# Three Bridges Historic District Shannon County, Missouri

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## Description

The Three Bridges Historic District consists of an Ozark rolling hills landscape adjacent to the Current River and its tributaries in northern Shannon County, Missouri. Running through this landscape is Missouri Highway 19 (Route 19), an asphalt surface highway built into the hillside, which winds through the landscape. Route 19 crosses three concrete arch bridges in the district at Sinking Creek, the Current River and at Spring Valley.

Route 19 runs approximately two miles through the district. It has two ten-foot traffic lanes with two-foot earth shoulders. The highway winds and twists through the district following the topography of the Ozarks (views of the roadway and associated landscape are located in Appendix A). The roadway has a rock base and asphalt surface. The roadway is posted at 55 miles-per-hour, but first-time visitors find the speed limit hard to achieve. Chevrons mark the curves, signs mark each of the bridges, and various directional signs are located within the district. The highway was constructed in section between 1925 and 1927, originally as a gravel road, and improved with an asphaltic surface in 1941, 1968, 1974 and 1992 (MoDOT 2015).

The Sinking Creek Bridge (H0079) is a 1925, open-spandrel concrete arch bridge with three 80' arch spans and two 40' concrete deck girder approach spans (see Figure 1). The bridge has concrete abutments and wing walls. The bridge has a total length of 338'. The bridge columns between the arches have incised ribs. Each arch has two ribs with six spandrels bents; the arches are tied together with two arch struts. The bridge has a cast in place concrete deck with an asphalt wearing surface. The bridge is 18' wide, curb-to-curb with a concrete balustrade railing with posts at the columns. (Photos of the bridges are located in Appendix B).



Figure 1: Sinking Creek Bridge (2015)

In 2015 a temporary bridge was constructed just to the west of the Sinking Creek Bridge (H0079T) (Figure 2). The bridge consists of nine 40' steel girder spans and has an overall length of 360' 11". The bridge has steel pile bents and piers with steel cap, struts and cross bracing. The bridge has a mesh deck and a width of 23' 11" curb-to-curb. A three beam guardrail serves as railing.



Figure 2: Temporary Bridge at Sinking Creek (2015)

The Current River Bridge (G0804) is a 1924, closed spandrel concrete arch bridge with three 130' main spans, two 60' approach spans and a U-type abutment (Figure 3). The bridge has a total length of 601'. The columns between the arches project slightly beyond the surface of the closed spandrel. The bridge is 18' wide, curb-to-curb, with a concrete balustrade railing over the arch spans and a solid concrete railing over the abutments, with posts at the columns.



Figure 3: Current River Bridge (2015)

The Spring Valley (or Round Spring) Bridge (J0420) is a 1930, open-spandrel concrete arch with a 151' main span and three concrete deck girder approach spans on the north end and four concrete deck girder approach spans on the south end, and a total length of 522' (Figure 4). The

bridge has concrete abutments and wing walls. The bridge has a 45 degree skew. The main span is a 151' two rib arch with twelve spandrel bents and six arch struts. The approach spans are concrete girder spans with concrete pile bents with concrete caps and struts. The approach spans are 54'-52'-51' on the north side and 51'-52'-52'-54' on the south side. The bridge has a cast in place concrete deck with a bituminous surface. The bridge is 20' wide, curb-to-curb with a concrete balustrade railing, with posts at the bents.



Figure 4: Spring Valley Bridge (2015)

Also within the right-of-way are rock cuts which were necessary for the construction of Route 19 (Figure 5). These rock cuts expose the thin layer of top soil and thick layers of stone. Natural weathering has occurred on the exposed stone since the 1920s, leaving gaps, jagged edges and smoothed surfaces.



Figure 5: Representative example of rock cuts along Route 19 near Sinking Creek (2015)

A variety of native trees are planted close to the right-of-way. Trees include deciduous trees that allow views during the winter but enclose the highway when the trees are leafed out, pines that provide a sense of enclosure year round, and flowering trees. Much of the area had been logged and replanted in the late nineteenth and early twentieth centuries, so the trees are mature and dense.

