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United States Department of the Interior
National Park Service

National Register of Historic Places
Registration Form

AUG - 3 2005

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 Fort Wayne Street Bridge
other names/site number County Bridge #403, Indiana Avenue Bridge

2. Location

street & number Indiana Avenue over Elkhart River N/A not for publication
city or town Goshen N/A vicinity
state Indiana code IN county Elkhart code 039 zip code 46528

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] 7-27-05
Signature of certifying official/Title 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] _____
Signature of the Keeper Date of Action
Edson R. Beall 9.15.05

5. Classification

Ownership of Property
(Check as many boxes as apply)

- private
- public-local
- public-State
- public-Federal

Category of Property
(Check only one box)

- building
- district
- site
- structure
- object

Number of Resources within Property
(Do not include previously listed resources in the count)

Contributing	Noncontributing	
0	0	buildings
0	0	sites
1	0	structures
0	0	objects
1	0	Total

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

Number of contributing resources previously listed in the National Register
0

6. Function or Use

Historic Functions
(Enter categories from instructions)

TRANSPORTATION: Rail-Related
Road-Related

Current Functions
(Enter categories from instructions)

TRANSPORTATION: Road-Related (vehicular)

7. Description

Architectural Classification
(Enter categories from instructions)

OTHER: Pennsylvania truss

Materials
(Enter categories from instructions)

foundation STONE
walls METAL: Steel
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
TRANSPORTATION

Period of Significance

1896 - 1955

Significant Dates

N/A

Significant Person

(Complete if Criterion B is marked above)

N/A

Cultural Affiliation

N/A

Architect/Builder

Bellefontaine Bridge & Iron Co.

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:

10. Geographical Data

Acreeage of Property Less than 1 acre

UTM References (Place additional UTM references on a continuation sheet.)

1	16	595960	4605040	3			
	Zone	Easting	Northing		Zone	Easting	Northing
2				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 _____

organization Goshen Historical Society, Inc date 09-15-2004

street & number 124 S. Main St. telephone 574/ 533-1053

city or town Goshen state IN zip code 46526

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 Elkhart County Commissioners

street & number 117 N. 2nd St telephone 574/ 534-3541

city or town Goshen state IN zip code 46526

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 *Fort Wayne Street Bridge, Elkhart County, IN*

Setting: The bridge is located in the northwest part of Goshen, crossing the Elkhart River. Due to the course of the river, the bridge was built diagonally so it would be at right angles to the banks; the ends of the bridge pointing northeast and southwest. The bridge was originally called the Fort Wayne Street Bridge, however, in about 1960, city officials renamed it the Indiana Avenue Bridge. The bridge connects what was the main road to the nearest city, Elkhart, to the county seat of Goshen. Two roads converge just north of the bridge and merge to make the crossing here. Mature trees line the banks of the river, and residential and commercial buildings are concentrated on the streets south of the bridge.

Narrative Description:

Subdivided into twelve panels, the pin-connected Pennsylvania through-truss span with sub-ties extends 180 feet. The truss depth varies from 30 feet at mid-span to 22 feet and 3 inches at the portals. The four most central panels of the top chord are parallel with the lower chord. The angle of declination varies twice over the three panels between the center section and the end-posts. The top chords and end-posts are fabricated from a pair of 12-inch channels riveted together with a cover plate above and lacing bars below. The lower chord consists of a pair of die-forged eyebars which become increasingly heavier toward mid-span.

The truss web consists of a number of eyebars and built-up interior posts. The hip verticals and the hangers on the lower half of the subdivided panels carry a pair of die-forged eyebars. The interior truss verticals were fabricated from a pair of laced 10-inch channels. A pair of die-forged eyebars supply each set of diagonals, with all inner ones being pinned at a horizontal strut and at an upper or lower panel point. 1.13-inch adjustable square rods, also pinned at the horizontal strut and then at either an upper or lower panel point, counter the four center panels. The panel section adjacent to the center one contains a pair of diagonals, a counter, and a vertical hanger. The diagonals and the hanger extend from the top or lower chord to a horizontal strut. The counter runs only from the top chord to the horizontal strut. Not subdivided, the panel adjacent to the end-post one carries only diagonals.

A variety of struts and ties help to brace and stabilize the trusses. A pair of laced channels placed midway between the chords provide a horizontal strut in the center truss section where depth is greatest and the posts at greatest risk of bending. The third panel in from each end also has a horizontal strut to help stabilize web strains here in the first sub-divided section.

