Virginia Tech MS4 Annual Report

Virginia Tech NPDES Phase II: Small MS4

VPDES Permit No. VAR 040049

Reporting Period: July 1st 2020 – June 30th 2021

**CERTIFICATION STATEMENT AND SIGNATORY REQUIREMENTS**

**FOR MS4 PERMIT APPLICATIONS AND REPORTS**

As required by 9VAC25-870-370 B, all reports required by state permits, and other information requested by the State Water Control Board shall be signed by a responsible official or by a duly authorized representative of that person. A responsible official is:

*1. For a corporation: 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-making 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 that 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 state permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;*

*2. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or*

*3. For a municipality, state, federal, or other public agency: 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.*

A person is a duly authorized representative only if:

*1. The authorization is made in writing by a person described above;*

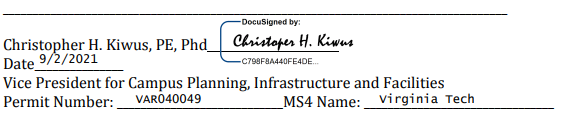
*2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or 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*

*3. The written authorization is submitted to the department.*

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**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.



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## Program Plan

## Changes to the program plan during the reporting year included:

* Removed Girl Scouts event from Annual Outreach Activities
* Changed measurable goal for stream clean-ups from the weight of trash bags to the number of trash bags
* Updated the organizational chart to add Mark Witt as the new Water Resource Specialist

## MCM 1

High-priority stormwater issues addressed by the permittee included:

1. Sediment

2. Animal Waste

3. Trash

Strategies used to communicate each high-priority stormwater issue included:

1. Sediment
   1. Speaking engagements: (2/2021) Rhonda Ferris and Mark Witt educated 29 Virginia Tech faculty and staff members during Capital Construction Coordination meetings. The presentations explained Erosion and Sediment Control Measures that can be used by the faculty and staff members to help minimize sediment discharge from construction sites.
   2. Speaking engagements: (3/4/21) Chuck Dietz taught 29 Virginia Tech students in Erich Hester’s Hydraulic Structures class. His presentation covered a description of the duties and responsibilities of our department and included a field trip to an on-campus stormwater facility to discuss maintenance and how the facility operates to protect water quality and remove pollutants like sediment.
   3. Alternative Materials: Educational magnets that highlighted the importance of water quality and harmful pollutants like sediment, animal waste and trash were distributed to stream clean-up volunteers; approximately 50 magnets were given out.
2. Animal Waste
   1. Traditional Written Materials: Madison Norris created a virtual table card promoting the protection of water quality and the importance of picking up after pets that was distributed to approximately 200 Virginia Tech Students during the school year.
   2. Signage: Permanent signage is placed on 32 different pet waste stations scattered around campus. These signs discuss pet waste’s ability to transmit disease and pollute stormwater, and encourage the Virginia Tech campus to pick up after their pets.
   3. Alternative Materials: Educational magnets that highlighted the importance of water quality and harmful pollutants like sediment, animal waste and trash were distributed to stream clean-up volunteers, approximately 50 magnets were given out.
3. Trash
   1. Speaking Engagement: (3/9/2021) Madison Norris gave a brief Water Quality presentation to 40 students about stormwater awareness. Students were educated on what stormwater is, why it affects them, and what they can do to prevent pollution from being collected by stormwater runoff.
   2. Alternative Materials: Educational magnets that highlighted the importance of water quality and harmful pollutants like sediment, animal waste and trash were distributed to stream clean-up volunteers, approximately 50 magnets were given out.
   3. Traditional Written Materials: Madison Norris created a virtual table card promoting the protection of water quality and the importance of picking up trash that was distributed to approximately 200 Virginia Tech Students during the school year.

## MCM 2

Public Input on the MS4 program including stormwater complaints and a brief explanation of how the permittee responded can be seen in the table below.

|  |  |  |  |
| --- | --- | --- | --- |
| **Summary of Comments and Complaints** | | | |
| **Date Received** | **Who** | **Date Responded** | **How VTSID Responded** |
| 7/21/2020 | Matt Gart (VT employee) | 7/21/2020 | Performed calculations to help convert a concrete ditch along Duck Pond Drive to grass. |
| 7/29/2020 | Alan Raflo | 7/29/2020 | Explained how detention facilities will have various water levels based on rainfall in response to a concern about the drainage time at Grove Detention Pond. |
| 1/25/2021 | Bill Ross (VT employee) | 1/25/2021 | Inspected Stroubles Creek in response to a concern about it being muddy. While the mud had dissipated, emails were sent to many parties and departments on campus to determine the cause of discoloration in the Webb Branch and Central Branch (both gray in color) and the Duck Pond (green in color). |
| 1/26/2021 | Dean Paul Winistorfer | 1/26/2021 | Reached out to the grounds department and athletics department about vehicles driving on lawn in order to resolve erosion and potential water quality issues and relay the information to contractors. |

The permittee’s MS4 program plan and stormwater website can be accessed at <https://www.facilities.vt.edu/permits-inspections/stormwater-management.html> . The permittee’s facebook page (<https://www.facebook.com/hokiestormwater/>) has had a total of 3,400 impressions, a reach of 2,839 individuals, an engagement of 150, and a sum of 58 reactions in the past reporting year. The permittee created 11 educational posts during the reporting year.

Public Involvement activities implemented include:

1. Restoration:
   * (8/2020) ReNew the New took place at several locations and across several dates on the New River to remove trash and tires.

