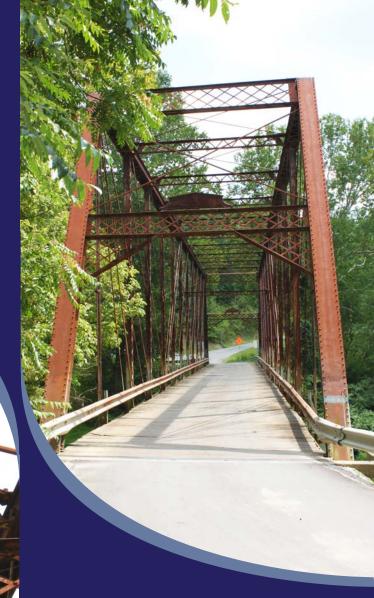
what Historical Services Unit does

- Research and Write Historic 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





adaline Orice marshall county

adaline County DE



Adaline Bridge History

The Wrought Iron Bridge Company was a prolific builder of iron truss bridges in the late 1800s. In 1900 Wrought Iron Bridge Company was consolidated by JP Morgan with 27 other firms to form the American Bridge Company. Most of the bridges were short spans used for highway use. The Adaline Bridge was a common design type for the company. Although the bridge has been repaired, it has retained its integrity as a good example of a pin connected Whipple thru truss. The Whipple Truss design was first used in 1841 and was the first metal truss based on scientific principles. It was the first type of metal truss that was widely used. The bridge was surveyed by K.M. Jourdan in 1993 and was rated as eligible for the National Register. The Adaline Bridge is eligible for the National Register under Criterion C for its association with a significant bridge builder and design.

Location: County Route 74, spanning Fish Creek **Type:** Simple Span Pin Connected Whipple Thru Truss

Length: 170 feet (truss); 39 feet (deck girder)

Year constructed: 1892

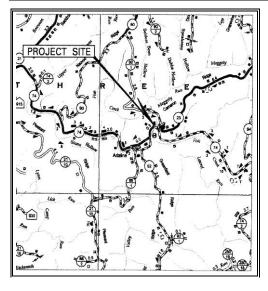
Contractor: Wrought Iron Bridge Co. of Canton, Ohio

Internal Rating: _____



WEST VIRGINIA HISTORIC PROPERTY INVENTORY FORM

Street Address	Common/Historic Name/Both	Field Survey #	Site # (SHPO Only)
Located along County Route 74, approximately 0.09 miles west of County Route 23, spanning Fish Creek.	Adaline Bridge	HPI #1	
Town or Community	County	Negative No.	NR Listed Date
Adaline	Marshall		
Architect/Builder	Date of Construction	Style (SHPO Only)	
Wrought Iron Bridge Company	1892		
Exterior Siding / Materials	Roofing Material	Foundation	
Simple Span Pin Connected Whipple Thru Truss	Deck Material: Timber	Abutments: Cut Stone	
Property Use or Function	UTM Zone17 NAD 1983		
Transportation	Easting 0530451E Northing 4402069N		
	Quadrangle Name		
Survey Organization & Date WVDOH	Glen Easton		
October 10, 2012	Part of What Survey / FR# State County Route S326-74-18.50		





Name: Adaline Bridge Survey #:HPI #1 Survey / FR#: State County Route: S326-74-18.50

