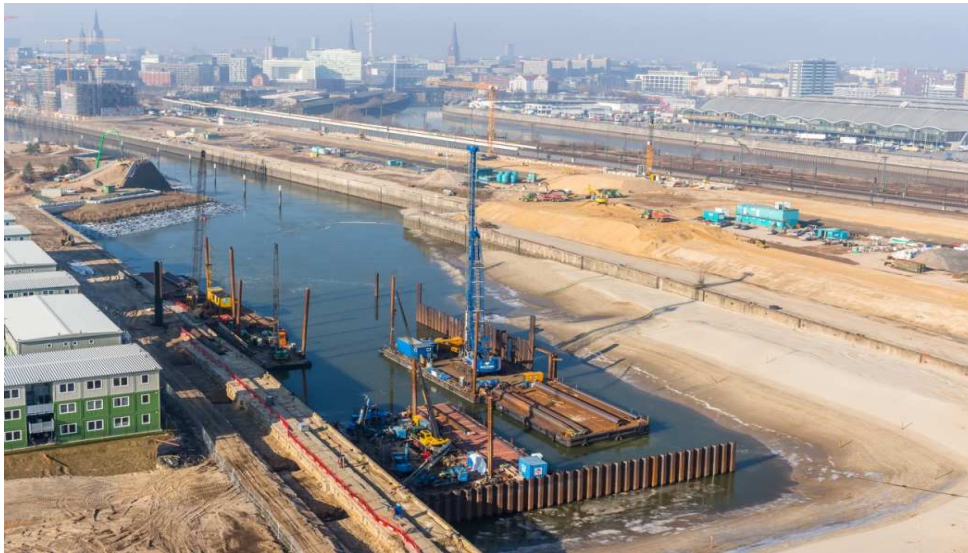




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## REFERENZ HARBOUR CONSTRUCTION AND MARINE ENGINEERING

# Quay wall construction KM Dockland North and South in Baakenhafen- Hafencity Hamburg



In the coming years, a sustainable "urban village" will be created around Baakenhafen harbour in the middle of the city. In the course of the redevelopment, the 340m long shore enclosure of Baakenhafen harbour had to be rebuilt as a back-anchored, heavy sheet pile wall with rising concrete spar (1.1x2.4m). Baakenhafen is located in the eastern part of Hafencity in the immediate vicinity of the Elbe bridges.

The tendered construction work was carried out in a joint venture with Aug. Prien GmbH & Co. KG.

Particularly high demands were placed on noise emissions by the tendering party. The contract was awarded on the basis of a secondary offer from the bidding consortium which, in addition to effective measures to reduce noise emissions, also offered significant economic advantages for the client.

The redesign of Baakenhafen harbour is divided into the following sub-projects:

**KM Dockland North:** New construction of the quay wall in front of Versmannkai and Baakenkai. The quay walls had a total length of approx. 340m.

**KM Dockland North backfilling:** The sub-project comprises the bottom raising to -6.0mNN and the landside earthworks behind the new quay wall Dockland North.

**Contract Volume:**  
~7,3 € Mio

**Contractor:**  
Depenbrock Ingenieurwasserbau GmbH & Co. KG former F+Z Baugesellschaft (davor Bilfinger MOS), 50% KGF

**Client:**  
HafenCity Hamburg GmbH

**Construction time:**  
Nov. 2017 – Juli 2018

**Location:**  
Hamburg Hafencity

**Technical data / main masses AE:**  
Sheet pile steel approx. 1,800 t  
Micropiles Gewi 75 plus approx. 140 pcs.  
Horizontal anchors approx. 12 pcs.  
Structural steel approx. 190 t  
Concrete approx. 750 m<sup>3</sup>  
Reinforcing steel approx. 85 t  
Earthworks approx. 40,000 m<sup>3</sup>  
HDI columns approx. 60 linear metres  
Demolition approx. 2,500 m<sup>3</sup>

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**KM Dockland South:** The sub-project comprises all work for the renovation / new construction of the quay walls at Petersenkai. These are divided into three areas. In front of former shed 261, eastern area, length approx. 160m; in front of former shed 26, length approx. 95m and in front of former shed 27, western area, length approx. 110m. The new harbour basin will be navigable for launches.

The illustration below shows the detail of the head anchoring of the piles in the concrete spar.

Steel protection tubes were placed over the GEWI Plus 75 piles to protect against deflection.

Test loads were carried out to determine the load-bearing capacities.

