



**ANNUAL STANDARDS AND SPECIFICATIONS
FOR
EROSION AND SEDIMENT CONTROL
AND
STORMWATER MANAGEMENT**

2020 Edition

Subject: GEORGE MASON UNIVERSITY ANNUAL STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL AND STORMWATER MANAGEMENT

Dated: December 11, 2020

I certify under penalty of law that all documents and all attachments related to the submission and updating of the GEORGE MASON UNIVERSITY ANNUAL STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL AND STORMWATER MANAGEMENT are 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.

Sincerely,

A handwritten signature in black ink, appearing to read "Frank Strike". The signature is written in a cursive, flowing style.

Frank Strike, PE
Vice President, Facilities

INTRODUCTION

George Mason University (Mason) Erosion and Sediment Control (ESC) and Stormwater Management (SWM) Programs are integral components of Mason's design, construction, maintenance, and management of Mason's facilities and campuses. *George Mason University Annual Standards and Specifications for ESC and SWM* has been developed to provide information regarding Mason's implementation of these programs in accordance with Virginia Erosion and Sediment Control Law (§62.1-44.15:51 et seq.), the Virginia Erosion and Sediment Control Regulations (9VAC25-840 et seq.), the Virginia Stormwater Management Act (§62.1-44.15:24 et seq.), and the Virginia Stormwater Management Program (VSMP) Permit Regulations (9VAC25-870 et seq.) as related to municipal separate storm sewer systems and regulated construction activities.

George Mason University Annual Standards and Specifications for ESC and SWM shall apply to all plan design, construction, inspection, and maintenance activities undertaken by Mason, either by its internal workforce or contracted to external entities, where such activities are regulated by the Virginia Erosion and Sediment Control Law and Regulations (VESCL&R), and/or the Virginia Stormwater Management Act, and/or the VSMP Permit Regulations. During inspections of George Mason University's land disturbing activities by Mason Civil and Environmental Engineering Division, Virginia Department of Environmental Quality (DEQ), Environmental Protection Agency (EPA), and other applicable environmental agencies, compliance with the approved *George Mason University Annual Standards and Specifications for ESC and SWM* (and all parts thereof), the VESCL&R, the Virginia Stormwater Management Act, and the VSMP Permit Regulations will be required.

George Mason University Annual Standards and Specifications for ESC and SWM are submitted to Virginia DEQ for review and approval on an annual basis. Mason shall ensure that project specific plans are developed and implemented in accordance with the Annual Standards and Specifications. This submittal constitutes Mason's commitment to execute all provisions contained herein on the regulated land disturbing activities and land development projects. As such, this submittal will be made available and utilized as an operational guidance by all appropriate Mason and DEQ personnel. This submittal and errata information are available for download as PDF files at: <http://facilities.gmu.edu/>

TABLE OF CONTENTS

APPENDICES	v
ABBREVIATIONS and ACRONYMS	vi
1. ANNUAL STANDARDS AND SPECIFICATIONS ADMINISTRATION	1
2. ANNUAL STANDARDS AND SPECIFICATIONS PERSONNEL	3
3. ANNUAL STANDARDS AND SPECIFICATIONS IMPLEMENTATION	4
4. ESC AND SWM PLAN REQUIREMENTS	6
5. INSPECTIONS	6
6. VARIANCES and EXCEPTIONS	8
7. REPORTING AND RECORDKEEPING	8
8. CONSTRUCTION REQUIREMENTS	9
9. PERFORMANCE WARRANTY	9
10. LONG-TERM MAINTENANCE	9
11. ANNUAL REVIEW and EVALUATION	10

APPENDICES

Appendix – A: Land Disturbance Application Form

Appendix – B: Land Disturbance Permit

Appendix – C: Plan Review Checklist

Appendix – D: Environmental Compliance Report

Appendix – E: Notice of Termination

Appendix – F: Variance Request Form

Appendix – G: DCR Frequently Asked Questions-Native vs Invasive Species for Erosion & Sediment Control

