Fast Track Proposed Regulation
Agency Background Document

Agency name	Virginia Soil and Water Conservation Board
Virginia Administrative Code (VAC) citation	4 VAC 50-60
Regulation title	Virginia Stormwater Management Program (VSMP) Permit Regulations
Action title	Amendment to the Virginia Stormwater Management Program (VSMP) Permit Regulations (4 VAC 50-60-1300 et seq.) to establish Procedures for Reviewing and Approving Design Specifications and Pollutant Removal Credits for BMPs.
Date this document prepared	April 18, 2013

This information is required for executive branch review and the Virginia Registrar of Regulations, pursuant to the Virginia Administrative Process Act (APA), Executive Orders 14 (2010) and 58 (1999), and the *Virginia Register Form, Style, and Procedure Manual*.

Brief summary

Please provide a brief summary (no more than 2 short paragraphs) of the proposed new regulation, proposed amendments to the existing regulation, or the regulation proposed to be repealed. Alert the reader to all substantive matters or changes.

This regulatory action amends the Virginia Stormwater Management Program (VSMP) Permit Regulations (4 VAC 50-60), creating a new Part XVI titled "Procedures For Reviewing and Approving Design Specifications and Pollutant Removal Credits for BMPs" (4VAC50-60-1300 et seq.) within the body of the Stormwater Management regulations, incorporating a new technical guidance document by reference (*Virginia Technology Assessment Protocol For Evaluating Stormwater Manufactured Treatment Devices*), and including four new associated forms. The new Part XVI establishes procedures for the consistent and reliable testing and verification of stormwater Best Management Practice (BMP) performance and provides for a systematic state review and approval process for BMP Design Specifications and Pollutant Removal Credits.

Prior to this action, Virginia has been dependent upon the results of BMP testing conducted through programs in other states, mainly to establish pollutant removal credits for only Total Suspended Solids (TSS). However, Virginia uses Total Phosphorus (TP) in the Stormwater Management regulations as an indicator pollutant to establish a pollutant discharge limitation that must be met for new development and redevelopment projects. In addition, the Chesapeake Bay Total Maximum Daily Load (TMDL) has established pollutant load limits for TP

as well as for Total Nitrogen (TN) and TSS. As such, Virginia needs to know how well stormwater BMPs considered for use in the Commonwealth achieve reductions of those pollutants. Therefore, the Department of Conservation and Recreation (Department) has created the standing Virginia Stormwater BMP Clearinghouse Committee (the Committee) of technical experts and stakeholders to develop as part of their charge, testing protocols for use in determining removals of TSS, TP and TN as are set out in the technical document incorporated by reference through this regulatory action. The Department has also created the Virginia Stormwater BMP Clearinghouse website to post Department Director approved BMPs.

Part XVI has four general components to it:

1. The first component includes an "Authority" section and a "Definitions" section that are applicable to the entire Part.
2. The second component, titled Section I: Virginia Technology Assessment Protocol (VTAP) For Evaluating Stormwater Manufactured Treatment Devices (MTDs), contains the key elements of the administrative process governing the submittal and evaluation of BMP permit use applications for MTDs.
3. The third component, titled Section II: Procedures For Approving Non-Proprietary Devices, contains the authority and framework for the Director to review and approve non-proprietary stormwater BMPs and directs the Committee to investigate supplemental procedures that may be appropriate for providing additional scientific rigor and consistency to the testing and verification of pollutant reduction performance of non-proprietary BMPs.
4. The fourth component, titled Section III: Procedures For Approving Manufactured Pre-Treatment Devices, contains the procedures for approving certain MTDs that are designed to reduce sediment and gross solids but do not provide for filtering or removal of other pollutants. However, such devices can function effectively as pre-treatment for filtering devices, improving their performance and reducing their need for maintenance. This section has been included to provide authority for more rapid and less costly approval procedures than those associated with the VTAP.

These regulations provide a reasonable and consistent mechanism through which BMPs may be considered in order to provide the regulated community with a wide variety of pollutant reduction devices and to encourage competition within the market place. This should result in lower costs of land development and cleanup of the Chesapeake Bay and Virginia rivers and streams.

Statement of final agency action

Please provide a statement of the final action taken by the agency including (1) the date the action was taken, (2) the name of the agency taking the action, and (3) the title of the regulation.

The Virginia Soil and Water Conservation Board's Virginia Stormwater BMP Clearinghouse Committee and its subcommittees and expert panel worked since 2007 on the development of the *Virginia Technology Assessment Protocol For Evaluating Stormwater Manufactured Treatment Devices* (VTAP) as called for in the Board's Stormwater Management regulations (4VAC50-60-65 C).

> 4VAC50-60-65 C: *"BMPs differing from those listed above* [the list of non-proprietary stormwater BMPs already approved in Subsection B of that section of the regulation] *shall be reviewed and approved by the director in accordance with procedures established by the BMP Clearinghouse Committee and approved by the board."*

The Clearinghouse established a Research Protocol Subcommittee on June 21, 2007 to develop a draft protocol for Virginia that served as the precursor for these regulations and associated documents. It held its first meeting on October 17, 2007. Subsequent meetings were held on: December 4, 2007, May 8, 2008, November 3, 2008, November 24, 2008, December 1, 2008, and February 4, 2009.

The work of the Research Protocol Subcommittee was further guided and refined by a DCR Panel of Academic BMP Researchers (expert panel), headed up by subcommittee member Dr. David Sample. The expert panel compared the relevant VTAP sections developed by combining sections of TARP and TAPE with the modified sections of the VTAP as proposed by the work group of vendors. The expert panel decided that the vendor's version of the VTAP should advance as the basis for developing a testing protocol for total phosphorus. The panel was composed of the following experts:

Dr. David Sample, Virginia Tech BSE Dept.
Dr. Thomas J. Grizzard, Virginia Tech CEE Dept. and OWML
Dr. Allen P. Davis, University of Maryland, CEE Dept.
Dr. John Sansalone, University of Florida, EES Dept.
Dr. Rob Roseen, University of New Hampshire, CEE (now with Geosyntec)

The expert panel completed their work, and Dr. Sample presented their results to the Clearinghouse Committee at the April 19, 2010 meeting. At that meeting an additional subcommittee was formed, called the VTAP subcommittee. This subcommittee met twice with the purpose to review and update the consensus protocol developed by the expert panel for inclusion in the VTAP. Meetings were held on June 21, 2010 and July 9, 2010.

The Clearinghouse Committee met to discuss the VTAP at its meetings on August 12, 2010 and January 24, 2011. Comments were accepted from the public following the January 24, 2011 meeting until February 11, 2011. At the April 18, 2011 meeting, the Clearinghouse Committee finalized their consensus document of the VTAP, and a few additional edits were proposed at the July 25, 2011 Clearinghouse Committee meeting.

In December of 2011, the Virginia Soil and Water Conservation Board approved the VTAP "in concept".

The Clearinghouse Committee continued to meet on a quarterly basis to further refine the document culminating in the Committee's November 13, 2012 motion, after a six-year effort, to advance the VTAP to the Virginia Soil and Water Conservation Board for approval.

On December 11, 2012, the Virginia Soil and Water Conservation Board approved this final regulation that establishes within the Virginia Stormwater Management Program (VSMP) Permit Regulations a new PART XVI (section 4VAC50-60-1300 et seq.) titled "Procedures For Reviewing and Approving Design Specifications and Pollutant Removal Credits for BMPs" and authorized the Director of the Department of Conservation and Recreation and the Departmental Regulatory Coordinator to submit this fast-track regulation, the *Virginia Technology Assessment Protocol For Evaluating Stormwater Manufactured Treatment Devices* (December 11, 2012) that is being incorporated by reference, the four associated forms, and any other required documents to the Virginia Town Hall and upon approval by the Administration to the Registrar of Virginia. The four forms being included by reference include: (1) *"Confidentiality and Non-Disclosure Agreement,"* DCR199-220 (Dec 2012); (2) *"Manufactured Treatment Device Application Fee Form,"* DCR199-221 (Dec 2012); (3) *"Stormwater MTD Demonstration Site Summary Form,"* DCR199-222 (Dec 2012); and *"Use-Designation Application Form,"* DCR199-223 (Dec 2012).

Legal basis

Please identify the state and/or federal legal authority to promulgate this proposed regulation, including (1) the most relevant citations to the Code of Virginia or General Assembly chapter number(s), if applicable, and (2) promulgating entity, i.e., agency, board, or person. Your citation should include a specific provision authorizing the promulgating entity to regulate this specific subject or program, as well as a reference to the agency/board/person's overall regulatory authority.

The Virginia Stormwater Management Program is administered pursuant to the federal Clean Water Act (33 U.S.C. § 1251 et seq.) and the Virginia Stormwater Management Act (§ 10.1-603.2 et seq. of the Code of Virginia) and attendant regulations (4VAC50-60).

The Virginia Soil and Water Conservation Board's state authority to promulgate regulations related to stormwater management is found in the Virginia Stormwater Management Act in § 10.1-603.2:1 as follows:

> **§ 10.1-603.2:1.** Powers and duties of the Virginia Soil and Water Conservation Board.
> In addition to other powers and duties conferred upon the Board, it shall permit, regulate, and control stormwater runoff in the Commonwealth. **The Board may** issue, deny, revoke, terminate, or amend state stormwater individual permits or coverage issued under state general permits; **adopt regulations**; approve and periodically review Virginia stormwater management programs and management programs developed in conjunction with a state municipal separate storm sewer permit; enforce the provisions of this article; **and otherwise act to ensure the general health, safety and welfare of the citizens of the Commonwealth as well as protect the quality and quantity of state waters from the potential harm of unmanaged stormwater**. The Board may:
> 2. Delegate to the Department any of the powers and duties vested in it by this article **except the adoption and promulgation of regulations**. Delegation shall not remove from the Board authority to enforce the provisions of this article.
> 6. In accordance with procedures of the Administrative Process Act (§ 2.2-4000 et seq.), **adopt rules governing: (i) hearings; (ii) the filing of reports; (iii) the issuance of permits and special orders; and (iv) all other matters relating to procedure; and to amend or cancel any rule adopted**.

Subsection (A)(2) of § 10.1-603.4 of the Code of Virginia provides authority for the Board to establish minimum design criteria for measures to control nonpoint source pollution and localized flooding. For the purposes of this regulatory action, the pollutants to be controlled include, but are not limited to, Total Phosphorus, Total Nitrogen, and Total Suspended Solids, as defined in 4VAC50-60-1310. This subsection also states that such criteria shall be periodically modified as required in order to reflect current engineering methods. Additionally, Subsection (A)(11) of § 10.1-603.4 of the Code of Virginia states that the regulations shall provide for the evaluation and potential inclusion of emerging or innovative stormwater control technologies that may prove effective in reducing nonpoint source pollution.

