

**BRIDGE INVENTORY FORM
NEW YORK DEPT. OF TRANSPORTATION**



DATE: 7/18/17 **PIN:** 7935.28.301 **BIN:** N/A

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EVALUATION APPLYING METHODOLOGY OF NYSDOT 2002 HISTORIC BRIDGE INVENTORY
National Register Eligible ☒ **National Register Criteria** C-6 **Not Eligible** ☐

IDENTIFICATION

1. BRIDGE NAME(S): New York and Ogdensburg Railway bridge over Raquette River

2. TOWN/CITY/VILLAGE (MCD): **Village:** Norwood (08950)

3. COUNTY: St Lawrence

4. FEATURE CARRIED (street, route, railroad): New York and Ogdensburg Railway

5. FEATURE CROSSED (river, highway, railroad): Raquette River

6. YEAR BUILT: 1885-6/1898-9

DESCRIPTION

7. BRIDGE TYPE: Hilton lattice deck truss

7a. Number of spans: 4 **7b. Length of Spans:** Span 1 - 6'2" (approach)
Span 2 - 132' (truss)
Span 3 - 132' (truss)
Span 4 - 6'2" (approach)

8. STRUCTURAL MATERIAL: a. timber ☐ b. stone ☐ c. steel ☒ d. concrete ☐ e. wrought iron ☒

8a. Abutment Material: concrete ☐ stone faced ☐ laid-up stone ☒ other ☐

9. PHOTOS: (see attached)

10. INTEGRITY: a. list major alterations and dates (if known): In 1898, the original north truss, built in 1886, was moved and combined with the original south truss to form a double truss, representing existing Span 2. A new north truss was built, representing existing Span 3. Other alterations include the encasement of the abutments and center pier with shotcrete.

b. previous use: c. moved ☐ if so, when? ☐

11. RELATED BUILDINGS AND PROPERTY (check more than one if necessary): none

12. BRIDGE SURROUNDINGS (check more than one if necessary): a. open land ☒ b. woodland ☐
c. scattered buildings ☒ d. densely built-up ☒ e. commercial ☒ f. industrial ☐ g. residential ☒ h. other ☐

13. OTHER NOTABLE BRIDGE FEATURES:

The bridge consists of two lattice deck truss spans (Spans 2 and 3) and two stringer approach spans supported on dry-laid (probable) stone abutments and center pier. The truss spans are 132' in length between bearings, 12' in width between the centerline of the trusses, and 20' in depth (height) between the top and bottom of the chords. Span 2, built in 1886, is a wrought iron structure with riveted built-up members and riveted connections. It is a double truss consisting of the

original south truss and the original north truss joined together with struts and tie plates. Span 3, built in 1898, is a steel structure with riveted built up members and riveted connections. Spans 2 and 3 have the same design, consisting of a quadruple intersection Hilton truss, in which the diagonals have a 45-degree slope and the end posts act as vertical tension hangers. The primary difference between the spans is the smaller size and weight of the members in Span 2 than in Span 3. The rails are supported on a solid floor of ties attached directly to the top chords.

The bridge is eligible for the National Register of Historic Places as a significant variation of a pre-standardization (pre-1909) Warren truss. Specifically, the bridge is an example of a Hilton lattice deck truss with multiple spans. The Hilton truss was a very uncommon type of truss used primarily for railroad bridges because of its strength. The bridge has additional significance by demonstrating two generations of the Hilton truss type, in which the light wrought iron members of the original 1886 bridge were surpassed by the heavier steel members of the 1898 truss.

