

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

**National Register of Historic Places  
Continuation Sheet**

Section number \_\_\_\_\_ Page \_\_\_\_\_

**SUPPLEMENTARY LISTING RECORD**

NRIS Reference Number: 92001526      Date Listed: 11-12-92

Raritan Bridge                      Somerset    NJ  
Property Name:                      County:      State:

Metal Truss Bridges in Somerset County MPS

Multiple Name \_\_\_\_\_

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This property is listed in the National Register of Historic Places in accordance with the attached nomination documentation subject to the following exceptions, exclusions, or amendments, notwithstanding the National Park Service certification included in the nomination documentation.

*for* Patrick Andrus  
Signature of the Keeper

11/23/92  
Date of Action

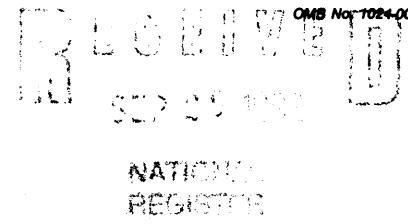
=====  
**Amended Items in Nomination:**

The period of significance was clarified through a phone call to the New Jersey SHPO. The period of significance for the Raritan Bridge is 1886--the date of construction. The nomination is officially amended to include this information.

**DISTRIBUTION:**

- National Register property file
- Nominating Authority (without nomination attachment)

United States Department of the Interior  
National Park Service



National Register of Historic Places  
Registration Form

This form is for use in nominating or requesting determinations of eligibility for individual properties or districts. See instructions in *Guidelines for Completing National Register Forms* (National Register Bulletin 16). Complete each item by marking "x" in the appropriate box or by entering the requested information. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, styles, materials, and areas of significance, enter only the categories and subcategories listed in the instructions. For additional space use continuation sheets (Form 10-900a). Type all entries.

1. Name of Property

historic name Raritan Bridge  
other names/site number Nevius Street Bridge

2. Location

street & number Nevius Street over Raritan River N/A not for publication  
city, town Raritan/Hillsborough N/A vicinity  
state NJ code NJ- 034 county Somerset code 035 zip code 08869/0885

3. Classification

Ownership of Property	Category of Property	Number of Resources within Property	
<input type="checkbox"/> private	<input type="checkbox"/> building(s)	Contributing	Noncontributing
<input checked="" type="checkbox"/> public-local	<input type="checkbox"/> district	_____	_____ buildings
<input type="checkbox"/> public-State	<input type="checkbox"/> site	_____	_____ sites
<input type="checkbox"/> public-Federal	<input checked="" type="checkbox"/> structure	<u>1</u>	_____ structures
	<input type="checkbox"/> object	_____	_____ objects
		<u>1</u>	<u>0</u> Total

Name of related multiple property listing:  
Metal Truss bridges in Somerset County, New Jersey  
Number of contributing resources previously listed in the National Register 0

4. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1966, 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 36 CFR Part 60. In my opinion, the property  meets  does not meet the National Register criteria.  See continuation sheet.

Signature of certifying official [Signature] Date 9/11/92  
Assistant Commissioner for Natural & Historic Resources/DSHPO  
State or Federal agency and bureau \_\_\_\_\_

In my opinion, the property  meets  does not meet the National Register criteria.  See continuation sheet.

Signature of commenting or other official \_\_\_\_\_ Date \_\_\_\_\_  
State or Federal agency and bureau \_\_\_\_\_

5. National Park Service Certification

I, hereby, certify that this property is:

entered in the National Register. [Signature: Patrick Andrews] 11/12/92  
 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 \_\_\_\_\_ Date of Action \_\_\_\_\_

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**6. Function or Use**

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Historic Functions (enter categories from instructions)  
TRANSPORTATION: Road-Related

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Current Functions (enter categories from instructions)  
TRANSPORTATION: Road-Related

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**7. Description**

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Architectural Classification  
(enter categories from instructions)

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Materials (enter categories from instructions)

foundation STONE: Ashlar

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walls

---

---

roof

---

other Iron and/or Steel

---

---

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Describe present and historic physical appearance.

The Nevius Street Bridge is a two-span, 10-panel, double-intersection Pratt, pin-connected, through-truss bridge of either steel or iron approximately 300 feet long, 18 feet wide, and 23 feet high. The bridge was built across the Raritan River in 1886, and it continues to function as a highway bridge with only minor alterations to its original design. It connects the town of Raritan on the north bank with a rural section of Hillsborough Township on the south bank. It has a cantilevered sidewalk on the upstream side.

