William & Mary

Annual Standards and Specifications

For

Erosion and Sediment Control and Stormwater Management

March 2018

Prepared for William & Mary Facilities Planning, Design, & Construction

3RD PARTY REVIEW

This Report has been subjected to technical and quality reviews by:

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TABLE OF CONTENTS

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ABBREVIATIONS/ ACRONYMS

AS&S	Annual Standards and Specification for Erosion and Sediment Control and Stormwater Management
W&M	William & Mary
DEQ	Virginia Department of Environmental Quality
ESC	Erosion and Sediment Control
FPD&C	William & Mary Facilities Planning, Design, & Construction within the Department of Facilities Management
RLD	Registered Land Disturber
RBC	Richard Bland College
SW	Stormwater

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SWPPP	Stormwater Pollution Prevention Plan
VIMS	Virginia Institute of Marine Science

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1.0 PROGRAM ADMINISTRATION

1.1 Annual Standards and Specifications Administration

All projects involving land-disturbing activity that are subject to Stormwater and Erosion and Sediment Control shall be bound by the Annual Standards and Specifications for Erosion and Sediment Control and Stormwater Management. Only registered design professionals will prepare and seal erosion and sedimentation control plans and stormwater management plans for University projects. The erosion and sediment control plans and stormwater management plans will follow the latest regulations (as amended) which are detailed below.

1.2 ESC/SW References

The Authority Annual Standards and Specifications for ESC/SW approved by DEQ are composed of general specifications. The general specifications for ESC/SW that apply to the land-disturbing activities include the ESC/SW technical bulletins (as amended) and by reference include the following:

1.2.1 Virginia Erosion and Sediment Control Law (§62.1-44.15:51 et seq. as amended);

1.2.2 Virginia Erosion and Sediment Control Regulations (9VAC25-840 et seq. as amended);

1.2.3 Virginia Erosion and Sediment Control Certification Regulations (9VAC25-850 et seq. as amended);

1.2.4 Virginia Erosion and Sediment Control Handbook, 1992;

1.2.5 Virginia Stormwater Management Act (§62.1-44.15:24 et seq, as amended);

1.2.6 Virginia Stormwater Management Program (VSMP) Regulations (9VAC25-870 et seq. as amended) and the General Virginia Pollutant Discharge Elimination System (VPDES) Permit for Discharges of Stormwater from Construction Activities (9VAC25-880) (et seq. as amended).

1.2.7 Virginia Stormwater Management Program (VSMP) Regulations, Section Technical criteria and requirements for state projects (9VAC25-870-160)

Documents above can be accessed at:

http://www.deq.virginia.gov/Programs/Water/StormwaterManagement/VSMPPermits.aspx

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1.3 **William & Mary Documents**

The following documents have been developed by the W&M and contain additional pertinent information:

- William and Mary, Stormwater Management Plan (July 2004) by Draper Aden Associates
- William and Mary, Operation, Maintenance and Inspection Manual for Stormwater Best Management Practices, (January 29, 2007) by Clough Harbor Associates, L.L.P.

1.4 **ESC/SW Plans Required**

Site-specific ESC/SW plans shall be submitted by the W&M Project Manager to a DEQ-Certified ESC/SWM plan reviewer for review. Checklists that summarize the required components of the ESC/SW Plans are included (see Appendices A and B). Prior to starting a land-disturbing activity, the project must have written approval issued by W&M's Plan Reviewer.

Changes to W&M's site-specific ESC/SW plans shall be submitted by the W&M Project Manager to W&M Program Administrator for review. Prior to starting a land-disturbing project requiring a SW plan, the project must have an approval issued by W&M Program Administrator for the plan by way of a Land Disturbance/Stormwater Permit.

1.5 **Variances, Deviations, and Exceptions**

Project specific departures from the requirements of the AS&S, Minimum Standards 1-19, or any applicable ESC or SWM regulations must be approved by DEQ. Refer to Section 7.0 for more information.

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1.6 **Record Keeping**

1.6.1 W&M, as the AS&S holder, shall maintain, either on-site or in AS&S files, a copy of the approved plan and record of inspections for each active land-disturbing activity.

1.6.2 Project records, including approved stormwater management plans and accompanying stormwater calculations for quantity and quality, shall be kept for three years after state permit termination or project completion.

1.6.3 Stormwater management facility inspection records shall be documented and retained for at least five years from the date of inspection.

1.6.4 Construction record drawings and accompanying stormwater calculations for quantity and quality shall be maintained in perpetuity or until a stormwater management facility is removed.

1.6.5 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.

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2.0 PROGRAM PERSONNEL

FPD&C shall be the plan approving authority for W&M Projects. The following is a listing of titles and associated responsibilities related to the program. Responsibilities may be combined in terms of staffing resources only if the person responsible for the task(s) is qualified in accordance with Virginia Erosion and Sediment and Stormwater Management Control Certification Regulations (9VAC25-850). The following titles are designated to ensure compliance with erosion and sediment and stormwater control regulations on all W&M projects.

2.1 **Program Administrator**

Shall have overall program management and coordination responsibilities for W&M's Erosion and Sediment Control Program and Stormwater Management Program. This position will be assigned within W&M FPD&C or an outside consultant and shall be a DEQ certified program administrator.

2.2 **Plan Reviewers**

Shall be responsible for reviewing plans to insure compliance with W&M AS&S and applicable ESC and SW laws. The Plan Reviewer must state in writing the reason(s) for disapproval of an ESC Plan and/or SW Plan and specify the modification, terms, and conditions necessary for plan approval. The ESC reviewer shall be either a licensed professional in accordance with 9VAC25-850-40 or hold the appropriate certificate of competency from the State Water Control Board issued through DEQ. The ESC reviewer position will be assigned within W&M FPD&C or hired out. The SW reviewer shall hold a certificate of competence from DEQ in the area of plan review or shall be enrolled in the DEQ training program for plan review. The SW reviewer position will be assigned within W&M FPD&C or an outside consultant.

2.3 **Inspectors**

Shall have the responsibility for inspecting erosion and sediment control practices to evaluate compliance with the approved ESC/SW plan and associated laws, regulations, and W&M AS&S. This position shall be a DEQ certified inspector from W&M FPD&C or the respective Facilities Management

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staffs at Richard Bland College (RBC) or the Virginia Institute of Marine Science (VIMS) or an outside consultant.

2.4 **Certifications**

Shall be in accordance with DEQ Virginia Erosion and Sediment Control Certification Regulations and Stormwater Management Control Certification Regulations (9VAC25-850).

2.5 **Responsible Land Disturber**

A Responsible Land Disturber (RLD) shall be designated prior to initiating the land disturbing activity. The Contractor shall notify W&M and DEQ Tidewater Regional Office of the Responsible Land Disturber at least two weeks in advance of the land-disturbing activity as follows:

2.5.1 Information shall be sent to hannah.zegler@deq.virginia.gov (This is subject to change as DEQ is in the process of obtaining an AS&S specific email account.

