

**MARYLAND HISTORICAL TRUST  
DETERMINATION OF ELIGIBILITY FORM**

NR Eligible: yes   
no

Property Name: SHA Bridge No. 0304000, US 40 over Red House Creek Inventory Number: BA-2668

Address: Pulaski Highway (US 40) New Philadelphia Road Historic district:  yes  no

City: Rosedale Zip Code: 21237 County: Baltimore County

USGS Quadrangle(s): Baltimore East

Property Owner: State Highway Administration Tax Account ID Number: \_\_\_\_\_

Tax Map Parcel Number(s): \_\_\_\_\_ Tax Map Number: \_\_\_\_\_

Project: Reevaluation of Highway Bridges Statewide Agency: FHWA/MD SHA

Agency Prepared By: KCI Technologies, Inc.

Preparer's Name: Alison Ross 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)*

Bridge No. 0304000 (MIHP No. BA-2668) is a single-span, 4-lane concrete beam bridge that carries US 40 over Red House Creek in southeastern Baltimore County. Constructed in 1934, the bridge is covered by a 5-inch bituminous overlay on top of the original concrete deck. The substructure consists of concrete abutments and wingwalls. Wooded areas immediately surround the bridge; however, residential and commercial development is on both sides of US 40. The 2006 Average Daily Traffic (ADT) count is 34,950 and the future 2026 ADT is 40,297. The bridge's function class is an Urban Other Principal Arterial.

**Background**

The first evaluation of SHA Bridge No. 0304000 was completed in 1995, for which a Maryland Inventory of Historic Properties (MIHP) form was completed. The Interagency Historic Highway Bridge Inventory Committee (HHBIC) considered the MIHP form in 1996 and subsequently determined Bridge No. 0304000 to be eligible for listing in the National Register of Historic Places (NRHP). The Maryland Historical Trust (MHT) concurred with the determination in 2001.

<b>MARYLAND HISTORICAL TRUST REVIEW</b>	
Eligibility recommended <input type="checkbox"/>	Eligibility not recommended <input checked="" 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
MHT Comments: <i>lost int equity</i>	
<u><i>Jin Jankunas</i></u> Reviewer, Office of Preservation Services	<u>5/14/10</u> Date
<u><i>B. Kintz</i></u> Reviewer, National Register Program	<u>5/18/10</u> Date

SHA Bridge No. 0304000 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 of the bridge's integrity and significance to supplement the original NRHP evaluation. As part of the re-evaluation, a KCI historian conducted research at SHA's Office of Structures (OOS) to gather additional information on the bridge including alterations and repairs that have been made to the structure between the years of 1995 to 1998. The following document were reviewed by the KCI architectural historian: inspection files, repair history files, bridge plans, the Bridge Inspection and Remedial Engineering (BIRE) Worklist, and the Structure Inventory and Appraisal (SI&A) reports. A KCI architectural historian visited the bridge to examine and document current conditions with field notes, digital photography, and black and white photography. In order to re-evaluate the bridge's historic significance and NRHP eligibility, the following documents were used: the original MIHP form, Historic Highway Bridges in Maryland: 1631-1960: Historic Context Report and A Context for Common Historic Bridge Types, NCHRP Project 25-25, Task 15.

Evaluation and Justification

Upon re-evaluation, it again appears that, while the bridge retains all of the CDEs, its integrity of material, design, and workmanship has been compromised through loss of material and deterioration. According to the SI&A Report, the Bridge Sufficiency Rating (BSR) is 76.4.

Since the first evaluation, the condition ratings for the deck decreased from 6 in 1996 to a 4 in 1997. Deck repairs completed along the base of the parapets and in the center of the roadway on an emergency priority basis in 1997 raised the condition rating to a 6, but it was again reduced in 2005 to a 5. Deck repairs were made again in 2007 due to deterioration.

The superstructure and substructure have retained their ratings of 5. Research of the bridge inspection reports and BIRE Worklist shows that the bridge's superstructure has exhibited deteriorated areas, especially on the soffit and parapet.

During field survey in 2009, extensive deterioration was apparent on the superstructure. It was evident that the northern fascia had been patched many times and that the parapet walls were in a deteriorated state. Extensive spalling was visible on the exterior and interior curbs, and a section of curb and a section of cap were missing. The northern parapet had exposed rebar on 2 balusters, and 9 of the balusters had spalled and missing concrete as well. The northern parapet wall also had 2 replaced cap sections, and the other cap sections were misaligned. On the southern parapet, the middle section was severely damaged from an impact, with a missing cap and broken balusters. Two other balusters appeared to be patched. Field survey has confirmed that guardrails have been installed in front of both walls and that the original design of the parapet walls is obscured by them.

