



Parks, Recreation and Historic Preservation

ANDREW M. CUOMO
Governor

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Commissioner

October 4, 2019

Tricia Millington
Area Engineer
Federal Highway Administration
Leo W. O'Brien Federal Building
11A Clinton Avenue, Suite 719
Albany, NY 12207
(via email)

Re: FHWA/DOT
Freese Road Bridge Repair/Replacement/PIN 3756.41
Freese Road over the Fall Creek, Dryden, Tompkins County
17PR08070

Dear Ms. Millington:

Thank you for your ongoing consultation with the State Historic Preservation Office (SHPO). We continue to review this project in accordance with Section 106 of the National Historic Preservation Act of 1966 (NHPA). These comments are those of the SHPO and relate only to Historic/Cultural resources.

We have had an opportunity to review the *DRAFT* Finding Documentation submitted to our office by the NYS Department of Transportation. This document includes 13 proposed alternatives and the applicant's defined purpose and needs requirements.

First, we want to note that the primary significance of the Freese Road Bridge arises from its engineering design as a rare surviving example of an early (c.1886) pin-connected, Pratt pony truss iron bridge. The bridge was originally constructed at a different location and moved to its current site in 1922. Our office determined the bridge to be eligible for inclusion in the New York State and National Registers of Historic Places, first in 1995 and we subsequently reaffirmed this determination in January (see attached). As part of our review we are further defining the historic portion of the bridge as being the top and bottom chords, end posts, posts diagonals and substructure. The abutments, center pier and steel deck grating now associated with the structure are not original to it and are secondary to its primary significance.

Thus, any alternative that would change or demolish in whole or in part the noted character defining elements of the c.1886 Groton Bridge Company bridge would be classified as having an Adverse Effect under Section 106 (NHPA).

Within the set of alternatives, the applicant has identified Alternative 9 as the preferred option. Under this choice a new two-lane steel girder bridge would be constructed with the trusses of the historic bridge mounted to the new structure as decorative elements. With a current span

length of 161 feet, the document does not define how the truss elements would be altered to fit a new bridge structure. There is also no discussion about long term maintenance of these historic elements by the town. Long term maintenance of the historic bridge or elements of the bridge were identified as a liability in the previous version of this analysis. The current document goes on to state that this option “*will have the least amount of adverse effect both to the surrounding property and that will preserve the most prominent components of the historic eligible truss.*”

The SHPO found that this preferred alternative, which calls for the demolition of the historic bridge and reuse of salvaged components, will have an adverse effect on the resource.

In reviewing the remaining alternatives our office has found that the rehabilitation of the existing bridge to meet current transportation requirements on its current site (Alternatives 2, 3 & 4) may also prove to have an adverse effect on the historic structure. The replacement of worn or deteriorated elements and/or the introduction of new structural features to meet minimum transportation standards could significantly alter the historic fabric of the resource. Our office always weighs the preeminent importance of public safety as a primary factor when assessing project impacts. Thus, if significant intervention is needed to meet the minimum safety requirements for this crossing we would anticipate these alternatives would have adverse effects on the resources.

When assessing the new bridge construction alternatives, we have determined that there are no additional historic resources near the bridge, as such it does not serve as a historic setting for another eligible or listed resource. Thus, the need to construct a “new truss” bridge at this location (Alternatives 11 & 12), has no historic preservation benefit. A modern truss does not replace or mitigate the loss of this rare engineering feature.

Those alternatives that remove (demolish) the historic bridge and replace it with a standard multi-girder structure would also be classified as having an adverse effect resulting from demolition of the historic resource (Alternatives 5, 6, 8 & 9).

The SHPO found that alternatives that would build a new multi-girder bridge on the current ROW alignment and relocate the historic truss structure to an adjacent site (Alternatives 7, 10 & 13a) *could* result in a finding of *No Adverse Effects* to the historic resource.

As noted above, the significance of this resource is the c.1886 Groton Bridge Company steel truss structure in its entirety. We note that the abutments have been altered and are not original to this previously moved feature, nor is the center pier. Relocation of the historic steel bridge superstructure intact and in its entirety to an adjacent site would retain the integrity of the engineering feature itself and shifts it only slightly within its historic setting.

