MARYLAND HISTORICAL TRUST
DETERMINATION OF ELIGIBILITY FORM

NR Eligible: yes ___
no X

Property Name: SHA Bridge No. 0303300, MD 37 over CSX Railroad Inventory Number: BA-2702

Address: McDonough Road (MD 37) Formerly the Western Maryland Railroad, Not on NRHP section of RR Historic district: ___ yes X no

City: Owings Mills Zip Code: 21117 County: Baltimore County

USGS Quadrangle(s): Reisterstown

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 X 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 X no Name: ___ Date: ___

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

Bridge No. 0303300 (MIHP No. BA-2702) is a 3-span, 2-lane combination slab and concrete-encased girder bridge that carries MD 37 over the CSX Railroad (formerly the Western Maryland Railroad). Constructed in 1941, the 77-foot wide bridge has reinforced concrete slabs in spans #1 and 3. Span #2 has 10 concrete-encased steel beams supporting a concrete slab. The substructure has concrete abutments and 2 rigid frame-type concrete piers. The bridge is in a wooded area and traverses through a rock cut. The 2006 Average Daily Traffic (ADT) count is 12,491, and the 2026 ADT is 14,402. The road's function class is Urban Collector.

Background

The first evaluation of SHA Bridge No. 0303300 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. 0303300 to be eligible for the National Register of Historic Places (NRHP). The Maryland Historical Trust (MHT) concurred with the determination in 2001.

MARYLAND HISTORICAL TRUST REVIEW

Eligibility recommended ___ **Eligibility not recommended** X

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

MHT Comments: lost integrity

Reviewer, Office of Preservation Services Date: 5/14/10

Reviewer, National Register Program Date: 5/18/10

2010 01192

SHA Bridge No. 0303300 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 bridg 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

During the re-evaluation, the research into SHA records has shown that Bridge No. 0303300 is in fair physical condition, with a Bridge Sufficiency Rating (BSR) of 60.4. Between the years of 1995 and 1998, the deck's rating decreased from 6 to 5; the superstructure's ratings remained 5; and the substructures ratings remained 6 (out of 10). During the re-evaluation it was observec that as of 1996, the bridge started to be inspected on a yearly basis rather than a bi-annual basis, which is the standard inspection cycle. Periodic repairs have been made to the bridge, as evidenced by as-built drawings dated February 14, 1995, which show repairs made to spalled areas on the underside of the southern exterior girders.

Field survey in 2009 has found several areas of deterioration, damage, or replacement on the parapet. One section of the eastern parapet was repaired (cap reset) and parged following accident damage in 2004; another parapet section was damaged and has missing balusters and a guardrail placed across the opening in 2007. The balusters on both sides exhibit scaling concrete on the balusters, curbs, endposts, and caps. The curbs also are spalled in some locations. During field survey, cracking throughout the deck was observed. The bridge's substructure was not observable during field survey due to a lack of access onto the tracks

The MIHP form stated that the bridge retains integrity of its character defining elements (CDEs). This re-evaluation has found tha while the bridge retains all of its CDEs, they have been compromised through loss of material and sections of the element, such as the parapet. Its integrity of design, materials, workmanship, and feeling has been compromised as a result.

The MIHP form stated that the bridge did not possess significance for its association with events, persons, or for its significance in engineering or architecture. This re-evaluation agrees with the MIHP form and recommends that SHA Bridge No. 0303300 is not eligible for listing in the NRHP. No additional information was found regarding its association with any known event of local, regional, or national significance (Criterion A) or any known person of local, regional, or national significance (Criterion B). The bridge was constructed using a standardized plan for slab and concrete encased girder bridges in Maryland. The pierced concrete parapet design has wider spaces between the balusters, which is slightly different than narrower railings on 1930s bridges, and likely represents the evolution of parapet design in the 1940s. Reinforced concrete slab bridges were easily adapted and were used widely across the state, being second in popularity to the concrete beam bridge. As a result, it is a common and ubiquitous bridge design that does not embody distinctive characteristics, represent the work of a master architect or engineer, or possess high artisti values. Therefore, SHA Bridge No. 03033000 is recommended not eligible for inclusion in the NRHP under Criterion C. 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-2702
SHA Bridge No. 0303300
MD 37 (McDonough Road) over Western Maryland RR
Baltimore County, Maryland

