-line. The effectiveness of nonstructural control measure shall also be maintained by appropriate means (e.g., spill response supplies available and personnel trained, etc.).

All control measures identified in the SWPPP shall be maintained in effective operating condition and shall be observed at least annually during active operation (i.e., during a stormwater runoff event) to ensure that they are functioning correctly. Where discharge locations are inaccessible, nearby downstream locations shall be observed. The observations shall be documented in the SWPPP.

If site inspections required by Part II.G.3.b.(6)(b)(v) (Routine Facility Inspections) or Part II.G.3.d (Comprehensive Site Compliance Evaluation) identify control measures that are not operating effectively, repairs or maintenance shall be performed before the next anticipated storm event. If maintenance prior to the next anticipated storm event is not possible, maintenance shall be scheduled and accomplished as soon as practicable. In the interim, back-up measures shall be employed and documented in the SWPPP until repairs or maintenance is complete. Documentation shall be kept with the SWPPP of maintenance and repairs of BMPs, including the date(s) of regular maintenance, date(s) of discovery of areas in need of repair or replacement, and for repairs, date(s) that the BMP(s) returned to full function, and the justification for any extended maintenance or repair schedules.

d. Comprehensive Site Compliance Evaluation.

The permittee shall conduct comprehensive site compliance evaluations at least once a year. The evaluations shall be done by qualified 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. The personnel conducting the evaluations may be either facility employees or outside constituents hired by the facility.

(1) Scope of the Compliance Evaluation. Evaluations shall include all areas where industrial materials or activities are exposed to stormwater, as identified in Part II.G.3.b.(3). The personnel shall evaluate:

- (a) Industrial materials, residue or trash that may have or could come into contact with stormwater;
- (b) Leaks or spills from industrial equipment, drums, barrels, tanks or other containers that have occurred within the past three years;
- (c) Off-site tracking of industrial or waste materials or sediment where vehicles enter or exit the site;
- (d) Tracking or blowing of raw, final, or waste materials from areas of no exposure to exposed areas;
- (e) Evidence of, or the potential for, pollutants entering the drainage system.;
- (f) Evidence of pollutants discharging to surface waters at all facility outfalls, and the condition of and around the outfall, including flow dissipation measures to prevent scouring;
- (g) Review of stormwater related training performed, inspections completed, maintenance performed, quarterly visual examinations, and effective operation of BMPs;
- (h) Results of both visual and any analytical monitoring done during the past year shall be taken into consideration during the evaluation.

- (2) Based on the results of the evaluation, the SWPPP shall be modified as necessary (e.g., show additional controls on the map required by Part II.G.3.b.(2)(c); revise the description of controls required by Part II.G.3.b.(6) to include additional or modified BMPs designed to correct problems identified). Revisions to the SWPPP shall be completed within 30 days following the evaluation, unless permission for a later date is granted in writing by the Director. If existing BMPs need to be modified or if additional BMPs are necessary, implementation shall be completed before the next anticipated storm event, if practicable, but not more than 60 days after completion of the comprehensive site evaluation, unless permission for a later date is granted in writing by the Department;
- (3) Compliance Evaluation Report. A report shall be written summarizing the scope of the evaluation, name(s) of personnel making the evaluation, the date of the evaluation, and all observations relating to the implementation of the SWPPP, including elements stipulated in Part II.G.3.d.(1).(a) through (h) above. Observations shall include such things as: the location(s) of discharges of pollutants from the site; location(s) of previously unidentified sources of pollutants; location(s) of control measures that need to be maintained or repaired; location(s) of failed control measures that need replacement; and location(s) where additional BMPs are needed. The report shall identify any incidents of noncompliance that were observed. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the SWPPP and this permit. The report shall be signed in accordance with Part V.K (*Signatory Requirements*) and maintained with the SWPPP.
- (4) Where compliance evaluation schedules overlap with routine inspections required under Part II.G.3.b.(6)(b)(v), the annual compliance evaluation may be used as one of the routine inspections.

e. Signature and Plan Review.

- (1) Signature/Location. The SWPPP shall be signed in accordance with Part V.K (*Signatory Requirements*), dated, and retained on-site at the facility covered by this permit in accordance with Part V.B.2 (*Records*). All other changes to the SWPPP, and other permit compliance documentation, must be signed and dated by the person preparing the change or documentation.
- (2) Availability. The permittee shall retain a copy of the current SWPPP required by this permit at the facility, and it shall be immediately available to the Department, EPA or the operator of an MS4 receiving discharges from the site at the time of an onsite inspection or upon request.
- (3) Required Modifications. The permittee shall modify the SWPPP whenever necessary to address any corrective actions required by Part II.G.2.(i)(1) (Data exceeding benchmark concentration values) or Part II.G.2.(i)(2) (*Corrective actions*). Changes to the SWPPP shall be made in accordance with the corrective action deadlines in II.G.2.(i)(1) and Part I B 2 (i)(2), and shall be signed and dated in accordance with Part V.K (*Signatory Requirements*)

The Director may notify the permittee at any time that the SWPPP, BMPs, or other components of the facility's stormwater program do not meet one or more of the requirements of this permit. The notification shall identify specific provisions of the permit that are not being met, and may include required modifications to the stormwater program, additional monitoring requirements, and special reporting requirements. The permittee shall make any required changes to the SWPPP within 60 days of receipt of such notification, unless permission for a later date is granted in writing by the Director, and shall submit a written certification to the Director that the requested changes have been made.

f. Maintaining an Updated SWPPP.

- (1) The permittee shall review and amend the SWPPP as appropriate whenever:

- (a) There is construction or a change in design, operation, or maintenance at the facility that has a significant effect on the discharge, or the potential for the discharge, of pollutants from the facility;
 - (b) Routine inspections or compliance evaluations determine that there are deficiencies in the control measures, including BMPs;
 - (c) Inspections by local, state, or federal officials determine that modifications to the SWPPP are necessary;
 - (d) There is a spill, leak or other release at the facility; or
 - (e) There is an unauthorized discharge from the facility.
- (2) SWPPP modifications shall be made within 30 calendar days after discovery, observation or event requiring a SWPPP modification. Implementation of new or modified BMPs (distinct from regular preventive maintenance of existing BMPs described in Part II.G.4.b.(6)(b)(iii)) shall be initiated before the next storm event if possible, but no later than 60 days after discovery, or as otherwise provided or approved by the Director. The amount of time taken to modify a control measure or implement additional BMPs shall be documented in the SWPPP.
- (3) If the SWPPP modification is based on a release or unauthorized discharge, include a description and date of the release, the circumstances leading to the release, actions taken in response to the release, and measures to prevent the recurrence of such releases. Unauthorized releases and discharges are subject to the reporting requirements of Part V.G of this permit.

4. Sector-Specific Stormwater Pollution Prevention Plan Requirements

In addition to the requirements of Part II.G.3, the SWPPP shall include, at a minimum, the following items:

a. Site Description.

- (1) Site Map. The site map shall identify where any of the following may be exposed to precipitation/surface runoff: grit, screenings and other solids handling, storage or disposal areas; sludge drying beds; dried sludge piles; compost piles; septage or hauled waste receiving station; and storage areas for process chemicals, petroleum products, solvents, fertilizers, herbicides and pesticides.
- (2) Summary of Potential Pollutant Sources. The plan shall include a description of the potential pollutant sources from the following activities, as applicable: grit, screenings and other solids handling, storage or disposal areas; sludge drying beds; dried sludge piles; compost piles; septage or hauled waste receiving station; and access roads/rail lines.

b. Stormwater Controls.

- (1) Control measures. In addition to the other BMPs considered, the following BMPs shall be considered: routing stormwater to the treatment works; or covering exposed materials (i.e., from the following areas: grit, screenings and other solids handling, storage or disposal areas; sludge drying beds; dried sludge piles; compost piles; septage or hauled waste receiving station).
- (2) Inspections. The following areas shall be included in all inspections: access roads/rail lines, grit, screenings and other solids handling, storage or disposal areas; sludge drying beds; dried sludge piles; compost piles; septage or hauled waste receiving station areas.
- (3) Employee Training. Employee training shall, at a minimum, address the following areas when applicable to a facility: petroleum product management; process chemical management; spill prevention and control; fueling procedures; general good housekeeping practices; proper procedures for using fertilizers, herbicides and pesticides.

5. Discharges of Industrial Stormwater to Waters Subject to TMDL Wasteload Allocations

- a. The permittee shall incorporate measures and controls into the SWPPP required by Part II.G.3 that are consistent with the assumptions and requirements of the total maximum daily load (TMDL) for the James River. The facility's SWPPP shall specifically address any conditions or requirements included in the TMDL that are applicable to discharges from the facility. If the TMDL establishes a specific numeric wasteload allocation that applies to discharges from the facility, the owner shall perform any required monitoring in accordance with Part II.A.4, and implement control measures designed to meet that allocation.
- b. Facilities in the Chesapeake Bay Watershed.
 - (1) Owners of facilities in the Chesapeake Bay watershed shall monitor their industrial stormwater discharges for total suspended solids (TSS), total nitrogen (TN), and total phosphorus (TP) to characterize the contributions from their facility's specific industrial sector for these parameters. Samples shall be collected during each of the first four monitoring periods (i.e., the first two years of permit coverage). Monitoring periods are specified in Part II.A.4.a. Samples shall be collected and analyzed in accordance with Part II.A.4.a-c. Monitoring results shall be reported in accordance with Part II.C.4 (*Compliance Reporting*) and Part V.C, and retained in accordance with Part V.B (*Records*).
 - (2) Chesapeake Bay TMDL wasteload allocations and Chesapeake Bay TMDL action plans
 - (a) EPA's Chesapeake Bay TMDL (December 29, 2010) includes wasteload allocations for VPDES permitted industrial stormwater facilities as part of the regulated stormwater aggregate load. EPA used data submitted by Virginia with the Phase I Chesapeake Bay TMDL Watershed Implementation Plan, including the number of industrial stormwater permits per county and the number of urban acres regulated by industrial stormwater permits, as part of their development of the aggregate load. Aggregate loads for industrial stormwater facilities were appropriate because actual facility loading data were not available to develop individual facility wasteload allocations.

Virginia estimated the loadings from industrial stormwater facilities using actual and estimated facility acreage information, and TP, TN, and TSS loading values from the Northern Virginia Planning District Commission (NVPDC) Guidebook for Screening Urban Nonpoint Pollution Management Strategies, prepared for the Metropolitan Washington Council of Governments. Annandale, VA. November, 1979. The loading values used were as follows:

TP - High (80%) imperviousness industrial; 1.5 lb/ac/yr
TN - High (80%) imperviousness industrial; 12.3 lb/ac/yr
TSS - High (80%) imperviousness industrial; 440 lb/ac/yr

The actual facility area information, and the TP, TN and TSS data collected for this permit will be used by DEQ to quantify the nutrient and sediment loads from VPDES permitted industrial stormwater facilities, and will be submitted to EPA to aid them in further refinements to their Chesapeake Bay TMDL model. The loading information will also be used by DEQ to determine any additional load reductions needed for industrial stormwater facilities for the next reissuance of this permit.

- (b) Data analysis and Chesapeake Bay TMDL action plans. The permittee shall analyze the nutrient and sediment data collected in accordance with subdivision 5.a of this subsection to determine if additional action is needed for this permit term. The permittee shall average the data collected at the facility for each of the pollutants of concern (POC) (e.g., TP, TN and TSS) and compare the results to the loading values for TP, TN and TSS presented in subdivision 5.b.(2)(a) of this subsection. To calculate the facility loadings, the permittee shall use either the actual annual average rainfall data for the facility location (in inches/year) or the Virginia annual average rainfall of 44.3 inches/year.

