

**Dominion  
Energy®**

**2017**

**ANNUAL STANDARDS AND SPECIFICATIONS  
FOR EROSION AND SEDIMENT CONTROL AND  
STORMWATER MANAGEMENT FOR  
CONSTRUCTION AND MAINTENANCE OF GAS  
TRANSMISSION FACILITY PROJECTS IN  
VIRGINIA**

**Submitted By:**

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# 1. ANNUAL STANDARDS AND SPECIFICATIONS ADMINISTRATION

Dominion Energy Transmission Inc. (DETI) is responsible for administering, implementing and complying with the Annual Standards and Specifications for Erosion and Sediment Control (ESC) and Stormwater Management (SWM) for Gas Transmission Facility Development. In accordance with Va. Code §§ 62.1-44.15:54.E and 62.1-44.15:27.F, this document serves as the annual submittal to the Virginia Department of Environmental Quality (DEQ) of standards and specifications developed so that DETI can continue to operate under Annual Standards and Specifications for ESC and SWM. This document addresses stormwater management and ESC and establishes general specifications for the control of erosion and sedimentation and stormwater runoff management as a result of land-disturbing activities<sup>1</sup> performed during the construction, operation and maintenance of natural gas pipelines. These Annual Standards and Specifications for ESC and SWM shall be consistent with the requirements of the Virginia Erosion and Sediment Control Law and associated regulations and the Virginia Stormwater Management Act and associated regulations, where applicable. The specifications shall apply to applicable natural gas transmission facility projects pursuant to subdivision 1 of § 62.1-44.15:55 of the Code of Virginia, which allows annual standards and specifications for, “Construction, installation or maintenance of electric transmission, natural gas and telephone utility lines and pipelines, and water and sewer lines.” DETI projects not provided for in subdivision 1, and not otherwise exempted from ESC or SWM requirements, will comply with the requirements of the local or state authority in the locality in which the project is located.

In accordance with federal law, construction stormwater permits issued under a delegated National Pollutant Discharge Elimination System (NPDES) permit like the one in place in Virginia cannot be required unless there is a triggering event (i.e., the release of a hazardous substance in excess of its reportable quantity or a discharge that contributes to a violation of a water quality standard). See 33 U.S.C. § 1342(1)(2); 40 C.F.R. § 122.26(c)(1)(iii); *Natural Resources Defense Council v. United States Environmental Protection Agency*, 526 F.3d 591 (9th Cir. 2008) (invalidating EPA’s unconditional exemption in 40 C.F.R. § 122.26(a)(2) and reinstating the conditional exemption). This exemption is embodied in the Virginia Stormwater Management Program (VSMP) Regulation in 9VAC25-870-380A(2) which states: “*The board*

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<sup>1</sup> For stormwater management compliance, “*Land disturbance*” or “*land-disturbing activity*” 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. For Erosion and Sediment Control compliance, “*Land-disturbing activity*” 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...” with exemptions defined per § 62.1-44.15:51, and

*may not require a state permit for discharges of stormwater runoff from mining operations or oil and gas exploration, production, processing or treatment operations, or transmission facilities, composed entirely of flows that are from conveyances or systems of conveyances (including but not limited to pipes, conduits, ditches, and channels) used for collecting and conveying precipitation runoff and that are not contaminated by contact with or that has not come into contact with, any overburden, raw material, intermediate products, finished product, by-product or waste products located on the site of such operations.”*

DETI intends to follow the provisions outlined in DEQ Guidance Memorandum No. 15-2003 (GM15-2003), when applicable. GM15-2003 provides guidance on stormwater implementation for linear utility projects under the Virginia Stormwater Management Program. The guidance document describes general terms and conditions under which linear utility projects are expected to operate if they are to maintain exemption from Stormwater Management Plan submission and CGP coverage requirements. The review for initial applicability of GM15-2003 to a specific project will be conducted and documented by Dominion using DEQ-certified Plan Reviewers early in the project planning process. DETI will then contact DEQ for a preliminary review to determine whether GM15-2003 will be applicable to the project, prior to the development of detailed ESC and SWM plans. The preliminary submission and review must include sufficient information (estimated extent of land disturbance, estimated land cover conditions, anticipated sequence of construction, anticipated drainage features and receiving outfalls, etc.) for DEQ to review applicability under the Guidance Memorandum and notify DETI if a SWM plan will be required. DEQ has indicated that the review and coordination to determine if a SWM plan waiver will be issued will typically take less than 30 days (typically 7 days for initial review and then subsequent time for revisions, meetings and coordination). DEQ advises that face-to-face project review meetings with the project proponent are often an easy way to secure feedback early in the planning process. If DEQ concurs that the project qualifies under GM15-2003, detailed erosion control plans will be developed (and annotated in accordance with the guidance memorandum), reviewed and approved by Dominion prior to engaging in land disturbance. DETI may be required by DEQ to produce additional documentation of water quantity or water quality calculations/analysis to demonstrate the applicability of Guidance Memo No. 15-2003. If GM15-2003 is determined to not be applicable, the stormwater-related technical criteria set forth in Appendix B must be implemented, unless an exception is secured. Note that permanent access roads are generally not envisioned to qualify under GM 15-2003 and will require stormwater management or an exception from the DEQ (see Appendix B for more information/discussion).

The gas transmission facilities covered under these Annual Standards and Specifications from ESC and SWM are envisioned to primarily include conventional buried pipeline systems consistent with subdivision 1 of § 62.1-44.15:55 of the Code of Virginia including associated

valves, pigging facility launchers and receivers, odorization facilities, measurement and regulation stations, points of delivery, compressor stations, and necessary access. These Annual Standards and Specifications for ESC and SWM must be submitted annually to DEQ for review and approval. DETI is responsible for ensuring that individual project plans are developed and implemented in compliance with these Annual Standards and Specifications and applicable laws and regulations. As a holder of Annual Standards and Specifications, DETI ensures compliance with these Annual Standards and Specifications for ESC and SWM for gas pipeline projects through self-administration of these Standards and Specifications, including plan review, inspections, and overall compliance rather than the individual localities in which the projects are located. DETI may be required to submit relevant project documentation and plans for covered activities to the DEQ. DEQ receives regular notifications of the work done by DETI, and provides random site inspections and inspections in response to complaints to assure compliance. Enforcement shall be administered by the DEQ and the State Water Control Board where applicable. DEQ and the State Water Control Board has the authority to enforce these specifications, to take enforcement actions, and to charge fees for the costs of review and approval of standards and specifications, project inspections and compliance pursuant to § 62.1-44.15:55(D).2.

These Annual Standards and Specifications for ESC and SWM also assist DETI in meeting the standards of the Federal Energy Regulatory Commission (FERC) Upland Erosion Revegetation and Maintenance Plan (Plan) and the FERC Wetland and Waterbody Construction and Mitigation Procedures (Procedures) ([FERC, 2013](#)). A copy of the Plan and Procedures can be found in Appendix C and D. DETI and its construction contractors must implement this plan as appropriate for all construction in Virginia unless a project-specific variance to the Virginia Erosion and Sediment Control Laws and regulation and/or exception under the Virginia Stormwater Management Act and associated regulations has been reviewed and granted by the DEQ. In instances where the requirements or practices differ between the Virginia Erosion and Sediment Control Handbook and the FERC Plan and Procedures guidance, the more stringent criteria shall be applied. The Annual Standards and Specifications will be compared to FERC's Plan and Procedures to determine the appropriate (i.e., whichever is more stringent) best management practices. Project variance and exception requests will be considered freestanding of this Annual Standards and Specifications submission and will be considered by DEQ on a site-specific basis.

Approved deviation requests (DEQ approved deviations from guidance documents (e.g. VESCH)) and the associated DEQ approval letters will also be appended to these Annual Standards in Appendix H, since these technical modifications to practices may be applied more broadly to many projects.

DETI anticipates that gas transmission projects will remain exempt from the *General VPDES Permit for Discharges of Stormwater from Construction Activities* (9VAC25-880) (also referred to more generally as the construction general permit) pursuant to federal and state exemptions. Each project will be reviewed for consistency with these exemptions or the appropriate requirements and GM15-2003, and applicable stormwater management provisions (see Appendix B) are incorporated in these Annual Standards and Specifications for ESC and SWM if the DEQ requires a construction general permit (CGP) for a specific project, or determines that GM15-2003 will not apply.

## 1.1 PROJECT TRACKING AND REPORTING

DETI is responsible for providing project tracking and e-notification to DEQ of all regulated land-disturbing activities subject to these Annual Standards and Specifications to comply with applicable ESC requirements pursuant to 9VAC25-840-65 and applicable SWM requirements pursuant to 9VAC25-870-170.

The DETI project team must electronically notify the DEQ of any project that DETI intends to construct in Virginia to start the project permitting process. The following information is required to be included in the e-notification two weeks prior to initiating the regulated land disturbing activity (LDA):

- Project name or project number
- Project location (including nearest intersection, latitude, and longitude)
- On-site project manager name and contact info
- Responsible Land Disturber (RLD) name and contact info
- Project description
- Acreage of disturbance for project
- Project start and finish date
- Any variances/waivers/exceptions associated with the project

Notification must be made electronically to [Linearprojects@deq.virginia.gov](mailto:Linearprojects@deq.virginia.gov). Other questions should be directed to Larry Gavan (804-698-4040) and Hannah Zegler (804-698-4206).

Under the Construction General Permit (CGP), if applicable, the operator shall post the notice of coverage letter at a publicly accessible location near an active part of the construction project (e.g. where pipeline crosses a public road). The operator shall maintain the posted information until the termination of the general permit. The operator will also make the SWPPP available as follows:

1. Operators with day-to-day operational control over SWPPP implementation shall have a copy of the SWPPP available at a central location on-site for use by those

identified as having responsibilities under the SWPPP whenever they are on the construction site.

2. The operator shall make the SWPPP and all amendments, modifications, and updates available upon request to the department, the VSMP authority, the EPA, the VESCP authority, local government officials, or the operator of a municipal separate storm sewer system receiving discharges from the construction activity. If an on-site location is unavailable to store the SWPPP when no personnel are present, notice of the SWPPP's location must be posted near the main entrance of the construction site.

The operator shall make the SWPPP available for public review in an electronic format or in hard copy. Information for public access to the SWPPP shall be posted and maintained in accordance with Part II C. If not provided electronically, public access to the SWPPP may be arranged upon request at a time and at a publicly accessible location convenient to the operator or his designee but shall be no less than once per month and shall be during normal business hours. Information not required to be contained within the SWPPP by this general permit is not required to be released.

## 1.2 EROSION AND SEDIMENT CONTROL - Quarterly Reports

DETI will report, on a quarterly basis, a listing of each regulated land-disturbing activity for which an ESC plan (and a SWM plan if applicable) has been approved under these Annual Standards and Specifications for ESC and SWM, and the construction status (construction ongoing, not started, completed during quarter), to DEQ quarterly. The report must include the following:

- Project name or project number
- Project location (including nearest intersection, latitude, and longitude)
- On-site project manager name and contact info (if applicable)
- Responsible Land Disturber (RLD) name and contact info
- Project description
- Acreage of disturbance for project
- Anticipated project start and finish date
- Any approved variances/exceptions associated with the project

### 1.3 STORMWATER MANAGEMENT – Annual Reports

Stormwater Management Plans will be required for DETI projects when projects are unable to satisfy the terms and conditions contained in DEQ Guidance Memo No. 15-2003, or are determined not to be exempt from associated requirements of the *General VPDES Permit for Discharges of Stormwater from Construction Activities* (9VAC25-880) (referred to more generally as the construction general permit or CGP). When applicable, DETI will assure that SWM plans and associated Stormwater Pollutant Prevention Plans (SWPPPs) and CGP registrations statements are prepared, reviewed, and approved prior to initiating regulated land disturbing activities. The technical criteria for SWM are addressed in Appendix B of these Annual Standards and Specifications for ESC and SWM.

On a fiscal year basis (July 1 to June 30), DETI will report to the department by October 1 of each year in a format provided by DEQ. The information to be provided shall include the following:

1. Information on each permanent stormwater management facility completed during the fiscal year to include type of stormwater management facility, geographic coordinates, acres treated, and the surface waters or karst features into which the stormwater management facility will discharge;
2. Number and type of enforcement actions during the fiscal year; and
3. Number of exceptions granted during the fiscal year.

### 1.4 RECORDKEEPING

DETI must keep records in accordance with the following:

- All individual project records, including approved plans, inspection records, documented field changes, and CGP registration statements (if applicable) must be maintained for a period of three years after completion of the project or state permit termination. This period of retention shall be extended automatically during the course of any unresolved litigation regarding the regulated activity or regarding control standards applicable to DETI, or as requested by the State Water Control Board.
- A construction record drawing for all permanent, structural stormwater management facilities (“as-built”) with seal and signature of a Virginia-licensed Professional Engineer must be maintained by DETI in perpetuity, or until the stormwater facility is removed.
- Stormwater management facility inspection records must be documented and retained for at least five years from the date of inspection.

## 1.5 PLAN DESIGN, REVIEW, AND APPROVAL

This section outlines requirements for Erosion and Sediment Control and Stormwater Management, along with applicable plan contents for review and approval by DEQ certified personnel (as described in Section 2 of this document) prior to initiating regulated land disturbing activities.

### 1.5.1 ESC REQUIREMENTS

DETI follows the policies and procedures described in the Virginia Erosion and Sediment Control Handbook (VESCH). The use of the VESCH, along with accompanying technical documents and guidance, is strongly preferred. DETI utilizes a comprehensive design, review and approval program that includes review for consistency with both the general specifications for Minimum Standards and Specifications (STDS & SPEC) and the FERC Plan and Procedures. The FERC Plan and Procedures (Appendices C and D) are hereby incorporated by reference and must be utilized on all FERC-regulated DETI projects. In the event of differences between the FERC Plan and Procedures and the VESCH criteria, the more stringent criteria shall apply. The Annual Standards and Specifications will be compared to FERC's Plan and Procedures to determine the appropriate (i.e., whichever is more stringent) best management practices. The general specifications for ESC apply to land-disturbing activities and are included in these Annual Standards and Specifications by reference, as follows:

- Virginia Erosion and Sediment Control Law (§62.1-44 et seq. as amended);
- Virginia Erosion and Sediment Control Regulations (9VAC25-840 et seq. as amended);
- Virginia Erosion and Sediment Control and Stormwater Management Certification Regulations (9VAC25-850 et seq. as amended);
- Virginia Erosion and Sediment Control Handbook, 1992, as amended, and related technical documents and guidance specifications;
- Technical Bulletins and Memos, as amended, on the DEQ website.

ESC plans and documents must be submitted to the designated Plan Reviewer (defined in Section 2.2) for review and approval. Plans must be reviewed and approved by DEQ certified personnel (*as described in Section 2, Personnel Roles and Responsibilities*) to ensure compliance with these Annual Standards and Specifications for ESC and SWM and reviewed by DETI for consistency with the FERC Plan and Procedures guidance. Any non-VESCH control measures incorporated into plans must include all applicable practical information including definition, purpose, conditions where practice applies, planning considerations, design criteria, construction specifications, design tables and plates and maintenance/inspection requirements. Should non-VESCH control measures fail to effectively control soil erosion, sediment deposition, and non-agricultural runoff, then VESCH control measures shall be utilized. All documents submitted for

review must include the appropriate information, as described below (and shown in the flow chart below) in addition to the ESC Plan Checklist (Appendix A).

### *1.5.2 ESC PLAN CONTENTS*

As applicable, ESC drawings must include the following:

- a) Minimum standards 1 through 19 as applicable;
- b) General Erosion and Sediment Control Notes ES-1 through ES-9 (Appendix E);
- c) Total area of disturbance. If the project is phased, the total area of disturbance for each phase must be noted;
- d) Pre-development and post-development land cover conditions
- e) Construction sequence of operations with staged implementation of ESC measures for each phase;
- f) Existing features that will be demolished or removed that may require ESC measures;
- g) Erosion and Sediment Control Critical Areas identification and discussion;
- h) Location of various support activities including, but not limited to, areas where wash water may occur; storage area for chemicals, fuels and fertilizers; concrete wash out areas; vehicle fueling and maintenance areas; sanitary waste facilities and construction waste storage; and
- i) Information suitable for drainage and ESC review (may include drainage areas, flow paths, points of analysis, outfalls, or other drainage patterns) should be submitted (either on the plans or in supporting documentation).
- j) When applicable, the location of the on-site rain gauge must be included.

The Erosion and Sediment Control Plan Checklist is included in Appendix A.

### *1.5.3 SWM REQUIREMENTS*

Portions of these Annual Standards and Specifications related to Stormwater Management shall apply to regulated land-disturbing activities which are not exempted under GM 15-2003 from SWM plan submission and/or projects which are required to obtain CGP coverage. The following requirements shall apply, when applicable, and are hereby incorporated by reference:

- Virginia Stormwater Management Act (§62.1-44 et seq. as amended);
- Virginia Stormwater Management Permit Regulations (9VAC25-870 et seq. as amended);
- Virginia Stormwater Management Handbook, 1999, as amended; and
- Technical Bulletins and Memos, as amended, on the DEQ website.
- DEQ Guidance Memorandum No. 15-2003 (GM 15-2003)
- Construction General Permit Regulation 9VAC25-880 et seq.
- Standards and Specifications for stormwater practices as published on the Virginia Stormwater BMP Clearinghouse (<http://www.vwrrc.vt.edu/swc/index.html>).

Off-site credit use should be coordinated with the DEQ Central Office Nutrient Credit Coordinator (Derick Winn, Office of Stormwater Permits: 804-698-4114).

#### *1.5.4 SWM PLAN CONTENTS*

ESC and SWM/SWPPP plans and documents must be submitted to the designated Plan Reviewer (certified in accordance with Section 2 of this document) for review and approval. Plans must be reviewed to ensure compliance with these Annual Standards and Specifications for ESC and SWM.

If applicable, the stormwater management plan shall be implemented as approved or modified by DETI and shall be developed in accordance with the following:

1. A stormwater management plan for a land-disturbing activity shall apply the stormwater management technical criteria set forth in this part to the entire land-disturbing activity. Individual lots in new residential, commercial, or industrial developments shall not be considered separate land-disturbing activities.
2. A stormwater management plan shall consider all sources of surface runoff and all sources of subsurface and groundwater flows converted to surface runoff.

A complete stormwater management plan shall include the following elements:

1. Information on the type of and location of stormwater discharges, information on the features to which stormwater is being discharged including surface waters or karst features if present, and predevelopment and postdevelopment drainage areas;
2. Contact information including the name, address, telephone number, and email address of the owner and the tax reference number and parcel number of the property or properties affected;
3. A narrative that includes a description of current site conditions and final site conditions or if allowed by the VSMP authority, the information provided and documented during the review process that addresses the current and final site conditions;
4. 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;
5. 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;
6. Hydrologic and hydraulic computations, including runoff characteristics;

7. Documentation and calculations verifying compliance with the water quality and quantity requirements of these regulations;
8. A map or maps of the site that depicts the topography of the site and includes:
  - a. All contributing drainage areas;
  - b. Existing streams, ponds, culverts, ditches, wetlands, other water bodies, and floodplains;
  - c. Soil types, geologic formations if karst features are present in the area, forest cover, and other vegetative areas;
  - d. Current land use including existing structures, roads, and locations of known utilities and easements;
  - e. Sufficient information on adjoining parcels to assess the impacts of stormwater from the site on these parcels;
  - f. The limits of clearing and grading, and the proposed drainage patterns on the site;
  - g. Proposed buildings, roads, parking areas, utilities, and stormwater management facilities; and
  - h. Proposed land use with tabulation of the percentage of surface area to be adapted to various uses, including but not limited to planned locations of utilities, roads, and easements;
9. If an operator intends to meet the requirements established in 9VAC25-870-63 or 9VAC25-870-66 through the use of off-site compliance options, where applicable, then a letter of availability from the off-site provider must be included; and
10. If payment of a fee is required with the stormwater management plan submission by the VSMP authority, the fee and the required fee form in accordance with Part XIII (9VAC25-870-700 et seq.) must have been submitted.

