

# Garden State Parkway, Interchange 163 Improvements

Paramus, NJ



Naik Consulting Group, P.C. (**NAIK**) is on the design team providing engineering design services for this \$72M project which involves interchange operation and safety improvements at MP 162.7 to MP 163.7. In 2008, the NJTA initiated an interchange study that identified Interchange 163 as a top priority to improve operations and safety. In addition to serving regional commuters, Interchange 163 connects the GSP with Route 17, which is lined with numerous retail and commercial establishments attracting travelers from throughout the region. This project will improve traffic safety and operations by realigning the mainline, relocating existing left lane exits to right lane exits, rehabilitating four existing structures, constructing three new structures, and providing for improved traffic merging to Route 17.

**NAIK** provided structural, traffic and utility engineering services for the project. Structural work included designing the replacement of the 3 span superstructure, (29 feet, 44 feet and 32 feet) with a new 8 ½" reinforced composite concrete superstructure and new seismic isolation bearings. New reinforced concrete pier caps were designed for two piers and partial to full height abutment and wing walls were provided for the rehabilitation of the substructure units. Additionally precast MSE walls, 25 feet long by 15 feet high, were provide at two locations. Seismic isolation bearings were used to protect structures from earthquake damage. Design also included four new cantilever, and two new overhead sign structures as well as one rehabilitated overhead sign structure. The overhead sign structures have with spans varying from 60' to 85' long. Drilled shaft foundations were designed for each of the new sign structures. Traffic engineering included preparation of the signing and striping plans along with designing of guide signs and locations. Utility services include coordination with utility companies, the preparation of the initial utility contact letter, utility orders, checklists, utility relocation plans for communication lines and 26 Kv electric transmission lines were relocated, specifications, and Engineer's Estimate.

Customized Microstation workspaces were developed for this project. Standard NJTA resource files along with the enhancements and customizations that Dewberry had were utilized allowing for successful project coordination. Thorough QA/QC of plan production efforts including survey and design file development was performed in accordance with NJTA CADD standards. Plans were developed utilizing Microstation V8. Work included utilization of the InRoads Survey and Inroads applications to enhance plan development.



*Agency/Owner:*  
NJTA/Garden State Parkway

*Construction Cost:*  
\$72M

*Project Duration:*  
2010 – Present