Midlothian and Chester Campuses

Municipal Separate Storm Sewer System Annual Report

For

General Permit No. VAR040110

Permit Year

July 1, 2020 through June 30, 2021

This annual report is submitted in accordance with 9VAC25-890-40 as part of the requirement for permit coverage to discharge stormwater to surface waters of the Commonwealth of Virginia consistent with the VAR04 General Permit effective per letter dated November 1, 2018.

Submitted: September 30, 2021

TABLE OF CONTENTS

APPENDICES

TABLES

ACRONYMS

BMP	Best Management Practices
DEQ	Virginia Department of Environmental Quality
IDDE	Illicit Discharge Detection and Elimination
MCM	Minimum Control Measure
MS4	Municipal Separate Storm Sewer System
POC	Pollutants of Concern
SWPPP	Stormwater Pollution Prevention Plan
TMDL	Total Maximum Daily Load
VPDES	Virginia Pollution Discharge Elimination System
WLA	Wasteload Allocation

1.0 GENERAL ANNUAL REPORTING REQUIREMENTS

1.1. General Information (Part I.D.2.a)

Permitee Name: John Tyler Community College

System Name: Virginia Community College System

Permit Number: VAR040110

1.2. Reporting Period (Part I.D.2.b)

The reporting period for which the annual report is being submitted:

July 1, 2020 through June 30, 2021

1.3. Signed Certification (Part I.D.2.c)

A signed certification as per Part III K:

"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 ensure 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."

Printed Name: Arnold Kramer

Title: Director of Facilities and Safety

Signature:  Date: September 29, 2021

1.4. Reporting for MCMs #1 - #6 (Part I.D.2.d)

Include information for each annual reporting item specified in Part I.E:

Reporting information for each Minimum Control Measure is provided in Section 2.0.

1.5. Evaluation of the MS4 Program Implementation (Part I.D.2.e)

An evaluation of the MS4 program implementation, including a review of each MCM to determine the MS4 program's effectiveness and whether changes to the MS4 Program Plan are necessary:

An evaluation for each Minimum Control Measure is provided in Section 2.0. Changes that are necessary to be made to the MS4 Program Plan are summarized in Table 1.

Table 1: Summary of MS4 Program Plan Changes
None

2.0 MINIMUM CONTROL MEASURES

2.1. MCM #1: Public Education and Outreach

2.1.1. High Priority Stormwater Issues (Part I.E.1.g(1))

A list of high-priority stormwater issues addressed in the public education and outreach program:

A list of high-priority stormwater issues addressed in the public education and outreach program is provided in Table 2.

2.1.2. High Priority Stormwater Issue Communication Strategies (Part I.E. 1.g(2))

A list of strategies used to communicate each high-priority stormwater issue:

A list of strategies used to communicate each high-priority stormwater issue is provided in Table 2. Appendix A includes documentation of the communication efforts.

Table 2: High Priority Stormwater Issues

#	Stormwater Issue	Strategy	Communication	Metric	Beneficial
1	Public education of stormwater runoff	Traditional written materials	Information distributed via email	Information distributed via email	☒ Yes ☐ No
2	TMDLs and Local Impaired Waters	Media materials	Slides on TV monitors	Slides on TV monitors	☒ Yes ☐ No
3	Pollution Prevention	Signage	Storm drain markers	68 Storm drain markers	☒ Yes ☐ No

2.1.3. MCM #1 Evaluation (Part I.D.2.e)

Review the MCM to determine the MS4 Program's effectiveness and whether or not changes to the MS4 Program Plan are necessary:

Were all MCM #1 measurable goals completed in accordance with the MS4 Program Plan?
☒ Yes ☐ No ( )

Are the MS4 Program measurable goals effective?
☒ Yes (Effective) ☐ No (Ineffective, necessary changes to the MS4 Program are included in Section 1.5.)

2.2. MCM #2: Public Involvement and Participation

2.2.1. Public Input Summary (Part I.E.2.f(1))

A summary of any public input on the MS4 program received (including stormwater complaints) and responses:

Were any MS4 Program inputs or stormwater complaints received from the public?
☐ Yes ☒ No

If yes, were responses provided? ☐ Yes ☐ No

2.2.2. MS4 Program Webpage (Part I.E.2.f(2))

A webpage address to the MS4 program and stormwater website:

The webpage address is https://www.jtcc.edu/about/sustainability-at-jtcc/ for MS4 Program documents and https://www.jtcc.edu/about/safety-security/hazardous-spill for reporting IDDEs.

2.2.3. Public Involvement Activities Implemented (Part I.E.2.f(3))

A description of the public involvement activities implemented:

A description of the implemented public involvement activities is provided in Table 3.

2.2.4. Public Involvement Activity Metric and Evaluation (Part I.E.2.f(4))

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:

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 is provided in Table 3. Appendix B includes documentation of the public involvement activities.

Table 3: Public Involvement Activities Implemented				
Activity Description	**Category**	**Metric**	**Collaboration**	**Beneficial**
Clean the Bay Your Way Event 5/31/21 - 6/5/21	Restoration	2012 Participants & 52,306 lbs of litter	Chesapeake Bay Foundation	☒ Yes ☐ No
Bryan Park Trash Clean-up Event 12/20	Restoration	13 Participants	Friends of Bryan Park	☒ Yes ☐ No
James River PCB TMDL Advisory Committee Meeting 2/3/21	Educational	1 Participant	DEQ	☒ Yes ☐ No
James River PCB TMDL Advisory Committee Meeting 4/14/21	Educational	1 Participant	DEQ	☒ Yes ☐ No

2.2.5. MS4 Collaboration (Part I.E.2.f(5))

The name of other MS4 permittees collaborated with in the public involvement opportunities:

If applicable, the name of other MS4 permittees collaborated with for any of the public involvement opportunities are provided in Table 3.

2.2.6. MS4 Program Plan BMP Measurable Goals

The MS4 Program Plan BMPs measurable goals are provided in Table 4.

Table 4: MS4 Program Plan BMP Measurable Goals for MCM #2		
BMP	**Measurable Goal**	**Completeness Status**
2.1	Was documentation of the public input or complaints on the MS4 program and MS4 Program Plan maintained?	☐ Yes ☐ No ☒ Not Applicable
2.1	Is the effective MS4 permit and coverage letter on the webpage?	☒ Yes ☐ No
2.1	Is the most current MS4 Program Plan on the webpage?	☒ Yes ☐ No

2.1	Is the annual report for each year of the term covered by this permit no later than 30 days after submittal to the department on the webpage?	☒ Yes ☐ No ☐ Not Applicable (First permit year)
2.1	Is there 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 on the webpage?	☒ Yes ☐ No
2.1	Is there a method for how the public can provide input of the MS4 Program Plan on the webpage?	☒ Yes ☐ No
2.1	Is the latest Virginia Community College System Annual Standards and Specifications on the webpage?	☒ Yes ☐ No

2.2.7. MCM #2 Evaluation (Part I.D.2.e)

Review the MCM to determine the MS4 Program's effectiveness and whether or not changes to the MS4 Program Plan are necessary:

Were all MCM #2 measurable goals completed in accordance with the MS4 Program Plan?
☒ Yes ☐ No ( )

Are the MS4 Program measurable goals effective?
☒ Yes (Effective) ☐ No (Ineffective, necessary changes to the MS4 Program are included in Section 1.5.)

2.3. MCM #3: Illicit Discharge Detection and Elimination

2.3.1. MS4 Map and Information Table (Part I.E.3.e(1))

A confirmation statement that the MS4 map and information table have been updated to reflect any changes to the MS4 occurring on or before June 30 of the reporting year:

Were the MS4 storm sewer map and outfall information table updated to reflect any changes to the MS4 occurring on or before June 30 of the reporting year? ☒ Yes ☐ No ☐ Not Applicable (No changes required)

2.3.2. Dry Weather Screening (Part I.E.3.e(2))

The total number of outfalls screened during the reporting period as part of the dry weather screening program:

Were outfalls screened during the reporting period? ☒ Yes ☐ No

The number of outfalls screened during the reporting yard as part of the dry weather screening program is 11. This represents 100% of the total outfalls.

2.3.3. Illicit Discharges (Part I.E.3.e(3))

A list of illicit discharges to the MS4 including spills reaching the MS4:

Were there any illicit discharges to the MS4 including spills reaching the MS4?
☐ Yes (Refer to Table 5) ☒ No

Table 5: Illicit Discharges
Illicit Discharge
Part I.E.3.e(3)(a) Source:
Part I.E.3.e(3)(b) Date Observed & Date Reported:
Part I.E.3.e(3)(c) Detected during Screening, Reported by Public or Other (Describe):
Part I.E.3.e(3)(d) Investigation Resolution:
Part I.E.3.e(3)(e) Description of Follow-up Activities:
Part I.E.3.e(3)(f) Date Investigation Closed:

2.3.4. MS4 Program Plan BMP Measurable Goals

The MS4 Program Plan BMPs measurable goals are provided in Table 6.