The setting of the bridge retains its late-19th and early-20th century character. On the south side is the estate of tobacco king James B. Duke constructed between 1893 and 1910. While the Duke mansion is not visible from the bridge, the open fields, tree-lined lanes, and stone walls of the well-preserved estate are. West, or upstream of the bridge are the dam and the remains of the Raritan Water Power Canal. A ca. 1900 stone Gothic Revival-style water pumping station built by J.B. Duke is located at the northwest corner of the bridge while a small hydroelectric plant housed in a one-story brick building is at the northeast corner. Numerous older industrial buildings, including the remnants of the Raritan Woolen Mills, are to the east of the bridge on the Raritan's north bank.

The bridge consists of two nearly-identical 150-foot span steel double-intersection Pratt through trusses. A double-intersection Pratt type truss is characterized by inclined end posts with diagonals that extend across two panels, and is a variation on a design patented by Thomas and Caleb Pratt in the 1840s. The lower chords are loop-welded eye bars ranging from 1" wide by 2" deep at the outside panel to 1" wide by 5" deep at the center panel, while the upper chord and inclined end posts are two 8"-deep channels with 14"-wide riveted cover plate. The inclined end posts also have stay plates 4" x 1/4" on 30" centers. The floor beam hangers consist of three rods; the two outside rods are 1-1/4"

**8. Statement of Significance**

Certifying official has considered the significance of this property in relation to other properties:

nationally  statewide  locally

Applicable National Register Criteria  A  B  C  D

Criteria Considerations (Exceptions)  A  B  C  D  E  F  G N/A

Areas of Significance (enter categories from instructions)

Engineering  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Period of Significance

1886-1942  
\_\_\_\_\_  
\_\_\_\_\_

Significant Dates

1886  
\_\_\_\_\_  
\_\_\_\_\_

Cultural Affiliation

N/A  
\_\_\_\_\_  
\_\_\_\_\_

Significant Person

N/A  
\_\_\_\_\_

Architect/Builder

Wrought Iron Bridge Company (Builder)  
\_\_\_\_\_  
\_\_\_\_\_

State significance of property, and justify criteria, criteria considerations, and areas and periods of significance noted above.

The Nevius Street Bridge across the Raritan River is significant for its engineering and method of construction under National Register Criteria C. Built in 1886, it is the oldest documented metal truss highway bridge in the county. It represents an influential period of innovation and expansion in the development of American metal truss bridge building technology, and it was constructed by a nationally recognized bridge fabricator, the Wrought Iron Bridge Company of Canton, Ohio. The truss is remarkably complete, and is one of the least altered of the more than 20 pre-1930 metal truss highway bridges in the county. The bridge is also the only example of a double-intersection Pratt truss bridge in the county, a type increasingly rare but employed widely during the last three decades of the 19th century. Metal trusses like the Nevius Street Bridge represent a noteworthy period of economic and industrial development in the county's history. It played a prominent part in the advance of a reliable network of overland transportation that stimulated the industrial and residential development of the area.

A bridge, also known as the Raritan Bridge, has spanned the Raritan River at Nevius Street in Raritan since at least the mid-1840s. The first bridge was a six-span timber structure located on the Old York Road, a main roadway connecting New York with Philadelphia. Dutch settlers founded the village of Raritan in the early-18th century, and a tavern was established there on the Old York Road in about 1734 (Van Horn 1965:177-178.) Raritan also enjoyed an advantageous spot for the development of water power; in 1820 Jacob Van Doren, a local miller constructed a flour mill just to the west of the site of the bridge (Snell 1881:686). By the mid-1840s, the village was a growing center of local economic and social activities, and its abundance of water power led to its industrialization in the period between 1840 and 1880.

See continuation sheet

**9. Major Bibliographical References**

Comp, T. Allen and Donald Jackson. Bridge Truss Types: A Guide to Dating and Identifying. Nashville, TN: American Association for State and Local History. 1977.

Condit, Carl. American Building Art: The 19th Century. New York: Oxford University Press, 1960.

Darnell, Victor. Directory of American Bridge Building Companies. 1840-1900. Washington, D.C.: Society for Industrial Archaeology. 1984.

Esposito, Donald N. "The First History of Raritan, New Jersey in Somerset County, 1749-1964." Somerset County Library, New Jersey Room, nd.

Simmons, David. "Bridge Preservation in Ohio." Ohio Cities and Villages. Vol. 26, No. 8 (August, 1978), pp. 13-18.

Snell, James P. Compiler. History of Hunterdon and Somerset Counties, New Jersey. Philadelphia: Everts & Peck, 1881.

See continuation sheet

Previous documentation on file (NPS): N/A

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

Specify repository: \_\_\_\_\_

**10. Geographical Data**

Acreage of property less than one acre. Raritan Quad

UTM References

A 

1	8	5	29	8	05	44	9	0	27	0
Zone		Easting				Northing				

B 

Zone		Easting				Northing				

C 

Zone		Easting				Northing				

D 

Zone		Easting				Northing				

See continuation sheet

Verbal Boundary Description

The nominated structure occupies the road right-of-way of Nevius Street over the Raritan River that extends between the back walls of the bridge abutments.

