

Maryland Historical Trust

Maryland Inventory of Historic Properties number: QA-492

Name: 17021/MD 2130182 Old Mill Stream Branch

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. QA-492

SHA Bridge No. 17021 Bridge name MD 213 over Old Mill Stream Branch

**LOCATION:**

Street/Road name and number [facility carried] MD 213 (Centreville Road)

City/town Centreville Vicinity \_\_\_\_\_

County Queen Anne'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 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 \_\_\_\_\_

Vertical Lift \_\_\_\_\_

Bascule Single Leaf \_\_\_\_\_

Retractable \_\_\_\_\_

Bascule Multiple Leaf \_\_\_\_\_

Pontoon \_\_\_\_\_

Metal Girder \_\_\_\_\_:

Rolled Girder \_\_\_\_\_

Plate Girder \_\_\_\_\_

Rolled Girder Concrete Encased \_\_\_\_\_

Plate Girder Concrete Encased \_\_\_\_\_

Metal Suspension \_\_\_\_\_

Metal Arch \_\_\_\_\_

Metal Cantilever \_\_\_\_\_

Concrete X \_\_\_\_\_:

Concrete Arch \_\_\_\_\_ Concrete Slab X Concrete Beam \_\_\_\_\_ Rigid Frame \_\_\_\_\_

Other \_\_\_\_\_ Type Name \_\_\_\_\_

QA-492

**DESCRIPTION:**

**Setting:** Urban \_\_\_\_\_ Small town X Rural \_\_\_\_\_

**Describe Setting:**

Bridge No. 17021 carries MD 213 (Centreville Road) over Old Mill Stream Branch in Queen Anne's County. MD 213 runs north-south and Old Mill Stream Branch flows east-west. The bridge is located in the town of Centreville, and is surrounded by commercial properties.

**Describe Superstructure and Substructure:**

Bridge No. 17021 is a 2-span, 2-lane, concrete slab bridge. The bridge was originally a two-cell box culvert, widened with a concrete slab in 1945. The structure is 32 feet long and has a clear roadway width of approximately 44 feet; there are two (2) sidewalks, each measuring 2 feet, 10 inches wide. The out-to-out width is approximately 47 feet. The concrete slab has a bituminous wearing surface. The structure has decorative concrete parapets with recessed panels and metal light posts. Both ends of the west parapet wall, and the north end of the east parapet wall, flare away from the roadway approaches. The south end of the east parapet wall curves away from the roadway approach. A date impression on the parapet indicates that bridge was constructed in 1945. The substructure consists of two (2) timber abutments, timber bents and cross-bracing, and timber wing walls. The bridge has a sufficiency rating of 78.2.

According to the 1995 inspection report, this structure was in fair condition. The timber piles had checks, cracks and delamination and the timber cross-bracing was in good condition. The timber abutments had some rotted areas with delamination and section loss. The timber wing walls had areas of rot and checks, splits and delamination. The concrete culvert had concrete erosion and cracking and the concrete slab was in good condition with no defects. The parapets were in good condition, as were the lights on the bridge.

**Discuss Major Alterations:**

Bridge 17021 has had no major alterations.

**HISTORY:**

**WHEN was the bridge built:** \_\_\_\_\_ 1945 \_\_\_\_\_  
**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 form

**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?**

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. The structure has a high degree of integrity and retains such character-defining elements of the type as the concrete slab, decorative parapets, 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?**

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 slab 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 concrete slab, parapets, abutments and wing walls.

**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):

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.

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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





1. QA-492
2. MD 213 over Old Mill Stream Branch
3. Queen Anne Co., Md (17021)
4. Caroline Hall
5. 3/97
6. MDSHPO
7. east side
8. 1 of 6



1. QA-492
2. MD213 over Old Mill Stream Branch
3. Queen Anne Co., Md. (1702-1)
4. Caroline Hall
5. 3/97
6. MDSHPO
7. roadway approach
8. 2 of 6



1. QA-492
2. MD213 over Old Mill Street Branch
3. Queen Anne Co., Md (17021)
4. Caroline Hall
5. 3/97
6. MDSHPO
7. west side
8. 3 of 6



1. QA-492

2. MD 213 over Old Mill Stream Branch

3. Queen Anne Co., Md (17021)

4. Caroline Hall

5. 3/97

6. MDSHPO

7. roadway approach

8. 4 of 6



1. QA-492

2. DID 213 over Old Mill Stream Branch  
(17021)

3. Queen Anne Co, Md

4. Caroline Hall

5. 3/97

6. MDSHPD

7. detail of substructure

8. 5 of 6

A black and white photograph of a stone pillar, likely a gatepost, with the year "1945" engraved on its face. The pillar is topped with a dark, cylindrical finial. The pillar is part of a stone wall or fence. In the background, there are bare trees and a building with windows.

1945

1. QA-492
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6. MDSHPO
7. detail of date stamp
8. leaf 6