

Maryland Historical Trust

Maryland Inventory of Historic Properties number: WA-1978

Name: MW 715 over AMTRAK

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> </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-1978

SHA Bridge No. 12058-3 and 12058-4 Bridge name MD 715 over AMTRAK

LOCATION:

Street/Road name and number [facility carried] MD 715 (Short Lane)

City/town Aberdeen Vicinity X

County Harford

This bridge projects over: Road Railway X Water Land

Ownership: State X County Municipal Other

HISTORIC STATUS:

Is the bridge located within a designated historic district? Yes No X

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 X:
Rolled Girder X 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. 12058 carries eastbound and westbound MD 715 (Short Lane) over AMTRAK in Harford County. MD 715 runs east-west and AMTRAK runs north-south. The bridge is located in the vicinity of Aberdeen, and is bordered by the Aberdeen Proving Ground to the south.

Describe Superstructure and Substructure:

Bridge No. 12058 is a dual structure carrying eastbound and westbound MD 715. Each structure is a 3-span, 2-lane, metal girder bridge. The bridge was originally built in 1943, and the deck, parapets, and two (2) girders were replaced in 1983. Each structure is 179 feet, 6 inches long and the clear roadway width of each structure is 24 feet. The out-to-out width of each structure is approximately 40 feet. The superstructure for both structures is the same, consisting of eight (8) rolled girders, which support a concrete deck and concrete parapets. The roadway is carried on the girders and the concrete deck has a bituminous wearing surface. The bridge has solid concrete parapets and the roadway approaches have steel guard rails. A date impression on the parapet indicates that the bridge was constructed in 1943 and was rehabilitated in 1983. The substructure consists of two (2) concrete abutments and two (2) concrete piers on each structure. The bridge has a sufficiency rating of 98.4.

According to the 1995 inspection report, this structure was in satisfactory condition with areas of light rust and peeling paint on the girders. The concrete deck and abutments have fine vertical cracks and the concrete piers have vertical, horizontal and longitudinal cracks with delamination and the potential for spalling. The concrete parapets have minor shrinkage cracks and water stains.

Discuss Major Alterations:

In 1983, the bridge deck was replaced, new bearings were installed and two (2) exterior girders were replaced. The remaining girders were temporarily removed in order to reconstruct the top portions of the substructure at that time, but were reset.

HISTORY:

WHEN was the bridge built: 1943
This date is: Actual X Estimated _____
Source of date: Plaque X Design plans _____ County bridge files/inspection form _____
Other (specify) : State Highway Administration bridge files/inspection forms

WHY was the bridge built?

The bridge was constructed to provide access over the railroad at the entrance to the Aberdeen Proving Ground. The Proving Ground, which was established in 1917, experienced continuous expansion throughout the early twentieth century. By 1943, the railway branch at the Proving Ground and the adjacent Pennsylvania Railroad had expanded to meet the increasing needs of Ordinance personnel and facilities developing more advanced weapons. Under the Defense Highway Act of 1941, which provided funding for the construction of roads leading to war plants and military installations, the grade separation at the access road (Short Lane) to the Aberdeen Proving Ground was constructed. The traffic bottleneck at the Pennsylvania Railroad (AMTRAK) crossing was

reportedly eased when the new above-grade access road to U.S. 40 and Bridge 12058 opened to vehicular traffic in October 1943 (Harford 1953, 58-59 and State Roads Commission 1958, 153).

WHO was the designer?

Unknown

WHO was the builder?

Unknown

WHY was the bridge altered?

The bridge was altered to correct functional or structural deficiencies.

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. This bridge, which lacks such features as the original deck and parapets, and has two (2) girders which have been replaced, is an undistinguished example of a metal girder bridge.

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

The bridge retains some of the character-defining elements of its type, as defined by the Statewide Historic Bridge Context, including rolled girders, concrete abutments, and concrete piers, however alterations to the structures in 1983 resulted in the loss of such distinctive features as two (2) of the original girders and the original parapets.

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

This 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 _____ SHA inspection/bridge files X
 Other (list):

Gunnarson, Robert

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

Harford County Directory

1953 State Directories Publishing Company, Baltimore, 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.

State Roads Commission

1958 *A History of Road Building in Maryland.* Published by author, Baltimore.

Tyrrell, Henry G.

