Maryland Historical Trust

Maryland Inventory of Historic Properties number: BA-958

Name: CARROLL RD. OVER CARROLL BR.

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. BA 958

SHA Bridge No. B-17 Bridge name Carroll Rd. over Carroll Branch

LOCATION:
Street/Road name and number [facility carried] Carroll Road

City/town _____ Vicinity Phoenix

County Baltimore

This bridge projects over: Road_____ Railway____ Water X___ Land _____

Ownership: State County X 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 __X_____

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 ___ :
Concrete Arch_____ Concrete Slab _ Concrete Beam _____ Rigid Frame _____
Other _____ Type Name _____

EA-958

DESCRIPTION:
Setting: Urban _____ **Small town** _ **Rural** X

Describe Setting:
Bridge B-17 carries Carroll Road over Carroll Branch approximately 0.5 miles south of Sparks Road. Carroll Road runs generally in a north/south direction in the area while Carroll Branch flows to the west. The bridge is situated in a wooded valley. The area is relatively undeveloped with few residential buildings around the bridge.

Describe Superstructure and Substructure:
Bridge B-17 is a single span, wrought iron Pratt through truss measuring 92 feet in total length. It has eight panels of 11'-6", and features inclined endposts. The top chord is a built-up section of 2 channels with a cover plate and lacing bars. The bottom chord consists of 2 rectangular eyebars. The floor system has I-beam stringers and I-beam floor beams. All verticals consist of 2 channels with lacing, and diagonals are circular section eyebars. All connections are pinned. The width of the roadway is 17'-0" between the centerline of trusses. There is no sidewalk on the bridge and the truss members are protected by a metal plate rail and an 8" x 10" wooden wheel guard. The bridge crosses the stream at approximately 90 degrees to the stream bed. The abutments are stone masonry with replacement caps of concrete; stone masonry wingwalls of varying skew are extant. There is one plaque on the bridge; on the south portal identifying the County Commissioners - William Carmichael, E.W. Stiefel, J.H. Mullender; the bridge Superintendent Mr. H.A. Nagle. The plaque also gives the bridge construction date of 1879.

Discuss Major Alterations:
Baltimore County inspection reports note the following major alterations:

1972 Updated entire floor system

1980 Top chords and endposts strengthened, truss counters replaced

1991 Entire floor system replaced, lower lateral bracing replaced, isolated diagonals, lower chords replaced, pins replaced. Stone masonry abutments repointed.

HISTORY:
WHEN was the bridge built 1879
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?
To provide a reliable crossing for Carroll Road over Carroll Run, to meet local transportation needs.

WHO was the designer?
Gilbert & Nelson, Chambersburg, Pennsylvania

WHO was the builder?
Erected by Gilbert & Nelson, Chambersburg, Pennsylvania

WHY was the bridge altered?
To maintain load capacity.

Was this bridge built as part of an organized bridge-building campaign?
Bridge B-17 was not 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 ___X___ **B- Person** _____
C- Engineering/architectural character _____X_____

Was this bridge built as part of an organized bridge-building campaign?
Bridge B-17 was not 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 X **B- Person** _____
C- Engineering/architectural character X

Was the bridge constructed in response to significant events in Maryland or local history?
Bridge B-17 was one of a large number of metal truss bridges built in Maryland in the late nineteenth and early twentieth centuries. Metal trusses built in the late nineteenth century were frequently of wrought iron construction and featured pinned connections. During the late nineteenth century Baltimore County advertised and built a number of metal truss bridges.

General Truss Bridge Trends
The first metal truss bridges in the United States were built to carry rail and canal traffic. A rapidly expanding railroad network, with needs for long spans, heavy load capacity and rapid construction, served as the impetus for advances in metal truss technology from the mid-nineteenth century to its close. The earliest metal truss forms of the United States were patented and introduced between 1830 and the Civil War, including the popular Pratt (1844) and Warren (1848) types.

From the Civil War through the end of the century metal truss technology improved in response to increasing loads and speeds, and new transportation needs; steel began to replace iron; numerous "bridge works" and "iron works" were established in the eastern U.S. for fabricating and shipping the truss components to the bridge site; and expanding road networks required a low cost, expedient bridge type.

