

Biloxi Bay Bridge, U.S. 90

Biloxi, MS



The Gulf Coast of Mississippi suffered massive damage from the impact of Hurricane Katrina on August 29, 2005. During this storm, the Biloxi Bay Bridge was destroyed. As a consequence, Biloxi and Ocean Springs commuters faced a 30-minute detour to what was normally a one-minute commute from one community to the other. The new, much-improved structure was rebuilt in less than 21 months, and its six lanes were opened to traffic on November 1, 2007.

The old bridge was built in 1962 and featured two side-by-side structures, two lanes each and no shoulder, with about 21 ft of clearance between the water and the bridge. The new 1.6-mile bridge was designed by Parsons and the contractor was GC Constructors, a joint venture of Massman Construction Co. of Kansas City, Traylor Bros. Inc. of Evansville, Indiana, and Kiewit Southern Co. of Peachtree, Georgia.

This new bridge carries three lanes of traffic in each direction. In addition to its shared-use pathway, the bridge features three overlook areas, and a dual-lighting design that makes an elegant aesthetic statement at nightfall. It provides about 95 ft of vertical clearance to accommodate marine traffic.

The new bridge uses pile footings, column caps and concrete girder construction and features two side-by-side structures. Each holds three lanes of traffic and two shoulders. The eastbound structure has an additional 12-ft-wide pedestrian and bike path.

The superstructure utilized precast, prestressed concrete bulb tees. The use of self-consolidating concrete reduced production costs through faster placement and the use of less skilled workers. The bridge received national recognition for its rapid reconstruction.

Over 11,000 tons of epoxy-coated reinforcing steel conforming to *ASTM A775 Standard Specification for Epoxy-Coated Steel Reinforcing Bars* was used in the bridge superstructure.

Team

Owner: MDOT

Designer: Parsons

Builder and Contractor:

GC Constructors (a joint venture of Massman Construction Co. of Kansas City, Traylor Bros. Inc. of Evansville, Indiana, and Kiewit Southern Co. of Peachtree, Georgia)

Design Criteria:

- Dual structures, each carrying three lanes of traffic.
- One lane open to traffic in each direction within 18 months, and the entire project was required to be complete in just 22 months.
- Designed to withstand hurricane-force winds and waves similar to those of Katrina.

Total Project Cost: \$339 million

Total Size:

LENGTH: 1.6 mile

WIDTH: 129 ft

Epoxy-coated Reinforcing Steel:

11,000 tons

Photography: Parsons