The following formula or a site specific, DEQ-approved calculation shall be used to determine the loading value:

$$L = 0.226 \times R \times C \quad \text{Equation (1)}$$

where:

L = the Pollutant of Concern (POC) loading value (lb/acre/year)

C = the POC average concentration of all facility samples (mg/L)

0.226 = unit conversion factor

R = annual runoff (in/yr), calculated as: $R = P \times P_j \times R_v$

where:

P = annual rainfall (in/yr) [use the Virginia annual average of 44.3 in/yr, or site specific annual rainfall for your area of the State]

P_j = the fraction of annual events that produce runoff (usually 0.9)

R_v = the runoff coefficient, which can be expressed as: $R_v = 0.05 + (0.9 \times I_a)$

I_a = the impervious fraction [the ratio of facility impervious area to the total facility area]

or, $I_a = \text{AREAIMPERVIOUS} / \text{AREATOTAL}$

Substituting in Equation (1):

$$L = 0.226 \times P \times P_j \times (0.05 + (0.9 \times I_a)) \times C \quad \text{Equation (2)}$$

- (c) If the calculated facility loading value for TP, TN or TSS is less than the corresponding loading value presented in subdivision 5.b.(2)(a) of this subsection, then the calculations demonstrating that no reduction is necessary **shall be submitted within 90 days from the end of the second year's monitoring period**. The calculations shall include a site map with the total site area, the areas associated with industrial activity and the total impervious area. If the calculated facility loading value for TP, TN or TSS exceeds the corresponding loading value presented in subdivision 5.b.(2)(a) of this subsection, then the permittee shall develop and submit a Chesapeake Bay TMDL Action Plan to DEQ for review and approval. The plan shall include a site map with the total site area, the areas associated with industrial activity and the total impervious area. The permittee shall implement the applicable elements of the approved plan over the remaining term of this permit and achieve all the necessary reductions by June 30, 2024. **The plan shall be submitted within 90 days from the end of the second year's monitoring period**. The action plan shall include:
- (i) A determination of the total pollutant load reductions for TP, TN and TSS (as appropriate) necessary to reduce the annual loads from industrial activities. This shall be determined by calculating the difference between the loading values listed in subdivision 5.b.(2)(a) of this subsection, and the average of the sampling data for TP, TN or TSS (as appropriate) for the entire facility. The reduction applies to the total difference calculated for each pollutant of concern;
 - (ii) The means and methods, such as management practices and retrofit programs, that will be utilized to meet the required reductions determined in subdivision 5.b.(2)(c)(i) of this subsection, and a schedule to achieve those reductions by June 30, 2024. The schedule should include annual benchmarks to demonstrate the ongoing progress in meeting those reductions;
 - (iii) The permittee may consider utilization of any pollutant trading or offset program in accordance with §§ 62.1-44.19:20 through 62.1-44.19:23 of the Code of Virginia, governing trading and offsetting, to meet the required reductions.
- (d) If the permittee is required to develop and implement a Chesapeake Bay TMDL Action Plan, the permittee shall submit an annual report to the department by June 30th of each year describing the progress in meeting the required reductions.

6. Discharges Through a Regulated MS4 to Waters Subject to the Chesapeake Bay TMDL

In addition to the requirements of this permit, any facility with industrial activity discharges through a

regulated MS4 that is notified by the MS4 operator that the locality has adopted ordinances to meet the Chesapeake Bay TMDL shall incorporate measures and controls into their SWPPP to comply with applicable local TMDL ordinance requirements.

7. Expansion of Facilities That Discharge to Waters Subject to the Chesapeake Bay TMDL

Virginia's Phase I Chesapeake Bay TMDL Watershed Implementation Plan (November 29, 2010), states that the wasteloads from any expansion of an existing permitted facility discharging stormwater in the Chesapeake Bay watershed cannot exceed the nutrient and sediment loadings that were discharged from the expanded portion of the land prior to the land being developed for the expanded industrial activity.

- a. For any industrial activity area expansions (i.e., construction activities, including clearing, grading and excavation activities) that commence on or after July 1, 2014 the permittee shall document in the SWPPP the information and calculations used to determine the nutrient and sediment loadings discharged from the expanded land area prior to the land being developed, and the measures and controls that were employed to meet the no net increase of stormwater nutrient and sediment loads as a result of the expansion of the industrial activity. Any land disturbance that is exempt from permitting under the VPDES construction stormwater general permit regulation (9VAC25-880) is exempt from this requirement.
- b. The permittee may use the VSMP water quality design criteria to meet the requirements of subdivision a of this subsection. Under this criteria, the total phosphorus load shall not exceed the greater of:
 - (i) The total phosphorus load that was discharged from the expanded portion of the land prior to the land being developed for the industrial activity or
 - (ii) 0.41 pounds per acre per year.

Compliance with the water quality design criteria may be determined utilizing the Virginia Runoff Reduction Method or another equivalent methodology approved by the board. Design specifications and pollutant removal efficiencies for specific BMPs can be found on the Virginia Stormwater BMP Clearinghouse website at <http://www.vwrrc.vt.edu/swc>.

- c. The permittee may consider utilization of any pollutant trading or offset program in accordance with §§ 62.1-44.19:20 through 62.1-44.19:23 of the Code of Virginia, governing trading and offsetting, to meet the no net increase requirement.

H. Schedule of Compliance

The permittee shall achieve compliance with the final ammonia (as N) limitations for the June – October seasonal tier in Part II.A.2 in accordance with the following schedule:

COMPLIANCE SCHEDULED EVENT	DATE DUE
Submit Progress Reports	Annually from the effective date of the permit
Achieve Compliance with Final Effluent Limitations	No later than 2 years after the effective date of the permit

In accordance with the dates identified in the above schedule of compliance, the permittee shall submit to the Piedmont Regional Office either a report of progress, or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance. In the latter case, the notice shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

Monitoring for ammonia (as N) shall commence with the effective date of the permit in accordance with the frequencies established in Part II.A.2. Final limitations and monitoring requirements shall substitute and supersede all interim limitations and monitoring requirements delineated in Part II.A.2 of this permit upon completion of the schedule of compliance period.

PART III – COMBINED SEWER SYSTEM (CSS)**A. Combined Sewer System**

The permittee operates a Combined Sewer System (CSS). The CSS includes combined sewer overflow (CSO) outfalls (Outfalls 004-007, 009-012, 014-021, 024-026, 028, 031, 033-035, 039, 040; see Appendix B). During the period beginning with the permit effective date and lasting until the permit expiration date, the permittee is authorized to discharge from the CSO outfalls listed in Appendix B. Such discharges shall be limited and conditioned by the permittee as specified in the following paragraphs.

The permittee has implemented CSO control measures in accordance with previous permits and consent order agreements issued by the Board. Continued operation of these CSO control measures along with adherence to the Nine Minimum Controls outlined below, will constitute continued compliance with the technology based components of the National CSO Policy. Consistent with the CWA Section 301(b)(1)(C), the permittee must not discharge in excess of any limitation necessary to meet water quality standards established pursuant to State law. The Board has determined that the requirements outlined below constitute BCT/BAT/BPJ for the CSS and are limitations necessary to meet water quality standards.

1. Nine Minimum Controls

The permittee has implemented measures throughout the CSS to meet the technology-based requirements (nine minimum controls) of EPA's Combined Sewer Overflow (CSO) Policy, April 1994 and incorporated into the Clean Water Act pursuant to the Wet Weather Water Quality Act, Section 402(q) of the Clean Water Act, 33 U.S.C. §1342. The permittee shall continue to implement documented activities, procedures, management practices and operations related to the CSS as follows:

a. Operation and Maintenance.

- (1) Inspect and preventatively maintain CSS control structures (e.g. regulators and tide gates) at least once per month.
- (2) Inspect, remove screenings and preventatively maintain pumping stations daily.
- (3) Flush sewers regularly, frequency depending on Best Professional Judgment (i.e. higher frequencies in areas more prone to impacts of fats, oils and grease).

b. Use Collection System for Storage.

- (1) Set regulator controls to optimize storage in collection system.
- (2) Discharges from outfall 006 (Shockoe Creek CSO) shall, to the maximum extent practicable, be minimized until the entire capacity of the Shockoe Retention Basin and the Shockoe Creek Combined Sewer has been used to store combined sewer flow for later treatment at the plant. The permittee shall measure the flow entering into and leaving the Shockoe Retention Basin daily. Such data shall be included with the monthly DMR along with an indication of days during the month that the system overflowed through outfall 006.
- (3) Discharges from outfalls 019 (Hampton Street and Colorado) and 020 (McCloy Street Sewage Regulator) shall, to the maximum extent practicable, be minimized until the entire capacity of the Hampton/McCloy Retention System has been used to store combined sewer flow for later treatment at the plant. The permittee shall measure and include with the monthly DMR the flow entering into and leaving the Hampton/McCloy Retention System daily.
- (4) Reline sewers for reducing Infiltration/Inflow (I/I) to the extent that such procedures prove to be effective.
- (5) Adjust WWTP influent pumping operations during wet weather events to fill the intercepting system to the level of the lowest overflow.

- (6) Inspect tide gates monthly, and adjust and repair to control tidal intrusion as needed.
 - (7) Use public and private stormwater holding facilities in CSS area.
- c. Pretreatment Program.
- (1) Use a pretreatment ordinance and program to control any industrial discharges that may be identified as impacting CSOs.
 - (2) Use a pretreatment ordinance and program to require significant industrial users discharging to the CSS to establish management practices to control batch discharges during wet weather conditions whenever possible.
 - (3) Discontinue (as determined to be necessary) discharge of water treatment plant residuals to CSS during wet weather events.
- d. Maximize Flow to the WWTP for Treatment.
- (1) During the period beginning with the permit's effective date and lasting until the permit's expiration date the permittee shall maximize flow to the WWTP as follows:
 - (a) To maximize treatment under combined sewer overflow conditions, the permittee shall operate, to the maximum extent and duration practical, its WWTP to provide treatment to flow rates above 75 MGD during normal conditions. Combined sewer overflow treatment conditions prevail on any calendar day on which the daily flow entering the Richmond WWTP exceeds the dry-weather flow by more than 30 MGD during normal conditions. These conditions also prevail on the day after any calendar day when the flow to the Richmond WWTP exceeds the dry-weather flow by more than 40 MGD during normal conditions. The permitted dry-weather flow (DWF) capacity is 45 MGD. Dry weather flow consists of sanitary sewage, industrial wastewater, and Infiltration/Inflow (I/I), exclusive of stormwater.
 - (i) The permittee shall treat retained flow to permit effluent concentration limits. When there is wastewater stored in the Shockoe Retention System, the permittee shall treat at a rate of 75 MGD to the maximum extent practical during normal conditions until the Shockoe System is empty.
 - (ii) When there is wastewater stored only in the Hampton/McCloy retention system, the permittee shall dewater at a rate of no less than 3.6 MGD until the Hampton/McCloy system is empty.
 - (b) Abnormal Conditions: Abnormal conditions at the WWTP shall exist when (1) process facilities are out of service; (2) the final sedimentation tank has effluent solids greater than the value identified in the Operating and Reporting Plan for Maximizing Treatment During CSO Conditions at the WWTP; or (3) a plant upset occurs as demonstrated by the permittee in accordance with Part V.V.2 of this permit. The permittee shall operate the WWTP in accordance with the approved Operating and Reporting Plan for Maximizing Treatment During CSO Conditions at the WWTP when abnormal conditions exist. An approvable Operating and Reporting Plan for Maximizing Treatment During CSO Conditions at the WWTP shall be submitted for DEQ review and approval no later than three months after the effective date of this permit. Subsequent changes to the plan shall be subject to DEQ review and approval prior to implementation.
 - (2) CSO-Related Bypass
 - (a) A "CSO-Related Bypass" means the intentional diversion of waste streams from any portion of a treatment facility to increase the overall treatment of combined sewer overflow.

- (b) The permittee shall operate the WWTP in accordance with the approved Operating and Reporting Plan for Maximizing Treatment During CSO Conditions at the WWTP. These bypasses are not subject to the provisions of Part V.U.
 - (c) The CSO-related bypass provision may be modified or terminated if there is a substantial increase in the volume or character of pollutants being introduced to the WWTP.
 - (d) All wet weather flows passing the headworks of the WWTP shall receive at least primary clarification and solids and floatables removal and disposal, and disinfection, where necessary, and any other treatment that can reasonably be provided.
- (3) Monitoring and Evaluation:
The Operating and Reporting Plan for Maximizing Treatment during CSO Conditions at the WWTP shall be revised to incorporate monitoring and performance assessment of the increased wet weather flow against predictions established as part of the LTCP. An approvable revised plan shall be submitted to the Department of Environmental Quality for review and approval within one year of the effective date of the CTO for the increased wet weather flow.
- e. Eliminate Dry Weather Overflows (DWOs).
- (1) Preserve existing intercepting system diversion capacity to assure conveyance of DWF peak rates to WWTP.
 - (2) Inspect and preventatively maintain (PM) diversion facilities daily.
 - (3) Monitor pumping stations for DWOs daily.
 - (4) Man the Shockoe Retention Facility daily for optimizing operations.
 - (5) Maintain a 24-hour on call team to respond to reported DWOs.
 - (6) Dry weather overflows from CSO outfalls are prohibited. Each dry weather overflow must be reported to the Department of Environmental Quality's Piedmont Regional Office as soon as the permittee becomes aware of the overflow. When the permittee detects a dry weather overflow, the permittee shall begin corrective action immediately. The permittee shall inspect the dry weather overflow each subsequent day until the overflow has been eliminated.
 - (7) No new combined sewers shall be built inside or outside of the presently existing combined sewer service areas of the City, but this requirement shall not be construed to prevent the connection of new sanitary sewers to existing combined sewers for the purpose of conveying sewage to the City's treatment plant or the replacement/enlargement of existing sewer pipes for maintenance. The foregoing notwithstanding, no new connections shall be made to the combined sewers where those connections would cause overflows during dry-weather flow conditions.
- f. Control Solid and Floatable Materials in the CSS.
- (1) Screen flows at the Shockoe Retention Facility daily.
 - (2) Maintain the wet weather flow regulators on the CSO conveyance pipelines.
 - (3) Increase screen cleaning during the fall.
 - (4) Conduct an effective leaf program.
 - (5) Conduct annual catch basin cleaning for and clean other basins as needed. The annual goal for catch basin cleaning is at least 40%.

