SECTION 329200 – LAWNS AND GRASSES

PART 1 - GENERAL

1.1 Any deviances from the following instructions must be approved during design by WVU Facilities Management Personnel.

1.2 DEFINITIONS

- A ASTM American Society for Testing and Materials
- B TPI Turfgrass Producers International

1.3 Project conditions and requirements vary, thus precluding the absolute adherence to the items identified herein in all cases. However unless adequate written justification is provided, then it is expected that these guidelines will govern the design and specifications.

1.4 Pre-installation conference: conduct conference at project site to comply with requirements in Division 1, Section "Project Management and Coordination."

1.5 Submittals

- A Product Data: for each type of product indicated
- B Material Test Reports: for existing surface soil and imported topsoil
- C Maintenance Instructions: recommended procedures to be approved by owner for maintenance of lawns during a calendar year. Submit before expiration of required maintenance periods.

1.6 Quality Assurance

- A The project representative shall determine the acceptable level of quality by usual inspection generally, any area larger than 36 square inches devoid of established grass shall be considered unacceptable.

1.7 Scheduling

- A Planting restrictions: coordinate planting periods with maintenance periods to provide required maintenance from date of Substantial Completion. Plant during one of the following periods.
  - 1 Spring Planting: March 15 – June 15
  - 2 Fall Planting: August 15 – October 31

PART 2 - PRODUCTS

2.1 Seed

- A Grass Seed: Use WVU improved turf type tall fescue seed mix or approved equal.

WVU Improved Turf Type Tall Fescue Seed Mix

Seed %	Variety	Germ%
40.00	Firecracker Turf Type Tall Fescue	90
40.00	Titanium Turf Type Tall Fescue	90
10.00	Stella Perennial Ryegrass	90
08.00	Grand Slam (Perennial Rye)	90
01.70	Inert Matter	
00.25	Other Crop Seed	
00.05	Weed Seed Maximum	

2.2 Mulch

A WVU prefers the following mulches:

1 Cereal grain straw
2 Excelsior or cellulose fiber

B Hay shall NOT be used as mulch on lawn areas.
C Netting that does not rapidly decompose shall NOT be used.
D All plastic netting materials shall NOT be used.
E Netting shall only be used for sloping areas.
F Newly renovated lawns shall be mulched by using a bale mulcher or hydromulcher/ASTM specifications.

2.3 Turfgrass Sod

A Turfgrass Sod: Certified Number 1 Quality/Premium, including limitations on thatch, weeds, diseases, nematodes, and insects, complying with TPI's "Specifications for Turfgrass Sod Materials" in its "Guideline Specifications to Turfgrass Sodding." Furnish viable sod of uniform density, color, and texture, strongly rooted, and capable of vigorous growth and development when planted. Thin-cut sod will be purchased at 0.50 to 0.75 inches of soil and of uniform sod.

B Turfgrass Species: Sod of grass species as follows, with not less than 95 percent germination, not less than 85 percent pure seed, and not more than 0.5 percent weed seed.

1 Full Sun: Kentucky bluegrass (Poa pratensis), a minimum of three cultivars.
2 Sun and Partial Shade: Proportioned by weight as close as possible to the following:

Seed %	Variety
40.00	Firecracker Tur TypeTall Fescue
40.00	Titanium Turf Type Tall Fescue
10.00	Stella Perennial Ryegrass
10.00	Grand Slam (Perennial Rye)

3 Shade: Proportioned by weight as follows:

Seed %	Variety
50.00	Chewings red fescue (Festuca rubra variety)
35.00	Rough bluegrass (Poa trivialis)
15.00	Redtop (Agrostis alba)

2.4 Topsoil/Planting Soil

A On-site Topsoil: Existing Topsoil may be used as Planting Soil if it is suitable for that purpose. The suitability of the existing Topsoil should be evaluated against the ASTM D 5268, the Standard Specification for Topsoil used for Landscaping Purposes; pH range of 5.5 to 7, a minimum of 6 percent organic material content, free of stones 1 inch or larger in any dimension and other extraneous materials harmful to plant growth. To be determined by the WVU project representative. If the existing topsoil does not meet the requirements, it may be amended to meet ASTM D 5268.

B Imported Topsoil: New topsoil to be hauled in from off-site shall be fertile, friable soil, containing a minimum of 6% and maximum of 12% of organic matter with not more than 50% clay and not more than 55% sand as determined in accordance with ASTM D-482, "Particle-Size Analysis of Soils". At least 90% of the material shall pass the No. 10 sieve and shall be free of refuse or any material toxic to plant growth, free of subsoil and stumps, roots, brush, stones, or similar objects larger than one inch diameter. Ordinary sods and herbaceous growth, like grass, need not be removed, but thoroughly broken up and intermixed with soil during handling operations. Topsoil, unless otherwise specified or approved, shall contain an acidity range of 5.5 pH to 7 pH approved by project representative prior to delivery.

2.5 Inorganic Soil Amendments

A Lime: ASTM C 602, agricultural limestone containing a minimum 80 percent calcium carbonate equivalent and as follows.

