

Maryland Historical Trust

Maryland Inventory of Historic Properties number: HA-1267

Name: WATERWHEEL ROAD BRIDGE

The bridge referenced herein was inventoried by the Maryland State Highway Administration as part of the Historic Bridge Inventory, and SHA provided the Trust with eligibility determinations in February 2001. The Trust accepted the Historic Bridge Inventory on April 3, 2001. The bridge received the following determination of eligibility.

MARYLAND HISTORICAL TRUST	
Eligibility Recommended <u>  X  </u>	Eligibility Not Recommended <u>      </u>
Criteria: <u>  </u> A <u>  </u> B <u>  X  </u> C <u>  </u> D	Considerations: <u>  </u> A <u>  </u> B <u>  </u> C <u>  </u> D <u>  </u> E <u>  </u> F <u>  </u> G <u>  </u> None
Comments: _____ _____	
Reviewer, OPS: <u>  Anne E. Bruder  </u>	Date: <u>  3 April 2001  </u>
Reviewer, NR Program: <u>  Peter E. Kurtze  </u>	Date: <u>  3 April 2001  </u>

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MARYLAND INVENTORY OF HISTORIC BRIDGES  
HISTORIC BRIDGE INVENTORY  
MARYLAND STATE HIGHWAY ADMINISTRATION/  
MARYLAND HISTORICAL TRUST

MHT No. HA-1860

SHA Bridge No. H-63 Bridge name Watervale Road over Winters Run

**LOCATION:**

Street/Road name and number [facility carried] Watervale Road

City/town Forest Hill Vicinity X

County Harford

This bridge projects over: Road  Railway  Water  Land

Ownership: State  County  Municipal  Other

**HISTORIC STATUS:**

Is bridge located within a designated historic district? Yes  No

National Register-listed district  National Register-determined-eligible district   
Locally-designated district  Other

Name of district \_\_\_\_\_

**BRIDGE TYPE:**

Timber Bridge   
Beam Bridge  Truss -Covered  Trestle  Timber-And-Concrete

Stone Arch Bridge

Metal Truss Bridge

Movable Bridge   
Swing  Bascule Single Leaf  Bascule Multiple Leaf   
Vertical Lift  Retractable  Pontoon

Metal Girder   
Rolled Girder  Rolled Girder Concrete Encased   
Plate Girder  Plate Girder Concrete Encased

Metal Suspension

Metal Arch

Metal Cantilever

Concrete   
Concrete Arch  Concrete Slab  Concrete Beam  Rigid Frame

Other  Type Name \_\_\_\_\_

**DESCRIPTION:**

**Describe Setting:**

SHA bridge H63 carries Watervale road over Winter's Run. Watervale road runs roughly in a north south direction connecting MD state Route 152 and Toll Gate Road. Winter's Run joins Otter Point Creek and Bush River about 9 miles south of the bridge. The bridge is in a rural lightly residential area near Bel Air and Falston. The area appears to have once been farm land. A similar truss bridge (SHA H54) which also crosses Winter's Run lies about 1.5 to 2 miles downstream from this bridge.

**Describe Superstructure and Substructure:**

This bridge is a simple span, pony, Pratt truss with five panels. The total length is 66 feet and the width between centerline of truss lines is about 15 feet. The top chord and end posts are built-up riveted members with a solid plate top flange and transverse ties across the bottom flange. Verticals are built-up with tee sections as flanges with a latticed web. Diagonals are single or double square eyebars. The bottom chord consists of two parallel flat eyebars at each panel. All truss joints are hinges. The deck is a floorbeam and stringer system. The floorbeams are built-up members and the stringers are rolled shapes. The floorbeams have bolted rods in an X arrangement as cross bracing. The wood plank deck is only wide enough for a single lane of traffic. The abutments are stone with concrete facing.

**Discuss Major Alterations:**

The wood deck was replaced in-kind in 1988. At this time a modern W shape guide rail was also attached to both truss lines. The abutments and wingwalls are stone with a concrete facing. The concrete facing was likely done in the 1950s. A concrete toewall was placed in 1989. This bridge is scheduled to be moved to private property and a replacement bridge built in 1996.