2.5.2 The following information needs to be included in the e-notification two weeks prior to initiating a regulated LDA:

2.5.2.1 Project name or project number and any associated CGP permit number;

2.5.2.2 Project location (including nearest intersection, latitude and longitude, access point)

2.5.2.3 On-site project manager name and contact info

2.5.2.4 Responsible Land Disturber (RLD) name and contact info

2.5.2.5 Project description / Specifications

2.5.2.6 Acreage of disturbance for project

2.5.2.7 Project start and finish date

2.5.2.8 Any variances/waivers/exemptions associated with this project.

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3.0 PROGRAM IMPLEMENTATION

ESC/SW plans shall comply with W&M AS&S and associated regulations listed in Section 1.2.

3.1 **Applicability**

The following criteria are general guidance concerning project applicability. See regulations (ESC 9VAC25-840-80 & SW 9VAC25-870-30) for additional information.

3.1.1 Projects with land disturbances of one (1) acre or more are required to have approved stormwater management plans and approved erosion and sediment control plans in accordance with the appropriate technical criteria. These projects are also required to obtain coverage under the VSMP Construction General Permit (GP) by filing a VSMP Registration Statement and maintaining a SWPPP through the construction period.

3.1.2 Projects with land disturbances between 2,500 sf and 43,559 sf are required to have approved stormwater management plans and approved erosion and sediment control plans in accordance with the appropriate technical criteria, but are not required to seek VSMP Construction General Permit (GP) coverage.

3.1.3 Projects with land disturbances less than 2,500 sf are not required to have approved stormwater management plans or approved erosion and sediment control plans and are not required to seek VSMP Construction General Permit (GP) coverage. However, W&M requires these projects to provide ESC measures in the design drawings and will be inspected by W&M during construction.

3.2 **Submittals**

For applicable projects, ESC/SW drawings shall be submitted to W&M ESC/SW Plan Reviewers for review and approval prior to any land-disturbing activities. Starting July 1, 2014, VSMP Construction General Permits (GP) must include the general administrative criteria from Part II A. The technical criteria from Part II B or Part IIC, should then be implemented as applicable to the project.

The plan reviewer shall have 14 days to review the plan and provide written comments to the submitting Project Manager and the W&M Program Administrator. Prior to commencement of a land-disturbing project, the project must have received written approval for the plan(s) from W&M Program Administrator. The formal approval letter must be issued prior to receiving the project building permit.

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3.3 Plan Reviews

Plan reviews shall be conducted by DEQ Certified Plan Reviewer. Plan reviews shall ensure compliance with W&M AS&S. Plan reviewers shall use the Plan Review Checklist for ESC plans and SW plans (see Appendices A and B).

3.4 Inspections and Enforcement

The ESC/SW Inspector(s) is responsible for ensuring that the implementation of the project is in accordance with the project specific erosion and sediment control plans, stormwater management plans, and associated ESC/SW laws and regulations. Refer to Section 6.0 for more information on inspections and enforcement procedures.

3.5 Changes and Amendments

An approved ESC plan may be changed by the W&M FPD&C in the following cases:

- Where inspection by the W&M ESC Inspector has revealed the plan is inadequate to satisfy applicable regulations; or

- Where the person responsible for carrying out the approved plan finds that the approved plan cannot be effectively carried out because of changed circumstances or other reasons. Amendments may be proposed to the plan consistent with the requirements of this article to ensure an effective and compliant plan.

Proposed revisions to an approved ESC/SW plan will be submitted by the Project Manager to W&M Program Administrator for review. Revisions shall not be considered approved until written notice is provided. Revisions must comply with W&M AS&S.

The W&M ESC Inspector may direct the Contractor to add additional ESC measures to address conditions in the field without revisions to the approved plans.

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3.6 **Technical Criteria**

As all of the William & Mary campus (Main, Dillard, Law School, and School of Education) are within the Chesapeake Bay Preservation Act area, all projects with over 2,500 sf of disturbance are required to comply with the following:

3.6.1 Projects designed to the technical criteria from Part IIB shall use the Virginia Stomwater Management BMP Clearinghouse.

3.6.2 Projects designed to the technical criteria from Part IIC should use the *Virginia Stormwater Management Handbook,* First Edition, 1999 Volume I and II.

3.6.3 Stormwater quality design shall comply with criteria per 9VAC25-870-63 and 9VAC25-870-65.

3.6.4 Stormwater quantity design shall comply with criteria per 9VAC25-870-66.

3.6.5 Erosion and Sediment Control design shall comply with criteria per 9VAC25-840-40 and 9VAC25-840-40-19.

3.7 **Use of Campus Water Quality Bank**

Prior to the development of the current Stormwater Management Plan, The W&M modified existing stormwater BMPs to create a system of banked credits that was approved by DCR in 2005 (see attached letter.) During the development of the current Stormwater Management Plan, DEQ allowed the W&M to utilize up to 10.0 pounds of phosphorus from the banked credit system for project compliance as an interim measure until DEQ determined the allowable system for public colleges to bank credits for compliance. Projects shall continue to utilize the banked credits as this issue is resolved with DEQ subject to the following requirements:

3.7.1 Determination of the proposed project's water quality requirement using the applicable Virginia Runoff Reduction Method (VRRM) spreadsheets.

3.7.2 The W&M Water Quality tracking spreadsheet shall be updated for each project prior to plan approval. Contact the W&M Project Manager for the most recent copy updated for recent projects.

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3.8 **VSMP Permitting**

Projects requiring coverage under the VSMP General Construction Permit shall prepare and submit a VSMP Registration Statement and completed SWPPP to W&M at least 2 weeks prior to the anticipated start of land disturbance. W&M shall prepare and complete the DEQ AS&S form (see Appendix F) certifying that the plans have been approved. The Contractor shall submit both forms to DEQ with the required payment.

3.9 **Inspections**

The Inspector(s) is responsible for determining if the implementation of the project is in accordance with the project specific erosion and sediment control plans and associated ESC/SW laws and regulations. Refer to Section 6.0 for more information on inspections and enforcement procedures.

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4.0 CONSTRUCTION PLAN REQUIREMENTS

ESC and SW Plans must be approved by W&M's DEQ-Certified ESC/SWM Plan Reviewer prior to land disturbance.

4.1 **Submittals**

ESC/SW plans and supporting documentation as outlined below shall be submitted to the W&M FPD&C for review and approval. The submittal must include the appropriate information and data necessary to support the licensed design professional's work.

4.1.1 Checklists: A complete set of project construction plans and checklists (see Appendices A and B), in addition to supporting information such as calculations, design standard and specifications, reports, certifications, variances, exceptions, record documents, digital files, *etc*., shall be submitted to the W&M FPD&C for review and approval prior to any land-disturbing activities. The submittal shall include a design that is in accordance with W&M's approved Annual Standards and Specifications for ESC/SW.

4.1.2 Resubmittals: 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 ESC/SW 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 to the plans.

4.2 **ESC Plan Requirements**

Complete erosion and sediment control plans shall be provided in the construction plans and include the following:

4.2.1 Given the public nature of the W&M campus, FPD&C requests construction projects to exceed the minimum standards for ESC. FPD&C may request more stringent ESC measures.

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4.2.2 Construction entrances shall not be used on top of existing pavement or on projects where the amount of soil to be removed from the site is less than approximately 5 dump truck loads. In these cases, alternate requirements for prevention of sediment tracking on the street shall be provided, such as sweeping after each dump truck leaves the site or wheel washing.

