WB&A Trail - Glenndale Road & MD Route 193

Prince Georges County, MD



The Project -Turning the WB&A Railroad in Prince George's County, MD into a bike trail as part of the East Coast Greenway was a long-awaited triumph for park officials, recreation enthusiasts and commuters. The \$ 4.2 million project posed quite a challenge however, for planners, engineers and contractors. One phase required the construction of a tunnel under the highway embankment for Glenndale Drive Blvd (MD Route 193). Limited working space and time constraints called for innovative measures.

The Problem and The Solution - Traditional excavation methods, soldier piles and lagging with helical tiebacks, were the original plan, but overhead power lines, which could not be moved, became an issue. Due to limited vertical space, pile driving could not be performed. Therefore, an innovative system of soil nail wall system using A.B. Chance Soil Screws and geosynthetic reinforced mechanically stabilized earth walls were utilized.

Construction- To maintain traffic flow on the busy MD Route 193 artery a cut and cover sequence was developed by which a 19-ft X 12-ft. elliptical corrugate metal super span could be installed in three sections. While four lanes of traffic were diverted to one side of the roadway, one third of the tunnel was installed. At the end of the tunnel segment, a soil screw wall with helical soil screws and an innovative reusable facing unit was used to make a 20 ft. vertical wall to support the existing traffic lanes. At the end of the super span a geosynthetic wrap faced wall was built to contain the fill around the tunnel and to create a stabilized roadway for future traffic for the next phase. Approximately 1,500 SF of soil nail wall was built in 3 days and, as the phasing for the tunnel "leap frogged" across the embankment, the soil screws and facing used for the soil nail wall were unscrewed and reused for the next phase. This portion of the project was completed on time and on budget even though the construction technology changed dramatically.

Contractor: Fort Myer Construction Corporation, Washington, DC Owner: Prince George's County, Maryland Reviewing Agencies: Maryland State Highway Authority Geotechnical Engineer: Earth Engineering & Sciences, Inc., Baltimore, MD Geotechnical Design Engineer: GeoStructures, Inc., Leesburg, VA

GeoStructures, Inc. Engineered Earth Structures & Foundations