



**Annual Standards and Specifications
for
Erosion and Sediment Control
and
Stormwater Management**

25 OCT 23

FISCAL YEAR 2024

INTRODUCTION

Virginia Military Institute (VMI), Annual Standards and Specifications for Erosion and Sediment Control (ESC) and Stormwater Management (SWM) are integral components of VMI's design, construction, maintenance, and management of the Institute's facilities and land. The VMI Annual Standards and Specifications for ESC and SWM submittal provide information regarding VMI's implementation of the program in accordance with the Virginia Stormwater Management Act (§62.1-44.15:24. to :50), the Virginia Stormwater Management Program (VSMP) Regulations (9VAC25-870), the Virginia Erosion and Sediment Control Law (§62.1-44.15:51 to :66), the Virginia Erosion and Sediment Control Regulations (9VAC25-840) and the Virginia Erosion and Sediment Control Certification Regulations (9VAC25-850).

VMI Annual Standards and Specifications for ESC and SWM apply to all planning, design, construction and maintenance activities undertaken by VMI, either by its internal workforce or contracted to external entities, where such activities are regulated by the Virginia ESC Law and Regulations or the Virginia SWM Act and VSMP Permit Regulations. During any inspections of VMI's regulated land disturbing activities (RLDs) by DEQ, EPA and other such environmental agencies, compliance with the approved VMI Annual Standards and Specifications for ESC and SWM (and all parts thereof), the Virginia ESC Law and Regulations, and the Virginia SWM Act is expected.

VMI submits Annual Standards and Specifications for ESC and SWM to the Virginia Department of Environmental Quality (DEQ) for review and approval on an annual basis. VMI shall ensure that project specific plans are developed and implemented in accordance with these Annual Standards and Specifications. This submittal constitutes VMI's commitment to execute all provisions contained herein on our RLDs and land development projects. As such, this submittal will be available and utilized as an operational guidance document by all appropriate VMI and DEQ personnel. This submittal and errata information are available for download as PDF files at: <http://www.vmi.edu/about/offices-a-z/construction/>.

Table of Contents

1.0	ANNUAL STANDARDS AND SPECIFICATIONS ADMINISTRATION	1-1
2.0	ANNUAL STANDARDS AND SPECIFICATIONS PERSONNEL	2-2
3.0	ANNUAL STANDARDS AND SPECIFICATIONS IMPLEMENTATION	3-3
4.0	CONSTRUCTION PLANS (DRAWINGS) REQUIREMENTS	4-5
5.0	INSPECTIONS	5-6
6.0	VARIANCES AND EXCEPTIONS	6-8
7.0	LAND-DISTURBING ACTIVITIES:	7-9
8.0	LONG-TERM MAINTENANCE:	8-10

APPENDICES

Appendix – A: ESC/SWM Plan Preparer/Reviewer Checklist

Appendix – B: ESC/SWM Inspection Form

Appendix – C: Variance/Exception Request Form

Appendix – D: Regulated Land-disturbing Activities

Appendix – E: Signed Certification Statement

1.0 ANNUAL STANDARDS AND SPECIFICATIONS ADMINISTRATION

- 1.1 All projects involving land-disturbing activity subject to the Virginia Erosion and Sediment Control Law (§62.1-44.15:51 to :66), and the Virginia Erosion and Sediment Control Regulations (9VAC25-840) shall be bound by the VMI Annual Standards and Specifications for Erosion and Sediment Control and Stormwater Management as approved by DEQ. All projects involving land-disturbing activity subject to the Virginia Stormwater Management Act (§62.1-44.15:24. to :50), the VSMP Regulations (9VAC25-870) shall be bound by the VMI Annual Standards and Specifications for Erosion and Sediment Control and Stormwater Management as approved by DEQ.
- 1.2 The VMI Annual Standards and Specifications for ESC and SWM approved by DEQ are composed of general specifications for ESC and SWM. The general specifications for erosion and sediment control (ESC) and storm water management (SWM) that apply to the land-disturbing activities, listed in Section 1.1 above, include by reference the following:
 - 1.2.1 Virginia Stormwater Management Act (§62.1-44.15:24. To :50);
 - 1.2.2 Virginia Erosion and Sediment Control Law (§62.1-44.15:51. to :66);
 - 1.2.3 Virginia Erosion and Sediment Control Regulations (9VAC25-840);
 - 1.2.4 Virginia Erosion and Sediment Control and Stormwater Management Certification Regulations (9VAC25-850);
 - 1.2.5 Virginia Stormwater Management Program Regulation (9VAC25-870);
 - 1.2.6 Reports and Recordkeeping (9VAC25-870-126)
 - 1.2.7 General Permit for Discharges of Construction Stormwater from Construction Activities (General Permit No.: VAR10) (9VAC25-880)
 - 1.2.8 Virginia Erosion and Sediment Control Handbook, 1992, as amended;
 - 1.2.9 Virginia Stormwater Management Handbook, 1999, as amended;
 - 1.2.10 Technical Bulletins, as amended, on the Virginia DEQ website at <http://www.deq.virginia.gov/Programs/Water/StormwaterManagement/Publications.aspx>.
 - 1.2.11 Stormwater, and, Erosion and Sediment Control Guidance Memos, as amended, on the Virginia DEQ website at: <http://www.deq.virginia.gov/Programs/Water/Laws,Regulations,Guidance/Guidance/StormwaterManagementGuidance.aspx>.
 - 1.2.12 Virginia Stormwater BMP Clearinghouse at: <http://www.vwrrc.vt.edu/swc/>.
- 1.3 Any land-disturbing activity carried out in a locality with a local ESC program with more stringent regulations than those of the state program shall be consistent with the requirements of the local program. SWM projects shall, to the maximum extent practicable, meet the technical requirements of the local SWM program, in addition to the technical requirements noted above.
- 1.4 Site-Specific ESC Plans shall be prepared for projects involving an RLD disturbing 10,000 square feet or more. Note that VMI controlled properties do not include any designated Chesapeake Bay Preservation Areas (§62.1-44.15). Site-specific ESC Plans shall be submitted to the VMI Construction Office for review. Prior to starting a land-disturbing project requiring an ESC Plan, the project must have approval issued by the VMI Construction and Engineering Office for the Plan.

