

whatHistoricalServicesUnitdoes

- 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

contactus

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



meighen
bridge
marshall county



Meighen Bridge History

Meighen Bridge is located on County Route 74 in Marshall County and spans Fish Creek. The bridge consists of a center span that is a 160 foot Pratt Camelback Through Truss and two 30 foot approach spans. It is supported by two concrete abutments and two concrete filled steel caisson bents. The overall length is 222 feet 6 inches and the deck width is 16 feet. The deck is 12 x 4 laminated wood deck. The bridge is eligible for the National Register of Historic Places under Criterion C for its engineering significance and association with a bridge builder distinguishable within West Virginia.

The bridge was built in 1913 by the York Bridge Company of York, Pennsylvania. They were known primarily for their fabrication of metal bridges. The company was most proficient between 1903 and 1917, after which it became York Bridge and Construction Company.

Location: County Route 74 in Marshall County and spans Fish Creek

Type: Pratt Camelback Through Truss

Length: 222 feet 6 inches

Year constructed: 1913

Contractor: York Bridge Co. of York, PA

West Virginia Historic Bridge Inventory Form

Bridge No. 26-074/00-010.23 BARS No. 26A052 Federal Bridge No. 00000000026A052 Bridge Design No. 7549.0

IDENTIFICATION INFORMATION

SHPO Survey No. MR-0104 Owner State Highway Agency
Local Name MEIGHEN BRIDGE Status Extant - in service
Other Local Name

LOCATIONAL AND SETTING INFORMATION

District 06 County Marshall Latitude 39470600 Longitude 080431200
Location 0.08 MI WEST JCT CR 21/3 UTM-Northing
Facility Carried By Structure COUNTY ROUTE 74 UTM-Easting
UTM Zone
Features Intersected FISH CREEK Surrounding Land Use Agricultural
Type of Development Rural - (undeveloped area outside communities)

STRUCTURAL INFORMATION

Main Span Type Steel Truss - Through/Pin Connected Structure Length (ft) 222
Main Span Type Code 331 Length of Maximum Span (ft) 160
Number of Spans in Main Unit 001 Average Daily Traffic 000100 Year 2002
Number of Approach Spans 0002 Sufficiency Rating 0132 Skew 00
(Note: Data current as of April 2006 database)

BRIDGE DESCRIPTIVE INFORMATION

Year Built 1913 Arrangement Through
Year Reconstructed Connection Type Pin/bolt
Truss Bridge Type Camelback Truss Details
Alteration(s) Date of Alterations (Year)
Others 1982
Others 1989

Architectural Treatment(s) Bridge Plate Text
(1) plaque. "BUILT BY, YORK BRIDGE, COMPANY, YORK, PA, 1913"

BRIDGE HISTORY

Engineer or Designer Builder or Fabricator York Bridge Company

Bridge Plan Location Unknown

Additional Details: Timber deck and curbs with metal rail. Steel girder approach spans. Pin connections. Stone abutments and wingwall with steel column piers. According to inspection files, the bottom chord members and top chord laterals were replaced in 1982 and in 1989 the lower chord eye bars in Panels 3 through 6 and the L2U1 upstream diagonal were replaced. Field observations also noted bolt connections on replaced members, a new timber deck, and the stone substructure covered in concrete. This bridge is a Camelback through truss (innovation in design) designed or constructed by a national engineer or firm but is a typical example of a common configuration.

Bridge No.	26-074/00-010.23	BARS No.	26A052	Federal Bridge No.	0000000026A052	Bridge Design No.	7549.0
-------------------	------------------	-----------------	--------	---------------------------	----------------	--------------------------	--------

NATIONAL REGISTER EVALUATION INFORMATION

National Register Determination	Eligible	Reason Not Evaluated
--	----------	-----------------------------

National Register Determination Date	2013
---	------

This bridge is not eligible for the National Register under Criterion A as it does not have a significant association with an important historic transportation system, program, event, trend, or policy identified through contextual research and survey activities.

