Maryland Historical Trust

Maryland Inventory of Historic Properties number: WI-340

Name: 22014/MD 347 over QUANTICO 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 ___X___ Eligibility Not Recommended _____

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. WI-340

SHA Bridge No. 22014 **Bridge name** MD 347 over Quantico Creek

LOCATION:
Street/Road name and number [facility carried] MD 347 (Quantico Road)

City/town Quantico **Vicinity** _____

County Wicomico

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** 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 _____ **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_____ **Concrete Slab** X **Concrete Beam** ____ **Rigid Frame** _____
Other _____ **Type Name** _____

WI-340

DESCRIPTION:

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

Describe Setting:

Bridge No. 22014 carries MD 347 (Quantico Road) over Quantico Creek in Wicomico County. MD 347 runs north-south and Quantico Creek flows east-west. The bridge is located in the town of Quantico and is surrounded by woods to the south and residential properties to the north.

Describe Superstructure and Substructure:

Bridge No. 22014 is a single-span, 2-lane, concrete slab bridge. The bridge was originally built in 1926. The structure is 23 feet long and has a clear roadway width of 24 feet. The out-to-out width is 26 feet, 8 inches and the concrete slab has a bituminous wearing surface. The structure has solid panel concrete parapets and the roadway approaches have steel guard rails. The substructure consists of two (2) concrete abutments and there are flared, concrete wing walls. The bridge has a sufficiency rating of 76.2.

According to the 1996 inspection report, this structure is in good condition. The concrete abutments have fine map and vertical cracks with minor popouts and minor chipping. The wing walls have fine map and horizontal cracking and light efflorescence. The concrete parapet has fine map cracks and minor spalling at all guard rail connections.

Discuss Major Alterations:

Bridge 22014 has had no major alterations.

HISTORY:

WHEN was the bridge built: 1926
This date is: Actual X **Estimated** _____
Source of date: Plaque ____ **Design plans** ___ **County bridge files/inspection form** ___
Other (specify): State Highway Administration bridge files/inspection form

WHY was the bridge built?

The bridge was constructed in response to the need for a 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 ____X____

The bridge is eligible for the National Register of Historic Places under Criterion C, as a significant example of concrete slab construction and a good representative example of a State Roads Commission standard plan design. The structure has a high degree of integrity and retains such character-defining elements of the type as the concrete slab and integral parapets, concrete abutments, and wing walls.

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

Reinforced concrete slab bridges are a twentieth century structure type, easily adapted to the need for expedient engineering solutions. Reinforced concrete technology developed rapidly in the early twentieth century with early recognition of the potential for standardized design. The first U.S. attempt to standardize concrete design specifications came in 1903-1904 with the formation of the Joint Committee on Concrete and Reinforced Concrete of the American Society of Civil Engineers.

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?

A sign in the vicinity of the bridge indicates the existence of the Quantico Historic District; research at the Maryland Historical Trust failed to identify such a district. If a district does exist in Quantico, however, this structure, which is a good example of a concrete slab bridge, would contribute to the character of the potential district.

Is the bridge a significant example of its type?

The bridge is a good example of the State Roads Commission standard bridge plan, which possesses 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 concrete slab and integral 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 1920s.

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

Further study is required to determine the status of the Quantico Historic District, including if it has been evaluated for its significance and the location of the district boundary with relation to the bridge.

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.

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.