- 1.5 Site-Specific SWM Plans shall be prepared for all projects involving an RLD disturbing 1 acre or more. Note that VMI controlled properties do not include any designated Chesapeake Bay Preservation Areas (§62.1-44.15) Site-specific SWM Plans shall be submitted to the VMI Construction Office for review and approval. Prior to starting a land-disturbing project requiring a SWM Plan, the project must have an approval issued by the VMI Construction and Engineering Office for the Plan.
- 1.6 The VMI Construction and Engineering Office may ask DEQ to grant a project specific variance or exception to the approved VMI Annual Standards and Specifications for ESC and SWM. All requested variances and exceptions are considered unapproved until written approval from DEQ is received. Variance requests will be considered freestanding of this Annual Standard and Specification submission and on an individual project-specific basis. Refer to Section 6.0 for more information on variances and exceptions.
- 1.7 VMI ensures compliance with these Annual Standards and Specifications through a phased approach:
 - 1.7.1 Plan Reviews. Each land disturbing activity's ESC and SWM plans are reviewed by an outside third party and approved by DEQ Certified VMI Plan Reviewer.
 - 1.7.2 Pre-construction conferences and site walks. ESC and SWM plan compliance is a key component of pre-construction site conferences attended by the responsible land disturber and other key personnel.
 - 1.7.3 Inspections and On-site presence. VMI executes a program of inspections in accordance with part 5.0 of the AS&S. Additionally, VMI stations a construction inspector at the site of each land disturbing activity to monitor compliance with ESC and SWM plans.
 - 1.7.4 Written Reports. VMI provides responsible land disturbers written feedback with expectations for corrective actions and re-inspection to confirm compliance.

2.0 ANNUAL STANDARDS AND SPECIFICATIONS PERSONNEL

The VMI Construction and Engineering Office shall be the plan approving authority for VMI Projects and the DEQ certified administrator of the VMI Annual Standards and Specifications for ESC and SWM. The following is a breakdown in responsibilities and titles in terms of the VMI Annual Standards and Specifications for ESC and SWM. Responsibilities may be combined in terms of staffing resources only if the person responsible for the task(s) is qualified per Section 1.2.44. These personnel are assigned and/or delegated authority related to ensuring compliance with the VMI Annual Standards and Specifications for ESC and SWM.

- 2.1 DEQ Certified ESC and SWM Administrator shall be an employee of VMI and have overall management and coordination responsibilities for the VMI Annual Standards and Specifications for ESC and SWM.
- 2.2 DEQ Certified ESC Plan Reviewer shall be an employee or agent of VMI responsible for reviewing plans for compliance with the VMI Annual Standards and Specifications for ESC and applicable laws and regulations with an emphasis on ESC components.

- 2.3 DEQ Certified SWM Plan Reviewer shall be an employee or agent of VMI responsible for reviewing plans for compliance with the VMI Annual Standards and Specifications for SWM and applicable laws and regulations with an emphasis on SWM components.
- 2.4 DEQ ESC and SWM Inspector shall be an employee or agent of VMI responsible for inspecting erosion and sediment control, stormwater management, VSMP permits, SWPPP, and MS4 practices to ensure compliance with all applicable laws, regulations, and the VMI Annual Standards and Specifications for ESC and SWM.
- 2.5 DEQ Responsible Land Disturber (RLD) shall hold a valid Responsible Land Disturber Certificate as issued by DEQ.
- 2.6 DEQ Certifications shall be in accordance with the Virginia Erosion and Sediment Control and Stormwater Management Certification Regulations (9VAC25-850).

3.0 ANNUAL STANDARDS AND SPECIFICATIONS IMPLEMENTATION

ESC and SWM Plans shall comply with the VMI Annual Standards and Specifications for Erosion and Sediment Control and Stormwater Management, the Virginia Erosion and Sediment Control Law (§62.1-44.15:51. to :66), the Virginia Erosion and Sediment Control Regulations (9VAC25-840), the Virginia Stormwater Management Act (§62.1-44.15:24. to :50), and the Virginia Stormwater Management Program (VSMP) Regulations (9VAC25-870). Refer to Section 1.2 for more information on general specifications. Prior to commencement of a land-disturbing project, the VMI Construction and Engineering Office must approve the plan. The VMI Construction and Engineering Office will have 30 days to review the Plan and provide written comments.

3.1 Submittals

ESC and SWM plans and narratives (ESC and SWM Plans), reports, certifications, and record documents shall be submitted to the VMI Construction and Engineering Office for review and approval. All submittals shall be in accordance with the Approved VMI Annual Standards and Specifications for ESC and SWM. The submittal must include the appropriate information and data necessary to support the licensed professional's work.

Three sets of plans (2 full size and 1 half size) may be submitted initially. Five full size sets are required for approval. All submittals should be delivered to:

VMI Construction Office
320 Institute Hill
Lexington, VA 24450

This office will retain one set of the approved plans.

3.1.1 Design Submittal and Plan Review Checklists

ESC and SWM Plans, to include narrative, calculations, design standards and specifications, plan sheets (drawings) and other supporting information shall be submitted to the VMI Construction and Engineering Office for review and approval prior to any land-disturbing activities. The submittal shall include a design that is in accordance with the Approved VMI Annual Standards and Specifications for ESC and SWM. The submittal must include the appropriate information, all calculations relevant to the Plan, ESW/SWM Plan Preparer/Reviewer Checklist, and other appropriate information and documentation necessary to support the designer's work.

An ESW/SWM Plan Preparer/Reviewer Checklist is provided at Appendix A. Many items listed on the checklists may not apply to any given design and it is therefore up to the designer to indicate items as “not applicable” or “NA” as appropriate.

3.1.2 Re-submittals

For all second and subsequent submittals, the submitting professional shall include a cover letter with explanations as to how each review comment is addressed and references the relevant drawing sheet or narrative location. In addition, significant changes in the Plan shall be listed as part of the cover letter. The cover letter may warrant additional comments/discussion depending upon the previous review comments or changes in the Plan.