The current condition rating for the substructure is 5, and it has exhibited deterioration as well. The previous evaluation mentions that there is deep vertical and diagonal cracking and that 2 of the wingwalls have become misaligned. Research into the bi-yearly bridge inspection report files has confirmed the presence of the longstanding wingwall problem. According to the BIRE Worklist, the northeastern wingwall was entirely replaced in 1997. The other abutments are in fair condition, with scaling concrete.

The 1995 MIHP form stated that the bridge has not retained integrity because of the deteriorated state of its character defining elements (CDEs). It also stated that the physical integrity of the bridge's balusters may have been compromised through insensitive replacement; however during the field survey it was noted that the balusters have not been replaced. The 2009 field survey also noted several sections of the parapet cap had been replaced, using a smoother, lighter concrete than the original material. The 2009 re-evaluation agrees with the MIHP form and has found that although the bridge retains the majority of its primary CDEs, deterioration of the original materials and traffic damage have compromised the integrity of design, materials, and

<b>MARYLAND HISTORICAL TRUST REVIEW</b>	
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

workmanship of the original bridge. The integrity of setting, location, and association of the bridge has not changed and remain good. The overall feeling of the bridge is poor due to the deteriorated condition of the structure.

This re-evaluation agrees with the MIHP form and recommends that SHA Bridge No. 0304000 is not eligible for listing in the NRHP. It is not a significant example of its type, because the bridge was constructed using 1930s standardized plans by the State Roads Commission. The bridge's design is neither unique nor exceptional, and there are many other examples of the bridge type in the state. According to Historic Highway Bridges in Maryland: 1631-1960: Historic Context Report, the reinforced concrete, T-beam design and construction used for Bridge No. 0304000 was used widely in standardized bridges across the United States by 1920. By the 1930s the T-beam Bridge was widely used throughout Maryland using standardized plans updated throughout the 1930s by the State Roads Commission. In the 1920s and 1930s, the T-beam became the most frequently designed structure on Maryland's highways because the standardized plan allowed the engineers to design many similar structures for different water crossings around the state. As a result, it is a common and ubiquitous resource that does not embody distinctive characteristics, represent the work of a master architect or engineer, or possess high artistic values. Therefore, Bridge No. 0304000 is not eligible for NRHP-listing under Criterion C. Although located on Maryland's New Philadelphia Road, the bridge is not associated with known events of local, regional, or national significance (Criterion A) or with known persons of local, regional, or national significance (Criterion B). Observation of the surrounding neighborhood has revealed that there is not a historic district adjacent to or in the vicinity of the bridge, and it is unknown whether a linear historic district along the New Philadelphia Road exists. Criterion D was not evaluated as part of the historic standing structures studies for this project.

**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. BA-2668  
SHA Bridge No. 0304000  
US 40 over Red House Creek  
Baltimore County, Maryland

