Maryland Historical Trust

Maryland Inventory of Historic Properties number: PG:65-24

Name: MD 650 (New Hampshire Ave) over Northwest Br

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 __X___

Criteria: ___A ___B ___C ___D Considerations: __A __B __C __D __E __F __G __None

Comments:_____

Reviewer, OPS: Anne E. Bruder Date: 3 April 2001

Reviewer, NR Program: Peter E. Kurtze Date: 3 April 2001

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

MHT No. PG: 65-24

SHA Bridge No. 16079 **Bridge name** MD 650 (New Hampshire Avenue) over Northwest Branch

LOCATION:
Street/Road name and number [facility carried] MD 650 (New Hampshire Avenue)

City/town Takoma Park **Vicinity** X

County Prince George's

This bridge projects over: Road____ **Railway**____ **Water** X **Land** ____

Ownership: State X **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 ____ **Retractile** ____ **Pontoon** ____

Metal Girder ____:
Rolled Girder ____ **Rolled Girder Concrete Encased** ____
Plate Girder ____ **Plate Girder Concrete Encased** ____

Metal Suspension ____

Metal Arch ____

Metal Cantilever ____

Concrete X:
Concrete Arch X **Concrete Slab** ____ **Concrete Beam** ____ **Rigid Frame** ____
Other ____ **Type Name** ____

DESCRIPTION:

Setting: Urban ____X____ **Small town** _____ **Rural** _____

Describe Setting:

Bridge 16079 carries MD 650 over Northwest Branch in Prince George's County. MD 650 runs north-south and Northwest Branch flows east. The bridge is located in the vicinity of Takoma Park, adjacent to Northwest Branch Park, and is surrounded by woods.

Describe Superstructure and Substructure:

Bridge 16079 is a 1-span, 4-lane, concrete arch bridge. The bridge was originally built in 1939, and the road surface was raised when the bridge was reconstructed in 1955 . The structure is 18.9 meters (62 feet) long and has a clear roadway width of 25.6 meters (84 feet); there is 1 sidewalk on the north side of the structure measuring 2.4 meters (8 feet wide). The out-to-out width is 38.9 meters (127 feet 7 inches). The superstructure consists of 1 arch which supports a bituminous wearing surface over a variable depth of earth gravel fill and concrete parapets. The arch spans 15.2 meters (50 feet) and is a filled spandrel concrete arch. The structure has metal guardrails on top of the raised road surface. There is a concrete median. The substructure consists of 2 concrete abutments. There are 4 flared concrete wingwalls. The bridge is not posted, and has a sufficiency rating of 90.6.

According to the 1996 inspection report, this structure was in satisfactory condition with cracking and efflorescence. The asphalt wearing surface has moderate cracking and rutting. The arch has longitudinal and map cracks, efflorescence, and spalls. The spandrel walls are cracked and have some delaminated spots. The abutments and wingwalls have moderate erosion, and are cracked and pitted.

Discuss Major Alterations:

The bridge was reconstructed in 1955, at which time the road surface was raised with the addition of fill. The new road surface was fitted with guardrails.

HISTORY:

WHEN was the bridge built: 1939, 1955
This date is: Actual ____X____ **Estimated** _____
Source of date: Plaque _____ **Design plans** _____ **County bridge files/inspection form** _____
Other (specify): State Highway Administration Inspection Report/Bridge File

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?

Unknown

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

Unknown

SURVEYOR/HISTORIAN ANALYSIS:

This bridge may have National Register significance for its association with:
A - Events _____ B- Person _____
C- Engineering/architectural character _____

This bridge was determined not eligible by the Interagency Review Committee on January 28, 1998.