Table 6: MS4 Program Plan BMP Measurable Goals for MCM #3		
BMP	**Measurable Goal**	**Completeness Status**
3.1	Was a GIS compatible shapefile submitted to DEQ?	Completed
3.1	Was written notification provided to any downstream adjacent MS4 of any known interconnection established or discovered during the permit reporting year?	☐ Yes ☒ Not Applicable (No new or discovered) ☐ No
3.2	Did all students, faculty and staff have access to the Standards of Conduct for Employees and the Student Handbook for Students?	☒ Yes ☐ No
3.3	Were illicit discharge detection and elimination procedures implemented, enforced and documentation maintained?	☒ Yes ☐ No

2.3.5. MCM #3 Evaluation (Part I.D.2.e)

Review the MCM to determine the MS4 Program's effectiveness and whether or not changes to the MS4 Program Plan are necessary:

Were all MCM #3 measurable goals completed in accordance with the MS4 Program Plan?
☒ Yes ☐ No ( )

Are the MS4 Program measurable goals effective?
☒ Yes (Effective) ☐ No (Ineffective, necessary changes to the MS4 Program are included in Section 1.5.)

2.4. MCM #4: Construction Site Stormwater Runoff Control

2.4.1. Implementation of Standards and Specifications (Part I.E.4.a(3))

The MS4 implements a construction site stormwater runoff program in accordance with the most recent DEQ approved Standards and Specifications in compliance with the Virginia Erosion and Sediment Control Law and Virginia Erosion and Sediment Control Regulations.

2.4.1.1. Conforming Land Disturbance Projects (Part I.E.4.d(1)(a))

A confirmation statement that land disturbing projects that occurred during the reporting period have been conducted in accordance with the current department approved standards and specifications for erosion and sediment control:

Were all land disturbing projects that occurred during the reporting period conducted in accordance with the current department approved standards and specifications for erosion and sediment control?

☒ Yes ☐ No (Refer to Table 7) ☐ Not Applicable (No land disturbing projects)

2.4.1.2. Non-Conforming Land Disturbance Projects (Part I.E.4.d(1)(b))

If one or more of the land disturbing projects were not conducted with the department standards and specifications, an explanation as to why the projects did not conform to the approved standards and specifications:

If no is checked above, an explanation as to why a project did not conform to the approved standards and specifications is provided in Table 7.

Table 7: Project(s) Not in Conformance with Approved Standards and Specifications
Project Name:
Explanation:

2.4.2. Site Stormwater Runoff Inspections (Part I.E.4.d(2))

Total number of inspections conducted:

The total number of site stormwater runoff inspections conducted for regulated land disturbance activities in accordance with the most recent DEQ approved Standards and Specifications are provided in Table 8.

2.4.3. Enforcement Actions (Part I.E.4.d(3))

The total number and type of enforcement actions implemented:

The total number of enforcement actions implemented, Notices to Comply and Stop Work Orders issued are provided in Table 8.

Table 8: Construction Project(s)				
Project Name(s)	Total Inspections	Total Notices to Comply (Red Flags)	Total Stop Work Orders (Black Flags)	Total Enforcement Actions
Bird Hall & Nicholas Center Renovation/ Addition 260-18209-000	35	16	8	24

2.4.4. MCM #4 Evaluation (Part I.D.2.e)

Review the MCM to determine the MS Program's effectiveness and whether or not changes to the MS4 Program Plan are necessary:

Were all MCM #4 measurable goals completed in accordance with the MS4 Program Plan?
☒ Yes ☐ No ( )

Are the MS4 Program measurable goals effective?
☒ Yes (Effective) ☐ No (Ineffective, necessary changes to the MS4 Program are included in Section 1.5.)

2.5. MCM #5: Post-Construction Stormwater Management

2.5.1. Implementation of Standards and Specifications (Part I.E.5.a(3))

The MS4 implements the most recent DEQ approved standards and specifications and a stormwater management facility inspection and maintenance program in accordance with Part I.E.5.b.

2.5.2. Stormwater Management Facility Inspections (Part I.E.5.i(2))

Total number of inspections conducted on stormwater management facilities owned or operated by the permittee:

Were inspections conducted on stormwater management facilities during the reporting year? ☒ Yes ☐ No

The total number of inspections conducted on stormwater management facilities are 14.

2.5.3. Stormwater Management Facility Maintenance (Part I.E.5.i(3))

A description of significant maintenance, repair, or retrofit 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 routine activities such as grass mowing or trash collection:

Were significant maintenance, repair, or retrofit activities performed on any stormwater management (SWM) facilities during the reporting year?
☐ Yes ☒ No (JTCC will work towards obtaining engineering assessments and recommendations for BMP maintenance.)
☐ Not Applicable (No significant maintenance required)

If yes, a description of significant maintenance, repair, or retrofit activities performed on the stormwater management facilities owned or operated by the MS4 to ensure it continues to perform as designed is provided in Table 9.

Table 9: Maintenance Activities Performed on Stormwater Management Facilities

Stormwater Management Facility	Significant Maintenance Activity

2.5.4. Virginia Construction Stormwater General Permit Database (Part I.E.5.i(4))

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 I 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 form Construction Activities:

Stormwater management facility information for stormwater facilities installed after July 1, 2014 was submitted through the Virginia Construction Stormwater General Permit database for land disturbing activities requiring a General VPDES Permit for Discharges of Stormwater from Construction Activities?

☒ Not Applicable (Not a VSMP Authority)

2.5.5. DEQ BMP Warehouse (Part I.E.5.i(5))

A confirmation statement that the permittee electronically reported BMPs using the DEQ BMP Warehouse in accordance with Part I E 5 g and the date on which the information was submitted:

No later than October 1 of each year, stormwater management facilities and BMPs implemented to meet a TMDL load reduction between July 1 and June 30 of each year were electronically reported using the DEQ BMP Warehouse for any practices not reported in accordance with Part I.E.5.f (requirement 2.5.4) including stormwater management facilities from land disturbing activities less than one acre in accordance with the Chesapeake Bay Preservation Act regulations and for which a General VPDES Permit for Discharges of Stormwater from Construction Activities was not required?

☐ Yes, Date Submitted: ☐ No ☒ Not Applicable (No qualifying SWM facilities constructed or structural BMPs implemented.)

2.5.6. MS4 Program Plan BMP Measurable Goals

The MS4 Program Plan BMPs measurable goals are provided in Table 10.

Table 10: MS4 Program Plan BMP Measurable Goals for MCM #5		
BMP	**Measurable Goal**	**Completeness Status**
5.1	Was the post-construction stormwater management inspection and maintenance program implemented in accordance with approved standards and specifications?	☒ Yes ☐ No
5.2	Was the stormwater management facility tracking database updated?	☒ Yes ☐ No

2.5.7. MCM #5 Evaluation (Part I.D.2.e)

Review the MCM to determine the MS4 program's effectiveness and whether or not changes to the MS4 Program Plan are necessary:

Were all MCM #5 measurable goals completed in accordance with the MS4 Program Plan?
☒ Yes ☐ No ( )

Are the MS4 Program measurable goals effective?
☒ Yes (Effective) ☐ No (Ineffective, necessary changes to the MS4 Program are included in Section 1.5.)

2.6. MCM #6: Pollution Prevention and Good Housekeeping

2.6.1. Operational Procedures (Part I.E.6.q(1))

A summary of any operational procedures developed or modified in accordance with Part I E 6 a during the reporting period:

Were any operational procedures developed or modified in accordance with Part I E 6 a during the reporting period?

☐ Yes (Refer to Table 11) ☒ No (No modifications required.)

Table 11: Good Housekeeping Operational Procedures Developed or Modified
Not Applicable

2.6.2. Newly Developed SWPPPs (Part I.E.6.q(2))

A summary of any new SWPPPs developed in accordance Part I E 6 c during the reporting period:

Were any new SWPPPs developed in accordance Part I E 6 c during the reporting period?

☐ Yes (Refer to Table 12) ☐ No ( ) ☒ Not Applicable (No new high priority facilities)

Table 12: New SWPPPs Developed	
SWPPP Name	**SWPPP Address**
Not Applicable	

2.6.3. Modified or Delisted SWPPPs (Part I.E.6.q(3))

A summary of any new SWPPPs modified in accordance with Part I E 6 f or the rationale of any high priority facilities delisted in accordance with Part I E 6 h during the reporting period:

Were any new SWPPPs modified after an unauthorized discharge, release or spill reported?