- (6) Conduct regular litter cleanup programs.
 - (7) Conduct a regular street and sidewalk cleaning program.
 - g. Pollution Prevention.
 - (1) Conduct regular public education programs with facility tours and advice on proper disposal of substances (e.g. household wastes, leaves and the use of fertilizer). Facility tours may be suspended when the United States Government's National Terrorism Advisory System announces elevated or imminent threat levels.
 - (2) Use the pretreatment program for awareness programs that encourage industrial waste reduction through recycling and improved housekeeping.
 - (3) Operate and maintain a septage receiving station.
 - (4) Enforce ordinances that prohibit entrance of any substance that may impair or damage the function and performance of collection treatment systems.
 - h. Public Notification.
 - (1) The permittee shall maintain warning signs at all CSOs that are predicted to discharge more frequently than once per summer on average.
 - (2) Publish information on the City's web site pertaining to the CSO Control Program.
 - (3) Attend community meetings to inform citizens of proposed control facilities.
 - (4) Encourage local press coverage of CSO program developments.
 - i. Monitoring.

The permittee shall use a combination of outfall inspection and modeling to monitor CSOs to effectively characterize CSO impacts and the efficacy of CSO controls. These CSO monitoring events will be used in conjunction with river monitoring described in Part I to assess implementation of controls.
 - j. Retention Basin Maintenance.

When the permittee identifies the need to maintain any retention basin, a request shall be submitted to the DEQ Piedmont Regional Office to temporarily isolate the retention basin from the sewer system. The request shall be submitted 60 days prior to the proposed start date. The request shall include:

 - (1) Proposed start date for isolating the basin, and
 - (2) Estimated time to maintain the retention basin.

Every effort shall be made to select a period for maintenance that will minimize potential bypass of the basin during wet weather flow. The city shall notify the regional office in writing of bypasses occurring during the operation and upon completion of the maintenance operation.
2. CSS Reporting
Annual CSS reporting shall be performed in accordance with Part I.A.4 (*Integrated CSS and MS4 Annual Reporting*) of this permit.
 3. Long Term Control Plan (LTCP)
The permittee has submitted to DEQ a proposed LTCP in conformance with the CSO Policy. The proposed LTCP referred to as CSO Control Plan E in the Long Term CSO Control Plan Reevaluation – Final Report submitted to DEQ in January 2002 was made available for public review and comment.

This control plan has been submitted by the permittee to meet state water quality standards in conformance with the Demonstration approach criteria at Section II.C.4.b of the CSO Policy. The Board has accepted the permittee's January 2002 LTCP and has approved Control Plan E as described in the LTCP subject to the Board completing its ongoing water quality standards coordination process pursuant to Section III of the CSO Policy. Implementation of CSO Control Plan E is designed to provide capture of approximately 87% volume and achieve removals of BOD and TSS that exceed the 85% rule in the average year

PART IV – MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)**Discharge Authorization and Special Conditions**

- A. During the period beginning with the permit's effective date and lasting until the permit's expiration date, the permittee is authorized to discharge stormwater and those authorized non-stormwater discharges described in 9VAC25-890-20 D in accordance with this permit from the small municipal separate storm sewer system identified in the permit application into surface waters within the boundaries of the Commonwealth of Virginia.
- B. The permittee shall develop, implement, and enforce a MS4 program designed to reduce the discharge of pollutants from the small MS4 to the maximum extent practicable (MEP) in accordance with this permit, to protect water quality, and to satisfy appropriate water quality requirements of the State Water Control Law and its attendant regulations. The permittee shall utilize the legal authority provided by the laws and regulations of the Commonwealth of Virginia to control discharges to and from the MS4 to the maximum extent practicable. This legal authority may be a combination of statute, ordinance, permit, policy, specific contract language, order, or inter-jurisdictional agreements. The MS4 program shall include the minimum control measures (MCM) described in Part IV.E.
- C. The MS4 program plan.
1. The MS4 program plan shall include, at a minimum, the following written items:
 - a. The roles and responsibilities of each of the permittee's divisions and departments in the implementation of the requirements of the permit tasked with ensuring that the permit requirements are met;
 - b. If the permittee utilizes another entity to implement portions of the MS4 program, a copy of the written agreement. The description of each party's roles and responsibilities, including any written agreements with third parties, shall be updated as necessary;
 - c. For each of the MCM in Part IV.E, the following information shall be included:
 - (1) Each specific requirement as listed in Part IV.E for each MCM;
 - (2) A description of the BMPs or strategies that the permittee anticipates will be implemented to demonstrate compliance with the permit conditions in Part IV.E;
 - (3) All standard operating procedures or policies necessary to implement the BMPs;
 - (4) The measurable goal by which each BMP or strategy will be evaluated; and
 - (5) The persons, positions, or departments responsible for implementing each BMP or strategy.
 - d. A list of documents incorporated by reference including the version and date of the document being incorporated.
 2. The permittee shall update the MS4 program plan to meet the requirements of this permit no later than December 31, 2018 and shall post the most up-to-date version of the MS4 program plan on the permittee's stormwater website or location where the MS4 program plan can be obtained as required by Part IV.E.2 within 30 days of updating the MS4 program plan. Until such time that the MS4 program plan is updated in accordance with Part IV.E, the permittee shall continue to implement the MS4 program plan in effect at the time that coverage was issued under this permit.
 3. Revisions to the MS4 program plan are expected throughout the life of this permit as part of the iterative process to reduce pollutant loading and protect water quality to the MEP. As such, revisions made in accordance with this permit as a result of the iterative process do not require modification of this permit. The

permittee shall summarize revisions to the MS4 program plan as part of the annual report as described in Part I.A.4.

4. The permittee may demonstrate compliance with one or more of the MCMs in Part IV.E through implementation of separate statutory or regulatory programs provided that the permittee's MS4 program identifies and fully describes any program that will be used to satisfy one or more of the minimum control measures of Part IV.E. If the program that the permittee is using requires the approval of a third party, the program shall be fully approved by the third party, or the permittee shall be working toward getting full approval. Documentation of the program's approval status, or the progress toward achieving full approval, shall be included in the annual report required by Part I.A.4. The permittee shall remain responsible for compliance with the permit requirements if the other entity fails to implement one or more components of the control measures.
5. The permittee may rely on another entity to satisfy the permit requirements to implement a minimum control measure if:
 - a. The other entity, in fact, implements the control measure;
 - b. The particular control measure, or component thereof, is at least as stringent as the corresponding permit requirement;
 - c. The other entity agrees to implement the control measure on behalf of the permittee; and
 - d. The agreement between the parties is documented in writing and retained by the permittee with the MS4 program plan for as long as the agreement is active.

The permittee shall remain responsible for compliance with requirements of the permit and shall document in the annual reports required in accordance with Part I.A.4 that another entity is being relied on to satisfy all or part of the state permit requirements. The permittee shall provide the information required in Part I.A.4.

6. If the permittee relies on another governmental entity regulated under 9VAC25-870-380 to satisfy all of the state permit obligations, including the obligation to file periodic reports required by Part I.A.4, the permittee must note that fact in the registration statement, but is not required to file the periodic reports. The permittee remains responsible for compliance with the state permit requirements if the other entity fails to implement the control measures or components thereof.

D. Annual reporting requirements.

The annual report shall be performed in accordance with Part I.A.4 (Integrated CSS and MS4 Annual Reporting) of this permit.

E. Minimum control measures.

1. Public education and outreach.

- a. The permittee shall implement a public education and outreach program designed to:
 - (1) Increase the public's knowledge of how to reduce stormwater pollution, placing priority on reducing impacts to impaired waters and other local water pollution concerns;
 - (2) Increase the public's knowledge of hazards associated with illegal discharges and improper disposal of waste, including pertinent legal implications; and

- (3) Implement a diverse program with strategies that are targeted toward individuals or groups most likely to have significant stormwater impacts.
- b. The permittee shall identify no less than three high-priority stormwater issues to meet the goal of educating the public in accordance with Part IV.E.1.a. High-priority issues may include the following examples: Chesapeake Bay nutrients, pet wastes, local receiving water impairments, TMDLs, high-quality receiving waters, and illicit discharges from commercial sites.
- c. The high-priority public education and outreach program, as a whole, shall:
- (1) Clearly identify the high-priority stormwater issues;
 - (2) Explain the importance of the high-priority stormwater issues;
 - (3) Include measures or actions the public can take to minimize the impact of the high-priority stormwater issues; and
 - (4) Provide a contact name and telephone number, website or location where the public can find out more information.
- d. The permittee shall use two or more of the strategies listed in Table 1 below to communicate to the public the high-priority stormwater issues identified in accordance with Part IV.E.1.b including how to reduce stormwater pollution.

TABLE 1 STRATEGIES FOR PUBLIC OUTREACH AND EDUCATION	
STRATEGIES	EXAMPLES (provided as examples and are not meant to be all inclusive or limiting)
Traditional written materials	Informational brochures, newsletters, fact sheets, utility bill inserts, or recreational guides for targeted groups of citizens
Alternative materials	Bumper stickers, refrigerator magnets, t-shirts, or drink koozies
Signage	Temporary or permanent signage in public places or facilities, vehicle signage, bill boards, or storm drain stenciling
Media materials	Information disseminated through electronic media, radio, televisions, movie theater, or newspaper
Speaking engagements	Presentations to school, church, industry, trade, special interest, or community groups
Curriculum materials	Materials developed for school-aged children, students at local colleges or universities, or extension classes offered to local citizens
Training materials	Materials developed to disseminate during workshops offered to local citizens, trade organization, or industrial officials

- e. The permittee may coordinate its public education and outreach efforts with other MS4 permittees; however, the permittee shall be individually responsible for meeting all of its state permit requirements.
- f. The MS4 program plan shall include:
- (1) A list of the high-priority stormwater issues the permittee will communicate to the public as part of the public education and outreach program;
 - (2) The rationale for selection of each high-priority stormwater issue and an explanation of how each education or outreach strategy is intended to have a positive impact on stormwater discharges;

- (3) Identification of the public audience to receive each high-priority stormwater message;
 - (4) The strategies from Table 1 of Part IV.E.1.d to be used to communicate each high-priority stormwater message; and
 - (5) The anticipated time periods the messages will be communicated or made available to the public.
2. Public involvement and participation.
- a. The permittee shall develop and implement procedures for the following:
 - (1) The public to report potential illicit discharges, improper disposal, or spills to the MS4, complaints regarding land disturbing activities, or other potential stormwater pollution concerns;
 - (2) The public to provide input on the permittee's MS4 program plan;
 - (3) Receiving public input or complaints;
 - (4) Responding to public input received on the MS4 program plan or complaints; and
 - (5) Maintaining documentation of public input received on the MS4 program and associated MS4 program plan and the permittee's response.
 - b. No later than three months after the effective date of this permit, the permittee shall develop and maintain a webpage dedicated to the MS4 program and stormwater pollution prevention. The following information shall be posted on this webpage:
 - (1) The effective VPDES integrated permit and coverage transmittal letter;
 - (2) The most current MS4 program plan or location where the MS4 program plan can be obtained;
 - (3) The annual report for each year of the term covered by this permit;
 - (4) A mechanism for the public to report potential illicit discharges, improper disposal, or spills to the MS4, complaints regarding land disturbing activities, or other potential stormwater pollution concerns in accordance with Part IV.E.2.a.(1); and
 - (5) Methods for how the public can provide input on the permittee's MS4 program in accordance with Part IV.E.2.a.(2).
 - c. The permittee shall implement no less than four activities per year from two or more of the categories listed in Table 2 below to provide an opportunity for public involvement to improve water quality and support local restoration and clean-up projects.