3.1.3 Final Report

A final report shall be submitted to the VMI Construction and Engineering Office for review and approval prior to close-out of the project for all permanent Best Management Practices (BMPs) associated with the project. Construction inspections and surveys, performed by a licensed professional, shall be required at each stage of installation (construction) as necessary for a licensed professional(s) to certify that the stormwater management facility and associated conveyance systems are built in accordance with the approved plan and design specifications. The final report shall be signed and sealed by licensed professional(s) and include incremental surveys (drawings), a final survey (drawings), photographs, construction logs, inspection reports, geotechnical testing reports, soil reports, certification of materials, and all other applicable inspections, reports, and documents necessary to support and ensure the stormwater management and conveyance systems are built in accordance with the approved Plan. The final report shall include the appropriate checklists provided in Stormwater Management Handbook. It shall be the licensed professional’s responsibility to certify that the as-built condition of the system meets the quantitative and qualitative controls of the approved Plan.

If the facility system or conveyance system or both have not been constructed and installed in accordance with the approved Plan, then the licensed professional(s) responsible for certifying the as-built condition shall immediately notify the VMI Project Manager and the Deputy Director of Facilities Management for Construction and Engineering. Generally, there are two potential options when the system(s) are not constructed in accordance with the approved Plan.

- Option 1: Re-construct the system(s) in accordance with the approved Plan. It will be necessary to repeat the inspections, surveys, and documentation process such that the licensed professional shall certify the system(s) are constructed in accordance with the approved Plan. It shall be the licensed professional’s responsibility to certify as-built condition of the system(s) meets the quantitative and qualitative controls of the approved Plan.
- Option 2: Perform calculations and analysis, based on the licensed professional’s surveys, data, inspections, and other applicable documentation necessary to verify the as-built conditions meet the approved VMI Annual Standards and Specifications. The licensed professional shall certify the as-built condition of the system meets the quantitative and qualitative controls, as prescribed by the approved VMI Annual Standards and Specifications, and submit the final report as required in Section 3.1.3

○

3.2 Plan Reviews

Plan reviews shall be conducted by certified personnel, who are certified in accordance with the Virginia Erosion and Sediment Control and Stormwater Management Certification Regulations (9VAC25-850 et seq. as amended). Plan reviews shall ensure compliance with the VMI Annual Standards and Specifications for ESC and SWM.

Following plan review and approval, the VMI AS&S DEQ Certified Program Administrator will stamp the approved plans with the name of approver, name of reviewer, date of approval and project number. Additionally, the Program Administrator will prepare and sign a memorandum for record to document approval for the project and ESC/SWM program files.

3.3 Inspections

ESC and SWM Inspector(s) is responsible for ensuring the implementation of the project is in accordance with the project ESC and SWM Plan and other environmental commitments. Refer to Section 5.0 for more information on inspections.

The Responsible Land Disturber (RLD) shall be in charge of and responsible for carrying out a regulated "land-disturbing activity." The RLD shall attend the pre-construction meeting and sign the approved ESC and SWM Plan.

The licensed professional is responsible for collecting, surveying, and documenting the stormwater management and conveyance systems are in accordance with the approved Plan.

3.4 Changes and Amendments to Approved Plans

An approved Plan may be changed by VMI in the following cases:

- (i) Where inspection reveals the plan is inadequate to satisfy applicable regulations; or
- (ii) Where the person responsible for carrying out the approved Plan finds that because of changed circumstances or for other reasons the approved Plan cannot be effectively carried out, and proposed amendments to the Plan, consistent with the requirements of this article, are agreed to by the plan-approving authority and the person responsible for carrying out the Plan.

Revisions to an approved ESC and SWM Plan must be submitted in writing to the VMI Construction and Engineering Office and shall include revisions to the DEQ Registration Form General VPDES Permit for Discharges of Stormwater from Construction Activities (VAR10) and the DEQ Construction Activity Operator Permit Fee Form as appropriate for submission to DEQ with any changes in required permit fees. Revisions must comply with the approved VMI Annual Standards and Specifications for ESC and SWM. Revisions shall not be considered approved until written notice is provided.

4.0 CONSTRUCTION PLANS (DRAWINGS) REQUIREMENTS

- Construction plans must be compliant with the stormwater technical criteria for water quantity and water quality (9VAC25-870)
- Please note that Erosion & Sediment Control Technical Bulletin No. 4 *Nutrient Management for Development Sites* updates the vegetative cover standards and specifications 3.31 Temporary Seeding, 3.32 Permanent Seeding, 3.33 Sodding, and 3.34 Bermudagrass & Zoysiagrass of the 1992 Virginia Erosion and Sediment Control Handbook (VESCH), in accordance with the 1995 Virginia Nutrient Management Standards and Criteria. Specifically, the vegetation standards and specifications are updated to reflect that no more than one (1) pound of water soluble nitrogen per 1,000 square feet is to be applied on construction sites in a 30 day period.

- Only VESCH control measures will be utilized.
- Complete ESC and SWM Plan drawings and standard details shall be provided in the construction plans and are referenced below as ESC/SWM Construction Drawings.
- Minimum standards 1 through 19 (9VAC25-840-40) shall be listed in the construction plans.
- Construction sequence of operations shall be provided on the construction plans with staged implementation of erosion and sediment control measures for each phase. The area which may be disturbed in each phase shall be set forth in the construction plans.
- ESC/SWM Construction Drawings shall provide information on the maintenance of BMPs or reference the narrative section that contains the information.
- ESC/SWM Construction Drawings shall provide information on the post-construction maintenance of BMPs or reference the narrative section that contains the information.
- ESC/SWM Construction Drawings shall include manufacturer's recommendation on maintenance and inspection of manufactured BMPs so long as the manufacturer's recommendation is in compliance with the requirements listed in Section 1.2
- ESC/SWM Construction Drawings shall provide information on the post-construction inspections required for each BMP or reference the narrative section that contains the information. SWM BMPs shall have unique identifications and the identifications shall be referenced/used in all documentation, such as, but not limited to, SWPPP, narrative, ESC and SWM Plans, and calculations.
- Profiles shall be included for storm sewer systems and conveyance channels. The profile shall include the final surface, channel/pipe, and hydraulic grade line. Surcharges shall be clearly indicated on the profile.
- The amount of disturbed area listed per phase and proposed net increase in impervious area shall be listed on the ESC/SWM Construction Drawings.