This bridge displays an important design innovation or construction technique that represents a variation, evolution, or transition in bridge construction.

This bridge was designed or constructed by a known regional or West Virginia-based engineer, architect, or firm whose work is recognized as distinguishable within the state of West Virginia.

Although this bridge has undergone alterations, it still retains the historic integrity necessary to convey its engineering significance and, therefore, is eligible for the National Register under Criterion C.



West Virginia Historic Bridge Inventory Form
Form Prepared By Mead & Hunt and KCI
Form Preparation Date 2013

State Level Historic Documentation Report

State Project No. S326-74-10.23
Federal Project No. BR-0074(017)D

Meighen Bridge Marshall County



Prepared by:

Randy Epperly III, Historian

Department of Transportation
Division of Highways
Engineering Division
Environmental Section

September 3, 2015

STATE LEVEL HISTORIC DOCUMENTATION

MEIGHEN BRIDGE

Location: County Route 74, spanning Fish Creek
Marshall County
West Virginia

USGS Glen Easton Quadrangle

Date of Construction: 1913

Builder: York 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 Meighen Bridge is eligible under Criterion C of the National Register of Historic Places for its engineering significance and association with a bridge builder distinguishable within West Virginia.

Project Information: The project has been undertaken due to the poor condition of the structure and its narrow width. The project will allow traffic, including trucks and buses, a safer structure to cross Fish Creek. The existing bridge warrants replacement. The documentation was undertaken in September 2015 in accordance with a Memorandum of Agreement among the Federal Highway Administration, West Virginia Department of Transportation, and West Virginia State Historic Preservation Office.

No original plans are available.

Randy Epperly, Historian
West Virginia Division of Highways
Charleston, WV 25305
September 3, 2015

The Meighen Bridge carries County Route 74 over the Fish Creek in Marshall County. It was built in 1913, by York Bridge Company of York, Pennsylvania. No original plans were found for the bridge. The bridge is eligible under Criterion C of the National Register of Historic Places for its engineering significance and association with a bridge builder distinguishable in West Virginia.

The Meighen Bridge pin connected Pratt Camel Back Thru Truss. The overall length is 222 feet 6 inches consisting of a 160 foot center truss span and two 30 foot approach spans (WVDOH Bridge Files). It is supported by two concrete abutments and two concrete filled steel caisson bents. The deck is 12x4 laminated wood with a double plated 2" x 6" set on 5.5" x 5.5" blocks serving as a curb with openings serving as scuppers. The average daily traffic is 100 vehicles per day and is posted for weight restrictions. The superstructure and substructure are rated as serious condition needing corrective action.

The Pratt truss bridge design was patented in 1844 by Thomas and Caleb Pratt. The design placed verticals in compression and diagonals in tension. This design spurred the metal bridges to overtake timber bridges. The Parker truss is a modified Pratt truss. The top chord is curved creating a lighter bridge without losing strength. The ends have less dead weight giving more strength in the center. The Camelback truss is a type of Parker truss that has a top chord with five slopes (KCI, 2015).

York Bridge Company was located in York, Pennsylvania and built metal truss bridges. The company built the majority of their bridges during the first two decades of the twentieth century. The specialized in Pratt through trusses and Pratt pony trusses. In 1917 the company changed its name to York Bridge and Construction Company. It is unknown when the company went out of business.

BIBLIOGRAPHY

KCI Technologies, Inc., and Mead & Hunt, Inc. West Virginia Statewide Historic Bridge Survey: Final Survey Report. April 2015.

West Virginia Division of Highways, Bridge Files, Maintenance Division, Building 5, Capitol Complex, Charleston, WV 25305. 2014.

York Bridge Company. Bradford County's Truss Bridges. Pennsylvania DOT.
www.skellyloy.com/bctb/bm.htm Retrieved 3 September 2015.

