

Maryland Historical Trust

Maryland Inventory of Historic Properties number: AZ-V-B-316
Name: US 40 BRIDGE OVER WILKS CREEK

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"/> X	Eligibility Not Recommended <input type="checkbox"/>
Criteria: <input type="checkbox"/> A <input type="checkbox"/> B <input checked="" 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>

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

MHT No. AL-V-B-316

SHA Bridge No 1028 Bridge name US 40 Alternate over Wills Creek

LOCATION:

Street/Road name and number US 40 Alternate (National Pike)

City/town Cumberland Vicinity X

County Allegany

This bridge projects over: Road Railway Water X Land

Ownership: State X County Municipal

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 :

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

AL-V-B-316

DESCRIPTION:

Setting: Urban _____ Small town _____ Rural X _____

Describe Setting:

Bridge No. 1028 carries US 40 Alternate over Wills Creek in Allegany County, west of Cumberland in the vicinity of Narrows Scenic Park. US 40 Alternate runs in a generally east-west direction over the southern flowing Wills Creek. The bridge is located in a rural region with only sparse housing just outside of the city limits of Cumberland. The bridge carries two lane of traffic in opposing directions. Wills Creek in the vicinity of the bridge is on a curving orientation and the entire channel and banks have been lined with concrete.

Describe Superstructure and Substructure:

Bridge No. 1028 is a 3-span, 2-lane, closed spandrel concrete arch bridge. The bridge was originally built in 1932. The structure is 226 feet long and has a clear roadway width of 27 feet; there are 2 sidewalks measuring 2 feet 11 inches wide and 7 inches wide. The overall width of the bridge is 35 feet 5 inches. The superstructure consists of 3 arches that support a concrete deck and reinforced concrete parapets or rails. The arches span 63 feet on the ends and 67 feet in the center with a clear height of 12 feet 6 inches and 12 feet 9 inches, respectively. The structure has pierced parapets and the roadway approaches are on a 40-degree skew. A date plaque on the parapet states that the bridge was built by the State Roads Commission in 1932. The substructure consists of 2 concrete abutments and 2 concrete piers. The bridge has a sufficiency rating 68.7.

According to the 1995 inspection report, this structure was in fair condition with open joints at the spandrel walls. The asphalt-wearing surface has slight depressions and cracking. The concrete is spalling and cracking, and has heavy efflorescence in places. Also, the concrete parapet is heavily deteriorated.

Discuss Major Alterations:

The concrete pier extensions and channel walls were constructed at an unknown date to control flooding.

HISTORY:

WHEN was the bridge built: 1932
This date is: Actual X _____ Estimated _____
Source of date: Plaque X Design plans ___ County bridge files/inspection form ___ Other (specify): ___

WHY was the bridge built?

The bridge was built as part of the relocation and widening of US 40 in the Cumberland vicinity

WHO was the designer? State Roads Commission

WHO was the builder? State Roads Commission

WHY was the bridge altered? Unknown

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

This bridge was built as part of the relocation and widening of US 40 in the vicinity of Cumberland. Scenic US 40 was originally chartered in 1792 by Maryland as a turnpike from Frederick to Cumberland; it was a segment of the Baltimore-Cumberland Turnpike. The road, eventually know as the National Pike (as distinct from the National Road), was financed by various Maryland banks, and construction began in 1816. The road was completed to Cumberland by 1823. The turnpike ceased operations in 1889, when a storm wrecked bridges on the road, and the bridges were not rebuilt. The road had fallen into disrepair by the early-twentieth century, when the "Good Roads" Act of 1916 provided federal funding for road improvements. The National Pike was designated US 40 in the mid-1920s. US 40 Alternate follows the old route through the City of Cumberland, while US 40 , also Interstate 68, circumvents the city.

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SURVEYOR/HISTORIAN ANALYSIS:

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

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

The bridge was determined eligible by the Interagency Review Committee in September 1996.

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 that 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.

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. 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 aesthetics 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.

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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 that 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 that does not appear to be eligible for historic designation.

Is the bridge a significant example of its type?

The bridge is a significant example of a concrete arch 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 concrete parapets, spandrel walls, and arch barrel, however some deterioration is evident.

