

**United States Department of the Interior
National Park Service**

**National Register of Historic Places
Registration Form**

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This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in How to Complete the National Register of Historic Places Registration Form (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

1. Name of Property

historic name Hendricks County Bridge #316
other names/site number Hendricks County Bridge #216; Friendship Gardens Bridge

2. Location

street & number Center Road, Friendship Gardens over White Lick Creek N/A not for publication
city or town Plainfield N/A vicinity
state Indiana code IN county Hendricks code 063 zip code 46168

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended, I hereby certify that this nomination request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36CFR Part 60. In my opinion, the property meets does not meet the National Register criteria. I recommend that this property be considered significant nationally statewide locally. (See continuation sheet for additional comments.)
Signature of certifying official/Title [Signature] Date 1.30.03
Indiana Department of Natural Resources
State or Federal agency and bureau

In my opinion, the property meets does not meet the National Register criteria. (See continuation sheet for additional comments.)
Signature of certifying official/Title _____ Date _____
State or Federal agency and bureau _____

4. National Park Service Certification

I hereby certify that the property is:
 entered in the National Register.
 See continuation sheet.
 determined eligible for the National Register
 See continuation sheet.
 determined not eligible for the National Register
 removed from the National Register
 other, (explain:)

Signature of the Keeper [Signature] Date of Action 3/26/03

5. Classification

Ownership of Property (Check as many boxes as apply)	Category of Property (Check only one box)	Number of Resources within Property (Do not include previously listed resources in the count)		
		Contributing	Noncontributing	
<input type="checkbox"/> private	<input type="checkbox"/> building	0	0	buildings
<input checked="" type="checkbox"/> public-local	<input type="checkbox"/> district	0	0	sites
<input type="checkbox"/> public-State	<input type="checkbox"/> site	1	0	structures
<input type="checkbox"/> public-Federal	<input checked="" type="checkbox"/> structure	0	0	objects
	<input type="checkbox"/> object	1	0	Total

Name of related multiple property listing
 (Enter "N/A" if property is not part of a multiple property listing.)

**Number of contributing resources previously listed
 in the National Register**

N/A

0

6. Function or Use

Historic Functions

(Enter categories from instructions)

TRANSPORTATION: Road-Related

Current Functions

(Enter categories from instructions)

TRANSPORTATION: Pedestrian-Related

7. Description

Architectural Classification

(Enter categories from instructions)

OTHER: Pinned Warren

Materials

(Enter categories from instructions)

foundation CONCRETE

walls METAL: Iron

METAL: Cast Iron

roof

other

Narrative Description

(Describe the historic and current condition of the property on one or more continuation sheets.)

8. Statement of Significance

Applicable National Register Criteria

(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

- A** Property is associated with events that have made a significant contribution to the broad patterns of our history.
- B** Property is associated with the lives of persons significant in our past.
- C** Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- D** Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations

(Mark "x" in all the boxes that apply.)

Property is:

- A** owned by a religious institution or used for religious purposes.
- B** removed from its original location.
- C** a birthplace or grave.
- D** a cemetery.
- E** a reconstructed building, object, or structure.
- F** a commemorative property.
- G** less than 50 years of age or achieved significance within the past 50 years.

Areas of Significance

(Enter categories from instructions)

ENGINEERING

Period of Significance

1886

Significant Dates

1886

Significant Person

(Complete if Criterion B is marked above)

N/A

Cultural Affiliation

N/A

Architect/Builder

Morse Bridge Company

Narrative Statement of Significance

(Explain the significance of the property on one or more continuation sheets.)

9. Major Bibliographic References

Bibliography

(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

Previous documentation on file (NPS):

- preliminary determination of individual listing (36 CFR 67) has been requested
- previously listed in the National Register
- previously determined eligible by the National Register
- designated a National Historic Landmark
- recorded by Historic American Buildings Survey # _____
- recorded by Historic American Engineering Record # _____

Primary location of additional data:

- State Historic Preservation Office
- Other State agency
- Federal agency
- Local government
- University
- Other

Name of repository:

City of Plainfield

10. Geographical Data

Acreeage of Property Less than 1 acre

UTM References

(Place additional UTM references on a continuation sheet.)

1	1 6	5 5 1 2 8 0	4 3 9 4 0 2 0
	Zone	Easting	Northing
2			

3			
	Zone	Easting	Northing
4			

See continuation sheet

Verbal Boundary Description

(Describe the boundaries of the property on a continuation sheet.)

Boundary Justification

(Explain why the boundaries were selected on a continuation sheet.)