☐ Yes (Refer to Table 13) ☐ No ( ) ☒ Not Applicable (No modification required.)

Were any high priority facilities delisted in accordance with Part I.E.6.h during the reporting period?

☐ Yes (Refer to Table 13) ☒ No

If yes, rationale is provided for any high priority facilities delisted in accordance with Part I.E.6.h during the reporting period in Table 13.

Table 13: SWPPPs Modified or Delisted	
SWPPPs Modified/Delisted	**Rationale for Delisting**
Not Applicable	

2.6.4. Newly Developed Nutrient Management Plans (Part I.E.6.q(4))

A summary of new turf and landscape nutrient management plans developed:

Were any new turf and landscape nutrient management plans developed?
☐ Yes (Refer to Table 14) ☐ No ( ) ☒ Not Applicable (Existing NMPs in place. No new NMPs required this reporting year.)

2.6.4.1. Nutrient Management Plan Acreage (Part I.E.6.q(4)(a))

If yes is checked above, the location and the total acreage of each land area:

If yes is checked above, the location and total acreage of the land area for any newly developed nutrient management plan is provided in Table 14.

2.6.4.2. Nutrient Management Plan Approval Date (Part I.E.6.q(4)(b))

The date of the approved nutrient management plan:

If yes is checked above, the approval date of any newly developed nutrient management plan is provided in Table 14.

Table 14: New Turf and Landscape Nutrient Management Plans		
Location	**Total Acreages**	**Date Approved**
Not Applicable		

2.6.5. Training Events (Part I.E.6.q(5))

A list of the training events conducted in accordance with Part I.E.6.m, including the following information:

Was training conducted?
☒ Yes (Refer to Table 15) ☐ No ( ) ☐ Not Applicable (Not required this reporting year.)

If yes is checked above, a list of training events conducted in accordance with Part I.E.6.m is provided in Table 15.

2.6.5.1. Training Dates (Part I.E.6.q(5)(a))
The date of the training event:

If yes is checked above, the date of the training event is provided in Table 15.

2.6.5.2. Quantity Trained (Part I.E.6.q(5)(b))
The number of employees who attended the training event:

If yes is checked above, the number of employees who attended the training event is provided in Table 15.

2.6.5.3. Training Objective (Part I.E.6.q(5)(c))
The objective of the training event:

If yes is checked above, the objective of the training event is provided in Table 15.

Table 15: Training Events

Date	# of Attendees	Training Objective
6/16/21-7/13-21	19	Good Housekeeping Pollution Prevention, IDDE, TMDL

2.6.6. MS4 Program Plan BMP Measurable Goals

The MS4 Program Plan BMPs measurable goals are provided in Table 16.

Table 16: MS4 Program Plan BMP Measurable Goals for MCM #6

BMP	Measurable Goal	Completeness Status
6.1	Was good housekeeping and pollution prevention biennial training conducted this reporting year?	☒ Yes ☐ Not Applicable (Not required this reporting year) ☐ No
6.2	Was the annual comprehensive compliance evaluation conducted?	☒ Yes ☐ No
6.2	Was the SWPPP reviewed within 30 days after an unauthorized discharge, release or spill reported?	☐ Yes ☒ Not Applicable (Not required) ☐ No
6.2	Was the SWPPP updated within 90 days after an unauthorized discharge?	☐ Yes ☒ Not Applicable (Not required) ☐ No
6.2	Were the MS4's properties reviewed this reporting year to determine if the properties meet the criteria of a high priority facility?	☐ Yes ☒ Not Applicable (Both MS4 campuses are high priority facilities) ☐ No
6.3	Was the nutrient management plan implemented through completion of application records?	☐ Yes ☒ Not Applicable (No nutrients applied) ☐ No
6.4	Were all signed contracts executed with contract good housekeeping and pollution prevention language?	☐ Yes ☒ No (JTCC to work with VCCS procurement to add language.)

6.5	Did all signed contracts executed for pesticide and herbicide application maintain proof of certifications on file?	☐ Yes ☒ Not Applicable (No contracts executed) ☐ No
6.6	Did training occur and were proof of certifications maintained on file for employees performing pesticide and herbicide applications?	☒ Yes ☐ Not Applicable (No employees applied nutrients) ☐ No

2.6.7. MCM #6 Evaluation (Part I.D.2.e)

Review the MCM to determine the MS4 Program's effectiveness and whether or not changes to the MS4 Program Plan are necessary:

Were all MCM #6 measurable goals completed in accordance with the MS4 Program Plan?

☐ Yes ☒ No (BMP 6.4)

Are the MS4 Program measurable goals effective?

☒ Yes (Effective) ☐ No (Ineffective, necessary changes to the MS4 Program are included in Section 1.5.)

3.0 TMDL SPECIAL CONDITIONS

3.1. Chesapeake Bay TMDL Action Plan

3.1.1. BMPs Implemented and Estimated POC Reductions (Part II.A.13.a)

A list of BMPs implemented during the reporting period but not reported to the DEQ BMP Warehouse in accordance with Part I E 5 g and the estimated reduction of pollutants of concern achieved by each and reported in pounds per year:

Were any BMPs implemented during the reporting period but not reported to the DEQ BMP Warehouse in accordance with Part I.E.5.g? ☒ Yes (Refer to Table 17) ☐ No ( ) ☐ Not Applicable ( )

The estimated reduction of pollutants of concern achieved by each BMP reported in pounds per year is provided in Table 17.

Table 17: Chesapeake Bay TMDL Action Plan POC Reductions			
BMP #1: Street Sweeping Using the Mass Loading Approach			
Required pounds of material swept	189 lbs.		
Provided pounds of material swept	11,000 lbs.		
	TN (lbs./yr.)	TP (lbs./yr.)	TSS (lbs./yr.)
Required 5% Reduction (lbs.) =	2.74	.60	262.97
Provided Reduction (lbs.) =	19.25	7.70	2,310
Required 40% Reduction (lbs.)	21.81	4.80	2101.22
% Achieved towards 40% (%)=	88.26	160.42	109.94

3.1.2. Nutrient Credits (Part II.A.13.b)

If the permitee acquired credits during the reporting period to meet all or a portion of the required reductions in Part II A 3, A 4, or A 5, a statement that credits were acquired:

Were credits acquired during the reporting period to meet all or a portion of the required reductions in Part II A 3, A 4, or A 5? ☐ Yes ☒ No

3.1.3. POC Cumulative Reduction Progress (Part II.A.13.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:

The progress, using the final design efficiency of the BMPs, toward meeting the required 40% reductions for total nitrogen, total phosphorus, and total suspended solids is provided in Table 18.

Table 18: 2019 – 2023 Chesapeake Bay TMDL Action Plan Implementation Schedule

Step	General Description	Measurable Goal	Completion Date
1	5% reduction requirement complete. Evaluate lbs. swept.	Completed tracking documentation?	☒ Yes (July 2019) ☐ No
2	5% reduction requirement complete. Make adjustments to frequency based on 2019 information obtained.	Completed tracking documentation with increase sweeping frequency?	☒ Yes (July 2020) ☐ No
3	5% reduction requirement complete. Determine if 40% can be achieved w/ street sweeping alone. If not, evaluate alternate means to achieve 40% reduction. Secure funding for future implementation of new BMPs. Revise Action Plan accordingly.	Completed tracking documentation. If required, revise Action Plan?	☒ Yes (July 2021) ☐ No
4	Revise Action Plan based on the newly issued DEQ Guidance Memo No. GM-20-2003 (Appendix V.G).	Completed tracking documentation and support documentation from any new BMPs employed to meet 40% reduction?	July 2022
5	Complete 40% reduction requirement with selected means and methods.	Completed tracking documentation and support documentation from any new BMPs employed to meet 40% reduction?	July 2023
6	Report on Chesapeake Bay TMDL 40% reduction achievement.	Recorded results in Annual Report?	October 2023

3.1.4. Next Reporting Period Planned BMPs (Part II.A.13.d)

A list of BMPs that are planned to be implemented during the next reporting period:

BMPs that are planned to be implemented during the next reporting period is provided in Table 19.

Table 19: Chesapeake Bay TMDL Action Plan BMPs Planned for Next Reporting Year
1. Street Sweeping

3.1.5. Chesapeake Bay TMDL Action Plan Measurable Goals

The Chesapeake Bay TMDL Action Plan measurable goals are provided in Table 20.

