

Section 02936

Seeding

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Fertilizing.
- B. Seeding.
- C. Hydroseeding.
- D. Mulching.
- E. Maintenance.
- F. Sodding.

1.02 RELATED WORK

- A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections of these Specifications including:
 - 1. Section 02218 - Landscape Grading: Preparation of subsoil and topsoil.

1.03 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for performance of the work of this Section.
- B. Comply with all local, state, and federal regulations concerning seeding.
- C. Reference Standards:
 - 1. American Association of State Highway and Transportation Officials (AASHTO)
 - a. M 145-74, Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes.

2. American Society for Testing and Materials (ASTM):
 - a. C 602-69 (1975), Agricultural Liming Materials.
 - b. D 2487-69 (1975), Classification of Soils for Engineering Purposes.
 - c. D 977-73, Emulsified Asphalt.
3. Association of Official Analytical Chemists (AOAC)
 - a. Official Method of Analysis.
4. Federal Specifications
 - a. O-F-241D, Fertilizer, Mixed, Commercial.
 - b. O-P-166E, Peat Moss, Peat Humus, Peat, Reed-Sedge.

1.04 SUBMITTALS

A. Test Reports

1. Provide analysis of topsoil fill under provisions of Section 01400.
 - a. Analyze to ascertain percentage of nitrogen, phosphorus, potash, soluble salt content, organic matter content, and pH value.
2. Results of seed purity and germination tests.
3. Results of fertilizer analysis.
4. Results of peat moss analysis.

B. Certificates

1. Soil conditions and fertilizers.
2. Grass seed.
3. Quarantine restrictions.

1.05 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Tag seed, with botanical and common names.
- B. Store and protect seed from excessive heat, cold, sun, rain, wind, and other deleterious environmental conditions.
- C. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.

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1.06 JOB CONDITIONS

- A. Place no frozen soils or extremely wet or dry soils.
- B. The seeding process shall meet the following conditions.
 - 1. Not on or in frozen or extremely wet or dry soils.
 - 2. Not between October 31st and April 30th.
 - 3. Do no seeding when wind exceeds 15 mph.

1.07 DEFINITIONS

- A. Weeds: Includes Dandelion, Jimsonweed, Quackgrass, Horsetail, Morning Glory, Rush Grass, Mustard, Lamsquarter, Chickweed, Cress, Crabgrass, Canadian Thistle, Nutgrass, Poison Oak, Blackberry, Tansy Ragwort, Bermuda Grass, Johnson Grass, Poison Ivy, Nut Sedge, Nimble Will, Bindweed, Bent Grass, Wild Garlic, Perennial Sorrel, and Brome Grass.

1.08 GUARANTEE

- A. Guarantee seed through one full growing season after planting. Replace if necessary.

1.09 MAINTENANCE DATA

- A. Submit maintenance data for continuing Owner maintenance under provisions of Section 01700.
- B. Include maintenance instructions, cutting method and maximum grass height; types, application frequency, and recommended coverage of fertilizer.

PART 2 - PRODUCTS

2.01 SUBSOIL

- A. See Section 02218 - Landscape Grading: Products.

2.02 TOPSOIL

- A. See Section 02218 - Landscape Grading: Products.

2.03 SOIL CONDITIONERS

- A. See Section 02218 - Landscape Grading: Soil Conditioners.

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2.04 SEED

A. Mix:

Name	% Weight	% Purity	% Germination
Kentucky Blue	50	95	85
Red Top	25	95	90
Canada Blue Grass	10	95	85
Dwarf White Clove	10	95	85
English Rye Grass	5		

2.05 MULCH

- A. Clean hay, wood fiber, jute netting, cheese cloth, burlap, or asphalt emulsion (ASTM D977, Grade SS-1) as appropriate.

2.06 ACCESSORIES

- A. Herbicide: Approved chemical registered in State of Maine for stump or basal bark treatment.
B. Stakes: Softwood lumber, chisel pointed.
C. String: Inorganic fiber.
D. Edging: Galvanized steel.

PART 3 - EXECUTION

3.01 INSPECTION

- A. Verify that prepared soil base is ready to receive the work of this Section.
B. Beginning of installation means acceptance of existing site conditions.

