**Maryland Historical Trust**

**Maryland Inventory of Historic Properties Number:** AL-V-B-312

**Name:** MD 36 over Jennings Run. (1007)

**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 bridged received the following determination of eligibly.**

**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. AL-V-B-312

**SHA Bridge No.** 1007 **Bridge name** MD 36 over Jennings Run

**LOCATION:**
**Street/Road name and number [facility carried]** MD 36 (Mount Savage Road)

**City/town** Mount Savage **Vicinity** _____

**County** Allegany

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

AL-V-B-312

**DESCRIPTION:**

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

**Describe Setting:**

Bridge No. 1007 carries MD 36 (Mount Savage Road) over Jennings Run in Allegany County. MD 36 runs east-west and Jennings Run flows north-south. The bridge is located in the town of Mount Savage, and is surrounded by single family dwellings and vacant commercial buildings.

**Describe Superstructure and Substructure:**

Bridge No. 1007 is a 2-span, 2-lane, concrete beam bridge. The bridge was originally built in 1929, and there have been no major alterations. The structure is 61 feet, 6 inches long and has a clear roadway width of 23 feet, 10 inches; there is one (1) sidewalk measuring 4 feet, 1 inch wide. The out-to-out width is 31 feet, 5 inches. The bridge was built on a 50° skew. The superstructure consists of six (6) T-beams which support a concrete deck and concrete parapets. The beams measure 15 inches x 24 inches and are spaced 5 feet, 1 inch apart. The concrete deck, an integral part of the T-beams, measures 9 inches thick and it has a bituminous wearing surface. The structure has pierced concrete parapets and the roadway approaches have narrow shoulders and concrete block retaining walls. A date plaque on the south parapet states that the bridge was constructed in 1929 by the State Roads Commission. The names of G. Clinton Uhl, Chairman, Howard Bruce, John K. Shaw, H.D. Williar, Jr., Chief Engineer, and W.C. Hopkins, Bridge Engineer, are listed on the plaque. The substructure consists of two (2) concrete-encased stone abutments and a concrete intermediate pier at mid-length. There are u-shaped concrete wing walls; the north wing walls extend to concrete retaining walls on the north side of the bridge. The bridge is not posted, and has a sufficiency rating of 33.9.

According to the 1997 inspection report, this structure was in good condition with minor scaling and spalling of concrete, and some heavy areas of rust on the beams. The asphalt wearing surface is in good condition, with some cracks and depressions in the traffic lanes. The concrete is scaling and spalling on both the substructure and superstructure. There are fine cracks throughout and areas of efflorescence on the underside of the deck and substructure. Also, the north parapet has areas of deterioration and exposed aggregate.

**Discuss Major Alterations:**

There have been no major alterations to the bridge. Inspection reports from 1985 indicate that the west span has shifted slightly, and the 1997 inspection report notes that areas on the beams, deck, pier, abutments, and wing walls have been repaired with gunite.

**HISTORY:**

**WHEN was the bridge built:** 1929

**This date is: Actual** ___X___ **Estimated** _____

**Source of date: Plaque** __X__ **Design plans** __X__ **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.

AL-V-B-312

**WHO was the designer?**

State Roads Commission

**WHO was the builder?**

State Roads Commission

**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 beam bridge construction. The structure has a high degree of integrity and retains such character-defining elements of the type as the original beams, deck, abutments, wing walls, and parapets.

**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.

AL-V-B-312

**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 original beams, deck, abutments, wing walls, and parapets.

**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?**

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.

AL-V-B-312

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.

