

**National Center for Construction Education and Research**

The Coleman Bridge at Yorktown, Virginia, is 2540 ft. long and crosses the York River with two 500 ft. swing spans having an 80 ft. river clearance when closed, and two 770 ft. fixed spans, each comprising an anchor section and a suspended section. In May 1996, Tidewater Construction Corporation removed the original two-lane, 32 ft. wide bridge, and replaced it with a new four-lane, 77 ft. wide structure supported on the original bridge piers, and returned the crossing to service in a nine-day period.

Support for this achievement included: (1) The preassembly of the new spans at Norfolk International Terminal, a location with sheltered navigable water and good land access. The new spans, complete with structural steel trusses, concrete deck, swing machinery, highway barriers, power and control cabling, signs, lighting, and even highway striping, were constructed on temporary piers to the same layout and elevation as the Yorktown piers; (2) The barge transpiration and positioning system used to remove the old spans and to carry in the heavier new spans. Twelve barges were configured into six catamaran arrangements with steel towers supporting the spans. These towers were specially designed to minimize the transfer of wave dynamic loading into the bridge structure during the 35-mile tow to the site; and (3) The planning, training and teamwork that were the essential elements that made possible the short, nine-day shutdown.

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