MARYLAND HISTORICAL TRUST
DETERMINATION OF ELIGIBILITY FORM

NR Eligible: yes ___ no ___

Property Name: SHA Bridge No.1200100, US 1 over Susquehanna River Inventory Number: HA-1971

Address: Conowingo Road (U.S. 1) Conowingo Dam Historic district: ___ yes X no

City: Conowingo Zip Code: 21918 County: Harford

USGS Quadrangle(s): Conowingo Dam

Property Owner: State Highway Admnistration 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: X Eligibility recommended ___ Eligibility not recommended

Criteria: ___A ___B X 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: Conowingo Dam

Inventory Number: HA-1971 Eligible: X 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. 1200100 (MIHP No. HA-1971) is a 53-span, 4-lane bridge that is part of the larger Conowingo Dam. The bridge is supported by 52 piers that are constructed as an integral component of the dam. The bridge and dam in its entirety consist of 131 spans. Both have been surveyed together and are recorded as MIHP No. HA-1971. Constructed in 1927, the bridge carries U.S. 1 (Conowingo Road) over the Susquehanna River in Harford County, Maryland. Attached to the dam on the southeastern side are a power plant, consisting of a turbine hall, sub-station, control room, machine shop, fish-lift, and offices. The bridge and dam are located in the vicinity of the town of Conowingo, Maryland. The bridge and dam termini are surrounded by wooded areas and a public recreation area on the southeastern side of the dam, and the bridge is on Maryland's "Lower Susquehanna" Scenic Byway. The bridge's 2006 Average Daily Traffic (ADT) count was 10,152 and the 2026 future ADT count is 11,705. The function class is Rural Principal Arterial and Other.

Background

The first evaluation of SHA Bridge No. 1200100 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

MARYLAND HISTORICAL TRUST REVIEW

Eligibility recommended ___ **Eligibility not recommended** ___

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

MHT Comments: Information purposes only - Bridge remains NR-eligible

Tim Tamburrino 5/14/2010

Reviewer, Office of Preservation Services **Date**

___ ___

Reviewer, National Register Program **Date**

form in 1996 and subsequently determined Bridge No. 1200100 to be eligible for listing in the National Register of Historic Places (NRHP) under Criterion C as a significant example of 20th-century dam construction with a high degree of integrity. The Maryland Historical Trust (MHT) concurred with the determination in 2001.

SHA Bridge No. 1200100 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 and dam to examine and document current conditions with field notes, digital photography, and black and white photography. During the visit to Bridge No. 1200100, full access to the entire span was not permitted by escort personnel because of high wind conditions and safety hazards. 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. 1200100 is in fair condition, with a Bridge Sufficiency Rating (BSR) of 52. The MIHP form states that the last available Bridge Sufficiency Rating (BSR) was 23.92, available in 1979. Since the replacement and widening of the deck and parapets in the 1980s, the BSR was raised to a 52, substantially higher than the earlier rating. The bridge has had yearly inspections during 1997 and 1998 followed by a bi-yearly inspection cycle. The bridge condition ratings were not available for the years 1995 and 1996. However, in 1997, the bridge received a rating of 6 for the deck, 6 for the superstructure, and 5 for the substructure. In 1998 superstructure and substructure received condition ratings of 4; however, a handwritten note included crossing out the 4 and correcting it to 5, which it currently i The accompanying note said that the reviewer did not believe that the structure was in this poor of a condition and that deterioration was in isolated locations. These ratings remained the same until 2002 when the rating for the deck decreased to a 5. Currently the ratings are 5 for the deck, superstructure, and substructure.

Further research revealed that the superstructure consists of a combination of 4 different systems in different sections of the bridge and dam structure. According to a 1997 inspection report, spans #1-76 are constructed of prestressed concrete, plank-type beams; spans #77-128 have steel beam stringers supported by steel floor beams, with a steel pan supporting a thin concrete deck; spans #129 and 130 have concrete-encased steel beams supporting a concrete deck; and span #131 has a concrete slab supported by 2 exterior concrete girders.

Alterations have been made to the bridge's deck, superstructure, and substructure during the 1983-1985 rehabilitation and widening of the bridge. The original 2-foot-thick concrete deck, a secondary CDE, was removed and replaced with a 15"-thick deck. The concrete parapet walls, a primary CDE and originally integral to the bridge, were removed and replaced with a 2-strand aluminum bridge railing. At a later date the railing was removed and replaced with concrete Jersey barriers. At some point the original light standards (a secondary CDE), placed at 180-foot intervals according to the construction documents for the 1983 project, were removed and replaced with modern light fixtures. A modern addition and substation equipment were added to the power house at the southern end of the bridge and currently contains the administration offices.

