



# PRESS RELEASE

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## **DRBA Commences UHPC Deck Pilot Program**

*New Jersey-bound Span traffic to be affected for Five Weeks in September and October*

**NEW CASTLE, Del.** – Today, Delaware River and Bay Authority (DRBA) officials announced that an Ultra High Performance Concrete (UHPC) deck overlay pilot project will commence on the New Jersey-bound Span of Delaware Memorial Bridge in September 2020. The duration of the overlay work is expected to be 5 weeks following Labor Day weekend. Two lanes will be closed to traffic throughout the overlay placement period – with an additional third lane shut down during the overnight hours. The traveling public should expect traffic congestion and delays heading into New Jersey through early October. J.D. Eckman, Inc. of Atglen, PA was project low-bidder to undertake the UHPC deck pilot project at a cost of \$6.2 million.

“The bridge deck of the New Jersey-bound span is more than 50 years old and needs substantial repair and rehabilitation,” said Chief Engineer David Hoppenjans who noted that full deck replacement is a significantly more expensive alternative, takes longer to construct, and is much more disruptive to traffic compared to a UHPC deck overlay. “This dedicated, small scale pilot project will give the Authority direct day-to-day experience in the implementation of a UHPC overlay project offering critical experience specific to the Delaware Memorial Bridge.”

With the best combination of lower traffic volumes and favorable weather conditions, the period between Labor Day and Columbus Day was identified as the best time to complete this pilot project. In September, the Delaware Memorial Bridge registers the 4<sup>th</sup> lowest traffic volumes in a calendar year, trailing January, February and March.

The Delaware Memorial Bridge has three types of bridge spans – girder, truss, and suspension spans – and this deck overlay pilot program will address each structural span type. The project entails the removal of the old deck to a depth of 3.75”, repair of the reinforcing mat, and installation of a replacement overlay with Ultra-High Performance Concrete (UHPC). A total of 500 feet, two lanes in width of the New Jersey bound span will be resurfaced using UHPC. This work also requires hydro (high pressure water) demolition to expose the top reinforcing mat.

As noted in the findings of the recently completed bridge deck study, the deck of the New Jersey-bound span (1st Structure) is exhibiting accelerated deterioration and is in need of substantial repair. Significant research has identified partial depth reconstruction utilizing Ultra High Performance Concrete (UHPC) as potentially the most effective solution, pending the outcome of the pilot project.

The UHPC application has a lower initial and life cycle costs; a shorter, more flexible construction schedule, and prevents salt intrusion when compared to a full deck replacement program. The final product will be stronger than the original deck. The purpose of this UHPC pilot program is also to develop firsthand experience related to the design, solicitation, and construction of this unique kind of project.

The UHPC overlay pilot program will also provide insight into a number of Delaware Memorial Bridge-specific details – including the elimination of the centerline joint, the reaction of the existing concrete deck to hydro-demolition, the condition of the top reinforcing mat, actual replacement UHPC volume, and how much full depth repair is required.

Hoppenjans added that the testing and analysis of the completed pilot program that will assess the overlay performance will commence in the spring of 2021. Dependent on a review of the pilot program results, the DRBA tentatively plans to initiate a full deck overlay program using UHPC on the New Jersey bound span in three phases totaling nine months. The exact timing has not yet been determined. The total cost of the project is anticipated to exceed \$50 million.

#### **About the Delaware River and Bay Authority**

The DRBA, a bi-state governmental agency created by Compact in 1962, owns and operates the Delaware Memorial Bridge, the Cape May- Lewes Ferry, and the Forts Ferry Crossing. The DRBA also manages corporate and aviation properties through its economic development powers - two airports in New Jersey (Millville Airport and Cape May Airport) and three in Delaware (New Castle Airport, Civil Air Terminal and Delaware Airpark). All DRBA operating revenues are generated through the bridge, ferry and airport facilities. For more information, visit [www.drba.net](http://www.drba.net).