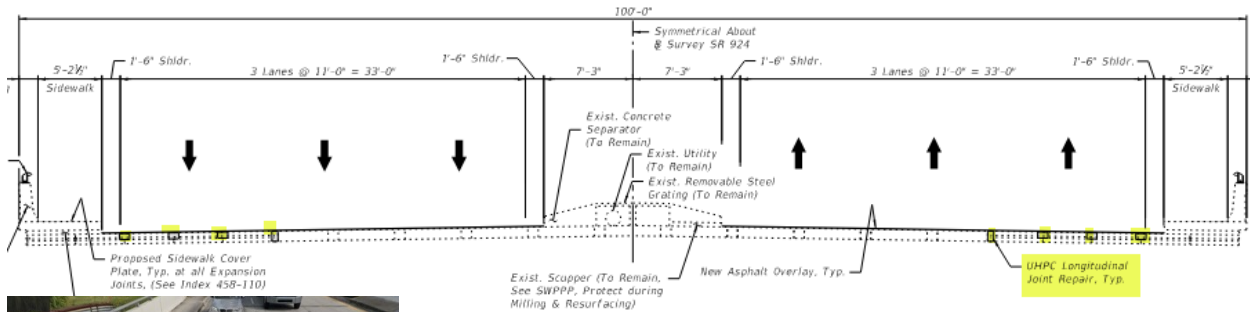


# FDOT Transportation Innovation Initiative: UHPC – Design Innovation



**FINAL PROPOSED TYPICAL SECTION**

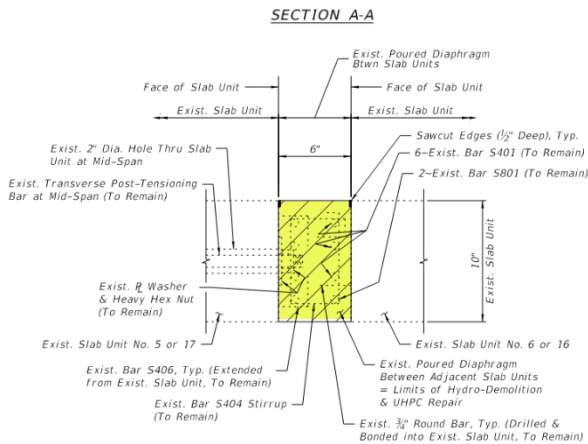
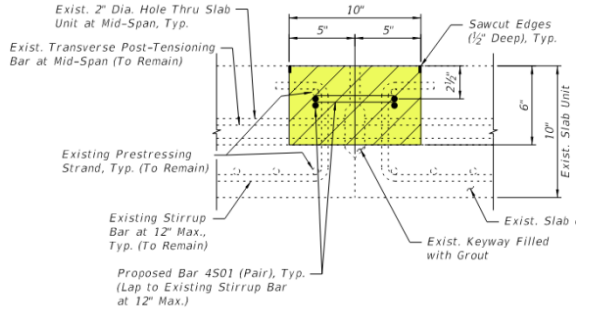
**Fast  
Facts:  
Ultra-High  
Performance  
Concrete**



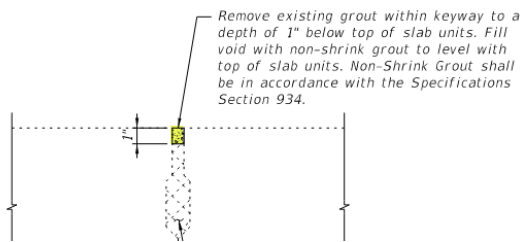
- Project Location:** FDOT District Six  
Westview Miami  
Miami-Dade, Florida
- Agency:** Florida Department of Transportation
- URL:** <http://www.fdot.gov/structures/innovation/UHPC.shtm>
- Project Name:** SR924/NW 119<sup>th</sup> St over Rio Vista Canal  
Bridge Nos. 870621  
FPID: 441963-1 (lead 439981-1) T6516
- 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:** \$4,166,383 (Construction Contract)  
\$138,000 (288 LF. Joint Repair w/ UHPC & Exp. Joints replacement)

**What was unique about this project?**

Third use of UHPC for existing sonovoid PSB joint repairs in Florida. Only middle 50% of joint repaired with UHPC. Remaining joint length grooved to 1" depth cleaned and sealed with non-shrink grout.



**SECTION B-B**



**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 lanes on highway system bridges.

**Project Estimated Start Date/Completion Date:**

April 2022 – April 2023

**Affiliations:**

PE Consultant:  
Construction Contractor:  
Construction Engineering Inspection:

Kimley-Horn & Associates  
General Asphalt Company  
A&P Consulting Transportation

**Project Contact:**

Engineer of Record:  
FDOT Construction Project Manager:

Jamea Potter Long, P.E.  
Kimley-Horn & Associates  
John Michael Garzia  
FDOT District 6