Table 20: Chesapeake Bay TMDL Action Plan Measurable Goals		
BMP	**Measurable Goal**	**Completeness Status**
1	Were public comments considered during the required 15-day comment period?	☐ Yes ☒ Not Applicable (Not required this reporting year) ☐ No
2	Were cost effective BMPs selected to support model quantification to achieve the required pollutant reductions?	☒ Yes ☐ Not Applicable (Not required this reporting year) ☐ No
3	Was the required pollutant reduction reached for this reporting year?	☒ Yes ☐ No

3.1.6. Chesapeake Bay TMDL Action Plan Implementation Evaluation (Part I.D.2.e)

Review the TMDL Special Condition to determine the Chesapeake Bay TMDL Action Plan's effectiveness and whether or not changes to the Chesapeake Bay TMDL Action Plan are necessary:

Were all measurable goals completed in accordance with the Chesapeake Bay TMDL Action Plan?

☒ Yes ☐ No ( )

Are the MS4 Program measurable goals effective?

☒ Yes (Effective) ☐ No (Ineffective, necessary changes to the MS4 Program are included in Section 1.5.)

3.2. Local TMDL Action Plan

3.2.1. James River Tidal Bacteria TMDL Implementation (Part II.B.9)

A summary of actions conducted to implement each local TMDL action plan:

A summary of actions conducted to implement the James River Tidal Bacteria TMDL is provided in Table 21.

Table 21: James River Tidal E.coli TMDL Action Plan Summary of Actions

BMP	Summary of Actions	Progress Status
1	Educate the public on how to reduce food sources accessible to urban wildlife by the distribution of an educational brochure	☐ Yes (by June 30, 2020) ☒ No

Were all measurable goals completed in accordance with the James River Tidal Bacteria TMDL Action Plan?

☐ Yes ☒ No (JTCC will educate the public next permit year.)

Are the MS4 Program measurable goals effective?

☒ Yes (Effective) ☐ No (Ineffective, necessary changes to the MS4 Program are included in Section 1.5.)

Appendix A: Documentation of Public Education and Outreach Activities

High Priority Stormwater Issue #1

Brown, Tanya

Subject: Storm Water Awareness Information - Protecting Our Watersheds
Attachments: After The Storm Brochure.pdf

Greetings JTCC Staff & Faculty,

As part of the college's ongoing education and outreach reference safety, please review the information below & attached.

Protecting our watersheds/What is MS4?

Do you know what MS4 stands for? It stands for **M**unicipal **S**eparate **S**torm **S**ewer **S**ystems. Discharges from MS4s are regulated under the Virginia Storm Water Management Act, the Virginia Stormwater Management Program (VSMP), and the EPAs Clean Water Act. John Tyler Community College's storm water discharges are regulated under this federal and state program. As part of our permit responsibilities, JTCC submits an MS4 Report to the Virginia Department of Environmental Quality, to show that we are meeting our established BMP's (Best Management Practices).

What is a watershed?

A watershed is an area of land that drains all the streams and rainfall to a common outlet such as the outflow of a reservoir, mouth of a bay, or any point along a stream channel. The word watershed is sometimes used interchangeably with drainage basin or catchment. We all live in a watershed, and our individual actions can directly affect it. Pollutants that dump into our water ways not only contaminate our drinking water, but they also kill wildlife that inhabit the watershed.

What is JTCC's watershed?

All precipitation and water draining from the Midlothian Campus flows into Tomahawk Creek and then into the Swift Creek Reservoir. The Chester Campus drains in two directions. The east side of Chester Campus drains into Redwater Creek, a tributary of Proctors Creek, and ultimately to the James River. The west side of Chester Campus drains to Ashton Creek, a tributary of the Appomattox River. Both Chester and Midlothian watersheds flow into a larger watershed which is the Chesapeake Bay. The Chesapeake Bay Watershed covers 64,000 square miles and drains from six states, including the Commonwealth of Virginia.

What is JTCC doing?

Through JTCC's MS4 program, JTCC aims to be good environmental and community stewards by preventing pollution, providing resources for detecting/eliminating illicit discharges, and promoting awareness to our students, staff, and service region.

How can I help?

- Conserve water every day. Take shorter showers, fix leaks & turn off the water when not in use.
- Don't pour toxic household chemicals down the drain; take them to a hazardous waste center.

- Use hardy plants that require little or no watering, fertilizers or pesticides in your yard.
- Do not over apply fertilizers. Consider using organic or slow release fertilizers instead.
- Recycle yard waste in a compost pile & use a mulching mower.
- Use surfaces like wood, brick or gravel for decks & walkways; allows rain to soak in & not run off.
- Never pour used oil or antifreeze into the storm drain or the street.
- Pick up after your dog, and dispose of the waste in the toilet or the trash.
- Drive less—walk or bike; many pollutants in our waters come from car exhaust and car leaks.
- Report any illicit discharges
    - JTCC Chester Campus – 804-796-4025
    - JTCC Midlothian Campus – 804-897-6678
    - Chesterfield County – 804-717-6161
    - VDOT – 800-663-4188

Additional Resources

https://jtcc.edu/about/sustainability-at-jtcc/
http://water.epa.gov/action/weatherchannel/

Ms. Tanya Brown
Assistant Director of College Safety & Security
John Tyler Community College
800 Charter Colony Parkway
Midlothian, Virginia, 23114
Midlo Office Phone: (804) 594-1414
Mobile Phone: (804) 638-0577
tbrown01@jtcc.edu

After the Storm

A Citizen's Guide to Understanding Stormwater

WHEN IT RAINS IT DRAINS

What is stormwater runoff?

Stormwater runoff occurs when precipitation from rain or snowmelt flows over the ground. Impervious surfaces like driveways, sidewalks, and streets prevent stormwater from naturally soaking into the ground.

Why is stormwater runoff a problem?

Stormwater can pick up debris, chemicals, dirt, and other pollutants and flow into a storm sewer system or directly to a lake, stream, river, wetland, or coastal water. Anything that enters a storm sewer system is discharged untreated into the waterbodies we use for swimming, fishing, and providing drinking water.

The effects of pollution

Polluted stormwater runoff can have many adverse effects on plants, fish, animals, and people.

- Sediment can cloud the water and make it difficult or impossible for aquatic plants to grow. Sediment also can destroy aquatic habitats.
- Excess nutrients can cause algae blooms. When algae die, they sink to the bottom and decompose in a process that removes oxygen from the water. Fish and other aquatic organisms can't exist in water with low dissolved oxygen levels.
- Bacteria and other pathogens can wash into swimming areas and create health hazards, often making beach closures necessary.

- Debris—plastic bags, six-pack rings, bottles, and cigarette butts—washed into waterbodies can choke, suffocate, or disable aquatic life like ducks, fish, turtles, and birds.
- Household hazardous wastes like insecticides, pesticides, paint, solvents, used motor oil, and other auto fluids can poison aquatic life. Land animals and people can become sick or die from eating diseased fish and shellfish or ingesting polluted water.
- Polluted stormwater often affects drinking water sources. This, in turn, can affect human health and increase drinking water treatment costs.

Stormwater Pollution Solutions

Residential

Recycle or properly dispose of household products that contain chemicals, such as insecticides, pesticides, paint, solvents, and used motor oil and other auto fluids. Don't pour them onto the ground or into storm drains.

Lawn care

Excess fertilizers and pesticides applied to lawns and gardens wash off and pollute streams. In addition, yard clippings and leaves can wash into storm drains and contribute nutrients and organic matter to streams.

- Don't overwater your lawn. Consider using a soaker hose instead of a sprinkler.
- Use pesticides and fertilizers sparingly. When use is necessary, use these chemicals in the recommended amounts. Use organic mulch or safer pest control methods whenever possible.
- Compost or mulch yard waste. Don't leave it in the street or sweep it into storm drains or streams.
- Cover piles of dirt or mulch being used in landscaping projects.

Auto care

Washing your car and degreasing auto parts at home can send detergents and other contaminants through the storm sewer system. Dumping automotive fluids into storm drains has the same result as dumping the materials directly into a waterbody.

- Use a commercial car wash that treats or recycles its wastewater, or wash your car on your yard so the water infiltrates into the ground.
- Repair leaks and dispose of used auto fluids and batteries at designated drop-off or recycling locations.

Septic systems

Leaking and poorly maintained septic systems release nutrients and pathogens (bacteria and viruses) that can be picked up by stormwater and discharged into nearby waterbodies. Pathogens can cause public health problems and environmental concerns.

- Inspect your system every 3 years and pump your tank as necessary (every 3 to 5 years).
- Don't dispose of household hazardous waste in sinks or toilets.

Pet waste

Pet waste can be a major source of bacteria and excess nutrients in local waters.