Elements of the stormwater management plans that include activities regulated under Chapter 4 (§ 54.1-400 et seq.) of Title 54.1 of the Code of Virginia shall be appropriately sealed and signed by a professional registered in the Commonwealth of Virginia pursuant to Article 1 (§ 54.1-400 et seq.) of Chapter 4 of Title 54.1 of the Code of Virginia.

A construction record drawing for permanent stormwater management facilities shall be submitted to the VSMP authority in accordance with 9VAC25-870-108 and 9VAC25-870-112.

The construction record drawing shall be appropriately sealed and signed by a professional registered in the Commonwealth of Virginia, certifying that the stormwater management facilities have been constructed in accordance with the approved plan.

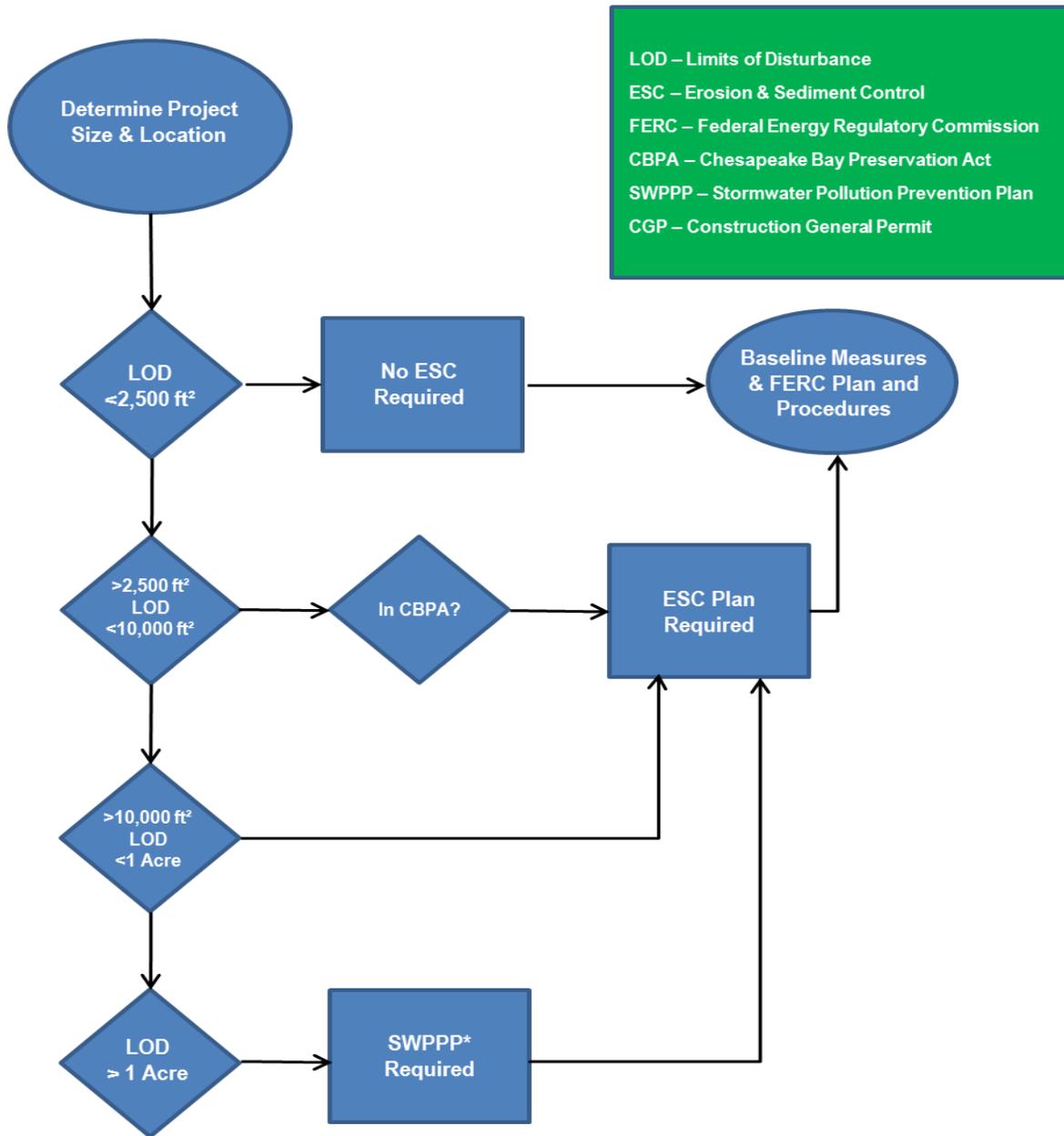
DETI Plan Review personnel (see Section 2.0) will verify whether a SWM plan is required for submission (as outlined above) and will document that the required elements above are included, when applicable. In addition to the above elements, the following documentation will be reviewed and approved prior to initiating the land disturbing activity:

- If applicable, the Stormwater Pollution Prevention Plan (SWPPP), inclusive of registration statement, Pollution Prevention Plan, Erosion and Sediment Control Plan, and Stormwater Management Plan and Calculations;
- If a SWPPP and/or CGP is required for a project, applicable TMDL information and general information shall be included, in addition to the required registration statement.
- Post-construction maintenance requirements of permanent BMPs, if applicable (See Appendix B);
- Manufacturer's recommended maintenance and inspection of manufactured permanent BMPs (per the BMP Clearinghouse);
- Post-construction inspection requirements for permanent BMPs;
- A map or digital file, including the appropriate base data, delineating the area treated by the BMP;
- A map or digital file, including the appropriate base data, depicting the applicable area used to determine percent impervious cover; and
- SWM Plan Checklist (Appendix B).

1.5.5 REVISIONS

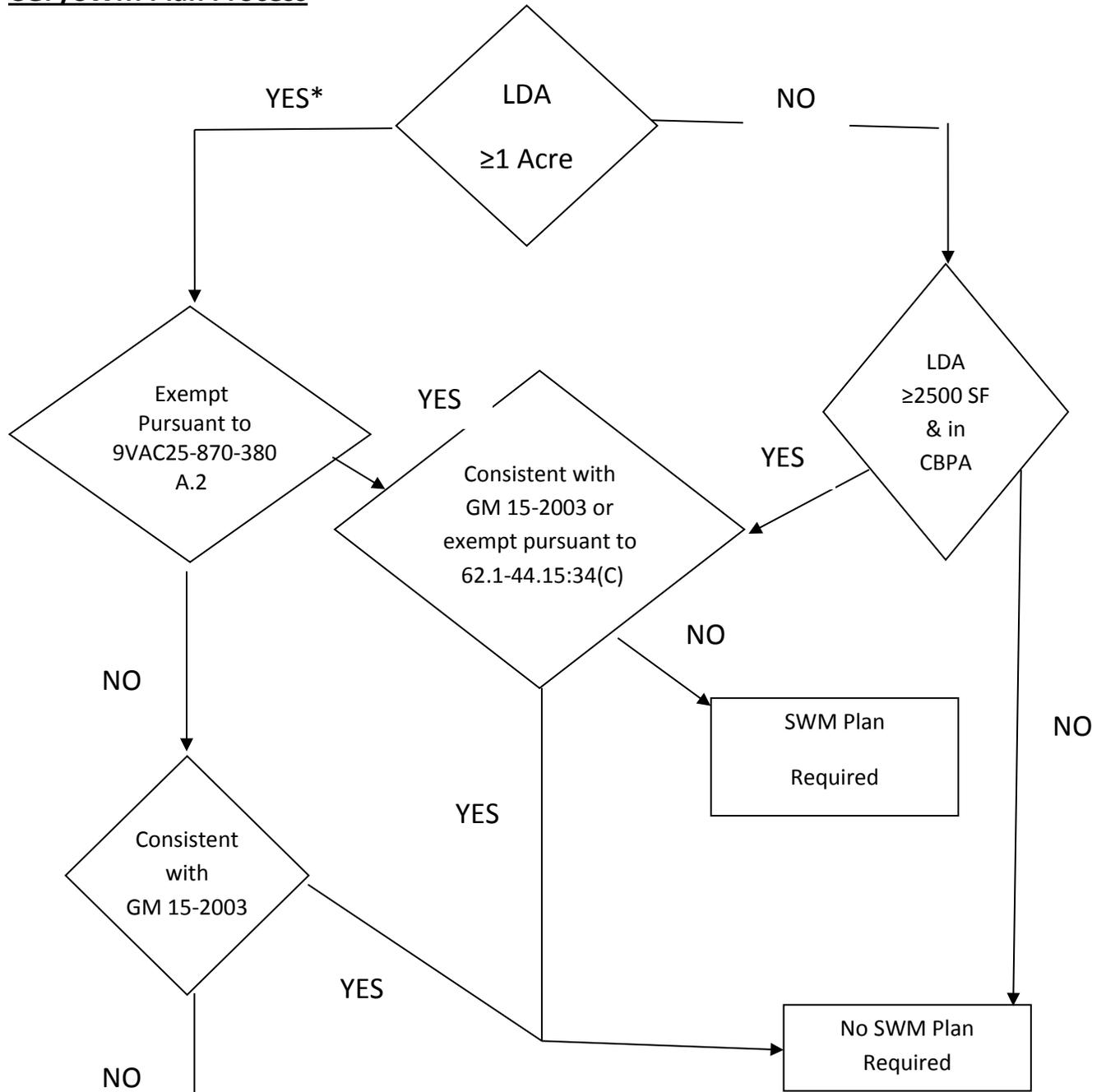
All revisions to the approved Erosion and Sediment Control Plan or the approved Stormwater Management Plan for the project require review and approval by DEQ certified Plan Reviewer for ESC (and SWM, when applicable). Changes shall be documented and dated on the plans.

**EROSION & SEDIMENT CONTROL PROCESS**



\* See Figure 2 – next page

**CGP/SWM Plan Process**



<b><u>Acronyms</u></b>	
CGP	Construction General Permit
SWM	Stormwater Management
LDA	Land Disturbing Activity
SF	Square Feet
CBPA	Chesapeake Bay Preservation Area
GM 15-2003	Guidance Memo No. 15-2003
SWPPP	Stormwater Pollution Prevention Plan
*SWPPP required for all projects disturbing ≥ 1 acre.	

## 2. PERSONNEL ROLES AND RESPONSIBILITIES

DETI will be the plan approval authority and administrator for the DETI Annual Standards and Specifications for ESC and SWM. A description of the expected administrative roles and associated required certifications<sup>2</sup> is provided below. Note that roles may be combined for staff resource purposes as long as the person responsible for each task is fully qualified for all assigned roles. The ESC plans and SWM plans/SWPPP (where applicable) must be included in all pipeline construction specifications and DETI must assure that the contractor is aware of their responsibility prior to starting any construction activities by covering this specification during pre-construction training and meetings. DETI must provide quality assurance for the ESC and SWM plans as well as guidance, as needed, for implementation of ESC and SWM measures on all projects. DETI may enter into agreements or contracts with contractors to assist with carrying out the certification requirements set forth in the ESC and SWM Law and Regulations.

### 2.1 PROGRAM ADMINISTRATOR

The Program Administrator will be responsible for the management and coordination of these Annual Standards and Specifications for ESC and SWM. The Program Administrator must be certified as an ESC (and SWM when applicable) Combined Administrator by DEQ or provisionally certified. This role may be conducted by a third party as directed by DETI.

### 2.2 PLAN REVIEWER

The Plan Reviewer will be responsible for the review of ESC and SWM portions of project plans for compliance with these Annual Standards and Specifications and applicable laws and regulations. The Plan Reviewer must be certified as an ESC (and SWM when applicable) Plan Reviewer by DEQ or provisionally certified. This role may be conducted by a third party firm preparing the plans as directed by DETI.

### 2.3 CONSTRUCTION SITE SUPERVISOR

The Construction Site Supervisor will have direct oversight of all personnel that prepare, construct, maintain and rehabilitate a given project. The Supervisor also has control over site-specific construction plans, including the ability to make modifications to those plans. This person must ensure compliance with ESC, SWPPP, and Virginia Stormwater Management Program (VSMP) requirements as well as compliance with these Annual Standards and Specifications. The Construction Site Supervisor is authorized to direct workers at a site to carry out activities in accordance with these and other permit conditions. The Construction Site Supervisor must be certified as a Responsible Land Disturber (RLD) by DEQ.

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<sup>2</sup> Detailed directions for obtaining certifications can be found via the DEQ website at: <http://www.deq.virginia.gov/ConnectWithDEQ/TrainingCertification.aspx>

## 2.4 ENVIRONMENTAL INSPECTOR

The Environmental Inspector (EI) will serve as the primary point of contact for on-site environmental compliance. The EI will provide expert technical support on a wide range of environmental issues and is responsible for:

- ESC Plan, FERC Plan and Procedures and environmental conditions of FERC's Orders compliance;
- Verifying that the limits of disturbance (LOD) and locations of access roads are visibly marked before clearing and maintained throughout construction;
- Proper maintenance of environmental records on site;
- Advising the Environmental Construction Coordinator (ECC) on site-specific environmental concerns;
- Educating company inspectors and personnel on site-specific environmental concerns and requirements; and
- Reporting any non-compliance and problem areas.

An EI is required on projects involving oversight by the FERC, and DETI may assign them on other projects as well. The EI must be certified as an ESC (and SWM, when applicable) Inspector by DEQ or provisionally certified. This role may be conducted by a certified, third party firm as directed by DETI. At least one EI is required for each construction spread during construction and restoration. DETI must ensure that the number and experience of EI's assigned to each construction spread will be appropriate for the length of the construction spread and the number/significance of resources affected.

## 2.5 ENVIRONMENTAL CONSTRUCTION COORDINATOR

The Environmental Construction Coordinator (ECC) will serve as part of the environmental team relative to environmental compliance within DETI. The ECC has the responsibility of ensuring full compliance with applicable laws, environmental rules, regulations, permits, and company policies that pertain to their projects. The ECC's roles and responsibilities may include:

- Ensure compliance with applicable federal, state, and local environmental regulations, permits, company standards, and procedures, and facility procedures at assigned projects;
- Promote environmental stewardship;
- Coordinate with EI's and contractors to ensure site environmental compliance;
- Serve as primary site coordinator with Dominion Environmental Services (DES), internal departments, and external agencies regarding environmental issues;
- Serve as contact with community or local public to resolve environmental emergencies, complaints, or problems;
- Maintain environmental permits, plans, and various compliance records; and

- Assist with environmental emergency response activities.

## 2.6 EROSION AND SEDIMENT CONTROL AND STORMWATER INSPECTOR

The Erosion and Sediment Control Inspector will be responsible for the inspection and compliance with ESC and SWM/SWPPP practices, as applicable, as well as those practices outlined in these Annual Standards and Specifications. These responsibilities will typically be shared between the EI and the ESC/SWM Inspector. The Inspector must be certified as an ESC (and SWM when applicable) Inspector by DEQ or provisionally certified. This role may be conducted by a third-party firm preparing the plans as directed by DETI. DETI must ensure that inspection staff is suitable for the size and scope of the project.

## 3. TECHNICAL CRITERIA

### 3.1 EROSION AND SEDIMENT CONTROL

DETI must employ erosion and sediment control measures for all land-disturbing activities associated with the construction and maintenance of gas transmission facility projects.

The minimum standards set forth in 9 VAC 25-840-40 and the control practices laid out in the Virginia Erosion and Sediment Control Handbook (VESCH) shall be applied to the planning, design, construction, and maintenance of ESC and SWM plans (when applicable).

1. Permanent or temporary soil stabilization shall be applied to denuded areas within seven days after final grade is reached on any portion of the site. Temporary soil stabilization shall be applied within seven days to denuded areas that may not be at final grade but will remain dormant for longer than 14 days. Permanent stabilization shall be applied to areas that are to be left dormant for more than one year.
2. During construction of the project, soil stock piles and borrow areas shall be stabilized or protected with sediment trapping measures. The applicant is responsible for the temporary protection and permanent stabilization of all soil stockpiles on site as well as borrow areas and soil intentionally transported from the project site.
3. A permanent vegetative cover shall be established on denuded areas not otherwise permanently stabilized. Permanent vegetation shall not be considered established until a ground cover is achieved that is uniform, mature enough to survive and will inhibit erosion.
4. Sediment basins and traps, perimeter dikes, sediment barriers and other measures intended to trap sediment shall be constructed as a first step in any land-disturbing activity and shall be made functional before upslope land disturbance takes place.

5. Stabilization measures shall be applied to earthen structures such as dams, dikes and diversions immediately after installation.
6. Sediment traps and sediment basins shall be designed and constructed based upon the total drainage area to be served by the trap or basin.
  - a. The minimum storage capacity of a sediment trap shall be 134 cubic yards per acre of drainage area and the trap shall only control drainage areas less than three acres.
  - b. Surface runoff from disturbed areas that is comprised of flow from drainage areas greater than or equal to three acres shall be controlled by a sediment basin. The minimum storage capacity of a sediment basin shall be 134 cubic yards per acre of drainage area. The outfall system shall, at a minimum, maintain the structural integrity of the basin during a 25-year storm of 24-hour duration. Runoff coefficients used in runoff calculations shall correspond to a bare earth condition or those conditions expected to exist while the sediment basin is utilized.
7. Cut and fill slopes shall be designed and constructed in a manner that will minimize erosion. Slopes that are found to be eroding excessively within one year of permanent stabilization shall be provided with additional slope stabilizing measures until the problem is corrected.
8. Concentrated runoff shall not flow down cut or fill slopes unless contained within an adequate temporary or permanent channel, flume or slope drain structure.
9. Whenever water seeps from a slope face, adequate drainage or other protection shall be provided.
10. All storm sewer inlets that are made operable during construction shall be protected so that sediment-laden water cannot enter the conveyance system without first being filtered or otherwise treated to remove sediment.
11. Before newly constructed stormwater conveyance channels or pipes are made operational, adequate outlet protection and any required temporary or permanent channel lining shall be installed in both the conveyance channel and receiving channel.
12. When work in a live watercourse is performed, precautions shall be taken to minimize encroachment, control sediment transport and stabilize the work area to the greatest extent possible during construction. Nonerrodible material shall be used for the construction of causeways and cofferdams. Earthen fill may be used for these structures if armored by nonerrodible cover materials.

13. When a live watercourse must be crossed by construction vehicles more than twice in any six-month period, a temporary vehicular stream crossing constructed of nonerodible material shall be provided.

14. All applicable federal, state and local requirements pertaining to working in or crossing live watercourses shall be met.

