

State Level Historic Documentation Report

State Project No. U305-32/3-1.64
Federal Project No. ACST-0323(124)D

Long Run Bridge Brooke County



Prepared by:

Randy Epperly, Historian

Department of Transportation
Division of Highways
Engineering Division
Environmental Section

May 18, 2017

STATE LEVEL HISTORIC DOCUMENTATION LONG RUN BRIDGE

Location: County Route 32/3, Spanning Buffalo Creek
Brooke County
West Virginia

USGS Bethany Quadrangle

Date of Construction: 1913

Builder: Luten 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 Long Run Bridge is eligible for the National Register of Historic Places under Criterion C for displaying significant architectural treatments, demonstrating important Engineering design or technology, and its association with Daniel Luten.

Project Information: The project has been undertaken due to the poor condition and serious deficiencies of the structure. The project will provide a new bridge crossing Buffalo Creek. The new bridge will have a larger waterway opening to decrease the potential for flooding. The existing bridge warrants replacement. The documentation was undertaken in April 2017 in accordance with a Memorandum of Agreement among the Federal Highway Administration, West Virginia Department of Transportation, and West Virginia State Historic Preservation Office. The bridge is scheduled to be replaced in 2019.

No original plans are available.

Randy Epperly, Historian
West Virginia Division of Highways
Charleston, WV 25305
May 18, 2017

The Long Run Bridge carries County Route 32/3 over Long Run in Brooke County. The bridge was built in 1913 by the Luten Bridge Company. No original plans were found for the bridge. The bridge is eligible under Criterion C of the National Register of Historic Places for displaying significant architectural treatments, demonstrating important engineering design or technology, and its association with Daniel Luten (KCI, 2013).

Long Run Bridge is a two span concrete arch bridge supported by concrete abutments and a concrete pier. The bridge is 105 feet long and has a 13.4 foot roadway width. The bridge has concrete parapets with incised rectangular panels and a decorative pier nose. The bridge is in poor condition with serious deficiencies. The arch ring and the concrete on the arch ring is extremely deteriorated. The abutments and wing walls also show significant deterioration and cracking. A portion of the parapet wall is missing (WVDOH, 2012).

Daniel B. Luten received numerous patents for concrete arch bridge designs in the early 1900s. Luten often gave other bridge builders permission to construct bridges using his design for a fee. The National Bridge Company was founded in 1902 by Daniel Luten and renamed Luten Bridge Company in 1920. Branch offices were established along the eastern United States and the company was known for its numerous concrete arch bridge designs (Ficker, 2003 and KCI, 2015).

Concrete deck arch bridges were typically constructed in West Virginia between 1900 and 1951. The arch is elliptical with the bottom of the arch receiving most of the load. Concrete arches are located throughout West Virginia and were very popular between 1910 and the 1930s. They are similar to masonry arches but were cheaper to build. These bridges “act in compression and require steel reinforcement. The arch rib and spandrel columns are reinforced with longitudinal steel held by lateral ties” (KCI, 2015).

BIBLIOGRAPHY

Ficker, Maryellen. Bridge Builders. January 2003. West Virginia Division of Highways.

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

Mead & Hunt, KCI. West Virginia Historic Bridge Survey Inventory Form. 2013.

West Virginia Division of Highways, Bridge Files, Maintenance Division, Building 5, Capitol Complex, Charleston, WV 25305. 2012.

Long Run Bridge
County Route 32/3
Buffalo Creek
Brooke County, West Virginia

Photographer: Randy Epperly

March 2016

LONG RUN BRIDGE-1	View of Long Run Bridge looking south.
LONG RUN BRIDGE-2	View of Long Run Bridge looking north.
LONG RUN BRIDGE-3	View of Long Run Bridge looking north.
LONG RUN BRIDGE-4	View of downstream side of Long Run Bridge.
LONG RUN BRIDGE-5	View of upstream side of Long Run Bridge.
LONG RUN BRIDGE-6	View of downstream side of Long Run Bridge looking south.
LONG RUN BRIDGE-7	View of downstream parapet.
LONG RUN BRIDGE-8	View of upstream parapet and guardrail.
LONG RUN BRIDGE-9	View of arch from under the bridge.
LONG RUN BRIDGE-10	View of arches from upstream.
LONG RUN BRIDGE-11	View of upstream parapet.
LONG RUN BRIDGE-12	View of wingwall on the downstream, southern end.