See continuation sheet

Boundary Justification

The boundary encompasses the site of the nominated structure.

See continuation sheet

**11. Form Prepared By**

name/title Mary McCahon & Patrick Harshbarger, Historians

organization A.G. Lichtenstein & Associates, Inc. date \_\_\_\_\_

street & number 17-10 Fair Lawn Ave. telephone 201-796-6550

city or town Fair Lawn state NJ zip code 07410

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of Somerset County (1885-1927),  
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NJ

square, the center rod is 1-3/8" square. The verticals connecting the third lower panel point with the second upper panel point are two 6"-wide channels spaced at 5 1/2" with riveted lacing while the other verticals are two 5"-wide channels spaced at 4-1/2" with riveted lacing. Diagonals are paired eye bars ranging in size from 3/4" by 1-1/2" to 1" by 1-5/8". The counters, with turnbuckles for tuning the bridge, are paired rods ranging from 3/4" to 7/8" square. Shaped metal rings, commonly called "donuts," are located at the junction of the diagonals and counters to prevent abrasive wear. All panel point connections are made by steel pins with threaded ends and tightening nuts. The trusses have A-shaped portal bracing with decorative lattice, knee bracing and builders plaques. The struts are rolled I-beams, and the top and bottom lateral bracing are rods. The flooring system is composed of riveted built-up floor beams carrying steel stringers. The floor beams are hung from the lower panel points by U-shaped hangers. A modern corrugated steel asphalt pan and asphalt wearing surface replace the original wood flooring. The original/early pipe railing on the inside of the trusses survives, but its has been augmented by a modern steel beam guard railing attached to the verticals. The sidewalk is cantilevered; steel stringers support a steel-grate walkway and a lattice railing.

The masonry abutments and cutwater center pier are coursed red sandstone, probably quarried locally. Both the south and north abutments show signs of repair with modern cement-based mortars. The bridge's south earth-filled approach is approximately 132-feet long with coursed red sandstone retaining walls and parapet topped with a pipe railing.

The cast-iron builders plaque on the bridge portal reads, "Wrought Iron Bridge Co. Builders, Canton, Ohio. William E. Jones, William Hargrove, Augustus Bolmer, Harry R. Skillman, William E. Haver, Jacob M. Vreelant: Building Committee of Board of Chosen Freeholders. F. A. Dunham, Engineer in Charge. A stone plaque in the northeast retaining wall next to the abutment repeats the same information and gives a date of 1886. Next to the stone plaque is another stone plaque, barely readable is the date 1846. It is most likely the plaque from the bridge that this metal truss replaced.

Alterations to the steel trusses are minimal. Most of the changes appear to have taken place in 1938 when new truss expansion bearings and concrete seats were installed and the floor beam hangers were rebuilt with welded connections. Cement was also added to the voids at the panel points. Sometime between 1938 and 1970 the corrugated steel pan and asphalt wearing surface replaced a wood plank deck and angles replaced some of the lower lateral bracing rods (Somerset County 1938).

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In the late-1840s, the Central Railroad of New Jersey laid its main lines along the north side of the town. Shortly thereafter, a group of prominent citizens organized the Raritan Water Power Company to improve the already existing dam, headgates, and power canal, to administer the water rights, and to promote industrial development. In 1868, Raritan was prospering and had grown large enough for the state assembly to incorporate it as a town. By 1881, Raritan boasted three woolen mills, two flour mills, a machine shop and foundry, a wood shingle factory, a braid factory, and an anti-friction bearing manufacturer. (Snell 1881:110-112,684-686; Somerset Messenger-Gazette 1938:36-37; Esposito:10-12.)

The political decisions leading to the construction of the Nevius Street Bridge in 1886 were typical of a pattern. In February 1886, the Freeholders met at the old wood bridge and agreed that it had become dangerous to the traveling public. They authorized immediate makeshift repairs not to exceed \$300, and moved to build a new bridge as soon as possible in the spring. In May, the Freeholders appointed a committee to advertise for proposals for both wooden and iron bridges, and for masonry substructures. The instructions were specific that if the committee accepted a proposal for an iron bridge it was to be for "2 spans of 150' each, a high truss of 80 lbs. pressure to the sq. ft. with a factor of 4, planked with Georgia pine 3" thick, the bridge to be raised 2-1/2" higher (sic)." (Board of Freeholders 1886:213,230,233-34.)