14. HISTORIC IMPORTANCE/ASSOCIATION:

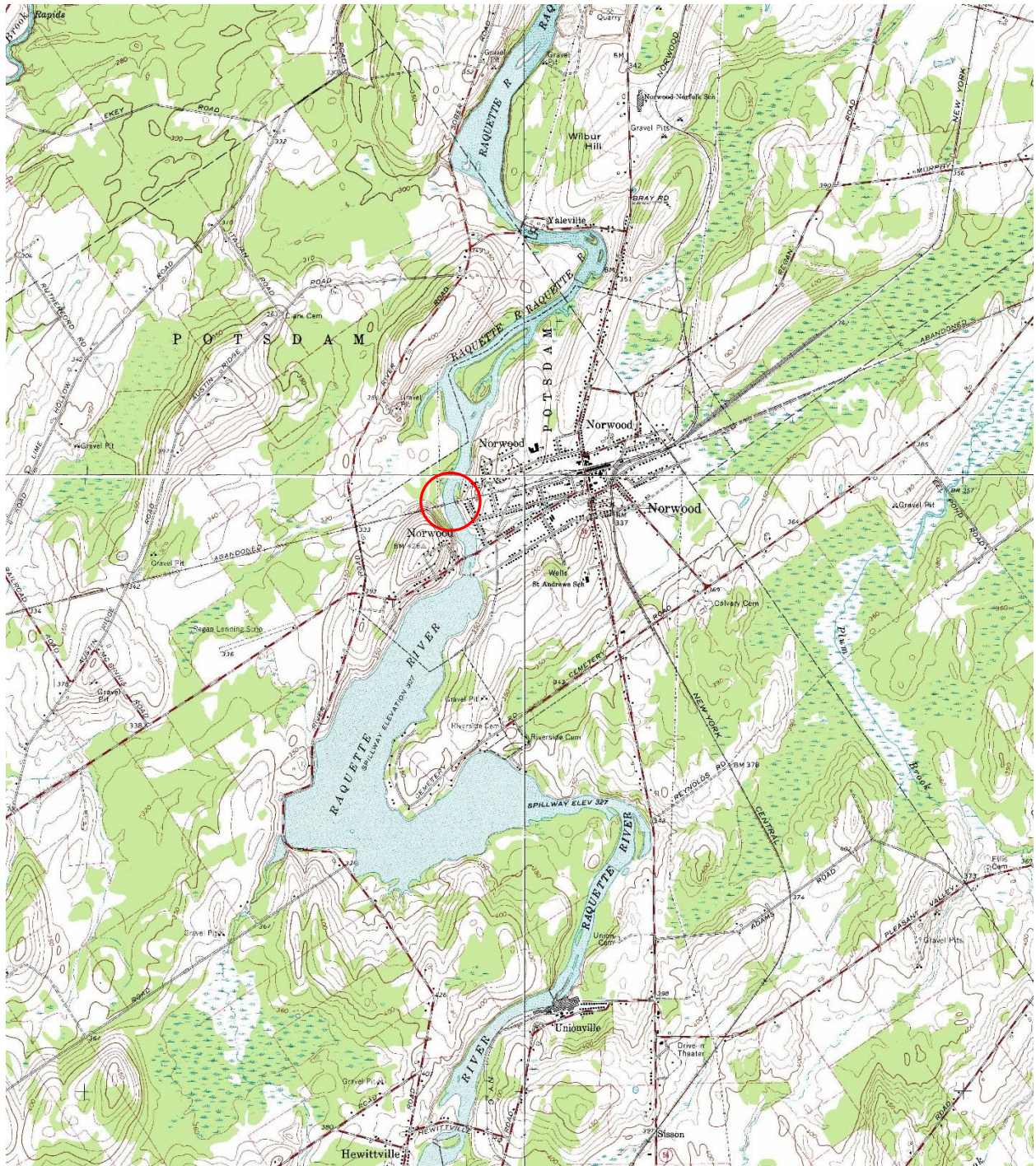
In 1850, the Northern Railroad was completed between Ogdensburg and Malone, crossing the Raquette River on a timber bridge at the site of the existing bridge. The Northern Railroad was built to provide an outlet for local produce, and more importantly, to connect New England with Ogdensburg, a St Lawrence River port with shipping access to the mid-West. The line saw early success carrying refrigerated butter from local farms to Boston, having built the world's pioneer refrigerated railroad car at Ogdensburg. The line faltered due to poor construction and was reorganized as the Ogdensburg Railroad in 1859 and as the Ogdensburg and Lake Champlain Railroad (O & LC) in 1864. In 1870, the O & LC was leased by the Vermont Central Railroad and saw dramatic growth because of shipping connections to Chicago and New York City. Tonnage on the O & LC, largely consisting of grain, coal and lumber increased from 38,837 tons in 1871 to 582,000 tons in 1887 and 1,090,000 tons in 1892.

