

SECTION 02900 - LAWNS, GRASSING, & LANDSCAPING

PART 1 - GENERAL

1.01 PERMANENT GRASSING REQUIREMENTS:

THE CONTRACTOR SHALL ESTABLISH PERMANENT GRASSING ON ALL DISTURBED AREAS PRIOR TO FINAL RELEASE WHETHER SHOWN ON THE PLANS OR NOT.

1.02 SECTION INCLUDES

- A. Lawns, grassing, and landscaping materials and planting instructions.

1.03 RELATED DOCUMENTS/SECTIONS

- A. Contract documents and drawings, construction details as shown on the plans, geotechnical engineering report. Refer to appropriate related sections as applicable.

1.04 WARRANTIES

- A. Warranty commencement date will be date of final approval and release after all grassing and landscaping is complete, established and accepted by Owner or Architect.
- B. Materials:
 - 1. Sod and grasses:
One year following Owner acceptance.
 - 2. Evergreen shrubs, bushes, & trees:
One year following Owner acceptance.
 - 3. Deciduous Plants and trees:
90 days following Spring breakout of growth.
- C. Replacement policies:
 - 1. Materials which have either died or failed to show satisfactory vigorous growth shall be removed and replaced with equal as-specified materials.
 - 2. Warranty periods for replaced materials shall commence on the Owner-acceptance dates for these materials, and warranty criteria shall be the same as outlined above.
 - 3. If replaced materials become unsatisfactory within their new warranty periods, the Owner reserves the right to require continued replacements

or obtain a credit from the Contractor for the value of the unsatisfactory materials.

1.05 REFERENCED STANDARDS

- A. Standardized Plant Names, latest edition, by the American Joint Committee on Horticultural Nomenclature.
- B. American Standard for Nursery Stock, latest edition, by the American Association of Nurserymen.

1.06 QUALITY CONTROL

- A. Only tree or plant material grown in a recognized nursery in accordance with good horticultural practice will be accepted. Provide healthy, vigorous stock free of disease, insects, eggs, larvae, and defects such as knots, sun-scald, injuries, abrasions or disfigurement.
- B. All materials and construction required for completion of the work under this section are subject to the approval of the Owner/Architect. The Owner/Architect shall have the right to reject any and all materials and construction which, in their own opinion, does not meet the requirements of the Contract Documents. The Contractor shall remove all rejected work or material from the job site and replace promptly according to the Contract Documents at no expense to the Owner.

PART 2 - PRODUCTS

2.01 GENERAL

- A. PERMANENT GRASSING: (Sodded, seeded, or sprigged):
VERIFY AREAS TO BE SODDED WITH OWNER PRIOR TO CONSTRUCTION.

Seed: Common Bermuda (Cyandon dactylon), 98% purity, 85% germination, with State Dept. of Agriculture tag, or as specified by Owner.

Sod and sprigs: Hybrid Bermuda, Tifway 419, or as specified by Owner.

- B. TEMPORARY GRASSING:
As shown on plans, or Kentucky 31 Fescue and/or winter rye, allowed for Contractor's convenience to control erosion or other purposes. Temporary grass must be tilled under and soil prepared for permanent

grassing per specifications.

C. LANDSCAPING MATERIALS:

Plants: True to species and variety, complying to ANSI Z60.1 "Standard for Nursery Stock".

Trees: Of height and caliper listed with branching configuration conforming to ANSI Z60.1 for type and species required. Provide only single stem trees.

Ground cover: Provide plants well established and well rooted in removable containers with not less than the minimum number and length of runners conforming to ANSI Z60.1 for the pot or container size listed.

D. FERTILIZER:

Commercial slow release type, 5% nitrogen, 10% phosphoric acid, 15% potash.

