Gall Zeidler Consultants
Geotechnics | Tunnel Design | Engineering

No. 7 Subway (Flushing) Line Extension New York Metropolitan Transportation Authority Capital Construction

Location: New York, New York

Date: 2002 – 2003

Structure: Running Tunnels, Two Stations

Length: Approximately 1.5 miles (2.4 kilometers)

Cross-Section: Maximum 3,700 square feet (344 square meters)

Geology: Man-Made Fill, Alluvial and Glacial Sediments, Weathered and Hard Rock (Manhattan Schist), with Groundwater Table at Approximately 20 feet

Cost: Approximately $2.1 Billion

Client: Parsons Brinckerhoff Quade & Douglass, Inc.

Owner: Metropolitan Transportation Authority Capital Construction (MTACC)

Conceptual Tunnel Designs:

Gall Zeidler Consultants (GZ) developed conceptual designs of construction methods for the extension of the existing No.7 Subway (Flushing) Line from Times Square Station to 26th Street and 11th Avenue with a Terminal Station at 34th Street and 11th Avenue. The design included access tunnels, Tunnel Boring Machine (TBM) assembly and disassembly chambers, station caverns, tunnels and shafts.

The designs required approximately 1.5 miles (2.4 kilometers) of TBM-driven running tunnels and two large-span station caverns measuring 60 feet (18 meters) and 100 feet (30.5 meters) wide, re- spectively. Each measures approximately 1,000 feet (305 meters) long with access and egress tunnels (escalator, ventilation, etc.) designed using the Sequential Excavation Method (SEM).

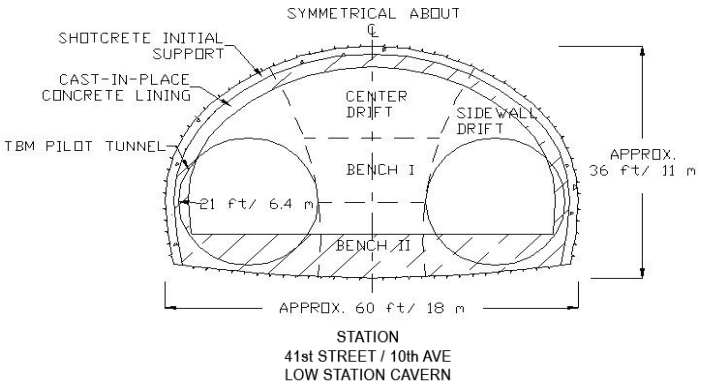

Figure 1. Construction concept for a station with two tracks and one platform.

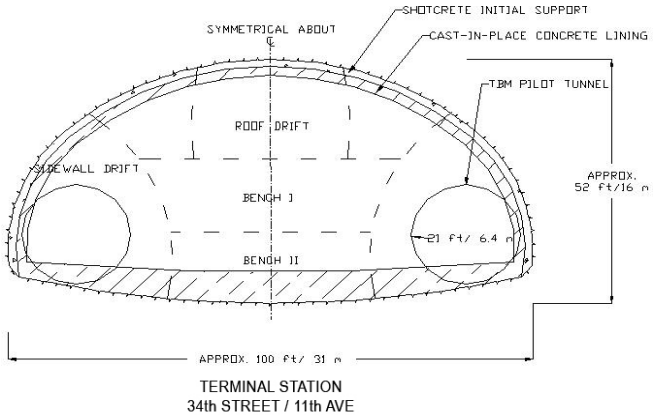

Figure 2. Construction concept for a terminal station with three tracks and two platforms.