Views from the highway constitute an important part of the landscape in the Three Bridges Historic District and are a contributing feature of the district (Figure 6). Views tend to be constricted on one side of the highway since the highway was built into the hillside. Views to the hillside tend to be tree covered hillside or rock cuts, except where the highway crosses streams or hollows, where the view expands.



Figure 6: Views from Route 19 (2015)

Contributing elements of the historic district include the Route 19 alignment including the roadway and right-of-way, the Sinking Creek Bridge (H0079), the Current River Bridge (G0804), and the Spring Valley Bridge (J0402) as well as the views from Route 19. Views from the Current River are also contributing resources. There may be additional contributing resources within the district, including buildings related to early recreation or tourism resources.

The temporary bridge at Sinking Creek (H0079T) is non-contributing. There may be additional non-contributing resources.

A comprehensive survey of all the resources within the district has not been conducted.

### **History & Significance**

The Three Bridges Historic District lies in northern Shannon County and encompasses the roadway, viewshed from the roadway and bridges (Sinking Creek, Current River and Round

Spring/Spring Valley) from just north of the Sinking Creek Bridge to just south of the Round Spring Bridge (see boundary map in Appendix C). The Three Bridges Historic District is eligible for listing on the National Register of Historic Places (NRHP) under criteria A and C for local significance in transportation, recreation and engineering, with a period of significance of 1925-1964. In addition, each of the three bridges individually eligible for listing on the NRHP for engineering significance, with a period of significance of its date of construction.

Shannon County lies in the heart of the Missouri Ozark Mountains. Route 19 winds through the county providing scenic vistas and the rivers in the area have provided recreational opportunities for more than a century. The tourism industry centers on the Current River. In 1964 over 134 miles of the upper Current River was incorporated into the Ozark National Scenic Riverways (ONSR), the first unit of the National Park Service to protect a river (ONSR nd: 4). The Sinking Creek Bridge is located within the ONSR.

Route 19 through Shannon County north of Eminence was constructed in the mid-1920s to improve access to the region, and to provide access to Round Spring State Park (MSHC 1926, MSHC1928a, MSHC 1928b, MSHC 1931, MSHD 1924, MSHD 1925a, MSHD 1930). Tourism was a booming industry in the Missouri and in the Ozarks, with tourist spending growing from \$61 million in 1926 to \$98 million by 1928 (MSHC 1928b: 378). Route 19 was a gravel road with an 18 foot roadway (MoDOT 2015). Because Route 19 connected to the Round Spring State Park just south of the Current River, the designers noted the need to consider the aesthetics of the highway approaching the park, especially from the north. The road was designed to fit into the terrain, as was typical of roadways of the era, but aesthetic considerations also influenced the curvature of the highway to provide vistas of the bridges and the Current River and notes to the Bridge Division were made to ensure that the bridges were aesthetically pleasing (MSHD 1925b; MSHD 1927).

Route 19 has a twenty foot roadway with earth shoulders that follows the topography of the mountains and curves around natural features. Between the Dent County line and Eminence, grading and excavation was done between 1925 and 1928 and it has given an aggregate surface in 1941. Although it was under construction prior to the passage of Proposition 3, Route 19 was a priority after its passage (MSHC 1926, MSHC 1928, MoDOT 2015).

In October 1923 Commissioners from Dent, Shannon and Oregon Counties appeared before the State Highway Commission asking that the road be started as soon as possible. Commissioner D. L. Bales of Shannon County stated, "the construction of this road would open up virgin territory and would mean much to that part of the state" (MSHC 1923: 2). In addition, he particularly urged the construction of a bridge over the Current River as quickly as possible. The Chief Engineer of the State Highway Department said that work was progressing on plans for the highway, and that funds had been allocated for the bridge. The Department was looking at suspension bridge designs, or possibly acquiring girders from a railroad to use for the bridge (MSHC 1923: 2-3).

