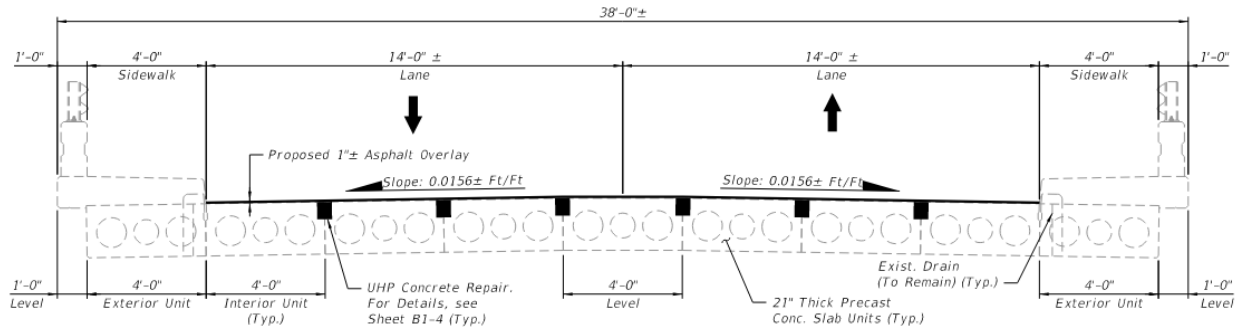


# FDOT Transportation Innovation Initiative: UHPC – Design Innovation



**PROPOSED TYPICAL SECTION**

Fast

Facts:

Ultra-High  
Performance  
Concrete



**Project Location:** FDOT District Six  
Southwest Miami  
Miami-Dade, Florida

**Agency:** Florida Department of Transportation

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

**Project Name:** SR994/Quail Roost Dr over Canal C-102  
Bridge Nos. 870628  
FPID: 441961-1 (E6M47)

**Project Description:** Sonovoid PSB longitudinal joint repairs with UHPC.

**Project Purpose & Need:** 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:** \$291,080 (Construction Contract)  
\$130,000 (258 LF. Joint Repair w/ UHPC)

**What was unique about this project?**

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

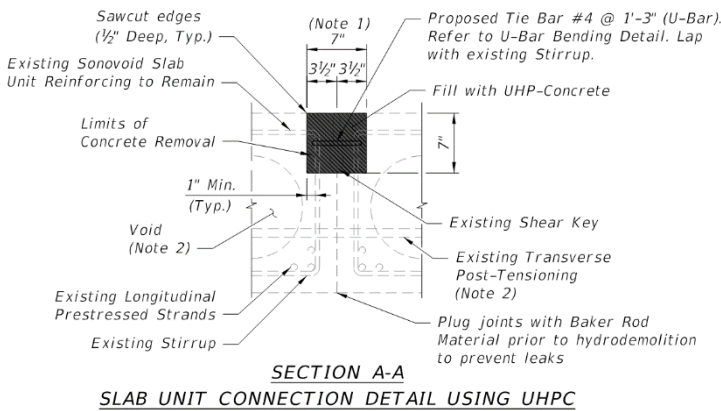


**Describe Traditional Approach:**

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. Shorter closure time for bridge repairs.

**Project Start Date/Substantial Completion Date:**

02/9/2021 – 06/03/21

**Affiliations:**

PE Consultant: Bolton Perez & Associates  
 Construction Contractor: Sieg & Ambachtsheer, Inc.  
 Construction Engineering Inspection: FDOT D6 - North Dade

**Project Contact:**

Engineer of Record: Luis Vargas, P.E.  
 Bolton Perez & Associates  
 FDOT Construction Project Manager: Dru Badri (District 6)  
 FDOT Construction Project Administrator: Leo Bermudez (District 6)

