Form No. 10-300 (Rev. 10-74)

DATA SHEET

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES INVENTORY -- NOMINATION FORM

FOR NPS USE ONLY
RECEIVED FEB 4 1977
DATE ENTERED SEP 15 1977

SEE INSTRUCTIONS IN *HOW TO COMPLETE NATIONAL REGISTER FORMS*
TYPE ALL ENTRIES -- COMPLETE APPLICABLE SECTIONS

1 NAME

HISTORIC
Turtleville Iron Bridge

AND/OR COMMON
Lathers Road Bridge

2 LOCATION

STREET & NUMBER N of Beloit on
Lathers Road _NOT FOR PUBLICATION

CITY, TOWN
Beloit X VICINITY OF

CONGRESSIONAL DISTRICT
1st

STATE	CODE	COUNTY	CODE
Wisconsin 53511	55	Rock	105

3 CLASSIFICATION

CATEGORY	OWNERSHIP	STATUS	PRESENT USE	
_DISTRICT	X PUBLIC	_OCCUPIED	_AGRICULTURE	_MUSEUM
_BUILDING(S)	_PRIVATE	X UNOCCUPIED	_COMMERCIAL	_PARK
X STRUCTURE	_BOTH	_WORK IN PROGRESS	_EDUCATIONAL	_PRIVATE RESIDENCE
_SITE	**PUBLIC ACQUISITION**	**ACCESSIBLE**	_ENTERTAINMENT	_RELIGIOUS
_OBJECT	_IN PROCESS	_YES: RESTRICTED	_GOVERNMENT	_SCIENTIFIC
	_BEING CONSIDERED	X YES: UNRESTRICTED	_INDUSTRIAL	X TRANSPORTATION
		_NO	_MILITARY	_OTHER:

4 OWNER OF PROPERTY

NAME
Town of Turtle, c/o Lester Wallace, Town Clerk

STREET & NUMBER
Route 1

CITY, TOWN
Beloit ___ VICINITY OF

STATE
Wisconsin 53511

5 LOCATION OF LEGAL DESCRIPTION

COURTHOUSE, REGISTRY OF DEEDS, ETC. Rock County Courthouse

STREET & NUMBER
51 South Main Street

CITY, TOWN
Janesville

STATE
Wisconsin 53545

6 REPRESENTATION IN EXISTING SURVEYS

TITLE
Wisconsin Inventory of Historic Sites

DATE
1976 _FEDERAL X STATE _COUNTY _LOCAL

DEPOSITORY FOR SURVEY RECORDS State Historical Society of Wisconsin

CITY, TOWN
Madison

STATE
Wisconsin 53706

7 DESCRIPTION

CONDITION		CHECK ONE	CHECK ONE
__EXCELLENT	__DETERIORATED	__UNALTERED	X ORIGINAL SITE
X GOOD	__RUINS	X ALTERED	__MOVED DATE_____
__FAIR	__UNEXPOSED		

DESCRIBE THE PRESENT AND ORIGINAL (IF KNOWN) PHYSICAL APPEARANCE

The Turtleville Bridge, built in 1887 by the Wisconsin Bridge and Iron Company, is a single span structure which embodies the distinctive characteristics of a "through" Pratt type truss highway bridge constructed in the 1880s.[1] Pin connections were employed throughout the structure. Incorporating those connections, the builders also utilized eye-bars, diagonal and counter rods, and bottom chord eye-bars. Turnbuckles were installed for adjusting the counter rods. The vertical members of the web are laced; the flooring is of wood supported by riveted stringers and floor beams; and stone abutments were built to support the bridge.

As was typical of a truss bridge designed in the 1880s, this structure has little ornamentation. Triangular name plates are attached to each entrance and the portals are skimpily adorned with lacing.

The structure remains basically unaltered, although superficial changes have been made during the twentieth century. Two alterations of note include (1) the addition of a railing of formed steel components ([); and (2) application of a bed of asphalt to cover the wood flooring. The railing is welded to the bridge; the asphalt was applied with little respect for the basic structure as the material was spread in a sloppy, careless manner.

The bridge is in remarkably good structural condition considering its age. A coating of oxidation covers the superstructure, but no deterioration was evident in an extensive preliminary examination. Otherwise it was noted only that one or two lateral members have warped somewhat with age.

