Ed Hand Bridge
Ed Hand Highway (County Road 27) over Vermilion River
Town of Deer Park
Vicinity of the City of Oglesby
LaSalle County
Illinois

IL HAER No. LS-2015-1

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Illinois Historic American Engineering Record
Illinois Historic Preservation Agency
Springfield, Illinois

Prepared for the Illinois State Archaeological Survey on behalf of IDOT
by:

Heritage Research, Ltd.
Historical/Environmental Consultants
Menomonee Falls, Wisconsin
December 2015

ILLINOIS HISTORIC AMERICAN ENGINEERING RECORD
IL HAER No. LS-2015-1

Ed Hand Highway Bridge
(CONTINUOUS SPAN WARREN DECK TRUSS)

Location: Ed Hand Highway (County Road 27) over Vermilion River
Town of Deer Park (Vicinity of Oglesby), LaSalle County, Illinois

USGS Quadrangle: USGS LaSalle, 7.5 minute, Illinois
Latitude 041° 18' 07.22" N Longitude 089° 02' 15.20" W

Universal Transverse Mercator Coordinates:
Zone 16 Easting 329414 Northing 4574070

Present Owner: Illinois Department of Transportation

Present Use: Vehicular Bridge (IDOT Bridge No. 050-3038)

Significance: The Ed Hand Highway and Bridge were named after Edward Hand, a former City Clerk for the City of Oglesby. The bridge was erected in 1940-1941 and located on what was originally known as the East Entrance Highway, a conveyance that facilitated, for the first time, entrance to the City of Oglesby from the east, across the Vermilion River. The historical and structural integrity of the bridge remains very much intact. The bridge is significant as a fine example of a continuous span, Warren Deck Truss that opened the city to additional commerce.

## PART 1. HISTORICAL INFORMATION

A. Physical History:

1. Date of Erection: 1940-1941

2. Designer: State of Illinois, Division of Highways

3. Original and subsequent owners: Illinois Department of Transportation

4. Builder or contractor:

West Counties Company, Elmhurst, IL (substructure)
Zimmerly Construction, Paris, IL (superstructure, bridge deck)

Mississippi Valley Structural Steel Company, Melrose Park, IL (structural steel)

5. Alterations and additions: The bridge's superstructure was rehabilitated in 1983, at which time the traffic deck and railings were replaced.

B. Historical Context:

**Bridge Development in Illinois**

The earliest permanent bridges in Illinois include a few masonry arches built in 1832 when the National Road was extended west from Maryland. At least one other arch was built on the Chicago-Galena Road in the same period. Accounts of early travelers suggest that rudimentary ferries sometimes facilitated passage over larger streams in the region. Planks laid on the ice were also used to cross bodies of water in winter months. In warmer periods, timber structures accommodated such travel. Little is known of the pile trestles or half-submerged floating platforms used, both of which are mentioned in pioneer memoirs. All were subject to risks, as well as wash-outs by high water.[1]

**Figure 1:** This image pictures in January 2016 the remains of the ca. 1830s stone arch bridge situated on the nineteenth-century Chicago-Galena Road.

As settlers established permanent communities, "experienced mechanics" – either self-taught or from New England shipyards – were attracted to the frontier to erect covered bridges. Between 1820 and 1900, an estimated two to three hundred such bridges were

[1] John R. Nolen and the Illinois Department of Transportation (IDOT), *Ms. on file at IDOT* (1995), 310ff; Milo M. Quaife, *Chicago's Highways Old and New* (Chicago: D.F. Keller & Co., 1923), 69ff.

built in Illinois, of which five remained in 2001.[2]

Railroads improved upon the early timber structures. But by the late 1850s, their need for stronger bridges encouraged the development of iron fabrications, which were followed after the 1870s by those made of steel. The development of steel trusses in the post-Civil War era contributed to the rapid expansion of railroads, settlement and industrialization in a growing America.[3]

**Warren Deck Trusses**:

The earliest truss bridges date to the ancient period and were constructed of wood. They utilized king or queen posts to transfer the load placed upon the deck to diagonal beams that were anchored to each abutment. The deck, diagonals and post formed a triangle, which is among the strongest of all geometric shapes. Pennsylvanian Theodore Burr constructed in 1803 a wooden bridge that combined several king post trusses with an arch to form a long bridge that had significant strength. He later patented his design which came to be known as the Burr Arch Truss.[4]

Other American bridge designers expanded upon Burr's design and created their own patents. All exclusively called for wood, which was difficult to use in tension (the act of pulling apart). It was also prone to fire, as well as catastrophic failure after prolonged exposure to the elements. William Howe partially solved these problems in 1840 by patenting the Howe Truss. This type of truss bridge used wood for elements (diagonals) held in compression (the act of pushing together), while wrought iron was substituted for members (verticals) placed in tension. Initially, railroads constructed significant numbers of Howe Trusses. But such structures utilizing the combination of wood and iron suffered from several infamous railroad bridge failures. Thereafter was the design of an all-metal bridge demanded.[5]

One of the earliest truss bridge designs that lent itself to all-metal construction was the

---

[2] Russell M. Garrard, "Early Bridges in Central Illinois," in *Heritage of Mid-Illinois Engineering* (Capital City Chapter of the Illinois Society of Professional Engineers, circa 1976), 15ff; IDOT, *Historic Bridge Survey List* (Springfield, IL: Bureau of Location and Environment, 1992, 2004).

[3] Walter V. Voss, "How New Materials Increased Man's Building Ability," in *Centennial Transactions* (New York: American Society of Civil Engineers, 1953), 829ff.

[4] T. Allen Comp and Donald Jackson, "Bridge Truss Types: A Guide to Dating and Identifying," in *History News* 32:5 (May 1977): n.p. *History News* is published by the American Association for State and Local History.

[5] Comp and Jackson, "Bridge Truss Types."

Pratt Truss, which was patented in 1844 by Thomas and Caleb Pratt. A Pratt Truss was the reverse of a Howe Truss in that its verticals, with the exception of the hip vertical next to the inclined endpost, acted in compression, while diagonals are placed in tension. A typical Pratt Truss displays heavy vertical beams constructed of steel plates and angles while diagonals are much more slender and comprised of steel rods or smaller-scale plates and angles. The first Pratt Trusses were constructed with a combination of wrought iron and wood. Squire Whipple utilized the Pratt design when he began to build in the 1840s all-iron bridges. Pratts were designed for both pony and through-truss conveyances.[6]

Similar to Pratts in that they were also used for both pony and through-truss bridges, was the Warren Truss. It was developed in 1840 by James C. Warren, a British engineer, and patented in 1848. Designed with diagonals that are alternately placed in tension and compression, and that extended between the lower and upper chords, this bridge-type is easily recognized by the series of equilateral triangles that characterize it. Warrens are also defined by their rigid diagonals, which can be further stiffened if necessary by adding secondary vertical members. The Warren truss was a dominant bridge design-type used extensively in the twentieth century.[7]

As with Pratts, Warrens were adaptable for use as a Deck Truss, a circumstance in which the deck is carried by the upper chord with the truss beneath it. Such usage was limited to locations where there was sufficient clearance between the structure and the obstacle below to accommodate the truss. That is the case with the Ed Hand Bridge and its crossing of the Vermilion River.[8]

**City of Oglesby and Vicinity**:

LaSalle County was established on 15 January 1831 as it, along with Cook and Putnam counties, was set apart from Peoria County. The largest communities in the new county were LaSalle and Peru. The former was established in 1827 as plans developed for the Illinois and Michigan (I&M) Canal, which was to extend from LaSalle to Chicago. When the canal opened in 1848, LaSalle became a prominent shipping point. The latter dates to 1835 and was also a significant point of transfer for goods traveling

[6] Ibid.; Jeffrey A. Hess and Robert M. Frame, *Historic Highway Bridges in Wisconsin* (Madison, WI: Wisconsin Department of Transportation, 1998), Vol. 2, Part 1, 19-23.

