

State Level Historic Documentation Report

State Project: S351-26-3.59
Federal Project: STP-0026(053)D

BERGOO ROAD ARCH BRIDGE Webster County



Prepared by:

Tracy D. Bakic, Structural Historian

WV Department of Transportation
Division of Highways
Technical Support Division
NEPA Compliance & Permitting Section

April 12, 2023

STATE LEVEL HISTORIC DOCUMENTATION
BERGOO ROAD ARCH BRIDGE

Location: County Route 26 over Elk River
Webster County
West Virginia

USGS Skelt Quadrangle

Date of Construction: 1923

Builder: Luten Bridge Company of York, Pennsylvania

Present Owner: West Virginia Department of Transportation
Division of Highways
1334 Smith Street
Charleston, WV 25301

Present Use: Vehicular Bridge

Significance: Bergoo Road Arch Bridge is historically significant for its engineering association as an example a multi-span closed-spandrel elliptical concrete arch bridge, an uncommon type represented in WV. It is, as well, significant for its association with Daniel B. Luten, a nationally recognized bridge designer, and the Luten Bridge Company of York, PA, a nationally recognized bridge builder.

Project Information: The project has been undertaken due to the deteriorating condition of the bridge and the necessity for a structure that can accommodate two lanes of traffic. Any future deterioration of the bridge will result in its closure. Therefore, this bridge warrants replacement. This documentation was undertaken in April 2023 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 due to the replacement of this National Register eligible structure.

Tracy D. Bakic, Structural Historian
West Virginia Division of Highways
Charleston, WV 25305
April 12, 2023

Bergoo Road Arch Bridge spans the Elk River and is located in Bergoo vicinity, eastern-central Webster County, West Virginia (WV) on County Route (CR) 26, approximately 1.89 miles west of the CR 26/8 junction with CR 9. Elk River is a tributary of Kanawha River, in turn a tributary of Ohio River. The 2018 average daily traffic (ADT) count for the bridge is 250 vehicles per day.



The existing Bergoo Road Arch Bridge is a concrete triple arch deck span built in 1923 by Lutten Bridge Company of York, PA. The superstructure is composed of concrete arch rings and spandrel walls with earthen fill serving as the deck; the deck has an asphalt wearing surface. In engineering terms this bridge is considered a multi-span closed spandrel elliptical arch - "closed" because the arch is solid/closed with sidewalls (aka spandrel walls), and "elliptical" since the arches were based on ellipse/ovular forms rather than round/circular. With its arches measuring, from west to east, 59 feet, four inches, 62 feet (middle arch), and 60 feet, this bridge represents a nonsymmetrical arch design which was a patented feature of Daniel B. Lutten, a noted US bridge designer. The arched superstructure is supported reinforced concrete abutments and piers, all on concrete footings. The abutments include wingwalls.

To each side of the deck is a solid concrete railing with impressed/incised rectangular motif on both interior and exterior sides. At the center of the interior-facing side of each railing is a plaque. The north railing plaque reads "1923. // LUTTEN BRIDGE CO. // YORK, PA." The south railing plaque reads "S. B. Hamrick, Pres. // J. M. Bickel County Court // A. F. Scott // B. S. Wooddell, Clerk // P. B. Cogar, County Engineer." Between the railings the bridge deck has an asphalt wearing surface. The bridge includes standard modern flexbeam approach guardrails. The bridge's overall dimensions are 193 feet, eight inches long by 17 feet, six inches wide. The roadway width (between railings) is 15 feet, two inches.

The existing Bergoo Road Arch Bridge is rated in poor condition and is considered structurally deficient and functionally obsolete. There is undermining of some substructure units along with cracking and spalling of the structure with exposed rebar.

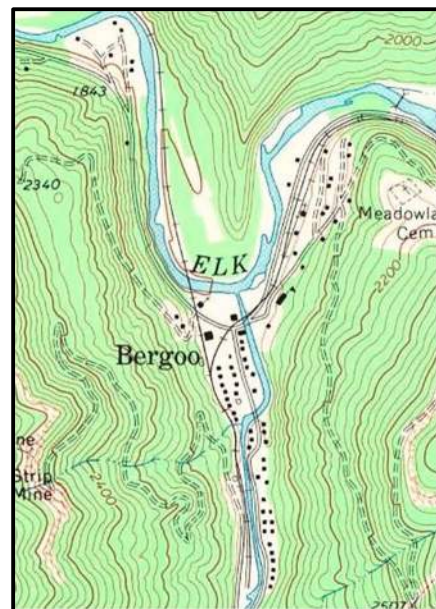
Bergoo & Vicinity

Bergoo Road Arch Bridge is located about 2.4 miles west of the main Bergoo area. The following paragraphs quote portions of the article “Bergoo, the Town” written by Mark Romano and found in the Spring 2006 issue of the WV State publication *Goldenseal*. Supplementary information from other sources is in brackets at the end of certain paragraphs.

The first permanent settlement in the vicinity was established in 1830, about a mile downstream from Bergoo Creek, at the mouth of Leatherwood Creek, by members of the Gregory, Hamrick, and Dodrill families. Though the town took the name Bergoo, it was also known locally as Leatherwood for many years. In fact, the first post office, established in 1876, was called Leatherwood until 1881. The post office has been officially known as Bergoo since 1882, though occasional use of the name Leatherwood persisted until at least the late 1920's.

In 1917, industry came to the area when Pardee & Curtin Lumber Company [P&C] purchased a large parcel of land and began setting up a massive lumber operation. They started out with 72 houses, a hotel, and boarding house. A railroad extension from Webster Springs to Bergoo was completed in 1925 or early 1926. Initially a narrow gauge railroad, it was later converted to a dual gauge with the coming of the Western Maryland Railroad [Railway]. Later in 1926, the Curtin mill [in Nicholas Co.] began shipping construction timbers and stacking strips to Bergoo via the B&O and West Virginia Midland Railway, expanding the operation there.

The [P&C] company mill, shop, and all rolling stock were moved to Bergoo by late 1926. By December of that year, construction was underway on the mill yard, including the laying of tracks, construction of the loading docks, and so forth. Bergoo was only half-finished at the time, but the shop was already in limited operation. By late 1927, the Bergoo mill – a steam-powered, double-band type – was completed and in full operation. [The P&C mills in Nicholas Co. – its largest facility at Curtin (“Old” Curtin) and smaller facilities at Coal Siding, Hominy Falls and the mouth of Deer Creek – all completely closed once the Bergoo mill was in full operation (CG 1928; Higgins 1986). The official opening date of the Bergoo mill was January 1, 1928 (CDM 1927).]



Main Bergoo (USGS Map, 1982)

Bergoo was already becoming a booming town with the logging industry in 1929, when P&C got into the coal mining industry, opening mines throughout Webster County. Mining operations continued there until 1959, producing more than 23 million tons of high-quality coal and employing more than 2,000 men over a 30-year period. [By 1929 there were three mines operating in the Bergoo section – Point Mountain Coal Co., Golden Ridge Coal Co., and P&C's Elk Horn Mine (*RR* 1929).]

On August 14, 1941, fire destroyed the lumber mill. It was dismantled and sold in January 1945. Eventually a new mill was built in Barton, now called Curtin, Webster County, located about six miles down the Elk River from Bergoo towards Webster Springs. [Even though the lumber industry left, Bergoo remained an active coal mining area. P&C operated nine mines and seven coal tipples there until 1959 and coal remained a factor in the region until the 1980s (*WVNCrails.org*).]

Today Bergoo is quiet once again. A handful of local businesses serve the remaining 150, or so, residents. The post office still operates here, as do a few convenience stores, a taxidermy shop, and a beauty salon. Pardee & Curtin is still one of the largest employers in the area. In 2001, P&C owned and managed 63,000 acres of timber, and 74,000 acres of coal properties in Webster, Randolph, Braxton, and Nicholas counties. Residents of Bergoo are employed by various lumber companies, drive into Webster Springs, or travel up the mountain to Snowshoe Resort to work, while others are retired or are self-employed. [The above population estimate was for the year 2006; per the 2021 American Community Survey, Bergoo's population in 2021 was 101.]

To the east of Bergoo Road Arch Bridge there is a locale historically known as Bernardstown (or Bernard's Town). This village was reportedly named to honor Bernard Mollohan and its residents worked in the timber industry (Mollohan 2005:441). A post office was established at Bernardstown in 1866 and was discontinued in 1933 (*CDM* 1933; *Postalhistory.com*). [In Webster County Mollohan established a local reputation as a competent builder and surveyor. In 1860 he was elected the county's first surveyor, heading teams that established the county's initial/early boundaries. In 1866 Mollohan's construction business was chosen to build Webster County's first courthouse; it was destroyed by fire in 1888 (Mollohan 112:389; Pauley 1982)].

