

ATTACHMENT A**SEEDING SPECIFICATIONS****PART 1 – GENERAL**

Summary

Section includes seeding, fertilizing and mulching by CONTRACTOR, after completion of excavation and other work at each site. CONTRACTOR is required to perform all work defined in this section at each site to return the site to original condition, or better.

DELIVERY, STORAGE, AND HANDLING

Delivery

1. Deliver fertilizer and seed to site in original, unopened containers bearing manufacturer's guaranteed chemical analysis, name, trade name, trademark, and conformance to state law.
2. Fertilizer, seed, and mulch delivered to the site shall be located onsite as directed by OWNER.

Guarantee

1. Guarantee seeded area for duration of one (1) year after seeding to be alive and in satisfactory growth at the end of guarantee period.
2. For purpose of establishing acceptable standard, scattered bare spots, none larger than one (1) square foot will be allowed up to a maximum of 3% of the total seeded project area.

PART 2 – PRODUCTS

TOPSOIL

1. Native topsoil material suitable for growth of grass and plants.
2. Free from hard lumps, plants and their roots, gravel, cinders, stone over 1-1/2 inch in any dimension weed seeds and quack grass roots, and other undesirable materials.

SITE PREPARATION

1. Stabilize as per Standard Responsibility Note No. 3
2. Temporary perimeter dikes and silt traps, etc., are to be provided as per this plan prior to grading operations with locations adjustments to be made in the field as necessary and to be maintained at the end of the work day. The minimum area practical shall be disturbed for the minimum amount of time possible.

PERMANENT SEEDING

1. Seedbed preparation: areas to be seeded shall be loose and friable to a depth of at least three (3) inches. The top layer shall be loosened by raking, discing, or other acceptable means before seeding occurs. Apply four (4) tons of dolomitic limestone and 1,000 pounds of 10-20-20 fertilizer per acre for cool season seed mix and 500 pounds per acre for warm season seed mix. Harrow or disc lime and fertilizer into the soil to a depth of at least three (3) to five (5) inches on

slopes less than 3:1. No attempt should be made to drag any disced areas to make the soil surface smooth after discing.

2. Cool Season Seed Mix (apply the following seed mixture between October 1 and March 1)
 - a. Duster Tall Fescue: 135 pounds per acre
 - b. Virtue Tall Fescue: 120 pounds per acre
 - c. Kentucky Bluegrass: 30 pounds per acre
 - d. Windstar Perennial Rye Grass: 15 pounds per acre
 - e. Sericea Lespedeza (Inoculated): 30 pounds per acre
 - f. Annual Rye Grass: 30 pounds per acre OR German Millet: 30 pounds per acre
 - g. **TOTAL:** 390 pounds per acre
3. Shady Area Seed Mix (apply the following seed mixture between March 1 and October 31)
 - a. Rebel II Turf Type – Tall Fescue: 125 pounds per acre
 - b. Pennlawn Creeping Red Fescue: 175 pounds per acre
 - c. **TOTAL:** 300 pounds per acre
4. Warm Season Seed Mix (apply the following seed mixture between March 1 and October 1)
 - a. Annual Grain Rye: 100 pounds per acre
 - b. Annual Rye: 25 pounds per acre
 - c. Perennial Rye: 25 pounds per acre
 - d. Indian Grass: 3.75 pounds per acre
 - e. Big Bluestem: 5 pounds per acre
 - f. Little Bluestem: 2.5 pounds per acre
 - g. Partridge Pea: 1.25 pounds per acre
 - h. Black-eyed Susan: 1.25 pounds per acre
 - i. Lance-leaved Coreopsis: 1.25 pounds per acre
 - j. **TOTAL:** 165 pounds per acre
5. Mulching: Mulch shall be unchopped, unrotted, small grain straw applied at a rate of two (2) tons per acre. Mulch materials shall be relatively free of all kinds of weeds and shall be free of prohibited noxious weeds.
 - a. Spread mulch mechanically: mulch anchoring shall be accomplished immediately after mulch placement to minimize loss by wind or water using synthetic mulch binders at manufacturer's recommended application rates or wood cellulose fiber applied at a dry rate of 750 pounds per acre (maximum 50 pounds of wood cellulose fiber per 100 gallons of water).

TEMPORARY SEEDING

1. Lime: 100 pounds of dolomitic limestone per 1,000 square feet
2. Fertilizer: 15 pounds of 10-10-10 per 1,000 square feet
3. Seed: Perennial Rye, Italian Rye: 0.92 pounds per 1,000 square feet
4. Mulch: Same as (5.) above.

SEED SPECIFICATIONS

1. Apply seed uniformly on a moist, firm seedbed with a cyclone seed drill, warm season seed drill, cultipacker seeder or hydroseeder (slurry includes seed mixture, lime, and fertilizer).