* Metric: Roughly 200 volunteers participated
  + (11/14/2020) Virginia Tech Students participated in a stream clean-up around the Duck Pond and Stadium Woods for 1 hour and removed 3.5 bags of trash.
    1. Metric: 16 Virginia Tech students volunteered
  + (11/13/2020) Virginia Tech students participated in a stream clean-up by Stroubles Creek for 1.5 hours and picked up 1.5 bags of trash
    1. Metric: 2 Virginia Tech students volunteered
  + (3/5/2021) Virginia Tech students participated in a stream clean-up around Stroubles Creek and the Duck Pond for 2 hours and collected 1.5 bags of trash.
    1. Metric: 2 Virginia Tech students volunteered
  + (3/6/2021) Virginia Tech students from the Circle K International club participated in a stream clean-up around the Duck Pond and Stroubles Creek for 1.5 hours and collected 5 bags of trash.
    1. Metric: 12 Virginia tech Students Volunteered
  + (3/17/2021) VIrginia Tech Students participated in a stream clean-up by Stroubles Creek for 2.5 hours and collected 2 trash bags
    1. Metric: 2 Virginia Tech students volunteered
  + (3/20/2021) Virginia Tech Students from Alpha Epsilon Delta volunteered in a stream clean-up at the President’s House pond for 1 hour and collected 1 bag of trash.
    1. Metric: 9 Virginia Tech students volunteered
  + (3/20/21) Virginia Tech students from the Horticulture Club participated in a stream clean-up around Stroubles Creek for 1.5 hours and collected 3 bags of trash.
    1. Metric: 13 Virginia Tech students volunteered
  + (3/27/2021) Virginia Tech students from Alpha Epsilon Delta volunteered in a stream clean-up around the Duck Pond for 1 hour and collected 1 bag of trash.
    1. Metric: 8 Virginia Tech students volunteered
  + (3/27/2021) Virginia Tech students volunteered in a stream clean-up at Stadium Woods for 2 hours and collected 5 bags of trash.
    1. Metric: 5 Virginia Tech students volunteered
  + (4/6/2021) Virginia Tech students volunteered in a stream clean-up at Stadium Woods for 2 hours and collected 2 bags of trash.
    1. Metric: 4 Virginia Tech students volunteered
  + (4/7/2021) Virginia Tech students volunteered in a stream clean-up at Stadium Woods for 4 hours and collected 1.5 bags of trash.
    1. Metric: 3 Virginia Tech students volunteered
  + (4/9/2021) Virginia tech students volunteered in a stream clean-up at Stadium Woods for 2 hours and picked up 1.5 bags of trash.
    1. Metric: 4 Virginia Tech students volunteered
  + (4/14/2021) Virginia Tech students volunteered in a stream clean-up at the Duck Pond for 2 hours and collected 1 bag of trash.
    1. Metric: 4 Virginia Tech students volunteered
  + (4/15/2021) Virginia Tech student volunteered in a stream clean-up at the Vet Med Pond for 3 hours and collectd 1.5 bags of trash.
    1. Metric: 1 Virginia Tech student volunteered
  + (4/20/2021) Virginia Tech students volunteered in a stream clean-up at the Duck Pond for 2 hours and collected 1.5 bags of trash.
    1. Metric: 4 Virginia Tech students volunteered
  + (4/21/2021) Virginia Tech students volunteered in a stream clean-up at Depot Park in Christiansburg for 1 hour and collected 3-4 small bags of trash.
    1. Metric: 7 Virginia Tech students volunteered
  + (4/21/2021) Virginia tech students volunteered in a stream clean-up at Stroubles Creek for 4 hours and collected 1.5 bags of trash.
    1. Metric: 2 Virginia Tech students volunteered
  + (4/24/2021) Virginia Tech Students from the Student Alumni Association volunteered in a stream clean-up at Stadium Woods for 1 hour and collected 1 bag of trash.
    1. Metric: 10 Virginia Tech students volunteered
  + (4/25/2021) Virginia Tech students volunteered in a stream clean-up at Stroubles Creek for 2 hours and collected 11 bags of trash.
    1. Metric: 16 Virginia Tech students volunteered
  + (4/26/2021) Virginia Tech students volunteered in stream clean-up at the Duck Pond for 1.5 hours and collected 1 bag of trash,
    1. Metric: 2 Virginia Tech students volunteered
  + (4/29/2021) Virginia Tech students volunteered at the Duck Pond for 2 hours and collected 1 bag of trash.
    1. Metric: 2 Virginia Tech students volunteered
  + (4/30/2021) Virginia Tech students volunteered for 1 hour at the trail by Knollwood and collected 5 bags of trash.
    1. Metric: 3 Virginia Tech students volunteered
  + (4/302021) Virginia Tech students volunteered at Crab Creek in Christiansburg for 1.5 hours and collected 3 bags of trash
    1. Metric: 8 Virginia Tech students volunteered
  + (5/1/2021) Virginia Tech students volunteered at Depot Park in Christiansburg for 1 hour and collected 6 bags of trash.
    1. Metric: 13 Virginia Tech students volunteered
  + (2/27/2021) During the Big Plant Event VTSID partnered with The Environmental Coalition and the local Save Stroubles group to plant around 7,000 live stake trees on tributaries of Stroubles Creek. Volunteers came out to work to plant the stakes and learn about riparian buffers and stream restoration.
    1. Metric: Over 400 volunteer hours were logged by Virginia Tech Students throughout the Spring semester for this project.

