

Maryland Historical Trust

Maryland Inventory of Historic Properties number: BA-2784

Name: US40 over Honeygo Run / #3036

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 <input checked="" type="checkbox"/>	Eligibility Not Recommended <input type="checkbox"/>
Criteria: <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	Considerations: <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E <input type="checkbox"/> F <input type="checkbox"/> G <input type="checkbox"/> 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>

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

MHT No. BA-2784

SHA Bridge No. 3036 Bridge name US 40 over Honeygo Run

LOCATION:

Street/Road name and number [facility carried] US 40 (Pulaski Highway)

City/town White Marsh 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 _____ Small town X Rural _____

Describe Setting:

Bridge No. 3036 carries US 40 (Pulaski Highway) over Honeygo Run in Baltimore County. US 40 runs north-south and Honeygo Run flows east-west. The bridge is located in the vicinity of White Marsh and is surrounded by commercial development.

Describe Superstructure and Substructure:

Bridge No. 3036 is a 1-span, 4-lane, concrete beam bridge. The bridge was originally built in 1935. The structure is 26 feet long and has a clear roadway width of 80 feet. The out-to-out width is 83 feet, 10 inches. The superstructure consists of fifteen (15) T-beams which support a concrete slab and concrete parapets. The beams measure 17 inches x 21 inches and are spaced 6 feet, 3 inches apart. The slab, an integral part of the T-beam, measures 13 inches thick, and it has a bituminous wearing surface. The structure has pierced parapets and the roadway approaches are straight and level with the bridge. The substructure consists of two (2) concrete abutments and four (4) flared concrete wing walls. The bridge has a sufficiency rating of 53.0.

According to the 1995 inspection report, this structure is in satisfactory condition with structural elements showing only minor deterioration. The concrete roadway surface has random patches and some transverse and diagonal cracking. The concrete beams have surface spalls and longitudinal cracks. The abutments have random vertical and diagonal cracking, and the wing walls have random cracking with surface erosion. The southwest wing wall and parapets have surface spalls with exposed reinforcing bars.

Discuss Major Alterations:

Inspection reports from 1995 detail the repair of scour holes in the wing walls.

HISTORY:

WHEN was the bridge built: 1935

This date is: Actual X Estimated _____

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

Other: State Highway Administration bridge files/inspection form

WHY was the bridge built?

The route of present U.S. 40 was traveled as early as 1733, when *Poor Richard's Almanac* noted the route of the Old Philadelphia Road (State Route 7) on the general course of the present highway. Under pressure from the federal Bureau of Public Roads in the early 1930s, the State Roads Commission planned the construction of a new road from Baltimore to Havre de Grace, in lieu of widening the old Philadelphia Road. In 1935, the "new" Philadelphia Road opened as Maryland's first dual highway, and was christened the Pulaski Highway. This bridge was built as a component of the construction of the Pulaski Highway.

WHO was the designer?

State Roads Commission

WHO was the builder?

Unknown

WHY was the bridge altered?

N/A

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

The bridge was constructed by the State, as part of a campaign to increase load capacity on secondary roads during the 1930s.

SURVEYOR/HISTORIAN ANALYSIS:

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

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

The bridge is eligible for the National Register of Historic Places under Criterion C, as a significant example of concrete beam construction. The structure has a high degree of integrity and retains such character-defining elements of the type as the T-beams and integral slab, pierced parapets, abutments, and wing walls.

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

The earliest concrete beam bridges in the nation were deck girder spans that featured concrete slabs supported by a series of longitudinal concrete beams. This method of construction was conceptually quite similar to the traditional timber beam bridge which had found such widespread use both in Europe and in America. Developed early in the twentieth century, deck girder spans continued to be widely used in 1920 when noted bridge engineer Milo Ketchum wrote *The Design of Highway Bridges of Steel, Timber and Concrete* (Ketchum 1920).