15. The bed and banks of a watercourse shall be stabilized immediately after work in the watercourse is completed.

16. Underground utility lines shall be installed in accordance with the following standards in addition to other applicable criteria:

- a. No more than 500 linear feet of trench may be opened at one time.
- b. Excavated material shall be placed on the uphill side of trenches.
- c. Effluent from dewatering operations shall be filtered or passed through an approved sediment trapping device, or both, and discharged in a manner that does not adversely affect flowing streams or off-site property.
- d. Material used for backfilling trenches shall be properly compacted in order to minimize erosion and promote stabilization.
- e. Restabilization shall be accomplished in accordance with this chapter.
- f. Applicable safety requirements shall be complied with.

17. Where construction vehicle access routes intersect paved or public roads, provisions shall be made to minimize the transport of sediment by vehicular tracking onto the paved surface. Where sediment is transported onto a paved or public road surface, the road surface shall be cleaned thoroughly at the end of each day. Sediment shall be removed from the roads by shoveling or sweeping and transported to a sediment control disposal area. Street washing shall be allowed only after sediment is removed in this manner. This provision shall apply to individual development lots as well as to larger land-disturbing activities.

18. All temporary erosion and sediment control measures shall be removed within 30 days after final site stabilization or after the temporary measures are no longer needed, unless otherwise authorized by the VESCP authority. Trapped sediment and the disturbed soil areas resulting from the disposition of temporary measures shall be permanently stabilized to prevent further erosion and sedimentation.

19. Properties and waterways downstream from development sites shall be protected from sediment deposition, erosion and damage due to increases in volume, velocity and peak flow rate of stormwater runoff for the stated frequency storm of 24-hour duration in accordance with the following standards and criteria. Stream restoration and relocation projects that incorporate natural channel design concepts are not man-made channels and shall be exempt from any flow rate capacity and velocity requirements for natural or man-made channels:

a. Concentrated stormwater runoff leaving a development site shall be discharged directly into an adequate natural or man-made receiving channel, pipe or storm sewer system. For those sites where runoff is discharged into a pipe or pipe system, downstream stability analyses at the outfall of the pipe or pipe system shall be performed.

b. Adequacy of all channels and pipes shall be verified in the following manner:

(1) The applicant shall demonstrate that the total drainage area to the point of analysis within the channel is one hundred times greater than the contributing drainage area of the project in question; or

(2) (a) Natural channels shall be analyzed by the use of a two-year storm to verify that stormwater will not overtop channel banks nor cause erosion of channel bed or banks.

(b) All previously constructed man-made channels shall be analyzed by the use of a ten-year storm to verify that stormwater will not overtop its banks and by the use of a two-year storm to demonstrate that stormwater will not cause erosion of channel bed or banks; and

(c) Pipes and storm sewer systems shall be analyzed by the use of a ten-year storm to verify that stormwater will be contained within the pipe or system.

c. If existing natural receiving channels or previously constructed man-made channels or pipes are not adequate, the applicant shall:

(1) Improve the channels to a condition where a ten-year storm will not overtop the banks and a two-year storm will not cause erosion to the channel, the bed, or the banks; or

(2) Improve the pipe or pipe system to a condition where the ten-year storm is contained within the appurtenances;

(3) Develop a site design that will not cause the pre-development peak runoff rate from a two-year storm to increase when runoff outfalls into a natural channel or will not cause the pre-development peak runoff rate from a ten-year storm to increase when runoff outfalls into a man-made channel; or

(4) Provide a combination of channel improvement, stormwater detention or other measures which is satisfactory to the VESCP authority to prevent downstream erosion.

- d. The applicant shall provide evidence of permission to make the improvements.
- e. All hydrologic analyses shall be based on the existing watershed characteristics and the ultimate development condition of the subject project.
- f. If the applicant chooses an option that includes stormwater detention, he shall obtain approval from the VESCP of a plan for maintenance of the detention facilities. The plan shall set forth the maintenance requirements of the facility and the person responsible for performing the maintenance.
- g. Outfall from a detention facility shall be discharged to a receiving channel, and energy dissipators shall be placed at the outfall of all detention facilities as necessary to provide a stabilized transition from the facility to the receiving channel.
- h. All on-site channels must be verified to be adequate.
- i. Increased volumes of sheet flows that may cause erosion or sedimentation on adjacent property shall be diverted to a stable outlet, adequate channel, pipe or pipe system, or to a detention facility.
- j. In applying these stormwater management criteria, individual lots or parcels in a residential, commercial or industrial development shall not be considered to be separate development projects. Instead, the development, as a whole, shall be considered to be a single development project. Hydrologic parameters that reflect the ultimate development condition shall be used in all engineering calculations.
- k. All measures used to protect properties and waterways shall be employed in a manner which minimizes impacts on the physical, chemical and biological integrity of rivers, streams and other waters of the state.
- l. Any plan approved prior to July 1, 2014, that provides for stormwater management that addresses any flow rate capacity and velocity requirements for natural or man-made

channels shall satisfy the flow rate capacity and velocity requirements for natural or man-made channels if the practices are designed to (i) detain the water quality volume and to release it over 48 hours; (ii) detain and release over a 24-hour period the expected rainfall resulting from the one year, 24-hour storm; and (iii) reduce the allowable peak flow rate resulting from the 1.5, 2, and 10-year, 24-hour storms to a level that is less than or equal to the peak flow rate from the site assuming it was in a good forested condition, achieved through multiplication of the forested peak flow rate by a reduction factor that is equal to the runoff volume from the site when it was in a good forested condition divided by the runoff volume from the site in its proposed condition, and shall be exempt from any flow rate capacity and velocity requirements for natural or man-made channels as defined in any regulations promulgated pursuant to § 62.1-44.15:54 or 62.1-44.15:65 of the Act.

m. For plans approved on and after July 1, 2014, the flow rate capacity and velocity requirements of § 62.1-44.15:52 A of the Act and this subsection shall be satisfied by compliance with water quantity requirements in the Stormwater Management Act (§ 62.1-44.15:24 et seq. of the Code of Virginia) and attendant regulations, unless such land-disturbing activities are in accordance with 9VAC25-870-48 of the Virginia Stormwater Management Program (VSMP) Regulations.

n. Compliance with the water quantity minimum standards set out in 9VAC25-870-66 of the Virginia Stormwater Management Program (VSMP) Regulations shall be deemed to satisfy the requirements of subdivision 19 of this subsection.

## 3.2 GENERAL DESCRIPTION OF CONSTRUCTION ACTIVITIES

The stages of construction typically include: survey and planning, mowing and clearing, grubbing and grading, trenching, pipe assembly (including stringing, bending, welding, testing, coating, and lowering-in), backfilling, final grading, and restoration. The erosion and sediment control measures to be installed for each of these stages are described below. If any denuded area will remain idle for more than 14 days, temporary stabilization (temporary seed, mulch, additional sediment barriers as directed by the ECC) must be applied within seven (7) days to that area.

### 3.2.1 CONSTRUCTION WORK AREAS

Construction work areas, also called the LOD, include all access roads, staging areas, temporary pipe yards and contractor yards, and the construction right-of-way. To the extent possible, previously disturbed areas will be used for construction to minimize new impacts. Landowner agreement and appropriate permits must be obtained prior to the use of any area for construction activities. Erosion and sediment control plans apply to all construction work areas.

The construction right-of-way will include the permanent pipeline right-of-way and temporary right-of-way for the length of the project. Additional workspace may be required in certain areas. The construction right-of-way may be widened (subject to compliance with all applicable survey, plan preparation and approval, and mitigation requirements) in areas such as steep slopes and topsoil conservation areas to ensure safe construction or for storage of excess spoil.

Following construction, all disturbed areas must be restored with an approved vegetative cover directed by the landowner, permits these Annual Standards and Specifications. All temporary work areas must be restored to pre-construction conditions and uses.

DETI must provide the contractor with a construction line list that describes any special requirements (i.e. timber salvage, topsoil segregation, restoration measures, fencing requirements, etc.) requested by landowners. The contractor must comply with these special requirements.

DETI must also obtain the necessary right-of-way permits (i.e. federal, state, stream crossing, wetland crossing, road crossing permits, etc.) for the installation of pipeline. Permit requirements may be more stringent than the requirements of this plan and, if so, the more restrictive requirements will be implemented. The contractor must obtain permits that may be required for activities such as burning, blasting, and transportation.

### *3.2.2 SURVEY AND PLANNING*

In most cases the LOD will be selected in advance and included in all surveys, landowner negotiations and permitting. Any work areas selected by the contractor must receive appropriate review and permitting prior to their use. The limits of the approved work areas, boundaries of environmentally sensitive areas, and the location of the facilities must be marked in the field prior to the start of mechanized activities. Changes to the LOD must be denoted/marked up on the ESC plans and recorded in the SWPPP (if applicable). Any changes affecting overall permitted disturbed area or potential affecting compliance with stormwater or ESC criteria must be reviewed and approved in advance in accordance with Section 1.5.5 (Revisions).

Environmentally sensitive areas are those that are more susceptible to serious erosion problems and thus may require enhanced erosion and sediment control measures. Examples of such areas may include steep slopes and sinkholes down-gradient of project activities. Examples of specialized controls that may be used in these areas include specialized pipeline construction methods that combine several construction stages, thereby reducing earth disturbance. Additional details for working in steep slopes can be found below in Section 3.4 Special Procedures.

### *3.2.3 CLEARING AND MOWING*

The initial tree clearing may be performed by either non-mechanized or mechanized means. Non-mechanized methods entail the use of crews accessing the construction work areas on foot and cutting timber with handheld chainsaws. Trees are removed when mechanized equipment is

mobilized to the project. Erosion and sedimentation control measures must be installed as a **first step** in any land-disturbing activity after clearing and must be made functional before upslope land disturbance takes place.

Vegetation will be cut at ground level and un-merchantable timber (i.e. brush, stumps, slash, and tree tops) may be disposed of by chipping and distribution along the upland right-of-way or by burning, if allowed. Burning must be avoided if practicable. Merchantable timber will be cut and stacked along the outboard edge of the construction right-of-way in upland areas as directed by the landowner or the Construction Supervisor. If chips are spread along the right-of-way, they must be spread at no more than 1-ton per acre and an additional application of 11 pounds of nitrogen per acre, at least 50% is slow release, must be made to affected areas. If necessary, the desirable trees will be protected by fencing and armoring. If chipping is to serve as “Mulching” for Erosion and Sediment Control purposes, then mulching should be consistent with the application rates from ESC Standard and Specification 3.35.

### *3.2.4 GRUBBING AND GRADING*

This step involves grubbing stumps, removing and segregating topsoil where applicable, and leveling the construction right-of-way to create a safe operating area for equipment and vehicles. Topsoil and subsoil disturbed during grading operations will not be mixed with foreign material (i.e. stumps and slash). The disposal methods described above for clearing debris also apply to stumps. In addition, stumps may not be buried in the right-of-way in upland, non-agricultural, non-residential areas. Grading must be delayed at environmentally sensitive areas that will be treated as separate construction areas (i.e. steep slopes) until the contractor is prepared to complete all other construction activities at that site in the shortest practicable time.

Erosion and sedimentation control measures must be installed as a **first step** in any land-disturbing activity and must be made functional before upslope land disturbance takes place.

## 3.3 EROSION AND SEDIMENT CONTROL PRACTICES

The following are the more commonly used practices applied to pipeline construction (from Virginia Uniform Coding System for Erosion and Sedimentation Control Practices). The use of the VESCH, along with accompanying technical documents, guidance and practices is strongly preferred. The VESCH and related technical documents and guidance specifications are incorporated by reference into these Annual Standards and Specifications. Details for those practices marked with an \* are included in Appendix A. For full details, refer to the 1992 VESCH. Non-VESCH measures are included herein but may be further reviewed and approved by DEQ on a project-specific basis.

<u>Practice</u>	<u>Title</u>	<u>Key</u>
3.01*	Safety Fence	SAF

2017 Annual Standards and Specifications for Erosion and Sediment Control and  
Stormwater Management for Construction and Maintenance of Gas Transmission Facility Projects

3.02*	Temporary Stone Construction Entrance	CE
3.03	Construction Road Stabilization (Temp)	CRS
3.04*	Straw Bale Barrier	STB
3.05*	Silt Fence	SF
3.07*	Storm Drain Inlet Protection	IP
3.08*	Culvert Inlet Protection	CIP
3.09*	Temporary Diversion Dike	DD
3.10*	Temporary Fill Diversion	FD
3.11*	Temporary ROW Diversion/Water Bars	RWD
3.12*	Diversion	DV
3.13	Temporary Sediment Trap	ST
3.14	Temporary Sediment Basin	SB
3.15	Temporary Slope Drain	TSD
3.17	Stormwater Conveyance Channel	SCC
3.18*	Outlet Protection	OP
3.19*	Riprap	RR
3.20*	Rock Check Dams	CD
3.21	Level Spreader	LS
3.22	Vegetative Streambank Stabilization	VSS
3.23	Structural Streambank Stabilization	SSS
3.24*	Temporary Vehicular Stream Crossing	SC
3.25*	Utility Stream Crossing	USC
3.26*	Dewatering Structure	DS
3.29	Surface Roughening	SR
3.30	Topsoiling	TO

3.31	Temporary Seeding	TS
3.32	Permanent Seeding	PS
3.34	Bermudagrass & Zoysiagrass Est.	BE/ZE
3.35	Mulching	MU
3.36*	Soil Stabilization Blankets & Matting	B/M
3.37	Trees, Shrubs, Vines & Ground Cover	VEG
3.38	Tree Preservation & Protection	TP
3.39	Dust Control	DC

The following practices are identified as baseline measures for minimizing erosion and enhancing revegetation in accordance with the FERC Plan, found in Appendix C. They are listed by Plan section reference.

IV.B	Topsoil Segregation	TSS
IV.F.1	Temporary Slope Breakers	TSB
IV.F.2	Temporary Trench Plugs	TTP
V.C	Soil Compaction	SCO
VI.	Off-Road Vehicle Control	ORV

**In instances where the requirements or practices differ between the VESCH and the FERC Plan and Procedures guidance, the more stringent criteria shall be applied.** (*e.g. FERC TSB spacing criterion are not as stringent as VESCH RWD spacing criterion, so the VESCH criterion would be applied.*) The following practices and measures are identified as baseline measures for minimizing erosion and sediment control and are not found in the VESCH or the Plans and Procedures. These include:

Timber Mat Stabilization	TM
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DETI utilizes construction timber mats to provide access through areas such as wetlands and waterbodies, some agricultural fields, steep slopes, and other areas as determined by the Construction Supervisor. This practice reduces soil compaction and provides a stable travel lane for contractors along the project right-of-way, thus minimizing land disturbance. This practice may be incorporated in addition to the VESCH-related practices and requirements.

The use of construction timber may generally not constitute soil disturbance or a change in hydrology. Therefore, the installation of timber mat access roads and work pads is not considered a regulated land-disturbing activity and these areas are generally not included in land disturbance area calculations.

## Geotextile Bag/Dewatering Bag

## GB

DETI utilizes geotextile bags for dewatering and velocity reduction on a majority of pipeline construction projects in lieu of straw bale dewatering practices illustrated in DS (Std. 3.26 Dewatering Structure). The purpose, definition, conditions of application and planning considerations are identical. Design criteria and specifications vary by dewatering bag manufacturer. A variety of geotextile dewatering bag products are available on the market. When incorporated into a plan, all manufacturers' guidance on the use, design, sizing, maintenance and application of the geotextile dewatering bag shall be followed.

### 3.4 SPECIAL PROCEDURES

The following procedures and practices are commonly utilized on pipeline construction sites and may have standards established by more than one regulation.

#### *3.4.1 WETLAND AND WATERBODY CROSSINGS (PROCEDURES V & VI)*

Sections V and VI of the FERC Procedures outline methods for crossing wetlands and waterbodies. See Appendix D for additional details regarding equipment bridges and crossing methodologies including: dry-ditch, flume, and horizontal direction drill.

#### *3.4.2 TIME WINDOWS FOR CONSTRUCTION (PROCEDURES V.B.1)*

Unless expressly permitted or further restricted by the appropriate federal or state agency in writing on a site-specific basis, crossings must be constructed during the following time windows:

- Coldwater Fisheries - June 1 through September 30;
- Coolwater and Warmwater Fisheries - June 1 through November 30;
- Natural Trout Streams - restrictions set forth by the Virginia Department of Game and Inland Fisheries (VDGIF), October 1<sup>st</sup> through March 31<sup>st</sup> for Brown Trout (*Salmo trutta*) and Brook Trout (*Salvelinus fontinalis*), March 15<sup>th</sup> through May 15<sup>th</sup> for Rainbow Trout (*Oncorhynchus mykiss*) and March 15<sup>th</sup> through June 30<sup>th</sup> for the Roanoke Logperch (*Percina rex*); and
- Stockable Trout Streams - there are no time of year restrictions for stockable trout streams; however, as required by the VDGIF, DETI must consult with the VDGIF regional offices before constructing in stockable trout streams.
- Time-of-Year Restrictions (TOYR) – TOYR may be applied to certain construction activities for protection of certain species (e.g. listed freshwater mussels, bat hibernaculum, etc.) as required by UFWS and/or wetland permitting agencies. Applicable TOYR will be described in permit documentation and enforced by the ECC.

### 3.4.3 POTENTIAL EROSION PROBLEM AREAS/CRITICAL AREAS

Critical Areas, or potential erosion problem areas, **as described in VESCH** will be protected by project specific BMPs. A list of potential critical areas is included in **Appendix J**. Special attention will be given to those slopes that are near surface waters. The discharge of soils from failed slopes into surface waters is a serious occurrence and may result in environmental non-compliance. Critical Areas must be identified in the Erosion and Sediment Control narrative and appropriate management measures must be provided. Critical areas are defined as areas on the site which have potentially serious erosion problems (steep slopes, channels, wet weather/underground springs, etc.).

Potential erosion problem areas or critical areas (see slope length and gradient erodibility criteria in VESCH), including but not limited to areas with 30° slopes (58%) or greater, will be protected by belted silt retention fence and permanent slope breakers. Slope breakers (aka right-of-way diversions) will be placed in the appropriate spacing listed in VESCH Std. and Spec. 3.11 (RWD) in areas with greater than 14° slopes (25% slopes). Spacing shall be 50 ft. when slopes are 25-40%, and 25 ft. when in excess of 40%. In addition to the criteria for RWD on slopes steeper than 25%, RWD should be installed at the designer's discretion and consistent with the VESCH 3.11 RWD specification.

Care will be taken to avoid areas of steep slopes as much as practical; however, areas which could not be avoided will be addressed with waterbars and Rolled Erosion Control Product (RECP). RECPs must be consistent with VESCH Std. and Spec. 3.36 for Soil Stabilization Blankets and Matting. In the event that subsurface flow is encountered, an Under Drain will be utilized, as necessary, to divert water outside of the LOD. If encountered, seeps can be mitigated by using seep collectors placed down-slope of areas showing seepage. Armored fill placed at the toe of the slope may be used in areas of steep slopes in addition to a perforated drain pipe to divert subsurface water away from the cut slope. If a slip occurs Dominion will install super silt fence, gabion baskets, jersey barriers or other portable containment devices to keep the slip from impacting areas outside the LOD or waters of the state. Steep slopes will be avoided to the maximum extent practicable and are limited. Those areas will be restored with erosion control blanket and Dominion will implement the slip prevention items mentioned above as needed. Please also see DETI's *Slope Stability Policy and Procedure for Pipeline Design, Construction and Right of Way Maintenance* (Appendix I) for additional details regarding Dominion's internal policy regarding slips.

