

SECTION 32 92 23

SODDING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes lawn work as indicated and as specified.

1.2 QUALITY ASSURANCE

- A. Sod:

1. For sod, comply with State and Federal laws with respect to inspection for plant diseases and insect infestation.
2. Sod installation shall be performed by personnel experienced in lawn installation procedures.
3. Provide on-site, full-time qualified foreman representing Contractor during sod installations.

- B. Ability to Deliver:

1. Investigate sources of supply and confirm they can supply materials in quantity, variety, and quality noted and specified before submitting bid.
2. Failure to take this precaution will not relieve responsibility for furnishing and installing these materials in accordance with Contract documents without additional expense to Owner.

- C. Inspection:

1. Architect may inspect sod at source before cutting. Such inspection shall be in addition to inspection at job site.

1.3 SUBMITTALS

- A. Samples and Analyses:

1. Submit samples and certified analyses by approved laboratory for fertilizer, and limestone before delivery to project.
2. Manufacturer's analysis for standard products will be acceptable.
3. Approval of samples will not be construed as final acceptance. Architect may have samples taken of materials delivered to site of work and analyzed for compliance with specifications.

- B. Prior to end of maintenance period, furnish two copies of written maintenance instructions and care of installed lawn areas.

1.4 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Protect materials against weather-related damage or other injuries occurring during transit and job storage in such manner that their effectiveness will not be impaired.
- B. Deliver fertilizer to site in unopened, original containers, each bearing name and address of manufacturer, name brand, or trademark, and manufacturer's guaranteed analysis. Do not use fertilizer which becomes caked or otherwise damaged. Do not expose fertilizer to weather prior to delivery on site and after delivery until used. Protect fertilizer and do not store in direct contact with ground.
- C. Sod:
 - 1. Protect and maintain during transit or storage onsite as necessary to ensure vigorous growth after placement.
 - 2. Inform Architect 24 hours in advance of delivery of sod. Each shipment shall be accompanied by an invoice from vendor giving quantity and certifying that sod received meets requirements as contained in these specifications, together with analysis of seed from which sod was grown. Provide copy of invoice to Architect upon delivery of sod.
 - 3. Remove from site and dispose of, in legal manner, sod remaining on site unplaced after 48 hours, without extra cost to Owner. Remove from site and dispose of in legal manner any yellowing or otherwise discolored sod without extra cost to Owner.

1.5 PROTECTION

- A. Protect existing property and improvements within this site and adjacent property.
- B. Repair damage created by operations or those of subcontractors.

1.6 JOB CONDITIONS

- A. Wherever landscape work is executed in conjunction with construction of other work, coordinate schedule that will permit execution of landscape work.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Topsoil: Refer to Division 32 Section "Plantings."
- B. Fertilizer:
 - 1. Commercial fertilizer uniform in composition, free flowing, and suitable for application with distribution equipment.
 - 2. Contain minimum basis percentage by weight of:
 - a. Prior to Sodding (6-24-24):

| | |
|-------------|-----|
| Nitrogen | 6% |
| Phosphorous | 24% |

Potash 24%

b. After Sodding (18-5-9):

Nitrogen 18%
Phosphorous 5%
Potash 9%

- c. One-quarter of nitrogen shall be in form of nitrates, one-quarter in form of ammonia salts, and one-half in form of organic nitrogen.
- d. Available phosphoric acid shall be derived from super-phosphate having minimum guaranteed analysis of 20% available phosphate or bone meal.
- e. Potash shall be in form of sulphate of potash.
- f. Make up balance of fertilizer of nonharmful materials normally present in such product and free from dust, sticks, sand, stone or other harmful debris.

C. Limestone

- 1. ASTM C 602, class T agricultural limestone containing a minimum 80% total carbonates, by weight. Limestone shall be graded within following limits:

| <u>Sieve Size</u> | <u>% Passing by Weight</u> |
|-------------------|----------------------------|
| No. 8 | 99 |
| No. 60 | 75 |

D. Aluminum Sulfate:

- 1. Commercial grade, unadulterated and delivered in containers with material and manufacturer, names and weight of contents.

E. Sod:

- 1. Fresh cut, live, nursery grown sod having well matted roots.
- 2. Root zone shall be of good, fertile, natural mineral soil free from stones and debris.
- 3. Peat sod will not be acceptable.
- 4. Sod shall be nursery grown sod consisting of a blend of 100% improved Kentucky Blue Grass species and be a minimum of two years growth. Sod shall show evidence of dense well-rooted growth and be practically free from weeds and non-Blue Grass species. Grass height of sod shall be approximately 2 inches. Sod shall be raked free of undesirable debris. Sod shall be as specified as follows:
 - a. 20% Washington Kentucky Blue Grass, 20% Colbalt Kentucky Blue Grass, 20% Challenger Kentucky Blue Grass, 20% Gnome Kentucky Blue Grass and 20% Midnight Kentucky Blue Grass.
- 5. Sod Sections: Standard in size (18 in. wide by 6 ft in length) not less than 1-1/2 in. thick, strong enough to support its own weight and retain its size and shape when suspended vertically from firm grasp on upper 10% of section.
- 6. Mowed at least twice with final mowing not more than 7 days before being cut and lifted.

7. Obtain sod from nurseries having growing conditions similar to job site.
8. Schedule sod cutting and delivery so that sod may be placed within 48 hours of cutting.

F. Water:

1. Sod shall be thoroughly watered immediately after installation.
2. The sod shall be watered as often as necessary to ensure sufficient water shall be applied to wet the sod bed at least 2-inches deep.
3. Watering shall be done in a manner that will avoid erosion due to application of excessive quantities, and the water equipment shall be of a type that will prevent damage to the finished surfaces.
4. Water will be supplied by the Contractor for watering purposes where available. If water is not available on site, the Contractor shall supply water from his own source. The Contractor shall furnish the hose and proper equipment for watering purposes.

