



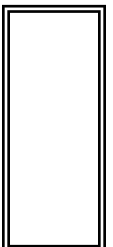
Internal Rating: \_\_\_\_\_

## WEST VIRGINIA HISTORIC PROPERTY INVENTORY FORM

<b>Street Address</b> CR 25/2 over New River	<b>Common/Historic Name/Both</b> <input type="radio"/> <input type="radio"/> <input type="radio"/> Thurmond Bridge	<b>Field Survey #</b> MB-01	<b>Site # (SHPO Only)</b>
<b>Town or Community</b> Thurmond	<b>County</b> Fayette	<b>Negative No.</b>	<b>NR Listed Date</b> 1-27-1984 (contributor to Thurmond Hist. Dist.)
<b>Architect/Builder</b> Chesapeake & Ohio Railway Co. (Loup Creek Branch)	<b>Date of Construction</b> 1915-16	<b>Style</b>	
<b>Exterior Siding/Materials</b> Steel	<b>Roofing Material</b> Steel grid (vehicular)/timber (railroad)	<b>Foundation</b> Concrete (5 piers) and Stone (2 piers and 2 abutments)	
<b>Property Use or Function</b> Residence <input type="radio"/> Commercial <input type="radio"/> Other <input checked="" type="checkbox"/> bridge	<b>UTM# (NAD 83)</b> S            17 E            493062 N            4200979		
<b>Survey Organization &amp; Date</b> Michael Baker Jr., Inc. June 6, 2014	<b>Quadrangle Name</b> Thurmond		
	<b>Part of What Survey/FR#</b> Thurmond Bridge Rehabilitation State Project No. S210-25/2-0.10 Federal Project No. BR-0252(003)E		

Sketch Map of Property  
Or Attach Copy of USGS Map

- PLEASE SEE ATTACHED -



Site No.

<b>Present Owners</b> CSX Corporation (Leased to R.J. Corman Corporation) West Virginia Department of Transportation, Div. of Highways <b>Phone #</b> 304-558-3304	<b>Owners Mailing Address</b> Building 5 1900 Kanawha Blvd E Charleston, WV 25305	
<b>Describe Setting</b> <div style="text-align: right; float: right;"> <b>0.75 Acres</b>          _____ <b>Archaeological Artifacts Present</b> </div> <p>Rural setting in Fayette County, spanning the New River at Thurmond, where the Dunloup Branch Railroad joins with the main line of the former C&amp;O Railroad (now CSX). Thurmond is part of the New River Gorge National River. Thurmond is a National Register-listed historic district and the Dunloup Branch Railroad is a National Register-eligible linear district.</p>		
<b>Description of Building or Site (Original and Present)</b> <div style="text-align: right; float: right;">         _____ <b>Stories</b>    _____ <b>Front Bays</b> </div> <p>See Continuation Sheets</p> <div style="text-align: right;"> <i>(Use Continuation Sheets)</i> </div>		
<b>Alterations</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<b>If yes, describe:</b> Repairs were made in 1939, 1953, 1957, and 1975. In 1983, the bridge received a \$1 million rehabilitation, which strengthened select members and increased the structure's load capacity to 12 tons. Deteriorated members (or portions of members) have been replaced and some riveted connections have been replaced with bolted or welded connections.
<b>Additions</b>	<input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b>	<b>If yes, describe:</b>
<b>Describe All Outbuildings</b>  None		
<i>(Use Continuation Sheets)</i>		
<b>Statement of Significance</b>  See Continuation Sheets		
<i>(Use Continuation Sheets)</i>		
<b>Bibliographical References</b>  See Continuation Sheets		
<i>(Use Continuation Sheets)</i>		
<b>Form Prepared By:</b>		<b>Date:</b> June 13, 2014
<b>Name/Organization:</b> Jesse A. Belfast / Michael Baker Jr., Inc. <b>Address:</b> 100 Airside Drive, Moon Township, PA 15108 <b>Phone #:</b> 412-269-7908		



