

## SECTION 32 90 00 - LANDSCAPE WORK

### PART 1 - GENERAL

#### 1.01 RELATED DOCUMENTS:

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

#### 1.02 DESCRIPTION OF WORK:

- A. Extent of landscape development work is minor grading and seeding to match conditions and contours that were existing prior to the work of this project, and new planted materials shown on the drawings.
- B. Sub-grade Elevations: Excavation, filling and grading required to establish elevations shown on drawings are not specified in this section. Refer to earthwork sections.
- C. Coordinate work with that of other Sections of these Specifications.

#### 1.03 QUALITY ASSURANCE:

- A. Subcontract landscape work to a single firm specializing in landscape work.
- B. Maintenance Begin maintenance of lawns immediately after each area is planted and continue until acceptable lawn is established, but not for less than the following periods:
  - a. Seeded Lawns: 60 days after date of completion.

#### 1.04 SOURCE QUALITY CONTROL:

- A. General: Ship landscape materials with certificates of inspection req'd by governing authorities. Comply with regulations for landscape materials certificates & documents. Submit with record drawings.
- B. Do not make substitutions. If specified landscape material is not obtainable, submit proof of non-availability to Architect, together with proposal for use of equivalent material.
- C. Analysis and Standards: Package standard products with manufacturer's certified analysis. For other materials, provide analysis by recognized laboratory made in accordance with methods established by the Association of Official Agriculture Chemists, wherever applicable.
- G. Architect shall approve all earthwork prior to reseeding.

#### 1.05 SUBMITTALS:

- A. Certification: Submit certificates of inspection as req'd by governmental authorities. Submit manufacturer's or vendors certified analysis for soil amendments and fertilizer materials. Submit other data substantiating that materials comply with specified requirements.
- C. Planting Schedule: Submit proposed planting schedule, indicating dates for each type of landscape work during normal seasons for such work in area of site. Include delivery dates to site and planting dates; minimize on-site storage of unplanted materials. Correlate with specified maintenance periods to provide maintenance from date of completion. Once accepted, revise dates only as approved in writing, after documentation of reasons for delays.

- D. Maintenance Instructions: Submit to the Architect typewritten instructions recommending procedures to be established for maintenance of landscape work for one full year. Submit prior to expiration of required maintenance period(s).
- 1.06 DELIVERY, STORAGE AND HANDLING:
- A. Packaged Materials: Deliver packaged materials in containers showing weight, analysis and name of manufacturer. Protect materials from deterioration during delivery, and while stored at site.
  - B. Do not remove container grown stock from containers until planting time.
- 1.07 JOB CONDITIONS:
- A. 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. Coordinate with all trades to minimize injuries to materials after planting.
  - 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. 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 completion. Correlate planting with delivery to minimize storage.
  - D. Coordination with Lawns: Plant trees and shrubs after final grades are established and prior to planting of lawns, unless otherwise acceptable to Architect. If planting of trees and shrubs occurs after lawn work, protect lawn areas and promptly repair damage to lawns resulting from planting operations.
- 1.08 SPECIAL PROJECT WARRANTY:
- A. Warranty lawns, trees, and shrubs for one year after final acceptance of project.

## PART 2 - PRODUCTS

### 2.01 TOPSOIL:

- A. Topsoil should be stockpiled for re-use in landscape work. If quantity of stockpiled topsoil is insufficient provide additional topsoil as required to complete landscape work. Use topsoil in areas to receive seeding and planting. Provide a minimum depth of 6-inches for proposed grassed areas and adequate depth for planting areas.
- C. Provide new topsoil of fertile, friable, natural loam, surface soil, reasonably free of subsoil, clay lumps, brush, weeds and other litter, and free of roots, stumps, stones larger than 2" in any dimension, and other extraneous or toxic matter harmful to plant growth.
- D. Obtain topsoil from local sources or from areas having similar soil characteristics to that found at project site. Obtain topsoil only from naturally, well-drained sites where topsoil occurs in a depth of not less than 4"; do not obtain from bogs or marshes.

2.02 SOIL AMENDMENTS:

- A. Mulch: Organic mulch free from deleterious materials and suitable for top dressing of trees, shrubs or plants and consisting of one of the following:
  - 1. Shredded hardwood
  - 2. Ground or shredded bark
  
- 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 trees and shrubs, provide fertilizer with minimum 16% total nitrogen, 16% available phosphoric acid & 16% soluble potash.
  - 2. For lawns, provide fertilizer with percentage of nitrogen required to provide not less than 1 lb. of actual nitrogen per 100 sq. ft. of lawn area and not less than 4% phosphoric acid and 2% potassium. Provide nitrogen in a form that will be available to lawn during initial period of growth; at least 50% of nitrogen to be organic form.
  - 3. Manure: Well rotted, unbleached stable or cattle manure containing not more than 25% by volume of straw, sawdust or other bedding materials and containing no chemicals or ingredients harmful to plants.
  - 4. Areas to be seeded or sodded shall be properly prepared, then fertilized with an 8-8-8 or 12-12-12 at a rate of 2 lbs per 1,000 sq. ft., 6-8 lbs bulk.

