

Container terminal Predöhl Quay

HOCHTIEF Construction AG has proved itself a competent partner during quay wall construction in Hamburg harbor. From 2003 to 2005, the Civil Engineering and Marine Works business unit had its third assignment at Predöhl Quay berth 1 and has constructed a quay wall for super container vessels for the city of Hamburg.

As technical leader of a joint venture, the business unit extended the quay wall for user Eurogate. The wall now has a length of more than 380 meters, features a 60-meter-long head wall and can accommodate Post-Panamax container vessels.

With a special technical proposal, we optimized construction sequences and the execution procedure, adapting them to the difficult ground conditions. HOCHTIEF Construction thus reduced the costs for the client and the execution risk.



Project data

Client:

City of Hamburg, Economy and Labor
Department, Hamburg Port Authority

Joint venture:

Arge Ausbau Predöhlkai LP1
HOCHTIEF Construction AG
Civil Engineering and Marine Works
F + Z Baugesellschaft mbH
August Prien Bauunternehmung
GmbH & Co. KG

Technical data:

Design for greater water depth,
large-scale ground replacement
and removal of obstacles

Quay wall

length approx. 380 m

Head wall approx. 60 m

Return wall approx. 30 m

Diaphragm steel wall:

Fender piles 1,300 t

Combined wall 5,000 t

"Flap anchors" 950 t

Flood protection walls 550 t

In-situ casted

concrete piles 420 pcs.

Reinforced concrete 14,000 m³

Reinforcement 1,500 t

Construction period:

November 2003 to July 2005

Competence in maritime construction

The extremely solid construction ground in this part of Hamburg's harbor presents a particular challenge. The Technical Office of our competence center for harbor construction and marine works in Hamburg developed an alternative solution to the bid design, and the client opted for this special proposal. As a result, HOCHTIEF Construction and its partners applied a different method for soil replacement and realized a completely redesigned foundation concept for the combined wall and for in-situ piles and anchoring. To give an example: As driving very long anchoring piles from steel would have been too risky and unprofitable considering the soil conditions, the joint venture executed the back anchoring in the form of the so-called "flap anchors" it had offered. These piles are comparable with the so called "dead man" anchorage even though in stoped and solitary arrangement.

Despite the extremely short distance between the flap anchors in

the corner areas, we produced the in-situ driving piles with high precision and without delays and damages.

Our competence in harbor and maritime construction secured us a follow-up contract at Predöhl Quay constructing flood protection walls at the quay wall for Eurogate.

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