

MARYLAND HISTORICAL TRUST
DETERMINATION OF ELIGIBILITY FORM

NR Eligible: yes ___
no ___

Property Name: SHA Bridge No. 2112400, US 522/MD 144&Tonoloway Inventory Number: WA-HAN-349
Address: Warfordsburg Road (US 522) Historic district: ___ yes no
City: Hancock Zip Code: 21750 County: Washington
USGS Quadrangle(s): Hancock
Property Owner: State Highway Administration Tax Account ID Number: _____
Tax Map Parcel Number(s): _____ Tax Map Number: _____
Project: Reevaluation of Highway Bridges Statewide MD Agency: FHWA/MD SHA
Agency Prepared By: KCI Technologies, Inc.
Preparer's Name: Gail Walls Date Prepared: 10/16/2009

Documentation is presented in: Project Review and Compliance Files

Preparer's Eligibility Recommendation: Eligibility recommended ___ Eligibility not recommended

Criteria: ___ A ___ B C ___ D Considerations: ___ A ___ B ___ C ___ D ___ E ___ F ___ G

Complete if the property is a contributing or non-contributing resource to a NR district/property

Name of the District/Property: _____

Inventory Number: _____ Eligible: ___ yes Listed: ___ yes

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

Description of Property and Justification: *(Please attach map and photo)*

Description of Bridge

SHA Bridge No. 2112400 (MIHP No. WA-HAN-349) is located within the town of Hanover and carries US 522 over MD 144, Tonoloway Creek, and SHA Bridge No. 2112410 in Washington County. The bridge is situated within the Canal Place Certified Heritage Area.

Built in 1937, the 586 foot, four-span, is a plate deck girder with Wichert deck trusses supporting a concrete deck. A concrete parapet is located on the south side and a steel rail barrier on the north side; a sidewalk is also located along the north side of the deck. US 522 runs north-south and is classified as a Rural Principal Arterial-Other roadway. The current ADT is 11,242 while the projected 2026 ADT is 12,962; according to the 2008 SI&A report, BSR is 53.9.

Background

The Interagency Historic Highway Bridge Inventory Committee (HHBIC) considered the MIHP form in 1997 and subsequently

MARYLAND HISTORICAL TRUST REVIEW	
Eligibility recommended ___	Eligibility not recommended ___
Criteria: ___ A ___ B ___ C ___ D	Considerations: ___ A ___ B ___ C ___ D ___ E ___ F ___ G
MHT Comments: <i>Information purposes only - Bridge remains NR-eligible</i>	
<u><i>Don J. Anderson</i></u> Reviewer, Office of Preservation Services	<u>5/14/2010</u> Date
_____ Reviewer, National Register Program	_____ Date

determined Bridge No. 2104700 to be eligible for listing in the NRHP under Criterion C. The Maryland Historical Trust (MHT) concurred with the determination in 2001.

SHA Bridge No. 2112400 was re-evaluated for NRHP eligibility as part of the 2009 statewide re-evaluation of the eligible bridges in SHA's Historic Highway Bridge Inventory. SHA requested that KCI conduct research to gather information and provide additional analysis of each integrity and significance to supplement the original NRHP evaluation. As part of the re-evaluation of Bridge No. 2112400 in 2009, KCI conducted additional research at SHA's Office of Structures (OOS) to gather information on alterations or repairs made to the bridge prior to 1998. The following files at OOS were reviewed by the architectural historians: inspection files, repair history files, bridge plans, Bridge Inspection and Remedial Engineering (BIRE) worklist, and Structure Inventory and Appraisal (SI&A) reports. The Historic Highway Bridges in Maryland: 1631-1960: Historic Context Report, as well as A Context for Common Historic Bridge Types, NCHRP Project 25-25, Task 15, were both consulted in evaluating the bridge's historic significance. KCI also referenced each bridge's original Maryland Inventory of Historic Places (MIHP) form for information previously gathered on the bridge and as a measure of how the bridge's integrity has changed since 2001. KCI architectural historians visited the bridge to examine and document current conditions with field notes, digital photography, and black and white photography.