- When walking your pet, remember to pick up the waste and dispose of it properly. Flushing pet waste is the best disposal method. Leaving pet waste on the ground increases public health risks by allowing harmful bacteria and nutrients to wash into the storm drain and eventually into local waterbodies.

Education is essential to changing people's behavior. Signs and markers near storm drains warn residents that pollutants entering the drains will be carried untreated into a local waterbody.

Residential landscaping

Permeable Pavement—Traditional concrete and asphalt don't allow water to soak into the ground. Instead these surfaces rely on storm drains to divert unwanted water. Permeable pavement systems allow rain and snowmelt to soak through, decreasing stormwater runoff.

Rain Barrels—You can collect rainwater from rooftops in mosquito-proof containers. The water can be used later on lawn or garden areas.

Rain Gardens and Grassy Swales—Specially designed areas planted with native plants can provide natural places for rainwater to collect and soak into the ground. Rain from rooftop areas or paved areas can be diverted into these areas rather than into storm drains.

Vegetated Filter Strips—Filter strips are areas of native grass or plants created along roadways or streams. They trap the pollutants stormwater picks up as it flows across driveways and streets.

Commercial

Dirt, oil, and debris that collect in parking lots and paved areas can be washed into the storm sewer system and eventually enter local waterbodies.

- Sweep up litter and debris from sidewalks, driveways and parking lots, especially around storm drains.
- Cover grease storage and dumpsters and keep them clean to avoid leaks.
- Report any chemical spill to the local hazardous waste cleanup team. They'll know the best way to keep spills from harming the environment.

Erosion controls that aren't maintained can cause excessive amounts of sediment and debris to be carried into the stormwater system. Construction vehicles can leak fuel, oil, and other harmful fluids that can be picked up by stormwater and deposited into local waterbodies.

- Divert stormwater away from disturbed or exposed areas of the construction site.
- Install silt fences, vehicle mud removal areas, vegetative cover, and other sediment and erosion controls and properly maintain them, especially after rainstorms.
- Prevent soil erosion by minimizing disturbed areas during construction projects, and seed and mulch bare areas as soon as possible.

Construction

Agriculture

Lack of vegetation on streambanks can lead to erosion. Overgrazed pastures can also contribute excessive amounts of sediment to local waterbodies. Excess fertilizers and pesticides can poison aquatic animals and lead to destructive algae blooms. Livestock in streams can contaminate waterways with bacteria, making them unsafe for human contact.

- Keep livestock away from streambanks and provide them a water source away from waterbodies.
- Store and apply manure away from waterbodies and in accordance with a nutrient management plan.
- Vegetate riparian areas along waterways.
- Rotate animal grazing to prevent soil erosion in fields.
- Apply fertilizers and pesticides according to label instructions to save money and minimize pollution.

Forestry

Improperly managed logging operations can result in erosion and sedimentation.

- Conduct preharvest planning to prevent erosion and lower costs.
- Use logging methods and equipment that minimize soil disturbance.
- Plan and design skid trails, yard areas, and truck access roads to minimize stream crossings and avoid disturbing the forest floor.
- Construct stream crossings so that they minimize erosion and physical changes to streams.
- Expedite revegetation of cleared areas.

Automotive Facilities

Uncovered fueling stations allow spills to be washed into storm drains. Cars waiting to be repaired can leak fuel, oil, and other harmful fluids that can be picked up by stormwater.

- Clean up spills immediately and properly dispose of cleanup materials.
- Provide cover over fueling stations and design or retrofit facilities for spill containment.
- Properly maintain fleet vehicles to prevent oil, gas, and other discharges from being washed into local waterbodies.
- Install and maintain oil/water separators.

For more information contact:

JTCC FACILITIES

804-594-1430

or visit
www.epa.gov/npdes/stormwater
www.epa.gov/nps

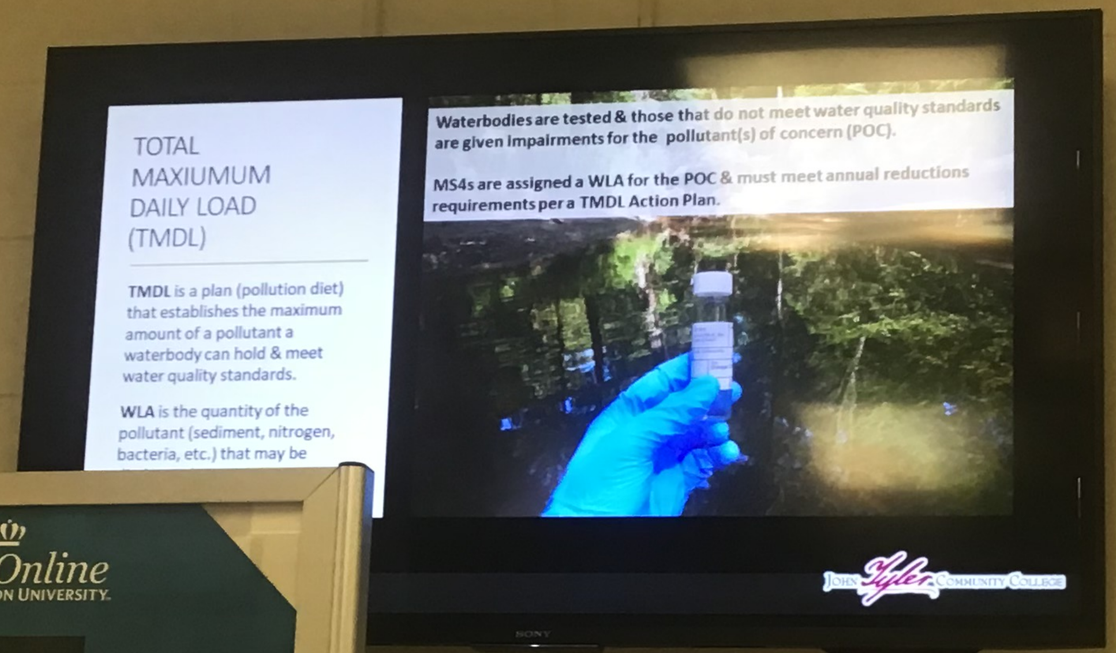
EPA United States Environmental Protection Agency