### 3.4.4 ADDITIONAL CRITERION – ACP/OTHER LARGE PROJECTS

The Department of Environmental Quality, in some instances, exercises discretionary authority on certain large projects to apply more stringent additional criteria than those normally applied

under these Standards and Specifications. The Atlantic Coast Pipeline (ACP) project is an example of one of these large projects. The special conditions for the ACP project are contained in Appendix G and will be adhered to, in addition to the minimum criteria outlined in this document. Project managers at DETI should be advised that projects with significant disturbed acreage (e.g. > 50 acres) are likely to face additional scrutiny by DEQ and certain additional criterion may apply. Early coordination with DEQ for large projects is recommended.

### *3.4.5 SWPPP APPLICABILITY*

Per the request of DEQ, DETI commits to develop and implement Stormwater Pollution Prevention Plans (SWPPPs) for all projects that equal or exceed 1 acre of disturbance, even if exemptions from a permit are granted (via oil and gas exemption and/or GM 15-2003). The ESC and SWM Plan requirements are addressed separately in this document. In addition to those requirements, DETI will include the relevant general information and the SWPPP. The components DETI to be included in the SWPPP include the following:

#### SWPPP Contents

1. General Information (as described in section A.1 of Part II of the CGP): Subsections (d) & (e) only
2. Erosion and Sediment Control Plan (addressed separately herein)
3. SWM Plan (addressed separately herein, if no SWM Plan waiver secured)
4. Pollution Prevention Plan (as described in Section A.4 of Part II of the CGP)
5. SWPPP Requirements for Impaired Waters, etc. (as described in Section A.5 of Part II of the CGP)
6. Qualified Personnel (as described in Section A.6 of Part II of the CGP)
7. Individuals or positions with delegated authority to sign inspection reports or modify the SWPPP.
8. Certification: "I certify under penalty of the law that I have read and understand this document and that this document and all attachments were prepared in accordance with a system designed to assure that qualified personnel properly gathered and evaluated 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 fines and imprisonment for knowing violations."

#### SWPPP Provisions to be Implemented by DETI:

1. Provisions for SWPPP Amendments, Modifications, and Updates (as described in Section B of Part II of the CGP, excluding references to federal officials and Part III.K)

2. SWPPP Implementation (as described in Section E of Part II of the CGP, excluding references to general permit coverage)
3. SWPPP Inspections (as described in Section F of Part II of the CGP, excluding references to the general permit and certifications pursuant to Part III.K)
4. Corrective Actions (as described in Section G of Part II of the CGP)

### 3.5 MAINTENANCE

Right-of-ways are generally maintained by mowing not more frequently than once every three years by the pipeline patrol and when necessary for inspection purposes. In no case will routine vegetation mowing or clearing occur during the migratory bird nesting season between April 15 and August 1 of any year unless specifically approved in writing by the responsible land management agency or the U.S Fish and Wildlife Service.

Maintenance of permanent right-of-ways in wetlands will be performed on an "as-needed" basis and will consist of limited cutting of growth as required to permit operation and maintenance pursuant to Dominion requirements. Native herbaceous and woody shrub species must be allowed to reestablish in wetland right-of-way. However, to facilitate periodic corrosion and leak surveys, a corridor not exceeding 10 feet in width centered on the pipeline may be maintained at a frequency necessary to maintain an herbaceous state. Herbicides or pesticides will not be used in or within 100 feet of a wetland, except as allowed by the appropriate federal or state agency.

In all cases, right-of-ways will be left in a natural vegetated state and may not be mowed or bush hogged more than four times per year in accordance with the management guidelines for *Open Space* in Table 1 of the *Virginia Runoff Reduction Method Instructions and Documentation*. Section 7c FERC projects will follow the FERC Plan and Procedures guidance criteria for the restoration of disturbed lands to a hydrologically functional state.

### 3.6 EMERGENCY PROVISIONS

In the event of an emergency, DETI reserves the right to conduct land-disturbing activities in response to a public emergency, including grid reliability issues, to avoid imminent endangerment to human health or the environment in accordance with exemptions cited in Virginia Code §62.1-44.15:34. In such situations, the DEQ shall be advised of the disturbance within seven days of commencing the land-disturbing activity, and compliance with the administrative requirements of these Annual Standards and Specification is required within 30 days of commencing the land-disturbing activity.

### 3.7 INSPECTIONS

DETI or its designated representative will continue to be responsible for routine inspections for compliance with the erosion and sediment control and stormwater management (where

applicable) regulations and any FERC Certificate. Certified personnel as outlined in Section 2 must conduct all inspections.

For all projects, DETI or its designated representative will be responsible for periodic inspections in compliance with 9 VAC 25-840-60(B).1. Specifically, DETI or its designated representative will provide for an inspection 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, or in accordance with an alternate inspection approved by the State Water Control Board.

For FERC-regulated projects, DETI or its designated representative will be responsible for periodic inspections in compliance with FERC Plan II.B.13. Specifically, FERC Plan related inspections must be conducted;

- on a daily basis in areas of active construction or equipment operation;
- on a weekly basis in areas with no construction or equipment operation; and
- within 24 hours of each 0.5 inch of rainfall.

Pipeline projects must avoid discharges of concentrated runoff to surface waters unless permitted discharges (such as dewatering) have been appropriately filtered, treated or settled prior to being discharged in a dispersed manner.

In instances where a project is subject to Stormwater Management requirements, inspections must be conducted in accordance with the inspection frequencies outlined in Appendix B (Section 5).

### 3.8 ENFORCEMENT

While DETI continues to hold its employees, consultants and contractors to strict environmental compliance standards, regulatory enforcement will be administered by DEQ. DETI may be required to submit relevant project documentation and plans for covered activities to the DEQ to ensure consistency with these Annual Standards and Specifications and applicable permit requirements. The State Water Control Board has the authority to enforce approved specifications and charge fees equal to the lower of (i) \$1000 or (ii) an amount sufficient to cover the costs associated with standard and specification review and approval, project inspections and compliance. The Virginia DEQ will serve as the VESCP and VSMP authority and will perform random site inspections or inspections in response to a complaint to assure compliance with the associated laws/regulations and these Annual Standards and Specifications. Construction contracting firms retained by DETI must be required to comply with all contractual obligations, and DETI must enforce their compliance to the extent legally available, as necessary.



**APPENDIX A**

**ESC Plan Checklist**

**Erosion and Sediment Control Practice Details**

The following construction details are taken from the Virginia Erosion and Sediment Control Handbook (VESCH), Third Edition, 1992, as amended. Specific details and guidelines are covered more completely in Chapter 3 of the VESCH.

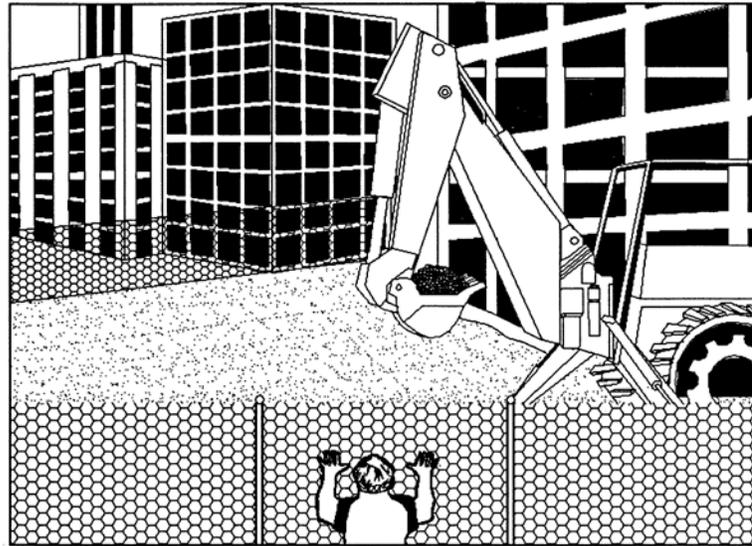
The Contractor must go to the VESCH to reference practices that are covered in the specification but not listed below.

<b><u>Practice</u></b>	<b><u>Title</u></b>	<b><u>Key</u></b>
3.01	Safety Fence.....	SAF
3.02	Temporary Stone Construction Entrance.....	CE
3.04	Straw Bale Barrier.....	STB
3.05	Silt Fence .....	SF
3.07	Storm Drain Inlet Protection.....	IP
3.08	Culvert Inlet Protection.....	CIP
3.09	Temporary Diversion Dike .....	DD
3.10	Temporary Fill Diversion .....	FD
3.11	Temporary Right-Of-Way Diversion.....	RWD
3.12	Diversion .....	DV
3.18	Outlet Protection .....	OP
3.19	RipRap .....	RR
3.20	Rock Check Dams.....	CD
3.24	Temporary Vehicular Stream Crossing .....	SC
3.25	Utility Stream Crossing.....	USC
3.26	Dewatering Structure.....	DS
3.36	Soil Stabilization Blankets & Matting.....	B/M

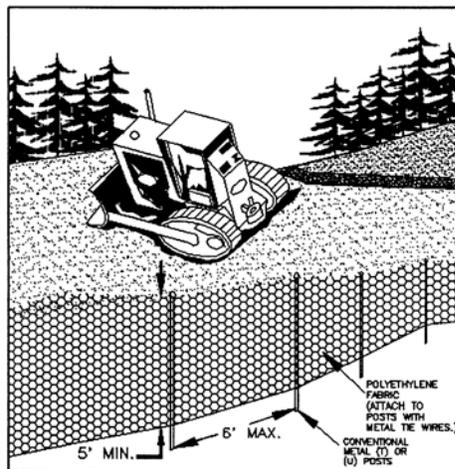
The following items are specific to the practices within this document and are not found in the VESCH manual. Details for these items are located at the end of this appendix following the items listed above.

Timber Mat Stabilization	TM
Geotextile Bag/Dewatering Bag	GB
Bleeder Drain and Outlet	BD
Trench Plug Drain	TP

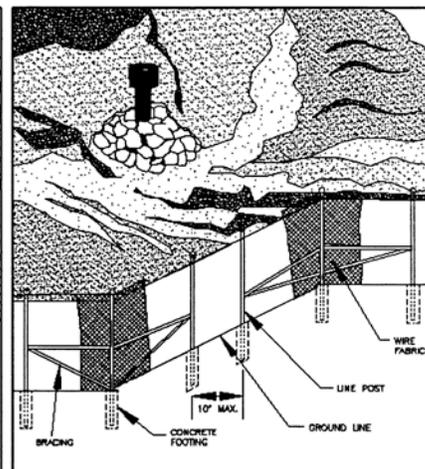
# SAFETY FENCE



PERSPECTIVE VIEW



PERSPECTIVE VIEW  
PLASTIC FENCE

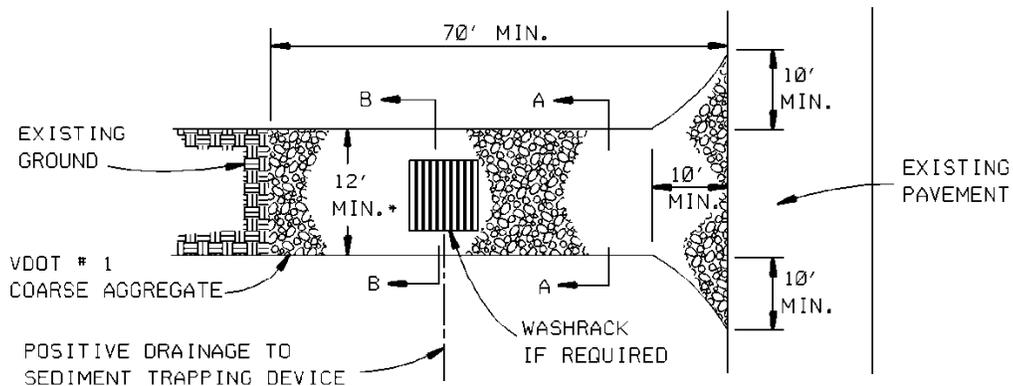


PERSPECTIVE VIEW  
METAL FENCE

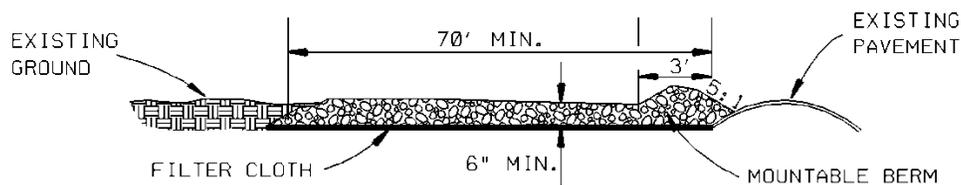
Source: Adapted from Conwed Plastics and  
VDOT Road and Bridge Standards

Plate 3.01-1

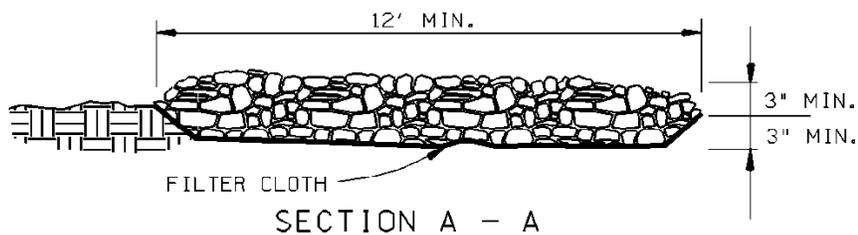
## STONE CONSTRUCTION ENTRANCE - 3.02



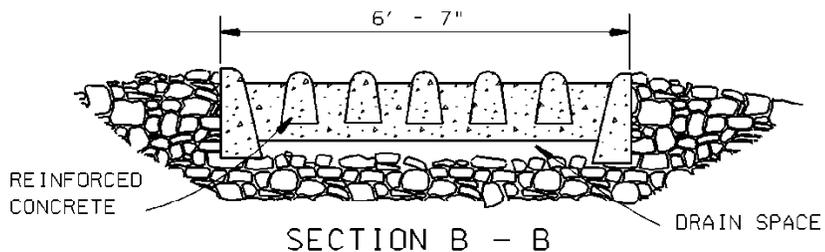
PLAN VIEW



ELEVATION

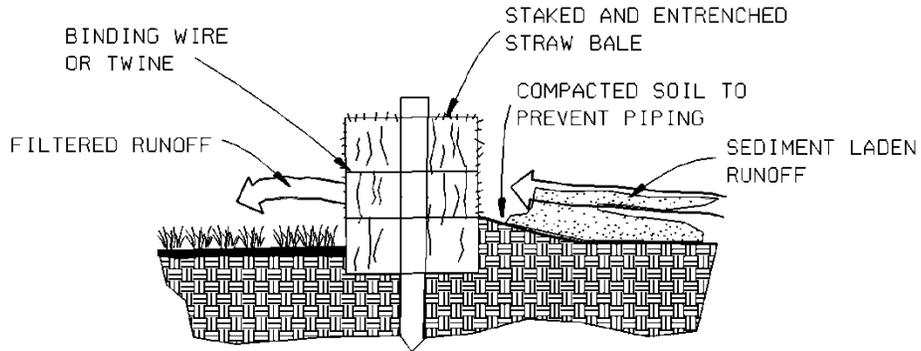


SECTION A - A



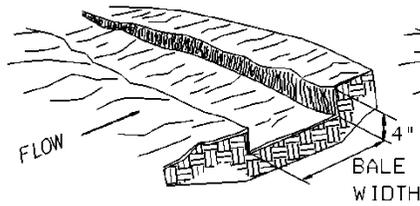
SECTION B - B

## STRAW BALE BARRIER - 3.04

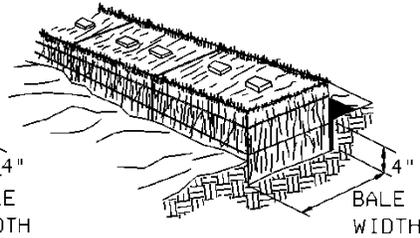


PROPERLY INSTALLED STRAW BALE  
CROSS SECTION

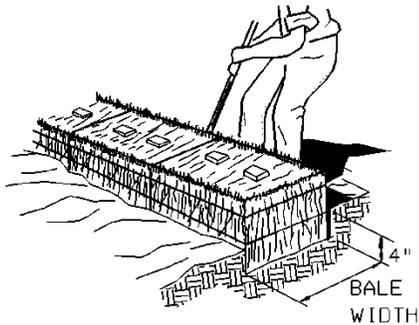
1. EXCAVATE THE TRENCH



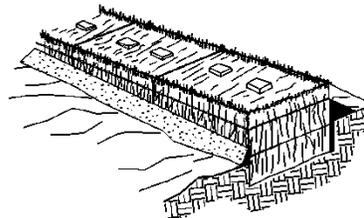
2. PLACE AND STAKE STRAW BALES



3. WEDGE LOOSE STRAW BETWEEN BALES



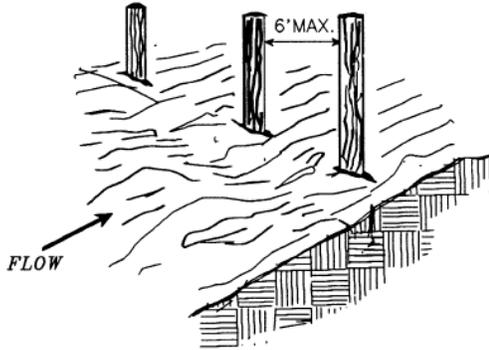
4. BACKFILL AND COMPACT THE EXCAVATED SOIL



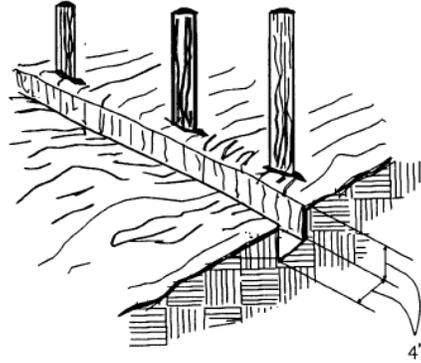
CONSTRUCTION OF STRAW BALE BARRIER

# CONSTRUCTION OF A SILT FENCE (WITHOUT WIRE SUPPORT)

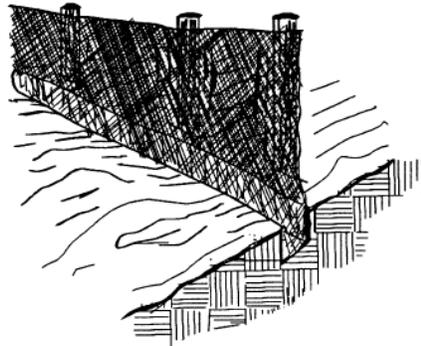
1. SET THE STAKES.



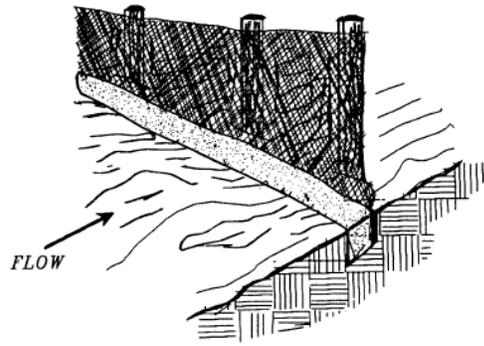
2. EXCAVATE A 4" X 4" TRENCH UPSLOPE ALONG THE LINE OF STAKES.



