Indian River Inlet Bridge

Sussex County, DE

The Indian River Inlet Bridge is located on the Delaware coast, in the town of Bethany Beach. This new precast concrete cable-stayed superstructure has a projected 100-year minimum service life.

The location is susceptible to Atlantic hurricanes. The bridge was designed at the Strength limit state for a 100 year return period, and at the Extreme limit state for a 2,000 year return period.

The replacement bridge has a total length of 2600 feet. The main bridge is a three span concrete cable-stayed structure with a main span of 950 ft, and side spans of 400 ft supported by 240 ft high towers on each side of the bridge.

All supports will be out of the water, eliminating scour conditions that severely reduced the performance of the existing bridge.

The bridge has two 12-foot wide travel lanes, a 10-foot wide outside shoulder, and a 4-foot wide inside shoulder in each direction. Additionally, one 12-foot wide sidewalk will be accessed from the east side of the bridge. The reduced embankment limits will result in the elimination of massive embankments and will provide an open view.

Design features were also chosen by public voting resulting in blue cable stays, slanted pylon tops and nautical light fixtures.

Team

Owner:
Delaware Department of Transportation (DelDOT)

Designer:
AECOM

Builder and Contractor:
Skanska USA Civil Southeast, Inc.

Engineer:
AECOM and Finley Engineering Group

Design Criteria:
– Design a deck that has zero tension under dead loads (including the effects of creep and shrinkage).

– Provide 100+ year design life.

– Provide public input into design features.

Total Project Cost: $150 million

Total Size:
LENGTH: 3000 ft

WIDTH: 37.5 ft

Epoxy-coated Reinforcing Steel:
3,4000 tons

Photography:
AECOM USA