On August 12, 1885, a cyclone passed over Norwood, destroying the O & LC timber bridge over the Raquette River. A temporary bridge restored rail traffic within 73 hours and over the summer and fall of 1885, a wrought iron truss bridge (existing Span 2) was erected. The bridge was fabricated by the Hawkins Bridge Company at St Albans, Vermont. The Hawkins Bridge Company and its subsidiary, the Vermont Construction Company was the only bridge fabrication company in northern New England, building bridges in New York and throughout New England between 1884 and 1900.

The O & LC fell on hard times in the early 1890's due to the collapse of the Central Vermont Railroad and the diversion of freight from a primary feeder, the Rome, Watertown and Ogdensburg Railroad, to the New York Central Railroad. On June 1, 1898, the O & LC was sold to investors headed by Charles Parsons, who desired to connect the O & LC into a system linked to the New York, Ontario and Western Railroad. On January 1, 1899, Parsons instead sold the O & LC to the Rutland Railroad. The Rutland, formerly part of the Vermont Central, had been purchased by W. Seward Webb under an ambitious plan to expand the New York Central Railroad.

The construction of a stronger bridge to replace the 1886 bridge at Norwood had begun in mid-September 1898, possibly in anticipation of the sale of the O & LC to the Rutland Railroad. The new bridge called for the cost-effective reconstruction of the north truss around the south truss of the old bridge, and the construction of a new north truss (existing Span 3), replicating the old design. A temporary bridge was completed on October 16, 1898, and the new bridge was completed on January 15, 1899. The bridge was a first step in the rebuilding of the O & LC to accommodate heavier engines and greater traffic on the New York Central system. In March 1899, work began on a 50-mile connector between the O & LC and the Rutland, and in May 1899, work began on the installation of new ties and 80lb rails over most of the length of the line.

Sources: Guise, David, "Historic Structures – The American Metal Lattice-Truss Bridge and the Hilton Truss," *Structure*, October 2011; Knoblock, Glenn A., *Historic Iron and Steel Bridges in Maine, New Hampshire and Vermont*, McFarland and Company, Inc., Jefferson, North Carolina, 2012; Lyman, Susan, *Rails Into Racquetteville*, The Norwood Historical Association and Museum, Norwood, New York, 1976; *Norwood News*, 13 August 1885, 10 November 1885, 27 July 1886, October 18, 1898, 17 January 1899, 21 February 1899, 21 March 1899, 23 May 1899; *Ogdensburg News*, 5 January 1899; *In-Depth and Underwater Bridge Inspection Report New York and Ogdensburg Railway (NYOG) Bridge Nol 80 @ MP 24.1 Over Raquette River in Norwood, N.Y.*, Parsons, New York, New York, August 2015; Shaughnessy, Jim, *The Rutland Road*, Howell-North Books, Berkeley California, 1964.



15. LOCATION MAP: Location of the New York and Ogdensburg Railway bridge over the Raquette River on the combined 1:24,000 Chase Mills, Norfolk, West Potsdam and Potsdam USGS quadrangles.



Photo 1. View of the New York and Ogdensburg Railway (NYOG) Bridge No. 80 east (south) elevation Span 2, looking north (Parsons 2015 Inspection Report, Photograph B, page 10).



