

October 1, 2018

Mr. Chad A. Reed
Vice President for Finance and Administration & Chief Financial Officer
Martin Hall
Radford University
Radford, VA 24142

Dear Mr. Reed,

Please find attached for your review and signature the Radford University 2017 Municipal Separate Storm Sewer System (MS4) Annual Report prepared by the Radford University Facility Management Department for submission to the Virginia Department of Environmental Quality (DEQ). This report is Radford University's formal summary of compliance with the Virginia Stormwater Management Program Permit Regulations and is submitted to DEQ for an evaluation of the Radford University MS4 program's compliance with the permit regulations, including progress towards achieving measurable goals and identifying best management practices.

Please contact me if you have questions or require additional information.

Sincerely,

A handwritten signature in black ink, appearing to read 'L. Neal Thompson', with a long horizontal line extending to the right.

L. Neal Thompson
Recycling Coordinator

Radford University MS4 Annual Report July 1, 2017 through June 30, 2018

General VPDES Permit No. VAR 040136

Effective Date: July 1, 2013

Expiration Date: June 30, 2018

Submittal Date: October 2018

Facilities Management

P.O. Box 6909

Radford, VA 24142

Radford University

Small Municipal Separate Storm Sewer System (MS4)

Annual Report for:

July 1, 2017 through June 30, 2018

General VPDES Permit No. VAR 040136

Original Issue Date: May 21, 2014

Expiration Date: June 30, 2018

Submittal Date: October 2018

Submitted to:

Department of Environmental Quality (DEQ)

P.O. Box 1105

Richmond, Virginia 23218

MS4 Annual Report July 1, 2017 through June 30, 2018

Table of Contents

Minimum Control Measure No. 1: Public Education and Outreach

Annual Reporting Requirements

Per VAR040136 Section II B 1 g, each annual report shall include:

1. List of education and outreach activities conducted during the reporting period for each high priority water quality issue, the estimated number of people reached, and an estimated percentage of the target audience or audiences reached.
2. List of education and outreach activities that will be conducted during the next reporting period for each high priority water quality issue, the estimated number of people that will be reached, and an estimated percentage of the target audience or audiences that will be reached.

Minimum Control Measure No. 2: Public Participation/Involvement

Annual Reporting Requirements

Per VAR040136 Section II B 2 d, each MS4 Annual Report shall include:

1. A web link to the MS4 Program Plan and annual report.
2. Documentation of compliance with the public participation requirements of this section

Minimum Control Measure No. 3: Illicit Discharge Detection and Elimination

Annual Reporting Requirements

Per 9VAC25-890-40 Section II B 3 f, each annual report shall include:

1. A list of any written notifications of physical interconnection given by the operator to other MS4s.
2. The total number of outfalls screened during the reporting period, the screening results, and detail of any follow-up necessary based on screening results.
3. Summary of each investigation conducted by the operator of any suspected illicit discharge.

Minimum Control Measure No. 4: Construction Site Runoff Control

Annual Reporting Requirements

Per VAR040136 Section II B 4 f, each annual report shall include:

1. Total number of regulated land-disturbing activities
2. Total disturbed acres
3. Total number of inspections performed
4. A summary of the enforcement actions taken

Minimum Control Measure No. 5: Post-Construction Runoff Control

Annual Reporting Requirements

Each Annual Report will include:

1. Current list of Stormwater Management Facilities
2. Number of inspections performed
3. Number of enforcement actions taken to ensure long-term maintenance

Minimum Control Measure No. 6: Pollution Prevention/Good Housekeeping

Annual Reporting Requirements

Per VAR040136 Section II B 6 g, each annual report shall include the following:

1. A summary report on the development and implementation of the daily operational procedures

2. A summary report on the development and implementation of the required SWPPPs
3. A summary report on the development and implementation of the nutrient management plans that includes:
 - o The total acreage of lands where nutrient management plans are required
 - o The total acreage of lands upon which nutrient management plans have been implemented
4. A summary report on the required training, including a list of training events, the training date, the number of employees attending training and the objective of the training.