[7] Comp and Jackson, "Bridge Truss Types;" Hess and Frame, *Historic Highway Bridges*, 42; James E. Potter and L. Robert Puschendorf, eds., *Spans in Time: A History of Nebraska Bridges* (Lincoln, NE: Nebraska State Historical Society, 1999), 10.

[8] Hess and Frame, *Historic Highway Bridges*, 14-17.

on the canal. Within the larger civil Township of LaSalle, maps suggest that agriculture was the prominent economic pursuit.[9]

Soon the county had other economic opportunities in addition to the canal and farming. Coal mining was one such activity. The Oglesby area, immediately south southeast of LaSalle and the Illinois River, claimed four such mines. The Oglesby Coal Company elevated coal from underground to the surface using vertical mine shafts, as did the Jonesville Mine. Slope mines were found at the Black Hollow and Dawson facilities. In such operations was the coal raised to the surface along an inclined surface instead of a shaft. Three veins of coal were discovered in the Oglesby area. That closest to the surface was found at a depth of about 200 feet, the next was at 270 feet and the third was at about 464 feet. The Oglesby community thus evolved as a support center for the nearby mines. Little evidence of a town was found in 1876, other than a post office and railroad station. But Oglesby claimed about 600 residents in the early 1880s. Specific businesses were not identified at the time, but a state gazetteer acknowledged the presence of schools, as well as the Oglesby Coal Company and the Illinois Valley Coal Company.[10]

Several railroads facilitated the development of the local coal industry, as well as of Oglesby as a general shipping point, the most significant of which were the Illinois Central (IC) Railroad and the Chicago, Burlington and Quincy (CB&Q). The IC was chartered in 1851, shortly after which construction started. The line through Oglesby extended from Bloomington, about 60 miles to the south, to Freeport, about 100 miles to the north northwest, and was constructed between 1853 and 1855. The Vermilion Valley Northern Railroad arrived in the area in circa 1870. It was constructed from Streator, about 20 miles southeast of Oglesby, to Walnut, approximately 45 miles to the northwest, and was subsequently acquired by the CB&Q. Much of this line paralleled the Vermilion River and was known for its picturesque environment.[11]

Coal production maintained a presence in the Oglesby vicinity into the twentieth century. Around the turn of the century, however, it was joined by the Portland cement industry which focused on the territory immediately east of Oglesby. That area was

---

[9] *History of LaSalle County, Illinois*, 2 vols. (Chicago: Inter-State Publishing, Co., 1886), 1:199; *Illinois: Guide & Gazetteer* (Chicago: Rand McNally & Company, 1969), 335-336, 424-425; *Map of LaSalle County and Part of Marshall County, Illinois* (S.B. Carter & Th. Neubarth, 1859), n.p.

[10] *Oglesby: Our Home Town, 1902-2002* (Oglesby, IL: Oglesby Historical Society, 2002), 6-7; *Atlas of LaSalle County and the State of Illinois* (Chicago: Warner & Beers, 1876), 69; *Illinois State Gazetteer and Business Directory, 1880* (Detroit: R.L. Polk & Co, 1880), 839; *Illinois State Gazetteer and Business Directory, 1882* (Chicago: R.L. Polk & Co., 1882), 1034.

[11] *History of LaSalle County*, 419-423, 426-427; *Oglesby: Our Home Town*, 189-193.

still largely farmed in 1892, as illustrated in Figure 2. Evidence of the Oglesby Coal Company and the Illinois Valley Coal Company are quite apparent immediately north and northwest of the community. But that vicinity to the east was largely occupied by the Joseph Reynolds, John Bottomley and Frank Hand properties.

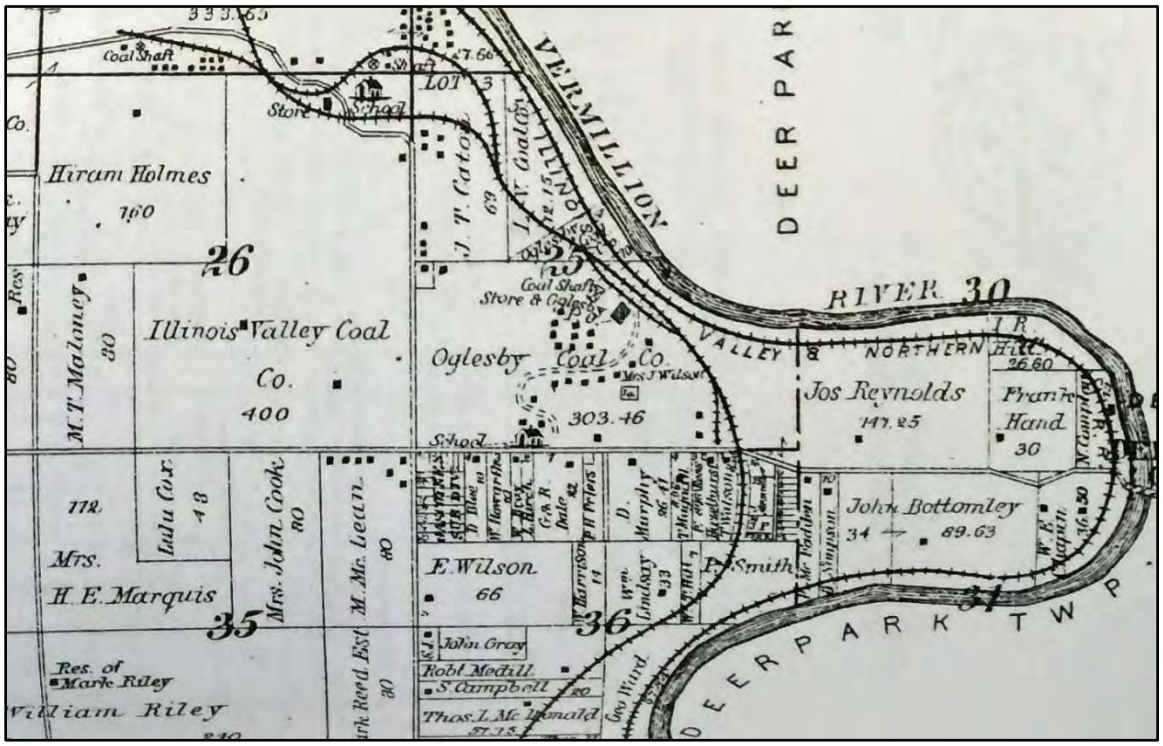



**Figure 2:** This map illustrates the Oglesby vicinity in the lower center part of the picture. To the east are the Reynolds, Bottomley and Hand properties, while Oglesby Coal and Illinois Valley Coal are evident to the north and northwest. Note the generally central route of the IC Railroad, as well as that of the CB&Q as it followed the contour of the river on its west side. *Plat Book of LaSalle Co., Illinois* (Chicago: Alden Ogle & Co., 1892), 36.

