

Maryland Historical Trust

Maryland Inventory of Historic Properties number: BA-2857

Name: MD7002 LITTLE GUNPOND OR FAUS

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. BA-2857

SHA Bridge No. 3012 Bridge name MD 7 over Little Gunpowder Falls (Little Gunpowder Bridge)

**LOCATION:**

Street/Road name and number [facility carried] MD 7 (Philadelphia Road)

City/town Bradshaw Vicinity X

County Baltimore

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      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

**DESCRIPTION:**

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

**Describe Setting:**

Bridge 3012 carries MD 7 (Philadelphia Road) over Little Gunpowder Falls in Baltimore County. MD 7 runs northeast to southwest and Little Gunpowder Falls flows northwest to southeast. The portion of the bridge southwest of the Little Gunpowder Falls is located within the Gunpowder Falls State Park.

**Describe Superstructure and Substructure:**

Bridge 3012 is a 2-span, 2-lane, filled concrete arch bridge. The bridge, built in 1927, is 31.7 meters (104 feet) long and has a clear roadway width of 7.3 meters (24 feet); there are no sidewalks. The out-to-out width is 8.2 meters (27 feet). The superstructure consists of two arches, each spanning 13.7 meters (45 feet), which support a cast-in-place concrete deck and parapets. The substructure consists of four concrete abutments and a solid shaft concrete pier. In addition, there are four concrete wingwalls. The bridge has a sufficiency rating of 79.7.

According to the 1997 inspection report, this structure was in satisfactory condition. The deck, roadway surface and roadway approaches are in good condition, with a recent overlay of asphalt. The arch has longitudinal cracks on the edges and undersides. The edges have spalls, scaling and cracks with efflorescence, while the underside has patches and random cracks with moisture. The arch spandrel surface has light to dark stains and light erosion. The walls have patching with horizontal and map cracks with efflorescence. The pier wall has been patched with gunite but is heavily spalled and cracked on all sides. The wingwalls have also been patched and have cracks with efflorescence and edge scaling along the joints. The wingwalls are covered with vegetation.

**Discuss Major Alterations:**

According to the 1997 bridge inspection report, there have been no major alterations to Bridge 3012. The parapets were replaced at an unknown date.

**HISTORY:**

WHEN was the bridge built: 1927  
 This date is: Actual X Estimated \_\_\_\_\_  
 Source of date: Plaque X Design plans \_\_\_\_\_ County bridge files/inspection form \_\_\_\_\_  
 Other (specify): State Highway Administration Inspection Report/Bridge Files

**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?**

State Roads Commission

**WHO was the builder?**

State Roads Commission

**WHY was the bridge altered?**

To replace deteriorated parapets.

**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 arch construction. The structure has a high degree of integrity and retains such character-defining elements of the type as spandrel walls, arch barrel and rings, concrete abutments, pier, and wingwalls.

**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.

The route of the Philadelphia Road (State Route 7) was traveled as early as 1733, when Poor Richard's Almanac noted the general course of the present highway. Under pressure from the federal Bureau of Public Roads in the early 1930s, the State Roads Commission planned the construction the Pulaski Highway from Baltimore to Havre de Grace in lieu of widening the old Philadelphia Road.

**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 a good example of the State Roads Commission standard 1920s bridge plan.

**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 spandrel walls, arch barrel and rings, concrete pier, abutments, and wingwalls, however some deterioration is evident. The parapets have been replaced, but do not significantly impact the integrity of the bridge.

**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): \_\_\_\_\_

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.