Evaluation of Restoration as public involvement activities: Last reporting year 5 restoration events took place on campus with roughly 60 volunteers participating to an increase of over 20 restoration events on campus this reporting year with over 150 volunteers. The increase in number of events and volunteers in riparian areas is viewed as a benefit for water quality, and the increase in events and volunteers results in more individuals being educated about stormwater awareness and more trash being removed.

1. Educational Events:
   * (3/9/2021) Madison Norris gave a brief Water Quality presentation to students about stormwater awareness. Students were educated on what stormwater is, why it affects them, and what they can do to prevent pollution from being collected by stormwater runoff.
     1. Metric: 40 Virginia Tech Students were educated

* (3/4/21) Chuck Dietz taught Virginia Tech students in Erich Hester’s Hydraulic Structures class. His presentation covered a description of the duties and responsibilities of our department and included a field trip to an on-campus stormwater facility to discuss maintenance and how the facility operates to protect water quality and remove pollutants like sediment.

i. Metric: 39 Virginia Tech Students were educated

* + (4/21/2021) Katelyn Muldoon taught a Lecture for Dr. Krometis’ BSE Class about the department’s role at the university and the importance of stormwater regulations and protection of water quality.
    1. Metric: 15 Virginia Tech Students were educated
  + (Fall semester 2020 & Spring Semester 2021) Katelyn Kast mentored 5 Office of Sustainability Student interns in the Water Resources group. These students learned about Virginia Tech’s MS4 permit and program while helping design water conservation educational tools and materials.

1. Metric: 5 Virginia Tech Students participated in this program.
   * (Spring Semester 2021) Site and Infrastructure Development helped develop an Exploration Backpack program through the local libraries to learn about water quality and macroinvertebrate species.
2. Metric: Over 30 local individuals checked out an Exploration Backpack kit to learn at home.

Evaluation of Educational Events as public involvement activities: An increase in water quality can be expected due to the knowledge related to stormwater awareness being delivered to over 900 individuals during this reporting year through educational booths.

1. Pollution Prevention:
   * Unmarked storm drains were marked by the department’s interns across campus with educational messages about protecting water quality.
     1. Metric: Roughly 20 storm drain markers were put out during the reporting year
   * 38 pet waste stations are scattered around campus for the public’s use.
     1. Metric: During the reporting year roughly 5,000 bags were used to pick up pet waste on campus and roughly 8,000 bag were used by the vet school program.

Evaluation of Pollution Prevention as public involvement activities: An increase in water quality can be expected due to the increase in storm drain markers that were put out in comparison to the last reporting year.

VTSID collaborated with the following MS4 programs for public involvement opportunities during the reporting year.

1. Town of Blacksburg
2. Town of Christiansburg
3. Montgomery County

Due to the COVID19 pandemic several annual activities planned for this reporting year could not take place due to teleworking, school closures and CDC requirements. Some of those events that were planned included:

1. Home Builders Show to educate residents
2. 6th grade Stormwater Days to educate students
3. Steppin’ Out Festival to educate residents
4. 4th grade field trips to educate students

## MCM 3

The total number of outfalls screened during the reporting period as part of the dry weather screening program was 38. Inspection reports can be provided upon request.

A list of illicit discharges to the MS4 can be seen in the below table.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Summary of Illicit Discharges** | | | | | |
| **Observed Date** | **Date Closed** | **Illicit Discharge Description** | **Location** | **Who Discovered** | **Resolved/Follow-Up Activities** |
| 9/5/2020 | 9/8/2020 | Cloudy water in Stroubles | Just past West Campus Drive | VTSID Employee, Katelyn Kast | The Chiller Plant Project set up a pump and silt sack incorrectly for collected groundwater. The installation was fixed correctly and was noted on the ESC inspection report on 9/8/2020. |
| 1/12/2021 | 1/13/2021 | Unprotected drop inlet had plastic sawdust around and in it from pipe cutting | Saunders Hall | VTSID Employee, Katelyn Kast | Rhonda Ferris received photo evidence from Phillip Dunn of installed protection and cleaned up sawdust. |
| 1/25/2021 | 1/25/2021 | Duck Pond was reported to have a greenish color | Duck Pond | VTSID Employee, Katelyn Kast | The duck pond cleared up on its own, but the cause was not determined. Emails were sent out to research groups and college deans to determine if there was a recent dye study, but no source was found. |
| 2/15/2021 | 2/16/2021 | Diesel spill | By Wallace Hall | VTSID Employee, Katelyn Kast | The dewatering bag and inlet protection were in place, but weren’t cleaned up properly. The clean-up supplies and spill were cleaned up and the dewatering bag was replaced. |
| 6/14/2021 | 6/17/2021 | Stroubles Creek was reported to have a murky white color | By Hahn Hall North in Webb Branch | Julia Hallworth | Job sites upstream, power house, and Town of Blacksburg were contacted, but all had no discharge. The water had cleared shortly after the plume had passed. |

## MCM 4

The Virginia Tech Annual Standards and Specifications for Erosion and Sediment Control (ESC) and Stormwater Management (SWM) are integral components of Virginia Tech’s design, construction, and maintenance of the University’s facilities and campuses. The Virginia Tech Annual Standards and Specifications for ESC and SWM are administered by Virginia Tech Site & Infrastructure Development and apply to all design, construction, and maintenance activities on property owned by Virginia Tech, either by its internal workforce or contracted to external entities. The Virginia Tech Annual Standards and Specifications for ESC and SWM are submitted to the Virginia Department of Environmental Quality (DEQ) for review and approval on an annual basis. Virginia Tech shall ensure that project-specific plans are developed and implemented in accordance with the Virginia Tech Annual Standards and Specifications for ESC and SWM.

