

CUY-77-13.80 Design Build (CCG6B)

Cuyahoga County, Ohio

CLIENT

Kokosing Construction Co.
6235 Westerville Road
Westerville, OH 43081
Scott Mesick
(614) 228-1029

OWNER

Ohio Dept. of Transportation
1980 W. Broad Street
Columbus, OH 43223

COMPLETION DATE

December 2017 (Design)
September 2019 (Construction)

PROJECT COST

\$2.1 M (Design)
\$30 M (Construction)

E.L. ROBINSON'S ROLE

Prime Consultant
Roadway Design
Bridge Design
Retaining Wall Design
Utility Relocations

PROJECT MANAGER

Rick Rockich, P.E.

KEY STAFF

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This project consisted of replacing the structure (CUY-77-1409) carrying Broadway Avenue (SR-14) over IR-77 and reconfiguring the ramps from IR-490EB/WB to IR-77SB to provide standard lane width and merge distances. The existing ramp from Broadway Avenue to IR-77SB was reconstructed into Frontage Road to Pershing Avenue. The intersections of Broadway Avenue with Gallup Avenue, Roseville Court, and Dille Avenue were also reconstructed to match any vertical changes to Broadway and improve curb radii. The mainline lanes of IR-77SB, adjacent to the ramp work, were resurfaced as part of this project. A multi-use path was constructed along the Frontage Road between Broadway and Pershing Avenues.

A congested urban environment and prescriptive scope requirements required innovative retaining wall designs to minimize conflicts with existing underground utilities. The unique retaining wall designs included jet grouting to construct a concrete gravity wall in place with minimal excavation, underpinning an existing retaining wall with jet grouting, and a 23-ft high soldier pile wall with two rows of soldier piles to span over a fiber optic duct bank without using ground anchors, which the project scope placed restrictions on using. Working with the contractor and specialty subcontractors, ELR designed the unique retaining walls on a compressed design schedule typical for design-build projects.

The 400' two-span precast concrete beam semi-integral bridge replaced the existing 63-degree skew bridge. The 114", post-tensioned girders are supported on full height abutments and a cap and column pier and feature prescribed aesthetic elements consistent with the I-77 corridor.