STATE LEVEL HISTORIC DOCUMENTATION
INDEX TO PHOTOGRAPHS

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

Photographer: Ginger Williford

SEPTEMBER 2010 & 2011

MEIGHEN BRIDGE-1	View of Meighen Bridge looking west.
MEIGHEN BRIDGE-2	View of Meighen Bridge looking east.
MEIGHEN BRIDGE-3	View of Meighen Bridge northwest.
MEIGHEN BRIDGE-4	View of Meighen Bridge looking southwest.
MEIGHEN BRIDGE-5	View of bridge plate.
MEIGHEN BRIDGE-6	View of pier.
MEIGHEN BRIDGE-7	View of truss from stream bank.
MEIGHEN BRIDGE-8	View of abutment.
MEIGHEN BRIDGE-9	View of vertical connection.

**MEMORANDUM OF AGREEMENT
BY AND AMONG
THE FEDERAL HIGHWAY ADMINISTRATION
THE WEST VIRGINIA STATE HISTORIC PRESERVATION OFFICE
AND THE WEST VIRGINIA DIVISION OF HIGHWAYS
REGARDING IMPLEMENTATION OF THE MEIGHEN BRIDGE
REPLACEMENT PROJECT
S326-74-10.23
BR-0074(017)D
MARSHALL COUNTY, WEST VIRGINIA
JULY 2015**

WHEREAS, the Federal Highway Administration (FHWA), in cooperation with the West Virginia Division of Highways (WVDOH), proposes to replace the Meighen Bridge, which spans Fish Creek in Marshall County, hereinafter referred to as the Project. The improvements involve the construction of a new one lane bridge upstream of the existing bridge and the removal of the existing bridge; and

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

WHEREAS, the FHWA has consulted with the West Virginia State Historic Preservation Officer (WVSHPO) pursuant to 36 CFR Part 800 Implementing Section 106 of the National Historic Preservation Act; (16 U.S.C., 470f); and

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

WHEREAS, the WVDOH contacted the Moundsville Historic Landmarks Commission and the Preservation Alliance of West Virginia regarding the Project. Neither group has chosen to respond.

WHEREAS, in accordance with 36 CFR 800.6 (a) (1), the FHWA has notified the Advisory Council on Historic Preservation (ACHP) of its adverse effect determination providing the specified documentation, and the ACHP has chosen not to participate in the consultation pursuant to 36 CFR 800.6 (a) (1) (iii);

NOW, THEREFORE, the FHWA, 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 FHWA shall ensure that the following stipulations are carried out:

Meighen Bridge

- I. The Meighen 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 January 2009.
- II. A brief history of the structure will be included along with fully completed West Virginia Historic Property Inventory forms and copies of any available plan sheets and drawings of the bridge from WVDOH bridge files
- III. West Virginia Division of Highways staff will provide Marshall County Public Library a copy of the Meighen Bridge State Level Historic Documentation for references and educational purposes.
- IV. 100 color brochures of the Meighen Bridge will be developed by the WVDOH and distributed to the Marshall County Public Library. The WVSHPO will be given the opportunity to review all educational materials developed for this stipulation. A CD containing the brochure will also be given to the library to print brochures when the original total has been exhausted.
- V. The Meighen Bridge will be documented on a future website listing historic bridges.

VI. 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 FHWA shall either (a) execute an MOA pursuant to 36 CFR 800.6, or (b) request, take into account, and respond to the comments of the ACHP under 36 CFR 800.7. Prior to such time, FHWA may consult with other signatories to reconsider the terms of the MOA and amend it in accordance with Stipulation X below. FHWA shall notify the signatories as to the course of action it will pursue.

VII. 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 800.13 (b).

VIII. Monitoring and Reporting

Each year following the execution of this MOA until it expires or is terminated, FHWA 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 FHWA's efforts to carry out the terms of this MOA.