1. Ketchum, p. 2

8 SIGNIFICANCE

PERIOD	AREAS OF SIGNIFICANCE -- CHECK AND JUSTIFY BELOW				
__PREHISTORIC	__ARCHEOLOGY-PREHISTORIC	__COMMUNITY PLANNING	__LANDSCAPE ARCHITECTURE	__RELIGION
__1400-1499	__ARCHEOLOGY-HISTORIC	__CONSERVATION	__LAW	__SCIENCE
__1500-1599	__AGRICULTURE	__ECONOMICS	__LITERATURE	__SCULPTURE
__1600-1699	__ARCHITECTURE	__EDUCATION	__MILITARY	__SOCIAL/HUMANITARIAN
__1700-1799	__ART	X ENGINEERING	__MUSIC	__THEATER
X 1800-1899	__COMMERCE	__EXPLORATION/SETTLEMENT	__PHILOSOPHY	X TRANSPORTATION
__1900-	__COMMUNICATIONS	__INDUSTRY	__POLITICS/GOVERNMENT	__OTHER (SPECIFY)
		__INVENTION		

SPECIFIC DATES 1887 BUILDER/~~ARCHITECT~~ Wisconsin Bridge and Iron Company

STATEMENT OF SIGNIFICANCE

The Turtleville Bridge is a structure of Pratt Truss design which was popular in the last third of the 19th century. It is significant both for its builder and the transitions occurring in bridge construction when it was built.

The builder was the Wisconsin Bridge and Iron Company, which three brothers had founded in Wauwatosa in 1870 as Weinhagen Brothers, Engineers, a small engineering shop. In 1880, however, it became known as the Wisconsin Bridge and Iron Company and in 1891 was incorporated under that name.[1] The company gradually grew to become one of the major bridge building firms in the north central section of the century. The Turtleville bridge, built in 1887, may be one of the earlier truss bridges constructed by this company.

Contemporary engineering literature indicates that in the early 1890's there was a transition from wrought iron to steel as the major material used in metal bridge construction. Counter rods, diagonals, and bottom chord bars were probably made of steel during much of the last quarter of the 19th century, since Captain Eads had proved the feasibility of using steel in ~~arch~~ arch bridges in 1874 when his famous Mississippi River* bridge incorporated steel parts. However it was not until the 1890s that bridges made entirely of steel appeared on the scene.[2] By 1895 wrought iron was no longer being used in the manufacture of structural parts.[3]

Wrought iron is a physical mixture of iron and iron silicate slag. The slag is present in fine, thread-like particles that are oriented in the direction of hot-working or rolling. What is sold today as wrought iron is merely steel which has been formed into such objects as railings and furniture.[4] "The carbon content of an iron determines its hardness. Wrought iron is free of carbon and therefore relatively soft compared to the various steels, whose carbon content can range anywhere from 0% to 2%... Steel...became the preferred metal for structural components in the last quarter of the nineteenth century. The metal's wear resistance and strength was superior to wrought iron...In addition, the invention of the Bessemer and open-hearth processes permitted precise and efficient control of the amount of carbon in steel."[5]

The Turtleville bridge is a fine example of the type of bridge the Wisconsin Bridge and Iron Company constructed during the brief period when it utilized wrought iron. In addition, this bridge over Turtle Creek is probably one of the few wrought iron trusses built by that company which remain in existence. To determine whether both the tension and compression members of the truss were constructed of wrought iron, a metallographic examination was given to each of three specimens cut from the bridge: 1) a vertical compression member; 2) a diagonal tension member; and 3) a vertical tension member. All three samples show the typical microstructure of true wrought iron.[6]

*at St. Louis / First steel truss bridge in U.S. built in 1879 across Miss at Glasgow MO.

