

Maryland Historical Trust

Maryland Inventory of Historic Properties number: BA-2707

Name: Poland Ave, over Poland Run.

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 _____	Eligibility Not Recommended <u>X</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. BA-2707

SHA Bridge No. B0108 Bridge name Roland Avenue over Roland Run

LOCATION:

Street/Road name and number [facility carried] Roland Avenue

City/town Riderwood Vicinity X

County Baltimore

This bridge projects over: Road Railway Water Land

Ownership: State County Municipal Other

HISTORIC STATUS:

Is the 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:

Setting: Urban X Small town _____ Rural _____

Describe Setting:

Bridge No. B 0108 carries Roland Avenue over Roland Run in Baltimore County. Roland Avenue runs east-west and Roland Run flows north-south. The bridge is located in the vicinity of Riderwood and is surrounded by single family dwellings.

Describe Superstructure and Substructure:

Bridge No. B 0108 is a 1-span, 2-lane, metal girder bridge. The bridge was originally built in 1942. The structure is 30 feet long and has a clear roadway width of 24 feet; there are two (2) sidewalks measuring 4 feet, 1.5 inches wide. The out-to-out width is 34 feet. The superstructure consists of seven (7) rolled girders which support a concrete deck and a metal, pipe railing. The girders are 7.5 inches x 34 inches and are spaced 4 feet, 2 inches apart. The roadway is carried on the girders. The concrete deck is 6.5 inches thick, and it has a bituminous wearing surface. The structure has a metal, pipe railing and the roadway approaches are tangent with a slight upgrade on the east approach and a slight downgrade on the west approach. The substructure consists of two (2) concrete abutments. There are four (4), flared, concrete wing walls. The bridge is posted for 9, 10, and 18 tons for the H, MD Type 3, and MD Type 3S2 vehicles, and has a Baltimore County sufficiency rating of 47.5.

According to the 1995 inspection report, this structure is in satisfactory condition with vertical cracking and minor spalling and scour in the abutment walls. The asphalt wearing surface has minor cracking and settlement along the roadway joints where the approach meets the bridge. The concrete is spalled at the bridge rail post anchors. The girders have moderate paint peeling and rusting.

Discuss Major Alterations:

Inspection reports from 1995 detail the sealing of cracks in the concrete substructure.

HISTORY:

WHEN was the bridge built: 1942

This date is: Actual X Estimated _____

Source of date: Plaque _____ Design plans _____ County bridge files/inspection form X

Other (specify) _____

WHY was the bridge built?

The bridge was constructed in response to the need for more efficient transportation network and increased load capacity.

WHO was the designer?

Unknown

WHO was the builder?

Unknown

WHY was the bridge altered?

N/A

Was this bridge built as part of an organized bridge-building campaign?

There is no evidence that the bridge was built as part of an organized bridge building campaign.

SURVEYOR/HISTORIAN ANALYSIS:**This bridge may have National Register significance for its association with:**

- A - Events _____ B- Person _____
C- Engineering/architectural character _____

The bridge does not have National Register significance.

Was the bridge constructed in response to significant events in Maryland or local history?

Metal girder bridges were most likely introduced and first popularized in Maryland by the state's major railroads of the nineteenth century including the Baltimore and Susquehanna, its successor the Northern Central, and the Baltimore and Ohio Railroad. Bridge engineering historians have documented the fact that James Milholland (or Mulholland) erected the earliest plate girder span in the United States on the Baltimore and Susquehanna Railroad in 1846 at Bolton Station, near present-day Mount Royal Station. The sides (web) and bottom flange of Milholland's 54-foot-long span were wholly of wrought iron and included a top flange reinforced with a 12x12-inch timber. Plates employed in the bridge were 6 feet deep and 38 inches wide, giving the entire bridge a total weight of some 14 tons. Milholland's pioneering plate girder cost \$2,200 (Tyrrell 1911:195). By December 31, 1861, the Northern Central Railroad, which succeeded the Baltimore and Susquehanna, maintained an operating inventory in Maryland of 50 or more bridges described simply as "girder" spans, in addition to a number of Howe trusses. Most of these were probably iron girder bridges; the longest were the 117-foot double-span bridge over Jones Falls and the 106-foot double-span girder bridge at Pierce's Mill (Gunnarson 1990:179-180).