Photograph Log

Image File Name	Description of View
BA-2702_2009-02-19_01.tif	Northern elevation and piers, facing southeast
BA-2702_2009-02-19_02.tif	Damaged section of northern parapet, facing southeast
BA-2702_2009-02-19_03.tif	Repaired damaged parapet section, facing north
BA-2702_2009-02-19_04.tif	Northern parapet showing replaced section, facing north
BA-2702_2009-02-19_05.tif	Northwestern endcap and parapet, facing southeast

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

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

MIHP BA-2702

SHA BRIDGE NO. 0303300 OVER ~~McDONOUGH ROAD~~ WMTFR

BALTIMORE COUNTY, MD

JAMES SKOCIK

2/19/09

MD SHPO

NORTHEEN ELEVATION AND PIERS, FACING SOUTHEAST

1 OF 5

MIHP BA-2762

SHA BRIDGE NO. 0303300 OVER ~~MCDONOUGH ROAD~~ WMRR

BALTIMORE COUNTY, MD

JAMES SKOCIK

2/19/09

MD SHPO

DAMAGED SECTION OF NORTHERN PARAPET, FACING SOUTHEAST

2 OF 5

MIHP BA-2702
SHA BRIDGE NO. 0303300 OVER ~~McDONOUGH ROAD~~ WMER
BALTIMORE COUNTY, MD
JAMES SKOCIK
2/19/09
MD SHPO
REPAIRED DAMAGED PARAPET SECTION, FACING NORTH

#3 OF 5

MIHP BA-2702

SHA BRIDGE NO 0303300 OVER ~~MCDONALGH ROAD~~ WMED

BALTIMORE COUNTY, MD

JAMES SKOCIK

2/19/09

MD SHPO

NORTHERN ~~PARAPET~~ SHOWING REPLACED SECTION, FACING NORTH

#4 OF 5

MIHP BA-2702

SHA BRIDGE NO. 0303300 OVER ~~McDONOUGH ROAD~~ WMRR

BALTIMORE COUNTY, MD

JAMES SKOCIK

2/19/09

MD SHPO

NW ENDCAP AND PARAPET

FACING SOUTHEAST

#5 OF 5

Maryland Historical Trust

Maryland Inventory of Historic Properties number: BA-2702.

Name: 3033/Rt. 37 over West. MD. Railroad.

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 **MHT No.** BA-2702
HISTORIC BRIDGE INVENTORY
MARYLAND STATE HIGHWAY ADMINISTRATION/
MARYLAND HISTORICAL TRUST

SHA Bridge No. 3033 **Bridge name** Route 37 over Western MD Railroad

LOCATION:
Street/Road name and number [facility carried] MD Route 37

City/town Owings Mills **Vicinity** X

County Baltimore

This bridge projects over: Road ___ **Railway** X **Water** ___ **Land** ___

Ownership: State X **County** __ **Municipal**_ **Other** _____

HISTORIC STATUS:
Is 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: X
Rolled Girder X **Rolled Girder Concrete Encased** _____
Plate Girder _____ **Plate Girder Concrete Encased** _____

Metal Suspension __

Metal Arch _

Metal Cantilever ___

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

BA-2702

DESCRIPTION:

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

Describe Setting:

Bridge 3033 carries MD Route 37 in an east-west direction over the Western Maryland Railroad. The bridge is in a relatively undeveloped area with no houses visible from the bridge and with wooded areas around the bridge, it traverses through a rock cut.

Describe Superstructure and Substructure:

Bridge 3033 is a three span simply supported bridge with an overall length of 77 feet. Spans #1 and #3 are 1.5 feet deep reinforced concrete slabs with lengths of 19 feet each. Span #2 is made up of ten concrete encased steel beams with a 7.0 inch concrete slab. Span #2 is 39 feet long. The substructure is made up of two concrete abutments and two rigid frame type concrete piers. The parapets are open ornamental concrete and integral to the deck. The clear roadway width is 26.75 feet. The bridge was built in 1941. The bridge supports two way traffic and is not posted.