General Trends in Maryland
In Maryland, the earliest metal truss bridges carried rail lines, including the Baltimore & Ohio (B&O) and the Baltimore and Susquehanna Railroads. As early as 1849, B&O Chief Engineer Benjamin H. Latrobe recommended the construction of metal truss bridges for "large crossings"; in 1850 he reported "much satisfaction" with the future of iron bridges after constructing the metal truss bridge at Savage.

Numerous metal truss bridges were manufactured in Baltimore, the early industrial hub of bridge building activity in the state, from the 1850s through the 1880s. Among the early bridge builders in the 1850s and 1860s were former B&O employees, B.H. Latrobe and Wendell Bollman, founders of competing Baltimore bridge building companies. Historical research identified more than twenty-five bridge companies that built truss bridges in the state between 1850 and 1920. Among these were the Wrought Iron Bridge Company, King Iron Bridge Company, Patapsco Bridge and Iron Works, Baltimore Bridge Company, Pittsburg Bridge Company, Penn Bridge Company, Smith Bridge Company, Groton Bridge and Manufacturing Company, Roanoke Iron and Bridge Company, York Bridge Company, Vincennes Bridge Company, Bethlehem Steel Company, American Bridge Company.

The location of the Baltimore & Ohio Railroad, Baltimore bridge fabricators, and the urban needs of the city and its environs resulted in the erection of numerous early truss bridges in Baltimore and the surrounding area. Initially constructed for the railroads, their use quickly came to replace the earlier timber bridges on Baltimore roads.

From Baltimore, the use of the metal truss spread to other parts of the state, with County Commissioners in the Piedmont and Appalachian Plateau counties erecting numerous metal trusses from the 1870s to the early twentieth century.

Baltimore County Trends

Perhaps due to its proximity to Baltimore City and the city's importance for metal truss bridge building in Maryland, Baltimore County appears to have taken the lead among Maryland counties in erecting metal truss bridges at an early date, not always with the happiest of results. By 1868 the county apparently had erected an iron truss bridge in Phoenix, a bridge that met the same fate as so many in 1868 and was washed away by the floods of November (MD Journal 1868). Although metal trusses were more resistant to this sort of misfortune than the timber bridges they were beginning to replace, the loss of this bridge may have caused some second thoughts about the invincibility of metal trusses, for in 1874 the county solicited sealed proposals "for building an open wooden truss bridge, on the Burr Truss plan, over the Gunpowder Falls..." (Proposals for a Bridge 1874).

Despite this regression, there is a great deal of evidence that metal truss bridges were totally back in favor by the 1880s. A number of truss bridges were advertised in the 1870s and 1880s. As an example, in 1884 H.A. Nagle, Superintendent of Bridges for Baltimore County, advertised for sealed proposals for "a wrought iron Pratt truss bridge over the Big Gunpowder Falls". Nagle was very specific about what type of bridge the county wanted, stipulating that "parties tendering must furnish a clearly made out strain sheet of their design" for a "through bridge, consisting of one span 86 feet between masonry" with a roadway "12 feet wide in the clear and not less that 13 feet high in the clear" (Proposals for an Iron Bridge 1884).

Such advertisements attracted responses from a number of companies; one such advertisement for yet another bridge over Gunpowder Falls received bids from nine bridge companies, including The Penn Bridge Company, H.A. Ramsay and Sons, Pittsburg Bridge Company, the Wrought Iron Bridge Company, and the King Bridge Company. (Bids for an Iron Bridge 1888). Clearly, the Superintendent of Bridges was able to satisfy his requirements for metal truss bridges in Baltimore County.

Five extant metal truss bridges were identified in Baltimore County as a result of SHA's 1994-1995 historic bridge survey:

B-17, a single span Pratt truss built in 1879
B-18, a single span Pratt truss built in 1888
B-29, a single span Pratt truss built in 1893
B-45, a single span Pratt truss built in 1898
B-54, a single span Parker truss built in 1934

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?

Historical research indicates that this bridge was a new bridge at its location; thus it would have facilitated travel in this area of Baltimore County.

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 a rural area. On the south end of the bridge, approximately 700 feet from the bridge there is a stone house. Additional research may reveal evidence of a cluster of historic

structures/ archeological sites; research indicates ruins of an old stone dam, a millrace and ruins of a mill are located near the bridge.