Appendix – H: Erosion and Sediment Control Structures

Appendix H.1: Dewatering Bag/Tube Specification

Appendix H.2: Filter Fabric Inlet Protection Specification

Appendix H.3: Inlet Markings Specification

Appendix H.4: Concrete Washout Specification

Appendix H.5: Permanent Check Dam Specification

Appendix H.6: Access Road Deck Mat Specification

Appendix H.7: Sandbag/Stone Diversion Specification

Appendix H.8: Pump Around Practice Specification

Appendix H.9: Alternative Temporary Construction Entrance Specification

Appendix H.10: SiltSack Specification

Appendix H.11: GUTTERBUDDY Specification

Appendix H.12: Super Silt Fence Specification

Appendix H.13: ShoreFlex Specification

Appendix H.14: Erosion Eel Specification

Appendix H.15: GutterGator Specification

Appendix H.16: GrateGator Specification

Appendix H.17: MudMats Specification

Appendix H.18: Geotextile Specification

Appendix H.19: SILTSOXX Specification

Appendix – I: Specifications

Appendix I.1: Planting Soil Specification

Appendix I.2: Turf and Grasses Specification

Appendix I.3: TV Specification

Appendix – J: As-built Specifications

ABBREVIATIONS AND ACRONYMS

Abbreviation/ Acronym	Term
BMP	Best Management Practice
Board	Virginia State Water Control Board
DEQ	Virginia Department of Environmental Quality
ESC	Erosion and Sediment Control
LID	Low-Impact Development
Mason LD	George Mason University Land Development Division
MS4	Municipal Separate Storm Sewer System
SWM	Stormwater Management
SWPPP	Storm Water Pollution Prevention Plan
VESCL&R	Virginia Erosion and Sediment Control Law and Regulations
VSMP	Virginia Stormwater Management Program

1. ANNUAL STANDARDS AND SPECIFICATIONS ADMINISTRATION

1.1. George Mason University (Mason) follows the policies and procedures described in the Virginia Erosion and Sediment Control Handbook and the Virginia Stormwater Management Handbook. *George Mason University Annual Standards and Specifications for ESC and SWM* approved by DEQ are composed of general specifications. The general specifications for erosion and sediment control and storm water management that apply to land-disturbing activities include by reference the following:

- Virginia Stormwater Management Act, as amended (§62.1-44.15:24-50)
- Virginia Stormwater Management Program (VSMP) Regulations , as amended (9VAC25-870)
- General Permit for Discharges of Stormwater from Construction Activities, as amended (9VAC25-880)
- General Permit for Discharges of Stormwater from Small MS4s , as amended (9VAC25-890)
- Virginia Erosion and Sediment Control (VESCP) Law , as amended (§62.1-44.15:51-66)
- Virginia Erosion and Sediment Control Regulations , as amended (9VAC25-840)
- Virginia Erosion and Sediment Control Certification Regulations , as amended (9VAC25-850)
- Virginia Erosion and Sediment Control Handbook, 1992
- Virginia Stormwater Management Handbook, 1999, as amended.
- Virginia Stormwater BMP Clearinghouse (<http://www.vwrrc.vt.edu/swc/>)
- Technical Bulletins, as amended,
<http://www.deq.virginia.gov/Programs/Water/StormwaterManagement/Publications.aspx>

1.2. All plan design, construction, and maintenance activities on Mason owned state properties, undertaken by Mason, either by its internal workforce or contracted to external entities, shall comply with *George Mason University Annual Standards and Specifications for ESC and SWM*.

1.3. "Land disturbance" or "land-disturbing activity" , as defined by *VSMP*, means a manmade change to the land surface that potentially changes its runoff characteristics including clearing, grading, or excavation, except that the term shall not include those exemptions specified in § [62.1-44.15:34](#) of the Code of Virginia.