Although visually similar to deck girder bridges, the T-beam span features a series of reinforced concrete beams that are integrated into the concrete slab, forming a monolithic mass appearing in cross section like a series of upper-case "T"s connected at the top. Thaddeus Hyatt is believed to have been the first to come upon the idea of the T-beam when he was studying reinforced concrete in the 1850s, but the first useful T-beam was developed by the Belgian Francois Hennebique at the turn of the present century (Lay 1992:293). The earliest references to T-beam bridges refer to the type as concrete slab and beam construction, a description that does not distinguish the T-beam design from the concrete deck girder. Henry G. Tyrrell was perhaps the first American bridge engineer to use the now standard term "T-beam" in his treatise *Concrete Bridges and Culverts*, published in 1909. Tyrrell commented that "it is permissible and good practice in designing small concrete beams which are united by slabs, to consider the effect of a portion of the floor slab and to proportion the beams as T-beams" (Tyrrell 1909:186).

By 1920, reinforced concrete, T-beam construction had found broad application in standardized bridge design across the United States. In his text, *The Design of Highway Bridges of Steel, Timber and Concrete*, Milo S. Ketchum included drawings of standard T-beam spans recommended by the U.S. Bureau of Public Roads as well as drawings of T-beam bridges built by state highway departments in Ohio, Michigan, Illinois, and Massachusetts (Ketchum 1920). By the 1930s the T-beam bridge was widely built in Maryland and Virginia.

Maryland's roads and bridge improvement programs mirrored economic cycles. The first road improvement of the State Roads Commission was a 7 year program, starting with the Commission's establishment in 1908 and ending in 1915. Due to World War I, the period from 1916-1920 was one of relative inactivity; only roads of first priority were built. Truck traffic resulting from war related factories and military installations generated new, heavy traffic unanticipated by the builders of the early road system. From 1920-1929, numerous highway improvements occurred in response to the increase in Maryland motor vehicles from 103,000 in 1920 to 320,000 in 1929, with emphasis on the secondary system of feeder roads which moved traffic from the primary roads built before World War I. After World War I, Maryland's bridge system also was appraised as too narrow and structurally inadequate for the increasing traffic, with plans for an expanded bridge program to be handled by the Bridge Division, set up in 1920. In 1920 under Chapter 508 of the Acts of 1920 the State issued a bond of \$3,000,000.00 for road construction; the primary purpose of these monies was to meet the state obligations involving the construction of rural post roads. The secondary purpose of these monies was to fund (with an equal sum from the counties) the building of lateral roads. The number of hard surfaced roads on the state system grew from 2000 in 1920 to 3200 in 1930. By 1930, Maryland's primary system had been inadequate to the huge freight trucks and volume of passenger cars in use, with major improvements occurring in the late 1930's. Most improvements to local roads waited until the years after World War I.

In the early years, there was a need to replace the numerous single lane timber bridges. Walter Wilson Crosby, Chief Engineer, stated in 1906, "the general plan has been to replace these [wood bridges] with pipe culverts or concrete bridges and thus forever do away with the further expense of the maintenance of expensive and dangerous wooden structures." Within a few years, readily constructed standardized bridges of concrete were being built throughout the state.

In 1930, the roadway width for all standard plan bridges was increased to 27 feet in order to accommodate the increasing demands of automobile and truck traffic (State Roads Commission 1930). The range of span lengths remained the same, but there were some changes designed to increase the load bearing capacities. The reinforcing bars increased in thickness. Visually, the 1930 design can be distinguished from its predecessors by the pierced concrete railing that was introduced at this time.

In 1933, a new set of standard plans were introduced by the State Roads Commission. This time their preparation was not announced in the Report; new standard plans were by this time nothing special - they had indeed become standard. Once again accommodating the ever-increasing demands of traffic, the roadway was increased, this time to 30 feet. The slab span's reinforcing bars remained the same diameter but were placed closer together to achieve still more load capacity.

