

PCI Gulf South

Transportation Committee
Meeting with ALDOT
June 11, 2020

NEXT Beams Update

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NEXT Beams Update

Outline:

1. NEXT Beam projects within PCI Gulf South Region
2. Considerations

NEXT Beam Projects

Brookhaven Drainage Project

Tuscaloosa, AL

Owner: City of Tuscaloosa, Alabama

Project: Brookhaven Drainage Project

NEXT beam producer: FORTERRA

- number of NEXT F beams = 8 ea
- dimensions and length of the NEXT beams: 5 Ea. @ 9'-10 ½" wide x 36'-3 ¾" Long x 24" Deep (F Style) & 3 Ea. @ 10'-9 ½" wide x 36'-3 ¾" Long x 24" Deep (F Style), cast with a skew of 15 deg.
- 28-day strength = 9,000 psi

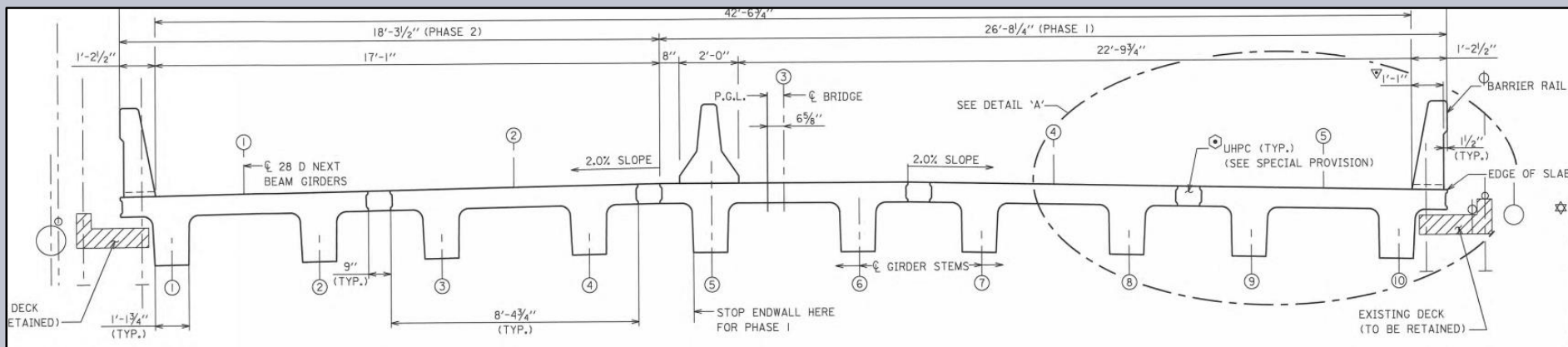
The City had modular precast deck units originally designed in the project but decided to use NEXT Beams in the final construction to reduce both time and costs in this application.

Project built 2019.



Dunlap Drive Bridge over Pinto Pass Mobile, AL

- Design by ALDOT Bridge Bureau
- Bridge Replacement on Dunlap Drive over Pinto Pass (Mobile, AL)
- NEXT beam producer: FORTERRA
- 60 ft. single span
- 28" NEXT D beams
- Part-width construction
- 27 degree skew
- Release strength = 7000 psi
- 28-day strength = 9000 psi
- Project is currently under construction with beam erection scheduled for end June/2020