- a. Warm season seed mix shall be applied with a warm season seed drill or hydroseeder only.
2. Maximum seed depth should be ¼" into clayey soils and 2" in sandy soils when using other than the hydroseeder method.
3. Irrigate if soil moisture is deficient to support adequate growth, until vegetation is firmly established.
4. All seed must meet the requirements of the Maryland State Seed Law and shall be State Highway Administration certified seed.
5. All seed shall be subject to re-testing by a recognized seed laboratory.
6. All seed used shall have been tested with the six (6) months immediately preceding the date of sowing seed material on the facility.
7. Seed tags shall be made available to the Facility Manager or Supervisor to verify type and rate of seed used.

PERMANENT SOD

1. Permanent sod is to be Tall Fescue/Kentucky Bluegrass, states approved sod, lime, fertilizer pre-permanent seeding specifications and lightly irrigate soil prior to laying sod.
2. Sod is to be laid on the contour with all ends tightly abutting. Joints are to be staggered between rows.
3. Water, and roll or tamp sod to ensure positive root contact with the soil.
4. All slopes greater than 3:1 are to be permanently sodded or protected with approved erosion control netting.
5. Additional watering for establishment may be required.
6. Sod is not to be applied on frozen ground.

VEGETATIVE ESTABLISHMENT

1. The CONTRACTOR is responsible to provide a viable stand of 95% ground cover of permanent vegetation on all areas affected by the execution of this contract unless required otherwise.
2. Areas not stabilized with a viable stand of 95% ground cover of permanent vegetation must be over-seeded, limed, and fertilized, and, if necessary, straw mulched and tacked by no later than the following growing season following initial stabilization efforts.
3. All seeding, sodding, and repairs and maintenance required for sodded and seeded areas shall be performed in accordance with the A1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control, Section G-20.0

FERTILIZER

Commercial type, uniform in composition, free flowing, conforming to State and Federal laws.

MULCH

Straw or hay in air-dry condition substantially free of noxious weed seeds and objectionable foreign matter.

PART 3 – EXECUTION

PREPARATION

1. Topsoil
 - a. Scarify subgrade to a depth of 1 inch for bonding of subsoil with topsoil
 - b. No topsoil shall be placed or worked in frozen or muddy conditions.
2. Seeding
 - a. Use variety No 1 (cool season), 2 (shady), or 3 (warm season) as appropriate for time of year
 - b. Do not seed prior to topsoil application
 - c. Do not seed on saturated or frozen soil
3. Topsoil/Finish Grading
 - a. Topsoil/finish grading is established final grade as shown on the Drawings. Grades not otherwise indicated are uniform levels or slopes between points where elevations given or between such points and existing finished grades.
 - b. Grade, rake, and roll with roller weighing not more than 100 lbs/linear foot and not less than 25 lbs/linear foot.
 - c. Maximum allowable variation from correct elevations is 2 inches in 10 feet.
4. Sowing
 - a. Unless otherwise specified, seeds may be sown at option of CONTRACTOR by either Method A or Method B below
 - b. Method A
 - i. Sow selected seed mixture by means of equipment adapted to purpose, or it may be scattered uniformly over areas to be seeded and lightly raked or dragged to cover seed with approximately $\frac{1}{4}$ inch of soil.
 - ii. After seeding areas shall be lightly rolled or compacted by means of suitable equipment, preferably of cultipacker type when seed bed is either too loose or contains clods which would reduce germination of seed.
 - iii. Slopes steeper than 3:1 need not be rolled.
 - iv. Scattering seed by hand shall be done only with satisfactory hand seeders and only at such times when the air is sufficiently quiet to prevent seeds from blowing away.
 - c. Method B
 - i. Sow or spread seed by stream or spray of water under pressure operated from an approved type of machine designed for purpose.
 - ii. Place selected seed mixture and water into tank, within machine, in sufficient quantities that when contents of the tank are sprayed on given area seed will be uniformly spread at required rate of application.
 - iii. During process stir or agitate contents of tank to provide uniform distribution of seed.
 - iv. Place contents of tank within two (2) hours after seed is added to tank. Seed allowed to remain mixed with water for longer than two (2) hours shall be rejected.
 - v. Do not drag or roll.
5. Mulching
 - a. Mulch seeded areas within one (1) day after seeding completed.
 - b. Application rate shall be two (2) tons per acre.

- c. Place mulch loose or open enough to allow some sunlight to penetrate and air to slowly circulate, but thick enough to shade ground, conserve soil moisture, and prevent or reduce erosion.
 - d. Do not mulch during periods of excessively high winds.
- 6. Clean up
 - a. Paved surfaces and other site areas shall be kept clean of seeding, fertilizing, and mulching materials.