SECTION 32 92 00

TURF AND GRASSES

PART 1: GENERAL

1.01 DESCRIPTION

This section describes the establishment of turf and the restoration of existing lawn or turf areas that are disturbed during construction or repair & maintenance activities. In general disturbed surfaces will be restored to conditions equal to or better than what they were before the work began.

1.02 SUBMITTALS

A. Manufacturer's product data:

1. Complete materials list of all materials proposed to be furnished and installed under this section

2. Specifications and other data required to demonstrate compliance with the specified requirements.

B. Pre-Construction Photos

1. Provide pre-construction photos of the existing conditions prior to disturbance of proposed areas of construction.

1.03 GUARANTEE

A. If a satisfactory stand of lawn/grass has not been produced, the Contractor shall renovate and reseed the lawn and unsatisfactory portions thereof immediately or during the next planting season if proper weather conditions do not exist. A satisfactory stand is defined as a section of lawn that has:

1. For lawn areas
    a. No bare spots larger than 3 square feet.
    b. Not more than 10 percent of total area with bare spots larger than 1 square foot
2. For non-lawn (turf) areas
    a. No bare spots larger than 4 square feet
    b. The restored turf generally matches the coverage of the surrounding undisturbed turf area

1.04 REFERENCES

FS O-F-241 Fertilizers, Mixed, Commercial (09 Oct 90)

JJJ-S-181b Seeds, Agricultural (08 Feb 91)

AMS-01 (Sep 1977; Amended Oct 29, 1981) Federal Seed Act Regulations (Part 20): Certified Seed Regulations

1.05 DELIVERY, STORAGE, AND HANDLING

A. Inspection – Inspect turf material upon arrival and remove unacceptable material from the job site.

B. Fertilizer - Deliver to the site in original unopened containers bearing manufacturers chemical analysis.

C. Seed and fertilizer shall be stored in cool, dry locations away from contaminants.

D. Handling - Except for bulk deliveries do not drop or dump materials from vehicles.

PART 2: PRODUCTS

2.01 SEED

A. Seed Classification - Provide USDA certified seed of the latest seasons crop in original sealed packages bearing the producers guaranteed analysis for mixture percentage, purity, germination, weed seed content, and inert material. Label in conformance with USDA-01 and applicable state seed laws.

B. Quality Requirements - All seed must meet the requirements of the Texas Seed Law including the labeling requirements for showing pure live seed (PLS = purity x germination), name and type of seed.

2.02 FERTILIZER

A. Fertilizer shall be commercial grade, uniform in composition and conforming to Federal Specification 0-F-241. Fertilizer shall be Type I or Type II

B. Fertilizer shall be lawn or turf grade containing a minimum of 1lb nitrogen, 1lb phosphate, 1lb pot-ash active ingredient per 1000 SF (unless soil tests are conducted and suggest otherwise) Water soluble fertilizer must be used in hydroseeding.

2.03 TOPSOIL

A. When possible native topsoil excavated from a construction site will be stockpiled and reused on the same site. When topsoil must be imported to the site it shall come from locally approved Texas sources.

B. Topsoil shall be local, fertile, friable, natural, productive surface soil as is available on site. It shall be free of clay, stones or similar hard objects larger than 1 inch in greatest dimension and free of partially disintegrated debris and materials that are toxic or harmful to growth. Acceptable topsoil will contain organic matter in range of 1.5 percent to 20 percent.

2.04 SOIL EROSION CONTROL BLANKETS

A. When or if required for use soil erosion control blankets shall be machine produced mat of wood excelsior formed from a web of interlocking wood fibers, covered on one side with either plastic netting or twisted Kraft paper cord netting. Soil erosion control blankets shall not be installed on flat surfaces and sloped surfaces up to and including 10:1 slops. Soil erosion control blankets shall be used on surfaces with a slope greater than 10:1 as per the manufacturers installation guidelines.

B. Erosion control compost matting and Erosion Control Compost may also be used as an equivalent to erosion control blanket.

C. Erosion Control Compost shall follow TxDOT's special specification 5049 and specification 161 sources if the construction of repair site is within TxDOT's right of way.

2.05 HYDROSEED AND SOD

A. Lawn Areas (greater than 400 SF)

Hydroseed areas where lawns are or have been regularly maintained, whether residential, commercial or office areas, with the following mixture or a mixture as specifically required by the governing authority other than AW.

Bermuda grass *- 2lb per 1000 SF (use hulled seed in non-growing season)*
Annual Ryegrass *- 5lb per 1000 SF*
Water soluble fertilizer *(minimum 1lb Nitrogen, 1lb Phosphate, and 1lb Pot Ash per 1000 SF)*
Flexterra HP-FGM *(applied per Profile's loading chart 3000lb/acre)*

B. Non-Lawn (Turf) areas greater than 400 SF

Hydroseed areas with the following mixture or a mixture as specifically required by the governing authority other than AW.

