

GUIDELINES FOR PREPARING SOIL EROSION AND SEDIMENT CONTROL PLANS

Hunterdon County Soil Conservation District

(Updated January 2000)

Within the New Jersey Soil Erosion and Sediment Control Act there are a number of requirements that are common to all Soil Erosion and Sediment Control Plans. To better facilitate the preparation and review of Soil Erosion and Sediment Control Plans submitted to the Hunterdon County Soil Conservation District, the District has compiled the following list of items.

MINIMUM REQUIREMENTS FOR ALL PLANS – All soil erosion control practices must be in accordance with the Standards for Soil Erosion and Sediment Control in New Jersey. The following items must be placed on the blue print copy of the Soil Erosion and Sediment Control Plan:

1. **Sequence of Construction** – This is probably the most important and basic item in a soil erosion and sediment control plan. It will serve as the framework for all construction and land disturbance. Through proper scheduling and phasing, the amount of erosion can be greatly reduced. The proposed sequence of construction of roads, curbs, utilities, buildings, etc. must be noted on the plan with the approximate duration of each phase and the appropriate soil erosion and sediment control measures.
2. **Tracking** – The plan must specify a means by which tracking of sediment by construction vehicles onto paved right-of-ways will be controlled during all phases of construction. It must also be stated that the practices designed for such purposes will be maintained to ensure effectiveness, and in the event they should fail, that all sediment would be immediately removed from paved roadways and other impervious areas.
 - **Stabilized Construction Access** – A stabilized construction exit is needed at all points where construction vehicles access paved roadways from unpaved areas of the site. This includes individual lots under construction. Slopes 0-2% requires 100-foot long pads while slopes greater than 2% require 200-foot long pads. On lots where the driveway is less than the prescribed length, a stabilized pad is to run from the roadway to the foundation. A detail to this effect must be provided on the plans.
3. **Agronomic Specifications** – The plan must specify adequate agronomic specifications – such as those found in the Hunterdon County Agronomic Specifications for Lawn and Construction Sites or others from the New Jersey Standards for Soil Erosion and Sediment Control – that specify seed-bed preparation, liming, fertilizing, seeding, mulching, and mulch anchoring.
 - **Temporary Stabilization** – All exposed areas not to be constructed upon within 30 days must receive temporary stabilization. The temporary seeding mixtures and rates, along with lime and fertilizer recommendations, must be detailed and noted on the plan. Mulch specifications and anchoring method must be included.
 - **Permanent Stabilization** – All exposed areas that are to be permanently vegetated must be seeded or sodded within 10 days of final grading. The permanent seeding mixtures and rates, along with lime and fertilizer recommendations, must be detailed and noted on the plan. Mulch specifications and anchoring methods must be included.

4. Stockpiles – All stockpiled areas must be located on the plan view. The means by which stockpiles will be stabilized and protected must also be specified on the plan.
5. Excess Material – If excess material is to be removed from the site, the project owner/applicant shall be responsible for its proper disposal and will notify the Hunterdon County Soil Conservation District of the amount and location prior to removal of any unconsolidated material from the site. If applicable, a Soil Erosion and Sediment Control Plan must be submitted to, reviewed and certified by the Hunterdon County Soil Conservation District before removal from the site. A note to this effect must be added to the plan.
6. Steep Slopes – The maximum allowable vegetated slope is 2:1; 3:1 or flatter is preferred. Slopes between 2:1 and 3:1 require the use of erosion control matting such as curlex® or an approved equivalent. A note outlining the method of stabilization and construction timing (e.g. immediately following grading) on all slopes greater than 3:1 must be added to the plan. Appropriate installation details must be included.
7. Stump Disposal – If stumps are to be buried onsite, the location must be shown on the plan with the appropriate notes for soil erosion and sediment control. This practice will only be permitted upon the demonstration of all relevant municipal, county and state permits. If stumps are to be removed from the site to an approved disposal area, this statement must be added to the plan.
8. Grading Plan – A site-grading plan must be included and shall clearly delineate the following: proposed areas of disturbance, proposed cuts and fills, and existing and proposed grades. All elevations are to be shown at a two-foot contour interval.
9. Sites Involving Agricultural Land – Due to the length of time normally involved once agricultural operations cease and construction begins, some means should be made to protect the cultivated land during the idle period (i.e. temporary seeding after last crop is harvested). If these areas will not be constructed on, permanent stabilization must be completed and the appropriate notes added to the plan. Also, on agricultural lands, there is the possibility of encountering functioning underground tile drains. If this situation should arise, some means should be provided for incorporating these drains into storm drainage systems so as not to interfere with existing drainage conditions and this must be noted on the plan.
10. Pipe Outlets – The pipe discharges (cfs) and velocities (fps) of all outlets must be included for all design storms. Where velocities are expected to be erosive, conduit outlet protection must be provided. This must include the length and width of the apron, stone size (d50), apron thickness, structural lining heights, etc. outlined on the plan and all supporting computations. Downstream stability for increased flows to the point of discharge must also be shown.
11. Rip-rap – The length, width, thickness, D50, lining height, etc. of stone to be used for erosion protection on waterways, channels, etc. must be detailed on the plan. All supporting computations must be submitted.