11. Form Prepared By

name/title Dawn M. Hein, consultant for

organization Ratio Architects date 08-30-2002

street & number 760 W. 141st Street telephone 317/ 816-0069

city or town Carmel state IN zip code 46032

Additional Documentation

Submit the following items with the completed form:

Continuation Sheets

Maps

- A USGS map (7.5 or 15 minute series) indicating the property's location.
- A Sketch map for historic districts and properties having large acreage or numerous resources.

Photographs

Representative black and white photographs of the property.

Additional items

(Check with the SHPO or FPO for any additional items)

Property Owner

(Complete this item at the request of SHPO or FPO.)

name Town of Plainfield

street & number P.O. Box 65 telephone 317/ 839-2561

city or town Plainfield state IN zip code 46168

Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C. 470 et seq.).

Estimated Burden Statement: Public reporting burden for this form is estimated to average 18.1 hours per response including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Chief, Administrative Services Division, National Park Service, P.O. Box 37127, Washington, DC 20013-7127; and the Office of Management and Budget, Paperwork Reductions Projects (1024-0018), Washington, DC 20503.

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NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET

Section number 7 Page 1

Hendricks County Bridge #316

Property name

Hendricks, Indiana

County and State

Description

Hendricks County Bridge # 316 is a wrought iron, pin-connected Warren Truss bridge formerly located just south of Plainfield in Guilford Township on Old County Road 800 South. This single span bridge, built in 1886 by the Morse Bridge Company of Youngstown, Ohio was located over White Lick Creek in a rural residential area. It was taken out of service in 1995 after being bypassed by the rerouting of Old County Road 800 South. Moved to its new location in Friendship Gardens on Center Road in Plainfield in 2002, the bridge carries pedestrian traffic only over White Lick Creek.

The Warren truss was patented by James Warren and Willoughby Monzoni of Great Britain in 1848. It can be identified by its use of webbed equilateral or isosceles triangles connecting a top and bottom cord. Measuring over 170 feet in length with a span of 167 feet, Hendricks County Bridge #316 was designed in ten panels each 16'-8" on center. The through-truss bridge is formed by endposts, a top chord and bottom chord. The endposts and upper chord are crafted of wrought iron side channels with riveted cover plates above and battens below. A pair of die-forged rectangular eyebars serves as the lower chord members. The side diagonals of the bridge form the Warren Truss webbing by using a pair of eyebars for the first and third diagonals while the second and center pair consist of laced channels, the first addressing tension the latter compression.

To be more specific, Bridge #316 is actually a subdivided Warren Truss. Eyebars subdivide the side panels as framed by the diagonals while acting as vertical hangers to support floor beams composed of rectangular, built-up girders riveted to pin plates. The undercarriage is composed of lateral bracing rods crossing between the built-up girders. Stringers placed at 18" on center carry the deck. The portals are delineated by a punched quatrefoil design and two decorative brackets or bracing. Each corner of the bridge is topped by classically styled, cast iron urn finial with engraved shields bearing the mark of the Morse Bridge Company, a letter "M".

In its former location as well as its present location, the bridge sits on concrete abutments. Mr. James L. Cooper, a historic bridge consultant and author of *Iron Monuments to Distant Posterity*, feels that the absence of a separate contract for a sub-structure in 1885-1886 suggests that the county followed its typical pattern in the 1880's of relying on timber-pile foundations, only later to replace the timber with concrete abutments."

The former 15'-7" single lane roadbed, composed of a metal grate decking, was replaced with treated wood planks for its new use and as part of its rehabilitation. A riveted, steel lattice handrail was added to the bridge as well to ensure the safety of pedestrians. When the relocation of the bridge was studied, it

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Property name

Hendricks, Indiana

County and State

was decided to partially disassemble the structure. The parts were numbered, rehabilitated, painted, and reassembled over White Lick Creek in Friendship Gardens.

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Section number 8 Page 3 Hendricks County Bridge #316
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Significance

Hendricks County Bridge # 316 is a significant structure under Criterion "C" in the area of engineering as the oldest Warren through span surviving in Indiana. Since 1987, Indiana has lost nearly 65 percent of its iron and steel bridges built between 1860 and 1930.¹ This bridge is an important example of an early Warren through-truss, pin-connected bridge, one of only two remaining in Indiana. Although #316 was moved from its original location, the structure's physical integrity remains intact.

The first American bridge to use rolled wrought-iron shapes in both compression and tension members was manufactured in 1863.² Hendricks County Bridge #316 was built in 1886 by the Morse Bridge Company of Youngstown, Ohio a prolific firm that built bridges across the country from Iowa to New York. The transition between the use of timber and iron or steel came in the late 1880's, which places Bridge #316 at the forefront of this changeover. The use of wrought iron plates, bars and shapes began about 1850 and terminated when the mills discontinued rolling about 1895 due to the greater strength and performance of steel.