West Virginia Division of Culture and History  
 State Historic Preservation Office

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## Description of Building or Site (Original and Present)

The 1916 bridge carrying the single-track Dunloup Branch Railroad and Fayette County Route 25/2 over the New River consists of one riveted Warren through truss span and seven riveted deck girder spans. The Warren truss contains a polygonal top chord. The bridge's overall length is 826ft-7in. The through truss span measures 226ft and the longest deck girder span measures 84ft-2in. The substructure consists of two abutments and 7 piers; all are constructed of reinforced concrete except for the abutments and piers 2 and 5, which were reused from the previous ca. 1890 bridge and are stone. The bridge presently carries a single railroad track and an 11ft-11in shared vehicular and pedestrian roadway that is cantilevered from the upstream (east) side of the bridge. The cantilevered roadway contains 35 spans, consisting of steel stringers that rest on brackets attached to the truss and plate girders of the 20ft-wide railroad bridge. The vehicular deck is an open steel grid type deck. The vehicular deck railings consist of rolled steel posts, a steel channel kickplate, steel pipe top rail, with a W-shape steel guard rail in between. On the truss, the roadway brackets have a solid web; the web is open on the plate girder spans. The roadway bridge is not skewed, but the railroad bridge is skewed 45 degrees left forward. Utility conduits are suspended from the guardrail supports on the upstream (east) side of the bridge.

## Statement of Significance

The Thurmond Bridge was designed and constructed in 1915-1916 by the Chesapeake & Ohio Railway Corporation as part of its Loup Creek Branch to replace a ca. 1890 bridge that was destroyed by flooding in 1908.

The Thurmond Bridge contributes to the Dunloup Branch Railroad, which is significant under Criterion A, and to the Thurmond Historic District, which is significant under Criteria A and C. Because the Thurmond Bridge has not been previously evaluated for individual significance, the following discussion will apply the National Register Criteria for Evaluation to the resource.

As an individual structure, Thurmond Bridge does not possess significance under Criterion A, as the construction of the present bridge is not directly associated with an important event or historic trend. The establishment and growth of Thurmond was dependent upon the construction of the main line of the Chesapeake & Ohio Railway (running along the north bank of the New River), not upon the construction of the Dunloup Creek Branch Railroad and its associated Thurmond Bridge. The bridge was designed and constructed by the Chesapeake & Ohio Railway Company as part of its Loup Creek Branch.

Thurmond Bridge is not significant under Criterion B., as research did not reveal a connection with a significant individual.

As a structure, the bridge is significant under Criterion C as a representative example of a Warren through truss and deck plate girder railroad bridge with the uncommon feature of a cantilevered vehicular and pedestrian roadway. The main Warren through truss span retains its character-defining features such as its inclined end posts, diagonal configuration, floor beams, stringers, riveted connections, and portal bracing. Pre-1920 examples of Warren trusses that retain integrity are generally considered significant examples of this truss design<sup>1</sup>. The seven riveted deck plate girder spans are less significant from an engineering perspective

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<sup>1</sup> "A Context for Common Historic Bridge Types." NCHRP Project 25-25, Task 15. Prepared by Parsons Brinckerhoff and Engineering and Industrial Heritage, October 2005, for the National Cooperative Highway Research Program, Transportation Research Council, National Research Council. Page 3-39.

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that the Warren truss main span. Riveted plate girders from the early twentieth century are more significant than later, non-riveted plate girder spans, but the design is, in general, only moderately significant.<sup>2</sup> Because the plate girder spans are riveted, they are an example of historic fabrication techniques and contribute to the overall historic feeling of the bridge. The cantilevered roadway support brackets are not of a design that is intrinsically notable or rare. Such brackets were commonly used in contemporary bridges to support sidewalks. In the early twentieth century, it was commonplace to have 10ft-wide sidewalks, so the 11ft-11in cantilevered roadway is not unusually wide. What is remarkable about the Thurmond Bridge is the fact that is a railroad bridge with a secondary vehicular roadway. The existence and survival of this roadway is a testament to the isolation and topographic characteristics of its setting. In a more populous or accessible region, such a roadway configuration would have been quickly made obsolete with the dawn of the automobile age. Thus, the Thurmond Bridge's railroad/vehicular-pedestrian configuration is historically significant as a rare survivor of its type.