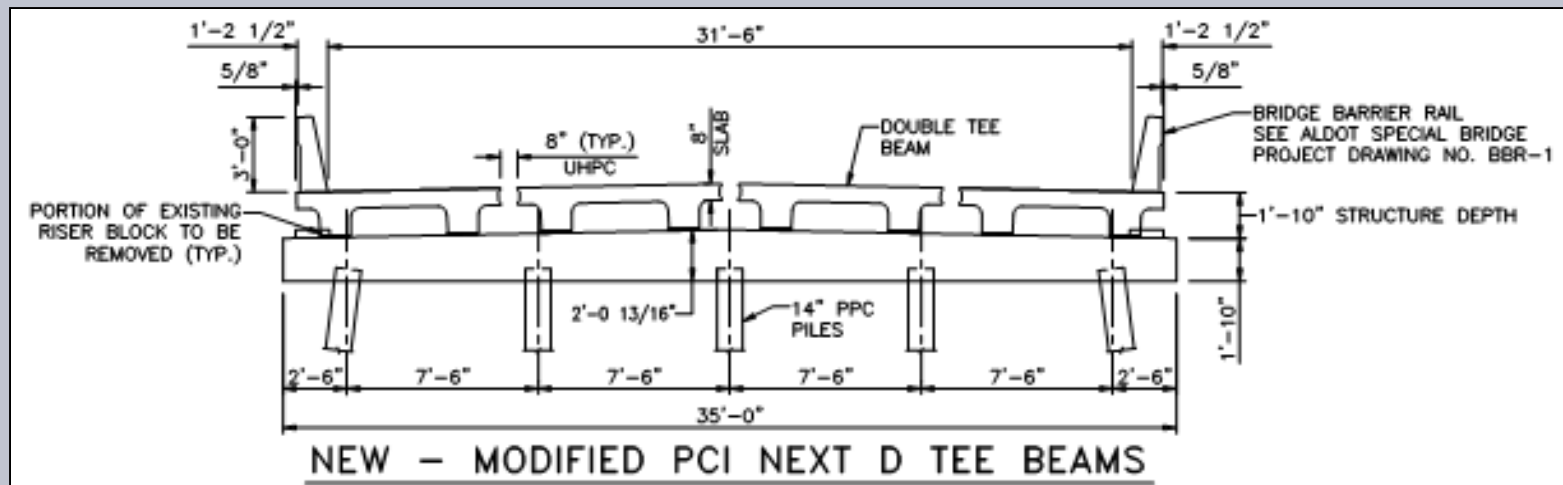
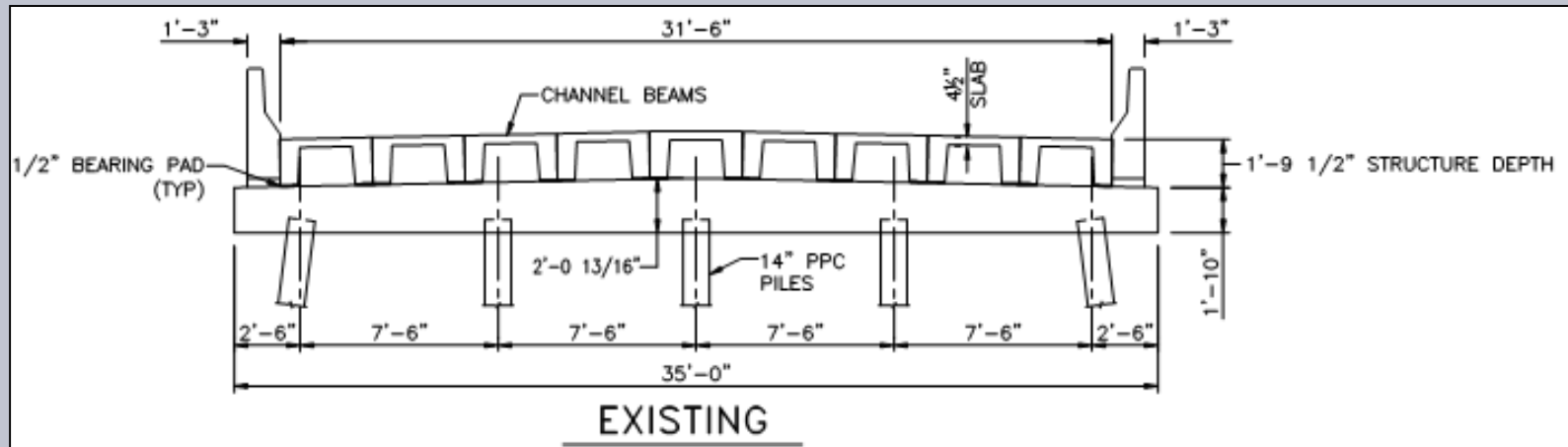
Baldwin County Highway Department

Baldwin County, AL

- Replace existing reinforced concrete channel beam superstructure with NEXT D beams modified with 8-inch top flange
- Re-use existing substructure
- NEXT D beams modified to match depth of existing channel beams (1'-10")
- Construct new precast end slabs with UHPC connections
- Project includes two bridges;
 - CR65 Bridge over Turkey Branch
 - 2 spans at 34-34 ft.
 - Doc McDuffie Road Bridge over Wolf Creek
 - 3 spans at 34-34-34 ft.
- Both bridges have high truck traffic
- ALDOT was awarded 1M funding from FHWA as an Accelerated Innovation Deployment (AID) Demonstration Project, Baldwin County Highway Department was the subrecipient of the FHWA funding
- Project is currently under design & plan review by ALDOT
- Project scheduled to be bid/let by Baldwin County Highway Department early Fall/2020