> **§ 10.1-603.4.** Development of regulations.
> A. The Board is authorized to adopt regulations that specify minimum technical criteria and administrative procedures for Virginia Stormwater Management Programs. The regulations shall:
> 2. **Establish minimum design criteria for measures to control nonpoint source pollution and localized flooding**, and incorporate the stormwater management regulations adopted pursuant to the Virginia Erosion and Sediment Control Law (§ 10.1-560 et seq.), as they relate to the prevention of stream channel erosion. **These criteria shall be periodically modified as required in order to reflect current engineering methods**;
> 11. **Provide for the evaluation and potential inclusion of emerging or innovative stormwater control technologies that may prove effective in reducing nonpoint source pollution.**

In accordance with § 10.1-603.4 (A) subdivisions 2 and 11 of the Code of Virginia, 4VAC50-60-65 C of the Virginia Stormwater Management Program (VSMP) Permit Regulations provides that BMPs differing from those listed in 4VAC50-60-65 B shall be reviewed and approved by the Director in accordance with procedures established by the BMP Clearinghouse Committee and approved by the Board. Section 4VAC50-60-65 B further states that design specifications and the pollutant removal credits for all approved BMPs are found on the Virginia Stormwater BMP Clearinghouse website and that such BMPs may be utilized to effectively reduce the phosphorus load and runoff volume in accordance with the Virginia Runoff Reduction Method.

4VAC50-60-65. Water quality compliance.

B**. The BMPs listed in this subsection are approved for use as necessary to effectively reduce the phosphorus load and runoff volume in accordance with the Virginia Runoff Reduction Method. Other approved BMPs found on the Virginia Stormwater BMP Clearinghouse Website at http://www.vwrrc.vt.edu/swc may also be utilized. Design specifications and the pollutant removal efficiencies for all approved BMPs are found on the Virginia Stormwater BMP Clearinghouse Website at http://www.vwrrc.vt.edu/swc**.

1. Vegetated Roof (Version 2.3, March 1, 2011);
2. Rooftop Disconnection (Version 1.9, March 1, 2011);
3. Rainwater Harvesting (Version 1.9.5, March 1, 2011);
4. Soil Amendments (Version 1.8, March 1, 2011);
5. Permeable Pavement (Version 1.8, March 1, 2011);
6. Grass Channel (Version 1.9, March 1, 2011);
7. Bioretention (Version 1.9, March 1, 2011);
8. Infiltration (Version 1.9, March 1, 2011);
9. Dry Swale (Version 1.9, March 1, 2011);
10. Wet Swale (Version 1.9, March 1, 2011);
11. Sheet Flow to Filter/Open Space (Version 1.9, March 1, 2011);
12. Extended Detention Pond (Version 1.9, March 1, 2011);
13. Filtering Practice (Version 1.8, March 1, 2011);
14. Constructed Wetland (Version 1.9, March 1, 2011); and
15. Wet Pond (Version 1.9, March 1, 2011).

C. **BMPs differing from those listed in subsection B of this section shall be reviewed and approved by the director in accordance with procedures established by the BMP Clearinghouse Committee and approved by the board**.

From the federal perspective, the goal of the Clean Water Act (CWA) is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters" (33 U.S.C §1251(a)). Section 402 of the Clean Water Act (33 USC §1251 et seq.) allows the federal Environmental Protection Agency (EPA) to authorize states to administer the National Pollutant Discharge Elimination System (NPDES) permit program and prohibits the discharge of pollutants into waters of the United States without a NPDES permit. The Commonwealth of Virginia received such authorization in 1975 under the terms of a Memorandum of Understanding with the U.S. EPA. The Virginia Soil and Water Conservation Board was delegated responsibility for administering the Construction General Permit program by Chapter 372 of the 2004 Virginia Acts of Assembly (HB 1177) with approval by the EPA effective January 29, 2005. This regulatory action will result in the availability of tools to assess BMPs that will help achieve the goals and requirements of the Clean Water Act and attendant regulations.

On December 11, 2012, the Virginia Soil and Water Conservation Board approved this final regulatory action related to the Board's Virginia Stormwater Management Program (VSMP) Permit Regulations and authorized the Director of the Department of Conservation and Recreation and the Departmental Regulatory Coordinator to submit as a fast-track action the Board's final amendment adding Part XVI (section 4VAC50-60-1300 et seq.) of the Board's Virginia Stormwater Management Program (VSMP) Permit Regulations to the Virginia Town Hall and upon approval by the Administration to the Registrar of Virginia.

Purpose

Please explain the need for the new or amended regulation. Describe the rationale or justification of the proposed regulatory action. Detail the specific reasons the regulation is essential to protect the health, safety or welfare of citizens. Discuss the goals of the proposal and the problems the proposal is intended to solve.

This regulatory action is needed to establish scientifically defensible procedures for use in testing stormwater BMPs to determine and verify their relative effectiveness in removing various pollutants from stormwater runoff in Virginia. In the past, Virginia citizens, localities, agencies, and businesses have been dependent upon testing data from outside the state, often conducted only in laboratories – not in the field – and largely focused on removal of only TSS, not the nutrients that are also important in Virginia as primary pollutants to the Chesapeake Bay and our local streams and rivers. The lack of data specific to Virginia circumstances has made it difficult to have confidence in the performance of various pollution treatment practices and also to be able to compare the relative cost-effectiveness of various BMPs. Lacking such a testing protocol, Virginia agencies have been reluctant to approve the use of newer, more innovative BMPs, which has resulted in fewer BMPs being available for use in Virginia and little downward pressure on prices that would typically result from more choices and competition among vendors.

Through this regulatory action, the Board is ensuring that, pursuant to its regulatory powers in 10.1-603.2:1, it is administering regulations that appropriately "act to ensure the general health, safety and welfare of the citizens of the Commonwealth as well as protect the quality and quantity of state waters from the potential harm of unmanaged stormwater" by providing a process to effectively evaluate various BMPs for their pollutant removal capabilities. This process will also lead to introduction and approval of a greater number of BMPs for use in Virginia, introducing more competition. This should result in lower costs of land development and cleanup of the Chesapeake Bay and Virginia rivers and streams.

Rationale for using fast track process

Please explain the rationale for using the fast track process in promulgating this regulation. Why do you expect this rulemaking to be noncontroversial?

Please note: If an objection to the use of the fast-track process is received within the 30-day public comment period from 10 or more persons, any member of the applicable standing committee of either house of the General Assembly or of the Joint Commission on Administrative Rules, the agency shall (i) file notice of the objections with the Registrar of Regulations for publication in the Virginia Register, and (ii) proceed with the normal promulgation process with the initial publication of the fast-track regulation serving as the Notice of Intended Regulatory Action.

This rulemaking is expected to be noncontroversial as the majority of the provisions included in these regulations reflect a general consensus from the members of the Virginia Stormwater BMP Clearinghouse Committee, a standing advisory committee to the Board and the Department, the membership of which is reflective of a Regulatory Advisory Panel. The Committee is composed of private sector, local government, non-profit, academic, and state agency representatives, as well as stormwater MTD manufacturers that were assembled to provide sound recommendations to the Board and Department regarding these regulatory improvements and, on an on-going basis, recommendations regarding the approval of stormwater BMPs for sale and use in Virginia. This consensus represents the views of stormwater MTD manufacturers and their trade association, which participated in the process over the past several years and will be subject to this regulation.

The implementation of these regulations is also of importance to the regulated community as it is expected to result in reduced costs associated with meeting their water quality requirements and as such represents a beneficial process.

Substance

Please briefly identify and explain the new substantive provisions, the substantive changes to existing sections, or both where appropriate. (Provide more detail about these changes in the "Detail of changes" section.) Please be sure to define any acronyms.

The amendments to the existing regulations advanced by this regulatory action are presented in a new Part XVI. No changes have been made in any other Part of the existing Virginia Stormwater Management Program (VSMP) Permit Regulations (4 VAC 50-60) (other than Forms and Documents Incorporated by Reference) to accomplish what is proposed in this regulatory action.

A key element of these regulations is the Virginia Technology Assessment Protocol For Evaluating Stormwater Manufactured Treatment Devices (VTAP). VTAP is a scientifically defensible procedure for testing manufactured stormwater management treatment devices (MTDs) to verify their designs and determine the level of pollutant removal they perform for Total Phosphorus (required), Total Suspended Solids (required), and Total Nitrogen (optional). In accordance with this regulation, the VTAP sets out procedures that must be used in order for a MTD manufacturer to verify a pollutant removal efficiency and achieve approval for Best Management Practice (BMP) use and sale in Virginia.

This new Part of the regulations begins with a section establishing authorities for the action (4VAC50-60-1300) and a definitions section (4VAC50-60-1310), with the remainder of the Part divided into three Sections as follows:

Section I – Virginia Technology Assessment Protocol (VTAP) For Evaluating Stormwater Manufactured Treatment Devices (MTDs)

This Section contains the key elements of the administrative process regarding the submittal and evaluation of BMP permit use applications for manufactured treatment devices. (See the flow chart at the end of this document that illustrates the review process in Virginia for the assessment of stormwater manufactured treatment devices.)

- Applicability (4VAC50-60-1320)
- Liability (4VAC50-60-1330)
- Use of Devices (4VAC50-60-1340)
- Board, Director and Department Administrative Responsibilities (4VAC50-60-1350)
- Virginia Stormwater BMP Clearinghouse Committee Administration and Responsibilities (4VAC50-60-1370)
- Application Submittal and Review Processes (4VAC50-60-1380)
- Processing Timelines (4VAC50-60-1390)
- Technical Evaluator Responsibilities in the MTD Application Process (4VAC50-60-1400)
- Confidentiality (4VAC50-60-1410)
- Responsibilities of the Applicant's Technical Advisor, Data Verifier, and Data Validator Responsibilities (4VAC50-60-1420)
- Conflict of Interest by an Applicant's Technical Advisor (4VAC50-60-1430)
- Reporting (4VAC50-60-1440)
- Development, Review and Approval of the Quality Assurance Project Plan (QAPP) (4VAC50-60-1450)
- Field Monitoring and Testing (4VAC50-60-1460)
- Suspension or Revocation of Permitted Use Approvals (4VAC50-60-1470)
- Extensions (4VAC50-60-1480)
- Virginia Stormwater BMP Clearinghouse Website (4VAC50-60-1490)
- Disposition of Underperforming MTDs (4VAC50-60-1500)
- Technical Standards (4VAC50-60-1510)
- Exceptions (4VAC50-60-1520)

- Appeals (4VAC50-60-1530)
- Use Permit Application Fees for MTDs (4VAC50-60-1540)

Section II – Procedures for Approving Non-Proprietary Devices

This Section contains the authority and framework for the Director to review and approve non-proprietary devices and calls on the Committee to investigate supplemental procedures that may be appropriate for providing additional scientific rigor and consistency to the testing of non-proprietary BMPs.

- Applicability (4VAC50-60-1550)
- Procedures for Approving Non-Proprietary BMPs (4VAC50-60-1560)

Section III – Procedures for Approving Manufactured Pre-Treatment Devices

This Section contains the procedures for approving certain MTDs that are designed to reduce sediment and gross solids but do not provide nutrient filtering.

- Applicability (4VAC50-60-1570)
- Procedures for Approving Manufactured Pre-Treatment Devices (4VAC50-60-1580)
- Use Permit Application Fees for Manufactured Pre-Treatment Devices (4VAC50-60-1590)

Forms

- Updates FORMS to add four documents that will be used to administer the use permit application process.

Documents Incorporated by Reference

- Adds two references to the DOCUMENTS INCORPORATED BY REFERENCE. The first is a document titled "*The Virginia Technology Assessment Protocol for Evaluating Stormwater Manufactured Treatment Devices*." The second document is titled "*EPA Requirements for QA Project Plans*" (EPA QA/R-5) (U.S. EPA, March 2001).

