

Goethals Bridge Replacement

Elizabeth, NJ to Staten Island, NY



Naik Consulting Group, P.C. (**NAIK**) is providing structural design services and CADD support services for the replacement of the 80+ year old Goethals Bridge located directly south of the existing bridge. This complex structure connects the New Jersey Turnpike, Routes 1 & 9 and other New Jersey highways to the Staten Island Expressway (I-278), and the Verrazano-Narrows Bridge which is critical to the region's transportation infrastructure. More than \$33 billion of regional goods pass over the bridge each year. Since 2001, the Goethals Bridge has provided corridor redundancy for national security and homeland preparedness. This project is uniquely structured as a P3 procurement which is a financial arrangement between the private sector and a government agency to fund the bridge replacement while the Port

Authority will continue to operate it. Improvements include a new alignment with the construction of a cable-stayed bridge over the Arthur Kill Waterway south of the existing bridge.

NAIK's structural efforts include final design services for several structures including bridges, retaining walls, deep foundations and substructures for the NY and NJ Approaches. Bridge structures include the Old Place Creek Trestle, a 4 span continuous structure (4x 40 = 160 feet) consisting of prestressed voided slabs, integral abutments, and precast pile caps over steel pipe piles (24 inches in diameter), which forms a portion of the at-grade construction and maintenance access roadway between the NY approach spans and the abutments at the Staten Island Terminus. The Old Place Creek Trestle design includes temporary crane access loadings and was analyzed utilizing the L-Pile Program Software. Precast modular retaining wall design (up to 25' high T-walls, totaling more than 1,000' in length) included those along the approaches to the NY and NJ abutments. Naik also provided assistance with independent QA design checks and reviews for various structural elements designed by others.

NAIK is providing drafting technicians to support and supplement the prime's staff as well as engineering support during construction related to **NAIK's** design work products.

Agency/Owner:

Port Authority of New York and New Jersey

Client:

NYNJ Link Partnership

Construction Cost:

\$1.5B

Project Duration:

2013- Present