G. Wood Stakes:

1. Wood lath or similar material, minimum of 10-1/2 in. long, pointed at one end.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Examine areas and conditions under which lawn work is to be performed and notify Architect in writing of conditions detrimental to proper and timely completion of work.
- B. Do not begin site preparation until boulders, debris, and similar materials have been removed; depressions and ruts filled; and entire area has been shaped, trimmed and finished uniformly to lines, grades, and cross-sections shown on drawings.
- C. Do not proceed with work until unsatisfactory conditions have been corrected.
- D. Verify location of underground utilities with appropriate sources. Contact J.U.L.I.E. at least 48 hours before commencing with construction. Repair damaged utilities.

3.2 SITE PREPARATION

- A. Place topsoil to a depth of 12 inches beneath lawn areas. Place topsoil in 6 inch lifts. Compact each lift to the extent necessary to prevent settlement.
- B. Finish Grading:
 1. Provide smooth continual grades without dips and pockets where water may stand.
 2. Correct surface irregularities produced by preceding operations or by any other cause.
 3. Finish grades and earth mounds shall be approved by Architect prior to lawn construction.
- C. Tilling:

1. Prepare areas to depth of approximately 3 in. by disking, harrowing or other approved means.
2. Areas shown on drawings which are too small to make these operations practicable shall receive special scarification prior to final tilling.
3. Continue tilling until soil condition is suitable for lawn construction.

D. Cleanup:

1. After completion of tilling operations, clear surface of stones, stumps, roots, brush, wire, grade stakes, construction materials, and other objects which hinder planting, installation, and maintenance operations.
2. Keep adjacent paved areas clean.
3. Remove and dispose of soil or other materials in accordance with Division 31 Section 31 23 18.11 "Clean Construction or Demolition Debris and Uncontaminated Soil" or Section 31 23 18.13 "Contaminated Soil, General Construction, and Demolition Debris Disposal" as designated on SMP 1.00.

E. Fertilizer Spreading:

1. Use mechanical spreader wherever practicable.
2. 20 lbs of active ingredients per 1,000 sq. ft.
3. Spread uniformly in two passes at right angles to each other.
4. Incorporate fertilizer into soil to depth of 2 in. by disking, harrowing or other methods which produce similar results.

3.3 SODDING

A. Planting Season for Sod Installation:

1. March 15 to June 15.
2. August 15 to November 15.
3. Weather conditions within season shall govern actual planting periods.
4. Seasons may be extended upon approval by Architect, however, such time extensions shall not change Contractor's responsibility for establishing healthy appearing and vigorous growing turf.

B. Site Conditions:

1. Scarify and cultivate ground until surface is smooth, friable and of uniformly fine texture immediately before laying of sod.
2. Surface on which sod is to be laid shall be firm and free from depressions, to allow for positive drainage.
3. During periods of high temperature, lightly moisten soil immediately prior to laying sod.

C. Laying Sod:

1. Handle and lay sod by hand.
2. Lay first row of sod in straight line. Place subsequent rows parallel to and tightly against each other.
3. Stagger lateral joints.
4. Do not stretch or pull to distort length as cut in field.

5. Butt joints together tightly in order to prevent voids which would cause air drying of sod roots, and weed growth.
6. On sloping areas (3:1 or greater), lay sod parallel to slope contours, stagger lateral joints, and secure sod with wood stakes at minimum of four stakes per sq yd and at least one per piece of sod.
 - a. Drive stakes with flat side against slope and 10 in. into ground leaving approximately 1/2 in. above grade.
 - b. Begin sod laying on sloping areas at toe of slope.
7. Water sod immediately after installation to prevent excessive drying during progress of work.
8. Rework disturbed joints or depressions to conform to proper grade.

D. Required Maintenance:

1. All sodded areas shall be maintained for a minimum of 30 days prior to Substantial Completion, and 30 days after Substantial Completion.
2. Mowing:
 - a. Mow after grass has reached an average height of 3 in.
 - b. Mow to maintain grass at height of 2 to 2-1/2 in.
 - c. Do not remove more than 1/3 of leaf blade by moving.
3. Fertilizer Spreading:
 - a. Fertilize after completion of second mowing.
 - b. 15 lbs of active ingredients per 1,000 sq ft (650 lbs/acre).
 - c. Use mechanical spreader where practicable.
 - d. Spread uniformly in two passes at right angles to each other.
4. Reworking:
 - a. Resod grass which are dead, or in unhealthy, unsightly or badly impaired condition using same type and source of sod, and installed in accordance with procedures herein specified without extra cost to Owner.
 - b. Repeat as necessary until areas display acceptable stand of grass.
5. Protection:
 - a. Temporary fencing shall be installed around the sod areas if the artificial turf fields and playground are opened before the lawn is established.
 - b. Following Substantial Completion, all areas identified for Reworking shall be protected by temporary fencing until final acceptance.

E. Acceptance:

1. Substantial Completion will be granted upon conformance with following:
 - a. All sod has been installed in accordance with the contract documents.

- b. All sod has been maintained for a minimum of 30 days prior to Substantial Completion.
2. Final Completion will be granted upon conformance with following:
- a. Sod shall be reasonably free from weeds, diseases, or other visible imperfections.
 - b. Sod shall display uniform color, quality, and coverage.
 - c. Required maintenance has been completed for a minimum of 30 days after Substantial Completion.

END OF SECTION