Minimum Control Measure No. 1: Public Education and Outreach

Annual Reporting Requirements

Per VAR040136 Section II B 1 g, each annual report shall include:

A list of the education and outreach activities conducted during the reporting period for each high-priority water quality issues, the estimated number of people reached and an estimated percentage of the target audience or audiences that will be reached

Education and Outreach activities July 1, 2017 - June 30, 2018

1. Developed and emailed information leaflets dedicated to our three high priority water quality issues. Email was sent to approximately 11,000 Radford University employees and students. See Attachment H
2. Made an informational video on car maintenance that is located on the MS4 website. We estimate 2,500 of Radford University employees and students watched the posted video.
3. Continue using social media to get the word out on sustainable activities that could potentially have effects on storm water issues. Facebook: RU Green Facebook account (220 followers). Twitter: https://twitter.com/sustainable_RU (728 followers)

Annual Reporting Requirements

Per VAR040136 Section II B 1 g, each annual report shall include:

List of education and outreach activities that will be conducted during the next reporting period for each high priority water quality issues, the estimated number of people that will be reached, and an estimated percentage of the target audience or audiences that will be reached.

High Priority Water Quality Issues:

1. Vehicle Maintenance (Petroleum Releases)
2. Trash Elimination and Recycling
3. Pet Waste

Target Audiences:

1. On- Campus Students 2,948
2. Off- Campus Students 6,518
3. Faculty / Staff 1,675

Plan to reach over 20% of total population via email flyers.

Education and Outreach activities July 1, 2017 - June 30, 2018

1. Trash elimination and Recycling email flyer
2. Vehicle maintenance email flyer & Video
3. Pet Waste email flyer

Minimum Control Measure No. 2: Public Participation/Involvement

Annual Reporting Requirements

Per VARO40136 Section II B 2 d, each MS4 Annual Report shall include:

- 1. A web link to the MS4 Program Plan and annual report.*
- 2. Documentation of compliance with the public participation requirements of this section.*

Per VARO40136 Section II B 2 b, Public participation. The operator shall participate through promotion, sponsorship or other involvement in a minimum of four local activities annually.

<https://www.radford.edu/content/sustainability/home/resources/stormwater-management.html>

(1) Radford University participates in Renew the New River volunteer effort to help clean up the New River on Aug. 26.

Radford University Outdoor Programs partnered with the city of Radford and the counties of Floyd, Giles, Montgomery and Pulaski to "Renew the New River" on Aug. 26, 2017.

Radford University volunteers cleaned the section of the river from Dudley's Landing in Bisset Park to the Virginia 114 boat ramp. Students collected a mish mash of trash in boats as they floated along the river bank. Tires, trash bags full of bottles and washing machine drums were just a few of the finds.

(2) The Adopt A Spot pick up was done through SGA sustainability on Sunday, 4/22

(3) Saturday, 4/21 SGA – Paddle Clean Up

Earth day Celebration was to include a river clean hosted by Student Government Association up but due to weather the event was canceled.

(4) Radford University hosted the NRV Regional Household hazardous Waste Collection Day. Below is an example of the electronic flyer.



NRV Regional Household Hazardous Waste Collection Day

Residents served by the New River Resource Authority are invited to participate in the Regions HHW Event on Saturday, April 14, 2018 from 9:00 a.m. to 2:00 p.m. at the Radford University Dedmon Center Parking Lot Z (Riverside).

Questions regarding the types of material accepted may be directed to your locality in Radford 731-3631, Pulaski PSA 674-8720, Giles PSA 921-2499, Dublin 674- 4798
Blacksburg 961-1806, Christiansburg 382-6128,
NRRRA 674-1677, MRSWA 381-2820.

NO COMMERCIAL WASTE or COMMERCIAL VEHICLES will be accepted for HHW

COMMERCIAL WASTE & COMMERCIAL VEHICLES WILL BE ACCEPTED FOR DOCUMENT SHREDDING & ELECTRONIC WASTE.