Advertising for Proposition 3, sponsored by the Missouri Good Roads Committee, identified "five cardinal features" of the bond program:

- Finishing the 7640 mile State Highway System 4 to 6 years earlier than would be possible without the bonds;
- Building a network of Farm-to-Market roads in every County;
- Relieving traffic congestion around large cities;
- Refunding Counties and Civil Subdivisions for roads they constructed for the State Highway System; and
- Building new mileage for the state system, including making interstate and Park connections (MGRC 1926).

A map showing the progress of the State Highway System as part of the advertisement shows that none of Route 19 had been started in Shannon County (MGRC 1926).

Scenic views along Route 19 in Shannon County were frequently shown in the *Biennial Reports* of the Missouri State Highway Commission (Daniels 2015). The Fifth and Sixth *Biennial Reports* identify ten projects between the Dent County line and Eminence (including clearing done by State Maintenance forces), including three bridges (the Current River Bridge, the Sinking Creek Bridge, and the Bridge at Eminence) (MSHC 1926, MSHC 1928b, MoDOT 2015). The Seventh Biennial Report describes the Spring Valley Bridge, the only one of the three bridges to be described in the Bridge Bureau Report (MSHC 1930a).

Table 1 below shows the projects identified on Route 19 in the Fifth and Sixth *Biennial Reports*, listed in order from north to south, from the Dent County line to Eminence. The Spring Valley (Round Spring) Bridge is not included in the list, as is a section of highway that would be constructed during the next biennial period (1929-1930) (MSHC 1926: 217; MSHC 1928b: 277).

Project Number	Туре	Length	Contractor	Date of Completion	Cost*
19-28	30' Excavation	4.515 miles	Naney Bros. & Co.	1 September 1927	\$27, 356.36
19-29	30' Excavation	4.394 miles	Naney Bros. & Co.	1 September 1927	\$24,910.13
19-33	20' Excavation	2.244 miles	A. A. Davis Construction Co.	12 March 1926	\$146,459.34
19-32	Bridge [Sinking Creek]		Public Works Construction Co.	15 November 1926	\$40,334.54
19-34	Bridge [Current River]		M. E. Gilloiz	29 July 1925	\$73,005.04
19-37	30' Excavation	3.788 miles	Carte-Harlin Construction Co.	30 August 1927	\$5,738.45
19-38	30' Excavation	3.419 miles	Carte-Harlin Construction Co.	30 August 1927	\$17,891.57
19-38	Bridge [Eminence]		Thomas & Sampson	9 June 1926	\$5,947.66**
19-40	20' Excavation	2.383	A. A. Davis Construction	7 March 1928	\$88,671.45

### Table 1: Route 19 Projects from Fifth and Sixth Biennial Reports

Project Number	Туре	Length	Contractor	Date of Completion	Cost*
		miles	Co.		
	Clearing,		State Maintenance	31 December	
Leveling &		Forces	1927	\$35,671.45	
	Grading		Forces	1927	
*Cost thro	ugh December 31, 192	8			

\*Cost through December 31, 192

\*\*Bridge not complete

Because the highway was connecting to a state park and tourism being a major industry, the vistas provided by the roadway were a concern during the design. The first roadside park created in the state highway system is located on Route 19 south of Eminence (outside this project area). Views of the Current River and its tributaries and of the concrete arch bridges are provided as the road curves through the mountains (Daniels 2015).

Figures 7 and 8 are State Highway Department photographs showing the roadway shortly after construction. Although the photographs were not necessarily taken within the project area, the scenes are representative of Route 19 through Shannon and Oregon Counties where the highway was built into the hillside.