TABLE 2 PUBLIC INVOLVEMENT OPPORTUNITIES	
Public involvement opportunities	Examples (provided as example and are not meant to be all inclusive or limiting)
Monitoring	Establish or support citizen monitoring group
Restoration	Stream or watershed clean-up day, adopt-a-water way program,
Educational events	Booth at community fair, demonstration of stormwater control projects, presentation of stormwater materials to schools to meet applicable

	education Standards of Learning or curriculum requirements, watershed walks, participation on environmental advisory committees
Disposal or collection events	Household hazardous chemicals collection, vehicle fluids collection
Pollution prevention	Adopt-a-storm drain program, implement a storm drain marking program, promote use of residential stormwater BMPs, implement pet waste stations in public areas, adopt-a-street program.

- d. The permittee may coordinate the public involvement opportunities listed in Table 2 with other MS4 permittees; however, each permittee shall be individually responsible for meeting all of the permit requirements.
- e. The MS4 program plan shall include:
- (1) The webpage address that contains mechanisms for the public to report (i) potential illicit discharges, improper disposal, or spills to the MS4, (ii) complaints regarding land disturbing activities, or (iii) other potential stormwater pollution concerns;
 - (2) The webpage address that contains the methods for how the public can provide input on the permittee's MS4 program; and
 - (3) A description of the public involvement activities to be implemented by the permittee, the anticipated time period the activities will occur, and a metric for each activity to determine if the activity is beneficial to water quality. An example of metrics may include the weight of trash collected from a stream cleanup, the number of participants in a hazardous waste collection event, etc.
3. Illicit discharge detection and elimination.
- a. The permittee shall develop and maintain an accurate MS4 map and information table as follows:
- (1) A map of the storm sewer system owned or operated by the permittee within the Census Urbanized Area identified by the 2010 decennial census that includes, at a minimum:
 - (a) MS4 outfalls discharging to surface waters, except as follows:
 - (i) In cases where the outfall is located outside of the MS4 permittee's legal responsibility, the permittee may elect to map the known point of discharge location closest to the actual outfall; and
 - (ii) In cases where the MS4 outfall discharges to receiving water channelized underground, the permittee may elect to map the point downstream at which the receiving water emerges above ground as a outfall discharge location. If there are multiple outfalls discharging to an underground channelized receiving water, the map shall identify that the outfall discharge location represents more than one outfall. This is an option a permittee may choose to use and recognized the difficulties in accessing outfalls to underground channelized stream conveyances for purposes of mapping, screening or monitoring.
 - (b) A unique identifier for each mapped item required in Part IV.E.3;
 - (c) The name and location of receiving waters to which the MS4 outfall or point of discharge discharges;
 - (d) MS4 regulated service area;

- (e) Conveyances; and
 - (f) Stormwater management facilities owned or operated by the permittee.
- (2) The permittee shall maintain an information table associated with the storm sewer system map that includes the following information for each outfall or point of discharge for those cases in which the permittee elects to map the known point of discharge in accordance with Part IV.E.3.a.(1)(a):
- (a) A unique identifier as specified on the storm sewer system map;
 - (b) The latitude and longitude of the outfall or point of discharge;
 - (c) The estimated regulated acreage draining to the outfall or point of discharge;
 - (d) The name of the receiving water;
 - (e) The 6th Order Hydrologic Unit Code of the receiving water;
 - (f) An indication as to whether the receiving water is listed as impaired in the Virginia 2016 305(b)/303(d) Water Quality Assessment Integrated Report;
 - (g) The predominant land use for each outfall discharging to an impaired water; and
 - (h) The name of any EPA approved TMDLs for which the permittee is assigned a wasteload allocation.
- (3) No later than July 1, 2019, the permittee shall submit to DEQ a GIS-compatible shapefile of the permittee's MS4 map as described in Part IV.E.3.a. If the permittee does not have an MS4 map in a GIS format, the permittee shall provide the map as a PDF document.
- (4) No later than December 31 of each year, the permittee shall update the storm sewer system map and outfall information table to include any new outfalls constructed or TMDLs approved or both during the immediate preceding reporting period.
- (5) The permittee shall provide written notification to any downstream adjacent MS4 of any known physical interconnection established or discovered after the effective date of this permit.
- b. The permittee shall prohibit, through ordinance, policy, standard operating procedures, or other legal mechanism, to the extent allowable under federal, state, or local law, regulations, or ordinances, unauthorized non-stormwater discharges into the storm sewer system. Non-stormwater discharges or flows identified in 9VAC25-890-20 D 3 shall only be addressed if they are identified by the permittee as a significant contributor of pollutants discharging to the MS4. Flows that have been identified by the department as de minimis discharges are not significant sources of pollutants to surface water.
- c. The permittee shall maintain, implement and enforce illicit discharge detection and elimination (IDDE) written procedures designed to detect, identify, and address unauthorized non-stormwater discharges, including illegal dumping, to the small MS4 to effectively eliminate the unauthorized discharge. Written procedures shall include:
- (1) A description of the legal authorities, policies, standard operating procedures or other legal mechanisms available to the permittee to eliminate identified sources of ongoing illicit discharges including procedures for using legal enforcement authorities.

- (2) Dry weather field screening protocols to detect, identify, and eliminate illicit discharges to the MS4. The protocol shall include:
 - (a) A prioritized schedule of field screening activities and rationale for prioritization determined by the permittee based on such criteria as age of the infrastructure, land use, historical illegal discharges, dumping or cross connections.
 - (b) A schedule to screen all outfalls annually;
 - (c) A mechanism to track the following information:
 - (i) The unique outfall identifier;
 - (ii) Time since the last precipitation event;
 - (iii) The estimated quantity of the last precipitation event;
 - (iv) Site descriptions (e.g., conveyance type and dominant watershed land uses);
 - (v) Whether or not a discharge was observed; and
 - (vi) If a discharge was observed, the estimated discharge rate (e.g., width and depth of discharge flow rate) and visual characteristics of the discharge (e.g., odor, color, clarity, floatables, deposits or stains, vegetation condition, structural condition, and biology).
 - (3) A timeframe upon which to conduct an investigation to identify and locate the source of any observed unauthorized non-stormwater discharge. Priority of investigations shall be given to discharges of sanitary sewage and those believed to be a risk to human health and public safety. Discharges authorized under a separate VPDES or state permit require no further action under this permit.
 - (4) Methodologies to determine the source of all illicit discharges. If the permittee is unable to identify the source of an illicit discharge within six months of beginning the investigation then the permittee shall document that the source remains unidentified. If the observed discharge is intermittent, the permittee shall document that attempts to observe the discharge flowing were unsuccessful.
 - (5) Methodologies for conducting a follow-up investigation as necessary for illicit discharges that are continuous or that the permittee expects to occur more frequently than a one-time discharge to verify that the discharge has been eliminated;
 - (6) A mechanism to track all illicit discharge investigations to document the following:
 - (a) The date that the illicit discharge was initially observed;
 - (b) The results of the investigation, including the source, if identified;
 - (c) Any follow-up to the investigation;
 - (d) Resolution of the investigation; and
 - (e) The date that the investigation was closed.
- d. The MS4 program plan shall include:

- (1) The MS4 map and information table required by Part IV.E.3.a. The map and information table may be incorporated into the MS4 program plan by reference. The map shall be made available to the department within 14 days upon request;
 - (2) Copies of written notifications of new physical interconnections given by the permittee to other MS4s; and
 - (3) The IDDE procedures described in Part IV.E.3.c.
4. Construction site stormwater runoff control.
- a. The permittee shall utilize its legal authority, such as ordinances, permits, orders, specific contract language, and inter-jurisdictional agreements, to address discharges entering the MS4 from regulated construction site stormwater runoff. The permittee shall control construction site stormwater runoff by implementing the Virginia Erosion and Sediment Control Program (VESCP) consistent with the Virginia Erosion and Sediment Control Law (§ 62.1-44.15:51 et seq. of the Code of Virginia) and Virginia Erosion and Sediment Control Regulations (9VAC25-840). The permittee shall require implementation of appropriate controls to prevent nonstormwater discharges to the MS4, such as wastewater, concrete washout, fuels and oils, and other illicit discharges identified during land disturbing activity inspections of the MS4. The discharge of nonstormwater discharges other than those identified in 9VAC25-890-20 D through the MS4 is not authorized by this state permit.
 - b. The permittee's MS4 program plan shall include:
 - (1) The local ordinance citations for the Virginia Erosion and Sediment Control Program (VESCP) program;
 - (2) A description of the legal authorities utilized to ensure compliance with Part IV.E.4.a to control construction site stormwater runoff control such as ordinances, permits, orders, specific contract language, policies, and inter-jurisdictional agreements;
 - (3) Written inspection procedures to ensure the erosion and sediment controls are properly implemented and all associated documents utilized during inspection including the inspection schedule;
 - (4) Written procedures for requiring compliance through corrective action or enforcement action to the extent allowable under federal, state, or local law, regulation, ordinance, or other legal mechanisms; and
 - (5) The roles and responsibilities of each of the permittee's departments, divisions, or subdivisions in implementing the construction site stormwater runoff control requirements in Part IV.E.4.
5. Post-construction stormwater management for new development and development on prior developed lands.
- a. The permittee shall address post-construction stormwater runoff that enters the MS4 from the following land-disturbing activities by implementing an approved Virginia Stormwater Management Program (VSMP) consistent with the Virginia Stormwater Management Act (§ 62.1-44.15:24 et seq. of the Code of Virginia) and VSMP Regulations (9VAC25-870) as well as develop an inspection and maintenance program in accordance with Part IV.E.5.b and c.
 - b. The permittee shall implement an inspection and maintenance program for those stormwater management facilities owned or operated by the permittee that discharges to the MS4 as follows:
 - (1) The permittee shall develop and maintain written inspection and maintenance procedures in order to ensure adequate long-term operation and maintenance of its stormwater management facilities;

- (2) The permittee shall inspect stormwater management facilities owned or operated by the permittee no less than once per year. The permittee may choose to implement an alternative schedule to inspect these stormwater management facilities based on facility type and expected maintenance needs provided that the alternative schedule and rationale is included in the MS4 program plan; The alternative inspection frequency shall be no less than once per five years; and
 - (3) If during the inspection of the stormwater management facility conducted in accordance with Part IV.E.5.b.(2), it is determined that maintenance is required, the permittee shall conduct the maintenance in accordance with the written procedures developed under Part IV.E.5.b.(1).
- c. The permittee shall:
- (1) Implement an inspection and enforcement program for stormwater management facilities not owned by the permittee (i.e., privately owned) that includes:
 - (a) An inspection frequency of no less than once per five years for all privately owned stormwater management facilities that discharge into the MS4; and
 - (b) Adequate long-term operation and maintenance by the owner of the stormwater management facility by requiring the owner to develop and record a maintenance agreement, including an inspection schedule to the extent allowable under state or local law or other legal mechanism;
 - (2) Utilize its legal authority for enforcement of the maintenance responsibilities if maintenance is neglected by the owner; and
 - (3) The permittee may develop and implement a progressive compliance and enforcement strategy provided that the strategy is included in the MS4 program plan.
- d. The permittee shall maintain an electronic database or spreadsheet of all known permittee-owned or permittee-operated and privately owned stormwater management facilities that discharge into the MS4. The database shall also include all BMPs implemented by the permittee to meet the Chesapeake Bay TMDL load reduction as required in Part IV.F. A database shall include the following information as applicable:
- (1) The stormwater management facility or BMP type;
 - (2) The stormwater management facility or BMPs location as latitude and longitude;
 - (3) The acres treated by the stormwater management facility or BMP, including total acres, pervious acres, and impervious acres;
 - (4) The date the facility was brought online (MM/YYYY). If the date brought online is not known, the permittee shall use June 30, 2005;
 - (5) The 6th Order Hydrologic Unit Code in which the stormwater management facility is located;
 - (6) Whether the stormwater management facility or BMP is owned or operated by the permittee or privately owned;
 - (7) Whether or not the stormwater management facility or BMP is part of the permittee's Chesapeake Bay TMDL action plan required in Part IV.F or local TMDL action plan required in Part IV.G, or both;
 - (8) If the stormwater management facility or BMP is privately owned, whether a maintenance agreement exists; and