Evaluation and Justification

In the 1995 MIHP form for this bridge, it was noted that the structure underwent major rehabilitation of the deck and floor system in 1980; the deck was removed and replaced. However, the form considered these elements secondary and tertiary CDEs and that the primary CDEs had not been compromised during the rehabilitation. The MIHP form stated that the bridge could be considered a significant example of its type and should be compared among other bridges of its types; however, the MIHP form did not specifically indicate that the bridge may have had NRHP significance.

In 1995, the inspection report rated the superstructure 6. The stringers and floor beams had light rust; however, the floorbeams under the joints over the piers had severe rust for the entire length. The exterior girder had similar rust issues. Several bolts and rivets had broken off or were missing. The cover plates over the piers had small holes. Steel fatigue included cracks over the spacer plates over and cracks in Stringers 1 and 5.

According to the BIRE Engineer's Worklist, in 1996 the support angles of each Stringer 2 of Floorbeam 7 were replaced. The new angles that were used were matched to the existing materials.

Currently, the rust on the stringer and floorbeams is still extant; however, peeling paint was noted. The girders face issues of rusting, section loss, small holes, and peeling paint.

In 1995, the inspection report rated the substructure with a 7. The abutments had several areas of spalling with rust and exposed rebar. Transverse cracks were noted with rust stains in the cracking. Other deterioration observed in the abutments included delamination and fine vertical cracks. The abutment backwalls had some vertical and irregular cracking with efflorescence and some small rust spots. The wingwalls were in fair condition with vertical cracks filled with efflorescence.

During the 2009 field survey, it was observed that the north abutment has water stains, cracks, spalling, and exposed rebar; delamination was noted at the top. The south abutment has water stains, spalling, exposed rebar, delamination, and efflorescence. The piers have scaling and fine cracks.

MARYLAND HISTORICAL TRUST REVIEW

Eligibility recommended _____ Eligibility not recommended _____

Criteria: ___A ___B ___C ___D Considerations: ___A ___B ___C ___D ___E ___F ___G

MHT Comments:

Reviewer, Office of Preservation Services

Date

Reviewer, National Register Program

Date

The deck was rated 7 in 1995. The soffit had spalling and rusted rebar. Transverse crack and irregular cracks were noted on the outside of the fascia girders. Rusted rebar was noted at the floor beam ends. The concrete bridge railing had fine vertical cracks with light efflorescence and small areas of spalling at the gutter line and the floor beam. The metal bridge railing had small areas of rust on the bolts. The open joint at the north end of the deck was damming 2". Several, short transverse cracks were noted on the south end of the deck.

During the 2009 fieldview, the concrete deck had several spalls and cracks; spalling was noted in a few areas. The metal railing has small areas of light rust noted on the bolts. The concrete railing has vertical cracking, spalling, and exposed rebar at the northwest corner. Cracking and delamination was noted on the exterior of the north railing. The 2009 field visit also observed the plaques that were noted in the MIHP form were no longer on the bridge. Furthermore, a broken expansion joint was located on the northwest corner of the railing.

Two other Wichert Truss bridges are located in Washington County. One of these, SHA Bridge No. 2101000 (US 40 over Licking Creek), was determined a priority for preservation bridge in SHA's Historic Bridge Inventory and retains a higher degree of integrity. Although work was completed in 2006 on SHA Bridge No. 2101000, the work was sympathetic to the historic fabric of the bridge and included metal railing and Art Deco endposts.

Nonetheless, SHA Bridge No. 2104300 (US 522 over Potomac River, CSX, and C&O Canal) is an eligible bridge that has had similar repairs as SHA Bridge No. 2112400, including the deck replacement in 1980, as well similar replacement of the parapets and repair work to the superstructure. The integrity of SHA Bridge No. 2112400 is practically identical to that of SHA Bridge No. 2104300. The primary CDEs, the trusses are in good condition and retain a high degree of integrity of materials, workmanship, and design giving the feeling and association of an early twentieth century truss bridge. Therefore, SHA Bridge No. 2112400 is recommended eligible for listing in the National Register of Historic Places under Criterion C as an example of a Wichert Truss bridge.

Additional research indicates that the bridge is not associated with any known event of local, regional, or national significance (Criterion A), or any known person of local, regional, or national significance (Criterion B). Criterion D was not evaluated as part of the historic standing structures studies for this project.

Bibliography

National Cooperative Highway Research Program. Transportation Research Council. National Research Council. Prepared by Parsons Brinkerhoff and Engineering and Industrial Heritage. A Context for Common Historic Bridge Types. NCHRP Project 25-25, Task 15. 2005.

