

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

For NPS use only

**National Register of Historic Places
Inventory—Nomination Form**

received JUN 19 1984

date entered JUL 19 1984

See instructions in *How to Complete National Register Forms*
Type all entries—complete applicable sections

1. Name

historic N/A

and/or common Drake Hill Road Bridge

2. Location

street & number Drake Hill Road at the Farmington River N/A not for publication

city, town Simsbury N/A vicinity of

state CT code 09 county Hartford code 003

3. Classification

Category	Ownership	Status	Present Use
<input type="checkbox"/> district	<input checked="" type="checkbox"/> public	<input type="checkbox"/> occupied	<input type="checkbox"/> agriculture
<input type="checkbox"/> building(s)	<input type="checkbox"/> private	<u>N/A</u> unoccupied	<input type="checkbox"/> commercial
<input checked="" type="checkbox"/> structure	<input type="checkbox"/> both	<input type="checkbox"/> work in progress	<input type="checkbox"/> educational
<input type="checkbox"/> site	Public Acquisition	Accessible	<input type="checkbox"/> entertainment
<input type="checkbox"/> object	<input type="checkbox"/> in process	<input type="checkbox"/> yes: restricted	<input type="checkbox"/> government
	<input type="checkbox"/> being considered	<input checked="" type="checkbox"/> yes: unrestricted	<input type="checkbox"/> industrial
	<u>N/A</u>	<input type="checkbox"/> no	<input checked="" type="checkbox"/> transportation
			<input type="checkbox"/> other:

4. Owner of Property

name Town of Simsbury

street & number 760 Hopmeadow Street

city, town Simsbury N/A vicinity of state CT 06070

5. Location of Legal Description

courthouse, registry of deeds, etc. Town Clerk's Records--Town Office Building

street & number 760 Hopmeadow Street

city, town Simsbury state CT

6. Representation in Existing Surveys

title State Register of Historic Places has this property been determined eligible? yes no

date 1984 federal state county local

depository for survey records Connecticut Historical Commission

city, town 59 S. Prospect Street, Hartford state CT

7. Description

Condition		Check one	Check one
<input type="checkbox"/> excellent	<input type="checkbox"/> deteriorated	<input type="checkbox"/> unaltered	<input checked="" type="checkbox"/> original site
<input type="checkbox"/> good	<input type="checkbox"/> ruins	<input checked="" type="checkbox"/> altered	<input type="checkbox"/> moved date _____
<input checked="" type="checkbox"/> fair	<input type="checkbox"/> unexposed		

Describe the present and original (if known) physical appearance

Drake Hill Road Bridge, erected in 1892, is a pin-connected Parker through truss. Wrought iron, cast iron and steel comprise the various members that make up the trusses, and the abutments are brownstone. The bridge is located about one-quarter mile south of Simsbury center. Drake Hill Road runs west to east, from present-day Route 10, which is Simsbury center's main street, to Riverside Road, which runs along the east bank of the Farmington River. This bridge carries Drake Hill Road over the Farmington River. The bridge stands in a residential area of 19th-century and early 20th-century houses.

The bridge spans 183 feet and carries a 12-foot-wide roadway; the bottom of the bridge is 18 feet over the river bottom. Each side of the bridge (Photograph 1) has twelve panels, including the two triangle-shaped end panels. The top chord is segmental in profile, angling upward at each panel-point as it proceeds from the ends to the middle of the bridge. This top chord, including the inclined end posts, is made of three wrought-iron plate-sections which are riveted together using angle-sections on the sides and lacing bars on the bottom (Photograph 2). The verticals on the inside of the triangular end panels are made of two plate-sections set back-to-back with turned cast-iron spacers between them (Photograph 2); the rest of the verticals consist of two channels set back-to-back and connected with riveted lacing bars (Photograph 3). The diagonals in the two rectangular panels closest to each end are wrought-iron eyebars with stamped holes to accommodate the pins (Photographs 2,3), and the stiffer diagonals in the center are made of two channels with turned cast-iron spacers between them (Photograph 4). The pin joints at the upper panel points (Photograph 3) feature two spacer-plates riveted to the side of the chord, surrounding the pin. The portal beams (Photograph 5) are c.1980 replacements of the original beams; they consist of two sets of welded angles connected with lacing bars. At alternating panel points, lateral members over the roadway tie the two sides together; these cross-braces are back-to-back angle sections. Although they are now welded in place, indicating post-1940 installation, these members feature rivet holes, indicating that old members were re-used during recent repairs.