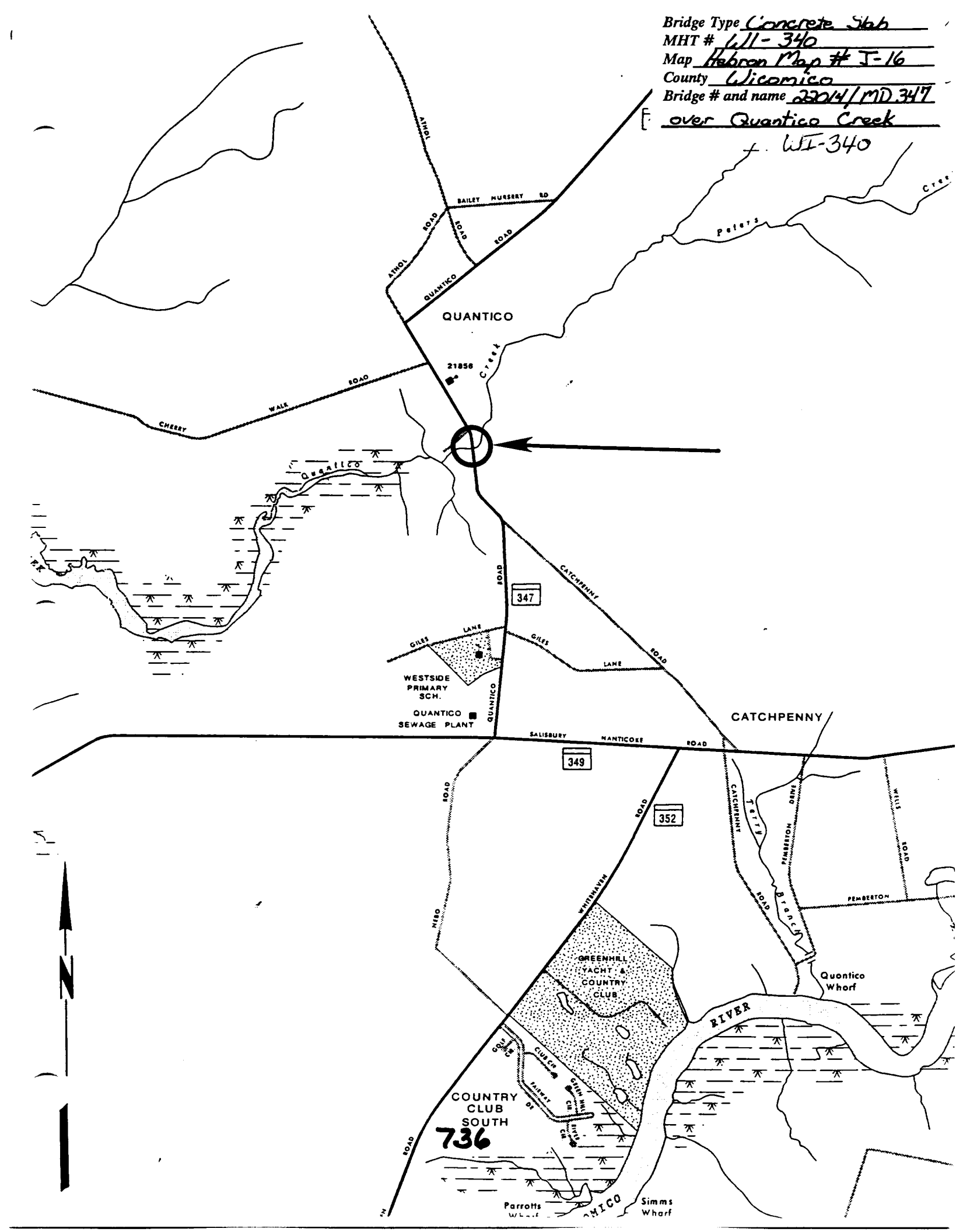
1930b *Standard Plans.* State of Maryland, State Roads Commission, Baltimore.

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.

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


Bridge Type Concrete Slab
MHT # WI-340
Map Hebron Map # J-16
County Wicomico
Bridge # and name 22014/MD 349
over Quantico Creek
+ WI-340
QUANTICO
ATHOL ROAD
BAILEY NURSERY RD
ROAD
QUANTICO
21856
CREEK
CHERRY WALK ROAD
QUANTICO
CATCHPENNY ROAD
347
GILES LANE
WESTSIDE PRIMARY SCH.
QUANTICO SEWAGE PLANT
SALISBURY NANTICOKE ROAD
349
352
CATCHPENNY
WHITEHAVEN ROAD
NEBO ROAD
GREENHILL YACHT & COUNTRY CLUB
COUNTRY CLUB SOUTH
736
PEMBERTON ROAD
WELLS ROAD
Quantico Whorf
RIVER
Parrotts Wharf
Simms Wharf
N

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

Property/District Name: Bridge #22014 Survey Number: WI-340

Project: MD 347 over Quantico Cr., Wicomico County Agency: SHA

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

Eligibility recommended ____ Eligibility not recommended X

Criteria: ___A ___B X 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 by SHA, Bridge #22014, a 1924 single span concrete slab structure, does not meet the National Register criteria for individual listing. It is a common bridge type of no particular engineering significance. Approximately 100 bridges of the type were constructed on the State roads system by 1924. Furthermore, the bridge is not located in any known district.

