



**SPECIAL PROVISIONS
FOR
EROSION CONTROL SYSTEM**

**Johnson County
IMN-080-6(411)239--0E-52**

**Effective Date
July 16, 2024**

THE STANDARD SPECIFICATIONS, SERIES 2023, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE SPECIAL PROVISIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.

230198.01 DESCRIPTION.

- A.** This Special Provision includes designing, furnishing, and installing complete in place factory produced erosion control system. The erosion control system shall consist of concrete mats placed side by side and clamped together to provide one homogenous erosion protection system. The concrete mats shall consist of individual concrete blocks connected to each other by cables. Products using individual blocks must be linked with interlocking tabs or other system. Geotextile fabric shall be placed on the subgrade or attached to the base of each concrete mat to provide relief of hydrostatic pressure.
- B.** The concrete mat system shall be one of the following or an approved equivalent:
- Shoreblock BD as produced by ShoreTec, 510 O'Neal Lane, Baton Rouge, LA 70819, 225-408-1444.
 - Conlock I available in cabled mattress form as produced by Hydropave Erosion Control Systems, St. Louis/Cape Girardeau, 2720 East Outer Road, Scott City, Missouri 63780, 573-332-8312.
 - Armorflex consist of machine compressed cellular concrete blocks of a unique interlocking shape made into mats with filter system. The blocks are cabled longitudinally by polyester cables. Armortec, Central Region, 1955 Stratford Road, Olathe, KS, 66062, 913-768-8232.

230198.02 MATERIALS.

A. Concrete Blocks.

The concrete mix used shall be Class C concrete as per Section 2403 of the Standard Specifications. The minimum required concrete strength shall be 4000 psi at 28 days. The aggregates shall meet the requirements of Article 2403.02 of the Standard Specifications.

B. Cables.

If applicable by product installation specs, the cables shall be made to eliminate block

displacement and shall be UV resistant. The cables shall not be galvanized.

C. Geotextile Fabric.

The geotextile fabric shall meet the requirements of Article 4196.01, B., 3 of the Standard Specifications. The geotextile fabric shall overlap 24 inches to 36 inches. The overlap shall be installed from the downstream end to the upstream end providing a shingle affect, provide an area for the adjoining mats to be placed upon, and prevent undermining of the erosion control system.

D. Clamps.

If applicable by product installation specs, sufficient stainless steel U-type screw clamps shall be provided to secure loops of adjoining cable concrete mats. The number of loop connections shall be determined by the manufacturer and shall be clearly shown in the shop drawings.

E. Porous backfill.

Porous material for backfill shall meet the requirements of Section 4131 of the Standard Specifications.

F. Seeding.

Seeding shall meet the requirements of Section 2601 of the Standard Specifications for Special Ditch Control.

G. Design.

1. The mats of the erosion control system shall be designed to protect against hydraulic velocities of 22 feet per second and a discharge flow of 1085 cubic feet per second. The erosion control system shall be designed with a factor of safety of 1.80. Maximum bed slopes, bed width, channel depth, and channel side slopes are provided in the contract documents.
2. The manufacturer shall review the information provided in the contract documents and design the required anchoring system. The details for the anchor system shall be compatible with the erosion control system and shall be clearly shown in the shop drawings.
3. Shop drawings shall be prepared in accordance with the general requirements of Article 1105.03 of the Standard Specifications.

230198.03 CONSTRUCTION.

- A. The supplier shall provide a technician experienced in the installation of the erosion control system at the start of the installation to advise the Contractor and Engineer in any special techniques needed to assure proper installation.
- B. Installation shall be as tested in the lab according to Minimizing Embankment Damage During Over-Topping Flows (FHWA Report RD-88-181 prepared by Simons, Li, and Associates, November 1988) or Hydraulic Stability of Articulated Concrete Block Revetment Systems During Over-Topping Flows (FHWA Report 89-199 prepared by Simons, Li, and Associates, July 1989).
- C. Prepare the installation area to ensure continuous contact between the erosion control system and sub-grade materials. Break up or remove all dirt clods greater than 1 inch diameter from the graded surface prior to installing the cable concrete system. Compact install area to ensure minimal settling of erosion control system.
- D. When installing mats, the gaps between adjacent mats shall not be greater than 2 inches where possible. Where mats are installed to form acute angles, trim the mats by removing concrete

blocks as required. Cover the gap between mats with geotextile fabric, meshed with stainless steel cables tied to mats each side of the gap, and fill with Class C concrete.

- E. Install erosion control system in a manner to achieve maximum coverage without having to cut the product. Install erosion control system in a manor so that it is at the same height as adjoining bike path. Backfill erosion control system with adjacent vegetation with earth equal to the height of the product and reseed with similar vegetation. Lay erosion control system adjacent to bridge piers or revetment as close to these structures as possible without cutting the product. Fill any remaining gap with porous backfill.
- F. After installation of the erosion control system blocks is complete, fill any gaps between or within the individual concrete blocks with porous backfill equal to the height of the product and sweep off any excess.

230198.04 METHOD OF MEASUREMENT.

The work of furnishing and installing the Erosion Control System will be based on the plan quantities and will not be measured.

230198.05 BASIS OF PAYMENT.

For the number of square feet of Erosion Control System shown in the plans, the Contractor will be paid the contract unit price per square foot. This payment shall be full compensation for the design and installation of the erosion control system, including the blocks or prefabricated concrete mats, geotextile fabric, clamps, anchors, miscellaneous concrete, cabling at corners, excavating, gravel fill, dirt fill, and seeding.