

The Multi Service Group.

Swimming Lake Riem

Munich, Germany



The new district "Messestadt Riem" (exhibition centre) is under construction on the premises of the former Munich Airport. As part of the landscape park for the federal horticultural show 2005 in the south of the exhibition centre a lake is constructed with a length of approx. 650 m and an average width of 160 m (water area approx. 10 ha). Due to the dual function of swimming lake and skating rink as well as landscaping, the water level was drafted 2.5 m under top ground surface, thus 4 to 5 m above groundwater level. The almost 2 km enclosure of the lake is carried out by an impermeable thin slurry wall in the quarternary gravel and the tertiary sands. The wall is embedded in the up to 27 m upcoming impermeable layer for at least 0.8 m. After completion of the thin slurry wall enclosure the lake was pumped out and the existing 18 m gravel was dredged up down to the lake bottom. In order to reduce subsequent operational costs, great importance was attached to the enclosure and impermeability. For the total system (enclosure and bottom) a density of 1×10^{-7} m/sec was aspired to and for the enclosure (impermeable walls) a density of 1×10^{-8} m/sec was required. Before starting the execution a precise quality assurance scheme was written and compliance with minimum standards was surveyed by self supervision and external quality control. The lowering attempt in a test box proved a system permeability of 5×10^{-10} m/sec and the banked up water test in the lake a permeability of 2×10^{-8} m/sec.

Main quantities:

44,172 m² thin slurry wall
134,200 m³ excavation
327,000 m³ dewatering
wells, water-level observation hole, high-pressure pipe line
sheet piling of the building pit
vibration monitoring

Contract Value (net):

3.53 Mio. Euro

Construction Period:

07/2001 – 02/2002

Client:

State Capital Munich,
represented by MRG
„Maßnahmetraeger“ GmbH, Munich

Services:

Vibrated thin slurry wall
Dewatering

Contact:

Bilfinger Berger Spezialtiefbau GmbH
Office Bavaria

Landsberger Straße 290 a
80687 München
GERMANY

Tel: +49-89-74817-121

Fax: +49-89-74817-316

www.foundation-engineering.bilfingerberger.com