Present Owners WVDOH	Owners Mailing Address Building 5, Capitol Complex Charleston, WV 25305
	Chancolon, VV 2000
Describe Setting	Unknown<1 Acres Archaeological Artifacts Present
The bridge is located in Adaline, a rural area of Marshall County. County Route 23 and spans Fish Creek.	It is located on County Route 74, approximately 0.09 miles west of
Description of Buildings or Site (Original and Present)	Stories Front Bays
The structure is a simple span pin connected Whipple thru-truss br Wrought Iron Bridge Company of Canton, Ohio. The deck is timbe bridge is 194.5 feet long and the roadway width is 15.3 feet. The be 100 vehicles per day.	
Alterations ☑ Yes ☐ No If yes, describe 1973: Endposts repaired with plates. 1974: Section of deck replaced. 1975: Floorbeams repaired with plates. 1977: Section of L12 bearing stone removed and repaired with cordinates. 1980: Stringers and floorbeams replaces. Angle diaphragms, loop 1984: Diameter rods added to diagonals on trusses and plates were 1997: Deck replaced and vertical post holes plated. 1998: Steel bars and diameter bars added. 1999: Deck boards replaced. 2006: Deck boards replaced.	bars, bearing plates installed. Deck boards replaced.
Additions ☑ Yes ☐ No If yes, describe.	
1980: Guardrail has been fastened to the truss members.	
Describe All Outbuildings N/A	
Statement of Significance: See Continuation Sheet.	
Bibliographical References Carver, Martha. Tennessee's Survey Report for Historic Hig WVDOH Maintenance Division. WV Bridge Inspection Data	
Form Prepared By:	Date: October 11, 2012
Name/Organization: Randy Epperly III Address: WV Division of Highways Capitol Complex Building 5, Rm. 463 Charleston, WV 25305	
Phone #: 304-558-9385	

WEST VIRGINIA HISTORIC PROPERTY FORM CONTINUATION SHEET

Name: Adaline Bridge Survey Number: HPI #1

Project / FR#: State County Route: S326-74-18.50

Other than a general association with the history of the area, there is no reason to believe this structure is an important link to events or trends that have made a significant contribution to the broad patterns of our history. The Fish Creek Turnpike was located in this area but no remnants can be found in the project area. Very little information can be found on the Fish Creek Turnpike. This bridge was built after the turnpike's charter date of March 30, 1853. Adaline Bridge is not eligible for the National Register under Criterion A.

The Adaline Bridge is not associated with the significance of an individual or an individual's historic contribution. The bridge is not eligible under Criterion B.

The Adaline Bridge was built in 1892 by Wrought Iron Bridge Company. The company was a prolific builder of iron truss bridges in the late 1800s. In 1900 it was consolidated with 27 other firms in the American Bridge Company by JP Morgan. Most of the bridges were short spans for highway use.

Adaline Bridge is a simple span pin connected Whipple thru truss supported by cut stone abutments and has a timber deck. Bridge plates are located on the portal on each side of the bridge with the builder's name and Canton, Ohio. Although the bridge has had repairs, it has retained its integrity as a good example of a pin connected Whipple thru truss. The bridge was surveyed by K.M. Jourdan in July 1993 and was rated as eligible for the National Register. The Whipple Truss was first used in 1841 and was the first metal truss that was based on scientific principles. The Whipple Truss was the first metal truss that was widely used (Carver, 2008). Adaline Bridge is a good example of a Whipple Truss and is eligible for the National Register of Historic Places under Criterion C for work by a master builder and bridge design.

The Adaline Bridge does not contain any important information that will contribute to the understandings of human history or prehistory. The potential for information is minimal. Therefore the bridge is not eligible under Criterion D.



WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

Division of Highways

1900 Kanawha Boulevard East • Building Five • Room 110 Charleston, West Virginia 25305-0430 • (304) 558-3505

Paul A. Mattox, Jr., P. E. Secretary of Transportation/Commissioner of Highways

April 29, 2014

Ms. Susan Pierce, Deputy State Historic Preservation Officer Division of Culture and History 1900 Kanawha Boulevard, East Charleston, West Virginia 25305

Dear Ms. Pierce:

Earl Ray Tomblin

Governor

State Project: S326-74-18.50 Federal Project: N/A Adaline Bridge Marshall County, West Virginia

Attached, in accordance with the Memorandum of Agreement (MOA) Stipulations I and II is the State Level Historic Documentation for the Adaline Bridge. Also attached is a CD-ROM of the documentation. Upon concurrence a copy will be given to the Moundsville-Marshall County Public Library in Moundsville as stated in Stipulation I of the MOA.

Should you have any questions, please do not hesitate to contact Randy Epperly of our Environmental Section at (304) 558-9385.