Land disturbing activity, as defined by *VESCP*, means any man-made change to the land surface that may result in soil erosion from water or wind and the movement of sediments into state waters or onto lands in the Commonwealth, including, but not limited to, clearing, grading, excavating, transporting, and filling of land, except that the term shall not include:

1. Minor land-disturbing activities such as home gardens and individual home landscaping, repairs, and maintenance work;
2. Individual service connections;
3. Installation, maintenance, or repair of any underground public utility lines when such activity occurs on an existing hard surfaced road, street, or sidewalk, provided the land-disturbing activity is confined to the area of the road, street, or sidewalk that is hard surfaced;
4. Septic tank lines or drainage fields unless included in an overall plan for land-disturbing activity relating to construction of the building to be served by the septic tank system;

5. Permitted surface or deep mining operations and projects, or oil and gas operations and projects conducted pursuant to Title 45.1;
6. Tilling, planting, or harvesting of agricultural, horticultural, or forest crops, livestock feedlot operations, or as additionally set forth by the Board in regulation, including engineering operations as follows: construction of terraces, terrace outlets, check dams, desilting basins, dikes, ponds, ditches, strip cropping, lister furrowing, contour cultivating, contour furrowing, land drainage, and land irrigation; however, this exception shall not apply to harvesting of forest crops unless the area on which harvesting occurs is reforested artificially or naturally in accordance with the provisions of Chapter 11 (§ [10.1-1100](#) et seq.) of Title 10.1 or is converted to bona fide agricultural or improved pasture use as described in subsection B of § [10.1-1163](#);
7. Repair or rebuilding of the tracks, rights-of-way, bridges, communication facilities, and other related structures and facilities of a railroad company;
8. Agricultural engineering operations, including but not limited to the construction of terraces, terrace outlets, check dams, desilting basins, dikes, ponds not required to comply with the provisions of the Dam Safety Act (§ [10.1-604](#) et seq.), ditches, strip cropping, lister furrowing, contour cultivating, contour furrowing, land drainage, and land irrigation;
9. Disturbed land areas of less than 10,000 square feet in size or 2,500 square feet in all areas of the jurisdictions designated as subject to the Chesapeake Bay Preservation Area Designation and Management Regulations; however, the governing body of the program authority may reduce this exception to a smaller area of disturbed land or qualify the conditions under which this exception shall apply;
10. Installation of fence and sign posts or telephone and electric poles and other kinds of posts or poles;
11. Shoreline erosion control projects on tidal waters when all of the land-disturbing activities are within the regulatory authority of and approved by local wetlands boards, the Marine Resources Commission, or the United States Army Corps of Engineers; however, any associated land that is disturbed outside of this exempted area shall remain subject to this article and the regulations adopted pursuant thereto; and
12. Emergency work to protect life, limb, or property, and emergency repairs; however, if the land-disturbing activity would have required an approved erosion and sediment control plan, if the activity were not an emergency, then the land area disturbed shall be shaped and stabilized in accordance with the requirements of the VESCP authority.

1.4. All land disturbing activities, as defined by *VSMP and VESCP*, shall be vetted through Mason LD. A Land Disturbance Application (Appendix A) shall be completed and submitted to Mason LD with a construction schematic and locations of the proposed work. Prior to starting a land-disturbing project, the project must have a Mason Land Disturbance Permit issued by Mason LD if disturbing activities more than 2,500 square feet (Appendix B) , and [Construction General Permit](#) issued by DEQ if disturbing activities more than one acre.

1.5. Site-Specific ESC, SWM, and Stormwater Pollution Prevention Plan (SWPPP) shall be prepared for all projects involving a regulated land-disturbing activity as defined in §62.1-44.15:24 and §62.1-

44.15:51, or when deemed necessary by Mason LD. Site-specific ESC, SWM and SWPPP plans shall be submitted to Mason LD for review and approval.

- 1.6. A responsible Land Disturber (RLD) shall be designated prior to initiating any land-disturbing activity. Mason shall notify the DEQ of the RLD at least two weeks in advance of the land-disturbing activity. The information provided shall include the name, contact information, and certification number of the RLD. RLD is responsible to obtain proper permits for offsite/borrow areas, if necessary.