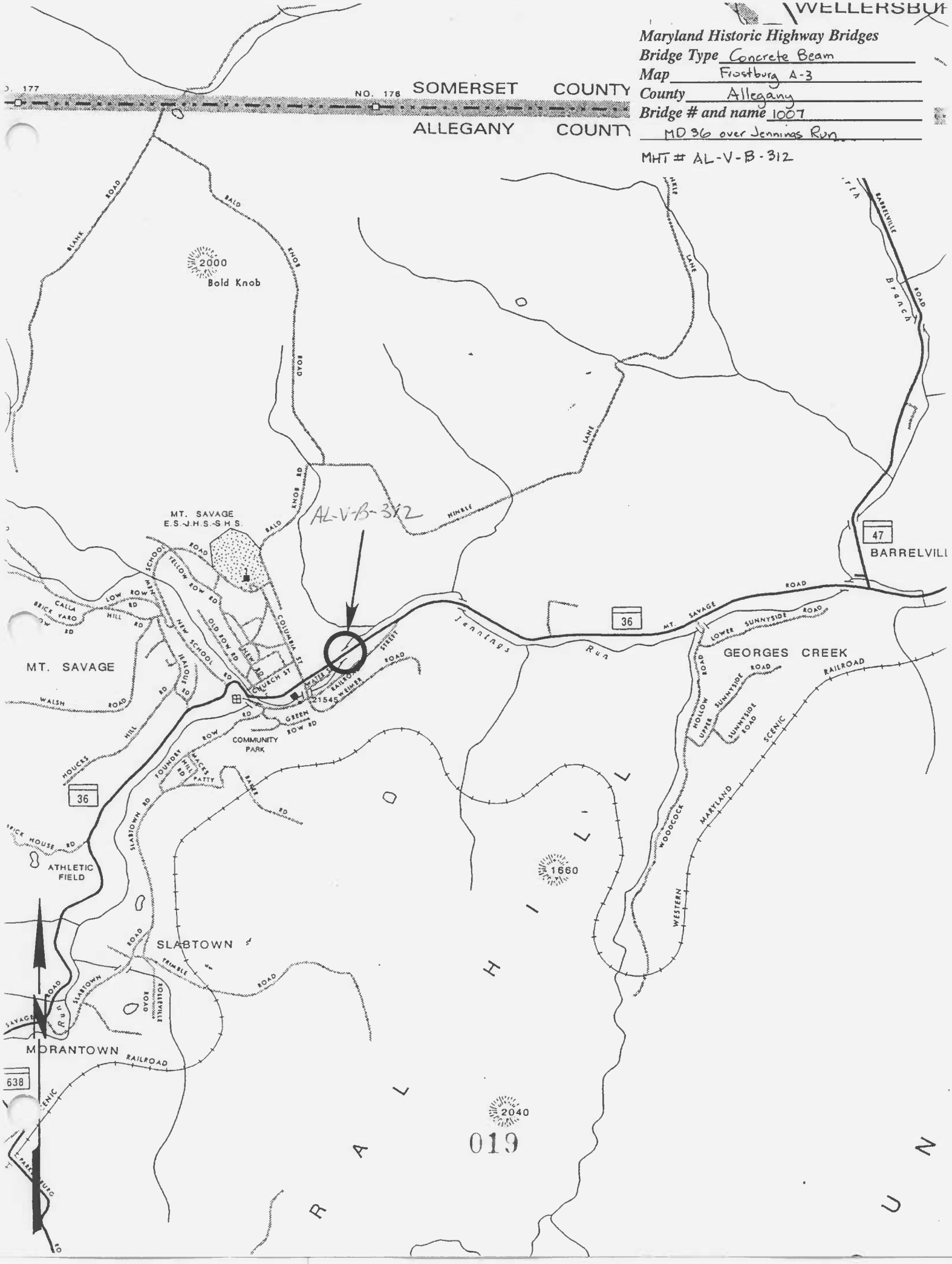
Tyrrell, H. Grattan
1909 *Concrete Bridges and Culverts for Both Railroads and Highways*. The Myron C. Clark Publishing Company, Chicago and New York.

**SURVEYOR:**

**Date bridge recorded** 3/4/97
**Name of surveyor** Caroline Hall/Ryan McKay
**Organization/Address** P.A.C. Spero & Co., 40 W. Chesapeake Avenue, Baltimore, MD 21204
**Phone number** (410) 296-1685 **FAX number** (410) 296-1670

WELLERSBUR

*Maryland Historic Highway Bridges*
*Bridge Type* Concrete Beam
*Map* Frostburg A-3
*County* Allegany
*Bridge # and name* 1007
MD 36 over Jennings Run
MHT # AL-V-B-312



1 [illegible]

2 [illegible] over Jennings Run

3. Allegany Co, MD

4 Ryan McKay

5 3/97

6 MD SHPO

7 Downstream elevation

8. 1 of 6

1. AL-V-B-3-2

2. MD 36 over Jennings Run

3. Allegany Co. MD

4. Ryan McKay

5. 3/97

6. MD SHPO

7. pier detail

8. 2 of 6

1 AL-V-B-317

2 MD 36 over Jennings Run

3 Allegany Co, MD

4 Ryan McKay

5 3/97

6 MD SHPO

7 upstream elevation

8 3 of 6

STATE ROADS COMMISSION

1 AL-[illegible] 317

2. MD 36 over Jennings Run
3. Allegany Co, MD
4 Ryan McKay
5. 3/97
6. MD SH PO
7 Date plaque
8 4 of 6

1 AL-V-B 312

2 MD 36 over Jennings Run

3. Allegany Co, MD

4 Ryan McKay

5 3/97

6. MD SHPO

7. South parapet

8. 5 of 6

1. AL-V-B-312

2 MD 36 over Jennings Run

3. Allegany Co, MD

4. Ryan McKay

5 3/97

6 MD SHPO

7 East approach

8 6 of 6