Spero, P.A.C. and Company and Louis Berger & Associates. Historic Highway Bridges in Maryland: 1631-1960: Historic Context Report. Prepared for Maryland State Highway Administration. July 1995. Revised October 1995.

MARYLAND HISTORICAL TRUST REVIEW

Eligibility recommended _____ Eligibility not recommended _____

Criteria: ___A ___B ___C ___D Considerations: ___A ___B ___C ___D ___E ___F ___G

MHT Comments:

Reviewer, Office of Preservation Services

Date

Reviewer, National Register Program

Date

MIHP No. WA-HAN-349
SHA Bridge No. 2112400
US 522 over MD 144 and Tonoloway Creek
Washington County, Maryland

Photograph Log

Image File Name	Description of View
WA-HAN-349_2009-02-23_01.tif	East elevation, facing west
WA-HAN-349_2009-02-23_02.tif	East elevation, facing northeast
WA-HAN-349_2009-02-23_03.tif	Underside of bridge showing girder/trusses
WA-HAN-349_2009-02-23_04.tif	Bridge pier, facing south
WA-HAN-349_2009-02-23_05.tif	Bridge deck, facing south
WA-HAN-349_2009-02-23_06.tif	North approach, facing south
WA-HAN-349_2009-02-23_07.tif	Abutment on south side of bridge, facing south
WA-HAN-349_2009-02-23_08.tif	SHA Bridge No. 212410, facing north

