ITEM 08610.020304 M - ESTABLISHING MICROTOPOGRAPHY

DESCRIPTION:

This work shall consist of the construction of raised planting beds and planting mounds (bedding) for tree and shrub planting as designated on the plans, accompanying details or as directed by the Engineer.

MATERIALS:

All bedding harrows and tractors utilized are subject to approval by the Engineer. Thirty days prior to the start of work, the Contractor shall supply the Engineer with the name and model number of the bedding harrow and tractor, and the harrow and tractor manufacturer's guidelines related to equipment size, power and drawbar pull. The width of the hourglass roller and the overall width of the tractor, as measured from outside track to outside track, shall be included with this information.

The planting beds shall be constructed utilizing a heavy-duty bedding harrow. The bedding harrow shall have a minimum net weight of 1600 kilograms (3,500 pounds). Unless specified on the plans, the bedding harrow shall have a maximum disc cut width of no more than 2.4 meters (8 feet) and a minimum disc cut width of 1.8 meters (6 feet). The bedding harrow shall have a hourglass roller with a maximum width of no more than 2.4 meters and a minimum width of 2 meters (6.5 feet). The bedding harrow used shall be the Series T1R, TRBR or TRBW, Heavy-Duty Bedding Harrows, as manufactured by Rome Industries, Inc., Cedartown, Georgia, or Model BH-6 as manufactured by Marden Manufacturing Company, Inc., Auburndale, Florida, or an approved equivalent.

The discing tool shall possess a minimum of six disc blades each with a minimum diameter of 762 millimeters (30 inches) and a minimum disc thickness of 12 millimeters (0.5 inches). Each disc blade shall be a cutout (notched) blade. It is the Contractor's responsibility to insure that the discing operation, discing width and disc sizes employed provides sufficient soil for the mounding operation, and that the resulting mounds are compacted by the hourglass roller.

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BY EI 12-001

A crawler-tracked tractor shall be utilized for the bedding operations. The tractor shall conform to the bedding harrow and tractor manufacturer's recommendations as to minimum size, power and drawbar pull at the bedding harrow's full weight (roller water filled) for the on-site soil conditions. The tractor shall have the hydraulic lines and characteristics necessary for proper operation of the bedding harrow as designed and recommended by the manufacturer of the bedding harrow. During mounding operations, the hourglass roller shall be filled with water to the maximum capacity of the roller. It shall be the Contractor's responsibility to ensure that all equipment possess sufficient power and is of appropriate design and weight distribution to complete the construction of the mounds.

Unless specified on the plans, the establishment of microtopography shall be conducted in irregular patterns and not in straight rows. When irregular bed patterns are constructed, the width of the tractor utilized shall not exceed the width of the hourglass roller. Whenever possible, the widest allowable roller should be utilized. When directed by the EIC, the tractor shall be a Caterpillar D4 Series, Komatsu D3 Series, or an approved equivalent.

Depending on field conditions and the presence of clayey soils, as solely determined by the Engineer, the Engineer may direct the Contractor to disc/plow the area to be bedded with a heavy-duty disc or deep tillage subsoiler prior to the actual bedding operations. The use and operation of a heavy-duty disc or subsoiler shall be incidental to this item and no additional compensation shall be made. It is the

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Contractor's responsibility to ensure that the equipment possesses sufficient power and is of appropriate design and weight distribution to work in wet soils.

CONSTRUCTION DETAILS:

The bedding shall be performed within the areas shown on the plans. The bedding pattern shall be random over the entire area shown on the plans. This random bedding pattern requirement mandates that the harrow repeatedly crosses over newly made beds. The Engineer will approve bedding runs performed only in a random pattern. The Contractor shall pass the bedding harrow over the entire area designated for bedding at least twice prior to the final bedding runs.

The Contractor shall rebed any rejected areas at his/her own expense to the satisfaction of the Engineer. The tractor equipment shall have sufficient power to conduct these crossing operations efficiently, as solely determined by the Engineer. The final bedding configuration shall be an irregular pattern and as shown on the plans and as directed by the Engineer. (The bed height developed shall be a minimum of 305 millimeters (12 inches) as measured from the top of the mound to the bottom of the adjacent side furrows.)

The harrow shall be operated at a speed directed by the Engineer which shall be between 3 and 9 kilometers per hour (2 and 6 miles per hour). The construction of the planting beds shall occur during the specified work window, as shown on the plans or as directed by the Engineer. Commencement of the bedding operations shall begin within 7 days of the direction by the Engineer.

METHOD OF MEASUREMENT:

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The quantity of Establishing Microtopography shall be in square meters of beds placed to the limits shown on plans, measured as the horizontal surface area between the limits on the plan, and measured once at the end of bedding operations, when work is completed and accepted by Engineer.

BASIS OF PAYMENT:

The unit price bid for this item shall include the costs of all labor, equipment, license fees, materials and incidentals necessary to complete the work as specified.