Path's Exchange Place Station (USA)
Sheet Waterproofing

Country	USA, New Jersey (NJ)
Type	Transfer Facilities Structure, SEM Tunnel & Shaft, Aviation
Client	Port Authority of New York & New Jersey (PANYNJ)
Main Contractor	Walsh Construction
Execution of the work	Renesco Inc.
Designer	WSP USA Inc.
Construction Period	2021

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Project Description

The Exchange Place Station - 9 Car Program West Corridor consists of a cross passage tunnel with final lining, electrical and mechanical appurtenances. The tunnel consists of an approximate 18 feet wide and 14.5 feet high horseshoe tunnel that extends about 100 feet at a 0% grade between the south and north platforms within the existing Exchange Place PATH station in Jersey City, NJ. The tunnel crown is about 60 feet beneath Hudson Street in a commercial center approximately 500 feet west of the Hudson River. Since blasting was not permitted for this project, the tunnel was excavated with a hydraulic hammer. The project presented some unique challenges as a result of the proximity to pedestrians on the platform. Path service remained uninterrupted, limiting the Contractor to mechanical means of excavation to advance the heading. The logistics proved very challenging for the approximate 100-foot-long tunnel excavated in soft Manhattan Schist. Groundwater is connected hydraulically to the Hudson River. The groundwater level at the site is tidal and ranges between Elev. +2 to Elev. +5.

Scope of Service

The tunnel will be waterproofed with a loose-laid sheet membrane around (360°) the entire perimeter between the initial and the final shotcrete lining.

- 100 mil (2.5mm) PVC-P sheet waterproofing
- Geotextile, Polypropylene (22oz./sq. yd)
- PVC-P Water barriers
  (1'-5" width, 17" height, 6 ribs)
- Remedial Grouting System & Concept
- BA anchors

1. Tunnel Excavation
2. Metro/Train Station
3. Project Site