

Windsor Harbor Road Bridge
Spanning Rock Creek on Windsor Harbor Road
Kimmswick
Jefferson County
Missouri

HAER No. MO-63

HAER
MO,
50-KIMWI,
2-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
Rocky Mountain Regional Office
National Park Service
U.S. Department of the Interior
P.O. Box 25287
Denver, Colorado 80225

HAER
MO.
56-KIMWI,
2-

HISTORIC AMERICAN ENGINEERING RECORD

Windsor Harbor Road Bridge

HAER No. MO-63

Location: Spanning Rock Creek on Windsor Harbor Road
Kimmswick, Jefferson County, Missouri

UTM: Zone 15 - North 424928
East 7300460

Quad: Valemyer

Date of Construction: 1874-1875

Builder/Designer: Keystone Bridge Company
Harry Doering (substructure)

Present Owner: Kimmswick Historical Society
Kimmswick, Missouri

Present Status: Closed to vehicular traffic; limited pedestrian use. The bridge will be preserved in place. A new vehicular traffic bridge has been built a few meters upstream.

Significance: Windsor Harbor Road Bridge has been placed on the National Register of Historic Places as the earliest known wrought iron span still extant in Missouri. Built for the city of St. Louis in 1784-75, it was slightly moved while a new bridge was being constructed in 1928. In 1930, it was dismantled and moved to Kimmswick.

Historians: Tom Gage, Ph.D, American History
Craig Sturdevant, M.A., Anthropology
John Carrel

I. HISTORY

A. Need for the Bridge

The Windsor Harbor Road Bridge came into being following the incorporation of the city of Carondelet by the city of St. Louis in 1870. Farm-to-market traffic cross the River des Peres at Luxemburg on Alabama Avenue by means of a covered toll bridge. [1] Increased load requirements with city growth and interest in non-toll bridges resulted in passing of ordinances in the summers of 1874 and 1875 to fund the construction of a new wrought iron span. [2] Originally called the "Lemay Ferry Bridge," it was moved just to the west of its constructed location in 1928, while a new span was being erected. [3] The Jefferson County Court applied to the city of St. Louis to donated the bridge to Jcfferson County. [4] This was done, and Jcfferson County then paid \$1,600 to Rohl Blackwell to take down the bridge, [5] \$5,000 to Ballard Transfer Company to move thc bridge, [6] and \$380 to Stupp Brothers Bridge and Iron Company for bridge pins and laterals. [7]

B. Construction Chronology

In 1874 and 1875, city ordinances were passed which funded the construction of a new wrought iron span over the River des Peres between St. Louis and Luxemburg on Alabama Avenue. [8] the cost of the bridge was to be equally shared by the city of St. Louis and St. Louis County. the city appropriated \$6,500 from general revenue to meet its obligation, and the Keystone Bridge Company was awarded the contract to construct the bridge. [9] Keystone Bridge Company was paid \$3,420 for their work, Harry Doering was paid \$3,029.38 for construction of the bridge substructure, and \$255.75 was paid to various other persons involved in the construction and supply of materials. [10] The bridge was completed in 1875, with a cost overrun of \$591.58. [11] The bridge was utilized in its original location for the next 53 years. It was then moved to a point just west of this location, while a new concrete and steel viaduct was under construction. Upon completion of the new span, the bridge was dismantled and re-erected in Kimmswick in Jefferson County in 1930. [12] The city of St. Louis donated the bridge and the Jefferson County Court paid for dismantling, moving, and re-erection. [13] The bridge is located in an area that had left it undisturbed by increased traffic pressures until the past decade when a new bridge was planned. Through joint agreement between the Missouri Highway and Transportation Commission, Jefferson County, and the city of Kimmswick, the Kimmswick Historical Society took ownership of the bridge in 1985. A new vehicular traffic bridge has been constructed a few meters to the west, and the Windsor Harbor Road Bridge is now preserved and used only for pedestrian and bicycle traffic. The historical society is currently seeking information regarding specific characteristics appropriate for the bridge preservation and restoration, such as color and replacement of the identifying plaques. [14] The historic Kimmswick setting along with community interest will serve the preservation of Windsor Harbor Road Bridge quite well for the foreseeable future. While noted to be the earliest known extant wrought iron span in Missouri at the time of the nomination to the National Register of Historic Places, subsequent investigations have determined that and 1870-1871 wrought iron bowstring is still extant in Jasper county, Missouri.

