

New Railway Line Copenhagen-Ringsted

Establishment of two cut and cover tunnels



AARSLEFF

Per Aarsleff A/S has carried out the largest single contract in terms of value for the new railway section between Copenhagen and Ringsted. The contract comprised a 3.7-kilometre-long section where we among other things established two cut and cover tunnels of 560 metres and 695 metres and four bridges across the new railway section.

The contract with Banedanmark was a design and build contract, so we were involved in the project already from the design phase. The majority of our work was carried out in own production with Aarsleff equipment and machinery, while Wicotec Kirkebjerg A/S, an Aarsleff Group company, carried out the installation work.

Cut and cover tunnels

Both tunnels were carried out as so-called cut and cover tunnels built on site in open excavations down to a depth of 11 metres under existing level. The retaining walls were carried out with sheet piles and secant piles, respectively. The two tun-

nel covers were established with precast elements manufactured at our production facilities in Poland and subsequently transported to Denmark.

Concurrently with the establishment of the tunnels, we handled extensive groundwater lowering with reinfiltration system.

Challenging site conditions

The civil works for the two tunnels required thorough logistics and planning. One of the tunnels was built in very confined spaces as it was established between the Holbæk motorway and a residential area. The other tunnel goes through an area with highly contaminated soil owing to a gasworks explosion back in 1964, so special attention to soil handling was required.

From the start of project, we have had a close working relationship with the Danish Road Directorate and the municipalities in the two areas about reorganising the traffic flows.



Data

- 2 cut and cover-tunnels of 560 metres and 695 metres, respectively, with tunnel cover elements
- 4 bridges
- 35,000 m³ of in situ concrete
- 32,000 m² of sheet piles
- 3,400 anchors
- 22,000 m² of secant pile wall
- 300,000 m³ of soil, including handling of contaminated soil.

Client

Banedanmark

Contractor

Per Aarsleff A/S
Construction and
Ground Engineering

Type of contract

Design and Build

Consulting engineer

COWI A/S
ÅF Hansen og Henneberg A/S

Construction period

February 2014 to May 2017

Contract value

DKK 1,059 million

Contact

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