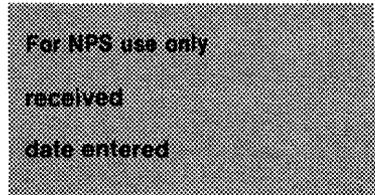
The bottom chords (Photograph 6) are single plates with angles riveted to each side at top and bottom. They hang from the pins at the panel points. Floor beams are I-sections that are riveted to the bottom chords with the use of stem plates. Timbers are placed across the floor beams, and a layer

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Representation in Existing Surveys (Continued):

Title: Inventory of Historic Engineering and Industrial Sites in Connecticut

Date: 1980

Federal/State

Depository for Survey Records: Connecticut Historical Commission
Hartford, CT

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Description (continued):

of planks rests on the timbers. The blacktop road surface is laid over these planks. Abutments consist of large, squared brownstone blocks. At the east end of the bridge, the abutments are surmounted by brownstone parapets. At the west end are wrought-iron railings with cast-iron newels (Photograph 7).

Drake Hill Road Bridge retains its historic appearance, and most of its original members continue to function in their original locations. Besides the new portal beams and reconfigured cross-bracing, mentioned above, alterations include welded repairs on the laced verticals, where the lacing has been removed from the bottoms of the members and replaced with steel channels (Photograph 3).

8. Significance

Period	Areas of Significance—Check and justify below			
<input type="checkbox"/> prehistoric	<input type="checkbox"/> archeology-prehistoric	<input type="checkbox"/> community planning	<input type="checkbox"/> landscape architecture	<input type="checkbox"/> religion
<input type="checkbox"/> 1400-1499	<input type="checkbox"/> archeology-historic	<input type="checkbox"/> conservation	<input type="checkbox"/> law	<input type="checkbox"/> science
<input type="checkbox"/> 1500-1599	<input type="checkbox"/> agriculture	<input type="checkbox"/> economics	<input type="checkbox"/> literature	<input type="checkbox"/> sculpture
<input type="checkbox"/> 1600-1699	<input type="checkbox"/> architecture	<input type="checkbox"/> education	<input type="checkbox"/> military	<input type="checkbox"/> social/
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> art	<input checked="" type="checkbox"/> engineering	<input type="checkbox"/> music	<input type="checkbox"/> humanitarian
<input checked="" type="checkbox"/> 1800-1899	<input type="checkbox"/> commerce	<input type="checkbox"/> exploration/settlement	<input type="checkbox"/> philosophy	<input type="checkbox"/> theater
<input type="checkbox"/> 1900-	<input type="checkbox"/> communications	<input type="checkbox"/> industry	<input type="checkbox"/> politics/government	<input checked="" type="checkbox"/> transportation
		<input type="checkbox"/> invention		<input type="checkbox"/> other (specify)

Criteria A,C

Specific dates 1892--built **Builder/Architect** J.H. Buddington, New Haven, CT--engineer

Statement of Significance (in one paragraph)

Drake Hill Road Bridge is significant because it embodies the distinctive characteristics of metal-truss bridge construction in the 19th century (Criterion C). It has further significance as one of only three Parker trusses known to survive in Connecticut, all erected by J.E. Buddington, consulting engineer from New Haven. When this bridge was erected, in the 1890s, American bridge-building was in a period of rapid change. Steel had begun to replace wrought iron and riveted joints had begun to replace pins. Besides these major changes in materials and joint types, the 1890s also saw the proliferation of variations in standard designs and construction techniques, as bridge-builders large and small sought to capture contracts on the basis of their innovations. The idiosyncratic features of Drake Hill Road Bridge reveal that Buddington participated fully in this episode of market-driven innovation. The bridge is also significant in the local history of Simsbury (Criterion A). While the bridge was not the center of acrimonious conflict in town, the circumstances surrounding its construction do illustrate the rising responsibilities and expense of local government in the late 19th century, the careful approach to fiscal matters that characterized Connecticut towns, and the successful search for ways to raise revenues other than by increasing taxes.

The Parker truss is actually a Pratt truss with a segmental top chord. Like the Pratt, the Parker places compression on its verticals and tension on its diagonals. The principal differences between the two are the more graceful appearance of the Parker and the greater difficulty in making the Parker, because of all the angled connections at the upper panel points. The appearance may have helped Buddington to win the contract for Drake Hill Road Bridge, but the project apparently strained his technical resources. Buddington used several unusual techniques that would not have appeared in bridges made by a firm that had its own fabricating facilities. Buddington designed the bridge and supervised its construction, but he sub-contracted all fabrication. He saved costs in at least one instance by using a unique type of member--the channels or plates bolted together with turned cast-iron spacers. These members were very easy to assemble, requiring only wrenches and not the small forges and array of hammers needed for riveting. He also designed around his fabrication sub-contractor's apparent lack of a press large enough to punch rivet holes in plates greater than one-half-inch thickness. The riveted plates surrounding the upper pin joints provide the proper bearing thickness for the pins, a thickness that usually would have

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9. Major Bibliographical References

Interview with Richard L. Sawitzke, Simsbury Town Engineer, January 1984.