Printed on Epson Premium Photo Paper Glossy with Epson UltraChrome Black Ink

Saved on Verbatim UltraLife Archival Grade DVD-R, AZO recording dye



WA- HAN-349

SHA Bridge No 2112400- US 502 over MD 144 Tenley Creek
Washington County, MD

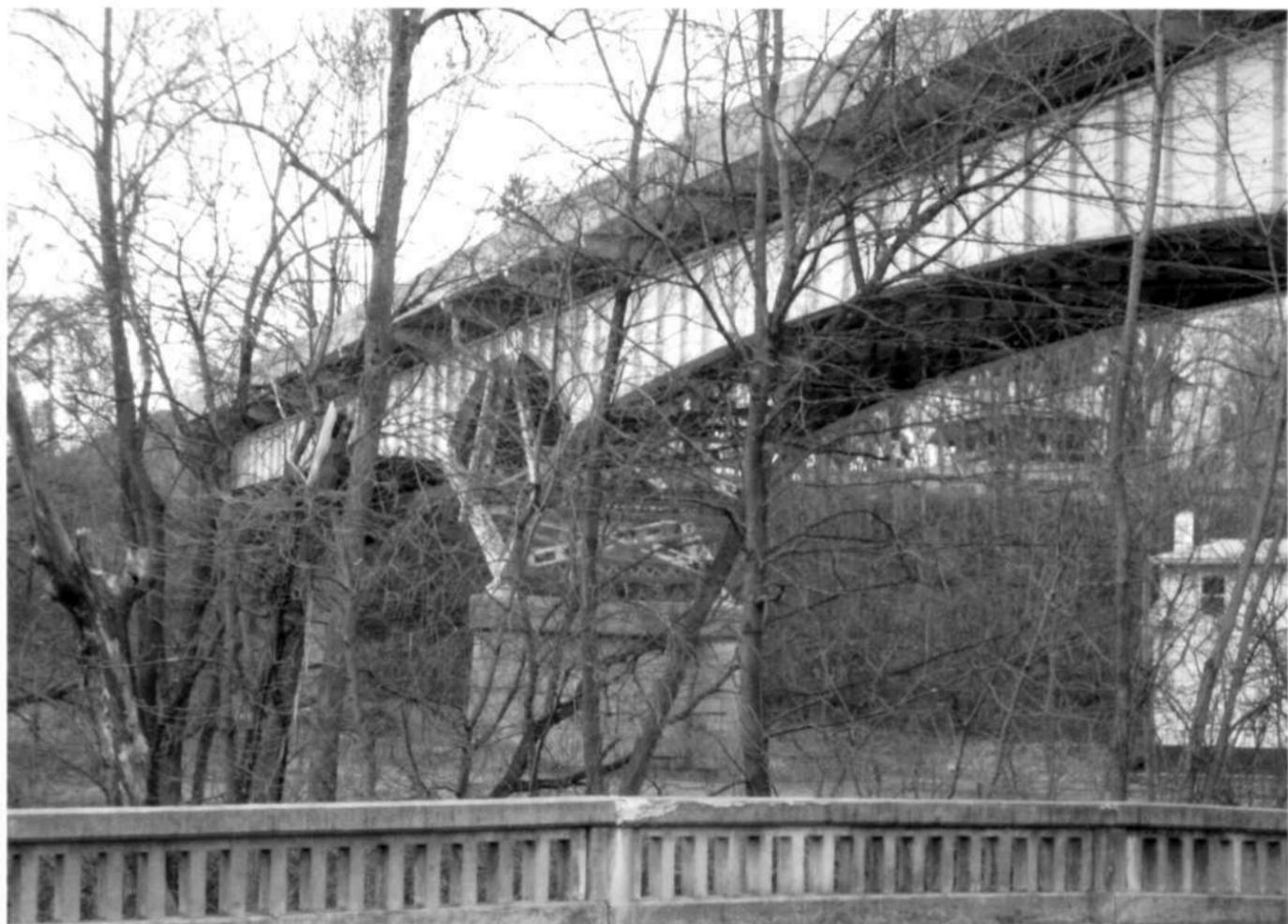
Jimmy Skocit

February 23, 2009

MD SHPO

East elevation facing west

1/8



WA-HAN-349

SHA Bridge No 2112400- VS 522 over MD 144 Fordway
Creek

Washington County, Maryland

Jimmy Skocik

February 23, 2009

MD SHAPO

East elevation facing northeast

2/9



WA-HAN-349

SHA Bridge No.

Washington County,

Jimmy Skocik

February 23, 2009

MD SHPD

Underside showing girders/trusses
3/8

2112400 - US 522 over MD 144 Tanolaway Creek
Maryland



LITTLE TONOLOWAY
CREEK

DOLLAR GENERAL

WA - HAN - 349

SHA Bridge No 2112400 - US 582 over MD 144
Tonoloway Creek

Washington County Maryland

Jimmy Skoeik

February 23, 2009

MD SHPO

Pier of bridge facing south

4/8



WA-HAN-349

SHA Bridge No 2112400 - US 502 over MD 214

Tonoloway Creek

Washington County, Maryland

Jimmy Skock

February 23, 2009

MD SHAPO

Deck of bridge facing south

S/S



WA - HAN - 349

SHA Bridge No 2112400 - US 522 Over MD 144,
Tonoloway Creek

Washington County, Maryland

Jimmy Skocik

February 23, 2009

MD SHA

North approach of bridge facing south
US



SPEED
LIMIT
25

WA-HAN-349

SHA Bridge No 2112400 - US 522 over MD 144

Tonoloway Creek

Washington County, Maryland

Jimmy Skrcik

February 23, 2009

MD SHPO

Abutment on southside of bridge facing south

7/8



WA-HAN-349

SHA Bridge No 2112400- US 520 over MD 14,
Tonoloway Creek

Washington County, Maryland

Jimmy Skocik

February 23, 2009

MD SHPO

SHA Bridge No 2112410 facing north
1/8

Maryland Historical Trust

Maryland Inventory of Historic Properties number: ~~DAWA~~ - HAN-349

Name: USSZZ over MD 144 & Jonesloway Crk

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>

Handwritten signature

Handwritten checkmark

Maryland Inventory of Historic Properties
Historic Bridge Inventory
Maryland State Highway Administration
Maryland Historical Trust

MHT Number WA-HAN-349

Name and SHA No. US 522 over MD 144 and Tonoloway Creek/21124 (2112410)

Location:

Street/Road Name and Number: US 522

City/Town: Hancock Vicinity

County: Washington

Ownership: State County Municipal Other

This bridge projects over: Road Railway Water Land

Is the bridge located within a designated district: yes no

NR listed district NR determined eligible district

locally designated other

Name of District

Bridge Type:

Timber Bridge

Beam Bridge Truss-Covered Trestle

Timber-and-Concrete

Stone Arch

Metal Truss

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 Concrete Arch Concrete Slab Concrete Beam Rigid Frame Other Type Name _____**Description:**

Describe Setting: Bridge 21124 (2112410) carries US 522 over MD 144 and Tonoloway Creek in Washington County, Maryland. US 522 runs north-south at this location; Tonoloway Creek and MD 144 run east-west. The bridge is located in an urban setting, with 19th and 20th century structures in view.

