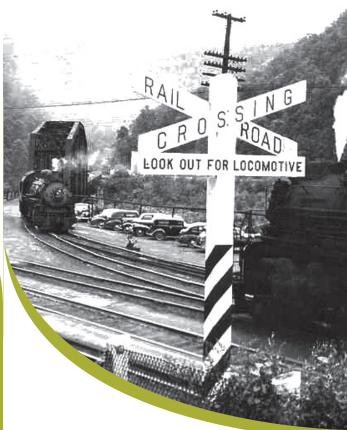
#### whatHistoricalServicesUnitdoes

- Research and Write History Reports
- Determine National Register Eligibility
- Determine Historic Boundaries
- Determine Effects to Historic Properties
- Mitigate Adverse Effects to Historic Properties
- Complete Historic Documentations for Specific Historic Properties
- Historic Turnpike Research and Analysis
- Coordinate with Federal, State, and Local Resource Agencies

- Conduct Public Workshops for Specific Bridge and Highway Projects



Division of Highways Engineering Division Environmental Section 1334 Smith Street Charleston, WV 25301 Sondra Mullins Historical Services Unit Leader 304.558.9487 sondra.l.mullins@wv.gov









#### **Thurmond History**

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 circa 1890 bridge that was destroyed by flooding in 1908. The 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 quardrail supports on the upstream (east) side of the bridge.

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.



**Location:** County Route 25/2 over the New River

Type: One Riveted Warren Through Truss Span and Seven Riveted Deck Girder Spans

**Year constructed:** 1916 **Length:** 826 feet, 7 inches

Contractor: The Chesapeake & Ohio Railway Corporation

Internal	Rating:	



#### WEST VIRGINIA HISTORIC PROPERTY INVENTORY FORM

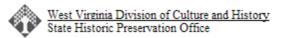
Street Address		Common/	Historic Nam	e/Both	Field Survey #	Site # (SHPO Only)
CR 25/2 over New River		0 0 0		MB-01		
		Thurmond	Bridge			
Town or Communi	ty	County			Negative No.	NR Listed Date
Thurmond		Fayette				1-27-1984 (contributor
						to Thurmond Hist. Dist.)
Architect/Builder		Date of Co	onstruction		Style	
Chesapeake & Ohio	Railway Co.	1915-16				
(Loup Creek Branch	n)					
Exterior Siding/Mat	terials	Roofing N	laterial		Foundation	
Steel		Steel grid	Steel grid (vehicular)/timber (railroad)		Concrete (5 piers) and Stone (2 piers and 2 abutments)	
Property Use or Fu	ınction	UTM# (NA	AD 83)			
Residence	0	S	17			
Commercial	0	E	493062			
Other	X bridge	N	4200979			
Survey Organization	on & Date	Quadrang	le Name			
		Thurmond	Thurmond			
Michael Baker Jr., Ir	nc.					
June 6, 2014		Thurmond State Proje	hat Survey/FI Bridge Rehal ect No. S210- oject No. BR-	oilitation 25/2-0.10		

Sketch Map of Property Or Attach Copy of USGS Map

- PLEASE SEE ATTACHED -



Present Owners		Owners Mailing Address
CSX Corporation (Lea	ased to R.J. Corman Corporation)	Building 5
West Virginia Departr	ment of Transportation, Div. of Highways	1900 Kanawha Blvd E
Phone # 304-558-33	04	Charleston, WV 25305
Describe Setting		<u>0.75</u> Acres
		Archaeological Artifacts Present
the former C&O Railr		nd, where the Dunloup Branch Railroad joins with the main line of River Gorge National River. Thurmond is a National Register-listed ter-eligible linear district.
Description of Build	ling or Site (Original and Present)	Stories Front Bays
See Continuation She		
		(Use Continuation Sheets)
Alterations X	received a \$1 increased the portions of me	made in 1939, 1953, 1957, and 1975. In 1983, the bridge million rehabilitation, which strengthened select members and structure's load capacity to 12 tons. Deteriorated members (or embers) have been replaced and some riveted connections have d with bolted or welded connections.
Additions Yes	X If yes, describe:	
Describe All Outbuil	Idinas	
	90	
None		
1105		(Use Continuation Sheets)
Statement of Signifi	cance	,
•		
See Continuation She	eets	
		(Use Continuation Sheets)
Bibliographical Refe	erences	·
See Continuation She		
		(Use Continuation Sheets)
Form Prepared By:		<b>Date:</b> June 13, 2014
•		
Name/Organization:	: Jesse A. Belfast / Michael Baker Jr., Inc.	
Address:	100 Airside Drive, Moon Township, PA 1510	3
Phone #:	412-269-7908	



NAME	ME Thurmond Bridge		
_	-	<del>-</del>	

#### **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 design1. The seven riveted deck plate girder spans are less significant from an engineering perspective

<sup>1 &</sup>quot;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.

NAME	Thurmond Bridge	SITE#	
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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. 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. <a href="http://onlinepubs.trb.org/onlinepubs/archive/NotesDocs/25-25(15)\_FR.pdf">http://onlinepubs.trb.org/onlinepubs/archive/NotesDocs/25-25(15)\_FR.pdf</a>

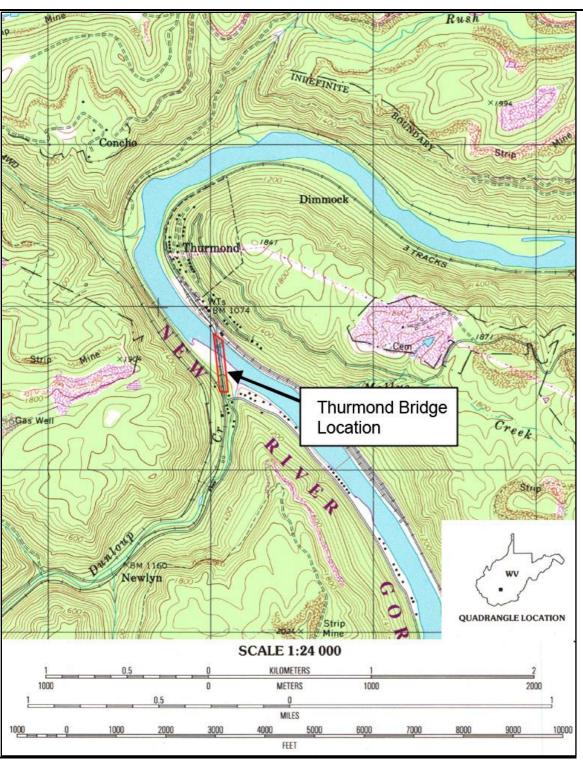


Figure 1: Location of Thurmond Bridge depicted on 1969 (photorevised 1997)

Thurmond, West Virginia, United States Geological Survey 7.5 minute topographic map. Proposed National Register Boundary is shown in red.

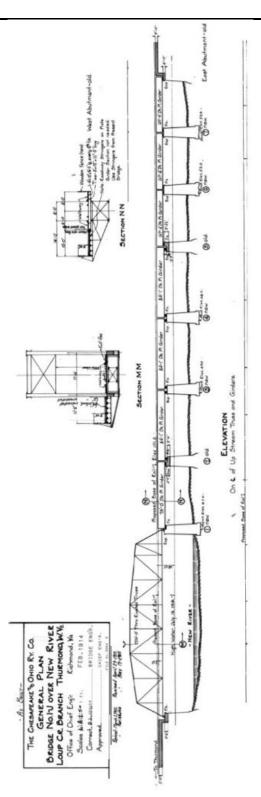


Figure 2: Site Plan: Profile view of bridge from original plans (1914, rev. 1915).

