1. REINFORCED SOIL SLOPE (revised 2-2-2022) (with strip drains)

Description. This work is the excavation, placement, compaction, and disposal of unsuitable material necessary to construct the reinforced soil slope(s) as shown in the plans or as directed by the Project Manager.

Materials.

All materials provided must meet the requirements of the Build America Buy America (BABA) special provision as applicable.

Geosynthetic. Provide Uniaxial/Biaxial Geogrid/Geotextile meeting the requirements found elsewhere in the Contract.

Special Borrow. Provide Special Borrow for backfill meeting the requirements found elsewhere in the Contract.

Geocomposite Strip Drain. Provide Geocomposite Strip Drain meeting the requirements of the Geocomposite Strip Drain Special Provision.

Construction

Excavation and Subgrade Preparation. Excavate the embankment to bedrock as shown on the plans, or as directed by the Project Manager. Create a subgrade surface that is level, free from organics, other deleterious materials, and soft or otherwise unsuitable soils. Scarify and compact the subgrade in accordance with Section 203 prior to reinforced soil slope construction to provide a uniform and firm surface.

Notify the Project Manager a minimum of 5 working days prior to anticipated subgrade completion in order to arrange for a subgrade inspection. An MDT Geotechnical Section Representative will inspect the subgrade prior to construction of the reinforced soil slope.

If the subgrade soils are determined to be unstable by the Geotechnical Representative, subexcavate the subgrade to the depth specified by the representative. Scarify and compact the new subgrade and replace and compact subexcavated material with special borrow in accordance with the requirements below.

Geosynthetic Placement.

Place each layer of geosynthetic as shown on the plans and cross sections, oriented such that the principal strength direction is perpendicular to slope face (i.e. roll out the geosynthetic perpendicular to the slope face).

Lay the geosynthetic in horizontal layers. Place the first and lowest layers of geosynthetic at the elevation shown on the plans. Keep geosynthetic layers horizontal and spaced vertically at the intervals shown on the plans.

Do not create splices within 4 feet of the slope face. Roll out adjacent geosynthetics so that each roll abuts the adjacent roll. Do not overlap geosynthetic.

Place only the amount of geosynthetic required for immediately pending work to prevent undue damage.

Hand-tension the geosynthetic to remove all wrinkles and use pins, stakes, soil piles, or the manufacturer’s approved method to anchor the geosynthetic ahead of the special borrow placement to ensure flat contact between the geosynthetic and underlying material.

Geocomposite Strip Drain Placement.

Place each strip drain on top of the geosynthetic as shown on the plans and cross sections, oriented such that the principal direction is perpendicular to slope face (i.e. roll out the strip drain perpendicular to the slope face).

Extend strip drains from the excavated backslope to within 1.5 feet of the finished face. Keep the strip drains horizontal, spaced laterally 8 feet on center at the elevation shown on the plans.

Place only the amount strip drain required for immediately pending work to prevent undue damage.

Hand-tension the strip drain to remove all folds and kinks, and use soil piles or the manufacturer’s approved method to anchor the strip drain ahead of the backfill placement to ensure flat contact between the strip drain and underlying material.

Backfill Placement.

Place and compact backfill in accordance with Section 203. Compact the special borrow to 90%/95% of the maximum density as determined density by MT 218 and MT 230.

Do not operate any construction equipment on top of the strip drains and/or geosynthetic with less than 8 inches of loose backfill cover. Place special borrow by off-loading at one end of the area to be covered by the embankment and then drifting the material out in front of the construction equipment.

Place backfill evenly so that the elevation of the fill progression is the same across the entire length of the reinforced soil slope. Place soil from the backslope outward to ensure tension in the soil reinforcement. Place soils using a method that eliminates the development of wrinkles and movement of the geosynthetic.

Operate compaction equipment parallel to the slope face. Do not operate equipment directly on the geosynthetic. Do not use Sheep’s Foot or studded compaction equipment to compact the backfill.

Method of Measurement.

Geosynthetic is measured in accordance the requirements found elsewhere in the Contract.

Special Borrow is measured in accordance with Subsection 203.04.

Measure Geocomposite Strip Drain in accordance with the Geocomposite Strip Drain Special Provision.

Subexcavation below the planned footing elevation is measured in accordance with Subsection 203.04.

Basis of Payment. Payment at the contract unit price is full compensation for all resources necessary to complete the item of work under the contract.

Geosynthetic is paid in accordance with the requirements found elsewhere in the Contract.

Special Borrow is paid in accordance with Subsection 203.05.

Geocomposite Strip Drain is paid in accordance with the Geocomposite Strip Drain Special Provision.

Subexcavation is paid for as Unclassified Excavation in accordance with Subsection 203.05.