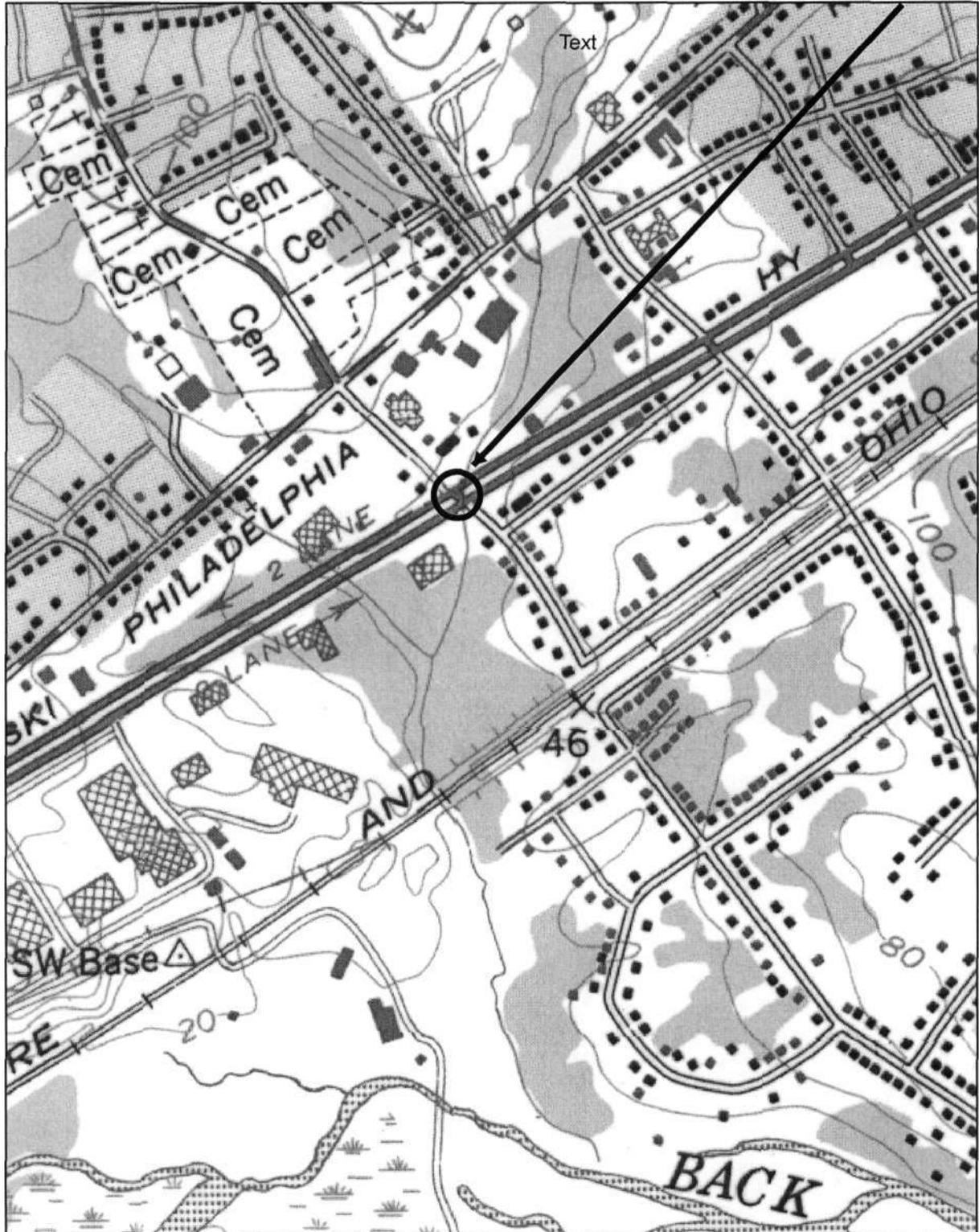
### Photograph Log

Image File Name	Description of View
BA-2668_2009-02-06_01.tif	Northwestern elevation, facing southeast
BA-2668_2009-02-06_02.tif	Southeastern elevation, facing southwest
BA-2668_2009-02-06_03.tif	Close-up of southeastern parapet, facing northeast
BA-2668_2009-02-06_04.tif	Exposed rusted rebar on northern parapet, facing northwest
BA-2668_2009-02-06_05.tif	Exposed rusted rebar on bottom of girder, facing southeast
BA-2668_2009-02-06_06.tif	Northwestern wingwall, facing northeast

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

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

BA-2668  
SHA Bridge 0304000  
HWY 40 over Little Gunpowder Falls  
Baltimore  
Baltimore East Quad  
Baltimore County





MIHP BA-2668

SHA BRIDGE NO. 030400, US HO OVER RED HOUSE CREEK  
BALTIMORE COUNTY, MD

JAMES SKOUK

2/6/09

MD SHPO

NORTHWESTERN ELEVATION, FACING EAST

SOUTH

^

# 1 OF 6



MIHP BA-2668

SHA BRIDGE NO. 030400, US 40 OVER RED HOUSE CREEK  
BALTIMORE COUNTY, MD

JAMES SKOK

2/6/09.

MD SHPO

SOUTHEASTERN ELEVATION, FACING <sup>SOUTH</sup>  
WEST

#2 of 6



MHP. BA - 2668

SHA BRIDGE NO. 030400, US 40 OVER RED HOUSE CREEK

BALTIMORE COUNTY, MD.