By the mid-1930s the adjacent land to the west of Bergoo Road Arch Bridge, to both sides of CO 26, was owned by S. B. Hamrick. The land to the east side of the same bridge, to both sides of CO 26, was owned by Walter Hamrick (*WVSRC* 1934). S. B. Hamrick – aka, Sampson Ballard Hamrick – engaged in farming and lumbering in the area and, in 1922, was

elected Commissioner of the county court (Hamrick 1939:46-47, 50-51). Sampson and Walter Hamrick likely were likely relatives, per research to this point, possibly cousins (Familysearch.org; FindAGrave.com; Hamrick 1939:86). Many generations of the Hamrick family have lived in the greater Webster Springs area.

Western Maryland Railroad.

There is an old railroad alignment to the south/downstream side of the Bergoo Road Arch Bridge. It extends along the south bank of Elk River west of the bridge and follows the south side of CO 26 east of the bridge. This single-track route from Webster Springs to Bergoo was completed ca. 1928 as the Bergoo Extension of the West Virginia Midland Railway (WVM), which was operated by P&C. Earlier portions of the of the WVM - Holly Junction to Holly (completed 1894), to Diana (by 1899) and to Webster Springs (1902) – were completed by earlier owners. The building of the Webster Springs-Bergoo route was done in tandem with the planned relocation of the P&C lumber company from Nicholas County to Bergoo The Bergoo Extension was initially built as dual-gauge alignment, basically a standard gauge track with a third rail to accept P&C's narrow gauge equipment (*BPH&R* 1968; *CDM* 1927; *RR* 1929; *WVNCrails.org*).



Skelt USGS 7.5' Topographic Map (1967)

At Bergoo the WVM connected with the Greenbrier, Cheat and Elk Railroad (GC&E), which was acquired by the Western Maryland Railway (WM) in 1927; the 175-mile GC&E had its northern terminus at Cheat Junction/Glady in Randolph Co (*CDM* 1927). The WVM Bergoo Extension was acquired by WM in 1929 and the Webster Springs-Glady route became the WM Laurel Subdivision. The WM became part of the Chessie System in 1973 and then CSX in 1987. In 1998 the former WM Laurel Subdivision was acquired by the West Virginia Central Railroad which uses operable sections of its routes for freight and recreational excursion services. The section from around Slatyfork (Laurel Bank) to Bergoo to Webster Springs is currently unused (*AbandonedOnline.net*).

County Route 26, incl. Bergoo Road Arch Bridge

CO 26, aka Bergoo Road, is a six-mile route from SR 15 at its west end (near Ralph) to Bergoo at its east end. The approximately 2.5-mile western end of the today's CO 26 appears to have been part of the Summersville & Slavens Cabin Turnpike (chartered 1853 [VA 1853:75]). The rest of CO 26 – including Bergoo Road Arch Bridge – is not part of a known historic turnpike route; however, it did exist as a local road by the 1880s. The route was designated CO 26 by the 1930s (USGS 1891, 1893; WVSRC 1933,1937).



Bergoo Road Arch Bridge was built in 1923 by the Luten Bridge Company of York, PA, commissioned by the Webster County Court. The overseeing commissioner the year the project was completed was S. B. Hamrick, who happened to be the owner of the property west of the bridge (WVSRC 1934). It is speculation, but the impetus for the county building this bridge (as well as a small mill race bridge about 270 feet to the west) may have been due to increased use of Bergoo Road for the development of the P&C lumber mill in Bergoo and the associated WVM railroad. Prior to the Bergoo Rd Arch Bridge, it has been referenced that the Elk River in this area was crossed via a ford; others recalled a wooden bridge of some type in the vicinity (Cowger 2020; McCourt 2020).

According to historic highway mapping on file with WVDOH (1933, 1937), CO 26 was likely earthen or maybe graveled prior to ca 1940. Roadway construction plans were drawn up for the 1934-35 fiscal years. On December 4, 1934 a contract was awarded to M. D. Topping of Ironton, OH for grading and drainage work along CO 26; this work was completed by mid-July 1936, along with gravel surfacing by State Prison labor. In May 1940 a contract was awarded to

Keeley Construction Company (which had an office in Clarksburg, WV) for surface treatment/paving of CO 26. It appears that this early surface treatment of the road was completed in 1943 (CG 1934; MDN 1940; WVSRC 1941:450-51; 1943:113). The road had been repaved and widened since.

Reinforced Concrete Deck Arch Bridge Context

“The advent of modern concrete technology fostered a renaissance of arch bridge construction in the United States. Stone arch bridges constitute an important chapter in American bridge building, but by the second half of the nineteenth century the labor-intensive nature of masonry arch bridge construction contrasted unfavorably with the ease of metal truss erection. Reinforced concrete allowed the arch bridge to be constructed with much more ease than ever before and maintained the load-bearing capabilities of the form” (P.A.C. Spero & Co. 1995:152).

The earliest known existing reinforced concrete arch bridge in the US was designed by Ernest L. Ransome and built in 1889 in Golden Gate Park, San Francisco. Other early names associated with reinforced concrete arch bridge design were Joseph Melan, Fritz von Emperger and Edwin Thacher. However, it was Daniel B. Luten who, within the first three decades of the 20th century, was the dominant designer, builder and promoter of reinforced concrete arch spans in the US. There were many other companies, though, that incorporated concrete arch bridge design and building as part of their repertoire. In WV concrete arch deck bridges were built steadily through the 1930s and were very popular in the 1910s and 1920s (KCI et al. 2015: 88).

Concrete deck arch bridges include closed spandrel and open spandrel types, each spanning between concrete abutments. The arch proper is called a ring and the spandrel is the area between the ring and the deck. The subject bridge represents a closed spandrel deck arch. In this closed version, spandrel walls are built to each side of the span to retain fill material (rubble, stones, or dry soil) deposited within the spandrel area. Traffic loads over the arch are distributed through the fill. Closed spandrel concrete arch bridges were historically the most economical to build over shorter spans. (Carver 2008: 241; KCI et al. 2015: 321; P.A.C. Spero & Co. 1995:152).

Daniel B. Luten & Luten Bridge Company

Daniel B. Luten is nationally recognized as an important figure in bridge building and the design of reinforced concrete arch bridges. Luten patented his designs and they were used throughout the US. The central idea of Luten’s practice was to “produce a more efficient structure” by reducing the material needed to build for a given strength. His innovative

approaches to reinforcing concrete arches with longitudinal tension rods resulted in efficient bridge designs (Mead & Hunt 2007:88).

Luten “was an 1894 civil engineering graduate of the University of Michigan. Upon graduation he was retained in Michigan as an instructor and assistant to Professor Charles E. Green, whose arch analyses were noted in ASCE Transactions. From 1895 to 1900, Luten was instructor of civil engineering at Purdue University [Indiana] and in 1900 he resigned to design bridges. One year later he was designing and patenting his designs” (Carver 2008:155). In 1902 Luten’s design firm - National Bridge Company of Indianapolis, Indiana - was incorporated (RG 1902). “Luten designs were utilized throughout the United States. By 1915 Daniel B. Luten held 39 patents on concrete bridge plans and had designed about 6,000 bridges in the United States, Mexico, and Canada. In 1925 Luten had over 50 patents and over 1,400 bridges were attributed to his designs” (KCI et al. 2015).

“Luten often provided agents and builders with drawings and a license to construct bridges based on his plans for a set price. One such agent was Alex B. Whittaker. In 1909. Whittaker incorporated his own company, the Luten Bridge Company of York, Pennsylvania, and was joined by his brother John Whittaker, Lucius G. Brown, and G. W. Drury. The Luten Bridge Company established a number of branch offices and obtained bridge construction contracts throughout the eastern and southern United States, including Clarksburg, West Virginia; Atlanta, Georgia; Syracuse, New York; Concord, New Hampshire; Palatka, Florida; Pennsylvania, Maryland, Tennessee, and Arkansas. The Luten Bridge Company is believed to have sold Daniel Luten designs as well as other similar concrete arch bridge designs” (KCI et al. 2015).



“Daniel Luten-designed concrete arch bridges were often known for achieving a notably flat arch, which provided a long arch span with less need for bridge height. Use of this design feature resulted in aesthetically pleasing bridges that were also economical in their use of materials. Some Luten designs utilized more rounded, less elliptical arches to respond to particular site conditions and shorter crossings. Although the elliptical arches were an important design feature associated with the concrete arch bridge designs of Daniel B. Luten, this feature was also commonly seen on most of the arch bridges attributed to Luten Bridge Company. Therefore, the elliptical arch alone is not considered a diagnostic element to establish an association with Daniel Luten himself. However, two key diagnostic elements . . . establish an

association with Daniel Luten himself over the Luten Bridge Company on its own” (KCI et al. 2015). The two key elements include:

1. Presence of an ornamental rounded element forming the edge of the concrete arch ring. This special edging was not always used on Luten-designed bridges, but when evident it is a specific link to a Daniel B. Luten design. The subject Bergoo Road Arch Bridge does not exhibit this diagnostic element.
2. Presence of nonsymmetrical arch design, evident in multi-span bridges. This design was patented by Daniel B. Luten and was promoted for its aesthetic quality. It demonstrated how arches having unequal thrusts, or lengths, can balance against each other upon the same pier. It likely allowed for selecting best arch sizes for the site/location built. The subject Bergoo Road Arch Bridge includes this diagnostic element.