The Chicago Portland Cement Company established in 1898 a presence just east of town. It produced 1.25 million barrels of cement in 1911 and was acquired by the Lehigh Portland Cement Company in 1916. Operations continued to 1963. The Marquette Cement Company was formed in 1898, although a predecessor initiated operation in 1892. It was located immediately south and southwest of the Lehigh facility and continued to operate, though with ownership changes, in 2013. A map illustrating the dominant land holding position of the cement companies around Oglesby in 1950 is provided in Figure 3.[12]

It was for this evolving farming, coal and cement producing community that the City of Oglesby evolved and provided support services. The city's population grew from

[12] *Oglesby: Our Home Town*, 16-33.

about 600 in the early 1880s as noted previously, to over 3,000 in 1910. It exceeded 4,100 in 1920, after which it fell below 4,000 until 1960 when it reached 4,215. Thereafter has it fallen, with nominal fluctuations, to 3,647 in 2000.[13]

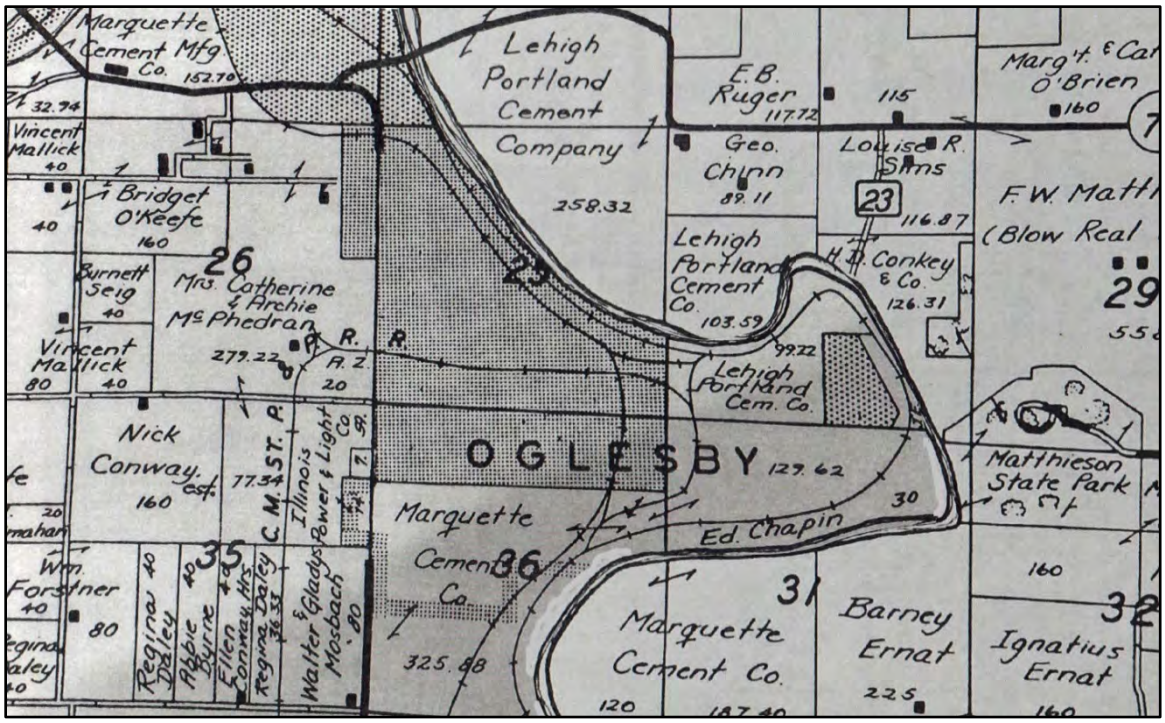



**Figure 3:** This circa 1950 plat map clearly demonstrates how prominent both the Marquette Cement and Lehigh Portland Cement holdings were in the areas to the south and north of Oglesby. *Farm Plat Book, LaSalle County, Illinois* (Rockford, IL: Rockford Map Publishers, circa 1950), n.p.

## **Edward Hand**:

Ed Hand, for whom the highway and its subject bridge were later named, was the grandson of Frank Hand who owned thirty acres of farmland immediately east of Oglesby on the west side of the Vermilion River (see Figure 2). Frank and his wife, Anna, were both American-born, although their parents were Irish immigrants. Along with his son Edwin, Frank was a laborer at one of Oglesby's two cement mills. Edwin and his wife, Annie, had two children, Theodora and Edward, born in 1902 and 1903 respectively. Edwin and his family moved to Chicago, where he worked as a chauffeur. He died by 1920, however, which is thought to have inspired Annie's return with Edward to Oglesby where she subsequently took in boarders as well as worked in a restaurant. Annie was the proprietor of a restaurant by 1930 which son Edward operated. Shortly thereafter, by April 1931, Edward secured the position of City Clerk

[13] *Ibid.*, 297.

for Oglesby, the position in which he served until circa 1960.[14]

**Ed Hand Highway & Bridge**:

The Ed Hand Highway and Bridge solved a significant historical problem for the City of Oglesby. For much of its history, the city only had vehicular access to the west, a small footbridge across the Vermilion River to the east notwithstanding. Travelers had to motor north, perhaps on early incarnations of USH 51, to either IL 71 south of the Illinois River or USH 6 north of the river before they could venture east. That situation became an issue as time evolved. Indeed, it was considered for Oglesby to be a "dead-end condition."[15]

It was reported that a highway to the northeast of Oglesby and toward Ottawa had been discussed for thirty years, planned for six years and constructed for three years. Work on the new travel way actually started in 1937. When finished, the highway and its bridges cost $258,000, just under half of which came from the federal government through the participation of the Works Progress Administration.[16]

Work on the roadway progressed, which is evident on the picture found in Figure 4 that dates to 1939. It was initially pursued by about 150 WPA employees, a number that later dropped to approximately 70 men. Clearly absent in the illustration is the subject bridge, although a bridge had been constructed across the CB&Q tracks.[17]

The state issued on 10 May 1940 several notices to contractors as it sought plans and proposals for constructing the bridge across the river. Tasks noted in the documents included constructing the bridge's substructure, typically the foundation abutments and piers that would subsequently support the trusses. They also included building and painting the steel trusses, as well as preparing the bridge deck, parapet walls and handrails. Notice of the contracts awarded was made on 31 May 1940. Substructure construction was to be accommodated by the West Counties Company of Elmhurst (IL) for an amount of $27,633, while the superstructure and bridge deck were to be fabricated by Zimmerly Construction of Paris (IL) for $15,478. The Mississippi Valley Structural Steel Company of Melrose Park (IL) was to fabricate and deliver the

[14] U.S. Federal Census – Population (1900, 1910, 1920, 1930, 1940), accessed at www.ancestry.com on 04 December 2015; *Oglesby: Our Home Town*, 283-284.

[15] Edward Hand, "Oglesby Comes of Age," *Dedication of the East Entrance Highway Northeast of Oglesby* (Oglesby, IL: Oglesby Booster Club Committee, 1941), n.p.; Copy on file at the Oglesby Public Library.

[16] Hand, "Oglesby Comes of Age," n.p.; *Our Home Town*, 200.

