REINFORCED SOIL STRUCTURES

Product: Terramesh® System

Problem
The original technical solution planned due to decrease of bridge length building massive bridge abutments 1 and 4, designed as beam seats sitting on piles with vertical wingwalls made of C30/37 concrete with massive embankments. In the process of optimizing bridge abutments Terramesh system was chosen as the most efficient in technical, functional, and economic terms.

Solution
Using the Terramesh® System – reinforced soil structure with gabion facing with integrated reinforcement in combination with geosynthetic reinforcements (ParaGrid® geogrids), it was possible to optimize not only the height of the embankments of the supports but also to reduce the length of the bridge structure substantially, by as many as two spans.

The structure of the wall is made with a system of reinforced soil structure with gabion facing with integrated reinforcement Terramesh system. The face elements have the dimensions of 2.0 m (length) x 1.0 m (height) x depth of the gabion 0.8 m. Integrated horizontal panels made of hexagonal double-twist plastic-covered steel net, type 8x10, firmly connected to the gabion. The panel forms a 3.0 m long reinforcement (anchoring) in the embankment slope. The diameter of the wire of the net is 2.7 (internal) / 3.7 (external) mm. The surface of Terramesh system blocks is made by Galmac + Plastic. The face of the gabion and horizontal reinforcement are connected already during the production process and form a single part of the system.

OP1 - the length is 60.00 m, the height is 6.00 m.
OPS - the length is 110.00 m, the height is 11.00 m.

Client:
NATIONAL MOTORWAY AUTHORITY

Main contractor name:
Združenie D1 Fričovce - Doprastav, a.s., Strabag, s.r.o.

Consultant:
Stráský, Hustý a partneři, s.r.o.

Used product:
Terramesh® System - face area: 1 200 m²

Construction info:
Construction start date: April 2013
Construction end date: October 2014
MACCAFERRI CENTRAL EUROPE s.r.o. has implemented and applies a quality management system pursuant to the standard EN ISO 9001:2008 certified by TSÚS CERTICOM.