



Project Case Sweden, 2009-15 – The Stockholm City Line (1/2)



Project scope

- Pre-drilling for grouting, drilling for underpinning for ground reinforcement as well as drilling for sheet pile walls
- Number of holes: ~4 800
- Depth: Ranging between 15 and 65 m, 49-213 ft.
- Scope of drilling/total meters: 45 000+ m, 147 000+ ft.
- Why water-propelled drilling?
 - The demands on low-noise-level as well as the surrounding infrastructure consisting of, e. g., sensible buildings, made the water-propelled method superior as alternative.

In addition, the water-propelled technology was prescribed by Ramböll in the request for tender.

The very first WAI hammer project !





Project Case Sweden, 2009-15 – The Stockholm City Line (2/2)



Equipment & geology

- Hammer model/sizes: DrillKing WAI 60i and of other manufacturer sizes 3.5”-5”
- Drill bit/Casing systems:
 - Mainly Mitsubishi Ø170 mm and Ø323 mm
 - For the Ruukki drilled pile walls, GeoRocFor Xs-S was used
 - For the rock socket drilling, the GeoRocFor Drill through system X-GT was used
- Threaded casings: Larger quantities from Colcrete Eurodrill – more than 3 km – were delivered to the project; Ø139.7 mm, 5.5”, Ø219.1 mm, 8 5/8” and Ø273 mm, 10 ¾”
- Pumps:
 - 3 x Hammelmann 460 lit/min @ 180 bar
 - 2 x WADJET 460 lit/min @ 180 bar
 - 1 x WOMA 460 lit/min @ 180 bar
 - 1 x Kamat 500 lit/min @ 180 bar
- Water source: Public water mains
- Drill rigs: Mainly Klemm models; 702, 805 and 807
- Geologic formation: Sand, mud and boulders down to bedrock
- GDS supplied this project with threaded casing
- GDS supported with service and scheduled maintenance



Main stakeholders

- Commissioner: Banverket, Swedish Rail Road Administration
- Designing engineer: Ramböll
- Main contractor: Implenia

Project & drilling results

Due to hectic schedule, the fast deliveries and technical support from GDS made the project possible to realize.

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