- (9) The date of the permittee's most recent inspection of the stormwater management facility or BMP.
- e. The electronic database or spreadsheet shall be updated no later than 30 days after a new stormwater management facility is brought online, a new BMP is implemented to meet a TMDL load reduction as required in Part IV.F or G, or discovered if it is an existing stormwater management facility.
- f. The permittee shall use the DEQ Construction Stormwater Database or other application as specified by the department to report each stormwater management facility installed after July 1, 2014, to address the control of post-construction runoff from land disturbing activities for which the permittee is required to obtain a General VPDES Permit for Discharges of Stormwater from Construction Activities.
- g. No later than March 31 of each year, the permittee shall electronically report the stormwater management facilities and BMPs implemented between January 1 and December 30 of each year using the DEQ BMP Warehouse and associated reporting template for any practices not reported in accordance with Part IV.E.5.f including stormwater management facilities installed to control post-development stormwater runoff from land disturbing activities less than one acre in accordance with the Chesapeake Bay Preservation Act regulations (9VAC25-830) and for which a General VPDES Permit for Discharges of Stormwater from Construction Activities was not required.
- h. The MS4 program plan shall include:
- (1) A copy of the VSMP approval letter issued by the department;
 - (2) Written inspection procedures and all associated documents utilized in the inspection of privately owned stormwater management facilities; and
 - (3) Written procedures for compliance and enforcement of inspection and maintenance requirements for privately owned BMPs.
 - (4) A description of the legal authorities utilized to ensure compliance with Part IV.E.5.a for post-construction stormwater runoff control such as ordinances, permits, orders, specific contract language, and inter-jurisdictional agreements;
 - (5) Written inspection procedures and all associated documents utilized during inspection of stormwater management facilities owned or operated by the permittee;
 - (6) The roles and responsibilities of each of the permittee's departments, divisions, or subdivisions in implementing the post-construction stormwater runoff control program; and
 - (7) The stormwater management facility spreadsheet, or database incorporated by reference, and the location or link where the spreadsheet or database can be reviewed.
6. Pollution prevention and good housekeeping for facilities owned or operated by the permittee within the MS4 service area.
- a. The permittee shall maintain and implement written procedures for those activities at facilities owned or operated by the permittee, such as road, street, and parking lot maintenance; equipment maintenance; and the application, storage, transport, and disposal of pesticides, herbicides, and fertilizers designed to:
- (1) Prevent illicit discharges;
 - (2) Ensure the proper disposal of waste materials, including landscape wastes;

- (3) Prevent the discharge of wastewater or permittee vehicle wash water or both into the MS4 without authorization under a separate VPDES permit;
 - (4) Require implementation of best management practices when discharging water pumped from utility construction and maintenance activities;
 - (5) Minimize the pollutants in stormwater runoff from bulk storage areas (e.g., salt storage, topsoil stockpiles) through the use of best management practices;
 - (6) Prevent pollutant discharge into the MS4 from leaking municipal automobiles and equipment; and
 - (7) Ensure that the application of materials, including fertilizers and pesticides, is conducted in accordance with the manufacturer's recommendations.
- b. The written procedures established in accordance with Part IV.E.6.a shall be utilized as part of the employee training program at Part IV.E.6.m.
- c. Within 12 months of state permit coverage, the permittee shall identify which of the high-priority facilities have a high potential of discharging pollutants. The permittee shall maintain and implement a site-specific stormwater pollution prevention plan (SWPPP) for each facility identified. High priority facilities that have a high potential for discharging pollutants are those facilities that are not covered under a separate VPDES permit and which any of the following materials or activities occur and are expected to have exposure to stormwater resulting from rain, snow, snowmelt or runoff:
- (1) Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater;
 - (2) Materials or residuals on the ground or in stormwater inlets from spills or leaks;
 - (3) Material handling equipment;
 - (4) Materials or products that would be expected to be mobilized in stormwater runoff during loading or unloading or transporting activities (e.g., rock, salt, fill dirt);
 - (5) Materials or products stored outdoors (except final products intended for outside use where exposure to stormwater does not result in the discharge of pollutants);
 - (6) Materials or products that would be expected to be mobilized in stormwater runoff contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers;
 - (7) Waste material except waste in covered, nonleaking containers (e.g., dumpsters);
 - (8) Application or disposal of process wastewater (unless otherwise permitted); or
 - (9) Particulate matter or visible deposits of residuals from roof stacks, vents or both not otherwise regulated (i.e., under an air quality control permit) and evident in the stormwater runoff.
- d. Each SWPPP as required in Part IV.E.6.c shall include the following:
- (1) A site description that includes a site map identifying all outfalls, direction of stormwater flows, existing source controls, and receiving water bodies;
 - (2) A description and checklist of the potential pollutants and pollutant sources;

- (3) A description of all potential nonstormwater discharges;
 - (4) Written procedures designed to reduce and prevent pollutant discharge;
 - (5) A description of the applicable training as required in Part IV.E.6.m;
 - (6) Procedures to conduct an annual comprehensive site compliance evaluation;
 - (7) An inspection frequency of no less than once per year and maintenance requirements for site-specific source controls. The date of each inspection and associated findings and follow-up shall be logged in each SWPPP;
 - (8) A log of each unauthorized discharge, release, or spill incident reported in accordance with Part V.G including the following information:
 - (a) Date of incident;
 - (b) Material discharged, released, or spilled; and
 - (c) Estimated quantity discharged, released or spilled;
- e. No later than December 31 of each year, the permittee shall review any high-priority facility owned or operated by the permittee for which a SWPPP has not been developed to determine if the facility has a high potential to discharge pollutants as described in Part IV.E.6.c. If the facility is determined to be a high-priority facility with a high potential to discharge pollutants, the permittee shall develop a SWPPP meeting the requirements of Part IV.E.6.d no later than June 30 of the following year.
 - f. The permittee shall review the contents of any site specific SWPPP no later than 30 days after any unauthorized discharge, release, or spill reported in accordance with Part V.G to determine if additional measures are necessary to prevent future unauthorized discharges, releases, or spills. If necessary, the SWPPP shall be updated no later than 90 days after the unauthorized discharge.
 - g. The SWPPP shall be kept at the high-priority facility with a high potential to discharge and utilized as part of staff training required in Part IV.E.6.m. The SWPPP and associated documents may be maintained as a hard copy or electronically as long as the documents are available to employees at the applicable site.
 - h. If activities change at a facility such that the facility no longer meets the criteria of a high-priority facility with a high potential to discharge pollutants as described in Part IV.E.6.c, the permittee may remove the facility from the list of high-priority facilities with a high potential to discharge pollutants.
 - i. The permittee shall maintain and implement turf and landscape nutrient management plans that have been developed by a certified turf and landscape nutrient management planner in accordance with § 10.1-104.2 of the Code of Virginia on all lands owned or operated by the permittee where nutrients are applied to a contiguous area greater than one acre. If nutrients are being applied to achieve final stabilization of a land disturbance project, application shall follow the manufacturer's recommendations.
 - j. If the permittee owns land regulated under § 10.1-104.4 of the Code of Virginia, including state agencies, state colleges and universities, and other state government entities, the permittee shall continue to implement turf and landscape nutrient management plans in accordance with this statutory requirement.
 - k. The permittee shall not apply any deicing agent containing urea or other forms of nitrogen or phosphorus to parking lots, roadways, and sidewalks, or other paved surfaces.

- l. The permittee shall require through the use of contract language, training, standard operating procedures, or other measures within the permittee's legal authority, that contractors employed by the permittee and engaging in activities with the potential to discharge pollutants use appropriate control measures to minimize the discharge of pollutants to the MS4.
- m. The permittee shall develop a training plan in writing for applicable staff that ensures the following:
 - (1) Field personnel received training in the recognition and reporting of illicit discharges no less than once per 24 months;
 - (2) Employees performing road, street, and parking lot maintenance receive training in pollution prevention and good housekeeping associated with those activities no less than once per 24 months;
 - (3) Employees working in and around maintenance, public works, or recreational facilities receive training in good housekeeping and pollution prevention practices associated with those facilities no less than once per 24 months;
 - (4) Employees and contractors hired by the permittee who apply pesticides and herbicides are trained or certified in accordance with the Virginia Pesticide Control Act (§ 3.2-3900 et seq. of the Code of Virginia). Certification by the Virginia Department of Agriculture and Consumer Services (VDACS) Pesticide and Herbicide Applicator program shall constitute compliance with this requirement;
 - (5) Employees and contractors serving as plan reviewers, inspectors, program administrators, and construction site operators obtain the appropriate certifications as required under the Virginia Erosion and Sediment Control Law and its attendant regulations;
 - (6) Employees and contractors implementing the stormwater program obtain the appropriate certifications as required under the Virginia Stormwater Management Act and its attendant regulations; and
 - (7) Employees whose duties include emergency response have been trained in spill response. Training of emergency responders such as firefighters and law-enforcement officers on the handling of spill releases as part of a larger emergency response training shall satisfy this training requirement and be documented in the training plan.
- n. The permittee shall maintain documentation of each training event conducted by the permittee to fulfill the requirements of Part IV.E.6.m for a minimum of three years after the training event. The documentation shall include the following information:
 - (1) The date of the training event;
 - (2) The number of employees attending the training event; and
 - (3) The objective of the training event.
- o. The permittee may fulfill the training requirements in Part IV.E.6.m, in total or in part, through regional training programs involving two or more MS4 permittees; however, the permittee shall remain responsible for ensuring compliance with the training requirements.
- p. The MS4 program plan shall include:
 - (1) The written procedures for the operations and maintenance activities as required by Part IV.E.6.a;

- (2) A list of all high-priority facilities owned or operated by the permittee required in accordance with Part IV.E.6.c, and whether or not the facility has a high potential to discharge;
- (3) A list of lands for which turf and landscape nutrient management plans are required in accordance with Part IV.E.6.i and j, including the following information:
 - (a) The total acreage on which nutrients are applied;
 - (b) The date of the most recently approved nutrient management plan for the property; and
 - (c) The location in which the individual turf and landscape nutrient management plan is located.
- (4) A summary of mechanisms the permittee uses to ensure contractors working on behalf of the permittee implements the necessary good housekeeping and pollution prevention procedures, and stormwater pollution plans as appropriate; and
- (5) The written training plan as required in Part IV.E.6.m.

TMDL Special Conditions

F. Chesapeake Bay TMDL Special Condition.

1. The following definitions apply to Part IV.F and G of this permit for the purpose of the Chesapeake Bay TMDL special condition for discharges in the Chesapeake Bay Watershed:

"Existing sources" means pervious and impervious urban land uses served by the MS4 as of June 30, 2009.

"New sources" means pervious and impervious urban land uses served by the MS4 developed or redeveloped on or after July 1, 2009.

"Pollutants of concern" or "POC" means total nitrogen, total phosphorus, and total suspended solids.

"Transitional sources" means regulated land disturbing activities that are temporary in nature and discharge through the MS4.

2. Reduction requirements. No later than the expiration date of this permit, the permittee shall implement measures to reduce the load of total nitrogen, total phosphorus, and total suspended solids from existing developed lands served by the MS4 as of June 30, 2009, within the 2010 Census Urbanized Area by at least 40% of the Level 2 (L2) Scoping Run Reductions. The 40% reduction is the sum of (i) the first phase reduction of 5.0% of the L2 Scoping Run Reductions based on the lands located within the 2000 Census Urbanized Areas required by June 30, 2018; (ii) the second phase reduction of at least 35% of the L2 Scoping Run based on lands within the 2000 Census Urbanized Areas required by June 30, 2023; and (iii) the reduction of at least 40% of the L2 Scoping Run, which shall only apply to the additional lands that were added by the 2010 expanded Census Urbanized Areas required by June 30, 2023. The required reduction shall be calculated using Table 3 below as applicable:

TABLE 3 CALCULATION SHEET FOR ESTIMATING EXISTING SOURCE LOADS AND REDUCTION REQUIREMENTS FOR THE JAMES RIVER								
		A	B	C	D	E	F	G
Pollutant	Subsource	Loading rate (lbs/ac/yr) ¹	Existing developed lands as of 6/30/09 served by the MS4 within the 2010 CUA (acres) ²	Load (lbs/yr) ³	Percentage of MS4 required Chesapeake Bay total L2 loading reduction	Percentage of L2 required reduction by 6/30/2023	40% cumulative reduction Required by 6/30/2023 (lbs/yr) ⁴	Sum of 40% cumulative reduction (lb/yr) ⁵
Nitrogen	Regulated urban impervious	9.39			9%	40%		
	Regulated urban pervious	6.99			6%	40%		
Phosphorus	Regulated urban impervious	1.76			16%	40%		
	Regulated urban pervious	0.5			7.25%	40%		
Total Suspended Solids	Regulated urban impervious	676.94			20%	40%		

	Regulated urban pervious	101.08			8.75%	40%		
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¹Edge of stream loading rate based on the Chesapeake Bay Watershed Model Progress Run 5.3.2.
²To determine the existing developed acres required in Column B, the permittee should first determine the extent of their regulated service area based on the 2010 Census Urbanized Area (CUA). Next, the permittee will need to delineate the lands within the 2010 CUA served by the MS4 as pervious or impervious as of the baseline date of June 30, 2009.
³Column C = Column A x Column B.
⁴Column F = Column C x Column D x Column E.
⁵Column G = The sum of the subsurface cumulative reduction required by 6/30/23 (lbs/yr) as calculated in Column F.