[17] "Want WPA Road Work Resumed," *The* (LaSalle) *Daily Post-Tribune,* 24 September 1940.

necessary steel for $19,337. Additionally work was expected to start in about two weeks. Also noted at the time the awards were announced was the fact that about $150,000 had already been invested in the construction of what was then known as the "east-entrance roadway."[18]

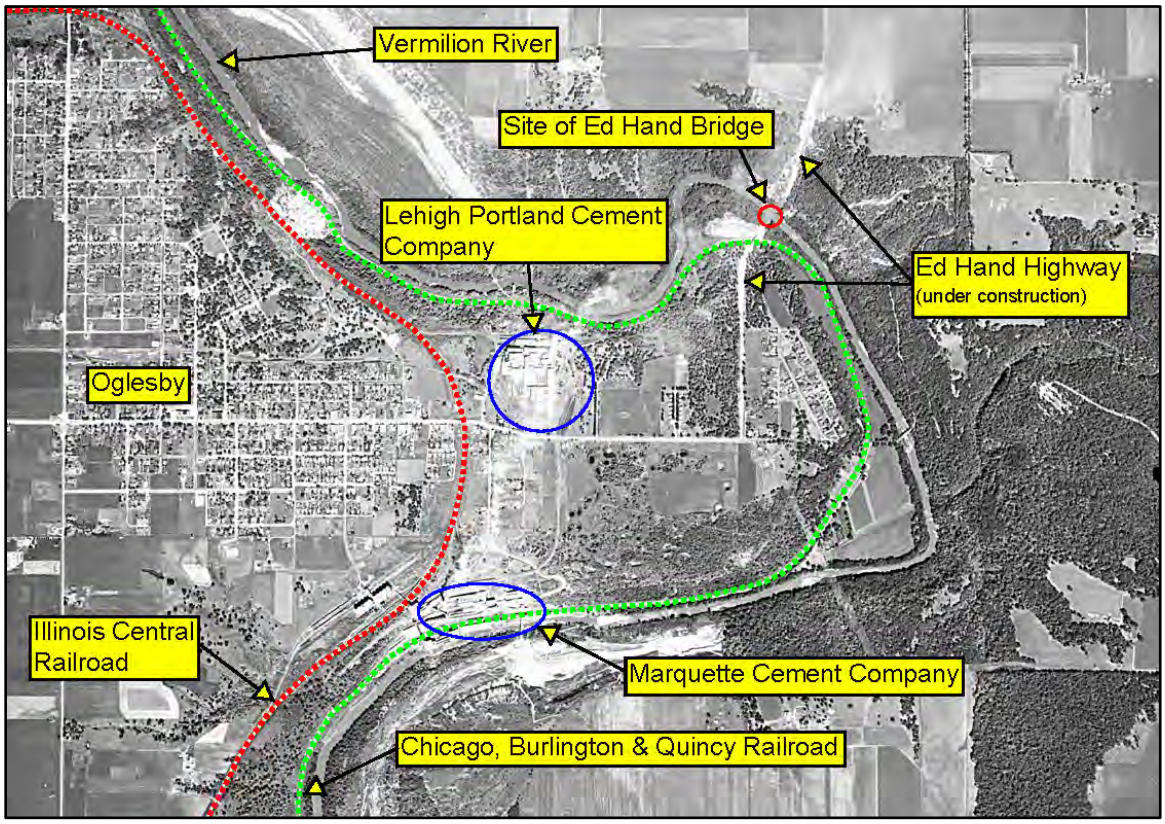



**Figure 4:** This 1939 illustration pictures the Oglesby area to the east, as well as the location of the various railroads, cement mills and the Ed Hand Highway – which was then under construction. Illinois Historical Aerial Photography, 1937-1947, Image #BWY-3-82, 23 August 1939, Viewed at http://clearinghouse.isgs.illinois.edu/data/imagery/1937-1947-illinois-historical-aerial-photography on 25 November 2015.

J.E. Raffensberger, from the Bloomington office of the state's Division of Highways, was designated the project's resident engineer. His appointment was announced in the 8 June 1940 issue of the City of LaSalle's newspaper, *The Daily Post-Tribune*. The paper further opined that "Oglesby's long dream of one day heightening its economic status by providing for a new road into that progressive community from the east today moved nearer realization." Indeed, it was that day when workers of the West Counties

[18] "Contract No. 7532," Section 31-B; "Contract No. 7534," Section 31-E; "Contract No. 7531," Section 31-D, State Aid Route 23, Federal Aid Project 51A, Located in Illinois Department of Transportation Contract Files, Record Group 242.28, Illinois State Archives, Springfield, IL; "Oglesby's Bridge Jobs Are Awarded by State Friday," *The Daily Post-Tribune*, 31 May 1940.

Company began clearing the bridge site of brush and trees. Additional details of the bridge's construction were also announced in the article. The project was expected to use approximately 2,800 feet of piles under the abutments, 584 yards of concrete in the abutments and piers, 37,310 pounds of reinforcing steel in the abutments and piers, and about 455,000 pounds of structural steel in the trusses. The deck was to use an additional 285 yards of concrete that would be reinforced by 61,630 pounds of steel.[19]

Work on the Ed Hand Highway project in general, and the bridge in particular, was completed in October 1941. A *Daily Post-Tribune* article of 17 October described in great detail the pageantry that would accompany the structure's formal dedication on Sunday, 19 October. Important to the bridge's dedication ceremony was the participation of the City of Utica, a community on the north side of the Illinois River and about five miles to the northeast of Oglesby that, along with Oglesby, was looking forward to a closer relationship between the two communities thanks to the new highway and bridge. The highway and bridge have served the vicinity ever since.[20]

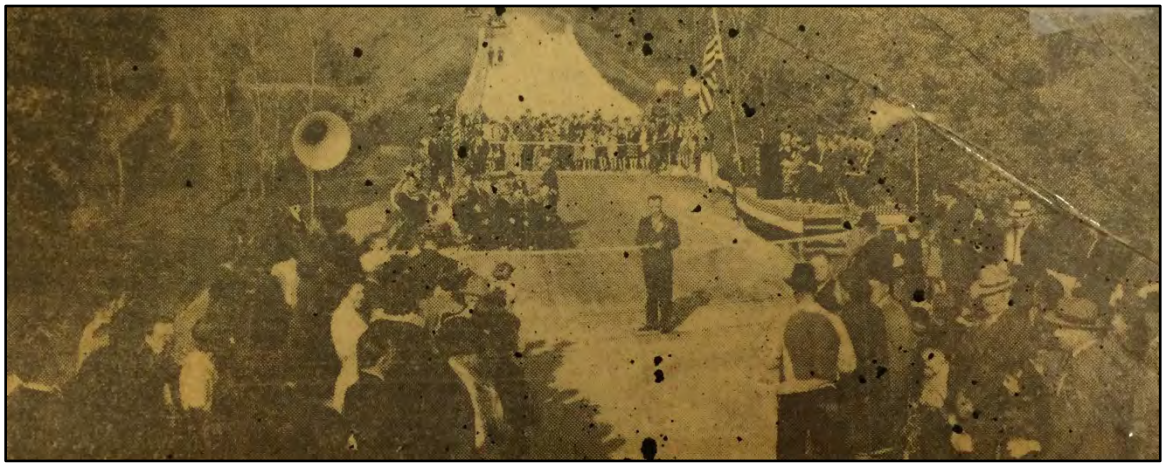


**Figure 5:** The 19 October 1941 dedication of the East Entrance Highway, later the Ed Hand Highway, and its bridge (background center). "Oglesby's East Entrance road Dedicated," *The Daily Post- Tribune*, 21 October 1941.

## PART II: ARCHITECTURAL INFORMATION

### A. General Statement:

#### 1. Architectural Character:

The Ed Hand Bridge was constructed in 1940-1941. It is a 352' long, 27'-8"

[19] "Begin Work on Oglesby East Entrance Bridge," *The Daily Post-Tribune*, 8 June 1940.

[20] "Complete Program for Oglesby Road Dedication Sunday," *The Daily Post-Tribune*, 17 October 1941.

wide, steel, three-span, eighteen-panel, rivet-connected, continuous Warren Deck Truss that facilitates passage of the Ed Hand Highway (CH 23) over the Vermilion River.