4.2.3 Wire backed silt fence will be used whenever the silt fence is expected to be in place for more than 3 months. Drawings shall show a detail of chain link fence material with metal pipe posts instead of the wire backed silt fence detail shown in Minimum Standard 3.05.

4.2.4 Plans shall include, as a minimum, information as indicated on the plan review checklist, see Appendix A.

4.2.5 Plans shall include a narrative, see Virginia & Erosion Sediment Control Handbook for definition of terms.

4.2.6 Minimum standards 1 through 19 (9VAC25-840-40) shall be listed in the construction plans.

4.2.7 Construction sequence of operations shall be defined on the construction plan 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.

4.2.8 Construction plans shall provide information on the maintenance of all erosion and sediment control measures or reference the narrative section that contains the maintenance information.

4.2.9 Construction plans shall contain a summary which includes the amount of disturbed area per phase and proposed net change in impervious area .

4.2.10 Land disturbing activity occurring at a separate location (contractor laydown areas, borrow areas, support-activities, etc.) shall be addressed by either:

a. Considering the off-site activity as being part of the proposed land disturbing activity; or

b. Ensuring that the offsite area is already covered by an approved erosion and sediment control plan. W&M may require the applicant to provide proof of the approval and certification that the plan will be implemented in accordance with the SWM Act.

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4.3 **SW Plan Requirements**

The SW plan outlines how stormwater leaving a site after construction will meet the necessary water quality and quantity technical criteria. The SW plan shall consider all sources of surface runoff and all sources of subsurface and groundwater flows converted to surface runoff. The SW plan shall comply with the following:

4.3.1 Plans shall include, as a minimum, information as indicated on the plan review checklist, see Appendix B.

4.3.2 Stormwater requirements from the City of Williamsburg or James City County (depending on project location) are generally no more stringent than the state standards and are therefore, not applicable. Designers shall consult the Environmental Impact Review (EIR) comments to verify that this is the case for each individual project.

4.3.3 Water quality compliance shall be through the on-campus banked water quality credits system unless specifically authorized by W&M Facilities Management with off-site nutrient purchase being the secondary option.

4.3.4 Stormwater BMPs for LEED or other non-regulatory purposes shall be used only when authorized by W&M Facilities Management.

4.3.5 Project design for water quantity compliance for the flooding criteria per 9VAC25-870-66 will be dictated by the discharge path to the point where the total drainage area (or peak flow rate) is 100 times the project area (or project area peak flow rate). In no case shall detention by used where it can be avoided through downstream analysis. Including modeling existing detention systems.

4.3.6 Level spreaders are preferred to detention, but shall not be used in campus lawn areas used by student or where flow will cross sidewalks or roads.

4.3.7 Bioretention BMPs may be used to comply with energy balance criteria.

4.3.8 A general description of the proposed stormwater management facilities and the mechanism through which the facilities will be operated and maintained after construction is complete.

4.3.9 Information on the proposed stormwater management facilities, including (i) the type of facilities; (ii) location, including geographic coordinates; (iii) acres treated; and (iv) the surface waters or karst features into which the facility will discharge.

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4.3.10 Hydrologic and hydraulic computations, including runoff characteristic

4.3.11 Documentation and calculations, including drainage maps. verifying compliance with the water quality and quantity requirements of these regulations

4.3.12 BMPs requiring planting shall include a detailed landscape plan with a planting schedule. All plantings must be approved by W&M Operations & Maintenance as part of the plan review.

4.3.13 Project plans shall contain information on maintenance of BMPs. State Maintenance Agreement: The following information shall be printed on the approved stormwater management plan for state projects:

- A description of the 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 shall be responsible for maintenance inspection and maintenance. In the case of W&M this is the head of the Facilities Operation & Maintenance.

- The maintenance inspection schedule and maintenance requirements should be in accordance with the W&M BMP Operation & Maintenance Manual, and the following: the Virginia BMP Clearinghouse, the Virginia SWM Handbook, the MS4 permit, and /or the manufacturer's specifications.

4.4 **Long Term Maintenance Responsibilities**

Responsibility for the operation and maintenance of stormwater management facilities shall remain with W&M 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 state project the property owner, governmental agency, or other legally established entity to be permanently responsible for maintenance.

4.5 **Record Drawing Requirements**

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At the completion of the project, a construction record drawing ("as-built") for permanent stormwater management facilities must be provided bearing the seal and signature of a Virginia registered professional, certifying that the stormwater management facilities have been constructed in accordance with the approved plan. Record drawings must include all calculations, BMP information, and drainage maps.

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5.0 SWPPP REQUIREMENTS

A Stormwater Pollution Prevention Plan (SWPPP) is required for any project with one acre or more of disturbance as a condition of the Virginia Stormwater Management Program (VSMP) General VPDES Permit for Discharges of Stormwater from Construction Activities (Permit), as defined in 9VAC25-880. The SWPPP may be prepared by either the Design Professional or the Contractor, depending on who has been assigned this responsibility by the W&M Project Manager through contract language.

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6.0 INSPECTIONS AND ENFORCEMENT

Periodic inspections are required on all projects by the W&M ESC Inspector. The W&M ESC Inspector shall inspect ongoing construction activities during or immediately following initial installation of erosion and sediment controls as follows:

6.1 **Projects with more than 2,500 sf in all areas of the jurisdictions designated as subject to the Chesapeake Bay Preservation Area Designation and Management Regulations (62.1-44.15:34):**

Inspections by DEQ-Certified ESC Inspectors shall occur during or immediately following initial installation of ESC measures and subsequently at a frequency of at least once every five business days; or at least once every 10 business days and no later than 48 hours following a measurable storm event. In the event that a measurable storm event occurs when there are more than 48 hours between business days, the inspection shall be conducted no later than the next business day.

The installation of stormwater BMPs must be inspected by DEQ-Certified SWM Inspectors to verify compliance with the approved plans. Some BMPs, such as basins, pipe detention, and manufactured treatment units can be inspected at completion. Other BMPs, such as bioretention & infiltration, require multiple inspections at critical points to verify critical items prior to their being covered.

6.2 **Projects with Impaired waters and TMDL limitation. (Currently only projects at the Dillard Complex which drain to Powhatan Creek):**

Inspections by DEQ-Certified ESC Inspectors shall be conducted during or immediately following initial installation of ESC measures and subsequently of at a frequency of (i) at least once every four business days or (ii) at least once every five business days and no later than 48 hours following a measurable storm event. In the event that a measurable storm event occurs when there are more than 48 hours between business days, the inspection shall be conducted on the next business day; and

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Representative inspections used by utility line installation, pipeline construction, or other similar linear construction activities shall inspect all outfalls discharging to surface waters identified as impaired or for which a TMDL wasteload allocation has been established and approved prior to the term of this general permit.

The installation of stormwater BMPs must be inspected by DEQ-Certified SWM Inspectors to verify compliance with the approved plans. Some BMPs, such as basins, pipe detention, and manufactured treatment units can be inspected at completion. Other BMPs, such as bioretention & infiltration, require multiple inspections at critical points to verify critical items prior to their being covered.

6.3 **Projects with a disturbed area less than 2,500 sf:**

Inspections are not required by regulations, but are required per W&M at least weekly with no formal report required.

