

SECTION 02830
SOLID SODDING

02830.01 GENERAL

A. Description

Solid sodding shall include, but not necessarily be limited to, furnishing, hauling, and placing grass sod and fiberglass erosion stops on prepared areas in accordance with the Contract Documents.

B. Related Work Included Elsewhere

1. Earthwork; Section 02200.
2. Placing salvaged topsoil; Section 02812.
3. Furnishing topsoil; Section 02813.

C. Quality Assurance and Submittals

1. Grass sod shall be Maryland certified sod complying with the Maryland Sod Law of the Annotated Code of Maryland.
2. Each load of sod must bear a Maryland State approved or certified label at the time of delivery on the job site.
3. The percentage figures in Section 02830.02, Article A, Paragraphs 1 through 3 shall comply with Maryland Sod Law tolerances.

02830.02 MATERIALS

A. Materials Furnished by the County

1. The County will not furnish any materials for solid sodding.
2. The Contractor may purchase water from the County's potable water system. The Contractor shall contact the Bureau of Utilities Meter Section, for requirements.

B. Contractor's Options

Fertilizer may be furnished in either dry or liquid form unless otherwise noted.

C. Detailed Material Requirements**1. Grass Sod**

Grass sod shall be well rooted and produced in the State of Maryland. It shall, when placed, be live growing grass not less than 14 months old. It shall, when placed, have been cut and rolled (stored) not longer than 48 hours. It shall be cut in strips not less than 12 inches nor more than 18 inches wide and have 3/4 inches of soil firmly attached to the roots. The sod thickness shall not be deficient more than 1/4 inch from the required thickness at or just before placement. This 1/4 inch tolerance does not relieve the Contractor of the responsibility of cutting the sod a full 3/4 inches thick. The thickness of sod is measured by the thickness of soil firmly attached to the root system. The height of grass or thickness of thatch has no bearing on the determination of sod thickness. The sod and attached soil shall be free from noxious weeds: Common Bermudagrass, Nutsedge, Quackgrass, Garlic, Johnsongrass, Poison Ivy or Poison Oak, and Canada Thistle. Any lot of sod containing the following weeds either individually or collectively exceeding one percent of the total plant population by plant count or surface area covered shall be rejected as follows: Orchard-grass, Nimblewill, Annual Bluegrass, Crabgrass, Goosegrass and Foxtail. It shall not contain substances deleterious to growth or which might affect the survival or hardiness of the sod when transplanted.

- a. Bluegrass sod shall contain not less than 80% Kentucky Bluegrass (*Poa pratensis*) and not more than 20% Red Fescue.
 - b. Tall Fescue sod shall contain not less than 80% Tall Fescue grass with no more than 20% Kentucky Bluegrass and Red Fescue.
 - c. Bermudagrass sod shall contain not less than 99% Bermudagrass with not more than 1% of other grasses.
2. Fertilizer shall be as specified in Section 02820.02.
 3. Ground limestone shall be as specified in Section 02820.02.
 4. Fiberglass erosion stop shall be composed of lime borosilicate glass fibers cut to an average length of 2 inches to 4 inches with an average diameter of 8 to 12 microns and bonded with a phenol formaldehyde resin.

Fiberglass erosion stop shall be 1/2 inch thick.
 5. Water shall be as specified in Section 02820.02.
 6. Pegs shall be as specified in Section 02860.02.
 7. Staples shall be as specified in Section 02860.02.

02830.03 EXECUTION**A. General**

Sod sections or strips shall be of a length as may be readily lifted without breaking, tearing or loss of soil.

Sections or strips shall be cut by approved sod cutters, hauled or carried to storage piles or the point of installation without breaking, and set in final place as indicated on the Plans. All sod shall be transplanted within 24 hours from the time it is harvested, unless it is stacked at its destination in a manner satisfactory to the Engineer. All sod in stacks shall be kept moist and protected from exposure to the air, sun and freezing. Any sod permitted by the Contractor to dry out may be rejected whenever, in the judgment of the Engineer, its survival after placing is rendered doubtful. No payment will be made for rejected sod.

In no event shall more than 48 hours elapse between the cutting and placement of sod.

During wet weather, sod shall be allowed to dry sufficiently to prevent tearing as a result of handling and placing. During dry weather it shall be watered before cutting and lifting to ensure its vitality and prevent the dropping off of soil in handling.

B. Ground Preparation

Before placing sod upon any topsoiled surfaces, all shaping and dressing of such surfaces shall be completed. The completed areas to be sodded shall present a smooth, uniform, well-tilled surface true to line and cross-section. Any raking required to accomplish this shall be done immediately before placing the sod.

