

## SECTION 02945

### LANDSCAPING

#### PART 1. GENERAL

##### 1.1 Related Work Specified Elsewhere

- a. The general provisions and documents of the Contract, including General and Special Conditions, apply to the work specified in this Section.
- b. Excavation Embankment and Backfill - Section 02315
- c. Site Improvements - Section 02460
- d. Construction Drawings

##### 1.2 Scope

- a. Work under this Section shall include all labor, materials, services, equipment and accessories necessary to furnish and install trees, shrubs, and turf in accordance with the specifications and applicable Drawings.

##### 1.3 Certification of Acceptability

- a. Inspection of the work covered by this Section to determine completion of the work involved will be made at the conclusion of the Maintenance Period upon written notice requesting such inspection submitted by the Landscape Contractor at least ten (10) days prior to the anticipated date. The condition of turf and plantings will be noted and determination made by the Landscape Architect whether maintenance shall continue.

##### 1.4 Standards

- a. Provide plants which are true to name. Tag one of each bundle or Lot with the name and size of plants and shall conform to ANSI Z260.1 - Nursery Stock, latest edition, of the American Association of Nurserymen, Inc.
- b. Workmanship: Perform work in accordance with the best standards of practice for Landscape work and under the continual supervision of a competent foreman capable of interpreting the Drawings and Specifications.
- c. Submit documentation to Landscape Architect of Record within twenty-five (25) days after award of contract stating that plant material is available. Any and all substitutions due to unavailability must be requested in writing prior to confirmation of ordering.

- d. Plants shall be subject to review and approval of Landscape Architect of Record at place of growth or upon delivery for conformity to specifications. Such approval shall not impair the right of review and rejections during progress of the work. Submit written request for review of plant material at place of growth to Landscape Architect of Record. Written request shall state the place of growth and quantity of plants to be reviewed. Landscape Architect of Record reserves the right to refuse review at this time if, in his judgment, sufficient quantity of plants is not available for review. Review shall be for character and form.

1.5 Guarantee

- e. Turf and plantings shall be guaranteed for one (1) full year after certification of acceptability by the Landscape Architect and shall be alive and in satisfactory growth at the end of the guarantee period, except for damage resulting from causes beyond the responsibility of the Contractor. The Contractor shall provide the Owner with a written guarantee upon certification of acceptability. For plant material in question at the end of the guarantee, the Landscape Architect, Owner and Contractor shall determine a reasonable extension of the guarantee period.

1.6 Tests and Certifications

- a. Tests specified in this Section shall be paid for by the Contractor.  
**Certifications required must be submitted to the Landscape Architect or Owner's Representative for approval before use of materials on the site.**
- b. The **Contractor shall be required to take representative soil samples of the topsoil** to be provided from several locations (on-site) in the area(s) under consideration for testing. Imported topsoil shall also require test results prior to placement. Tests shall be made by a State Commercial Soil Testing Laboratory using methods approved by the Association of Official Agricultural Chemist or the State Agricultural Experiment Station, or by the University of Maine at Orono. Testing shall include chemical balance (pH) **as well as organic content.** The required pH level shall be between 6.6-7.3% and the organic content shall be between 6.5-8%.
- c. The Contractor shall provide testing data for composted soil amendment if required to supplement the required minimum organic content.
- d. The Contractor shall provide certification for roof deck soil media in conformance with Section 07 14 19 Garden Roof Assembly of project specifications.

