Backa Bergögata

Göteborg, Sweden

- Keller installed around 3 000 pcs of dry deep soil mixing columns (DSM).
- Ground improvement for slope stabilization.
- Ø600 mm columns (13 to 14 m), binder: Multicem, 100 kg/m3.
- Sheet piles as excavation support for the pump station.

The project

In Backa Bergögata, Gothenburg, the client was awarded funds from the Swedish Geotechnical Institute (SGI) to improve the slope stability along the Göta river.
The slope stability improvement was conducted under a development project. Keller was contracted to design and execute DSM columns in row pattern as a stability improvement measure.
Later in the project Keller also assisted with the design and execution of excavation support for installing a pump station.

The challenge

- Soft soil close to the river with poor slope stability.
- Horizontal displacement when installing DSM columns.
- Driving sheet piles through hardened DSM columns.

The solution

Load spreading wooden mattresses and a scheme for placing of machines. Modified installation patterns including skipping of column rows to allow curing time to obtain increased slope stability safety factors and less displacements.
3 000 columns were installed in rows with an accumulated column length of 39 000m. Deformations at slope crest were closely monitored. A sheet pile box 5.4x3.6 m was installed to allow for pump installation.

Project facts

Owner(s)
Ytterbygg AB

Keller business unit(s)
Keller Grundläggning AB

Main contractor(s)
Ytterbygg AB

Solutions
Excavation support

Markets
Infrastructure

Techniques
Sheet piles

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