Is the bridge a significant example of its type?
This bridge is a significant example of a wrought iron Pratt truss.

Does the bridge retain integrity of important elements described in Context Addendum?
The bridge has lost integrity of a number of its character defining elements, including the entire floor system, and isolated lower chords, verticals, and diagonals. The replaced members have been replaced with steel of compatible section and do not visibly detract from the historic appearance of the truss. Although a number of character-defining elements have been replaced on this truss, the replacement has been sensitive, the bridge retains enough of its integrity to represent its type, which is a rapidly diminishing resource type. This bridge retains integrity of location, design, setting, feeling and association.

Is the bridge a significant example of the work of a manufacturer, designer, and/or engineer?
The bridge is a significant example of the work of Thomas M. Nelson, head of several regionally significant bridge companies.

Gilbert & Nelson of Chambersburg, Pennsylvania was a version of Thomas M. Nelson's bridge companies. Thomas Nelson of Chambersburg, Pennsylvania was a civil engineer with a number of railroad companies from 1870 to 1875. He was known to have been involved in private practice with the following bridge companies or individuals: with A. Buchanan from 1883, Nelson & Buchanan 1891-1901, after 1901 changed to Nelson & Buchanan Company to include new partners; president of Pittsburg Bridge Company from 1896 to 1900. The years of operation as Gilbert & Nelson are not known.

Should the bridge be given further study before an evaluation of its significance is made?
Bridge B-17 is listed in the Maryland Historical Trust's Inventory of historic sites. No further study is recommended.

BIBLIOGRAPHY:
County inspection/bridge files X **SHA inspection/bridge files**
Other (list):
County survey files of the Maryland Historical Trust

Baltimore County Historical Society files

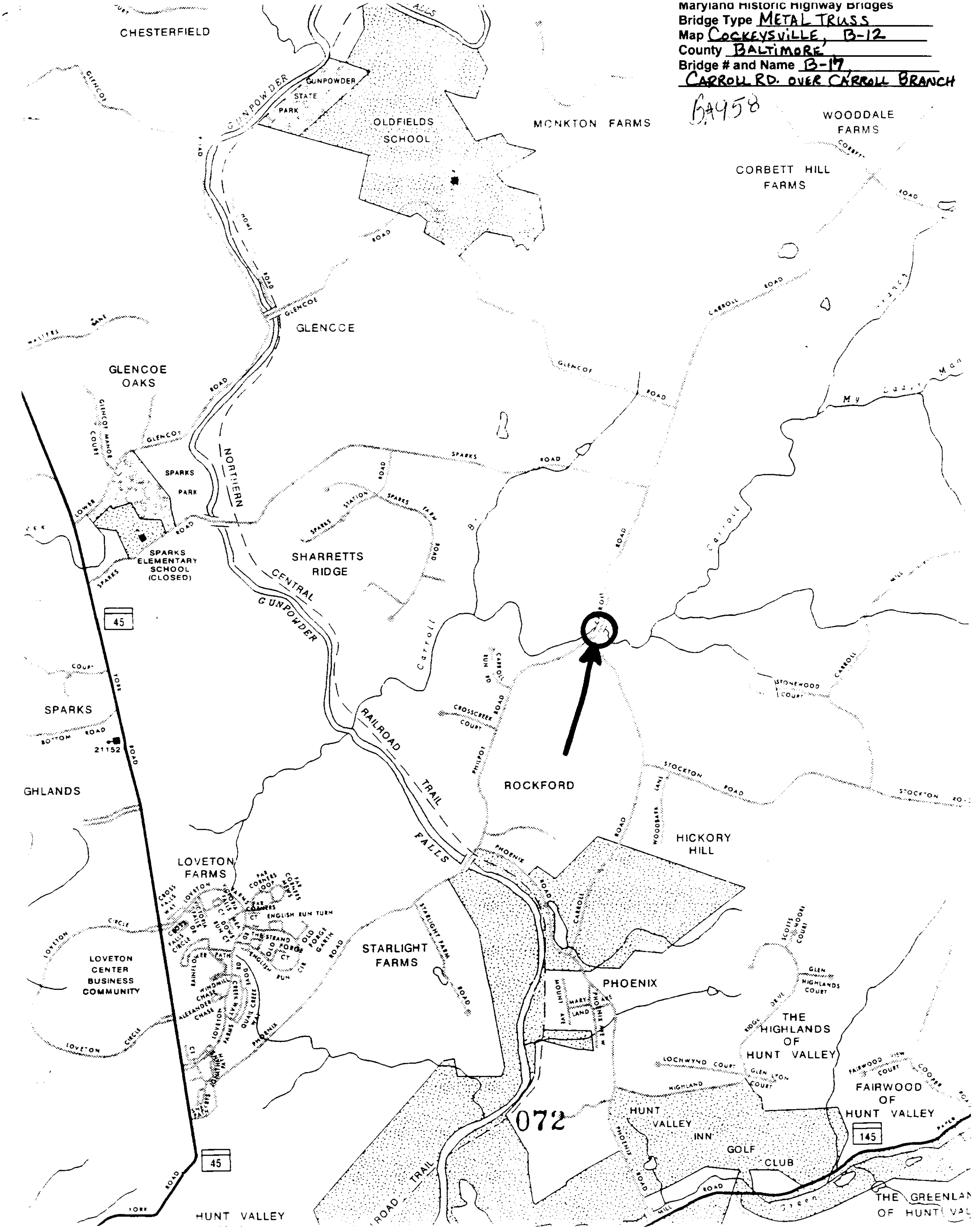
P.A.C. Spero & Company and Louis Berger & Associates, *Historic Highway Bridges in Maryland: Historic Context Report*. Prepared for the Maryland State Highway Administration.