NRRRA WILL BE ACCEPTING PLASTIC BAGS, GOODWILL CONTAINER WILL BE ON SITE

This program is sponsored by The New River Resource Authority

Minimum Control Measure No. 3: Illicit Discharge Detection and Elimination

Annual Reporting Requirements

Per 9VAC25-890-40 Section II B 3 f, each annual report shall include:

- 1. A list of any written notifications of physical interconnection given by the operator to other MS4s.*
- 2. The total number of outfalls screened during the reporting period, the screening results, and detail of any follow-up necessary based on screening results.*
- 3. Summary of each investigation conducted by the operator of any suspected illicit discharge. Each summary will include the following:*
 - i. Date that the suspect discharge was observed or reported or both*
 - ii. How the investigation was resolved, including any follow-up*
 - iii. Resolution of the investigation and the date the investigation was closed*

SUMMARY

The 34 outfalls listed on the ORI report were investigated on 6/28/2018. From the initial mapping and investigations, one outfall was identified and removed due to the fact that it was claimed by Radford City.

Previous flow testing had revealed that the Science and Humanities HVAC system discharges into the existing storm drainage system. This accounts for the various levels of ammonia detected at times from the units as the flow is monitored.

Prior to the annual investigation and inspection, RU-NR-5 was tested due to a strong septic odor and cloudy look. RU staff took samples and submitted them for testing. The results indicated septic leakage into the system. RU staff immediately investigated and located the source off campus in the City of Radford. RU staff notified the City and assisted in locating the source to Calhoun Street. Radford City is currently investigating the source.

MAP CHANGES

RU-NS-3 outfall has been removed completely; Radford City will monitor this outfall as part of their system.

FLOW TESTS

RU-BU-2 stream flow tested with no indicators of illicit discharge.

RU-NR-1 stream flow tested with no indicators of illicit discharge.

RU-NR-5 stream flow tested with indicators of illicit discharge. (Test separate from this investigation.)

RU-NR-7 stream flow tested with no indicators of illicit discharge.

RU-EM-2 Flow tests indicated no levels of Ammonia. Flow traced through campus to roofdrains at the Science Building.

RU-EM-4 Flow tests indicated levels of Ammonia. Flow traced through campus to roofdrains at the Humanities Building.

MAINTENANCE CONCERNS (On Radford University Property)

RU-JE-8, RU-EM-1, RU-EM-6, RU-NS-4, Cleanup/debris

MAINTENANCE CONCERNS (Outfall on City Property, Contact Radford City)

RU-NR-9, Maintenance/repairs

RU-NR-10, RU-JE-1, Cleanup/debris

Minimum Control Measure No. 4: Construction Site Runoff Control

Annual Reporting Requirements

Per VAR040136 Section II B 4 f, each annual report shall include:

- 1. Total number of regulated land-disturbing activities*
- 2. Total disturbed acres*
- 3. Total number of inspections performed*
- 4. A summary of the enforcement actions taken*

Between July 2017 and June 2018 we did not have any regulated land-disturbing activity. On April 24th, 2018 Radford University received approval from DEQ for our Annual Standards and Specifications for Erosion and Sediment Control and Stormwater Management, dated June 5, 2017. The coverage is effective from June 5, 2018 to June 8, 2019.

Minimum Control Measure No. 5: Post-Construction Runoff Control

Annual Reporting Requirements

Each Annual Report will include:

- 1. Current list of Stormwater Management Facilities*
- 2. Number of inspections performed*
- 3. Number of enforcement actions taken to ensure long-term maintenance*

EXECUTIVE SUMMARY

Gay and Neel, Inc. investigated the 10 BMP facilities on campus to determine if they met compliance in regards to the original design as well as determining if the facilities were being maintained properly. The 2018 report completed by GNI referenced some of the original three main areas of concern for the existing facilities on campus:

- 1) Sediment accumulation,
- 2) Invasive species,
- 3) Excessive vegetation growth.