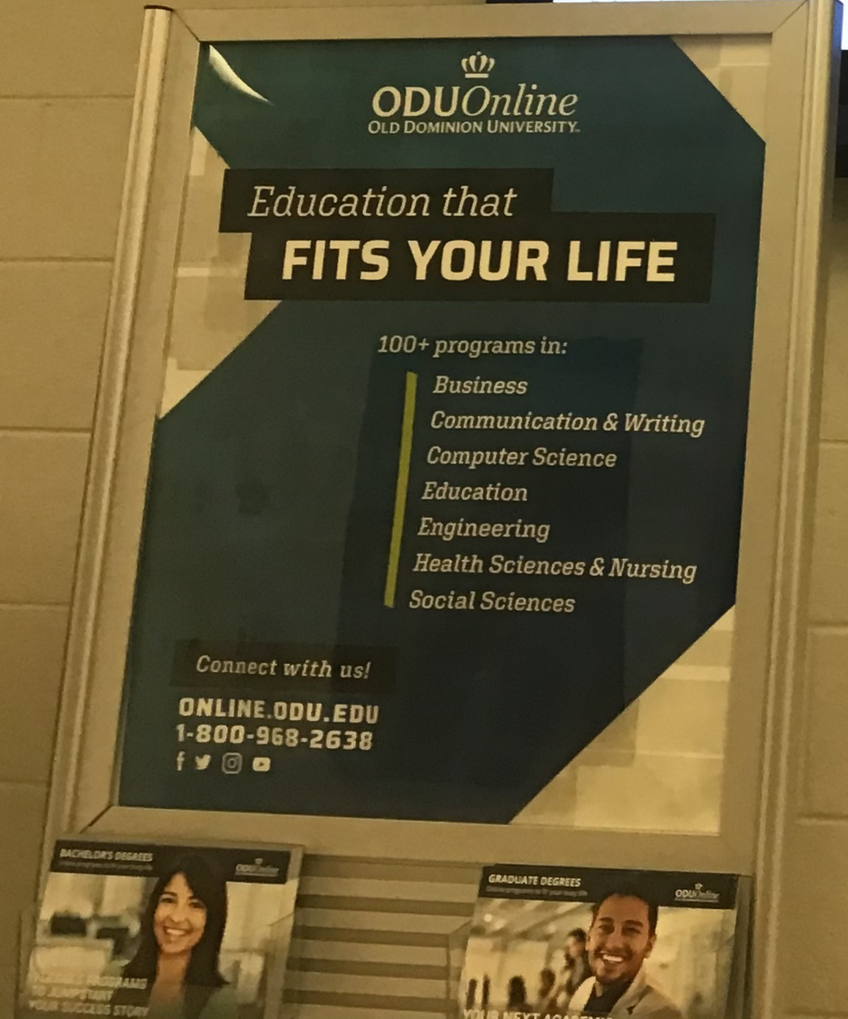
EPA 833-B-03-002

January 2003

THE YEAR OF CLEAN WATER
Celebration & Recommitment

High Priority Stormwater Issue #2


TOTAL MAXIMUM DAILY LOAD (TMDL)
TMDL is a plan (pollution diet) that establishes the maximum amount of a pollutant a waterbody can hold & meet water quality standards.
WLA is the quantity of the pollutant (sediment, nitrogen, bacteria, etc.) that may be
Waterbodies are tested & those that do not meet water quality standards are given impairments for the pollutant(s) of concern (POC).
MS4s are assigned a WLA for the POC & must meet annual reductions requirements per a TMDL Action Plan.
John Tyler Community College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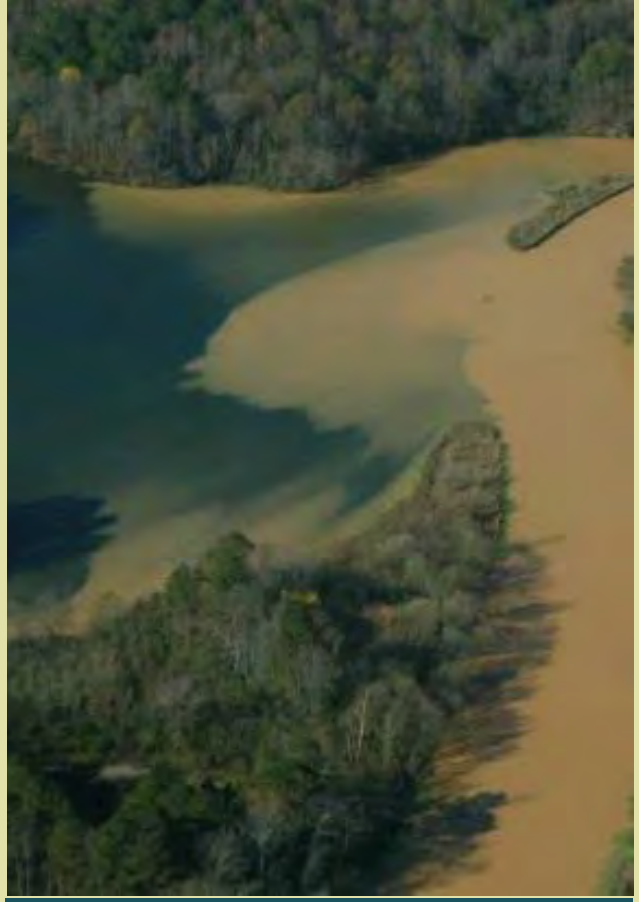
GRADUATE DEGREES

STORMWATER RUNOFF PICKS UP SEDIMENT & POLLUTANTS AFTER A RAINFALL.

SEDIMENT & POLLUTANT LADEN RUNOFF FLOWS INTO STORM SEWER SYSTEMS.



STORM SEWER INLETS DRAIN DIRECTLY INTO OUR LOCAL WATERBODIES.

OUR LOCAL WATERBODIES FLOW INTO THE CHESAPEAKE BAY & TO THE OCEAN.

Impacts of Stormwater Runoff

Sediment from **construction sites** & **streambank erosion** from urbanization adversely affect the health of our local streams & rivers & the Chesapeake Bay.

How Sediment Impacts Virginia's Waterbodies

- Clogs fish gills causing **death**
- Creates a muddy bottom unsuitable for **spawning** beds
- Reduces **visibility** for fish to locate prey causing
- Decreases water depth resulting in an increase of **temperature** causing fish to relocate
- Stunts plant growth due to reduced **light** penetration
- Interferes with navigation, flood control, **recreation** & fishing industries

EFFECTS OF FERTILIZERS & BACTERIA ON THE ENVIRONMENT

Nitrogen and Phosphorous in **fertilizers** cause algae blooms in waterbodies.

Improperly disposed of **animal waste and human waste** from sanitary overflows cause high levels of bacteria (E.coli) in waterbodies.

Algae create toxins and excessive E.coli makes waterbodies unsafe for swimming and unhealthy for humans and wildlife consumption.

John Tyler Community College

STORMWATER REGULATIONS

WHY WE HAVE TO?

Federal Clean Water Act

WHO SAYS?

Virginia Laws and Regulations

MS4 General Permit
Construction General Permit
VA Stormwater Management Program
Erosion & Sediment Control

WHERE APPLICABLE?

MS4 General Permit Holder

State properties within the census urbanized area

Municipal Separate Storm Sewer System (MS4):

- Collects & conveys stormwater
  - Potential to convey pollutants downstream
  - Ultimately leads to a point discharge (outfall) at a natural drainage way
- Activities/operations draining to outfalls regulated within a Census Urbanized Area

TOTAL MAXIMUM DAILY LOAD (TMDL)

TMDL is a plan (pollution diet) that establishes the maximum amount of a pollutant a waterbody can hold & meet water quality standards.

WLA is the quantity of the pollutant (sediment, nitrogen, bacteria, etc.) that may be discharged.

Waterbodies are tested & those that do not meet water quality standards are given impairments for the pollutant(s) of concern (POC).

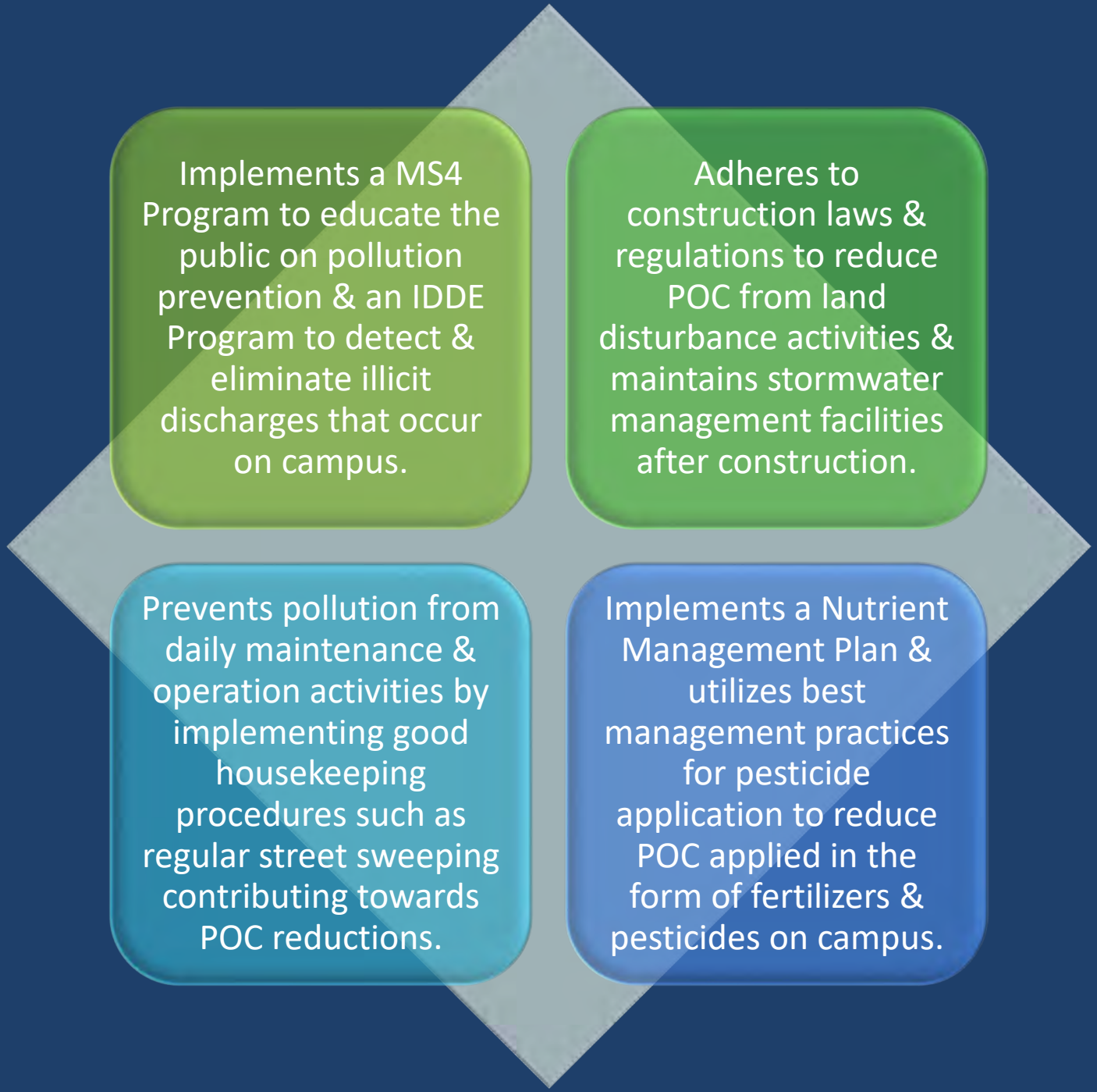
MS4s are assigned a WLA for the POC & must meet annual reductions requirements per a TMDL Action Plan.