9 MAJOR BIBLIOGRAPHICAL REFERENCES

Danko, George M., "The Development of the Truss Bridge, 1820-1930, with a Focus Toward Wisconsin," (Typescript), State Historical Society of Wisconsin, Madison, August 27, 1976

Danko, George M., Letter to J. M. Dean, October 9, 1976

Danko, George M., letter to D. N. Anderson, November 18, 1976

Douglas, Nancy B. and Hartung, Richard P., Rock County Historic Sites and Buildings, (Janesville, 1976), 77, 178-179

10 GEOGRAPHICAL DATA

ACREAGE OF NOMINATED PROPERTY 0.2

UTM REFERENCES

	ZONE	EASTING	NORTHING
A	16	338750	4714240
B			
C			
D			

VERBAL BOUNDARY DESCRIPTION

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE	CODE	COUNTY	CODE
STATE	CODE	COUNTY	CODE

11 FORM PREPARED BY

NAME / TITLE

George M. Danko

ORGANIZATION: State Historical Society of Wisconsin

DATE: 27 August 1976

STREET & NUMBER: 816 State Street

TELEPHONE: 608/262-9504

CITY OR TOWN: Madison

STATE: Wisconsin 53706

12 STATE HISTORIC PRESERVATION OFFICER CERTIFICATION

THE EVALUATED SIGNIFICANCE OF THIS PROPERTY WITHIN THE STATE IS:

NATIONAL ___ STATE X LOCAL ___

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

STATE HISTORIC PRESERVATION OFFICER SIGNATURE Richard A Erney

TITLE Acting Director, State Historical Society of Wisconsin

DATE 1/25/77

FOR NPS USE ONLY

I HEREBY CERTIFY THAT THIS PROPERTY IS INCLUDED IN THE NATIONAL REGISTER

DIRECTOR, OFFICE OF ARCHEOLOGY AND HISTORIC PRESERVATION

DATE 9/10/77

KEEPER OF THE NATIONAL REGISTER

ATTEST: Charles A Peterson

KEEPER OF THE NATIONAL REGISTER

DATE 9-15-77

GPO 888-445

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The Turtleville Iron Bridge is a significant remnant of pre-automotive transportation, slightly adapted for its present use of up to eight tons. Although busy thoroughfares S.T.H. 15 and I-90 are nearby, the bridge is isolated from them. It is the only remaining iron bridge of three over Turtle Creek which were contracted for in June, 1887 by the Town of Turtle and the Wisconsin Bridge and Iron Company, with a total sum of $5875 stipulated for the set of three bridges.[7] It is one of two iron truss bridges remaining in southeastern Rock County. The other, the Smith Road bridge, built c. 1890 by Worden and Allen Company, of Milwaukee, sits astride Turtle and La Prairie Townships and is owned jointly.

The Turtleville bridge spans Turtle Creek at Lathers Road, a once rural but now suburban area which is the site of Turtleville, a locally significant ghost town. First settled in 1838, Turtleville at its height (c. 1848-1875) was a small milling settlement which had a dam, mill, distillery, store, blacksmith shop, school, church, and cemetery. Among the several residences was the elegant Greek Revival Hodson House, a locally well-known showplace replete with legends, but now ruinous. Although the store and one or two houses remain, the cemetery and the bridge are the only unaltered remains of the community today.[8]

1. Danko, p. 69
2. Danko to Dean, Oct. 9, 1976
3. Schneider, p. 222
4. Smith, p. 2
5. Danko to Anderson, Nov. 18, 1976
6. Smith, p. 2
7. McLenegan, p. 54
8. Combination Atlas..., 1873

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6. Rock County Survey of Historic Sites and Buildings
1975-76 County
Rock County Historical Society
Janesville Wisconsin 53545

9. Everts, Baskin and Stewart, Combination Atlas Map of Rock County (Chicago, 1873)
Ketchum, Milo S., The Design of Highway Bridges, (New York, 1908), p. 2, passim
McLenegan, Annie, Centennial History of the Town of Turtle, 1836-1936, (Beloit, 1936), 54
Schneider, Charles C., "The Evolution of the Practice of American Bridge Building," Transactions of the American Society of Civil Engineers, LIV:213-234, July, 1905
Smith, Charles H., "Results of Metallographic Examination of Specimens from Turtle Creek Bridge," (typescript), Rock County Historical Society, Janesville, November 28, 1976
Turtleville files, Rock County Historical Society, Janesville

11. Nancy Belle Douglas, Preservation Coordinator
Rock County Historical Society 9 December 1976
P. O. Box 896 608/756-4509
Janesville Wisconsin 53545

Donald N. Anderson, Historian & Registrar, Historic Preservation Division
State Historical Society of Wisconsin 15 December 1976
816 State Street 608/262-0746
Madison Wisconsin 53706