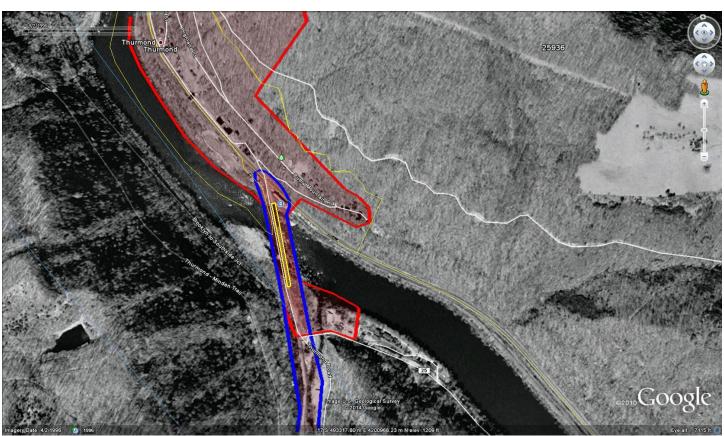


Figure 3: Site Plan: depicting relationship between Thurmond Historic District (red), Dunloup Branch Railroad (blue), and Thurmond Bridge (yellow). Base map Google Earth 1996 aerial photograph.

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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.

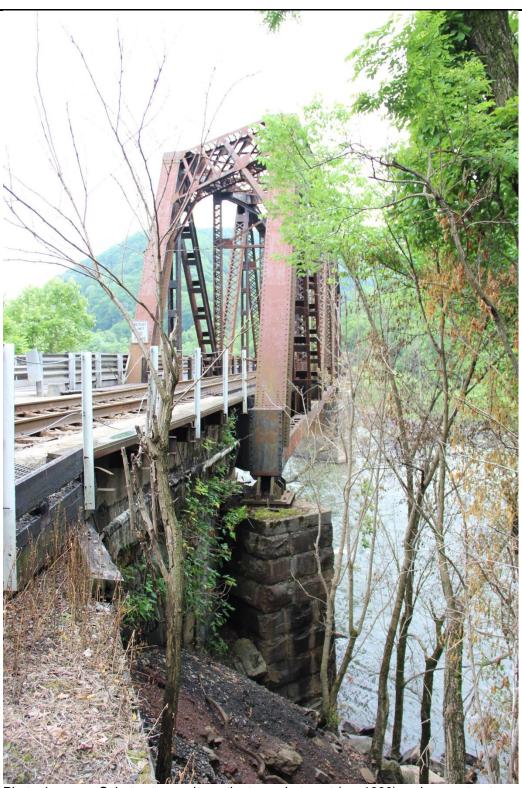


Photo 4: Substructure unit: north stone abutment (ca. 1890) and superstructure unit: Warren truss span one showing north portal, facing southeast.



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.



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 9: Substructure units: pier two (ca. 1890), pier three (1915-1916), and pier four (1915-1916) and superstructure units: girder spans three and four, west elevation, facing east.



Photo 10: Substructure units: pier four (1915-1916) and pier five (ca. 1890) and superstructure units: girder spans four and five, west elevation, facing southeast.

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Photo 11: Substructure units: pier seven (1915-1916), pier six (1915-1916), and pier five (ca. 1890) and superstructure units: girder spans eight, seven, six and a portion of span five, east elevation, facing west.

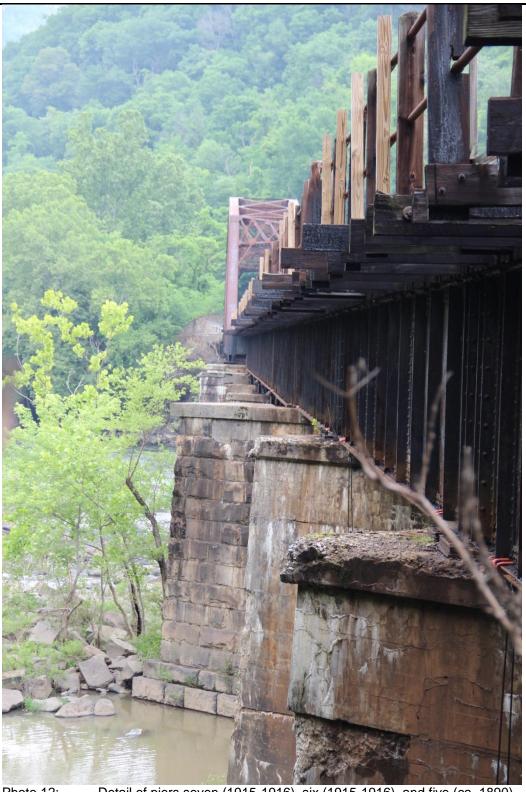


Photo 12: Detail of piers seven (1915-1916), six (1915-1916), and five (ca. 1890), west elevation, facing north.

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



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.



Photo 16: Cantilevered roadway along east elevation of bridge showing solid brackets projecting from truss span one and open brackets projecting from girder span two, facing northwest.



Photo 17: Detail of solid web brackets projecting from truss span one, facing northwest.



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.



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

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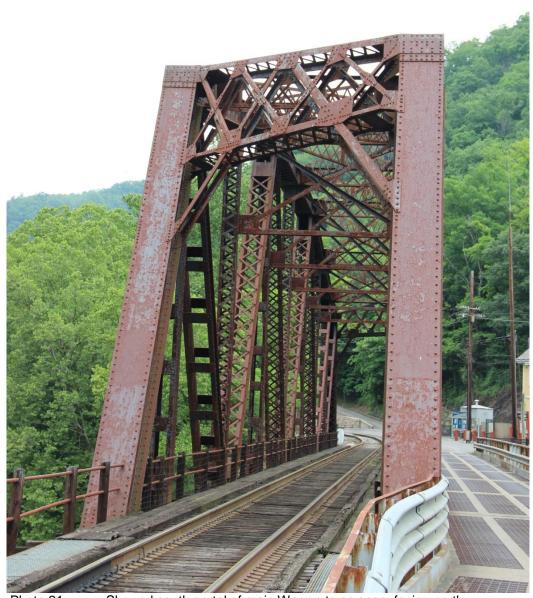


Photo 21: Skewed south portal of main Warren truss span, facing north.

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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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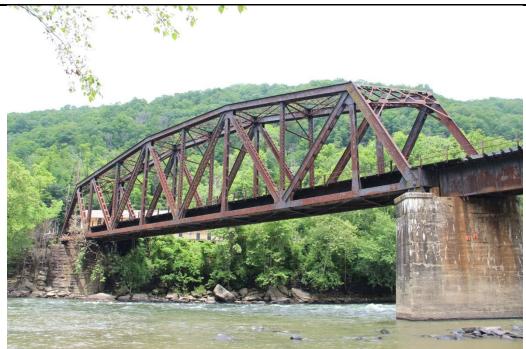


Photo 24: West profile of main Warren truss span, showing skewed south portal, facing northeast.