5.0 INSPECTIONS

VMI shall perform periodic inspections, at a minimum, every two weeks and within 48 hours of a rainfall event producing runoff. In addition, inspections shall be made during or immediately following initial installation of erosion and sediment controls and at the completion of the project. VMI is responsible for, and shall ensure compliance with, the approved plan and the VMI Annual Standards and Specifications for ESC and SWM. VMI shall perform post-construction inspections for stormwater management facilities annually or as otherwise indicated in the approved Plan.

Licensed professional(s) shall perform inspections and surveys as they deem necessary to support their certification that each permanent stormwater management facility and conveyance system is constructed in accordance with the approved Plan.

DEQ shall perform random site inspections to assure compliance with the Virginia Erosion and Sediment Control Law (§62.1-44.15:51. to:66), the Virginia Erosion and Sediment Control Regulations (9VAC25-840), the Virginia Stormwater Management Act (§62.1-44.15:24. to :50), and the Virginia Stormwater Management Program (VSMP) Regulations (9VAC25-870).

9VAC25-870-200. Administrative Procedures: Maintenance and Inspections.

A. Responsibility for the operation and maintenance of stormwater management facilities shall remain with VMI and shall pass to any successor or owner. If portions of the land are to be sold, legally binding arrangements shall be made to pass the basic responsibility to successors in title. These arrangements shall designate for each VMI project the property owner, governmental agency, or other legally established entity to be permanently responsible for maintenance.

B. At a minimum, a stormwater management facility shall be inspected by the responsible state agency on

an annual basis and after any storm which causes the capacity of the facility principal spillway to be exceeded.

C. During construction of the stormwater management facilities, the department (DEQ) shall make inspections on a random basis.

D. The department (DEQ) shall require inspections and reports from the state agency responsible for ensuring compliance with the state permit and to determine if the measures required in the state permit provide effective stormwater management.

E. Inspection reports shall be maintained as part of the land disturbance project file.

5.1 Erosion and Sediment Control Inspections

VMI, as the Annual Standards and Specifications holder, is required to conduct inspections at the “periodic” frequency as defined in 9VAC25-840-60B. Inspections must be conducted by a DEQ Certified ESC Inspector. The inspection report provided in Appendix C shall be completed by VMI or an agent of VMI on each site inspection visit. All measures shown on the plan shall be inspected. All problems and violations shall be documented on the inspection report. Inspection reports shall specify a required corrective action for each problem or violation noted and a date the corrective action must be completed. Repeat violations not corrected within the time frames noted on the inspection report will be forwarded to DEQ for enforcement action.

The Contractor/Responsible Land Disturber (RLD) for a specific project larger than 1 acre is required to conduct inspections per 9VAC25-840-60.A and in accordance with the specific maintenance requirements of each control measure as laid out in the **VESCH**. The inspection reports shall be maintained on-site and shall be available for review by VMI, DEQ, and other regulatory agencies.

5.2 Stormwater Management Inspections

VMI, as the Annual Standards and Specifications holder, is required to conduct inspections as stated in section §62.1-44.15:37A. Specifically, VMI (i) shall provide for periodic inspections of the installation of stormwater management measures, (ii) may require monitoring and reports from the person responsible for meeting the permit conditions to ensure compliance with the permit and to determine whether the measures required in the permit provide effective stormwater management, and (iii) shall conduct such investigations and perform such other actions as are necessary to carry out the provisions of this article. Inspections must also be consistent with 9VAC25-870-114 with specific attention to:

1. Compliance with approved erosion and sediment control plans.
2. Compliance with approved stormwater management plan
3. Development, updating and implementing of the pollution prevention plan
4. Development and implementation of additional controls necessary to address TMDL

requirements.

Only DEQ Certified SWM Inspectors may conduct these inspections.

The contractor/Responsible Land Disturber is required to conduct inspections per 9VAC25-880 Part II F. The inspection report provided in Appendix B is designed to be customized according to the BMPs and conditions at each site and shall be completed on each site inspection visit. A number shall be assigned to all stormwater BMPs on the site plan and these numbers shall correspond to the BMP numbers listed on the inspection sheet. Specific areas that will require

continuous inspections shall be numbered on the site plan and these numbers shall correspond to the numbers listed on the inspection sheet. A brief description of the BMP or area shall then be listed in the site-specific section of the inspection report. Specific structural BMPs such as construction site entrances, sediment ponds, or specific areas with silt fence must be numbered and listed. Non-structural BMPs or areas that will be inspected (such as trash areas, material storage areas, temporary sanitary waste areas, etc) must also be numbered and listed.

The Inspector shall walk the site by following the site map and numbered BMPs/areas for inspection and note whether the overall site issues have been addressed. Any required corrective actions and the completion date and responsible person for the correction shall be noted in the Corrective Action Log.

If there are no non-compliance issues/problems, then the inspector shall certify that the site is in compliance with the SWPPP, permit, regulations, and laws.

5.3 Permanent BMP Inspections

Permanent BMPs (stormwater management facilities) shall be inspected, photographed, and surveyed throughout the construction process and at the completion of the project such that a licensed professional(s) shall lawfully certify the BMPs are constructed in accordance with the approved Plan. The licensed professional(s) shall assume full responsibility for the certification and the information on which the certification is based. A licensed professional shall prepare and submit a final report to the VMI Construction and Engineering Office for approval (Section 3.0).

5.4 Post-construction Inspections

Post-construction (long-term) inspections shall be made in accordance with the VMI Annual Standards and Specifications for ESC and SWM, and manufacturer's recommendation, when applicable. These inspections shall be performed by a DEQ certified inspector.

5.5 Operations and Inspection Protocols During a State of Emergency, Public Health Emergency or Federal Disaster Declaration.

In the event a Federal or State declaration of a state of emergency, public health emergency or disaster declaration interrupts operations, the VMI ESC and SWM Program Administrator will coordinate with DEQ and follow DEQ guidance regarding inspection and program administration protocols. VMI ESC and SWM Program Administrator will be responsible for documenting any missed or delayed inspections, inspector training, reports or other periodic requirements. Documentation will provide description of the item, justification and make-up plan.