E. LIME: Ground dolomitic limestone.

F. WATER:

Contractor shall furnish all water as required for establishment and maintenance of all grassing (sod or seed), trees, shrubs, plants, and other landscape materials until final approval and acceptance by Owner and Architect. Contractor is responsible for water source, transportation, distribution, and necessary equipment.

G. MULCH:

Pine bark mini-nuggets or shredded hardwood mulch (color per Architect).

PART 3 - EXECUTION

3.01 GENERAL

- A. Contractor shall review all drawings and specifications, and locate and protect from damage any and all existing or proposed utilities or site improvements prior to landscape excavation or work. Contractor shall restore any damaged improvements or utilities at no expense to Owner.
- B. SOIL SAMPLES: Contractor shall take soil samples from several representative areas where landscaping will occur. Samples shall be taken to represent each different soil condition encountered in the required landscaping areas. Soil samples shall be sent for analysis to the Agricultural Extension Service (AES). Provide the A/E/ with the written

report of AES recommendations for soil amendments and fertilizers to be used on the site. No adjustment in Contract Time or Contract Sum will be allowed for soil sampling and analysis.

- C. TOP SOIL: Provide topsoil which is fertile, friable, natural loam surface soil, free of subsoil, clay lumps, brush, weeds and other debris, free of roots, stumps, stones larger than 1/2" diameter in any dimension, and any other extraneous or toxic material or debris harmful to plant growth. The Contractor is solely responsible for obtaining and distributing all required topsoil material for grassing, planting, and landscaping the project, regardless of the source. Minimum 5 inch depth of topsoil required for all grassed areas, minimum 9 inch depth of topsoil required for shrubbery, flower, or planting beds or areas.

- D. FINISH GRADE REQUIREMENTS:
 - a. Within 0.10 feet of required grade.

 - b. Smooth and uniform to accomplish mowing of grass to uniform heights without scalping. Remove all stones 1" and larger in diameter prior to grassing operations.

 - c. Sloped at minimum 1.0% grade for proper drainage away from buildings and into storm sewer system.

 - d. Sod shall be set in place with snug and staggered joints, and rolled to remove high or low or undulating areas.

 - e. **Contractor shall coordinate all landscaping to ensure that finished grades are provided as shown on plans, particularly along the interface with the building perimeter to ensure positive drainage away from building(s), structures, and all other improvements which may be damaged by water or runoff. Adjust subgrade as required to allow for landscape material thickness.**

- E. PERMANENT GRASSING:

The Contractor is responsible for establishing final permanent grassing on all disturbed areas in accordance with the Contract Documents whether shown on the plans or not. All temporary grassing which does not comply with the required permanent grassing materials and were installed for erosion control measures or the convenience of the Contractor, shall be fully tilled under, then the soil shall be prepared for permanent grassing in accordance with Contract Documents.

- F. ACCEPTABLE UNIFORM STAND OF GRASS:

An acceptable uniform stand of grass is defined as:

Establishment of the specified grass, properly watered, maintained, mowed, and free of weeds, with the grass having a minimum coverage of 97% over the required areas and only scattered bare spots, none of which is larger than one (1) square foot in area. Coverage is defined as mature healthy grass with established root systems, thickness and density per normal species nursery standards for grass in good condition.

G. MOWING SCHEDULE:

A. All grass clippings shall be removed from property with EACH mowing.

B. When grass reaches a height of three (3) inches, mow to 2/3 height, leaving two (2) inches remaining.

C. Maintain a grass height between two (2) and two and one-half (2.5) inches until final acceptance.

D. Perform mowing approximately weekly, or as required to fulfill the criteria in this section, for a total of not less than four (4) mowings prior to final acceptance and release. Establish grass in timely manner to meet this requirement prior to final release and acceptance.