3.02 PREPARATION OF SUBSOIL

- A. Prepare subsoil to eliminate uneven areas and low spots. Maintain lines, levels, profiles and contours. Make changes in grade gradual. Blend slopes into level areas.
B. Remove foreign materials, weeds, and undesirable plants and their roots. Remove contaminated subsoil. Remove rocks over 1 inch in diameter in lawn areas and 2" in diameter in non-lawn areas.
C. Scarify subsoil to a depth of 4 inches where topsoil is to be placed. Repeat cultivation in areas where equipment, used for hauling and spreading topsoil, has compacted subsoil.

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3.03 PLACING TOPSOIL

- A. Place or replace with soil meeting AASHTO M 145 A4.
 - 1. Lawn areas: 3 inches
 - 2. Non-lawn areas: 2 inch
- B. Place topsoil during dry weather and on dry unfrozen subgrade.
- C. Remove vegetable matter and foreign non-organic material while spreading. Remove rocks and other objects over 2 inches in diameter.
- D. Grade to eliminate rough, low, or soft areas, and to ensure positive drainage.
- E. Do not compact topsoil.

3.04 FERTILIZING

- A. Apply fertilizer at a rate of 25 pounds per 1000 square feet or as recommended by manufacturer.
- B. Apply after smooth raking of topsoil and prior to roller compaction.
- C. Do not apply fertilizer at same time or with same machine as will be used to apply seed.
- D. Mix thoroughly into upper 2 inches with an appropriate method.
- E. Lightly water to aid the dissipation of fertilizer.
- F. Water dry topsoil to a depth of 4 inches, 48 hours prior to seeding to obtain a loose, friable seed bed.

3.05 SEEDING

- A. Apply seed at a rate of 3 lbs per 1000 sq. ft. evenly in two intersecting directions. Rake in lightly to a depth of 3/8 inch. Do not seed area in excess of that which can be mulched on same day.
- B. Do not sow immediately following rain, when ground is too dry, or during windy periods.
- C. Roll seeded area with roller weighing a maximum of 150 lbs./foot of width.
- D. Immediately following seeding and rolling, apply mulch to a thickness of 1/8 inches. Maintain clear of shrubs and trees.
- E. Apply water with a fine spray immediately after each area has been mulched. Saturate to 4 inches of soil.

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3.06 HYDROSEEDING

- A. Apply seeded slurry at a rate of 3 lbs per 1000 sq. ft. evenly in two intersecting directions, with a hydraulic seeder. Do not hydroseed area in excess of that which can be mulched on same day.
- B. Immediately following seeding, apply mulch to a thickness of 1/8 inches. Maintain clear of shrubs and trees.
- C. Apply water with a fine spray immediately after each area has been mulched. Saturate to 4 inches of soil.

3.07 SEED PROTECTION

- A. Cover seeded slopes where grade is 4 inches per foot or greater with erosion fabric. Roll fabric onto slopes without stretching or pulling.
- B. Lay fabric smoothly on surface, bury top end of each section in 6 inch deep excavated topsoil trench. Provide 12 inch overlap of adjacent rolls. Backfill trench and rake smooth, level with adjacent soil.
- C. Secure outside edges and overlaps at 36 inch intervals with stakes.
- D. Lightly dress slopes with topsoil to ensure close contact between fabric and soil.
- E. At sides of ditches, lay fabric laps in direction of water flow. Lap ends and edges minimum 6 inches.
- F. Erect warning signs and barriers to protect seeded areas.

3.08 MAINTENANCE

- A. Mow grass at regular intervals to maintain at a maximum height of 2 inches. Do not cut more than 1/3 of grass blade at any one mowing.
- B. Neatly trim edges and hand clip where necessary.
- C. Immediately remove clippings after mowing and trimming.
- D. Water to prevent grass and soil from drying out.
- E. Roll surface to remove minor depressions or irregularities.
- F. Control growth of weeds. Apply herbicides in accordance with manufacturers' instructions. Remedy damage resulting from improper use of herbicides.
- G. Immediately re-seed areas which show bare spots.
- H. Protect seeded areas with warning signs during maintenance period.