2. ANNUAL STANDARDS AND SPECIFICATIONS PERSONNEL

DEQ is the permit issuing authority for Construction General Permit. Mason LD shall be the authority for administering Mason land-disturbing projects under *George Mason University Annual Standards and Specifications for ESC and SWM*. Mason LD performs the program administration, inspection, plan review and other related duties in house. Mason LD reserves the right to contract with a 3rd party to inspect the ESC/SWM measures in accordance with the approved plan, especially for underground units. The following is a breakdown in responsibilities and titles in regard to *George Mason University 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 2.5. The following titles are designated to ensure compliance with *George Mason University Annual Standards and Specifications for ESC and SWM* on Mason land-disturbing projects.

- 2.1. Certified Program Administrator is an employee of Mason LD who: (i) holds a certificate of competence from the Board in the area of program administration; or, (ii) is enrolled in the Board's training programs for the program administrator and successfully completes such programs within two years after enrollment.

This position shall oversee the overall management for George Mason University Annual Standards and Specifications for ESC and SWM program; and (ii) shall update the George Mason University Annual Standards and Specifications for ESC and SWM annually.

- 2.2. Certified ESC/SWM Inspector is an employee or agent of Mason LD who: (i) holds a certificate of competence from the Board in the area of ESC/SWM inspection; or, (ii) is enrolled in the Board's training program for ESC/SWM inspection and successfully completes such program within two years after enrollment.

This position (i) shall be responsible to inspect as mandated by the VESCL&R erosion and sediment control measures to ensure proper installation in accordance with the permitted plans and effectiveness of such measures in an effort to maximize site erosion and sediment control; and/or, (ii) shall be responsible to inspect the construction and effectiveness of permanent stormwater management controls; and/or (iii) shall be responsible to inspect the stormwater pollution prevention measures that must take place during construction; and, (iv) shall be responsible to verify that all required documents are available on-site for view/review, including but not limited to, land disturbance permit, permitted plans, inspections log, VSMP permits, and SWPPP documents.

- 2.3. Certified ESC Plan Reviewer is an employee or agent of Mason LD who: (i) holds a certificate of competence from the Board in the area of plan review; or, (ii) is enrolled in the Board's training program for project inspection and successfully completes such program within two years after enrollment; or, (iii) is licensed as a professional engineer, architect, certified landscape architect, or

land surveyor pursuant to Article 1 (§54.1-400 et seq.) of Chapter 4 or Title 54.1 of the Code of Virginia or as a professional soil scientist as defined in Chapter 22 (§ 54.1-2200 et seq.) of Title 54.1 of the Code of Virginia that qualifies as a certified plan reviewer for ESC.

This position (i) shall be responsible to review and permit ESC plans in compliance with *George Mason University Annual Standards and Specifications for ESC and SWM* and applicable ESC laws and regulations; and, (ii) can assist with inspections when needed.

- 2.4. Certified SWM Plan Reviewer is an employee or agent of Mason LD who: (i) holds a certificate of competence from the Board in the area of plan review; or, (ii) is enrolled in the Board’s training program for project inspection and successfully completes such program within two years after enrollment.

This position (i) shall be responsible to review and permit SWM plans in compliance with *George Mason University Annual Standards and Specifications for ESC and SWM* and applicable SWM laws and regulations; and, (ii) shall be responsible to review and approve SWPPPs; and, (iii) can assist with inspections when needed.

- 2.5. Certified Combined Program Administrator is an employee of Mason LD who: (i) holds a certificate of competence from the Board in the combined areas of program administration, plan review, and project inspection; or, (ii) is enrolled in the Board’s training program for the program administrator, plan reviewer, and project inspection and successfully completes such program within two years after enrollment.