Describe Superstructure and Substructure: Bridge 21124 (2112410) is a four span combination riveted plate girder and steel truss, with a concrete deck. There is a concrete and steel rail barrier wall on both sides of the entire length of the deck, and there are W-beam guardrails on both sides of both approaches. The substructure is three steel beam rhomboid trusses resting atop 3 concrete piers, and concrete abutments and wing walls.

Discuss Major Alterations: This structure was rehabilitated in 1980. At this time the deck was removed and replaced, and the barrier wall and guardrails were replaced. There were also repairs made to the beams, piers and abutments.

History:**When Built:** 1937**Why Built:** local transportation needs**Who Built:** State Roads Commission**Why Altered:** structural and safety improvements**Was this bridge built as part of an organized bridge building campaign:** yes**Surveyor Analysis:****This bridge may have NR significance for association with:** A Events B Person C Engineering/Architectural**Was this bridge constructed in response to significant events in Maryland or local history:** no**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:** no

Is the bridge located in an area which may be eligible for historic designation and would the bridge add to or detract from historic and visual character of the possible district:no

Is the bridge a significant example of its type:It is possible that this bridge may be considered a significant example of a combination plate girder and deck truss bridge, and should be compared to other local examples of its type.

Does the bridge retain integrity of the important elements described in the Context Addendum:There were major alterations made to the deck and floor system, considered secondary and tertiary CDE's, in 1980. Other than these modifications, there is no indication that any of the other important elements of the original structure have been altered. Therefore, the substructure may retain its integrity.

Is the bridge a significant example of the work of the manufacturer, designer, and/or engineer and why:This bridge may be considered a significant example of the work of the State Roads Commission in the early 20th century, because of it's unique substructure construction. It should be compared to other local examples of its type.

Should this bridge be given further study before significance analysis is made and why:This bridge warrants further study before determination as to it's integrity can be made.

Bibliography:

Greiner, Inc.

