

SECTION 32 9200 – TURF AND NATIVE/ADAPTIVE PLANTINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification sections, apply to this section.
- B. Comply with most current edition of the Northwestern University Design Standards.

1.2 SUMMARY

- A. Provide all labor, materials and equipment as necessary to complete all work as indicated on the Drawings and specified herein. Review specific project requirements with NU during the design phase.
- B. This Section includes:
 - 1. Topsoil.
 - 2. Fertilizer.
 - 3. Seed.
 - 4. Mulch.
 - 5. Sod.

1.3 SUBMITTALS

- A. Quality Assurance/Control Submittals: Supplier's certified analysis for each seed and fertilizer mixture required.

1.4 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials in original, unbroken, brand marked containers or wrapping indicating weight, analysis and manufacturer's name.
- B. Handle and store materials in a manner which will prevent deterioration, damage, contamination with foreign matter, damage by weather or elements, and in accordance with manufacturer's directions.
- C. Reject damaged, deteriorated or contaminated material shall be immediately removed from the site. Replace rejected materials with new materials at no additional cost to NU.

1.5 PROJECT CONDITIONS

- A. Contractor shall obtain and submit copies to Northwestern University all necessary related city and environmental permits (e.g. irrigation – water department permits; use of city hydrants - city hydrant permit, etc.).

PART 2 - PRODUCTS

2.1 MATERIALS

A. Topsoil:

1. Natural loam topsoil.
2. Uniform quality.
3. Free of undesirable material.
4. Organic content greater than 6% by weight.
5. Acidity between pH 5.0 and pH 8.0.

B. Fertilizer:

1. Dry Fertilizer: Ready mixed granular material containing equal amounts by weight of available nitrogen (N), readily available phosphoric acid (P₂O₅) and total available potash (K₂O), (12-12-12).
2. Liquid Fertilizer for Hydroseed: 16-32-4 containing no chlorine.
3. Minimum 40% filler by weight.

C. Seed:

1. Uniform mixtures composed of seed of the following proportions by weight:
 - a. Drain Side Slopes, Spoil Banks, and Other Disturbed Areas: 35% creeping red fescue, 10% Kentucky bluegrass, 2% red top, 35% tall fescue, 3% timothy, 15% birdsfoot trefoil.
 - b. Lawns: 30% perennial rye grass, 30% Kentucky bluegrass, 40% creeping red fescue.
2. Legumes shall be inoculated with the proper nitrogen fixing bacteria within 24 hours prior to seeding.
3. Germination of seeds shall be 80% minimum.
4. Purity of seeds shall be 90% minimum.

D. Mulch:

1. Anchoring Material for Small Grain Mulch:
 - a. Netting:
 - 1) Biodegradable.
 - 2) Openings not to exceed 1-1/2 inches x 2 inches.
 - 3) Minimum Roll Width: 35 inches.
 - 4) Anchoring Staples or Pins: **[Steel wire not permitted] [Wood pegs] [or No. 11 steel wire] at least 6 inches long.**
2. Hydromulch:
 - a. Slurry: Minimum 60% wood fiber mulch with remaining being recycled cellulose fibers.
 - b. Tackifier:

- 1) Synthetic fiber or gum.
- 2) Manufacturers: Finn Fiber Plus; Finn Fiber Gum; or equal.

PART 3 - EXECUTION

3.1 TOPSOIL

A. Lawns:

1. Comply with local requirements.
2. Minimum Thickness: 6 inches.

B. Perennials:

1. Comply with local requirements.
2. Minimum Thickness: 12 inches of Garden Mix.

C. Shrubs:

1. Comply with local requirements.
2. Minimum Thickness: 18 inches.

D. Other Areas: Spread existing topsoil.

3.2 FERTILIZING

A. Location:

1. Leveled spoil.
2. Other disturbed areas.
3. No fertilizer shall be used with native seeding.

B. Dry Fertilizer:

1. Broadcast on surface as first step in seeding process.
2. Apply with seeding if drilled.
3. Apply uniformly.
4. Application Rate: Equivalent to [**240 / 500**] pounds per acre of 12-12-12.

C. Hydroseeding:

1. Apply fertilizer with seeding.
2. Application Rate: Equivalent to 272 pounds per acre of 16-32-4.

3.3 LAYING SOD

A. As specified by local requirements.

3.4 SEEDING

A. Scheduling:

1. Within [**30 days**] [**7 days**] [**24 hours**] from the time the area was first disturbed.
2. Channel Banks: Within 24 hours from the time the area was first disturbed.
3. Seasonal Limitations:
 - a. [**April 20**] [**May 1**] through November 1.
 - b. Soil temperatures shall be between 50°F-65°F.

B. Sowing:

1. Sow the seed following or in conjunction with the fertilizer and while the seed bed is in a friable condition.
2. Do not sow seed through mulch.
3. Application Rate:
 - a. Lawns: Sow seed at a minimum rate of 100 pounds per acre.
 - b. Ditch Banks, Spoil Berms, and Other Areas: Sow seed a minimum rate of 56 pounds per acre.

C. Method:

1. Broadcast: Do not seed when wind velocity exceeds 5 miles per hour.
2. Mechanical drills.
3. Hydroseeder:
 - a. Use only equipment specifically designed for hydraulic seeding application.
 - b. Mix seed, fertilizer and pulverized mulch in water until uniformly blended into homogeneous slurry.
 - c. Continue mixing during application.
 - d. [**Native seed must be applied with water only for direct seed-soil contact, not with pulverized mulch.]**
 - e. [**Apply pulverized mulch after native seed is applied.]**

D. Inspection:

1. Visually inspect for uniform distribution.
2. Reseed areas as required to establish a uniform and stable stand of grass.

E. Finishing: Incorporate seed into the upper 1/2-inch of soil.

3.5 MULCHING

A. Small Grain Mulch:

1. Application:
 - a. Immediately after seeding.
 - b. Uniform distribution.
 - c. Allow sunlight to penetrate mulch.

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2. Application Rate:
 - a. Two tons per acre (2-1/2 bales per 1000 square feet).
 - b. Three tons per acre for dormant seeding.
 - c. One ton per acre (1-1/4 bales per 1,000 square feet) for native seeding.

3. Anchoring:
 - a. Level Areas and Slopes Flatter Than 3:1 (H:V): Mulch anchoring tool.
 - b. Slopes 3:1 (H:V) or Steeper for Netting: Install in accordance with manufacturer's instructions.

B. Hydromulch:

1. Apply with hydroseed.
2. Application Rate: 1,250 pounds per acre.
3. Apply after native seed has been applied without mulch in slurry.

3.6 MAINTENANCE

- A. Reseed, resod, refertilize, remulch, or regrade as necessary to establish a uniform and stable grassed area.

END OF SECTION 32 9200

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