This position (i) shall oversee all of the inspection and plan review personnel; and, (ii) shall designate the Inspectors and Plan Reviewer; and, (iii) shall directly communicate with the Contractor and DEQ when circumstances require enforcement actions; and, (iv) shall oversee the update of the *George Mason University Annual Standards and Specifications for ESC and SWM*; and, (v) is DEQ’s delegated permitting authority.

- 2.6. Certifications shall be in accordance with the Virginia Erosion and Sediment Control and Stormwater Management Certification Regulations (9VAC25-850-40).

3. ANNUAL STANDARDS AND SPECIFICATIONS IMPLEMENTATION

3.1. Submittals

ESC, SWM, and SWPPP plans, narratives, and necessary attachments shall be submitted to the Mason LD for review and approval prior to any land-disturbing activities. Submittal packages shall be delivered to Mason LD office or following the Permit Application-Land Disturbance (PALD) process in e-Builder. The required elements for various submittal phases can be found in Appendix C: *Plan Review Completion Checklist*. Final submittals for land-disturbing projects including infrastructure/utility work shall include hardcopy, electronic copy (PDF), and CAD drawings. CAD drawings shall conform to National CAD Standard regarding layers, plot styles, line types, etc.

As-built drawings shall be submitted in order to close out the Mason Land Disturbance permits. See section 5.3 for additional information.

3.2. Plan Reviews

Plan reviews shall be conducted by qualified personnel defined in Section 2. Plan review shall ensure compliance with the *George Mason University Annual Specifications for ESC and SWM*. Plan reviewers shall use the *Plan Review Checklist* (Appendix C).

After receiving the submittals, the Mason LD shall have 15 calendar days to determine completeness of the plan(s) and notify in writing. The Mason LD shall have additional 60 calendar days from the time of notification to review the plan(s) and provide written comments.

If re-submission to review, the Mason LD shall have 45 calendar days to review and respond in writing to previously disapproved plan(s). Re-submission should include one (1) red-lined plan set of the previous submission showing all to-date revisions, responses to comments, and at least one (1) clean, updated plan set.

After confirming the submittals compliance with the *George Mason University Annual Specifications for ESC and SWM*, an approval notification will be sent to responsible parties by electronic delivery. When approved, at least three (3) unmarked, updated plan sets, stamped by a licensed professional engineer, architect, certified landscape architect, or land surveyor in Virginia, must be submitted to Mason LD, which Mason LD will stamp the plans with Mason Land Disturbance Permit approval and distributed them to (1) Records, (1) Project Inspector and (1) Contractor. Contractor is required to have the approved plans available on site. Additional copies may be requested as needed. Electronic copy (PDF) and CAD drawings are also required to be submitted to Mason LD.

Prior to commencement of a land-disturbing project, the project must have received approval for the plan(s) from Mason LD. Mason LD shall have 60 calendar days to review and provide written comments to modifications to approved plan(s).

Plan Reviews are not to be used to evaluate design concepts. Pre-design concept meetings are strongly encouraged.

3.3. Inspections

The certified inspector(s) (Section 2.2) is responsible for ensuring that the construction and installation of all structural and non-structural controls are in accordance with the project's ESC, SWM, and SWPPP plans and intention. In addition, if circumstances arise where the current plan is proven inadequate to provide necessary protection and needs additional engineering evaluation, the inspector is responsible to notify Mason LD, who shall take the necessary steps to coordinate with the Contractor and Engineer to address and resolve the issue. Inspectors are responsible to complete and submit Environmental Compliance Report (Appendix D). Refer to Section 5.0 for more information on inspections.

3.4. Changes and Amendments to Approved Plans

An approved plan may be changed by Mason LD in the following cases:

- (i) Where inspection has revealed the plan is inadequate to satisfy applicable laws and regulations;
or
- (ii) Where the person responsible for carrying out the approved plan finds that such plan is no longer effective due to field conditions and/or changes to the overall project scope. In such case, an amended plan, consistent with the requirements of this document, must be promptly proposed.