The Thurmond Bridge does not appear to be significant under Criterion D for its information potential or as an archaeological resource.

The recommended National Register boundary for the resource is depicted in red in Figure 1. The boundary contains approximately 0.75 acres and is limited to the footprint of the bridge.

## **Bibliographic References**

Harper, R. Eugene. National Register of Historic Places Inventory-Nomination Form for Thurmond Historic District, Fayette County, West Virginia, September 15, 1983. Copies available at the West Virginia Department of Culture and History, Charleston.

Mullins, Sondra. West Virginia Historic Property Inventory Form for the Dunloup Branch Railroad/Loup Creek Branch, Fayette County, WV (FA-0429). Prepared by WV Division of Highways, June 7, 2010. Copies available at the West Virginia Department of Culture and History, Charleston.

Parsons Brinckerhoff and Engineering and Industrial Heritage. "A Context for Common Historic Bridge Types." NCHRP Project 25-25, Task 15. October 2005. Prepared for the National Cooperative Highway Research Program, Transportation Research Council, National Research Council. Electronic Document.

[http://onlinepubs.trb.org/onlinepubs/archive/NotesDocs/25-25\(15\)\\_FR.pdf](http://onlinepubs.trb.org/onlinepubs/archive/NotesDocs/25-25(15)_FR.pdf)

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<sup>2</sup> Ibid., 3-110.

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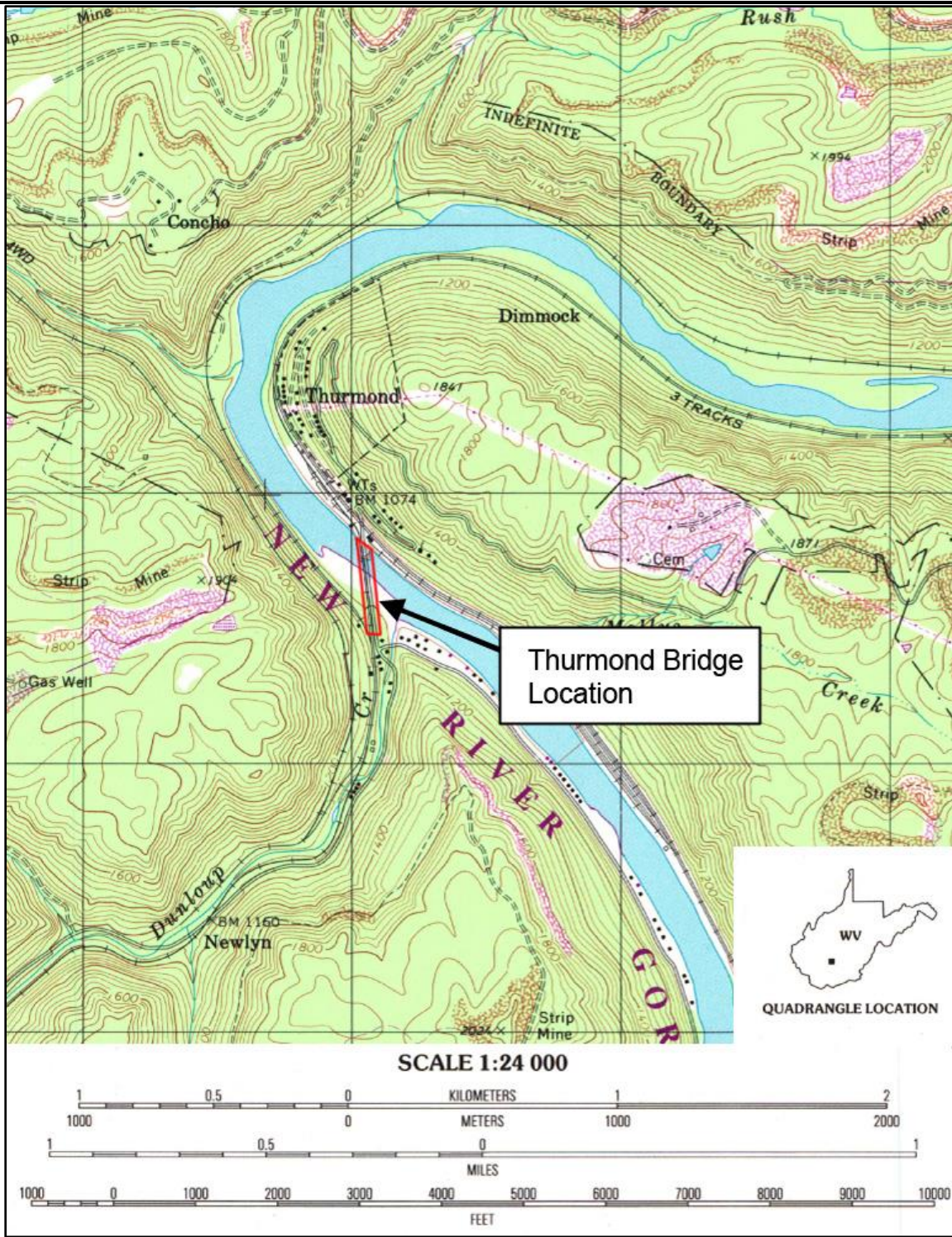