JAMES SKOCH

2/6/09

MD SHPO

CLOSE-UP OF SOUTHEASTERN PARAPET, FACING NE

# 3 OF 6



MIHP BA-2668

SHA BRIDGE NO. 030400, US 40 OVER RED HOUSE CREEK  
BALTIMORE COUNTY, MD

JAMES SKOCIK

2/6/09

MD SHPO

EXPOSED RUSTED REBAR ON NORTHERN PARAPET,  
FACING NORTHWEST

# 4 of 6



MIHP BA-2668

SHA BRIDGE NO. 030400, US 40 OVER RED HOUSE CREEK  
BALTIMORE COUNTY, MD

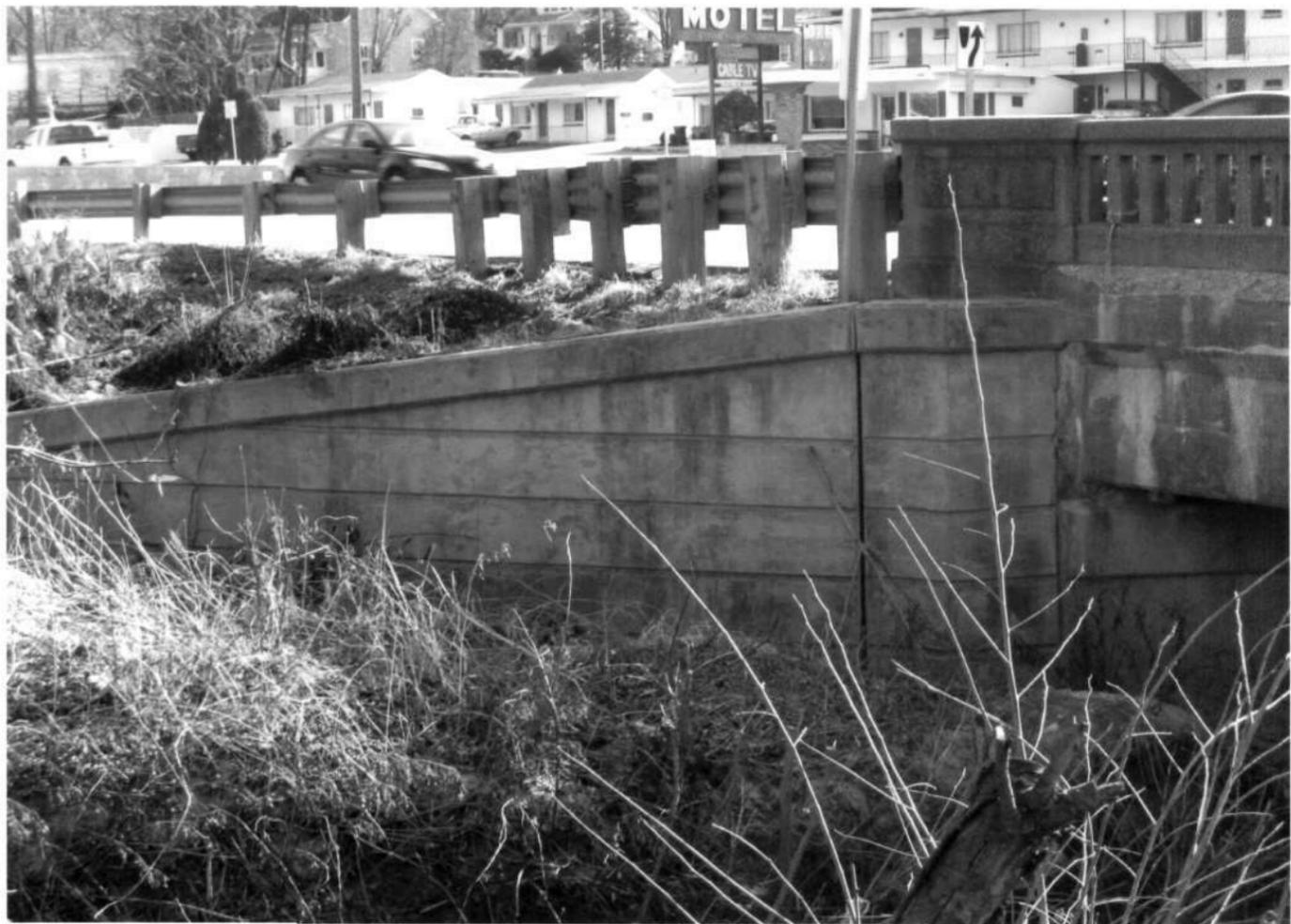
JAMES SKOLIK

2/6/09

MD SHPO

EXPOSED RUSTED REBAR ON BOTTOM OF GIRDER,  
FACING SE

# 5 of 6



MHP BA-2668

SHA BRIDGE NO. 030400, US 40 OVER RED HOUSE CREEK  
BALTIMORE COUNTY, MD

JAMES SKOCIK

2/6/09

MD SHPO

Northwestern wingwall, facing NE

# 6 of 6

Maryland Historical Trust

Maryland Inventory of Historic Properties number: BA-2668

Name: #3040/US40 over Red House Creek

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"/> X	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>