All areas to be sodded shall be fertilized with a commercial fertilizer of an analysis 10-10-10 and urea form fertilizer 38-0-0 at the respective rates of 20 pounds per 1000 square feet and 5 pounds per 1000 square feet in accordance with Section 02820.03, Article E, Paragraph 1, Item b, and limed with ground limestone at the rate of 100 pounds per 1000 square feet in accordance with Section 0280.03, Article E, Paragraph 1, Item a. The lime and fertilizer shall be worked into the top 2 inches of soil before placing sod. After it is placed, the sod shall be top-dressed with ureaform fertilizer 38-0-0 at the rate of 5 pounds per 1000 square feet. If a commercial fertilizer having an analysis other than the above is used, its rate of application shall be adjusted to provide not less than the same amount of total nitrogen, available phosphoric acid and total potash per unit area as specified herein.

C. Sod Placement

No sod shall be placed between the dates of June 1st and August 15th inclusive unless adequate irrigation is available to establish the sod nor any time when the temperature is below 32°F. No frozen sod shall be used. No sod shall be placed upon frozen soil.

Sod shall be lifted from trucks or storage piles and placed by approved methods with close joints and no overlapping. All cracks between blocks of sod shall be closed with

small pieces of sod. All sod shall be tamped or rolled after laying to close the seams between the pieces and press the sod tight against the ground. A hand tamper shall weigh approximately 15 pounds and have a flat surface of approximately 100 square inches. A roller shall weigh 40 pounds per foot of width. Any slipping of sod is to be corrected by the Contractor without additional compensation.

D. Watering

The sod shall be watered a minimum of 3 times after placement. The sod and soil directly beneath the sod shall be kept moist, by additional waterings if necessary, until acceptance or it has become established. The first watering shall be within four hours of laying the sod. The second and third waterings shall be within 2 weeks of the first watering when and as directed by the Engineer. In the event the Contractor considers watering or additional watering to be required and has not been directed to do so, he shall notify the Engineer in writing of this need. No sod will be accepted until the water requirements have been satisfied, and the sod appears in good health.

E. Sodded Slopes and Drainage Ditches

On slopes 2:1 and steeper, sod shall be laid with the long edges parallel to the contour starting at the bottom of the slope. Successive strips shall be neatly matched and all joints staggered or broken. When placing sod in drainage ditches, the length of the strip shall be laid perpendicular to the direction of the flow of the water. Where the sod may be displaced during sodding operations, the workmen, when replacing it, shall work from ladders or treaded planks to prevent further displacement.

Each strip or section of sod placed on slopes 2:1 and steeper and surface drainage V-shaped or flat bottom ditches or gutters shall be staked securely with at least 2 wooden pegs spaced not more than 2 feet apart with the flat side against the slope and driven flush with the top of sod.

F. Fiberglass Erosion Stop

Construction requirements for fiberglass erosion stop shall be in accordance with the Standard Details and as herein specified. Fiberglass erosion stops shall be installed in drainage channels under solid sodding as follows:

1. Approximately 3 feet down flow from the discharge of a feeder channel;
2. The minimum-maximum spacing between erosion stops shall be 20 to 50 feet.

G. Mowing

Mowing shall consist of maintaining areas sodded by the Contractor by means of riding or push mowers. First mowing should not be attempted until grass is at least three (3) inches high. No more than 1/3 of the grass leaf shall be removed by the initial cutting or subsequent cuttings. Grass height shall be maintained between 2 and 4 inches unless otherwise specified.

Sodded areas shall be mowed and maintained by the Contractor through at least two mowings. If following two mowings the Project has not been conditionally accepted, mowing and maintenance shall continue until conditional acceptance.

H. Repair of Defective Areas

1. The responsibility for maintaining sodded areas shall be as follows:

Until the Project is finally accepted, the Contractor will be required to repair or replace any sod that is defective or damaged. When, in the judgment of the Engineer, such defects or damages are the result of poor workmanship or failure to meet the requirements of the Specifications, the cost of necessary repairs or replacement shall be borne by the Contractor. However, once the Contractor has completed the sodding of any area in accordance with the provisions of the Specifications and to the satisfaction of the Engineer, no additional work at his expense will be required. Subsequent repairs and replacements deemed necessary shall be made by the Contractor and will be paid for as additional work or extra work.

02830.04 METHOD OF MEASUREMENT**A. Solid Sodding**

Measurement for solid sodding will be made of the surface area, measured in place, acceptably installed.

B. Fiberglass Erosion Stop

Measurement for fiberglass erosion stop will be made on the basis of the length of erosion stop satisfactorily installed.

02830.05 BASIS OF PAYMENT**A. General**

1. Payment will be made at the unit prices bid. The prices bid shall include furnishing all labor, tools, equipment, and materials necessary to complete the work as shown and specified in strict accordance with the Contract Documents, and accepted by the Engineer.
2. Payment will be made for contingent items when ordered by the Engineer. Payment will be as specified in Sections 02951, 02952, 02953, 02954, 02955, 02956, and 02957.

B. Solid Sodding

Payment for solid sodding will be made per square foot. Payment will include furnishing and installing pegging, irrigation, and all incidentals necessary to obtain an established stand of grass.

C. Fiberglass Erosion Stop

Payment for fiberglass erosion stop will be made per linear yard. Payment will include furnishing and installing staples and all incidentals necessary to satisfactorily complete the item as specified.

END OF SECTION