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):

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

Name of surveyor Wallace, Montgomery & Associates / P.A.C. Spero & Company

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

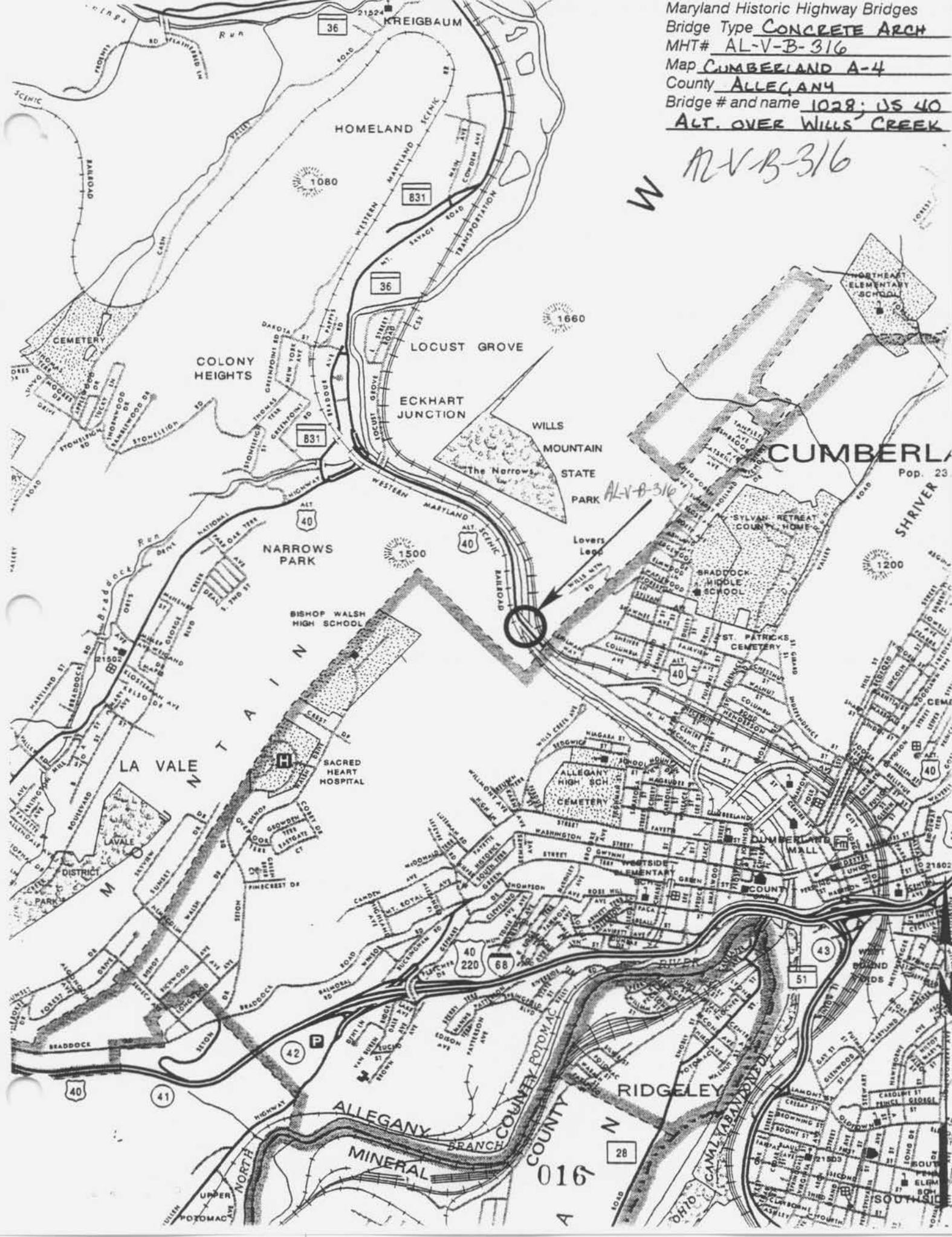
Phone number (410) 296-1635

FAX number (410) 296-1670

Maryland Historic Highway Bridges
Bridge Type CONCRETE ARCH
MHT# AL-V-B-316
Map CUMBERLAND A-4
County ALLEGANY
Bridge # and name 1028; US 40
ALT. OVER WILLS CREEK

AL-V-B-316

W





1. AL-V-B-316
2. US 40 Alternate over Wills Creek
3. Allegany Co, MD
4. Wallace, Montgomery & Assoc,
5. 12/97
6. MD SHPO
7. Elevation looking downstream
8. 1 of 4



1. AL-V-B-316
2. US 40 Alternate over Wills Creek
3. Allegany Co., MD
4. Wallace, Montgomery & Assoc.
5. 12/97
6. MD SHPO
7. Elevation looking upstream
8. 2 of 4



1. AL-V-B-316
2. US 40. Alternate over Wills Creek
3. Allegany Co., MD
4. Wallace, Montgomery & Assoc.
5. 12/97
6. MD SHPO
7. Looking East
8. 3 of 4



