

E16 Eggemoen - Olum, Randselva Bridge

Jevnaker, Hønefoss - Norway

Keller installed 40 pcs of Φ 1.5m bored piles with a total length of about 900 m, both end bearing piles down to bedrock and 31 m long friction piles in sand.

Keller installed 52 pcs steel cores piles with a total length of about 730 m with casing dimensions varying from Φ 273 to Φ 406 mm and core dimensions varying from Φ 180 to Φ 220 mm.



The project

Keller was contracted by PNC Norge to execute the piling works on the Randselva bridge that is part of the project E16 Eggemoen - Olum in Jevnaker.

The 3 main bridge axes was to be founded on Φ 1,5 m bored piles down to bedrock and as friction piles in the sandy soil on the Eggemoen side. For the remaining 4 bridge axes Keller executed steel core piles down in bedrock with varying dimensions.

The challenge

The challenge in this project was the varying ground conditions with a very layered bedrock with areas with weak shale and areas with a very hard type of granite.

It was crucial to finish the piles in the hard bedrock during execution. For the friction based bored piles, the challenge was to extract the casings during production because of the high friction in the sand.

The solution

Keller mobilized a special pile rig from Europe with a total weight with tools of 150 ton to be able to drill the Ø1,5m bored piles.

The bored piles were made by drilling down temporary casings, installing reinforcement cages, pouring in concrete from bottom up and extracting the casings again.

An oscillator connected to the rig was necessary to drill the friction piles due to the high friction forces on the casing during execution. For the steel core piles, different drilling rigs was used, and the piles were driven with traditional DTH-hammers of varying dimensions.

Project facts

Owner(s)

Statens Vegvesen

Keller business unit(s)

Keller Grundläggning AB
Keller Grundbau GesmbH

Main contractor(s)

PNC Norge AS

Engineer(s)

Project Manager Mariusz Urbanski
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Solutions

Bearing capacity / settlement control

Markets

Infrastructure

Techniques

Bored piles / drilled shafts

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