SURVEYOR:
Date bridge recorded January 1996

Name of surveyor P.A.C. Spero/ C.R.Farr
Organization/Address P.A.C. Spero & Co., 40 W. Chesapeake Avenue, Suite 412, Baltimore, Maryland 21204

Phone number 410-296-1635 **FAX number** 410-296-1670

Maryland Historic Highway Bridges
Bridge Type METAL TRUSS
Map COCKEYSVILLE, B-12
County BALTIMORE
Bridge # and Name B-17, CARROLL RD. OVER CARROLL BRANCH
BA458



B-7 NORTH APPROACH 54

1) BA-958
2) Carrol Road over Carrol Branch
3) Baltimore
4) Colin Franz
5) Feb. 1996
6) P.A.C. Spero & Company, Towson MD 21204
7) Carrol Rd over Carrol Branch, North approach
8) 1 of 12

B17 SOUTH APPROACH 21

1) BF-751
2) Carrol Rd over Carrol Branch
3) Baltimore
4) Colin Jarvi
5) Feb. 1990
6) P.P.C. Spero & Company, Towson, MD 21204
7) Carrol Rd over Carrol Branch, South approach
8) 2 of 12

B17 WEST ELEVATION 31

1) BF-951
2) Carroll Rd. over Carroll Branch
3) Baltimore
4) Colin Jarvis
5) Feb. 1996
6) P.A.C. Spero & Company, Towson, MD 21204
7) Carroll Rd over Carroll Branch, west elevation
8) 3 of 12


WEIGHT
LIMIT
15T
22T
30T

F-1 NORTH PORTAL 35

1) BA-958
2) Carrol Rd over Carrol Branch
3) Baltimore
4) Colin Farr
5) Feb. 1996
6) P.A.C. Spero & Company, Towson, MD 21204
7) Carrol Rd. over Carrol Branch, North portal
8) 4 of 12

B17

25

1) BA-958
2) Carroll Rd. over Carroll Branch
3) Baltimore
4) Oden Tarr
5) Feb. 1996
6) P.A.C. Spence Company, Towson, MD 21204
7) Carroll Rd over Carroll Branch, South portal
8) 5 of 12

B17 BRIDGE PLATE 23

SOUTH PORTAL

1) BA-958
2) Carroll Rd. over Carroll Branch
3) Baltimore
4) Colin Farr
5) Feb. 1996
6) P.A.C. Spero & Company, Towson, MD 21204
7) Carroll Rd. over Carroll Branch Bridge plate South portal
8) 6 of 12

