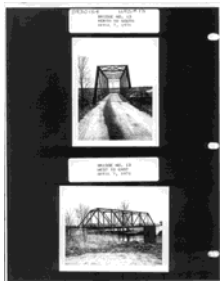
OHIO DEPARTMENT OF TRANSPORTATION

HISTORIC BRIDGE SURVEY REPORT

6/9/2011



SFN #: 5930154 **County:** MORROW **Municipality:** WESTFIELD TWP

NR Rec: **Not Eligible** **Previous Inventory/Date:** FIRST INVENTORY, 1981 **Status:** Non-Select

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ODOT District: 06 **Owner:** COUNTY **Lat/Long:** 40.253000 / 83.003600

Location: .4 MI. N DELAWARE CO LINE **UTM:** 17.329520.4476570

Feature On: CH 146

Feature Intersected: WHETSTONE CREEK

Type: THRU TRUSS **Design:** PRATT (RIVETED)

Material: METAL

Railing Type: LATTICE RAILINGS

 # Spans: 1 **Overall Length:** 111 ft. **Out to Out Width:** 14 ft. **Roadway Width:** 13.8 ft.

Year Built: 1913 **Alteration (Date):** 1950 **Source:** Plaque

Designer/Builder

Setting/Context:

The bridge carries a rural, 1 lane road over a stream in a sparsely developed, rural setting. It is located on a curve.

Physical Description:

The 1 span, 111'-long, rivet-connected Pratt thru truss bridge is traditionally composed of built-up members. It has lattice railings and is supported on concrete abutments. It has trussed portal bracing with arched brackets.

Integrity:

Maintains integrity.

Summary of Significance:

The riveted Pratt pony truss bridge was placed in 1913. It is fairly complete example of its type, but it is not an early example nor does it have innovative or distinctive details. Extant riveted truss bridges in Ohio date to the turn of the 20th century, and it is the early examples that chronicle the historical and technological significant of the design.

Pratt trusses were undoubtedly the most popular truss design of the last quarter of the 19th century and continued to be built into the 20th century, although eventually superseded in popularity starting about 1900 by the Warren truss design, which was better suited for riveted rather than pinned panel point connections. The Pratt design, which initially was a combination of wood compression and iron tension members, was patented in 1844 by Thomas & Caleb Pratt. The great advantage of the Pratt over other designs was the relative ease of calculating the distribution of stresses. More significantly, it translated well into an all-metal, pin-connected design in lengths of less than 200'. Significant surviving examples of all-metal Pratt trusses mostly date to the last quarter of the 19th century, and they are found with thru, pony, and the less common bedstead configuration. Post-1885 Pratt trusses show a progression toward less variation in their details such that by 1885 the design was quite formulaic with few significant differences between the designs of various builders. This marked the end of the pin-connected Pratt's technological evolution and, in fact, it was soon waning and eclipsed in the highway bridge market by more rigid, rivet-connected truss designs, particularly the Warren but also riveted Pratts. The transition to riveted connections, which happened even earlier with railroads than highways, was in no small part due to concerns about stress reversals at the pins under heavier loads and improvements in pneumatic field riveting equipment in the early 1900s. In Ohio, Pratt truss highway bridges, whether pinned or riveted, were almost always built under the auspices of counties and local units of government; the Pratt was not a standard design of the state highway department.

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Reviewed By/ Date: MEM (4/09)

Notes:

Substructure repaired by OH BRG, 1983. More pix in folder.

For Eligible Bridge:

Level of Significance:

Justification:

In Management Plan (2009)? No