H. GRASS MAINTENANCE & ACCEPTANCE:

Contractor shall maintain grass until final release and acceptance but for not less than 60 calendar days after seeding/sodding or planting. Maintenance shall include watering per nursery/supplier standards, additional watering for initial period after planting per accepted nursery standards, and all other recommended measures to ensure root system establishment and healthy grass. Full grass coverage shall be required within 60 calendar days of planting. The Contractor is responsible for establishment of permanent grassing and landscaping, including mowing, watering, and maintenance requirements, prior to final release and acceptance.

I. TREE, SHRUB, LANDSCAPING MAINTENANCE & ACCEPTANCE:

Contractor shall install, establish, and maintain trees, shrubs, and landscaping until final release and acceptance but for not less than 60 calendar days after proper installation. Maintenance shall include watering per nursery/supplier standards, additional watering as required for initial period after planting per accepted nursery standards, and all other recommended measures to ensure root system establishment and healthy trees, shrubs, and landscape materials. The Contractor is responsible for installation of trees, shrubs, and landscaping including watering, mulching, and maintenance requirements, prior to final release and acceptance.

3.02 EXCAVATION & PREPARATION

A. TREES, SHRUBS, & OTHER PLANTED MATERIALS:

1. Excavate pits, beds, or trenches with vertical sides.
2. Loosen hardpan and moisture barrier to a depth of 2 feet minimum below bottom of tree pit or until hardpan has been broken and moisture drains freely. For shrub beds, loosen hardpan 6 inches minimum below bottom of excavation.
3. For balled & burlapped (B&B) trees and shrubs, make excavations at least 50% larger width than the ball diameter and equal to the ball depth, plus allowing for 6 inch minimum setting layer of planting soil mixture.
4. Mix all soil amendments thoroughly into topsoil as required by soil analysis and manufacturers recommendations prior to backfilling.
5. Plant trees and shrubs according to nursery specifications.
6. Provide minimum 3 inch depth mulch to cover all disturbed areas for tree planting and planting beds for shrubs, plants, or flowers. Verify with Owner/Architect extent of all areas to receive mulch prior to construction.
7. **The Contractor shall provide a professional landscape contractor with minimum two years experience in landscaping and tree, shrub, planted material installation. Landscape contractor must be engaged in landscaping full time as majority of his business. Landscaping contractor shall be submitted to and approved by Owner/Architect prior to start of landscaping work. Landscape contractor shall provide a minimum 12 month warranty for all lawns/grass/landscaping installed.**

B. TREE & SHRUB RELOCATION:

1. Contractor shall engage and provide a qualified arborist for review and recommendation regarding all trees and shrubs to be transplanted or relocated. Arborist shall be qualified according to standards referenced herein, and recognized industry standards for this work.
2. Contractor shall review requirements of Arborist with Owner/Architect regarding cost and chance for survival prior to proceeding with the work.
3. All materials and construction shall be in accordance with Arborist's recommendations and specifications.

4. Contractor shall provide a qualified subcontractor to complete this work (see 3.02 A (6) above) with experience and qualifications acceptable to Owner/Architect.

5. Provide minimum 3 inch depth mulch to cover all disturbed areas for tree planting and planting beds for shrubs, plants, or flowers. Verify with Owner/Architect extent of all areas to receive mulch prior to construction.

C. PLANTING BEDS:

1. Loosen subgrade of planting bed areas to minimum 6 inch depth. Remove stones larger than 1" diameter, sticks, roots, or other debris.

2. Mix all soil amendments thoroughly into topsoil as required by soil analysis and manufacturers recommendations prior to backfilling.

3. Spread planting soil mixture to minimum depth to meet proposed grades, allow for natural settlement. Work into top of loosened subgrade to create transition layer, then place remainder of planting soil.

4. Plant according to nursery specifications.

5. Provide minimum 3 inch depth mulch to cover all disturbed areas for tree planting and planting beds for shrubs, plants, or flowers. Verify with Owner/Architect extent of all areas to receive mulch prior to construction.

D. GRASS AREAS:

1. Loosen subgrade of areas to be grassed to a minimum 6 inch depth. Remove stones larger than 1" diameter, sticks, roots, trash, or other debris.