- Conduit Outlet Protection schedule(s) and detail(s) are to be added to the plan sheets. The detail is to show the following:
 - a. Length of apron
 - b. Width of apron (use defined channel width if applicable)
 - c. Stone D50 size
 - d. Thickness of rip-rap (3xD50 or 2xD50 w/filter fabric)
 - e. Structural lining height of rip-rap up the side slopes as per N.J. Standards
 - f. Show that the apron can be installed level (0.0%)
- Profiles of all pipe outlets must be added to the plan showing the Conduit Outlet Protection to be level for the design length. The profile must show the locations of original ground, streams, etc.

12. Diversions and Grassed Waterways – The locations, cross-section, profile and any supporting computations (design Q, V, etc.) must be detailed on the plan. A statement regarding immediate stabilization after construction must also be included in the plan.

- The design and detail of the swales must be provided. Each reach is to have a velocity (E) and capacity calculation (D). The swales must be stable for the 10-year storm (less than 2 fps) or additional measures must be added. Temporary erosion control blankets/matting, such as excelsior “curlex”, or sod must be used in swales with velocities between 2 fps and 3 fps. Permanent erosion control matting, such as Enkamat or Miramat or equivalent must be used in swales with velocities between 3 fps and 5 fps. A note must be added to the plan stating that the permanent erosion control mat to be used is a bonded mono-filamentous three-dimensional web. A detail of the installation of this matting must be added to the plan.

13. Detention Basin – The location, cross-section with elevations of principal spillway, emergency spillway and dam must be on the plan. In addition, the following items must be included in the plan: riser detail, outlet protection (if necessary) and a statement regarding stabilization of the dam. All design calculations must be submitted for review.

- Detention basin summary form(s) for each detention/retention basin are to be submitted it along with a copy of USGS topographic map indicating the contributing watershed to the basin(s).

14. Disturbance Limits – To minimize the amount of soil disturbed, and thus exposed to higher rates of erosion, areas of disturbance should be restricted to the minimum required for construction. To the maximum extent practical, all vegetated areas not needed for construction should be left undisturbed. Those areas that will not be disturbed need to be delineated on the plan and clearly marked in the field. A remark noting this requirement is to be included on the plan.

15. Notice of Start of Construction – A written notice of the anticipated start of construction must be sent to the District 48 hours prior to any construction activity. A failure to notify the District will result in the issuance of a Stop Construction Order. A statement to this effect is to be included on the plan. It is also to be noted that in Hunterdon County, a Preconstruction Conference with the District and municipal officials (usually set-up by the Municipal Engineer) must take place prior to any construction activities.

16. Individual House Construction – A typical detail for individual house construction showing all proposed Soil Erosion and Sediment Control measures and their sequence must be included on the plan. Typical details are also to be submitted for townhouses/condominiums.

17. Sediment Barriers -- Sediment barriers (silt fence or hay bales) used to intercept and detain small amounts of sediment (at the edge of disturbance; below fills, stockpiles and stump disposal areas; around streams, etc.) must be shown on the plan. Whenever possible sediment barriers are to be installed on the contour. In order to be effective barriers need to be imbedded. An installation detail must be provided on all plans.

18. Natural Features – All existing features must be shown on the plan. All natural features (rock formation, exceptional trees, wildlife areas, ponds, etc.) to be saved shall be detailed on the plan. All streams, watercourses, wetlands and their 100-year flood plains must be delineated on the plan.

19. Inlet Protection – All inlets shall be protected using hay bales or stone. The use of filter material for inlet protection is not allowed because, in certain situations these fabrics tend to become clogged with sediment, blocking the inlets and causing additional resource problems. Inlet protection cannot block the inlet or cause flooding problems. Where possible, clean 1 ½” – 2 ½” stone should be piled to its natural angle of repose. Inlet protection should not exceed curb height. An inlet protection detail must be provided.

20. Dewatering – All dewatering activities must follow the dewatering procedure found in the Standards for Soil Erosion and Sediment Control in New Jersey. If working in an area with a high water table, a dewatering detail must be provided on the plans.

21. Roadway Diversions – Where appropriate, temporary roadway diversions are to be installed. The number and frequency shall be based on the slope of the unpaved roadway. A roadway diversion detail must be provided on the plans.

22. Dust Control – Dust must be controlled on roads and construction sites. A note to this effect must be added to the plan. Based on site conditions a method or methods for controlling dust should be selected from the Standards and added to the plans.

23. Stream Crossing – All stream crossings must follow the standards for Temporary Stream Crossings. If a crossing is planned a design is to be included with supporting notes and calculations. If an existing structure is to be utilized (e.g. a pre-existing farm crossing) the structure must be upgraded to the minimum shown in the standards. A note to this effect must be added to the plan.

24. NJDEP Permits – Prior to the start of any DEP regulated soil disturbance activity (e.g. stream crossing, wetlands disturbance) copies of all the relevant permits are to be supplied to the District. A note to this effect must be added to the plan. Areas covered under DEP permits should be noted on the plan.

25. Building Demolition – The demolition of structures is a regulated activity. If demolition is part of a larger project it should be noted on the sequence of construction. Sediment control devices should be installed prior to demolition and the District should be contacted prior to any demolition activity. Structures slated for demolition should be clearly noted on the plan.

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