Project Spotlight

Albany Park Storm Diversion Tunnel: Chicago, IL

Owner: Chicago Dept of Transportation
Installer: Geo-Cell Midwest   General Contractor: Kenny Construction

Background Information

Since construction has developed along the Chicago River, residents in Albany Park have experienced severe, frequent flooding especially along Foster Avenue, a local thoroughfare. To resolve this situation, the Chicago Department of Transportation decided to build the Albany Park Stormwater Diversion Tunnel, an 18-foot-diameter bypass tube that will effectively divert the floodwaters. With the placement of this tunnel, when the water levels rise, the flood waters will empty into an inlet and then flow into the tunnel, where gravity will force the water 5,800 feet to the other side of Foster Avenue.
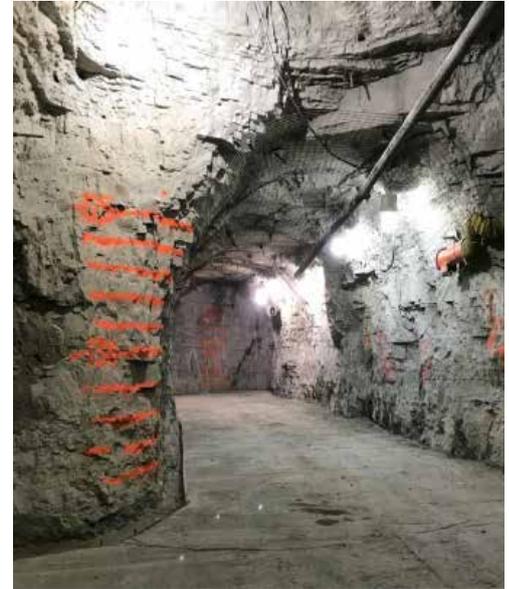
Project Details

This $70 million construction project required detailed planning and engineering. In order to build the below-grade tunnel, general contractor Kenny Construction used a 250-ton tunnel boring machine. While the boring machine was doing its work, it was parked in the tail section of the water diversion tunnel and placed a significant amount of pressure on the underlying soil.

In order to mitigate the 250-ton load being placed on the soil, local contractor Geo-Cell Midwest installed 1,100 cubic yards of Aerix's AERLITE-iX™ Low-Density Cellular Concrete (LDCC). The installation crew pumped the 80-pcf, 700-psi LDCC a distance of 400-500 feet at a height of 20 feet using four-foot lifts. The entire LDCC installation took only five days.

Aerix Added Value

When combined with cement slurry, AERLITE-iX produces a non-permeable, low density concrete ideal for applications like this tunnel that require high compressive strength and load reduction. Without AERLITE-iX, this diversion tunnel would have been prone to severe settlement and instability down the road, but now the residents of Albany Park can commute without the fear of flooding their vehicles or the inconvenience of constant detours.

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