

UNITED STATES DEPARTMENT OF THE INTERIOR
 NATIONAL PARK SERVICE

 NATIONAL REGISTER OF HISTORIC PLACES
 INVENTORY -- NOMINATION FORM

FOR NPS USE ONLY

RECEIVED

HA- [7]

DATE ENTERED

 SEE INSTRUCTIONS IN HOW TO COMPLETE NATIONAL REGISTER FORMS
 TYPE ALL ENTRIES -- COMPLETE APPLICABLE SECTIONS
1 NAME

HISTORIC

AND/OR COMMON

Bush River Bridge

2 LOCATION

STREET & NUMBER

CITY, TOWN

-- NOT FOR PUBLICATION

CONGRESSIONAL DISTRICT

STATE

Perryville

VICINITY OF

1

Maryland

CODE

24

COUNTY

Harford

CODE

015

3 CLASSIFICATION

CATEGORY	OWNERSHIP	STATUS	PRESENT USE	
<input type="checkbox"/> DISTRICT	<input type="checkbox"/> PUBLIC	<input checked="" type="checkbox"/> OCCUPIED	<input type="checkbox"/> AGRICULTURE	<input type="checkbox"/> MUSEUM
<input type="checkbox"/> BUILDING(S)	<input checked="" type="checkbox"/> PRIVATE	<input type="checkbox"/> UNOCCUPIED	<input type="checkbox"/> COMMERCIAL	<input type="checkbox"/> PARK
<input checked="" type="checkbox"/> STRUCTURE	<input type="checkbox"/> BOTH	<input type="checkbox"/> WORK IN PROGRESS	<input type="checkbox"/> EDUCATIONAL	<input type="checkbox"/> PRIVATE RESIDENCE
<input type="checkbox"/> SITE	PUBLIC ACQUISITION	ACCESSIBLE	<input type="checkbox"/> ENTERTAINMENT	<input type="checkbox"/> RELIGIOUS
<input type="checkbox"/> OBJECT	<input type="checkbox"/> IN PROCESS	<input type="checkbox"/> YES RESTRICTED	<input type="checkbox"/> GOVERNMENT	<input type="checkbox"/> SCIENTIFIC
	<input type="checkbox"/> BEING CONSIDERED	<input type="checkbox"/> YES UNRESTRICTED	<input type="checkbox"/> INDUSTRIAL	<input checked="" type="checkbox"/> TRANSPORTATION
		<input type="checkbox"/> NO	<input type="checkbox"/> MILITARY	<input type="checkbox"/> OTHER

4 OWNER OF PROPERTY

NAME

AMTRAK

STREET & NUMBER

955 L'Enfant Plaza, SW

CITY, TOWN

Washington, D.C.

VICINITY OF

STATE

5 LOCATION OF LEGAL DESCRIPTIONCOURTHOUSE,
REGISTRY OF DEEDS, ETC

Real Estate Department-AMTRAK

STREET & NUMBER

955 L'Enfant Plaza

CITY, TOWN

Washington, D.C.

STATE

6 REPRESENTATION IN EXISTING SURVEYS

TITLE

Northeast Corridor Aerial Reconnaissance of Historic Structures

DATE

13-15 April 1977

 FEDERAL STATE COUNTY LOCALDEPOSITORY FOR
SURVEY RECORDSFederal Railway Administration
2100 2nd Street, S.W. Room 4613

CITY, TOWN

Washington, D.C. 20590

STATE

7 DESCRIPTION

AA-1711

CONDITION		CHECK ONE	CHECK ONE
<input type="checkbox"/> EXCELLENT	<input type="checkbox"/> DETERIORATED	<input type="checkbox"/> UNALTERED	<input checked="" type="checkbox"/> ORIGINAL SITE
<input type="checkbox"/> GOOD	<input type="checkbox"/> RUINS	<input checked="" type="checkbox"/> ALTERED	<input type="checkbox"/> MOVED DATE _____
<input checked="" type="checkbox"/> FAIR	<input type="checkbox"/> UNEXPOSED		

DESCRIBE THE PRESENT AND ORIGINAL (IF KNOWN) PHYSICAL APPEARANCE

The Bush River Bridge is a single-leaf Strauss bascule bridge with a below deck counterweight. The superstructure is of structural steel and the foundation is of timber pile. The substructure is 12 feet above mean high water.

