

Oslo S K-136 & K-132

Oslo, Norway

The foundation works in K136 and K132 are part of the Folloline project which is currently the largest infrastructure project in Norway. The project includes 22 km of new railway tracks between Oslo and the city of Ski.



The project

In K-136 and K-132, the tunnel was constructed using the Cut and Cover method. Therefore, the designed steel core piles were working as the foundation of the tunnel, transferring the load safely into the bedrock at around 55m depth. Due to the challenging soil conditions, the project had very strict requirements in regards to the disturbance of the sensitive clays present in this particular area.

The challenge

Due to the tight time schedule of the project, detailed co-ordination with other contractors at site was necessary. Sensitive clays and piles drilled into Alumn Shale required special mitigation measures to minimize the health and safety risks during handling the spoil produced by the piling works.

The solution

Keller installed more than 670 pieces of Steel Core Piles Ø 150mm and Ø 180mm drilled into sound bedrock to ensure the required bearing capacity of the piles. with a length up to 55m for each pile. Keller implemented a solution of water drilling with a Double Head System to minimize the disturbance of the surrounding clays. In very sensitive areas, more than 15,000m of drilling was carried out using the KRCD (Keller Reversible Circulation Drilling) method to reuse the water from the drilling. This drilling technique led to a very positive environmental footprint for the foundation works. Bearing capacity testing with static and dynamic load tests accompanied the work.

Project facts

Owner(s)

Bane NOR

Keller business unit(s)

Keller Grundläggning
Keller Grundbau

Main contractor(s)

Bane NOR
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Solutions

Bearing capacity / settlement control

Markets

Infrastructure

Techniques

Micropiles

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