

# Bored piles for upper secondary school

Installation of piles by means of the Vor der Wand method



**AARSLEFF**

Aarsleff Ground Engineering has bored 29 piles for the construction of the new upper secondary school in Viborg. Due to a deep-lying sewer pipe, it was not possible to establish seven new spread foundations directly. So the spread foundation loads were led under the pipe to avoid damaging the pipe.

## **Bored piles by means of the Vor Der Wand method (VDW method)**

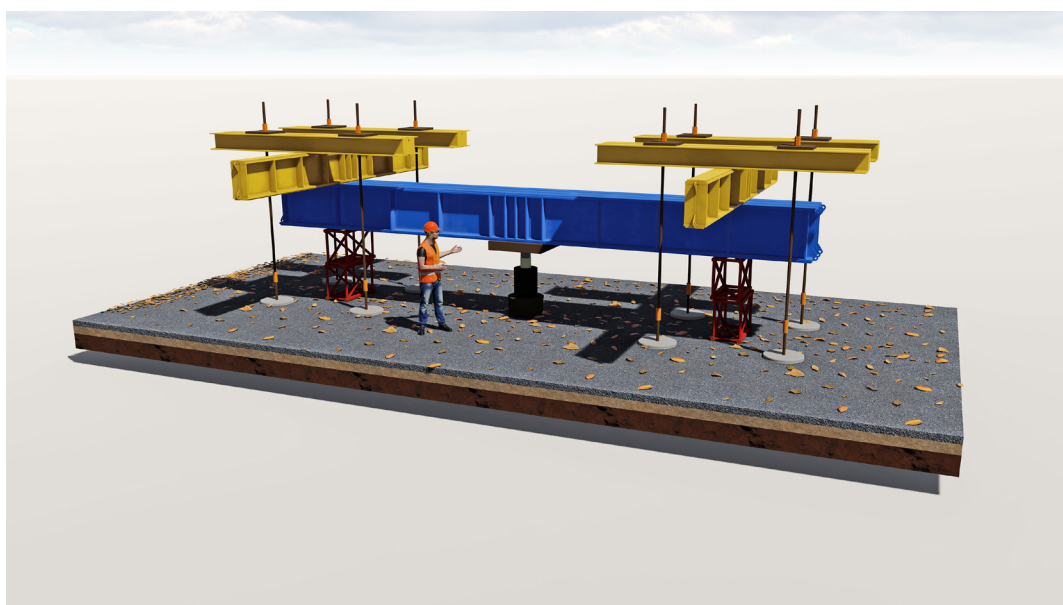
We chose not to install reinforced concrete piles as it was assessed that the sewer pipe was located too close to the foundations. Instead the piles were installed as bored piles by means of the VDW method with four piles under each of the seven spread foundations.

The VDW method is a noiseless execution method with no vibrations and can be used in even the most challenging soil conditions which would otherwise require hard pile driving.

Besides the 28 piles bored in each corner of the seven spread foundations, a test pile was bored between the two future foundations to verify the specified bearing capacity of the piles. This allowed the bored piles in the two future foundations to be used as reaction piles during the test. Two weeks after the installation of the test pile, a pile load test showed a higher bearing capacity than the calculated bearing capacity.

## **Temporary sheet pile wall**

Four of the bored piles had to be installed relatively close to a previously installed sheet pile wall and in order to allow formation level excavation for the piles in front of the sheet pile wall, a new temporary sheet pile wall had to be installed parallel to the existing one as this was not designed for the new excavation level.



#### Data

1 bored test pile:

- DN630 mm
- Length: 12.5 m
- Reinforcement in the entire length of the pile

28 bored piles:

- DN630 mm
- Length: 12.5-13.5 m
- Reinforcement cage in the top 3 metres of the pile

Sheet piles

- 118 m<sup>2</sup> of sheet piles

#### Client

Viborg Kommune / Mercantec

#### Contractor

Per Aarsleff A/S

#### Type of contract

Subcontract

#### Consultants

ISC Rådgivende

Ingeniører A/S

CUBO Arkitekter A/S

#### Construction period

July 2017

#### Contract value

DKK 1.1 million

Aarsleff Ground Engineering is one of Europe's leading piling contractors, and we undertake a wide variety of piling, drilling and foundation projects in Denmark and abroad. We have offices in Poland, Sweden, Germany and the UK.

Our fleet covers fully hydraulic piling and drilling rigs as well as cranes and vibrators.

#### Contact

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