## PART 2. PRODUCTS

### 2.1 Materials

- a. Topsoil - The Contractor shall furnish and place topsoil to give the specified depths. The Contractor shall furnish and place 18 inches of loam in all shrub beds, and 6 inches under all turf areas. Topsoil mix shall be placed in all tree and shrub pits as shown on the Drawings. Natural loam topsoil shall be of uniform quality, free from hard clods, still clay, hard pan sods, stones over  $\frac{3}{4}$  inches and undesirable inorganic materials. The Owner and/or Landscape Architect reserves the right to reject on or after delivery any materials which do not, in his or her opinion, meet these Specifications.
- b. Roof Garden Soil Media - soil media for roof garden shall conform to project specifications Section 07 14 19 roof garden, for "Intensive", Shallow Intensive/Lawn and Extensive Media".
- c. Additives
  - (1) Humus - Ground or shredded peat that has been stockpiled at least one year prior to use, or commercial bagged peat.
  - (2) Manure - Well-rotted unleached stable manure with no more than 25% straw, shavings, or sawdust content. A mixture of one (1) cubic yard of peat humus or peat moss and 100 lbs. of commercial dehydrated-bagged manure such as Bovung or Spurigon may be used.
  - (3) Mulch for Plants - Well-rotted (**black**) shredded pine bark as approved by the Landscape Architect.
  - (4) Lime - Commercial ground lime with no less than 85% total carbonates, 50% passing a 100 mesh sieve and 90% passing a 200 mesh sieve as approved by the Landscape Architect. Coarser material will be accepted provided that specific rates of application increased proportionately.
  - (5) Compost soil amendment – Acceptable compost for “compost manufactured topsoil” shall conform to EPA Chapter 40 CFR 503 (pathogen, metals and vector attraction reduction) as well as applicable state regulations.
- d. Commercial Fertilizer
  - (1) Seeding - 19-26-5 dust free homogenous granular material such as Scotts Pro-Turf Starter Fertilizer or an approved equal (application rate as recommended by manufacturer).
  - (2) Sodding - 10-6-4 with 50% nitrogen derived from urea form, such as Agway Turfwood Special Premium or an approved equal (application rate as recommended by manufacturer).

- (3) Super phosphate - 0-20-0 in unopened bags with manufacturer analysis printed on the bag.
- e. Plant Materials - Furnish plants shown and specified on the Drawings and listed in the plant materials list. Discrepancies between the number of plants shown on the Drawings and the number listed in the plant list shall not be grounds for additional remuneration for the Contractor. Plants shall be nursery grown, typical of their species or variety and have a normal habit of growth. Any plant with broken, damaged, or badly bruised branches, trunks, or root balls shall be rejected.
- (1) Sizes: Plants larger than specified in the plant list may be used if approved by the Landscape Architect but use of such plants shall not increase the contract price. If the use of the larger plants is approved, the spread of roots or ball of earth shall be increased in proportion to the size of the plants.
  - (2) Substitutions: In the event that trees, shrubs or other plant material specified in the plant list are impossible or unreasonably difficult to obtain, the Contractor shall immediately notify the Landscape Architect to discuss appropriate substitutions. No substitutions of plant material may be made without the approval of the Landscape Architect.
- f. Grass Seed
- (1) Grass Seed mixtures shall be fresh, clean, new crop seed. Seed may be mixed by an approved method on the site, or may be mixed by the dealer. If the seed is mixed on the site, each variety shall be delivered in the original containers which shall bear the dealer's guaranteed statement of the composition of the mixture and the percentage of purity of each variety. The Dealer's Guarantee Statement shall be delivered to the Landscape Architect.
  - (2) Grass seed mixture shall be of the following types of seed:
    - Lawn Areas:
      - Park Mix by Allen, Sterling & Lothrop or approved equal
      - 35% Kentucky Bluegrass 85/80
      - 20% Creeping Red Fescue
      - 15% Chewings Fescue
      - 15% Perennial Ryegrass
      - 15% Ryegrass
- g. Sod - Sod shall be well-established turf of even thickness consisting of a Bluegrass blend, 90% Bluegrass and 10% Fescue. Sod shall be as provided by Winding Brook Sod Farm, Lyman, Maine or approved equal.