1. AL-V-B-316
2. US 40 Alternate over Wills Creek
3. Allegany Co., MD
4. Wallace, Montgomery & Assoc.
5. 12/97
6. MD SHPO
7. Looking West
8. 4 of 4

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

Property/District Name: Bridge 1028, Cumberland Vicinity Survey Number: AL-V-B316

Project: Repair Bridge 1028, US 40 Alt over Wills Creek 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 the information provided, Bridge #1028 would not meet the National Register Criteria for individual listing. The 1933 concrete arch structure is one of approximately 90 extant bridges of this type built on or before 1933 on Maryland roads. The integrity of the bridge has been compromised by the channelization of Wills Creek. The creek in the vicinity of the bridge is confined to a concrete channel. Massive concrete fins extend from the bridge into the channel on both sides of the bridge. The bridge does not have any known design significance, is not known to be associated with any significant event or person and is not located in any known historic district.

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

Prepared by: Rita Suffness, SHA

Elizabeth Hannold
Reviewer, Office of Preservation Services

March 8, 1994
Date

NR program concurrence: yes no not applicable

R. Anderson
Reviewer, NR program

3.8.94
Date

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Survey No. AL-V-B-3/6

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

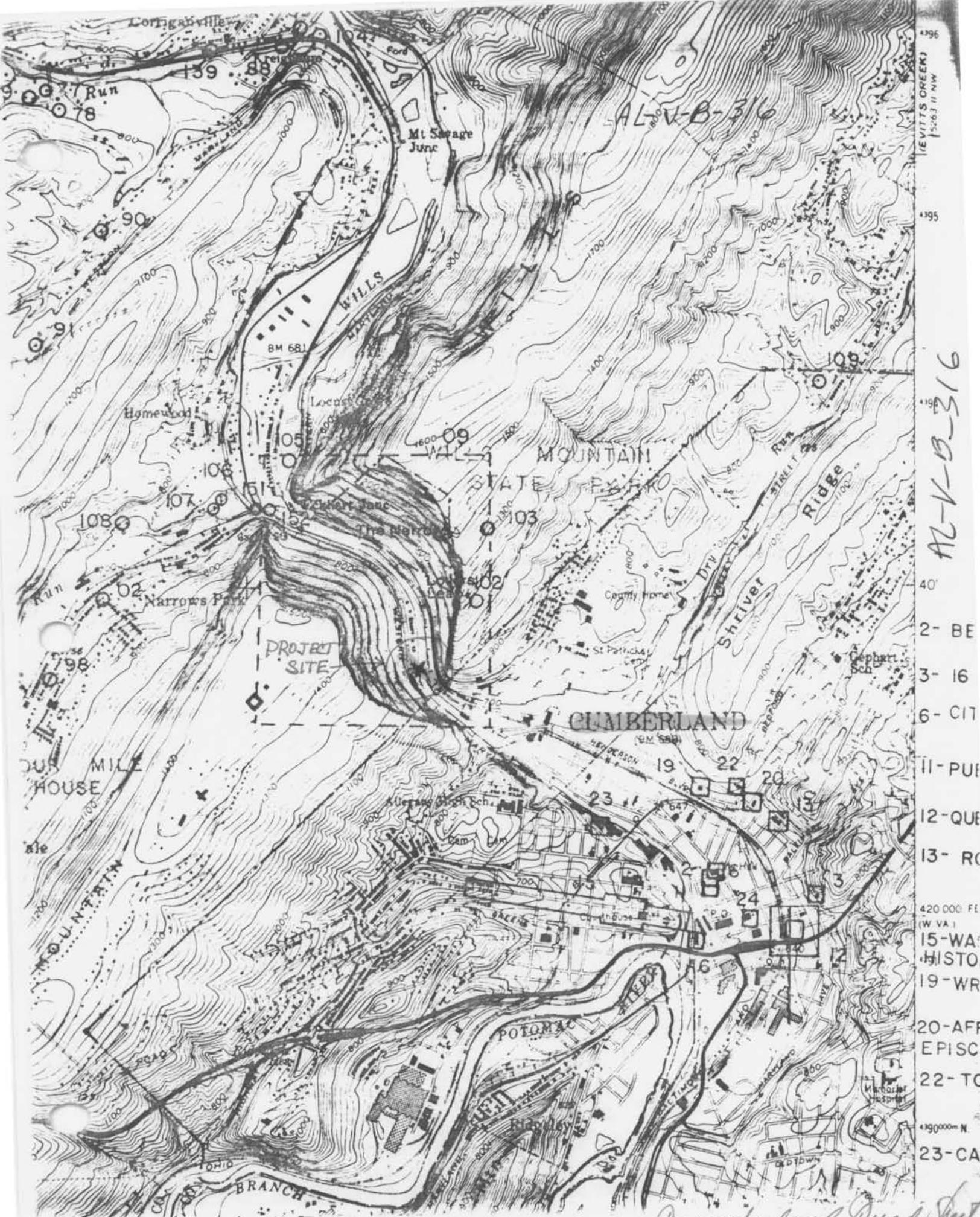
V. Resource Type:

Category: Structure

Historic Environment: Rural

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

Known Design Source: _____



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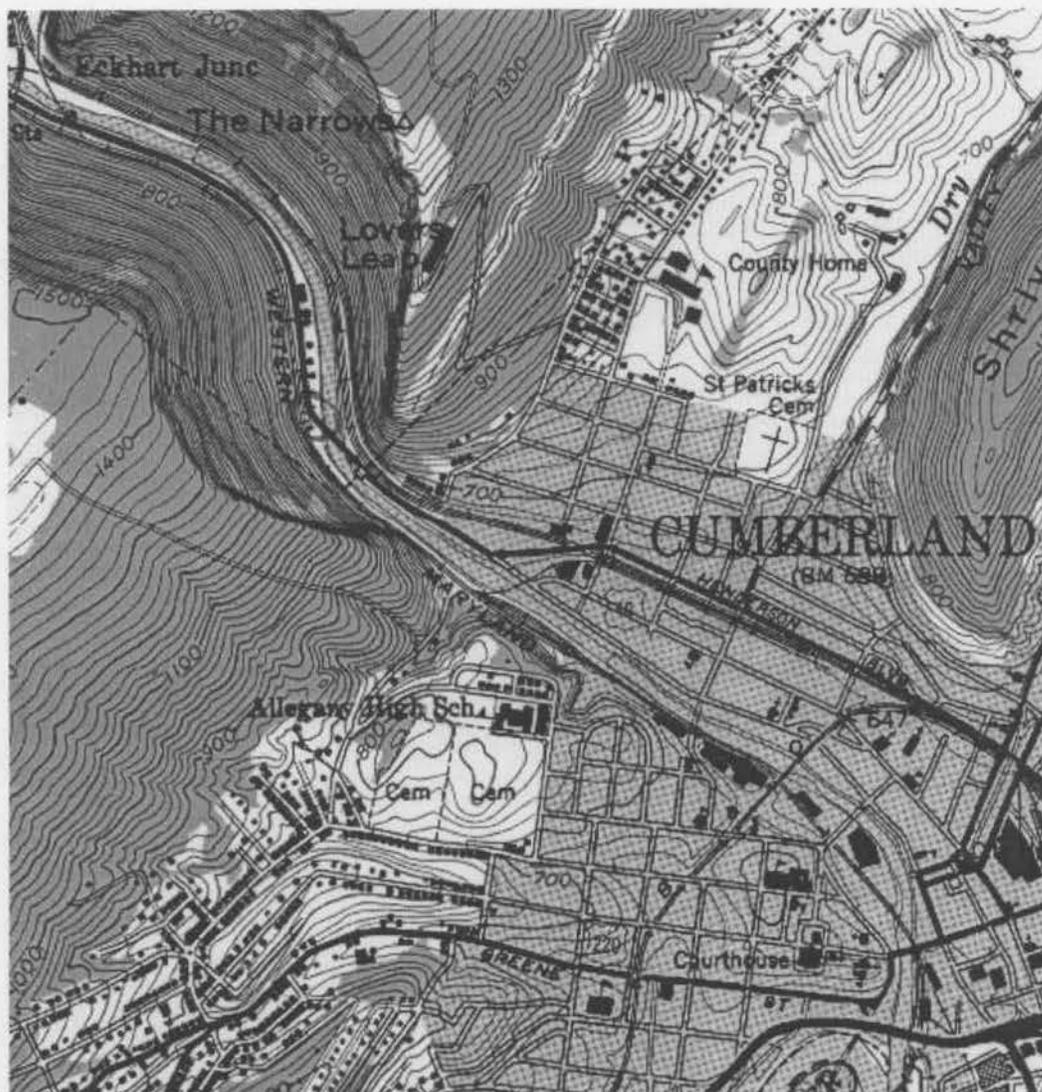
PROJECT SITE

