Munich Marienhof stop

SHORT DESCRIPTION

The major project 2nd Munich S-Bahn main line consists of the sub-measures "Overground areas", "Inner city area/tunnel" and "Network supplementing measures" in the outer branches.

THE PROJECT

As part of the **Marienhof construction project**, the central access structure is being built using the diaphragm wall/cover construction method. The advance excavation level at approx. 3 m below ground level with a back-anchored soldier pile shoring as excavation support is constructed in advance. From this level, the diaphragm walls and the primary supports for the temporary load transfer of the floor slabs are constructed. Once the concreting of the barrier floor slab has been completed, the excavation of the individual levels begins continuously from top to bottom under the protection of extensive dewatering. Openings remain in the ceilings to ensure supply and disposal.

Due to the existing buildings around the excavation pit, the platforms below will be excavated under compressed air. Extensive compensation injection measures will be carried out to secure the surrounding buildings, divisions and subway structures.

To connect the distribution level with the platform levels of the subway station U3/U6, tunnels are planned to be excavated under compressed air. Starting from the central access structure, the connecting tunnel will pass under the Marienhof exit of the U3/U6 subway lines and connect to the platforms of the U3/U6 lines via two existing shafts.

Once the excavation pit has been fully excavated, the 5-part tunnel cross-sections will be driven in the east and west directions, each with a length of 65 m, which will accommodate the escape tunnels and the central tunnel with adjacent platform tubes on the outside. At both ends of the platform tunnels, the escape staircases and the lean concrete blocks for the entry of the tunnel boring machines of the eastern and western neighboring lots are being built.

Media release

SERVICES IN DETAIL

- Tunnel construction, special foundation engineering, civil engineering
- Construction method
- Excavation pit
- Diaphragm wall, L = 300 m, d = 1.5 m, D=54 m
- Primary supports, Ø = 1.8 m, L = 72 m
- Station
- Floor slabs d = 1.20 -1.50 m
- Cross-sectional area of platform tubes 430 m^2

CHALLENGES

The inner-city traffic situation in the Marienhof area with a high volume of pedestrians, cyclists, residents and delivery traffic places high demands on the logistics. The sensitive buildings in the vicinity of the construction site require careful construction methods with complex monitoring equipment and countermeasures in the event of any deformations.

FURTHER INFORMATION

- Commissioning: 2028
- Construction contract sum: EUR 394.7 million
- Settlement construction sum: Project in realization
- Purpose: S-Bahn station
- Task: Shell construction work for station with mining tunnel drives
- Construction method: Cover construction method with diaphragm wall enclosure and primary supports in the protection of a dewatering system, tunnel in shotcrete construction method under compressed air
- Main facilities + features: Central access structure and platform tubes as well as connecting tunnel to the subway, extensive dewatering and geomonitoring measures as well as compensation injection measures
- Geology: alternating sequence of tertiary sand and marl layers
- Client: DB NETZE: DB Netz AG + DB Station & Service AG + DB Energie GmbH
- Implementation planning/construction supervision:
    - Engineering consortium SSF Ingenieure AG, atelier4dArchitektenPart GmbH, ILF Consulting Engineers Austria GmbH
    - Engineering consortium construction supervision 2nd S-Bahn main line: Arcadis Germany GmbH, Bernard Ingenieure ZT GmbH, Geoconsult Deutschland GmbH,FCP-Fritsch, Chiari & Partner ZT GmbH
- Reference persons:
    - DB Netz AG, Regional Division South
      Major project 2nd S-Bahn main line Munich
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- Name of the consortium: Arbeitsgemeinschaft Marienhof
- Responsible on the part of the contractor: Jens Classen (Technical Project Manager), 0172 / 3083 039, jens.classen@ve41.de
- ARGE partner (executing ARGE):
    - Technical management: Implenia Construction GmbH, represented by the Munich branch office
    - Commercial management: Hochtief Infrastructure GmbH
    - Further partner: Implenia Spezialtiefbau GmbH, Bavarian branch office
- Project participants:
- Construction supervision:
    - Ingenieurgemeinschaft Bauüberwachung 2. S-Bahn main line
    - Arcadis Germany GmbH
    - Bernard Ingenieure ZT GmbH
    - Geoconsult Germany GmbH
    - FCP-Fritsch, Chiari & Partner ZT GmbHARGE
    - Implenia Construction GmbH (TGF)
    - Hochtief Infrastructure GmbH (KGF)
    - Implenia Spezialtiefbau GmbH
- Function of the contractor in the consortium: Technical management (TGF)
- Participation in the consortium: 50%
- Implenia in the construction:
    - Marienhof consortium
      Irschenhauser Straße 16
      81379 Munich

FACTS

Location	München , Germany
Status	Under construction
Construction volume (value of our services)	395 M EUR
Start of construction	January 2019
Completion	January 2028
Building owner	DB Netz AG, DB Station & Service AG, DB Energie GmbH
Planning	Ingenieurgemeinschaft –Technische Planung Ausführungsplanung SSF Ingenieure AG atelier4dArchitektenPart GmbB iLF Consulting Engineers Austria GmbH
ARGE	✓
Other tunnelling	✓

SERVICES

- Tunnelling
- Transport tunnels
- Service tunnels
- Special Foundations
- Civil engineering
- Concrete construction
- Urban transport infrastructure
- Rail transport infrastructure
- Structural engineering
- Infrastructure