This single lane, Warren through-truss bridge is surprisingly long for such a light design with its laced diagonals and limited use of verticals. Because of the high stress points where tension and compression members meet, pin-connected Warren truss bridges remained rare until the turn of the century when steel became more prominent.

The aesthetic design as well as the engineering design makes this bridge unique. The functionality of early bridge design did not encourage decoration, however many of the metal bridges achieved graceful patterns with their laced channels and latticework. Any additional decoration was usually found applied to the portals. Bridge #316's decorative portals add to its distinction, with its decorative struts and bracing punched with quatrefoil and floral designs. The endposts are topped with urn-like finials bearing the Morse Bridge Company's moniker. These are significant in themselves because the Morse Bridge Company later changed their name to the Youngstown Bridge Company.

The National Trust for Historic Preservation has collectively placed Indiana's historic bridges on 2002's list of the nation's 11 most endangered historic places. While Bridge #316 has been moved from its original location, the placement over the same waterway and in the same county provides a suitable setting for the preservation and continued use of this historic structure. Bridge #316 has been deemed eligible for the National Register by the Indiana Division of Historic Preservation and Archaeology as part of a Section 106 review in 1999 when Hendricks County applied for a TEA-21 grant. The bridge has also been included in the HAER inventory taken in 1984. The physical integrity of the design remains

1 10 Most: Historic Bridges, www.historiclandmarks.org/news/10most02-6.html, June 30, 2002.

2 Iron Bridge History, www.douglasculter.com/body_iron_bridges.html, August 28, 2002.

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through the careful preservation efforts of the Hendricks County Commissioners and the Town of Plainfield.

When a new and wider bridge was installed parallel to Hendricks County #316 in 1995, access to the historic bridge was blocked. Bridge #316 as a one-lane bridge was inadequate to handle the increased traffic along this road. The new bridge was assigned the number 216 as part of the realignment of County Road 800S and the historic bridge was renumbered to 316 due to its pending relocation. It was within this set of circumstances that the Hendricks County commissioners set about to relocate the bridge in order to save it from decay and disrepair. Moved to its new location in Friendship Gardens in 2002, the bridge's new use as a pedestrian bridge continues its usefulness to the people of Hendricks County.

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Section number 9, 10 Page 5 Hendricks County Bridge #316
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County and State

Bibliography

“10 Most: Historic Bridges.” www.historiclandmarks.org/news/10most02-6.html, June 30, 2002.

“America’s 11 Most Endangered.” www.nationaltrust.org/11most/2002/bridges.html, August 28, 2002.

“Bridge Basics.” www.pghbridges.com/basics.htm, August 28, 2002.

Cooper, James L. *Iron Monuments to Distant Posterity: Indiana’s metal bridges 1870-1930*. Greencastle: 1987.

Evans, Tim. “Iron Bridge will Live on Elsewhere”. *Indianapolis Star*

“Iron Bridge History.” www.douglasculter.com/body_iron_bridges.html, August 28, 2002.

Verbal Boundary Description

The boundary for the Hendricks County Bridge #316, with its span of 168’-0” includes its superstructure, abutments, trusses and right of way.

Boundary Justification

The boundary includes the bridge and its significant trusswork and enough property to convey the immediate setting of the structure.

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Photographs

1. 3.) Dawn Hein
 4.) August 2002
 5.) Indiana Department of Historic Preservation and Archaeology
 6.) Bridge #316 looking Southeast

2. 3.) Dawn Hein
 4.) August 2002
 5.) Indiana Department of Historic Preservation and Archaeology
 6.) Looking west across the bridge

3. 3.) Dawn Hein
 4.) August 2002
 5.) Indiana Department of Historic Preservation and Archaeology
 6.) Looking east across the bridge

4. 3.) Dawn Hein
 4.) August 2002
 5.) Indiana Department of Historic Preservation and Archaeology
 6.) Top cords with top lateral bracing.