Bermuda grass *- 2lb per 1000 SF (use hulled seed in non-growing season)*
Annual Ryegrass *- 5lb per 1000 SF*
Water soluble fertilizer *(minimum 1lb Nitrogen, 1lb Phosphate, and 1lb Pot Ash per 1000 SF)*
Flexterra HP-FGM *(applied per Profile's loading chart 3000lb/acre)*

C. Lawn or Non-Lawn (Turf) areas less than 400 SF

For areas to be restored that are less than 400 SF sodding or traditional hand or machine fertilizer and seed broadcasting methods may be used. Fertilize and seed areas with the following mixture, if not directed otherwise by the governing authority other than AW.

Bermuda grass *- 2lb per 1000 SF (use hulled seed in non-growing season)*
Annual Ryegrass *- 5lb per 1000 SF*
Water soluble fertilizer *(minimum 1lb Nitrogen, 1lb Phosphate, and 1lb Pot Ash per 1000 SF)*

Sod (Bermuda or St Augustine) will be used that matches the existing turf. Where sod is used it shall be green, freshly cut, and of good quality with grass free from all noxious weeds. It shall contain all the dense root system of the grass and shall not be less than 1-1/2 inches thick.

2.06 MULCH

A. If used mulch shall be free from noxious weeds, mold, and other foreign materials which may affect plant growth. Straw mulch may be from oats, wheat, rye, barley or rice and shall not contain fertile seeds.

B. Mulch shall be furnished in air-dry condition and of proper consistency for placing with commercial blowing equipment or by hand.

PART 3: EXECUTION

3.01 SEED AREA PREPARATION

A. Topsoil Areas

Topsoil shall be replaced with adequate amounts of topsoil material to restore the disturbed area to its original pre-disturbance grade and depth of topsoil but not less than 4 inches.

Prepare subsoil surface for finish grading by dressing and shaping to provide for uniform placement of topsoil. As a minimum the top 1 inch of the subsoil will loosened or scarified before the topsoil is placed.

Remove surface rock or other foreign objects exceeding 1 inch in greatest dimension. Dispose of rock and debris off site in a lawful manner.

Bring the topsoil to the finished grade by raking or with small, light weight machines that do not overly compact the topsoil.

When there is insufficient topsoil available from the site excavated materials, furnish 4 inches of imported topsoil to prepare the seed bed in lawn areas as described in, Part Two, Paragraph 2.01 of this section or clearly marked as lawn areas on the Drawings.

3.02 FERTILIZING

A. Apply fertilizer uniformly to all areas to be seeded. Disk, harrow or rake the fertilizer thoroughly into the soil to a depth of not less than 2 inches. Immediately before sowing the seed, rework the surface until it is a fine, pulverized, smooth seed bed varying not more than 1 inch in 10 feet.

3.03 SEEDING

A. Seed shall be done immediately after preparation and fertilization of the seed bed. Mix the seed thoroughly and sow it evenly over the prepared areas. After sowing, rake or drag the area to cover the seed to a depth of approximately 1/4 inch. Where areas to be restored have slopes greater than 10% sod shall be used.

3.04 SODDING

A. Sod all areas as noted in the Drawings. As a minimum, sod shall be fibrous, well rooted approved grass type. The grass shall be cut to a height of less than 3-inches. Edges of sod shall be cleanly cut, either by hand or machine, to a uniform thickness of not less than one and 1-½-inches. Sod shall be free from all primary noxious weeds.

B. Lay sod with tight staggered joints. On slopes, start placement at the foot of the incline. Use wood pegs driven flush to hold sod in place on slopes 4:1 or greater. Roll the sod lightly after placement. Fill any open joints with topsoil and/or sod

C. Around walkways, driveways, grass or other existing borders, remove sufficient soil so that the surface of the sod will be level with the existing surfaces and won't pose a tripping hazard,

3.05 MULCHING

A. Place mulching material evenly over all seeded areas within 48 hours of seeding if required. Place mulch at the rate of approximately 2 tons per acre, when seeding is performed in recognized growing season and at the approximate rate of 3 tons per acre when seeding is performed in a recognized non-growing season if applicable.

3.06 LANDSCAPED AREAS

Restoration of landscaped areas including plantings, shrubbery, and trees shall be performed in-kind and coordinated with the AW Project Manager prior to planting.

3.07 MAINTENANCE

A. Carefully maintain, tend, and water all seeded and sodded areas necessary to secure a good, well-established turf. Fill, grade, and reseed or re-sod all areas that have settled. Maintain the condition of the sodded areas for a period sufficient for the grass to root into the topsoil.

END OF SECTION 32 92 00