Project Location: FDOT District 2
Jacksonville
Duval, Florida

Agency: Florida Department of Transportation

URL: http://www.fdot.gov/structures/innovation/UHPC.shtm

Project Name: SR115 (Arlington Expy) over Red Bay Branch Bridge Nos. 720136 & 720148
FPID: 443310-1 (T2849)

Project Description: Sonovoid PSB longitudinal joint repairs with UHPC.

Project Purpose & Need: Reflective cracks in the asphalt overlay, indicating separation of the sonovoid units at the joints between the units. Bridge work activities involved hydro-demolition of longitudinal joints between PSB precast units and filling connections with supplemental tie bars and UHPC.

Overall Budget/Cost Estimate: $18M (Construction Contract)
$4M (Joint Repair w/ UHPC)

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What was unique about this project? The largest project use of UHPC for existing sonovoid PSB joint repairs in Florida. 29-spans with 8-joints each = approx. 6,400 LF.

Describe Traditional Approach:
Traditional approach includes using hooked and lacing reinforcing bars within wider concrete closure pours using high early strength concrete.

Describe New Approach:
Exposure of existing reinforcing bars by hydro-demolition, with addition of supplemental tie bars enclosed in a UHPC closure pour.

Top Innovations Employed:
Utilization of UHPC connections for rapid and robust repair of damage longitudinal joint connections.

Primary Benefits Realized/Expected:
More robust and longer service life from UHPC connections. Shorter closure time for highway system bridges.

Project Estimated Start Date/Completion Date:
Fall 2022 – 2024

Affiliations:
PE Consultant: Florida Bridge and Transportation, Inc.
Construction Contractor: TBA
Construction Engineering Inspection: TBA

Project Contact:
Engineer of Record: Juan Valenzuela, P.E.
Florida Bridge and Transportation, Inc.

FDOT Design Project Manager: Victor Marrero
FDOT District 2

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