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

The advent of modern concrete technology fostered a renaissance of arch bridge construction in the United States. Reinforced concrete allowed the arch bridge to be constructed with much more ease than ever before and maintained the load-bearing capabilities of the form. As the structural advantages of reinforced concrete became apparent, the heavy, filled barrel of the arch was lightened into ribs. Spandrel walls were opened, to give a lighter appearance and to decrease dead load. This enabled the concrete arch to become flatter and multi-centered, with longer spans possible. Designers were no longer limited to the semicircular or segmental arch form of the stone arch bridge. The versatility of reinforced concrete permitted development of a variety of economical bridges for use on roads crossing small streams and rivers.

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.

As the nation's automotive traffic increased in the early twentieth century, local road networks were consolidated, and state highway departments were formed to supervise the construction and improvement of state roads. With a diverse topographical domain encompassing numerous small and large crossings, Maryland engineers quickly recognized the need for expedient design and construction through the standardization of bridge designs.

The concept and practice of standardization was one of the most important developments in engineering of the twentieth century. In Maryland, as in the rest of the nation, the standardized concrete types became the predominant bridge types built. In the period 1911 to 1920 (the decade in which standardized plans were introduced), beams and slabs constituted 65 percent and arches 35 percent of the extant 29 bridges built in Maryland during this period. In the following decade, 1921-1930, the beam (now the T-beam) and slab increased to 73 percent and the arch had declined to 27 percent of the 129 extant bridges; in the next decade (1931-1940), the beam and slab achieved 82 percent and arches had further declined, constituting only 18 percent of the total of extant bridges built on state-owned roads between 1931 and 1946.

Although beam and slab bridges became the utilitarian choice, it appears that the arch was selected when aesthetic as well as other site conditions were considered. The architectural treatment of extant arch bridges supports this assessment. Many of these bridges were multiple span structures with open spandrels or masonry facing. Another decorative feature of the concrete arch bridge was an open, balustrade-style parapet. Despite the popularity of ornamental arches and the increase in use of beam and slab bridges, examples of simpler, single and multiple span closed concrete arch bridges with solid parapets continued to be constructed throughout the early twentieth century.

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?

Unknown

Is the bridge a significant example of its type?

The bridge is not a significant example of a concrete arch 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 barrel, spandrel walls, abutments and wingwalls. The original parapets still exist under the fill, but metal guardrails span the raised roadway. There is, however some deterioration.

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

Unknown

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):_____

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.