The total number of inspections conducted on active construction sites within the reporting year are listed in the below table.

|  |  |  |
| --- | --- | --- |
| **ESC CONSTRUCTION INSPECTIONS** | | |
| **Project Name** | **Total Inspections** | **Final Inspection Date** |
| Tom’s Creek Landfill | 42 | Active |
| Smoot Parking Lot | 30 | Active |
| MRL | 33 | Active |
| CID | 43 | Active |
| Athletic Soil Stockpile | 33 | Active |
| Airport Runway (3 phases) | 67 | Active |
| Alumni Mall Tree Planting | 8 | Active |
| BETR | 33 | Active |
| CALS Grain Bin Relocation | 28 | Active |
| Catawba Greenway Trailhead | 7 | Active |
| Holden Hall | 38 | Active |
| Chiller (Phase 2) | 45 | Active |
| CLMS | 7 | Active |
| Contractor Laydown | 43 | Active |
| D&DS | 15 | Active |
| Harper Hall Heat Box Replacement | 28 | Active |
| Kentland Farms Stockpile Area | 2 | Active |
| LPRF Beef Nutrition | 3 | Active |
| LPRF Equine Barn | 3 | Active |
| LPRF Swine | 4 | Active |
| LPRF Turkey Grow | 7 | Active |
| MMTF | 5 | Active |
| Perry Street Improvements | 27 | Active |
| Non-Permanent Gym Facility | 31 | Active |
| Venture Out Building | 29 | Active |
| Vet Med ADA Pathway | 27 | Active |
| Vet Med Equine Sports Arena | 5 | Active |
| **Total Inspections** | **643** |  |

Enforcement actions:

No enforcement actions were taken during the reporting year.

## MCM 5

162 total inspections were conducted during the reporting year for stormwater management facilities owned and operated by Virginia Tech. Detailed inspection reports can be provided upon request. Attached in Appendix A is the spreadsheet of all stormwater management facilities.

The BMP Warehouse was updated on Monday June 24th with the addition of one new BMP and the latest inspection date for each BMP.

No significant maintenance, repair and retrofit activities were performed on stormwater management facilities owned or operated by Virginia Tech during the reporting year.

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## MCM 6

Updated dates of all approved Nutrient Management Plans can be found in the table below:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Nutrient Management Plans** | | | | | | |
| **Department** | **Area (Acres)** | **Issue Date** | **Expiration Date** | **Category** | **Contact Name** | **Contact Information** |
| **CALS Livestock Plan for Campus and Montgomery County Lands** | 1545.5 | 4/1/2021 | 9/1/2023 | Agriculture | Dr. Allen Grant | 540-231-4152  kentland@vt.edu |
| **Virginia Tech Athletic Department** | 31.3 | 2/1/2019 | 2/1/2022 | Turf & Landscape | Casey Underwood  Emerson Pulliam | 540-231-6067  caunderw@vt.edu  540-231-2840  emerson@vt.edu |
| **Golf Course** | 18.5 | 2/1/2019 | 2/1/2022 | Turf & Landscape | Jason Ratcliff | 540-231-5619  jratclif@vt.edu |
| **Virginia Tech Campus Grounds** | 174 | 2/1/2019 | 2/1/2022 | Turf & Landscape | Robert Perfater | 540-200-7163  rperfatr@vt.edu |
| **Hahn Horticulture Garden** | 3 | 8/1/2018 | 8/1/2021 | Turf & Landscape | Dr. Holly Scoggins  Dr. Shawn Askew | 540-231-5783  hollysco@vt.edu  540-231-5807  saskew@vt.edu |
| **Virginia Tech Recreational Sports** | 27 | 2/1/2019 | 2/1/2022 | Turf & Landscape | Kyle LeDuc | 540-231-3045  kleduc@vt.edu |
| **Virginia Tech Dairy and Animal and Poultry Sciences** | 1429 | 4/1/2021 | 9/1/2023 | Agriculture | Dr. Allen Grant | 540-231-4152  kentland@vt.edu |
| **Turfgrass Research Center** | 20 | 3/1/2019 | 3/2/2022 | Turf & Landscape | Dr. Michael Evans  Jon Dickerson | 540-231-9775  mrevans1@vt.edu  540-231-6113  dickersj@vt.edu |
| **Northern Piedmont AREC** | 268 | 9/1/2018 | 9/2/2021 | Turf & Landscape | Steve Gulick | 540-672-2660  sgulick@vt.edu |
| **Urban Horticulture Center** | 15 | 4/1/2019 | 4/2/2022 | Turf & Landscape | Dr. Michael Evans  John James | 540-231-9775 mrevans1@vt.edu  540-231-2683  jojames@vt.edu |
| **Kentland Managed Lands** | 85.6 | 4/15/2019 | 4/14/2022 | Turf & Landscape | Patrick Hilt | 540-231-9405  philt@vt.edu |
| **Glade Road Research Center** | 6.3 | 4/1/2019 | 4/2/2022 | Turf & Landscape | Dr. Michael Evans  Kevin Hessler | 540-231-9775  mrevans1@vt.edu  540-320-1276  khensler@vt.edu |
| **Alson H. Smith, Jr AREC – Winchester** | 52.4 | 2/10/2019 | 2/11/2022 | Turf & Landscape | Dr. Tony Wolf | 540-869-2560  vitis@vt.edu |
| **Eastern Shore AREC** | 117 | 3/16/2019 | 3/15/2022 | Turf & Landscape | Steven Rideout | 757-414-0724  srideout@vt.edu |
| **Eastern Virginia AREC** | 152 | 9/9/2018 | 9/10/2021 | Turf & Landscape | Robert Pitman | 804-333-3485  rpitman@vt.edu |
| **Hampton Roads AREC** | 40.25 | 7/1/2021 | 7/1/2024 | Turf & Landscape | Dr. Pete Shultz | 757-363-3900  jderr@vt.edu |
| **Middleburg AREC** | 268.6 | 7/1/2021 | 7/2/2024 | Turf & Landscape | Ryan Brooks | 540-687-3521  tgolight@vt.edu |
| **Reynolds Homestead AREC** | 2.73 | 12/1/2018 | 12/1/2021 | Turf & Landscape | Dr. Kyle Peer | 276-694-4135  krpeer@vt.edu |
| **Shenandoah Valley AREC** | 616.1 | 2/1/2019 | 2/2/2022 | Agriculture | Lee Wright | 540-377-2255  lrite@vt.edu |
| **Southern Piedmont AREC** | 340 | 3/1/2019 | 3/2/2022 | Agriculture | Dr. Carl Wilkinson | 434-292-5331  wilki@vt.edu |
| **Southwest AREC** | 106.4 | 1/15/2019 | 1/14/2022 | Agriculture | Lee Wright | 276-944-2203  lrite@vt.edu |
| **Tidewater AREC** | 245 | 1/1/2021 | 12/31/2023 | Agriculture | David Langston | 757-657-6450  whframe@vt.edu |

