



## Plane Train Tunnel West Extension (USA) Sheet Waterproofing

<b>Country</b>	USA, Georgia (GA)
<b>Type</b>	Transfer Facilities Structure, SEM Tunnel & Shaft, Aviation
<b>Client</b>	City of Atlanta, Georgia
<b>Main Contractor</b>	Guy F. Atkinson Construction, Clark Construction Group, Technique Concrete
<b>Execution of the work</b>	Renesco Inc.
<b>Designer</b>	McMillen Jacobs Associates
<b>Construction Period</b>	2022

## Project Description

The Plane Train Tunnel West Extension project at Hartsfield-Jackson Atlanta International Airport, the world's busiest airport, includes extension of the existing automated people mover system and terminal renovations at the baggage claim station.

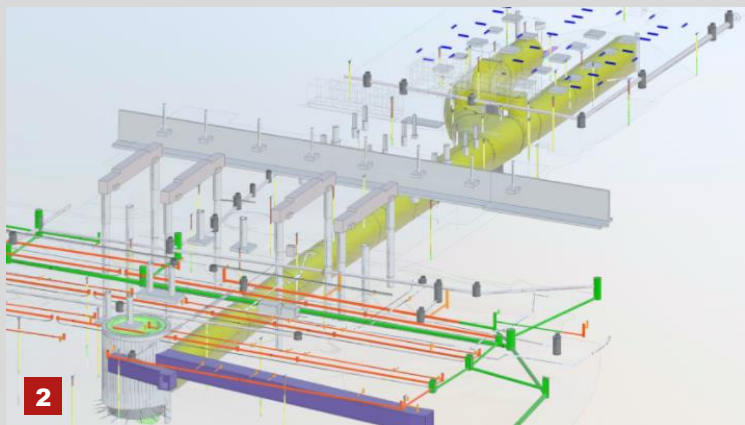
The existing tunnels will be extended westwards about 660 feet (201m) to a 30-foot-diameter (9m) construction and emergency egress shaft. Approximately 408 feet (124m) east of this shaft connection, a twin tube bifurcation begins and the tunnel divides into a north tunnel and a south tunnel to connect to the existing automated people mover mainline tunnels. The typical tunnel section is horseshoe shaped with excavated dimensions of approximately 22 feet wide (6.7m) at spring line and 23 feet tall (7m). The excavated dimensions of the bifurcation include a span up to 48 feet wide (14.6m) and a height of 23 feet with up to 27 feet (8.2m) of flat roof in the span's middle. Above the bifurcation ground cover is approximately 11 to 13 feet (3.4–4.0m) with rock cover of only 6 to 10 feet (1.8–3.0m).

The new tunnels are being mined from the construction shaft using the Sequential Excavation Method (SEM), with excavators in soil and drill-and-blast techniques in rock. Tunnel pre-support and initial support consist of spiles, face dowels, rock bolts, lattice girders, shotcrete, and welded wire fabric. Permanent support consists of reinforced cast-in-place (CIP) concrete lining.

## Scope of Service

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

- 100 mil (2.5mm) PVC-P sheet waterproofing
- Geotextile, Polypropylene (22oz./sq. yd)
- PVC-P Water barriers  
(11-1/4" width, 1-11/16" height, 4 ribs)
- Remedial Grouting System & Concept
- BA anchors



1. Waterproofing at tunnel crown
2. Overview about the project
3. Hartsfield-Jackson Atlanta International Airport