The 1991 inspection described the bridge as in fair condition; at pier #2 the concrete encasement of the steel beams has areas of hollow sounding concrete with some spalling. The exposed steel beams in this area exhibit rusting and some delamination.

Discuss Major Alterations:

S.H.A. records do not indicate that any major alterations have been made.

HISTORY:

WHEN was bridge built (actual date or date range) 1941

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

Source of date: Plaque _____ **Design plans** ___ **County bridge files/inspection form** ____

Other (specify) State inspection files

WHY was the bridge built?

To carry MD 37 over the railroad.

WHO was the designer?

State Highway Administration

WHO was the builder?

State Highway Administration

WHY was the bridge altered?

N/A

Was this bridge built as part of an organized bridge-building campaign?

Unknown

BA-2702

SURVEYOR/HISTORIAN ANALYSIS:

This bridge may have National Register significance for its association with:
A - Events _____ B- Person _____
C- Engineering/architectural character _____

Was the bridge constructed in response to significant events in Maryland or local history?
Reinforced concrete slab bridges are a twentieth century structure type, easily adapted to the need for expedient engineering solutions. Reinforced concrete technology developed rapidly in the early twentieth century with early recognition of the potential for standardized design. The first U.S. attempt to standardize concrete design specifications came in 1903-04 with the formation of the Joint Committee on Concrete and Reinforced Concrete of the American Society of Civil Engineers.

Maryland's road and bridge improvement programs mirrored economic cycles. The first road improvement program 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 to 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 become inadequate to the huge freight trucks and volume of passenger cars in use, with major improvements occurring in the late 1930s. Most improvements to local roads waited until the years after World War II.

With a diverse topographical domain encompassing numerous small and large crossings, Maryland engineers quickly recognized the need for expedient design and construction.

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 way 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.

The creation of standard plans and a description of their use was first announced in the 1912-15 Reports of the State Roads Commission whereby bridges spanning up to 36 feet were to use standardized designs.

Published on a single sheet, the 1912 Standard Plans included those structures that were amenable to such an approach: slab spans, (deck) girder spans, box culverts, box bridges, abutments, and piers (State Roads Commission 1912). Slab spans, with lengths of 6 to 16 feet in two foot increments, featured a solid parapet that was integrated into the slab, with a roadway of 22 feet.

In the Report for the years 1916-1919, a revision of the standard plans was noted:

> During the four years covered by this report, it has been found necessary to revise our standard plans for culverts and bridges, to take care of the increased tonnage which they have been forced to carry. Army cantonments...increased their operations several hundred per cent, and the brunt of the enormous truck traffic resulting therefrom, was borne by the State Roads of Maryland. In addition to these war activities, freight motor lines from Baltimore to Washington, Philadelphia, New York, and various points throughout Maryland, and the weight of many of these trucks when loaded, was in excess of the loads for which our early bridges were designed (State Roads Commission 1920:56).

Published on separate sheets, the new standard plans (State Roads Commission 1919) for slab bridges reveal that the major changes was an increase in roadway width from 22 feet to 24 feet and a redesign of the reinforcement. The slab spans continued to feature solid parapets integrated into the span. The range of span lengths remained 6 to 16 feet, but the next year (1920) witnessed the issue of a supplemental plan for a 20 foot long slab span (State Roads Commission 1920).

The 1924 standard plans remained in effect until 1930, when 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 load bearing capacities. The reinforcing bars were increased in thickness. Visually, the 1930 design can be distinguished from its predecessors by the pierced concrete railing that was introduced at this time.

Three years later, in 1933, a new set of standard plans was introduced (State Roads Commission 1933). 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 width 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 bearing capacity.

A system of standard nomenclature for plans was introduced at this time: span type was indicated by a two-letter designator followed by span length and the year of the plan. Thus, CS-18-33 indicates an 18 foot concrete slab of the 1933 standard plan design; CG-36-33 was a 36 foot concrete girder (T-beam) of the same year. The inclusion of the year designator gave ready access to design details for each bridge and indicates that the State Roads Commission anticipated revisions to standard plans.

