

# Guide to a Successful Erosion & Sediment Control Plan

All Erosion & Sediment Control Plans submitted must clearly indicate the proposed project name, land owner/owners name/names, and proper land owner/owners contact information (address, phone numbers, e-mail, etc.)

Only one set of plans are required for approval at this time. These plans are to be submitted to the Erosion & Sediment Control Office or the Building Officials Office located at the Carroll County Governmental Complex, 605-1 Pine Street, Suite C of the Health Department, Hillsville, Virginia 24343.

Once an E&S plan has been submitted, the Plan Approving Authority has 45 days to either approve, disapprove or request revisions in writing. If the plan is disapproved or revisions requested the Plan Approving Authority must put in writing why the plan was disapproved or what revisions were requested. Each time plans are resubmitted the Plan Approving Authority has 45 days to approve, disapprove or request revisions in writing.

The Carroll County Erosion & Sediment Control Office requires either a site visit, conference or both with the engineer, land owner or certified agent (representing the land owner) for the proposed project.

The Erosion & Sediment Control Plan consists of the Narrative (site information, calculations, etc.) and the Site Plan (site maps showing all applicable information.)

All applicable Minimum Standards must be addressed.

## **The following information must be addressed in the narrative.**

**Project Description** – Must briefly describe the nature and purpose of the land-disturbing activity. The area (acres) to be disturbed. The area (acres) of impervious area the project will have in post-developed conditions. What the ultimate developed condition of the site will be.

**Existing Site Conditions** – Must give a description of the existing topography, vegetation and drainage. Describe any existing drainage or erosion problems and how they are to be corrected. List percentages of slopes and their orientation (north or south facing). List size of drainage areas in pre-development and post-development conditions. Explain how existing vegetation may be used as erosion control and how proposed E&S controls will be designed to “fit” the site. Describe how areas will be marked where existing vegetation is to be preserved.

**Adjacent Areas** – Must give a description of neighboring areas such as streams, lakes, residential areas, roads, etc., which might be affected by the land disturbance and what E&S measures will be taken to prevent possible off-site damages.

**Off-site Land-disturbing Areas** – Must describe any off-site land-disturbing activities that will occur (borrow sites, waste or surplus areas, etc.) Any off-site borrow or spoil areas must have an approved plan to supplement the overall project plan. If off-site areas are under other permits, proof of permits must be provided.

**Soils** – Must briefly describe the soils on the site giving such information as soil name, mapping unit, erodibility, K factor, permeability, depth, texture and soil structure. Indicate references for soil information. Provide a copy of soil survey map. Indicate what sheet of site plan soils are delineated.

**Critical Areas** – Must describe areas on the site which have potentially serious erosion problems (e.g., steep slopes, channels, wet areas, streams, underground springs, etc.) Describe any area of the project which may become critical during a certain phase of the project. Explain how areas will be marked to be avoided or left alone until they may be graded and stabilized in more favorable conditions. Explain how critical areas will be protected during pre- and post-development.

**Erosion & Sediment Control Measures** – Must describe the methods which will be used to control erosion and sedimentation on the site. (Controls should meet the specifications in Chapter 3 of the Virginia Erosion & Sediment Control Handbook.) List all E&S controls, location of practice and their specification numbers (e.g. 3.02, 3.08, 3.18, etc.) to be used during the project and why they were selected. Describe the sequence of installation, maintenance and removal for each control.

**Permanent Stabilization** – Must give a brief description, including specifications, of how the site will be stabilized after construction is completed. Explain how all areas that have been denuded will be stabilized (vegetative, gravel, paved, etc.) If vegetative stabilization, provide seeding specifications (pure live seed minimums), fertilizer and liming specifications. Seeding tables and rates. List soil testing requirements. Describe how timing of seeding corresponds with construction sequence.

**Stormwater Runoff Considerations** – Must explain if the developed site will cause an increase in peak runoff rates. Explain if the increase in runoff will cause flooding or channel degradation downstream. Describe the strategy to control stormwater runoff. Explain how downstream properties and waterways will be protected (basins, channel improvements, easements, etc.) Describe how increased runoff will be managed during construction. List or describe all other references for design of permanent facilities.