Baldwin County Highway Department

Bridge Typical Sections



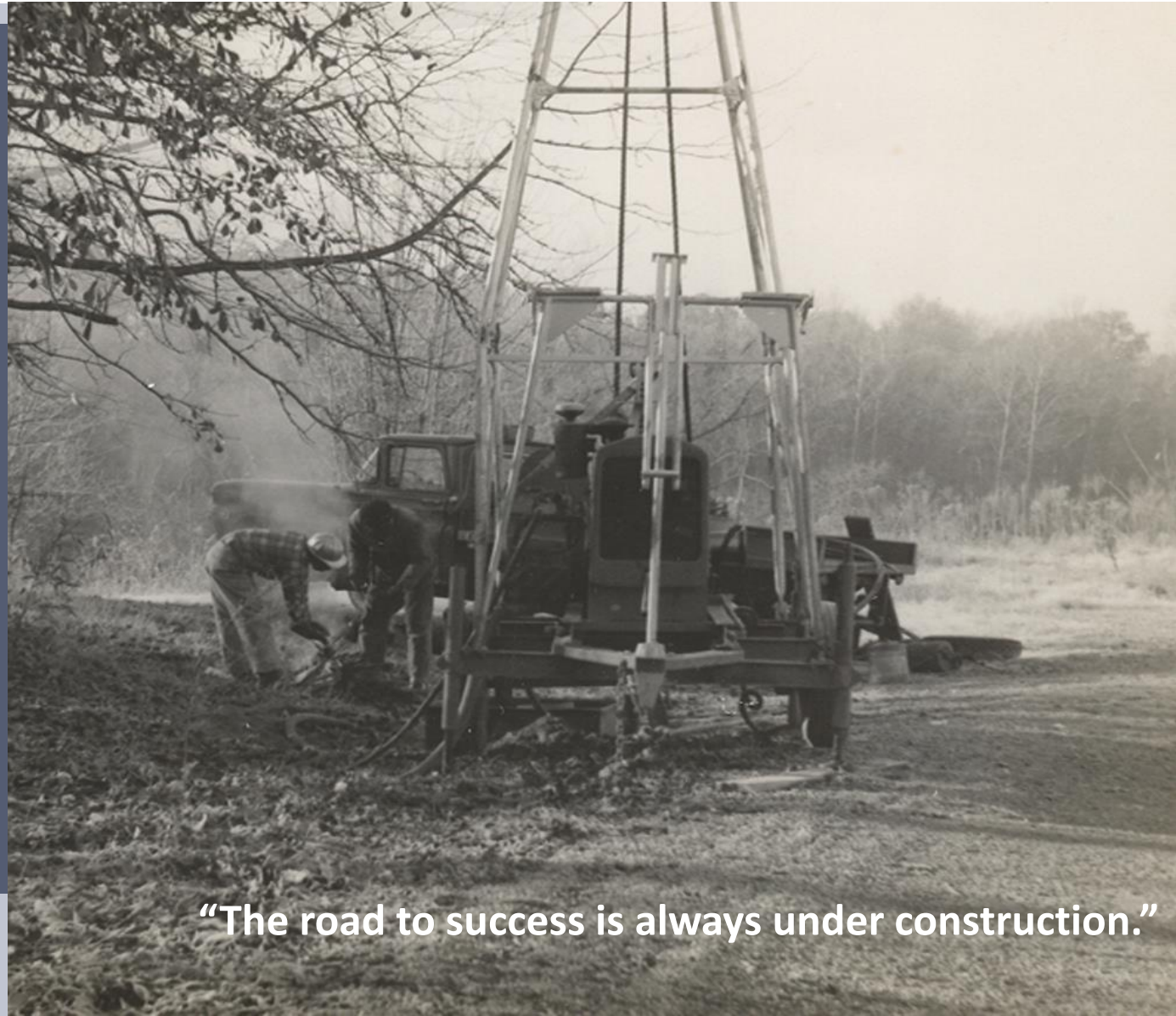
Considerations for NEXT beams

Considerations for NEXT beams

- Design criteria
 - Superstructure depth
 - NEXT beams vary from 24-40 inches in height
 - Span length
 - NEXT beams can span 20-85 ft.
- Cost
- Construction Schedule/Time
 - Accelerated Bridge Construction
- Durability/Service-Life
- Deck Drainage
- Part-width construction
- Camber
- Ride Quality
- Skew
- UHPC Connection
- Overlay or not
 - NEXT D beams (8-inch top flange)
 - NEXT E or F beams (4-inch top flange)
- Constructability
- Maintenance
- Inspection
- Trucking Logistics/Girder Weight
- Type of bridge projects
 - New
 - Widening
 - Replacement
 - Retrofit
- Funding
- Project Delivery Methods
 - Traditional
 - Design-Bid-Build
 - Alternative
 - Design Build
 - Public-Private Partnership (P3)
 - CM/GC
 - A+B
 - Accelerated Bridge Construction (ABC)

NEXT Beams Update

Q/A



“The road to success is always under construction.”