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

SURVEYOR:

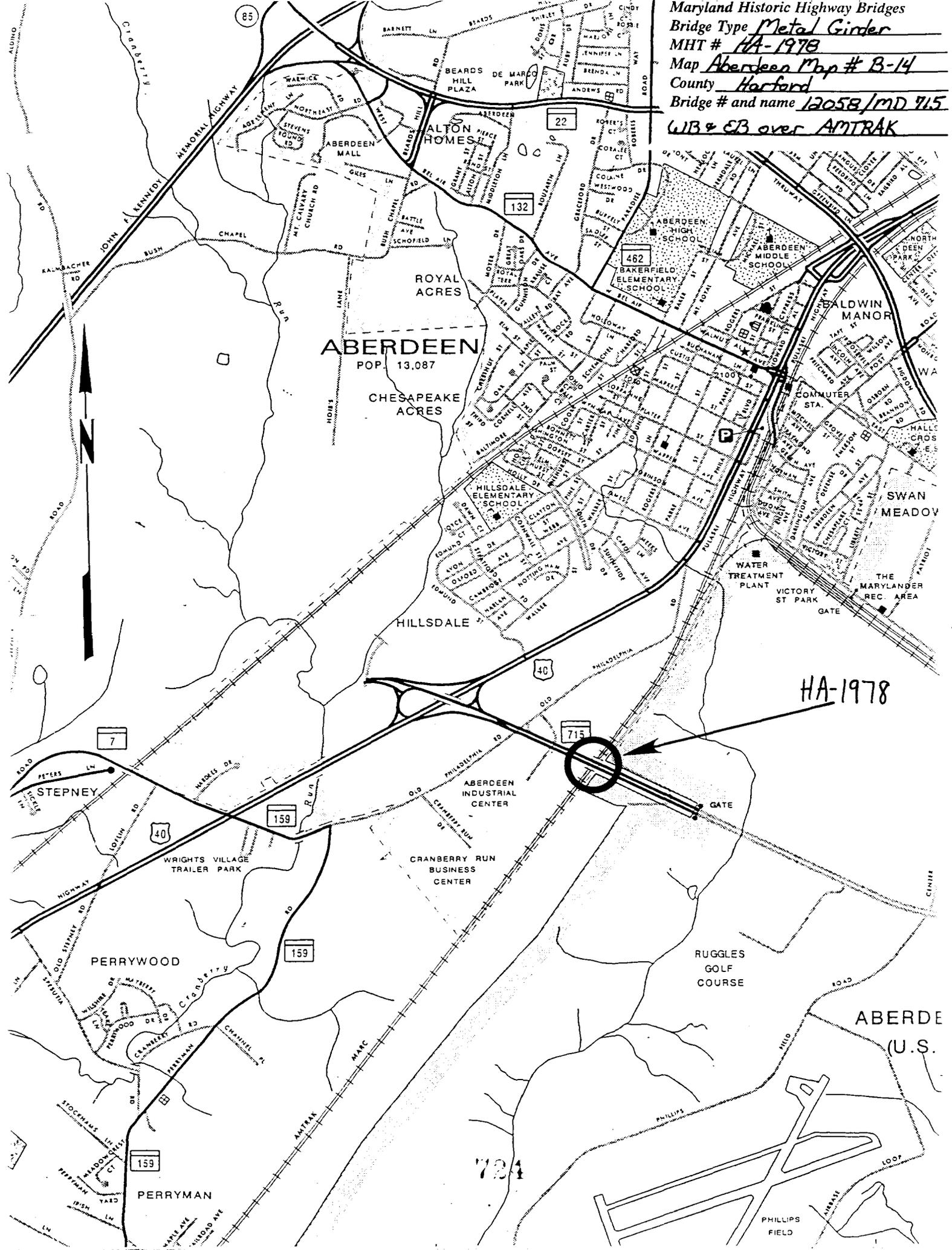
Date bridge recorded 2/25/97

Name of surveyor Caroline Hall

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

Phone number (410) 296-1685 FAX number (410) 296-1670

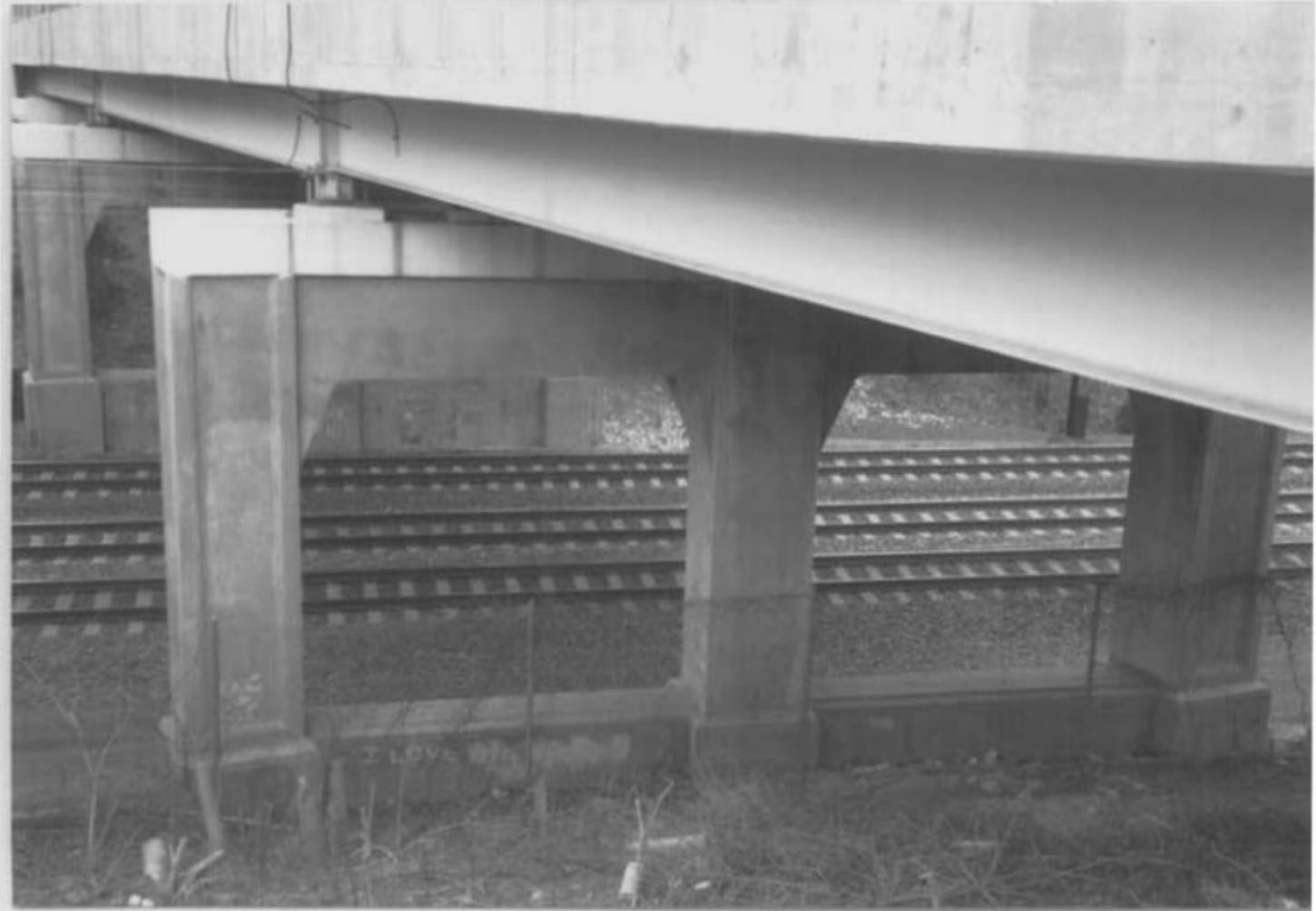
Maryland Historic Highway Bridges
Bridge Type Metal Girder
MHT # HA-1978
Map Aberdeen Map # B-14
County Harford
Bridge # and name 12058/MD 715
WB & EB over AMTRAK



HA-1978

724

(U.S.)



1. HA-1978
2. MD 715 over AMTRAK
3. HARFORD CO, MD
4. Caroline Hall
5. 3/97
6. MDSHPO
7. detail of substructure (NB
8. 1 of 7



1. HA-1978

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2. MO 715 over AMTRAK

3. Hartford Co, MD

4. Caroline Hall

5. 3/97

6. MDSHPD

7. West side (NB) ...

8. 2 of 7



1. HA-1978
2. MD 715 over AMTRAK
3. Harford Co, MD
4. Caroline Hall
5. 3/97
6. MDSHPO
7. east side (SB)
8. 3 of 7



1. HA-1978
2. MD 715 over AMTRAK
3. Hartford Co, MD
4. Caroline Hall
5. 3/97
6. MDSHPD
7. east side SE roadway approach (NB)
8. 4 of 7



1. HA-1978
2. MD 715 over ANTRAK
3. Harford Co, MD
4. Caroline Hall
5. 3/97
6. MD SHPO
7. east side (NB)
roadway approach (NB)
8. 5 of 7



1. HA-1978
2. MD 715 over AMTRAK
3. Harford Co, MD
4. Caroline Hall
5. 3/97
6. MDSHPO
7. west side (SB)
8. 6 of 7



1. HA-1978
2. MD 715 over AMTRAK
3. Harford Co, MD
4. Caroline Hall
5. 3/97
6. MDSHPO
7. both structures
8. 7 of 7