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**

Alteration to a portion of the piers (a primary CDE) included notching out the tops of the straight piers to form keys. New pier top were recast with angled, cantilevered extensions and installed to support a wider deck. The middle and lower portion of the piers remained the same.

In the 1995 MIHP form, it was noted that the bridge retains a high degree of integrity. This evaluation finds that some of CDEs have retained integrity and others have not. A portion of the piers and the original parapet have not retained their integrity of design and workmanship due to their redesign and alteration. Overall, the integrity of the concrete material on the entire bridge structure has been retained, and its strong presence on most of the length of the piers and on the abutments conveys the distinction and significance of the bridge. The integrity of setting, location, association, and feeling of the bridge have not changed and remain good. In summary, SHA Bridge No. 1200100 has retained 5 out of 7 aspects of integrity.

SHA Bridge No. 1200100 is primarily a concrete beam bridge but uses four different systems in its superstructure, including: prestressed concrete, plank-type beams; steel beam stringers supported by steel floor beams, with a steel pan supporting a thin concrete deck; concrete-encased steel beams supporting a concrete deck; and a concrete slab supported by 2 exterior concrete girders. It differs from the construction of other large bridge and dam structures built in Maryland for hydroelectric purposes, notably the Brighton Dam Road Bridge over the Triadelphia Reservoir (MIHP No. M:23-128) and the 1932 Prettyboy Dam Road Bridge over the Prettyboy Reservoir (MIHP No. BA-2732). The Brighton Dam Road Bridge, constructed in 1941-1943, is a 26-foot-wide by 600-foot-long concrete slab bridge that was determined NRHP-eligible in 1995 and rehabilitated in 1999. The Prettyboy Dam Road Bridge, constructed in 1932, is a 20-foot-wide by 693-foot-long combination concrete arch and concrete beam bridge that has been recommended NRHP-eligible. SHA Bridge No. 1200100 is also notable for its length. At 2,250 feet in length, the bridge portion of the structure is 3-4 four times as long as the Brighton Dam Road Bridge and the Prettyboy Dam Road Bridge. The total length of the bridge and dam is 4,648 feet in length, much longer than Maryland's other hydroelectric bridge ar dam structures.

This evaluation finds that SHA Bridge No. 1200100 is a contributing element to the Conowingo Dam (MIHP No. HA-1971), which is eligible for listing in the NRHP under Criterion C for its engineering as a significant example of early 20th-century dam construction in Maryland. Additional research indicates that the bridge is not associated with an event of local, regional, or nation 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.

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**

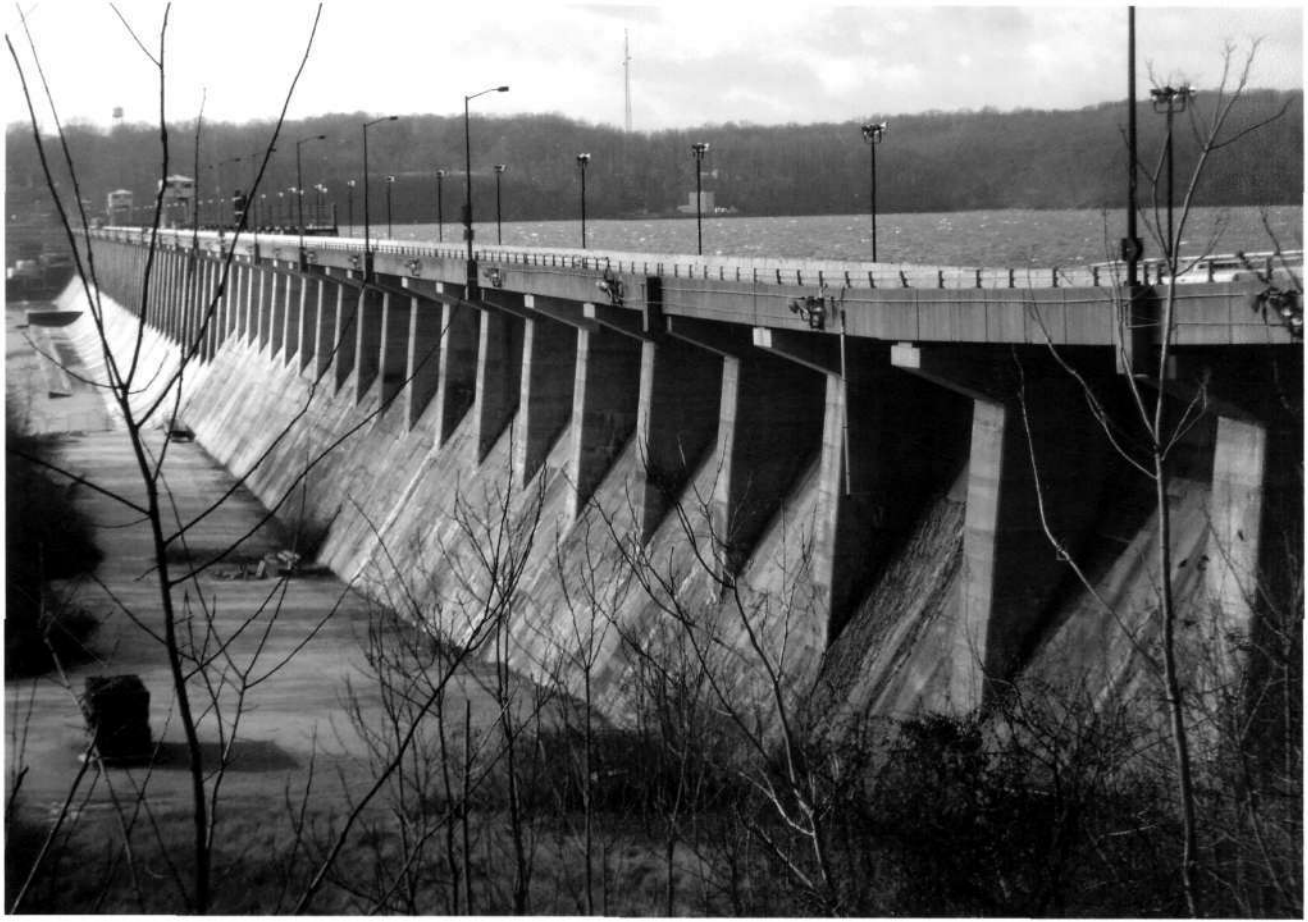
MIHP No. HA-1971
SHA Bridge No. 1200100
U.S.1 over Susquehanna River
Harford County, Maryland