CUMBERLAND

4296
4195
410
40
2- BE
3- 16
6- CIT
11- PUB
12- QUE
13- R
420 000 FE
(W VA)
15- WA
HISTO
19- WR
20- AFF
EPISC
22- TO
420000 N
23- CA

AL-V-B-316

Cumberland Quad Sheet



AL-V- B-316
Bridge # 1028
US 40 Alt. Over Wills Creek
Allegany County
Cumberland Quad



Ah-V-B-316

NOV 1988
KODAK



STRAIGHT AHEAD TO
MOTOR CITY
MOTOR SERVICE AND SALES



AL-V-B-316

R

NOV 1993

Kodak
Kodak Research Laboratories

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NOV 1993

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Kodak Research Laboratories



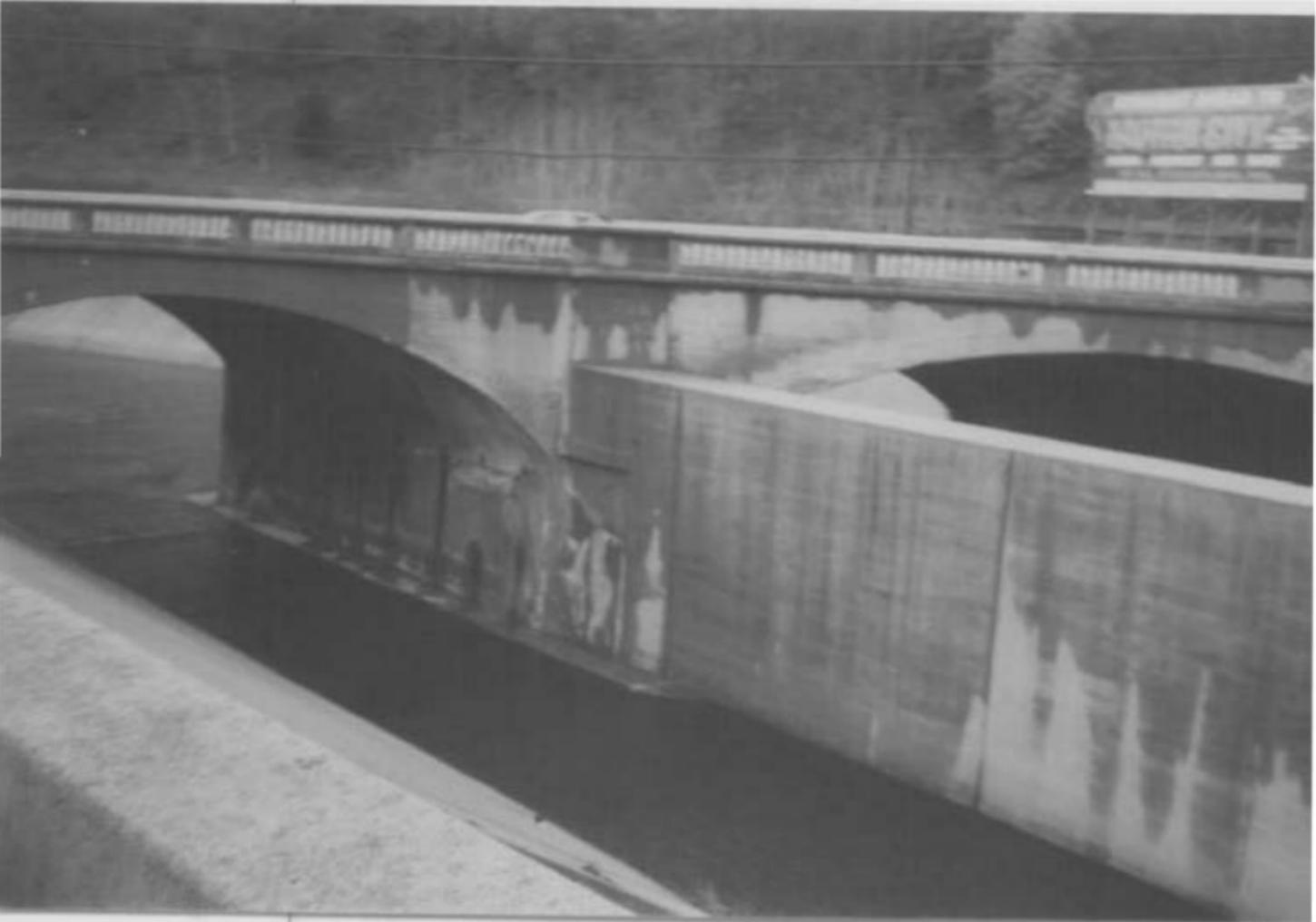
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