Very truly yours,

Ben 2 Hach

Ben L. Hark Section Head

Environmental Section

Engineering Division

H:k

Attachments

Bcc: DDE (RE)

State Level Historic Documentation Report

State Project No. S326-74-18.50

Adaline Bridge Marshall County



Prepared by:

Randy Epperly III, Historian

Department of Transportation Division of Highways Engineering Division Environmental Section

STATE LEVEL HISTORIC DOCUMENTATION ADALINE BRIDGE

Location:

County Route 74, over Fish Creek

Marshall County West Virginia

USGS Glen Easton Quadrangle

Date of Construction: 1892

Builder:

Wrought Iron Bridge Company

Present Owner:

West Virginia Department of Transportation

Division of Highways

1900 Kanawha Boulevard, Building 5, Room A-110

Charleston, WV 25305

Present Use:

Vehicular Bridge

Significance:

The Adaline Bridge is eligible under Criterion C of the National Register of Historic Places for its significance as a good example of a pin connected Whipple Truss design and the work of a master builder, Wrought Iron Bridge Company.

Project Information:

The project has been undertaken due to the poor condition of the superstructure and its narrow width. The project will allow trucks to better negotiate the approaches. The existing bridge warrants replacement. The documentation was undertaken in April 2014 in accordance with a Memorandum of Agreement among the West Virginia Department of Transportation and West Virginia State Historic Preservation Office. These measures are required prior to replacement of this National Register eligible structure.

Randy Epperly III, Historian West Virginia Division of Highways Charleston, WV 25305

April 29, 2014

The Adaline Bridge carries County Route 74 over Fish Creek in Marshall County near the town of Adaline. It was built in 1892, by the Wrought Iron Bridge Company. No original plans were found for the bridge. The bridge is eligible under Criterion C of the National Register of Historic Places as a significant example of a pin-connected Whipple Truss design and its association with Wrought Iron Bridge Company, a master builder.

Adaline Bridge is a steel, pin-connected, Whipple through truss supported by cut stone abutments. The overall length is 194 feet 6 inches and the width between the railings is 15 feet 4 ½ inches. The truss has a 12 foot 6 inch minimum vertical clearance restriction for a 10 foot wide wheel path. It is posted for 10 ton weight limit. The bridge has a wood deck and steel guardrail is fastened to the truss members. The average daily traffic on the bridge is 100 vehicles per day. Bridge plates are located on the portal of each side of the bridge showing the builder's name and Canton, Ohio (WVDOH Bridge Files).

Metal truss bridges evolved from the wooden truss bridges as stronger materials were needed for railroads and were first built using wrought iron. The Whipple Truss design was first used in 1841 and was the first metal truss based on scientific principles. It was the first type of metal truss that was widely used (Carver, 2008). Squire Whipple received a patent for a double intersection Pratt truss in 1847. Later J.W. Murphy improved the design by adding diagonals that crossed two panels and became known as Whipple-Murphy truss. This type was used in counties along the Ohio River (KCI, 2013). Adaline Bridge was surveyed by K.M. Jourdan in 1993 and was rated as eligible for the National Register. Although the bridge has been repaired through the years, it has retained its integrity as a good example of a pin-connected Whipple thru truss.

The Wrought Iron Bridge Company built a variety of styles of bridge and was a prolific builder of iron trusses in the late 1800s. In the 1870s they opened a fabricating plant in Canton, Ohio. Around 1901 Wrought Iron Bridge Company was consolidated by JP Morgan with 27 other firms to form the American Bridge Company. The Canton fabricating plant was closed in 1930 (Carver, 2008). Most of the company's bridges were short spans built for highway use. Adaline Bridge was a common design type for them.

BIBLIOGRAPHY

- Carver, Martha. <u>Tennessee's Survey Report for Historic Highway Bridges.</u> Tennessee DOT. 2008.
- KCI Technologies, Inc., and Mead & Hunt, Inc. <u>West Virginia Statewide Historic Bridge Survey:</u>
 Final Survey Report. "Volume 1-Survey Report and Historic Context." December 2013.
- West Virginia Division of Highways, Bridge Files, Maintenance Division, Building 5, Capitol Complex, Charleston, WV 25305.