Issues

Please identify the issues associated with the proposed regulatory action, including:
1) the primary advantages and disadvantages to the public, such as individual private citizens or businesses, of implementing the new or amended provisions;
2) the primary advantages and disadvantages to the agency or the Commonwealth; and
3) other pertinent matters of interest to the regulated community, government officials, and the public.
If there are no disadvantages to the public or the Commonwealth, please indicate.

Primary advantages and disadvantages to the public:

Advantages:

- The public will gradually have more manufactured stormwater management treatment device technologies to choose from as MTDs complete testing and receive approval for sale and use in Virginia. This will increase the number of "tools" available to address pressing water quality and TMDL issues in the Commonwealth.
- Having more MTDs available will increase competition, which typically drives down costs; so the costs to local governments and land developers to comply with state Stormwater Management regulations and TMDL and other permit requirements will become lower over time.
- The public will have more confidence in the performance of approved MTDs, due to the rigorous testing process to which they have been subjected, and the public can compare their costs and benefits (i.e., performance) with more reliability (i.e., "comparing apples to apples").

- MTD manufacturers and vendors will compete in a fair market, where all will have been tested and judged according to identical procedures.
- Potentially, over time, the BMP Clearinghouse and VTAP processes can extend evaluation of MTDs and BMPs to performance regarding *additional* pollutants of concern (e.g., heavy metals, bacteria, hydrocarbons, etc.).

Disadvantages:

- The costs involved with VTAP testing are high. However, the costs are commensurate with those in the other key testing states (Washington, New Jersey). In addition, some manufacturers have indicated they consider the costs reasonable in order to be able to enter the market for these treatment devices.
- Initially the Department will be evaluating MTDs for only three pollutants of concern: TP, TN and TSS. However, over time there will be an opportunity to expand the list of pollutants for which testing and evaluation may be conducted.

Primary advantages and disadvantages to the agency or the Commonwealth:

Advantages:

- The Commonwealth will have more confidence in the pollutant removal performance of tested MTDs, enabling approval of devices that have met all testing requirements.
- With device testing being conducted in Virginia, under Virginia conditions, the efficiency of the devices will be more applicable to the Commonwealth and translate to more accurate estimates of pollutant removals as we strive to meet the various TMDL pollutant reduction requirements.

Disadvantages:

- Once implemented, there will be private-sector expectations of this program's reliability. The Department will need to ensure that the program is consistently managed in order to keep up with the demand for product evaluation in a timely manner.

Other pertinent matters of interest to the regulated community, government officials, and the public:
Two primary issues were identified during the development of the regulations. Below is an outline of the Department's thoughts after careful consideration of these issues with explanations as to why the regulatory documents have been structured as they have.

The first issue concerns the required use of state certified laboratories in accordance with § 2.2-1105 of the Code of Virginia for the analysis of field and laboratory samples related to applications for general use designation (GUD). Section 4VAC50-60-1460 E stipulates that "[u]se of a laboratory certified under 1VAC30-45 or accredited under 1VAC30-46 [the regulations developed in accordance with§ 2.2-1105] is required to receive a GUD designation unless otherwise exempted from such use." Some manufactures have expressed concerns regarding this requirement, largely because many have conducted prior testing using non-certified laboratories.

The Department has actively considered those concerns and has continued to uphold the laboratory use requirements set out in the regulation on both legal and administrative grounds. This determination is based on the following:

- Section 2.2-1105 of the Code of Virginia establishes the environmental laboratory certification program and requires that the Department of General Services (DGS) shall by regulation establish a program for the certification of laboratories conducting any tests, analyses, measurements, or monitoring required pursuant to Chapter 13 (§ 10.1-1300 et seq.) of Title 10.1, the Virginia Waste Management Act (§ 10.1-1400 et seq.), or the State Water Control Law (§ 62.1-44.2 et seq.).
- Accordingly there is a requirement for environmental laboratories in Virginia doing work in support of the State Water Control Law to have Virginia Environmental Laboratory Accreditation Program (VELAP) accreditation.
- The Department's Counsel in the Attorney General's Office has reviewed the issue and has supported the Department's position that VELAP certification is required for monitoring conducted pursuant to State Water Control Law (see Code 2.2-1105(A)), which includes the state's TMDLs. It is Counsel's position that VELAP certification is required to validate the TMDL reduction numbers.
- We also note that coverage under the Construction General Permit, that requires the implementation of BMPs permitted for use, is required under§ 62.1-44.5 of the State Water Control Law or such land disturbing projects are otherwise prohibited from discharging to state waters.
- The Department of Environmental Quality (DEQ) has stated that they require VELAP certification for VPDES permit reporting. The Construction General Permit is a VPDES permit and is required as noted in the proceeding bullet under the State Water Control Law.
- These regulations will be transferred to DEQ as part of the water quality consolidation legislation and will become directly subject to the State Water Control Law.
- Research has shown that use of such labs should not be burdensome to manufactures as a review of the VELAP Accredited Commercial Laboratories WITH FIELD OF ACCREDITATION (FOA) DETAIL list (updated 7/25/2012) revealed that there are about 70 commercial labs that are certified for TP analysis at this time. Similarly, about 30 non-commercial labs have VELAP certification for TP.
- In conversations with the VELAP staff at DGS, they stated that VELAP certified labs are required for any monitoring involved with meeting requirements of the Virginia State Water Control Law. They stated their opinion that VELAP certification should be required for labs analyzing test data to assign pollutant removal efficiencies for products that could then be used to meet TMDL and other regulatory water quality requirements.
- It should also be noted that the laboratory(ies) used by the manufactures raising this concern would likely be eligible for certification if the laboratory administrator was willing to apply, or the manufacturer(s) may contract with a VELAP-accredited laboratory for certain analyses. The Department's Panel of Academic BMP Researchers noted that: "there are laboratories, particularly those in universities, which have a long history of performing environmental and treatment process studies.

The requirement to acquire accreditation in compliance with VELAP will certainly create a burden. The panelists, all being academicians, are cognizant of this burden. One of the panelists recently achieved such accreditation in Florida and did not find it to be insurmountable. In Virginia, at least one state university laboratory has already been awarded VELAP accreditation, and two others are in progress. We believe that this requirement is driven by regulation, that no exception should be created for academic laboratories, and that such a requirement, while taxing, is not an undue burden on such laboratories."

- It should be noted that the VELAP requirement is no different than the Department requiring in its stormwater regulations that a professional licensed by the Virginia State Corporation Commission's Division of Professional and Occupational Regulation apply his seal to site plans and calculations associated with stormwater management plans.

The second concern involves Section II of the final regulations (Procedures for Approving Non-Proprietary Devices). The Stormwater Equipment Manufacturers Association (SWEMA) believes that the testing should be the same for Proprietary and Non-Proprietary Devices and that the current language should be removed. The manufactures have noted that government has a legal and ethical obligation to treat all sectors in a fair and unbiased manner. According to the Association, failure to address this issue may result in the following situations:

- The state of Virginia may unintentionally create the inequitable comparability of stormwater BMPs by not having one water quality testing protocol to which all research and monitoring programs are held accountable.
- This inequity may economically prejudice private sector companies with costs not required to be borne by competing non-proprietary BMPs.
- This may result in decreased stormwater BMP options in the Virginia marketplace.

[NOTE:

"Non-proprietary BMP" means any stormwater BMP used to remediate stormwater that was developed in the public domain; is not patented, and for which design specifications are publicly available; and installation of which is not limited by licensing or royalty considerations.

"Manufactured treatment device" or "MTD" means fabricated BMPs used to remove pollutants from stormwater runoff. MTD designs may involve proprietary components or processes. MTDs may not be installed in Virginia for the treatment of stormwater runoff quality control credit unless they are approved by the director in accordance with Section I of this Part and the VTAP process and are listed for permitted use on the website.]

The Department has again thoroughly considered this matter and offers the following comments regarding these concerns:

- The Department contends that Section II of the regulations should be retained as written. In summary, the Section contains the authority and framework for the Director to review and approve non-proprietary devices and calls on the BMP Committee to investigate supplemental procedures that may be appropriate for providing additional scientific rigor and consistency to the testing of non-proprietary BMPs. The Board recommended, that the BMP Committee begin to work on guidance in early 2013 (NOTE: first subcommittee meeting on March 20, 2013) that outlines appropriate procedures for testing non-proprietary BMPs while this regulatory action advances through the approval process.
- The Department recognizes that in the end, best professional judgment is applied to the data generated from monitoring all stormwater BMPs, including MTDs that will be subject to the VTAP. However, the judgments pertaining to MTD performance will typically be based on a few test sites, whereas the judgments applied to non-proprietary BMPs are typically based on many test sites and a broad array of literature applicable to these BMPs. The Department does agree that more monitoring and testing of

ALL BMPs is needed in order for continuous improvements to be made; although, we are not ready to state that proprietary and non-proprietary devices must require the use of the same sampling protocols.

- The Department agrees with its panel of academic BMP researchers that there is no clear impulse (such as profit motive) driving the testing and evaluation of non-proprietary BMPs in Virginia or, for that matter, in any other specific state. Non-proprietary BMP research tends to occur at academic institutions or within local jurisdictions where there is specific interest and funding can be cobbled together to accomplish the research. Our understanding of the performance of non-proprietary BMPs is based on many monitoring projects for any specific BMP type (e.g., bioretention) conducted in many different states, as opposed to a few more focused tests typically applied to the same design of a specific MTD.
- Given the significant differences in both the knowledge base and the issues surrounding how to fund the testing, the Department and the BMP Committee need to take the time to consider this matter. That is essentially what we have accomplished through the language in Section II. Additionally, the Department's Panel of Academic BMP Researchers that considered this issue did not believe it is appropriate to automatically submit non-proprietary BMPs to the current VTAP protocol focused on MTDs. Specifically they noted the following:
    - "The statement that 'non-proprietary BMPs are modified each and every time they are installed,' while 'a manufactured product is constructed in a controlled factory environment, assuring compliance' is a gross oversimplification of the process. Many non-proprietary BMPs have a large history of performance research, several of which have been published and peer reviewed. We acknowledge gaps in this knowledge, particularly in agricultural and catchment-scale BMPs. The current [Chesapeake] Bay program's emphasis on implementation without sufficient verification does likely weaken its ability to achieve compliance. Verification is taking place in some jurisdictions, albeit under less than uniform conditions. However, this does not obviate the need for certification of proprietary practices, about which we know much, much less. Going to the core of the argument is the 'fairness' of requiring testing. The panel does not feel that this argument holds water, no pun intended. No entity stands to gain from the certification of nonproprietary practices; whereas there are substantial potential rewards associated with certification of proprietary practices. Thus the risk and reward appear to be commensurate."

Therefore, no alternatives to this regulatory action are presented and the change being made falls within the Virginia Soil and Water Conservation Board's legal requirements to "ensure the general health, safety and welfare of the citizens of the Commonwealth as well as protect the quality of state waters from the potential harm of unmanaged stormwater."

Requirements more restrictive than federal

Please identify and describe any requirement of the proposal which is more restrictive than applicable federal requirements. Include a rationale for the need for the more restrictive requirements. If there are no applicable federal requirements or no requirements that exceed applicable federal requirements, include a statement to that effect.

There are no federal requirements applicable to this regulatory action. However, the addition of more approved MTDs (and BMPs) will provide more tools to achieve separate federal stormwater permit and TMDL requirements applicable to Virginia.

