

## **ITEM 17554.20 M - TERRACED GEOCELL SYSTEM**

### **DESCRIPTION**

Provide and install geocells (three-dimensional cellular confinement units and infill) at the locations and within the limits shown on the plans.

### **MATERIALS**

#### **A. GEOCELLS**

Provide certified tested geocells made of High Density Polyethylene (HDPE), of the size(s) and dimensions shown on the plans. Geocells will be perforated with the exception of the fascia, which will be solid and green in color. Acceptance will be based on meeting the following material properties:

| <b>Property</b>                       | <b>Test Method</b>  | <b>Requirement</b>                   |
|---------------------------------------|---|--------------------------------------|
| Thickness                             | ASTM D 5199   | 1.1 mm minimum                       |
| Cell Seam Peel Strength               | Per U.S. Army Corps of Engineers Technical Report GL-86-19 Appendix A | 10.0 N per mm of cell depth, minimum |
| Ultraviolet Stability                 | ASTM D 1603 or ASTM D 4218  | 1.5 % by weight carbon black minimum |
| Environmental Stress Crack Resistance | ASTM D 1693   | 2000 hrs minimum                     |

#### **B. INFILL**

Provide infill material meeting the material requirements of Item 203.07 M, Select Granular Fill, with the added stipulation that the maximum particle size is 50 mm.

Where a vegetated face is called for, the outermost cells are to be filled with topsoil meeting the material requirements of §713-01.

#### **C. ANCHORAGE PINS AND STAPLES**

Provide anchorage pins and staples approved by the manufacturer.

### **CONSTRUCTION DETAILS**

#### **A. GENERAL**

Store and protect geocells prior to installation, in accordance with the manufacturer's recommendations. For installation assistance and guidance at the start of construction, provide on-site representatives from the geocell supplier for a minimum of three days.

#### **B. GEOCELL AND INFILL PLACEMENT**

Expand, place and secure the geocell units in accordance with the manufacturer's recommendations, to the line, grade and orientation shown on the plans. Units are to be continuous in the dimension perpendicular to the wall face. Stagger overlying units by a minimum of one (1) meter so as to avoid continuous vertical joints between layers.

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Use anchor pins, stretcher frames, or other means to hold the position of each unit prior to infilling, in accordance with the manufacturer's recommendations. Ensure that the geocell unit is uniformly expanded and is correctly aligned both vertically and horizontally. Interleaf and staple edge cells of adjacent sections ensuring that the top edges of the cells remain flush.

Infill the geocells in such a manner that no damage occurs. Overfill the geocells and level fill to approximately 25 mm above the top of the cell walls. Compact each lift of infill to 95% of Standard Proctor Maximum Density in accordance with the requirements contained in Subsection 302-3.12, Compaction. Screed off excess fill flush with the top of the cell walls. Correct any damage prior to placement of any overlying material at no cost to the State.

### **METHOD OF MEASUREMENT**

The quantity to be paid for under this item is calculated by the number of vertical square meters of face area, satisfactorily installed, and computed between the payment lines shown on the plans or from payment lines established, in writing, by the Engineer prior to performing the work.

### **BASIS OF PAYMENT**

The unit price bid for this item, includes the cost of furnishing all labor, equipment and materials including site preparation, geocells, infill, anchorage pins, staples, on-site supplier representation and incidentals necessary to satisfactorily complete the work as shown on the plans.