As in the nation, girder bridge technology in Maryland was quickly adapted to cope with the increasingly heavy traffic demands of the twentieth century caused by automobile and truck traffic. The 1899 Maryland Geological Survey report on highways noted that "there are comparatively few I-beam bridges, one of the cheapest and best forms for spans less than 25 or 30 feet" (Johnson 1899:206). Interestingly, the report also urged construction of a composite metal, brick, and concrete bridge, noting that "no method of construction is more durable than the combination of masonry and I-beams, between which are transverse arches of brick, the whole covered with concrete, over which is laid the roadway" (Johnson 1899:206). Whether any such bridges (transitional structures between I-beams and reinforced concrete spans) were built is unknown.

Official state and county highway reports—issued between 1900 and the early 1920s through the Highway Division of the Maryland Geological Survey and its successor, the State Roads Commission—generally do not reference or describe girder construction. An analysis of the current statewide listing of county and municipal bridges (a listing maintained by the State Highway Administration) reveals that 48 county bridges, out of the total of 141 approximately dated to "1900"

by county engineers, were listed as steel girder, steel stringer, or variants of such terms. (It should be noted that the "1900" date is often given when no exact date is pinpointed for a bridge that is clearly old). A grand total of 200 bridges (including "steel culverts"), out of 550 bridges dated on the county list between 1901 and 1930, were described as steel beam, steel girder, or steel stringer and girder varieties. The total suggests that among the various highway bridge types built in the early twentieth century metal girder bridges in Maryland between 1900 and 1930 were second in popularity only to reinforced concrete bridges. However, these numbers must be interpreted with caution, as they do not necessarily include all county and municipal bridges.

When the bridge was built and/or given a major alteration, did it have a significant impact on the growth and development of the area?

There is no evidence that the construction of this bridge had a significant impact on the growth and development of this area.

Is the bridge located in an area which may be eligible for historic designation and would the bridge add to or detract from the historic/visual character of the potential district?

The bridge is located in an area which does not appear to be eligible for historic designation.

Is the bridge a significant example of its type?

A significant example of a metal girder bridge should possess character-defining elements of its type, and be readily recognizable as an historic structure from the perspective of the traveler. The integrity of distinctive features visible from the roadway approach, including parapet walls or railings, is important in structures which are common examples of their type. In addition, the structure must be in excellent condition. Although this bridge possess its character-defining elements and retains its integrity of distinctive features visible from the roadway approach, many of the girders contains rust and the abutments contain cracking, spalling, and scour. Due to the deterioration of the superstructure and substructure, this is an undistinguished example of a metal girder bridge.

Does the bridge retain integrity of important elements described in Context Addendum?

The bridge retains the character-defining elements of its type, as defined by the Statewide Historic Bridge Context, including the rolled longitudinal I-beams and concrete abutments, however the integrity of these elements has been compromised by severe deterioration.

Is the bridge a significant example of the work of a manufacturer, designer, and/or engineer?

The bridge is not a significant example of the work of a manufacturer, designer, and/or engineer.

Should the bridge be given further study before an evaluation of its significance is made?

No further study of this bridge is required to evaluate its significance.

BIBLIOGRAPHY:

County inspection/bridge files X SHA inspection/bridge files _____

Other (list):

Gunnarson, Robert

1990 *The Story of the Northern Central Railway, From Baltimore to Lake Ontario.* Greenberg Publishing Co., Sykesville, Maryland.

Johnson, Arthur Newhall

1899 *The Present Condition of Maryland Highways. In Report on the Highways of Maryland.* Maryland Geological Survey, The Johns Hopkins University Press, Baltimore.

Tyrrell, Henry G.

1911 *History of Bridge Engineering.* Published by author, Chicago.

SURVEYOR:

Date bridge recorded 2/24/97

Name of surveyor Caroline Hall/Eric Griffitts

Organization/Address P.A.C. Spero & Co., 40 W. Chesapeake Avenue, Baltimore, MD 21204