Localities particularly affected

Please identify any locality particularly affected by the proposed regulation. Locality particularly affected means any locality which bears any identified disproportionate material impact which would not be experienced by other localities.

This language applies equitably in all localities of the Commonwealth. Given that the regulation provides various authorities to localities to limit the use of selected BMPs or, otherwise, apply conditions to their use, then Virginia localities have the authority to exert appropriate control over the use and implementation of approved BMPs. Beyond that, the procedures set forth in the regulation will allow for approval of and accessibility to more BMPs to be used to protect the waters of the Commonwealth and achieve state and federal water quality goals established under the Virginia Stormwater Management Program, the multi-state Chesapeake Bay Program, the Chesapeake Bay TMDL and, as they may be developed in the future, other inter-state water quality protection efforts.

Regulatory flexibility analysis

Please describe the agency's analysis of alternative regulatory methods, consistent with health, safety, environmental, and economic welfare, that will accomplish the objectives of applicable law while minimizing the adverse impact on small business. Alternative regulatory methods include, at a minimum: 1) the establishment of less stringent compliance or reporting requirements; 2) the establishment of less stringent schedules or deadlines for compliance or reporting requirements; 3) the consolidation or simplification of compliance or reporting requirements; 4) the establishment of performance standards for small businesses to replace design or operational standards required in the proposed regulation; and 5) the exemption of small businesses from all or any part of the requirements contained in the proposed regulation.

Given the purpose of this regulation, to fairly and thoroughly oversee the testing of new manufactured stormwater treatment devices (MTDs) and other stormwater best management practices (BMPs), a certain amount of scientific rigor is necessary in order for the Department to be confident of the pollutant removal credits ultimately assigned to each MTD/BMP. In addition, specific kinds of reporting will be necessary in order for the Department to ensure ongoing compliance with the testing protocols and identify problems in the process that may require correction or other attention. Without this kind of specificity, manufacturers would be left with the responsibility to develop the parameters of their testing, and different manufacturers would inevitably develop different procedures which, simply by design, could lead to different test results. Furthermore, each manufacturer could have an incentive to develop a testing process that would show its MTD in a favorable light and that could lead to the Department's assigning higher pollutant removal credits than are actually merited. This might place the MTD in a better competitive position in the market than is actually deserved. Thus, the lack of quality data would raise the risk of incorrect and misleading decisions by the Department. Because these MTDs/BMPs will be used to achieve Virginia and Chesapeake Bay water quality protection objectives, the stakes are high and accuracy of such judgments is very important.

In developing these requirements, the Department drew from successful evaluation programs in other states. The following table shows the similarities and differences of the three main MTD testing protocols used for obtaining approvals – TARP, TAPE and VTAP. The Georgia Technology Assessment Protocol (GTAP) is included in the table but is a voluntary regional program that provides useful information but is not used for approvals.

Comparison of Significant Features of Evaluation Programs in the U.S for Manufactured Treatment Devices.[1]

Category	Parameter	TAPE	TARP	VTAP	GTAP
Applicability		Washington Dept. of Ecology	New Jersey (also to varying degrees reciprocity with CA, MA, MD, PA & VA[2]	Virginia DCR	North Georgia Water Planning District (voluntary, for info, not approval)
Use Designation	**Pilot**	Lab test data only	–	Lab or field test data using VTAP, TARP, TAPE or other approved protocol	1 field test (lab supplemental)
	Conditional	1 field test (lab suppl.) indicative of NW Wash. Conditions using protocol comparable to TAPE	–	1 field test using VTAP, TARP, TAPE or other approved protocol	–
	General	1 field test in NW Wash. (lab supplemental) using the TAPE protocol	1 field test (lab supplemental)	2 field tests: 1 test consistent with CUD, the other using the VTAP protocol	–
Pollutants Tested For		Basic/Pretreatment: TSS Phosphorus: TSS, TP, orthophosphate Dissolved metals: TSS, hardness, Cu, Zn Oil: NWTPH-Dx, sheen	TSS, SSC, others in performance claim; In New Jersey: TSS	TSS, TP (TN optional)	TSS only
Max. # of Installations During Testing	**Pilot** **Conditional** **General**	5 10 No limit	No limits at any use level	No limits at any use level; however, DCR may suspend if testing time period expires or problems observed during testing	No limits, but retrofits required if BMP does not function consistent with performance claims
Min. # of Storm Events to be Sampled		12, however must achieve required confidence level	50% of annual rainfall; 15 (prefer 20); In New Jersey: 20 (prefer 25)	24 (or 18 if 50% confidence level is achieved)	15
Min. # of Sequential Storm Events to be Sampled		NA	As many as practical	As many as practical, but at a minimum 5 sets of two storms in sequence	NA

Category	Parameter	TAPE	TARP	VTAP	GTAP
Accounting for MTD Maintenance Needs		Record all maintenance performed ; testing thru at least 1.5 maintenance cycles or 2 wet seasons	New Jersey: Record all maintenance performed; remove sed. at 50% capacity; replace filter at 90% flow cap.	Record all maintenance performed and continue testing thru at least one maintenance cycle	Record all maintenance performed
Testing Fees		$2,000 for initial application fee; $4,000 for QAPP review; $6,000 for review of Technical Evaluation Report (TER)	New Jersey: $1,000.00 for prelim. application fee; upon acceptance to the program, the following fees apply, based on annual corporate revenues: Under $1 million = $20,000; $1-20 million = $40,000; $20-50 million = $60,000; >$50 million = $100,000	$10,000 for TSS/TP; $15,000 if add TN; If DCR does not issue a use permit after reviewing application, 75% of fee refunded; $3,000 for application for reciprocal TARP/TAPE approval as pre-treatment device (no additional VTAP testing) NOTE: Fees will be re-evaluated after the first 2 years of VTAP program admin. Experience.	No fees
Lab Accreditation		Labs must be certified by a national or state agency that regulates laboratory certification or accreditation programs; for test sites located in the state of Washington, proponents must complete all lab work at an Ecology-accredited laboratory	Labs should be certified by a national or state agency regulating laboratory certification or accreditation programs (NELAC; in CA, ELAP)	Lab analyses shall be conducted by an independent lab. Use a lab certified under 1 VAC 30-45 or accredited under 1 VAC 30-46 to receive GUD designation, unless otherwise exempted from such use. Analyses that do not have a procedure established under the VELAP are exempted from such use and do not need to be performed by a VELAP certified or accredited lab.	NA

1 It may not be assumed as a matter of fact that all past data collection for MTDs has been done in accordance with acceptable field study procedures and analytical methods. The VTAP was developed referencing TARP and TAPE, with improvements from an Expert Panel and stakeholders, since it is designed to focus on TP removal. Program requirements are similar, but vary. Furthermore, TARP does not grant pilot or conditional use, but TAPE and VTAP do, and whereas TARP and TAPE are established programs, the VTAP is new. Virginia has long focused upon P as a key nutrient of concern in its approach to stormwater regulation. Progress in reducing P loads from sites where MTDs are likely to be applied should assist Virginia in meeting its goals under the Chesapeake Bay TMDL, and enhanced surface water criteria as they emerge.
2 Virginia DCR, DEQ and CBLAD supported the TARP in its original development.

The Department also conducted a thorough public comment process during the development of these requirements, engaging a variety of representatives from the stakeholder community. As a result, changes were made to the original proposal that will make it easier and more reasonable to comply with the requirements for both testing and reporting, while still maintaining sufficient scientific rigor.

One significant change had to do with the authorization of the number of installations of devices allowed in Virginia during the testing period. Originally the Department proposed limits on installations of devices during their testing process, based on the use level designation permitted for the device, similar to what is required in TAPE (see table above). The number of installations allowed implies the level of confidence the Department has in the provisional pollutant removal credits assigned during the testing process. These installation limits were originally established based on feedback from the manufacturers involved in the process. However, as the development of the protocols proceeded, the manufacturers (particularly the small companies) convinced the Department that limiting the number of installations during testing could potentially make the assessment process economically unfeasible in the future. Therefore, the Department made the decision to remove limits on the number of installations allowed in Virginia during the testing process. This change will provide each manufacturer the opportunity to more fully recover the costs of testing through sales in Virginia of their conditionally approved MTDs.

Other concessions made in the final regulation in response to public comments, and which have the effect of reducing overall testing costs, are as follows:

- The Department originally planned to require that a manufacturer would have to test a device at two separate field sites using the VTAP procedures. One of the two sites could be outside Virginia, provided that the site reflected Virginia characteristics (rainfall regime, soils, topography, etc.). Ultimately, the Department agreed that one of the field test sites could be conducted consistent with a different protocol (i.e., TARP or TAPE), provided the site reflected Virginia characteristics.
- The Department originally planned to require that among the 24 qualifying storm events sampled, there needed to be five pairs of sequential storms (back-to-back) and also a sequence of 10 consecutive (back-to-back) storms. The latter requirement was omitted, based on manufacturer comments about how difficult it is to capture samples from more than three consecutive storms.
- The Department originally planned to require that 24 qualifying storm events would have to be sampled to complete the testing, which equates to a 50% confidence level for the data derived, based on expected factors for the coefficient of variation. However, the Department conceded to allow as few as 18 qualifying storm events to be sampled, provided the manufacturer can demonstrate that a 50% confidence level is achieved for the data.
- The Department originally planned to require that only weirs and flumes could be used to capture flow measurements to sampling devices. However, the Department conceded that AV sensors could also be used, where appropriate (especially useful in very tight spaces).

Economic impact

Please identify the anticipated economic impact of the proposed new regulations or amendments to the existing regulation. When describing a particular economic impact, please specify which new requirement or change in requirement creates the anticipated economic impact.

These regulations establish a scientifically defensible procedure and a reliable standardized process for testing manufactured stormwater management treatment devices to verify their designs and determine the level of pollutant removal they perform for Total Phosphorus (required), Total Suspended Solids (required), and Total Nitrogen (optional). As the regulations were developed, the Department and the Committee were mindful of the costs and benefits of the testing procedures that were being considered and we believe that a balance between defensible procedures and necessary regulatory costs was achieved and is reflected in the final regulations and associated documents. While complying with these procedures will no doubt involve costs and time; several manufacturers have commented that they consider the costs reasonable in light of the much greater profits they stand to earn through sales of their products during the testing process and after their final approval upon completion of the process.

Currently, there are 15 non-proprietary BMPs and 7 MTDs officially authorized for use in Virginia to provide water quality protection during land-disturbing activities and to address post-construction nutrient and sediment reduction requirements. To date, MTD/BMP test programs to evaluate pollutant removal performance have been established in other states, sometimes using fairly simple protocols and often subject to rainfall characteristics very different from those in Virginia. Consequently, it is difficult to have confidence that stormwater treatment devices tested elsewhere would achieve the same levels of performance in Virginia. Furthermore, some manufacturers have claimed that their competitors have gained unfair advantages in their pollutant removal ratings due to inconsistent adaptations allowed during testing elsewhere. For example, selecting an advantageous particle size distribution for the sediment concentration in the influent water subjected to filtering by a device in laboratory tests could result in much higher sediment removal than would be likely at a location in the field, where the particle size distribution would be much different.

Manufacturers must perform a certain amount of basic testing to determine how well their devices function in removing pollutants and to refine a device's design (to optimize that performance). Those costs are fundamental to introducing the product into the marketplace and should not be considered a result of this regulation. The results of that earlier testing will be taken into account when the Department considers the device's use level designation and pollutant removal credits to allow.