IX. Dispute Resolution

Should any signatory or concurring party to this MOA object at any time to any actions proposed or the manner in which the terms of this MOA are implemented, FHWA shall consult with such party to resolve the objection. If FHWA determines that such objection cannot be resolved, FHWA will:

- A. Forward all documentation relevant to the dispute, including the FHWA's proposed resolution, to the ACHP. The ACHP shall provide FHWA with its advice on the resolution of the objection within thirty (30) days of receiving adequate documentation. Prior to reaching a final decision on the dispute, FHWA shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP, signatories and concurring parties, and provide them with a copy of this written response. FHWA will then proceed according to its final decision.
- B. If the ACHP does not provide its advice regarding the dispute within the thirty (30) day time period, FHWA may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, FHWA shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories and concurring parties to the MOA, and provide them and the ACHP with a copy of such written response.
- C. FHWA's responsibility to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remain unchanged.

X. 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 ACHP.

XI. 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 X, 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, FHWA must either (a) execute a MOA pursuant to 36 CFR 800.6, or (b) request, take into account, and respond to the comments of the ACHP under 36 CFR 800.7. FHWA shall notify the signatories as to the course of action it will pursue.

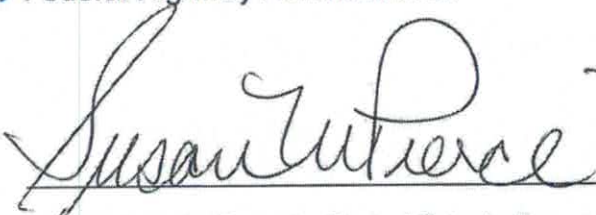
EXECUTION of the Memorandum of Agreement by the FHWA, WWSHPO, the WVDOT and the Council, and implementation of its terms evidence that the FHWA has afforded the Council an opportunity to comment on the Meighen Bridge Replacement project and its effects on historic properties, and that the FHWA has taken into account the effects of the undertaking on the historic property.

