



*Site photos during construction.*

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## Friedrichstadt Passagen Development

*Berlin, Germany*

Mueser Rutledge Consulting Engineers (MRCE) developed criteria and procedures for construction of a three level deep basement for this commercial, retail and residential project which covers three city blocks in the heart of historic Berlin. This project is on Berlin city blocks 205, 206, and 207.

Site exploration was performed in conjunction with a German consultant. MRCE then developed design concepts and performed computer-assisted studies of groundwater flow to develop a cost-effective method of excavating to a depth of 14 meters, in sand below the water table, while addressing restrictions on construction dewatering imposed by the local authorities. The selected scheme was a perimeter cut off wall excavated using slurry wall technology and extending to a natural "braunkohle" clay 45 meters below street grade. Continuing work included evaluating alternative concepts proposed by construction contractors during the bid period, and inspection of the construction including the deep cut-off walls, tieback anchors for excavation support, and vertical tiedown elements to resist permanent uplift.