**HISTORY:**

**WHEN was bridge built (actual date or date range)** C.1885-1900

**This date is:** Actual \_\_\_\_\_ Estimated X

**Source of date:** Plaque \_\_\_\_\_ Design plans \_\_\_\_\_ County bridge files/inspection form X

**Other (specify)** Bridge is quite similar to H-54--less than two miles away also crossing Winter's Run-- which was reportedly built either in 1889 or 1897. Bridge likely has similar range of dates for its construction.

**WHY was bridge built?** To provide a reliable crossing of Watervale Road over Winter's Run to meet local transportation needs.

**WHO was the designer** \_\_\_\_\_

**WHO was the builder** \_\_\_\_\_

**WHY was bridge altered?** [check N/A \_\_\_\_\_ if not applicable] Safety/structural needs

**Was bridge built as part of organized bridge-building campaign?** Yes \_\_\_\_\_ No X

**SURVEYOR/HISTORIAN ANALYSIS:**

**This bridge may have National Register significance for its association with:**

- A - Events X
- B- Person \_\_\_\_\_
- C- Engineering/architectural character X

**Was bridge constructed in response to significant events in Maryland or local history?** No \_\_\_\_\_ Yes X  
If yes, what event?

This bridge was one of a large number of metal truss bridges erected in Maryland in the late nineteenth and early twentieth centuries. These bridges, which were stronger and more reliable than the majority of their predecessors, were part of a major advance in bridge technology in Maryland and throughout the nation in the third quarter of the nineteenth century.

**When the bridge was built and/or given a major alteration, did it have a significant impact on the growth & development of the area?** No \_\_\_ Yes X

Because of their solidity, metal truss bridges such as the Watervale Road bridge provided reliable crossings, largely free from the dangers of floods and other disasters that regularly destroyed many of their predecessors. By assuring travelers that Watervale Road could be safely and reliably passed throughout the year, this bridge promoted small-scale residential, commercial, agricultural, and industrial development along the road and other thoroughfares that fed into it. Though their impacts were quite localized, bridges such as this, taken *en masse*, were an important factor in the development of rural areas throughout the state.

**Is the bridge located in an area which may be eligible for historic designation?** No X Yes \_\_\_  
**Would the bridge add to \_\_\_ or detract from \_\_\_ historic & visual character of the possible district?**

**Is the bridge a significant example of its type?** No \_ Yes X

Between 1840 and the Civil War, under the impetus of a rapidly expanding railroad system, the majority of early American metal truss bridge forms were patented and introduced. In Maryland, the earliest metal truss bridges carried rail lines, which required their great strength and reliability. From the War through the end of the century, metal truss technology was improved, steel began to replace iron, and the use of trusses was expanded to carry roads as well as rail lines.

Numerous metal truss bridges were erected in Baltimore, the original hub of the metal truss in the state, from the 1850s through the 1880s. From Baltimore, the use of the metal truss spread out to other parts of the state, particularly the Piedmont and Appalachian Plateau. Many bridge and iron works were established in the eastern United States to design and fabricate truss members, which were then shipped to sites in Maryland and elsewhere to be erected. More than 15 different bridge companies located in Maryland, Ohio, Pennsylvania, New York, Virginia, and Indiana are known to have shipped metal truss bridges to sites throughout Maryland. Bridges were first fabricated in Maryland, and shipped to sites within the state and beyond, by the companies of seminal bridge designer Wendel Bollman.

Early in the twentieth century, concrete bridges began to compete with metal truss bridges throughout the state at small to moderate crossings. With the development of uniform standards for concrete bridges by the State Roads Commission in the 1910s, the construction of smaller metal truss bridges significantly declined throughout the state. The metal truss still remained the bridge of choice for large crossings, however. In the 1920s, heavier members began to be used at these bridges. Reflecting even heavier load requirements and increased lengths, metal truss bridges erected in the state in the 1930s and 1940s were heavy and solid, rather than light and delicate like their late-nineteenth and early-twentieth century predecessors.

Numerous Pratt truss bridges were erected throughout the country between 1844, when the type was patented by Thomas and Caleb Pratt, and the early twentieth century. The Pratt has diagonals extended across one panel in tension and verticals in compression, except for hip verticals immediately adjacent to the inclined end posts of the bridge. The large majority of Maryland's surviving metal truss bridges are Pratts, built as through or pony trusses either riveted or pin-connected. The bridge's use of a pony truss--a truss which has no lateral bracing connecting the top chords of its superstructure--is unusual in the state. Pony trusses probably comprise no more than about 20 percent of Maryland's metal truss bridges.