1995 Historic Bridge Inventory Form.

Spero, P.A.C. & Company, and Louis Berger & Associates

1994 Historic Bridges in Maryland : Historic Bridge Context.

State Highway Administration

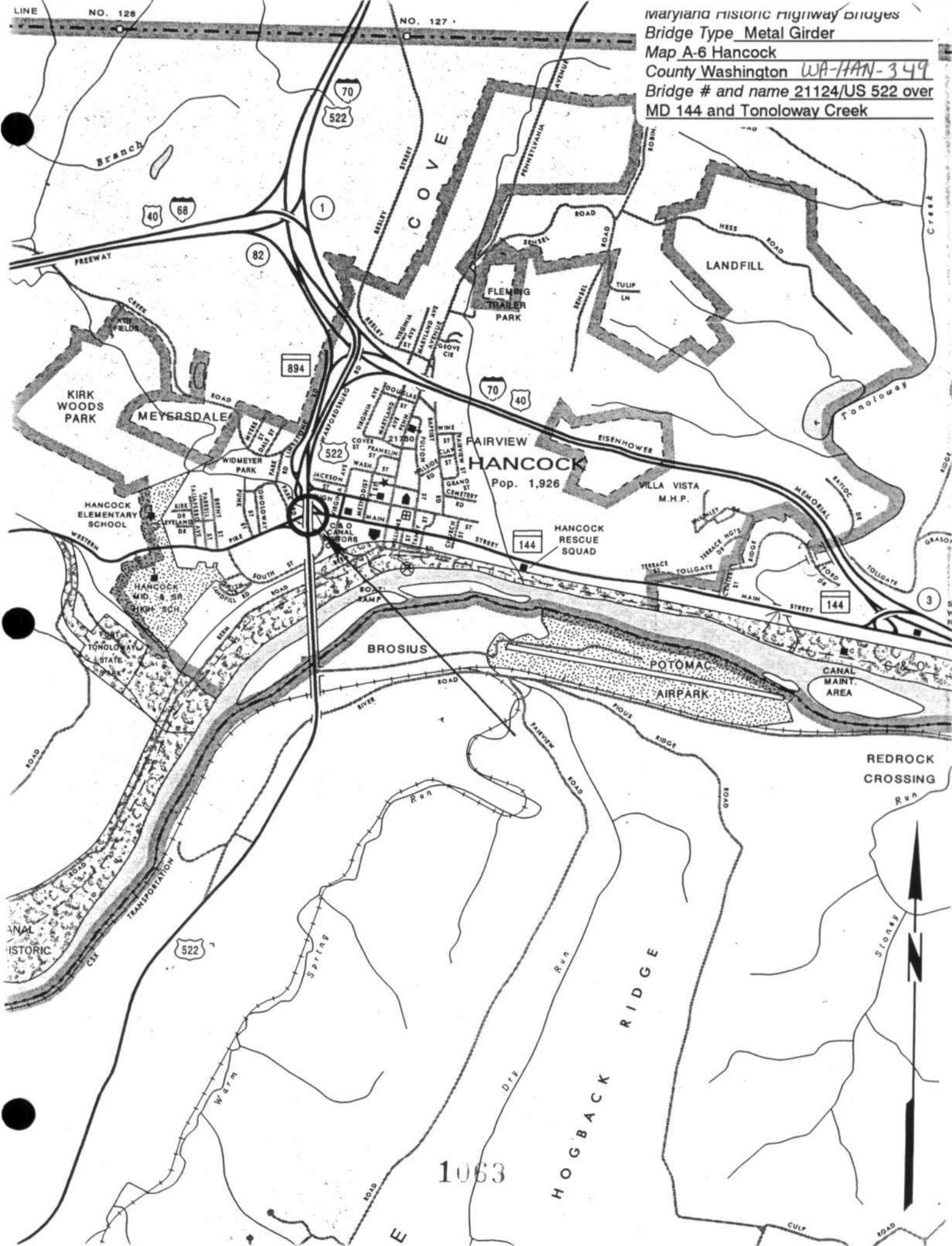
v.d. Bridge Inspection Files.

United States Geological Survey

1951 7.5' Hancock Quadrangle, photorevised 1971.

Surveyor:**Name:** Stephanie L. Bandy **Date:** September 1995**Organization:** State Highway Admin. **Telephone:** (410) 321-2213**Address:** 2323 West Joppa Road Brooklandville, MD 21022

Maryland Historic Highway Bridges
Bridge Type Metal Girder
Map A-6 Hancock
County Washington WA-HAN-349
Bridge # and name 21124/US 522 over
MD 144 and Tonoloway Creek



1063

RED ROCK CROSSING





WA-HAN-349 (BR# 2112410) 21124

OVER MD 144 AND TONOLOWAY CREEK

WASHINGTON CO., MD

CHARLES ZIEGLER

2/22/95

S.H.A

EAST ELEVATION FROM NORTH LOOKING
SOUTH

2 OF 5



WASHAN. 349

(BR# 2112410) 21124

OVER M.D. 144 AND TONDLOWAY CREEK

WASHINGTON CO., MD.

CHARLES ZILGLER

2/22/95

S. H. A.

EAST ELEVATION FROM SOUTH
LOOKING NORTH

1 OF 6



WATHAN-3A9 (BR#2112410) 2/1/24

OVER MD 149 AND TONOLOWAY CREEK

WASHINGTON CO MD.

CHARLES ZIEGLER

2/22/95

S. H. A.

WEST ELEVATION FROM SOUTH

LOOKING NORTH

3 OF 6



WA-HAM-349 (ER # 2112410) 2/1/24

OVER MD 144 AND TONOLOWAN CREEK
WASHINGTON CO. MD.

CHARLES ZIEGLER

2/22/95

S. H. A.

WEST ELEVATION FROM NORTH
LOOKING SOUTH

4 OF 6



WA-PLAN-347 (BR# 2112410) 21124

OVER MD 144 AND TONOLOWAY CREEK

WASHINGTON CO., MD

CHARLES ZIEGLER

2/22/95

S. H. A

NORTH APPROACH

5 OF 6



NORTH

52

SUNGLICK

WA-HAN-349 BR# 2112410) 21124

OVER MD 144 AND TONOLOWAY CREEK

WASHINGTON CO., MD.

CHARLES ZIEGLER

2/22/95

S. H. A.

SOUTH APPROACH

6 OF 6