Revisions to an approved ESC, SWM and/or SWPPP plan must be submitted in writing to the Mason LD. Formal plan revisions are only necessary when the changes involve activities such as changing disturbance areas, engineered controls (e.g., a sediment trap or basin), or a revision in the level/quantity of ESC and/or SWM measures. The requested plan revisions will be reviewed by Mason LD for compliance. Revisions shall not be considered approved until written notification by Mason LD is provided. Approved revisions must be clouded in red as part of the approved plan on site. Revisions must comply with the *George Mason University Annual Standards and Specifications for ESC and SWM*. Approved revisions with all supplemental documentation must be saved in the project folder. Exceptions may be allowed in the event of an emergency.

The Contractor is responsible for the performance of the ESC/SWM measures. If the designated ESC/SWM proves to be inadequate, the Contractor is responsible to reassess, design, and submit a plan amendment at no cost to Mason.

4. ESC AND SWM PLAN REQUIREMENTS

Detailed requirements of specific items to be included in the ESC and SWM plans can be found in the Plan Reviewer Checklist (Appendix C).

Individual plans, to the maximum extent practicable, shall comply with any locality's VSMP authority's technical requirements adopted pursuant to Virginia Stormwater Management Act. It shall be the responsibility of Mason to demonstrate that the locality's VSMP authority's technical requirements are not practicable for the project under consideration.

At the completion of a project, as-built drawings, including permanent SWM facilities shall be provided to Mason LD bearing the seal and signature of a Virginia registered professional Engineer or Land Surveyor, certifying that the site, including SWM facilities, has been constructed in accordance with the approved plan. As-built drawings shall be provided in both PDF and CAD format. The licensed professional shall provide surveys, photographs, construction logs, inspection reports, geotechnical testing reports, soil reports, certification of materials, and all other applicable information documentation.

5. INSPECTIONS

In lieu of an approved alternative inspection program, inspections shall be conducted, at a minimum, every two weeks and within 48 hours of a significant rainfall event producing runoff. Mason's certified ESC/SWM Inspectors (Section 2.2) shall be notified 24 hours prior to installation of BMPs and shall be present for installation of BMPs. In addition, inspections shall be made during or immediately following initial installation of erosion and sediment controls and at the completion of the project. Completion of the project is defined as the achievement of final stabilization, not completion of construction. SWPPP inspection will continue until final stabilization is achieved and/or LD permit is terminated.

5.1. SWPPP Inspections

The Environmental Compliance Report, provided in Appendix D, shall be used on each site inspection visit during construction. All construction SWPPP measures, including ESC, SWM facilities, and Pollution Prevention, shown on the approved SWPPP plan shall be inspected.

ESC inspection (9VAC25-840-60)

Will be performed by Certified ESC Inspector (see Section 2)

Will be performed on all projects by Mason during or immediately following initial installation

of erosion and sediment controls, at least once in every two-week period, within 48 hours following any runoff producing storm event, and at the completion of the project prior to the release of any performance bonds;

SWM Inspection (§ 62.1-44.15:37)

Will be performed by Certified SWM Inspector (see Section 2)

Will be performed for the installation of stormwater management measures, (ii) 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 by Mason

SWPPP Inspection (9VAC25-870-114.)

Will be performed during construction for compliance with the approved erosion and sediment control plan; compliance with the approved stormwater management plan; development, updating, and implementation of a pollution prevention plan; and development and implementation of any additional control measures necessary to address a TMDL.

Will be performed at the start of construction and periodically throughout

All issues and violations shall be photographed and documented in the *Environmental Compliance Report*, where required corrective action for each issue or violation shall be specified and a date by which all corrective actions must be completed. Copies of material delivery tickets, certifications from the suppliers, and other relevant documents on SWM facilities should be provided to Mason LD office. Critical areas that require continuous inspections shall also be identified on the site plan. A copy of the *Environmental Compliance Report* shall be sent to the Contractor, Project Managers, Mason LD and other responsible parties.