Figure 1: Location of Thurmond Bridge depicted on 1969 (photorevised 1997) *Thurmond, West Virginia*, United States Geological Survey 7.5 minute topographic map. Proposed National Register Boundary is shown in red.

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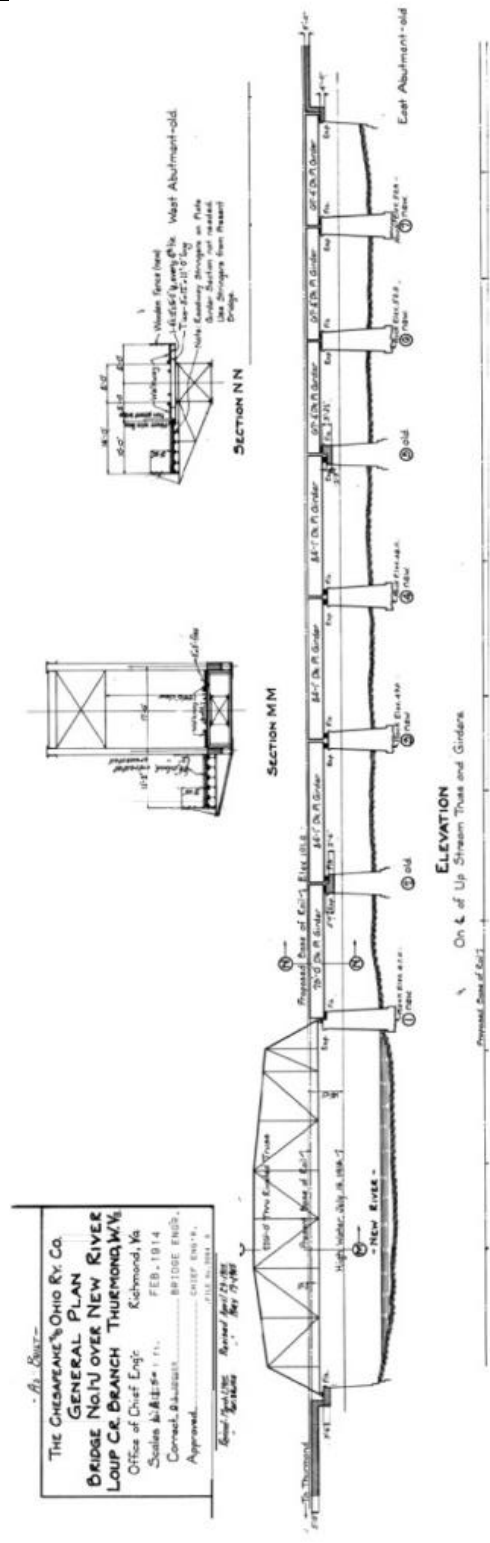