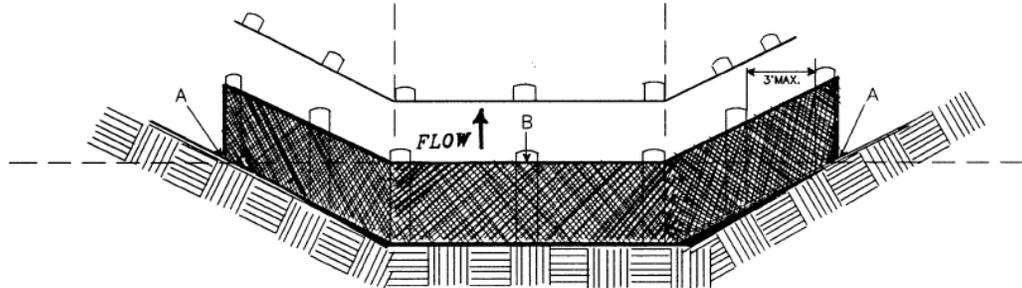
3. STAPLE FILTER MATERIAL TO STAKES AND EXTEND IT INTO THE TRENCH.



4. BACKFILL AND COMPACT THE EXCAVATED SOIL.

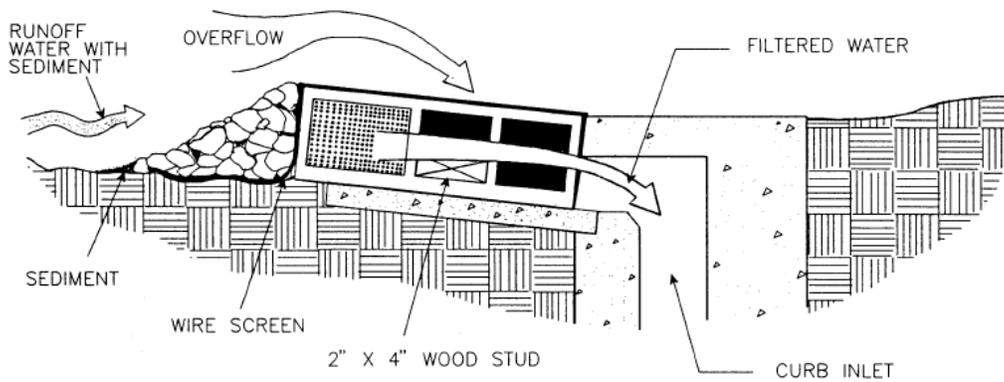
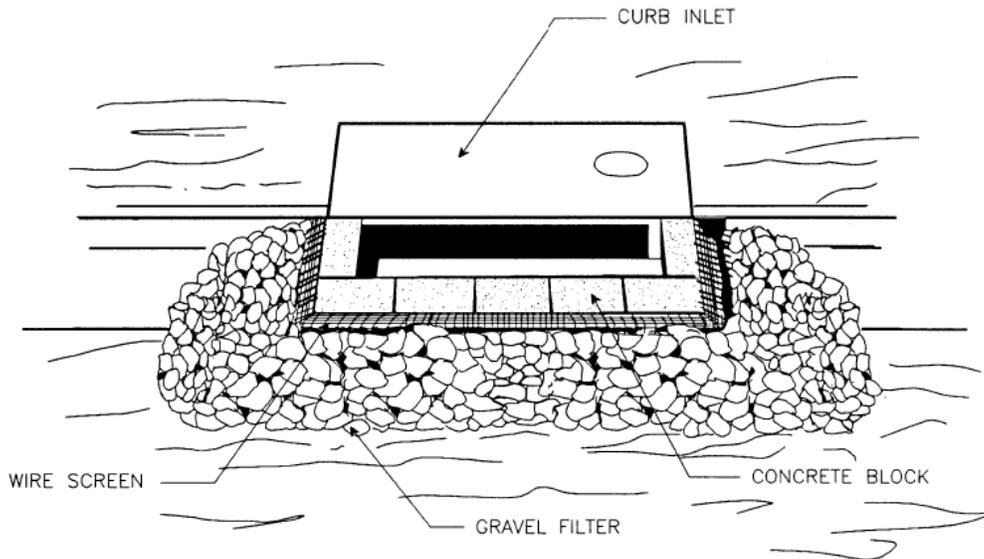


SHEET FLOW INSTALLATION  
(PERSPECTIVE VIEW)



POINTS A SHOULD BE HIGHER THAN POINT B.  
DRAINAGEWAY INSTALLATION  
(FRONT ELEVATION)

# BLOCK & GRAVEL CURB INLET SEDIMENT FILTER

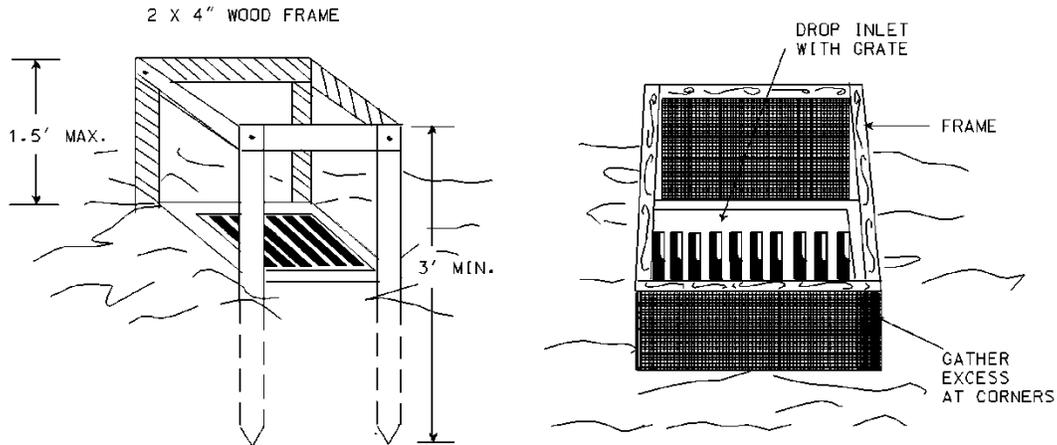


## SPECIAL APPLICATION

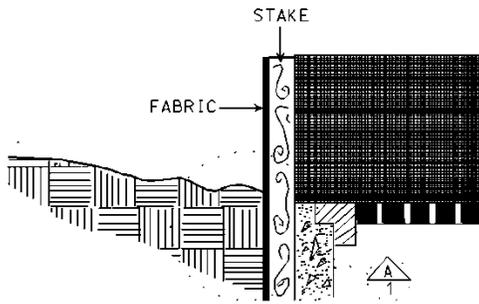
THIS METHOD OF INLET PROTECTION IS APPLICABLE AT CURB INLETS WHERE AN OVERFLOW CAPABILITY IS NECESSARY TO PREVENT EXCESSIVE PONDING IN FRONT OF THE STRUCTURE.

\* GRAVEL SHALL BE VDOT #3, #357 OR #5 COARSE AGGREGATE

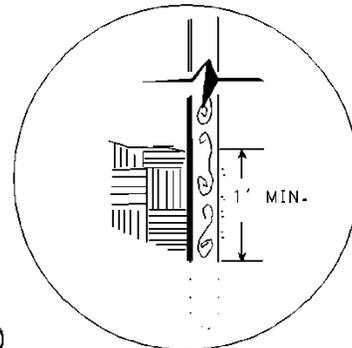
# SILT FENCE DROP INLET PROTECTION - 3.07-1



PERSPECTIVE VIEWS



ELEVATION OF STAKE AND FABRIC ORIENTATION

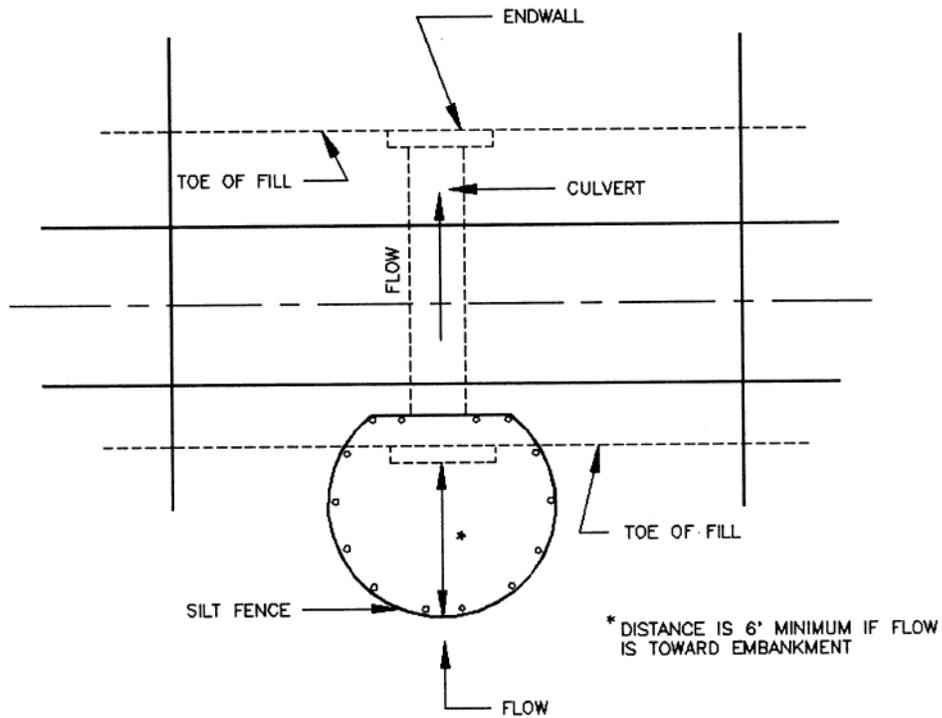


DETAIL A

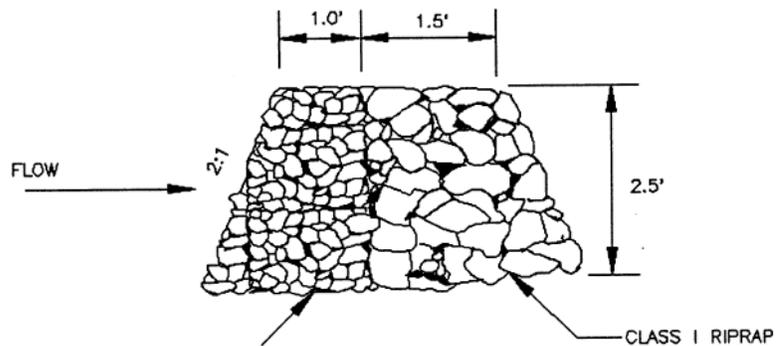
## SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE THE INLET DRAINS A RELATIVELY FLAT AREA (SLOPE NO GREATER THAN 5%) WHERE THE INLET SHEET OR OVERLAND FLOWS (NOT EXCEEDING 1 C.F.S.) ARE TYPICAL. THE METHOD SHALL NOT APPLY TO INLETS RECEIVING CONCENTRATED FLOWS, SUCH AS IN STREET OR HIGHWAY MEDIANS.