6.4 **Inspection Reports**

The inspection report provided in Appendix C shall be used during each site inspection. 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 corrective action for each problem or violation noted and a date the corrective action must be completed. A copy of the inspection report will be provided to the W&M Program Administrator.

6.4.1 **ESC Inspections**

ESC inspections shall use the Inspection report provided in Appendix C on each site inspection visit. All measures shown on the plan shall be inspected. All issues and violations shall be photographed and documented in the report. Critical Areas that require continuous inspections shall also be identified on the site plan. Inspection reports shall specify the required corrective action for each issue or violation noted and a date by which all corrective actions must be completed. A copy of the Inspection Report will be distributed to the project Contractor.

6.4.2 **SW Inspections**

SW Inspections shall use the Inspection Report provided in Appendix C to record SW inspections on each site inspection. All stormwater BMPs must be identified on the site plan. As previously addressed, identification of permanent BMPs shall be coordinated with W&M's stormwater permits. Photographs will be taken during the inspection and referenced within the report.

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6.4.3 **Final Inspections**

Project Closeout is defined as the achievement of final stabilization, verification of final product according to approved plans. The W&M ESC Inspector will determine that final stabilization has been achieved. All SWPPP documentation must be complete and provided to the W&M Program Administrator in print and electronic format prior to permit close out. The final project as-built will be received and the land disturbance/stormwater permit will be closed-out. If deemed appropriate, retainage may be withheld as a performance guarantee for up to 60 days after achievement of final stabilization unless otherwise directed by the Contract.

6.4.4 **Post-Construction Inspections**

Post-construction inspections shall be made by the design engineer in accordance with the provisions of these standards and specifications, and in accordance with the W&M's MS4 Program. The design engineer shall prepare SWM record drawings certifying that the stormwater BMPs where constructed in accordance with the approved plans, see Section on Record Drawing Requirements in these AS&S.

6.5 **Violations**

6.5.1 When violations noted on written inspection reports remain during subsequent inspections, a Notice to Comply will be issued by the W&M Program Administrator. The Notice to Comply will contain specific measures or corrections that need to be made and specify deadlines for completion. Stop Work Orders will be issued when the project has failed to meet the prescribed deadlines in a Notice to Comply; or LDA commenced without an approved plan; or when violations are causing or are in imminent danger or causing harmful erosion.

6.5.2 Violations shall be documented in the Inspection Report, including photographs, descriptions, and necessary corrective actions. If a violation continues to be repeated, then a formal Notice of Non-Compliance will be issued, and DEQ will be notified. At the discretion of the W&M Program Administrator, the Land Disturbance/Stormwater Permit may be suspended and/or revoked; at which time all land disturbing activity must cease until the violation(s) of the plan or permit has ceased, corrective action completed, and any related environmental or property damages abated.

6.5.3 W&M reserves the right to contract with a 3rd party to install and maintain the Erosion and Sediment Control and/or Stormwater Management measures in accordance with the approved plan, complete any necessary corrective actions, and abate any related damages.

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6.5.4 The Contractor (the officer of the company and senior project officers) shall schedule and meet with the FPD&C to discuss the violations. After the meeting has been conducted and the site is stabilized to the satisfaction of the FPD&C, site work may resume. All associated costs will be back-charged to the Contractor. The Stop Work Order will be lifted once the required ESC/SW measures or corrections are in place and verified by the ESC/SW Inspector.

6.5.5 ESC/SW Inspectors will also be responsible for responding in a timely manner to reports of alleged violations reported by W&M staff, students, or adjacent property owners, or others (§10.1-569.1). Corrective measures, if warranted, will follow standard procedures as outlined for ESC/SW inspections.

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7.0 VARIANCES, DEVIATIONS & EXCEPTIONS

Variances, deviations, and exceptions to regulations must ensure off-site properties and resources are protected from damage. Economic hardship is not sufficient reason to grant a change from the requirements of the W&M AS&S.

For a change to become part of the approved project specific ESC/SW plans, a written request must be submitted for approval by DEQ.

7.1 **Modification Request Procedures**

DEQ has in place a review process for project specific modifications to the AS&S and regulatory requirements as follows:

Variance: Modification to the ESC Minimum Standards 1 – 19

Deviation: the use of ESC control measures not contained in the Virginia ESCH or the approved AS&S.

Exception: Changes to the SWM Technical Criteria contained in the BMP Clearinghouse and the Virginia

7.1.1 All requests for project specific modifications shall be sent by the design professional by way of the Project Manager to the W&M Program Administrator and shall be 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 Modification Request form (see Appendix D).

7.1.2 If determined to be appropriate by W&M Program Administrator and the Plan Reviewer, then W&M Program Administrator shall coordinate the review and approval of the requested modification with DEQ's Tappahannock Regional Office.

7.1.3 All requested modifications are to be considered unapproved until written approval from the W&M Program Administrator is received.

7.1.4 All approved modifications shall be listed in the General Notes section of the ESC/SW plans for land disturbing activities and included in the Narrative.

7.2 **Pre-Approved Deviations**

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The FPD&C has included as part of the Annual Standards and Specifications for ESC, certain pre-approved ESC measures/controls that are not included in the VESCH, see Appendix E. These measures may be included as part of the project construction plans, provided the plans contain a detail sheet, inspection instructions, installation instructions, and maintenance instructions.

ESC measures/controls not specifically included as part of the approved ESC Plan shall not be used on the project unless the ESC Plan is amended to include the specific ESC measure/control. Non-VESCH control measures, best management practices (BMP), and specifications have been included in the Annual Standards and Specifications but their use may be further reviewed and approved by the applicable DEQ Regional Office on a project specific basis. Should non-VESCH control measures fail to effectively control soil erosion, sediment deposition, and non-agricultural runoff, then VESCH control measures shall be utilized.

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8.0 LAND DISTURBING ACTIVITIES

8.1 Project Tracking and Notification

8.1.1 W&M may use GIS to track regulated land-disturbing activities.

8.1.2 W&M land-disturbing GIS may be updated as necessary to keep current with existing projects as related to ESC.

8.1.3 The GIS may be accessible through Microsoft Windows Explorer to DEQ.

8.1.4 W&M will submit project tracking to the DEQ for all regulated land disturbing activities. This shall be done on a semi-annual frequency (every 6 months) to DEQ's Central Office. Information in these records should be the same items within the e-notifications as described in Section 2.5.

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9.0 PROGRAM REVIEW AND EVALUATION

DEQ will provide oversight of W&M's implementation of these Annual Standards and Specifications as well as W&M's SW/ESC program management in accordance with the following:

9.1 **DEQ Comment**

DEQ shall have sixty days in which to comment on any erosion and sediment control specifications submitted to it for review, and its comments shall be binding on W&M and any private business hired by W&M(§62.1-44.15:55D).

9.2 **DEQ Information Request**

W&M shall ensure compliance with the approved plan and annual standards and specifications. Upon request by DEQ, W&M shall provide a copy of the approved plan sheets and narrative for each regulated land-disturbing activity as outlined in Section 1.1.