STATE LEVEL HISTORIC DOCUMENTATION INDEX TO PHOTOGRAPHS

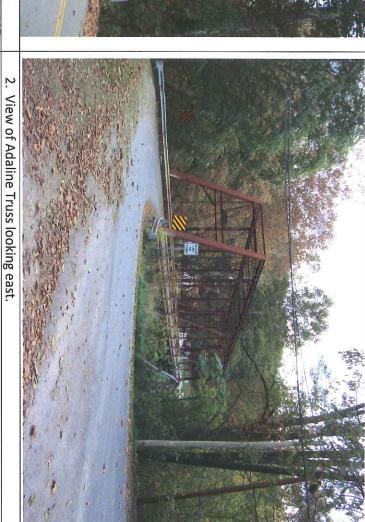
Adaline Bridge
County Route 74
Fish Creek
Marshall County, West Virginia

Photographer: Randy Epperly October 2012

ADALINE BRIDGE-1	View of Adaline Truss looking west.
ADALINE BRIDGE-2	View of Adaline Truss looking east.
ADALINE BRIDGE-3	View of Adaline Truss looking east.
ADALINE BRIDGE-4	View of bridge builder plate and truss looking east.
ADALINE BRIDGE-5	View of bridge builder plate.
ADALINE BRIDGE-6	View of inside of truss looking west.
ADALINE BRIDGE-7	View of the wooden deck.
ADALINE BRIDGE-8	View of the top chords and bracing.
ADALINE BRIDGE-9	View of the hangers.
ADALINE BRIDGE-10	View of endpost connection.
ADALINE BRIDGE-11	View of pin connection.
ADALINE BRIDGE-12	View of cut stone abutment.



View of Adaline Truss looking west.

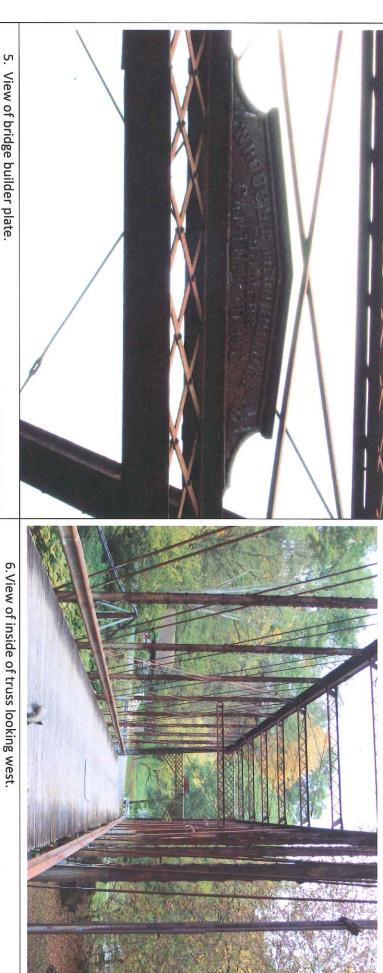




Adaline Truss looking east.

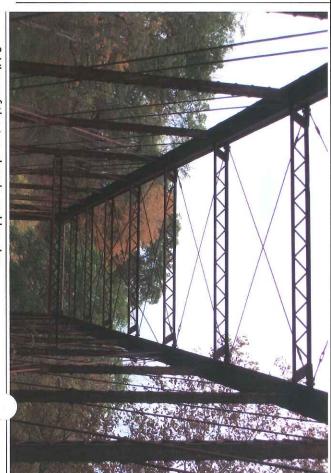
3. Viev





5. View of bridge builder plate.





8. View of the top chords and bracing.

of the wooden deck.