Meighen Bridge Replacement
Memorandum of Agreement
Page 5

Signatories Page


Federal Highway Administration

9/3/15
Date

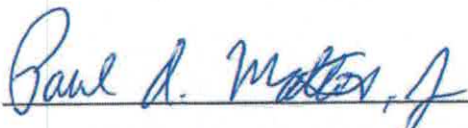

West Virginia Deputy State Historic Preservation Officer

8/4/15
Date

Advisory Council on Historic Preservation

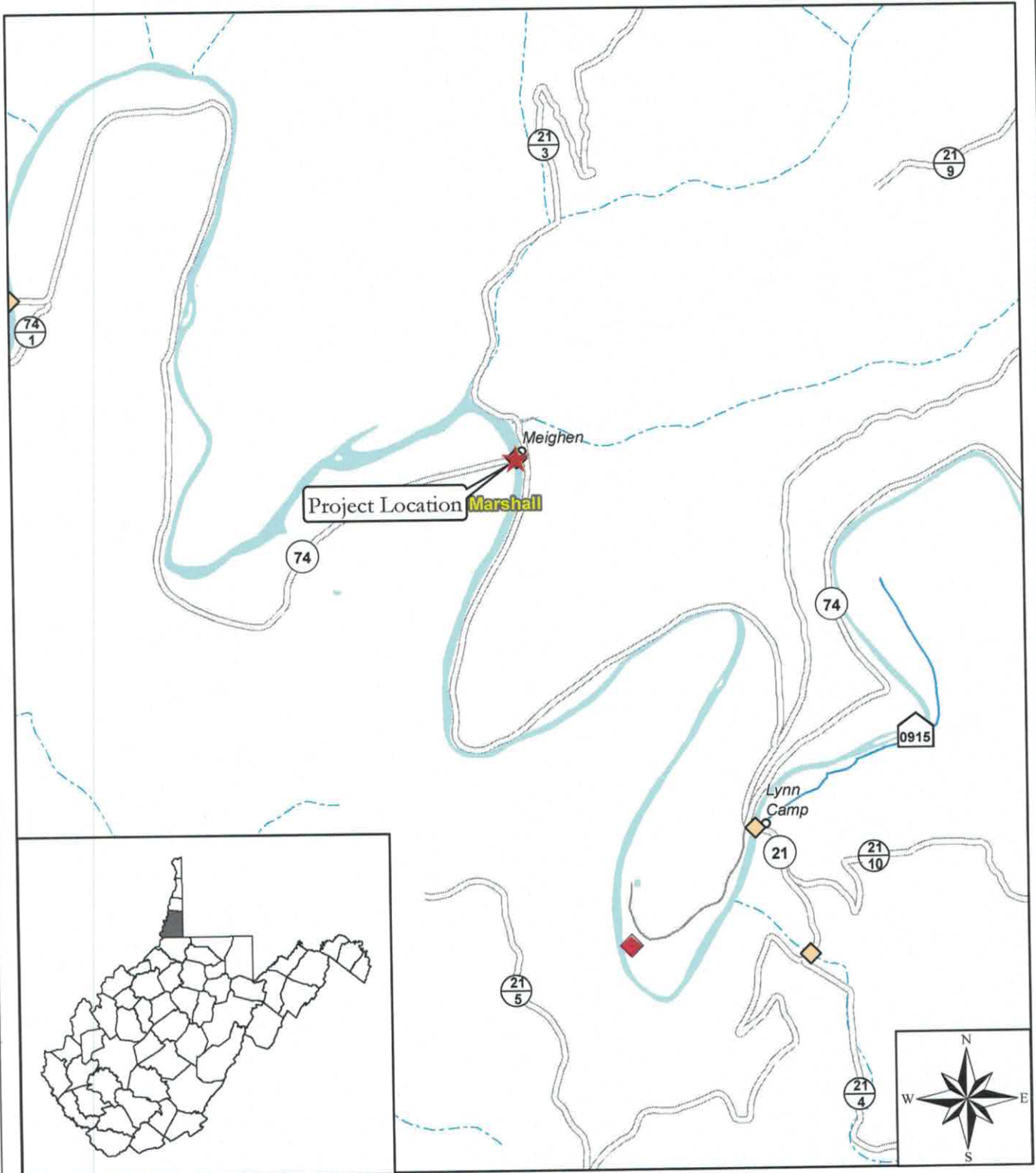
Date

CONCUR:

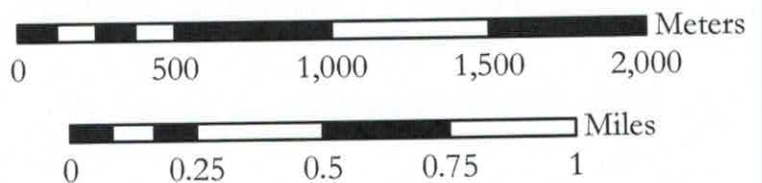

West Virginia Division of Highways

8/10/15
Date

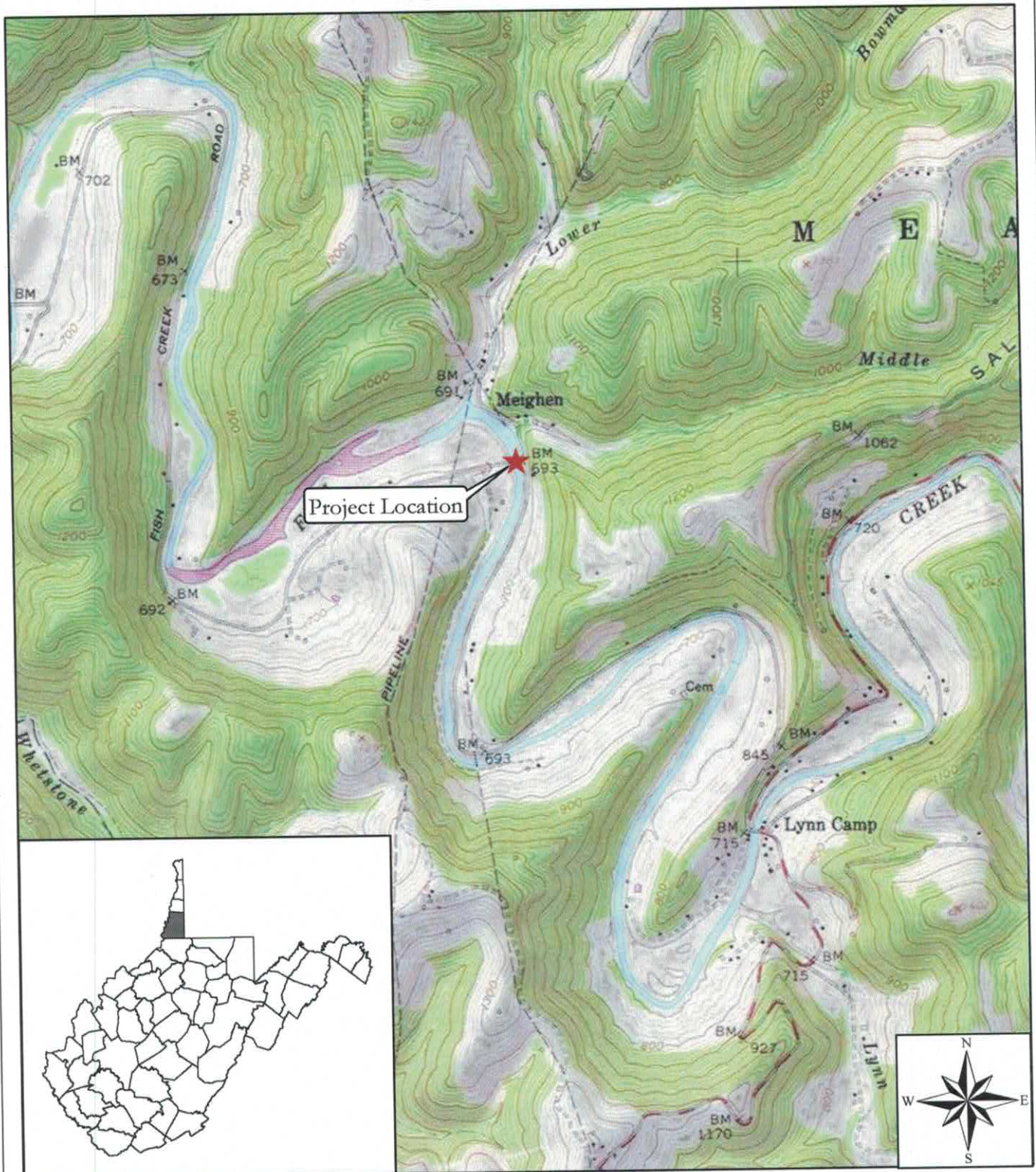
Meighen Bridge Replacement S226-74-10.23



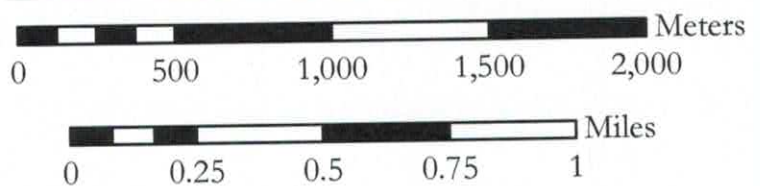
Marshall County
Glen Easton
7.5' Topographic Quadrangle



Meighen Bridge Replacement S326-74-10.23



Marshall County
Glen Easton
7.5' Topographic Quadrangle



West Virginia Historic Bridge Inventory Form

Bridge No. 26-074/00-010.23 BARS No. 26A052 Federal Bridge No. 00000000026A052 Bridge Design No. 7549.0

IDENTIFICATION INFORMATION

SHPO Survey No. MR-0104 Owner State Highway Agency
Local Name MEIGHEN BRIDGE Status Extant - in service
Other Local Name