The training events conducted within the reporting year can be found in the below table:

|  |  |  |  |
| --- | --- | --- | --- |
| **Stormwater Training** | | | |
| **Training Event Title** | **Objective** | **Date of Event** | **Number of Individuals Trained** |
| Power House SWPPP Training | Train employees about the SWPPP and describe the employee’s responsibility to prevent stormwater pollution. | 6/2021 | 35 |
| Quarry SWPPP Training | Train employees about the SWPPP and describe the employee’s responsibility to prevent stormwater pollution. | March, 2021 | 14 |
| Stormwater Training for Housekeeping Services Staff | Educate Housekeeping Staff about stormwater runoff, as well as how to reduce and prevent stormwater pollution. | September, 2020 | 164 |
| Grounds and Facilities SWPPP Training | Train employees about the SWPPP and describe the employee’s responsibility to prevent stormwater pollution. | Several dates in October, 2020 | 70 |
| Stormwater Training for Dining Hall Employees | Educate the dining hall staff about stormwater runoff, as well as how to reduce and prevent stormwater pollution. | All year long | 996 |

## 

## TMDL

Status report on the implementation:

* Updated training was delivered to those operating Street Sweepers and cleaning out storm sewer inlets on April 27th 2021 and will occur again in the next reporting year.
* A transition to Lane Mile Approach for tracking was implemented.

Actions conducted to implement local TMDL action plan:

* Street Sweeping: 17,535 pounds were removed through street sweeping during the reporting year, over 6,000 more pounds than the previous year. Approximately 513 miles were logged by the Street Sweeper during the reporting year. Street sweeper logs can be provided upon request.