Photograph Log

Image File Name	Description of View
HA-1971_ 2009-02-19_01.tif	Eastern elevation facing southwest
HA-1971_ 2009-02-19_02.tif	Southern end of bridge showing power plant, facing north
HA-1971_ 2009-02-19_03.tif	Eastern elevation, facing northwest
HA-1971_ 2009-02-19_04.tif	Eastern elevation of power plant, facing northwest
HA-1971_ 2009-02-19_05.tif	Replacement concrete walls, railing, and light fixtures, facing southwest
HA-1971_ 2009-02-19_06.tif	Close-up of eastern elevation showing replaced pier caps, facing northwest
HA-1971_ 2009-02-19_07.tif	Close-up of pier caps, facing northwest
HA-1971_ 2009-02-19_08.tif	Deck, facing northeast

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

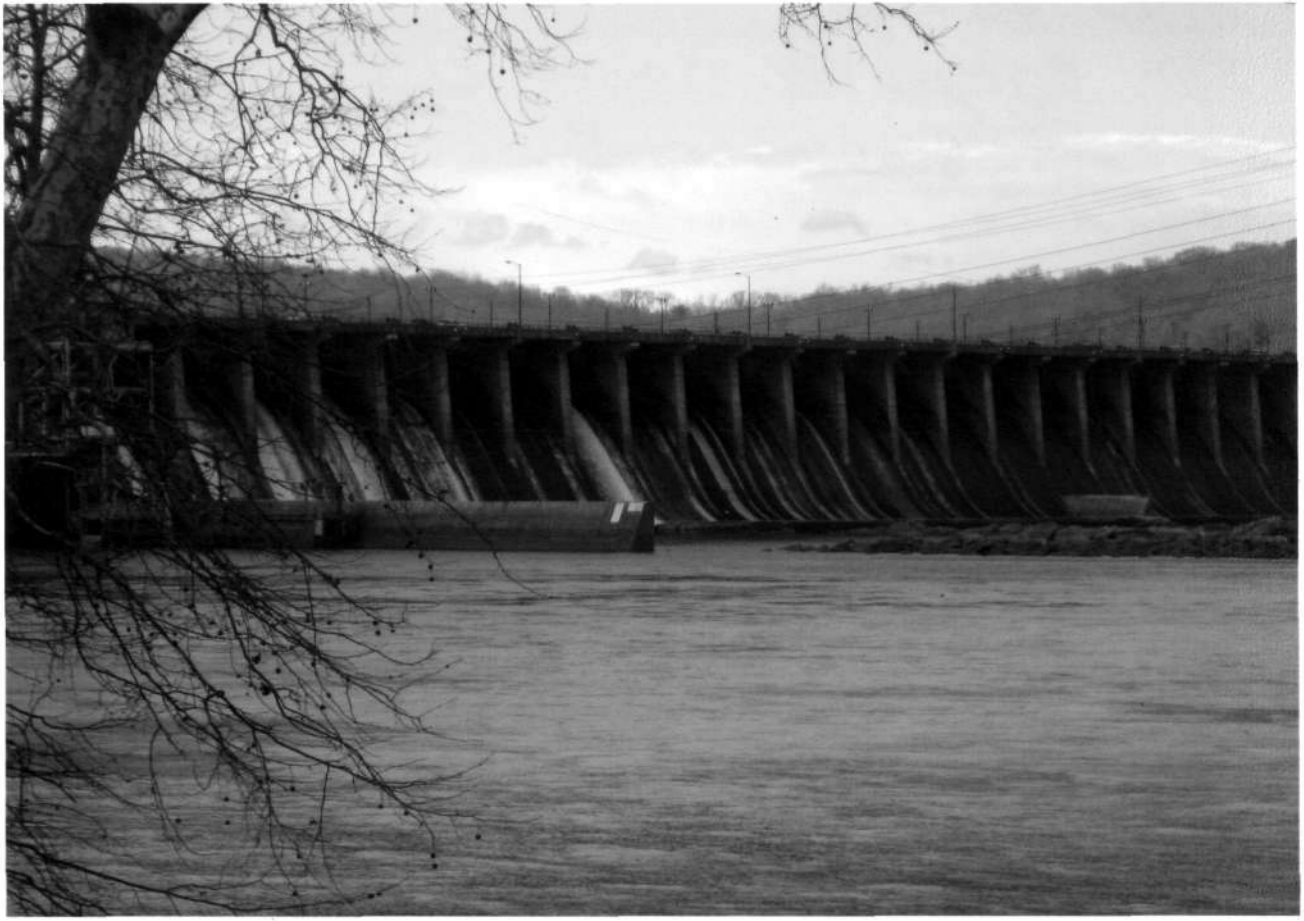
Saved on Verbatim UltraLife Archival Grade DVD-R, AZO recording dye



MEHP HA-1971
SHA Bridge No. 1200100, U.S. 1 over Susquehanna R.
Harford Co., MD
Jamie Skook
02/19/2009
E. elev., facing SW
#1 of 8


CONOWINGO
HYDRO ELECTRIC
PLANT

MIHP HA-1971
SHA Bridge No. 1200100, U.S.1 over Susquehanna R.
Harford Co, MD
James Skoak
02/19/09
S. end of bridge showing power plant, facing N
#2 of 8



MIHP HA-1971
SHA Bridge No. 1200100, U.S. 1 over
Susquehanna R.
Harford Co., MD
James Skoaik
02/19/09
E elev, facing NW.
3 of 8


NO

MIHP HA-1971
SHA Bridge No. 1200100, US 1 over
Susquehanna R
Harford Co, MD
James Skoak
02/19/09
E elev. of power plant, facing NW
4 of 8

MIHP HA-1971
SHA Bridge No. 1200100; U.S. 1 over
Susquehanna R
Harford Co., MD
James Skoaik
02/19/09
Replacement concrete walls, railing,
and light fixture, facing SW
#5 of 8

MIHP HA-1971

SHA Bridge No. 1200100, U.S. 1 over Susquehanna R

Harford Co., MD

James Skocik

02/19/09

Close-up of E. elev. showing replaced pier caps, facing NW

#60f8

MIHP HA-1971

SHA Bridge No. 1200100 U.S. 1 over Susquehanna R.

Harford Co, MD

James Skocik

02/19/09

Closeup upon of replaced pier caps, facing NW

#7 of 8

MIHP HA-1971
SHA Bridge No. 1200100, U.S. 1
over Susquehanna R.
Harford Co., MD
James Skoaik
02/19/09
Deck, facing NE
#8 of 8

Maryland Historical Trust

Maryland Inventory of Historic Properties number: HA-1971

Name: 12001/ US 1 over Susquehanna River (Conowingo Dam)

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.** HA-1971
HISTORIC BRIDGE INVENTORY
MARYLAND STATE HIGHWAY ADMINISTRATION/
MARYLAND HISTORICAL TRUST

SHA Bridge No. 12001 **Bridge name** U.S. 1 over Susquehanna River (Conowingo Dam)

LOCATION:
Street/Road name and number [facility carried] U.S. 1 (Conowingo Road)

City/town Conowingo **Vicinity** X

County Harford

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** 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_____:
Rolled Girder _____ **Rolled Girder Concrete Encased** _____
Plate Girder _____ **Plate Girder Concrete Encased** _____

Metal Suspension _____

Metal Arch _____

Metal Cantilever _____

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

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

Describe Setting:

Bridge No. 12001 is a component of the Conowingo Dam and carries U.S. 1 (Conowingo Road) over the Susquehanna River in Harford County. U.S. 1 runs east-west and the Susquehanna River flows north-south. The bridge is located in the vicinity of Conowingo and is surrounded by wooded areas and a public recreation area on the west side of the river.