Projected cost to the state to implement and enforce the proposed regulation, including (a) fund source / fund detail, and (b) a delineation of one-time versus on-going expenditures	This regulatory action will be cost-neutral to the state. Costs to the state are on-going and related to the Department's administration of the BMP Clearinghouse Committee process and website and the BMP testing and evaluation process, pursuant to this regulation. Some of these costs are being borne already, and some will be new. For example, in 2007 the Department established the Virginia Stormwater BMP Clearinghouse Committee and associated website, with contractual assistance from the Virginia Water Resource Research Center (VWRRC) at Virginia Tech. Department staff chair the stakeholder Committee, and the VWRRC provides administrative support for the process including website hosting, design and support. These costs have been paid from the Virginia Stormwater Management Fund, using revenues generated from Virginia Stormwater Management Program (VSMP) permit fees. In accordance with the device evaluation procedures, the Committee will help evaluate the treatment technologies and recommend to the Department's Director appropriate pollutant removal credits to be assigned. With completion of this regulation and testing protocol document, the Department's costs will increase in several ways. First Department staff time devoted to this project will increase, and the Director will become more regularly engaged because he is the person assigned the responsibility to (1) officially approve MTD/BMP technologies for use in Virginia and (2) assign them appropriate pollutant removal credits. Also, the Department will contract for Technical Evaluator services, which involve direct interaction with manufacturers regarding the conduct of their testing, review of their period and final reports, and development of specific recommendations to the Committee and the Director. The Department will also have increased responsibilities associated with the BMP Clearinghouse Committee and website in support of these regulations that will also be addressed through a contract. To cover all these costs in the future, the Department will require manufacturers applying to have a technology evaluated and approved, to pay a permit fee, which will vary depending upon the number of pollutants to be evaluated. These fees (see explanation below) are commensurate with the amounts other state testing programs charge (See page 13; Comparison of Significant Features of Evaluation Programs) and are in amounts considered reasonable by the manufacturers' trade association and individual manufacturers participating in the development of the procedures. However, the regulation does state in 4VAC50-60-1540 that the Department will use the first two years of experience and data from the process to re-evaluate the fee scale and, as needed, reset the fees to ensure they fully cover the state's program administration costs. The proposed fees to cover the cost of the Department's services include:

	• Establishment of a $10,000 fee to cover the costs of processing and evaluating the application and evaluating test results for manufacturers seeking to test and obtain approval for use of a MTD they have produced, based on testing for effective removal of Total Phosphorus (TP) and Total Suspended Solids (TSS); • Establishment of a $15,000 fee to cover the costs of processing and evaluating the application and evaluating test results for manufacturers seeking to test and obtain approval for use of a MTD they have produced, based on testing for effective removal of Total Phosphorus (TP) and Total Suspended Solids (TSS) and, in addition, Total Nitrogen (TN); and • Establishment of a $3,000 fee to cover the costs of processing and evaluating the application for manufacturers seeking reciprocal certification and approval, as a Pre-Treatment Device, of a MTD they have produced, which has been previously tested, certified and approved by another state for removal of Total Suspended Solids (TSS) through the TAPE (Washington Department of Ecology) or TARP testing programs. The Storm Water Equipment Manufacturers Association (SWEMA) was involved in the discussion of these fees and agreed that they reflected a reasonable place to begin, predicated upon the Department's agreement to review program costs vs. fees at the end of the first two years of testing experience. By comparison, the TAPE program charges the following fees, totaling $12,000, for testing and evaluation (primarily for TSS) under its procedures: • $2,000 for the initial application fee; • $4,000 for review of the Quality Assurance Project Plan (QAPP); and • $6,000 for review of the Technical Evaluation Report (TER) TAPE applies additional fees for testing and evaluation of several other pollutants. The TARP program (administered primarily by the New Jersey Department of Environmental Protection and the New Jersey Corporation for Advanced Technology) charges the following fees for testing and evaluation (for TSS only) under its procedures: • $1,000 to process a preliminary application; then, upon acceptance into the program, the following fees apply, based on annual corporate revenues: • Under $1 million = $ 20,000;

	• $1-20 million = $ 40,000; • $20-50 million = $ 60,000; or • >$50 million = $100,000
Projected cost of the new regulations or changes to existing regulations on localities.	The Department would not expect localities to bear any costs resulting from this regulation unless they choose to engage in BMP performance testing on their own. This is rarely done and is not required of them. They usually rely on the test results provided by others and recommendations from the Department. However, ultimately having more MTDs/BMPs to choose from should increase competition among devices, resulting in lower costs to purchase and implement BMPs. This increase in the number of BMPs to choose from should be a benefit to localities. Furthermore, localities requested that the Department not require removal or replacement of a device that was tested and found to be not as effective as expected in removing target pollutants. The final regulation has been modified to eliminate any such requirement (4VAC50-60-1500).
Description of the individuals, businesses or other entities likely to be affected by the *new regulations or changes to existing regulations*.	**Applicants/ MTD Manufacturers**: These are businesses that manufacture stormwater treatment devices that have to go through the VTAP testing process in order for their devices to be approved for stormwater treatment in Virginia. **Department Technical Evaluator**: This individual(s) could be a member of the Department staff. However, initially the Department will contract this work to an academic institution within the Commonwealth and, in the future, this responsibility could also be contracted to an entity in the private sector. The Technical Evaluator reviews applications for testing, including all documentation of prior testing and product certifications/approvals, and recommends to the BMP Clearinghouse Committee and Department Director what use level designation and pollutant removal credits should be awarded. The Technical Evaluator also reviews the Quality Assurance Project Plan and all quarterly and final reports from the manufacturer regarding the product's testing and lab analyses. Finally, the Technical Evaluator prepares specific final recommendations for the Committee and Director regarding the tested product. **Applicant's technical advisor**: This is a consultant who the applicant must hire to provide objective oversight and reporting of the testing process and objective evaluation/interpretation of the results. **Accredited/Certified laboratories**: These are laboratories accredited by the Virginia Environmental

	Laboratory Accreditation Process (VELAP) that are required to be used to analyze water/sediment samples for devices applying for General Use Designation (GUD – the highest classification) in Virginia. The Department recommends but does not require the use of VELAP-accredited laboratories for testing at the other use designation levels. **Other analytical laboratories:** These are laboratories that might analyze water/sediment samples from testing of products not applying for GUD status. Whereas these laboratories might follow VTAP procedures, they would be doing so at the direction of the MTD applicants that are contracting with them and would not be directly regulated by the Commonwealth. **Data verifiers**: These individuals may include personnel involved with the collection of samples or data or be external to the process. Data verifiers evaluate data collection activities for completeness, correctness, and conformance/compliance of a specific data set against the method, procedural, or contractual requirements. **Data validator**: This individual is an objective, third party who determines and certifies, at the culmination of field and laboratory data collection activities, whether data quality goals have been achieved and, where possible, the reasons for any failure to meet a method or procedure and an evaluation of the impact of such failure on the overall data set. **Vendor**: This is a business other than the manufacturer that markets specific devices on behalf of a manufacturer and may or may not have a direct monetary investment/interest in the manufacturer. **Local government, State agencies, and Land Developers**: These are all entities that need a variety of stormwater treatment devices available in the marketplace in order to achieve compliance with the Virginia Stormwater Management Program (VSMP) Regulations and achieve other pertinent water quality goals, such as those associated with a local stream TMDL or the Chesapeake Bay TMDL. These entities use the products evaluated and approved through the VTAP process and benefit from having the greatest number and variety of MTDs/BMPs available from which to choose.
Agency's best estimate of the number of such entities that will be affected. Please include	**Applicants/ MTD Manufacturers**: The Storm Water Equipment Manufacturers Association (SWEMA) estimates there are a total of 62 companies producing stormwater MTDs, broken down by approximate size as follows:

an estimate of the number of small businesses affected. Small business means a business entity, including its affiliates, that (i) is independently owned and operated and (ii) employs fewer than 500 full-time employees or has gross annual sales of less than $6 million.	24 small (defined by SWEMA as <$20M annual revenue) 7 medium ($20M - $50M annual revenue) 15 large (> $50M annual revenue) 16 of unknown size SWEMA also notes that some "large" companies or companies of "unknown" size may have small stormwater divisions. **Department Technical Evaluator**: Initially, this contract will involve a Principle Investigator (PhD) and a Post-Doctoral student at Virginia Tech. **Applicant's technical advisor**: This number is difficult to estimate, because it is unclear how many companies will apply and for how many different products. However, any technical advisor will be acting at the direction of the company which has contracted with him and would not be regulated directly. **Accredited/Certified laboratories**: Currently (as of February 23, 2013), there are 128 commercial laboratories accredited or certified pursuant to the Commonwealth's Virginia Environmental Laboratory Accreditation Program (VELAP). There are currently (as of January 10, 2013) 109 non-commercial laboratories accredited or certified pursuant to VELAP. These labs are located in numerous states. Also, whereas these laboratories might follow VTAP procedures, they would be doing so at the direction of the MTD applicants that are contracting with them to analyze water/sediment samples and would not be directly regulated by the Commonwealth. **Other analytical laboratories:** The number of such labs is unknown. However, whereas these laboratories might follow VTAP procedures, they would be doing so at the direction of the MTD applicants contracted with them and would not be directly regulated by the Commonwealth. **Data verifiers**: This number is difficult to estimate because it is unclear how many companies will apply and for how many different products. Also, it is possible that the same person could function as both the Technical Advisor and the Data Verifier. However, any data verifier will be acting at the direction of the company which has contracted with him to follow the VTAP procedures and would not be regulated directly. **Data validator**: This number is difficult to estimate because it is unclear how many companies will apply

	and for how many different products. However, any data validator will be acting at the direction of the company which has contracted with him to follow the VTAP procedures and would not be regulated directly. **Vendor:** This number could be as low as the number of distinct manufacturers (approximately 62) but is probably much higher because it is likely that some third parties also market specific MTDs. Vendors would not be directly regulated, but some of the products they market might be subject to the VTAP regulation and, consequently, may or may not be "approved" for sale in Virginia. **Local government**, **State agencies, and Land Developers**: There are 95 counties, 39 cities and 156 towns in the Commonwealth. There are approximately 80 agencies or institutions of the Commonwealth that might engage in construction activities and need to use BMPs. The number of land developers is unknown and fluctuates with the economy. All these entities would be affected directly only if they to apply to conduct BMP testing for the purpose of getting a BMP or BMP modification approved for use in Virginia. They would be affected indirectly by the number and types of BMPs approved and available for use in Virginia.
All projected costs of the *new regulations or changes to existing regulations* for affected individuals, businesses, or other entities. Please be specific and include all costs. Be sure to include the projected reporting, recordkeeping, and other administrative costs required for compliance by small businesses. Specify any costs related to the development of real estate for commercial or residential purposes that are a consequence of the proposed regulatory	1. For those manufacturers seeking a reciprocal approval from Virginia for a pre-treatment device, based only on their previous testing and approvals pursuant to the TAPE or TARP protocols, there would be only the $3,000 cost of the application fee. (In accordance with Section III of the regulations.) 2. For those manufacturers seeking approval from Virginia for a stormwater treatment device with assigned pollutant removal credits for Total Phosphorus (TP) and Total Suspended Solids (TSS) (Section I of the regulations), the costs would be as follows: a. The $10,000 cost of the application fee; b. SWEMA's estimated average (mean) cost of $300,000 for actual field testing of the MTD, which is based on the record of all testing under the TAPE and TARP programs. This would constitute an average of $12,500 for each qualifying storm event (based on an expected 24 qualifying storm events required to be monitored). This cost includes internal or contractor labor and equipment associated with preparation of the application, the Quality Assurance Project Plan (QAPP), quarterly monitoring reports to the Department, the Technology Evaluation Report (TER), and all sample collection and analyses. It does not include the cost of the MTD itself or installation costs; **NOTE 1**: If the applicant can adjust the parameters of the testing (coefficient of variation, etc.) to achieve a statistical confidence level of 50% in less than 24 qualifying storms (a minimum of 18),

