

United States Department of the Interior
Heritage Conservation and Recreation Service

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

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

For HCRS use only

received

date entered

1. Name

historic Double-Span Whipple Bowstring Truss Bridge

and/or common Shaw Bridge

2. Location

street & number Van Wyck Lane over Claverack Creek _____ not for publication

city, town Claverack _____ vicinity of _____ congressional district 29th

state New York _____ code 036 _____ county Columbia _____ code 21

3. Classification

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

4. Owner of Property

name Columbia County Department of Public Works

street & number Columbia County Courthouse

city, town Hudson _____ vicinity of _____ state New York

5. Location of Legal Description

courthouse, registry of deeds, etc. Columbia County Courthouse

street & number

city, town Hudson _____ state New York

6. Representation in Existing Surveys

Statewide Inventory of
title Historic Resources _____ has this property been determined eligible? yes no

date 1978 _____ federal state _____ county _____ local

depository for survey records Division for Historic Preservation

city, town Albany _____ state New York

7. Description

Condition

excellent
 good
 fair

deteriorated
 ruins
 unexposed

Check one

unaltered
 altered

Check one

original site
 moved date _____

Describe the present and original (if known) physical appearance

The double-span Whipple bowstring truss bridge commonly known as Shaw Bridge carries Van Wyck Lane (a portion of the former New York and Albany post road) across Claverack Creek. The bridge is located on a north-south alignment approximately one-tenth mile east of New York Route 9H in the town of Claverack. The rural setting is characterized by scattered residences, and woodland along the banks of the shallow creek. The nomination encompasses the bridge proper, from its north to its south abutment.

This pony truss bridge is comprised of two separate, identical cast and wrought-iron spans bearing upon end abutments and a center pier constructed of mortared cut limestone blocks. The substructure carries the lower chord across Claverack Creek at a height approximately ten feet, six inches above mean water level. The overall length of the bridge is 162 feet; the deck width between trusses is thirteen feet, two inches on centers.

The upper chord of each truss is a segmental arch composed of nine tangential iron castings whose bearing surfaces join at each panel point. The legend, "J.D. Hutchinson, Builder, Troy, N.Y., 1870," is cast integral with the top chord members. The lower chord consists of paired wrought-iron links between cast-iron connecting blocks. The iron floor beams are suspended from the top chord by vertical round threaded iron rods. Similar round rods form the diagonal tension members and counters of the web. A modern steel guard rail protects the trusses from vehicular impact.

The bridge deck consists of wood planks bolted to transverse wood stringers laid upon the iron floor beams. Round iron rods form cross-braces between the floor beams, adding stiffness to the deck. The bridge is currently posted at four-ton load limitation.

The double-span Whipple bowstring truss bridge survives in an excellent state of preservation, and continues in limited use as a vehicular bridge.

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/ humanitarian |
| <input type="checkbox"/> 1700–1799 | <input type="checkbox"/> art | <input checked="" type="checkbox"/> engineering | <input type="checkbox"/> music | <input type="checkbox"/> theater |
| <input checked="" type="checkbox"/> 1800–1899 | <input type="checkbox"/> commerce | <input type="checkbox"/> exploration/settlement | <input type="checkbox"/> philosophy | <input type="checkbox"/> transportation |
| <input type="checkbox"/> 1900– | <input type="checkbox"/> communications | <input type="checkbox"/> industry | <input type="checkbox"/> politics/government | <input checked="" type="checkbox"/> other (specify) |
| | | <input type="checkbox"/> invention | | |

Specific dates 1870 **Builder/Architect** John D. Hutchinson

Statement of Significance (in one paragraph)

The double-span Whipple bowstring truss bridge spanning Claverack Creek is a structure of outstanding importance to the history of American engineering and transportation technology. Built in 1870, the bridge embodies the segmental arch truss design developed by Squire Whipple, the nation's premier theoretical designer of metal bridges. Fabricated by the Troy firm of John D. Hutchinson, the double-span bowstring bridge is the only known example of its type surviving in New York and the United States. Located on the historic former New York and Albany post road, this unique structure is among the best preserved extant Whipple patent bridges, and remains open to light vehicular traffic.