Of the three three-span closed-spandrel concrete arch bridges known to still exist in WV (as of 2023), Bergoo Road Arch Bridge appears to be the only three-span concrete arch bridge in the State known to exemplify the work of both Daniel B. Luten and Luten Bridge Company of York, PA. (The other three-span arch bridges are Camp Wood Bridge (Greenbrier Co; Concrete Steel Bridge Co., built 1917) and Largent Bridge (Morgan Co., J. M. Francesa & Co., built 1935).

Eligibility

Bergoo Road Arch Bridge has been determined eligible for listing in the National Register of Historic Places for its engineering significance as an example a multi-span closed-spandrel elliptical concrete arch bridge, an uncommon type represented in WV. It is, as well, significant for its association with Daniel B. Luten, a nationally recognized bridge designer, and the Luten Bridge Company of York, PA, a nationally recognized bridge builder.

Bergoo Road Arch Bridge will eventually be removed as a result of the planned construction of a new bridge upstream (north) of the existing bridge location.

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STATE LEVEL HISTORIC DOCUMENTATION
INDEX TO PHOTOGRAPHS

Bergoo Road Arch Bridge
County Route 26 over Elk River
Webster County, West Virginia

Photographer(s): Tracy D. Bakic

November 8, 2018

BERGOO RD ARCH - 1	South Elevation. View Northeast.
BERGOO RD ARCH - 2	South Elevation. View Northwest.
BERGOO RD ARCH - 3	North Elevation. View Southwest.
BERGOO RD ARCH - 4	North Elevation. View Southeast.
BERGOO RD ARCH - 5	West Approach. View East Northeast.
BERGOO RD ARCH - 6	East Approach. View West/Northwest.
BERGOO RD ARCH - 7	Plaque on North/Upstream Side Railing. View North.
BERGOO RD ARCH - 8	Plaque on South/Downstream Side Railing. View South.

No original bridge plans exist for this bridge.



1. South Elevation. View Northeast.



2. South Elevation. View Northwest.



3. North Elevation. View Southwest.



4. North Elevation. View Southeast.



5. West Approach. View East Northeast.



6. East Approach. View West/Northwest.



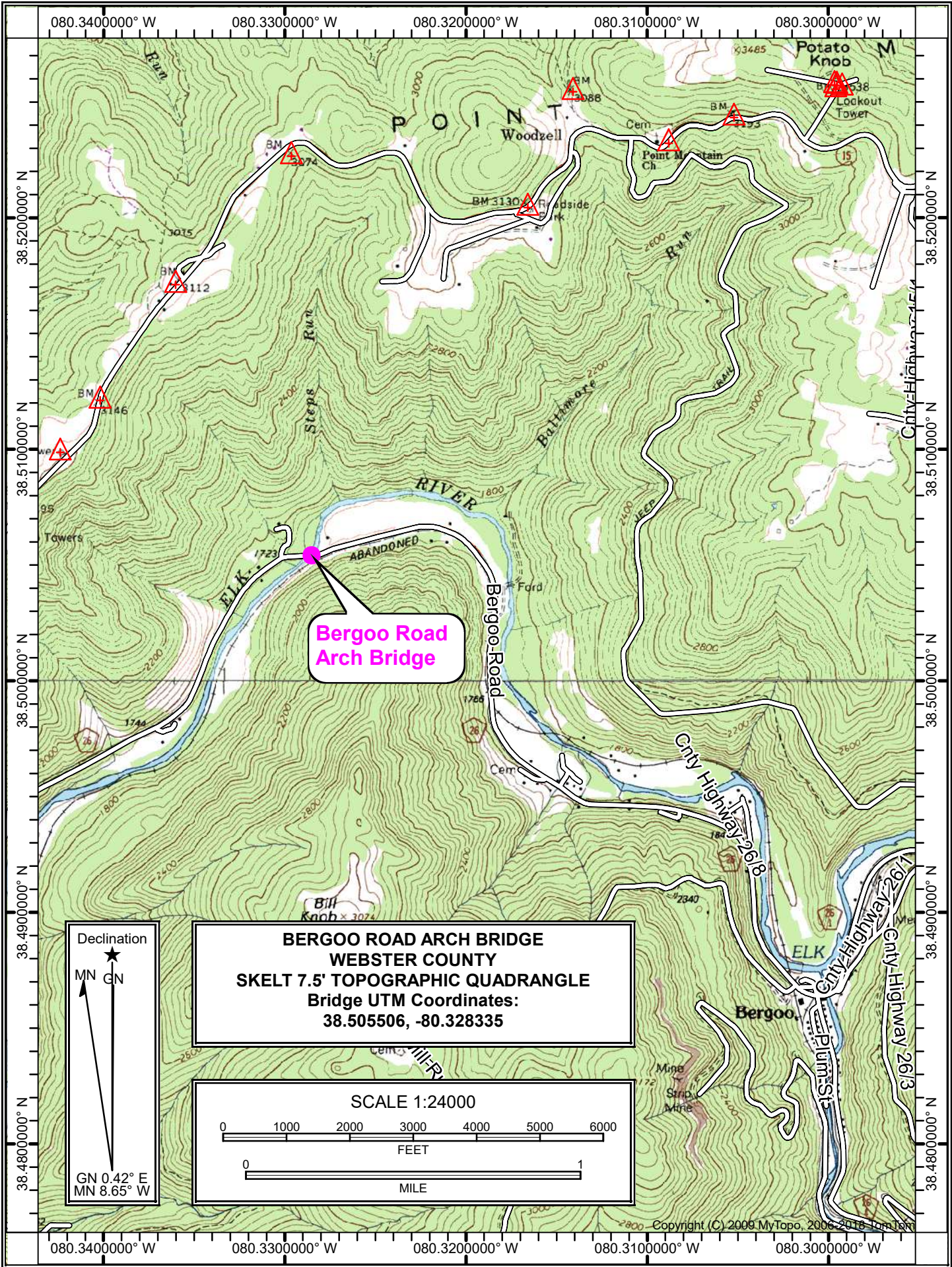
7. Plaque on North/Upstream Side Railing. View North.



8. Plaque on South/Downstream Side Railing. View South.

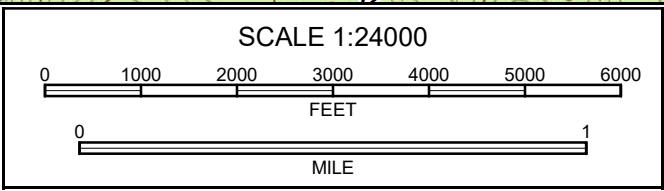
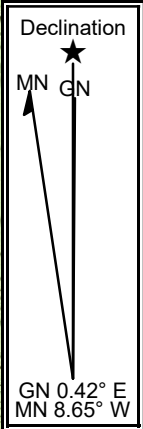
PROJECT AREA
BERGOO ROAD ARCH BRIDGE REPLACEMENT PROJECT
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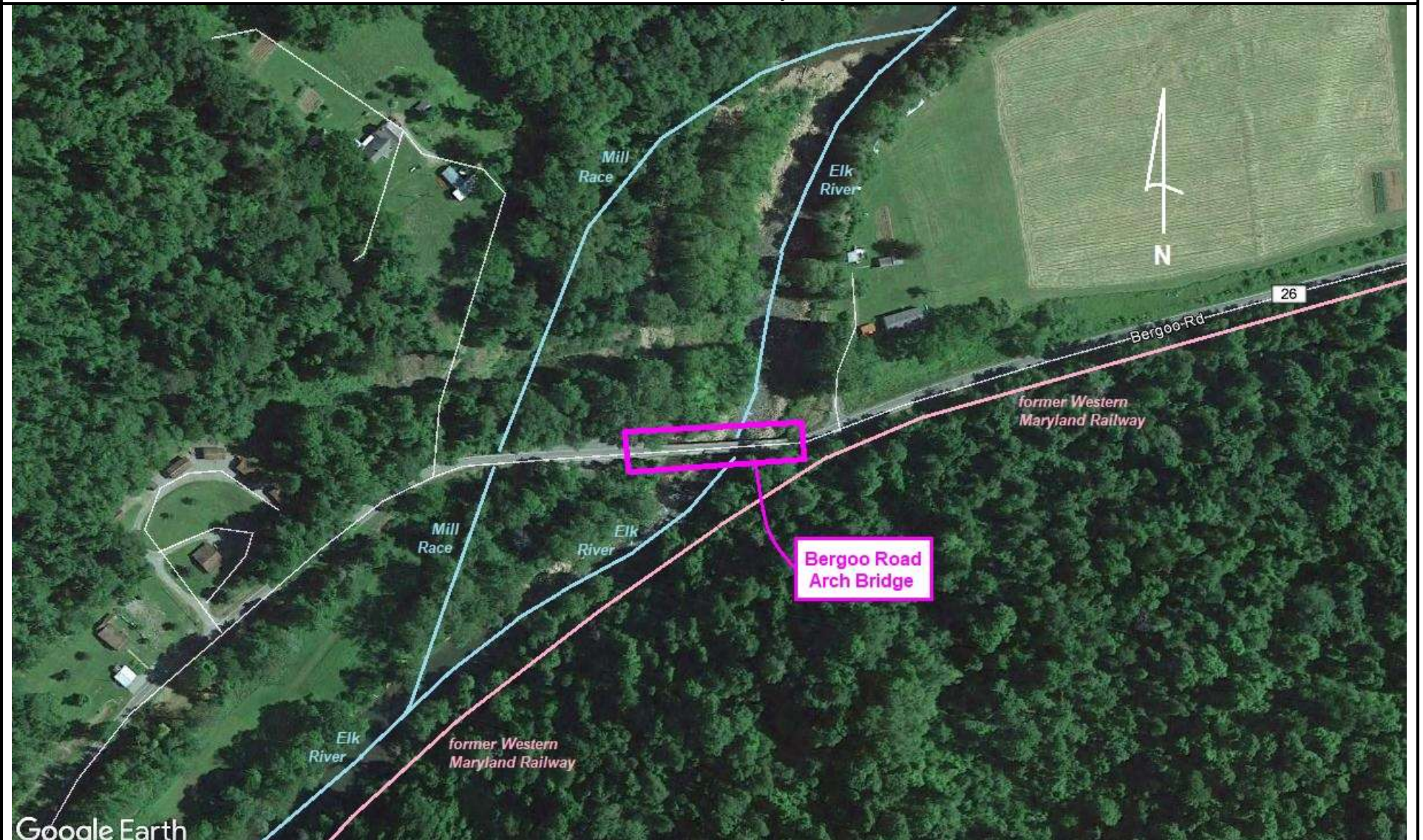


