Application: FTI StopCrackEX

Customer: New Jersey Department of Transportation (NJDOT)

Project Date: October 20, 2011

Project Location: NJ RT.72 Manahawkin Bay Bridge

Project Status: Open

Project Description
The Manahawkin Bay Bridge comprises seventeen steel riveted span, continuous, cantilevered girder and floorbeam system that opened to traffic in 1959. It has undergone rehabilitation work where fatigue cracks were found in numerous locations. All cracks were similar horizontal cracks in the floorbeam webs and vertical cracks in the floorbeam-to-girder bracket connections. The horizontal cracks have typically been repaired by drilling crack arrest holes (CAH) at the tips of the cracks, which is monitored in routine inspections.

The conventional CAH on this structure is approximately 1” in diameter. In general, cracks have continued to propagate beyond the drilled holes. Cracks seem to initiate from out-of-plane bending loading conditions.

General Comments
Several candidate cracks were chosen to apply the FTI StopCrackEX crack arrest system to observe the effectiveness of the method. The tooling worked well and bushings were installed.

Current Status: Holes will be monitored on the next inspection cycle

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