Figure 7: Route 19 in the late 1920s



Figure 8: Route 19 in the late 1920s

In 1930, as the highway was being constructed, the major landowner in Township 30 North, Range 4 West, was the Current River Lumber Company, which owned half of the land. Three other timber companies owned substantial acreage within the Township as well, the Missouri Lumber and Manufacturing Company, the Bunker Culler Lumber Company and the Smalley Tie and Timber Company (Hixson 1930).

Figure 9 below is from the *Fifth Biennial Report* and shows the highway as it approaches the Current River Bridge (MSHC 1926).



Figure 9: Current River Bridge, ca. 1925

Construction of Route 19 encouraged tourist development. In 1929 Camp Zoe, a youth camp, was developed off Route 19 along Sinking Creek (Camp Zoe 2015). A photograph taken in the late 1920s shows a group of revelers on the Current River Bridge (Figure 10) (Gill nd).



Figure 10: Group on Bridge over Current River near Round Spring

In 1930 the Commission described its roadside beautification program in the Seventh Biennial Report. Attractive highways are desired by users of the road and the adjoining property owners. Replacing trees removed when highways are constructed is a duty of the department. Improved roadways are "a magnet in drawing tourists by the thousands to Missouri. The tourist traffic will bring new money to the communities along the roadsides, and will stimulate their development" (MSHC 1930a: 427). Since Missouri is unsurpassed in scenic beauty, it is proper to enhance the drawing power of that beauty by appropriate roadside landscaping and respect for native growth along the highway. Scenic vistas are revealed to road users by careful trimming and cutting of trees (MSHC 1930a: 427-9).

In 1932, with the state highway system nearing completion, the Commission reported on tourist traffic for the first time. During the summer of 1931 a traffic census and survey had been completed revealing that tourism had resulted in \$21 million in money coming into Missouri during the season. The average tourist spent just over \$50 per vehicle during their stay in Missouri, which averaged just over seven days (MSHC 1932: 438-9).

The Works Progress Administration (WPA) *Guide to the "Show-Me" State*, described Route 19 as penetrating "a rugged, half-wild area divided into almost equal parts by the Current River. There is a rough, strong beauty in the mountains and cliffs and narrow valleys. There is much color, too, in the folk life of the section. Along the byways of the route, protected by the rocky hills, are folkways that elsewhere have passed from the American scene" (WPA 1998: 545). The 1940 Shannon County Highway Map (Figure 11) illustrates the winding nature of the highway (MSHD 1940).



The *Guide* describes the Current River as one of the scenic fishing steams of the state, winding a turbulent path through "the most rugged sections of the Ozarks" (WPA 1998: 549). The *Guide* continues, "Scenic beauty, and good fishing for black bass, salmon, and goggle-eye have made the river a popular float stream, and outfitting and conducting floats are local means of livelihood. A float trip is made under the supervision of guides in one or more boats, depending on the number of persons in the party. The trips usually begin at Round Spring and last two to six days. The time is spent drifting leisurely with the current and fishing in well-known holes. At night, camps are made on the sand bars which inevitably lie opposite the bluffs that mark sharp bends in the river" (WPA 1998: 549).

Round Spring, a State Park at the time of the *Guide*, is described as a small recreational center built about Round Spring, a spring rising from a basin about 80 feet in diameter. The spring

waters were described as having a soft, bluish color and a surface so still that it was necessary to look at a gauge to determine that the water was actually flowing (WPA 1998: 549).

The 1945 U. S. Geological Survey Round Spring Quadrangle shows several tourist related developments along the Current River and its tributaries including Camp Zoe on Sinking Creek, Camp Alton and the Round Spring State Park on the Current River and the Round Spring Caverns (USGS 1945). Round Spring Caverns was a tourist cave with a 14-foot waterfall which formed a stream through the cave. The cave was a well-developed tourist cave with paths and bridges (WPA 1998: 549-550). The Caverns was open to the public in 1932 as a show cave and was incorporated into the ONSR in 1972 (Showcaves.com 2015). The Alton Club was developed between 1937 and 1945 as a summer retreat for employees and customers of the Alton Box Board Company, and reflects rustic architecture popularized by the National Park Service. More than 1,000 acres contain sports and recreation venues, club house, lodge, dormitories and service buildings (Love 2004).