Bergoo Road Arch Bridge

BERGOO ROAD ARCH BRIDGE
WEBSTER COUNTY
SKELT 7.5' TOPOGRAPHIC QUADRANGLE
 Bridge UTM Coordinates:
38.505506, -80.328335




PROJECT AREA
BERGOO ROAD ARCH BRIDGE REPLACEMENT PROJECT
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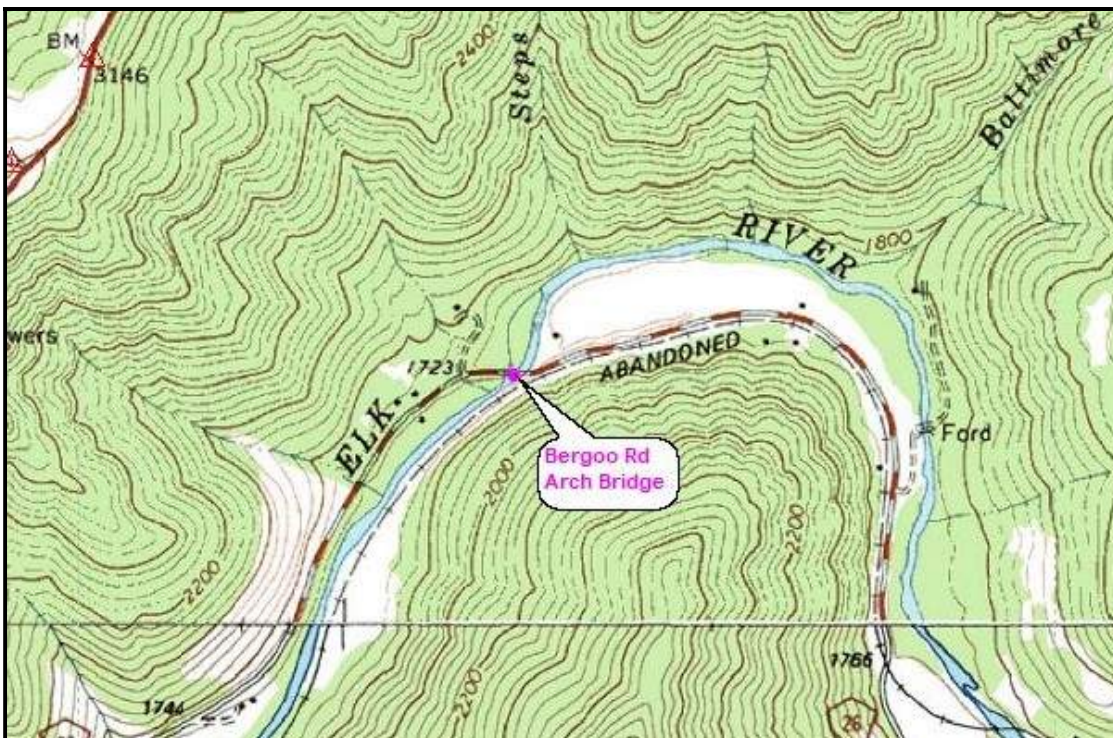




Internal Rating: _____

WEST VIRGINIA HISTORIC PROPERTY INVENTORY FORM

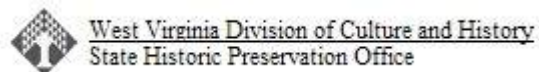
Street Address County Rt 26 over Elk River	Common/Historic Name/Both <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> Bergoo Road Arch Bridge	Field Survey # APE B1	Site # (SHPO Only) WB-0103
Town or Community Bergoo vicinity	County Webster	Negative No.	NR Listed Date
Architect/Builder Luten Bridge Company	Date of Construction 1923	Style Reinforced Concrete Arch Bridge	
Exterior Siding/Materials Rein. Concrete	Roofing Material N/A	Foundation Rein. Concrete	
Property Use or Function Residence <input type="checkbox"/> Commercial <input type="checkbox"/> Other <input checked="" type="checkbox"/> <i>Transportation/ Bridge</i>	UTM# Zone 17N NAD 1983 558557E, 4262118N		
	Survey Organization & Date WVDOH October 9, 2020		
		Part of What Survey/FR# Bergoo Road Arch Bridge Replacement Project State Proj # S351-26-3.59	



WB-0103

Site No.

Present Owners WVDOT Phone #	Owners Mailing Address
Describe Setting _____ Acres This bridge spans County Rt 26 (CO 26; Bergoo Rd) over the Elk River in eastern-central Webster County. Elk River is a tributary of Kanawha River, in turn a tributary of the Ohio River. The bridge is 1.89 miles west of CO 26/8 (Joe Bottom Fork Rd). The surrounding setting is hilly and wooded with a large open flat area to the northeast of the bridge, which is bounded by the river to the north. The former Western Maryland Railway (later Chessie/CSX, and now owned by West Virginia Central RR) is to the south of the bridge, along CO 26 to the east and along the south bank Elk River to the west. There is a residence uphill to the northwest of this bridge and the nearby single-arch Bergoo Mill Race Bridge (WB-0320). There is another residential property just northeast of the bridge, on the large flat area.	
<input type="checkbox"/> Archaeological Artifacts Present	
Description of Building or Site (Original and Present): _____ Stories _____ Front Bays Bergoo Road Arch Bridge is a concrete triple arch deck span built in 1923 by Luten Bridge Company of York, PA. The superstructure is composed of three concrete arch rings and spandrel walls with earthen fill serving as the deck. In engineering terms this bridge is considered a multi-span closed spandrel elliptical arch span; "closed" because the arch was solid/closed with sidewalls (aka spandrel walls), and "elliptical" since the arches were based on ellipse/ovular forms rather than round/circular. With its arches measuring, from west to east, 59 feet, four inches, 62 feet (middle arch), and 60 feet, this bridge represents a nonsymmetrical arch design which was a patented feature of Daniel B. Luten, a noted US bridge designer. The arched superstructure is supported on concrete footings and wingwalls at the abutment ends and two solid reinforced concrete piers. To each side of the deck is a solid concrete railing with impressed/incised rectangular motif on both interior and exterior sides. At the center of the interior-facing side of each railing is a plaque. The north railing plaque reads "1923. // LUTEN BRIDGE CO. // YORK, PA." The south railing plaque reads "S. B. Hamrick, Pres. // J. M. Bickel County Court // A. F. Scott // B. S. Wooddell, Clerk // P. B. Cogar, County Engineer." Between the railings the bridge deck has an asphalt wearing surface. The bridge includes standard modern flexbeam approach guardrails. The bridge's overall dimensions are 193 feet, eight inches long by 17 feet, six inches wide. The roadway width (between railings) is 15 feet, two inches; it is classified as a one lane bridge.	
Alterations <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, describe: N/A	
Additions <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, describe: N/A	
Describe All Outbuildings <div style="text-align: center;">N/A</div>	
Statement of Significance <div style="text-align: center;">(See Continuation Sheets)</div>	
Bibliographical References <div style="text-align: center;">(See Continuation Sheets)</div>	
Form Prepared By: Tracy D. Bakic Date: October 9, 2020 Name/Organization: West Virginia Division of Highways Address: Capitol Complex Building 5, Rm 450 Charleston, WV 25305 Phone #: 304-558-9676	



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WEST VIRGINIA HISTORIC PROPERTY FORM CONTINUATION SHEET

NAME: Bergoo Road Arch Bridge

SITE#: WB-0103

Statement of Significance:

This bridge spans County Rt 26 (CO 26; Bergoo Road) over the Elk River in eastern-central Webster County, just west of unincorporated Bergoo. Webster County was established by an act of Virginia General Assembly passed on January 10, 1860, being formed from parts of Braxton, Nicholas, and Randolph counties and named to honor Daniel Webster, a renowned 19th-century American orator and statesman from New England. Upon the county being established, Addison – aka Webster Springs – was chosen as the county seat (Reger 1920:8-9,14; Senate.gov; SWCA 2017; VA 1861:50); this town is historically renowned for its saline springs, having attracted visitors due to their reputed medicinal qualities (Miller 2019), Webster County's boundaries changed in 1882, acquiring some additional area to the south from Nicholas and Greenbrier counties (WV 1882:6).

