



White River Lower Pogues Run Tunnel (USA) Sheet Waterproofing

Country	USA, Indiana
Type	Sewage Tunnel
Client	Citizens Energy Group
Main Contractor	J.F. Shea & Kiewit
Execution of the work	Renesco Inc.
Designer	AECOM, Black & Veatch
Construction Period	2020

Project Description

The Lower Pogue's Run (LPR) and White River Tunnels comprise more than seven miles of the DigIndy Tunnel System for capture raw sewage as part of the City of Indianapolis' Long-Term Control Plan that will convey, capture, and store Combined Sewer Overflows (CSOs) during rainfall events. The project is including five deep rock tunnels totaling over 28 miles (45km): Eagle Creek, White River, Lower Pogue's Run, Fall Creek and Pleasant Run.

The Lower Pogue's Run Tunnel is a 10,200-ft, 20-ft, 2-in. bored tunnel (TBM) located 200 to 250 feet underground with a 18-foot finished concrete lining, which bifurcates from the White River Tunnel alignment, and includes two CSO connecting structures/ deaeration chambers and adits.

For the most part, the geology has been fairly consistent limestone/ dolomite bedrock, but some sections of higher groundwater infiltration have been encountered.

For the high-water inflow area, to ensure a watertight liner in this critical reach of tunnel, a Flexible Membrane Waterproofing System is used:

- Waterproofing membrane for the LPR tunnel to be installed and supplied of PVC (2.5mm) material, discs and anchors.
- Supply and installation of the drainage board (Geodrain), direct onto the bored rock face
- Geotextile Dam (4-layer geotextile, 1-meter width, and full circumference)
- Terminations
- Geodrain Grout Pipes
- Contact Grout Tubes
- BA Anchors

An optional grouting program/ system is installed to limit the water inflow, in case of need.



1. Injection/ Grouting stop
2. Sheet waterproofing/ 360°
3. Water inflow area