5.2. Violations and Documentation

Violations shall be documented in the *Environmental Compliance Report*, including photographs, descriptions, and necessary corrective actions. If a violation continues to be repeated, a formal Notice of Comply will be issued, and DEQ Woodbridge Office will be notified. At the discretion of Mason LD, the Land Disturbance Permit may be suspended and/or revoked; at which time all land disturbing activities must cease until the violation(s) of the plan or permit has ceased, corrective action completed, and any related environmental or property damages abated. Mason LD reserves the right to contract with a 3rd party to install and maintain the ESC/SWM measures in accordance with the approved plan, complete any necessary corrective actions, and abate any related damages. Once the site is stabilized to the satisfaction of the Mason LD, site work may resume. All associated costs will be back-charged to the Contractor.

5.3. Project Close-Out Inspection

Project completion is defined as the achievement of final stabilization, verification of final product according to approved plans, completion of TV inspection (Refer to Appendix I.3) of the installed storm sewer system, if deemed necessary by Mason LD, and submittal of as-built drawings. The inspector will determine that final stabilization has been achieved. Once Mason LD concurs, final project as-built, including licensed professional's certification confirming that the stormwater sewer and BMP facilities are constructed in accordance with the approved plans and specifications, and Mason Land Disturbance Permit Notice of Termination (Appendix E) are submitted to Mason LD by the Contractor, the Land Disturbance Permit will be closed-out and the Construction GP terminated by

DEQ. The contractor is responsible to submit the VSMP General Permit Notice of Termination Form to DEQ before the Land Disturbance Permit be closed out. After which, Mason LD may recommend that full retainage be released. If deemed appropriate, retainage may be withheld as a performance guarantee for up to 60 calendar days after achievement of final stabilization unless otherwise directed by the Contract. Full retainage may not be released without recommendation by the Mason LD.

5.4. Post-construction Inspections

Post-construction (long-term) inspections shall be made in accordance with the manufactures' and/or engineer's recommendation, the provisions of these standards and specifications, and the general specifications provided in Section 1.1, including Virginia Stormwater BMP clearinghouse, SMW Handbook, and 9VAC25-870-112 and -200B. Inspections shall be conducted annually and/or after any storm which causes the capacity of the facility's principle spillway to be exceeded.

6. VARIANCES AND EXCEPTIONS

Variances and exceptions to regulations must ensure protection of off-site properties and resources from damage. Economic hardship is not a sufficient reason to request a variance or an exception from *VSMP* or *George Mason University Annual Standards and Specifications for ESC and SWM*. Variances and exceptions are considered to be project specific.

6.1. Variance or Exception Request Policy and Procedures:

- The design professional shall submit a written request to Mason LD to request project specific variances to *George Mason University Annual Standards and Specifications for ESC and SWM* and shall be accompanied by complete details and documentation, including justification and impacts associated with the request (Appendix F). The request shall include an explanation and description of the specific condition necessitating the request. The request shall include a detailed description of the alternative practice and justification that the practice meets the intent of the regulation for which the variance is sought.
- If determined to be appropriate by Mason LD in accordance with 9VAC25-840-50 or 9VAC25-870-122, the Program Administrator will send the variance/exception request to DEQ Central Office for review and approval.
- All requests shall be considered unapproved until written approval from DEQ is received (A period of thirty days shall be scheduled for this request).
- All approved variances or exceptions shall be listed in the General Notes section of the ESC & SWM plans for land disturbing activities and included in the Narrative.

7. REPORTING AND RECORDKEEPING

7.1. Project Initiation Notification

Mason LD shall notify the DEQ of the Responsible Land Disturber (RLD) at least two weeks in advance of land-disturbing Activities. The information to be provided shall include the project name, project location, project manager contact information, certification number and contact information of the RLD, project description, acreage of disturbance for project, project start and finish date, and any variance/waivers/exemptions associated with the project. Mason will utilize DEQ's e-notification system when it is available.

7.2. Project Tracking and Notification

- Mason LD uses [online GIS](#) map to track current and future land-disturbing activities.
- Mason LD will update the GIS map annually or as necessary with project information as related to ESC and SWM.