The superstructure design also includes considerable bracing between the trusses. Braced-A struts, designed to be particularly heavy to carry the electric power of the street railway, originally reinforced the portals. Laced struts between the trusses at each upper panel point and intermediate overhead struts at every second panel add some rigidity to the superstructure. Upper and lower adjustable lateral braces also assist.

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NATIONAL REGISTER OF HISTORIC PLACES CONTINUATION SHEET

Section number 7 Page 2 *Fort Wayne Street Bridge, Elkhart County, IN*

Built-up girder fabricated I floor-beams support runs of mill-rolled I-beam stringers which carry the 23-foot steel-grid roadway. Brackets added to the floor-beams maintain a pair of 5-foot sidewalks cantilevered outside the trusses.

The designer added decorative elements to the superstructure fitting for an important urban crossing. Intricate cresting above the portals and finials atop the end-posts highlight the entrances, and latticed sidewalk railings adorn the sides.

The old Fort Wayne Street superstructure has undergone some change over the years, although none compromise the bridge's essential integrity. The greatest changes have occurred to the floor system. The old girder stringers, attached to the sides of the floor-beams, have been replaced with rolled steel stringers above. The floor-beams have been reinforced with plates welded to their flanges, and the riding surface has shifted from timber to steel-grid. The trusses, however, remain largely intact. The end-posts, chords, diagonals, counter-braces and major strut systems are all original. A couple of the lower eyebar hangers in subdivided panels have suffered from collision damage and received welded repairs. Parts of the braced-A portal struts, designed for the street railway, were removed to allow for greater roadway clearance after the interurban stopped crossing the bridge. While a couple of the finials have been lost and a little of the cresting damaged, most of the original decorative elements are still essentially intact.

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NATIONAL REGISTER OF HISTORIC PLACES CONTINUATION SHEET

Section number 8 Page 3 Fort Wayne Street Bridge, Elkhart County, IN

Section 8 - Narrative Statement of Significance:

Now known as the Indiana Avenue bridge, the old Fort Wayne Street span is eligible for inclusion in the National Register of Historic Places under Criteria A and C for engineering and transportation. This structure served transportation on a long-used and important route across Elkhart County. It is also important regionally as one of the few surviving spans built by the Bellefontaine Bridge and Iron Company, the firm whose operative agent would soon play a central role in establishing another important regional metal-bridge fabricating company, this time in the city of Elkhart.

The Fort Wayne Street Bridge is, furthermore, the oldest of a handful of surviving Pennsylvania through-truss bridges left in Indiana and the only one still in vehicular service. Three Indiana railroad crossings retain Pennsylvania through truss spans, and four structures designed for highways still exist. Of the four road spans, one—previously moved and shortened—is closed and under review for replacement, a second lies dismantled awaiting possible restoration and re-erection in a second home, and the third is now reserved exclusively for pedestrian use. The fourth, the old Fort Wayne Street Bridge, is the shortest and most decorated of the comparable road spans and the only one to include sidewalks.

Historical Background and Significance

Fort Wayne Street was a link in the long-standing and important transportation route through Goshen between Elkhart to the northwest and Fort Wayne to the southeast. Consequently, the Elkhart River had been spanned on Fort Wayne Street with a timber structure for some time. While the wooden bridge was in decay, the impetus for a new structure probably grew out of an agreement that the Elkhart County commissioners had signed in June 1896 with the Indiana Electric Railway Company to construct a street railway on a county road from the village of New Paris north to and through Goshen.

In August 1896, the Goshen Common Council petitioned the county commissioners for a "new steel structure" designed with "ample strength to bear up heavy loads including street car travel and traffic." The council favored a 175-foot span with a 24-foot roadway and 5-foot walks on each side designed with "ample strength to bear up heavy loads including streetcar travel and traffic."¹ The commissioners inspected the old Fort Wayne Street Bridge and appointed E. W. Walker, Stephen T. Evans, and Charles Seibert, Sr. as viewers of the structure and site. The viewers found the existing "pile structure ... rotten" and recommended the construction of a single metal-truss span seated upon cut-stone abutments raised a few feet higher than the timber bridge. The board of commissioners accepted the viewers' report on August 25 and immediately contracted at \$10,150

¹ Elkhart County, "Commissioners Record," (4 August 1896), 16: 200.