Photo #1



Photo #2



Photo #3



Photo #4



Photo #5



Photo #6



Photo #7



Photo #8



Photo #9



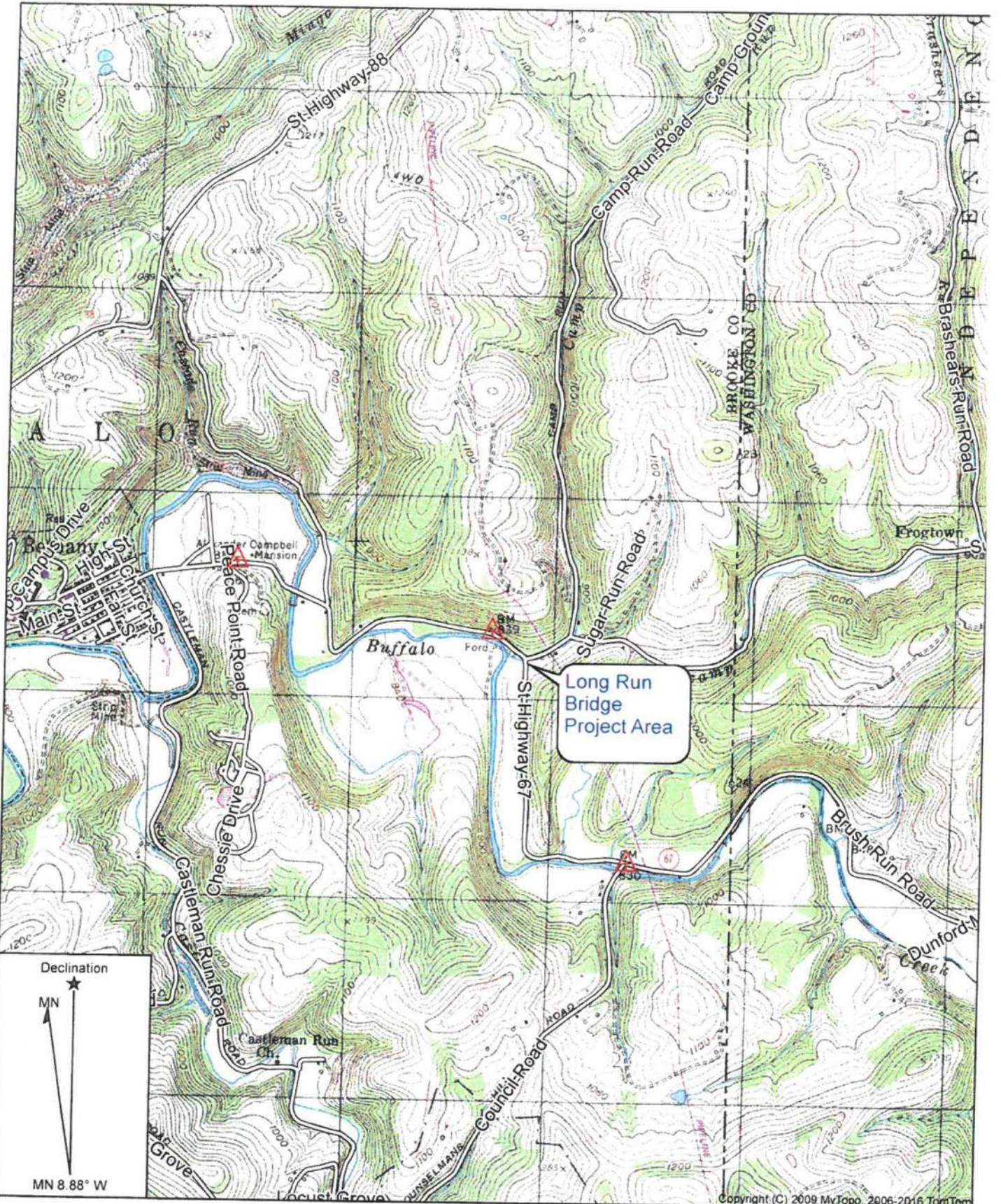
Photo #10



Photo #11



Photo #12



Copyright (C) 2009 MyTopo, 2006-2016 TomTom

Long Run Bridge
Brooke County



West Virginia Division of Highways Maps

V 1.2

BARS No. : 05A040

Date : 01/05/2015

WEST VIRGINIA DIVISION OF HIGHWAYS

Form DS-27 1-1-90		ENGINEERING DIVISION GENERAL SKETCH SHEET			
By:AWH	Date:1/5/15	Ckd. By:JAR	Date:1/5/15	Bridge No.:05-32/3-1.73(7480)	Sheet of

Location Map

05-32/3-1.73

Rev. Date:	Rev. Date:	Rev. Date:	Rev. Date:	Rev. Date:	Rev. Date:
By:	By:	By:	By:	By:	By:

**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 LONG RUN BRIDGE
REPLACEMENT PROJECT
STATE PROJECT: U305-32/3-1.64
FEDERAL PROJECT: ACST-0323(124)D
BROOKE COUNTY, WEST VIRGINIA
AUGUST 2016**

WHEREAS, the Federal Highway Administration (FHWA), in cooperation with the West Virginia Division of Highways (WVDOH), proposes to replace the Long Run Bridge, which spans Buffalo Creek in Brooke County, hereinafter referred to as the Project. The improvements involve the construction of a new bridge on a new alignment upstream and the removal of the existing bridge; and

WHEREAS, the FHWA has determined that the Project will have an adverse effect upon the Long Run 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 Brooke County Genealogy Society and the Preservation Alliance of West Virginia regarding the Project. Neither group has responded;

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:

Long Run Bridge

- I. The Long Run 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 and the Lutten Bridge Company 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 the Brooke County Public Library in Wellsburg a copy of the Long Run Bridge State Level Historic Documentation for references and educational purposes.
- IV. 50 color brochures of the Long Run Bridge will be developed by the WVDOH and distributed to the Brooke County Public Library in Wellsburg. 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 Long Run Bridge will be documented on the West Virginia historic bridge website.

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.

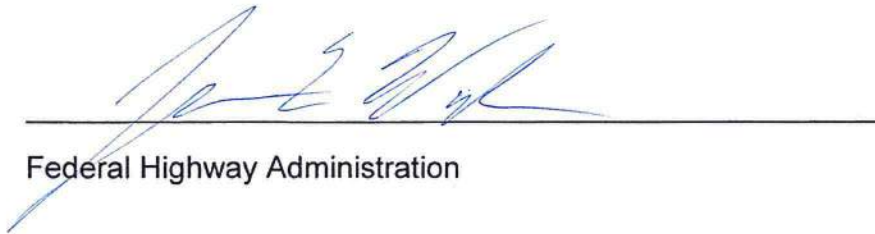
XI. Termination

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 Long Run 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.

Signatories Page



Federal Highway Administration

4/12/17
Date



West Virginia Deputy State Historic Preservation Officer

8/24/16
Date

Advisory Council on Historic Preservation

Date

CONCUR:



West Virginia Division of Highways

9/1/16
Date

West Virginia Historic Bridge Inventory Form

Bridge No. 05-032/03-001.73 **BARS No.** 05A040 **Federal Bridge No.** 0000000005A040 **Bridge Design No.** 7480.0

IDENTIFICATION INFORMATION

SHPO Survey No. BR-1600 **Owner** State Highway Agency
Local Name LONG RUN BRIDGE **Status** Extant - in service
Other Local Name

LOCATIONAL AND SETTING INFORMATION

District 06 **County** Brooke **Latitude** 40113600 **Longitude** 080313600
Location 0.04 MI S JCT WV RT 67 **UTM-Northing**
Facility Carried By Structure COUNTY ROUTE 32/3 **UTM-Easting**
 UTM Zone
Features Intersected BUFFALO CREEK **Surrounding Land Use** Residential
 Type of Development Rural - (undeveloped area outside communities)

STRUCTURAL INFORMATION

Main Span Type Concrete Arch - Deck (continuous) **Structure Length (ft)** 105
Main Span Type Code 211 **Length of Maximum Span (ft)** 44
Number of Spans in Main Unit 002 **Average Daily Traffic** 000150 **Year** 2002
Number of Approach Spans 0000 **Sufficiency Rating** 0213 **Skew** 00
(Note: Data current as of April 2006 database)

BRIDGE DESCRIPTIVE INFORMATION

Year Built 1913 **Arrangement**
Year Reconstructed **Connection Type**
Truss Bridge Type **Truss Details**
Alteration(s) **Date of Alterations (Year)**
 Change in railing/parapet Unknown

Architectural Treatment(s) **Bridge Plate Text**
 Decorative pier nose N/A

BRIDGE HISTORY

Engineer or Designer **Builder or Fabricator** Luten Bridge Company

Bridge Plan Location Unknown

Additional Details: Portion of parapet missing. Concrete parapet with incised rectangular panels. Decorative pier nose. Multi-span closed spandrel elliptical arch. WVDOH bridge database records indicate the bridge was constructed by the Luten Bridge Company. Bridge possesses distinctive nonsymmetrical design that was a patented feature of Daniel B. Luten and this feature indicates that the bridge incorporates engineering design related directly to the work of Daniel B. Luten, a nationally recognized bridge designer.

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 exhibits continuous span design, demonstrating important engineering design or technology as a variation within its class.

This bridge was designed or constructed by an engineer or firm whose work is distinguishable on the national level.

This bridge displays one or more architectural treatments.

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.