From north to south, Bush River Bridge consists of 41 concrete slab approach spans, each 26 feet long; a through girder bascule span 40 feet long; an approach span 30 feet long; and 62 concrete slab spans 26 feet long. Two girders supporting the bridge gearing carry the forces developed when the bridge is opened. They are of varying depth--9 feet, 8 inches at the heel to 4 feet, 6 inches at the toe. The bascule span rotates about a heel trunnion 2 feet, 8 1/2 inches above the bottom flange of the through girders. A strut is attached from the top of the bascule girder to the rack. As the rack moves, it pulls the strut back, thus causing the bascule girder to rotate about the heel trunnion. The counterweight is attached to the opposite end of the rack through linkages. It hangs below the fixed span adjacent to the bascule span and moves downward as the rack moves.

The bridge is powered by a 75-horsepower diesel engine, located in a house to the south of the bascule span. The operation of friction clutches directs the power to either the bridge locks or the bridge moving machinery. The bridge is opened in the summer on weekends only and a track crew is required to operate it.

Structurally, Bush River Bridge is in good condition, but the mechanical workings are worn and in need of repair.

PERIOD	AREAS OF SIGNIFICANCE -- CHECK AND JUSTIFY BELOW			
PREHISTORIC	<input type="checkbox"/> ARCHEOLOGY-PREHISTORIC	<input type="checkbox"/> COMMUNITY PLANNING	<input type="checkbox"/> LANDSCAPE ARCHITECTURE	<input type="checkbox"/> RELIGION
1400-1499	<input type="checkbox"/> ARCHEOLOGY-HISTORIC	<input type="checkbox"/> CONSERVATION	<input type="checkbox"/> LAW	<input type="checkbox"/> SCIENCE
1500-1599	<input type="checkbox"/> AGRICULTURE	<input type="checkbox"/> ECONOMICS	<input type="checkbox"/> LITERATURE	<input type="checkbox"/> SCULPTURE
1600-1699	<input type="checkbox"/> ARCHITECTURE	<input type="checkbox"/> EDUCATION	<input type="checkbox"/> MILITARY	<input type="checkbox"/> SOCIAL/HUMANITARIAN
1700-1799	<input type="checkbox"/> ART	<input checked="" type="checkbox"/> ENGINEERING	<input type="checkbox"/> MUSIC	<input type="checkbox"/> THEATER
1800-1899	<input type="checkbox"/> COMMERCE	<input type="checkbox"/> EXPLORATION/SETTLEMENT	<input type="checkbox"/> PHILOSOPHY	<input checked="" type="checkbox"/> TRANSPORTATION
X 1900-	<input type="checkbox"/> COMMUNICATIONS	<input type="checkbox"/> INDUSTRY	<input type="checkbox"/> POLITICS/GOVERNMENT	<input type="checkbox"/> OTHER (SPECIFY)
		<input type="checkbox"/> INVENTION		

SPECIFIC DATES 1913

BUILDER/ARCHITECT Pennsylvania Steel Co.

STATEMENT OF SIGNIFICANCE

operational

The Bush River Bridge is the only/below deck counterweight type of Strauss bascule bridge on the Northeast Corridor rail line. It was constructed in 1913 by the Pennsylvania Steel Company for the Philadelphia, Baltimore and Washington railroad.

The movable bridge is an ancient type that can be changed in position so as to open a clear passage, or to afford an increased headway for ships and boats in navigable channels. Engineers choose this type of bridge when no other way of giving vertical clearance for the passage of vessels on a waterway exists. The introduction of railroads to the U.S. in the early 1800's greatly spurred the development and construction of this type of bridge. Along the eastern seaboard the large number of navigable rivers and inlets to be crossed resulted in the construction of fifteen movable bridges on what is today the Northeast Corridor rail line. There are three basic types of movable bridges--the bascule, the swing, and the vertical lift. On the Northeast Corridor rail line there are nine bascule bridges, five swing bridges, and one vertical lift bridge. These bridges were prefabricated at the construction company's plant and then built by unskilled labor at the site. The machinery to operate the bridges was not standardized and each one has unique mechanical components.