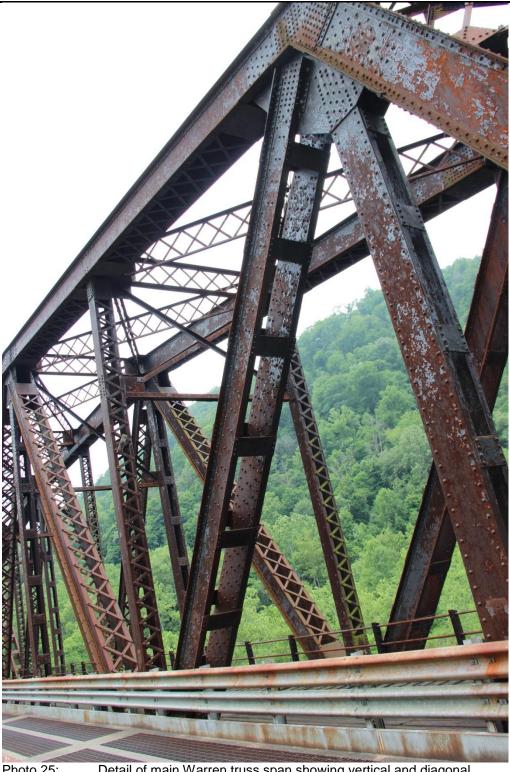


Photo 25: Detail of main Warren truss span showing vertical and diagonal members, top chord, and cross bracing, facing southwest.



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.



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



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



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.



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.



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.

#### Thurmond Bridge Fayette County, West Virginia



#### STATE-LEVEL RECORDATION

**March 2016** 

West Virginia
Department of Transportation
Division of Highways
Engineering Division
Environmental Section
(304) 558-2885

# HISTORIC RECORDATION THURMOND BRIDGE FAYETTE COUNTY 25/2 OVER NEW RIVER THURMOND, WEST VIRGINIA

Name: Thurmond Bridge

<u>Location</u>: The bridge is located within the geographical area of West Virginia, Fayette

County, Town of Thurmond.

USGS Thurmond, WV 7.5 Minute Topographic Quadrangle, Universal

Transverse Mercator Coordinates:

17S 4200934N 493064 E

Present Owner: CSX Corporation (Leased to R.J. Corman Corporation)

West Virginia Department of Transportation

Division of Highways

1900 Kanawha Boulevard, Building 5, Room A-110

Charleston, WV 25305

<u>Present Use:</u> Rail and Vehicular Bridge

Significance: 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. As an individual structure, Thurmond Bridge is significant under Criterion C as a representative example of a skewed Warren through truss and deck plate girder railroad bridge with the uncommon feature of

a cantilevered vehicular and pedestrian roadway.

Project Information: The Federal Highways Administration (FHWA) in cooperation with the West

Virginia Division of Highways (WVDOH) proposes to rehabilitate the Thurmond Bridge. The proposed rehabilitation project involves the stabilization, strengthening, and repair of the Thurmond Bridge. The preferred alternative also incorporates the addition of refuge bays on the upstream (east) side of the bridge to address pedestrian safety concerns identified by the National Park Service. This documentation was undertaken in March 2016 in accordance with a Memorandum of Agreement (November 2015) among the West Virginia Division of Highways, West Virginia State Historic Preservation Officer, the Federal Highway Administration, and the Advisory Council on Historic Preservation. These measures are required prior to the alteration of this National

Register of Historic Places (NRHP)-eligible structure.

Qualified Professional: Jesse A. Belfast, Historic Preservation Specialist

Michael Baker International, Inc.

100 Airside Drive

Moon Township, PA 15108

March 2016

#### Part I. Historical Information

#### A. Physical History

**1. Date of erection:** 1915-1916

#### 2. Engineer/Builder

Chesapeake & Ohio Railway Co., (Loup Creek Branch)

#### 3. Original and subsequent owners, occupants, uses:

Chesapeake & Ohio Railway Co.
CSX Corporation (Leased to R.J. Corman Corporation)
West Virginia Department of Transportation

#### **B.** Historical Context:

#### **Historical Background**

#### **Thurmond**

The town of Thurmond is situated on the east side of the New River Gorge along a narrow flood plain (about 100-150 meters wide) that was wide enough to accommodate the main line of the Chesapeake and Ohio (C&O) Railway, its yards, and a single strip of commercial buildings on the northeast side of the tracks; no street lies between the buildings and the railroad. Residences are scattered on the steep hillside immediately above the river flat. Thurmond is accessed by automobile from the south via a ca. 1916 shared vehicular and railroad bridge (the subject Thurmond Bridge), which carries the Dunloup Branch Railroad. The bridge connects with Fayette County Route 25/2, which follows Dunloup Creek to Glen Jean, where one can access U.S. Route 19. The Thurmond Historic District National Register of Historic Places nomination form was prepared in 1983 by R. Eugene Harper, Ph.D., professor of history at the University of Charleston. In the nomination form, 45 buildings, structures, or sites are noted as contributing and 2 buildings are noted as non-contributing. Sixteen buildings, structures, or sites are noted as "pivotal" resources within the district. Among these 16 resources is the subject Thurmond Bridge (it is identified as "Thurmond Railroad Bridge" in the nomination). In addition to minor commercial/industrial buildings and scattered extant hillside dwellings, recent National Park Service literature identifies six (6) major extant resources along Thurmond's river flat commercial strip: Thurmond Depot, a commissary, the Mankin-Cox Building, Goodwin-Kincaid Building, Bank of Thurmond, and a coaling station.

The Thurmond Historic District is significant under Criteria A and C in the areas of archaeology, architecture, commerce, and transportation, and its period of significance is 1884 to 1950. Harper (1983) concludes that:

Thurmond, West Virginia is significant for "its extraordinary commercial vitality in the early twentieth century in spite of extreme inaccessibility. For thirty-five years, Thurmond, located in the heart of the New River Gorge, was inaccessible except by railroad. Yet, as the chief railroad center on the Chesapeake and Ohio

Railroad serving portions of the fabled coal fields of Southern West Virginia, Thurmond produced more tonnage and revenue than Cincinnati and Richmond combined. The town had not a single street, yet boasted two banks, two hotels, and a thriving commercial block. Architecturally, the town is significant for its railroad architecture and for its vernacular worker housing and simple commercial buildings, not because they have great style or beauty, but for what they say about the thriving life in the West Virginia coal fields for some sixty years. Archaeology is possible at the hotel sites.

In the form, Mr. Harper describes the bridge as follows:

Thurmond Railroad Bridge. (circa 1910) [note: built 1915-16] The railroad bridge at Thurmond is a most significant structure. Building the bridge initially in 1888-1889 caused the town to be founded, and the bridge remains the only way in and out of town. The original truss bridge with supporting members that appear lighter and smaller than the present bridge washed away in about 1908. The new bridge was built around 1910 (perhaps as late as 1915 for coal was sent around by way of Sewell for a while). The new bridge is both a truss and a deck [girder] bridge. The truss section spans the main channel of the river, but the longest part of the approximately 840 foot span is a simple deck [girder] bridge on concrete piers. On the eastern or up-river side is a one lane--10 feet--automobile road that gives access to the town. The road was originally built as a walkway from the station across the river to the Dun Glen Hotel, and had to be strengthened when automobiles came into use. The bridge crosses the river at an angle, necessitating that the west end post extend further north than the east one, and that the top lateral braces and the portal braces be diagonal. Piers for the original bridge were quarried just across the river up Arbuckle Creek a quarter mile. Two of these piers are still in use, but the other seven piers are concrete. The roadway is currently undergoing repair [in 1983], and residents must drive on the railroad portion of the bridge on which planks have been laid to make a road at track level. This railroad portion of the bridge is 20 feet from outside to outside of each of the 30 inch main portal beams.

#### The Dunloup Branch Railroad

The Dunloup Branch Railroad is a single-track freight line that extends from a junction with the C&O main line at Thurmond, WV, to the town of Pax, WV, about 16 miles to the southwest. The line passes through the towns of Glen Jean, WV, and Mt. Hope, WV. The line presently serves three customers: Georgia-Pacific and Austin Powder Company, at Mt. Hope, and Pioneer Fuel Corporation, at Pax. The line began operation in 1892 and continues to utilize its historic route. Since 2005, the RJ Corman Railroad Corporation has leased the line from the CSX Railroad.