## Appendix A

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **BMP** | **BMP Name** | **BMP Status** | **BMP Type** | **Lat** | **Long** | **Perv. DrainArea** | **Imperv. Drain Area** | **Total Acres** | **Date Added** | **HUC** | **Imp-aired Water** | **Ownership** | **Maint Agreement** | **Date of Last Insp.** |
| **1** | Lane Stadium - Extended Detention Basin | Existing | Extended Detention | 37.2190N | 80.4169W | 1.06 | 0.05 | 1.11 | 06/2010 | NE59 | Stroubles Creek | Operator-owned | N | 6/9/2021 |
| **2** | Chicken Hill Underground Detention Basin | Existing | Underground Stormwater Detention | 37.2173N | 80.4183W | 3.35 | 7.15 | 10.5 | 01/2012 | NE59 | Stroubles Creek | Operator-owned | N | 12/2020 |
| **4** | Vet Med - Retention Pond | Existing | Retention Pond | 37.2164N | 80.4259W | 312.2 | 119.5 | 431.7 | 06/2005 | NE59 | Stroubles Creek | Operator-owned | N | 5/20/2021 |
| **5** | Vet Med - Detention Pond | Existing | Detention Pond | 37.2158N | 80.4309W | 457.5 | 148.3 | 605.8 | 06/2005 | NE59 | Stroubles Creek | Operator-owned | N | 5/20/2021 |
| **7** | Smithfield Lot Bioretention Pretreatment | Existing | Bioretention Pretreatment | 37.2229N | 80.4295W | 0.36 | 1.03 | 1.39 | 06/2010 | NE59 | Stroubles Creek | Operator-owned | N | 5/20/2021 |
| **8** | Smithfield Lot Bioretention | Existing | Bioretention | 37.2230N | 80.4296W | 0.49 | 1.04 | 1.53 | 07/2007 | NE59 | Stroubles Creek | Operator-owned | N | 5/20/2021 |
| **9** | Smithfield Lot Extended Detention1 | Existing | Extended Detention | 37.2233N | 80.4295W | 0.09 | 0.16 | 0.25 | 07/2007 | NE59 | Stroubles Creek | Operator-owned | N | 5/20/2021 |
| **10** | Smithfield Lot Extended Detention2 | Existing | Extended Detention | 37.2238N | 80.4292W | 0.22 | 0.27 | 0.49 | 07/2007 | NE59 | Stroubles Creek | Operator-owned | N | 5/20/2021 |
| **11** | Duck Pond Overflow Lot - Extended Detention | Existing | Extended Detention | 37.2230N | 80.4307W | 0.43 | 1.83 | 2.26 | 06/2005 | NE59 | Stroubles Creek | Operator-owned | N | 5/20/2021 |
| **13** | Oak Lane (SPH) - Extended Detention Basin | Existing | Extended Detention | 37.2248N | 80.4381W | 6.89 | 4.31 | 11.2 | 06/2005 | NE59 | Stroubles Creek | Operator-owned | N | 5/26/2021 |
| **14** | Alumni Pond | Existing | Enhanced Extended Detention | 37.2282N | 80.4281W | 15.8 | 28 | 43.78 | 01/2012 | NE59 | Stroubles Creek | Operator-owned | N | 6/9/2021 |
| **15** | Grove Lane Extended Detention | Existing | Extended Detention | 37.2230N | 80.4278W | 33.5 | 28.2 | 61.7 | 06/2005 | NE59 | Stroubles Creek | Operator-owned | N | 5/26/2021 |
| **16** | Life Sciences - Green Roof Extension 1 | Existing | Green Roof | 37.2211N | 80.4245W | 0 | 0.5 | 0.5 | 06/2010 | NE59 | Stroubles Creek | Operator-owned | N | 5/26/2021 |
| **17** | Life Sciences - Green Roof Extension 2 | Existing | Green Roof | 37.2208N | 80.4246W | 0 | 0.2 | 0.2 | 06/2010 | NE59 | Stroubles Creek | Operator-owned | N | 5/26/2021 |
| **18** | Payne Detention Basin | Existing | Underground Detention | 37.2253N | 80.4212W | 3.16 | 2.13 | 5.29 | 06/2005 | NE59 | Stroubles Creek | Operator-owned | N | 12/2020 |
| **19** | Henderson Hall Bioretention Filter | Existing | Bioretention | 37.2306N | 80.4161W | 2.32 | 1.26 | 3.58 | 07/2011 | NE59 | Stroubles Creek | Operator-owned | N | 5/20/2021 |
| **20** | New Hall West 1 | Existing | Bioretention | 37.2221N | 80.4228W | 0 | 0.3 | 0.3 | 01/2012 | NE59 | Stroubles Creek | Operator-owned | N | 5/26/2021 |
| **21** | New Hall West 2 | Existing | Bioretention | 37.2224N | 80.4222W | 0 | 0.4 | 0.4 | 01/2012 | NE59 | Stroubles Creek | Operator-owned | N | 5/26/2021 |
| **22** | Horse Exhibit - Livestock Arena | Existing | Extended Detention | 37.2203N | 80.4405W | 4.93 | 0.87 | 5.8 | 06/2005 | NE59 | Stroubles Creek | Operator-owned | N | 5/20/2021 |
| **23** | VTES - Extended Detention | Existing | Extended Detention | 37.2113N | 80.4128W | 28.32 | 8.58 | 36.9 | 06/2005 | NE59 | Stroubles Creek | Operator-owned | N | 6/24/2021 |
| **24** | Library Storage - Extended Detention | Existing | Extended Detention | 37.2128N | 80.4113W | 10.97 | 2.73 | 13.7 | 06/2005 | NE59 | Stroubles Creek | Operator-owned | N | 6/9/2021 |
| **27** | ICTAS II- Bioretention | Existing | Bioretention | 37.2218N | 80.4261W | 0.05 | 0.28 | 0.33 | 07/2011 | NE59 | Stroubles Creek | Operator-owned | N | 5/20/2021 |