2. Condition of Fabric:

The structure was rehabilitated in 1983. Its historical integrity appears to be good, although the deck and railings were replaced during the rehabilitation.

B. Description:[21]

The Ed Hand Bridge is tied to two concrete abutments and two concrete piers. The northeast abutment ascends 41'-9¾" inches which includes the 3' thick, 35'-6" long by 17'- 6" wide foundation anchored to seventy-two piles. The abutment is 16'-6" wide at the base. It tapers to a 3' width at a point 25'-4" inches above and is crowned by a 6' wide, 12'-3" high concrete beam. Anchoring the back of the beam (to the northeast) at each corner are two additional columns that extend 19' into the ground and that are fastened to four piles.

The southwest abutment rises from a 3' thick, 35'-6" long by 11'-6" wide foundation tied to forty-eight piles. It ascends 37' and is 10'-6" wide at the base, a width that tapers to 3'-6" at a point 20'-6" inches above. It is then topped by a 13' high, 6' wide concrete beam. The back of the beam (to the southwest) is additionally anchored to four piles as a result of two, 14'-3" columns – one at each corner.

The northeast, reinforced concrete pier rises from a 3' high, 28'-8" long by 8' wide base set on limestone. The pier is 27'-8" long, 4'-4" wide and ascends 27'-10½" inches above the base. Similarly is the southwest pier's 27'-8" long, 12' wide by 3' high base anchored to hard bray shale. The dimensions of the pier itself mirror those of that to the northeast, except that it rises above the base 29'-4".

The inclined end posts and lower chord of this three-span continuous Warren Deck Truss employ 12" by 10" rolled "I" beams. The top chord is 12¼" by 19" and comprised of channels and lacing. Verticals defining the eighteen panels are 12" by 8" "I" beams. The diagonals in those panels are 12" by 10" rolled "I" beams. Bottom lateral bracing and struts are all comprised of two angles tied with stay plates. Sway bracing at verticals 3, 7, 9, 7A and 3A (north to south – see Figure 6 for identification of the verticals) are

[21] The measurements used to describe this bridge were taken from original plans, as well as from the structure itself. Field measurements were limited to components that could be reached from the slopes and ground beneath the deck truss without aid of ladders, boats or other equipment. The complex nature of the original plans, combined with the dominant nature of the bridge, limited the ability to glean individual measurements of specific components in some instances.

comprised of two, 3" by 4", while that at verticals 5 and 5A claim two 3½" by 5" angles. Top lateral bracing is comprised of 12" by 7" rolled "I" beams.[22]

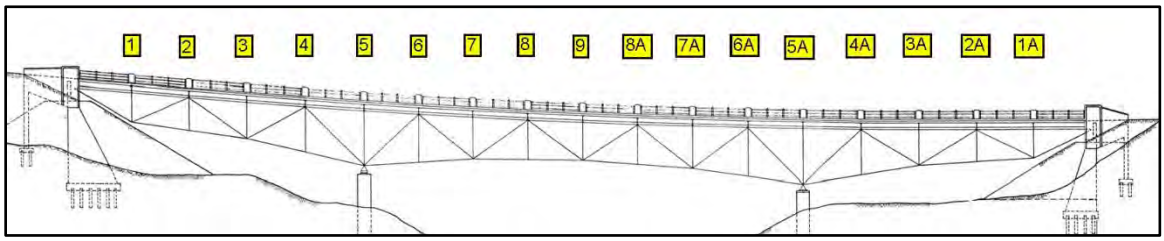



**Figure 6**: This diagram identifies the verticals of the bridge, which are consistent with those noted in the plans.

Deck beams are carried by the top chord to which they are perpendicular. They are rolled, 31" by 9" "I" beams. Extending between and anchored to the deck beams are five 10½" by 6" deck stringers that are made additionally rigid by smaller, rolled "I" beams positioned perpendicularly between the stringers.

The concrete deck consists of two, 12' lanes, each with a 2' shoulder beyond which is a 12" wide curb that is 12" high. The curb's width tapers from 12" to 6" at the top. The railing above the curb consists of two chords, the lowest of which is 4¾" above the curb top. It is 12" high by 4" wide. The top chord is 5" above the lower chord and is 4" by 4" inches. Reaching from the traffic deck to the top of the top chord, the railing is 37½" high.

## PART III: SOURCES OF INFORMATION

A. Primary and Unpublished Sources:

*Atlas of LaSalle County and the State of Illinois*. Chicago: Warner & Beers, 1876.

"Begin Work on Oglesby East Entrance Bridge." *The* (LaSalle) *Daily Post-Tribune,* 8 June 1940.

"Complete Program for Oglesby Road Dedication Sunday." *The Daily Post-Tribune*, 17 October 1941.

"Dedication of the East Entrance Highway Northeast of Oglesby." Oglesby, IL: Oglesby Booster Club Committee, 1941. Copy on file at the Oglesby Public Library.

[22] All reachable members were measured. Those structural members approaching and between the intermediate piers were unreachable and could not be measured, nor were their dimensions discernable from bridge plans.

*Farm Plat Book, LaSalle County, Illinois*. Rockford, IL: Rockford Map Publishers, circa 1950.

Hand, Edward. "Oglesby Comes of Age." *Dedication of the East Entrance Highway Northeast of Oglesby*. Oglesby, IL: Oglesby Booster Club Committee, 1941.

Illinois Department of Transportation Contract Files. Record Group 242.28. Illinois State Archives, Springfield, IL.

*Illinois State Gazetteer and Business Directory, 1880*, vol. II. Detroit: R.L. Polk & Co., 1880.

*Illinois State Gazetteer and Business Directory, 1882*. Chicago: R.L. Polk & Co. and A.C. Denser, 1882.

Illinois Historical Aerial Photography, 1937-1947. Image #BWY-3-82, 23 August 1939. Viewed at http://clearinghouse.isgs.illinois.edu/data/imagery/1937-1947-illinois-historical-aerial-photography on 25 November 2015.

*Map of LaSalle County and Part of Marshall County, Illinois*. S.B.Carter & TH. Neubarth, 1859.

"Oglesby Gains in Population." *The Daily Post-Tribune*. 15 May 1940.

"Oglesby's Bridge Jobs are Awarded by State Friday. *The Daily Post-Tribune*, 31 May 1940.

*Plat Book of LaSalle Co., Illinois*. Chicago: Alden Ogle & Co., 1892.

"Start Monday on Oglesby Bridge." *The Daily Post-Tribune*, 5 June 1940.

*Twenty-Third Annual Report of Division of Highways, Department of Public Works and Buildings for the Year 1940*. Springfield, IL: State of Illinois, 1940.

*Twenty-Fifth Annual Report of Division of Highways, Department of Public Works and Buildings for the Year 1942*. Springfield, IL: State of Illinois, 1942.

"Want WPA Road Work Resumed." *The Daily Post-Tribune*, 24 September 1940.

B. Secondary and Published Sources:

*Bridgehunter.com – A Database of Historic and Notable Bridges in the United States, Past and Present*. Available at http://bridgehunter.com.

Comp, T. Allen and Donald Jackson. "Bridge Truss Types: A Guide to Dating and Identifying." In *History News*, 32:5 (May 1977).

Garrard, Russell M. "Early Bridges in Central Illinois." *Heritage of Mid-Illinois Engineering*. Capital City Chapter of the Illinois Society of Professional Engineers, circa 1976.