changes or new regulations.	then the total testing cost could be lower); **NOTE 2**: In 2009, one distinct manufacturer provided the Department with his company's average costs for TAPE testing ($200,000 - $260,000 for sampling 14 qualifying storms) and TARP testing [($318,000 for sampling 15 qualifying storms), and estimated that sampling each additional qualifying storm event would cost $2,500 - $4,000]. **NOTE 3**: One manufacturer in particular has indicated that having to use a VELAP accredited laboratory rather than the non-VELAP accredited university lab normally used by their Technical Advisor increased the laboratory analysis costs by 70%. However, the Department does not believe such a significant differential would routinely apply in these studies, especially for companies that typically use commercial laboratories to analyze their water/sediment samples. SWEMA has estimated that lab analyses represent 15-30% of the total testing cost (est. $300,000), depending on what lab is used. In some prior tests done elsewhere, manufacturers have used their own in-house labs. This is not permitted under the VTAP. c. SWEMA estimated an additional average cost of 0.5 FTE from the manufacturer's staff to be involved in and oversee the project throughout the entire testing period, when using an outside contractor as "Technical Advisor." The Department believes this cost will probably average $30,000-$40,000. This is consistent with data provided directly to the Department by one specific manufacturer. 3. For those manufacturers seeking approval from Virginia for a stormwater treatment device with assigned pollutant removal credits for Total Nitrogen (TN) in addition to TP and TSS, the costs would escalate as follows: a. The $15,000 cost of the application fee, to cover the additional time of review by DCR's Technical Evaluator. b. The laboratory analytical costs would necessarily increase because the concentrations for the Nitrogen-related testing would need to be measured. However, the laboratory costs are small compared to the expenses of the field work, and the costs of the field work are not expected to increase significantly. Sample collection would basically be the same whether or not the sample is analyzed for Nitrogen-related analytes. 4. For the Department, the fees being assessed are expected to cover the application processing and evaluation responsibilities of the Department and its Technical Reviewer and for BMP Clearinghouse oversight and management. It is unknown how many manufacturers will bring devices to the

	Department for consideration. Department contract costs for the Technical Reviewer's evaluation work are anticipated to be approximately $131,000 per year. The BMP Clearinghouse oversight and management contract, which will also support some aspects of these regulations, is anticipated to be approximately $72,600 per year. 5. For land developers the regulations may reduce their overall regulatory compliance costs through the availability of additional BMPs and through the potentially reduced costs of these devices that may result from competition within the market place.
Beneficial impact the regulation is designed to produce.	Engaging in this testing process will allow the Department to apply consistent and reasonable scientific rigor to the testing of devices and, subsequently, approve additional proprietary and non-proprietary devices for use in Virginia. This program will likely increase the marketing opportunities of approved MTDs that are currently unable to be sold in Virginia because of wary buyers doubtful of the performance claims. The program may also encourage the development of new technological approaches to stormwater treatment. Providing for the testing of new stormwater treatment devices may expand existing businesses in Virginia or encourage the development of new businesses in Virginia that are engaged in activities related to these regulations, (e.g., environmental consulting firms, analytical laboratories, etc.). This process is designed to provide localities, land developers, and the USEPA with confidence regarding the pollutant reduction credits assigned to each device (for which credit is claimed against stormwater permit and TMDL goals). Having more devices in the marketplace will also increase completion among the providers, which should result in cost savings. Also, as these treatment technologies continue to evolve, we would expect to see greater water quality improvement at lower costs over time.

Alternatives

Please describe any viable alternatives to the proposal considered and the rationale used by the agency to select the least burdensome or intrusive alternative that meets the essential purpose of the action. Also, include discussion of less intrusive or less costly alternatives for small businesses, as defined in §2.2-4007.1 of the Code of Virginia, of achieving the purpose of the regulation.

The Commonwealth has participated in a cooperative program regarding MTD/BMP testing and certification for a number of years. The Technology Acceptance Reciprocity Partnership (TARP) was initiated in 2003 with the aim of promoting the testing of MTDs and other BMPs in a manner that avoided duplication of such testing efforts (and costs) in each state. Under the agreement, if a technology was tested and approved by one cooperating state, the other cooperating states agreed to recognize the technology and associated pollutant removal credits through a "reciprocal" approval or other recognition. Virginia is one of six states who cooperate under the TARP program. Consideration was given to continuing to rely on TARP testing, conducted primarily through the New Jersey Department of Environmental Protection (NJDEP) and the associated New Jersey Corporation for Advanced Technology (NJCAT).

However, as noted above, the TARP program has focused only on determining the removals of Total Suspended Solids (TSS) and does not have test protocols for determining removals of other important pollutants, in particular nutrients such as Nitrogen and Phosphorus, which are critical water pollutants in Virginia and the Chesapeake Bay and for which nutrient reduction requirements exist. In addition, at this time the TARP program has no field testing protocols aimed at nutrients or pollutants other than TSS. Additionally, such testing may occur under conditions that are not readily applicable to Virginia.

The Department might have also relied on testing conducted in the state of Washington under their Technology Assessment Protocol – Ecology (TAPE), administered by the Washington Department of Ecology. The TAPE program also focuses primarily on determining TSS removals but also has protocols to test for removal of Phosphorus, oil, and certain dissolved metals – but not Nitrogen. Also, the TAPE program is focused primarily in Western Washington, where the Type I rainfall characteristics are very different from the Type II storm events typical of Virginia.

Therefore, the Department does not believe that either of the above options would result in providing knowledge or confidence about the ability of MTDs/BMPs to remove Total Phosphorus and Total Nitrogen from stormwater runoff in Virginia.

The other states and municipalities that have testing programs typically have less robust requirements than TARP or TAPE or requirements that are much more narrowly fitted to their own physiographic and rainfall characteristics, and do not necessarily test for nutrients. Many of these programs are voluntary in nature and thus are not comparable.

In developing the proposed VTAP, the stakeholder process balanced the natural and potentially conflicting objectives of different stakeholders. Protecting water quality is the main goal of the

Department. Investment return is the main goal of manufactures/vendors. Scientific advancement is the main goal of academic research. The intersection of these three primary objectives yields a scientifically proven, advanced treatment technology for use by the manufacturer that protects water quality and yields a good return on investment for the manufacturer/vendor. The VTAP program has achieved an appropriate balance of these three objectives through a 6-year development process. The Department expects that implementation of the program will protect water quality and encourage treatment advancements while increasing vendor profits by providing a degree of certainty to the prospective buyer of the product. The process will also yield devices with known efficiencies so that Virginia can properly account for its required nutrient and sediment reductions.

Therefore, the Department believes that initiating a new testing program in Virginia that establishes the appropriate level of scientific rigor and focuses on the primary pollutants of concern is the only viable option that will address the Commonwealth's needs in the coming decades. Whereas there is growing interest at the federal level about establishing a national technology testing program, the Department expects that the VTAP may become a model for testing protocols pertaining to removal of TSS, TP, and TN by stormwater MTDs/BMPs.

Family impact

Please assess the impact of the proposed regulatory action on the institution of the family and family stability including to what extent the regulatory action will: 1) strengthen or erode the authority and rights of parents in the education, nurturing, and supervision of their children; 2) encourage or discourage economic self-sufficiency, self-pride, and the assumption of responsibility for oneself, one's spouse, and one's children and/or elderly parents; 3) strengthen or erode the marital commitment; and 4) increase or decrease disposable family income.

It is not anticipated that this regulation will have a direct impact on the institution of the family or family stability. However, improvement of water quality does have positive health and safety benefits that have an indirect impact on families.

Detail of changes

Please list all changes that are being proposed and the consequences of the proposed changes. If the proposed regulation is a new chapter, describe the intent of the language and the expected impact. Please describe the difference between existing regulation(s) and/or agency practice(s) and what is being proposed in this regulatory action.

*If the proposed regulation is intended to replace an emergency regulation, please list separately (1) all differences between the **pre**-emergency regulation and this proposed regulation, and (2) only changes made since the publication of the emergency regulation.*

For changes to existing regulation(s), use this chart:

This regulatory action amends the existing Virginia Stormwater Management Program (VSMP) Permit Regulations (4 VAC 50-60), creating a new Part XVI titled "Procedures For Reviewing and Approving Design Specifications and Pollutant Removal Credits for BMPs" (4VAC50-60-1300 et seq.) within the body of the Stormwater Management regulations.

Current section number	Proposed new section number, if applicable	Current requirement	Proposed change, intent, rationale, and likely impact of proposed requirements
	4VAC50-60-1300 Authority		This section establishes the authorities supporting this action. The Authority section cites Subsections 2 and 11 of § 10.1-603.4 of the Code of Virginia that provide authority for the Board to establish minimum design criteria for measures to control nonpoint source pollution and localized flooding and that authorize the regulations to provide for the evaluation and potential inclusion of emerging or innovative stormwater control technologies that may prove effective in reducing nonpoint source pollution. In accordance with these Code authorities the section cites 4VAC50-60-65 that stipulates that BMPs differing from those already listed in 4VAC50-60-65 shall be reviewed and approved by the Director in accordance with procedures established by the BMP Clearinghouse Committee and approved by the Board.
	4VAC50-60-1310 Definitions		Included in this section are definitions familiar to manufacturers, since they were borrowed from a similar process document in the state of Washington, where much MTD product testing has been conducted.

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	Section I		**VTAP For Evaluating Stormwater Manufactured Treatment Devices (MTDs).**
	4VAC50-60-1320 Applicability		This section specifies that MTD's shall be assessed in accordance with provisions of this section and the VTAP technical document.
	4VAC50-60-1330 Liability		Releases the Department from any responsibility or liability for performance of stormwater technologies being evaluated using the VTAP and establishes that the department has sole responsibility for decisions made regarding implementation of these requirements.
	4VAC50-60-1340 Use of Devices		This section outlines the authority of localities to regulate the use of permitted BMPs and the processes under which such determinations may be made.
	4VAC50-60-1350 Board, Director and Department Administrative Responsibilities		This section outlines the responsibilities of the Board, Director, and Department in the process of approving permitted uses for MTDs. The section specifies that MTDs may not be installed in Virginia for pollutant removal for the treatment of post-construction stormwater runoff unless the Director has granted one of three levels of use designations: Pilot Use Designation (PUD – typically, only laboratory tests have been conducted previously), Conditional Use Designation (CUD – field testing is required at one site but testing may have been conducted under conditions not characteristic of Virginia), or General Use Designation (GUD – field testing is required at two sites; this designation represents device approval for unlimited use in accordance with specified conditions).
	4VAC50-60-1360 Applicant's or his Technical Advisor's Responsibilities		This section includes a list of responsibilities for applicants or their technical advisors including: submittal of the use-designation application, status reports, Quality Assurance Project Plans (QAPPs); and other required information and documentation.
	4VAC50-60-1370 Virginia Stormwater BMP Clearinghouse Committee		This section stipulates the role of the Department in administering the Committee, the necessary experience of Committee members, member voting restrictions to avoid conflict of interest, the responsibilities of the Committee, and other meeting protocols.