The Dunloup Branch Railroad, Loop Creek Branch was surveyed by WVDOH in 2010 as part of a larger railroad improvement project. At that time, the WVDOH determined that the resource was eligible as a linear resource under Criterion A as a transportation link. The WVHPI form described the railroad and its significance as follows:

The Dunloup Branch Railroad was established around 1892 when the branch linked to the Chesapeake & Ohio Railroad [sic.] in the Town of Thurmond. With the completion of the Thurmond Railroad Bridge around 1889, the mining industry was able to open new mines and ship coal more easily. Thomas McKell owned a lot of property around the railroad line and chose to open up the coal lands around Loup Creek instead of at the New River Gorge. McKell wrote to the President of C&O and asked for assistance in getting the rail line built and connecting to the main line at Thurmond. C&O began construction on the branch line in 1892 and by late 1893 the rail line was completed from Thurmond to Glen Jean. On November 7, 1893, the first coal was shipped from the Collins Colliery Company in Glen Jean. By 1894, coal was being hauled and the line was completed to MacDonald. By 1895, McKell established his own railroad called the Kanawha, Glen Jean & Eastern Railroad (KGJ&E), providing passenger trains, hauling coal and freight to the mines, towns and company stores. With growing interest in the area McKell wanted to beat others in building a line from Glen Jean to Deep Water. At the same time another railroad would be started known as the Glen Jean, Lower Loup & Deepwater Railroad (GJLL&D). The area became a battleground between the two railroad crews and it eventually went to court over who had the right to build this section of the rail line. In 1899, the courts ruled against McKell and eventually the C & O bought the GJLL&D and McKell was angered once more. By 1900 C & O began building more rail lines especially between Glen Jean and Oak Hill. McKell sued C & O and the case was not settled until 1915, long after McKell's death in 1904. McKell's heirs won money from C & O and they completed the branch line to Pax in 1910. At Pax the KGJ&E connected with the Virginian Railway. This connection ended C&O's monopoly of the coal mines in the Loup Creek area. Coal was still a big industry in the area up to the 1940's. C & O purchased the KGJ&E in 1941 after the death of William McKell (Thomas's son). After World War II coal was on a decline because now locomotives were fueled with diesel instead of coal. In 1971 the C&O merged with the B&O forming the company Chessie System. Another merger came in 1980 with the merger of Chessie System and Seaboard Coast Line creating CSX Corporation in 1987. By the 1980s most of the coal along the Loup Creek mines had been removed. After this the line remained abandoned for many years. But in 1994 the Georgia-Pacific Company gave the railroad line a new lease on life.

In 2005, R J Corman Railroad Corporation leased the rail line from CSX Railroad. The rail line maintains the same line it did when the branch line began in 1892. Today, the Dunloup Branch Railroad (Loup Creek Branch) serves three companies: Georgia-Pacific at Mt. Hope, Austin Powder Company at Mt. Hope and Pioneer Fuel Corporation at Pax.

The railroad does currently link commercial towns within the county or region. The WVDOH has determined that the Dunloup Branch Railroad line (also known as the C&O's Loup Creek Branch) is eligible for the National Register as a linear resource under Criterion A as a transportation link.

#### Part I. Architectural Information

#### **Summary Description of Bridge**

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 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 The substructure consists of two abutments and 7 piers; all are constructed of 84ft-2in. 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.

#### **Technological and Historical Significance**

As previously noted, 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. As an individual structure, Thurmond Bridge is significant under Criterion C as a representative example of a skewed Warren through truss and deck plate girder railroad bridge with the uncommon feature of a cantilevered vehicular and pedestrian roadway. The Warren through truss main 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 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

<sup>&</sup>lt;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.

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

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.

#### Part III. Sources of Information

#### A. Architectural Drawings:

Copies of original engineering drawings are included in this document.

#### **B.** Photographs

Current and known historic photographs are included in this document.

#### C. Bibliography

Belfast, Jesse A.

2014 West Virginia Historic Property Inventory Form for Thurmond Bridge, Fayette County. On file at West Virginia Department of Transportation, Division of Highways, Charleston.

#### Burgess & Niple, Inc.

2013 Bridge Renovation Study, Final Phase I Report, Thurmond Bridge over New River, August 2013. On file at West Virginia Department of Transportation, Division of Highways, Charleston.

#### Edman, Austin O.

2012 "In-depth Periodic Inspection, Thurmond Bridge over New River," February 2012. Burgess & Niple, Inc., Parkersburg, WV. On file at West Virginia Department of Transportation, Division of Highways, Charleston.

#### **GAI** Consultants

2000 Preliminary Design Report: Thurmond Bridge Replacement Project, Fayette County, West Virginia. On file at West Virginia Department of Transportation, Division of Highways, Charleston.

#### Harper, R. Eugene

1983 National Register of Historic Places Inventory-Nomination Form for Thurmond Historic District, Fayette County, West Virginia. Form on file at the West Virginia Department of Culture and History, Charleston.

#### Mullins, Sondra

2010 West Virginia Historic Property Inventory Form for Dunloup Branch Railroad, Fayette County (Site FA-0429). On file at West Virginia Department of Transportation, Division of Highways, Charleston.

Parsons Brinckerhoff and Engineering and Industrial Heritage.

2005 "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. <a href="http://onlinepubs.trb.org/onlinepubs/archive/NotesDocs/25-25(15)\_FR.pdf">http://onlinepubs.trb.org/onlinepubs/archive/NotesDocs/25-25(15)\_FR.pdf</a>

#### U.S. Geological Survey (USGS)

1969 *Thurmond, WV* 7.5' topographic quadrangle, photorevised 1997. USGS, Reston, Virginia.

## HISTORIC DOCUMENTATION

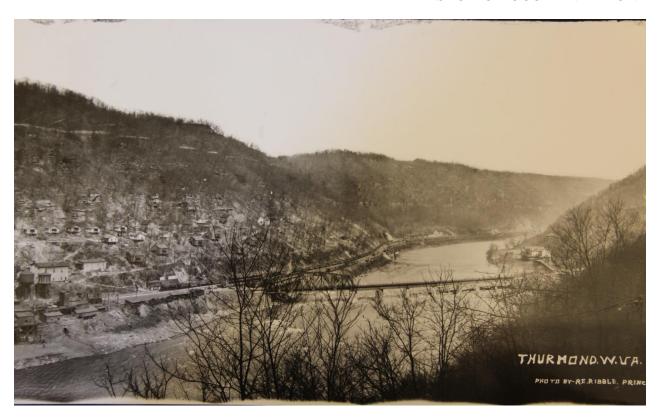


Figure 1: Early twentieth century photograph of the Thurmond Bridge. Photograph available from the National Park Service.

## HISTORIC RECORDATION INDEX TO PHOTOGRAPHS

Name of Property: Thurmond Bridge

City or Vicinity:

County:

State:

Name of Photographer:

Date of Photographs:

Thurmond
Fayette County
West Virginia
Jesse A. Belfast
June 5, 2014

Location of Original Digital Files: Michael Baker International, Inc.

100 Airside Drive, Moon Township, PA 15108

#### **Photograph List**

Photo # 1 (WV\_FayetteCounty\_ThurmondBridge\_0001) OVERALL VIEW OF EAST ELEVATION OF BRIDGE SHOWING, LEFT TO RIGHT, PIERS SEVEN THROUGH ONE AND SPANS EIGHT THROUGH ONE, FACING NORTHWEST.

