HIGHWAY D1 FRIČOVCE-SVINIA, SO 212-00 BRIDGE OVER THE ROAD
III/018191
SLOVAKIA, CHMIŇANY

REINFORCED SOIL STRUCTURES

Product: Terramesh® System Mineral Light

Problem
The bridge structure spans the D1 motorway over the III/018191 road. The bridge structure is located close to the village Chmiňany. After the optimization, the high reinforced concrete wingwalls were substituted by Terramesh® System.

Solution
Four inclined wingwall formed by Terramesh System have been proposed to retain the slopes of the embankment of the proposed motorway. At abutment 1, the height of the left wingwall is divided by a 1.0 m wide berm; the height of the wingwall is 5.0 m + 7.0 m, the length is 36.0 m. The maximum height of the right wingwall is 7.0 m with a length of 12.0 m. At abutment 2, the height of the left wingwall is divided by a 1.0 wide berm; the height of the wingwall is 3.0 m + 7.0 m, the length is 27.0 m. The maximum height of the right wingwall is 7.0 m with a length of 15.0 m.

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 (or 0.5 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.

In order to increase the rigidity, a welded panel Ø4.0 mm with Galmac protection is located in the front part of the gabion facing.

Client:
NATIONAL MOTORWAY AUTHORITY
Main contractor name:
Združenie D1 Fričovce - Doprastav, a.s., Strabag, s.r.o.
Consultant:
Novák & partner, s.r.o.
Used product:
Terramesh® System - face area 650 m²

Construction info:
Construction start date: June 2013
Construction end date: June 2014
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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.

Typical cross-section, section 16A

After construction

Date: May 2014