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Section number 8 Page 4 *Fort Wayne Street Bridge, Elkhart County, IN*

with the Bellefontaine Bridge and Iron Company of Bellefontaine, Ohio, for the stone substructure and steel superstructure. The commissioners agreed to the company's proposed "plans and detailed specifications" for the 180-foot trusses. Bellefontaine received permission to use the old bridge as "trestle work ... for convenience in erecting said iron bridge."²

For its design, Bellefontaine selected a truss type that had relatively recently come into fashion for railroad spans. The bridge department of the Pennsylvania Railroad first took advantage of the improvements that the Baltimore and Ohio Railroad introduced in the Pettit or Baltimore truss in 1871. The Baltimore's sub-divided panels give intermediate support to the lower chord, which sustains the bridge's floor "while retaining simplicity and economy in construction." The Pennsylvania railroad designers then married the Baltimore's advantages of sub-divided panels to a "bowstring type" with an arched upper chord "rendering more nearly uniform both chord and web stresses." The Pennsylvania truss which Bellefontaine picked in 1896 for the Fort Wayne Street Bridge would soon be judged by such nationally-known engineers as Mansfield Merriman and Henry S. Jacoby, as the form possessing "the highest degree of economy for long spans," and, they reported, "it has been extensively built in the United States" by 1905.³

Frank Brumbaugh, experienced as a carpenter, machinist, and bridge-shop foreman, served as the Bellefontaine Bridge Company agent in Elkhart County for some time, and the commissioners had contracted with him before the Fort Wayne Street Bridge letting came along. In a few years, Brumbaugh would leave his Ohio agency to establish the quite successful Elkhart Bridge & Iron Company, which became a major metal-bridge fabricator with markets across Indiana, Michigan, Wisconsin, and other points westward. Brumbaugh served as Elkhart Bridge's Secretary and General Manager from the company's beginnings in 1901 until his death in an automobile accident in 1914.

Construction of the Fort Wayne Street Bridge appears to have moved along rapidly and without major incident. The commissioners made regular inspection visits to the construction site. In March 1897, the board accepted the "iron bridge" as satisfactorily completed and paid Bellefontaine the contract price.

² Elkhart County, "Commissioners Record," (25 August 1896), 16: 207-209.

³ Mansfield Merriman and Henry S. Jacoby, *Stresses in Simple Trusses*, Part I of *A Textbook of Roofs and Bridges* (John Wiley & Sons, New York, 6th ed., 1905), I: 70, 222-223.

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Fort Wayne Street Bridge, Elkhart County, IN

Section 9 - Bibliography

Published Sources

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Indiana Historic Sites and Structures Inventory. Elkhart County: Interim Report. Indianapolis, 1978.

MHM Associates Ltd. Bridge Reinspection Study and Report: Elkhart County. South Bend, 1978.

Merriman, Mansfield and Henry S. Jacoby. Stresses in Simple Trusses, Part I of A Textbook of Roofs and Bridges, New York: John Wiley & Sons, 6th ed., 1905.

Mohajeri & Associates. Inventory of Bridges on Federal-Aid Secondary System in Elkhart County. South Bend, 1973.

Ogle, George A. and Company. "North Part of the City of Goshen." Plat Book of Elkhart County, Indiana. Chicago, 1892.

Unpublished Sources

Bridge nameplate.

Elkhart County. Commissioner's Record. Vol. 16. Pages 130, 200-203, 207-209, 244, 249-250, 252, 284-285, 317; Vol. 22. Pages 27, 31, 39.

Elkhart County Department of Public Services, Engineering Division. Repair drawings. 1963, 1983, 1984-1985.

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NATIONAL REGISTER OF HISTORIC PLACES CONTINUATION SHEET

Section number 10 Page 6 *Fort Wayne Street Bridge, Elkhart County, IN*

Section 10, Geographical Data, Verbal Boundary Description

The Fort Wayne Street Bridge, also commonly known as the Indiana Avenue Bridge, is located at UTM point 16 595960 4605040, in Goshen, Elkhart County, Indiana. The boundary includes the bridge itself, the right-of-way, its superstructure and trusses, its historic abutments, and, in front of each portal, an area 15 feet in length and as wide as the bridge's abutments at either side of the bridge.

Boundary Justification

The boundary includes the historic bridge, its abutments, and its immediate setting.

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CONTINUATION SHEET**

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Todd Zeiger
August 15, 2004
Historic Landmarks Foundation of Indiana NRO
*This information pertains to all photographs

- Photograph 1: Looking southwesterly
- Photograph 2: Looking southwest
- Photograph 3: Looking north
- Photograph 4: Looking south, underneath of bridge
- Photograph 5: Guardrail--typical
- Photograph 6: Looking southwest
- Photograph 7: Looking south
- Photograph 8: Underneath of bridge--typical
- Photograph 9: Detail
- Photograph 10: Detail
- Photograph 11: Detail
- Photograph 12: Handrail newel post--typical