Photo # 2 (WV\_FayetteCounty\_ThurmondBridge\_0002) NORTH END OF BRIDGE, FACING SOUTH.

Photo # 3 (WV\_FayetteCounty\_ThurmondBridge\_0003) SOUTH END OF BRIDGE, FACING NORTH.

Photo # 4 (WV\_FayetteCounty\_ThurmondBridge\_0004)
SUBSTRUCTURE UNIT: NORTH STONE ABUTMENT (CA. 1890) AND
SUPERSTRUCTURE UNIT: WARREN TRUSS SPAN ONE SHOWING NORTH PORTAL,
FACING SOUTHEAST.

Photo # 5 (WV\_FayetteCounty\_ThurmondBridge\_0005) SUBSTRUCTURE UNIT: DETAIL OF NORTH STONE ABUTMENT (CA. 1890), FACING NORTHWEST.

Photo # 6 (WV\_FayetteCounty\_ThurmondBridge\_0006) SUBSTRUCTURE UNITS: PIER ONE (1915-1916) AND PIER TWO (CA. 1890) AND SUPERSTRUCTURE UNIT: GIRDER SPAN TWO (CENTER), WEST ELEVATION, FACING SOUTHEAST.

Photo # 7 (WV\_FayetteCounty\_ThurmondBridge\_0007)
DETAIL OF PIER TWO (CA. 1890) SHOWING STONE CONSTRUCTION, FACING NORTH.

Photo # 8 (WV\_FayetteCounty\_ThurmondBridge\_0008)
DETAIL OF PIER FOUR (1915-1916), SHOWING POURED CONCRETE CONSTRUCTION,
FACING SOUTHWEST.

Photo # 9 (WV\_FayetteCounty\_ThurmondBridge\_0009) SUBSTRUCTURE UNITS: PIER TWO (CA. 1890), PIER THREE (1915-1916), AND PIER FOUR (1915-1916) AND SUPERSTRUCTURE UNITS: GIRDER SPANS THREE AND FOUR, WEST ELEVATION, FACING EAST.

Photo # 10 (WV\_FayetteCounty\_ThurmondBridge\_0010) SUBSTRUCTURE UNITS: PIER FOUR (1915-1916) AND PIER FIVE (CA. 1890) AND SUPERSTRUCTURE UNITS: GIRDER SPANS FOUR AND FIVE, WEST ELEVATION, FACING SOUTHEAST.

Photo # 11 (WV\_FayetteCounty\_ThurmondBridge\_0011) SUBSTRUCTURE UNITS: PIER SEVEN (1915-1916), PIER SIX (1915-1916), AND PIER FIVE (CA. 1890) AND SUPERSTRUCTURE UNITS: GIRDER SPANS EIGHT, SEVEN, SIX AND A PORTION OF SPAN FIVE, EAST ELEVATION, FACING WEST.

Photo # 12 (WV\_FayetteCounty\_ThurmondBridge\_0012)
DETAIL OF PIERS SEVEN (1915-1916), SIX (1915-1916), AND FIVE (CA. 1890), WEST ELEVATION, FACING NORTH.

Photo # 13 (WV\_FayetteCounty\_ThurmondBridge\_0013) SUBSTRUCTURE UNIT: SOUTH STONE ABUTMENT (CA. 1890), SHOWING STONE WING WALL AND POURED CEMENT CAP, FACING NORTH.

Photo # 14 (WV\_FayetteCounty\_ThurmondBridge\_0014)
DETAIL OF RIVETED PLATE GIRDER IN SPAN 8, FACING NORTHEAST.

Photo # 15 (WV\_FayetteCounty\_ThurmondBridge\_0015)
DETAIL OF UNDERSIDE OF TYPICAL GIRDER SPAN, FACING NORTH.

Photo # 16 (WV\_FayetteCounty\_ThurmondBridge\_0016)
CANTILEVERED ROADWAY ALONG EAST ELEVATION OF BRIDGE SHOWING
SOLID BRACKETS PROJECTING FROM TRUSS SPAN ONE AND OPEN BRACKETS
PROJECTING FROM GIRDER SPAN TWO, FACING NORTHWEST.

Photo # 17 (WV\_FayetteCounty\_ThurmondBridge\_0017)
DETAIL OF SOLID WEB BRACKETS PROJECTING FROM TRUSS SPAN ONE, FACING NORTHWEST.

Photo # 18 (WV\_FayetteCounty\_ThurmondBridge\_0018)

DETAIL OF OPEN WEB BRACKETS PROJECTING FROM TYPICAL GIRDER SPAN, FACING SOUTH.

Photo # 19 (WV\_FayetteCounty\_ThurmondBridge\_0019)

CANTILEVERED ROADWAY BETWEEN PIER THREE AND SOUTH ABUTMENT, FACING SOUTH.

Photo # 20 (WV\_FayetteCounty\_ThurmondBridge\_0020)

SKEWED NORTH PORTAL OF MAIN WARREN TRUSS SPAN, FACING SOUTH.

Photo # 21 (WV\_FayetteCounty\_ThurmondBridge\_0021)

SKEWED SOUTH PORTAL OF MAIN WARREN TRUSS SPAN, FACING NORTH.

Photo # 22 (WV\_FayetteCounty\_ThurmondBridge\_0022)

EAST PROFILE OF MAIN WARREN TRUSS SPAN, FACING NORTHWEST.

Photo # 23 (WV\_FayetteCounty\_ThurmondBridge\_0023)

EAST PROFILE OF MAIN WARREN TRUSS SPAN, FACING SOUTHWEST.

Photo # 24 (WV\_FayetteCounty\_ThurmondBridge\_0024)

WEST PROFILE OF MAIN WARREN TRUSS SPAN, SHOWING SKEWED SOUTH PORTAL, FACING NORTHEAST.

Photo # 25 (WV\_FayetteCounty\_ThurmondBridge\_0025)

DETAIL OF MAIN WARREN TRUSS SPAN SHOWING VERTICAL AND DIAGONAL MEMBERS, TOP CHORD, AND CROSS BRACING, FACING SOUTHWEST.

Photo # 26 (WV\_FayetteCounty\_ThurmondBridge\_0026)

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 (WV FayetteCounty ThurmondBridge 0027)

DETAIL OF EAST PROFILE OF MAIN WARREN TRUSS SPAN SHOWING TOP CHORD, VERTICAL AND DIAGONAL MEMBERS, AND GUSSET PLATE CONNECTIONS, FACING SOUTHWEST.

Photo # 28 (WV\_FayetteCounty\_ThurmondBridge\_0001)

DETAIL OF MAIN WARREN SPAN SHOWING LATTICE BRACED DIAGONAL MEMBERS AND CROSS BRACING, FACING NORTHWEST.

Photo # 29 (WV\_FayetteCounty\_ThurmondBridge\_0029)
DETAIL OF MAIN WARREN TRUSS SPAN SHOWING BOTTOM CHORD AND CONNECTION OF VERTICAL MEMBER, FACING NORTH.

Photo # 30 (WV\_FayetteCounty\_ThurmondBridge\_0030) ROADWAY DECK ALONG TRUSS SPAN ONE, FACING SOUTH.

Photo # 31 (WV\_FayetteCounty\_ThurmondBridge\_0031)
DETAIL OF ROADWAY DECK ALONG TRUSS SPAN ONE SHOWING OUTER
GUARDRAIL, FACING SOUTHEAST.

Photo # 32 (WV\_FayetteCounty\_ThurmondBridge\_0032)
DETAIL OF ROADWAY DECK ALONG TRUSS SPAN ONE SHOWING INNER
GUARDRAIL, FACING SOUTHWEST.