This bridge was erected during one of the three key periods (1840-1860, 1860-1900, and 1900-1960) of bridge construction in Maryland. Probably built in the 1880s or 1890s, it falls within the period 1860-1900. During this era, steel began to completely replace iron, and the metal truss became popular at highways as well as railroads. Bridges erected during this period were characterized by relatively delicate members.

Does bridge retain integrity [in terms of National Register] of important elements described in Context Addendum? No \_\_\_ Yes X

Is bridge a significant example of work of manufacturer, designer and/or engineer? No\_\_\_ Yes \_

Neither manufacturer, designer, nor engineer has been identified for this bridge.

Should bridge be given further study before significance analysis is made? No X Yes \_\_\_\_\_

It is believed that no further evaluation is necessary to determine the eligibility of this bridge for listing in the National Register. However, additional research, which could be conducted as part of any future National Register nomination prepared for the bridge, might provide further information about its history and environs.

**BIBLIOGRAPHY:**

Bridge inspection reports and files of the Harford County engineer's office.

County survey files of the Maryland Historical Trust.

Jackson, Donald H. *Great American Bridges and Dams*. Washington, D.C: The Preservation Press, 1968

P.A.C. Spero & Company and Louis Berger & Associates, Inc. *Historic Bridges in Maryland: Historic Context Report*. Prepared for the Maryland State Highway Administration, September, 1994.

Pennsylvania Historical and Museum Commission and Pennsylvania Department of Transportation. *Historic Highway Bridges in Pennsylvania*. Commonwealth of Pennsylvania, 1986.

**SURVEYOR/SURVEY INFORMATION:**

Date bridge recorded 3/12/95

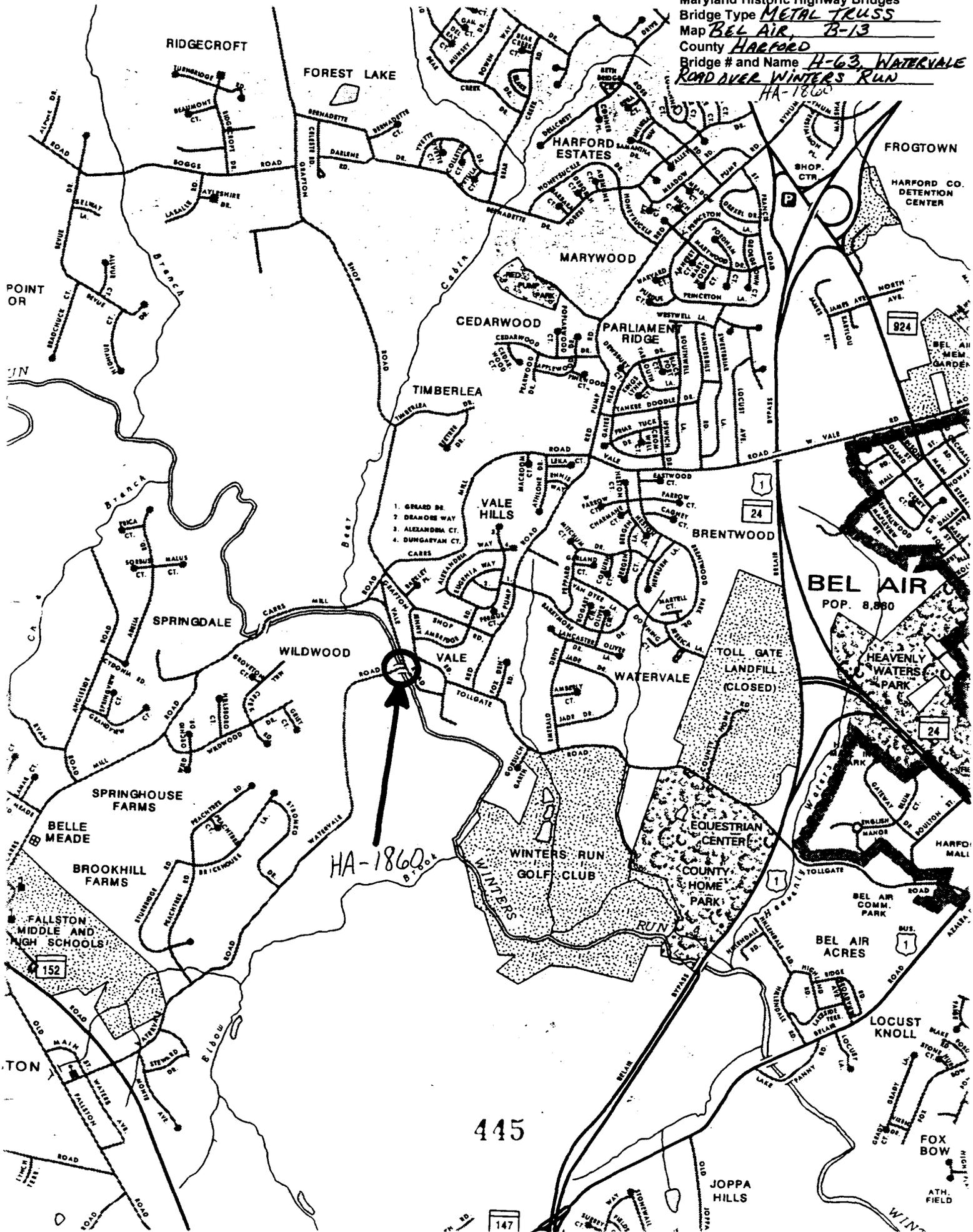
Name of surveyor John Tarquinio/Marvin Brown