Describe Superstructure and Substructure:

Bridge No. 12001 is a component of the Conowingo Dam, a straight-crested, concrete gravity structure, constructed in 1927. The bridge consists of fifty-three (53) concrete beam spans, which are supported by fifty-two (52) piers constructed as integral parts of the dam. The dam rises from the river bed at elevations of 10 feet to 86 feet at the spillway and 114 feet at the east abutment.

From west to east, the structure consists of the following sections: a 950 foot, 6 inch-long abutment section, the 176 foot-long power station, three (3) regulating gates which are 135 feet long, the main spillway, which is 2250 feet long, and the 1200 foot-long east abutment. The crest of the dam has fifty (50) crest gates, supported by concrete piers which rise from the dam on 45 foot centers. The piers carry the highway bridge (#12001) and the gate-crane bridge. The total length of the dam and power station is approximately 4700 feet, reportedly the longest concrete slab dam in the United States (Famighetti 1995: 704).

The power house is located at the western end of the dam on the downstream side and is an integral component of the dam. The width of the building is 176 feet, including the dam structure. The height of the turbine hall roof is 102 feet above normal tail-water with the superstructure forming the high-tension sub-station. The sub-station rises approximately 90 feet above the turbine hall. A machine shop and offices are located at the western end of the building, adjacent to the shoreline.

The bridge component of the dam is a 53-span, 2-lane, concrete beam bridge. The bridge was originally built in 1927, along with the dam, and in 1982, the deck and parapets were replaced and the piers were repaired. The structure has a clear roadway width of 20 feet. The out-to-out width is 24 feet, 5 inches. The superstructure consists of concrete beams which support a concrete deck and concrete, jersey-barrier parapets. The concrete deck is approximately 15 inches thick and it has no bituminous wearing surface. The structure has concrete, jersey-barrier parapets, which replaced the original concrete parapets circa 1980. The substructure consists of two (2) concrete abutments and it has solid shaft, concrete piers. The most recent sufficiency rating available for the bridge is 23.92 in 1979, however replacement of the deck and parapets and repair of the piers have occurred since that time.

The inspection report for this structure from 1997 indicates that the bridge is in good condition, though minorly affected by light spalling and efflorescence.

Discuss Major Alterations:

The original concrete deck and integral concrete parapets were removed during the 1982 superstructure rehabilitation and replaced with a new concrete deck and concrete, jersey-barrier parapets. In addition, repairs were made to the piers consisting of the removal and recasting of the top portions of the piers in the section of the floodgate and north of the floodgates.

HISTORY:

WHEN was the bridge built: 1927
This date is: Actual X **Estimated** _____
Source of date: Plaque _____ **Design plans** X **County bridge files/inspection form** ___
Other (specify): State Highway Administration bridge files

WHY was the bridge built?

U.S. 1 is the oldest U.S. route in Maryland and formerly crossed the Susquehanna River on an iron truss bridge with stone piers, two (2) miles upstream at the village of Conowingo. Because the bridge and a part of the main highway were below the level of the reservoir created by construction of the Conowingo Dam, replacement of the highway and bridge was included in the construction cost of the dam.

WHO was the designer?

Stone and Webster

WHO was the builder?

The Susquehanna Power Company and the Philadelphia Electric Power Company

WHY was the bridge altered?

The bridge was altered to correct functional or structural deficiencies.

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 Conowingo Dam is eligible for the National Register of Historic Places under Criterion C, as a significant example of twentieth century dam construction with a high degree of integrity. Bridge 12001 is an integral component of the Conowingo Dam. With the exception of the bridge deck and parapets, the substructure and superstructure of the bridge are intact. In addition, the dam's architectural components, power house and substation are intact. Finally, the structure is reportedly the longest concrete slab dam in the United States.

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

The Conowingo Dam was constructed as a commercial enterprise to provide hydro-electric power. As a component of the dam, a concrete beam bridge was constructed to carry U.S. 1 over the Susquehanna River. The bridge was opened to the public on November 15, 1927 and the first power for commercial operations was transmitted to Philadelphia on March 1, 1928.

The earliest concrete beam bridges in the nation were deck girder spans that featured concrete slabs supported by a series of longitudinal concrete beams. This method of construction was conceptually quite similar to the traditional timber beam bridge which had found such widespread use both in Europe and in America. Developed early in the twentieth century, deck girder spans continued to be widely used in 1920 when noted bridge engineer Milo Ketchum wrote *The Design of Highway Bridges of Steel, Timber and Concrete* (Ketchum 1920).