Radford University has been working on the areas of concern and has addressed many of the original concerns in the 2016 report and the 2018 report. The University has removed much of the excessive growth and sediment in many of the existing BMPs. The underground detentions have been maintained in good condition as well as the majority of the detention facilities. The constructed wetland area had the most concerns from the previous reports and the current inspections show a significant effort to remove excess vegetation and to maintain the BMP. The 2018 report emphasizes the need to continue the sediment removal, maintain the existing BMPs and to keep any invasive species out of the existing Constructed Wetland BMP. Overall, the BMP's on site show signs of continuous repairs, sediment removal and monitoring to extend the life of each BMP.

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See Attachment A for Stormwater facility Inspection Report. The report will list stormwater management facilities, number of inspections performed and number of enforcement actions taken to ensure long-term maintenance.

Minimum Control Measure No. 6: Pollution Prevention/Good Housekeeping

Annual Reporting Requirements

Per VAR040136 Section II B 6 g, each annual report shall include the following:

- 1. A summary report on the development and implementation of the daily operational procedures*
- 2. A summary report on the development and implementation of the required SWPPPs*
- 3. A summary report on the development and implementation of the nutrient management plans that includes:*
 - o The total acreage of lands where nutrient management plans are required*
 - o The total acreage of lands upon which nutrient management plans have been implemented*
- 4. A summary report on the required training, including a list of training events, the training date, the number of employees attending training and the objective of the training.*

- 1. VAR040136 Section II B 6 a Develop and implement daily operational procedures designed to minimize or prevent pollutant discharge from municipal operations.**

Radford University has developed written procedures designed to minimize or prevent pollutant discharge from daily operations, equipment maintenance, and the application, storage, transport, and disposal of pesticides, herbicides, and fertilizers. These written procedures will be utilized, as appropriate, as part of employee training.

- 2. A summary report on the development and implementation of the required SWPPPs**

Please see the attached copies of the Stormwater Pollution Prevention Plan (SWPPP) and Standard Operating Procedures (SOP)

- 3. A summary report on the development and implementation of the nutrient management plans that includes: The total acreage of lands where nutrient management plans are required
The total acreage of lands upon which nutrient management plans have been implemented**

The total acreage of lands where NMP's are required is 93.5 acres. NMP's were implemented on the lands identified in the NMP. The NMP was prepared by Five Oaks Agronomy Consulting, Robert Habel, CNMP on March 15, 2015. The Nutrient Management Plan Map is provided as an attachment. The NMP will be evaluated annually and updated as required. Records are kept and the staff are trained in application of the nutrients to the campus grounds. Radford University grounds personnel and contractors apply fertilizer according to the 2015 -2018 Radford University Nutrient Management Plan developed by Robert Habel (certification number 654). Chemical applications are performed by staff holding current Virginia Certified Fertilizer Applicators Licenses under the supervision of the Landscape Superintendent. The majority of fertilizer applications are applied using the nutrient plan by a contractor. The RU Grounds Department has five certified fertilizer applicators, including the Landscape Superintendent. Training for fertilizer applicators was provided by Landscape Supply of Roanoke, Virginia through the Virginia Department of Agriculture and Consumer Services.

Loren Neal Thompson, CFA-13599-23803
Mark Steven Deisher, CFA-17097-27576

Chris Shelton, CFA-24708-36366.

- 4. A summary report on the required training, including a list of training events, the training date, the number of employees attending training and the objective of the training**

On 4/16/18 Thompson & Litton created and provided a draft SWPPP for Radford University's review. Submittal to DEQ for approval was 07/09/2018. Specific training sessions will be scheduled through the office of the Recycling Coordinator for the reporting year 2018.

See Attachment F for Standard Operation Procedures

Attachments

Attachment	Name
A	Stormwater Facility Inspection Report
B	Outfall Recon Inventory
C	Discharge Map
D	Drainage Map
E	Standard Operation Procedures
F	Annual Standards and Specifications
G	Email leaflets
H	Nutrient Management Plan