II. THE BRIDGE

A. Description

The Windsor Harbor Road Bridge is a nine panel, single span, pin connected high Pratt through truss construction. The span is 123.3 feet, the truss height is 13.7 feet, and the roadway is 20.3 feet outside and 18.3 feet inside.

The most striking aspects of the bridge are the composition and dimensions of its members. The inclined end posts and the vertical posts are cast iron "Phoenix" design, set in cast joints and with cast fittings for the tension bolts. There are decorative embellishments throughout all of the cast work. The inclined end posts are 15.5 inches in diameter at maximum. The first vertical post maximum diameter is 10.5 inches and a maximum diameter of 7.5 inches for the second and third vertical posts from either end of the bridge. The hip verticals are paired 1-inch wrought iron square eye bars, as are the single bars of the top and bottom lateral bracing. The top chord is constructed of two 8-inch channels with diagonal lattice and a 14-inch by 0.5-inch top plate. The bottom chords are wrought iron eye bars and are unusually massive for this length of span. The dimensions of the bottom chords, beginning with the chord to the hip vertical, then in sequence to the mid-chord, include the following: 2.25 inches by 1.25 inches, then 1 inch by 4.5 inches, then 1 inch by 8 inches, then 1.5 inches by 8 inches, then 1.5 inches by 8 inches. The diagonals are paired eye bars with dimensions in sequence, beginning with the diagonals to the mid-panel; 2 inches by 2.5 inches, then 1.5 inches by 1.5 inches. The counter bracing is 1-inch wrought iron square eye bar, with the exception of the mid-panels, which have 1.5-inch eye bars. The struts are webbed angle iron. The portal bracing is accomplished with a decorative casting. The floor beams are back to back paired 10-inch channels. Eight-inch stringers support asphalt covered timber planking. The bridge is supported on concrete abutments and I beam piers. There is a short steel girder approach span at either end of the bridge.

The bridge was originally designed to carry traffic across the River des Peters, from Alabama Avenue in St. Louis to Lemay Ferry Road in Luxemburg. A 1927 photograph showing the bridge in its original location indicates that the superstructure above the roadway has not altered to date. [16] The photograph also shows walkways on the outboard face of the trusses which appear to have been supported by extensions of the floor girders with three-member pipe guardrails carried on uprights which appear to be castings. In addition, the photograph illustrates a center top portal plaque which reads "Keystone Bridge Co. 1874."

With the exception of the substructures, walkways, and identifying plaques, the Windsor Harbor Road Bridge remains remarkably intact and can easily be recognized as the earlier "Lemay Ferry Bridge."

III. KEYSTONE BRIDGE COMPANY OF PITTSBURGH

The Keystone Bridge was organized on April 25, 1865, with a capital of \$300,000. [17] The incorporators included Aaron G. Schiffler, J. L. Piper, Walter Katte, James Stewart, and Andrew Carnegie. [18] The company purchased the plant of Piper and Schiffler of Pittsburgh which had been organized in 1862 by Andrew Carnegie. The company became Keystone Bridge Works of Carnegie Steel Company between 1891 and 1894 and was acquired by American Bridge Company in 1900. [19] The Pittsburgh plant facility was operating as of 1984 as USS Fabrication's Division Schiffler Plant fabricating transmission towers. [20]

IV. MODIFICATIONS

The 1927 photograph included in the National Register form package shows a bridge with outside pedestrian walkways with three vertical pipe guards with a height of about 3.50 to 4 feet. The walkway is wood plank and appears to be an extension of the plank roadway. These walkways are no longer present on the bridge. The 1927 photograph also shows a plaque which is no longer on the bridge. Besides these items, which have been removed, the photograph illustrates a bridge remarkably similar to the present Windsor Harbor Road Bridge.

