



# VALJEVO-RESNIK, SERBIA, SERBIA

**Slope Stability**

# Valjevo-Resnik, Serbia

## Slope Stability

<b>Project</b>	Valjevo-Resnik, Serbia
<b>Location</b>	Belgrade
<b>Country</b>	Serbia
<b>Year of installation</b>	2017
<b>Customer</b>	Železnice Srbije
<b>Engineering</b>	Institute of Transportation CIP, Beograd
<b>Contractor</b>	RZD International LLC
<b>Other participating companies</b>	Geosonda Konsolidacija a.d., Beograd
<b>Initial situation</b>	Because of continuous small rock falls, landslides, and erosion along the railway line Valjevo-Resnik, the maximum allowed speed had to be limited. The Serbian Railways decided to stabilize the slopes together with the revision of the railway line.
<b>Description</b>	<p>Designers from CIP Belgrade, Marina Janković, and Ivana Vujović together with the assistance of Geobrugg's Representative Office in Croatia provided stabilizing solutions for 11 slopes. Problems of rockfall and slope stability were solved mostly with TECCO® System and SPIDER® System. Additionally, DELTAX® and GREENAX® meshes were used as a secondary mesh, as well as erosion control. Under the TECCO® System, TECMAT® was used as an anti-erosion layer.</p> <p>One of the tunnel portals is protected against rockfalls by the GBE-100A-R barrier without retaining ropes.</p>
<b>Protected object</b>	Railway
<b>Other installed applications</b>	Rockfall Protection
<b>Corrosion protection</b>	Galvanized, GEOBRUGG SUPERCOATING
<b>Geology</b>	Contemporary alluvial sediments of the Topčiderska river and sandstone salt-clay sediments, so-called neocomic flysch. The neocomic flysch complex is mainly represented by fine-grained sandstone, alevrolites, marls and glaciers, with the passages and limbs of limestone and limestone brecco-conglomerates.
<b>Stabilized area</b>	38000 m <sup>2</sup>
<b>Maximum slope height</b>	23 m
<b>Slope inclination</b>	45 ° - 75 °
<b>Erosion control mat</b>	Yes
<b>Exposition</b>	North-West

For questions please contact our Geobrugg specialist at your side

### Kevin H. Coyle

Regional Manager Northeast  
Phone +1 860 377 3230

kevin.coyle@geobrugg.com



### Geobrugg

info@geobrugg.com | www.geobrugg.com