Although visually similar to deck girder bridges, the T-beam span features a series of reinforced concrete beams that are integrated into the concrete slab, forming a monolithic mass appearing in cross section like a series of upper-case "T"s connected at the top. Thaddeus Hyatt is believed to have been the first to come upon the idea of the T-beam when he was studying reinforced concrete in the 1850s, but the first useful T-beam was developed by the Belgian Francois Hennebique at the turn of the present century (Lay 1992:293). The earliest references to T-beam bridges refer to the type as concrete slab and beam construction, a description that does not distinguish the T-beam design from the concrete deck girder. Henry G. Tyrrell was perhaps the first American bridge engineer to use the now standard term "T-beam" in his treatise *Concrete Bridges and Culverts*, published in 1909. Tyrrell commented that "it is permissible and good practice in designing small concrete beams which are united by slabs, to consider the effect of a portion of the floor slab and to proportion the beams as T-beams" (Tyrrell 1909:186).

By 1920, reinforced concrete, T-beam construction had found broad application in standardized bridge design across the United States. In his text, *The Design of Highway Bridges of Steel, Timber and Concrete*, Milo S. Ketchum included drawings of standard T-beam spans recommended by the U.S. Bureau of Public Roads as well as drawings of T-beam bridges built by state highway departments in Ohio, Michigan, Illinois, and Massachusetts (Ketchum 1920). By the 1930s the T-beam bridge was widely built in Maryland and Virginia.

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. Most improvements to local roads waited until the years after World War I.

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 away 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.

In 1930, 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 the load bearing capacities. The reinforcing bars increased in thickness. Visually, the 1930 design can be distinguished from its predecessors by the pierced concrete railing that was introduced at this time.

In 1933, a new set of standard plans were introduced by the State Roads Commission. 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 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 capacity.

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?

The impact of the Conowingo Dam on the growth of the area is unknown, however, the creation of the reservoir flooded the former site of the village of Conowingo. As a result, the village was relocated and is now located east of the dam in Cecil 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 dam is located in an area which does not appear to be eligible for historic designation.

Is the bridge a significant example of its type?

The dam is a potentially significant example of an early twentieth century engineering structure, possessing a high degree of integrity, and is reportedly the longest concrete slab dam in the United States (Famighetti 1995: 704).

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

The bridge component of the Conowingo Dam retains character-defining elements of concrete beam construction, including longitudinal beams, abutments and piers.

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

The Conowingo Dam is a potentially significant example of the work of the Boston-based firm of Stone and Webster.

Should the bridge be given further study before an evaluation of its significance is made?

A Maryland Historical Trust Inventory of Historic Properties Form should be completed for the Conowingo Dam and submitted to the Maryland Historical Trust for evaluation of its eligibility under the National Register of Historic Places Criteria for Evaluation.

BIBLIOGRAPHY:

