

EXPECTED IMPLEMENTATION JULY 2024 (FY 2024-25)

514 GEOSYNTHETIC FOR DRAINAGE APPLICATIONS. (REV 6-1-23) (FA 9-7-23) (FY 2024-25)

SECTION 514 is deleted and the following substituted:

514-1 Description.

This Section specifies the construction requirements for geosynthetics used in drainage, slope protection, and material separation applications.

514-2 Material.

Use geosynthetic materials meeting the requirements of Section 985 and listed on the Approved Product List (APL). Ensure the geosynthetic materials received at the job site are in unopened shipping packages and the packages are clearly labeled with the manufacturer's name, product name, style number, roll dimension and LOT number, otherwise, the Engineer will reject the material. Store geosynthetic materials in accordance with the manufacturer's instructions ensuring to protect the geosynthetic material from physical damage, debris, and temperatures greater than 140° F. Prevent mud, fluid concrete, asphalt, or other deleterious materials from coming in contact with the geosynthetic materials that could impact the performance of the geosynthetic material. Replace geosynthetic materials with defects, tears, punctures, flaws, deterioration, or other damage at no additional cost to the Department.

514-3 Construction Methods.

514-3.1 Geosynthetic Materials for Drainage Applications: Select a geosynthetic material meeting the appropriate application as specified in 985-3. Place and install the geosynthetic material at the proper elevation, location and orientation as shown in the Contract Documents and in accordance with the manufacturer's instructions. Place the geosynthetic material on areas with a uniform slope that are reasonably smooth, free from mounds, windrows, and any debris or projections which might damage the geosynthetic material. When overlapping is necessary, the Contractor may sew the seams to reduce overlaps as specified in 985-2.6.

After placement of the geosynthetic material, do not exceed the manufacturer's recommendations for exposure to ultraviolet light or five days, whichever is less. If the exposure time is exceeded, remove and replace the geosynthetic material.

514-3.2 Subsurface Drainage Applications: When indicated in the Plans, place the geosynthetic material with the long dimension parallel to the trench. Place and install the geosynthetic material to provide a minimum 12-inch overlap for each joint or in accordance with the manufacturer's recommendation, whichever is greater. Do not drop coarse aggregate materials from heights greater than 3 feet.

514-3.3 Revetment System Applications: Overlap adjacent strips of geosynthetic material at a minimum of 24 inches and in accordance with the manufacturer's recommendations, whichever is greater. Anchor the geosynthetic materials with securing pins inserted through both strips of geosynthetic material along a

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line through the midpoint of the overlap and to the extent necessary to prevent movement of the geosynthetic material.

Place the geosynthetic material so that the upstream (upper) strip of geosynthetic material overlaps the downstream (lower) strip. Stagger vertical laps a minimum of 5 feet. Use full rolls of geosynthetic material whenever possible to reduce the number of vertical laps. Do not drop bedding stone or riprap from heights greater than 3 feet onto the geosynthetic material.

514-3.4 Repairs: Replace geosynthetic material damaged during or after installation at no cost to the Department. Repair geosynthetics damaged during or after installation only after the manufacturer establishes that the intended use and stability is not affected and after obtaining the Engineer's approval. Make such repairs as follows:

Remove materials placed within the damaged geosynthetic area plus an additional 4 feet in all directions beyond the limits of the damage. Place a patch consisting of the same material as the geosynthetic material over the damaged area in accordance with the manufacturer's recommendation. Overlap the undamaged geosynthetic material with the patch at a minimum of 3 feet in all directions. Place backfill material on the geosynthetic material in accordance with the Contract Documents after repairs have been completed.

For repairs of Geosynthetic material placed on slopes adjacent to water, place geosynthetic material so that the upstream (upper) strip of geosynthetic material overlaps the downstream (lower) strip.

514-4 Acceptance Criteria.

Submit to the Engineer the product label with the manufacturer's name, product name, style number, roll dimension and LOT number at least fourteen days prior to placement. In addition, provide two 8-inch by 10-inch samples of geosynthetic materials for product identification to the Engineer. The acceptance of the geosynthetic material is subject to the approval of the State Materials Office (SMO).

514-5 Basis of Payment.

No separate payment will be made for the work specified in this Section. The cost of furnishing, placing, and sewing or overlapping the fabric will be included in the Contract price for the items to which it is incidental.