The earliest forerunners of the bascule type of movable bridge date from medieval times when they were used to cross moats to castles and forts. Some bascules were developed in Europe during the first half of the nineteenth century, but the first modern bascule bridge in this country was the Van Buren Street Bridge built in Chicago in 1893. It was designed by William Scherzer and was the first of the structures known as the Scherzer rolling lift bascule bridge.

The Strauss bascule, of which Bush is a variety, developed about the same time as the Scherzer rolling lift. Patented by Joseph Strauss, the first one was completed in 1905. The three basic types of Strauss bridges are the vertical overhead counterweight type, the underneath counterweight, and the heel trunnion. The below deck counterweight bridge is similar to the overhead type but the counterweight is located below the roadway. This arrangement is well suited to locations which provide ample clearance between high water level and grade.

The Bush River Bridge was built from the same plans as the bridge over the Gunpowder River in Maryland, but that bridge no longer operates as a movable bridge.

9 MAJOR BIBLIOGRAPHICAL REFERENCES

HR-1711

Condit, Carl. American Building. Chicago: University of Chicago Press, 1968.

Hool, George, ed. Movable and Long-Span Bridges. New York: McGraw-Hill Book Co., Inc., 1923.

10 GEOGRAPHICAL DATA

ACREAGE OF NOMINATED PROPERTY 1

UTM REFERENCES

A	1,8	39,306,0	4,36,583,0
	ZONE	EASTING	NORTHING

B			
	ZONE	EASTING	NORTHING

VERBAL BOUNDARY DESCRIPTION

This bridge is on the Northeast Corridor rail line, across the Bush River at Perryman, Maryland.

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE	CODE	COUNTY	CODE
STATE	CODE	COUNTY	CODE

11 FORM PREPARED BY

NAME / TITLE

Anne Baggerman, Cultural Resources Planner August 10, 1977

ORGANIZATION

DeLeuw, Cather, Parsons and Associates

DATE

202-452-5242

STREET & NUMBER

Northeast Corridor Project
1201 Connecticut Avenue

TELEPHONE

CITY OR TOWN

Washington, D.C.

STATE

12 STATE HISTORIC PRESERVATION OFFICER CERTIFICATION

THE EVALUATED SIGNIFICANCE OF THIS PROPERTY WITHIN THE STATE IS:

NATIONAL

STATE

LOCAL

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service

STATE HISTORIC PRESERVATION OFFICER SIGNATURE

TITLE

DATE

FOR NPS USE ONLY

I HEREBY CERTIFY THAT THIS PROPERTY IS INCLUDED IN THE NATIONAL REGISTER

DATE

DIRECTOR, OFFICE OF ARCHEOLOGY AND HISTORIC PRESERVATION

ATTEST:

DATE

KEEPER OF THE NATIONAL REGISTER

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

FOR NPS USE ONLY

RECEIVED

DATE ENTERED

**NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY -- NOMINATION FORM**

CONTINUATION SHEET

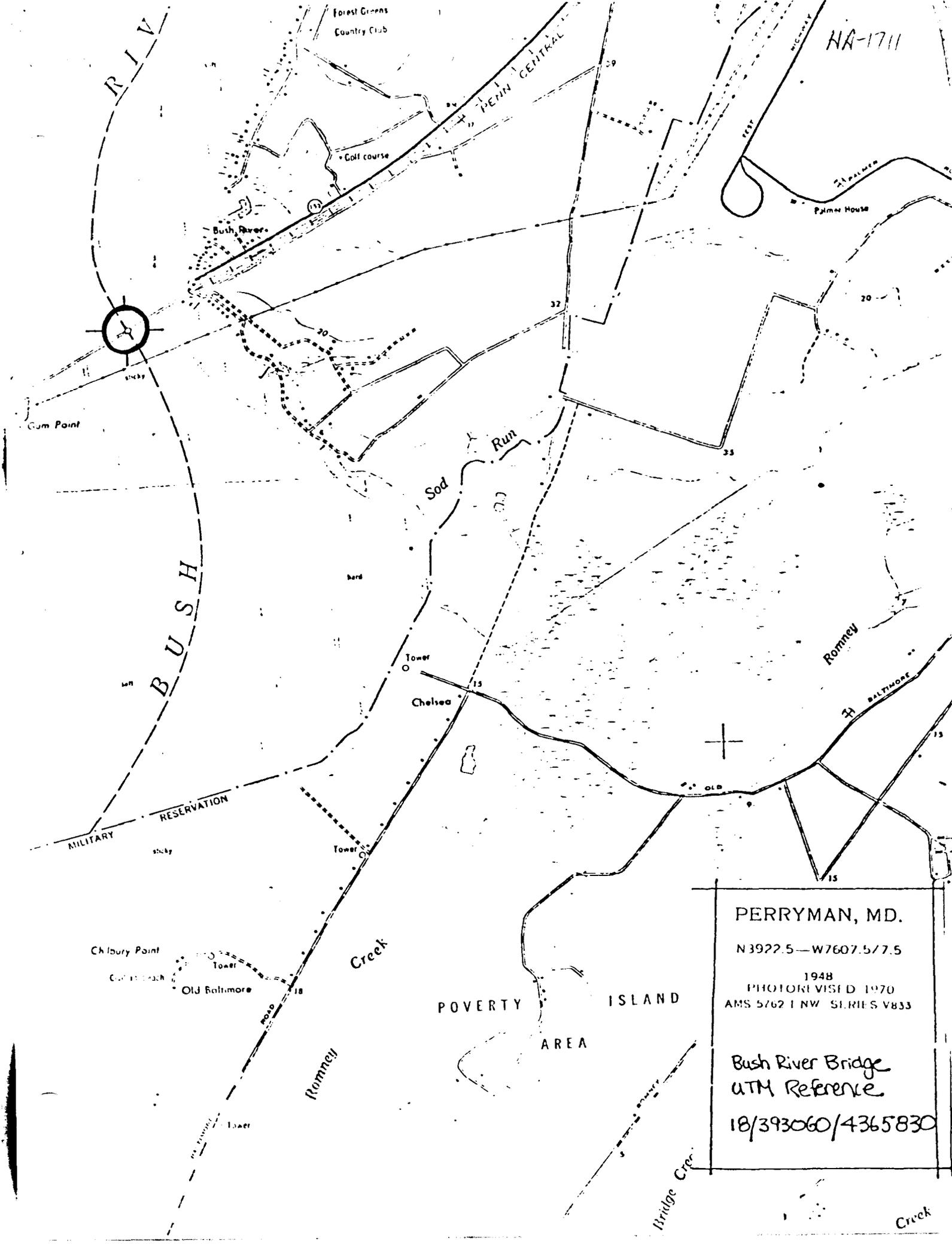
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Major Biographical References (continued):

Hovey, Otis Ellis. Movable Bridges, Vol. I and II. New York:
John Wiley and Sons, Inc., 1926.

Railroad Gazette, Vol XXXVIII, No. 11, March 17, 1905.

U.S. DOT, Northeast Corridor High Speed Rail Passenger Service
Improvement Project, Tasks 15.1 and 15.2, Vol. VI, Jan. 1977.



HA-1711

PERRYMAN, MD.
 N3922.5—W7607.5/7.5
 1948
 PHOTOREVISED 1970
 AMS 5762 I NW SERIES V853
 Bush River Bridge
 UTM Reference
 18/393060/4365830



Bush River RR Bridge - Perryman
April 77 MD
DeWitt Cather / Parsons - Wash DC
View of bascule
D&P - MD - 2 HA-1711



SALES
BY
APR 77

AUG 77



HA-1711



PRINT
MADE
BY
KODAK
AUG 77

Bush River RR Bridge-Perryman, MD
April 77
DeLuwa, Cather/Parsons-Wash, DC
view to North
DCP-MD-1 HA-1711