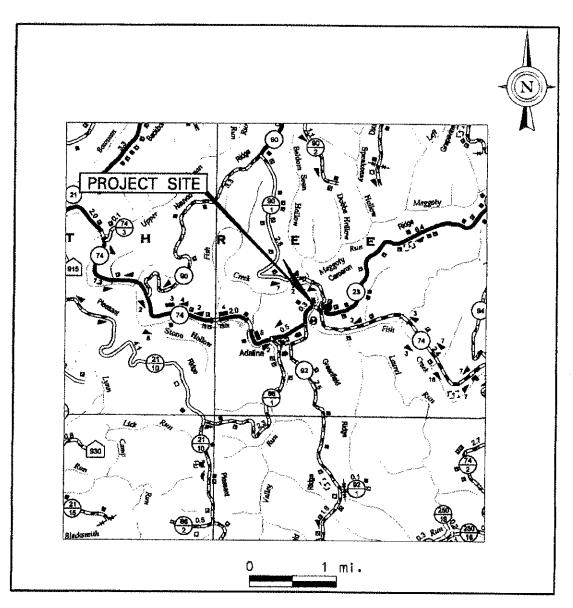


12. View of cut stone abutment.

/ of pin connection.

BRIDGE REPLACEMENT STUDY

ADALINE BRIDGE (26-74-18.50) STATE PROJECT NO. S326-74-18.50 MARSHALL COUNTY

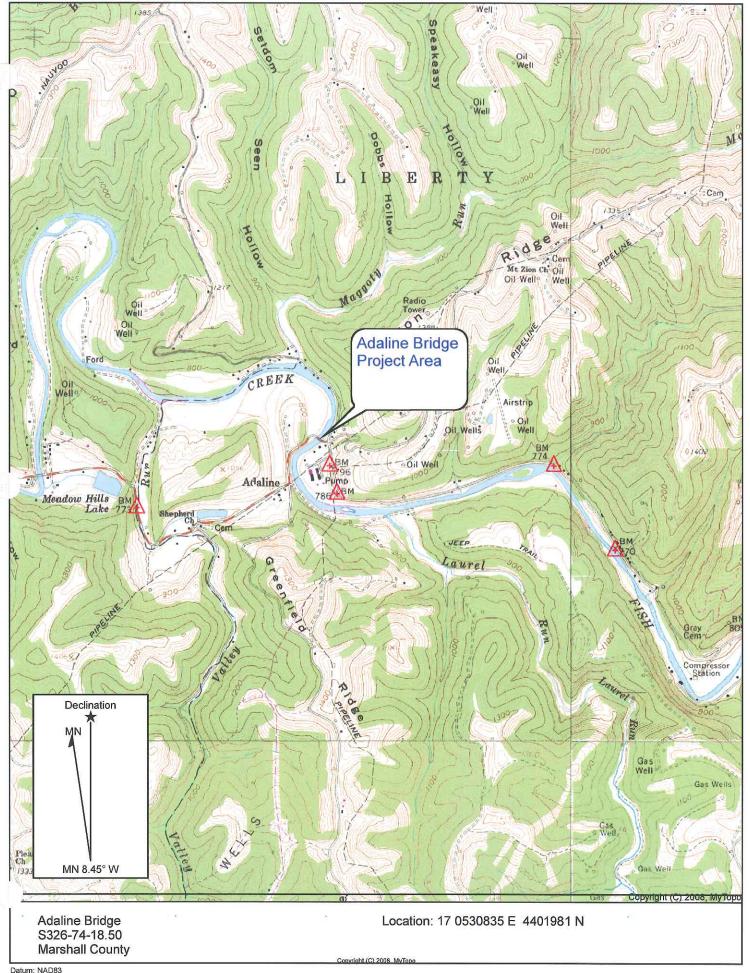


WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS
DISTRICT SIX BRIDGE DEPARTMENT