JOHN TYLER COMMUNITY COLLEGE

CHESAPEAKE BAY TMDL ACTION PLAN

JTCC implements a Chesapeake Bay TMDL Action Plan to reduce the Chesapeake Bay Pollutants of Concern (POC) which are Nitrogen, Phosphorous & Sediment.

JTCC is required to annually meet POC reductions based upon the amount of impervious and pervious surfaces on campus.



LOCAL IMPAIRED WATERWAYS

A portion of JTCC's Chester campus directly discharges into Redwater Creek which flows into the James River.

The Redwater Creek is impaired by dissolved oxygen and the James River is designated as an impaired waterway for bacteria.

Excessive algae growth caused by phosphorous from fertilizers contribute to low dissolved oxygen levels in waterways.

Pollutant sources of bacteria are livestock, pet and wildlife waste and sanitary sewer overflows.

Source: www.northgeorgiawater.org

How to Reduce Local TMDL Pollutants

WILDLIFE & PET WASTE

- Do not feed waterfowl and other birds on campus such as Canadian geese, seagulls and pigeons.
- Ensure you place food waste in secured waste containers so as not to draw birds.
- Pick up pet waste.

FERTILIZER USE

- Perform a soil test to determine how much Phosphorous the turf needs and only apply the amount needed at the rate recommended by the manufacturer.
- Ensure that equipment is calibrated correctly and do not leave bags and bottles of fertilizer stored outdoors.
- Fertilize at the appropriate time by avoiding placing fertilizer prior to a rain event.







ILLICIT DISCHARGE

Any discharge that enters the storm drain system or a natural drainage way on campus that is **not composed entirely of stormwater**.

To report an illicit discharge, spill or an improper disposal contact JTCC Security Services on **Chester** at **804-796-4025** and **Midlothian** at **804-897-6678**.

For more information visit JTCC's stormwater website at **http://www.jtcc.edu/about/sustainability-at-jtcc/**

HOW YOU CAN HELP KEEP WATERBODIES CLEAN?

- Limit landscape additives such as lime & potash only in amounts needed & at appropriate times especially never before a rain event.
- Properly store & dispose of chemicals. Quickly clean-up spilled chemicals & properly dispose of the materials used to clean-up spills.
- Pick-up pet waste & properly dispose in the trash.
- Never dump anything down storm drains.
- Place litter & cigarette butts in proper receptacles.
- Utilize recycling programs.
- Promptly repair vehicle & equipment leaks.
- Wash vehicles at a commercial car wash instead of in a driveway or parking lot.
- Properly dispose of household waste items.

John Tyler Community College

High Priority Stormwater Issue #3

From: Albright, James E.
To: Kramer, Arnold "Chip"
Subject: Stormwater Markers
Date: Monday, June 14, 2021 9:44:09 AM

The markers according to Fred and Terry have been completed. Fred said he replaced 31 and Terry said he replaced 37.


No Dumping!
This Drains To Swift Creek Reservoir

Appendix B: Documentation of Public Involvement Activities

Public Involvement Activity #1

Your News

Page 1 of 49 pages **1** 2 3 > Last ›

Clean the Bay Day 2021

"A six-day virtual event for 2021"

Monday, May 31, 2021 - Saturday, June 5, 2021

Clean the Bay Day has been a staple for Virginia's Chesapeake Bay community since its inception 33 years ago. Even though the current pandemic prevents us from gathering together as we have done in the past, we hope that our platform this year will allow us to regain that sense of unity we have felt every year on the first Saturday in June.

Back t

Our motto this year is all about flexibility and giving everyone the option to #CleantheBayYourWay. Take a look at how you can make a litter cleanup work for your schedule and be safe for your family!

The 2021 event will last six days, Monday, May 31 to Saturday, June 5. The six-day event gives participants flexibility to do a litter clean-up anytime and as much as you want during that six-day period. Have some free time during your lunch break? Do a cleanup! Get home and the kids are going crazy? Do a cleanup! We want this year's event to work with your schedule.
Registration is required to participate in Clean the Bay Day 2021. Registration will open April 30, 2021, and this page will be updated to include the registration link. Please fill out this form for an email notification when registration is live.

During that six-day period, participants have the flexibility to do a litter clean-up at any public location or private property where permission has been given. We will be sharing a map and a list in late March of all the sites we have identified as available for cleanup. Do not limit yourself to this list only though! If you know of a site that is in need of a cleanup, you have permission to be on that property and you are ensuring that you are taking the proper safety precautions, by all means clean away.

Interested in some healthy competition? We are working on ways for communities, schools, localities, public officials, or even a group of good friends to create a virtual team where participants can remain socially distance while enjoying the feeling of comradery.

#CleantheBayYourWay Since we are not able to physically be together this year, we still want to see all the amazing work you are doing to help us clean our Bay. We will be encouraging you to use #CleantheBayYourWay for you to socially share your experience during the week of May 31st to June 5th.

Participants must adhere to all current Virginia COVID-19 guidelines as seen at www.virginia.gov/coronavirus/ and will be asked to sign a waiver.

Still a little unsure about doing a litter pick-up during COVID-19 but still want to participate this year? Installing a rain barrel or planting a native plant are two additional options we are offering this year. We will be sharing some basic information through this website in late March on where to purchase and how to install a rain barrel and/or install a native plant.

Please feel free to email **ctbd@cbf.org** for any additional questions.

Posted by **Brown, Tanya** on Mar 31, 2021 Comments

Virtual Fitness Class Sessions – Week of March 29

Back t

Public Involvement Activity #2

Bryan Park Update *(Cont'd from pg.3)*

Many other park maintenance and improvements proceed without much fanfare. We donated $6,000 to rehabilitate the greenhouse behind the 'Keepers House'. It was built by the City in the late 2000s, but it was mainly a shell which had fallen into disrepair. FoBP added an automatic overhead sprinkler system, replaced the heaters and exhaust fans, and contributed a shade cloth to moderate the heat during the summer. We have encouraged the City's Community Gardening program to use the facility, and we have given a nice starter endowment to them for germinating tables, plants and flowers, and outreach into underserved neighborhoods. *Special thanks to the Franciscos, the Millers, and an anonymous group for their generous support !*

Greenhouse after irrigation installed; fans, heaters and sunscreen up and running.

Disc Golfers continue to play in Bryan Park from dawn to dusk, and in October, children's soccer league practice resumes on weekdays, tournament games are held on Saturdays, and the adult Central Virginia Soccer Association (which paid for and built the fields in the late 1990's) competes on Sundays.

Beaming volunteers near the Nature Center, in other park floodplains, and around the ponds remove dozens of bags of trash and from our waterways. .

FoBP still does its regular watershed clean-ups, collecting contractor-sized bags full of Styrofoam, bottles, cans, plastic bags, fast-food packaging, and much more. You should resolve to join one of our clean-ups to see how careless and wasteful many are – and yes, we mask and social distance! There is also a NEW self-serve trash pick-up station near Shelter # 1, with pick-up sticks, gloves and trash bags for your use. Teach your kids good habits or help clean the environment while enjoying our trails and waterways, and cleaning the Chesapeake Bay! You WILL feel better afterwards!

Anything that floats gets swept-up by stormwater, and heads for the Bay. Bryan Parks vegetated floodplains snag the trash and make clean up easy, and FUN, believe it or not! .

Many bags of trash, several tires and a broken shopping cart all hear for the landfill.

If you love the Park, you should give back to the park!

Students from JTCC Prof Emswiler's environment class regularly volunteer with our clean-ups. Marvel at Lindsey's boldness and sense of balance !

Public Involvement Activity #3

James River and Tributaries Benthic TMDL 1st TAC Meeting Minutes

Wed, Feb 3, 2021 1:00pm – 2:30pm

Webinar was recorded

21 members of the public in attendance plus 9 DEQ employees and contractors

Introductions of staff and roles and expectations of Technical Advisory Committee (TAC) members were discussed.