In the 1930s the U. S. Army Corps of Engineers had been given authority to dam the Current River; however, opposition from conservation groups and local citizens, and World War II delayed the plan. Governor Forest Smith added his support to the opposition in 1949, voicing support for keeping the Current River in a free-flowing, natural condition. The proposal to dam the river was withdrawn the following year (ONSR nd: 7).

In 1956 state and federal agencies called for the creation of a national recreation area for the Current, Jacks Fork and Eleven Points Rivers. The study was conducted in 1960. A series of bills to preserve the Ozark Rivers were introduced in Congress between 1960 and 1963, but differing opinions about appropriate management of the rivers doomed them to failure. In 1964 the Missouri delegation united behind a proposal for the Current and Jacks Fork rivers and legislation creating the Ozark National Scenic Riverways was passed and signed by Lyndon Johnson (ONSR nd: 7-8).

### Sinking Creek Bridge (H0079)

Bids for the Sinking Creek Bridge were received on June 26, 1925. The Public Works Construction Company of St. Louis, Missouri was the low bidder for the project and was awarded the contract on July 8, 1925 for a price of \$36,828.00 (MSHC 1925). The bridge was completed on November 15, 1926 (MSHC 1926).

The concrete abutment and wing walls can be seen in a photograph taken during the construction of the bridge (Figure 12) (Gill 1926).



Figure 12: Sinking Creek Bridge during construction, (Gill 1926)

## Current River Bridge (G0804)

In 1923 representatives from Dent, Shannon and Oregon County appeared before the Missouri State Highway Commission asking that construction of Route 19 through the counties be expedited, particularly a bridge across the Current River. The representatives were told that plans for Route 19 were proceeding and construction would occur when funding was available (MSHC 1923). Bids for the Current River Bridge were received on January 29, 1924. M. E. Gillioz was the low bidder for the project which included a 600' bridge. The project was awarded on February 13 for \$69,260.14 (MSHC 1924). The project was completed on July 29, 1925 for a cost of \$73,005.04 (MSHC 1926).

### Spring Valley/Round Spring Bridge (J0420)

Planning for the Spring Valley Bridge began in 1929 when a field check of the site was made by the Bureau of Bridges (MSHD 1929). The preliminary layout in 1930 indicated that the location of the structure in Round Spring State Park was "aesthetically suited for an arch and due regard was given to the appearance of the structure from this point of view" (MSHD 1930a). The original design was changed to provide lesser slopes at the north and south ends of the bridge. The designers noted that the route required "extreme grades and curvatures" (MSHD 1930a).

Bids for the project were received on April 29, 1930. C. F. Johnson & Sons of Buffalo, Missouri was the low bidder for the project and was awarded the contract on May 13, 1930 for a bid of \$145,623.58 (MSHC 1930b).

The Missouri Historic Bridge Inventory notes that the State Highway Department typically utilized open spandrel designs for concrete arch bridges greater than 80 feet long and filled spandrels were used for shorter bridges. A number of open spandrel concrete arch bridges were constructed in the 1920s and 1930s by the department. The Sinking Creek Bridge was identified as a well-preserved, representative example of the open spandrel arch construction and

recommended as potentially eligible (Fraser SHAN02). The Spring Valley Bridge is identified as a superlative example of the type with strong integrity of design and setting, and with the second longest span length in the state (Fraser SHAN 03). The Current River Bridge is an unusual example of a multi-span closed-spandrel arch bridge, and the 130' main spans are the longest filled spandrel arches on the state system. It was described as a technologically significant representative of concrete design of the 1920s (Fraser SHAN 01).