Current section number	Proposed new section number, if applicable	Current requirement	Proposed change, intent, rationale, and likely impact of proposed requirements
	Administration and Responsibilities		
	4VAC50-60-1380 Application Submittal and Review Processes		This section outlines what is expected of the applicant, the Department, the Department's technical evaluator, and the Committee, regarding the application process. • The applicant is required to submit a: 1) Completed Use-Designation Application Form; 2) Stormwater MTD Demonstration Site Summary Form for each field test site; 3) Technical Evaluation Report (TER) (contains information regarding performance testing and associated data); 4) Certification and Authorization Statement developed in accordance with this section; and 5) Appropriate Fees. • The technical evaluator is required to review the applications for completeness (within 20 calendar days of receipt) and if found to be complete, complete the draft assessment of the application within 60 calendar days of the receipt of a complete application. • Within seven calendar days of the issuance of the technical evaluator(s)' assessment, the TER shall be posted on the website for public comment for a period of 30 calendar days commencing the date of posting. • The technical evaluator(s) shall review and evaluate the public comments within 30 calendar days of the closure of the public comment period on the TER. • The Committee shall review the application materials, recommendations made by technical evaluator(s), public comments, and responses to the comments. The Committee shall consider the technical evaluator's use-designation recommendation and pollutant removal credit recommendation and determine the Committee's recommendations. • The Department shall forward the technical evaluator(s)' and Committee's final recommendations to the Director and the applicant. • The Director shall consider the application materials; recommendations made by technical evaluator(s), by the Committee, and by Department staff; and public comments and the responses to the comments; and using his best professional judgment, determine an appropriate use designation and pollutant removal credit

Current section number	Proposed new section number, if applicable	Current requirement	Proposed change, intent, rationale, and likely impact of proposed requirements
			within 45 calendar days following the receipt of the final recommendations. • The Director shall decide to approve a permitted use designation, revoke the current use designation, or grant an extension of the testing period for a specified time. (See the last page of this TH Form for a flow chart of this process.)
	4VAC50-60-1390 Processing Timelines		This section provides a relief clause from the timelines set forth in the previous section for the Department, the technical evaluator, and the Committee, if application volume or other issues outside of their control results in unavoidable delays in processing. Such an extension "to the minimum amount necessary to accommodate the proper processing of the applications" may be granted by the Director or his designee.
	4VAC50-60-1400 Technical Evaluator Responsibilities in MTD Application Process		This section describes the application and evaluation process. The Department's Technical Evaluator has nine responsibilities under this section. They are: (1) Application review for completeness and consistency; (2) Review of quality assurance project plans and updates; (3) Review of status reports and recommendations for compliance and testing changes; (4) Periodic inspection related to field testing; (5) Review of data validation; 6) Written recommendations regarding the need for additional testing and identification of any limitations of evaluated MTDs; (7) Written recommendations regarding pollutant removal credits to assign to MTDs and recommendations related to use-designation levels; (8) Draft responses for comments received during the public comment period for a technology evaluation report; and (9) Work with the applicant to develop information for the website regarding approved MTDs. The Department's Technical Evaluator is not eligible for appointment to the Committee but shall serve as a technical advisor to it as well.
	4VAC50-60-1410 Confidentiality		This section sets forth requirements related to the disclosure and protection of proprietary information, such as secret formulae, secret processes, or secret methods used.

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			• This section provides that the Department may require an applicant to furnish information necessary to evaluate a MTD application, but the disclosure of proprietary information shall not be included in such application. • Proprietary information may instead be submitted separately to the Department along with a completed Confidentiality and Non-Disclosure Agreement. • Email transmission of such information is discouraged and the Director (or his designee) shall evaluate the confidentiality and either sign the Agreement or deny the request. • If the Agreement is signed, the information is considered part of the application and is only shared with the Department's contractors. • If the request is denied, then the Department shall notify the applicant and return the information if requested by the applicant or will dispose of the information and it will be not distributed as part of the MTD application.
	4VAC50-60-1420 Responsibilities of Applicant's Technical Advisor, Data Verifier, and Data Validator		This section sets forth the duties of these individuals. • For **Technical Advisors**, the duties consist of oversight of performance testing of the MTD, including certification of: (1) the quality assurance project plan; (2) oversight of plan implementation, and (3) the technology evaluation report. The Technical Advisor is required to sign a certification statement for each item that must be submitted to the applicant and to the Department. The language of the certification statements is specified in this section. The Technical Advisor is also required to annually review the quality assurance project plan (QAPP). • For **Data Verifiers**, the duties consist of reviewing the project's data records: (1) for completeness; (2) for correctness; and (3) for conformance/compliance of a specific data set against the method, procedural, or contractual requirements. All data verification shall be conducted during or at the culmination of field and laboratory data collection activities. Following data verification, each Data Verifier shall submit the verified data and certification statement to the applicant. The Data Verifier may use his standard certification statement or the language specified in this section. The applicant shall provide the verified data and certification

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			statements to the Data Validator and also, when requested, to the Department or the Department's Technical Evaluator. • For **Data Validators**, the duties consist of determining the quality of a specific data set relative to the end use. The Data Validator shall evaluate whether data quality goals have been achieved. The validation also includes a determination, where possible, of the reasons for any failure to meet a method or procedure and an evaluation of the impact of such failure on the overall data set. The Data Validator shall sign a certification statement specified in this section. The applicant shall provide the data verification report and certification statement to the Department. Note that the Technical Advisor and the Data Verifier could be the same person, but these two functions should not be performed by the applicant's Data Validator.
	4VAC50-60-1430 Conflict of Interest re Applicant's Technical Advisor		This section addresses any financial or other conflict of interest issues between a technical advisor and an applicant. Financial interest includes: (1) ownership interest in a manufacturer; (2) royalties from an MTD; or (3) dividends or commissions from a manufacturer. Receipt of a fee for conducting or overseeing testing from one or more manufacturers is not considered a conflict of interest. The section outlines examples of financial conflicts of interest. Technical advisors are also required to submit a disclosure record of all previous and current personal, professional, and financial relationships with the applicant or any other person associated with the technical aspects of the application and with other MTD manufacturers. A disclosed relationship does not represent a conflict of interest when a consultant, university, or analytical laboratory receives fees for the testing or overseeing testing of MTDs. Technical advisors must submit a signed conflict-of-interest statement to the Department. These requirements are typical of what is found in the several other states that have similar testing programs.
	4VAC50-60-1440 Reporting		This section sets out that, once a MTD has been permitted as PUD or CUD, the applicant must submit quarterly status reports. Such reports must be submitted electronically and must include at least ten elements addressing such issues as field test site location, a

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			summary of findings, and an updated milestone chart.
	4VAC50-60-1450 Development, Review and Approval of the Quality Assurance Project Plan (QAPP)		This section addresses the requirements regarding Quality Assurance Project Plans (QAPP). MTD applicants must submit this plan to the Department for each field test site. Such plan(s) shall specify procedures for ensuring test result and conclusion validity. Following submittal to the Department, each plan shall be reviewed within 60 calendar days by the technical evaluator, with recommendations provided to the Department. Committee members shall also be provided an opportunity to review the plan(s). This section also states that the QAPP(s) shall be consistent with the VTAP and address all applicable elements found in EPA requirements for quality assurance plans. This section of the regulations outlines the elements to be provided in the plan(s), including monitoring documents such as a health and safety plan, maintenance logs, and chain of custody. Under this section, the Director (or his designee) shall review and approve or disapprove a submitted QAPP. Plans that are disapproved may be modified and resubmitted by the applicant for another review. Upon approval of a plan for a test site, the applicant is then authorized to commence field testing. Applicants are required to seek approval from the Director (or his designee) to use an amended plan and the Director has 30 calendar days for review of the amendments.
	4VAC50-60-1460 Field Monitoring and Testing		This section lists out ten elements related to the scope of field monitoring and testing and states that applicants must conduct specific activities and requirements associated with each of these ten elements. • Monitoring programs shall be designed in accordance with the quality assurance project plan. Furthermore, applicants must verify that the MTD can treat runoff from one-inch of rainfall and applicants must include methods and calculations used to select the size of the MTD based on standard design criteria for the MTD. • For the purpose of testing the MTD, the minimum number of qualifying storm events with measurable inflow and outflow to be sampled is set at 18, provided that the confidence level exceeds 50% and approval is granted by the Department.

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			Otherwise, 24 qualifying storm events with measurable inflow and outflow must be sampled. • This section also provides that at least one qualifying storm event must have greater than one-inch of rainfall and there must be at least three qualifying storm events with greater than 0.5 inches of rainfall sampled. At a minimum, five sets of two qualifying storms (10 storms) must be sampled. • All laboratory analyses of qualifying storm event data must be conducted by an independent laboratory. Use of a certified or accredited laboratory under the Virginia Department of General Services' regulations (VELAP) is required to receive a general use designation.
	4VAC50-60-1470 Suspension or Revocation of Permitted Use Approvals		This section addresses the conditions under which the Director may take suspension or revocation actions. Specifically, this section specifies that: • Suspension may occur if there is a failure to submit progress reports or to demonstrate satisfactory progress during the testing period. Issues regarding lack of progress can be resolved if the applicant demonstrates satisfactory progress in providing required information. Continuing failure to submit progress reports may result in revocation. • Suspension or revocation may occur if a MTD is not functioning as permitted and its continued use may result in a degradation of receiving waters. Suspension or revocation is dependent upon whether the MTD may be re-engineered or modified to address environmental impacts.
	4VAC50-60-1480 Extensions		This section specifies that a MTD permitted for pilot or conditional-use shall expire 24 months from the time that the quality assurance project plan is approved. However, at least 45 calendar days before the expiration date, an applicant may request an extension from the Department. If an extension is not granted, then the applicant must re-apply to have a MTD permitted.
	4VAC50-60-1490		This section addresses the use of the Clearinghouse Website as an electronic registry of

Current section number	Proposed new section number, if applicable	Current requirement	Proposed change, intent, rationale, and likely impact of proposed requirements
	Virginia Stormwater BMP Clearinghouse Website		MTDs permitted for use in Virginia, including a listing of the permitted use conditions and any suspensions and revocations. MTDs with conditional or pilot-use designations shall be noted as conditionally permitted. The Department may deny a registry listing if an applicant misrepresents information and all MTDs must be listed within 15 calendar days of approval by the Director.
	4VAC50-60-1500 Disposition of Underperforming MTDs		This section provides for situations where a permitted MTD may not be performing at the level approved by the Director. If a MTD, approved for either pilot-use or conditional-use designation, is found to be underperforming and its permitted use has been either revoked or its operating conditions revised, including a reduction in pollutant removal credits, then the MTD device is not required to be removed.
	4VAC50-60-1510 Technical Standards		This section specifies that the VTAP shall be used for the assessment of MTDs for permitted use to treat post-construction stormwater runoff and that the testing protocol is intended for volume-based and flow-rate-based stormwater MTDs and is not suitable for all stormwater treatment practices.
	4VAC50-60-1520 Exceptions		This section states that the Director has the authority to approve or deny written requests for exceptions to specified elements of the VTAP. The section also states that exceptions cannot be granted for the use of a BMP that is not found on the website registry of the Virginia Stormwater BMP Clearinghouse Committee. The department is required to maintain a record of all exceptions granted in accordance with applicable retention policies.
	4VAC50-60-1530 Appeals		This section provides that any applicant aggrieved by an action of the Director or Department is entitled to use the procedures for making appeals outlined in the state law under the Administrative Process Act.
	4VAC50-60-1540 Use Permit Application Fees for MTDs		This section specifies that a fee of $10,000 per Use Designation Application shall be remitted to the Department. The fees are to be used to support the program oversight costs, such as technical assistance, training, and research, related to the development of

