Project I-0914 BA/BB

I-85 Rehabilitation in Vance and Warren Co

Boyd Tharrington, P.E.
Division 5 Construction Engineer

Kevin Crusa
McCarthy Improvements
Agenda

- Boyd Tharrington
  - I-0914 Project Overview
  - Accelerated Schedule
  - Pavement Design

- Kevin Crusa
  - Stringless Paving
  - Project Specific Challenges
  - Successes
I-0914 Vicinity

- Dabney Drive in Henderson, NC to Virginia State Line
- Project Located in Vance and Warren Counties
- Project Length- 21.6 Miles
Project Overview

- Contract Bid Amount: $137,353,711
- Work Start: March 2015
- Plan Delivery
  - Contract Completion Date: July 01, 2020
  - All Lanes Open by November 2019
- Accelerated Delivery
  - Accelerated Completion Date: July 01, 2019
  - All Lanes open by November 2018
Project Overview-Continued

• 10” Unbonded Concrete Overlay
• Replacement and Rehabilitation of Multiple Mainline and Y Line Bridges
• Replacement and Rehabilitation of Existing Drainage
• Grading to Meet Current Design Standards:
  • 600,000 CY Earthwork
  • Rock Excavation with Blasting
• Remove and Replace Ramps and Loops
• Overhead Signs and ITS
2 Lane-2 Way Traffic Pattern

- Project Divided Into Four Work Areas
- Working One Direction at a Time
- Mainline and Ramp Cross-Overs in Place
NC 39 Interchange 2-Lane Pattern
Y Line Structure (NC 39 in Henderson)
Mainline Structure (Poplar Mount Rd.)
Mainline Structure (Poplar Mount Rd)
Interchange Overview

South Bound


North Bound

US 1
Accelerated Schedule

- Complete 21.6 Miles of South Bound from Spring 2017 to Spring 2018
- Place all 21.6 Miles in 2-Lane, 2-Way Pattern in North Bound Lanes
- Complete Remaining 9.4 Miles of North Bound from Spring 2018 to Fall 2018.
I-85 Existing Pavement Conditions

• Existing Concrete Pavement
  • Constructed in 1960’s
  • 30’ Joint Spacing, Undoweled

• 2007 Rehabilitation Project
  • Spall Repair
  • Slab Replacement w/ Asphalt
  • Polymer Patching of Cracks
  • Novachip Overlay

• I-0914 Project (2015-Present)
  • Leaving Existing Asphalt Patches and Novachip in Place
  • Minimal New Concrete Patches Outside of MOT Requirements
Pavement Design

- New Typical Section
  - Asphalt Wedging
  - PADC Drainage Layer
  - 10” PCCP Unbonded Overlay
  - Diamond Grinding (Added by SA)

- Quantities
  - 622,220 SYD (Through Lanes)
  - 28,215 SYD (Ramps)
  - 11,442 SYD (Miscellaneous)
  - Total 661,877 SYD
Kevin Crusa
Project Manager
McCarthly Improvement
Stringless Paving (AMG)

- Why chosen for this project?
  - Advantages
  - Challenges
- Surveying Requirements
- Equipment
- Process
- Results
10” Unbonded Concrete Overlay
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**10” Unbonded Concrete Overlay**
10” Unbonded Concrete Overlay
**Status of Project**

- ST Wooten and McCarthy Improvements Meeting All Major Milestones in Accelerated Schedule
- S.T. Wooten Performed $59.5 MIL of Work in 2017 Season Alone
- All Lanes will be Complete and Open November 2018
  - One Full Year Ahead of Schedule
- Concrete Pavement Performing Well with Great Ride Quality
Questions?