Photo # 33 (WV\_FayetteCounty\_ThurmondBridge\_0033)
ROADWAY DECK SHOWING "BUMP OUT" TRANSITION AREA BETWEEN GIRDER
SPANS AND TRUSS SPAN, FACING NORTH.

Photo # 34 (WV\_FayetteCounty\_ThurmondBridge\_0034)
DECK SURFACES SHOWING TRACKS AND ROADWAY, FACING NORTH.

Photo # 35 (WV\_FayetteCounty\_ThurmondBridge\_0035) STANDARD RAILROAD DESIGN HANDRAIL ALONG WEST SIDE OF BRIDGE, FACING WEST.

Photo # 36 (WV\_FayetteCounty\_ThurmondBridge\_0036)
FAYETTE COUNTY ROUTE 25/2 AND DUNLOUP BRANCH RAILROAD AT NORTH
END OF BRIDGE, FACING NORTH.

Photo # 37 (WV\_FayetteCounty\_ThurmondBridge\_0037)
FAYETTE COUNTY ROUTE 25/2 AND DUNLOUP BRANCH RAILROAD AT SOUTH
END OF BRIDGE, FACING SOUTH.



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.



PHOTO 3: SOUTH END OF BRIDGE, FACING NORTH.

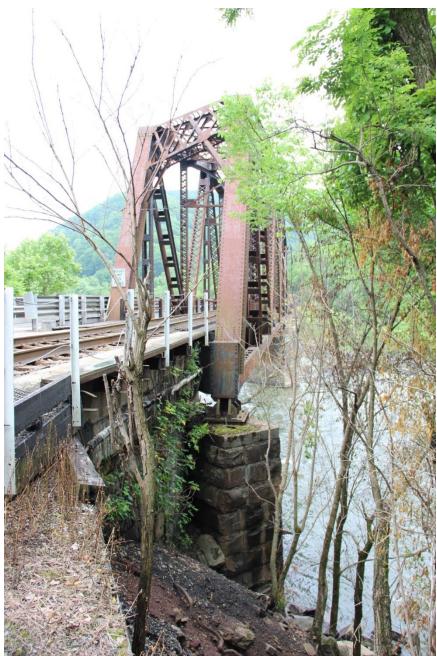


PHOTO 4: SUBSTRUCTURE UNIT: NORTH STONE
ABUTMENT (CA. 1890) AND
SUPERSTRUCTURE UNIT: WARREN TRUSS
SPAN ONE SHOWING NORTH PORTAL,
FACING SOUTHEAST.

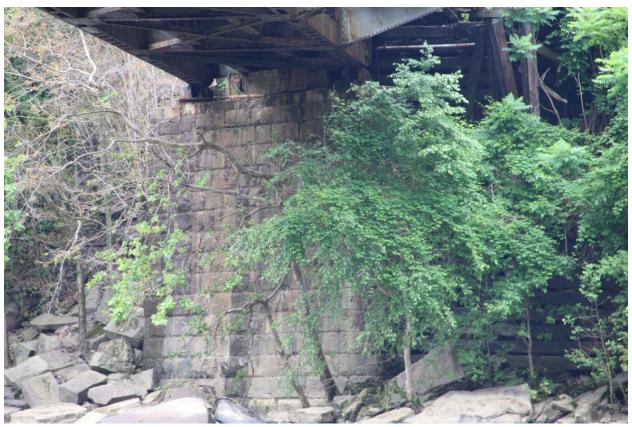


PHOTO 5: SUBSTRUCTURE UNIT: DETAIL OF NORTH STONE ABUTMENT (CA. 1890), FACING NORTHWEST.

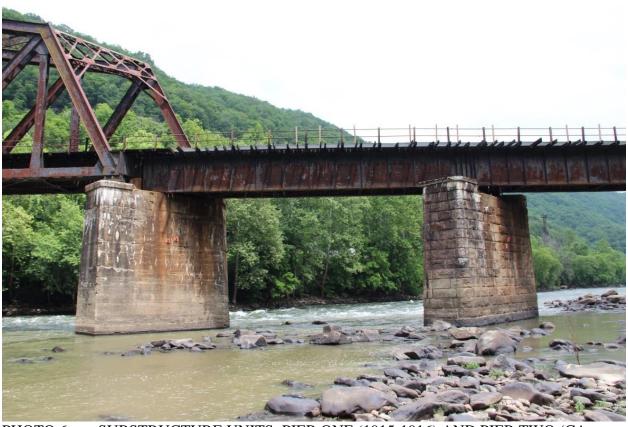


PHOTO 6: SUBSTRUCTURE UNITS: PIER ONE (1915-1916) AND PIER TWO (CA. 1890) AND SUPERSTRUCTURE UNIT: GIRDER SPAN TWO (CENTER), WEST ELEVATION, FACING SOUTHEAST.

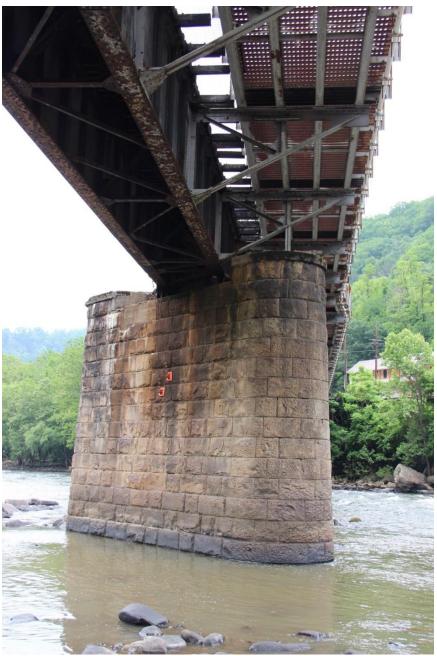


PHOTO 7: DETAIL OF PIER TWO (CA. 1890) SHOWING STONE CONSTRUCTION, FACING NORTH.



PHOTO 8: DETAIL OF PIER FOUR (1915-1916), SHOWING POURED CONCRETE CONSTRUCTION, FACING SOUTHWEST.



PHOTO 9: SUBSTRUCTURE UNITS: PIER TWO (CA. 1890), PIER THREE (1915-1916), AND PIER FOUR (1915-1916) AND SUPERSTRUCTURE UNITS: GIRDER SPANS THREE AND FOUR, WEST ELEVATION, FACING EAST.



PHOTO 10: SUBSTRUCTURE UNITS: PIER FOUR (1915-1916) AND PIER FIVE (CA. 1890) AND SUPERSTRUCTURE UNITS: GIRDER SPANS FOUR AND FIVE, WEST ELEVATION, FACING SOUTHEAST.



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PHOTO 12: DETAIL OF PIERS SEVEN (1915-1916), SIX (1915-1916), AND FIVE (CA. 1890), WEST ELEVATION, FACING NORTH.



PHOTO 13: SUBSTRUCTURE UNIT: SOUTH STONE ABUTMENT (CA. 1890), SHOWING STONE WING WALL AND POURED CEMENT CAP, FACING NORTH.



PHOTO 14: DETAIL OF RIVETED PLATE GIRDER IN SPAN 8, FACING NORTHEAST.



PHOTO 15: DETAIL OF UNDERSIDE OF TYPICAL GIRDER SPAN, FACING NORTH.



PHOTO 16: CANTILEVERED ROADWAY ALONG EAST ELEVATION OF BRIDGE SHOWING SOLID BRACKETS PROJECTING FROM TRUSS SPAN ONE AND OPEN BRACKETS PROJECTING FROM GIRDER SPAN TWO, FACING NORTHWEST.