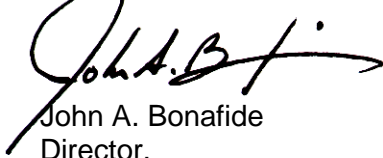
A modern multi-girder bridge (one or two lanes) constructed on the current alignment and adjacent to the historic pony-truss structure would not directly or indirectly impact the engineering significance of the resource or its ability to convey that history. Both structures could utilize the same new abutments. The historic bridge could be placed atop new beams sized to support the new low-impact multi-modal usage as a pedestrian way. These alternatives also eliminate the need for the new structure to incorporate its own multi-modal pathway.

We also note that these three alternatives place the historic structure down-stream from the new structure. This would eliminate any concerns relating to scouring or future catastrophic failure of the c.1886 structure and potential impacts to a new bridge.

Lastly, alternatives that allow the bridge to continue to deteriorate (Alternatives 1 and 13b) would be classified as having the potential to adversely affect the bridge.

If I can be of any further assistance, please do not hesitate to contact me at (518) 268-2166 or john.bonafide@parks.ny.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "John A. Bonafide". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

John A. Bonafide
Director,
Technical Preservation Services Bureau
Agency Historic Preservation Officer

cc: Erin Cole, NYSDOT

att: January 2019 Determination of Eligibility



Date: 01/31/2019

Staff: Kathy Howe

USN Number: 10903.000320

Name: Freese Road Metal Truss Bridge, Ithaca BIN 3209800

Location: Freese Road Bridge, Ithaca NY 14850

Resource Status:

- 1. **Determination:** Eligible
- 2. **Contributing:** False

Criteria for Inclusion in the National Register:

- A. Associated with events that have made a significant contribution to the broad patterns in our history.
- B. Associated with the lives of persons significant in our past.
- C. Embodies the distinctive characteristics of a type, period or method of construction; or represents the work of a master; or posses high artistic values; or represents a significant and distinguishable entity whose components may lack individual distinction.
- D. Have yielded, or may be likely to yield information important in prehistory or history.

Summary Statement:

SUMMARY STATEMENT

The Freese Road Bridge (BIN 3209800) over Fall Creek in the hamlet of Varna, town of Dryden, Tompkins County, is National Register eligible under Criterion C, Engineering, as a rare surviving example of an early pin-connected, iron, Pratt pony truss bridge from the last quarter of the nineteenth century. It was built by a local company, the Groton Bridge Company, of the nearby town of Groton in Tompkins County. This bridge was built ca. 1886 at a different location approximately 1.5 miles upstream in Sherwood Mills, but was moved to its current site in 1922 and placed on new concrete abutments and a center pier. The bridge meets Criteria Consideration B as a moved property because its current setting is comparable to the original setting on Fall Creek. The bridge continues in use as a functioning bridge over the same watercourse and retains integrity of design, materials, and workmanship. The period of significance for the bridge is ca. 1886, the date of the fabrication of the bridge structure. [1]

THE MOVE

The original bridge at the Freese Road crossing, installed in 1878, had a span of 140 feet. In the spring of 1887 the bridge was lifted off its abutments by water and ice but was reset that autumn on raised abutments in the same location. [2] [3] In August of 1922, however, a torrential downpour flooded Fall Creek, causing the bridge to detach from its abutments and topple over into the creek. [4]

According to the August 31, 1922 meeting minutes of the Dryden Town Board, the damage to the bridge was so severe that the board decided to scrap it and move an existing bridge from nearby Sherwood Mills to the Freese Road crossing. [5]

The minutes of the September 5, 1922 board meeting call for the “moving of the Sherwood Mills bridge be done by the Town. Foreman and tools to be hired from Groton Bridge Co.”

