

## SECTION 2720

### SEEDING, SODDING AND TOPSOIL

#### 1.00 GENERAL

1.01 Scope. Work to be performed under this section shall include furnishing all labor, equipment, materials and miscellaneous items necessary to perform all soil preparation, seeding, sodding, erosion blanketing and related work not specified elsewhere, as shown on the Drawings and required by the Specifications.

#### 1.02 Related Work Specified Elsewhere.

Section 2110 - Excavation and Embankment  
Section 2130 - Trenching, Backfilling and Compaction  
Section 2710 - Finished Grade and Restoration

1.03 Description of Work. The extent of landscape development work is shown on the Drawings and in schedules.

A. Subgrade Elevations. Excavation, filling and grading required to establish elevations shown on the Drawings are not specified in this section. Refer to earthwork sections.

#### 1.04 Quality Assurance.

A. Subcontract the landscape work by a single firm specializing in landscape work.

B. Source Quality Control:

1. Substituting. If specified landscape material is not obtainable, submit to Engineer proof on non-availability and proposal for use of equivalent material. When authorized, adjustment of contract amount will be made.
2. Topsoil. Before delivery of topsoil, furnish Engineer with written statement giving location of properties from which topsoil is to be obtained, names and addresses of owners, depth to be stripped, and crops grown during past 2 years.

#### 1.05 Submittals.

A. Certification. Submit seed vendor's certified statement for each grass seed mixture required, stating botanical and common name, percentage by weight, and percentages of purity, germination, and weed seed for each grass seed species.

B. Planting Schedule. Submit planting schedule showing scheduled dates for each type of planting in each area of site.

C. Maintenance Instructions. Begin maintenance immediately after planting and continue maintenance of all seeded areas and sodded areas, until all work has been accepted by the Engineer.

1.06 Delivery, Storage and Handling.

A. Plant Materials.

1. Sod. Time delivery so that sod will be placed within 24 hours after stripping. Protect sod against drying and breaking of rolled strips.

1.07 Job Conditions.

A. Work Progress. Proceed with and complete landscape work as rapidly as portions of site become available, working within seasonal limitations for each kind of landscape work required.

B. Utilities. Determine location of underground utilities and perform work in a manner which will avoid possible damage. Hand excavate, as required. Maintain grade stakes set by others until removal is mutually agreed upon by parties concerned.

C. Excavations. When conditions detrimental to plant growth are encountered, such as rubble fill, adverse drainage conditions, or obstructions, notify Engineer before planting.

D. Planting Time. Plant or install materials during normal planting seasons for each type of landscape work required. Correlate planting with specified maintenance periods to provide maintenance from date of substantial completion.

E. Planting Schedule.

1. Sodding for law areas shall be performed after the spring thaw and prior to consistent ground freezing in the fall.
  - a. "Spring thaw" shall be defined as the earliest date in a new calendar year in which seed can be buried 1/2 inch into the surface soil (topsoil) through normal drill seeding methods.
  - b. Consistent ground freeze shall be defined as that time during the fall months in which the surface soil (topsoil), due to freeze conditions, prevents burying the seed 1/2 inch through normal drill seeding operations. At no time shall sod be laid, seed be sown, drilled or otherwise planted when the surface soil or topsoil is in a frozen or crusted state.
2. Dryland seeding shall be performed after spring thaw until June 30th or after September 1 until consistent ground freeze.

1.08 Special Project Warranty.

A. Warranty lawns through specified maintenance period, and until final acceptance.

2.00 MATERIALS

2.01 Topsoil.

A. Topsoil for landscape work will be available at site.

2.02 Soil Amendments.

A. Peat Humus. FS Q-P-166 and with texture and pH range suitable for intended use.

B. Commercial Fertilizer. Complete fertilizer of neutral character, with some elements derived from organic sources and containing following percentages of available plant nutrients:

1. For lawns, provide fertilizer with not less than 4% phosphoric acid and not less than 2% potassium, and percentage of nitrogen required to provide not less than 1 lb. of actual nitrogen per 1000 s.f. of lawn area. Provide nitrogen in a form that will be available to lawn during initial period of growth.
2. For dryland seeded areas, provide fertilizer with commercial type mixture of 16-16-8 or similar ratio, not less than 15 lbs per acre for nitrogen rate.

2.03 Grass Materials.

A. Dryland Grass Seed. Provide fresh, clean, new-crop seed complying with tolerance for purity and germination established by Official Seed Analysis of North America. Provide seed of grass species, proportions and minimum percentages of percentages of purity, germination, and maximum percentage of weed seed, as specified.

