



# BAYONNE BRIDGE

NEW JERSEY & STATEN ISLAND, NY

## SDI Scope

Supply Post-Tensioning Material, Equipment, and Technical Assistance for Precast Concrete Approaches

## Contractor

Skanska-Koch/Kiewit, JV

## Owner

Port Authority of New York and New Jersey



## PROJECT DESCRIPTION

The Bayonne Bridge (originally designed by notable structural engineer Othmar H. Ammann) is one of the longest steel arch bridge in the world, and was the longest in the world at the time of its completion. Connecting Bayonne, NJ to Staten Island, NY, construction began in late 1928 and was completed in 1931.

Due to the fact that the bridge is only 151 feet above the water, the larger container ships, now available with the expansion of the Panama Canal, could not pass through to access the three terminals or ports needed for shipment and distribution of their goods. The Port Authority announced it would "Raise the Roadway" of the Bayonne Bridge to 215 feet in order to allow safe passage for the larger ships coming into port.



## SDI'S SCOPE OF WORK

The raised roadway requires new Northbound and Southbound approaches. SDI is furnishing all post-tensioning materials and equipment for the precast column and precast roadway segments. The precast columns involve both looped and "L" shaped tendons, requiring anchorage systems ranging from SDI's 12.6-PC to SDI's 31.6-PC. The columns also require SDI's 1.38" HS Bar and 1.75" HS Bar Systems. The superstructure segments utilize every type of post-tension system, including pre-assembled bar tendons (ranging in diameter from 1" to 1.75") in their web walls, and also incorporated upward of 10,000 SDI 4.6A-PC Anchorage Systems for their transverse tendons across the main deck.



## PROJECT HIGHLIGHTS AND FACTS

- Over 26,000 SDI Segmental Duct Couplers were used on this project. The system was thoroughly designed and tested to meet and exceed the requirements of the Bayonne Bridge Specifications.
- There are 880 superstructure segments
- There are 510 column segments
- This job required 5.25 million pounds of strand – that's over 7 million feet!
- The precasting facility run seven superstructure casting cells and five substructure casting cells at one time.
- In 2019, the American Segmental Bridge Institute (ASBI) awarded Bayonne Bridge a [Bridge Award of Excellence](#) due to its superior aesthetic harmony with the local environment, its rapid construction, cost competitiveness, and minimized impact on the traveling public during construction.