6.0 VARIANCES and EXCEPTIONS

Variances and Exceptions to regulations must ensure protection of off-site properties and resources from damage. Economic hardship is not sufficient reason to request a variance or an exception. The following information needs to be included in variance requests:

- Introduction
- Project Description
- Minimum Standards Variance Requests

- Existing Conditions and Adjacent Areas
- Soil Characterization
- Critical and Sensitive Areas (Karst, wetland, etc...)
- Mitigation
 - ESC Measures
 - Permanent Stabilization
 - Vegetative Restoration
 - Maintenance
 - Critical and Sensitive Areas
 - Self-Inspection, Reporting and DEQ-Certified Personnel

For a Variance to become part of a project specific ESC plan, VMI Construction and Engineering Office must submit a written variance request for review and approval by DEQ. This request must include an explanation of the reasons for requesting the variance and describe the specific site conditions necessitating the request. The request must also include a detailed description of the alternative ESC practice and justification that the practice meets the intent of the Minimum Standard for which the variance is sought (Ref. 9VAC25-840-50).

For an Exception to become part of a specific SWM plan, the VMI Construction and Engineering Office must submit a written exception request for review and approval by DEQ. This request must include an explanation of the reasons for requesting the exception and describe the specific site conditions necessitating the request. The request must also include a detailed description of the alternative SWM practice and justification that the practice meets the intent of the minimum standard or technical criteria or both for which the exception is sought (Ref. 9VAC25-840-50).

6.1 ESC/SWM Variance and Exception Request Policy and Procedures:

- The VMI Construction and Engineering Office shall coordinate the review and approval of all requested exceptions and variances with DEQ's ESC/SWM Program representative(s).
- All requests for project specific exceptions and variances to the VMI Annual Standards and Specifications for ESC and SWM shall be sent by the design professional to the VMI Construction and Engineering Office accompanied by complete details and documentation, including justification for the requested variance and impacts associated with the variance request. The design professional shall complete the form included in Appendix C.
- The VMI ESC/SWM Administrator (or representative) will review the request and determine if the request should be sent to DEQ for further consideration. If the Administrator determines the request should not be sent to DEQ, then the request shall be considered denied.
- Exception and variance requests will be sent by the VMI Construction and Engineering Office to the DEQ Central Office for review and approval, if determined to be appropriate.
- All requested variances shall be considered unapproved until written approval from DEQ is received.
- A variance request not acted upon by DEQ within 10 days is considered disapproved.
- All approved variances shall be listed in the General Notes section of the ESC & SWM plans for land disturbing activities and included in the Narrative.

7.0 LAND-DISTURBING ACTIVITIES:

7.1 Proposed Land-disturbing activities:

A list of regulated land-disturbing activities expected to be under contract during the referenced time period are included in Appendix D. The list includes project location, estimated disturbed acreage by watershed, approximate start and completion date for each project, and a point of contact for each project. As additional land-disturbing activities not included on this list come under contract, information regarding such activities shall be submitted on separate lists on a quarterly basis to DEQ. Information on specific land-disturbing activities not included on the list will be provided to DEQ Central Office no less than two weeks prior to the start of the activity.

- Project name or project number
- Project location (including nearest intersection, latitude and longitude, access point)
- On-site project manager and contact information.
- Responsible Land Disturber (RLD) name and contact information.
- Project description.
- Acreage of disturbance for the project.
 - Estimated disturbed acreage for individual projects must be reported in the following manner:
 - Linear Projects – beginning and ending coordinates, or
 - Site Development – central to polygon or point coordinates.Note: Coordinates may be reported by UTM (x, y, zone, datum) or state plane (x, y, zone, datum).
- Any variances/exemptions/waivers associated with this project.
- Any associated **Construction General Permit** (CGP) permit number

7.2 Past and Current Regulated Land-disturbing activities:

A list of completed and actual regulated land-disturbing activities either under contract or terminated during the previously referenced time period or previous year, whichever is greater, is included in Appendix D. The list includes project location, project start and completion date, and actual disturbed area. This list will be updated and reported to DEQ on a quarterly basis.

7.3 Project Tracking and Notification

- VMI shall track regulated land-disturbing activities.
- VMI land-disturbing activities will be updated monthly with project information as related to ESC and SWM.
- Project tracking reports and e-notifications will be sent to standardsandspecs@deq.virginia.gov

8.0 LONG-TERM MAINTENANCE:

- Project Specific plans (plan sheets and narrative) shall contain information on long-term maintenance of BMPs. The following information shall be printed on the approved stormwater management plans:
 - A description of requirements for maintenance and maintenance inspection of the stormwater management facilities and a recommended schedule of maintenance inspection and maintenance.
 - The identification of a person or persons who will be responsible for maintenance inspection and maintenance.
 - The maintenance inspection schedule and maintenance requirements should be in accordance with the Virginia BMP Clearinghouse, the Virginia SWM Handbook, and/or the manufacturer's specifications.

- Clearly depict the types of land cover on the site (i.e. different type of hatching for each land cover), including the acreage for each cover type. The acreage should be labeled in all the subareas. Provide a table that adds up the land cover by type on the sheet.
- Draw metes and bounds all the way around any conserved open space.
- Label any conserved open space as “Runoff Reduction Compliance Forest / Open Space.”
- Include the following note on the sheet: “The Runoff Reduction Compliance Forest / Open Space area shown here shall be maintained in a forest / open space manner until such time an amended storm water management plan is approved by the VSMP Authority.”
- VMI shall track stormwater management facilities and associated watersheds.
- The VMI BMP will be updated quarterly with information related to the BMP.
- Stormwater Pollution Prevent Plans (SWPPPs) shall be made available over the internet.
- VMI shall inspect BMPs per the schedules included in the narratives, on the plans or both.
- VMI shall perform maintenance of BMPs per the schedules included in the narratives, on the plans or both and as necessary to maintain the BMP’s necessary function.

