

Medical Center Crossover Cavern Washington Metropolitan Area Transportation Authority

Location:	Washington, DC
Date:	2011 – 2015
Structure:	Crossover Cavern
Length:	114 feet (35 meters)
Cross-Section:	Width: 58 feet (18 meters) Height: 36 feet (11 meters)
Geology:	Permeable Bedrock with Joints and Fractures, Composed of Biotite-Horn-Blende Tonalite Formation; High Groundwater Table
Cost:	--
Client:	Gannett Fleming / Parsons JV
Owner:	Washington Area Metropolitan Transportation Agency (WMATA)



Figure 1. WMATA system map.

Tunnel Waterproofing, Drainage System, and Final Lining Design Services:

The Medical Center Metro Station, located in Bethesda, Maryland, is part of the Washington, D.C. Metro System's Red, Line. Servicing the National Institute of Health and the Walter Reed National Military Center, the station is an essential part of the Metro System.

Attached to the station is a crossover cavern structure, which consists of a rock tunnel supported with steel ribs and a shotcrete liner. This tunnel section has had extensive water intrusion since its construction in the early 1980s. Water infiltration from the surrounding rock has had impacts on various systems in the tunnel. The rehabilitation project involved the design of a new waterproofing system and final lining.

Gall Zeidler Consultants provided expert engineering design services for the tunnel waterproofing system, the drainage system and the new final lining for the existing cavern.

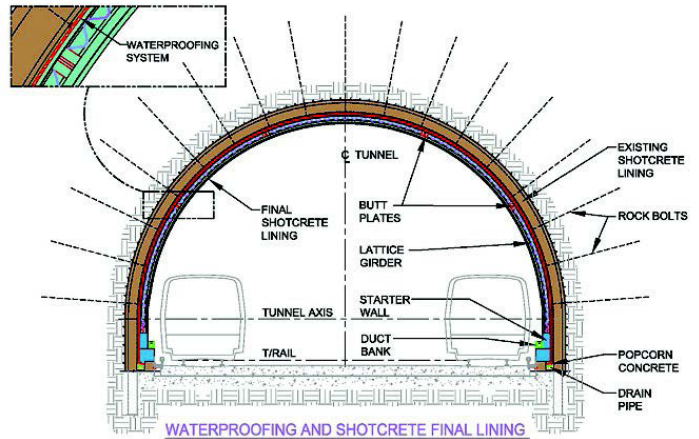


Figure 2. Geomembrane waterproofing system in crossover cavern.