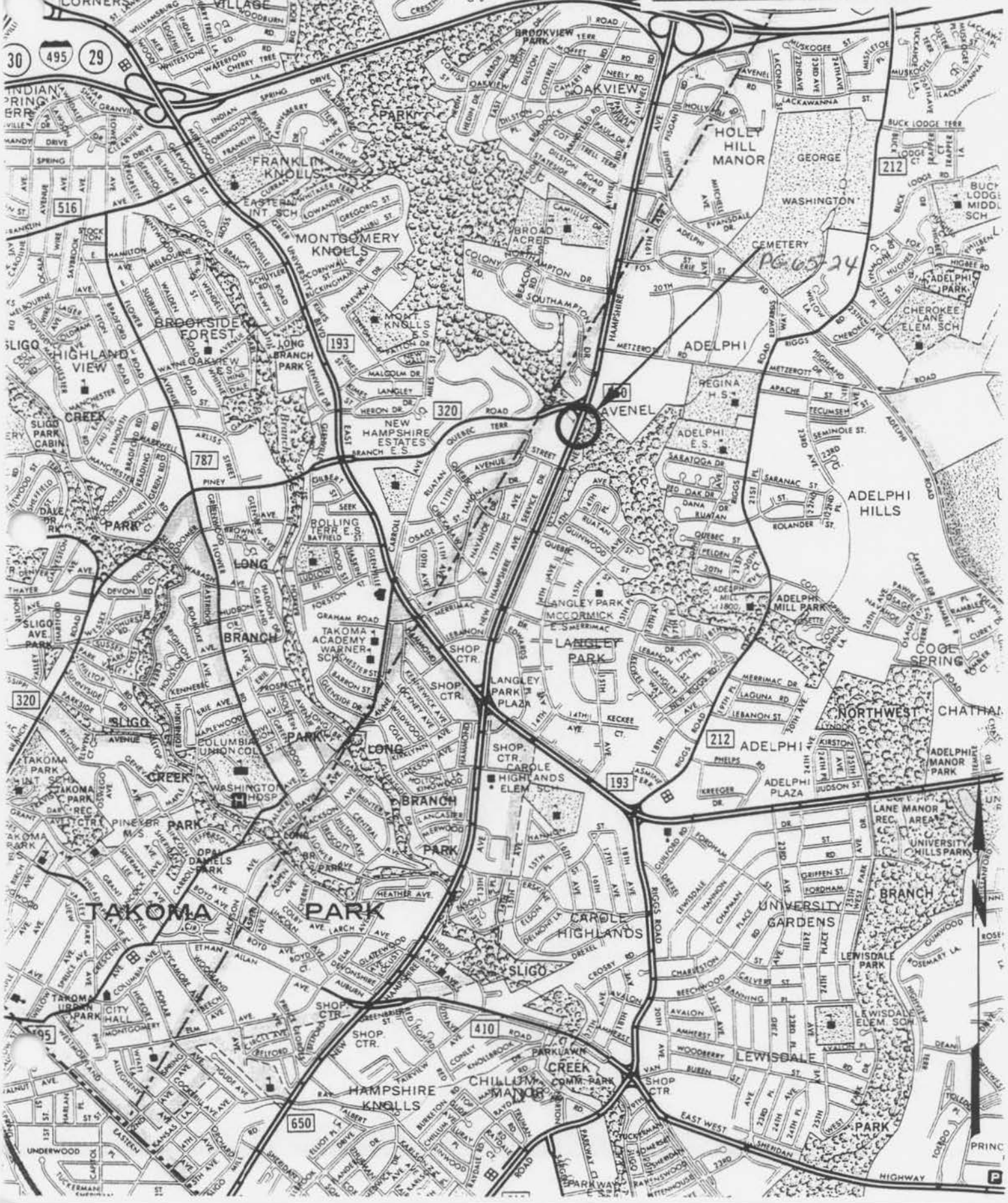
P.A.C. Spero & Company and Louis Berger & Associates
1995 Historic Highway Bridges in Maryland: 1631-1960: Historic Context Report. Maryland State Highway Administration, Maryland State Department of Transportation, Baltimore, Maryland.

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

SURVEYOR:

Date bridge recorded December 1997 / revised August 1998
Name of surveyor Caroline Hall
Organization/Address P.A.C. Spero & Co., 40 W. Chesapeake Avenue, Baltimore, MD 21204
Phone number (410) 296-1635 **FAX number** (410) 296-1670

Maryland Historic Highway Bridges
Bridge Type CONCRETE ARCH
MHT# PG:65-24
Map F-11
County PRINCE GEORGES
Bridge # and name 16079; MD 650
OVER NORTHWEST BRANCH



1. PG:65-24
2. MD 650 over Northwest Branch
3. Prince George's Co., MD
4. Wallace, Montgomery & Assoc.
5. 12/97
6. MD SHPO
7. Looking South
8. 1 of 4

