

STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

Using vegetation as cover for barren soil to protect it from forces that cause erosion. Vegetative stabilization is used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and runoff to downstream areas and improving water quality and visual appearance.

This practice shall be used on disturbed areas as specified on the plan and not used on highly erodible or critically eroding areas. This specification is divided into Temporary Seeding, to quickly establish vegetative cover for short duration (up to one year), and Permanent Seeding, for long term vegetative cover. Examples of applicable areas for Temporary Seeding are temporary soil stockpiles, cleared areas being left between construction phases, earth slopes, etc. and for Permanent Seeding are lawns, dunes, cut and fill slopes and other areas at final grade, former stockpiles and staging areas, etc.

EFFECTS ON WATER QUALITY AND QUANTITY
 Planting vegetation in disturbed areas will have an effect on the water budget, especially on volume and rate of runoff, infiltration, evaporation, transpiration, percolation and groundwater recharge. Vegetation over time will increase organic matter content and improve water holding capacity of the soil and subsequent plant growth.

1. Temporary Seeding:
 - a. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis shall be performed by a recognized commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analysis.
 - b. Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Fertilizer may be substituted for fertilizer with prior approval from the appropriate regulatory authority. The fertilizer shall be applied in accordance with the manufacturer's label to the applicable site fertilizer rates and shall bear the name, trade name or trademark and warranty of the producer.
 - c. Lime materials shall be ground limestone hydrated or burnt lime may be substituted which contains at least 50% total calcium oxide plus magnesium oxide. Limestone shall be ground to such fineness that at least 50% will pass through a #20 mesh sieve and 90-100% will pass through a #40 mesh sieve and further into the top 3-5" of soil by digging or other suitable means.
2. Permanent Seeding:
 - a. Temporary Seeding:
 - i. Seeding shall consist of loosening soil to a depth of 3" to 5" by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or ripper or similar equipment. After the soil is loosened it shall not be tilled or dragged, matted, or left in the rough condition. Seed rates greater than 30 shall be broadcast leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.
 - ii. Apply fertilizer and lime as prescribed on the plan.
 - iii. Fertilizer and lime shall be applied into the top 3-5" of soil by digging or other suitable means.
 - b. Permanent Seeding:
 - i. Seeding conditions required for permanent vegetative establishment:
 1. Soil pH shall be between 6.0 and 7.0.
 2. Soil shall be less than 500 parts per million (ppm).
 3. The soil shall contain less than 400 cfm, but enough fine grained material (0.075 mm) to provide the capacity to hold a moderate amount of moisture. An exception is if fertilizer or organic humus is to be applied, then a sandy soil (0.075 mm) will be acceptable.
 4. Soil shall contain 1.5% minimum organic matter by weight.
 5. Soil must contain sufficient pore space to permit adequate root penetration.
 6. If these conditions cannot be met by soil on site, adding topsoil is required in accordance with Section 21 Standard and Specification for Topsoil.
 - ii. Areas determined to be deficient shall be amended in a true and even grade, then scarified or otherwise loosened to a depth of 3-5" to permit bonding of the topsoil to the surface area and to create horizontal erosion check steps to prevent topsoil from sliding down a slope.
 - iii. The soil amendments into the top 3-5" of soil by digging or other suitable means. Lawn areas should be related to smooth the surface, remove large objects like stones and bricks, and the level for seed and application. Where site conditions are not suitable, needed preparation, loosen surface soil by digging with a heavy chain or other equipment to roughen the surface. Topsoil shall be applied to a depth of 4" or greater leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The top 1-2" of soil should be loose and friable. Good soil loosening may not be necessary on well drained soils.

3. Seed Specifications:
 - a. All seed must meet the requirements of the Maryland State Seed Law. All seed shall be subject to laboratory testing for germination, purity and vigor. Seed shall be tested within the 6 months immediately preceding the date of seeding such that the viability of the seed is not reduced.
 - b. Seed shall be tested for viability before use in the seed mixture and shall be a true cultivar of the date indicated on the container. All seed shall be directed on packages. Use four times the seed specified on the container. Add fresh inoculant as directed on packages. Use four times the seed specified on the container. All seed shall be directed on packages. Use four times the seed specified on the container. All seed shall be directed on packages. Use four times the seed specified on the container.
4. Methods of Application:
 - a. Hydroseeding: Apply seed uniformly with hydroseeder. Carry includes seed and fertilizer, broadcast or spot. If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: nitrogen maximum of 300 lbs. per acre total of soluble nitrogen (200 lbs. per acre total of available nitrogen).
 - b. Lime - use only ground hydrated limestone. 6 to 3 tons per acre may be applied by hydroseeding or other means. Do not use more than 2 tons per acre applied by hydroseeding at any one time. Do not use lime or hydrated lime when hydroseeding.
 - c. Seed - do not use lime or hydrated lime when hydroseeding.
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5. Maintenance:
 - a. Inspect all seeded areas and make needed repairs, replacements and reseedings.
 - b. For public ponds substitute chemical crownweat at 1/2 lb. per acre and fenoxaprop at 1/2 lb. per acre at the seeding requirement. Optimum seeding date for this mixture is March 1 to April 30.
6. Seed Specifications:
 - a. Wood Cakes: Use specially prepared wood cakes processed into a uniform porous physical state.
 - b. WCM shall be dried when or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniform seeded slurry.
 - c. WCM material shall be manufactured and processed in such a manner that the wood cakes will remain in uniform condition in the slurry application and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The match material shall form a barrier to the ground cover, on application having moisture absorption and retention properties and shall cover and hold grass seed in contact with the soil without inhibiting the growth of the grass species.
 - d. WCM shall conform to the following physical requirements: fiber length to approximately 10 mm, diameter approximately 1 mm, pH range of 2.0 to 6.5, ash content less than 10%.
 - e. Only sterile slurry match should be used in areas where one species of grass is desired.
 - f. Matching seeded areas - match shall be applied to the area to be seeded. If seeding is completed outside of the seeding season, match shall be applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed in accordance with these specifications.

7. When straw mulch is used, it shall be applied over all seeded areas at the rate of 2 tons/acre. Match will be applied with a uniform layer and shall be applied in a uniform distribution and depth so that the soil surface is not exposed. If a match anchoring tool is to be used, the match shall be applied at a rate of 2.5 tons/acre.
8. Wood Cakes: Fiber used in a match shall be applied at a net dry weight of 1500 lbs. per acre. The match shall contain a maximum of 30 lbs. of wood cakes fiber per 100 gallons of water.
9. Seeding Straw Match Anchoring: Match anchoring shall be performed immediately following match application to the soil surface. The match shall be applied in a uniform distribution and depth so that the soil surface is not exposed. If a match anchoring tool is to be used, the match shall be applied at a rate of 2.5 tons/acre.

10. A match anchoring tool shall be designed to punch and anchor match into the soil surface to a minimum of two (2) inches. This practice is most effective on large areas where the match is applied in a uniform distribution and depth so that the soil surface is not exposed. If a match anchoring tool is to be used, the match shall be applied at a rate of 2.5 tons/acre.
11. Application of Seed: Seed shall be applied to the area to be seeded. If seeding is completed outside of the seeding season, match shall be applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed in accordance with these specifications.
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SUPER SILT FENCE