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

Preparedby: RitaSuffness

Elizabeth Hannold April 22, 1992
Reviewer, Office of Preservation Services Date

NR program concurrence: X yes ___ no ___ not applicable

[signature] 23 Apr 93
Reviewer, NR program Date

Survey No. WI-340

MARYLAND COMPREHENSIVE HISTORIC PRESERVATION PLAN DATA - HISTORIC CONTEXT

I. Geographic Region:

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

V. Resource Type:

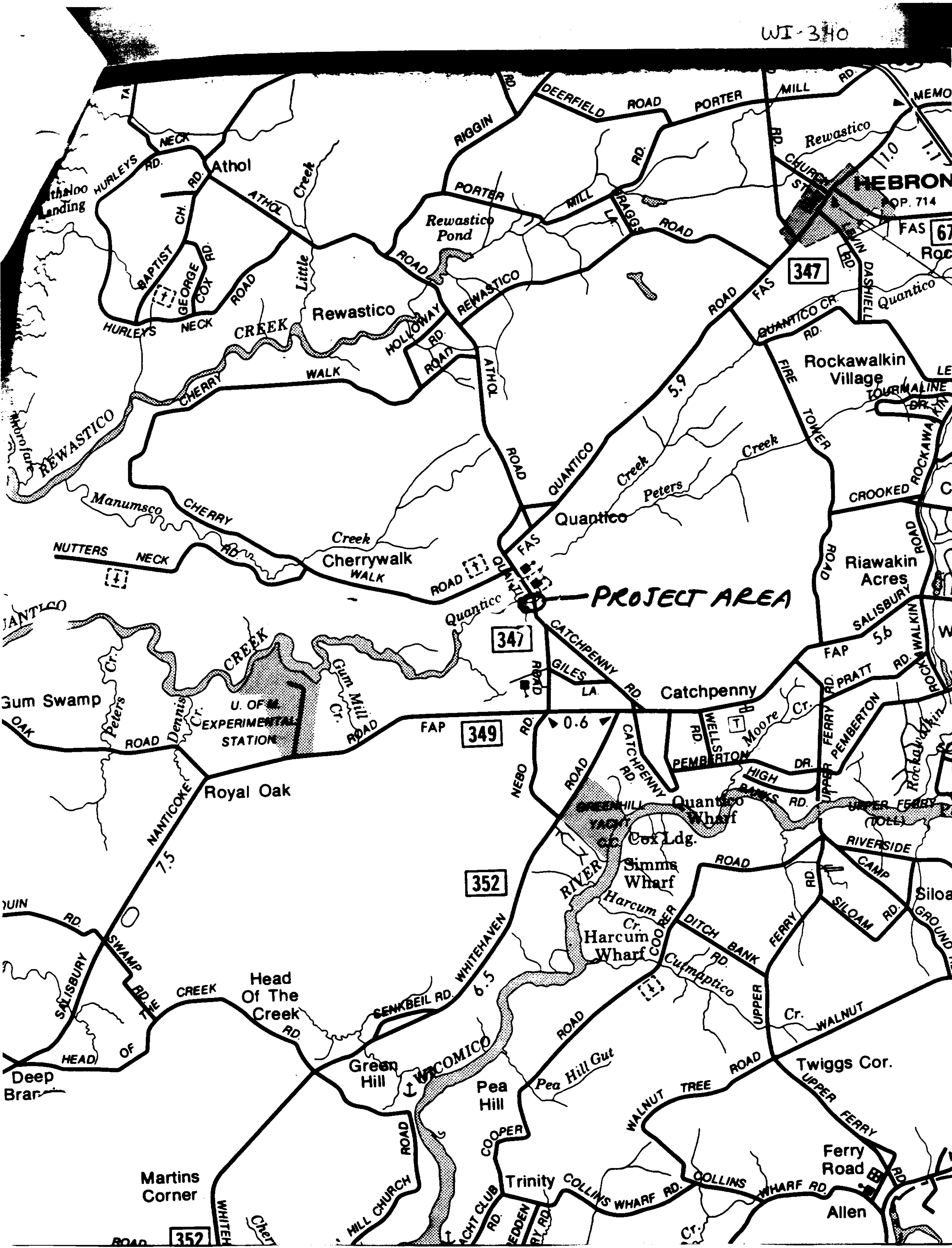
Category: Structure

Historic Environment: rural

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

Known Design Source: unknown

WI-340



HEBRON
POP. 714
Athol
Rewastico
Rewastico Pond
Rockawalkin Village
Quantico
Cherrywalk
PROJECT AREA
Riawakin Acres
Catchpenny
Gum Swamp
U. OF M. EXPERIMENTAL STATION
Royal Oak
Quantico Wharf
Cox Ldg.
Simms Wharf
Harcum Wharf
Head Of The Creek
Green Hill
Pea Hill
Twiggs Cor.
Ferry Road
Allen
Trinity
Martins Corner
Deep Bran
Siloa
347
349
352
FAS
FAP
5.9
5.6
7.5
6.5
0.6
1.0
1.1
DEERFIELD ROAD
PORTER MILL RD.
RIGGIN
ATHOL ROAD
HURLEYS NECK RD.
BAPTIST CH. RD.
GEORGE COX RD.
HOLLOWAY RD.
REWASTICO ROAD
CHERRY WALK ROAD
NUTTERS NECK RD.
QUANTICO ROAD
FIRE TOWER RD.
QUANTICO CR. RD.
DASHIELL RD.
CROOKED
ROCKAWALKIN ROAD
SALISBURY ROAD
PRATT RD.
