UPC 110498
Rehabilitation of John G. Lewis Memorial Bridge over Catoctin Creek, Loudoun County, VA

Scoping Meeting

March 8, 2017
Vicente Valeza, P.E.
NOVA District Senior Structural Engineer
(703) 259–3256
Vicente.Valeza@vdot.virginia.gov

Link to the project webpage:
http://www.virginiadot.org/projects/northernvirginia/route_673_over_catoctin_creek.asp
PROJECT LOCATION
Project Background

Existing Bridge
Project Background cont’d

John G. Lewis Memorial Bridge (Route 673 - Featherbed Lane) over Catoctin Creek:

- Single span steel pin connected Pratt through truss with a timber deck and asphalt overlay, supported on stringers and floor beams.
- It is 157 feet long, 14 feet wide, 11 feet 2 inches face-to-face of rails, and carries one alternating traffic lane.
- Originally erected in 1889 on the Leesburg & Alexandria Turnpike (Route 7) over Goose Creek.
- In 1932 the bridge was dismantled and moved to its current location.
- The bridge was posted 15 tons in 2004 and reduced to 3 tons in 2013 due to insufficient capacity.
- The existing bridge has an average traffic count of 60 vehicles per day with daily truck traffic less than 3 trucks in 2015.
- The bridge was posted in the National Register of Historic Places on June 25, 1974.
Selected Alternative 2A

New Two/Three-Span Continuous Steel Beam Bridge with Existing Truss Members Attached

John G. Lewis Memorial Bridge over Catoctin Creek

ALTERNATIVE 2A - Two Span Continuous Steel Beam and Timber Deck Bridge with Existing Truss Members Attached. Maintain Existing Bridge Width
Selected Alternative 2A

Features

Construct new bridge under the existing truss with new two/three-span continuous steel beams and glu-lam timber deck

- Mount existing truss, supported by new abutments, above the new bridge to maintain the appearance of the existing truss bridge
- Will evaluate 2-span and 3-span arrangements to minimize beam depth to maintain the appearance of the existing truss bridge
- Provide one-lane bridge (10’-6” clear width) for alternating traffic
- New substructures and steel beams designed for at least 15-ton vehicular loading
- New bridge pier(s) and abutments will have drystack faux-stone architectural treatment with a color scheme that matches the existing bridge abutments
Alternative 2A – Center Pier

John G. Lewis Memorial Bridge over Catoctin Creek

Legend:
- **Brown**: Original timber members
- **Green**: Members replaced during original construction
- **Red**: Proposed new or replaced members

ALTERNATIVE 2A - Graphical Drawing of bridge with Center pier
Alternative 2A – Offset Pier

John G. Lewis Memorial Bridge over Catoctin Creek

ALTERNATIVE 2A - Graphical Drawing of bridge with Offset pier

Legend:
- Original (S99) Members
- Members replaced or altered
- Proposed new or replaced members
Alternative 2A – Two Piers

John G. Lewis Memorial Bridge over Catoctin Creek

ALTERNATIVE 2A - Graphical Drawing of bridge with Two piers

Legend:
- Original: Solid lines
- Members replaced along original construction
- Proposed new or replaced members

Scale 1" = 1'-0" unless otherwise noted.
Alternative Pier Types

John G. Lewis Memorial Bridge over Catoctin Creek
ALTERNATIVE 2A - Graphical Drawing of bridge with Rounded and Ice Breaker piers

Rounded End

Ice Breaker End
Construction Staging and Maintenance Access

Staged location of Existing Truss (northern option, 20’ clear from existing) During construction of new abutments, piers, beams and timber deck

Route 673 (Featherbed Lane)
Existing Entrance

Tributary to Catoctin Creek

Temporary Construction Access and Permanent Maintenance Access Road

Alternative: Staged Location ofExisting Truss (southern option)

This Study will evaluate:
• Construction Staging
• Construction access needs
• Minimize right of way and construction easement
• Minimize removal of old growth trees
Detour Route

Featherbed Lane will be closed at the Bridge during construction

Proposed Detour Route (orange) utilizes larger paved roads; however, alternate routes will not be prohibited.
Project Schedule

- Public Hearing .......................... Nov. 01, 2018
- Right-of-Way ............................ Feb. 27, 2020
- PAC Meeting ............................ Oct. 22, 2020
- Ad Date ................................. Feb. 09, 2021
QUESTIONS