7.3. Recordkeeping

Mason LD shall maintain the following records as required by the SWM and ESC laws and regulations:

- Mason LD will maintain a record of approved SWM and ESC plan and inspections for each active land-disturbing activity
- Project records, including approved SWM plan, shall be kept for three years after the state permit termination or project completion.
- SWM facility inspection records shall be documented and retained for at least five years from the date of inspection.
- Construction record drawings shall be maintained in perpetuity or until a stormwater management facility is removed.
- All registration statements submitted in accordance with 9VAC25-870-59 shall be documented and retained for at least three years from the date of project completion or state permit termination.

8. CONSTRUCTION REQUIREMENTS

8.1. Top Soil

All area that is disturbed shall require a minimum top soil depth of 2” in grassed areas and 4” in landscaped areas. Refer to Appendix I.1 for additional requirements on top soil.

8.2. Construction Area Maintenance

All grassed perimeter areas shall be mowed at least once a month during construction in order to maintain the aesthetics of the University.

8.3. Stabilization

The native plant species are encouraged to stabilize the construction site (Appendix G). Turf and grasses shall comply with the requirements in Appendix I.2. In the event that approved seeding does not establish stabilization within 90 calendar days of installation, sod shall be installed at no expense to Mason.

9. PERFORMANCE WARRANTY

- Upon termination of the permit, the Contractor shall warranty all work, including but not limited to, storm sewer and BMP facilities installations, landscaping, turf, etc. for one year from the date of the substantial completion.
- In the event that such feature does not meet its designed and approved intent, the Contractor shall repair/replace the feature in kind per the Standards and Specifications outlined in this document at no expense to Mason.
- The repair/replacement shall be guaranteed to perform as designed for one year from the date of repair acceptance.

10. LONG-TERM MAINTENANCE

Project plans shall contain information on long-term inspection and maintenance of permanent BMP

facilities. Mason Facilities Management is responsible for BMP maintenance and repair. Post-construction inspections will be conducted in accordance with Section 5.0. Inspectors shall inspect and note items from the stormwater management devices that were identified for cleaning or repair. The inspection results shall be provided to the Program Administrator for recordkeeping and for assistance with the issuance of a work order to complete the activity. Work order status is documented and verified in the field before completion.

Mason LD plans to use GIS to track SWM facilities and associated watersheds. The Mason LD BMP GIS map will be updated quarterly with information as related BMPs. The GIS map is available upon request.

11. ANNUAL REVIEW AND EVALUATION

11.1. DEQ's Responsibilities

DEQ shall have sixty days in which to comment on any ESC/SWM specifications submitted for review, and its comments shall be binding on Mason LD and any private business hired by Mason LD.

Enforcement of *George Mason University Annual Standards and Specifications for ESC and SWM* shall be administered by DEQ and the Board where applicable in accordance with the provisions of § 62.1-44.15:27.F, § 62.1-44.15.54E, § 62.1-44.15:56G.

The DEQ shall perform random site inspections or inspections in response to a complaint to assure compliance with the article § 62.1-44.15:31C, the Erosion and Sediment Control Law (§ 62.1-44.15:51), and regulations adopted thereunder.

DEQ shall assess an administrative charge to cover the costs of services rendered associated with its responsibilities pursuant to § 62.1-44.15:31D and § 62.1-44.15:55D.

DEQ might request additional information from Mason, including:

- Inspection reports conducted by GMU as well as complaint logs and complaint responses.
- GMU may be required to provide weekly e-reporting to the department's applicable regional office, including inspection reports; pictures; complaint logs and complaint responses; and other compliance documents.

11.2. Mason's Responsibilities

Mason LD shall ensure compliance with the approved plan and annual standards and specifications. Upon request by DEQ, Mason shall provide a copy of the approved plan sheets and narrative for each regulated land-disturbing activity as outlined in Section 1. Mason LD shall provide DEQ with the appropriate information, in a timely manner, when requested.