Based upon documentary evidence, Baltimore County and City were the early pioneers in concrete bridge building in Maryland. The first reinforced concrete bridge documented in Maryland was the bridge at Sherwood Station, built in 1903 by Baltimore County.

Evidence from historic maps suggests that almost all of the extant concrete slab bridges built before 1940 in Baltimore County replaced earlier bridges. With the exception of two bridges, all of these structures lie on roads whose alignments have changed little since the middle of the nineteenth century. The two exceptions are both located on Shelbourne Avenue in Arbutus. Shelbourne Avenue does not appear on the 1850 map of Baltimore County but does appear on the 1915 map. Both concrete slabs bridges on Shelbourne Avenue, however, were built after 1915. The evidence therefore suggests that these two bridges were also built to replace previous structures.

BA-2702

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 to suggest 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?
The bridge is not located in an area which may be eligible for historic designation.

Is the bridge a significant example of its type?
The bridge is a multiple-span combination slab and concrete-encased girder bridge which exhibits a level of ornamentation.

Does the bridge retain integrity of important elements described in Context Addendum?
This character defining elements have retained their integrity.

Is the bridge a significant example of the work of a manufacturer, designer, and/or engineer?
This bridge is not a significant example of the work of a manufacturer, designer, and/or engineer.

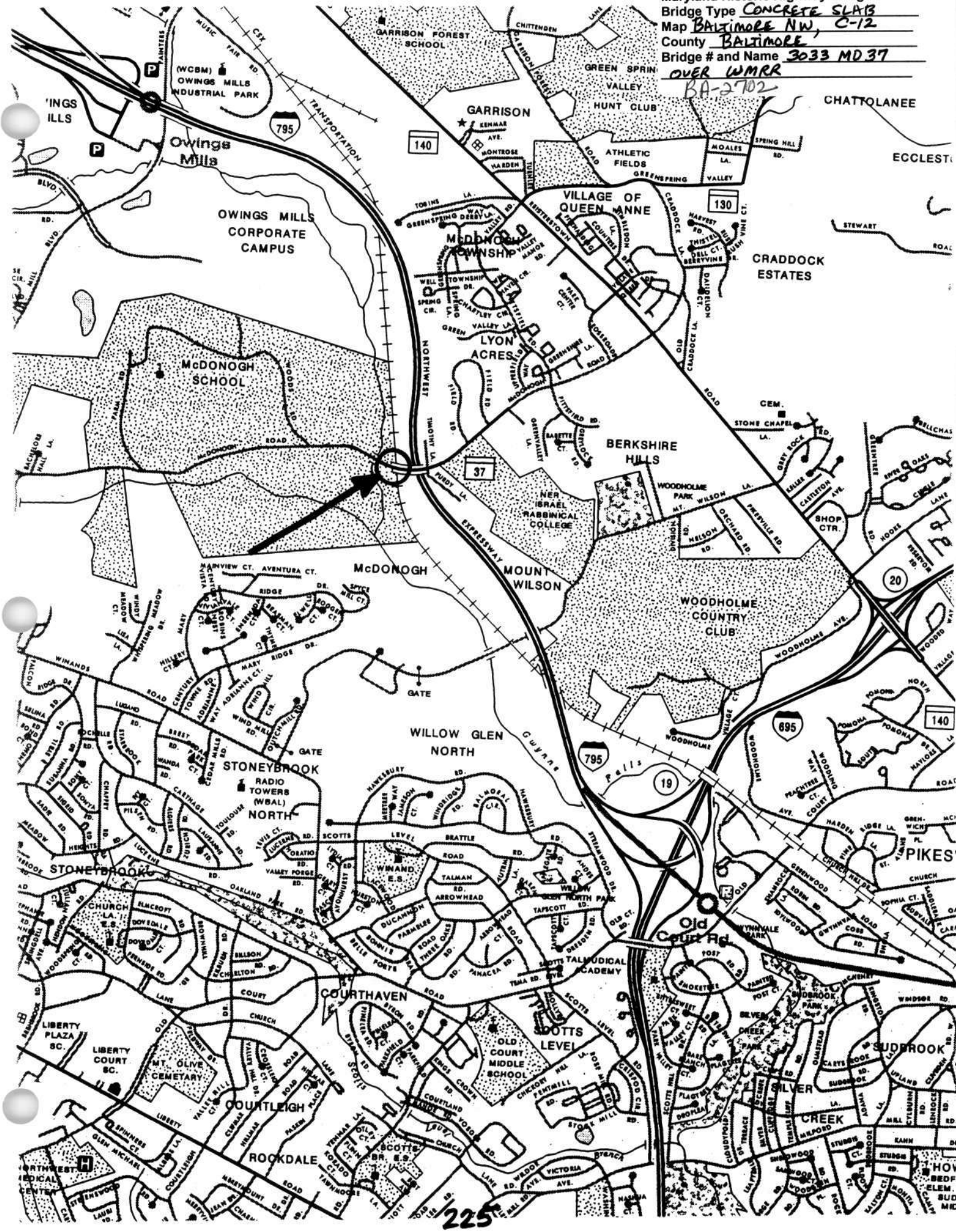
Should the bridge be given further study before an evaluation of its significance is made?
The history of building MD Rt. 37 could yield additional information about this bridge.