# SILT FENCE CULVERT INLET PROTECTION

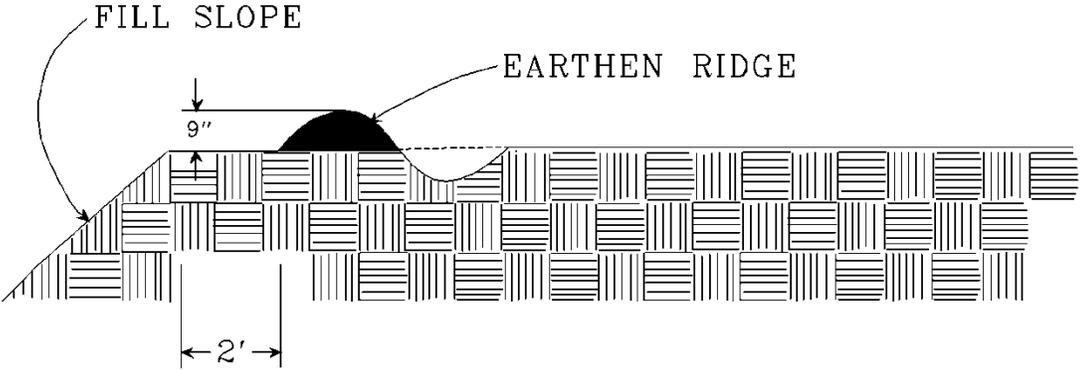


## OPTIONAL STONE COMBINATION \*\*

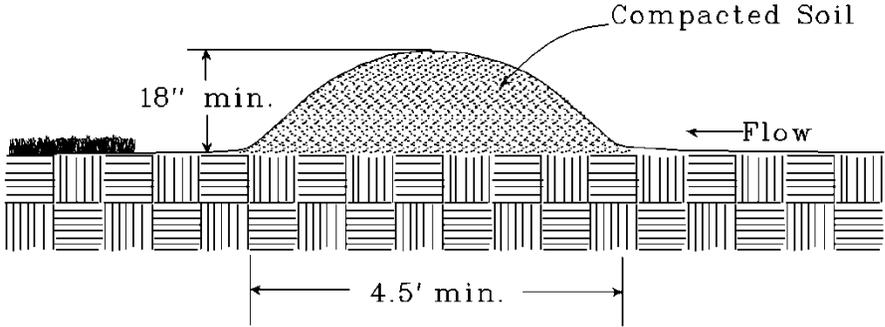


\*\* VDOT #3, #357 OR #5 COARSE AGGREGATE TO REPLACE SILT FENCE IN "HORSESHOE" WHEN HIGH VELOCITY OF FLOW IS EXPECTED

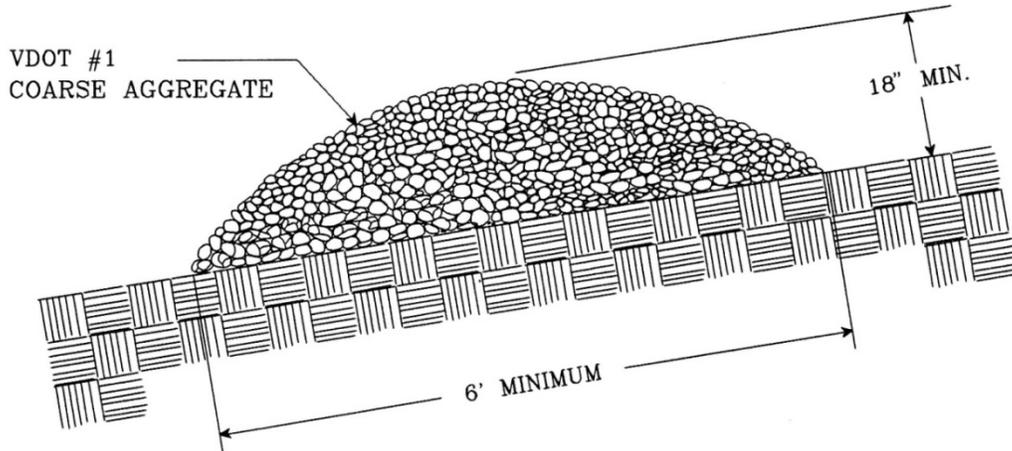
*TEMPORARY FILL DIVERSION - 3.10*



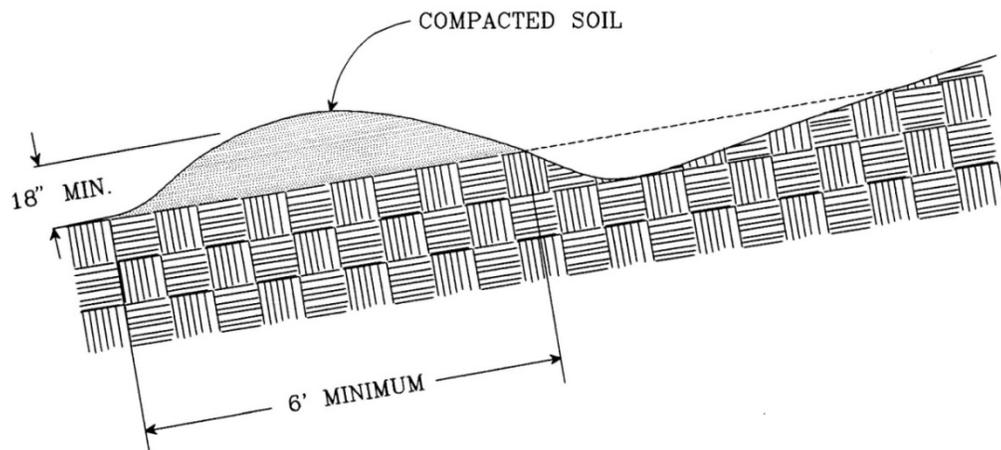
*TEMPORARY DIVERSION DIKE - 3.09*



# TEMPORARY RIGHT-OF-WAY DIVERSIONS

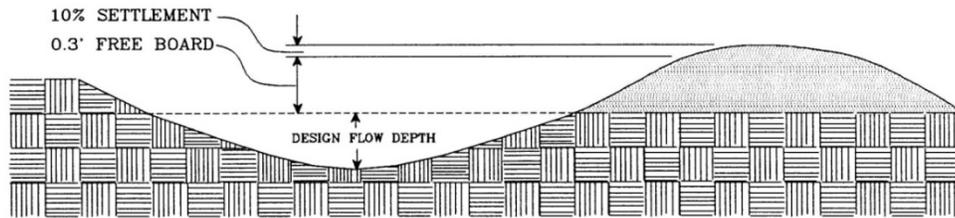


TYPICAL GRAVEL STRUCTURE

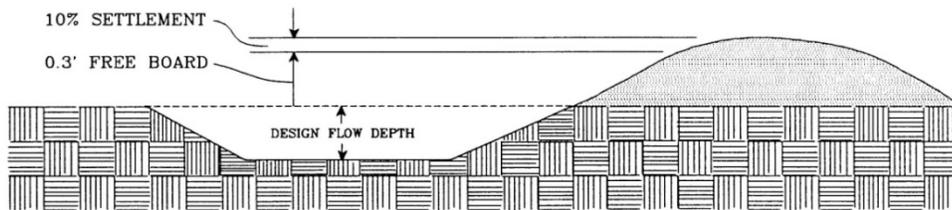


TYPICAL EARTHEN STRUCTURE

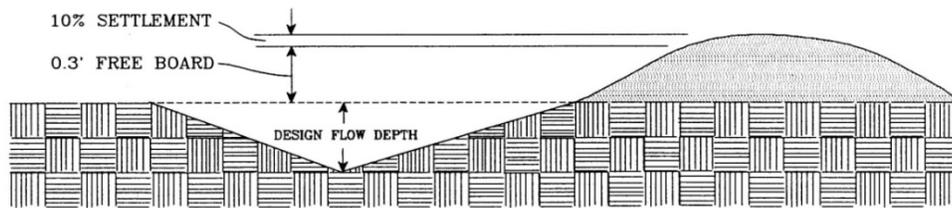
# DIVERSIONS



TYPICAL PARABOLIC DIVERSION

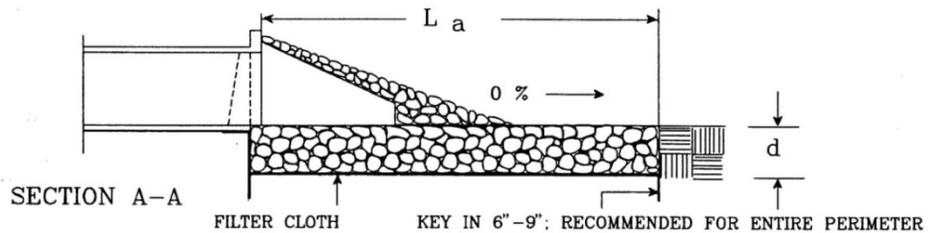
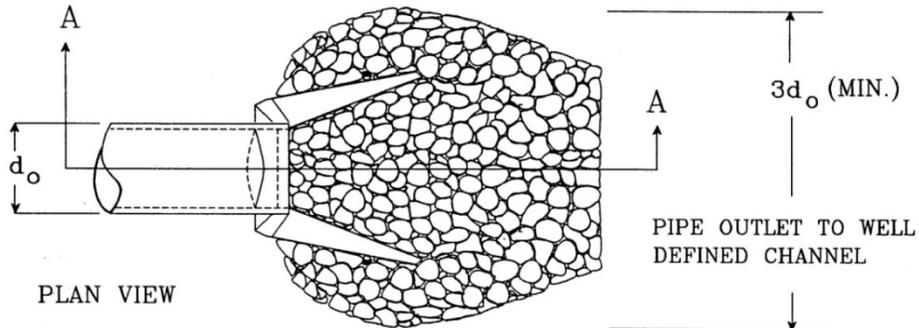
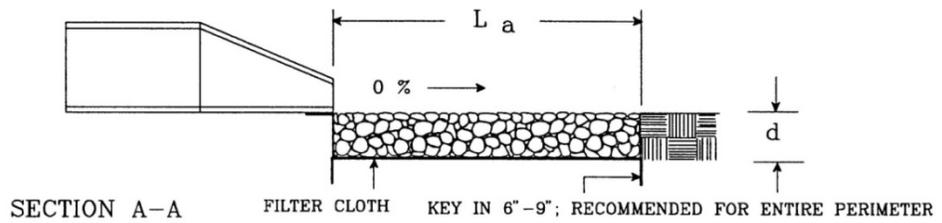
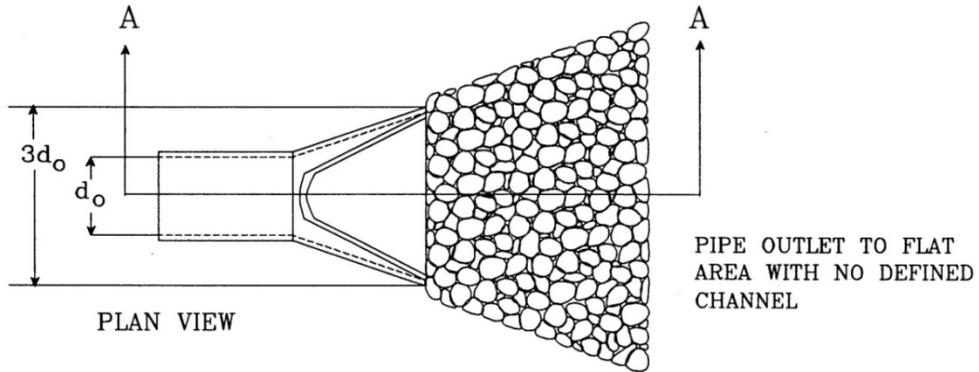


TYPICAL TRAPEZOIDAL DIVERSION



TYPICAL VEE-SHAPED DIVERSION

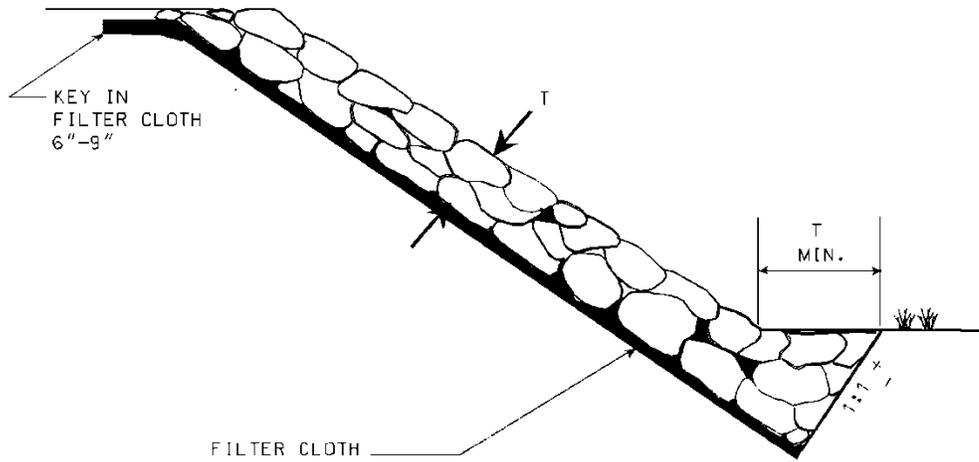
# PIPE OUTLET CONDITIONS



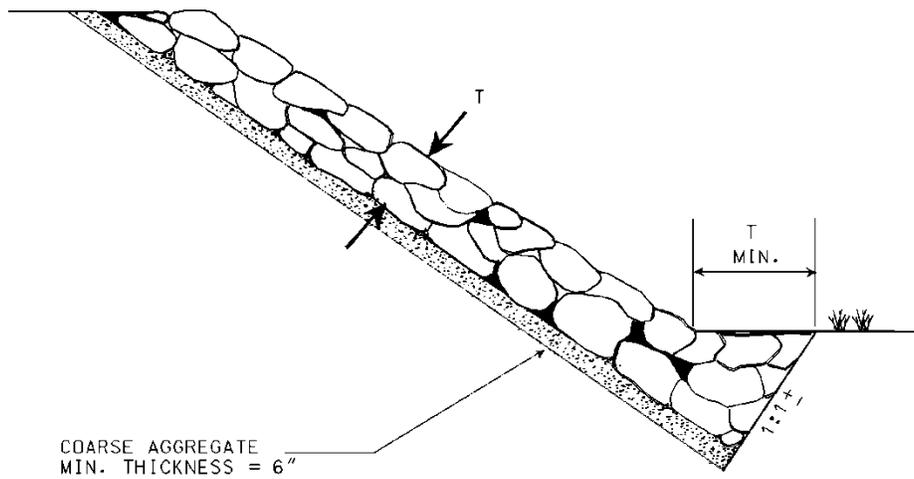
- NOTES: 1. APRON LINING MAY BE RIPRAP, GROUDED RIPRAP, GABION BASKET, OR CONCRETE.  
 2.  $L_a$  IS THE LENGTH OF THE RIPRAP APRON AS CALCULATED USING PLATES 3.18-3 AND 3.18-4.  
 3.  $d = 1.5$  TIMES THE MAXIMUM STONE DIAMETER, BUT NOT LESS THAN 6 INCHES.

*TOE REQUIREMENTS FOR  
BANK STABILIZATION - 3.19*

FILTER CLOTH UNDERLINER  
(PREFERRED)

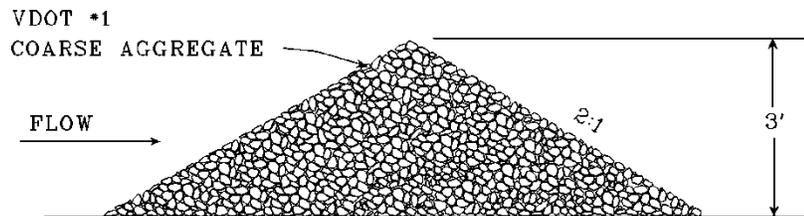
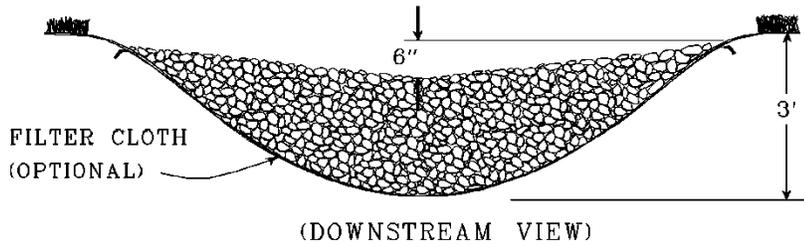


GRANULAR FILTER

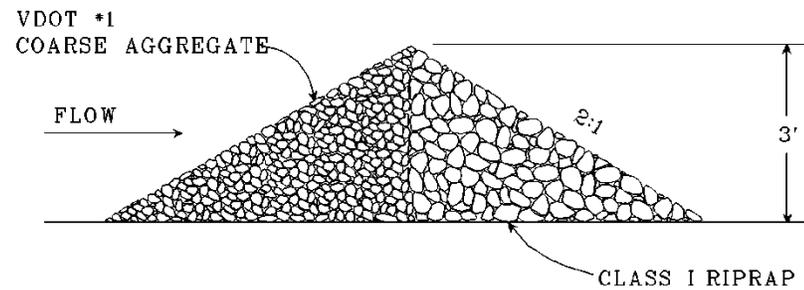
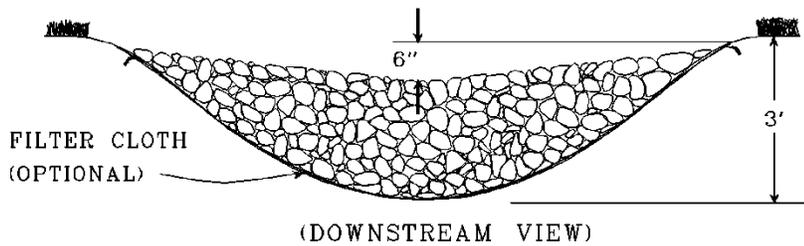


# ROCK CHECK DAM - 3.20

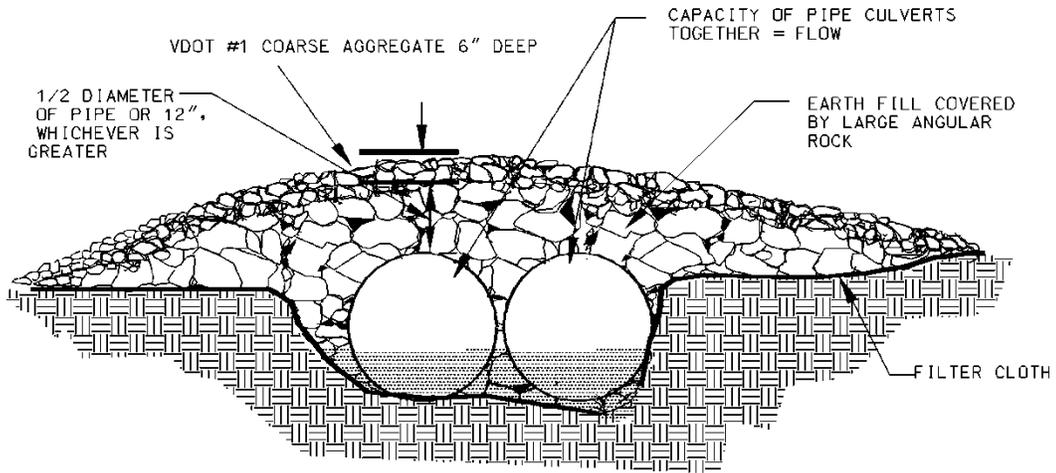
2 ACRES OR LESS OF DRAINAGE AREA:



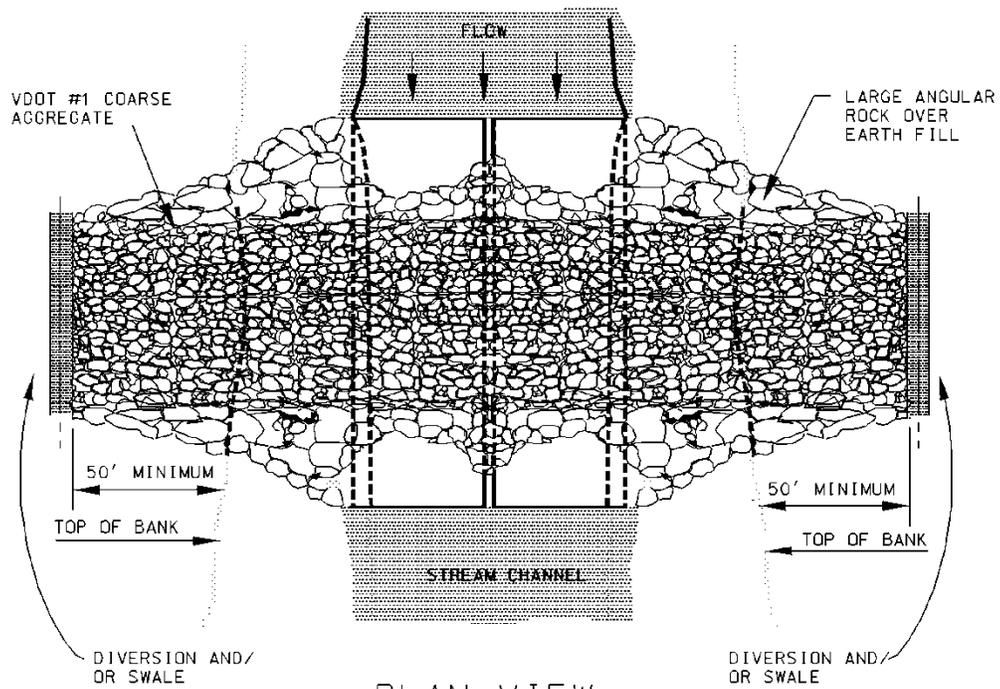
2-10 ACRES OF DRAINAGE AREA:



# TEMPORARY CULVERT CROSSING - 3.24

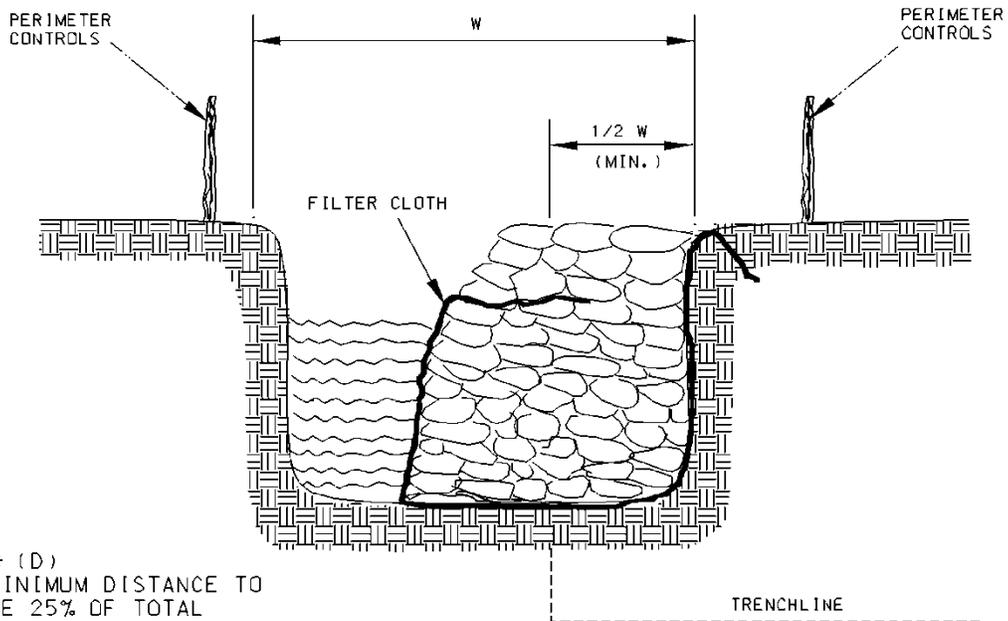
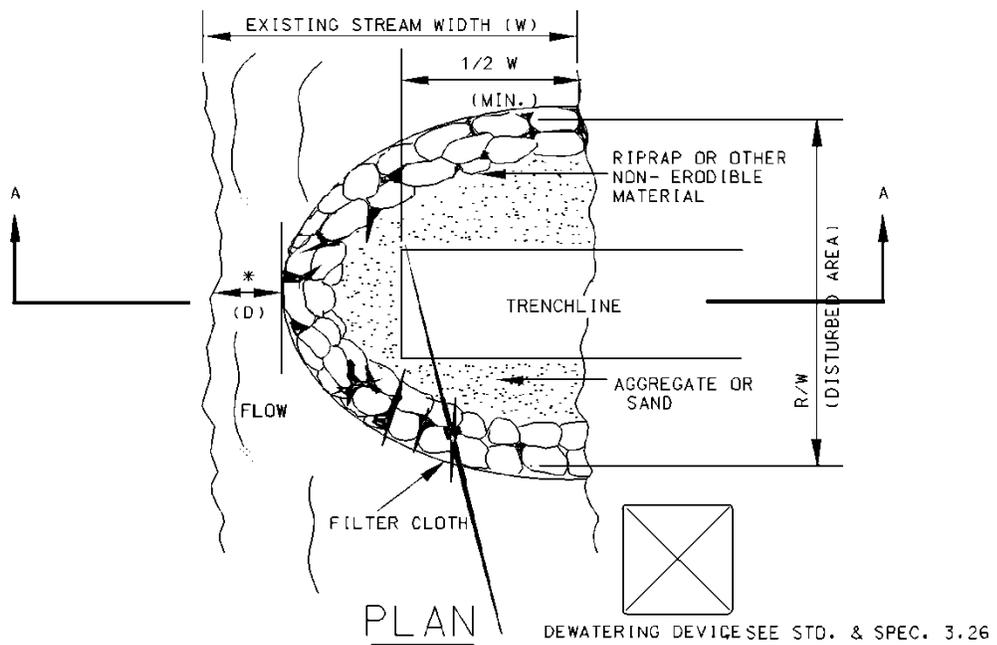


ELEVATION



PLAN VIEW

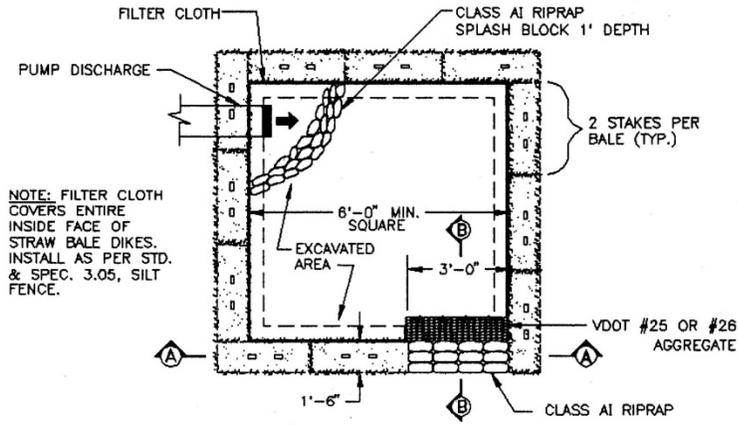
# COFFERDAM CROSSING - 3.25



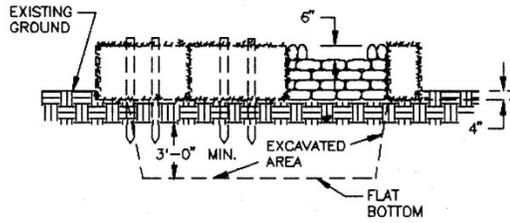
\* (D)  
MINIMUM DISTANCE TO  
BE 25% OF TOTAL  
WIDTH (W) OF THE  
STREAM.

