

Project identification

# Amsterdam Metro Station Rokin

Type of project

Cut&Cover tunnel



Client

Municipality of Amsterdam

In co-operation with

Witteveen & Bos, Ingenieursbureau Amsterdam

Project assignment

Consultancy, design, engineering, tender documents and supervision

Country

The Netherlands

Location

Amsterdam

Project duration

1994-present

Project phase

Under construction

Construction cost

(excl. VAT)

Consultancy fee

(excl. VAT)

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Project description

Rokin is one of the 8 stations on the newly developed North/South metro line in Amsterdam. The station, located in the city centre, has been designed for a daily capacity of 57.500 passengers. The project comprises of a 190-m long metro station with the platforms at a depth of approximately 22-m. Located on top of the station, is a 5-level parking garage, bicycle parking, as well as a water clarifying and storage basin. Access to the station is provided through two entrances, one at the northern end and one at the southern end of the station. These entrances give access to the underground entrance halls that lead to the platform. The station is constructed using the wall-roof method where the walls are realized by means of the diaphragm wall technique and several prop layers, deep jet grout strut is provided to limit environmental impact. This construction technique is applied to minimize the impact of the construction on its surroundings. The 40-m deep diaphragm walls are being constructed at close distance from the existing buildings; the building pit will have a final excavation level of 26-m below ground level which requires a high level of deformation prediction and is tested in relation to the continuous monitoring that takes place during construction. The impact of installing diaphragm walls close to buildings was tested by means of a full scale test, which included the development of a 3-dimensional Finite Element model for predicting specific locations in Amsterdam.

Scope of work

Royal HaskoningDHV and Witteveen+Bos through their partnership in the Adviesbureau Noord/Zuidlijn V.O.F. provide the required engineering consultancy services for this project including the structural design, engineering, tender documents and contracts, as well as construction supervision. Other services that were provided include support for permits and licensing procedures, the public consultation process, risk management, construction safety and environmental issues.