2.03 PLANT MATERIALS:

- A. Quality: Provide trees, shrubs, and other plants of size, genus, species and variety shown and scheduled for landscape work and complying with recommendations and requirements of ANSI Z60.1 "American Standard for Nursery Stock".

2.04 GRASS MATERIALS:

- A. Seed: For reseeding Lawns: turf-type tall fescue: one, or a blend of two or more of the following: Jaguar 3, Hounddog V, Crossfire II, Falcon II,.

2.06 MISCELLANEOUS LANDSCAPE MATERIALS:

- A. Anti-Erosion Mulch: Provide clean, seed-free salt hay or threshed straw of wheat, rye, oats or barley.
- B. Filtration/Separation Fabric: Water permeable filtration fabric of fiberglass or polypropylene fabric.

PART 3 - EXECUTION

3.01 PREPARATION:

- A. Layout individual tree and shrub locations and areas for multiple plantings. Stake locations and outline areas and secure Architect's acceptance before start of planting work. Make minor adjustments as may be required.
  
- B. Preparation of Planting Soil:
  - 1. For planting beds and lawns, mix planting soil either prior to planting or apply on surface of topsoil and mix thoroughly before planting.
    - a. Apply phosphoric acid fertilizer (other than that constituting a portion of complete fertilizers) directly to subgrade before applying planting soil and tilling.
  
- C. Preparation for Planting Lawns:
  - 1. Preparation of Unchanged Grades: Where lawns are to be planted in areas that have not been altered or disturbed by excavating, grading, or stripping operations, prepare soil for lawn planting as follows: Till to a depth of not less

than 6"; apply soil amendments and initial fertilizers as specified; remove high areas and fill in depressions; till soil to a homogenous mixture of fine texture, free of lumps, clods, stones, roots and other extraneous matter.

- a. Prior to preparation of unchanged areas, remove existing grass, vegetation and turf. Dispose of such material outside of District's property; do not turn over into soil being prepare for lawns.
2. Apply specified commercial fertilizer at rates specified and thoroughly mix into upper 2" of topsoil. Delay application of fertilizer if lawn planting will not follow within a few days.
3. Fine grade lawn areas to smooth, even surface with loose, uniformly fine texture. Roll, rake and drag lawn areas, remove ridges and fill depressions, as required to meet finish grades. Limit fine grading to areas which can be planted immediately after grading.
4. Moisten prepared lawn areas before planting if soil is dry. Water thoroughly and allow surface moisture to dry before planting lawns. Do not create a muddy soil condition.
5. Restore lawn areas to specified condition if eroded or otherwise disturbed after fine grading and prior to planting.

D. Preparation of Planting Beds:

1. Loosen sub-grade of planting bed areas to a minimum depth of 6" using a cultmulcher or similar equipment. Remove stones over 1-1/2" in any dimension, and sticks, stones, rubbish and other extraneous matter.
2. Spread planting soil mixture to minimum depth required to meet lines, grades and elevations shown, after light rolling and natural settlement. Place approximately 1/2 of total amount of planting soil required. Work into top of loosened subgrade to create a transition layer, then place remainder of the planting soil.

3.03 MAINTENANCE:

- A. Begin maintenance immediately after planting.
- B. Maintain lawns for not less than the period stated below, and longer as required to establish an acceptable lawn.
  1. Maintain lawns by watering, fertilizing, weeding, mowing, trimming, and other operations such as rolling, regrading and replanting as required to establish a smooth, acceptable lawn, free of eroded or bare areas. Continue to maintain lawns until final acceptance of project by Owner.

3.04 CLEANUP AND PROTECTION:

- A. During landscape work, keep pavements clean 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.

3.05 INSPECTION AND ACCEPTANCE:

- A. When landscape work is completed, including maintenance, Architect will, upon request, make an inspection to determine acceptability.
  1. Landscape work may be inspected for acceptance in parts agreeable to Architect, provided work offered for inspection is complete, including maintenance.
  2. When inspected landscape work does not comply with requirements, replace

rejected work and continue specified maintenance until re-inspected by Architect and found to be acceptable. Remove rejected plants and materials promptly from project site.

END