## SECTION A-A

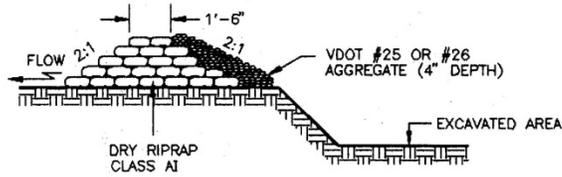
# STRAW BALE/SILT FENCE PIT



PLAN VIEW



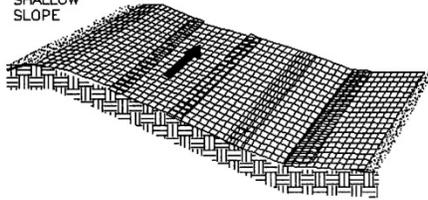
CROSS-SECTION A-A



CROSS-SECTION B-B

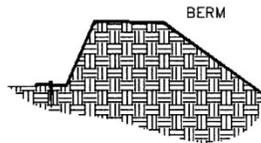
## TYPICAL ORIENTATION OF TREATMENT - 1 (SOIL STABILIZATION BLANKET)

SHALLOW  
SLOPE

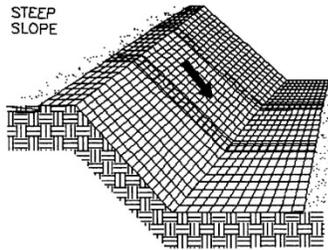


ON SHALLOW SLOPES, STRIPS OF NETTING PROTECTIVE COVERINGS MAY BE APPLIED ACROSS THE SLOPE.

WHERE THERE IS A BERM AT THE TOP OF THE SLOPE, BRING THE MATERIAL OVER THE BERM AND ANCHOR IT BEHIND THE BERM.

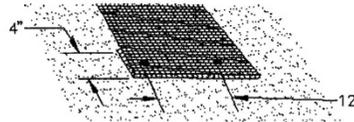


STEEP  
SLOPE

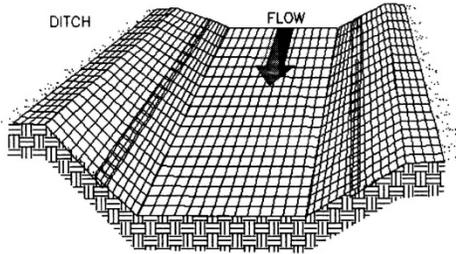


ON STEEP SLOPES, APPLY PROTECTIVE COVERING PARALLEL TO THE DIRECTION OF FLOW AND ANCHOR SECURELY.

BRING MATERIAL DOWN TO A LEVEL AREA BEFORE TERMINATING THE INSTALLATION. TURN THE END UNDER 4" AND STAPLE AT 12" INTERVALS.

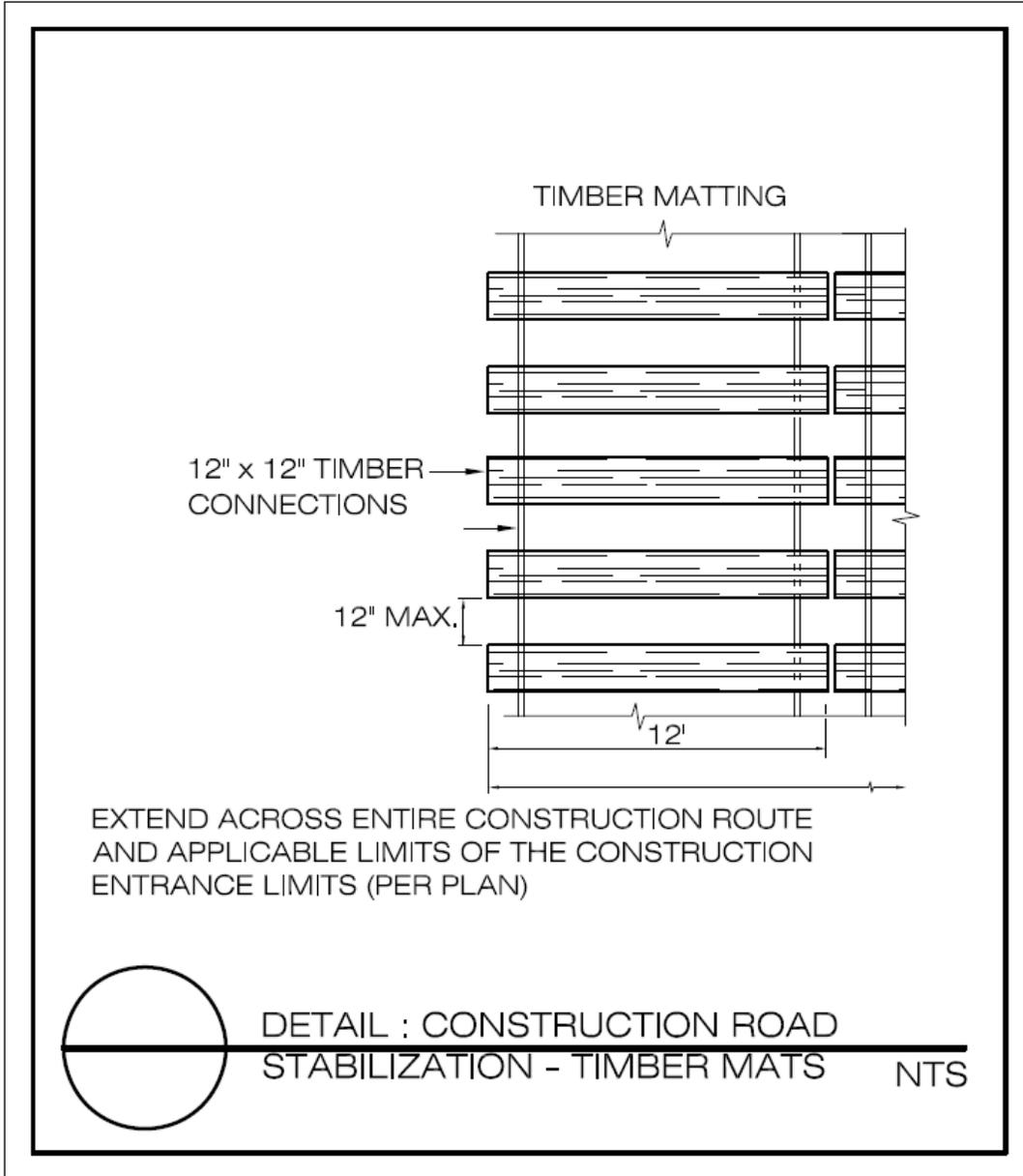


DITCH



IN DITCHES, APPLY PROTECTIVE COVERING PARALLEL TO THE DIRECTION OF FLOW. USE CHECK SLOTS AS REQUIRED. AVOID JOINING MATERIAL IN THE CENTER OF THE DITCH IF AT ALL POSSIBLE.

# TIMBER MAT STABILIZATION



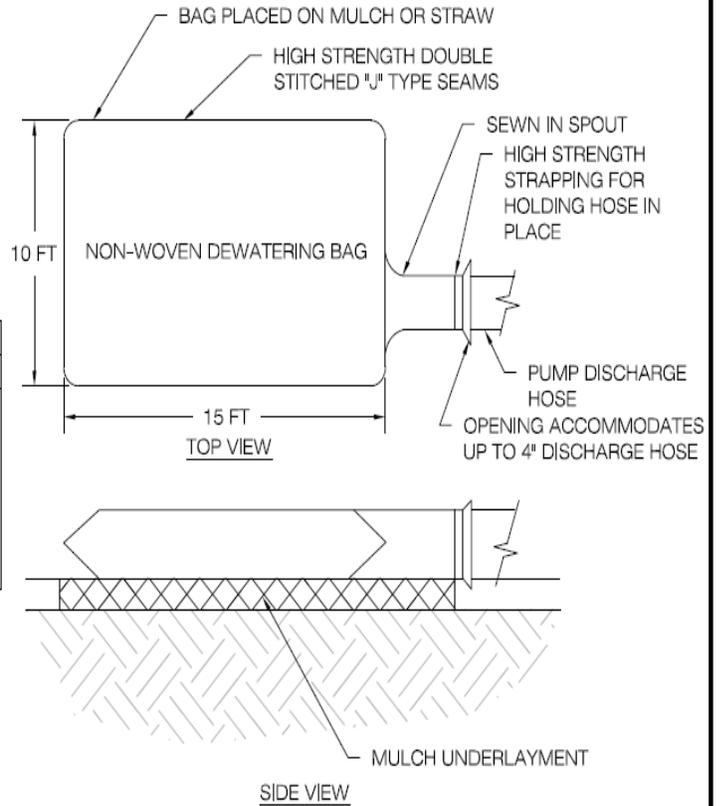
# GEOTEXTILE/DEWATERING BAG

THE DEWATERING BAG SHALL BE MADE OF NON-WOVEN GEOTEXTILE WITH A MIN. SURFACE AREA OF 225 SQUARE FEET PER SIDE. ALL STRUCTURAL SEAMS SHALL BE SEWN WITH A DOUBLE STITCH USING A DOUBLE NEEDLE MACHINE WITH HIGH STRENGTH THREAD. THE SEAM STRENGTH SHALL WITHSTAND 100 LB/IN USING ASTM D-4884 TEST METHOD. THE DEWATERING BAG SHALL HAVE A NOZZLE LARGE ENOUGH TO ACCOMMODATE A FOUR INCH DISCHARGE HOSE, THE NOZZLE SHALL BE SEALED TIGHTLY AROUND THE DISCHARGE HOSE WITH A STRAP OR SIMILAR DEVICE TO PREVENT UNTREATED WATER FROM ESCAPING. THE GEOTEXTILE FABRIC SHALL BE A NON-WOVEN FABRIC WITH THE FOLLOWING PROPERTIES:

GEOTEXTILE FABRIC FOR DEWATERING BAG			
PROPERTIES	TEST METHOD	UNITS	DEWATERING BAG 12 OZ
WEIGHT	ASTM D-3776	OZ/YD	12
GRAB TENSILE	ASTM D-4632	LBS.	300
PUNCTURE	ASTM D-4833	LBS.	175
FLOWRATE	ASTM D-4491	GAL/MIN/FT2	70
PERMITIVITY	ASTM D-4491	1.3 SEC-1	1
MULLEN BURST	ASTM D-3786	LBS.IN2	580
UV RESISTANT	ASTM D-4355	%	70
AOS % RETAINED	ASTM D-4751	0.40-0.80 MM	100

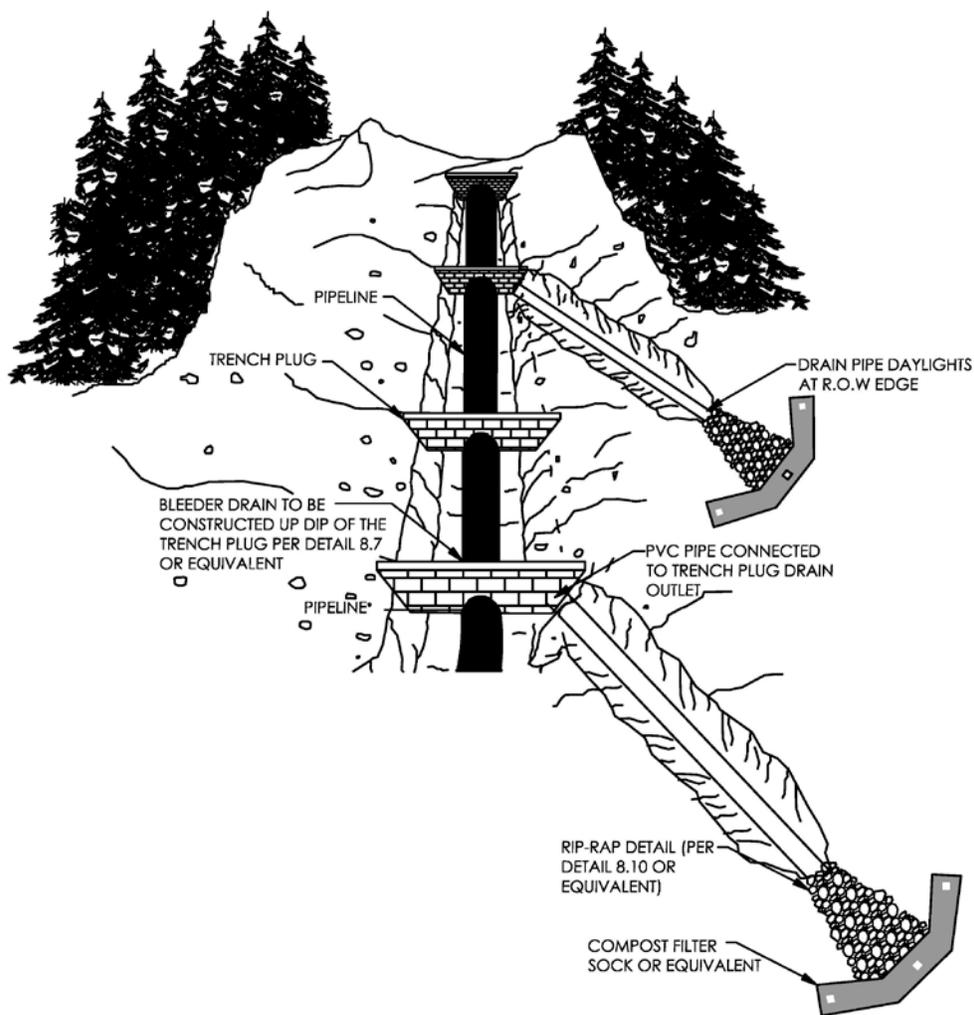
NOTE:  
ALL PROPERTIES ARE MINIMUM AVERAGE ROLL VALUE EXCEPT THE WEIGHT OF THE FABRIC WHICH IS GIVEN FOR INFORMATION ONLY.

CONSTRUCTION:  
THE DEWATERING BAG SHALL BE INSTALLED OVER A 3 INCH GRAVEL BASE TO PROMOTE INFILTRATION AND DEWATERING OF THE BAG.



NTS

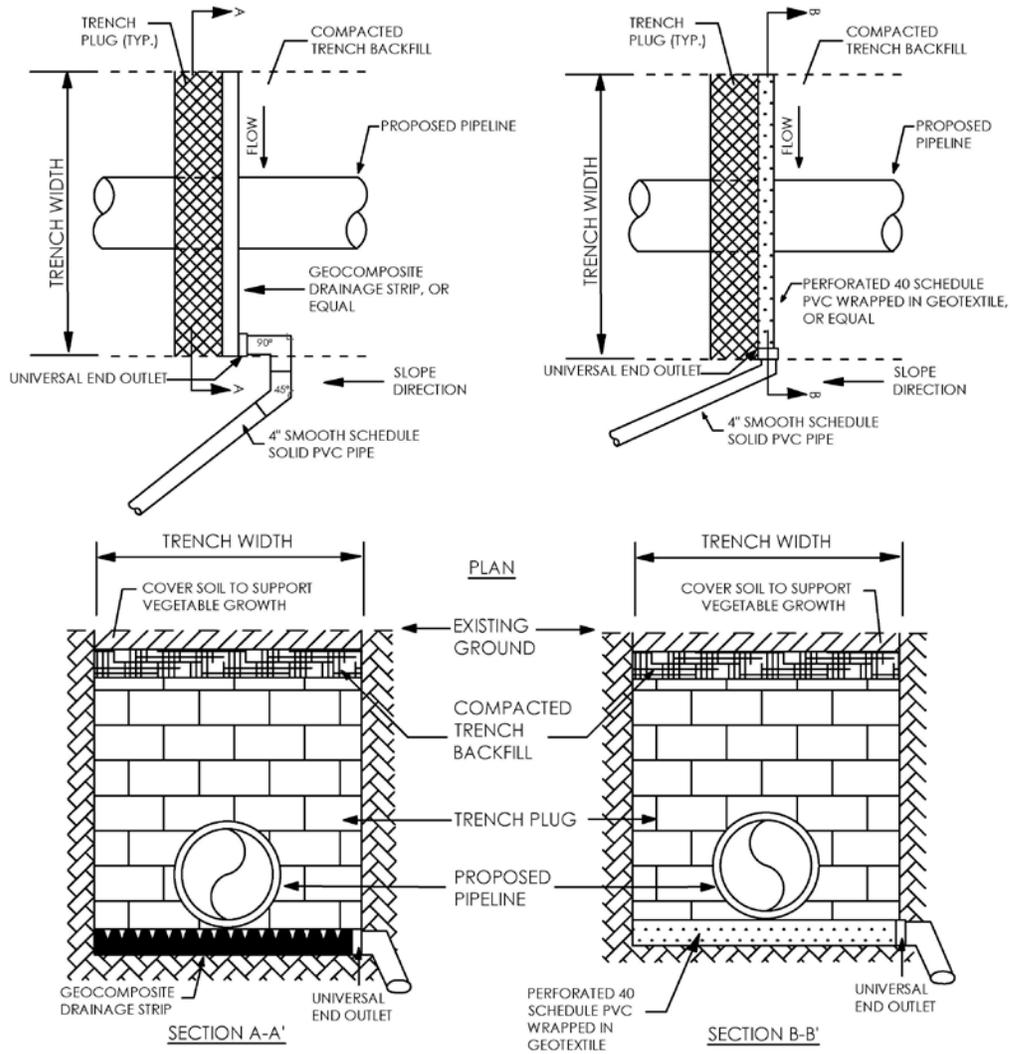
Where trenching activities are proposed in high slip potential soils and in areas where existing ground slopes are greater than 3:1, bleeder drains shall be installed to passively drain water from the trench area. The following illustration shows a drain placed at every second trench plug.



NOT TO SCALE

SLIP PREVENTION: BLEEDER DRAIN AND OUTLET DETAIL

Two (2) types of trench plug drains are illustrated below. Geocomposite Drainage Strips or Perforated Schedule 40 PVC placed behind the trench plug and below the pipeline are effective ways to passively drain water. Both methods show Schedule 40 PVC discharge pipe at a minimum of a 2% grade.



NOT TO SCALE

SLIP PREVENTION: TRENCH PLUG DRAIN DETAILS

**APPENDIX B**

**Stormwater Management**

**SWM Plan Checklist**

# 1. STORMWATER MANAGEMENT

The intent of the Virginia Stormwater Management Program (VSMP) regulations is to improve water quality through runoff reduction and other stormwater control practices and establish water quantity requirements. The baseline level for the stormwater technical criteria is a forested/open space condition.