PEMBERTON DR.
WELLS RD.
HIGH BANKS RD.
UPPER FERRY RD.
CATCHPENNY RD.
GILES LA.
NEBO RD.
NANTICOKE ROAD
WHITEHAVEN ROAD
SENKBEIL RD.
HEAD OF THE CREEK RD.
SALISBURY
SWAMP RD.
RIVERSIDE
CAMP
SILOAM RD.
DITCH BANK RD.
COOPER ROAD
WALNUT TREE ROAD
COLLINS WHARF RD.
HILL CHURCH ROAD
YACHT CLUB RD.
GREENHILL YACHT C.C.
REWASTICO CREEK
Little Creek
Manumsco Creek
Quantico Creek
Peters Creek
Dennis Cr.
Gum Mill Cr.
Moore Cr.
Rockawalkin
Harcum Cr.
Cumaptico Cr.
Pea Hill Gut
WICOMICO RIVER
Rewastico
TOURMALINE DR.

1 [illegible]

2. [illegible] Quarter Creek [illegible]

3. Wicomico Co., Md

4 Perdue Hill

5. 3/97

6 MD340

7 west side

8. 1 of 6

1. [illegible]

2. [illegible]

3. Wisconsin Co. Rd.

4. Parallel Rd.

5. 3/97

6. MDSHD

7. roadway approach

8. 2 of 6

1. [illegible]

2. [illegible]

3. Wisconsin Co MD

4. Gasoline Well

5. 3147

6. MDS-FD

7. roadway approach

8. 3876

1. WI 340
2. MD 347 over Quantico Creek (22014)
3. Wicomico Co., MD
4. Caroline Hall
5. 3/97
6. MD SHPO
7. east side
8. 4 of 6

1 WI 340

2. MD 347 over Quantico Creek [illegible]

3. Wicomico Co., Md.

4 Caroline Hall

5. 3/97

6 MDSHPO

7 west parapet

8. 5 of 6


2 014

1. WI-42
2. MD 347 over (Wicomico Creek Bridge)
3. Wicomico Co. MD
4. Caroline Hall
5. 3/97
6. MDSHPO
7. east parapet
8. 6 of 6