The State of West Virginia was created and admitted to the Union on June 20, 1863, prior to the end of the Civil War. Each county within the new state was subdivided into townships, of which Webster County had three – the townships of Fork Lick, Glady and Holly. On April 9, 1872 a new state constitution was ratified, and the townships were reestablished as magisterial districts. Webster County's kept its three district names the same as the township names. In 1876 a fourth district – Hacker's Valley District - was created from the northern portion of Holly District in 1876 (Census.gov). The subject bridge has historically been within Fork Lick District.

In the 19th century the northern part of the county is described as having rolling and hilly plateau land. Agriculture in this area included corn, wheat, oats, rye and grass, and stock-raising. The central and eastern portions of the county were considered rough and rocky with high mountains and was not well-suited for cultivation (Maury & Fontaine 1876:419-20).

"In the 1890s, a branch of the Baltimore & Ohio Railroad was built to the town of Cowen from Flatwoods, Braxton County. In the early 1900s, the West Virginia Midland Railroad [WVM] Company built a narrow-gauge line [from Holly Junction on the above-mention B&O line] to Webster Springs. Within a few years rails were laid through much of the county, serving the mines and sawmills. The first two decades of the 20th century were boom years for Webster County. Tourists came on the railroad to partake of the waters of the salt sulfur springs, and the coal and timber industries produced a vibrant economy. The Webster Springs Hotel was built in 1896 and enlarged in 1904. More than 11,000 people lived in Webster County by 1920" (Miller 2013)

"The county had vast resources of timber and 19 seams of coal. The main employer for the timber and coal was the Pardee & Curtin Lumber Company. By the beginning of the 1940s, the timber industry was in decline, but coal mining boomed during World War II. Commercial mining had started in 1917, with an output of approximately 100,000 tons by 1929 and more than two million tons at the end of World War II. In 2009, over 4.5 million tons of coal was produced in Webster County. Surface mines accounted for 3.5 million tons" (Miller 2013).

Webster County's population peaked at 18,080 in 1940. The years following World War II saw a decline of coal industry employment and a migration of Webster Countians to factory towns in Ohio and elsewhere. This decline continued until 1970, when the county's population dropped below 10,000 (Miller 2013). The population was an estimated 8,285 in 2018.

A large portion of Webster County is within Monongahela National Forest. "With the increased interest in outdoor recreation and the construction of dams at nearby Summersville and Sutton, Webster County has become a popular destination. Since 1960, Webster County has been the site of the Woodchopping Festival. It is also the site of the Point Mountain Reunion, formerly called the Hamrick, Gregory, and Riggelman Reunion, held in August of each year" (Miller 2013).

WEST VIRGINIA HISTORIC PROPERTY FORM CONTINUATION SHEET

NAME: Bergoo Road Arch Bridge

SITE#: WB-0103

Statement of Significance (cont'd):

Bergoo & Vicinity

The following paragraphs quote portions of the article "Bergoo, the Town" written by Mark Romano and found in the Spring 2006 issue of the WV State publication *Goldenseal* (Vol. 32, No. 1, pgs 34-37). Supplementary information from other sources are in brackets at the end of certain paragraphs.

The first permanent settlement in the vicinity was established in 1830, about a mile downstream from Bergoo Creek, at the mouth of Leatherwood Creek, by members of the Gregory, Hamrick, and Dodrill families. Though the town took the name Bergoo, it was also known locally as Leatherwood for many years. In fact, the first post office, established in 1876, was called Leatherwood until 1881. The post office has been officially known as Bergoo since 1882, though occasional used of the name Leatherwood persisted until at least the late 1920's.

In 1917, industry came to the area when Pardee & Curtin Lumber Company [P&C] purchased a large parcel of land and began setting up a massive lumber operation. They started out with 72 houses, a hotel, and boarding house. A railroad extension from Webster Springs to Bergoo was completed in 1925 or early 1926. Initially a narrow gauge railroad, it was later converted to a dual gauge with the coming of the Western Maryland Railroad [Railway]. Later in 1926, the Curtin mill [in Nicholas Co.] began shipping construction timbers and stacking strips to Bergoo via the B&O and West Virginia Midland Railway, expanding the operation there.

The [P&C] company mill, shop, and all rolling stock were moved to Bergoo by late 1926. By December of that year, construction was underway on the mill yard, including the laying of tracks, construction of the loading docks, and so forth. Bergoo was only half-finished at the time, but the shop was already in limited operation. By late 1927, the Bergoo mill – a steam-powered, double-band type – was completed and in full operation. [The P&C mills in Nicholas Co. – its largest facility at Curtin ("Old" Curtin) and smaller facilities at Coal Siding, Hominy Falls and the mouth of Deer Creek – all completely closed once the Bergoo mill was in full operation (CG 1928; Higgins 1986). The official opening date of the Bergoo mill was January 1, 1928 (CDM 1927).]

Bergoo was already becoming a booming town with the logging industry in 1929, when P&C got into the coal mining industry, opening mines throughout Webster County. Mining operations continued there until 1959, producing more than 23 million tons of high-quality coal and employing more than 2,000 men over a 30-year period. [By 1929 there were three mines operating in the Bergoo section – Point Mountain Coal Co., Golden Ridge Coal Co., and P&C's Elk Horn Mine (RR 1929).]

On August 14, 1941, fire destroyed the lumber mill. It was dismantled and sold in January 1945. Eventually a new mill was built in Barton, now called Curtin, Webster County, located about six miles down the Elk River from Bergoo towards Webster Springs. [Even though the lumber industry left, Bergoo remained an active coal mining area. P&C operated nine mines and seven coal tipples there until 1959 and coal remained a factor in the region until the 1980s (WVNCrails.org).]

Today Bergoo is quiet once again. A handful of local businesses serve the remaining 150, or so, residents. The post office still operates here, as do a few convenience stores, a taxidermy shop, and a beauty salon. Pardee & Curtin is still one of the largest employers in the area. In 2001, P&C owned and managed 63,000 acres of timber, and 74,000 acres of coal properties in Webster, Randolph, Braxton, and Nicholas counties. Residents of Bergoo are employed by various lumber companies, drive into Webster Springs, or travel up the mountain to Snowshoe Resort to work, while others are retired or are self-employed. [The above population estimate was for the year 2006; per the 2010 US Census Bergoo's population was 94.]

WEST VIRGINIA HISTORIC PROPERTY FORM CONTINUATION SHEET

NAME: Bergoo Road Arch Bridge

SITE#: WB-0103

Statement of Significance (cont'd):

Bergoo Road Arch Bridge Area. The subject area is east of a locale historically known as Bernardstown (or Bernard's Town). The village was reportedly named to honor Bernard Mollohan and its residents worked in the timber industry (Mollohan 2005:441). The area has been described as being in a valley of the Elk River and on mapping tends to be pointed out as close to SR 15. A post office was established at Bernardstown in 1866 and was discontinued in 1933 (*CDM* 1933; *Postalhistory.com*). [In Webster County Mollohan established a local reputation as a competent builder and surveyor. In 1860 he was elected the county's first surveyor, heading teams that established the county's initial/early boundaries. In 1866 Mollohan was chosen to build Webster County's first courthouse; it unfortunately was destroyed by fire in 1888. He built Mollohan Mill near Replete in 1894, a Webster County site that has been NRHP-listed since September 1982 (Pauley 1982)].

Per mid-1930s road construction plans for CO 26 (WV SRC 1934), it is depicted that the adjacent land to the west of Bergoo Road Arch Bridge, to both sides of CO 26, was owned by S. B. Hambric (sic; Hamrick). The land to the east side of the same bridge, to both sides of CO 26, was owned by Walter Hambric (sic; Hamrick).

S. B. Hamrick – or Sampson Ballard Hamrick - was born May 25, 1860 in Bernardstown to James Miller Hamrick and Delilah Salisbury Hamrick, James' second wife. James built his family home about 7 miles above Webster Springs in Bernardstown and lived there until his death in 1890. He was employed in farming and hunting, was the first postmaster at Bernardstown, and was reportedly the county's first Commissioner (Hamrick 1939:46-47, 50-51).