V. THE PROJECT

A new bridge immediately upstream from the Windsor Harbor Road Bridge now carries vehicular traffic over Rock Creek for Windsor Harbor Road. Windsor Harbor Road Bridge is blocked to vehicular traffic and now carries only bicycle and pedestrian traffic. The bridge is under control of the Kimmswick Historical Society who is preserving and restoring the bridge. In that federal funds were involved in the construction of the new vehicular traffic bridge and Windsor Harbor Road Bridge status has been changed in the process, a Memorandum of Agreement required Historic American Engineering Record (HAER) photographic and historic documentation of the bridge. There is no future threat to Windsor Harbor Road Bridge, and it will remain one of the earliest extant wrought iron through truss bridges in Missouri.

VI. FOOTNOTES

- [1] Hertich, H. G., History of Old Roads, Pioneers, and Early Communities of St. Louis County. (Clayton, Missouri: St. Louis County Historical Society, n.d.), p. 8.
- [2] City of St. Louis, Missouri. Mayor's Message. May 1875, Table #6.
- [3] Ulrich, Paul G., "Lemay Ferry Bridge." Carondelet News, August 9, 1929, p. 4.
- [4] Jefferson County, County Court Record, September 4, 1929.
- [5] , County Court Record, November 4, 1929.
- [6] , County Court Record, May 5, 1930.
- [7] , County Court Record, June 2, 1930.
- [8] Mayor's Message, May 1875, Table #6.
- [9] Mayor's Message, May 1875, Table #6.
- [10] Mayor's Message, May 1875, Table #6.
- [11] Mayor's Message, May 1875, Table #6.
- [12] Jefferson County, County Court Record, June 2, 1930.
- [13] , County Court Record, September 4, 1929.
- [14] Eric DeLony, Washington, D.C., to E. Eldridge, St. Louis, n.d. Copy in Missouri Department of Natural Resources Central File, Jefferson City.
- [15] Fraser, Clay, Preliminary Evaluation, Missouri Bridge Inventory (Loveland, Colorado: Fraserdesign, 1989).

- [16] Photographer unknown, Lemay Ferry Bridge, 1927, Missouri Department of Natural Resources, Jefferson City, Missouri
- [17] Eldridge, E., et al., "Windsor Harbor Road Bridge," National Register of Historic Places Inventory - Nomination Form, Missouri Department of Natural Resources, Jefferson City, Missouri. 1983. Item No. 8, p. 1.
- [18] Eldridge, et. al. National Register, Item No. 8.
- [19] Darnell, Victor, "American Bridge-building Companies 1840 to 1900," Society for Industrial Archeology Occasional Publication No. 4, (Washington, D.C., 1984), p. 67.
- [20] Eldridge, et. al. National Register, Item No. 8, p. 1.

VII. BIBLIOGRAPHY

A. Books

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Hertich, H. G., History of Old Roads, Pioneers, and Early Communities of St. Louis County, Clayton, Missouri: St. Louis Historical Society, n.d.

B. Other

City of St. Louis, Missouri. Mayor's Message. May 1875, Table #6.

DeLony, Eric, Washington, D.C., to Elizabeth Eldridge, St. Louis, n.d. In Missouri Department of Natural Resources Central Files.

Fraser, Clay, Preliminary Evaluation, Missouri Bridge Inventory (report to Missouri Highway and Transportation Commission), Loveland, Colorado: Fraserdesign, 1989.

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Ulrich, Paul G., "Lemay Ferry Bridge." Carondelet (Missouri) News, August 9, 1929, p. 4.

U.S. Department of the Interior. National Register of Historic Places Inventory-Nomination Form. Windsor Harbor Road Bridge, Kimmswick, Missouri. Prepared by E. Eldridge, R. Bliss, and C. Toft, Landmarks Association of St. Louis, Inc. June 22, 1983.