BIBLIOGRAPHY:

County inspection/bridge files _____ **SHA inspection/bridge files** X
Other (list):

SURVEYOR:

Date bridge recorded 08/25/95
Name of surveyor Colin Farr
Organization/Address P.A.C. Spero & Company, Suite 412, 40 West Chesapeake Ave., Baltimore, MD 21204
Phone number (410) 296-1635 **FAX number** (410) 296-1670


Maryland Historic Highway Bridges
Bridge Type CONCRETE SLAB
Map BALTIMORE NW, C-12
County BALTIMORE
Bridge # and Name 3033 MD 37
OVER WMRR
BA-2702
Owings Mills
OWINGS MILLS CORPORATE CAMPUS
McDONOGH SCHOOL
McDONOGH
GARRISON
GARRISON FOREST SCHOOL
GREEN SPRING VALLEY HUNT CLUB
ATHLETIC FIELDS
VILLAGE OF QUEEN ANNE
McDONOGH TOWNSHIP
LYON ACRES
CHATTOLANEE
CRADDOCK ESTATES
BERKSHIRE HILLS
NER ISRAEL RABBINICAL COLLEGE
MOUNT WILSON
WOODHOLME COUNTRY CLUB
WILLOW GLEN NORTH
STONEYBROOK
STONEYBROOK NORTH
RADIO TOWERS (WBAL)
WINAND E.S.
COURTHAVEN
OLD COURT MIDDLE SCHOOL
SCOTTS LEVEL
TALMUDICAL ACADEMY
Old Court Rd
PIKESVILLE
SUDBROOK
SILVER CREEK
COURTLEIGH
ROCKDALE
LIBERTY PLAZA SC.
LIBERTY COURT SC.
MT. OLIVE CEMETARY
CHURCH LA. E.S.
SCOTTS BR. E.S.
(WCBM)
OWINGS MILLS INDUSTRIAL PARK
795
140
130
37
695
20
19
TRANSPORTATION
EXPRESSWAY
Gwynns Falls
GATE
SHOP. CTR.
CEM.
STONE CHAPEL
MAINVIEW CT.
AVENTURA CT.
MARY ADRIANNE CT.
WILLOW GLEN NORTH PARK

1 BA 27[illegible]

2 (30[illegible]) MD 3[illegible] WASH

3 BALTO. CO.; MD

4 D. Diehl

5 113 0[illegible]

6 MD SHPO

7

8 1 of 3

1 BA 2702

2 (2033) ND37 over WPAR

3 Ballston, ND

4 D. Diehl

5 1/30/95

6 MD SLPJ

7 South Elevation, looking NORTH

8 2 of 3

1 BA 2702

2 (3033) MD 37 OVER WMRR

3 BALTO CO., MD

4 D. DICHL

5 1/30/95

6 MD SHPO

7

8 3 of 3