2. Place 50% of required topsoil, work into loosened subgrade to create transition layer. Place remaining topsoil to meet proposed grades.

3. Allow for sod thickness in areas to be sodded to meet finish grades.

4. Grade areas to be grassed to smooth, even surface, with loose, uniformly fine texture. Roll, rake, and remove ridges and depressions to meet finish grades.

5. Apply all fertilizer, lime, and soil amendments required for grass type selected according to the soils sample analysis prior to installing grass. Work into top 6 inches of soil.

6. Moisten prepared grass areas if soil is dry. Water thoroughly and allow surface to dry before planting grass.

3.03 INSTALLING LAWNS AND GRASSING

A. SEEDING GRASSED AREAS:

1. Do not use wet seed. Day laborers or other unskilled workers shall not be used for lawn and grass installation. All grass areas shall be prepared in accordance with section 3.02 (D).

The Contractor shall provide a professional landscape contractor with minimum two years experience in landscaping and lawn/grass installation. Landscape contractor must be engaged in landscaping full time as majority of his business. Landscaping contractor shall be submitted to and approved by Owner/Architect prior to start of landscaping work. Landscape contractor shall provide a minimum 12 month warranty for all lawns/grass/landscaping installed.

2. Sow seed using a spreader or seeding machines. Grass seed shall be applied at a rate according to nursery specifications, not less than 40 pounds per acre. Do not seed when wind velocity exceeds 5 mph. Distribute seed evenly over entire area by sowing equal quantity in two directions at right angles to each other.

3. When Hydro-seeding, soil preparation and all other requirements of the Contract Documents and specifications must be fully implemented.

4. Rake seed lightly into top 1/8" of soil, roll lightly.

5. Water immediately after seeding with a fine spray, soaking to a minimum depth of four (4) inches. Keep grassed areas continuously moist until grass is established.

6. Protect seeded areas with mulch to a depth not less than 1.5 inches immediately after seeding is complete. Mulch material and application shall comply, at a minimum, with erosion control specifications.

7. Protect seeded areas from traffic or damage.

8. Scarify, re-seed and re-fertilize seeded areas that do not show satisfactory growth within fifteen days after sowing, until satisfactory stand of grass is established.

B. SODDING GRASSED AREAS:

1. Do not use day laborers or unskilled workers.

The Contractor shall provide a professional landscape contractor

with minimum two years experience in landscaping and lawn/grass/sod installation. Landscape contractor must be engaged in landscaping full time as majority of his business. Landscaping contractor shall be submitted to and approved by Owner/Architect prior to start of landscaping work. Landscape contractor shall provide a minimum 12 month warranty for all lawns/grass/landscaping installed.

2. Install sod within 36 hours of harvesting. Lay sod with tight joints, overlaps or gaps will not be allowed. Stagger sod joints, lay sod with long edge perpendicular to slope. Trim sod with sharp bladed instrument for clean cut, jagged edges not allowed. All sod areas shall be prepared in accordance with section 3.02 (D).

3. On slopes steeper than 3H:1V, sod shall be anchored with pins or other approved methods.

4. Installed sod shall be rolled and tamped to provide solid contact between sod and soil.

5. Irrigate sod and soil to a depth of 6 inches immediately after installation. Irrigate sod daily after installation to maintain moisture at 6 inch depth for a minimum 30 days, and as needed thereafter for health and maintenance of grass.

6. Sod shall be certified by supplier as meeting all requirements of plans and specifications, and for grass type selected.

7. Sod delivery, storage, and installation shall conform to Turfgrass Producers International (1995) Guideline Specifications to turfgrass sodding (TPI GSS).

8. Comply with supplier's standards and recommendations for sod delivery, storage, and installation. Do not install sod on frozen or freezing soil.

9. Protect sodded areas from traffic or damage.

END OF SECTION 02900