PHOTO 17: DETAIL OF SOLID WEB BRACKETS PROJECTING FROM TRUSS SPAN ONE, FACING NORTHWEST.



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.

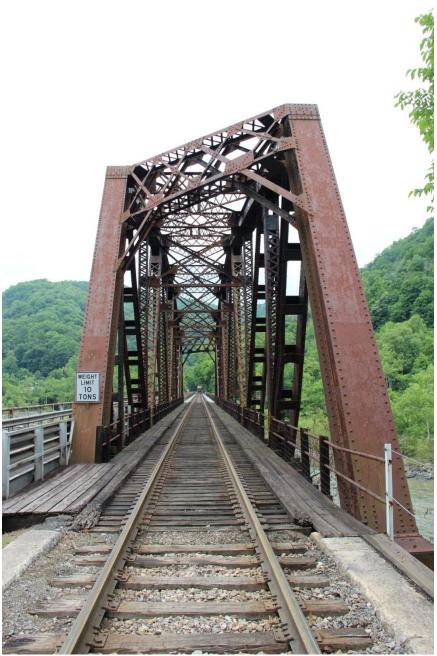


PHOTO 20: SKEWED NORTH PORTAL OF MAIN WARREN TRUSS SPAN, FACING SOUTH.

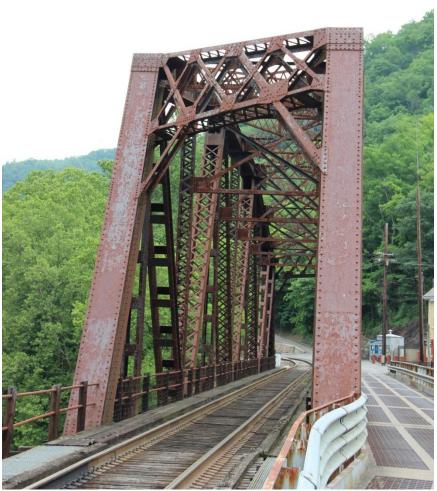


PHOTO 21: SKEWED SOUTH PORTAL OF MAIN WARREN TRUSS SPAN, FACING NORTH.



PHOTO 22: EAST PROFILE OF MAIN WARREN TRUSS SPAN, FACING NORTHWEST.



PHOTO 23: EAST PROFILE OF MAIN WARREN TRUSS SPAN, FACING SOUTHWEST.

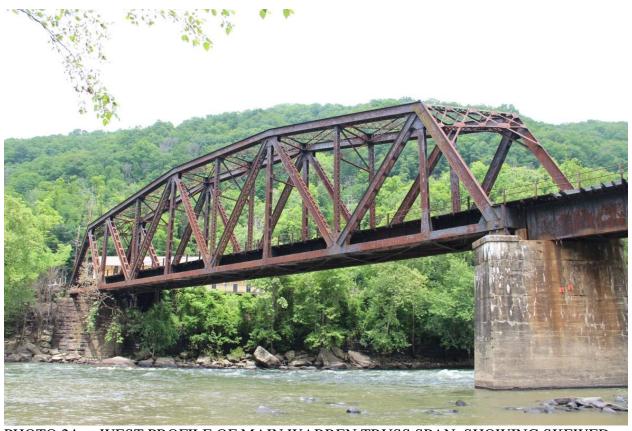


PHOTO 24: WEST PROFILE OF MAIN WARREN TRUSS SPAN, SHOWING SKEWED SOUTH PORTAL, FACING NORTHEAST.

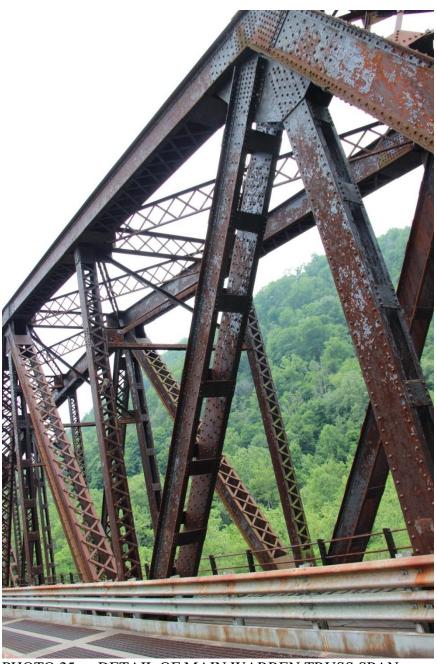


PHOTO 25: DETAIL OF MAIN WARREN TRUSS SPAN SHOWING VERTICAL AND DIAGONAL MEMBERS, TOP CHORD, AND CROSS BRACING, FACING SOUTHWEST.



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 EAST PROFILE OF MAIN WARREN TRUSS SPAN SHOWING TOP CHORD, VERTICAL AND DIAGONAL MEMBERS, AND GUSSET PLATE CONNECTIONS, FACING SOUTHWEST.

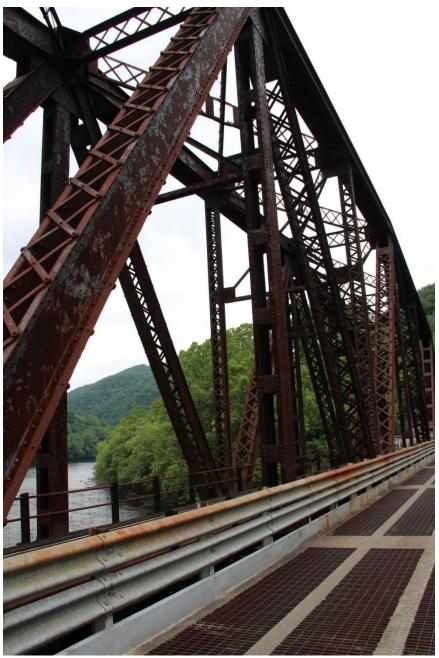


PHOTO 28: DETAIL OF MAIN WARREN SPAN SHOWING LATTICE BRACED DIAGONAL MEMBERS AND CROSS BRACING, FACING NORTHWEST.



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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 35: STANDARD RAILROAD DESIGN HANDRAIL ALONG WEST SIDE OF BRIDGE, FACING WEST.



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.

# HISTORIC RECORDATION ATTACHMENTS

- PROJECT MAPPING
- ORIGINAL DRAWINGS
- MEMORANDUM OF AGREEMENT

## PROJECT MAPPING

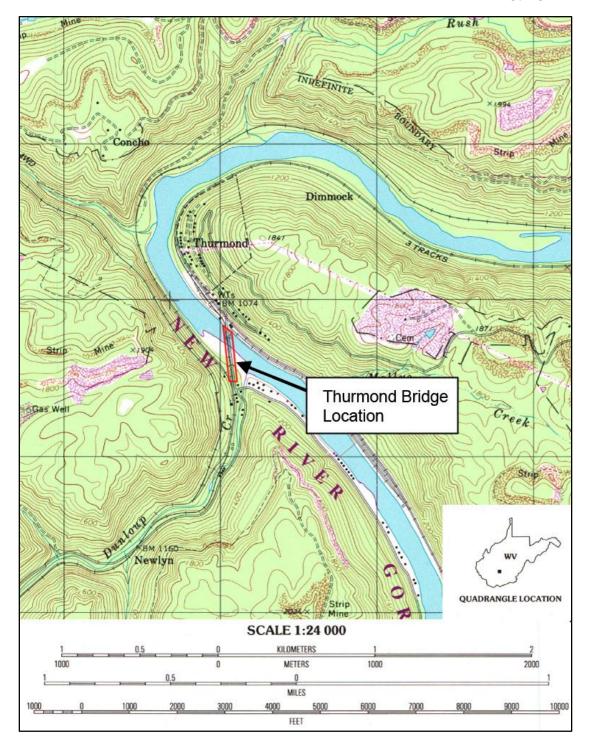


Figure 2: Location of Thurmond Bridge depicted on the 1969 (photorevised 1997) *Thurmond, West Virginia*, United States Geological Survey 7.5 minute topographic map.