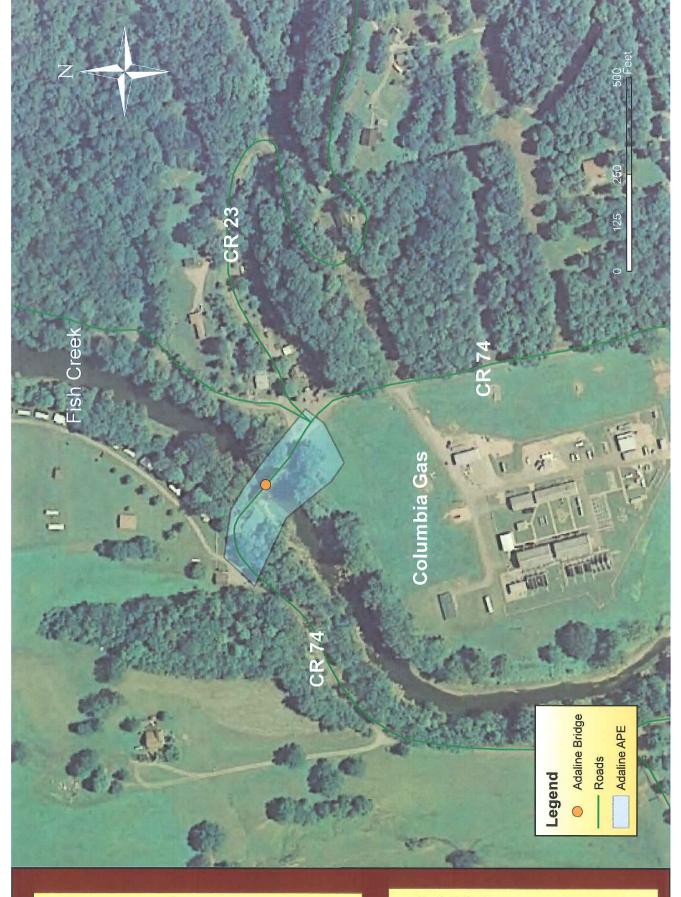
DISTRICT ENGINEER ASMIN

___ DATE /2-/-//



West Virginia Division of Highways
Engineering Division
Environmental Section
Randy Epperly
October 17, 2012

Adaline Bridge Marshall County S326-74-18.50



MEMORANDUM OF AGREEMENT BY AND AMONG

THE WEST VIRGINIA STATE HISTORIC PRESERVATION OFFICER AND THE WEST VIRGINIA DIVISION OF HIGHWAYS REGARDING IMPLEMENTATION OF THE ADALINE BRIDGE REPLACEMENT PROJECT STATE PROJECT #S326-74-18.50 MARSHALL COUNTY, WEST VIRGINIA FEBRUARY 2014

WHEREAS, the West Virginia Division of Highways (WVDOH) proposes to replace Adaline Bridge, which spans Fish Creek in Marshall County, hereinafter referred to as the Project. The improvements involve the construction of a new bridge and the removal of the existing bridge using state funds; and

WHEREAS, the WVDOH has determined that the Project will have an adverse effect upon the Adaline 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, Coal Heritage Authority, Marshall County Historical Society, and Marshall County 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:

Adaline Bridge

I. Adaline Bridge will be documented in its present historic setting. The documentation package will include 5"x7" black and white digital prints in accordance with the National Register of Historic Places and National Historic Landmarks Survey Photo Policy Expansion of March 2005. Also, the documentation will be sent to the

Adaline Bridge Replacement Memorandum of Agreement Page - 2 —

Moundsville-Marshall County Public Library in Moundsville, West Virginia.

- II. A brief history of the structure will be included along with fully completed West Virginia Historic Property Inventory forms and copies of plan sheets and drawing of the bridge from WVDOH bridge files if they are available.
- III. A brochure of the Adaline Bridge will be developed by WVDOH and distributed to the Moundsville-Marshall County Public Library in Moundsville, and Marshall County Historical Society. The WVSHPO will be given the opportunity to review all educational materials developed for this stipulation.
- IV. The bridge will be documented on a future website listing historic bridges once the WV Historic Bridge Survey is complete.

V. <u>Duration</u>

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.

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.

Adaline Bridge Replacement Memorandum of Agreement Page - 3 –

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 Adaline Bridge Replacement project and its effects on historic properties, and that the WVDOH has taken into account the effects of the undertaking on the historic property.