Macchi, A.J., "Quick Fix Keeps Bridge in Service," The American City and County (September 1978): 95-96.

(continued)

10. Geographical Data

Acreage of nominated property less than 1

Quadrangle name Avon

Quadrangle scale 1:24000

UTM References

A

1	8	6	8	2	5	6	0	4	6	3	7	3	0	0
Zone		Easting				Northing								

B

Zone		Easting				Northing								

C

Zone		Easting				Northing								

D

Zone		Easting				Northing								

E

Zone		Easting				Northing								

F

Zone		Easting				Northing								

G

Zone		Easting				Northing								

H

Zone		Easting				Northing								

Verbal boundary description and justification The nominated property includes only the public right-of-way, which consists of the bridge itself and the land beneath the abutments.

List all states and counties for properties overlapping state or county boundaries N/A

state code county code

state code county code

11. Form Prepared By

name/title Matthew Roth & Bruce Clouette, Partners edited by: John Herzan, National Register Coordinator

organization Historic Resource Consultants date February 20, 1984

street & number 55 Van Dyke Ave. telephone 203 547-0268

city or town Hartford state CT

12. State Historic Preservation Officer Certification

The evaluated significance of this property within the state is:

national state local

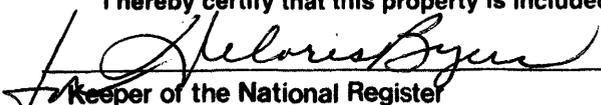
As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National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

State Historic Preservation Officer signature 

title Director, Connecticut Historical Commission date 6/13/84

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I hereby certify that this property is included in the National Register


Keeper of the National Register

Entered in the National Register

date 7/19/84

Attest:

date

Chief of Registration

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Significance (continued):

been gained by using thicker material for the chord. Of course, Buddington's technique also saved some material cost in the top chord, but that saving may well have been offset by the consequent need to use larger members for the cross-bracing. In its other members, this bridge is wholly typical of its period. Built-up members using plates, channels and angles riveted together with lacing bars are part of virtually every metal-truss bridge built between 1870 and 1930. Eyebars with stamped pin holes began replacing eyebars with forge-welded loops in the 1880s.

Buddington had a degree of early success with his personalized designs. He won a bridge contract in 1893 from the town of Canton, and another one from Simsbury in 1894 (the extant Route 315 bridge). These were among the first jobs he obtained after opening his consulting firm in 1892. The structural problems that have led to the alterations on Drake Hill Road Bridge may account for Buddington's abandoning such work. Although he stayed in business until the late 1920s, the two bridges in Simsbury and one in Canton are the only spans in the state that are known to be the work of Buddington. The competitive aspect of his use of the Parker truss is suggested by the fact that these are the only such trusses known to survive in the state. By using it he could offer something different from the bridges of other builders.

The town of Simsbury did not easily undertake the expense of erecting a new bridge at this crossing. In 1890 the town recognized the need to replace the existing timber bridge, but dragged out the process with piecemeal appropriations. The first appropriation allotted money "to strengthen the present abutments and piers at a moderate cost and without a great deal of inconvenience to the travel across the bridge."¹ Once the abutments were ready, the Selectmen were authorized to receive proposals for construction of an iron bridge and to borrow money to pay for it. But the town meeting did not authorize any increase in tax assessments to service the debt for construction. The Selectmen turned to the commercial credit market but found little appetite there for what amounted to unsecured notes; foreclosure was not a viable recourse for lenders. What would they do with a bridge? The town administrators thus were forced to issue bonds for construction, backing up the bonds with the overall fiscal integrity of the town. The total issue of \$10,000 consisted of five groups of bonds, at \$2,000 each, that would reach maturity on a staggered basis over five years. This means of financing public improvements was again applied in 1894, when it was used for the other Buddington bridge in Simsbury. Wary of over-

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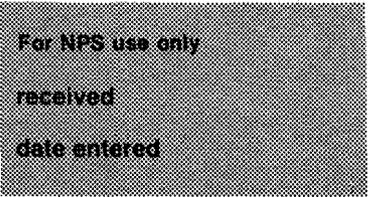
2

Significance (continued):

extending the town treasury, the Selectmen delayed maturity of the 1894 bonds so that the town would not have to begin paying on them until 1899.

NOTE

1. Simsbury Town Meeting Records, volume 43, p. 257, 1890.



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Bibliography (continued):

New Haven City Directories, 1892-1930.

Simsbury Town Meeting Records, volume 43, 1890-1894, pp. 256-57, 277-78, 291-92.