5. 3.) Dawn Hein
 4.) August 2002
 5.) Indiana Department of Historic Preservation and Archaeology
 6.) Portal detail #1: overall

6. 3.) Dawn Hein
 4.) August 2002
 5.) Indiana Department of Historic Preservation and Archaeology
 6.) Portal detail #2: urn

7. 3.) Dawn Hein
 4.) August 2002
 5.) Indiana Department of Historic Preservation and Archaeology
 6.) Detail of lattice channel

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Photographs, con't

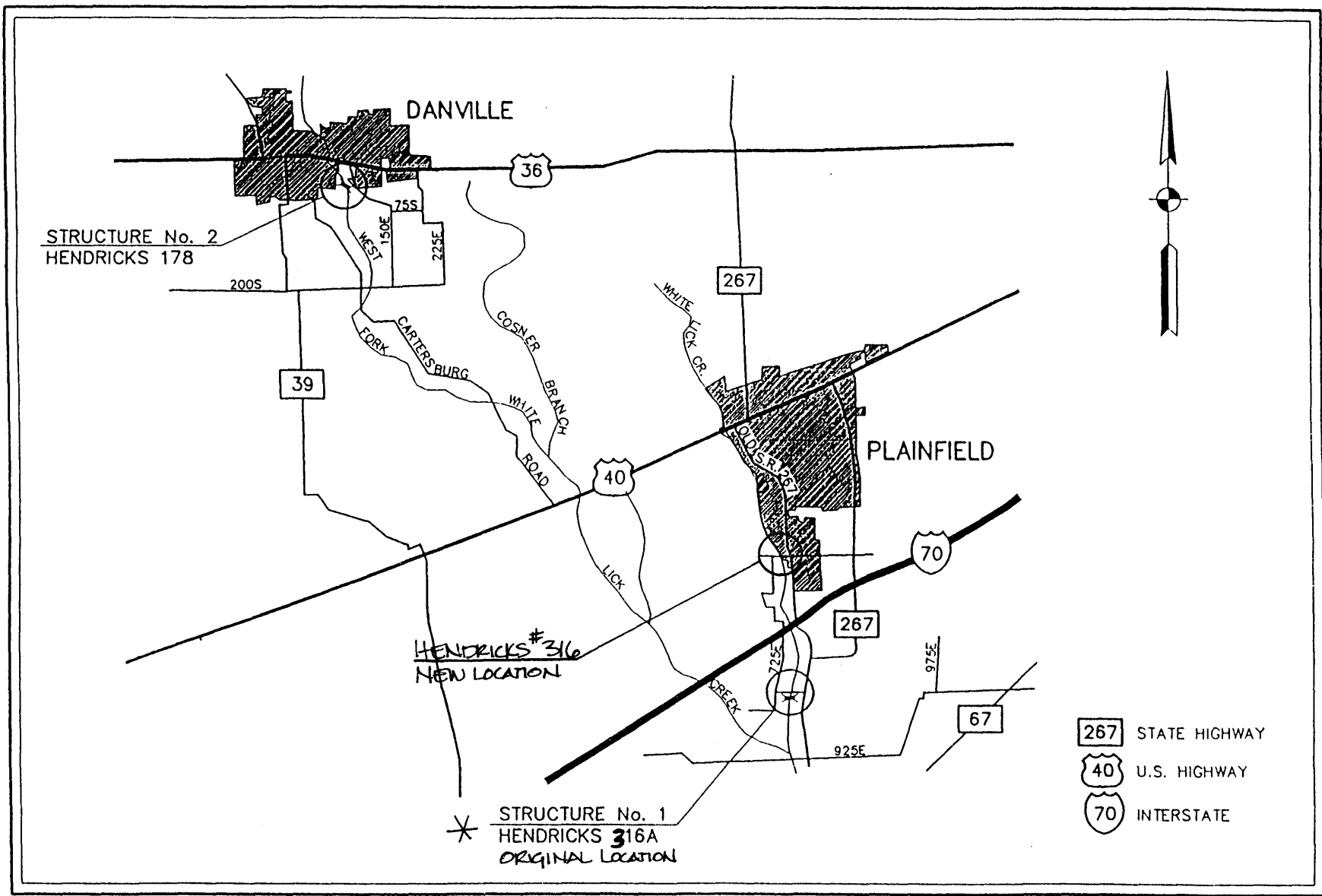
8. 3.) Dawn Hein
 4.) August 2002
 5.) Indiana Department of Historic Preservation and Archaeology
 6.) New guardrail

9. 3.) Dawn Hein
 4.) August 2002
 5.) Indiana Department of Historic Preservation and Archaeology
 6.) Lower cord

10. 3.) Dawn Hein
 4.) August 2002
 5.) Indiana Department of Historic Preservation and Archaeology
 6.) Detail of eyebars

11. 3.) Dawn Hein
 4.) August 2002
 5.) Indiana Department of Historic Preservation and Archaeology
 6.) End post connection to abutment

12. 3.) Dawn Hein
 4.) August 2002
 5.) Indiana Department of Historic Preservation and Archaeology
 6.) View of floor system: stringers, floor beams and bottom lateral bracing.



HENDRICKS COUNTY