LOCATIONAL AND SETTING INFORMATION

District 06 County Marshall Latitude 39470600 Longitude 080431200
Location 0.08 MI WEST JCT CR 21/3 UTM-Northing
Facility Carried By Structure COUNTY ROUTE 74 UTM-Easting
UTM Zone
Features Intersected FISH CREEK Surrounding Land Use Agricultural
Type of Development Rural - (undeveloped area outside communities)

STRUCTURAL INFORMATION

Main Span Type Steel Truss - Through/Pin Connected Structure Length (ft) 222
Main Span Type Code 331 Length of Maximum Span (ft) 160
Number of Spans in Main Unit 001 Average Daily Traffic 000100 Year 2002
Number of Approach Spans 0002 Sufficiency Rating 0132 Skew 00
(Note: Data current as of April 2006 database)

BRIDGE DESCRIPTIVE INFORMATION

Year Built 1913 Arrangement Through
Year Reconstructed Connection Type Pin/bolt
Truss Bridge Type Camelback Truss Details
Alteration(s) Date of Alterations (Year)
Others 1982
Others 1989

Architectural Treatment(s) Bridge Plate Text
(1) plaque. "BUILT BY, YORK BRIDGE, COMPANY, YORK, PA, 1913"

BRIDGE HISTORY

Engineer or Designer Builder or Fabricator York Bridge Company

Bridge Plan Location Unknown

Additional Details: Timber deck and curbs with metal rail. Steel girder approach spans. Pin connections. Stone abutments and wingwall with steel column piers. According to inspection files, the bottom chord members and top chord laterals were replaced in 1982 and in 1989 the lower chord eye bars in Panels 3 through 6 and the L2U1 upstream diagonal were replaced. Field observations also noted bolt connections on replaced members, a new timber deck, and the stone substructure covered in concrete. This bridge is a Camelback through truss (innovation in design) designed or constructed by a national engineer or firm but is a typical example of a common configuration.

Bridge No. 26-074/00-010.23

BARS No. 26A052

Federal Bridge No. 0000000026A052

Bridge Design No. 7549.0

NATIONAL REGISTER EVALUATION INFORMATION

National Register Determination

Reason Not Evaluated

National Register Determination Date

This bridge displays an important design innovation or construction technique that represents a variation, evolution, or transition in bridge construction. This bridge was designed or constructed by a known regional or West Virginia-based engineer, architect, or firm whose work is recognized as distinguishable within the state of West Virginia. Although this bridge has undergone alterations, it still retains the historic integrity necessary to convey its engineering significance and, therefore, is eligible for the National Register under Criterion C.



West Virginia Historic Bridge Inventory Form
Form Prepared By Mead & Hunt and KCI
Form Preparation Date 2011

GENERAL BRIDGE INFORMATION

BARS Number: 26A052

District: 06

County/Rt/Milepost: 26-074/00-010.23

County: Marshall

CRITERION A

Criterion A - Bridge has a significant association:

(If the bridge does not possess a significant association under Criterion A, the points field must be 0 and do not continue to integrity; only complete the Criterion A - bridge has an association section. Do not enter data in both the "significant association" and "association" fields)

Criterion A Integrity: (Complete both reason and point allocation, even if 0)

Design, Materials, Workmanship:

Major Alterations:

Minor Alterations:

Location:

Setting, Association, Feeling:

Major Alterations:

Minor Alterations:

Criterion A - Bridge has an association: (Only complete if bridge receives no data above):

Does the bridge have an association under Criterion A?:

Specific Associations:

Does the bridge retain integrity? (Yes/No)

Criterion A Significance Points:

Criterion A Integrity Points:

Criterion A Total Points:

Save Record

CRITERION C

Criterion C:

(Highlight Choices in Boxes Below)

Distinctive Characteristics:

0

Early period of use (2)

0

Above average main span length (2)

0

Continuous design (1)

0

Uncommon type, fabrication or design features (4)

Significant fabrication or design features (2)

2

Sig. innovation in design or construction technique (4)

Innovation in design or construction technique (2)

0

Significant technological advancement in materials (4)