Sampson "married Abbigail [sic] Townsend around 1886 and built his home on part of his father's farm on the Elk River in Webster County, which is where he resided his entire life [SHPO WB-0323]. In 1880, he entered the teaching profession and taught school in Webster county. He then engaged in farming and lumbering. He maintained a small sawmill and gristmill near his home, and for a number of years kept a country store . . . In 1922 he was elected Commissioner of the County Court and served for six years. He succeeded his father as postmaster of the Bernardstown post office . . ." (Hamrick 1939:50-51). Sampson held his PO position from 1887 and into the 1930s (*CDM* 1931). He was associated with the Pleasant Grove Methodist Church. After his wife, Abigail, passed away in 1930, he married Lina Hogan Fisher. He died on July 9, 1934. He had six children, the youngest being his only child with Lina (Hamrick 1939:51). Sampson Ballard Hamrick has been referred to as "Grandpa Samp" and "Uncle Samp" by those close to him (Facebook 2020; *CDM* 1931). There is a Sampson Hamrick Family Cemetery likely located further onto the subject property, beyond the house (Facebook 2020).

There is an old mill race off of Elk River that is spanned by Bergoo Mill Race Bridge (WB-0320); Bergoo Rd Arch Bridge is just about 270 feet to the east. This mill race was likely associated with S. B. Hamrick's private mills. The publication *Modern Miller* announced in its October 1898 issue that S. B. Hamrick was building a custom mill at Bergoo. The current owner of the S. B. Hamrick Homestead (WB-0323), just west of and uphill from Bergoo Mill Race Bridge, believes per local lore that there was a lumber mill on a flat downhill from his home; per this correspondence it seemed like the sawmill might have been on a flat area north/upstream of the bridges, but this is uncertain (Cowger 2020). No map or photo depictions of the Hamrick's sawmill could be found. It could be possible that Hamrick's sawmill shut down once the Bergoo P&C lumber mill became fully operational in the mid-1920s. A gristmill is depicted on S. B. Hamrick's property on the available 1930s WV SRC road construction plans for CO 26; this structure, which was built over the mill race to the south/downstream side of Bergoo Mill Race Bridge, no longer exists.

The probable relation of the "Walter Hamrick" on the 1930s WV SRC road plans to S. B. Hamrick is uncertain but it is likely they were family. There was a Walter Stanard Hamrick, who appears to have grown up in Bergoo area, but moved to Webster Springs by the 1930s; however, it may be possible that he retained family property ownership in Bergoo area. His parents were Peter H. and Margaret (Daff Hevener) Hamrick. Walter S. Hamrick appears to have been a second cousin of S. B. Hamrick; they shared the same great grandparents – Benjamin and Nancy (McMillion) Hamrick. There was also a Walter Francis Hamrick; he was born in Bergoo and his father was Joseph Doddrill Hamrick, Walter Standard Hamrick's brother. Thus, Walter Francis would have been S. B. Hamrick's third cousin (FindAGrave.com; Hackerscreek.com; Hamrick 1939:86).

WEST VIRGINIA HISTORIC PROPERTY FORM CONTINUATION SHEET

NAME: Bergoo Road Arch Bridge

SITE#: WB-0103

Statement of Significance (cont'd):

Many generations of the Hamrick family have lived in the greater Webster Springs area, including Bergoo area. One of its more widely-known members was Eli "Rimfire" Hamrick (1868-1945). Born in Bergoo, he was considered the State's prototypical Mountaineer, being one of the best woodsmen of his time and a guide to the coal and lumber barons who use the mountains for hunting expeditions (Goodwin 2019). Rimfire was a second cousin of S. B. Hamrick.

At one time there had been a schoolhouse just to the east of the subject bridge (McCourt 2020); it was removed at an unknown date. It is currently not known if this may be a school that S. B. Hamrick had taught at.

Western Maryland Railroad.

There is an old railroad alignment to the south/downstream side of the Bergoo Road Arch Bridge. It extends along the south bank of Elk River west of the bridge and follows the south side of CO 26 east of the bridge. This single-track route from Webster Springs to Bergoo was completed ca. 1928 as the Bergoo Extension of the West Virginia Midland Railway (WVM), which was operated by P&C. Earlier portions of the of the WVM - Holly Junction to Holly (completed 1894), to Diana (by 1899) and to Webster Springs (1902) – were completed by earlier owners. The building of the Webster Springs-Bergoo route was done in tandem with the planned relocation of the P&C lumber company from Nicholas County to Bergoo. The Bergoo Extension was initially built as dual-gauge alignment, basically a standard gauge track with a third rail to accept P&C's narrow gauge equipment (*BPH&R* 1968; *CDM* 1927; *RR* 1929; *WVNCrails.org*).

The Greenbrier, Cheat and Elk Railroad (GC&E) from Cheat Junction/Glady (Randolph Co) southwestward through Spruce and then Slatyfork, both in Pocahontas Co, and ending at Bergoo, was completed in mid-1910s. GC&E was acquired by the Western Maryland Railway (WM) in 1927 (*CDM* 1927). The WVM Bergoo Extension was acquired by WM in 1929; this occurred just one year before the WVM from Webster Springs west to Diana was completely abandoned, its rails removed by 1932. The former GC&E and WVM Bergoo Extension became known at the WM Laurel Subdivision (*AbandonedOnline*).

The WM became part of the Chessie System in 1973 and then CSX Transportation in 1987. In 1998 the former WM trackage from Cheat Junction/Glady to Webster Springs was acquired by the newly formed and state-owned West Virginia Central Railroad which uses operable sections of its routes for freight and recreational excursion services. The section from around Slatyfork (Laurel Bank) to Bergoo to Webster Springs are currently unused; in the early 2010s there were discussions of possibly reusing this section as a recreational trail (*AbandonedOnline*).

County Route 26, incl. Bergoo Road Arch Bridge & Bergoo Mill Race Run Bridge

CO 26, aka Bergoo Road, is a 6-mile route from SR 15 at its west end (near Ralph) to Bergoo at its east end. The portion of CO 26 from former CO 15/2, roughly one mile west of the S. B. Hamrick Homestead driveway, to the route's east end at central Bergoo is not part of a known historic turnpike route; however, it did exist as a local road by the 1880s. The route was designated CO 26 by the 1930s (USGS 1891, 1893; WV SRC 1933,1937). [The portion of CO 26 from its west terminus at SR 15/Ralph to former CO 15/2 was part of the Summersville & Slavens Cabin Turnpike (chtrd 1853); the turnpike road strayed off present CO 26 to follow former CO 15/2 in a northeastward direction traversing Point Mountain and crossing Steps Run to link with present CO 15 near Woodzell and continue eastward toward Summersville (VA 1853:75)].

Bergoo Road Arch Bridge was built in 1923 by the Luten Bridge Company of York, PA, commissioned by the Webster County Court. The overseeing commissioner the year the project was completed was S. B. Hamrick, who happened to be the owner of the property west of the bridge. The smaller Bergoo Mill Race Bridge was likely commissioned by the county court and has an estimated 1924 construction date; it may have been built by Luten Bridge Co. as well, but present research has not confirmed such. It is speculation, but the impetus for the county building these bridges may have been due to increased use of Bergoo Road for the development of the P&C lumber mill in Bergoo and the associated railroad. Perusal of *NewspaperArchive.com* and *ChroniclingAmerica.loc.gov* did not find more information regarding contracting or building of these bridges. Prior to the Bergoo Rd Arch Bridge, it has been referenced that the Elk River in this area was crossed via a ford; others recalled a wooden bridge of some type in the vicinity (Cowger; McCourt 2020).

WEST VIRGINIA HISTORIC PROPERTY FORM CONTINUATION SHEET

NAME: Bergoo Road Arch Bridge

SITE#: WB-0103

Statement of Significance (cont'd):

According to historic highway mapping on file with WVDOH (1933, 1937), CO 26/Bergoo Road was likely earthen or maybe graveled prior to ca 1940. Roadway construction plans were drawn up for the 1934-35 fiscal years. On December 4, 1934 a contract was awarded to M. D. Topping of Ironton, OH for grading and drainage work along Bergoo Road; this work was completed by mid-July 1936, along with gravel surfacing by State Prison labor. In May 1940 a contract was awarded to Keeley Construction Company (which had an office in Clarksburg, WV) for surface treatment/paving of Bergoo Road. It appears that this early surface treatment of the road was completed in 1943 (CG 1934; MDN 1940; WVSR 1941:450-51; 1943:113). The road had been repaved and widened since.

Reinforced Concrete Deck Arch Bridge Context

“The advent of modern concrete technology fostered a renaissance of arch bridge construction in the United States. Stone arch bridges constitute an important chapter in American bridge building, but by the second half of the nineteenth century the labor-intensive nature of masonry arch bridge construction contrasted unfavorably with the ease of metal truss erection. Reinforced concrete allowed the arch bridge to be constructed with much more ease than ever before and maintained the load-bearing capabilities of the form” (P.A.C. Spero & Co. 1995:152).

The earliest known existing reinforced concrete arch bridge in the US was designed by Ernest L. Ransome and built in 1889 in Golden Gate Park, San Francisco. Other early names associated with reinforced concrete arch bridge design were Joseph Melan, Fritz von Emperger and Edwin Thacher. However, it was Daniel B. Luten who, within the first three decades of the 20th century, was the dominant designer, builder and promoter of reinforced concrete arch spans in the US (Parsons Brinkerhoff et al. 2005: 53). There were many other companies, though, that incorporated concrete arch bridge design and building as part of their repertoire. In West Virginia, concrete arch deck bridges were built steadily through the 1930s and were very popular in the 1910s and 1920s (KCI et al. 2015: 88).