3. No later than the expiration date of this permit, the permittee shall offset 40% of the increased loads from new sources initiating construction between July 1, 2009, and June 30, 2019, and designed in accordance with 9VAC25-870 Part II C (9VAC25-870-93 et seq.) if the following conditions apply:
 - a. The activity disturbed one acre or greater; and
 - b. The resulting total phosphorous load was greater than 0.45 lb/acre/year, which is equivalent to an average land cover condition of 16% impervious cover.

The permittee shall utilize Table 4 of Part IV.F.4 to develop the equivalent pollutant load for nitrogen and total suspended solids for new sources meeting the requirements of this condition.
4. No later than the expiration date of this permit, the permittee shall offset the increased loads from projects grandfathered in accordance with 9VAC25-870-48 that begin construction after July 1, 2014, if the following conditions apply:
 - a. The activity disturbs one acre or greater; and
 - b. The resulting total phosphorous load was greater than 0.45 lb/acre/year, which is equivalent to an average land cover condition of 16% impervious cover.

The permittee shall utilize Table 4 below to develop the equivalent pollutant load for nitrogen and total suspended solids for grandfathered sources meeting the requirements of this condition.

TABLE 4 RATIO OF PHOSPHORUS LOADING RATE TO NITROGEN AND TOTAL SUSPENDED SOLIDS LOADING RATES FOR CHESAPEAKE BAY BASINS			
Ratio of Phosphorus to Other POCs (Based on All Land Uses 2009 Progress Run)	Phosphorus Loading Rate (lbs/acre)	Nitrogen Loading Rate (lbs/acre)	Total Suspended Solids Loading Rate (lbs/acre)
James River Basin	1.0	5.2	420.9

5. Reductions achieved in accordance with the General VPDES Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems effective July 1, 2013, shall be applied to the total reduction requirements to demonstrate compliance with Part IV.F.2, F.3, and F.4.
6. Reductions shall be achieved in each river basin as calculated in Part IV.F.3 or for reductions in accordance with Part IV.F.3 and F.4 in the basin in which the new source or grandfathered project occurred.
7. Loading and reduction values greater than or equal to 10 pounds calculated in accordance with Part IV.F.2, F.3, and F.4 shall be calculated and reported to the nearest pound without regard to mathematical rules of precision. Loading and reduction values of less than 10 pounds reported in accordance with Part IV.F.2, F.3, and F.4 shall be calculated and reported to two significant digits.
8. Reductions required in Part IV.F.2, F.3, and F.4 shall be achieved through one or more of the following:
 - a. BMPs approved by the Chesapeake Bay Program;
 - b. BMPs approved by the department; or
 - c. A trading program described in Part IV.F.9.
9. The permittee may acquire and use total nitrogen and total phosphorus credits in accordance with § 62.1-44.19:21 of the Code of Virginia and total suspended solids in accordance with § 62.1-44.19:21.1 of the Code of Virginia for purposes of compliance with the required reductions in Part IV.F.2.a through F.2.d, F.3, and F.4, provided the use of credits has been approved by the department. The exchange of credits is subject to the following requirements:
 - a. The credits are generated and applied to a compliance obligation in the same calendar year;
 - b. The credits are generated and applied to a compliance obligation in the same tributary;
 - c. The credits are acquired no later than June 1 immediately following the calendar year in which the credits are applied;
 - d. No later than June 1 immediately following the calendar year in which the credits are applied, the permittee certifies on a credit exchange notification form supplied by the department that the permittee has acquired the credits;
 - e. Total nitrogen and total phosphorus credits shall be either point source credits generated by point sources covered by the Watershed Permit for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Bay Watershed general permit issued pursuant to § 62.1-44.19:14 of the Code of Virginia, or nonpoint source credits certified pursuant to § 62.1-44.19:20 of the Code of Virginia;

- f. Sediment credits shall be derived from one of the following:
 - (1) Implementation of BMP in a defined area outside of an MS4 service area, in which case the necessary baseline sediment reduction for such defined area shall be achieved prior to the permittee's use of additional reductions as credit; or
 - (2) A point source wasteload allocation established by the Chesapeake Bay total maximum daily load, in which case the credit is the difference between the wasteload allocation specified as an annual mass load and any lower monitored annual mass load that is discharged as certified on a form supplied by the department.
 - g. Sediment credits shall not be associated with phosphorus credits used for compliance with the stormwater nonpoint nutrient runoff water quality criteria established pursuant to § 62.1-44.15:28 of the Code of Virginia.
10. No later than 12 months after the permit effective date, the permittee shall submit an updated Chesapeake Bay TMDL action plan for the reductions required in Part IV.F.2, F.3, and F.4 that includes the following information:
- a. Any new or modified legal authorities, such as ordinances, permits, policy, specific contract language, orders, and inter-jurisdictional agreements, implemented or needing to be implemented to meet the requirements of Part IV.F.2, F.3, and F.4.
 - b. The load and cumulative reduction calculations for each river basin calculated in accordance with Part IV.F.2, F.3, and F.4.
 - c. The total reductions achieved as of July 1, 2018, for each pollutant of concern in each river basin;
 - d. A list of BMPs implemented prior to July 1, 2018, to achieve reductions associated with the Chesapeake Bay TMDL including:
 - (1) The date of implementation; and
 - (2) The reductions achieved.
 - e. The BMPs to be implemented by the permittee prior to the expiration of this permit to meet the cumulative reductions calculated in Part IV.F.2, F.3, and F.4, including as applicable:
 - (1) Type of BMP;
 - (2) Project name;
 - (3) Location;
 - (4) Percent removal efficiency for each pollutant of concern; and
 - (5) Calculation of the reduction expected to be achieved by the BMP calculated and reported in accordance with the methodologies established in Part IV.F.7 for each pollutant of concern; and
 - f. A summary of any comments received as a result of public participation required in Part IV.F.11, the permittee's response, identification of any public meetings to address public concerns, and any revisions made to Chesapeake Bay TMDL action plan as a result of public participation.
11. Prior to submittal of the action plan required in Part IV.F.10, the permittee shall provide an opportunity for public comment on the additional BMPs proposed to meet the reductions not previously approved by the department in the first phase Chesapeake Bay TMDL action plan for no less than 15 days.

12. For each reporting period, the corresponding annual report shall include the following information:
 - a. A list of BMPs implemented during the reporting period but not reported to the DEQ BMP Warehouse in accordance with Part IV.E.5.g and the estimated reduction of pollutants of concern achieved by each and reported in pounds per year;
 - b. If the permittee acquired credits during the reporting period to meet all or a portion of the required reductions in Part IV.F.2, F.3, or F.4, a statement that credits were acquired;
 - c. The progress, using the final design efficiency of the BMPs, toward meeting the required cumulative reductions for total nitrogen, total phosphorus, and total suspended solids; and
 - d. A list of BMPs that are planned to be implemented during the next reporting period.

G. Local TMDL special condition

1. The permittee shall develop a local TMDL action plan designed to reduce loadings for pollutants of concern to an impaired water for which a TMDL has been approved by the U.S. Environmental Protection Agency (EPA) as described in Part IV.G.1.a and 1.b:
 - a. For TMDLs approved by the EPA prior to July 1, 2013, and in which an individual or aggregate wasteload has been allocated to the permittee, the permittee shall update the previously approved local TMDL action plans to meet the conditions of Part IV.G.3, G.4, G.5, G.6, and G.7 as applicable, no later than 18 months after the permit effective date and continue implementation of the action plan; and
 - b. For TMDLs approved by EPA on or after July 1, 2013, and prior to June 30, 2018, and in which an individual or aggregate wasteload has been allocated to the permittee, the permittee shall develop and initiate implementation of action plans to meet the conditions of Part IV.G.3, G.4, G.5, G.6, and G.7 as applicable for each pollutant for which wasteloads have been allocated to the permittee's MS4 no later than 30 months after the permit effective date.
2. The permittee shall complete implementation of the TMDL Action Plans as soon as possible. TMDL action plans may be implemented in multiple phases over more than one permit cycle using the adaptive iterative approach provided adequate progress is achieved in the implementation of BMPs designed to reduce pollutant discharges to the MEP and in a manner that is consistent with the assumptions and requirements of the applicable TMDL.
3. Each local TMDL action plan developed by the permittee shall include the following:
 - a. The TMDL project name;
 - b. The EPA approval date of the TMDL;
 - c. The wasteload allocated to the permittee (individually or in aggregate), and the corresponding percent reduction, if applicable;
 - d. Identification of the significant sources of the pollutants of concern discharging to the permittee's MS4 and are not covered under a separate VPDES permit. For the purposes of this requirement, a significant source of pollutants means a discharge where the expected pollutant loading is greater than the average pollutant loading for the land use identified in the TMDL;
 - e. The BMPs designed to reduce the pollutants of concern in accordance with Part IV.G.4, G.5, and G.6;
 - f. Any calculations required in accordance with Part IV.G.4, G.5, or G.6;

- g. For action plans developed in accordance with Part IV.G.4 and G.5, an outreach strategy to enhance the public's education (including employees) on methods to eliminate and reduce discharges of the pollutants; and
- h. A schedule of anticipated actions planned for implementation during this permit term.

4. Bacterial TMDLs.

- a. The permittee shall select and implement at least three of the strategies listed in Table 5 below designed to reduce the load of bacteria to the MS4. Selection of the strategies shall correspond to sources identified in Part IV.G.3.d.

TABLE 5 STRATEGIES FOR BACTERIA REDUCTION STORMWATER CONTROL/MANAGEMENT	
Source	Strategies (provided as an example and not meant to be all inclusive or limiting)
Domestic pets (dogs and cats)	<p>Provide signage to pick up dog waste, providing pet waste bags and disposal containers.</p> <p>Adopt and enforce pet waste ordinances or policies, or leash laws or policies.</p> <p>Place dog parks away from environmentally sensitive areas.</p> <p>Maintain dog parks by removing disposed of pet waste bags and cleaning up other sources of bacteria.</p> <p>Protect riparian buffers and provide un-manicured vegetative buffers along streams to dissuade stream access.</p>
Urban wildlife	<p>Educate the public on how to reduce food sources accessible to urban wildlife (e.g., manage restaurant dumpsters and grease traps, residential garbage, feed pets indoors).</p> <p>Install storm drain inlet or outlet controls.</p> <p>Clean out storm drains to remove waste from wildlife.</p> <p>Implement and enforce urban trash management practices.</p> <p>Implement rooftop disconnection programs or site designs that minimize connections to reduce bacteria from rooftops</p> <p>Implement a program for removing animal carcasses from roadways and properly disposing of the same (either through proper storage or through transport to a licensed facility).</p>
Illicit connections or illicit discharges to the MS4	<p>Implement an enhanced dry weather screening and illicit discharge, detection, and elimination program beyond the requirements of Part IV.E.3 to identify and remove illicit connections and identify leaking sanitary sewer lines infiltrating to the MS4 and implement repairs.</p> <p>Implement a program to identify potentially failing septic systems.</p> <p>Educate the public on how to determine whether their septic system is failing.</p> <p>Implement septic tank inspection and maintenance program.</p> <p>Implement an educational program beyond any requirements in Part IV.E.1 through E.6 to explain to citizens why they should not dump materials into the MS4.</p>
Dry weather urban flows (irrigations, carwashing,	<p>Implement public education programs to reduce dry weather flows from storm sewers related to lawn and park irrigation practices, car washing, power washing and other non-stormwater flows.</p> <p>Provide irrigation controller rebates.</p>

power washing, etc.)	Implement and enforce ordinances or policies related to outdoor water waste. Inspect commercial trash areas, grease traps, wash-down practices, and enforce corresponding ordinances or policies.
Birds (Canadian geese, gulls, pigeons, etc.)	Identify areas with high bird populations and evaluate deterrents, population controls, habitat modifications and other measures that may reduce bird-associated bacteria loading. Prohibit feeding of birds.
Other sources	Enhance maintenance of stormwater management facilities owned or operated by the permittee. Enhance requirements for third parties to maintain stormwater management facilities. Develop BMPs for locating, transporting, and maintaining portable toilets used on permittee-owned sites. Educate third parties that use portable toilets on BMPs for use. Provide public education on appropriate recreational vehicle dumping practices.

