

COMMONWEALTH OF VIRGINIA

Department of Environmental Quality

Subject: Guidance Memo No. 25-2008 – **Sequencing for Perimeter Erosion and Sediment Controls**

To: Regional Directors, Central Office - Office of Stormwater Management

From: Jaime B. Robb, Director, Water Operations

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Summary:

The Erosion and Sediment Control Law for Localities Not Administering a Virginia Erosion and Stormwater Management Program states that “no person shall engage in any land-disturbing activity until (i) he has submitted to the VESCP authority an erosion and sediment control plan for the land-disturbing activity and the plan has been reviewed and approved[.]” § 62.1-44.15:55 A of the Code of Virginia. Similarly, the Virginia Erosion and Stormwater Management Act states that “[a] person shall not conduct any land-disturbing activity until (i) he has submitted to the appropriate VESMP authority an application that includes a permit registration statement, if required, a soil erosion control and stormwater management plan or an executed agreement in lieu of a plan, if required, and (ii) the VESMP authority has issued its land-disturbance approval.” § 62.1-44.15:34 A of the Code of Virginia. The purpose of this guidance document is to provide clarification for erosion and sediment control best management practices (BMPs) and proper construction sequencing in the development and execution of the plans required for engaging in land-disturbing activities.

Electronic Copy:

Once effective, an electronic copy of this guidance will be available on:

- The Virginia Regulatory Town Hall under the Department of Environmental Quality (<http://www.townhall.virginia.gov/L/gdocs.cfm?agencynumber=440>).
- The Department’s website at www.deq.virginia.gov.

Contact Information:

Please contact DEQ’s Office of Stormwater Management at SWMguidance@deq.virginia.gov, or Chantz Ballard at Chantz.Ballard@deq.virginia.gov or 571-359-2525 with any questions regarding the application of this guidance.

Certification:

As required by Subsection B of [§ 2.2-4002.1](#) of the Administrative Process Act, the agency certifies that this guidance document conforms to the definition of a guidance document in [§ 2.2-4101](#) of the Code of Virginia.

Disclaimer:

This document is provided as guidance and, as such, sets forth standard operating procedures for the agency. However, it does not mandate or prohibit any particular action not otherwise required or prohibited by law or regulation. If alternative proposals are made, such proposals will be reviewed and accepted or denied based on their technical adequacy and compliance with appropriate laws and regulations.

GUIDANCE MEMO NO. 25-2008 – SEQUENCING FOR PERIMETER EROSION AND SEDIMENT CONTROLS

I. APPLICABILITY

Guidance Memo No. 25-2008 is only applicable when the Virginia Department of Environmental Quality (DEQ) is the Virginia Stormwater Management Program (VSMP) or Virginia Erosion and Stormwater Management Program (VESMP) authority for a regulated land-disturbing activity. Localities and other entities that serve as a VESMP or a Virginia Erosion and Sediment Control Program (VESCP) authority may, but are not required to, adopt comparable policies or requirements in their ordinance based on this guidance.

II. BACKGROUND AND PURPOSE

Any land-disturbing activity proposed to exceed a regulatory thresholdⁱ is subject to criteria defined in Article 2 of Part V of the Virginia Erosion and Stormwater Management (VESM) Regulation, 9VAC25-875-540 et seq., which sets forth the 19 Minimum Standards for effective control of soil erosion, sediment deposition, and nonagricultural runoff during construction. The Minimum Standards are required to be included in the Erosion and Sediment Control (ESC) Plan or the Soil Erosion Control and Stormwater Management (ESM) Planⁱⁱ (both will be referred to as “the Plan”) and should be implemented throughout the life of the land-disturbing activity (LDA).

The foundation for erosion and sediment control best management practices (BMPs) and proper construction sequencing is described by Minimum Standard 4 (MS-4) in section 9VAC25-875-560 A 4, which states:

“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.”

While the phrase “as a first step” implies initial installation, the wording does not clearly convey the expectation that, to be effective and protect areas outside of those where LDA will occur, perimeter controls, i.e., BMPs including “sediment basins and traps, perimeter dikes, sediment barriers, and other measures intended to trap sediment,” need to be installed and functional prior to any interior or upslope additional site disturbance. This ambiguity in the implementation of MS-4 has led to confusion and instances where perimeter controls have been installed simultaneously or post-interior disturbance occurring, leaving bare soils exposed and uncontrolled sediment to discharge offsite into downstream stormwater conveyance systems. Such conditions can result in environmental impacts, compliance issues, and possible enforcement actions, all of which can negatively affect a project.