**Calculations** – Must show detailed calculations and proper design criteria set forth in the VESCH for temporary sediment basins, permanent stormwater detention basins, sediment traps, diversions, channels, culverts, outlet protection etc. Must include calculations for pre- and post-development runoff. All calculations showing pre-development and post-development runoff should be provided. Worksheets, assumptions and engineering decisions must be clearly presented. Calculation methods must be clearly presented and organized. Calculations must show that adequate protection of down-stream properties and waterways are protected. Any structural practices used that are not referenced in the VESCH should be explained and illustrated with detail drawings and calculations as to proper design criteria showing how and where they are to be designed.

**Variiances** – Any requests for variiances must be explained in detail. The state of Virginia does allow variiances to any of the 19 minimum standards. The Plan Approving Authority may waive or modify any of the regulations that are deemed inappropriate or to restrictive for site conditions. A variance may be granted under these conditions.

- At the time of plan submission, an applicant may request a variance to become part of the approved Erosion & Sediment Control Plan. The applicant shall explain the reasons for

requesting the variances in writing. Specific variances which are allowed by the Plan Approving Authority shall be documented in the plan.

- During construction, the person responsible for implementing the approved plan may request a variance in writing from the Plan Approving Authority. The Plan Approving Authority shall respond in writing either approving or disapproving such a request. If the Plan Approving Authority does not approve a variance within 10 days of receipt of the request, the request shall be considered to be disapproved. Following disapproval, the applicant may resubmit a variance request with additional information.
- The Plan Approving Authority shall consider variance requests judiciously, keeping in mind both the need of the applicant to maximize cost effectiveness and the need to protect off-site properties and resources from damage.

**Maintenance** – A schedule of maintenance for all E&S control measures, temporary or permanent stormwater control practices must be provided. Must list the person who is responsible during construction (land owner, contractor, RLD, etc.) Must list who will be responsible once the project is complete (landowner, contractor, home owners association, etc.) Must provide clean-out and maintenance specifications for all major structures such as basins, traps, silt fence, etc.

**The Site Plan must show the following information.**

**Vicinity Map** – Must show a map locating the site in relation to the surrounding area. Include any landmarks which might assist in locating the site.

**North Arrow** – Must show direction of north in relation to the site. This must be shown on all pages of the site plan that are relevant to the project site.

**Existing Topographical Contours** – There must be a map showing the existing contours. The existing contours are to be shown by dashed lines in intervals from 1 to 5 feet. This map must also have all pre-developed drainage areas relevant to the project site marked showing the size (acres) of each drainage area and the direction of flow.

**Proposed Changes To Contours** – There must be a map showing the existing contours by dashed lines in intervals of 1 to 5 feet as well as any proposed changes to the existing contours. These must be shown by solid lines. This map must also have any post-developed changes to drainage areas relevant to the project site marked showing the size (acres) of each drainage area and the direction of flow.

**Limits Of Clearing And Grading** – Must clearly show limits of clearing and grading for the entire project site.

**Existing Vegetation** – Must clearly show existing tree lines, grassed areas, or unique vegetation. Areas to be left undisturbed are to be clearly marked.

**Soils** – The boundaries of different soil types must be clearly labeled indicating the K factor and soil survey classifications for each.

**Critical Erosion Areas** – Any areas with potentially serious erosion problems, environmentally sensitive or prohibited areas must be clearly marked and notes provided to state reasons for critical nature. Must also clearly show how critical areas will be protected during pre- and post-development.

**Water** – Lakes, rivers, streams, creeks, ponds, springs, etc. must clearly be marked on site plans.

**Site Development** – Must show all improvements such as buildings, parking lots, access roads, right-of-ways, easements, utility (on and off-site if relevant to project.)

**Location Of All E&S Control Measures & Stormwater Management Practices** – The exact location of all E&S control measures and stormwater management practices used for the project must be clearly marked. Use the standard symbols and abbreviations in Chapter 3 of the Virginia Erosion & Sediment Control Handbook. A legend denoting symbols, line uses and other special characters must be provided. All E&S control measures and stormwater management practices must be designed to the standards and specifications of the Virginia Erosion & Sediment Control Handbook. Any structural practices used that are not referenced in the VESCH should be properly located.