GROTON BRIDGE COMPANY

Founded in 1877 in the Town of Groton, Tompkins County and originally called the Groton Iron Bridge Company, the company was the result of a merger between the Groton Separator Works, an agricultural machine manufacturing



enterprise, and the Groton Iron Works, an iron foundry. Between 1877 and 1882 the company produced an average of 25 bridges a year. In the following years the company secured contracts in 27 states and was much more productive. The principal markets were New York, northern Pennsylvania and neighboring states. The company reorganized in 1887 as the Groton Bridge and Manufacturing Company. Although a local bridge manufacturer, the succession of Groton Bridge companies earned a national reputation and is considered one of the significant bridge companies of the late-nineteenth century until it was absorbed into the American Bridge Company in 1900 which closed the Groton shop one year later.

DESCRIPTION

The Freese Road Bridge is an intact example of a pin-connected, Pratt pony truss bridge. Patented in 1844, the Pratt truss incorporates vertical members in compression and diagonal members in tension, a design that reduces the required length of compression members, helping to prevent bending or buckling. [6] Visually, the compression and tension members of a pin-connected Pratt truss are clearly different, with the thin diagonal members in tension and the vertical posts in compression. Although the basic Pratt truss is a common type, there are many variations resulting from subsequent "improvements" (Whipple, Parker, Baltimore, (Petit) and Pennsylvania (Petit)). The most common is the through-truss type, with inclined end posts. The Freese Road bridge is a rarer pony truss type. A pony truss is a low height truss that does not have overhead braces. The Groton Bridge Company did not build any pin connected Pratt pony truss bridges after 1899.

The bridge measures a total of 166 feet in length, 12 feet by 10 inches wide, and 8 feet by 6 inches high. The inclined end posts rise from the bottom chords to meet the horizontal top chords forming a trapezoidal shape. The top chords and end posts consist of two channels, a top plate, and lacing bars. Angle bars and lattice work form the vertical posts while the diagonals are of crossed quadruple eye bars. The substructure consists of traverse I-beams attached to the base of posts.

The use of pin connections was introduced in the 1840s and began to be used for bridge construction in the late 1850s. Pin connections allowed for easy erection of bridges, much of which could be completed off site. The website HistoricBridges.org states "This is one of two bridges in the county that feature an extremely rare continuous two-span design. Nearly all pin-connected truss bridges were built as single spans. This bridge acts as one single span, with a pier in the middle, forming the continuous design." Pin connections were eventually replaced by riveted connections, then bolted connections.

Although the plank decking was replaced with steel grate decking, bottom chords have been reinforced or replaced, guide rails added and some angle bar braces replaced, the Freese Road Bridge retains overall integrity of design, materials, and workmanship of the Pratt pony truss type.

Footnotes:

[1] The Dryden town board minute book from 1886 records "an appropriation of three thousand dollars to build an Iron Bridge near Perrigo's mill. (formerly SHERWOOD'S MILL.)."

[2] Ithaca Daily Journal, Thursday, May 5, 1887, page 1.

[3] County Supervisor's proceedings, November 23, 1887.

[4] Ithaca Journal News, August 26, 1922, page 1.

[5] The crossing at Sherwood Mills was not replaced, and remains so to this day.

[6] T. Allan Comp and Donald Jackson, *Bridge Truss Types: A guide to dating and Identifying*. (Nashville: American Association for State and Local History, Technical Leaflet 95), 8.

Sources:

Comp, T. Allan and Donald Jackson. *Bridge Truss Types: A guide to dating and Identifying*. Nashville: American Association for State and Local History, Technical Leaflet 95: 8.

Dryden Town Board Meeting Minutes. 1886; August 31, 1922; September 5, 1922.

Ithaca Journal. "Streets Flooded, Houses Damaged, Railroad Tracks Are Washed Out, In Second Big Storm This Week." August 26, 1922: 5.

Lichtenstein and Associates. *Inventory and evaluation of Pennsylvania's historic bridges*. Pennsylvania: Department of Transportation, 1997.

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Parks, Recreation, and Historic Preservation

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the Historic Bridge Inventory and Management Plan.” Albany: New York State DOT and Federal Highway Administration, January 2002.

O'Malley, Christine. “Freese Road Bridge History Timeline.” January 17, 2019.

Thurber, P.J. “A Study of the Groton Iron Bridge Company and the Preservation of America’s Historic Metal Truss Bridges.” Master’s thesis. Ithaca: Cornell University, 1985.