Two weeks later, the Freeholders awarded the superstructure contract to the Wrought Iron Bridge Company of Canton, Ohio, the lowest bidder at \$7040. Substructure contracts were usually let separately from superstructure, and the masons prepared the abutments, piers, and wing walls, before the truss erection crews arrived at the site. The Freeholders awarded the contract for the substructure to two local masons, William W. Smith and Richardson Farrier. In a last minute change of plans, the Freeholders also accepted the petition of local citizens to widen the bridge roadway from 16 to 18 feet. (Freeholders Minutes 1886. 4:233-34,237).

The Nevius Street Bridge was also the first time that the Board of Freeholder Minutes mention the employment of a professional civil engineer to supervise the construction of a bridge. They hired F. A. Dunham. Although the minutes mention Dunham's hiring, they are not specific about his duties at the construction site.

Work on the substructure of the new bridge continued through the summer of 1886. In September, the Freeholders instructed William Wyckoff, the owner of the Star

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Flour Mill next to the northwest bridge approach, to remove a brick building attached to the mill from the right-of-way. Wyckoff apparently was reluctant and was ordered again in October and in December, when the Freeholders finally agreed to compensate the mill owner \$75 for the loss. In mid-October, the truss arrived from the Wrought Iron Bridge Company's shops in Canton. On November 17, 1886, the Freeholders accepted the Nevius Street Bridge as complete and made final payments for the masonry work, superstructure, grading, and engineering (Freeholders Minutes 1886. 4:237,259,266,270.)

The Wrought Iron Bridge Company of Canton, Ohio, specialized in the construction of highway bridges. Organized in 1864 by David Hammond, the company was one of the early metal truss bridge manufacturers, and the company flourished until it was absorbed by the American Bridge Company conglomerate in 1900. The company claimed in its promotional literature to have constructed trusses in 30 states, mostly east of the Mississippi River. They had shops for the drafting, laying out, shearing, drilling, punching, and riveting of truss members, but did not roll its own iron or steel. The Wrought Iron Bridge Company was recognized as one of the most significant regional manufacturers of iron and steel trusses because of its workmanship and prolificacy (Wrought Iron Bridge Co., 1885; Simmons 1978:16; Darnell 1984:48).

Unlike many of its competitors, the Wrought Iron Bridge Company did not specialize in one truss type, but constructed a wide diversity of small and large, inexpensive and expensive truss types, depending upon local preferences. The company recommended double-intersection Pratt trusses, like the Nevius Street Bridge, for spans of 150 to 300 feet. The double-intersection Pratt truss type had been in use since the mid-1840s, and was originally patented by Squire Whipple, one of the foremost of America's earliest bridge engineers. Whipple's design had cast-iron posts and top chord, and other members of wrought iron. In 1863, engineer John W. Murphy constructed the first all pin-connected, wrought-iron truss using a variation of the Whipple patent. The double-intersection Pratt truss was an important milestone in the history of American bridge building, and was widely used for long-span railroad and highway bridges through the 19th century (Condit 1960:114).

The Nevius Street Bridge is the only double-intersection Pratt through truss in Somerset County. One other Wrought Iron Bridge Company truss is known to exist in the county; the Higginsville Road Bridge over the South Branch of the Raritan River in Hillsborough Township is a well-preserved Pratt truss constructed in 1893.



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9. Major Bibliographical References (Continued)

Snell, James P. Compiler. History of Hunterdon and Somerset Counties, New Jersey. Philadelphia: Everts and Peck, 1881.

Somerset County. 4th Book of Minutes of the Board of Chosen Freeholders of the County of Somerset. 1886.

Somerset County. County Engineer Bridge Files #E0801. 1938.

Somerset Messenger-Gazette. Somerset County 250 Years. Somerville, NJ: Somerset Press, 1938.

Van Horn, J. H. Historic Somerset. Somerville, NJ: Historical Societies of Somerset County, 1965.

Wrought Iron Bridge Company. Illustrated Pamphlet of Wrought Iron Bridges Built By Wrought Iron Bridge Company, Canton, Ohio. Canton, OH: Wrought Iron Bridge Co., 1885.

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Raritan Bridge, Metal Truss Bridges of  
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Photograph Index

Items 1 through 5 are identical for all photographs.

Photograph 1

1. Raritan Bridge (Nevius Street Bridge)  
Metal Truss Bridges of Somerset County, New Jersey 1885-1927 MPDF
2. Raritan, New Jersey
3. Tom Flagg
4. October, 1991
5. Negative: Office of New Jersey Heritage, Trenton, NJ.
6. Elevation looking north.
7. 1 of 5.

Photograph 2

6. Through elevation looking south.
7. 2 of 5.

Photograph 3

6. Through elevation looking north.
7. 3 of 5.

Photograph 4

6. Detail of pin connection at top chord and inclined end post.
7. 4 of 5.

Photograph 5

6. Detail of lower pin connection on downstream side of bridge.
7. 5 of 5.