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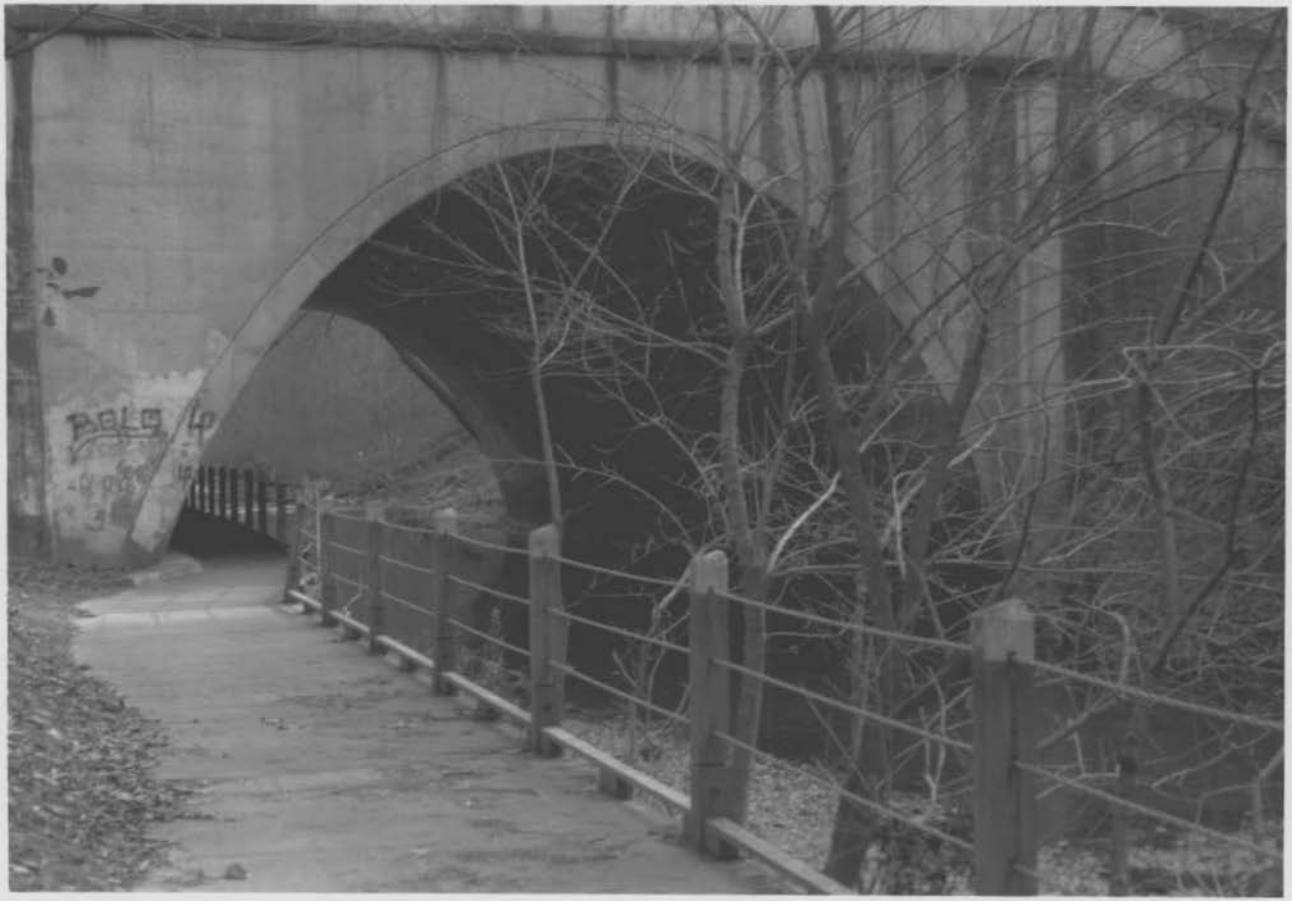
RYDER

1. PG:65-24
2. MD 650 over Northwest Branch
3. Prince George's Co., MD
4. Wallace, Montgomery & Assoc.
5. 12/97
6. MD SHPO
7. Looking North
8. 2 of 4

1. PG:65-24
2. MD 650 over Northwest Branch
3. Prince George's Co., MD
4. Wallace, Montgomery & Assoc.
5. 12/97
6. MD SHPO
7. Elevation looking upstream
8. 3 of 4



1. PG:65-24
2. MD 650 over Northwest Branch
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4. Wallace, Montgomery & Assoc.
5. 12/97
6. MD SHPO
7. Elevation looking downstream
8. 4 of 4