

ROAD COMMISSION FOR OAKLAND COUNTY

SPECIAL PROVISION
FOR
GEOCELLULAR CONFINEMENT SYSTEM

RCOC/DESIGN:AP/JO

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RCOC20SP816A
ORG:04-05-21

a. Description

This work consists of providing all labor, materials and equipment to furnish and install a geocellular confinement system (geocell) to the limits shown on the plans or as directed by the Engineer. The geocellular confinement system includes, preparing, and compacting grades; furnishing, placing, and anchoring the geocell mattress; and furnishing, placing and compacting the fill material. Construct in accordance with the manufacturer's published guidelines, the *Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction* and as detailed herein.

b. Materials

1. Geocell.

The geocell must consist of a three-dimensional high-density polyethylene expandable cell mattress which is perforated with a 4-inch cell depth, 50 mil wall thickness, and a minimum 0.40 square foot cell area.

The following products, or an approved equal, are acceptable:

<u>Product</u>	<u>Manufacturer</u>	<u>Phone</u>
EnviroGrid	GeoProducts	1-800-434-4743
Geoweb	Presto Geosystems	1-800-548-3424
TerraCell	Webtec, Inc.	1-800-438-0027

2. Anchors.

Anchor with #4 steel reinforcement bars or an approved equal. Bars must be a minimum of 24 inches in length. The head or top of the bar must be hooked or capable of being securely capped with prefabricated tips which connect at least two contiguous cell walls simultaneously together.

3. Fill Material.

The individual cells of the expanded and anchored geocell mattress must be filled with Shoulder, 21AA or Topsoil in accordance with the Road Commission for Oakland County Special Provision for Turf Establishment, Performance, RCOC.

c. Construction

Submit shop drawings of the proposed geocell system for approval a minimum of 14 calendar days prior to the start of the installation. Approval must be received from the Engineer before installation may begin.

Install geocell in accordance with the manufacturer’s recommendations, the *MDOT 2020 Standard Specifications for Construction* and this special provision. Prepare the grade by grading and compacting existing ground to achieve uniform grades and grade transitions. At the top of the slope, trench in the geocell a minimum of 12 inches or otherwise anchor as recommended by the manufacturer.

Vibrate and/or drive the reinforcement bars to expand and anchor the geocell. Advance the hook or prefabricated cap until it fits snugly across two adjacent cell walls without causing deformation of the geocell mattress material. The anchored geocell must conform closely to the grade without gaps beneath the cell walls or other signs of obvious misalignment. Anchor placement or spacing adjustments may be required to ensure uniform placement of the geocell. The geocell mattress installation must be approved by the Engineer prior to placing fill material.

Completely fill the cells with Shoulder, 21AA or Topsoil. Controlled overfilling of cells is required to allow for consolidation and compaction of the fill. Use manual vibration to remove voids in the fill. Compact as recommended by the manufacturer. Mechanical vibration is prohibited, and equipment is not permitted to run on the expanded geocell mattress. Smooth excess material with a screed. Place the fill flush with the upper surface of the cells. Replace any geocell sections damaged during installation at no expense to the Department. Perform final slope restoration as soon as possible but no longer than 5 days after installation and backfill of the geocell.

d. Measurement and Payment

The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

Pay Item	Pay Unit
Geocellular Confinement System.....	Square Yard

Geocellular Confinement System includes equipment, labor and materials necessary to construct the work as described