Under 9 VAC 25-870, regulated land-disturbing activities are required to meet the stormwater technical criteria for water quality and water quantity metrics as outlined in Part IIB. The water quality and quantity criterion are largely directed at avoiding, minimizing and mitigating impacts due to changes in hydrology and stormwater pollutant loads associated with changes in land cover. Each project will be reviewed to evaluate consistency with DEQ Guidance Memorandum No. 15-2003. The guidance memorandum stipulates a number of conditions which must be satisfied for linear utility projects if a Stormwater Management Plan will not be required. Specifically, the following conditions must be satisfied:

- The project does not significantly alter the predevelopment runoff characteristics of the land surface after the completion of construction and final stabilization.
- The project is managed so that less than one (1) acre of land disturbance occurs on a daily basis.
- The disturbed land where work has been completed is adequately stabilized on a daily basis.
- The environment is protected from erosion and sedimentation damage associated with the land-disturbing activity.
- The owner and/or construction activity operator designs, installs, implements and maintains pollution prevention measures to:
  - *Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters;*
  - *Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, and other materials present on-site to precipitation and to stormwater;*
  - *Minimize the discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures;*
  - *Prohibit the discharge of wastewater from the washout of concrete;*
  - *Prohibit the discharge of wastewater from the washout and cleanout of stucco, paint, form release oils, curing compounds, and other construction materials; and*

- *Prohibit the discharge of fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance.*
- DETI must provide reasonable assurance to DEQ that all of the above conditions will be satisfied. **This may be accomplished by incorporating these conditions into an Erosion and Sediment Control Plan developed for the project.**

Right-of-ways must be maintained in a Forest/Open Space condition consistent with the Virginia Runoff Reduction Method Instructions & Documentation, which stipulate that rights-of-way considered as Forest/Open space must be restored to a hydrologically functional state and “be left in a natural vegetated state (can include areas that will be bush hogged no more than four times per year),” in accordance with Table 1 of the Virginia Runoff Reduction Method (VRRM) Instructions and Documentation. The forestry and vegetative management practices employed by DETI within the right-of-way comply with the VRRM recommendations for open space. Where the right-of-way consists of forest or open space conditions prior to the construction activity, and will remain in a forested or open space condition under post-developed conditions (e.g. undisturbed or restored to a hydrologically functional state and all surfaces will remain as permeable surfaces which are mowed no more than once every three years, in accordance with FERC Plan Guidelines or maintained in accordance with Table 1 referenced above), runoff curve numbers are identical under the Virginia Runoff Reduction Method. DETI may be required to provide documentation to DEQ of water quantity analysis, and may be required to document consistency with and applicability of DEQ Guidance Memorandum No. 15-2003.

DETI will submit project information to DEQ for preliminary review of whether a SWM plan is required (see Section 1.0 of Main Document). Department of Environmental Quality (DEQ) Guidance Memo No. 15-2003 (Appendix F) addresses this for linear development projects in stating, “...the construction of aboveground or underground utilities may not result in changes to the predevelopment runoff characteristics of the land surface after the completion of construction and final stabilization.” The guidance memorandum goes on further to state that, “If the project will not result in significant changes to the predevelopment runoff characteristics after the completion of construction and final stabilization...,” the requirement for a CGP permit may be waived (this would be separate from the more general exemptions for oil and gas transmission described in Section 1 of the main document). DEQ will review preliminary project information to advise DETI whether a SWM plan is required.

For projects requesting waiver of Stormwater Plan, DEQ requires information to be submitted that reasonably demonstrates that the project will not significantly change the predevelopment runoff characteristics of the land surface after the completion of construction and final stabilization. Information submitted to DEQ may include:

- Pre- and post-construction drainage areas and land cover conditions.

- Limits of disturbance
- Methodology for the restoration of land cover conditions to predevelopment conditions.
- ESC Plan excluding 9VAC25-840-40.19.m. & n. (The full Erosion and Sediment Control Plan would be available later in the process, after the preliminary review discussed above and in Section 1 of the main document).

If DEQ determines that the project meets the criteria for granting a waiver, then DEQ will waive the requirement for the preparation and implementation of a stormwater management plan. This waiver allows the recipient to exclude the following regulatory sections:

- SWM Quality – 9VAC25-870-63 and -65
- SWM Quantity – 9VAC25-870-66
- ESC MS-19 – 9VAC25-840-40.19.m. & n.

Information shall be submitted to DEQ Central Office for review with a transmittal letter specifically requesting a SWM Plan waiver. DEQ, as the VSMP Authority, will evaluate each project on an individual basis.

If DEQ waives the requirement for a SWM plan, DETI will utilize the DEQ linear projects guidance and will incorporate the conditions stipulated in GM 15-2003 into the Erosion and Sediment Control plan for the project (See *Additional Notes* in Appendix E).

Each project must be reviewed by a certified SWM Plan Reviewer (qualifications described in Section 2 of the main document) to verify exemption. In certain instances, a project may have an element which does result in significant change to predevelopment runoff characteristics after the land-disturbing activity is completed. In those instances, (generally where the addition of impervious surfaces or conversion of forest to managed turf in combination are expected to cause significant changes in predevelopment runoff characteristics), a SWM plan must be prepared, reviewed, approved, and implemented in accordance with 9VAC25-870 and 9VAC25-880 (if applicable).

DETI access roads will be grouped into four categories based on the extent of improvements required to prepare the road for use to support the project. Depending on the improvements, the impact on stormwater runoff characteristics will range from no expected impact to a material impact. Specifically, the four categories are defined below; all access roads, or access road segments, will be assigned a category that is depicted on the corresponding alignment sheet and access road plans.

1. Existing road with no improvements proposed – includes those existing roads that are in a condition such that no improvements are needed to prepare the road for use to support the project (e.g., asphalt surfaced roads).

2. Existing road with minor improvements proposed – includes those existing roads that contain either a compacted earth or gravel surface and the current road configuration (i.e., width, grade, etc.) is adequate to support the project. Roads in this category may receive supplemental gravel to improve the surface condition; however, the footprint of the road would not be expanded (i.e., no additional impervious surface).
3. Existing road with major improvements proposed – includes those existing roads that will receive an expanded footprint (i.e., the impervious surface post-construction may exceed that existing preconstruction) in order to prepare the road for use to support the project.
4. New road – includes roads not located within the limits of an existing road.

Access roads in categories 2, 3 and 4 will involve varying degrees of land disturbance, and thus appropriate erosion and sediment controls (e.g., sediment barriers) will be identified and depicted on the plans. No Post-construction stormwater management criteria will apply to categories 1 & 2 because the roads are existing and there is no additional impervious surface. Access roads in categories 3 and 4 may also require drainage improvements (e.g., road side ditches and ditch relief culverts). The general approach to locating sediment barriers along access roads will be to provide sediment barriers when a resource (e.g., wetland, waterbody) is downgradient of and within 200 feet of an access road.

Access roads in categories 3 and 4 involve improvements that are expected to result in a material change to the existing stormwater runoff characteristics as a result of the addition of impervious surface. These access roads must meet the Stormwater management requirements for quality and quantity.

Access roads in categories 3& 4 will be identified as to whether they are temporary (meant to serve the project initial construction and then removed and restored after construction is complete) or permanent.

Temporary access roads will be restored/rehabilitated to establish a firm stand of erosion-resistant vegetation and restored to a hydrologically functional state prior to completion of the project. All non-porous stone surfacing will be removed and porous stone ballast will be removed where it impedes infiltration. Any defined ditches or topographic alterations which significantly alter predevelopment runoff characteristics will be graded and topsoiled to match pre-development drainage patterns and avoid concentration of runoff. In accordance with the maintenance guidelines herein, these vegetated areas will be mowed no more than four times per year and will be considered open space. For FERC 7c projects, soils restoration will follow the FERC plan and procedures and will typically include provisions for Soil Restoration, Soil Compaction, Topsoil Segregation, Replacement and Soil Conditioning, and Re-Contouring.

In some instances, permanent access roads may be required for the construction or long-term maintenance and operation of the utility infrastructure. Each instance where a permanent access road is proposed will be reviewed for consistency with stormwater quality and quantity requirements. If DETI is of the opinion that the increases in runoff relative to pre-development conditions are not significant, DETI may request an exception from the stormwater management criteria from DEQ. A request for an exception must demonstrate that the request is in accordance with the provisions for exceptions in the VSMP regulations (9VAC25-870-57 & 9VAC25-870-122) and that the activity avoids and minimizes impacts to stormwater runoff. DEQ will scrutinize each exception request, so early coordination is advised.

## 2. TECHNICAL REQUIREMENTS

### 2.1 WATER QUALITY

Part IIB of the stormwater regulations states that the total phosphorous load will not exceed 0.41-pound per acre per year (lb./ac/yr.) for new development activities. The Land Cover Guidance for the VRRM defines provides for certain areas (including “Utility rights-of-way that will be left in a natural vegetated state”) under certain operational conditions to be considered forested/open space and not as managed turf for the purposes of stormwater quality and quantity compliance. In accordance with the above, DETI will coordinate with DEQ on the applicability of GM15-2003 and whether a SWM plan is required. If a SWM plan is required (e.g. due to significant changes to predevelopment runoff characteristics, or other requirements which trigger the need for CGP coverage or post-construction SWM), DETI must develop and implement a SWM plan consistent with the applicable requirements of 9VAC25-870 and 9VAC25-880. The VRRM Spreadsheet is a tool which regulated entities may use to document general water quality planning and consistency with the technical requirements of 9VAC25-870 (et seq).

### 2.2 WATER QUANTITY

As identified in the VSMP regulations, the technical criteria for water quantity are designed to ensure the protection of State waters from the potential harm of unmanaged stormwater runoff. This is generally achieved through the incorporation of techniques to address localized flooding and the protection of downstream channels. The specific technical criteria to be applied for water quantity analysis and compliance are contained in 9VAC25-870-66.

#### 2.2.3 PRIOR DEVELOPED LANDS

As noted previously, DETI will provide for an initial evaluation of each project to ascertain whether the project may be exempt from CGP permit coverage and whether there is a significant

change in predevelopment runoff characteristics that might trigger the need for a Stormwater Management Plan and associated controls (pursuant to GM15-2003). DETI will obtain concurrence from DEQ early in the process if a SWM plan is not required pursuant to GM15-2003. Permanent facilities with significant impervious cover (such as compressor stations) are expected to provide for a stormwater management plan and associated controls if needed, even though these facilities may remain exempt from permit coverage. For portions of pipeline easements which traverse prior developed lands (e.g. under turf-intensive uses such as ballfields, or under existing parking lots or road segments), DETI does not expect to provide improvements to existing runoff conditions if predevelopment conditions are restored. DEQ has clarified that it is not their expectation that permanent best management practices be installed on restored right-of-way. As discussed earlier, DEQ will review the overall project (at an early stage), including soil restoration conditions, to identify whether SWM plan preparation is waived for these activities.

Where predevelopment land cover conditions are changed significantly triggering requirements for post construction stormwater quality and quantity requirements, post-construction Best Management Practices (BMPs) may be required to comply with water quality and water quantity criteria and MS-19 of the Erosion and Sediment Control Regulations. In such instances, the outfall within the project must comply with Part IIB or Part IIC (where applicable) of the stormwater regulations to assess compliance. This may include the “Energy Balance” method described by item B.3.a of 9VAC25-870-66. In these instances, water quantity criteria for flood control and channel protection must be addressed and managed through the preparation of a SWM plan consistent with 9VAC25-870 and 9VAC25-880.

These Annual Standards and Specifications for ESC and SWM also assist in meeting the standards of the Federal Energy Regulatory Commission (FERC) Upland Erosion Revegetation and Maintenance Plan (Plan) and the FERC Wetland and Waterbody Construction and Mitigation Procedures (Procedures). DETI and its construction contractors must implement this plan as appropriate for all construction in Virginia unless a variance to the Virginia Erosion and Sediment Control Regulations has been submitted to and granted approval by the DEQ.

### 3. STORMWATER MANAGEMENT BMPS

Stormwater Management BMPs used for consistency with these specifications should be approved by DEQ and contained in the Virginia Stormwater BMP Clearinghouse. For projects requiring post-construction SWM BMPs, DETI must report the following annually each year to DEQ:

Number and types of SWM BMPs installed;

Geographic coordinates of each BMP;

Drainage area or watershed size served; and  
Receiving stream or hydrologic unit.

#### 4. STORMWATER MAINTENANCE

Each project plan must be reviewed by certified personnel described in Section 2 (main document) to ascertain whether the specific project is exempt from post-construction stormwater quality and quantity requirement, or whether SWM planning is required (with DEQ concurrence). If post-construction SWM is required, non-structural BMPs allowed by the permit will be the preferred option. A maintenance plan for both the non-structural and any additional structural BMPs must be developed to ensure compliance with requirements for routine inspection or reporting in the Virginia Stormwater BMP Clearinghouse specifications. Maintenance requirements for non-structural BMPs must be identified and incorporated into inspection documentation during routine patrolling of the right-of-way by certified personnel. Any structural BMPs would require a more formal inspection. Each stormwater management facility will be inspected by DETI, as the owner of the facility, at least once every five years; and all inspections will be documented. Corrective measures must be carried out as soon as practicably feasible when needed. Long-term maintenance of structural SWM facilities must be conducted in accordance with 9VAC25-870-112. To be consistent with the provisions of 9VAC25-870-112, maintenance plans for the stormwater facilities must be submitted to DETI for formal review and approval prior to initiating the land disturbing activity, made available to DEQ upon request, and must provide for inspections and maintenance and the submission of inspection and maintenance reports to the DEQ. DETI transmission easements over land under which permanent stormwater management facilities will be placed must further assure the following:

- Be stated to run with the land;
- Provide for all necessary access to the property for purposes of maintenance and regulatory inspections;
- And, be enforceable by all appropriate governmental parties.

#### 5. INSPECTIONS FOR STORMWATER MANAGEMENT

DETI or its designated representative will continue to be responsible for periodic inspections for compliance with the CGP, if required, erosion and sediment control regulations and any FERC Certificate. Certified personnel, as outlined in Section 2 of the main document, must conduct all inspections.

**Inspections for compliance with the SWPPP (and relevant SWM and ESC elements) must occur in accordance with the following:**

Inspections must be conducted at the following frequency:

- (1) At least once every five business days; or
- (2) 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 must be conducted no later than the next business day.

A measurable storm event means a rainfall event producing 0.25 inches of rain or greater over 24 hours. Where areas have been temporarily stabilized or land-disturbing activities will be suspended due to continuous frozen ground conditions and stormwater discharges are unlikely, the inspection frequency may be reduced to once per month. If weather conditions (such as above freezing temperatures or rain or snow events) make discharges likely, the operator must immediately resume the regular inspection frequency.

DETI's SWPPP inspections will be conducted by Certified Personnel as identified in Section 2 and will serve also as the periodic inspections.

For projects discharging to exceptional waters identified in [9VAC25-260-30.A.3.c](#), or to surface waters identified as impaired in the 2012 § 305(b)/303(d) Water Quality Assessment Integrated Report or for which a Total Maximum Daily Load (TMDL) wasteload allocation has been established and approved prior to the term of this general permit for (i) sediment or a sediment-related parameter (i.e., total suspended solids or turbidity) or (ii) nutrients (i.e., nitrogen or phosphorus), the following additional requirements will apply:

- a. The exceptional water(s), impaired water(s), approved TMDL(s), and pollutant(s) of concern, when applicable, must be identified in the SWPPP;
- b. Permanent or temporary soil stabilization must be applied to denuded areas within seven days after final grade is reached on any portion of the site;
- c. Nutrients must be applied in accordance with manufacturer's recommendations or an approved nutrient management plan and will not be applied during rainfall events; and
- d. The applicable SWPPP inspection requirements specified in Part II F 2 must be amended as follows:
  - (1) Inspections must be conducted 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 must be conducted on the next business day; and

**APPENDIX C**

**Federal Energy Regulatory Commission Upland Erosion Revegetation and Maintenance  
Plan (Plan)**

**APPENDIX D**

**Federal Energy Regulatory Commission Wetland and Waterbody Construction and  
Mitigation Procedures (Procedures)**

## **APPENDIX E**

### **General Notes**

**TABLE 6-1**

**GENERAL EROSION AND SEDIMENT CONTROL NOTES**

- ES-1: Unless otherwise indicated, all vegetative and structural erosion and sediment control practices will be constructed and maintained according to minimum standards and specifications of the Virginia Erosion and Sediment Control Handbook and Virginia Regulations 4VAC50-30 Erosion and Sediment Control Regulations.
- ES-2: The plan approving authority must be notified one week prior to the pre-construction conference, one week prior to the commencement of land disturbing activity, and one week prior to the final inspection.
- ES-3: All erosion and sediment control measures are to be placed prior to or as the first step in clearing.
- ES-4: A copy of the approved erosion and sediment control plan shall be maintained on the site at all times.
- ES-5: Prior to commencing land disturbing activities in areas other than indicated on these plans (including, but not limited to, off-site borrow or waste areas), the contractor shall submit a supplementary erosion control plan to the owner for review and approval by the plan approving authority.
- ES-6: The contractor is responsible for installation of any additional erosion control measures necessary to prevent erosion and sedimentation as determined by the plan approving authority.
- ES-7: All disturbed areas are to drain to approved sediment control measures at all times during land disturbing activities and during site development until final stabilization is achieved.
- ES-8: During dewatering operations, water will be pumped into an approved filtering device.
- ES-9: The contractor shall inspect all erosion control measures periodically and after each runoff-producing rainfall event. Any necessary repairs or cleanup to maintain the effectiveness of the erosion control devices shall be made immediately.

**NOTE:** General Notes incorporated into plans must use the current regulatory reference to 9VAC25-840 (and not 4VAC50-30, as cited above).

The following additional notes may be required by DEQ if a SWM Plan Waiver or CGP waiver is granted.

**Additional Notes:**

- *The project may not significantly alter the predevelopment runoff characteristics of the land surface after completion of construction and final stabilization;*
- The project may not significantly alter the predevelopment runoff characteristics of the land surface after the completion of construction and final stabilization.
- The project will be managed so that less than one (1) acre of land disturbance occurs on a daily basis.
- The disturbed land where work has been completed is adequately stabilized on a daily basis.
- The environment must be protected from erosion and sedimentation damage associated with the land-disturbing activity.
- DETI and/or the construction activity operator must design, install, implement and maintain pollution prevention measures to:
  - *Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters;*
  - *Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, and other materials present on-site to precipitation and to stormwater;*
  - *Minimize the discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures;*
  - *Prohibit the discharge of wastewater from the washout of concrete;*
  - *Prohibit the discharge of wastewater from the washout and cleanout of stucco, paint, form release oils, curing compounds, and other construction materials; and*
  - *Prohibit the discharge of fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance.*
- DETI must provide reasonable assurance to DEQ that all of the above conditions will be satisfied. This may be accomplished by incorporating these conditions into an Erosion and Sediment Control Plan developed for the project.

**APPENDIX F**

**Linear Utility Projects Guidance**

**APPENDIX G**

**ACP Specific Requirements**

Per the request received from DEQ by letter dated May 16, 2016 for the Atlantic Coast Pipeline (ACP) Project, **DETI has agreed to incorporate the following more stringent conditions into the planning and implementation phases of Erosion and Sediment Control and Stormwater Management for ACP:**

1. In addition to DETI's internal review process, individual project-specific plans will be submitted to DEQ for review and approval.
2. Given the nature of critical infrastructure, the project-specific Erosion and Sediment Control and Stormwater Management plans and DEQ approval will be made available to DEQ and may be made available to others as agreed upon in a memorandum to be negotiated between DETI and DEQ.
3. Inspection reports conducted by DETI as well as complaint logs and complaint responses will be submitted to DEQ.
4. DETI will provide for payment to DEQ of reasonable costs incurred by DEQ to hire additional technical expertise to assist DEQ in plan review and compliance activities for the ACP project, as articulated in the MOA current being negotiated with DEQ for the Atlantic Coast Pipeline project.

## **APPENDIX H**

### **Approved Deviations**

Deviations from technical guidance documents that have been approved by DEQ for alterations to existing practices or additional practices should be catalogued with these annual standards and be incorporated into future revisions to the Standards and Specifications, if applicable. Both the deviation request and the approval letter should be inserted in this appendix upon approval.



## **APPENDIX I**

### **Slope Stability Policy and Procedure for Pipeline Design, Construction and Right of Way Maintenance**

**NOTE:** *In instances where the VESCH criteria and the Slope Stability Policy differ, the more stringent of the two criteria shall apply.*

**APPENDIX J**

**DEQ List of Potential Critical Areas**