Concrete deck arch bridges include closed spandrel and open spandrel types, each spanning between concrete abutments. The arch proper is called a ring and the spandrel is the area between the ring and the deck. The subject bridge represents a closed spandrel deck arch. In this closed version, spandrel walls are built to each side of the span to retain fill material (rubble, stones, or dry soil) deposited within the spandrel area. Traffic loads over the arch are distributed through the fill. Closed spandrel concrete arch bridges were historically the most economical to build over shorter spans. (Carver 2008: 241; KCI et al. 2015: 321; P.A.L Spero & Co. 1995:152).

Daniel B. Luten & Luten Bridge Company. Daniel B. Luten is nationally recognized as an important figure in bridge building and the design of reinforced concrete arch bridges. Luten patented his designs and they were used throughout the US (KCI et al. 2015). The central idea of Luten’s practice was to “produce a more efficient structure” by reducing the material needed to build for a given strength. His innovative approaches to reinforcing concrete arches with longitudinal tension rods resulted in efficient bridge designs (Mead & Hunt 2007:88).

Luten “was an 1894 civil engineering graduate of the University of Michigan. Upon graduation he was retained in Michigan as an instructor and assistant to Professor Charles E. Green, whose arch analyses were noted in the ASCE Transactions. From 1895 to 1900, Luten was instructor of civil engineering at Purdue University [Indiana] and in 1900 he resigned to design bridges. One year later he was designing and patenting his designs” (Carver 2008:155). In 1902 Luten’s design firm - National Bridge Company of Indianapolis, Indiana - was incorporated (*Railroad Gazette* 1902). “Luten designs were utilized throughout the United States. By 1915 Daniel B. Luten held 39 patents on concrete bridge plans and had designed about 6,000 bridges in the United States, Mexico, and Canada. In 1925 Luten had over 50 patents and over 1,400 bridges were attributed to his designs” (KCI et al. 2015).

“Luten often provided agents and builders with drawings and a license to construct bridges based on his plans for a set price. One such agent was Alex B. Whittaker. In 1909 [PA 1911:110] Whittaker incorporated his own company, the Luten Bridge Company of York, Pennsylvania, and was joined by his brother John Whittaker, Lucius G. Brown, and G. W. Drury. The Luten Bridge Company established a number of branch offices and obtained bridge construction contracts throughout the eastern and southern United States, including Clarksburg,

WEST VIRGINIA HISTORIC PROPERTY FORM CONTINUATION SHEET

NAME: Bergoo Road Arch Bridge

SITE#: WB-0103

Statement of Significance (cont'd):

West Virginia; Atlanta, Georgia; Syracuse, New York; Concord, New Hampshire; Palatka, Florida; Pennsylvania, Maryland, Tennessee, and Arkansas. The Luten Bridge Company is believed to have sold Daniel Luten designs as well as other similar concrete arch bridge designs" (KCI et al. 2015).

"Daniel Luten-designed concrete arch bridges were often known for achieving a notably flat arch, which provided a long arch span with less need for bridge height. Use of this design feature resulted in aesthetically pleasing bridges that were also economical in their use of materials. Some Luten designs utilized more rounded, less elliptical arches to respond to particular site conditions and shorter crossings. Although the elliptical arches were an important design feature associated with the concrete arch bridge designs of Daniel B. Luten, this feature was also commonly seen on most of the arch bridges attributed to Luten Bridge Company. Therefore, the elliptical arch alone is not considered a diagnostic element to establish an association with Daniel Luten himself. However, two key diagnostic elements . . . establish an association with Daniel Luten himself over the Luten Bridge Company on its own" (KCI et al. 2015). The two key elements include:

1. Presence of an ornamental rounded element forming the edge of the concrete arch ring. This special edging was not always used on Luten-designed bridges, but when evident it is a specific link to a Daniel B. Luten design. The subject Bergoo Road Arch Bridge does not exhibit this diagnostic element.
2. Presence of nonsymmetrical arch design, evident in multi-span bridges. This design was patented by Daniel B. Luten and was promoted for its aesthetic quality. It demonstrated how arches having unequal thrusts, or lengths, can balance against each other upon the same pier. It likely allowed for selecting best arch sizes for the site/location built. The subject Bergoo Road Arch Bridge includes this diagnostic element (KCI et al 2013).

Evaluation

Criterion A. Existing CO 26, including Bergoo Road Arch Bridge, represents local road development that was common throughout the state in the early 1900s, including in areas of growth related to coal or timber industries. The portion of CO 26 that the bridge is on is not part of a known turnpike route. Other than general association with the history of the area, there is no reason to believe that Bergoo Road Arch Bridge has an important link with events or trends, transportation- or industry-related or other, that have made a significant contribution to the broad patterns of history. Thus, Bergoo Road Arch Bridge does *not* meet NRHP Criterion A for association with events at a national, regional or local level.

Criterion B. Per research and public involvement to this point*, this span is not known to have been associated with the significant productive period of some notable person's life, nor to have been associated for any length of time with such a person, nor to be the best representation of such a person's historic contribution.

According to one of Bergoo Road Arch Bridge's informational plaques, S. B. Hamrick was the Webster County Court President at the time it was built. The property to the west of Bergoo Road Arch Bridge was owned by S. B. Hamrick (WV SRC 1933-34), with his homestead (WV-0323) to the northwest and the former location of his gristmill to the southeast. Although S. B. Hamrick, along with other county members, may have had impact in getting this bridge constructed by the county, as a county court member his name would have been included on any plaque-worthy bridge built in and by the county during his term(s). Therefore, this span does not meet NRHP Criterion B.

Criterion C. The extant Bergoo Road Arch Bridge is a triple-arch reinforced concrete span that was built in 1923 by the Luten Bridge Company of York, PA. It was previously determined NRHP-eligible under Criterion C in 2013 when it was evaluated for the WV Statewide Historic Bridge Survey as an uncommon bridge type in WV and for its association with designer Daniel B. Luten and the Luten Bridge Company (KCI et al 2013, 2015).

WEST VIRGINIA HISTORIC PROPERTY FORM CONTINUATION SHEET

NAME: Bergoo Road Arch Bridge

SITE#: WB-0103

Statement of Significance (cont'd):

In the 2015 bridge survey there were about 209 Luten Bridge Company concrete arch bridges extant in WV. By 2020, this number is reduced to about 164. Of the 164, there appear to be about 12 multi-span Luten Bridge Company concrete arch bridges remaining – 11 two-span and one three-span, the Bergoo Road Arch Bridge.

Luten Bridge Company was not the only firm to have built concrete arch bridges in WV in the early half of the 20th century. The total number of existing single- and two-span concrete arch bridges in the State, regardless of builder/designer, significantly exceeds the number of three- and four-span arch bridges existing in the State. WV appears to currently have five (5) three-span and one (1) four-span as of 2020, with four of these representing the closed spandrel design type:

Known 3- and 4-Span Early 20th Cent. Concrete Arch Bridges per WV Historic Bridge Survey and other sources					
County	Name/Location	Yr built	Spans	Type/Builder	NRHP Eligibility
Greenbrier	Camp Wood Bridge CO 16 over Anthony Ck	1917	3	Multi-Span <u>Closed Spandrel</u> Ellip Arch Concrete Steel Company of Clarksburg, WV	N
Greenbrier	Mockingbird Hill Bridge CO 62/1 over Second Ck	1923	3	Multi-span Deck Rib Arch Unknown Builder	N
Greenbrier	Alderson Mem. Bridge Over Greenbrier River	1914	4	Multi-span <u>Closed Spandrel</u> Ellip Arch Concrete Steel Company of Clarksburg, WV	Listed
Marion	Robert H Mollohan – Jefferson St Bridge Fairmont	1921	3	Multi-span Open Spandrel Arch Ribs J F Casey Company of Pittsburgh, PA	Listed
Morgan	Largent Bridge SR 9 over Cacapon River	1935	3	Multi-span <u>Closed Spandrel</u> Arch J M Francesa & Co of Fayetteville, WV	E
Webster	Bergoo Rd Arch Bridge CO 26 over Elk River	1923	3	Multi-span <u>Closed Spandrel</u> Ellip Arch Luten Bridge Company of York, PA	E

In regard to the above, Bergoo Road Arch Bridge appears to be the only three-span concrete arch bridge in WV known to exemplify of the work of both Daniel B. Luten, a nationally-recognized bridge designer, and the Luten Bridge Company of York, PA, a nationally-recognized bridge builder. WVDOH continues to agree with the 2015 WV Statewide Historic Bridge Survey that this bridge is noteworthy as a representation of a multi-span closed spandrel elliptical concrete arch bridge, an uncommon type represented in WV, with nonsymmetrical arches, a feature that typically evidences a Daniel B. Luten design. Bergoo Road Arch Bridge also appears to be one of only four (4) three- or four-span closed spandrel arch bridges remaining in the state that was designed/built by any firm in the early 20th century. This bridge retains a good level of integrity, particularly in the aspects of design, materials and workmanship. Therefore, Bergoo Road Arch Bridge continues to meet NRHP Criterion C.