*Amy*

MARYLAND INVENTORY OF HISTORIC PROPERTIES  
HISTORIC BRIDGE INVENTORY  
MARYLAND STATE HIGHWAY ADMINISTRATION  
MARYLAND HISTORICAL TRUST

MHT NO. BA-2668

NAME AND SHA NO.: 3040

LOCATION

Road Name and Number: US 40 over Red House Creek

City/Town: Rosedale  vicinity

County: Baltimore

Ownership:  State  County  Municipal  Other

Bridge projects over:  Road  Railway  Water  Land

Is bridge located within 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 Bridge

Metal Truss Bridge

Moveable 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 the Setting:**

Located in Maryland's Tidewater physiographic province, Bridge 3040 carries US 40 over Red House Creek in southeastern Baltimore County near the settlement of Rosedale. US 40 spans the primarily southerly-flowing Red House Creek in a northeast to southwest direction. Although wooded areas flank both sides of the creek, residential and commercial buildings erected after the completion of this portion of US 40 in 1935 border both sides of the bridge.

**Describe the Superstructure and Substructure:  
(Discuss points identified in Context Addendum, Section C)**

A concrete beam bridge composed of a single 36-foot span with a total length of 40 feet, Bridge 3040 possesses an 80½-foot clear roadway covered by a five-inch bituminous overlay atop the original concrete deck. The bridge carries four lanes of traffic and a paved median flanked by pierced balustrades. W-beam traffic barriers shield the bridge approaches. The bridge's substructure consists of concrete abutments and wing walls.

Much of the bridge displays spalling of concrete surfaces, cracking and efflorescence. A five-foot section near the center of girder G1's span exhibits a full-width, three-inch deep spall exposing reinforcing bar in addition to random longitudinal and horizontal cracking and efflorescence. Girders G6 through G11 display edge spalling and longitudinal cracks as well as stalactites and efflorescence. G6 also possesses a 20-foot long spall along its bottom surface exposing concrete aggregate and rusting tension bars. The balustrades also show spalling and exposed reinforcing members. Both abutments and wing walls have deep vertical and diagonal cracking and surface erosion. The northeast and southwest wing walls have also become misaligned by over five inches.

A survey of historic concrete beam bridges undertaken by the Maryland State Highway Administration in the Fall of 1995 identified 113 bridges of that type located throughout the state. Slightly more than two-thirds (76) of that total were single-span bridges.

**Discuss major alterations:**

A search of State Highway Administration records and State Roads Commission reports has not indicated that any major alterations to Bridge 3040 have occurred. A 1975 inspection report noted that four balusters had been knocked out of a balustrade. However, current photographs do not illustrate any missing balusters.

### HISTORY

**When Built:** 1934

**Why Built:** Initial construction of New Philadelphia Road, now US 40.

**Who Built:** State Roads Commission

**Who Designed:** Unknown

**Why Altered:** Balusters knocked out circa 1975 may have been replaced.

**Was this bridge built as part of an organized bridge building campaign?:** Yes.

During the early 1930s, the State Roads Commission built a 30-mile, dual-lane divided highway linking Baltimore and Aberdeen. Designed to alleviate traffic congestion along the much-traveled Philadelphia Road (current MD 7) tracing much of the original, Colonial era road between Baltimore and Philadelphia, the New Philadelphia Road became Maryland's principal new construction effort of the 1930s. Erected on an entirely new alignment bypassing established towns and railroad crossings, the New Philadelphia Road became known as the Pulaski Highway and now forms part of current US 40. Construction of a bridge spanning the Susquehanna River at Havre de Grace and the extension of the New Philadelphia Road further east to the Delaware state line occurred after completion of the Baltimore-Aberdeen section in 1935. Bridge 3040 formed part of the Baltimore-Aberdeen section of the New Philadelphia Road.