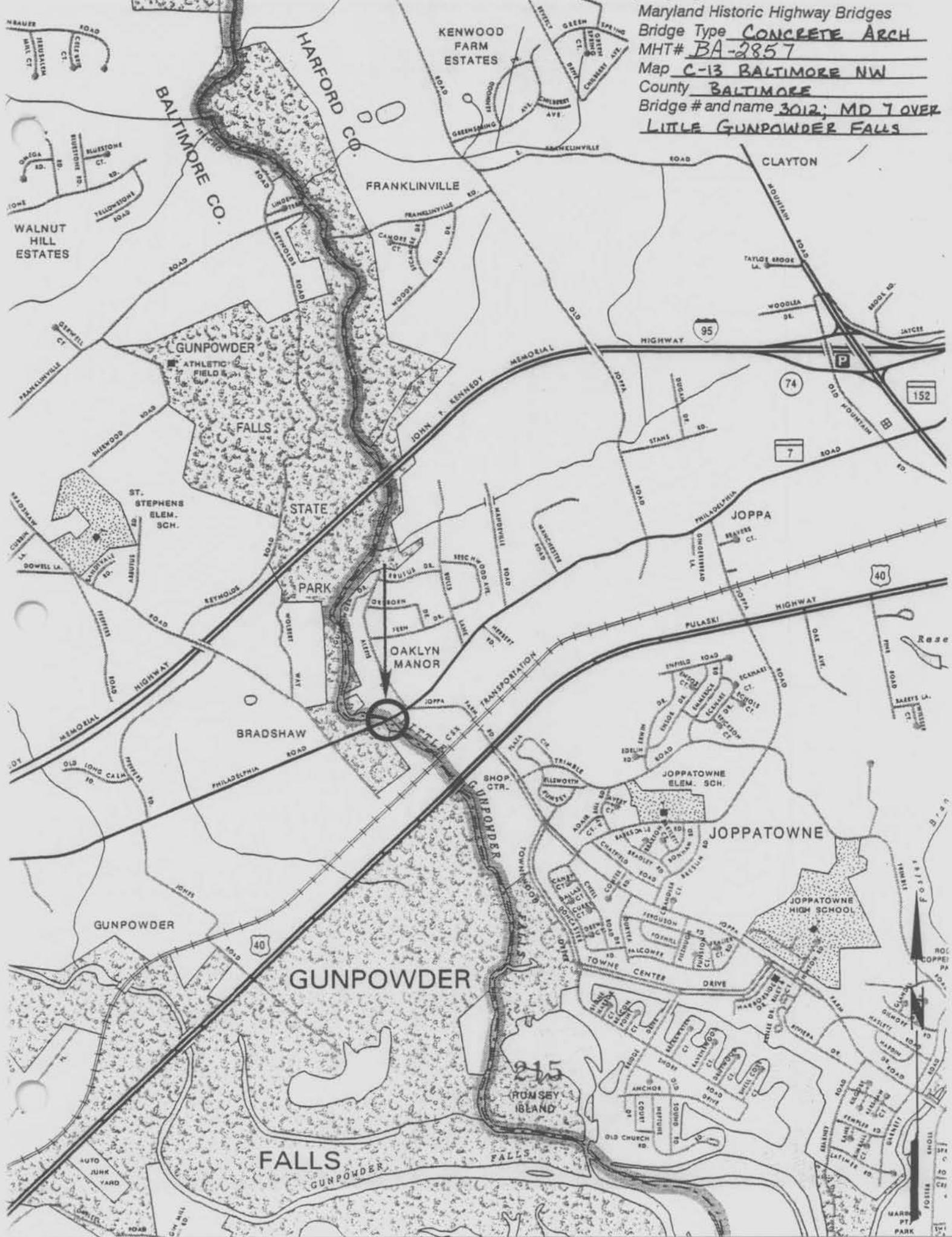
State Roads Commission  
1958 A History of Road Building in Maryland. Published by author, Baltimore.

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# BA-2857  
Map C-13 BALTIMORE NW  
County BALTIMORE  
Bridge # and name 3012; MD 7 OVER  
LITTLE GUNPOWDER FALLS