## PART 3. EXECUTION

### 3.1 Pre-Plant Weed Control

- a. If live perennial weeds exist on site at the beginning of work, spray with a non-selective systemic contact herbicide, as recommended and applied by an approved licensed landscape pest control advisor and applicator. Leave sprayed plants intact for at least fifteen days to allow systemic kill or as directed by advisor.
- b. Maintain site weed free until final acceptance by Owner utilizing mechanical, manual and/or chemical treatment.

### 3.2 Planting of Trees and Shrubs

- a. Plants must be located by the Contractor and approved by the Landscape Architect before pits are dug. The Contractor shall notify the Landscape Architect at least 48 hours prior to scheduling installation of plant material. Locations as shown on the Drawings may be varied due to existing conditions.
- b. Preparation of Soil - Manure, peat humus and super phosphate additives shall be incorporated into topsoil by placing the additives over topsoil piles and turning piles at least 3 times or until thoroughly mixed. (Refer to planting detail)
- c. Roof Garden Soil Media - Place soil media type as specified and shown on Drawings conforming to Section 07 14 19 Roof Garden of the project specifications.

### 3.3 Staking and Guying

- a. Trees shall be staked at the time of planting as shown on the typical section of Tree Planting Detail.

### 3.4 Pruning and Mulching

- a. Remove all dead wood and/or suckers and all broken or badly bruised branches. All pruning shall conform to standards established by the National Arborist Association.
- b. Immediately after planting operations are completed, cover all tree and shrub pits with three (3) inch layer of specified mulch. The limit of this mulch for trees shall be the area of the pit and for shrubs in beds, the entire area of the shrub bed.

### 3.5 Watering

- a. The Contractor shall be responsible for thoroughly watering all plant material upon installation.

- b. Watering shall be monitored on a daily basis when temperatures exceed 70 degrees. The depth of moisture in all tree and shrub plantings shall be adequate to prevent wilting.
- c. Watering (as required) of plant material shall continue for the duration of the maintenance period until certification of acceptability.

### 3.6 Loaming and Seeding

- a. Conduct planting operations under favorable weather conditions. Areas not required to be developed otherwise shall be seeded to turf.
- b. Compost Manufactured Topsoil – The soil (source material) shall be free of lumps, plants, weeds, roots and other debris over 2 inches in any dimension and free of stones over inch in any dimension. The organic compost shall be uniformly incorporated into the loam source by rolling and tumbling, by a front-end loader or by processing in a mixing plant. The material shall be mixed sufficiently to produce a homogenous soil, free of lumps and clods. In addition to the requirements for the compost amendment, the Contractor shall provide documentation that the recommended rate of fertilizer, per the testing analysis, has been applied to lawn areas prior to seeding.
- c. Prior to placing loam, scarify subgrade areas; remove all rocks over two (2) inches and debris; and set grade stakes as necessary. Place topsoil evenly over all areas to be loamed to a minimum thickness of six (6) inches. Hand rake to remove clods, lumps, brush, roots, and stones over  $\frac{3}{4}$  inches in diameter. Hand roll to show depressions and uneven grades. Regrade as necessary to obtain smooth, even grades. Surplus topsoil shall become the property of the Contractor and shall be removed off the site.
- d. Apply additives (lime, fertilizer, compost etc.) as per the recommendation of the testing lab. Apply additives and harrow into top two (2) inches of the seedbed.
- e. Sow seed specified by use of a mechanical spreader at the rates specified. Rake lightly in; roll with 200 lb. roller and water with a fine spray.
- f. Following compaction, apply a one- (1) inch layer of straw to hasten germination.
- g. Full even growth in all areas must be guaranteed. The maintenance period shall continue after seeding and until the lawns are certified acceptable by the Landscape Architect.
- h. Repair damage resulting from erosion, gullies, washouts or other similar causes if such damage occurs before certification of acceptability of turf and planting by the Landscape Architect.
- i. Sod - After all grading has been completed, the soil shall be irrigated within 12-24 hours before laying the sod. Sod shall not be laid on soil that is dry and powdery.