| **28** | HABBI Bioretention | Proposed | Bioretention | 37.2201N | 80.4274W | 0.7 | 0.69 | 1.39 | 7/2015 | NE59 | Stroubles Creek | Operator-owned | N | 5/26/2021 |
| **29** | SWCP Extended Detention | Existing | extended detention | 37.2213N | 80.4306W | 3.25 | 1.31 | 4.56 | 11/2013 | NE59 | Stroubles Creek | Operator-owned | N | 5/20/2021 |
| **30** | IDRF Retention Pond | Existing | Retention Basin | 37.2169N | 80.4295W | 6.61 | 8.17 | 14.78 | 05/2012 | NE59 | Stroubles Creek | Operator-owned | N | 5/20/2021 |
| **34** | Lower Chicken Hill WQU | Existing | Underground WQU | 37.2171N | 80.4184W | 3.35 | 7.15 | 10.5 | 01/2012 | NE59 | Stroubles Creek | Operator-owned | N | 12/2020 |
| **35** | New Hall West 3 | Existing | Bioretention | 37.2225N | 80.4224W | 0 | 0.3 | 0.3 | 01/2012 | NE59 | Stroubles Creek | Operator-owned | N | 5/26/2021 |
| **36** | New Hall West 4 | Existing | Bioretention | 37.2220N | 80.4227W | 0 | 0.3 | 0.3 | 01/2012 | NE59 | Stroubles Creek | Operator-owned | N | 5/26/2021 |
| **37** | McComas Filterra Unit | Existing | MTD Filterra Unit | 37.2197N | 80.4230W | 0.3 | 0.4 | 0.7 | 07/2011 | NE59 | Stroubles Creek | Operator-owned | N | 6/9/2021 |
| **38** | Football Locker Room WQU | Existing | Underground WQU | 37.2226N | 80.4178W | 0.7 | 2.6 | 3.3 | 01/2012 | NE59 | Stroubles Creek | Operator-owned | N | 12/2020 |
| **39** | ICTAS II - Rain Garden | Existing | Bioretention | 37.2221N | 80.4258W | 0 | 0.15 | 0.15 | 07/2011 | NE59 | Stroubles Creek | Operator-owned | N | 5/20/2021 |
| **41** | MMF Bioretention Filter | Existing | Bioretention | 37.2148N | 80.4172W | 10.25 | 1.37 | 11.62 | 09/2011 | NE59 | Stroubles Creek | Operator-Owned | N | 5/20/2021 |
| **42** | West End Bioretention Filter | Existing | Bioretention | 37.2236N | 80.4221W | 0.1 | 0.19 | 0.29 | 01/2012 | NE59 | Stroubles Creek | Operator-owned | N | 5/26/2021 |
| **43** | West End Filterra | Existing | MTD Filterra Unit | 37.2239N | 80.4221W | 0.06 | 0.59 | 0.65 | 01/2012 | NE59 | Stroubles Creek | Operator-owned | N | 5/26/2021 |
| **44** | Roller Hockey Rink WQU | Existing | MTD Stormceptor Underground WQU | 37.2231N | 80.4172W | 2.6 | 4.2 | 6.8 | 01/2012 | NE59 | Stroubles Creek | Operator-owned | N | 12/2020 |
| **45** | Visitor's Center - Bioretention Filter 1 | Existing | Bioretention | 37.2306N | 80.4351W | 0.9 | 0.47 | 1.37 | 07/2012 | NE59 | Stroubles Creek | Operator-owned | N | 6/9/2021 |
| **46** | Visitor's Center - Bioretention Filter 2 | Existing | Bioretention | 37.2310N | 80.4345W | 0.34 | 0.14 | 0.48 | 07/2012 | NE59 | Stroubles Creek | Operator-owned | N | 6/9/2021 |
| **47** | Visitor's Center - Bioretention Filter 3 | Existing | Bioretention | 37.2301N | 80.4348W | 0.47 | 0.16 | 0.63 | 07/2012 | NE59 | Stroubles Creek | Operator-owned | N | 6/9/2021 |
| **48** | Visitor's Center - Bioretention Filter 5 | Existing | Bioretention | 37.2301N | 80.4332W | 1.53 | 0 | 1.53 | 07/2012 | NE59 | Stroubles Creek | Operator-owned | N | 6/9/2021 |
| **49** | ASA - Underground Storage Tank 1 | Existing | MTD Underground Detention Center | 37.2315N | 80.4229W | 0.11 | 1.15 | 1.26 | 01/2012 | NE59 | Stroubles Creek | Operator-owned | N | 12/2020 |
| **50** | ASA - Underground WQU 1 | Existing | MTD Underground WQU | 37.2315N | 80.4229W | 0.11 | 1.15 | 1.26 | 01/2012 | NE59 | Stroubles Creek | Operator-owned | N | 12/2020 |
| **51** | ASA - Underground Storage Tank 2 | Existing | MTD Underground Detention Center | 37.2312N | 80.4231W | 0.06 | 0.86 | 0.92 | 01/2012 | NE59 | Stroubles Creek | Operator-owned | N | 12/2020 |
| **52** | ASA - Underground WQU 2 | Existing | MTD Underground WQU | 37.2312N | 80.4232W | 0.06 | 0.86 | 0.92 | 01/2012 | NE59 | Stroubles Creek | Operator-owned | N | 12/2020 |
| **53** | ASA - Biofilter | Existing | MTD WQU - Contech Urbangreen Biofilter | 37.2311N | 80.4237W | 0.1 | 0.18 | 0.28 | 01/2012 | NE59 | Stroubles Creek | Operator-owned | N | 12/2020 |
| **54** | SPE Filterra Unit 1 | Existing | MTD Filterra Unit | 37.2261N | 80.4371W | 0.11 | 0.42 | 0.53 | 08/2013 | NE59 | Stroubles Creek | Operator-owned | N | 5/26/2021 |
| **55** | SPE Filterra Unit 2 | Existing | MTD Filterra Unit | 37.2254N | 80.4367W | 0.15 | 0.52 | 0.67 | 08/2013 | NE59 | Stroubles Creek | Operator-owned | N | 5/26/2021 |
| **56** | SPE Underground Detention Piping | Existing | Underground Detention | 37.2252N | 80.4353W | 0.51 | 0.35 | 0.86 | 08/2013 | NE59 | Stroubles Creek | Operator-owned | N | 12/2020 |