# ORIGINAL DRAWINGS

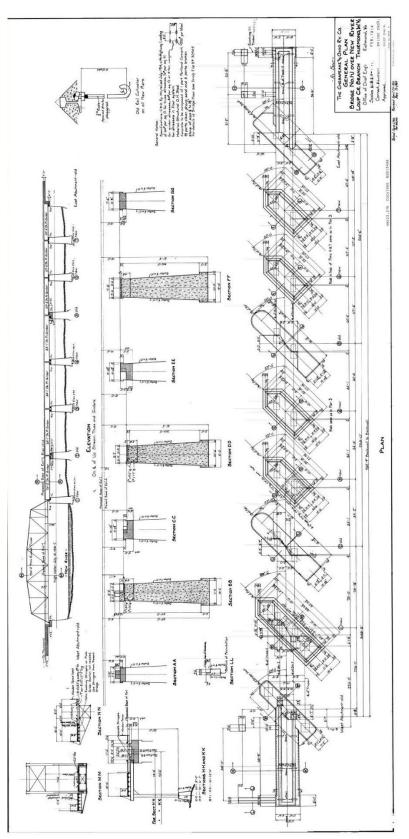


Figure 3: Profile view of bridge from original plans (1914, rev. 1915).

#### MEMORANDUM OF AGREEMENT

# MEMORANDUM OF AGREEMENT BY AND AMONG THE WEST VIRGINIA STATE HISTORIC PRESERVATION OFFICER AND THE WEST VIRGINIA DIVISION OF HIGHWAYS REGARDING IMPLEMENTATION OF THE THURMOND BRIDGE REHABILITATION PROJECT STATE PROJECT #S310-25/2-0.10 FEDERAL PROJECT #BR-0252(001)D FAYETTE COUNTY, WEST VIRGINIA NOVEMBER 2015

WHEREAS, the West Virginia Division of Highways (WVDOH) proposes to rehabilitate Thurmond Bridge, which spans the New River in Fayette County, hereinafter referred to as the Project. The improvements involve the stabilization, strengthening, and repair of the bridge; and also incorporates the addition of refuge bays on the upstream side of the bridge; and

WHEREAS, the WVDOH has determined that the Project will have an adverse effect upon the Thurmond Bridge, a property eligible for the National Register of Historic Places (NRHP) under Criterion C; and

WHEREAS, the WVDOH has consulted with the West Virginia State Historic Preservation Officer (WVSHPO) pursuant to West Virginia Code Chapter 29, Article 1 and its implementing regulations (82 CSR 2), as well as 36 CFR Part 800.5 Implementing Section 106 of the National Historic Preservation Act; (16 U.S.C., 470f); and

WHEREAS, the WVDOH has determined that the Project will not affect archaeological properties;

**WHEREAS**, the WVDOH contacted the Preservation Alliance of West Virginia, and Fayette County Historic Landmark Commission regarding the Project. No response was received from these groups.

**NOW, THEREFORE**, the WVSHPO and the WVDOH agree that the undertaking will be implemented in accordance with the following stipulations in order to take into account the effects of the undertaking on historic properties.

#### **STIPULATIONS**

The WVDOH shall ensure that the following stipulations are carried out:

#### Thurmond Bridge

 Thurmond Bridge will be documented in its present historic setting. The documentation package will include 5"x7" black and white digital prints in accordance

#### MEMORANDUM OF AGREEMENT

Thurmond Bridge Rehabilitation Memorandum of Agreement Page - 2 --

with the National Register of Historic Places and National Historic Landmarks Survey Photo Policy Expansion of May 2013.

- II. The rehabilitation of the bridge is part of the mitigation to save this historic structure. Refuge bays are being added for safety for the public at the request of the National Park Service. Plans have been submitted to the State Historic Preservation Office and have been approved.
- III. 500 color brochures of the Thurmond Bridge will be developed by WVDOH and distributed to the National Park Service and the Town of Thurmond. A CD containing the brochure will also be given to the groups to print brochures when the original total has been exhausted. The WVSHPO will be given the opportunity to review all materials developed for this stipulation.
- IV. The Thurmond Bridge will be featured on a future website listing historic bridges under rehabilitated bridges.

#### V. Duration

This MOA will expire if its stipulations are not carried out within five (5) years from the date of its execution. At such time, and prior to work continuing on the undertaking, the WVDOH shall execute a MOA pursuant to 82 CSR 2.5.4.d. Prior to such time, WVDOH may consult with other signatories to reconsider the terms of the MOA and amend it in accordance. WVDOH shall notify the signatories as to the course of action it will pursue.

#### VI. Post-Review Discoveries

If any unanticipated discoveries of historic properties or archaeological sites, including human burial sites and/or skeletal remains, are encountered during the implementation of this undertaking, work shall be suspended in the area of the discovery until the WVDOH has developed and implemented an appropriate treatment plan in consultation with the WVSHPO pursuant to 36 CFR 800.13 (b).

#### VII. Monitoring and Reporting

Each year following the execution of this MOA until it expires or is terminated, WVDOH shall provide all parties to this MOA a summary report detailing work carried out pursuant to its terms. Such report shall include any scheduling changes proposed, any problems encountered, and any disputes and objections received in WVDOH's efforts to carry out the terms of this MOA.

#### MEMORANDUM OF AGREEMENT

Thurmond Bridge Rehabilitation Memorandum of Agreement Page - 3 –

#### VIII. Amendments

This MOA may be amended when such an amendment is agreed to in writing by all signatories. The amendment will be effective on the date a copy signed by all of the signatories is filed with the SHPO.

#### IX. Termination

If any signatory to this MOA determines that its terms will not or cannot be carried out, that party shall immediately consult with the other parties to attempt to develop an amendment per Stipulation VIII, above. If within thirty (30) days (or another time period agreed to by all signatories) an amendment cannot be reached, any signatory may terminate the MOA upon written notification to the other signatories.

Once the MOA is terminated, and prior to work continuing on the undertaking, WVDOH must execute a MOA pursuant to 82 CSR 2.5.4.d.

**EXECUTION** of the Memorandum of Agreement by the WVSHPO and the WVDOH, and implementation of its terms evidence that the WVDOH has afforded the SHPO an opportunity to comment on the Thurmond Bridge Rehabilitation project and its effects on historic properties, and that the WVDOH has taken into account the effects of the undertaking on the historic property.

## MEMORANDUM OF AGREEMENT

Thurmond Bridge Rehabilitation Memorandum of Agreement Page - 4 –

# Signatories Page

Federal Highway Administration	Date
West Virginia Deputy State Historic Preservation Officer	///20/15 Date
APPROVED:	
Advisory Council on Historic Preservation	Date
CONCUR:	
Garl d. Mostly 2	11/23/15
West Virginia Division of Highways	Date

# THURMOND BRIDGE | Fayette County, WV MEMORANDUM OF AGREEMENT

Thurmond Bridge Rehabilitation Memorandum of Agreement Page - 5 --

Signatories Page #2

Patricia Sicklighted

11-24-2015

Date

# THURMOND BRIDGE | Fayette County, WV MEMORANDUM OF AGREEMENT

Thurmond Bridge Rehabilitation Memorandum of Agreement Page - 6 –

Signatories Page #3

Town of Thurmond

Date