SECTION 32 92 00

TURF AND GRASSES

PART 1: GENERAL

1.01 DESCRIPTION

Restore all disturbed grass and landscaped areas to conditions equal to or better than before the work began and to the satisfaction of AW.

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 for germination. A satisfactory stand is defined as a section of lawn that has:

1. No bare spots larger than 3 square feet.

2. Not more than 10 percent of total area with bare spots larger than 1 square foot.

PART 2: PRODUCTS

2.01 TOPSOIL

Topsoil shall not contain more than 40 percent clay in that portion passing a No. 10 sieve. Topsoil shall contain between 5 percent and 20 percent organic matter as determined by loss on ignition of samples oven-dried to constant weight at 212°F.

2.02 FERTILIZER

A soil test shall be conducted to determine grade and the proper amount of lime and fertilizer to apply. In general, fertilizer shall be applied at a rate of 11 pounds per 1,000 square feet of 10-10-10 or equivalent with 50% water insoluble nitrogen unless indicated otherwise by the soil tests. Fertilizer must be slow release or applied in two applications, half at time of planting and the second half after permanent seed germinates.

2.03 SEED AND SOD

A. SOD

Where sod is required 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.

B. SEED

Seeding Dates: Following dates govern except when environmental conditions warrant, AW may extend seeding dates.

1. Spring: March 1 to June 1
2. Fall: August 1 to October 1

Seed disturbed areas with the following mixture or a mixture as required by the Soil Conservation District or other governing authority.

Species in Mix	Mix Percent by Weight	Min. Percent		Max. Percent Weed Seed
		Purity	Germination	
Red Fescue Chewings	30	95	85	0.50
Kentucky Bluegrass (Blend)	50	85	80	0.40
Red Top	3	90	90	0.75
Perennial Rye Grass	17	90	90	0.50

2.04 SOIL EROSION CONTROL BLANKETS

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 or sloped surfaces up to and including 10:1 slopes. Soil erosion control blankets shall be used on surfaces with a slope greater than 10:1 as per manufacturer's installation guidelines.

2.05 MULCH

Mulch shall be straw reasonably free of weed seed and foreign materials which may affect plant growth for all hand and straw blower applications. Paper or cellulose mulch is required for hydro seeding. Other materials may be used if approved by AW.

PART 3: EXECUTION

3.01 PREPARATION OF SEED BED

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.

Remove store, and use suitable topsoil available from the excavated material to backfill the excavation. Remove and dispose of all imported granular fill, grass, weeds, roots, sticks, stones, and other debris 1-inch or greater in diameter. Bring the topsoil to the finished grade by raking.

When there is insufficient topsoil available from the site excavated materials, furnish 4 inches of topsoil to be used as a seed bed in lawn areas as described in, Paragraph Part 2.01 of this Section or clearly marked as lawn areas on the plans.

B. Non-topsoil Areas

The trench backfill may be used as a seed bed, where approved by AW or in areas clearly marked on Drawings that are not considered lawn areas. After the backfill has been given a reasonable time to settle, grade it off to the finished grade and harrow to a depth of 3 inches. Remove and dispose of all grass, weeds, roots, sticks, stones and other debris 1 inch or greater in diameter.

3.02 FERTILIZING

Lime and fertilizer will be worked into the top 4 inches of soil prior to seeding and are generally applied at 500 lbs/acre (11 lbs/1000 sq).
Adjust rates as determine by soil test.

3.03 SEEDING

Seed immediately after preparation and fertilization of the seed bed. Mix the seed thoroughly and sow it evenly over the prepared areas at the rate specified in Paragraph 2.03. Sow the seed dry or hydraulically. After sowing, rake or drag the area to cover the seed to a depth of approximately 1/4 inch.

3.04 SODDING

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, to a uniform width of not less than 16-inches, and in strips of not less than 3-feet in length. Sod shall be free from all primary noxious weeds.

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. Use two wood pegs per strip of sod. Roll the sod lightly after placement. Fill any open joints with topsoil and/or sod.

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

Place mulching material evenly over all seeded areas within 48 hours of seeding. Straw mulch must be applied at a rate of 1-1/2 to 2 tons per acre when a liquid mulch binder is used. When a crimper is used instead of liquid mulch binder, the rate of application is 3 tons per acre. Paper and cellulose mulch shall be applied at a rate of 1,500 pounds per acre (Or as recommended by the product manufacturer). Mulch must be applied in accordance with the New Jersey Soil Erosion and Sediment Control Manual, Standard for Permanent Vegetative Cover for Soil Stabilization.

3.06 HYDRO SEEDING

Equipment shall be a commercial-type Hydro-Seeder and have a built-in agitation system with an operation capacity sufficient to agitate, suspend and homogeneously mix slurry. Distribution lines shall be large enough to prevent stoppage and allow even distribution of slurry over the site by generating 150 psi at the nozzle.

Water and fertilizer shall be added first with the seed added last. Mulch shall not be included in the tank with seed. Once fully loaded, the complete slurry shall be agitated

for 3-5 minutes to allow for uniform mixing prior to application. The application rate for hydroseeding requires AW's prior approval.

All hydro seed applications are to be applied in a sweeping motion to form a uniform application.

3.07 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.

3.08 MAINTENANCE

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