- j. The first row of sod shall be laid in a straight line with subsequent rows placed parallel to and tightly against each other. Lateral joints shall be staggered to promote a uniform growth and strength. Care shall be exercised to insure that the sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which cause air drying of the roots.
- k. The Contractor shall water sod immediately after installation to prevent drying during progress of the work. It shall then be thoroughly irrigated to a depth sufficient that the underside of the new sod pad and soil immediately below the sod is thoroughly wet.
- l. Rolling of the sod shall be required to properly join sod to the bed after the sod is installed and twenty-four (24) to forty-eight (48) hours after initial watering. The Contractor shall roll the required area with a roller which weights seventy-five (75) to one hundred (100) pounds per square foot of roller width. The completed sod surface shall be true to finish grades as shown on plans and even and firm at all points.
- m. Watering
  - (1) First and Second Week - The Contractor shall provide all labor and arrange for all watering necessary for establishment of the turf. In the absence of adequate rainfall, watering shall be performed daily or as often as necessary during the first and second week and in sufficient quantities to maintain moist soil to a depth of at least four (4) inches. Watering should be done during the heat of the day to help prevent wilting.
  - (2) Watering shall continue to be the responsibility of the Contractor until such time as the Owner or project Landscape Architect has certified acceptance of lawn areas.

#### Maintenance

- a. General - Maintenance shall begin immediately after each portion of seed and each plant is planted and shall continue in accordance with the following:
  - (1) Lawns: The Contractor shall be responsible for establishing a uniform stand of the specified seed and until a Certification of Acceptability is received. No bare spots shall be allowed. After the seed has started, all areas and parts of areas that fail to show a uniform stand of grass, for any reason whatsoever, shall be seeded or sodded repeatedly until all areas are covered with a satisfactory growth of grass. The Contractor shall be responsible for the first two (2) mowings.

- (2) New Plantings: Protect and maintain new planting until the end of the lawn maintenance period, or, if installed after the lawn maintenance period, until installation of planting is certified acceptable by the Landscape Architect. Maintenance shall include watering, spraying and dusting for insect and fungal control, mulching, tightening and repairing guys, replacement of sick or dead plants, resetting plants to proper grades or upright position, and restoration of planting saucer, and all other care needed for proper growth and maintenance of the plants. Planting completed after the lawn preparation shall provide proper protection to lawn areas. Any damage resulting from planting operations shall be promptly repaired.
- (3) Spraying and Dusting: During the maintenance and guarantee periods, the Contractor shall do all seasonal spraying and/or dusting of trees and shrubs as required.
- (4) Protection: Planting areas and plants shall be protected against trespassing and damage of any kind. If any plants become damaged or injuries occur, they shall be treated or replaced as directed.
- (5) Damage: Damage resulting from erosion, gullies, washouts, or other causes shall be repaired by filling with topsoil, tamping, re-fertilizing, and sodding by the Contractor at his own expense if such damage occurs prior to certification of acceptability of turf and plantings by the Landscape Architect.
- (6) Responsibility: The Contractor's responsibility for maintenance shall cease at the time of certification of acceptability by the Landscape Architect. During the guarantee period, the Contractor shall be held responsible for making replacements, but no maintenance shall be required, other than spraying and dusting.

### 3.6 Replacement

- a. At the end of the guarantee period, inspection will be made by the Landscape Architect upon written notice requesting such inspection submitted by the Contractor at least ten (10) days before the anticipated date. Any plant required under this Contract that is dead or not in satisfactory condition, as determined by the Landscape Architect, shall be removed from the site. These, and any other plants missing due to the negligence of the Contractor, shall be replaced with plants of the same type and size as originally specified. Replanting shall be done as soon as conditions permit, but during the normal planting season. Plant items in accordance with these specifications.

### 3.7 Clean-up

- a. The Landscape Contractor shall remove all debris, construction equipment, excess fill, rocks, and other excess material caused by his work, from the site upon completion of his portion of the work.

END OF SECTION