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?

The bridge is a potentially significant example of a concrete beam bridge, possessing a high degree of integrity.

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 T-beams and integral slab, pierced parapets, abutments, and wing walls.

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

This bridge is a significant example of the work of the State Roads Commission in the 1930s.

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):

Ketchum, Milo S.

1908 *The Design of Highway Bridges and the Calculation of Stresses in Bridge Trusses.* The Engineering News Publishing Co., New York.

1920 *The Design of Highway Bridges of Steel, Timber and Concrete.* Second edition. McGraw-Hill Book Company, New York.

Lay, Maxwell Gordon

1992 *Ways of the World: A History of the World's Roads and of the Vehicles That Used Them.* Rutgers University Press, New Brunswick, New Jersey.

Luten, Daniel B.

1912 Concrete Bridges. *American Concrete Institute Proceedings* 8:631-640.

1917 *Reinforced Concrete Bridges.* National Bridge Company, Indianapolis, Indiana.

Maryland State Roads Commission

1930a *Report of the State Roads Commission for the Years 1927, 1928, 1929 and 1930.* State of Maryland, State Roads Commission, Baltimore.

1930b *Standard Plans.* State of Maryland, State Roads Commission, Baltimore.

State Roads Commission

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

Taylor, Frederick W., Sanford E. Thompson, and Edward Smulski

1939 *Reinforced-Concrete Bridges with Formulas Applicable to Structural Steel and Concrete.* John Wiley & Sons, Inc., New York.

Tyrrell, H. Grattan

1909 *Concrete Bridges and Culverts for Both Railroads and Highways.* The Myron C. Clark Publishing Company, Chicago and New York.

BA-2784

SURVEYOR:

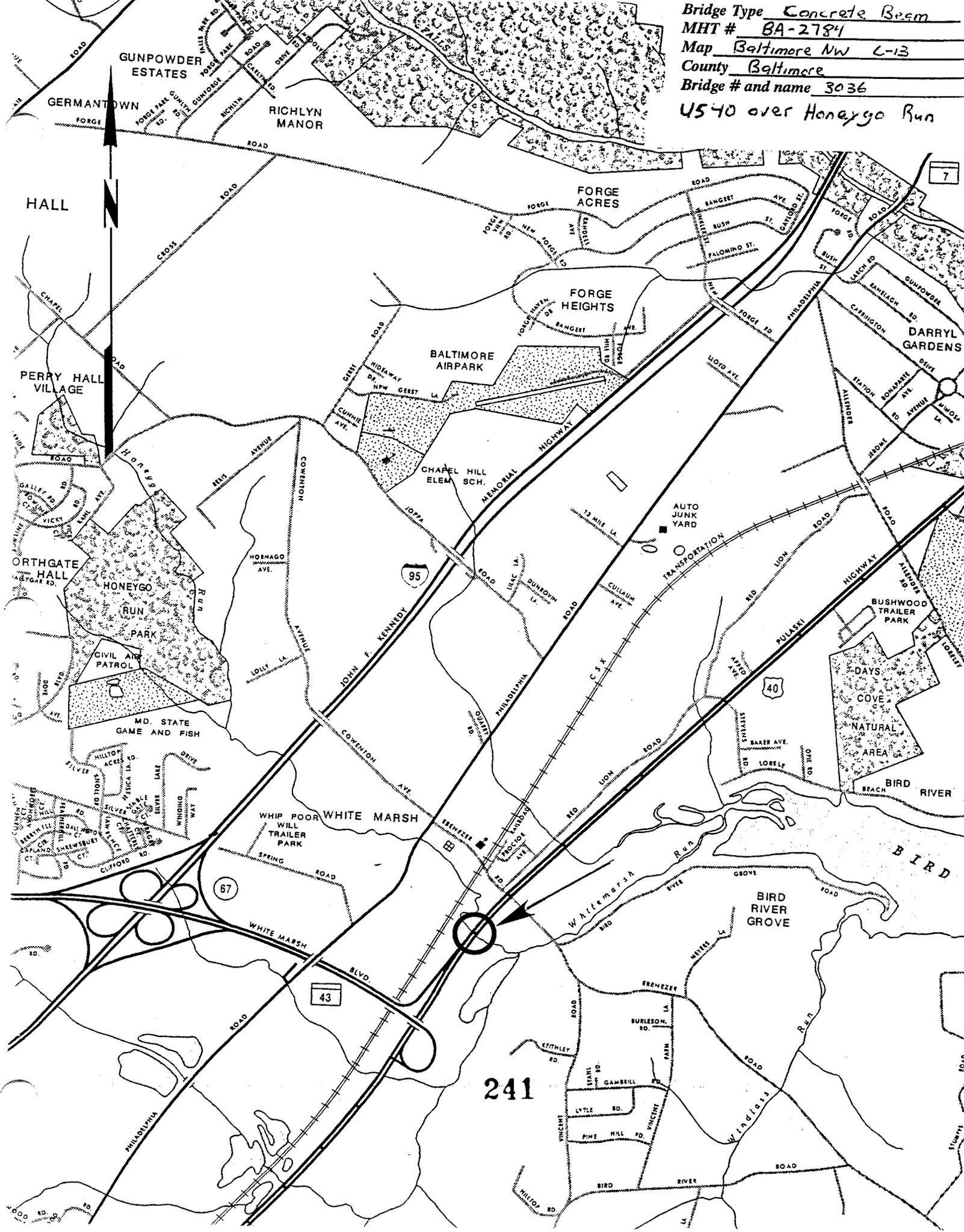
Date bridge recorded 3/2/97

Name of surveyor Caroline Hall/Eric F. 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

Bridge Type Concrete Beam
 MHT # BA-2784
 Map Baltimore NW C-13
 County Baltimore
 Bridge # and name 3036
4540 over Honeygo Run



241



1. BA- 2784
2. US 40 over Honeygo Run
3. Baltimore County (3036)
4. Eric Griffiths
5. 3-97
6. MD SHPO
7. EAST ELEVATION
8. 1 of 6



1. BA-2784
2. US40 over Honeygo Run
3. Baltimore County (2036)
4. ERIC Griffiths
5. 3-97
6. MD SHPD
7. Beam detail under Bridge
8. 2046



- 1 BA-2784
- 2 US 40 over Honeygo Run
- 3 Baltimore County (3036)
- 4 ERIC Griffiths
- 5 3-97
- 6 MD SHPO
- 7 North Approach
- 8 4 of 6



1 BA-2784

2 US 40 over Hongygo Run

3 BA 140. County (3036)

4 Eric Griffiths

5 3-97

6 MD SHPO

7 West Elevation

8 3076



- 1 BA - 2784
- 2 US 40 over Honeygo Run (3036)
- 3 Baltimore County
- 4 ERIC Griffiths
- 5 3-97
- 6 MD SHPO
- 7 South Approach
- 8 5 of 6



1. BA-2784
2. US 40 over Honeygo turn
3. Baltimore County (3036)
4. Eric Griffiths
5. 3-97
6. MD SHPO
7. North Abutment + W Wingwall
8. LOT 6

INDIVIDUAL PROPERTY/DISTRICT
MARYLAND HISTORICAL TRUST
INTERNAL NR-ELIGIBILITY REVIEW FORM

Property/District Name: Bridge 3036, US 40 over Honeygo Run Survey Number: BA-2784

Project: Repair of Bridge 3036, Baltimore County Agency: SHA

Site visit by MHT Staff: no yes Name _____ Date _____

Eligibility recommended Eligibility not recommended

Criteria: A B C D Considerations: A B C D E F G None

Justification for decision: (Use continuation sheet if necessary and attach map)

Based on information provided by SHA, Bridge 3036 does not meet the National Register Criteria for individual listing. The 1935 concrete girder bridge is one of approximately 100 concrete girder bridges extant on Maryland's highways which were constructed in or before 1935. The bridge is not known to possess any engineering significance or to be associated with any significant event or person. In addition, it is not located in any known historic district.