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

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Maryland State Roads Commission
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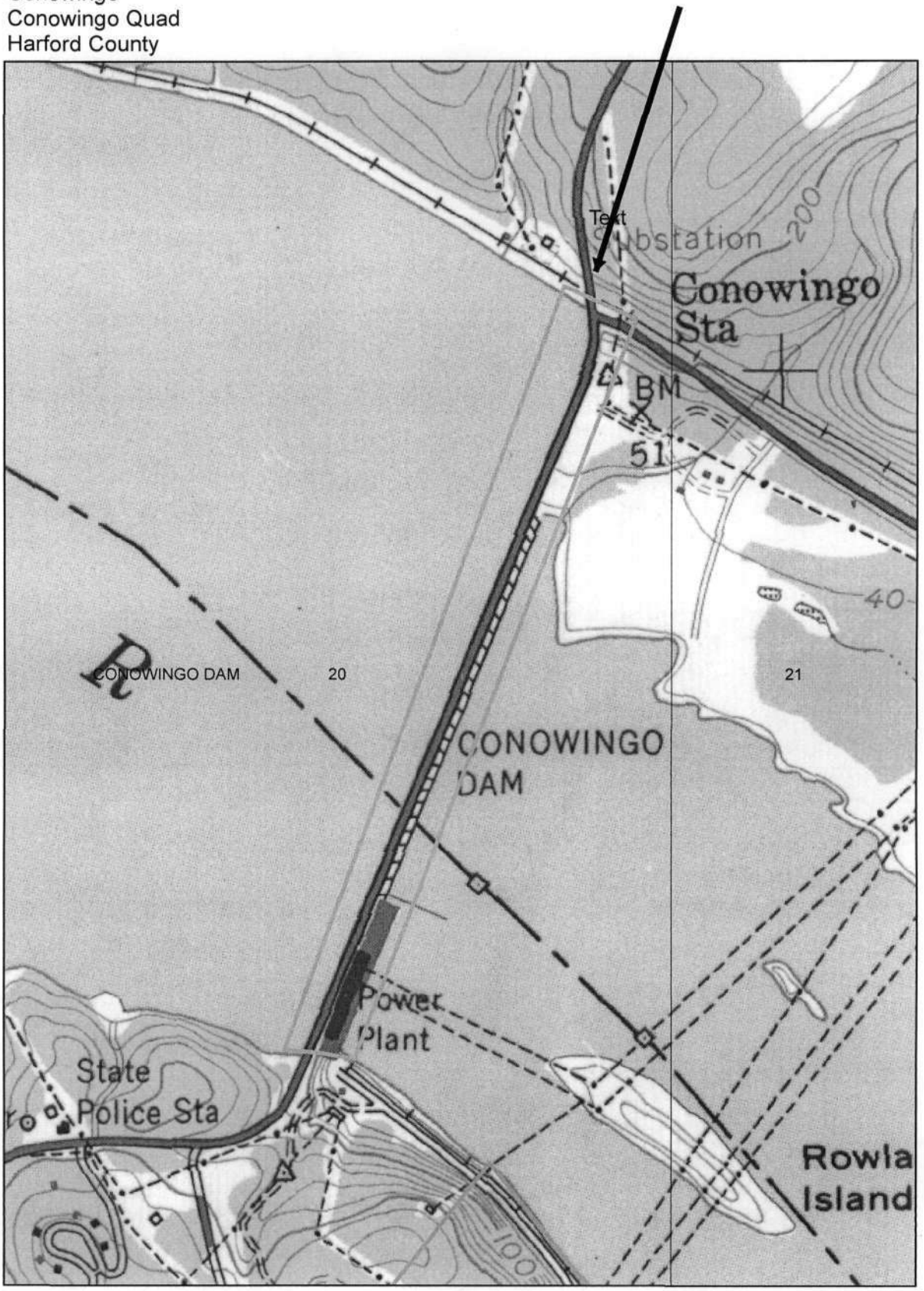
