



## Algonquin Road Widening (IL Route 62) Algonquin, IL

The Value Engineering Proposal for this permanent soil nailed wall was accepted by IDOT and McHenry County Highway Department, which resulted in a 35% cost savings over the original earth retention plan. This project consisted of widening the existing 2-lane Illinois Route 62 into a 4-lane highway, which required excavation into a hillside. The subsurface conditions consisted of two feet of fill over stiff clay, so Schnabel Foundation and Herlihy Mid-Continent Company proposed a permanent soil nailed wall in lieu of drilled-in soldier beams, tiebacks and wood lagging. An 8" thick cast-in-place concrete facing (instead of the original 12" facing) with the same architectural treatment was proposed by Schnabel and accepted by IDOT.

The permanent soil nailed wall was constructed by excavating in lifts and installing two to six tiers of soil nails and four inches of temporary shotcrete to subgrade. There were approximately 1100 epoxy-coated soil nails and 21,000 square feet of shotcrete installed to support the hillside cut. Throughout the total length of wall (1063 linear feet), the depth of excavation ranged from 10 to 28 feet. After excavation was completed, Herlihy Mid-Continent Company cast a minimum eight-inch concrete facing in front of the four-inch thick shotcrete wall.

Owner: Illinois Department of Transportation  
 McHenry County Highway Department  
 General Contractor: Herlihy Mid-Continent Company  
 Design-Build Contractor: Schnabel Foundation Company

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