9.0 GENERAL INFORMATION:

- The following DEQ over-site information is provided for reference:
 - Enforcement
 - SWM – § 62.1-44.15:27.F. Enforcement shall be administered by the Department and the Board where applicable in accordance with the provisions of this article.
 - ESC – § 62.1-44.15:54.E., § 62.1-44.15:56.G. The Department and the Board, where applicable, shall provide project oversight and enforcement as necessary and comprehensive program compliance review and evaluation. The Department may take enforcement actions in accordance with this article and related regulations.
 - Complaints and Inspections
 - SWM – § 62.1-44.15:31.C. The Department shall perform random site inspections or inspections in response to a complaint to assure compliance with this article, the Erosion and Sediment Control Law, and regulations adopted thereunder.
 - Fees
 - SWM – § 62.1-44.15:31.D. The Department shall assess an administrative charge to cover the costs of services rendered associated with its responsibilities pursuant to this section.
 - ESC – § 62.1-44.15:55.D. The Board shall have the authority to enforce approved specifications and charge fees equal to the lower of (i) \$1,000 or (ii) an amount sufficient to cover the costs associated with standard and specification review and approval, project inspections, and compliance.
 - Please note that DEQ is the authority and issuance or termination of Construction General Permits shall go through the Department.
 - Registration Statement – 9VAC25-880-50
 - Notice of Termination – CGP Part I.F.
 - Inspection reports conducted by VMI as well as complaint logs and complaint responses may be required to be submitted to DEQ.
 - VMI may be required to provide weekly e-reporting to the Department’s applicable regional office:
 - Inspection reports
 - Pictures
 - Complaint logs and complaint responses and other compliance documents



APPENDIX A

PART 1 – ESC/SWM PLAN PREPARER/REVIEWER CHECKLIST

ESC/SWM PLAN PREPARER/REVIEWER CHECKLIST

The Erosion and Sediment Control (ESC), and Storm Water Management (SWM) Plan consists of the Narrative (including any supporting calculations) and the Plan Sheets, as noted below.

GENERAL

_____ Complete set of plans - Include all sheets pertaining to the site grading and stormwater and any activities impacting erosion and sediment control and drainage:

- Existing conditions
- Demolition
- Site grading
- Erosion and sediment control
- Storm sewer systems
- Stormwater management facilities
- Utility layout
- Landscaping
- On-site and off-site borrow and disposal areas that do not have separate approved ESC Plans
- Calculations

(Note – For water quality please include the Virginia Runoff Reduction Method (VRRM) Spreadsheet and the associated calculations.)

_____ Professional's seal - The designer's original seal, signature, and date are required on the *cover* sheet of each Narrative and each set of Plan Sheets. A facsimile is acceptable for subsequent Plan Sheets.

_____ Number of plan sets - Three sets of ESC and/or SWM Plans may be submitted initially. Five sets are required for approval. Distribution of the approved plans will be as follows:

- 1 – VMI Construction and Engineering Office
- 1 – VMI Project Manager
- 1 – Design Engineer
- 1 – Contractor
- 1 – Plan Reviewer / Inspector

_____ Variiances - Variiances requested at the time of plan submission are governed by Section 9VAC25-840-50 of the Virginia Erosion and Sediment Control Regulations and VMI Annual Standards and Specifications for ESC and SWM

_____ Completed Plan Preparer / Reviewer Checklist - Include a completed and signed ESC/SWM Plan Preparer/Reviewer Checklist.

EROSION AND SEDIMENT CONTROL MINIMUM STANDARDS

All Minimum Standards must be addressed.

Yes No NA

- All Minimum Standards have been listed on a construction sheet?
- MS-1 Have temporary and permanent stabilization been addressed in the narrative?
 Are practices shown on the plan?
 Temporary and permanent seed specifications?
 Lime and fertilizer?
 Mulching?
 Blankets/Matting?
 Pavement/Construction Road Stabilization?
- MS-2 Has stabilization of soil stockpiles, borrow areas, and disposal areas been addressed in the narrative and on the plan?
 Have sediment trapping measures been provided?
- MS-3 Has the establishment and maintenance of permanent vegetative stabilization been addressed?
- MS-4 Does the plan specifically state that sediment-trapping facilities shall be constructed as a first step in land-disturbing activities?
- MS-5 Does the plan specifically state that stabilization of earthen structures is required immediately after installation? Is this noted for each measure on the plan?
- MS-6 Are sediment traps and sediment basins specified where needed and designed to the standard and specification?
- MS-7 Have the design and temporary/permanent stabilization of cut and fill slopes been adequately addressed? Is Surface Roughening provided for slopes steeper than 3:1?
- MS-8 Have adequate temporary or permanent conveyances (paved flumes, channels, slope drains) been provided for concentrated stormwater runoff on cut and fill slopes?
- MS-9 Has water seeping from a slope face been addressed (e.g., subsurface drains)?
- MS-10 Is adequate inlet protection provided for all operational storm drain and culvert inlets?

Yes No NA

- MS-11** Are adequate outlet protection and/or channel linings provided for all stormwater conveyance channels and receiving channels? Is there a schedule indicating:
 Dimensions of the outlet protection? Lining? Size of riprap?
 Cross section and slope of the channels? Type of lining? Size of riprap, if used?
- MS-12** Are in-stream protection measures required so that channel impacts are minimized?
- MS-13** Are temporary stream crossings of non-erodible material required where applicable?
- MS-14** Are all applicable federal, state and local regulations pertaining to working in or crossing live watercourses being followed?
- MS-15** Has immediate re-stabilization of areas subject to in-stream construction (bed and banks) been adequately addressed?
- MS-16** Have disturbances from underground utility line installations been addressed?
 No more than 500 linear feet of trench open at one time?
 Effluent from dewatering filtered or passed through a sediment-trapping device?
 Proper backfill, compaction, and re-stabilization?
- MS-17** Is the transport of soil and mud onto public roadways properly controlled? (i.e., Construction Entrances, wash racks, transport of sediment to a trapping facility, cleaning of roadways at the end of each day, no washing before sweeping and shoveling)
- MS-18** Has the removal of temporary practices been addressed?
 Have the removal of accumulated sediment and the final stabilization of the resulting disturbed areas been addressed?
- MS-19** Are properties and waterways downstream from development adequately protected from sediment deposition, erosion, and damage due to increases in volume, velocity and peak flow rate of stormwater runoff? Have adequate channels been provided on-site?
- Is concentrated stormwater runoff leaving the development site discharged to an adequate natural or man-made receiving channel, pipe or storm sewer system?
- Are calculations provided to verify the adequacy of all channels and pipes?
- If existing natural receiving channels or previously constructed man-made channels or pipes are not adequate, have provisions been made to prevent downstream erosion?
- Have increased volumes of sheet flows that may cause erosion or sedimentation on adjacent property been diverted to a stable outlet, adequate channel, pipe or pipe system, or to a detention facility?
- Variances requested at the time of plan submission are governed by Section 9VAC25-840-50 of the Virginia Erosion and Sediment Control Regulations.
- All Minimum Standards have been listed on a plan set.