Criterion D. This span is not likely to have important information that will contribute to our understanding of human history or prehistory. Construction appears to have utilized commonly known techniques, tools and materials. The potential for information is minimal and, therefore, this span does not meet NRHP Criterion D.

Summary: The Bergoo Road Arch Bridge is *NRHP-eligible* under Criterion C as a notable example of a multi-span closed spandrel elliptical concrete arch bridge, an uncommon type represented in WV, and as an example of the work of both Daniel B. Luten, a nationally-recognized bridge designer and the Luten Bridge Company of York, PA, a nationally-recognized bridge builder. Due to inconsistent periods of construction and/or lack of integrity or cohesiveness of the surrounding built environment, this structure is not a contributor to a historic district.

* Correspondence was conducted with: Preservation Alliance of West Virginia; Webster County Economic Development Authority, Webster County Historical Society, Hacker’s Valley Pioneer Descendants, Inc, Pardee & Curtin Timberlands LLC., and local resident Arlin Cowger.

WEST VIRGINIA HISTORIC PROPERTY FORM CONTINUATION SHEET

NAME: Bergoo Road Arch Bridge

SITE#: WB-0103

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WEST VIRGINIA HISTORIC PROPERTY FORM CONTINUATION SHEET

NAME: Bergoo Road Arch Bridge

SITE#: WB-0103

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**WEST VIRGINIA HISTORIC PROPERTY FORM
CONTINUATION SHEET**

NAME: Bergoo Road Arch Bridge

SITE#: WB-0103



South Elevation. View NE (WVDOH 11-8-2018).



South Elevation. View NW (WVDOH 11-8-2018).

**WEST VIRGINIA HISTORIC PROPERTY FORM
CONTINUATION SHEET**

NAME: Bergoo Road Arch Bridge

SITE#: WB-0103



North Elevation. View SW (WVDOH 11-8-2018)



North Elevation. View SE (WVDOH 11-8-2018).

**WEST VIRGINIA HISTORIC PROPERTY FORM
CONTINUATION SHEET**

NAME: Bergoo Road Arch Bridge

SITE#: WB-0103



West Approach. View ENE (WVDOH 11-8-2018)



West Approach, with approach guardrails. View E/NE (WVDOH 11-8-2018).

**WEST VIRGINIA HISTORIC PROPERTY FORM
CONTINUATION SHEET**

NAME: Bergoo Road Arch Bridge

SITE#: WB-0103



East Approach, with guardrails. View W (WVDOH 11-8-2028)



East Approach. View WNW (WVDOH 11-8-2018).

**WEST VIRGINIA HISTORIC PROPERTY FORM
CONTINUATION SHEET**

NAME: Bergoo Road Arch Bridge

SITE#: WB-0103



Plaque on North/Upstream Side Railing. View North (WVDOH 11-8-2018)



Plaque on South/Downstream Side Railing. View South (WVDOH 11-8-2018).

West Virginia Historic Bridge Inventory Form

Bridge No. 51-026/00-003.60 BARS No. 51A050 Federal Bridge No. 0000000051A050 Bridge Design No. 8201.0

IDENTIFICATION INFORMATION

SHPO Survey No. WB-0103 Owner State Highway Agency
Local Name BERGOO ROAD ARCH Status Extant - in service
Other Local Name

LOCATIONAL AND SETTING INFORMATION

District 07 County Webster Latitude 38301800 Longitude 080194200
Location 1.89 MI W OF CO 26/8 UTM-Northing
Facility Carried By Structure COUNTY ROUTE 26 UTM-Easting
UTM Zone
Features Intersected ELK RIVER Surrounding Land Use Forested
Type of Development Rural - (undeveloped area outside communities)

STRUCTURAL INFORMATION

Main Span Type Concrete Arch - Deck (continuous) Structure Length (ft) 193
Main Span Type Code 211 Length of Maximum Span (ft) 62
Number of Spans in Main Unit 001 Average Daily Traffic 000450 Year 2003
Number of Approach Spans 0002 Sufficiency Rating 0488 Skew 00
(Note: Data current as of April 2006 database)

BRIDGE DESCRIPTIVE INFORMATION

Year Built 1923 Arrangement
Year Reconstructed Connection Type
Truss Bridge Type Truss Details
Alteration(s) Date of Alterations (Year)

Architectural Treatment(s)

Decorative pier nose

Bridge Plate Text

(2) plaques. "1923 LUTEN BRIDGE CO., YORK PA" and "SB RAMRICK, PRES., JM BICKEL, AF SCOTT, COUNTY COURT, BS WOODDELL, CLERK, PB COGAR, COUNTY ENGINEER"

BRIDGE HISTORY

Engineer or Designer Builder or Fabricator Lutten Bridge Company

Bridge Plan Location None

Additional Details: Concrete deck with asphalt overlay. Concrete abutments and wingwalls. Decorative pier noses at upstream and downstream elevations. Concrete parapet with incised rectangular panels along the interior and exterior, and an attached guardrail at endposts. Deterioration around pier at the underside. Multi-span closed spandrel elliptical arch. WVDOH bridge database records indicate the bridge was constructed by the Lutten Bridge Company. Bridge possesses distinctive nonsymmetrical design that was a patented feature of Daniel B. Lutten and this feature indicates that the bridge incorporates engineering design related directly to the work of Daniel B. Lutten, 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.

This bridge retains the historic integrity necessary to convey its engineering significance and, therefore, is eligible for the National Register under Criterion C.



**MEMORANDUM OF AGREEMENT
BY AND AMONG
THE FEDERAL HIGHWAY ADMINISTRATION,
THE WEST VIRGINIA STATE HISTORIC PRESERVATION OFFICER
AND THE WEST VIRGINIA DIVISION OF HIGHWAYS
REGARDING IMPLEMENTATION OF THE
BERGOO ROAD ARCH BRIDGE REPLACEMENT PROJECT
STATE PROJECT # S351-26-3.59
FEDERAL PROJECT # STP-0026(054)D
WEBSTER COUNTY, WEST VIRGINIA
JANUARY 2021**

WHEREAS, the Federal Highway Administration (FHWA), in cooperation with the West Virginia Division of Highways (WVDOH), proposes to replace the Bergoo Road Arch Bridge which spans over the Elk River on County Route 26 in Webster County, West Virginia, hereinafter referred to as the Project. The Project will involve the construction of a new bridge and the removal the existing bridge; and

WHEREAS, the FHWA has determined that the Project will have an adverse effect upon the Bergoo Road Arch 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 has contacted the Preservation Alliance of West Virginia, Webster County Historical Society, Webster County Economic Development Authority, and Hackers Creek Pioneer Descendants, Inc. regarding the Project. None of these groups chose to respond or establish ability in relation to reuse of the existing Bergoo Road Arch Bridge; and

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:

I. Bergoo Arch Bridge Stipulations

- a. The Bergoo Arch 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 of March 2013. The documentation package will include hard copies in the form of PDFs for reports and documents, and TIFF files for photographs. The WVSHPO will be given the opportunity to review the documents before submission of final versions.
- b. 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.
- c. WVDOH staff will provide the Webster-Addison Public Library and the Webster County Historical Society a copy of the Bergoo Road Arch Bridge State Level Historic Documentation for references and educational purposes.
- d. Color brochures of the Bergoo Road Arch Bridge will be developed by the WVDOH and distributed to the Webster-Addison Public Library and the Webster County Historical Society. The WVSHPO will be given the opportunity to review all educational materials developed for this stipulation. A CD containing the brochure will also be provided to print brochures when the original total has been exhausted.
- e. The Bergoo Road Arch Bridge will be documented on the West Virginia historic bridge website.
- f. Bergoo Road Arch Bridge's builders/informational plaques will be given to the Webster County Historical Society per that organization's request.

II. 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 VI below. FHWA shall notify the signatories as to the course of action it will pursue.

III. Post-Review Discoveries

If any unanticipated effects to or 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).

IV. 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.

V. 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,

VI. 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.

VII. 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 VI, 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.

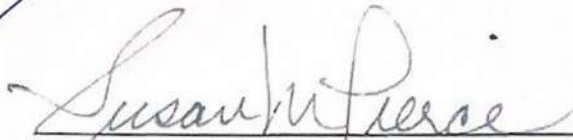
EXECUTION of the Memorandum of Agreement by the FHWA, WWSHPO, the WVDOH and the Council, and implementation of its terms evidence that the FHWA has afforded the Council an opportunity to comment on the Bergoo Road Arch Bridge Replacement Project and its effects on historic properties, and that the FHWA has taken into account the effects of the undertaking on the historic properties.

Signatories Page



Federal Highway Administration

5/21/21
Date



West Virginia Deputy State Historic Preservation Officer

1/28/2021
Date

INVITED SIGNATORY:



West Virginia Division of Highways

2-8-2021
Date