

# Lining of the Border Checkpoint Embankment in Zosin, Poland

Zosin – Ustikug is an international border control point for cars and buses. Being located on the eastern border of Poland, it is also one of the checkpoints where foreigners enter the European Union (Schengen area) from Ukraine. Before extension this checkpoint was capable of clearing 1700 automobiles and 6 buses a day. After extension the capacity was doubled and allowed for additional admission of up to 1000 cargo vans a day.



## PROJECT DETAILS

Extension of the border checkpoint for cars in Zosin

## LOCATION

Eastern borderline of the European Union (Poland – Ukraine) in Zosin, Horodło commune, Poland

## PRODUCTS USED

BENTOMAT® SP GCL

## CHALLENGE:

The Zosin checkpoint is situated on the Bug river, in lowlands prone to periodic flooding. In order to extend the checkpoint facilities it was necessary to construct a new embankment, elevated above the maximum expected flood tide. Due to the sensitive nature of local soils used for embankment construction it was necessary to cut-off the embankment from potential inundation during flood events. The finished embankment is expected to remain stable during high-water periods, withstanding high loads from checkpoint facilities and vehicle traffic.

## SOLUTION:

The contractor sought a simple, reliable and proven lining solution. CETCO proposed the installation of a BENTOMAT® geosynthetic clay liner. Due to the steep inclination of embankment's slopes, a reinforced Trinter geocomposite was used to increase stability of the soil cover over GCL. Trinter provides superficial reinforcement and erosion control, supporting the development of vegetative cover at its early stage.

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CETCO's lining solution was verified already at the construction stage, when after spring thaw the Bug river flooded the land that surrounds the checkpoint. The embankment survived intact.

**RESULT:**

Lining solution proposed by CETCO protected the embankment from periodic inundations. Thus, it was possible to construct the embankment using local soils, without importing large volumes of non-susceptible soils. Thanks to this improvement the project came out more sustainable and costefficient.

Construction works were completed in spring of 2013. CETCO provided design consultancy and materials.