RIGHT-OF-WAY MIXTURE

<u>Seed List</u>	<u>Lbs. pls/acre</u>
Alkali Sacaton	0.5 lbs.
Indian Ricegrass "Nespar"	1.0 lbs.
Thickspike Wheatgrass	2.0 lbs.
Sanddrop Seed	0.5 lbs.
Crested Wheatgrass	4.0 lbs.
Russian Wildrye	<u>4.0 lbs</u>
	12.0 lbs.

Forb Mixture

Mat Saltbrush	1.5 lbs.
Castle Valley Saltbrush	1.5 lbs.
Winterfat	0.5 lbs.
Sage	<u>0.5 lbs.</u>
	4.0 lbs.

B. Sod. Not Applicable

Kentucky Bluegrass (Poa Pratensis).

C. Lawn Grass Seed. Not Applicable.

Lawn Grass Seed Mixture.  
Grass Seed Mixture.

		<u>Pure Seed</u>	<u>Germ.</u>	<u>Weed Seed</u>
Bluegrass (including Kentucky and American)	85%	80%	50%	
Manhattan Perennial Ryegrass		98%	90%	50%

Proportion by weight

Bluegrass 70%  
Manhattan Ryegrass 30%

Sowing Rate

Sow at the rate of 4 lbs. per 100 square feet.

2.04 Miscellaneous Landscape Materials.

A. Erosion Blanket. Not Applicable.

B. Mulch

1. Mulch all seeded areas with conweb long fiber mulch, hay or straw. Material for straw mulching shall consist of straw or oats, barley, wheat or rye and shall not contain seed of noxious weeds. Clean field hay may be substituted for straw when approved by the Engineer. Straw or hay in such an advanced stage or decomposition as to smother or retard the normal growth of grass will not be accepted.

3.00 METHODS AND PROCEDURES

3.01 Inspection.

- A. Installer must examine subgrade, verify elevations, observe conditions under which work is to be performed, and notify Contractor (of if none, Owner) of unsatisfactory conditions. Do not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable to Installer.

3.02 Preparation for Planting Lawns. Not Applicable.

3.03 Sodding New Lawns. Not Applicable.

3.04 Seeding New Lawns. Not Applicable.

3.05 Dryland Seeding.

- A. Prior to revegetation, planting or topsoil placement, all cut or fill slopes will be contoured to blend with adjacent terrain. Various slope molding techniques will be used to enhance the aesthetic quality of the slope, while maximizing the revegetation potential. All cut and fill slopes also being rounded at the toe to blend with the existing terrain. Additionally, where soils and steepness of slope permit, terraces will be constructed to aid the revegetation process.
- All topsoil, including existing vegetation, from excavation areas will be stockpiled with adequate precaution taken for erosion control. The incorporation of plant material into the topsoil will aid in erosion control and once the topsoil is re-spread, perhaps the plant material will renew its growth. All available topsoil will be re-spread on disturbed areas to insure seed germination and serve as a mulch layer. Where soil texture is desirable for plant growth, as determined by the Engineer, topsoil may not be re-spread if supplies are limited. Mulch and fertilizer will be applied to the subsoil layer to increase its revegetation potential.

Slopes that are flat enough to be mechanically scarified shall be done in a manner so that the scarification ridges run parallel to the contour of the slopes. Slopes too steep for mechanical scarification shall be roughed during topsoil replacement.

B. Seeding Dryland Areas

1. Seeding shall be done by hydroseeding, drilling, or hand broadcasting. Hydroseed shall be applied in a water and light mulch slurry after which mulch will be applied to cover the seed. Any areas that cannot be reached by hydroseeding or drill seeding shall be hand broadcast. Areas seeded by hand broadcasting shall be lightly raked.

C. Mulching

1. Conweb fiber mulch, previously specified, shall be applied at a rate of 1500 lbs./acre. Hay or straw shall be applied in a uniform manner at a rate of 1.5 tons/acre.

3.06 Cleanup and Protection.

- A. During landscape work, keep pavements cleaned and work area in an orderly condition.
- B. Protect landscape work and materials from damage due to landscape operations, operations by other contractors and trades and trespassers. Maintain protection during installation and maintenance periods. Treat, repair or replace damaged landscape work as directed.
- C. Water and care for seeding planted until a lush 3" high stand of cover is established.

4.00 FIELD QUALITY CONTROL

4.01 Inspection. When landscape work is completed, including maintenance, Engineer will, upon request, make an inspection to determine acceptability. Landscape work may be inspected for acceptance in parts agreeable to Engineer, provided work offered for inspection is complete, including maintenance. Where inspected landscape work does not comply with requirements,

replace rejected work and continue specified maintenance until reinspected by Engineer and found to be acceptable. Remove rejected plants and materials promptly from project site.

End of Section