Technological advancement in materials (2)

Represents work of a master:

2

Nationally recognized engineer, architect or firm (4)

Known regional or West Virginia-based engineer or firm (2)

DOH engineer with recognition (2)

High artistic value:

0

Displays at least one architectural treatment (2)

High artistic value in overall form and materials (4)

Criterion C Points - Must be 4 or greater to continue to integrity:

4

Criterion C Significance Codes (correspond to choices above) - Complete Only If Points are 4 or greater than 4 (Otherwise choose "NCS" in box 1) and click the "Save Record" button below:

1: C5B 2: C7B 3: 4: 5:

Criterion C Integrity: (Complete both reason and point allocation, even if 0)

Design, Materials, Workmanship:

Minor Alterations -2

Major Alterations:

Minor Alterations:

Location:

Original location 0

Description of Alterations:

Setting, Association, Feeling:

Retains integrity of setting/feeling/association 0

Description of Alterations:

Criterion C Significance Points - Must be 4 or greater than 4 to continue to integrity:

4

Criterion C Integrity Points:

-2

Criterion C Total Points:

2



Photo #1



Photo #2



Photo #3



Photo #4

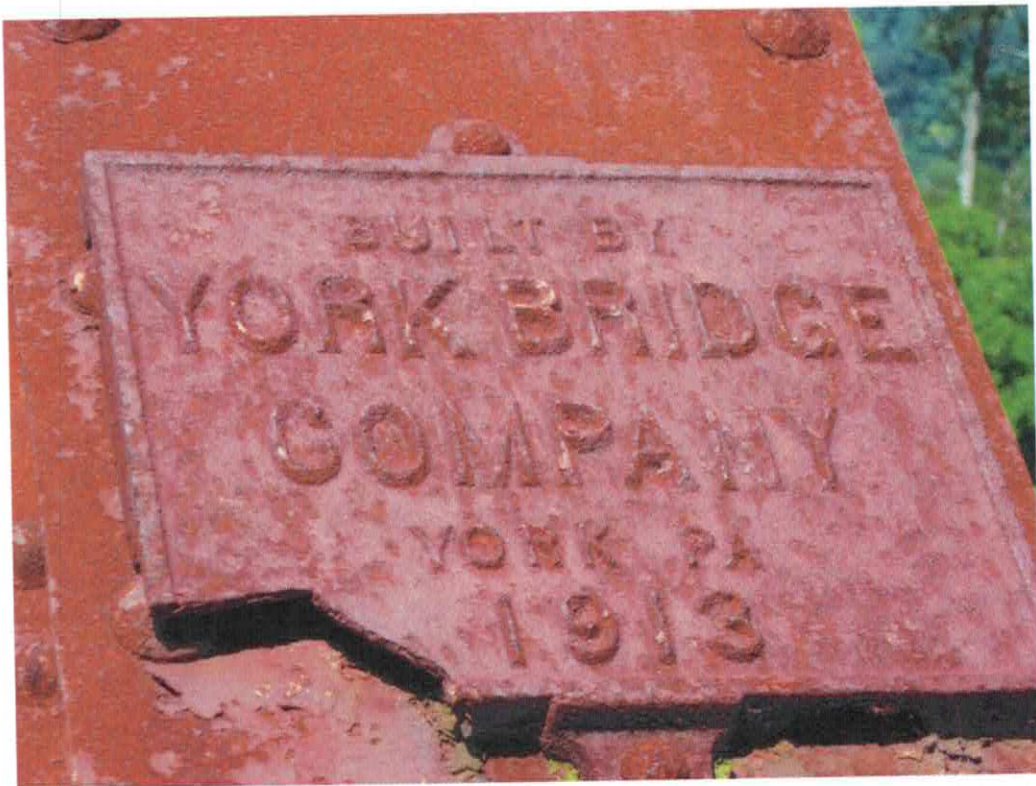


Photo #5



Photo #6



Photo #7



Photo #8



Photo #9