Phone number (410) 296-1685

FAX number (410) 296-1670

Maryland Historic Highway Bridges

Bridge Type METAL GIRDER

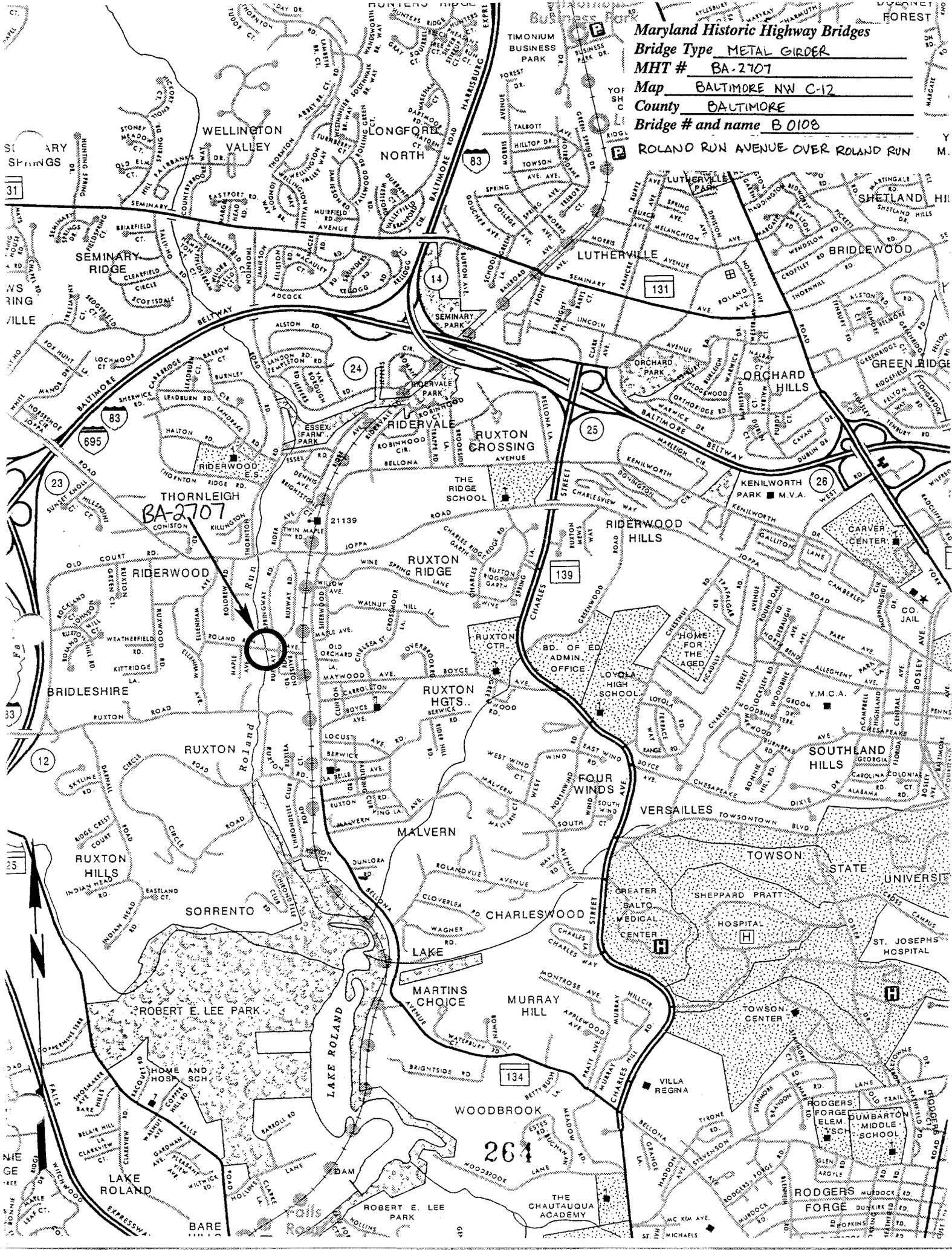
MHT # BA-2707

Map BALTIMORE NW C-12

County BALTIMORE

Bridge # and name B 0108

ROLAND RUN AVENUE OVER ROLAND RUN



THORNLEIGH
BA-2707

264

WOODBROOK

31

33

25

83

14

131

24

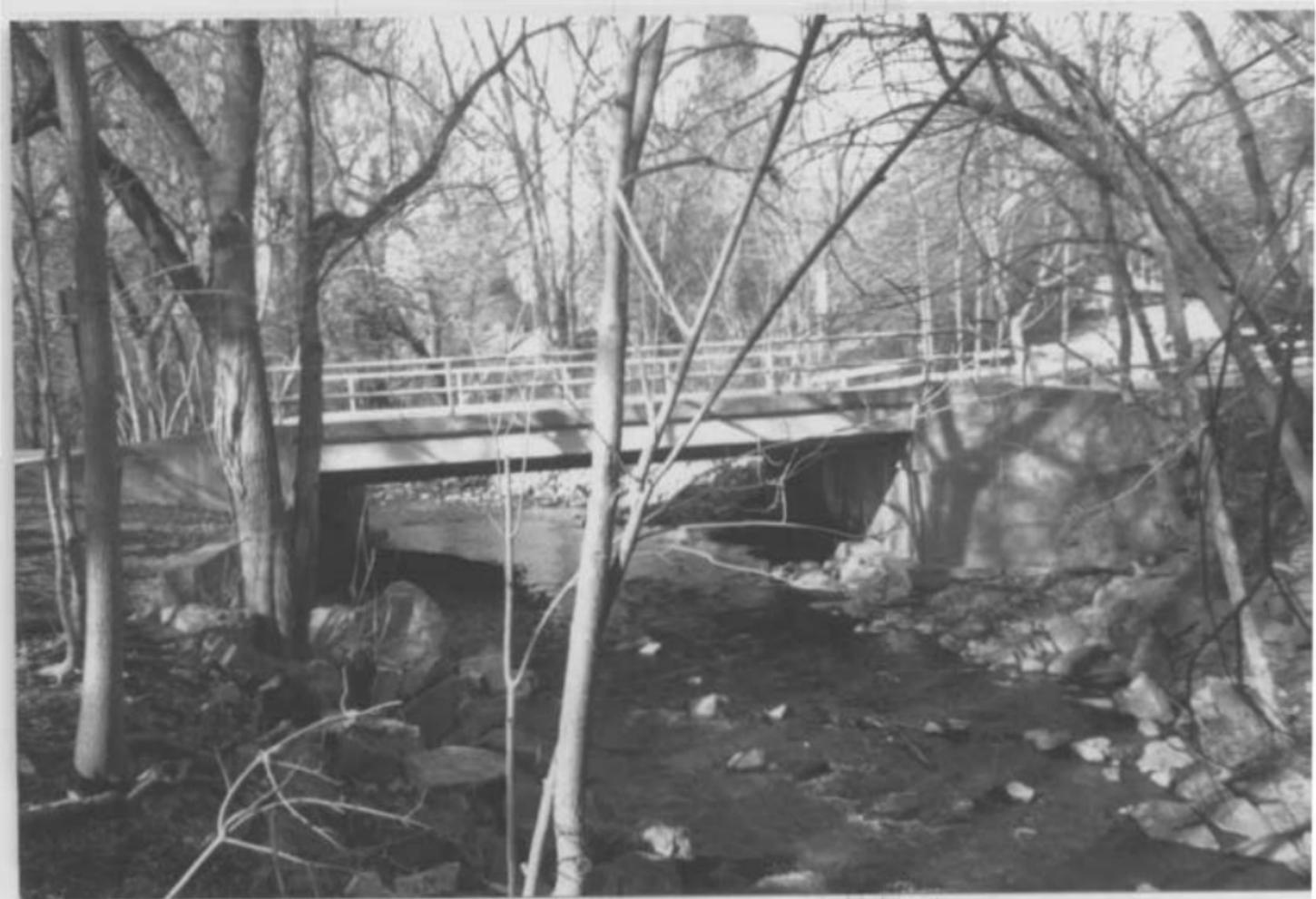
25

26

139

12

134



1. ~~BA~~-2707
2. Roland Ave over Roland Run
3. Balto. Co MD
4. Eric Huffitts
5. 3/97
6. MD SHPO
7. east approach
8. 1 of 6



1. BA-2707
2. Roland Ave. over Roland Run
3. Baltimore Co. MD
4. Eric Gruffitts
5. 3/97
6. MD SHPO
7. west approach
8. 2 of 6



1. BA-2707
2. Roland Ave over Roland Run
3. Balto Co, MD
4. Eric Duffitts
5. 3/97
6. MD SHDO
7. south elevation
8. 3 of 6



1. BA-2707
2. Roland Ave over Roland Run
3. Balt. Co., MD
4. Eric Gruffitts
5. 3/97
6. MD SHPO
7. detail of girder under bridge
8. 4 of 6



1. BA-2707
2. Roland Ave over Roland Run
3. Balto. Co. MD
4. Eric Griffiths
5. 3/97
6. MD SHPO
7. north elevation
8. 5 of 6



1. BA-2707
2. Roland Ave over Roland Run
3. Balto. Co, MD
4. Eric Griffiths
5. 3/97
6. MD SHPO
7. SW wing wall
8. 6 of 6