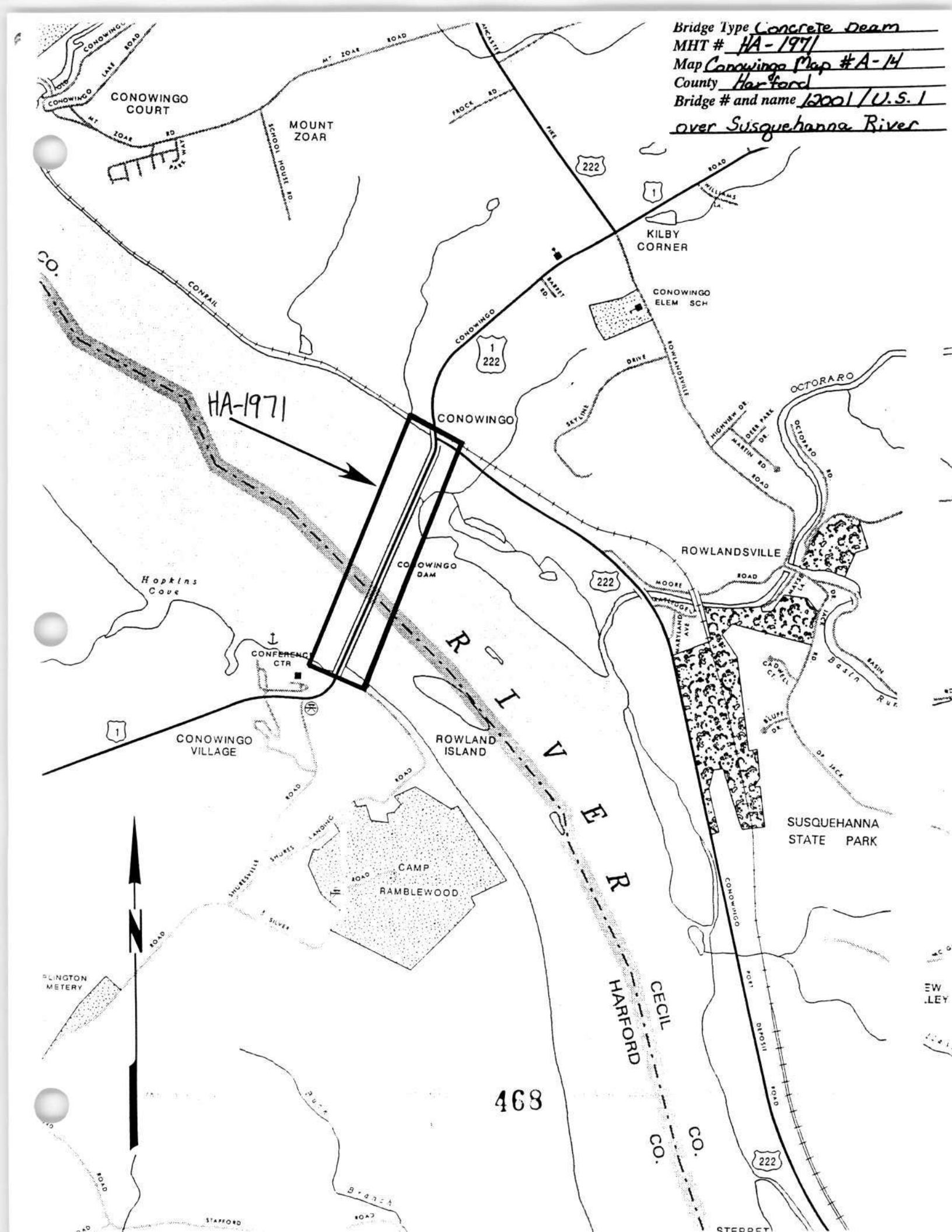
Tyrrell, H. Grattan
1909 *Concrete Bridges and Culverts for Both Railroads and Highways*. The Myron C. Clark Publishing Company, Chicago and New York.