Inventory # 2A-2857

Name 3012-MDT OVER LITTLE GUNPOWDER FALLS

County/State BALTIMORE COUNTY/MD

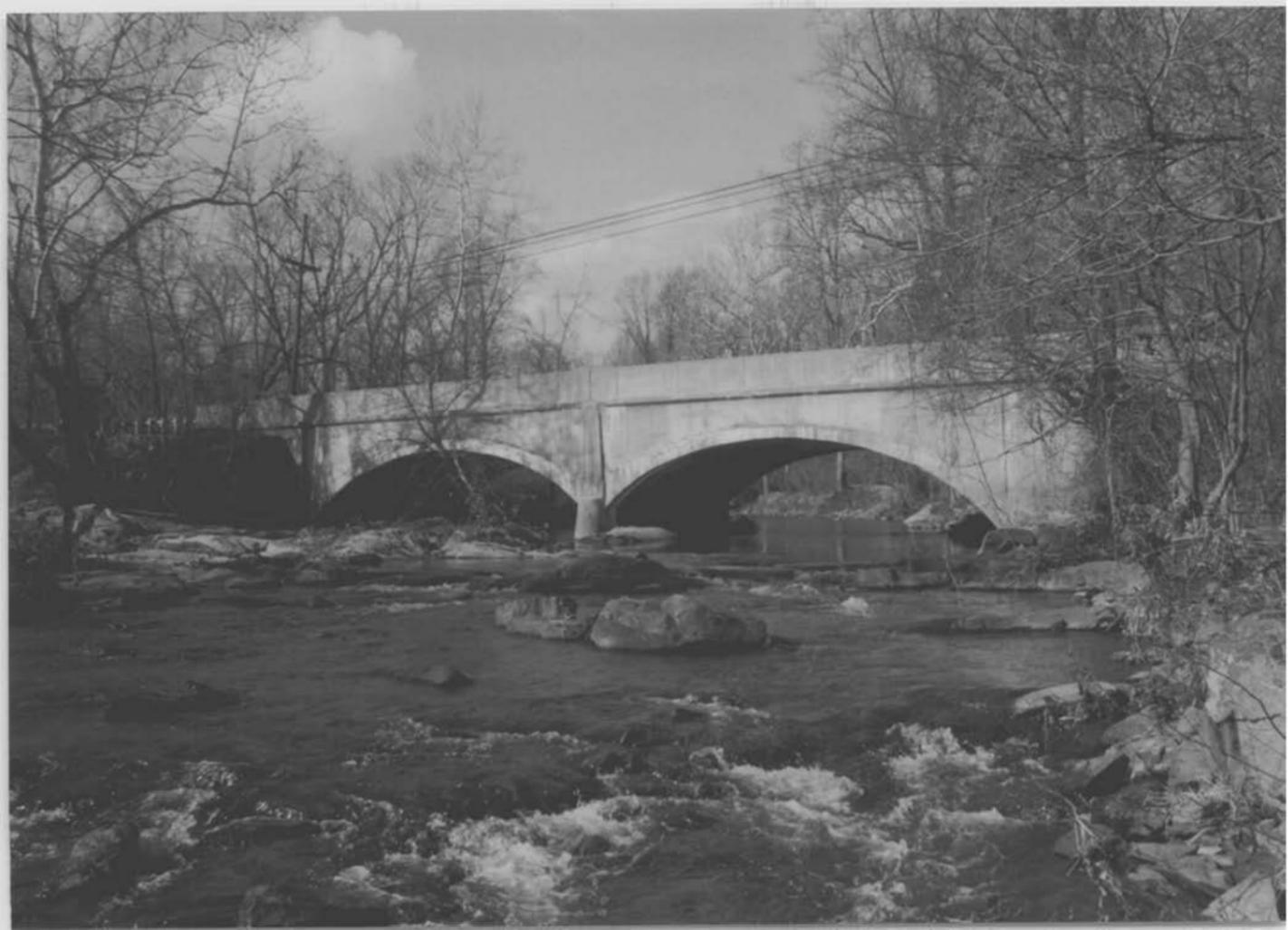
Name of Photographer DAVE DIEHL

Date 1/95

Location of Negative SHA

Description WEST APPROACH LOOKING  
EAST

Number 1 of 365



Inventory # BA-2857

Name 3012-MD7 OVER LITTLE GUNPOWDER FALLS

County/State BALTIMORE COUNTY/MD

Name of Photographer DAVE DIEHL

Date 1/95

Location of Negative SHA

Description SOUTH ELEVATION LOOKING  
NORTHWEST

Number 2 of 3



Inventory # BA-2857

Name 3012-MD7 OVER LITTLE GUNPOWDER FALLS

County/State BALTIMORE COUNTY/MD

Name of Photographer DAVE DIEHL

Date 1/95

Location of Negative SHA

Description NORTH ELEVATION LOOKING  
SOUTH WEST

Number ~~26~~<sup>3</sup> of ~~30~~<sup>5</sup>

LITTLE CUNPOWDER BRIDGE

BUILT - 1927

STATE ROADS COMMISSION

JOHN H. MACKALL - Chairman & Chief Engr.

R. BENNETT BARNALL  
W. W. BROWN

L. H. STEWART - Surveyor

W. G. HOPKINS - Bridge Engineer

Inventory # BA-2857

Name 3012-MO7 OVER LITTLE GUNPOWDER FALLS

County/State BALTIMORE COUNTY/MO

Name of Photographer DAVE DIEHL

Date 1/95

Location of Negative SHA

Description PLAQUE ON SOUTH PARAPET

Number 4 of 5



Inventory # BA-2857

Name 3012-MD? OVER LITTLE GUNPOUNDER FALLS

County/State BALTIMORE COUNTY MD

Name of Photographer DAVE DIEHL

Date 1/95

Location of Negative SHA

Description EAST APPROACH LOOKING  
WEST

Number 5 of 30