The Three Bridges Historic District encompasses three significant concrete arch bridges in a short distance on a roadway filled with extreme grades and curvatures and with exceptional views of the Current River and its tributaries. When completed, Route 19 provided exceptional opportunities for scenic driving as well as improving access to state parks and private clubs.

### **Recommended Boundary**

The recommended boundary of the Three Bridges Historic District recognizes the significant transportation corridor and the scenic driving experience associated with Route 19 and the view from the roadway and the Current River. The views from the roadway and river change with the seasons, but the view in the winter, when there is maximum visibility, was considered.

The northern boundary is approximately 0.25 miles north of the north end of the Sinking Creek Bridge, where Route 19 intersects with one of the parcels owned by the Ozark National Scenic Riverways (ONSR). This is at the apex of the curve preceding the curve onto the Sinking Creek Bridge, just before the bridge becomes visible from the roadway. The view to the west from this point extends across the Current River to the far bank, and on the east side hugs the 800' elevation line of the Mountain into which the roadway was built.

The eastern boundary continues along the elevation line above Route 19, extending at Sinking Creek to where the bluff on the northeast side turns to the north again, crosses Sinking Creek and follows the 800' contour line on along the east side to Kelly Hollow. At Kelly Hollow the boundary follows the bluff line east to an arbitrary point 250' along the bluff, turns south to cross the bluff and follows the 800' contour line to the projection of the bluff just north of Limekiln Hollow, where the boundary turns southwest to form the southern boundary.

The western boundary follows the 820' contour line above the western bank of the Current River from the northern boundary to a point where it intersects with the southern boundary just south of Round Spring.

The Southern Boundary is approximately 0.25 miles south of the south end of the Round Spring Bridge, at a point on the Route 19 tangent before the bridge is visible heading north on the roadway. The southern boundary extends west to connect to the western boundary in a fairly straight line since there is a sharp grade change between the roadway and the valley floor. It extends to the east along the contour lines until it intersects with the eastern boundary at the Current River near Limekiln Hollow.

The boundary is illustrated on the map in Appendix C.

The boundary includes the significant bridges, the roadway connecting them, the views from the roadway and the Current River and extends north of the Sinking Creek Bridge far enough north to include the first vista that includes the Sinking Creek Bridge and extends far enough south to include the first vista that includes the Spring Valley Bridge. The boundary is compact in including three historically significant bridges that are closely related by geography and construction time period, other nearby areas of Route 19, while sharing similar roadway geometry do not share the characteristic bridges.

It is possible that the boundary could extend along Route 19 further north and south, outside the area of potential effects for this project and that additional survey along Route 19 might identify additional area(s) that could be included within the boundaries.

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1998 *The WPA Guide to the "Show Me" State*, Missouri State Highway Department, 1941, Reprint 1998 by the Missouri Historical Society Press, St. Louis, Missouri. Appendix A Landscape Photos This page intentionally left blank



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Route 19, driving south
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Route 19, driving north

Appendix B Bridge Photos



Sinking Creek Bridge (H0079), facing southeast



Sinking Creek Bridge (H0079), facing southwest



Sinking Creek Bridge (H0079), facing south

Sinking Creek Bridge (H0079), facing north





Sinking Creek Temporary Bridge (H0079T), facing north



Sinking Creek Temporary Bridge (H0079T), facing north



Current River Bridge (G0804), facing southwest



Current River Bridge (G0804), facing south



Current River Bridge (G0804), facing east



Current River Bridge (G0804), facing northwest



Spring Valley (Round Spring) Bridge (J0420), facing northeast



Spring Valley (Round Spring) Bridge (J0420), facing northwest



Spring Valley (Round Spring) Bridge (J0420), facing north

Spring Valley (Round Spring) Bridge (J0420), facing northeast



Appendix C Boundary Map showing Bridge Locations