Organization/Address GREINER, INC., 2219 York Road, Suite 200, Timonium, Maryland 21093-3111

Phone number 410-561-0100

FAX number 410-561-1150

Maryland Historic Highway Bridges  
 Bridge Type METAL TRUSS  
 Map BEL AIR, B-13  
 County HARFORD  
 Bridge # and Name H-63, WATERVALE ROAD OVER WINTERS RUN  
HA-1860





WEIGHT  
LIMIT  
3  
TONS

HA1800

HARFORD COUNTY, MD

JOHN TARQUINIO

3/12/95

MARYLAND SHPD

- BRIDGE H63 OVER WINTER'S RUN
- VIEW LOOKING EAST ON WATERVALE ROAD

1/9



HA-1860

HARFORD COUNTY, MD

JOHN TARQUINIO

3/12/95

~~MARYLAND SHPO SMA~~

- BRIDGE H63 OVER WINTER'S RUN
- VIEW LOOKING WEST ON WATERVALE ROAD

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HA 1860

HARFORD COUNTY, MD

JOHN TARQUINO

3/12/95

~~MARYLAND SHPO SHW~~

- BRIDGE H63 OVER WINTER'S RUN
- VIEW LOOKING WEST

3/9



HA-1800

HARFORD COUNTY, MD

JOHN TARQUINIO

3/12/95

~~MARYLAND SHPO~~ SMA

- BRIDGE H63 OVER WINTER'S RUN
- VIEW LOOKING EAST

4/9



HA-1800

HARFORD COUNTY, MD

JOHN TARQUINIO

3/12/95

~~MARYLAND SHPO SHA~~

- BRIDGE H63 OVER WINTER'S RUN
- VIEW of FLOORBEAM & LATERAL BRACING CONNECTION

5/9



HA-1860

HARFORD COUNTY, MD

JOHN TARQUINIO

3/12/95

~~MARYLAND SHPO~~ SMA

- BRIDGE H63 OVER WINTER'S RUN
- VIEW OF FLOORBEAM & LATERAL BRACING CONNECTION

6/9



HA-1860  
HARFORD COUNTY, MD

JOHN TARQUINIO

3/12/95

MARYLAND ~~SHPO~~ SHTA

- BRIDGE H63 OVER WINTER'S RUN
- TOP CHORD PIN CONNECTION AT  
END POST

7/9



AA-1800

HARFORD COUNTY, MD

JOHN TARQUINO

3/12/95

~~MARYLAND SHPO~~ SHA

- BRIDGE H63 OVER WINTER'S RUN
- PINNED CONNECTION OF DIAGONAL MEMBER AT TOP CHORD

8/9



HA-1800

HARFORD COUNTY, MD

JOHN TARQUINIS

3/12/95

~~MARYLAND, SHPO~~ SHA

- BRIDGE H63 OVER WINTER'S RUN
- BOTTOM CHORD PINNED CONNECTION

9/9