Overview of Presentation

- Project Specifics
- What is Accelerated Bridge Construction
- What are the Benefits of ABC
- Reasons ABC Practices should be considered
- Why utilize ABC Practices
- Overview of Existing Conditions
- Design Considerations
Overview of Presentation

- Notable Plan Notes
- Shop Drawings and Components
- Construction Changes and Concerns
- Lessons Learned
Project Specifics

- Uses FHWA’s Accelerated Bridge Construction (ABC) Approach to lessen the time of Road Closure
- Existing Bridge Constructed - 1962
- Letting Date – May 31, 2019
- Contractor – McDonald Construction Co.
Project Specifics (Cont.)

- Project Cost – $881,885.60
- Days Allowed by Plans to Close Road - 14
- Working Days – 30
- Working Days needed – 20
What is Accelerated Bridge Construction

ABC is a paradigm shift in the project planning and procurement approach where the need to minimize mobility impacts which occur due to onsite construction activities are elevated to a higher priority.

Source: FHWA’s Website
What Are the Benefits of ABC

- ABC Improves:
  - Site Constructability
  - Total Project Delivery Time
  - Work Zone Safety for the Traveling Public

- ABC Reduces:
  - Traffic Impacts
  - On-site Construction Time
  - Weather Related Delays

Source: FHWA’s Website
Reason to use ABC Construction Practices

Approximately one-fourth of the Nation's 600,000 bridges require rehabilitation, repair, or total replacement.

Source: FHWA’s Website
Why Utilize ABC Practices
Overview of Existing Conditions
Design Considerations
Notable Plan Notes

- Wings and Footing shall be fabricated in the same plant. The Contractor shall perform a dry test at the Fabrication Site.
- Splice Sleeve Couplers had to be approved and tested by M&T.
- All Precast elements shall have a minimum of two pick points and Engineered Calculations shall be submitted to the engineer showing each member is balanced and handle able.
- Requirements for a Class D Waterproofing and Manufacture's recommended grout all had to be managed to ensure the proper products were used.
- The Bent Splice plates shall not be installed until the grout in the splice sleeve has reached 4000psi.
Dry Fit
Couplers
Pick Points
Shop Drawings and Components
| 12" x 8'6" | 12" x 8'6" |
|Plain x Spigot| Plain x Spigot|
|12" x 8'6"| 12" x 8'6" |
|Bell x Spigot| Bell x Spigot|
|12" x 8'6"| 12" x 8'6" |
|Bell x Spigot| Bell x Spigot|
|12" x 8'6"| 12" x 8'6" |
|Bell x Spigot| Bell x Spigot|
|12" x 8'6"| 12" x 8'6" |
|Bell x Spigot| Bell x Spigot|

Wing Walls and Barrier Rails not shown for clarity.
Working Drawing Box Culvert
Working Drawing Barrier rail
Working Drawing
Wing Wall Footing
Construction Changes and Concerns
Keys to Success

- Be Flexible.
- Be prepared to have a ready on demand system of components.
- Allow for on the job learning.
- High level of cooperation between the contractor and ALDOT.
- The working drawing process was strenuous. Factor in time for revisions into the time frame.
Lessons Learned

- Start the Submittal Process of Working Drawings as early as possible.
- Make sure all items needed have been submitted and tested prior to beginning construction.
- Communicate with Local entities early and often.
ANY QUESTIONS