9.3 **Additional DEQ Over-Sight Information**

9.3.1 Standards and specifications shall be submitted to DEQ by W&M on an annual basis.

9.3.2 Enforcement

9.3.2.1 Enforcement shall be administered by the Department (DEQ) and the Board (State Water Control Board) where applicable in accordance with the provisions of this article.

9.3.2.2 The Department (DEQ) and the Board (State Water Control 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.

9.3.3 Complaints and Inspections

9.3.3.1 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.

`

9.3.4 Fees

9.3.4.1 The Department (DEQ) shall assess an administrative charge to cover the costs of services rendered associated with its responsibilities pursuant to this section.

9.3.4.2 The Board (State Water Control 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.

9.3.5 DEQ Discretionary requirements. All linear project entities are required to include the following two discretionary requirements in their annual standards and specifications.

Two Discretionary Requirements:

9.3.5.1 DEQ Inspection reports conducted by W&M as well as complaint logs and complaint responses may be required to be submitted to DEQ.

9.3.5.2 W&M may be required to provide weekly e-reporting to the department's (DEQ) applicable regional office:

a. Inspection reports;

b. Pictures;

c. Complaint logs and complaint responses; and

d. Other compliance documents.

`

Appendix A - ESC Checklist

Revised 9/17

William & Mary
EROSION AND SEDIMENT CONTROL - PLAN REVIEW CHECKLIST

Revised 9/17

This checklist shall be completed by the plan submitter prior to submission and by the W&M plan reviewer during each plan review. Plans may be submitted as pdf documents with a final submission for W&M approval submitted as two full-size paper sets.

`

PLAN SUBMITTER'S CHECKLIST

FOR EROSION AND SEDIMENT CONTROL PLANS

Please fill in all blanks and reference the plan sheets/pages where the information may be found, where appropriate, or write N/A by items that are not applicable.

GENERAL

Plan Submission Date
Project Name _____
VSMP Permit Number _____
Site Plan Number
Site Address _____
Applicant _____ Phone Number_____
Applicant Legal Address _____
Owner_____ Phone Number_____
Principal Designer _____ Phone Number_____
General Contractor_____ Phone Number_____

_____ 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

_____ 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.

_____ Variances - Variances requested at the time of plan submission are governed by Section 9VAC25-840-50 of the *Virginia Erosion and Sediment Control Regulations*.

_____ Certified Responsible Land Disturber (RLD) - A certified RLD is required during all stages of construction, from the initial land disturbance through final site stabilization**. The name of the project RLD must be provided before any land disturbance may begin.** Notify DEQ in a timely manner if the RLD changes during the course of the project.

_____ Complies with Section 4.2 of the Annual Standards and Specifications for Erosion and Sediment Control and Stormwater Management

`

CHECKLIST PREPARER
I certify that I am a professional in adherence to all minimum standards and requirements pertaining to the practice of that profession in accordance with Chapter 4 (§ 54.1-400 et seq.) of Title 54.1 of the Code of Virginia and attendant regulations. By signing this checklist I am certifying that this document and all attachments are, to the best of my knowledge and belief, true, accurate, and complete.

SIGNATURE _____

PRINTED NAME _____

QUALIFICATIONS _____

DATE _____

NARRATIVE
Please reference plan sheet numbers where the information may be found.

_____ Project description - Briefly describe the nature and purpose of the land-disturbing activity. Provide the area (acres) to be disturbed.

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

_____ 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. Description to be limited to only those areas adjacent to the site that could be affected.

_____ 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 entity 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. Show the site location on the Soil Survey, if it is available. Include a plan showing the boundaries of each soil type on the development site. Limit the description to soil unit only if the site is previously disturbed.

_____ 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.). See 1992 *Virginia Erosion and Sediment Control Handbook* (VESCH) for definitions of critical areas.

_____ 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 *Virginia Erosion and Sediment Control Handbook* (VESCH) or requirements in the *W&M Annual Standards for*

`

Erosion and Sediment Control & Stormwater Management.

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

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

_____ Maintenance of ESC measures - A schedule of regular inspections, maintenance, and repair of erosion and sediment control structures should be set forth.

_____ Calculations for temporary erosion and sediment control measures - For each temporary ESC measure, provide the calculations required by the standards and specifications.

_____ 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, including during construction.

_____ Specifications / Detail Drawings for erosion and sediment control measures - For each erosion and sediment control measure employed in the plan, include, at a minimum, the detail from the standard and specification in the VESCH or requirements in the *W&M Annual Standards for Erosion and Sediment Control & Stormwater Management*.

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

`

SITE PLAN

Please reference plan sheet numbers where the information may be found.

_____ 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.

_____ 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.

_____ 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.

_____ Existing vegetation – Show the existing tree lines, grassed areas, or unique vegetation.

_____ Limits of clearing and grading – Delineate all areas that are to be cleared and graded.

_____ Protection of areas not being cleared - Fencing or other measures to protect areas that are not to be disturbed on the site.

_____ Critical areas – Note all critical areas on the plan. See 1992 *Virginia Erosion and Sediment Control Handbook* (VESCH) for definitions of critical areas.

_____ Existing contours – Show the existing contours of the site.

_____ Final contours and elevations – Show changes to the existing contours, including final drainage patterns.

_____ 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.

_____ Location of practices - The locations of erosion and sediment control and stormwater management practices used on the site. Use the standard symbols and abbreviations in Chapter 3 of the VESCH.

_____ Adequate Conveyances – Ensure that stormwater conveyances with adequate capacity and adequate erosion resistance have been for provided all on-site concentrated stormwater runoff. Off-site channels that receive runoff from the site, including those receiving runoff from stormwater management facilities, must be adequate. Increased volumes of sheet flows must be diverted to a stable outlet, adequate channel, pipe or pipe system, or a stormwater management facility.

`

☐ 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. Pre-developed drainage maps may be omitted if not required by compliance approach.

☐ Provide calculations for pre- and post-development runoff from these drainage areas. Pre-developed calculations may be omitted if not required by compliance approach.

☐ Ensure that Minimum Standard 19 is satisfied for each off-site receiving channel, including those that receive runoff from stormwater management facilities. MS-19 may be addressed by stormwater quantity regulations (9VAC25-870-66).

☐ 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 for all on-site stormwater conveyances.

_____ 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
☐ T_C calculation/nomograph
☐ Locality IDF curve
☐ Composite runoff coefficient or RCN calculation
☐ Peak runoff calculations
☐ 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

_____ Direction of Flow for Conveyances - Indicate the direction of flow for all stormwater conveyances (storm drains, stormwater conveyance channels).

_____ Storm Drain Profiles - Provide profiles of all storm drains except roof drains. Show all crossings of existing and proposed utilities. If the type of pipe (RCP, CMP, HDPE, etc.) is not called out on the profiles, then the most conservative pipe material that may be specified for the project must be used in the adequacy calculations.

`

MINIMUM STANDARDS
Plan Sheet #

_____ **Minimum Standards - All Minimum Standards must be addressed.**

Yes	No	NA		
[]	[]	[]	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 restabilization 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 restabilization?

[] [] [] 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?

`

Appendix B - Stormwater Checklist

Revised 9/17

William & Mary
STORMWATER - PLAN REVIEW CHECKLIST

Revised 9/17

This checklist shall be completed by the plan submitter prior to submission and by the W&M plan reviewer during each plan review. Plans may be submitted as pdf documents with a final submission for W&M approval submitted as two full-size paper sets.