B17 ~~VERTICAL~~ 24

TRUSS Members

1) BA-958
2) Carrol Rd. over Carrol Branch
3) Baltimore
4) Colin Farr
5) Feb. 1996
6) P.A.C. Spero & Company, Towson, MD 21204
7) Carrol Rd over Carrol Branch, truss members
8) 7 of 12

B17 TOP CHORD 26

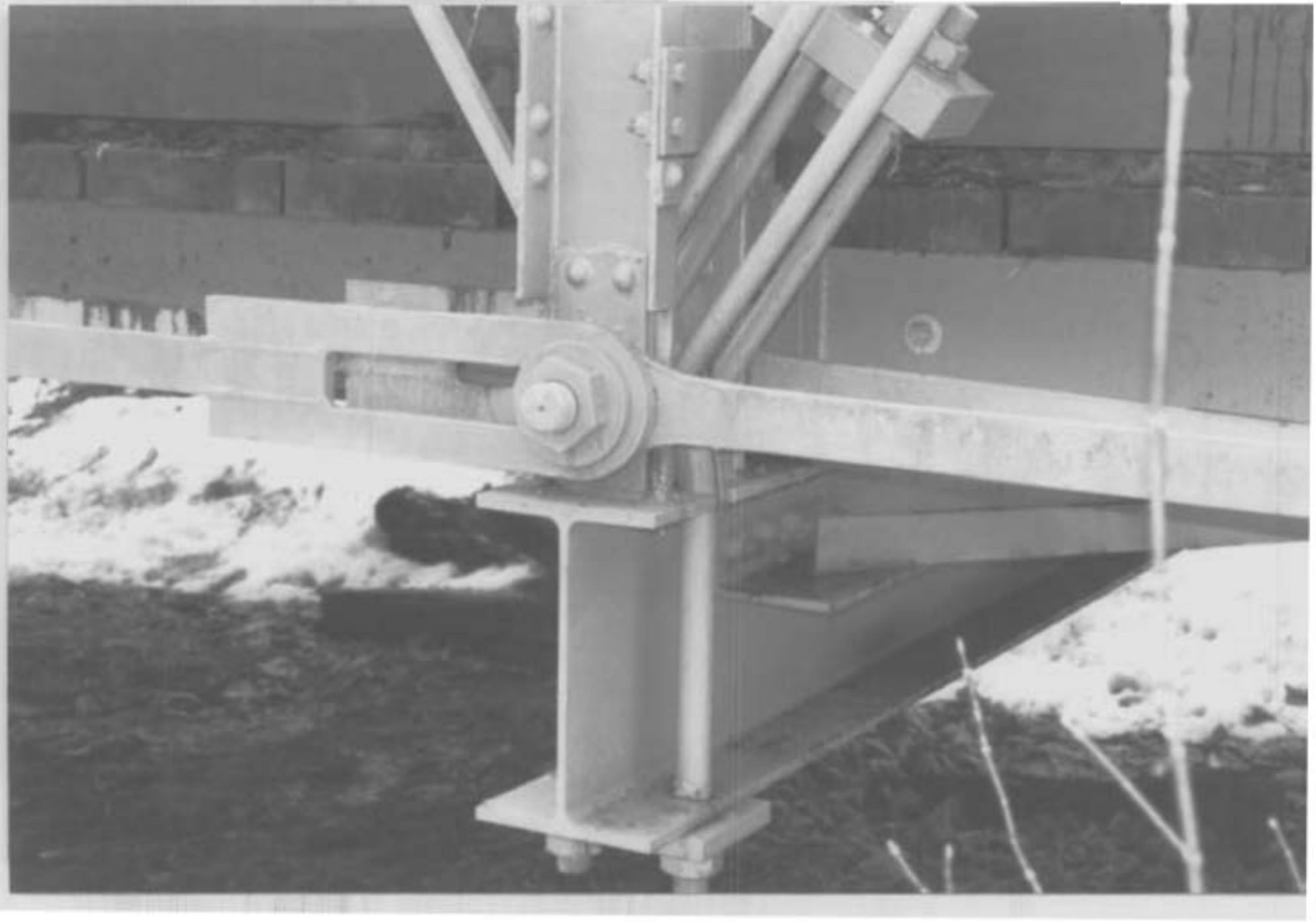
1) BA 958
2) Carrol Rd over Carrol Branch
3) Baltimore
4) Colin Falls
5) Feb 1993
6) P.A.C. Spans & Company, Towson, MD 21204
7) Carrol Rd over Carrol Branch top chord and lateral bracing
8) 8 & 12

