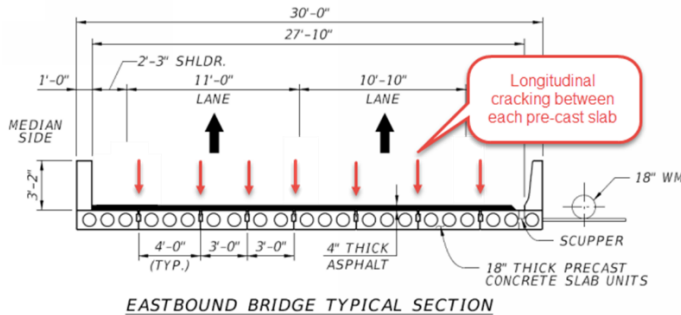


FDOT Transportation Innovation Initiative: UHPC – Design Innovation



**Fast
Facts:
Ultra-High
Performance
Concrete**



- Project Location:** FDOT District Four
Palm City
Martin County, Florida
- Agency:** Florida Department of Transportation
- URL:** <http://www.fdot.gov/structures/innovation/UHPC.shtm>
- Project Name:** SR714/Martin Downs Blvd over Danforth Ck.
Bridge Nos. 890134 & 890135
FPID: 430617-1
- Project Description:** Sonovoid PSB longitudinal joint repairs with UHPC.
- Project Purpose & Need:** 2014 Bridge Inspection Report identified numerous 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:** \$1,176,116 (Construction Contract)
\$ 204,880 (522 LF. Joint Repair w/ UHPC)

What was unique about this project?

First use of UHPC for existing sonovoid PSB joint repairs in Florida.

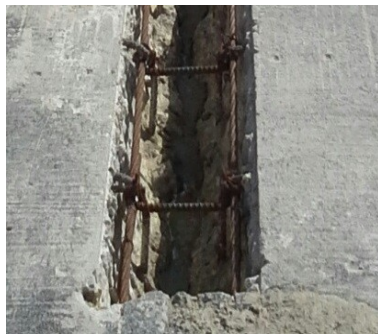


Describe Traditional Approach:

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.

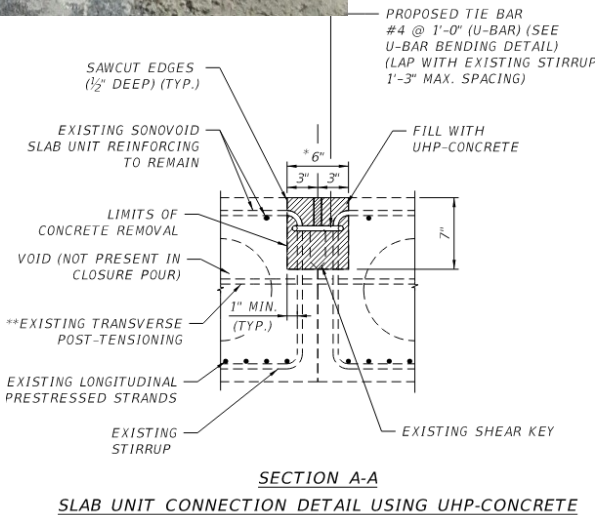


Top Innovations Employed:

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. Short closure time for intrastate highway system bridges.



Project Start Date/Substantial Completion Date:

06/16/2016 – 02/21/17

Affiliations:

PE Consultant:	Atkins North America, Inc.
Construction Contractor:	Morrison – Cobalt JV.
Construction Engineering Inspection:	FDOT Treasure Coast Operations

Project Contact:

Engineer of Record:	Selcuk Yetimoglu, P.E. Atkins North America, Inc.
FDOT Project Manager:	Fausto Gomez FDOT District 4 Fausto.Gomez@dot.state.fl.us

