

Emergency Repairs to GSP Structure Numbers 6.6S & 154.2N

Township of Middle and City of Clifton | Cape May & Passaic Counties, NJ



Van Cleef was requested by the NJTA to provide emergency bridge engineering services in the assessment of damage, installation of temporary repairs, specialized inspections, maintenance and protection of traffic (MPT), and the development of final design documents to replace the girder and restore the load carrying capacity of two (2) separate bridges on the Garden State Parkway.

The two (2) locations had both experienced significant overheight vehicle impacts, with Bridge No. 154.2N exhibiting a wide crack in the bottom flange (including the cover plate) and web near midspan, and Bridge 6.6S exhibiting out of plane bending, large gouges, and several web punctures also near midspan. Both Bridge Nos. 6.6S and 154.2N carry Parkway traffic over heavily congested Wildwood Boulevard (NJ Route 147) and NJ Route 3, respectively.

Design work involved several expedited design features for both bridges, such as emergency barrier placement to avoid live load above the damaged girders, coordination with NJTA Operations and NJDOT to obtain approvals for significant MPT in the summer months and emergency detours, interim (temporary) steel repairs, detailed review of survey data to provide increased underclearances with new girder at Bridge 154.2N, and coordination with utility owners for overhead high voltage electric lines.

Prior to construction, Van Cleef provided weekly inspection monitoring to ensure the beams defects did not worsen, all while developing and designing the proposed repairs / replacement. During construction, the replacement of the beams required the demolition of the existing parapet and deck, and construction monitoring (performed by Van Cleef) to ensure that the cracks did not propagate during demolition operations.

All of this work was designed and performed utilizing traffic shifts (with temporary lane closures) or short duration detours for girder removal/installations, and significant coordination throughout design to obtain approval for work to occur in the summer season.

CLIENT CONTACT

New Jersey Turnpike Authority
Woodbridge, NJ

PROJECT HIGHLIGHTS

- Emergency Inspection Services
- Expedited Design Plans
- Bridge Design
- MPT Design
- Construction Monitoring
- Utility Coordination
- NJDOT & Local Coordination