Hess, Jeffrey A. and Robert M. Frame III. *Historic Highway Bridges in Wisconsin*, Vol 2, Part 1. Madison, WI: Wisconsin Department of Transportation, 1998.

*Historic Bridge Survey List*. Springfield, IL: Bureau of Location and Environment, 1992, 2004.

*History of LaSalle County, Illinois*, 2 vols. Chicago: Inter-State Publishing Co., 1886.

*Illinois: Guide and Gazetteer*. Chicago: Rand McNally & Company, 1969.

Nolen, John R. and the Illinois Department of Transportation (IDOT). *Ms. on file at IDOT* (1995).

O'Byrne, Michael Cyprian. *History of LaSalle County, Illinois*. Chicago: The Lewis Publishing Company 1924.

*Oglesby Our Home Town, 1902-2002*. Oglesby, IL: Oglesby Historical Society, 2002.

Potter, James E. and L. Robert Puschendorf, eds. *Spans in Time: A History of Nebraska Bridges*. Lincoln, NE: Nebraska State Historical Society, 1999.

Quaife, Milo M. *Chicago's Highways Old and New*. Chicago: D.F. Keller & Co., 1923.

U.S. Geological Survey. *Illinois: LaSalle Sheet* [map]. 1:64000, 15 Minute Series. Reston, VA: United States Department of the Interior, USGS, 1893.

U.S. Geological Survey. *Illinois: LaSalle Quadrangle* [map]. 1:64000, 15 Minute Series. Reston, VA: United States Department of the Interior, USGS, 1913.

U.S. Geological Survey. *LaSalle Quadrangle* [map]. 1:24000, 7.5 Minute Series. Reston, VA: United States Department of the Interior, USGS, 1993.

Voss, Walter V. "How New Materials Increased Man's Building Ability." *Centennial Transactions*. New York: American Society of Civil Engineers, 1953.

## PART IV: METHODOLOGY OF RESEARCH

A. Research Strategy:

Research objectives were to place the bridge in its geographic, historic and engineering contexts. A strategy was developed to accomplish those goals that investigated local, statewide and regional documentary sources. On-site observation and investigation of the bridge was also part of the research plan.

B. Research Process:

1. Visited bridge site to review conditions, as well as to photograph and measure the structure.

2. Searched repositories in Springfield (IL), Oglesby (IL), Milwaukee (WI), and Madison (WI) for material relating to road and bridge development in LaSalle County, as well as the development of the Ed Hand Highway.

3. Prepared draft of report, noting needs for special attention.

4. Document draft internally reviewed at Heritage Research, Ltd.

5. Document draft reviewed by IDOT and IHPA.

6. Completed all revisions and submitted to IDOT.

C. Archives and Repositories Used/Consulted:

Illinois Department of Transportation
2300 S. Dirksen Parkway
Springfield, Illinois 62764
(Bridge Plans)

Illinois State Archives
Norton Building
State Capitol Complex
Springfield, Illinois 62756
(IDOT Record Group 242.28, Local Government Records Index and Maps)

Illinois State Historical Society Library
Abraham Lincoln Presidential Library
112 N. 6th Street
Springfield, Illinois 62701-1507
(Histories, Various Newspapers)

Illinois State Library
300 S. 2nd Street
Springfield, Illinois 62701-1796
(Map Collection and Histories)

Marquette University Library
1355 W. Wisconsin Avenue
Milwaukee, Wisconsin 53233
(Indexed Historical *Chicago Tribune*)

Wisconsin Historical Society
816 State Street
Madison, Wisconsin 53706
(Illinois State Gazetteers)

D. Research Staff:

1. Primary Preparer:

John N. Vogel, Ph.D.
Heritage Research, Ltd.
N91 W17194 Appleton Avenue
Menomonee Falls, Wisconsin 53051
262.251.7792
jnvogel@hrltd.org

2. Photographer:

John N. Vogel, Ph.D.
Heritage Research, Ltd.
N91 W17194 Appleton Avenue
Menomonee Falls, Wisconsin 53051
262.251.7792
jnvogel@hrltd.org

3. Contributing Author/Editor:

Brian J. Faltinson, M.A.
Heritage Research, Ltd.
N91 W17194 Appleton Avenue
Menomonee Falls, Wisconsin 53051
262.251.7792
bfaltins@hrltd.org

4. Additional Staff:

Brad Koldehoff, RPA
Cultural Resources Unit Chief
Bureau of Design & Environment
Illinois Department of Transportation
2300 S. Dirksen Parkway
Springfield, Illinois 62764

PART V: PROJECT INFORMATION

This IL-HAER archival documentation is submitted in compliance with a stipulation of a Memorandum of Agreement (MOA) between the Federal Highway Administration, Illinois Division, and the Illinois State Preservation Officer, dated with final signature on 10 September 2015. The MOA was executed in compliance with CFR 36 800.6(b)(1)(iv) of the National Historic Preservation Act of 1966, as amended.

## Historic Images of the Ed Hand Bridge:

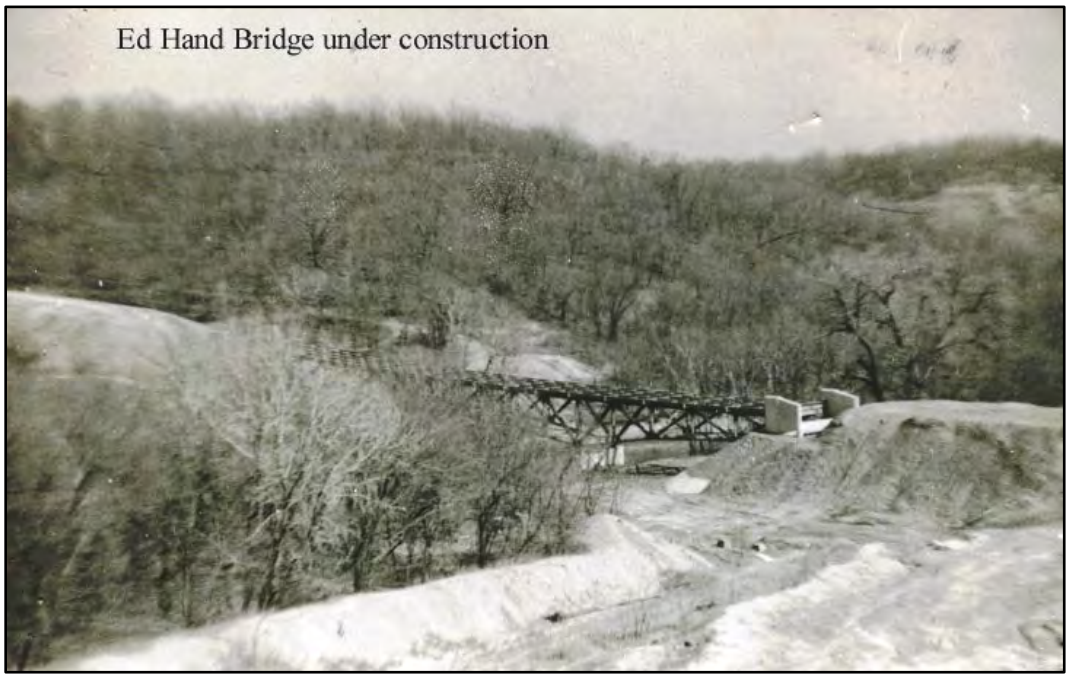



**Figure 7**: The steel frame of the bridge is pictured in this unattributable post card. (The picture is on file at Heritage Research, Ltd., Menomonee Falls, WI).

