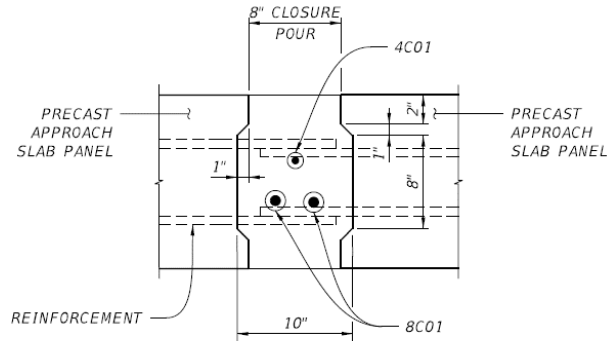


# FDOT Transportation Innovation Initiative: UHPC – Design Innovation

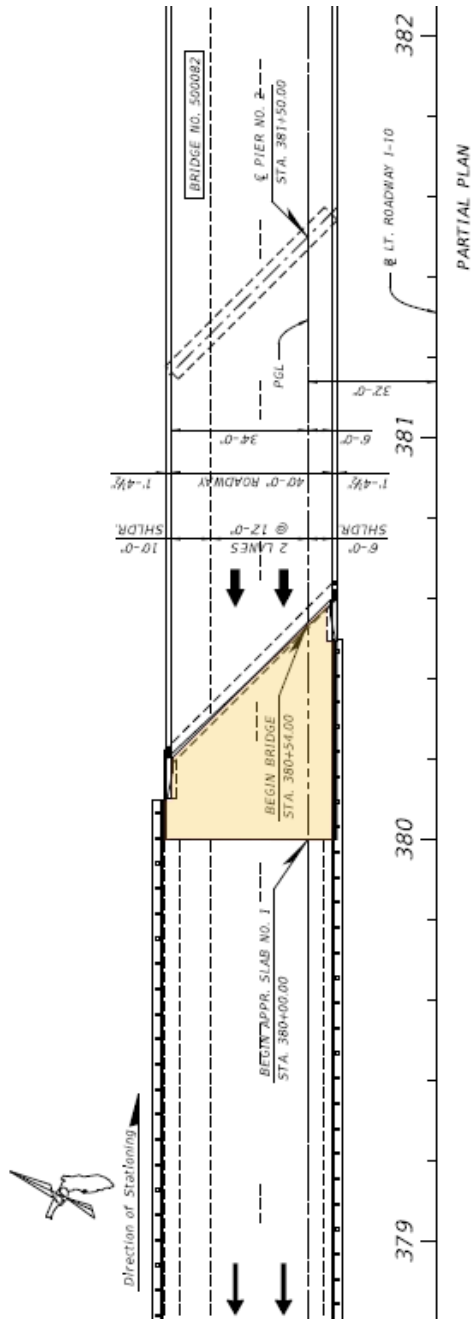


*CLOSURE POUR AND KEYWAY DETAIL*

Fast  
Facts:  
Ultra-High  
Performance  
Concrete

- Project Location:** FDOT District Three  
Gadsden County, Florida
- Agency:** Florida Department of Transportation
- URL:** <http://www.fdot.gov/structures/innovation/UHPC.shtm>
- Project Name:** I-10 (SR 8) over Flat Creek  
Bridge No. 500082  
FPID: 442914-1
- Project Description:** Approach slab replacement with precast slab units and full depth longitudinal UHPC joints.
- Project Purpose & Need:** The purpose of the project is to replace the deteriorated approach slab, replace the expansion joint, and upgrade the traffic railings.
- Overall Budget/Cost Estimate:** \$985,000 (Construction)





**What was unique about this project?** This is the first UHPC for connection used for precast approach slabs in Florida for FDOT.

**Describe Traditional Approach:** A traditional approach requires cast-in-place concrete. This type of construction requires long duration lane closures during construction.

**Describe New Approach:** Precast approach panels will be installed to expedite construction. UPHC will be used in the longitudinal closure pour. The travel lane slabs will be replaced in a 36-hour lane closure period. The remainder of the work will be done during nighttime lane closures or lane diversions, limiting the impact to motorists.

**Top Innovations Employed:** UHPC connections will be used for the rapid replacement of a damaged/deteriorated interstate bridge approach slab.

**Primary Benefits Realized/Expected:** Precast deck slabs and UHPC connections are more robust and offer a longer service life. An accelerated construction duration will minimize impact to motorists while providing a strong structural solution. Construction will use limited lane closure periods for the interstate lane.

**Project Start Date/Substantial Completion Date:**  
April 2020 – July 2020

**Affiliations:**

PE Consultant: Michael Baker International  
 Construction Contractor: TBA  
 Construction Engineering Inspection: TBA

**Project Contacts:**

Engineer of Record: Piotr Paczkowski, P.E.  
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