

## MOTORWAY R1, BANSKÁ BYSTRICA - NORTH BYPASS, SO 100-00

### BANSKÁ BYSTRICA, BANSKÁ BYSTRICA, SLOVAKIA

#### Reinforced Soil Walls and Slope Reinforcement

##### Problem

To ensure a global stability of the steep slope and base stability on the Motorway R1 Banská Bystrica - north bypass, it was necessary to build an embankment reinforced with geosynthetic material. Geosynthetic materials ensure also basal reinforcement.

##### Solution

The stability of the embankment is secure with a reinforcing mono-axial semi rigid geogrid. The thicknesses of the reinforced soil layers are about 400 mm with 3 % gradient. There is a reinforcement with higher tensile strength in the base - Paralink (300 kN/m) and Paragrid (30 kN/m) in the upper part. Geogrids are planar structure consisting of a mono-axial array of composite geosynthetics strips. Each single longitudinal strip has a core of high tenacity polyester yarns tendons encased in a polyethylene sheath; the single strips are connected by non-resistant cross laid polyethylene strip who give a grid like shape to the composite. The geocomposite is CE certified for reinforcement applications and approved by the BBA. At the end there will be organic soil layer with thickness 200 mm reinforced with coconut fiber biomat and hydro-seeding to establish grass cover as erosion control.

**Client:** Granvia a.s.

**Designer / Consultant:** Dopravoprojekt a.s.

**Contractor:** Granvia Construction, s.r.o.

##### Products used (Qty.)

- ParaLink	9999
- ParaGrid	9999

**Date of construction:** 08/2010 - 10/2012



Paralink 300



Paragrid 30



During construction