Squire Whipple (1804-1888) is generally acknowledged to be the first American bridge engineer to accurately assess the effects of stress in bridge design. Whipple published his theories as A Work on Bridge Building (1847), the first American effort of its kind. His engineering career began soon after his matriculation from Union College in 1830, and Whipple erected his first metal truss bridge at Utica a decade later. The bridge engineer obtained a patent for his bowstring arch truss design in 1841, and unsuccessfully fought infringements until 1869, when the extended patent rights expired.

The double-span Whipple bowstring bridge across Claverack Creek may have been erected by the State of New York on the post road, an important north-south highway, in 1870. The Canal Board of the State of New York had earlier adopted Whipple's patent iron truss bridge as the standard crossing for the state-owned Erie Canal, and this experience may have led to its use on state highways as well. The manufacturer, John D. Hutchinson, operated an iron bridgebuilding firm on Grand Division Street, Troy, during the post-Civil War decade, and was one of many small New York ironworks producing Whipple's prefabricated bridge during the mid-nineteenth century.

Remaining in use on its original site, the Claverack bridge is the only double-span example of the Whipple patent bowstring bridge known to exist in the nation. As an unaltered structure which reflects the first American truss design derived from theoretical analysis, the Claverack bridge bears testimony to the early engineering genius and skill of Squire Whipple.

9. Major Bibliographical References

Condit, Carl. American Building Art: The Nineteenth Century. New York, 1960.
 Vogel, Robert, Ed. A Report of the Mohawk-Hudson Area Survey. Washington, 1973.
 Whipple, Squire. A Work on Bridge Building. Second Edition. New York, 1873.

10. Geographical Data

Acreage of nominated property less than 1

Quadrangle name Claverack

Quadrangle scale 1:24,000

UMT References

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Verbal boundary description and justification

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 Raymond W. Smith, Program Analyst

organization Div. for Historic Preservation

date January, 1979

street & number Agency Bldg. #1

telephone 518-474-0479

city or town Albany

state New York

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 Heritage Conservation and Recreation Service.

State Historic Preservation Officer signature



Director, Historic Preservation Field Services Bureau

title

date

2/21/80

For HCRS use only

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

date

Keeper of the National Register

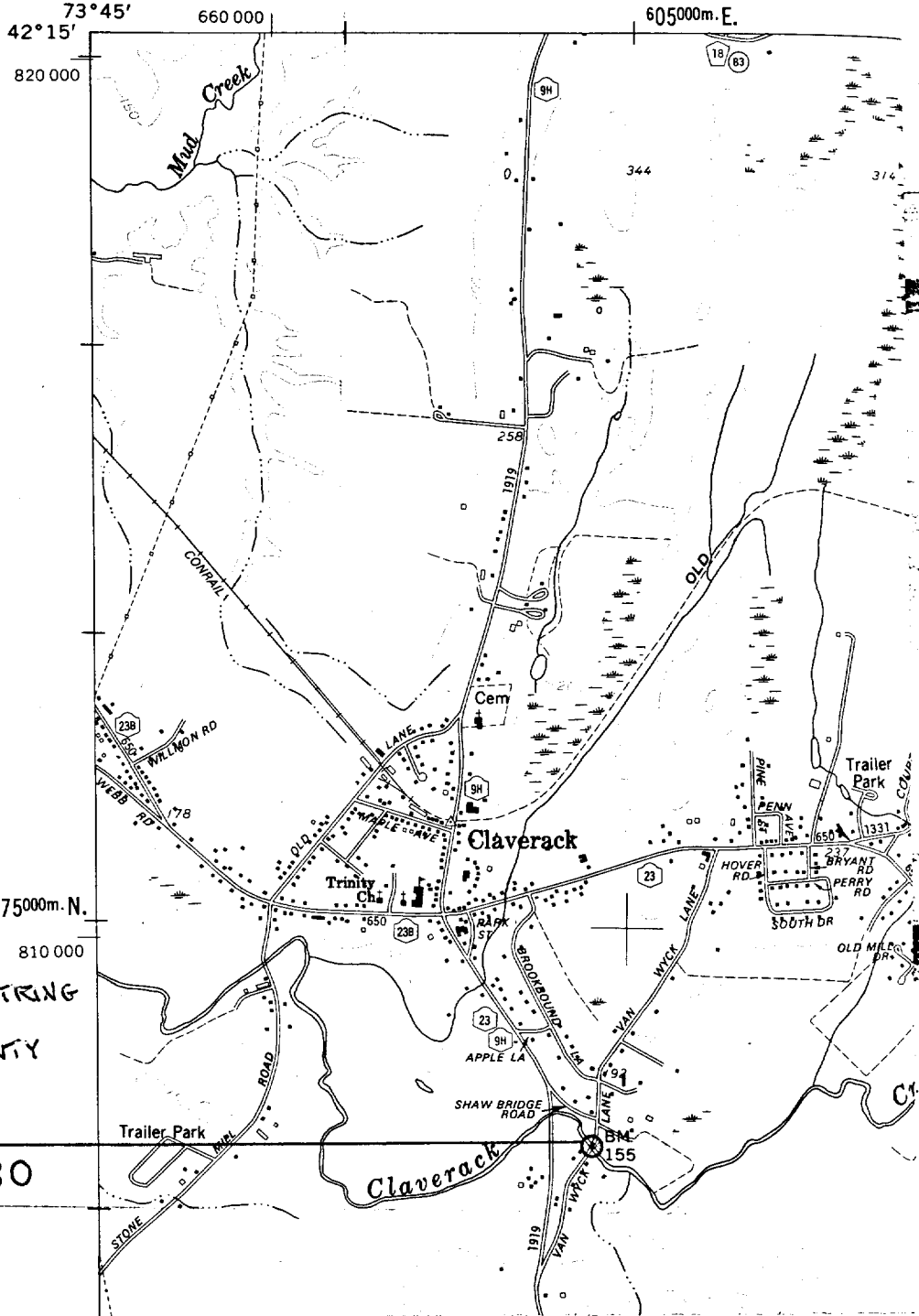
Attest:

date

Chief of Registration

NEW YORK STATE
DEPARTMENT OF TRANSPORTATION

HUDSON NORTH



CLAVERRACK QUAD. 4675000m. N.
810 000
DOUBLE-SPAN WHITTLE BOWSTRING
TRUSS BRIDGE
CLAVERRACK, COLUMBIA COUNTY
NEW YORK

18/604890/4674230

Double-Span Whipple

Bowstring Truss
Bridge

NYS PARKS & RECREATION
AGENCY BLDG. #1
EMPIRE STATE PLAZA
ALBANY, NY 12238

021-05-0004

WHIPPLE TRUSS —

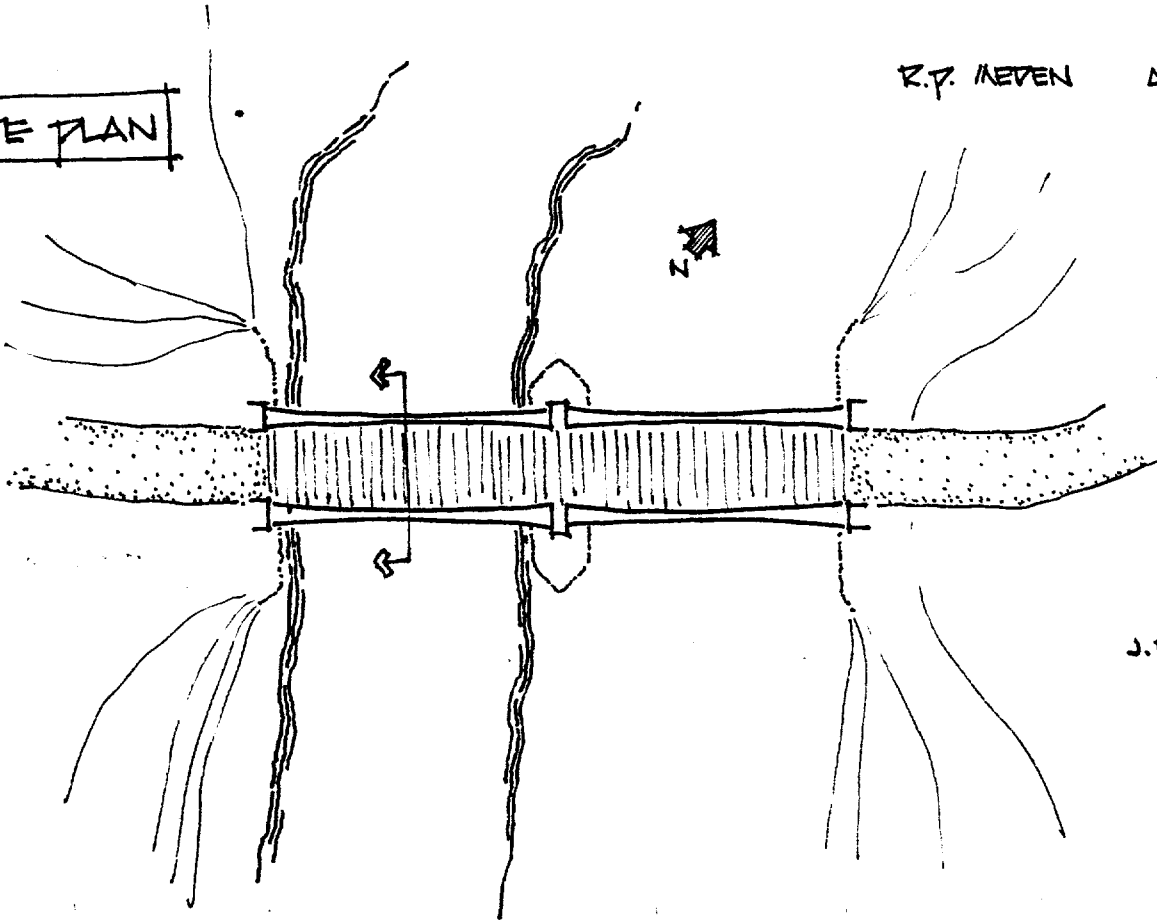
van wyck lane
claverack

columbia co. new york

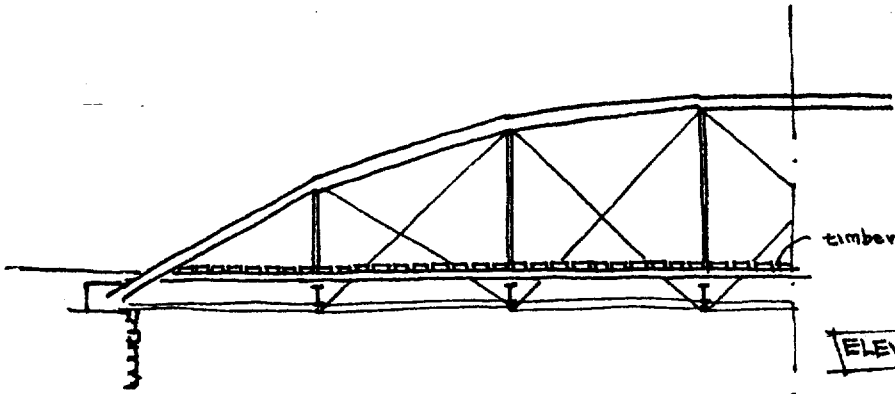
R.P. MEDEN

AUG. 12, 1976

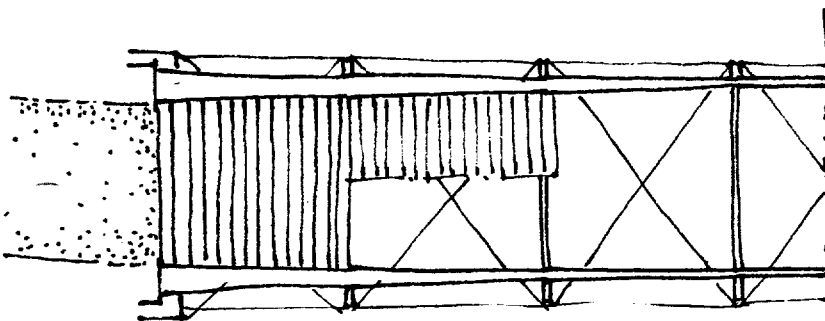
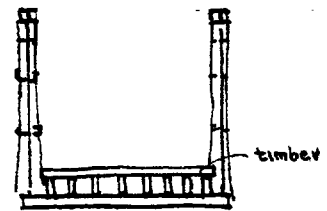
SITE PLAN



J.D. HUTCHINSON, BUILDER
TROY, N.Y. 1870



ELEVATION



PLAN