### SURVEYOR ANALYSIS

**This bridge may have NR significance for association with:**

A (Events)    B (Person)    C (Engineering/Architectural Character)

**Was this bridge constructed in response to significant events in Maryland or local history?**

Erected in 1934, Bridge 3040 formed part of the New Philadelphia Road built in response to increased automobile use on state roads and the growing inadequacy of the original road system improved by the State Roads Commission (SRC) to handle larger traffic volumes. The SRC's major building effort during the 1930s, and one of the first on a new alignment designed to bypass towns and railroads slowing traffic movement, construction of the road marked a transition from the improvement of earlier roads and turnpikes characterizing the SRC's operations during the early twentieth century to an organization of highway and transportation planners.

**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?**

Construction of the New Philadelphia Road provided entry to previously less-accessible areas of southeastern Baltimore and Harford counties and had a significant impact on the area's subsequent development. Bridge 3040 participated in this general trend.

**Is the bridge located in an area which may be eligible for historic designation, and would the bridge add or detract from the historic and visual character of the possible district?**

Bridge 3040 may contribute to a potential historic district encompassing resources related to development along US 40 after construction of the New Philadelphia Road.

**Is the bridge a significant example of its type?**

No, this bridge is not a significant example of its type. Many of the character defining elements are in a deteriorated state. In addition, the physical integrity of the bridge's balusters may have been compromised through insensitive replacement.

**Does the bridge retain integrity of the important elements described in the Context Addendum?**

No, this bridge does not retain integrity of its character defining elements. Sections of many of the bridge's girders and balusters possess deep spalling with exposed reinforcing members and efflorescence. In addition, the abutments and wing walls display deep vertical and diagonal cracking and surface erosion. Two of the wing walls have also become misaligned over five inches.

**Is the bridge a significant example of the work of the manufacturer, designer, and/or engineer, and why?**

No, this structure is not a significant example of the work of the State Roads Commission.

**Should this bridge be given further study before significance analysis is made, and why?**

Yes. Further study may indicate whether a linear historic district encompassing resources associated with the original construction of the New Philadelphia Road during the early 1930s and the surrounding area's subsequent development exist. Bridge 3040 may contribute to this potential historic district.

MARYLAND INVENTORY OF HISTORIC PROPERTIES  
HISTORIC BRIDGE INVENTORY  
MARYLAND STATE HIGHWAY ADMINISTRATION  
MARYLAND HISTORICAL TRUST

MHT NO. BA-2668

**BIBLIOGRAPHY**

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1994 *Historic Bridges in Maryland: Historic Context Report*. Maryland State Highway Administration, Baltimore.
- State Highway Administration  
As-Built Drawings. On file 707 North Calvert Street, Baltimore.
- Bridge Inspection Reports. On file 707 North Calvert Street, Baltimore.
- State Roads Commission of Maryland  
1934 *Report of the State Roads Commission of Maryland. Operating Report for the Years 1933 - 1934*. Baltimore.
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- Financial Report of the State Roads Commission of Maryland for the Fiscal Year 1935 and Addenda Oct 1, 1935 to Jan 31, 1936*. Baltimore.
- 1958 *A History of Road Building in Maryland*. Baltimore.