NARRATIVE

_____ Project description - Briefly describe the nature and purpose of the land-disturbing activity.

- Provide the area (acres) to be disturbed. This disturbed area shall include laydown, access and any other area that may be disturbed during the course of the project.
- Provide the existing impervious area and the increase, or decrease, in impervious area (acres).
- Estimated schedule for the project (duration from start to finish).
- Ultimate developed condition of the site.

_____ Existing site conditions - A description of the existing topography (% slopes), ground cover, and drainage (on-site and receiving channels).

- Provide the size of drainage areas in pre-development and post-development conditions.
- Discuss any existing drainage or erosion problems and how they are to be corrected.

_____ Adjacent areas - A description of all neighboring areas such as residential developments, agricultural areas, streams, lakes, roads, etc., that might be affected by the land disturbance. Discuss any environmentally sensitive areas and any possible problems during and after construction (traffic issues, dust control, increases in runoff, etc.).

_____ Off-site areas - Describe any off-site land-disturbing activities that may occur (borrow sites, disposal areas, easements, etc.). Identify the Owner of the off-site area and the locality responsible for plan review. Include a statement that any off-site land-disturbing activity associated with the project must have an approved ESC Plan. Submit documentation of the approved ESC Plan for each of these sites.

_____ Soils - Provide a description of the soils on the site, giving such information as soil name, mapping unit, erodibility, permeability, surface runoff, and a brief description of depth, texture and soil structure.

- Indicate references for soil information.
- Provide a copy of the soil survey map.

_____ Critical areas - A description of areas on the site that have potentially serious erosion problems or that are sensitive to sediment impacts (e.g., steep slopes, watercourses, wet weather / underground springs, etc.). Discuss any area(s) of the project which may become critical during the project.

_____ Erosion and sediment control measures - A description of the structural and vegetative methods that will be used to control erosion and sedimentation on the site. Controls should satisfy applicable minimum standards and specifications in Chapter 3 of the 1992 VESCH.

_____ Management strategies / Sequence of construction - Address management strategies, the sequence of construction, and any phasing of installation of ESC measures.

_____ Permanent stabilization - A brief description, including specifications, of how the site will be stabilized after construction is completed. List any soil testing requirements.

_____ Maintenance of ESC measures - A schedule of regular inspections, maintenance, and repair of erosion and sediment control structures should be set forth. List who will be responsible for ESC maintenance during the course of the project.

_____ Calculations for temporary erosion and sediment control measures - For each temporary ESC measure, provide the calculations required by the standards and specifications. All calculations showing pre-development and post-development runoff should be provided including any worksheets, assumptions and engineering decisions.

_____ Stormwater management considerations - Will the development of the site cause an increase in peak runoff

rates? Will the increase in runoff cause flooding or channel degradation downstream? Describe the strategy to control stormwater runoff:

- Provide exhibits showing the drainage divides, the direction of flow, and the size (acreage) of each of the site drainage areas that discharge runoff off-site, both existing and proposed.
- Provide calculations for pre- and post-development runoff from these drainage areas.
- Ensure that Minimum Standard 19 is satisfied for each off-site receiving channel, including those that receive runoff from stormwater management facilities.
- Provide calculations for the design of each permanent stormwater management facility.
- Ensure that increased volumes of sheet flows are diverted to a stable outlet, to an adequate channel, pipe or pipe system, or to a stormwater management facility.
- Provide adequacy calculations (capacity and erosion resistance) for all on-site stormwater conveyances in accordance with the next checklist item.
- Provide a table with the following information for each stormwater management BMP: BMP Type, Geographic Location (Northing/Easting), Total Acres Treated by Facility, Impervious Acres Treated, Pervious Acres Treated.

Calculations for permanent stormwater conveyances - For each permanent stormwater conveyance or structure, provide the following design calculations, as applicable:

- Drainage area map with time of concentration (T_C) path shown and points of analysis with worksheets.
- T_C calculation/nomograph
- Locality IDF curve
- Composite runoff coefficient or RCN calculation
- Peak runoff calculations
- TR-55 worksheets
- Stormwater conveyance channel design calculations
- Storm drain and storm sewer system design calculations
- Hydraulic Grade Line if any pipe in the system is more than 90% full for a 10-year storm
- Culvert design calculations
- Drop inlet backwater calculations
- Curb inlet length calculations
- Water quality calculations for BMPs including worksheets
- Energy balance method documentation
- VRRM compliance spreadsheet

Maintenance of SWM Facilities – Provide the following for each permanent stormwater management facility:

- A description of the requirements for maintenance of the facility and a recommended schedule of maintenance inspection and maintenance.
- The identification of the person or persons who will be responsible for maintenance inspection and maintenance.
- The maintenance inspection schedule and maintenance requirements should be in accordance with the Virginia BMP Clearinghouse, the Virginia SWM Handbook, the MS4 permit (if applicable) and/or the manufacturer's specifications.
- Clearly depict the types of land cover on the site (i.e. different type of hatching for each land cover) including the acreage for each cover type. The acreage should be labeled in all of the subareas. Provide a table that adds the land cover up by type on the sheet.
- Draw metes and bounds all the way around any conserved open space.
- Label any conserved open space as "The Runoff Reduction Compliance Forest / Open Space."
- Include the following note on the sheet: "The Runoff reduction Compliance Forest / Open Space area shown here shall be maintained in a forest / open space manner until such time an amended storm water

management plan is approved by the VSMP Authority.”

_____ Water Quality – Is the plan in compliance with the water quality criteria, or other current best management practices found at the Virginia Stormwater BMP Clearinghouse (<https://www.swbmp.vwrrc.vt.edu/>)? Provide supporting calculations. For each best management practice with a checklist, include a completed Design and Plan Review Checklist from Appendix 3 of the Virginia Stormwater Management Handbook.

_____ Specifications for erosion and sediment control measures - For each erosion and sediment control measure employed in the plan, include in the Narrative at a minimum the following sections from the standard and specification in the VESCH: Construction Specifications, Installation, and Maintenance. Include any approved variances or revisions to the standards and specifications.

_____ Specifications for stormwater and stormwater management structures - Provide specifications for stormwater and stormwater management structures, i.e., pipe materials, pipe bedding, stormwater structures.