| **57** | VMIA - Detention Swale | Existing | Detention Swale | 37.2175N | 80.4266W | 0.09 | 0.25 | 0.34 | 11/2012 | NE59 | Stroubles Creek | Operator-owned | N | 5/20/2021 |
| **58** | VMIA - Filterra Unit | Existing | MTD Filterra Unit | 37.2180N | 80.4266W | 0.01 | 0.23 | 0.24 | 11/2012 | NE59 | Stroubles Creek | Operator-owned | N | 5/20/2021 |
| **59** | Dairy Barn Extended Detention | Existing | Extended Detention | 37.2005N | 80.5775W | 0 | 8.49 | 34.91 | 7/2016 | NE60 | Stroubles Creek | Operator-owned | N | 6/9/2021 |
| **60** | CFTA Water Quality Unit 1 | Existing | MTD Stormceptor Underground WQU | 37.2310N | 80.4173W | 2.9 | 4.43 | 7.33 | 07/2013 | NE59 | Stroubles Creek | Operator-owned | N | 12/1/20 |
| **61** | CFTA Water Quality Unit 2 | Existing | MTD Stormceptor Underground WQU | 37.2316 N | 80.4169W | 1.94 | 1.82 | 3.76 | 07/2013 | NE59 | Stroubles Creek | Operator-owned | N | 12/1/20 |
| **62** | CFTA Underground Detention | Existing | MTD Underground Detention | 37.2317N | 80.4170W | 1.94 | 1.82 | 3.76 | 07/2013 | NE59 | Stroubles Creek | Operator-owned | N | 12/2020 |
| **64** | Oil/Water Separator at Perry Street Parking Garage | Existing | MTD Underground WQU Hydrodynamic Separator | 37.2310N | 80.4257W | 0 | - | - | 05/2011 | NE59 | Stroubles Creek | Operator-owned | N | 12/2020 |
| **65** | VT Airport Extended Detention Basin | Existing | Extended Detention | 37.2055N | 80.4114W | 5.69 | 2.44 | 8.13 | 06/2005 | NE60 | Stroubles Creek | Privately-owned | Y | 5/20/21 |
| **66** | Upper Quad Bioretention 1 | Existing | Bioretention | 37.2304N | 80.4190W | 0 | 0.3 | 0.3 | 02/2018 | NE59 | Stroubles Creek | Operator-owned | N | 5/20/2021 |
| **67** | Upper Quad Bioretention 2 | Existing | Bioretention | 37.2302N | 80.4193W | 0 | 0.4 | 0.4 | 02/2018 | NE60 | Stroubles Creek | Operator-owned | N | 5/20/2021 |
| **68** | Upper Quad Underground Detention | Existing | MTD Underground Detention | 37.2306N | 80.4194W | 0 | 0.9 | 0.9 | 02/2018 | NE61 | Stroubles Creek | Operator-owned | N | 12/1/20 |
| **71** | Drillfield Road Improvements Filterra Unit 1 | Existing | MTD Filterra Unit | 37.2294N | 80.4213W | 0.06 | 0.24 | 0.3 | 4/2016 | NE59 | Stroubles Creek | Operator-owned | N | 5/20/2021 |
| **72** | Drillfield Road Improvements Filterra Unit 2 | Existing | MTD Filterra Unit | 37.2279N | 80.4198W | 0.22 | 0.19 | 0.41 | 4/2016 | NE59 | Stroubles Creek | Operator-owned | N | 5/20/2021 |
| **73** | IATF Filterra Unit 1 | Existing | MTD Filterra Unit | 37.2212N | 80.4173W | 0 | 0.24 | 0.24 | 9/2015 | NE59 | Stroubles Creek | Operator-owned | N | 6/9/2021 |
| **74** | IATF Filterra Unit 2 | Existing | MTD Filterra Unit | 37.2212N | 80.4172W | 0 | 0.19 | 0.19 | 9/2015 | NE59 | Stroubles Creek | Operator-owned | N | 6/9/2021 |
| **75** | IATF Filterra Unit 3 | Existing | MTD Filterra Unit | 37.2181N | 80.4167W | 0 | 0.19 | 0.19 | 9/2015 | NE59 | Stroubles Creek | Operator-owned | N | 6/9/2021 |
| **76** | IATF Filterra Unit 4 | Existing | MTD Filterra Unit | 37.2219N | 80.4169W | 0 | 0.24 | 0.24 | 9/2015 | NE59 | Stroubles Creek | Operator-owned | N | 6/9/2021 |
| **77** | IATF Filterra Unit 5 | Existing | MTD Filterra Unit | 37.2221N | 80.4171W | 0 | 0.24 | 0.24 | 9/2015 | NE59 | Stroubles Creek | Operator-owned | N | 6/1/2020 |
| **78** | IATF Filterra Unit 6 | Existing | MTD Filterra Unit | 37.2223N | 80.4173W | 0 | 0.24 | 0.24 | 9/2015 | NE59 | Stroubles Creek | Operator-owned | N | 6/9/2021 |
| **79** | IATF Filterra Unit 7 | Existing | MTD Filterra Unit | 37.2224N | 80.4175W | 0 | 0.19 | 0.19 | 09/2015 | NE59 | Stroubles Creek | Operator-owned | N | 6/9/2021 |
| **80** | IATF Underground Detention | Existing | MTD Underground Detention | 37.2213N | 80.4174W | 0 | 1.29 | 1.29 | 09/2015 | NE59 | Stroubles Creek | Operator-owned | N | 12/15/20 |
| **82** | MARCHING VIRGINIANS Extended Detention | Existing | Extended Detention | 37.1257N | 80.2459W | 12.79 | 2.72 | 15.51 | 07/2016 | NE59 | Stroubles Creek | Operator-owned | N | 5/20/2021 |
| **83** | MARCHING VIRGINIANS Extended Detention | Existing | Enhanced Extended Detention | 37.1253N | 80.2451W | 32.16 | 6.23 | 38.39 | 07/2016 | NE59 | Stroubles Creek | Operator-owned | N | 5/20/2021 |
| **84** | BETR  Underground Detention | Existing | Underground Detention | 37.2184N | 80.4411W | 1.71 | 0.38 | 2.09 | 01/2021 | NE59 | Stroubles Creek | Operator- owned | N | Final Insp only |