Photo 2. View of the NYOG Bridge No. 80 east (south) elevation, Span 2, at the south abutment. The bridge is a Hilton lattice truss, featuring quadruple intersection diagonals and end posts acting as tension hangers (Parsons 2015 Inspection Report, Photograph 3, page 24).



Photo 3. View of the NYOG Bridge No. 80 west (north) elevation, Span 2, showing the double truss. (Parsons 2015 Inspection Report, Photograph 28, page 38).



Photo 4. View of the NYOG Bridge No. 80 east (south) elevation, Span 3, showing the single truss. (Parsons 2015 Inspection Report, Photograph 28, page 38).



Photo 5. View of the NYOG Bridge No. 80, Span 2, showing the lower chords and laterals (Parsons 2015 Inspection Report, Photograph 31, page 39).



Photo 6. View of the NYOG Bridge No. 80, Span 2, showing the upper chords and laterals (Parsons 2015 Inspection Report, Photograph 34, page 41).

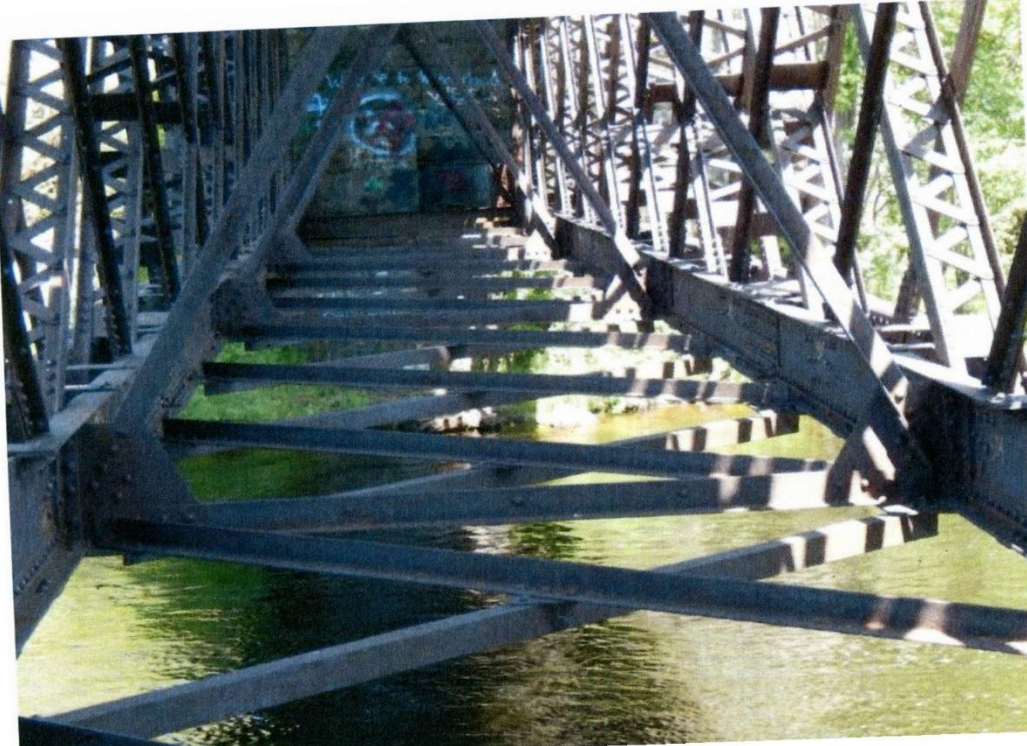


Photo 7. View of the NYOG Bridge No. 80, Span 3, showing the lower chords and laterals (Parsons 2015 Inspection Report, Photograph 35, page 41).



Photo 8. View of the NYOG Bridge No. 80, Span 3, showing the upper chord and laterals (Parsons 2015 Inspection Report, Photograph 30, page 39).