5. Local sediment, phosphorus, and nitrogen TMDLs.

- a. The permittee shall reduce the loads associated with sediment, phosphorus, or nitrogen through implementation of one or more of the following:
 - (1) One or more of the BMPs from the Virginia Stormwater BMP Clearinghouse listed in 9VAC25-870-65 or other approved BMPs found on the Virginia Stormwater BMP Clearinghouse website;
 - (2) One or more BMPs approved by the Chesapeake Bay program; or
 - (3) Land disturbance thresholds lower than Virginia's regulatory requirements for erosion and sediment control and post development stormwater management.
- b. The permittee may meet the local TMDL requirements for sediment, phosphorus, or nitrogen through BMPs implemented to meet the requirements of the Chesapeake Bay TMDL in Part IV.F as long as the BMPs are implemented in the watershed for which local water quality is impaired.
- c. The permittee shall calculate the anticipated load reduction achieved from each BMP and include the calculations in the action plan required in Part IV.G.3.g.
- d. No later than 36 months after the effective date of this permit, the permittee shall submit to the department the anticipated end dates by which the permittee will meet each WLA for sediment, phosphorus, or nitrogen. The proposed end date may be developed in accordance with Part IV.G.2.

6. Polychlorinated biphenyl (PCB) TMDLs.

- a. For each PCB TMDL action plan, the permittee shall include an inventory of potentially significant sources of PCBs owned or operated by the permittee that drains to the MS4 that includes the following information:
 - (1) Location of the potential source;
 - (2) Whether or not the potential source is from current site activities or activities previously conducted at the site that have been terminated (i.e. legacy activities); and

- (3) A description of any measures being implemented or to be implemented to prevent exposure to stormwater and the discharge of PCBs from the site.
- b. If at any time during the term of this permit, the permittee discovers a previously unidentified significant source of PCBs within the permittee's MS4 regulated service area, the permittee shall notify DEQ in writing within 30 days of discovery.
7. Prior to submittal of the action plan required in Part IV.G.1, the permittee shall provide an opportunity for public comment proposed to meet the local TMDL action plan requirements for no less than 15 days.
8. The MS4 program plan as required by Part IV.B of this permit shall incorporate each local TMDL action plan. Local TMDL action plans may be incorporated by reference into the MS4 program plan, provided that the program plan includes the date of the most recent local TMDL action plan and identification of the location where a copy of the local TMDL action plan may be obtained.

PART V - CONDITIONS APPLICABLE TO ALL VPDES PERMITS**A. Monitoring**

1. Samples and measurements required by this permit shall be taken at the permit designated or approved location and be representative of the monitored activity.
 - a. Monitoring shall be conducted according to procedures approved under Title 40 Code of Federal Regulations Part 136 or alternative methods approved by the U.S. Environmental Protection Agency, unless other procedures have been specified in this permit.
 - b. The permittee shall periodically calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals that will insure accuracy of measurements.
 - c. Samples taken shall be analyzed by a laboratory certified under 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories.
2. Any pollutant specifically addressed by this permit that is sampled or measured at the permit designated or approved location more frequently than required by this permit shall meet the requirements in A.1.a through c above and the results of this monitoring shall be included in the calculations and reporting required by this permit.
3. Operational or process control samples or measurements shall not be taken at the designated permit sampling or measurement locations. Operational or process control samples or measurements do not need to follow procedures approved under Title 40 Code of Federal Regulations Part 136 or be analyzed in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories.

B. Records

1. Records of monitoring information shall include:
 - a. The date, exact place, and time of sampling or measurements;
 - b. The individual(s) who performed the sampling or measurements;
 - c. The date(s) and time(s) analyses were performed;
 - d. The individual(s) who performed the analyses;
 - e. The analytical techniques or methods used; and
 - f. The results of such analyses.
2. Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years, the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period of retention shall be extended automatically during the course of any unresolved litigation regarding the regulated activity or regarding control standards applicable to the permittee, or as requested by the Board.

C. Reporting Monitoring Results

1. The permittee shall submit the results of the monitoring required by this permit by hard copy or by E-DMR not later than the 10th day of the month after the monitoring period, unless another reporting schedule is specified elsewhere in this permit. Monitoring results sent by hard copy shall be submitted to:

DEQ - Piedmont Regional Office

4949-A Cox Road
Glen Allen, VA 23060

2. Monitoring results shall be reported on a Discharge Monitoring Report (DMR) or on forms provided, approved, or specified by the Department.
3. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this permit.

D. Duty to Provide Information

The permittee shall furnish to the Department, within a reasonable time, any information which the Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Board may require the permittee to furnish, upon request, such plans, specifications, and other pertinent information as may be necessary to determine the effect of the wastes from his discharge on the quality of state waters, or such other information as may be necessary to accomplish the purposes of the State Water Control Law. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this permit.

E. Compliance Schedule Reports

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

F. Unauthorized Discharges

Except in compliance with this permit, or another permit issued by the Board, it shall be unlawful for any person to:

1. Discharge into state waters sewage, industrial wastes, other wastes, or any noxious or deleterious substances; or
2. Otherwise alter the physical, chemical or biological properties of such state waters and make them detrimental to the public health, or to animal or aquatic life, or to the use of such waters for domestic or industrial consumption, or for recreation, or for other uses.

G. Reports of Unauthorized Discharges.

Any permittee who discharges or causes or allows a discharge of sewage, industrial waste, other wastes or any noxious or deleterious substance into or upon state waters in violation of Part V.F; or who discharges or causes or allows a discharge that may reasonably be expected to enter state waters in violation of Part V.F, shall notify the Department of the discharge immediately upon discovery of the discharge, but in no case later than 24 hours after said discovery. A written report of the unauthorized discharge shall be submitted to the Department, within five days of discovery of the discharge. The written report shall contain:

1. A description of the nature and location of the discharge;
2. The cause of the discharge;
3. The date on which the discharge occurred;
4. The length of time that the discharge continued;
5. The volume of the discharge;
6. If the discharge is continuing, how long it is expected to continue;
7. If the discharge is continuing, what the expected total volume of the discharge will be; and
8. Any steps planned or taken to reduce, eliminate and prevent a recurrence of the present discharge

or any future discharges not authorized by this permit. Discharges reportable to the Department under the immediate reporting requirements of other regulations are exempted from this requirement.

H. Reports of Unusual or Extraordinary Discharges

If any unusual or extraordinary discharge including a bypass or upset should occur from a treatment works and the discharge enters or could be expected to enter state waters, the permittee shall promptly notify, in no case later than 24 hours, the Department by telephone after the discovery of the discharge. This notification shall provide all available details of the incident, including any adverse effects on aquatic life and the known number of fish killed. The permittee shall reduce the report to writing and shall submit it to the Department within five days of discovery of the discharge in accordance with Part V.I.2. Unusual and extraordinary discharges include but are not limited to any discharge resulting from:

1. Unusual spillage of materials resulting directly or indirectly from processing operations;
2. Breakdown of processing or accessory equipment;
3. Failure or taking out of service some or all of the treatment works; and
4. Flooding or other acts of nature.

I. Reports of Noncompliance

The permittee shall report any noncompliance which may adversely affect state waters or may endanger public health.

1. An oral report shall be provided within 24 hours from the time the permittee becomes aware of the circumstances. The following shall be included as information which shall be reported within 24 hours under this paragraph:
 - a. Any unanticipated bypass; and
 - b. Any upset which causes a discharge to surface waters.
2. A written report shall be submitted within 5 days and shall contain:
 - a. A description of the noncompliance and its cause;
 - b. The period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and
 - c. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

The Board may waive the written report on a case-by-case basis for reports of noncompliance under Part V.I. if the oral report has been received within 24 hours and no adverse impact on state waters has been reported.

3. The permittee shall report all instances of noncompliance not reported under Parts V.I.1 or 2, in writing, at the time the next monitoring reports are submitted. The reports shall contain the information listed in Part V.I.2.

NOTE: The immediate (within 24 hours) reports required in Parts V, G, H and I shall be made to the Department's Regional Office at pro.SSO-UD@deq.virginia.gov or (804) 572-5020. For telephone reports outside normal working hours (before 8:30 am and after 5:00 pm Monday through Friday and anytime Saturday through Sunday), follow the instructions on the voicemail to reach the appropriate staff. For emergencies, the Virginia Department of Emergency Management maintains a 24 hour telephone service at 1-800-468-8892.

J. Notice of Planned Changes

1. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

- a. The permittee plans alteration or addition to any building, structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which commenced:
 - (1) After promulgation of standards of performance under Section 306 of Clean Water Act which are applicable to such source; or
 - (2) After proposal of standards of performance in accordance with Section 306 of Clean Water Act which are applicable to such source, but only if the standards are promulgated in accordance with Section 306 within 120 days of their proposal;
 - b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations nor to notification requirements specified elsewhere in this permit; or
 - c. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.
2. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

K. Signatory Requirements

1. Applications. All permit applications shall be signed as follows:
 - a. For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;
 - b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or
 - c. For a municipality, state, federal, or other public agency: By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a federal agency includes: (i) The chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.
2. Reports, etc. All reports required by permits, and other information requested by the Board shall be signed by a person described in Part V.K.1, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described in Part V.K.1;
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager,

operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and

- c. The written authorization is submitted to the Department.
3. Changes to authorization. If an authorization under Part V.K.2 is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Part V.K.2 shall be submitted to the Department prior to or together with any reports, or information to be signed by an authorized representative.
4. Certification. Any person signing a document under Parts V.K.1 or 2 shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

L. Duty to Comply

The permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the State Water Control Law and the Clean Water Act, except that noncompliance with certain provisions of this permit may constitute a violation of the State Water Control Law but not the Clean Water Act. Permit noncompliance is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the Clean Water Act within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if this permit has not yet been modified to incorporate the requirement.

M. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee shall apply for and obtain a new permit. All permittees with a currently effective permit shall submit a new application at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Board. The Board shall not grant permission for applications to be submitted later than the expiration date of the existing permit.

N. Effect of a Permit

This permit does not convey any property rights in either real or personal property or any exclusive privileges, nor does it authorize any injury to private property or invasion of personal rights, or any infringement of federal, state or local law or regulations.

O. State Law

Nothing in this permit shall be construed to preclude the institution of any legal action under, or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any other state law or regulation or under authority preserved by Section 510 of the Clean Water Act. Except as provided in permit conditions on "bypassing" (Part V.U), and "upset" (Part V.V) nothing in this permit shall be construed to relieve the permittee from civil and criminal penalties for noncompliance.

P. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Sections 62.1-44.34:14 through 62.1-44.34:23 of the State Water Control Law.

Q. Proper Operation and Maintenance

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.

R. Disposal of Solids or Sludges

Solids, sludges or other pollutants removed in the course of treatment or management of pollutants shall be disposed of in a manner so as to prevent any pollutant from such materials from entering state waters.

S. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

T. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

U. Bypass

1. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Parts V.U.2 and U.3.
2. Notice
 - a. Anticipated bypass. If the permittee knows in advance of the need for a bypass, prior notice shall be submitted, if possible at least ten days before the date of the bypass.
 - b. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Part V.I.
3. Prohibition of bypass.
 - a. Bypass is prohibited, and the Board may take enforcement action against a permittee for bypass, unless:
 - (1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - (2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
 - (3) The permittee submitted notices as required under Part V.U.2.
 - b. The Board may approve an anticipated bypass, after considering its adverse effects, if the Board determines that it will meet the three conditions listed above in Part V.U.3.a.

V. Upset

1. An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of Part V.V.2 are met. A determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is not a final administrative action subject to judicial review.
2. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - a. An upset occurred and that the permittee can identify the cause(s) of the upset;
 - b. The permitted facility was at the time being properly operated;
 - c. The permittee submitted notice of the upset as required in Part V.I.2; and
 - d. The permittee complied with any remedial measures required under Part V.S.
3. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

W. Inspection and Entry

The permittee shall allow the Director, or an authorized representative, upon presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
4. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act and the State Water Control Law, any substances or parameters at any location.

For purposes of this section, the time for inspection shall be deemed reasonable during regular business hours, and whenever the facility is discharging. Nothing contained herein shall make an inspection unreasonable during an emergency.

X. Permit Actions

Permits may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

Y. Transfer of Permits

1. Permits are not transferable to any person except after notice to the Department. Except as provided in Part V.Y.2, a permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued, or a minor modification made, to identify the new permittee and incorporate such other requirements as may be necessary under the State Water Control Law and the Clean Water Act.
2. As an alternative to transfers under Part V.Y.1, this permit may be automatically transferred to a new permittee if:
 - a. The current permittee notifies the Department at least 30 days in advance of the proposed transfer of the title to the facility or property;
 - b. The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them; and
 - c. The Board does not notify the existing permittee and the proposed new permittee of its intent

to modify or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in Part V.Y.2.b.