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			innovative stormwater technologies. If an applicant requests an evaluation for Total Nitrogen removal in addition to evaluation for Total Phosphorus and Total Suspended Solids, then the fee per Use Designation Application is $15,000, to recognize the additional costs associated with evaluating the additional pollutant. The section also states that, between the effective date of this regulation and June 30, 2014, while this testing program is starting up, all fees are to be paid later in the process, but prior to issuance of a use permit for the MTD. A permit shall not be issued until the fee is paid. Beginning July 1, 2014, the fee must be remitted at the time that the application is submitted for review, and no review will commence until the fee is paid. Applicants will receive a 75% refund for applications found to be incomplete. All fees shall be deposited to the Virginia Stormwater Management Fund.
	Section II		**Procedures for Approving Non-Proprietary Devices**
	4VAC50-60-1550 Applicability		This section provides for an approach to verifying pollutant removal credit for non-proprietary BMPs that is different from those outlined in the VTAP (Section I). The section addresses a streamlined process for approving devices, recognizing that non-proprietary BMPs have the following characteristics: (1) a large history of performance research; (2) research that is publicly funded with limited funding availability; and (3) no commercial motivation to incur the cost of testing and evaluation.
	4VAC50-60-1560 Procedures for Approving Non-Proprietary BMPs		This section sets out the processes for developers of non-proprietary devices to apply for approval by the Director. The conditions under which the Director will consider approval are: • For existing BMPs for which the Department has previously granted approval, the Department, Technical Evaluator(s), and BMP Clearinghouse Committee shall evaluate recommendations to modify BMP design specifications and may solicit advice from one or more of the following: the Center for Watershed Protection, the Chesapeake Stormwater Network, or the United States Environmental Protection Agency's Chesapeake Bay Program.

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			• The Department, Technical Evaluator(s), and the BMP Clearinghouse Committee will consider new BMP design specifications and pollutant removal credits by evaluating presentations made by the device's advocate, including all applicable research and testing data. As is the case with existing BMPs, advice may be solicited from the noted organizations. The section stipulates that approved BMPs will be posted to a website registry. The Department will also investigate supplemental procedures that might be suitable for providing additional scientific rigor to the testing of non-proprietary BMPs, using VTAP procedures as a guide.
	Section III		**Procedures for Approving Manufactured Pre-Treatment Devices.**
	4VAC50-60-1570 Applicability		This section specifies that manufacturers of certain MTDs, designed to reduce sediment and gross solids but not provide for nutrient filtering, may choose not to test their devices within the VTAP due to additional costs and in cases where the device may have already been tested and approved under either the Technology Acceptance Reciprocity Partnership (TARP) or Technology Assessment Protocol - Ecology (TAPE). The procedures set out in Section III permit the use of MTDs as pre-treatment devices.
	4VAC50-60-1580 Procedures for Approving Manufactured Pre-Treatment Devices		This section sets out the processes for manufacturers of the pre-treatment devices to apply for approval by the Director. Any manufacturer applying must provide documentation of approval through either the TARP or TAPE testing processes and information regarding the pollutant removal credit assigned by that testing program. The Department, its Technical Evaluator(s), and BMP Clearinghouse Committee will evaluate every application and forward recommendations to the Director. Approved devices will be posted to a website registry.
	4VAC50-60-1590 Use Permit Application Fees for Manufactured		This section specifies that a fee of $3,000 per Use Designation Application shall be remitted to the Department for applications regarding pre-treatment MTDs. The fees are to be used to cover the cost of reviewing and processing the application as well as supporting

Current section number	Proposed new section number, if applicable	Current requirement	Proposed change, intent, rationale, and likely impact of proposed requirements
	Pre-Treatment Devices		program oversight costs, such as technical assistance, training, and research, related to the development of innovative stormwater technologies.
	Forms		This regulatory action updates FORMS to include four additional documents that will be used to administer the use permit application process.
	Documents incorporated by Reference		This regulatory action incorporates by reference two documents. The first is a document titled "*The Virginia Technology Assessment Protocol for Evaluating Stormwater Manufactured Treatment Devices*". This document, created by the Department and its partners along with the regulatory procedures for the VTAP process, is summarized as follows: • This document sets out the technical procedures for testing the performance of stormwater MTDs, and reporting the results to the Department. Based on the test results, the Department will be able to approve a use permit and pollutant removal credit for the device and list it on the Virginia Stormwater BMP Clearinghouse website as an approved BMP for use in Virginia. • Section 1 of the document provides a description of the three use level designations that may be applied to an applicant's MTD and the kinds of testing that must be achieved to qualify for each use level. Section 1 also summarizes the assessment process, providing a flow chart to supplement the description. • Section 2 establishes the technical procedures required for field monitoring and data evaluation. It addresses: § Monitoring site selection; § Development and documentation of a quality assurance plan for the project; § Design of the monitoring project; § Selection, design, and installation of the monitoring equipment; § Proper procedures for sample collection, analysis, and quality control; § Data verification, validation, certification, and management; § Data quality assessment; and § Methods for determining pollutant removal.

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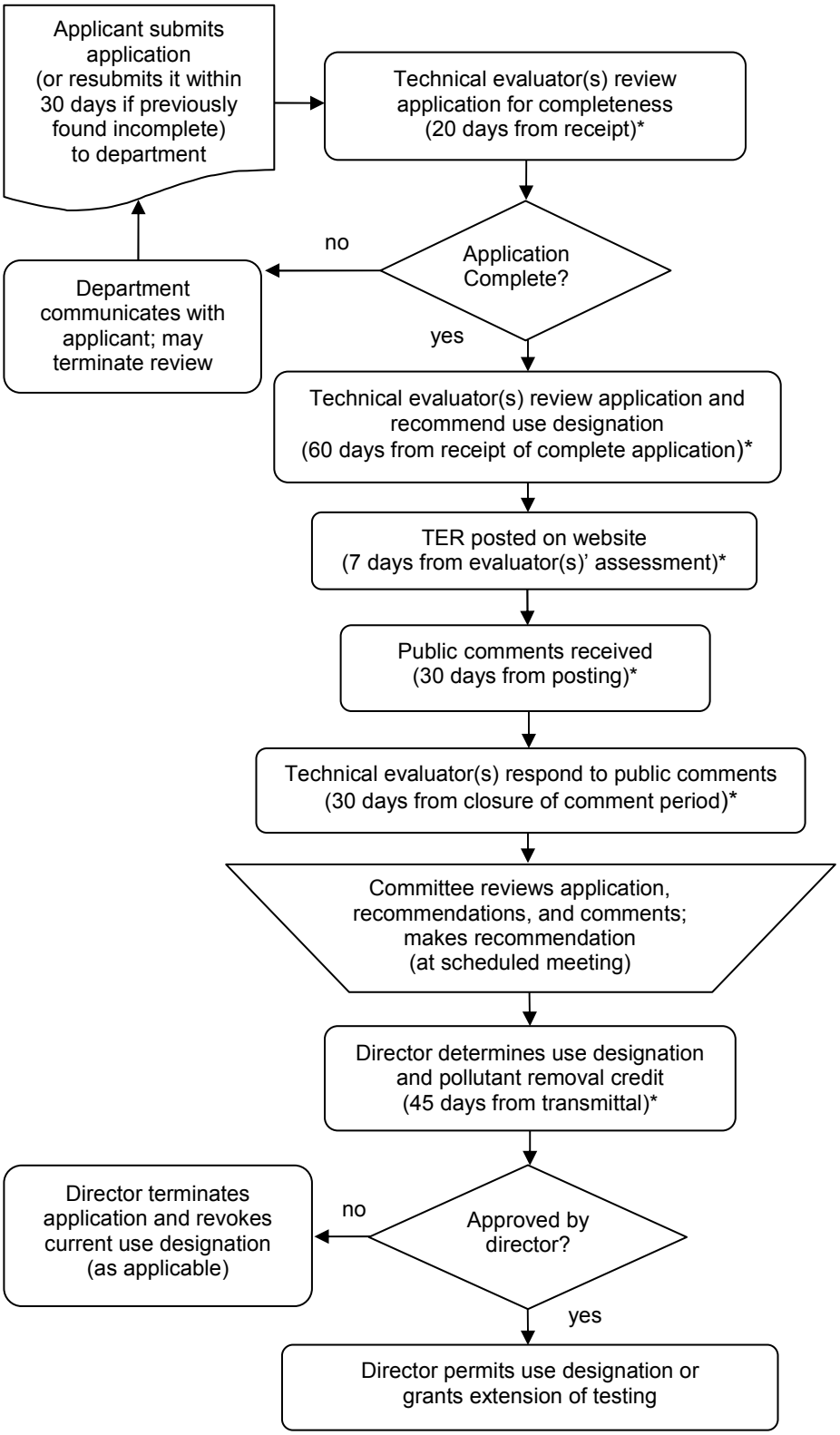
			• Section 3 explains the application process and goes into great detail regarding the Technical Evaluation Report (TER) that must be submitted with the application. This TER provides a performance claim for the MTD and details of previous testing done on the MTD and the results achieved, including any prior certifications or approvals granted in other states. • The VTAP document also provides several appendices outlining relevant information important in preparing the application and monitoring project design, as well as evaluating system performance. The second document is titled "*EPA Requirements for QA Project Plans*" (EPA QA/R-5) (U.S. EPA, March 2001). • The Quality Assurance Project Plan integrates all technical and quality aspects of a project, including planning, implementation, and assessment. The purpose of the QA Project Plan is to document planning results for environmental data operations and to provide a project-specific blueprint for obtaining the type and quality of environmental data needed for a specific decision or use. The QA Project Plan documents how quality assurance (QA) and quality control (QC) are applied to an environmental data operation to assure that the results obtained are of the type and quality needed and expected. • This document presents specifications and instructions for the information that must be contained in a QA Project Plan for environmental data operations funded by EPA. The document also discusses the procedures for review, approval, implementation, and revision of QA Project Plans. Users of this document should assume that all of the elements described herein are required in a QA Project Plan unless otherwise directed by EPA. This U.S. EPA document has become a standard reference for environmental data operations. Furthermore, since the U.S. EPA is considering establishing a national process for evaluating technologies such as stormwater MTDs and BMPs, it is likely that this document will be used as the basis of QA plans for such testing.



Flow chart illustrating the review process in Virginia for the assessment of stormwater manufactured treatment devices

*days = calendar day; the director or designee has the authority to extend due dates to the minimum amount necessary to accommodate the proper processing of the applications.