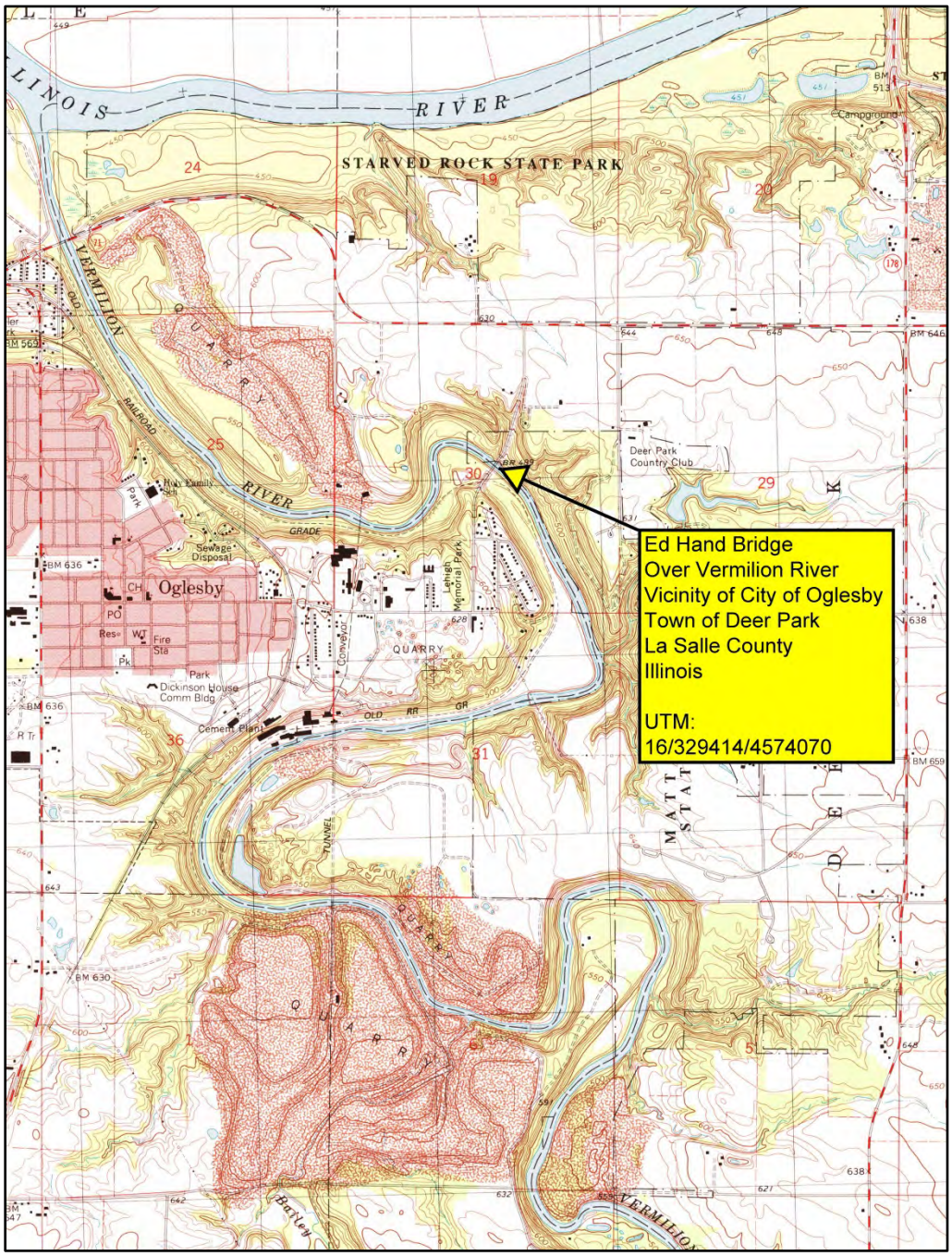
**Figure 8**: View to the Northeast. This image illustrates the finished bridge. *Twenty-Fifth Annual Report of Division of Highways, Department of Public Works and Buildings for the Year 1942* (Springfield, IL: State of Illinois, 1942), 176.

## Historic Images of the Ed Hand Bridge – 2:

**Figure 9**: View to North picturing both the bridge's original railing, as well as the truss work below. Viewed at http://bridgehunter.com/il/la-salle/5030381146/ on 05 December 2015.

**Figure 10**: View to North illustrating the original deck and its railing. Viewed at http://bridgehunter.com/il/la-salle/5030381146/ on 05 December 2015.

USGS Map Identifying Bridge Location:




U.S. Geological Survey, *LaSalle Quadrangle* [map], 1993, 1:24000, 7.5 Minute Series (Reston, VA: United States Department of the Interior, USGS, 1993).

ILLINOIS HISTORIC AMERICAN ENGINEERING RECORD

INDEX TO PHOTOGRAPHS

Ed Hand Bridge
Over Vermilion River
Vicinity of the City of Oglesby
Town of Deer Park
LaSalle County
Illinois

IL HAER No. LS-2015-1

Documentation: 36 Exterior Photographs (2015)
20 Data Pages
01 7.5 Minute USGS Map

John N. Vogel, Ph.D., Photographer

| | |
|---|---|
| IL HAER No. LS-2015-1.1 | DISTANT VIEW TO NORTH NORTHEAST. |
| IL HAER No. LS-2015-1.2 | VIEW TO SOUTHWEST. |
| IL HAER No. LS-2015-1.3 | VIEW TO NORTH. |
| IL HAER No. LS-2015-1.4 | VIEW TO NORTHWEST |
| IL HAER No. LS-2015-1.5 | VIEW TO SOUTHEAST. |
| IL HAER No. LS-2015-1.6 | DISTANT VIEW TO SOUTHEAST. |
| IL HAER No. LS-2015-1.7 | VIEW TO SOUTHEAST. BRIDGE TRUSS PIER-TO-PIER. |
| IL HAER No. LS-2015-1.8 | VIEW TO NORTH. BRIDGE TRUSS. |
| IL HAER No. LS-2015-1.9 | VIEW TO SOUTHWEST. BRIDGE TRUSS. |
| IL HAER No. LS-2015-1.10 | VIEW TO NORTHEAST. BRIDGE TRUSS PIER-TO-PIER. |
| IL HAER No. LS-2015-1.11 | VIEW TO SOUTHWEST. SOUTHWEST PIER. |
| IL HAER No. LS-2015-1.12 | VIEW TO NORTHEAST. NORTHEAST PIER. |

PHOTOGRAPHS

| | |
|---|---|
| IL HAER No. LS-2015-1.13 | VIEW TO WEST SOUTHWEST. SOUTHWEST PIER AND TRUSS ABOVE. |
| IL HAER No. LS-2015-1.14 | VIEW TO NORTH. BRIDGE TRUSS PIER- TO-PIER. NORTHEAST PIER. |
| IL HAER No. LS-2015-1.15 | VIEW TO NORTH NORTHWEST. NORTHEAST PIER AND TRUSS ABOVE. |
| IL HAER No. LS-2015-1.16 | VIEW TO NORTH NORTHEAST. BRIDGE BEARING ON NORTHEAST ABUTMENT. |
| IL HAER No. LS-2015-1.17 | VIEW TO NORTHEAST. BRIDGE BEARING ON SOUTHWEST PIER. |
| IL HAER No. LS-2015-1.18 | VIEW TO NORTHWEST. BRIDGE BEARING AND STRUCTURAL CONNECTIONS ON SOUTHWEST PIER.. |
| IL HAER No. LS-2015-1.19 | VIEW TO NORTH. INTERMEDIATE PIER TO NORTHEAST. BEARING AND TRUSS ABOVE. |
| IL HAER No. LS-2015-1.20 | VIEW TO NORTHEAST. CONCRETE ABUTMENT. END FLOOR BEAM. |
| IL HAER No. LS-2015-1.21 | VIEW TO NORTH NORTHWEST. END FLOOR BEAM. DECK STRINGER. |
| IL HAER No. LS-2015-1.22 | VIEW TO NORTHWEST. BRIDGE CENTER AND ADJACENT CONNECTIONS. |
| IL HAER No. LS-2015-1.23 | VIEW TO SOUTHWEST. INTERIOR OF BRIDGE TRUSS. |
| IL HAER No. LS-2015-1.24 | VIEW TO NORTHEAST. SPAN EXTENDING TO NORTHEAST ABUTMENT. |