1 Class: Class O, with a minimum 95 percent passing through No. 8 (2.36-mm) sieve and a minimum 55 percent passing through No. 60 (0.25-mm) sieve.

B Sulfur: Granular, biodegradable, containing a minimum of 90 percent sulfur, with a minimum 99 percent passing through No. 6 sieve and a maximum 10 percent passing through No. 40 sieve.

2.6 Organic Soil Amendments

A Compost: Well-composted, stable, and weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through 1/2-inch sieve; soluble salt content of 5 to 10 decisiemens/m; not exceeding 0.5 percent inert contaminants and free of substances toxic to plantings; and as follows:

1 Organic Matter Content: 50 to 60 percent of dry weight

2.7 Planting Soil Mix

A Planting Soil Mix: Consult with WVU Roads & Grounds.

PART 3 - EXECUTION

3.1 Lawn Preparation

A New Lawn Areas:

1. Loosen subgrade to a minimum depth of 4 inches.
2. Remove stones larger than 1 inch in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.
3. Soil Preparator or equivalent equipment shall be used to remove stones/rocks from the soil.
4. Spread planting soil mix to a total depth of 6 inches but not less than required to meet finish grades.
5. Spread approximately one-half the thickness of planting soil mix over loosened subgrade. Mix thoroughly into top 2 inches of subgrade. Spread remainder of planting soil mix.
6. Topsoil shall not be placed when topsoil or subgrade is frozen, excessively wet, or in condition that may otherwise be detrimental to proper grading.
7. Apply soil amendments and fertilizers according to soil test recommendations and mix thoroughly into top 6 inches of soil.
8. Finish Grading: Grade planting soil to a smooth, uniform surface plane with loose, uniformly fine texture. Roll and rake, remove ridges, and fill depressions to meet finish grades.

B Unchanged Subgrades: If lawns are to be planted in areas unaltered or undisturbed by excavating, grading, or surface soil stripping operations, prepare surface soil as follows:

1. Loosen surface soil to a depth of at least of 6 inches, depending on soil conditions determined by the project manager.
2. Remove stones larger than 1 inch in any dimension and sticks, roots, trash, and other extraneous matter.

3.2 Seeding

A Seed shall be sown while the soil is in a friable condition. Topsoil not in a friable condition just prior to seeding shall be reworked until acceptable to the Project Representative.

B Seeds shall not be sown through mulch. The seed mixture shall be sown 2 directions at a total rate of 7 ½ to 8 lbs. / 1000 square feet.

C Areas sown with broadcast type equipment shall be floated and lightly compacted to incorporate the seed with the soil.

3.3 Sodding

A Lay sod within 24 hours of harvesting

3.4 Satisfactory Lawns

A Satisfactory Seeded Lawn: At end of maintenance period, a healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities.

B Reestablish lawns that do not comply with requirements and continue maintenance until lawns are satisfactory.

3.5 Soil Preparation

A Topsoil Analysis

1 Furnish soil analysis by a qualified soil-testing laboratory stating percentages of organic matter; gradation of sand, silt, and clay content; cation exchange capacity; deleterious material; pH; and mineral and plant-nutrient content of topsoil.
2 Preparator or equivalent equipment shall be used to remove stones/rocks from the soil.
3 Report suitability of topsoil for lawn growth. State recommended quantities of nitrogen, phosphorus, and potash nutrients and soil amendments to be added to produce satisfactory topsoil.

3.6 Lawn Maintenance

A Begin maintenance immediately after each area is planted and continues until acceptable lawn is established, but for not less than the following periods:

1 Seeded Lawns: 60 days from date of Substantial Completion.
a. When full maintenance period has not elapsed before end of planting season, or if lawn is not fully established, continue maintenance during next planting season.

2 Sodded Lawns: 60 days from date of Substantial Completion.

B Mow lawn as soon as top growth is tall enough to cut (max 4”). Newly seeded lawns should initially be mowed no shorter than three inches high. Schedule subsequent mowing to maintain the following grass height:

1 Mow grass 1 ¼ to 3 inches high

3.7 Fertilizer

A Granular, chemical fertilizer shall be evenly applied on the prepared seed bed at the rate of 10 lbs./1000 square feet by broadcast method.
B Fertilizer shall be harrowed or raked into the soil to a depth not greater than one inch.
C Shall have a chemical analysis of 10/20/20 or equivalent proportion.

3.8 Mulch

A Mulch shall be immediately watered or sprayed with some type of adhesive. Contractor is responsible to assure a sufficient layer of mulch is maintained until grass is established.
B One of the following methods shall be used for mulching:

1 Hydro mulching: Contractor shall apply an approved organic fibrous material with standard hydro mulching equipment at the rate of 1,000 lbs./acre. Contractor shall apply this material to the entire area that has received seed completely and as evenly as possible. Care shall be taken so that adjacent roads, walks, and light poles do not receive the mulch material.

2 Straw-mulching: Contractor shall provide and place clean straw free from noxious weeds and seeds over the entire area that has received seed. Spreading the straw shall be thorough and as even as possible. Straw mulch shall be applied at the rate of 1.5 to 2 tons/acre.

END OF SECTION 329200