The purpose of this guidance document is to provide clarification, where DEQ is the VSMP or VESMP authority, on the development of the Plan and implementation of MS-4 when engaging in land-disturbing activities for both regulated parties and DEQ staff.

III. LEGAL AUTHORITY

A. Code of Virginia

The Erosion and Sediment Control Law for Localities Not Administering a Virginia Erosion and Stormwater Management Program states that “no person shall engage in any land-disturbing activity until (i) he has submitted to the VESCP authority an erosion and sediment control plan for the land-disturbing activity and the plan has been reviewed and approved[.]” § 62.1-44.15:55 A of the Code of Virginia.

Similarly, the Virginia Erosion and Stormwater Management Act states that “[a] person shall not conduct any land-disturbing activity until (i) he has submitted to the appropriate VESMP authority an application that includes a permit registration statement, if required, a soil erosion control and stormwater management plan or an executed agreement in lieu of a plan, if required, and (ii) the VESMP authority has issued its land-disturbance approval.” § 62.1-44.15:34 A of the Code of Virginia.

B. Virginia Erosion and Stormwater Management (VESM) Regulation

9VAC25-875-550 A states, “An erosion and sediment control plan shall be filed for a development and the buildings constructed within, regardless of the phasing of construction. The erosion and sediment control plan shall contain all major conservation decisions to ensure that the entire unit of land will be so treated to achieve the conservation objectives and minimum standards in 9VAC25-875-560.”

Subsection E states, “[a]ll erosion and sediment control structures and systems shall be maintained, inspected, and repaired as needed to ensure continued performance of intended function. A statement describing the maintenance responsibilities of the individual responsible for carrying out the land-disturbing activity shall be included in the approved erosion and sediment control plan.” 9VAC25-875-550 E.

Minimum Standards for erosion and sediment control are set out at 9VAC25-875-560 A. MS-4 states, “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.”

Subsection B states, “All land-disturbing activities shall be conducted in a manner that is consistent with the applicable requirements of subsection A of this section.” 9VAC25-875-560 B. In other words, compliance with the Minimum Standards is enforceable.

IV. APPLICATION OF MINIMUM STANDARD-4 (MS-4)

A. Plan Phasing and Construction Sequencing

The purpose of MS-4 is to ensure that sediment does not leave the perimeter of the LDA once site clearing, grading, and construction commence.

The key to ensuring sediment does not leave the perimeter of the site starts in the Plan development stage and is based on proper phasing and construction sequencing to ensure that all perimeter controls are installed and functional prior to disturbing the upstream contributing areas interior to the site. At a minimum, the Plan should include 3 phases of construction: initial, interim, and final. Sequencing should be included with each phase, describing the relationship between the implementation and maintenance of erosion and sediment control measures and LDA activities.ⁱⁱⁱ

The multi-phased Plan should address: (i) the initial pre-development patterns with installation of perimeter control measures; (ii) interim grading and drainage from construction of roads, buildings, and utilities; and (iii) final post-development drainage patterns. The plan should also clearly address the installation and maintenance of ESC during each phase. It is critical that the designer account for the pre-development drainage patterns and the initial phase of installing perimeter control measures, separating these from interim drainage patterns to ensure runoff does not leave the site uncontrolled.

The phasing and sequencing provided on the Plan should be written in such a way that the contractor cannot move on to subsequent phases until the installation of perimeter control measures is complete, and MS-4 is satisfied. Such actions help ensure compliance with 9VAC25-875-560 B.

B. MS-4 Plan Sequencing Implementation

The initial phase of construction sequencing, as intended by MS-4, requires perimeter controls to be installed and fully functional before upslope or site interior land disturbance begins. Perimeter controls include measures intended to intercept and detain small amounts of sediment, such as sediment basins and traps, perimeter dikes, and sediment barriers. An example of a necessary sediment barrier is the Silt Fence Perimeter Control.^{iv}

Compliance with the approved Plan is crucial because during construction, there are often extreme changes in land cover and drainage patterns with each phase of development, and most erosion occurs when the phases and sequencing are not followed due to the exposed soil on-site.