B17 SOUTH ABUTMENT + 29
BOTTOM CHORD

1) BA-958
2) Carrol Rd. over Carrol Branch
3) Baltimore
4) Colin Jans
5) Feb. 1996
6) PAC, Jerré Company, Towson, MD 21204
7) Carrol Rd. over Carrol Branch South abutment and bottom chord.
8) 9 of 12

B17 BOTTOM CHORD & UNDER DECK

1) BR-958
2) Carrol Rd. over Carrol Branch
3) Baltimore
4) Colin Gaus
5) Jul 1996
6) P.A.C. Spero & Company Towson, MD 21204
7) Carrol Rd over Carrol Branch, bottom chord and underdeck
8) 10 of 2



B:T LOWER TIE CONNECTION 30

1) BA-958

2) Carrol Rd over Carrol Branch

3) Baltimore

4) Colin Fair

5) Feb. 1996

6) P.A.C. Spero & Company, Towson, MD 21204

7) Carrol Rd over Carrol Branch, Lower Pin Connection.

8) 11 of 12

B17 CROSS BRACE '55
+ CONNECTOR

1) BA-958
2) Carrol Rd over Carrol Branch
3) Baltimore
4) Colin Jaw
5) Jul. 1996
6) R.A.C. Sport & Camping, Towson, MD 21204
7) Carrol Road over Carrol Branch, lateral bracing and floor beam
8) 12 of 12

BA-958

Carroll Road Bridge over Carroll Branch
Gilbert & Nelson (1879)

Bridge # 17

CARROLL ROAD IRON BRIDGE BA 958

The blacksmith shop of John Hartman is shown at present intersection of Philpot and Carroll Roads in the "Tenth District" map of G. M. Hopkins' Atlas of Baltimore County, Maryland (Philadelphia, 1877)

"A New Bridge.--The County Commissioners advertise for proposals to build an iron bridge of one span 90 feet long over the Gunpowder River, at Hartman's Blacksmith shop, near Phoenix, in the 10th District."

--Maryland Journal, Towson, May 3, 1879

.... contract awarded by County Commissioners .... for iron bridge of 90-feet span at Phoenix .... over Gunpowder .... awarded to Gilbert & Nelson, Chambersburg, Pa. .... Baltimore American, May 28, 1879, p. 4

Order to pay Merryman & Dixon $30.52 "for cement used for bridge at Hartman's Shop, 10th District."

---Minutes of Proceedings, Co. Commissioners, Vol 4, f. 351 (Sept 9, 1879

The three county commissioners shown in the 1879 ledger are: William Carmichael, Edward W. Stiefel, and John H. Millender, the same names found on the bridge plaque in 1988.

Order by Commissioners, "That the Treasurer pay to Gilbert & Nelson one Thousand dollars on account of building Bridge at Hartman's Shop, 10th District."

---Minutes of Proceedings, Co. Commissioners, Vol. 4, f. 360 (Oct. 1, 1879)

Bridge Damages

. ... from storm ..... abutments at iron bridge over Carroll's Run .... one wing wall washed out ....

--Maryland Journal, Towson, July 30, 1898

Iron Bridge Washed Down

The heavy rain of Tuesday night, 2d inst., washed away the abutments of the iron bridge over Carroll's run, at Hartman's shops, 10th District, letting the bridge down in the stream. The bridge is pretty well wrecked, many of the bridge's irons being twisted and bent out of shape. The bridge was built by Gilbert and Nelson by contract with the County Commissioners, about eighteen years ago.

--Maryland Journal, August 6, 1898

Bridge Completed

B. Howard Mays, Superintendent of Bridges, reported to the County Commissioners that Thomas H. Berry had completed his contract for rebuilding an iron bridge at Hartman's Shop, near Phoenix. The cost of the bridge was $950.

--Maryland Journal, October 1, 1898

Box # 17

BA-958

Br #17

BA-958

Box # 17

BA-958


18

Box 17

BA-958

Bi # 17

BA-958

B-#17

BA-958

8" x 17"

BA-958