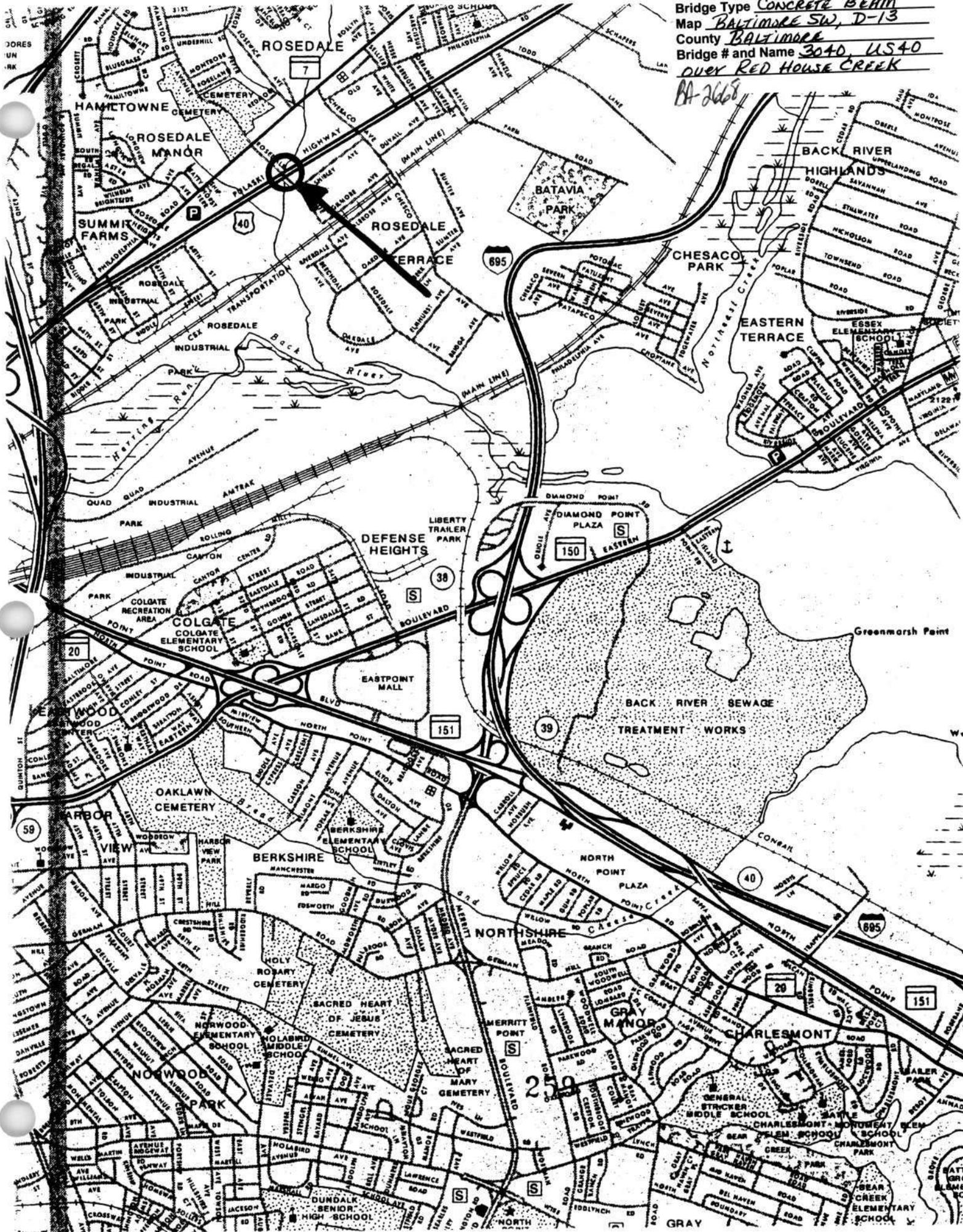
**SURVEYOR INFORMATION**

Name: Stuart Paul Dixon  
Organization: KCI Technologies, Inc.  
Address: 5001 Louise Dr., Suite 201  
Mechanicsburg, PA 17055

Date: 13 May 1996  
Telephone: (717) 691-1340

Maryland Historic Highway bridges  
Bridge Type CONCRETE BEAM  
Map BALTIMORE SW, D-13  
County BALTIMORE  
Bridge # and Name 3040, US40  
OVER RED HOUSE CREEK

BA 2668





Inventory # BA-2668

Name 3040- US 40 OVER REDHOUSE CREEK

County/State BALTIMORE COUNTY/MD

Name of Photographer DAVE DIEHL

Date 1/95

Location of Negative SHA

Description WEST APPROACH ST LOOKING  
EAST

Number 144 of 394



Inventory # BA-2668

Name 30410-US 40 OVER REDHOUSE CREEK

County/State BALTIMORE COUNTY/MD

Name of Photographer DAVE DIEHL

Date 11/95

Location of Negative SHA

Description SOUTH ELEVATION LOOKING  
NORTHEAST

Number 2 of 39<sup>3</sup>



Inventory # BA-2668

Name 3040-US40 OVER REDHOUSE CREEK

County/State BALTIMORE COUNTY/MD

Name of Photographer DAVE DIEHL

Date 1/95

Location of Negative SHA

Description NORTH ELEVATION LOOKING  
SOUTHEAST

Number 3 of 294



MERIT

Inventory # BA-2668

Name 3040-11540 OVER REDHOUSE CREEK

County/State BALTIMORE COUNTY/MD

Name of Photographer DAVE DIEHL

Date 11/95

Location of Negative SHA

Description EAST APPROACH LOOKING  
WEST

Number 47 of 394