`

PLAN SUBMITTER'S CHECKLIST

FOR STORMWATER MANAGEMENT PLANS

Please fill in all blanks and **please reference the plan sheets/pages where the information may be found,** where appropriate, or write N/A by items that are not applicable.

GENERAL

Plan Submission Date
Project Name _____
VSMP Permit Number _____
Site Plan Number
Site Address _____
Applicant _____ Phone Number_____
Applicant Legal Address _____
Owner_____ Phone Number_____
Owner E-mail Address _____
Principal Designer _____ Phone Number_____
Principal Designer E-mail Address_____
Total Disturbed Area Figure_____

_____ 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 – Attach two sets of SWM Plans.

_____ Exceptions - Exceptions requested are governed by Section 9VAC25-870-57 of the *Virginia Stormwater Management Regulations*.

_____ Grandfathering - Attach supporting documentation consistent with the requirements of Section 9VAC25-870-48 of the *Virginia Stormwater Management Regulations*.

_____ Offsite Compliance – Attach letter of availability from the off-site provider as governed by Section 9VAC25-870-55 of the *Virginia Stormwater Management Regulations*.

_____ Complies with Section 4.3 of the Annual Standards and Specifications for Erosion and Sediment Control and Stormwater Management

`

CHECKLIST PREPARER

I certify that I am a professional in adherence to all minimum standards and requirements pertaining to the practice of that profession in accordance with Chapter 4 (§ 54.1-400 et seq.) of Title 54.1 of the Code of Virginia and attendant regulations. By signing this checklist I am certifying that this document and all attachments are, to the best of my knowledge and belief, true, accurate, and complete.

SIGNATURE _____

PRINTED NAME _____

QUALIFICATIONS _____

DATE _____

`

SITE PLANS

Please reference the plan sheet numbers where specific information may be found in the blanks below.

_____ Location of the site, ex. Dillard Complex, Law School, Sunken Garden, Crim Dell.

_____ A narrative that includes a description of current site conditions and proposed development and final site conditions, including proposed use of environmental site design techniques and practices, stormwater control measures, relevant information pertaining to long-term maintenance of these measures, and a construction schedule.

_____ Existing and proposed mapping and plans (recommended scale of 1" = 50', or greater detail), which illustrates the following at a minimum:

☐ North arrow
☐ Legend
☐ Vicinity map
☐ Existing and proposed topography (one-foot field surveyed contours, GIS acceptable only for drainage areas outside of project limits)
☐ Property lines
☐ Perennial and intermittent streams
☐ Mapping of predominant soils from USDA soils surveys as well as the location of any site-specific test bore hole investigations that may have been conducted and information identifying the hydrologic characteristics and structural properties of soils used in the installation of stormwater management facilities
☐ Boundaries of existing predominant vegetation and proposed limits of clearing and grading
☐ Location and boundaries of natural feature protection and conservation areas (e.g.,wetlands, lakes, ponds, aquifers, public drinking water supplies, etc.) and applicable setbacks (e.g., stream buffers, drinking water well setbacks, septic drainfield setbacks, building setbacks, etc.)
☐ Identification of any on-site or adjacent water bodies included on the Virginia 303(d) list of impaired waters
☐ Current land use and location of existing and proposed roads, buildings, parking lots and other impervious areas
☐ Location and description of any planned demolition of existing structures, roads, etc.
☐ Proposed land use(s) with a tabulation of the percentage of surface area to be adapted to various uses, including but not limited to planned locations of utilities, roads, parking lots, stormwater management facilities, and easements
☐ Location of existing and proposed utilities [e.g., water (including wells), sewer (including septic systems), gas, electric, telecommunications, cable TV, etc.] and easements
☐ Earthwork specifications
☐ Show the BMP name, geographic coordinates and design of both structural and non-structural stormwater control measures, including maintenance access and limits of disturbance
☐ Storm drainage plans for site areas not draining to any BMP(s)
☐ Location of existing and proposed conveyance systems, such as storm drains, inlets, catch basins, channels, lateral groundwater movement interceptors (French drains, agric. tile drains, etc.), swales, and areas of overland flow, including grades, dimensions, and direction of flow
☐ Final drainage patterns and flow paths
☐ Location of floodplain/floodway limits and relationship of site to upstream and downstream properties and drainage systems
☐ Location of all contributing drainage areas and points of stormwater discharge, receiving surface waters or karst features into which stormwater discharges, the pre-development and

`

post-development conditions for drainage areas, and the potential impacts of site stormwater on adjoining parcels

☐ Location and dimensions of proposed channel modifications, such as bridge or culvert crossings

☐ Final stabilization and landscaping plans

_____ Hydrologic and hydraulic analysis, including the following:

☐ Site map with locations of design points and drainage areas (size in acres) for runoff calculations

☐ Identification and calculation of stormwater site design credits, if any apply

☐ Summary description of the water quantity and water quality compliance strategy.

☐ Time of concentration (and associated flow paths)

☐ Imperviousness of the entire site and each drainage area

☐ NRCS runoff curve numbers or volumetric runoff coefficients

☐ A hydrologic analysis for the existing (pre-development) conditions, including runoff rates, volumes, and velocities, showing the methodologies used and supporting calculations

☐ A hydrologic analysis for the proposed (post-development) conditions, including runoff rates, volumes, and velocities, showing the methodologies used and supporting calculations

☐ Hydrologic and hydraulic analysis of the stormwater management system for all applicable design storms

☐ Pollution load and load reduction requirements and calculations

☐ Final good engineering and sizing calculations for stormwater control measures, including contributing drainage areas, storage, and outlet configurations, verifying compliance with the water quality and water quantity requirements of the regulations

☐ Stage-discharge or outlet rating curves and inflow and outflow hydrographs for storage facilities

☐ Final analysis of the potential downstream impacts/effects of the project, where necessary

☐ Downstream analysis, where detention is proposed

☐ Dam safety and breach analysis, where necessary

_____ Representative cross-section and profile drawings and details of stormwater control measures and conveyances which include the following:

☐ Existing and proposed structural elevations (e.g., inverts of pipes, manholes, etc.)

☐ Design water surface elevations

☐ Structural details of BMP designs, outlet structures, embankments, spillways, grade control structures, conveyance channels, etc.

_____ Applicable construction and material specifications, including references to applicable material and construction standards (ASTM, etc.)

_____ Landscaping plans for stormwater control measures and any site reforestation or revegetation

_____ Long term operations and maintenance plan/agreement as governed by 9VAC25-870-112 of the Virginia Stormwater Management Program Regulations.

`

_____ Evidence of acquisition of all applicable local and non-local permits

_____ Waiver/exception requests

_____ Evidence of acquisition of all necessary legal agreements (e.g., easements, covenants, land trusts, etc.)

_____ Applicable supporting documents and studies (e.g., infiltration tests, geotechnical investigations, TMDLs, flood studies, etc.)