Kickoff meeting review: Provided the map of the project area and went through each impaired area, briefly reviewed the Clean Water Act, and designates uses, the DEQ water wheel (water monitoring, biological monitoring). Why do we monitor aquatic life/bugs and what can they tell us and examples of them. The Water Quality stations map was shown and then the DEQ water wheel Assessment process and impaired waters list was discussed. Benthic VSCI scores and details about each stations scores were shown for Baileys Creek, Nuttree Branch, Oldtown Creek, Proctors Creek, Rohoic Creek, Swift Creek Upper and lower. DEQ water wheel discussion on what is a TMDL (total maximum daily load) means a sum of a waste load allocation, plus the sum of the load allocation plus margin of safety, details of how we develop the TMDL. The next step discussed on the water wheel is implementation planning, which uses the TMDL allocations to help guide us where to focus implementation. The timeline was discussed, what we have accomplished so far, second TAC meeting expected to take place spring 2021 and final public meeting to he held summer 2021.

Question Break: no questions were posed.

Stressor Analysis: Talked about the stressor analysis process, modeling approach that was used (CADDIS). What data is available and what data or metrics are computed for or from the model. Reference stations, seasonality, composition of benthic community, feeding group figures. Data review and habitat scores. Data thresholds and probabilities of impacting benthic macroinvertebrates. Diurnal data measurements were collected. Non agency data and reports that have been generated were looked at and citizen monitoring data that was used as model inputs. Caddis approach and examples of the 14 lines of evidence that were evaluated and the strengths of the scores. Probable stressors table from the modeling results were shown for each impaired area. Next were details about each identified stressor and evidence that was supported them. Sediment TMDLs for all 6 streams and phosphorus TMDLs for 3 of the streams are recommended.

Questions: What stat test was used to determine values? P values of .05 and stat test alpha

Swift Creek Lake at the dam has Broad crested weir, 25 ft down is the intake structure for release. It's a stratified lake that mixes in the spring and fall and all the Low Dos are associated with the thermocline that establishes in early march April, the thermocline usually starts at about 20 ft. Most of the water comes from the top of the weir, in late summer water does not

come from the top if there is a significant drought. They have a significant hydrilla problem due to nutrient uptake. During the summer months it's normally seepage from the dam that is released downstream, there are requirements for downstream flows but contact public works for those details.

TAC member asked a question about the shifting sand bottoms, the benthic are not establishing on those and the communities are sticking to the banks, do you think that can be attributed to the geology of the area? Response: The model tries to include the geology and when the slopes and flow are low you get a lot of buildup he will try to attribute to that in the write up.

TAC member from Chesterfield County says the thermocline in the summer is usually set up around 13-14 ft based on her calculations.

Public Involvement Activity #4

James River and Tributaries Benthic TMDL 1st TAC Meeting Minutes

Wed, April 14, 2021 1:00pm – 2:30pm

Webinar was recorded

Attendance:

Alan Lederman (Chesterfield Co.)
Ashley Hall (Stantec)
Chip Kramer (JTCC)
David Sirois (Chesterfield Co.)
Emily Guillaume (Troutman Pepper)
James Beckley (Chesterfield Co.)
Jen Rogers (DEQ)
Jennifer Palmore (DEQ)
Julian H Lipscomb (Branscome Incorporated)
Katie Shoemaker (WSSI)
Kelley West (DEQ)
Laura Barry (Chesterfield Co.)
Laura Nicklin (Ashland Specialty Ingredients G.P.)
Oula Shehab-Dandan (Dominion Energy)
Ram Gupta (DEQ)
Rebecca Stewart (Chesterfield Co.)
Robert Brent (JMU)
Ryan Shore (Aleris)
Ryan Smith (LaBella Associates)
Scott Bookwalter (Chesterfield Co.)
Warren Smigo (DEQ)
Weedon Cloe (Chesterfield Co.)

Roles and expectations of Technical Advisory Committee (TAC) members were discussed.

Introductions of staff and contractors and project roles.

Project review
Review of the project watershed map with all of the impairments, also the DEQ waterwheel or process of water monitoring, assessment and TMDL development. Discussed aquatic life use indicators, benthic macroinvertebrate, monitoring protocols, and VSCI scoring

All of the impairments were shown on individual maps and the boundaries were discussed. On the Swift Creek impairment DEQ plans to deploy meters to collect continuous monitoring data in multiple locations within the impairment areas this year to help determine how to categorize the dissolved oxygen impairment. DEQ does not plan to develop a TMDL equation in this report for this segment, but the continuous monitoring will help determine how to categorize this impairment.

Stressors
Discussed stressor analysis process and the model used to produce these reports and outputs. All of the impairments have sediment as the probable stressor, and phosphorus in a few of the segments so phosphorus and sediment will be targeted in the TMDL.

Questions:
Ram Gupta asked if the DEQ stressor analysis tool was used for this project. Robert Brent answered saying the CADDIS tool was used but used all of the same inputs that the DEQ tool uses plus a few extra inputs.

It was asked if we could discuss more why swift creek will not have a TMDL. Jen R. answered saying the dissolved oxygen (DO) impairment may be moved to a Category 4C if the low DO is being caused by the dam. Robert Brent said there will be a phosphorus TMDL for the swift creek that will cover some of the DO impairment but he thinks there will still be an impairment for DO especially after phosphorus reductions.

Each watershed will have a separate TMDL developed, all of these segments are in the same area as the Chesapeake Bay TMDL so yes there will be some overlap between the two.

Model Approach and inputs (presented by Katie Shoemaker, WSSI)
The model that will be used for this project is GWLF which is a lumped parameter model that looks at point and nonpoint sources. This model incorporates a sediment delivery ratio and has landscape and streambank erosion ratios inputted. The model is broken down into sub watersheds and all the model inputs were discussed in detail. Land Cover or Land Use percentages were discussed for each watershed. Questions: none

Sources
Nonpoint sources and Residential Septic System details and how they were derived were shown. *Is the 3.3% septic system failure rate accurate? Are there any known straight pipes in the watersheds that can be addressed or unreported sewer system overflows that anyone would like to bring to their attention?*

Permits
Point sources were listed and it was mentioned how they were included within the model and what their permitted annual loadings currently are. Industrial stormwater general permits were shown in tables with the receiving streams and the permitted general permit loadings per year. Concrete products general permits with permitted annual flows and receiving streams were listed. Domestic sewage general permits were shown with receiving streams and the annual discharges.

Municipal separate storm sewer permit (MS4) permits were displayed in a map. *How would TAC members prefer the MS4 permits get handled, as aggregated or disaggregated?* VDOT would prefer an aggregate load since the areas are always changing. Ram asked if the model output can have a loading for the MS4 and the non MS4 area. Yes the areas can be separated out in the model, it's usually presented together in the report. Ram thinks it would be helpful during the IP process to have both areas MS4 and non MS4 areas documented within the TMDL.

Construction General Permits were listed with potential disturbed area in each watershed. *Do the acreage estimates for construction related disturbance seem reasonable? What level of ESC controls do you see implemented on construction sites within the watershed – does the 85% sediment reduction for ESC BMPs make sense for the allocated scenarios and should that reduction be different for existing conditions?*

Weedon Cloe mentioned Upper Swift Creek has increased sedimentation and Control measures that are within their ordnances since they are upstream of Swift Creek. All the area draining to the reservoir have strict controls in place. They can help out and include the engineering team into this if needed. The permitted controls are subject to failure with significant rainfall but typically the construction staff is diligent on maintaining this.

Ram asked if the model will be calibrated. When the calibrations is done they are limited on where the hydrology data is available. They will do calibration validation on a USGS gauge, and where they do have data they will compare the model to that. Sedimentation is difficult to do this but calibration will make it better so they perform where possible.

Existing Best management practices (BMPs) that are known to DEQ were listed in each receiving stream *Do you know of any permitted sources or BMPs or pollutant sources that were missed? If so please reach out to DEQ to discuss.*

TMDL Development

TMDL Equation, future growth, TMDL reductions and targets were reviewed. The reference watershed method has been used in the past to develop the pollutant targets where there is no regulatory limit (neither sediment nor phosphorus have a regulatory limit). It can be hard to find a healthy reference watershed, especially in a more developed area, so instead the All Forested Load Multiplier (AllForX) method is what is suggested to be used for these watersheds. All of the AllForX watersheds were shown in a map and the process was discussed how they use the AllForX methodology to come up with the pollution targets.

Next Steps

Implementation Plan will be the next step after the TMDL is complete. The goal is to start the plan directly after the TMDL is completed. Once the Implementation plan is completed then it will be a good guide for watershed clean up to begin. The implementation plan strategies are to have measurable goals and milestones, have stakeholder roles, and integrate with other available plans and to identify potential funding sources.

The next TAC meeting will be in later Spring/early Summer.