Z. Severability

The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

Appendix A: Integrated CSS and MS4 Annual Report

The annual report, at a minimum, shall include the following information:

1. General Information:
 - a. The permittee name, system name and permit number;
 - b. The reporting period for which the annual report is being submitted;
 - c. A signed certification per Part V.K;
2. CSS:
 - a. Modeled results of the number and volume of overflows for each CSO outfall based on the measured storm event data for the previous calendar year.
3. CSS and MS4 Nine Minimum Controls (NMC) and Six Minimum Control Measures (MCM):
 - a. An evaluation of the program implementation, including a review of each MCM and NMC, to determine the effectiveness of each program element and whether or not changes to the program plans are necessary, including:
 - (1) Operation and Maintenance of the CSS (NMC 1)
The annual report shall include the following:
 - (i) Inspection and maintenance of CSS control structures and pump stations; and
 - (ii) Sewer flushing records.
 - (2) Use of Collection System for Storage (NMC 2)
The annual report shall include the following:
 - (i) Summary information regarding storage at Shockoe Retention Basin and Hampton/McCloy Tunnel;
 - (ii) Sewer re-lining activities to reduce inflow and infiltration (I/I);
 - (iii) Operation of WWTP influent pumping to fill intercepting system;
 - (iv) Tide gate inspections; and
 - (v) Use of public and private stormwater holding facilities in the CSS area.
 - (3) Review of Pretreatment Program (NMC 3)
The annual report shall include the following:
 - (i) Summary of any changes or use of pretreatment program authority to minimize flows during CSO events.
 - (4) Maximize Flow to the WWTP for Treatment (NMC 4)
The annual report shall include the following:
 - (i) Summary of operation of WWTP during precipitation events including flow management to show maximization of treatment of wet weather flows.
 - (5) Eliminate Dry Weather Overflows (DWOs) (NMC 5)

The annual report shall include the following:

- (i) Inspection and maintenance of diversion facilities;
 - (ii) Monitoring of pumping stations for dry weather overflows;
 - (iii) Operation of the Shockoe Retention Basin; and
 - (iv) Reports of any dry weather overflows.
- (6) Control Solid and Floatable Materials in the CSS (NMC 6)
The annual report shall include the following:
- (i) Summary of cleaning and maintenance related to control of solid and floatable materials.
- (7) Public Education and Outreach (MCM 1, NMC 7 and NMC 8)
The annual report shall include the following:
- (i) A list of the high-priority stormwater issues the permittee addressed in the public education and outreach program;
 - (ii) A list of the strategies used to communicate each high-priority stormwater issue;
 - (iii) Use public education programs including facility tours and advice on proper disposal of substances (e.g. household wastes, leaves and the use of fertilizer). Facility tours may be suspended when the United States Government's National Terrorism Advisory System announces elevated or imminent threat levels; and
 - (iv) Use the pretreatment program for awareness programs that encourage industrial waste reduction through recycling and improved housekeeping.
- (8) Public Involvement and Participation (MCM 2 and NMC 8)
The annual report shall include the following:
- (i) A summary of any public input on the MS4 program received including stormwater complaints and how the permittee responded;
 - (ii) Publish information on a City-controlled website pertaining to the CSO Control Program and MS4 Program;
 - (iii) A description of the public involvement activities implemented by the permittee;
 - (iv) A report of the metric as defined for each activity and an evaluation as to whether or not the activity is beneficial to improving water quality;
 - (v) The name of other MS4 permittees who participated in the public involvement opportunities;
 - (vi) Placement of warning signs at all CSOs that are predicted to discharge more frequently than once per summer on average;
 - (vii) Attendance at community meetings to inform citizens of proposed control facilities; and
 - (viii) Any local press coverage of CSO program developments.
- (9) Illicit Discharge Detection and Elimination (MCM 3)
The annual report shall include the following:

- (i) A confirmation statement that the MS4 map and information table are up-to-date as of December 31 of the reporting year;
 - (ii) The total number of outfalls screened during the reporting period as part of the dry weather screening program; and
 - (iii) A list of illicit discharges to the MS4 including spills reaching the MS4 with information as follows:
 - (A) The source of illicit discharge;
 - (B) The date or dates that the discharge was observed, reported, or both;
 - (C) Whether the discharge was discovered by the permittee during dry weather screening, reported by the public, or other method (describe);
 - (D) How the investigation was resolved;
 - (E) A description of any follow-up activities; and
 - (F) The date the investigation was closed.
- (10) Construction site stormwater runoff control (MCM 4)
The annual report shall include the following:
- (i) Total number of inspections conducted; and
 - (ii) The total number and type of enforcement actions implemented and the type of enforcement actions.
- (11) Post-construction stormwater management for new development and development on prior developed lands (MCM 5)
The annual report shall include the following:
- (i) The number of privately owned stormwater management facility inspections conducted;
 - (ii) The number of enforcement actions initiated by the permittee to ensure long-term maintenance of privately owned stormwater management facilities including the type of enforcement action;
 - (iii) Total number of inspections conducted on stormwater management facilities owned or operated by the permittee;
 - (iv) A description of the significant activities performed on the stormwater management facilities owned or operated by the permittee to ensure it continues to perform as designed. This does not include activities such as grass mowing or trash collection;
 - (v) A confirmation statement that the permittee submitted stormwater management facility information through the Virginia Construction Stormwater General Permit database for those land disturbing activities for which the permittee was required to obtain coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities in accordance with Part IV.E.5.f or a statement that the permittee did not complete any projects requiring coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities; and

- (vi) A confirmation statement that the permittee electronically reported BMPs using the DEQ BMP Warehouse in accordance with Part IV.E.5.g and the date on which the information was submitted.
- (12) Pollution prevention and good housekeeping for facilities owned or operated by the permittee within the MS4 service area (MCM 6 and NMC 7).
The annual report shall include the following:
- (i) A summary of any operational procedures developed or modified in accordance with Part IV.E.6.a during the reporting period;
 - (ii) A summary of any new SWPPPs developed in accordance Part IV.E.6.c during the reporting period;
 - (iii) A summary of any SWPPPs modified in accordance with Part IV.E.6.f during the reporting period;
 - (iv) A summary of any new turf and landscape nutrient management plans developed that includes:
 - (A) Location and the total acreage of each land area; and
 - (B) The date of the approved nutrient management plan;
 - (v) A list of the training events conducted in accordance with Part IV.E.6.m, including the following information:
 - (A) The date of the training event;
 - (B) The number of employees who attended the training event; and
 - (C) The objective of the training event.
 - (vi) Operation and maintenance of the septage receiving station; and
 - (vii) Enforcement of ordinances that prohibit entrance of any substance that may impair or damage the function and performance of collection treatment systems.
4. A status report on the implementation of the Chesapeake Bay TMDL action plan in accordance with Part IV.F of this permit including any revisions to the plan.
- a. For each reporting period, the corresponding annual report shall include the following information:
 - (1) A list of BMPs implemented during the reporting period but not reported to the DEQ BMP Warehouse in accordance with Part IV.E.5.g and the estimated reduction of pollutants of concern achieved by each and reported in pounds per year;
 - (2) If the permittee acquired credits during the reporting period to meet all or a portion of the required reductions in Part IV.F.2, F.3, or F.4, a statement that credits were acquired;
 - (3) The progress, using the final design efficiency of the BMPs, toward meeting the required cumulative reductions for total nitrogen, total phosphorus, and total suspended solids; and
 - (4) A list of BMPs that are planned to be implemented during the next reporting period.

5. A status report on the implementation of local TMDL action plans in accordance with Part IV.G including any revisions to the plan.
 - a. For each reporting period, each annual report shall include a summary of actions conducted to implement each local TMDL action plans.
6. A summary report describing monitoring of James River and its Tributaries in accordance with Part I monitoring requirements. Summary shall include an assessment of trends and impact of controls implemented as required by this permit.

Appendix B: Combined Sewer Overflow Outfalls

OUTFALL NO.	OUTFALL NAME	LOCATION	RECEIVING WATER
004	Bloody Run Sewage Regulator	Latitude: N37°31'21.33" Longitude: W77°24'54.47" Main Street, southeast of 32nd Street	Gillies Creek
005	Peach Street Sewage Regulator	Latitude: N37°31'30.82" Longitude: W77°25'13.93" South of intersection of Peach and Dock Streets	James River
006	Shockoe Creek Sewage Regulator	Latitude: N37°31'51.55" Longitude: W77°25'54.16" Between Mayo's Bridge and 17th St.	James River
007	Byrd Street Sewage Regulator	Latitude: N37°32'01.83" Longitude: W77°26'10.68" Byrd Street, between 12th and 13th Streets	James River
009	7th Street Sewage Regulator	Latitude: N37°32'06.19" Longitude: W77°26'33.01" Seventh and Bragg Streets	Haxall Canal
010	Gambles Hill System	Latitude: N37°32'05.78" Longitude: W77°26'40.2" Off of Tredegar Street, west of 7th St.	Haxall Canal
011	Park Hydro Station Sewage Regulator	Latitude: N37°32'0.93" Longitude: W77°27'11.35" Tredegar Street, west of Lee Bridge	James River
012	Hilton Street Sewage Regulator	Latitude: N37°30'24.78" Longitude: W77°23'51.12" Southwest of intersection of Hilton and Salem Streets	Almond Creek
014	Stockton Street Sewage Regulator	Latitude: N37°31'31.49" Longitude: W77°25'58.27" Stockton and Bedford Streets	Manchester Canal (Cotton Mill Creek)
015	Canoe Run Sewage Regulator	Latitude: N37°31'29.22" Longitude: W77°27'26.49" Next to Southern Railway Line, north of Riverside Drive and 22nd Streets	James River
016	Woodland Heights Sewage Regulator	Latitude: N37°31'26.85" Longitude: W77°27'41.13" Next to Southern Railway Line, north of Riverside Drive and 26th Street	James River
017	Reedy Creek Sewage Regulator	Latitude: N37°31'27.77" Longitude: W77°28'09.16" Next to Southern Railway Line, approx. north of Riverside Drive and 30th St.	James River
018	42nd Street Sewage Regulator	Latitude: N37°31'32.58" Longitude: W77°28'25.25" Next to Southern Railway Line, north of Riverside Drive and 42nd Street	James River

019	Hampton Street and Colorado	Latitude: N37°31'50.53" Longitude: W77°28'30.66" New York Avenue, between Hampton Street and Meadow Avenue	James River
020	McCloy Street Sewage Regulator	Latitude: N37°32'24.32" Longitude: W77°29'41.85" McCloy Street	James River
021	Gordon Avenue Sewage Regulator	Latitude: N37°31'21.60" Longitude: W77°25'18.49" Brander Street, east of I-95	James River
024	(Gillie and Varina Streets)	Latitude: N37°31'23.29" Longitude: W77°24'15.12" Gillie and Varina Streets	Gillies Creek
025	(Briel Street and Gillies Creek)	Latitude: N37°31'42.41" Longitude: W77°23'37.04" Briel Street and Gillies Creek	Gillies Creek
026	(Government Road and NSRR)	Latitude: N37°31'28.67" Longitude: W77°23'58.46" 1250 ft. east of Government Road and Southern Railway Line	Gillies Creek
028	(Williamsburg Road)	Latitude: N37°31'20.42" Longitude: W77°24'44.51" 550 ft. north of Nicholson Street on Williamsburg Road	Gillies Creek
031	(Oakwood Cemetery)	Latitude: N37°32'19.29" Longitude: W77°24'1.80" Oakwood Cemetery	Stoney Run
033	(Shields Lake)	Latitude: N37°32'17.43" Longitude: W77°28'35.69" Park Drive and Shields Lake	Dooleys Branch
034	(19th and Dock Streets)	Latitude: N37°31'51.67" Longitude: W77°25'40.46" 19th and Dock Streets	Richmond Dock Canal
035	(25th and Dock Streets)	Latitude: N37°31'39.03" Longitude: W77°25'21.28" 25th and Dock Streets	Richmond Dock Canal
039	(Government Road and Gillies Creek)	Latitude: N37°31'23.94" Longitude: W77°24'17.45" 550 ft. downstream from Gillies Creek and Government Road	Gillies Creek
040	CSO-1 Outlet	Latitude: N37°31'41.2" Longitude: W77°26'23.35" 1250 ft. downstream of the Manchester Bridge and 100 ft. off of the south bank	James River