_____Other required permits: ____

`

Appendix C – ESC/SW Inspection Form

William & Mary Erosion and Sediment Control Inspection Report

Reply to: Facilities Planning, Design and Construction, 115 Grigsby Drive, Williamsburg, VA 23185

INSPECTION REPORT

Project Name:_____ Project Authority:_____
RLD Name:_____ RLD Number:_____
Project Location:_____ Project Number:_____
Inspector Name:_____ Inspection Date/Time:_____

STAGE OF CONSTRUCTION

Pre-Construction Conference ☐ *Building Construction* ☐ *Construction of SWM Facilities* ☐

Clearing & Grubbing ☐ *Finish Grading* ☐ *Maintenance of SWM Facilities* ☐

Rough Grading ☐ *Final Stabilization* ☐ *Other*_____ ☐

Item #	*State/Local Regulation*[1]	*Violation*		*Description and Location of Problem/Violation*[2]*, Required or Recommended Corrective Actions, and Other Comments/Notes*
		Initial	*Repeat*	

(1) Refers to applicable regulation found in the most recent publication of the *Virginia Erosion and Sediment Control Regulations* (4VAC50-30), *Virginia Stormwater Management Permit Regulations* (4VAC50-60)), or local ESC/SWM ordinance.

(2) Note whether or not off-site damage resulting from the problem/violation was evident during the inspection.

REQUIRED CORRECTIVE ACTION DEADLINE DATE:_____ RE-INSPECTION DATE: _____

The required corrective action deadline date applies to all violations noted on this report. If listed violation(s) currently constitute non-compliance and/or required corrective actions are not completed by the deadline, a **NOTICE TO COMPLY**, **STOP WORK ORDER**, and/or other enforcement actions may be issued to the entity responsible for ensuring compliance on the above project.

Inspector Signature:_____ Date: _____

ACKNOWLEDGEMENT OF REPORT RECEIPT

Printed Name:_____ Signature:_____ Date:_____

This report will be provided to the following parties within 24 hours of inspection: _____

Sheet_____of _____

William & Mary Erosion and Sediment Control Inspection Report

Reply to: Facilities Planning, Design and Construction, 115 Grigsby Drive, Williamsburg, VA 23185

Project Name:_____ File No.: _____

Inspection by:_____ Date:_____ Time: _____

INSPECTION REPORT CONTINUATION PAGE

Project Name:_____ Inspection Date: _____

Item#	*State/Local Regulation*[1]	*Violation*		*Description and Location of Problem/Violation*[2]*, Required or Recommended Corrective Actions, and Other Comments/Notes*
		Initial	*Repeat*	

(1) Refers to applicable regulation found in the most recent publication of the *Virginia Erosion and Sediment Control Regulations* (4VAC50-30), *Virginia Stormwater Management Permit Regulations* (4VAC50-60), or local ESC/SWM ordinance.

(2) Note whether or not off-site damage resulting from the problem/violation was evident during the inspections.

Sheet_____ of _____

William & Mary

Erosion and Sediment Control Inspection Report

Reply to: Facilities Planning, Design and Construction, 115 Grigsby Drive, Williamsburg, VA 23185

STAGE OF CONSTRUCTION

____Pre-Construction Conference ____Rough Grading ___Finish Grading
____Clearing and Grubbing ____Building Construction ___Final Stabilization

INSPECTION CHECKLIST

Yes	No	NA		
[]	[]	[]	*MS-1	Have all denuded areas requiring temporary or permanent stabilization been stabilized? Seeded? Yes / No Mulched? Yes / No Graveled? Yes / No
[]	[]	[]	MS-2	Are soil stockpiles adequately stabilized with seeding and/or sediment trapping measures?
[]	[]	[]	MS-3	Does permanent vegetation provide 'adequate stabilization?
[]	[]	[]	MS-4	Have sediment trapping facilities been constructed as a first step in LDA?
[]	[]	[]	MS-5	For perimeter sediment trapping measures, are earthen structures stabilized?
[]	[]	[]	MS-6	Are sediment basins installed where needed?
[]	[]	[]	MS-7	Are finished cut and fill slopes adequately stabilized?
[]	[]	[]	MS-8&9	Are on-site channels and outlets adequately stabilized?
[]	[]	[]	MS-10	Do all operational storm sewer inlets have adequate inlet protection?
[]	[]	[]	MS-11	Are stormwater conveyance channels adequately stabilized with channel lining and/or outlet protection?
[]	[]	[]	MS-12	Is in-stream construction conducted using measures to minimize channel damage?
[]	[]	[]	MS-13	Are temporary stream crossings of non-erodible material installed where applicable?
[]	[]	[]	MS-15	Is necessary re-stabilization of in-stream construction complete?
[]	[]	[]	M5-16	Are utility trenches stabilized properly?
[]	[]	[]	MS-17	Are soil and mud kept off public roadways at intersections with site access roads?
[]	[]	[]	MS-18	Have all temporary control structures that are no longer needed been removed? Have all control structure repairs and has sediment removal been performed?
[]	[]	[]	MS-19	Are properties and waterways downstream from development adequately protected from erosion and sediment deposition due to increase in peak stormwater runoff?

* Refers to the minimum standards of the Virginia Erosion and Sediment Control Regulations (VI 625-02-00).

Comments: _____

_____

_____

Verbal/Written notification given to: _____

Report by: _____

Appendix D - Modification Request Form

Type of Modification Requested:

____ Variance: Modification to the ESC Minimum Standards 1 – 19

____ Deviation: the use of ESC control measures not contained in the Virginia ESCH or the approved AS&S.

____ Exception: Changes to the SWM Technical Criteria contained in the BMP Clearinghouse and the Virginia

Requested by:_____ **Date:** _____

Street Address: _____

City/Town/Zip: _____

Telephone No: _____**E-mail:** _____

Project Name/Location:_____

Project Description: _____

_____

Modification Requested (state applicable regulation and section): _____

_____

_____

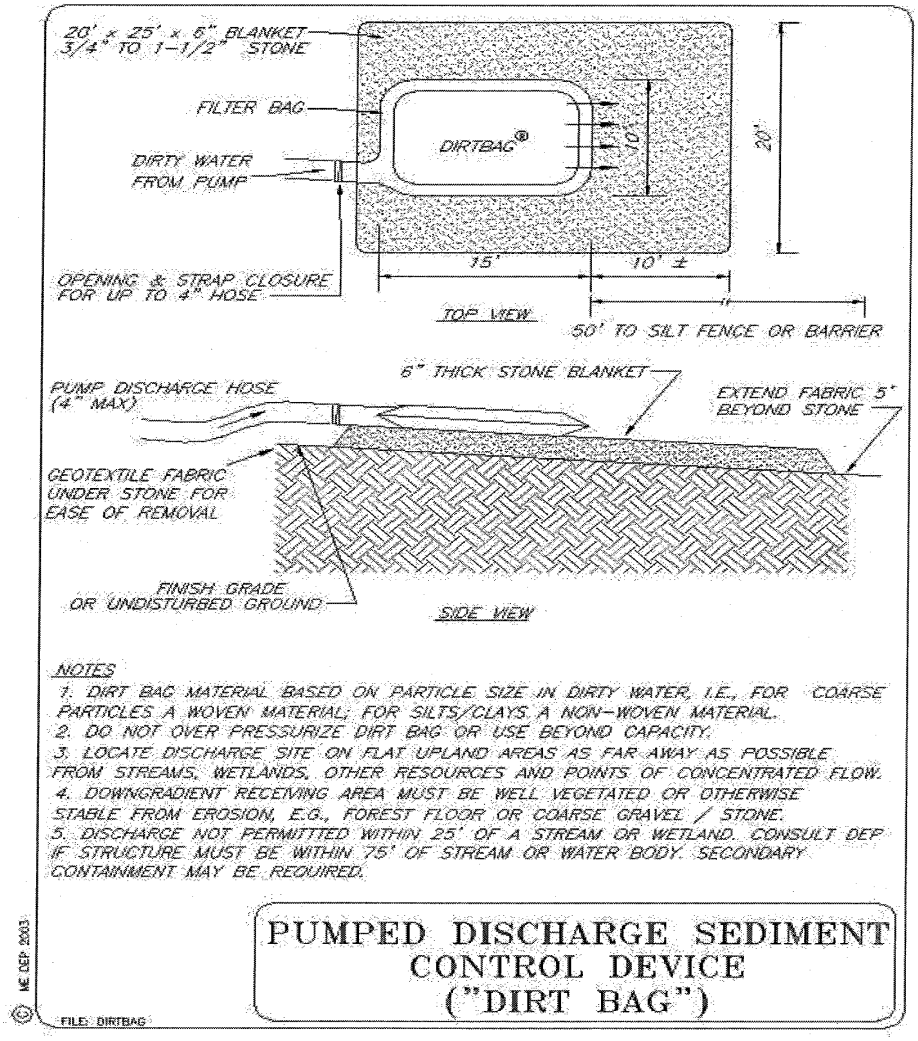
Reasons and Justification for Modification Request: _____

_____

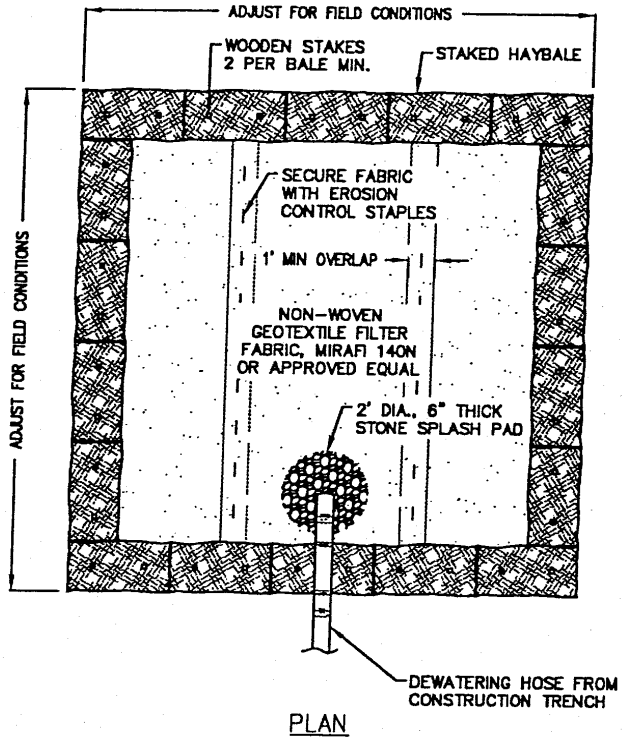
_____

Signature of Applicant: _____ **Date:** _____

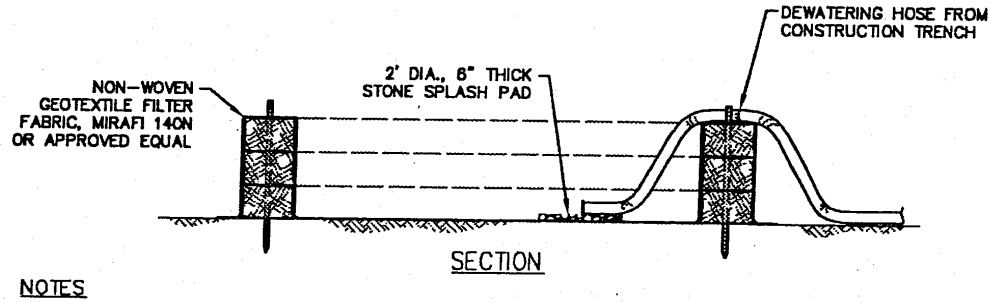
Appendix E - Approved Pump Discharge Excavation Dewatering Methods*



*Note – Approved methods are in addition to options contained in the Virginia Erosion and Sediment Control Handbook Standard and Specification 3.26 for Dewatering Structures at page III-238.



PLAN



SECTION

NOTES

1. SIZE OF BASIN AND ASSOCIATED NUMBER OF BALES MAY VARY BASED ON SITE CONDITIONS.
2. THE BASIN SHALL BE SIZED TO PREVENT DISCHARGE WATER FROM OVERTOPPING BASIN. IF BASIN IS OVERTOPPED DISCONTINUE USE IMMEDIATELY AND RE-SIZE.
3. KEEP BASIN AS FAR FROM WETLANDS AS PRACTICAL. DO NOT LOCATE BASIN WITHIN 25 FEET OF WETLANDS OR OTHER RESOURCES
4. BASINS SHALL BE LOCATED IN AREAS THAT ARE GENERALLY FLAT WITH SLOPES FROM 0-2%.
5. USE REINFORCED BASINS AS DETAILED WITH SILT FENCE AND STONE IN AREAS OF CONSIDERABLE FLOW AND FOR BASINS THAT ARE TO BE USED FOR PERIODS LONGER THAN 7 DAYS.
6. CLEAN AND REMOVE BASIN AS SOON AS DEWATERING IS COMPLETE.
7. CONCRETE JERSEY BARRIERS CAN BE SUBSTITUTED FOR HAYBALES AS DESIRED TO SUPPORT FILTER FABRIC.

TEMPORARY SEDIMENTATION BASIN DETAIL

NOT TO SCALE

Appendix F – DEQ General VPDES Permit Form

This form must be submitted to DEQ for each project that includes one acre of more of land disturbance.

Application Submission Worksheet
General VPDES Permit for Discharges of Stormwater from Construction Activities (VAR10)

State and Federal Construction Activities
Entities with DEQ-approved Annual Standards and Specifications (DEQ is the VSMP authority)

Instructions: In order to obtain coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities (i.e., the Construction General Permit), the submission items listed below should be submitted to the Department of Environmental Quality (DEQ) for review and acceptance at the following address:

Via Postal Mail
Department of Environmental Quality
Office of Stormwater Management, 10th Floor
P.O. Box 1105
Richmond, VA 23218

A copy of this worksheet should be retained for your records.

Submission Items:

_____ Cover letter indicating that the Stormwater Management (SWM) Plan has been prepared, reviewed and approved in accordance with the DEQ-approved Annual Standards and Specifications (1 copy)

_____ Cover letter indicating that the Erosion and Sediment Control (ESC) Plan has been prepared, reviewed and approved in accordance with the DEQ-approved Annual Standards and Specifications (1 copy)

_____ Completed Construction General Permit Registration Statement (original signed & dated)

_____ Completed Construction General Permit Fee Form and applicable Permitting Fee (1 copy, originals should be submitted to the DEQ address indicated on the permit fee form)