

214-R-784 GEOSYNTHETICS

(Adopted 10-19-23)

The Standard Specifications are revised as follows:

SECTION 214, BEGIN LINE 33, DELETE AND INSERT AS FOLLOWS:

(a) Geotextile as a Drainage Blanket

Geotextile shall be stored in such a manner as to prevent exposure to direct sunlight and damage by other construction activities. Geotextile shall be placed taut and transversely after backfilling all wheel tracks. ~~Geotextile shall be overlapped by 3 ft and sewn in accordance with the manufacturer's guidelines.~~

Coarse aggregate No. 2 or No. 5 shall be placed as directed and encapsulated with geotextile. Coarse aggregate shall be placed by spreading dumped material over previously placed material with light equipment in such a manner as to prevent damage to the geotextile. Dumping of coarse aggregate will be allowed on the initial working platform. *Geotextile shall be overlapped by 3 ft and sewn in accordance with the manufacturer's guidelines.* The overlap shall be staggered throughout the roadway profile. Coarse aggregate shall be placed to the full required thickness and compacted before any loaded trucks are allowed on the blanket. *Coarse aggregate shall be covered with a layer of geotextile.* The drainage blanket shall have positive drainage.

SECTION 214, BEGIN LINE 54, INSERT AS FOLLOWS:

(b) Geotextile Placement for Pavement, Subgrade, or Embankment

The subgrade or embankment shall be proofrolled in accordance with 203.26 and any defect or rut shall be repaired as directed prior to the geotextile placement. Geotextile shall be placed taut, without wrinkles and stretched in tension. Coarse aggregate shall be placed with a minimum disturbance to grade. Any damage to geotextile shall be repaired in accordance with 214.03(a). The remaining grade shall be constructed in accordance with 203 and 207. *Geotextile shall be placed on top of the subgrade. Geotextile shall not be used directly below HMA.* Geotextile for pavement, subgrade, or embankment shall be in accordance with 918.02(c).

SECTION 214, BEGIN LINE 83, DELETE AND INSERT AS FOLLOWS:

When geogrid is specified for subgrade, proofrolling shall be performed in accordance with 203.26 prior to placing the geogrid. Deflection or rutting shall not exceed 1 in. Any defect shall be repaired as directed. *Geogrid shall be placed as directed.* ~~The first 6 in. of~~ Coarse aggregate No. 53 shall be spread *6 in. to 12 in. thick* and compacted with a *minimum 4015 t* roller in static mode. Spreading and compaction of the aggregate *in accordance with 301* shall be performed so that the aggregate and geogrid are interlocked. ~~The second 6 in. of coarse aggregate No. 53 shall be constructed in accordance with 301.~~

SECTION 214, BEGIN LINE 113, DELETE AND INSERT AS FOLLOWS:

(d) Geocell Confinement System

The Contractor shall construct the grade in accordance with 203. A layer of geotextile shall be placed in accordance with 214.03(b) *when recommended* and shall be anchored at the roadway edge when widening or when intersecting an existing roadway. The geocell confinement system, GCS, shall be placed and anchored as shown on the plans, or as directed. The GCS shall be oriented with the smaller cell dimension perpendicular to

the roadway. The Contractor shall ensure that the GCS is anchored vertically and the geocell shall be filled with a minimum of 4 in. of coarse aggregate No. 53 ~~or No. 73~~. On top of the GCS, 8 in. of No. 53 ~~or No. 73~~ shall be placed for a total aggregate thickness of 12 in. The aggregate shall be back dumped and compacted with a light roller in accordance with 301. No trucks or construction vehicles will be allowed on the GCS. A light tracked bulldozer or other equipment may be used as directed. The 6 in. lift above GCS shall be compacted with low frequency and amplitude, with a minimum of six passes. The remaining aggregate shall be placed and compacted lightly. Efforts shall be made to ensure that the geotextile and GCS are in tension.

The Contractor may propose an alternate means of providing a typical section for the GCS, and shall submit the proposal to the Engineer for review and approval. The proposal shall be certified by a professional engineer registered in the State of Indiana.

~~GCS shall be constructed in accordance with 207 and 214.~~

SECTION 214, BEGIN LINE 142, DELETE AND INSERT AS FOLLOWS:

214.05 Method of Measurement

Geotextile for pavement, subgrade, embankment, and moisture management will be measured by the square yard, for the type specified. Geotextile for coarse aggregate and drainage blankets will be measured in accordance with ~~301 and~~ 616, respectively. Geogrid *for foundation, embankment, and subgrade* will be measured by the square yard, for the type specified. The quantity will be computed based on the total area of geosynthetics shown on the plans. The aggregate used for the embankment foundation improvement will be measured in accordance with 301.09. ~~The geogrid reinforced subgrade, GCS, and the excavation required to place the GCS will be measured in accordance with 207.05. GCS will be measured by the square yard. The aggregates used for GCS and the excavation required will be measured in accordance with 301.~~

214.06 Basis of Payment

The accepted quantity of geotextile will be paid for at the contract unit price per square yard per type of geotextile. Geotextile for subgrade and geotextile for embankment will be paid for as geotextile for pavement, for the type specified, at the contract unit price per square yard. The accepted quantities of geogrid will be paid for at the contract unit price per square yard per type of geogrid. The aggregates will be paid for in accordance with 301.10. ~~The geogrid reinforced subgrade will be paid for in accordance with 207.06. The accepted quantities of geocell will be paid for at the contract unit price per square yard.~~

SECTION 214, AFTER LINE 164, INSERT AS FOLLOWS:

Geocell Confinement System.....SYS

SECTION 214, BEGIN LINE 172, DELETE AND INSERT AS FOLLOWS:

The cost of furnishing the materials, manufacturer’s representative, all labor and equipment required for furnishing and placing the geotextile, ~~or~~ geogrid, *or GCS*, all work necessary to establish grades, geogrid splices, overlaps, stakes or pins, supplemental product test data, and patching or replacement of damaged geotextile or geogrid shall be included in the cost of this work.

The geocell confinement system, anchors, restraint clips, pins, *and* necessary incidentals required to provide a complete in place system, ~~and the Type 2B geotextile if required for the GCS,~~ shall be included in the cost of subgrade treatment in accordance with ~~207.06~~ *GCS*.