SURVEYOR:

Date bridge recorded 2/25/97
Name of surveyor Caroline Hall
Organization/Address P.A.C. Spero & Co., 40 W. Chesapeake Avenue, Baltimore, MD 21204
Phone number (410) 296-1685 **FAX number** (410) 296-1670

HA-1971
Bridge No. 1200100
US 1 over Susquehanna River
Conowingo
Conowingo Quad
Harford County




Bridge Type Concrete Deam
MHT # HA-1971
Map Conowingo Map #A-14
County Harford
Bridge # and name 12001 / U.S. 1
over Susquehanna River
HA-1971
CONOWINGO COURT
MOUNT ZOAR
KILBY CORNER
CONOWINGO ELEM SCH
CONOWINGO
CONOWINGO DAM
ROWLANDSVILLE
OCTORARO
CONFERENCE CTR
CONOWINGO VILLAGE
ROWLAND ISLAND
CAMP RAMBLEWOOD
SUSQUEHANNA STATE PARK
Hopkins Cove
CONRAIL
SUSQUEHANNA RIVER
CECIL CO.
HARFORD CO.
468

1. HA-1971
2. US1 over Susquehanna River (1200)
3. Harford Co, MD
4. Caroline Hall
5. 3/97
6. MD SHPD
7. roadway approach
8. 1 of 9

1. HA-1971
2. US1 over Susquehanna River, (12001)
3. Harford Co. MD
4. Caroline Hall
5. 3/97
6. MD SHPO
7. south side - dam
8. 2 of 9
9

1. HA-1971

2. US1 over Susquehanna River (12001)

3. Harford Co. MD

4. Caroline Hall

5. 3/97

6. MD SHPO

7. south side - power plant

8. 3 of 9

1. HA-1971
2. US 1 over Susquehanna River (12001)
3. Harford Co. MD
4. Caroline Hall
5. 3/97
6. MD SHPO
7. south side - power plant
8. 4 of 9

1. HA-1971
2. US1 over Susquehanna River (1200)
3. Harford Co. MD
4. Caroline Hall
5. 3/97
6. MDSHPO
7. southside-dam
8. 5 of 9

1. HA-1971

2. US 1 over Susquehanna River (12001

3. Harford Co, MD

4. Caroline Hall

5. 3/97

6. MD SHPO

7. north side

8. 6 of 9

1. HA-1971

2. US1 over Susquehanna River (12001)

3. Harford County, MD

4. Caroline Hall

5. 3/97

6. MD SHPO

7. roadway approach

8. 7 of 9

1. HA-1971
2. US 1 over Susquehanna River, (1200')
3. Harford County
4. Caroline Hall
5. 3/97
6. MD SHPO
7. south side
8. 8 of 9

1. HA-1971
2. US 1 over Susquehanna River (12001)
3. Harford Co, MD
4. Caroline Hall
5. 3/97
6. MD SHPO
7. detail of dam + substructure
8. 9 of 9

Conowingo Dam, Susquehanna River, 1927 Harford to Cecil Co's - CE —
1927

HA-1971

MHT PHOTO

Robert M. Vogel