West Virginia Division of Highways

Date

West Virginia Deputy State Historic Preservation Officer

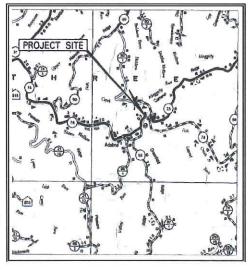
Date

Internal	Rating:	
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WEST VIRGINIA HISTORIC PROPERTY INVENTORY FORM

Street Address Located along County Route 74, approximately 0.09 miles west of County Route 23, spanning Fish Creek. Town or Community Adaline	Common/Historic Name/Both Adaline Bridge County Marshall	Field Survey # HPI #1 Negative No.	Site # (SHPO Only) NR Listed Date
Architect/Builder Wrought Iron Bridge Company	Date of Construction 1892	Style (SHPO Only)	
Exterior Siding / Materials Simple Span Pin Connected Whipple Thru Truss	Roofing Material Deck Material: Timber	Foundation Abutments: Cut Stone	
Property Use or Function Transportation Survey Organization & Date WVDOH	UTM Zone17 NAD 1983 Easting 0530451E Northing 4402069N Quadrangle Name Glen Easton		
October 10, 2012	Part of What Survey / FR# State County Route S326-74-18.50		





Name: Adaline Bridge Survey #:HPI #1 Survey / FR#: State County Route: S326-74-18.50

Present Owners WVDOH		Owners Mailing Address Building 5, Capitol Complex Charleston, WV 25305
Describe Setting		Unknown<1 Acres ☐ Archaeological Artifacts Present
The bridge is located County Route 23 and		It is located on County Route 74, approximately 0.09 miles west of
Description of Bui	Idings or Site (Original and Present)	Stories Front Bays
Wrought Iron Bridge C	Company of Canton, Ohio. The deck is timbe	idge supported by cut stone abutments. It was built in 1892 by the r and there is guardrail fastened to the truss members. The ridge is posted for 10 ton weight limit. The average daily traffic is
1980: Stringers and fi 1984: Diameter rods	red with plates. replaced. paired with plates. bearing stone removed and repaired with corporate with a corporate with	ncrete. b bars, bearing plates installed. Deck boards replaced. Ided to top chord channels. Stock welded to verticals.
	es No If yes, describe. een fastened to the truss members.	
Describe All Outbu N/A	uildings	
Statement of Signi See Continuation She	et.	
	ferences nnessee's Survey Report for Historic Hig ce Division. WV Bridge Inspection Data	
Form Prepared By		Date: October 11, 2012
Name/Organization Address:	Randy Epperly III WV Division of Highways Capitol Complex Building 5, Rm. 463 Charleston, WV 25305	
Phone #:	304-558-9385	

WEST VIRGINIA HISTORIC PROPERTY FORM CONTINUATION SHEET

Name: Adaline Bridge Survey Number: HPI #1

Project / FR#: State County Route: S326-74-18.50

Other than a general association with the history of the area, there is no reason to believe this structure is an important link to events or trends that have made a significant contribution to the broad patterns of our history. The Fish Creek Turnpike was located in this area but no remnants can be found in the project area. Very little information can be found on the Fish Creek Turnpike. This bridge was built after the turnpike's charter date of March 30, 1853. Adaline Bridge is not eligible for the National Register under Criterion A.

The Adaline Bridge is not associated with the significance of an individual or an individual's historic contribution. The bridge is not eligible under Criterion B.

The Adaline Bridge was built in 1892 by Wrought Iron Bridge Company. The company was a prolific builder of iron truss bridges in the late 1800s. In 1900 it was consolidated with 27 other firms in the American Bridge Company by JP Morgan. Most of the bridges were short spans for highway use.

Adaline Bridge is a simple span pin connected Whipple thru truss supported by cut stone abutments and has a timber deck. Bridge plates are located on the portal on each side of the bridge with the builder's name and Canton, Ohio. Although the bridge has had repairs, it has retained its integrity as a good example of a pin connected Whipple thru truss. The bridge was surveyed by K.M. Jourdan in July 1993 and was rated as eligible for the National Register. The Whipple Truss was first used in 1841 and was the first metal truss that was based on scientific principles. The Whipple Truss was the first metal truss that was widely used (Carver, 2008). Adaline Bridge is a good example of a Whipple Truss and is eligible for the National Register of Historic Places under Criterion C for work by a master builder and bridge design.

The Adaline Bridge does not contain any important information that will contribute to the understandings of human history or prehistory. The potential for information is minimal. Therefore the bridge is not eligible under Criterion D.