_____ Page numbers – Number the pages of the Narrative and the Calculations.

_____ General Information – Narrative contains project specific information, and where appropriate general information has been modified to represent the project specific information and situation.

SITE PLAN

_____ Vicinity map - A small map locating the site in relation to the surrounding area. Include any landmarks that might assist in locating the site.

_____ Indicate north - The direction of north in relation to the site.

_____ Limits of disturbance – Areas that are to be cleared and graded and areas to be protected during construction. This disturbed area shall include laydown, access and any other areas that may be disturbed during the course of the project. Provide notes on how areas will be marked and for areas NOT to be disturbed.

_____ Existing contours - The existing contours of the site shall be shown as dashed light lines and elevation labeled adequately.

_____ Final contours and elevations - Changes to the existing contours, including final drainage patterns. Note the finished floor elevation (FFE) of all buildings on site, including basements. Proposed contour lines shall be solid and bolder than existing contour lines.

_____ Profile of storm drainage system – Proposed storm drainage components shall be provided in a profile. Pipe diameter, material, inverts, stationing, percent slope, proposed and existing grade, etc. shall be included as part of the profile.

_____ Existing vegetation - The existing tree lines, grassed areas, or unique vegetation.

_____ Soils Map – The boundaries of different soil types, K factor and soil survey classifications.

_____ Existing drainage patterns – The dividing lines and the direction of flow for the different drainage areas. Include the size (acres) of each drainage area.

_____ Proposed drainage patterns – The dividing lines and the direction of flow for the different drainage areas.

Include the size (acres) of each drainage area.

_____ Critical areas – Note on the plan all critical areas with potentially serious erosion problems.

_____ Site development – Show all improvements such as buildings, parking lots, access roads, utility construction, etc. Show all physical items that could affect or be affected by erosion, sediment, and drainage.

_____ Landscape plan - Include a plan showing location and plant selection for landscaped areas.

_____ Location of practices – Show the locations of erosion and sediment control and stormwater management practices used on the site. Use standard symbols and abbreviations from the ESC and SWM handbooks. A legend denoting symbols, line uses and other special characters shall be provided.

_____ Off-site areas - Include any off-site land-disturbing activities (e.g., borrow sites, disposal areas, etc.) not covered by a separate approved ESC Plan. Discuss who has final authority for off-site areas and who will be responsible for stabilization.

_____ Detail drawings – Show detail drawings of all SWM and ESC practices implemented. Any structural practices used that are not found in the ESC handbook or local handbooks should be explained and illustrated with detail drawings. Details should be provided which are clearly dimensioned and reflect the ability to be “built” in the field according to proper design criteria.

_____ Erosion and sediment control notes - At a minimum, include the erosion and sediment control notes found in Table 6-1 on page VI-15 of the 1992 *Virginia Erosion and Sediment Control Handbook*. Note that the Virginia Erosion and Sediment Control Regulations are found in section "9VAC25-840" of the Code of Virginia. Ensure that all applicable Minimum Standards not covered elsewhere in the plan have been addressed. Include a note that any off-site land-disturbing activity associated with the project must have an approved ESC Plan.

_____ Minimum Standards – Minimum Standard 1 through Minimum Standard 19 shall be included in the plan set.

_____ Legend - Provide a complete listing of all ESC measures used, including the VESCH uniform code symbol and the standard and specification number. Include any other items necessary to identify pertinent features in the plan.

_____ Property lines and easements - Show all property and easement lines. For each adjacent property, list the deed book and page number and the property owner's name and address.

_____ Print

_____ Professional's Signature

_____ Date



APPENDIX B

ESC/SWM INSPECTION FORM



APPENDIX C

VARIANCE REQUEST FORM

*Provide supporting documentation (sketches, calculations, etc...) as necessary to support request
(NOTE: All approved Variance Requests will be considered part of the Erosion and Sediment Control Plan.)*

VARIANCE REQUEST

Requested by: _____ Date: _____

Street Address: _____

City/Town/Zip: _____

Telephone #: _____ Fax #: _____ E-mail address: _____

Introduction: _____

Project Description: _____

Minimum Standards Variance Requests: _____

Existing Conditions and Adjacent Areas: _____

Soil Characterization: _____

Critical and Sensitive Areas (Karst, wetland, etc.): _____

Mitigation (EPC Measures; Permanent Stabilization; Vegetative Restoration, Maintenance;

Critical and Sensitive Areas; Self Inspection, Reporting and DEQ Certified Personnel): _____

Designers Signature: _____ Date: _____

Signature of applicant: _____ Date: _____



APPENDIX D

LAND-DISTURBING ACTIVITIES

VMI Regulated Land-Disturbing Activities

Project Name	Location	Project Manager Contact Information	RLD Contact Information	Est Area (ac)	Est Start Date	Est Completion Date
Gray-Minor Stadium Improvements	Anderson Drive VMI Lexington, VA	Aaron Groah	Randy Hostetter 804-297-3616	1.5	22 MAY 23	OCT 2023
CPTF III (Aquatic Center)	329 N. Main St Lexington, VA	Terry Ramsey 540-464-7700	Randy Hostetter 804-297-3616	1.9	DEC 2020	31 JAN 2024

VMI will provide the following information on ANY regulated land-disturbing activity to DEQ Central Office no less than two weeks prior to the start of the activity.

- Project name or project number
- Project location (including nearest intersection, latitude and longitude, access point)
- On-site project manager and contact information.
- Responsible Land Disturber (RLD) name and contact information.
- Project description.
- Acreage of disturbance for the project.
- Estimated disturbed acreage for individual projects must be reported in the following manner:
 - Linear Projects – beginning and ending coordinates, or
 - Site Development – central to polygon or point coordinates.

Note: Coordinates may be reported by UTM (x, y, zone, datum) or state plane (x, y, zone, datum).
- Project start and finish date.
- Any variances/exemptions/waivers associated with this project.



APPENDIX E

Signed Certification Statement

“I certify under penalty of law that all documents and all attachments related to the submission and updating of the Virginia Military Institute’s Annual Standards and Specifications for Erosion and Sediment Control and Stormwater Management have been prepared under my direction or supervision in a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of a fine and imprisonment for knowing violations.”

// Original Signed//

R. DAREN PAYNE

Lieutenant Colonel, US Army (Retired)

ESC/SWM Program Manager