Figure 2: Site Plan: Profile view of bridge from original plans (1914, rev. 1915).

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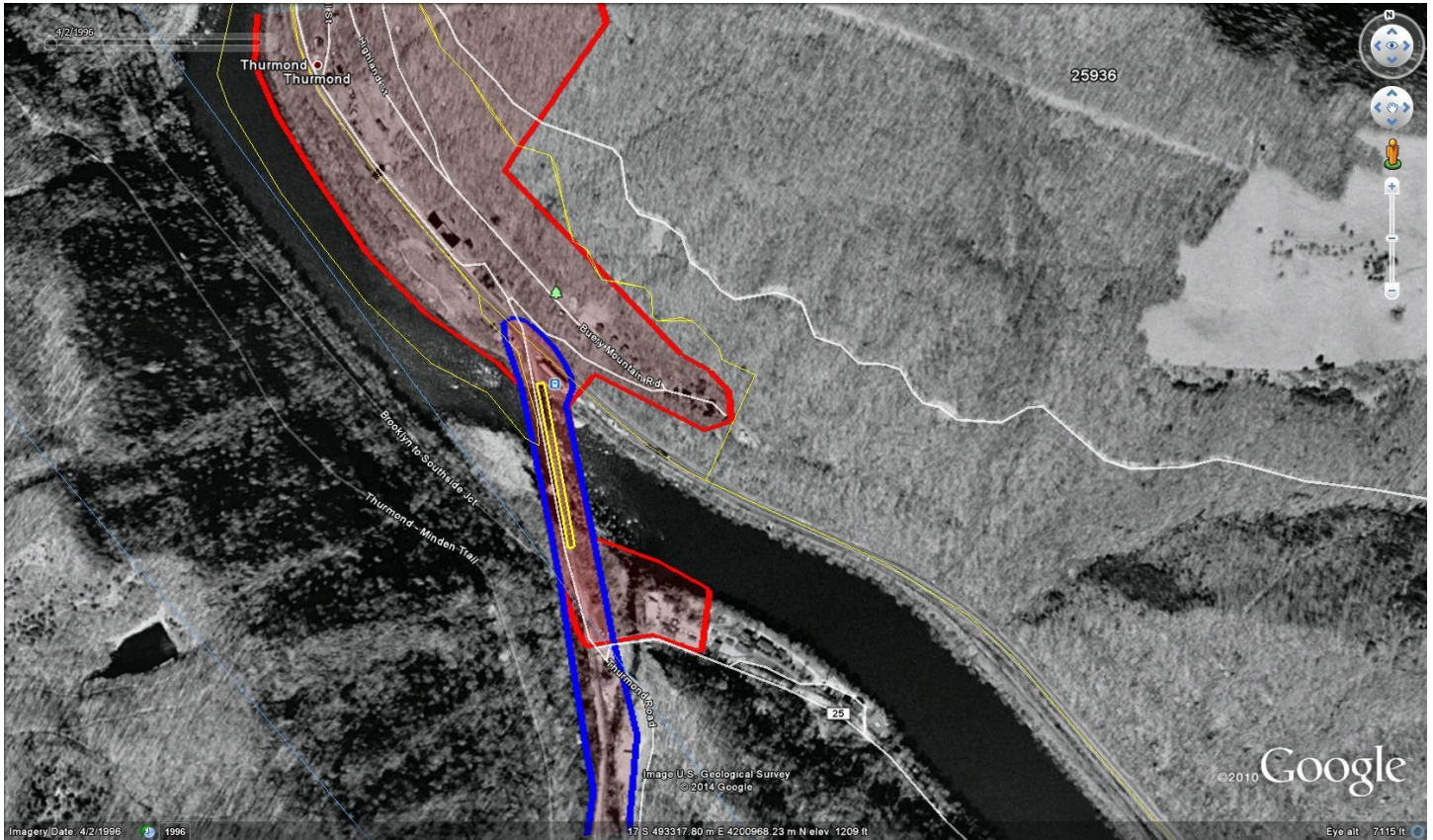