To comply with MS-4, the typical sequence of construction during the initial phase of the ESC Plan should include the following:

1. Limited Initial Disturbance: A certain amount of initial land disturbance is necessary to provide access for the equipment required to install the perimeter controls. Address site clearing and grubbing as necessary for the installation of perimeter controls.
2. Establish Perimeter Controls: Controls should be installed to treat the construction and stabilization of principal sediment traps and barriers based on pre-development drainage areas.
3. Install Key Runoff Control Measures: Key practices, such as runoff control (diversions, silt fence, compost filter sock, and outlet protection), need to be installed after principal sediment traps and before land clearing and grading commences.
4. Begin Site Construction Activities: Interior/upslope clearing and grading may begin after principal sediment and key runoff control measures are installed and stabilized.^v

C. MS-4 Compliance During Construction

The following should be included in the approved Plan to ensure compliance with proper sequencing during construction:

1. A statement requiring the owner/developer or representative to contact the VSMP/VESMP/VESCP authority at the following phases of the project or in accordance with the approved Plan: (i) Prior to the start of LDA; (ii) Upon completion of the installation of perimeter controls, but before proceeding with any other LDA or grading;

- (iii) Prior to the start of another phase of construction; and (iv) Prior to the removal of perimeter controls;
2. Certification by the owner/developer that any clearing, grading, construction, or development will be done pursuant to the approved Plan.
3. Certification by a professional engineer, land surveyor, landscape architect, or architect licensed in Virginia that the Plan has been designed in accordance with erosion and sediment control laws, regulations, and the Minimum Standards.

V. CONCLUSION

The installation of erosion and sediment control BMPs, including perimeter controls, should be phased, with the initial phase demanding that perimeter controls be installed and fully functional before any upslope or interior site LDA begins. This clarification is necessary to reduce ambiguity, improve compliance with the VESM Regulation, and maintain the integrity of both the Erosion and Sediment Control Law for Localities Not Administering a Virginia Erosion and Stormwater Management Program and the Virginia Erosion and Stormwater Management Act.

ⁱ See 9VAC25-875-470. Applicability.

A. Land-disturbing activities that meet one of the criteria in this subsection are regulated as follows:

1. Land-disturbing activity that disturbs 10,000 square feet or more, although a locality may reduce this regulatory threshold to a smaller area of disturbed land, is less than one acre, not in an area of a locality designated as a Chesapeake Bay Preservation Area, and not part of a common plan of development or sale, is subject to criteria defined in Article 2 (9VAC25-875-540 et seq.) of this part.
2. Land-disturbing activity that disturbs 2,500 square feet or more, although a locality may reduce this regulatory threshold to a smaller area of disturbed land, is less than one acre, and in an area of a locality designated as a Chesapeake Bay Preservation Area is subject to criteria defined in Article 2 and Article 5 (9VAC25-875-740 et seq.) of this part, unless Article 4 (9VAC25-875-670 et seq.) of this part is applicable, as determined in accordance with 9VAC25-875-480 and 9VAC25-875-490. For land-disturbing activities for single-family detached residential structures, Article 2 of this part and water quantity technical criteria, 9VAC25-875-600, shall apply to any land-disturbing activity that disturbs 2,500 square feet or more of land, and the locality also may require compliance with the water quality technical criteria, 9VAC25-875-580 and 9VAC25-875-590.
3. Land-disturbing activity that disturbs less than one acre but is part of a larger common plan of development or sale that disturbs one acre or more is subject to criteria defined in Article 2 and Article 3 of this part, unless Article 4 of this part is applicable, as determined in accordance with 9VAC25-875-480 and 9VAC25-875-490.
4. Land-disturbing activity that disturbs one acre or more is subject to criteria defined in Article 2 and Article 3 of this part, unless Article 4 of this part is applicable, as determined in accordance with 9VAC25-875-480 and 9VAC25-875-490.

B. A locality may, by local ordinance adopted pursuant to § 62.1-44.15:33 or 62.1-44.15:65 of the Code of Virginia, adopt more stringent local requirements.

ⁱⁱ The ESM plan may, by its definition, contain aspects of the ESC plan. See 9VAC25-875-20: "‘Soil erosion control and stormwater management plan,’ ‘erosion control and stormwater management plan,’ or ‘ESM plan’ means a document describing methods for controlling soil erosion and managing stormwater in accordance with the requirements adopted pursuant to the [Virginia Erosion and Stormwater Management Act]. The ESM plan may consist of aspects of the erosion and sediment control plan and the stormwater management plan as each is described in [9VAC25-875].”

ⁱⁱⁱ Chapter 9 of the Virginia Stormwater Management Handbook (VSMH) focuses on proper construction methods and sequencing of construction and post-construction best-management practices (BMPs). Section 9.4 focuses on

the sequence of construction and provides details about a typical construction sequence and the phases of construction.

The VSMH is available online at <https://online.encodeplus.com/regs/deq-va/index.aspx>.

^{iv} An example of this is provided in the VSMH at Figure 5-10 and Section 7.4, CECM-02, Impermeable Diversion Fence.

^v For additional information, see VSMH, Table 9-1.