

Chicago O’Hare Airport Express Block 37 Chicago Transit Authority

Location: Chicago, Illinois
Date: 2004 – 2005
Structure: Subway Tunnels
Length: 250 feet (76 meters)
Geology: Fill, Young Soft Clays; Groundwater Table Above the Tunnel Roof
Cost: Approximately \$250 Million
Client: STV, Inc.
Owner: Chicago Transit Authority (CTA)

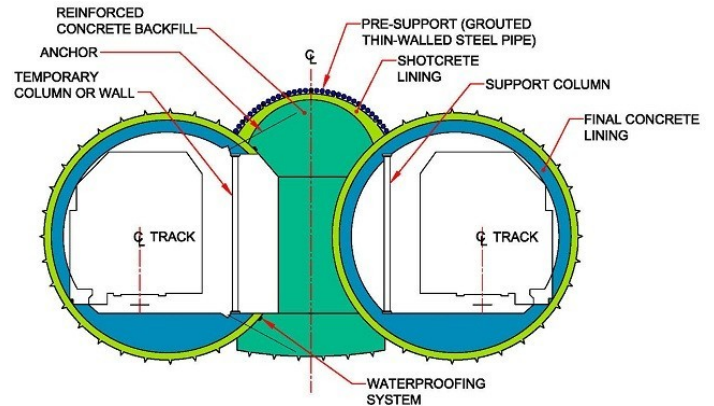


Figure 1. Modification of the middle pillar for the new underground subway tunnel and Airport Express terminal station.

Preliminary and Detailed Design and Consulting for Subway Tunnel Waterproofing:

Gall Zeidler Consultants (GZ) provided preliminary and detailed designs for the waterproofing of the new underground subway tunnels for a new Airport Express terminal station at Chicago O’Hare Airport. The station connects to the existing subway tunnels of the CTA’s Red and Blue lines.

GZ also provided consulting and design services on the tunnel’s preliminary design that called for oblique intersections resulting in large openings. The preliminary design called for New Austrian Tunneling Method / Sequential Excavation Method (NATM / SEM) construction with systematic pre-support, shotcrete initial and permanent linings, and staged tunnel excavation.

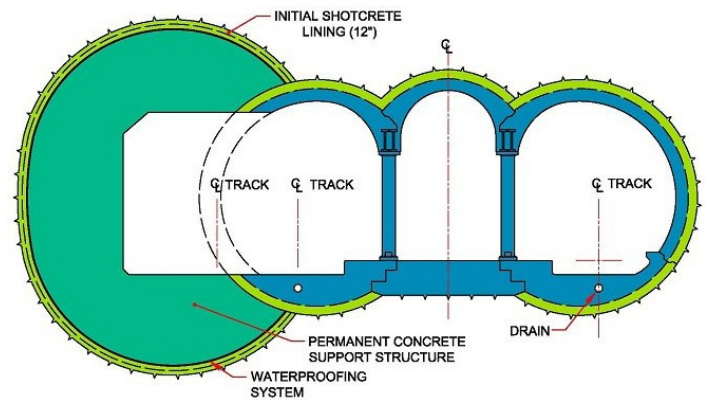


Figure 2. Wide-span opening connection to an existing CTA tunnel.