Figure 3: Site Plan: depicting relationship between Thurmond Historic District (red), Dunlop Branch Railroad (blue), and Thurmond Bridge (yellow). Base map Google Earth 1996 aerial photograph.

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Photo 1: Overall view of east elevation of bridge showing, left to right piers seven through one and spans eight through one, facing northwest.



Photo 2: North end of bridge, facing south.



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Photo 3: South end of bridge, facing north.

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Photo 4: Substructure unit: north stone abutment (ca. 1890) and superstructure unit: Warren truss span one showing north portal, facing southeast.

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Photo 5: Substructure unit: detail of north stone abutment (ca. 1890), facing northwest.



Photo 6: Substructure units: pier one (1915-1916) and pier two (ca. 1890) and superstructure unit: girder span two (center), west elevation, facing southeast.

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Photo 7: Detail of pier two (ca. 1890) showing stone construction, facing north.

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Photo 8: Detail of pier four (1915-1916), showing poured concrete construction, facing southwest.





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Photo 12: Detail of piers seven (1915-1916), six (1915-1916), and five (ca. 1890), west elevation, facing north.



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Photo 13: Substructure unit: south stone abutment (ca. 1890), showing stone wing wall and poured cement cap, facing north.

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Photo 14: Detail of riveted plate girder in span 8, facing northeast.

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Photo 15: Detail of underside of typical girder span, facing north.



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Photo 18: Detail of open web brackets projecting from typical girder span, facing south.



Photo 19: Cantilevered roadway between pier three and south abutment, facing south.

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Photo 20: Skewed north portal of main Warren truss span, facing south.

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Photo 21: Skewed south portal of main Warren truss span, facing north.

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Photo 22: East profile of main Warren truss span, facing northwest.



Photo 23: East profile of main Warren truss span, facing southwest.



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Photo 24: West profile of main Warren truss span, showing skewed south portal, facing northeast.

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Photo 25: Detail of main Warren truss span showing vertical and diagonal members, top chord, and cross bracing, facing southwest.

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Photo 26: Detail of outer side of east profile of main Warren truss span showing gusset plate connections of top chord and diagonal members, facing west.



Photo 27: Detail of inner side of west profile of main Warren truss span showing gusset plate connections of top chord, and vertical and diagonal members, facing west.

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Photo 28: Detail of main Warren span showing lattice braced diagonal members and cross bracing, facing northwest.

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Photo 29: Detail of main Warren truss span showing bottom chord and connection of vertical member, facing north.

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Photo 30: Roadway deck along truss span one, facing south.



Photo 31: Detail of roadway deck along truss span one showing outer guardrail, facing southeast.

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Photo 32: Detail of roadway deck along truss span one showing inner guardrail, facing southwest.



Photo 33: Roadway deck showing "bump out" transition area between girder spans and truss span, facing north.

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Photo 34: Deck surfaces showing tracks and roadway, facing north.



Photo 35: Standard railroad design handrail along west side of bridge, facing west.



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Photo 36: Fayette County Route 25/2 and Dunloup Branch Railroad at north end of bridge, facing north.



Photo 37: Fayette County Route 25/2 and Dunloup Branch Railroad at south end of bridge, facing south.