Documentation on the property/district is presented in: Project file

Prepared by: Rita Suffness

Elizabeth Hannold
Reviewer, Office of Preservation Services

December 18, 1993
Date

NR program concurrence: yes no not applicable

[Signature]
Reviewer, NR program

12/22/93
Date

July

Survey No. BA-

MARYLAND COMPREHENSIVE HISTORIC PRESERVATION PLAN DATA - HISTORIC CONTEXT

I. Geographic Region:

- Eastern Shore (all Eastern Shore counties, and Cecil)
- Western Shore (Anne Arundel, Calvert, Charles, Prince George's and St. Mary's)
- Piedmont (Baltimore City, Baltimore, Carroll, Frederick, Harford, Howard, Montgomery)
- Western Maryland (Allegany, Garrett and Washington)

II. Chronological/Developmental Periods:

- Paleo-Indian 10000-7500 B.C.
- Early Archaic 7500-6000 B.C.
- Middle Archaic 6000-4000 B.C.
- Late Archaic 4000-2000 B.C.
- Early Woodland 2000-500 B.C.
- Middle Woodland 500 B.C. - A.D. 900
- Late Woodland/Archaic A.D. 900-1600
- Contact and Settlement A.D. 1570-1750
- Rural Agrarian Intensification A.D. 1680-1815
- Agricultural-Industrial Transition A.D. 1815-1870
- Industrial/Urban Dominance A.D. 1870-1930
- Modern Period A.D. 1930-Present
- Unknown Period (prehistoric historic)

III. Prehistoric Period Themes:

- Subsistence
- Settlement
- Political
- Demographic
- Religion
- Technology
- Environmental Adaption

IV. Historic Period Themes:

- Agriculture
- Architecture, Landscape Architecture, and Community Planning
- Economic (Commercial and Industrial)
- Government/Law
- Military
- Religion
- Social/Educational/Cultural
- Transportation

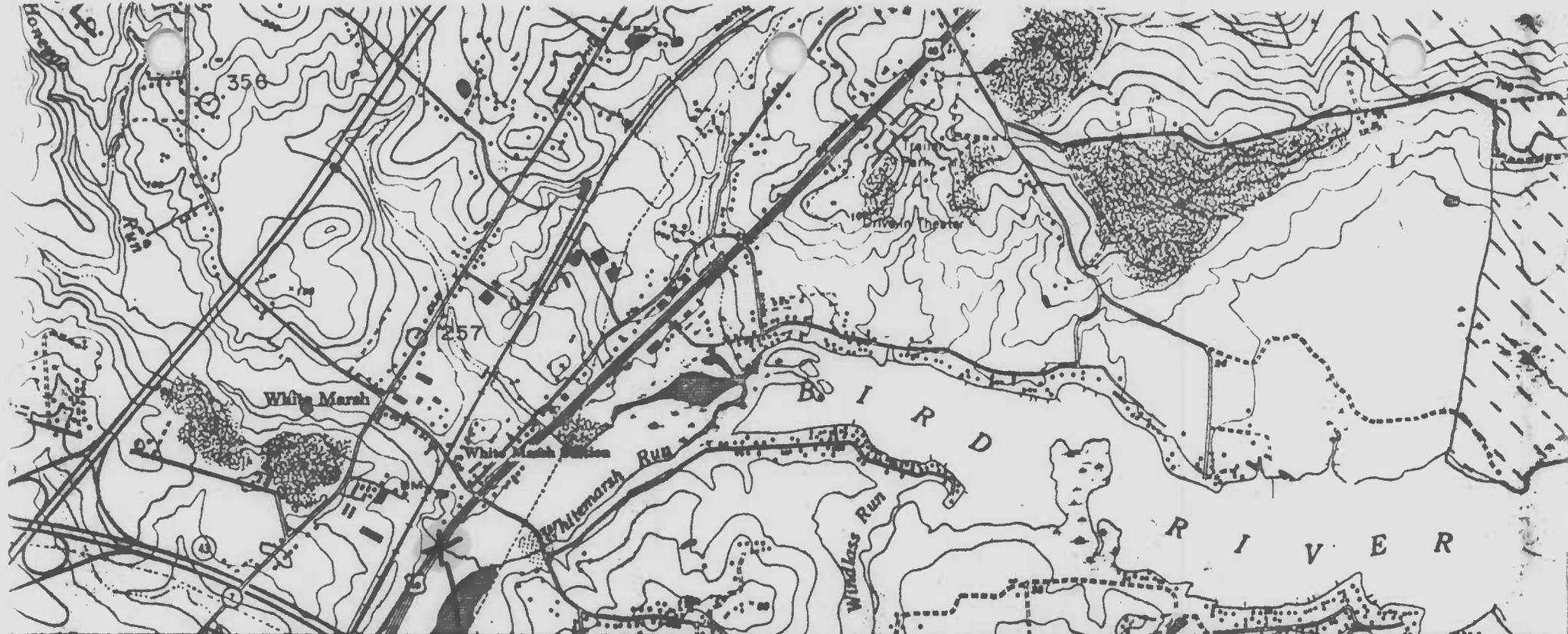
V. Resource Type:

Category: Structure

Historic Environment: Rural

Historic Function(s) and Use(s): Transportation

Known Design Source: NA



75 (MIDDLE RIVER) 5762 IV SW 25 279000m E 76° 2

SCALE 1:24 000

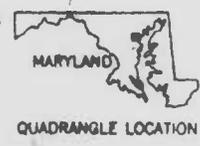
LOCATION



ROAD CLASSIFICATION

Heavy-duty ——— Light-duty ———
 Medium-duty ——— Unimproved dirt - - - - -
 Interstate Route U. S. Route State Route

CONTOUR INTERVAL 20 FEET
 NATIONAL GEODETIC VERTICAL DATUM OF 1929



WHITE MARSH, MD.
 NW/4 GUNPOWDER 15' QUADRANGLE
 N3922.5—W7622.5/7.5

THIS MAP COMPLETES WITH NATIONAL MAP ACCURACY STANDARDS
 FOR SALE BY U. S. GEOLOGICAL SURVEY, RESTON, VIRGINIA 22092
 A FOLDER OF SURVEY TOPOGRAPHIC COVERAGE SYMBOLS IS AVAILABLE ON REQUEST

1951
 PHOTOREVISED 1966 AND 1974
 AMS 5762 IV NW—SERIES Y833

BA-2784

BALTIMORE COUNTY



BRIDGE NO. 3036

LOCATION MAP

NOTE:

Location Map taken from Statewide Grid Map C-13.

REVISIONS

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MARYLAND DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 BRIDGE INSPECTION AND REMEDIAL ENGINEERING DIVISION
SCOUR REPAIR TO BRIDGE NO. 3036
U.S. 40 OVER HONEYGO RUN
LOCATION MAP

SCALE: 1" = 2000' DATE: Sept, 1991 CONTRACT 802-03036-92
 DESIGNED BY: R.L.M. DRAWN BY: R.L.M. CHECKED BY: R.S.T.

APPROVED: _____
 CHIEF, BRIDGE INSPECTION AND REMEDIAL ENGINEERING DIVISION

BA-2784



BRIDGE No. 3036

U.S. 40 over Honeygo Run

10/24/89

BA 2784

④

C NORTH END OF BRIDGE LOOKING WEST

6513 N H H- 3L-1