PHOTOGRAPHS

| | |
|---|---|
| IL HAER No. LS-2015-1.25 | VIEW TO SOUTHWEST. TOP CHORDS. TOP LATERAL BRACING. DECK BEAMS. DECK STRINGERS. |
| IL HAER No. LS-2015-1.26 | VIEW TO SOUTHWEST. BOTTOM LATERAL BRACING. |
| IL HAER No. LS-2015-1.27 | VIEW TO SOUTHWEST. TOP LATERAL BRACING. |
| IL HAER No. LS-2015-1.28 | VIEW TO NORTH NORTHWEST. TOP CHORD, END FLOOR BEAM, INCLINED END POST, TOP LATERAL BRACING CONNECTION. |
| IL HAER No. LS-2015-1.29 | VIEW TO NORTHWEST. LOWER CHORD, DIAGONAL, VERTICAL CONNECTION. |
| IL HAER No. LS-2015-1.30 | VIEW TO EAST. INCLINED ENDPOST, LOWER CHORD, VERTICAL, STRUT, BOTTOM LATERAL BRACING CONNECTION. |
| IL HAER No. LS-2015-1.31 | VIEW TO SOUTHEAST. LOWER CHORD, VERTICAL, STRUT, BOTTOM LATERAL BRACING CONNECTION. |
| IL HAER No. LS-2015-1.32 | VIEW TO WEST SOUTHWEST. TOP CORD, VERTICAL, DIAGONAL, STRUT, TOP LATERAL BRACING CONNECTION. |
| IL HAER No. LS-2015-1.33 | VIEW TO WEST SOUTHWEST. BRIDGE DECK AND RAILING. |
| IL HAER No. LS-2015-1.34 | VIEW TO NORTHWEST. BRIDGE PLATE. |
| IL HAER No. LS-2015-1.35 | VIEW TO NORTHEST. VERMILION RIVER. |
| IL HAER No. LS-2015-1.36 | VIEW TO SOUTHEST. VERMILION RIVER. |

PHOTOGRAPHS


IL HAER No. LS-2015-1.1

IL HAER No. LS-2015-1.2

PHOTOGRAPHS

IL HAER No. LS-2015-1.3

IL HAER No. LS-2015-1.4

PHOTOGRAPHS

IL HAER No. LS-2015-1.5

IL HAER No. LS-2015-1.6

PHOTOGRAPHS

IL HAER No. LS-2015-1.7

IL HAER No. LS-2015-1.8

PHOTOGRAPHS

IL HAER No. LS-2015-1.9

IL HAER No. LS-2015-1.10

PHOTOGRAPHS

IL HAER No. LS-2015-1.11


IL HAER No. LS-2015-1.12

PHOTOGRAPHS

IL HAER No. LS-2015-1.13

IL HAER No. LS-2015-1.14

PHOTOGRAPHS

IL HAER No. LS-2015-1.15

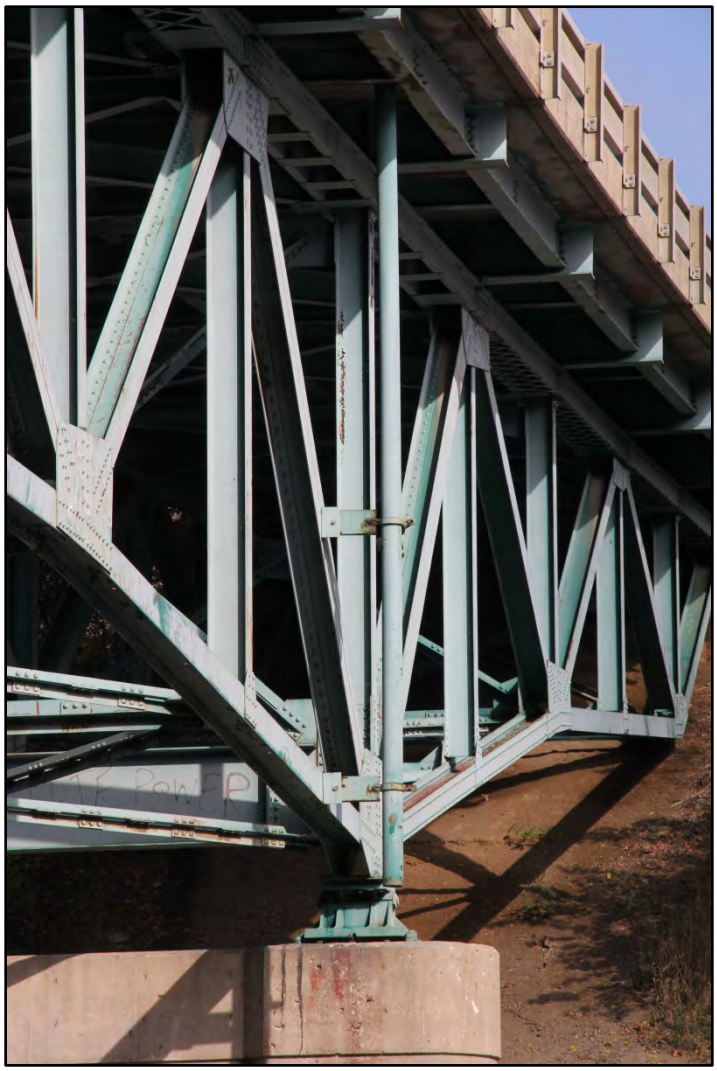

IL HAER No. LS-2015-1.16

PHOTOGRAPHS

IL HAER No. LS-2015-1.17

IL HAER No. LS-2015-1.18

PHOTOGRAPHS



IL HAER No. LS-2015-1.19

PHOTOGRAPHS


IL HAER No. LS-2015-1.20

PHOTOGRAPHS

IL HAER No. LS-2015-1.21

PHOTOGRAPHS

IL HAER No. LS-2015-1.22


IL HAER No. LS-2015-1.23

PHOTOGRAPHS

IL HAER No. LS-2015-1.24

IL HAER No. LS-2015-1.25

PHOTOGRAPHS

IL HAER No. LS-2015-1.26

IL HAER No. LS-2015-1.27

PHOTOGRAPHS


IL HAER No. LS-2015-1.28

IL HAER No. LS-2015-1.29

PHOTOGRAPHS


IL HAER No. LS-2015-1.30

IL HAER No. LS-2015-1.31

PHOTOGRAPHS

IL HAER No. LS-2015-1.32

IL HAER No. LS-2015-1.33

PHOTOGRAPHS


IL HAER No. LS-2015-1.34

IL HAER No. LS-2015-1.35

PHOTOGRAPHS

IL HAER No. LS-2015-1.36