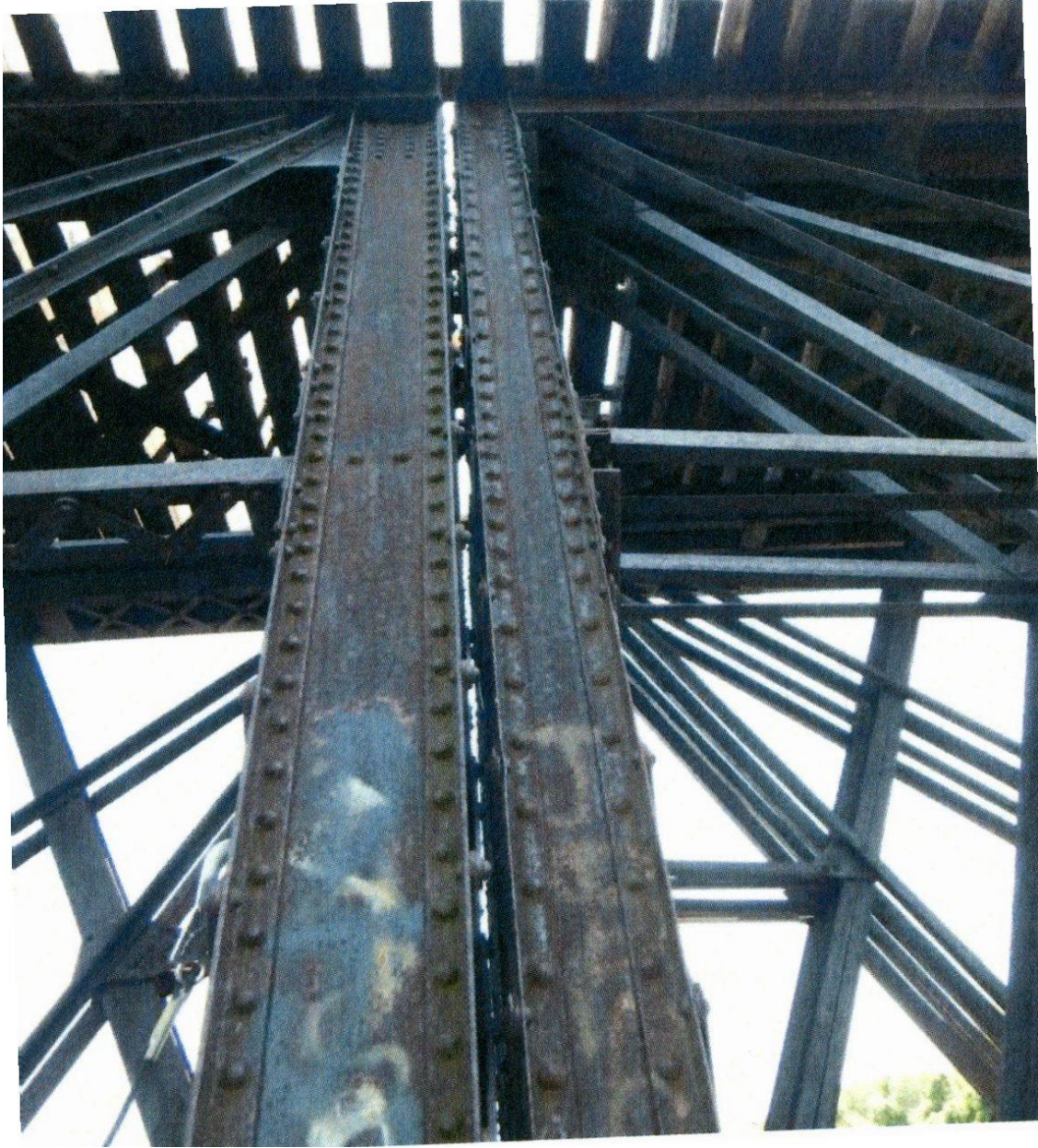


Photo 9. View of the NYOG Bridge No. 80, end posts of Span 2 (right) and Span 3 (left) at center pier, showing the comparative sizes of the posts. (Parsons 2015 Inspection Report, Photograph 33, page 40).