

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NEW JERSEY


DANIEL J. O'HERN
COMMISSIONER

JUL 21 1979

Mr. Charles A. Herrington
Acting Keeper of the National Register
Heritage Conservation and Recreation
Service
Department of the Interior
18th and C Streets, N.W.
Washington, D.C. 20243

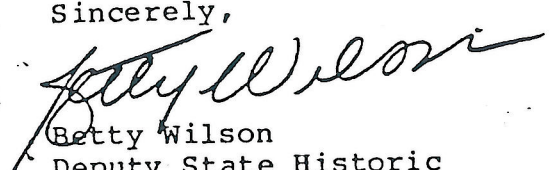
Dear Mr. Herrington:

I am pleased to nominate the Dock Bridge, Newark, Essex County
to the National Register.

This nomination has received the majority approval of the State
Review Committee for Historic Sites.

Should you want any further information concerning this appli-
cation, please feel free to contact the staff of the Office of
Historic Preservation, Department of Environmental Protection,
109 West State Street, Trenton, New Jersey 08625, telephone (609)
292-2023.

Sincerely,


Betty Wilson
Deputy State Historic
Preservation Officer

SUMMARY OF NOMINATION INFORMATION IN ONJH FILES

NAME Dock Bridge
COUNTY Essex
MUNICIPALITY Newark City

TYPE:

| | |
|--------------------|---------------|
| Individual | <u>X</u> |
| Historic District | <u> </u> |
| Multiple Property | <u> </u> |
| Documentation Form | <u> </u> |

NOMINATION FORM

ONJH FILES

- Nomination form (If there are continuation sheets, please indicate number)

-- First page (#1-6)

-- Description (#7)

-- Significance (#8)

-- Last page (#9-11)

- SHPO Signatures

- USGS Map

- Site plan

- Tax map

- Floorplan

- Photo index map

- Other maps

- Photographs (Indicate number)

--Exterior

--Interior

--Streetscapes

--Outbuildings

--Historical

--Negatives

--Contact Sheet

DATE OF LISTING

State Register 7/21/77

National Register 10/3/80

SUPPLEMENTAL INFORMATION

N.J.H.S.I. # _____

Newspaper/Magazine Articles _____

HABS _____

Other (Please specify) _____

Draft Nomination _____

Correspondence _____

Contextual Data _____

STAFF MEMBER Paula Rodriguez

UPDATES: STAFF

STAFF _____

DATE 6/27/77

DATE _____

DATE _____

NEW JERSEY AND NATIONAL REGISTER FILE REORGANIZATION - 1980-1981
Summary Sheet

NAME Dock Bridge
MUNICIPALITY Newark COUNTY Essex Co

Nomination Form:
Final Nomination Form ☒ Signed ☒ Unsigned ☐
U.S.G.S. Map ☒ Photocopy ☒
Other Maps _____

Plan(s): Site _____ Floor _____

| Photographs: | <u>Identified</u> | <u>Unidentified</u> | <u>Inadequate Coverage</u> |
|--------------|-------------------|---------------------|-------------------------------------|
| Exterior | _____ | _____ | <input checked="" type="checkbox"/> |
| Interior | _____ | _____ | _____ |
| Streetscapes | _____ | _____ | _____ |
| Outbuildings | _____ | _____ | _____ |
| Historical | _____ | _____ | _____ |

Negatives: Same as prints _____ Less than prints _____ Additional Negatives _____

Slides: adequate shots

Boundaries: No precise boundaries ☒ Defined in nomination ☒
Defined by map ☒ Latitude & longitude _____
U.T.M.'s ☒ Boundary justification _____

National Register notification of listing to SHPO: ☒

Copies of final approved nomination: ☒

Other: Addenda

SHPO Notification Letters: Intent to nominate ☒ National Register ☒ State Register ☒
Owner list _____

Supplemental Information: N.J.H.S.I. _____ Draft nomination _____
Newspaper/Magazine articles _____ Recent correspondence ☒
Local ordinance data _____ Maps _____ HABS _____
Other Synopsis

Materials in Storage: Public Meeting notification _____ Draft nomination ☒
Newspaper articles _____ Correspondence ☒
Historical information _____ Other _____

State Register Encroachments _____

Tax Act Certification _____

Section 106 Consultations and Comments _____

Grants-in-Aid _____

Notes:

Reorganized by: DAH

Date: 8/19/81

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

FOR NPS USE ONLY

RECEIVED

DATE ENTERED

NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY -- NOMINATION FORMSEE INSTRUCTIONS IN *HOW TO COMPLETE NATIONAL REGISTER FORMS*
TYPE ALL ENTRIES -- COMPLETE APPLICABLE SECTIONS**1 NAME**

HISTORIC

Dock Bridge

AND/OR COMMON

Railroad Lift Bridge over the Passaic River

2 LOCATION

STREET & NUMBER

Passaic River

CITY, TOWN

Newark

NOT FOR PUBLICATION

CONGRESSIONAL DISTRICT

10th

STATE

New Jersey

VICINITY OF
CODE

34

COUNTY

Essex

CODE

013

3 CLASSIFICATION

CATEGORY

☐ DISTRICT
☐ BUILDING(S)
☒ STRUCTURE
☐ SITE
☐ OBJECT

OWNERSHIP

☐ PUBLIC
☒ PRIVATE
☐ BOTH

PUBLIC ACQUISITION

☐ IN PROCESS
☐ BEING CONSIDERED

STATUS

☒ OCCUPIED
☐ UNOCCUPIED
☐ WORK IN PROGRESS
ACCESSIBLE
☒ YES: RESTRICTED
☐ YES: UNRESTRICTED
☐ NO

PRESENT USE

☐ AGRICULTURE ☐ MUSEUM
☐ COMMERCIAL ☐ PARK
☐ EDUCATIONAL ☐ PRIVATE RESIDENCE
☐ ENTERTAINMENT ☐ RELIGIOUS
☐ GOVERNMENT ☐ SCIENTIFIC
☐ INDUSTRIAL ☒ TRANSPORTATION
☐ MILITARY ☐ OTHER:**4 OWNER OF PROPERTY**

NAME Northeast Corridor Operations, National Railroad Passenger Corporation/Amtrak

STREET & NUMBER

1617 John F. Kennedy Building, Room 603

CITY, TOWN

Philadelphia

VICINITY OF

STATE

Pa. 19103

5 LOCATION OF LEGAL DESCRIPTIONCOURTHOUSE,
REGISTRY OF DEEDS, ETC.

STREET & NUMBER

CITY, TOWN

STATE

6 REPRESENTATION IN EXISTING SURVEYS

TITLE Northeast Corridor Aerial Reconnaissance of Historic Structures

DATE

13-15 April 1977

☒ FEDERAL ☐ STATE ☐ COUNTY ☐ LOCAL

DEPOSITORY FOR

SURVEY RECORDS Federal Railroad Administration, DOT/HAER, National Park Service

CITY, TOWN

Washington

D.C.

STATE

DESCRIPTION

CONDITION

☐ EXCELLENT
☒ GOOD
☐ FAIR

☐ DETERIORATED
☐ RUINS
☐ UNEXPOSED

CHECK ONE

☒ UNALTERED
☐ ALTERED

CHECK ONE

☒ ORIGINAL SITE
☐ MOVED DATE _____

DESCRIBE THE PRESENT AND ORIGINAL (IF KNOWN) PHYSICAL APPEARANCE

Dock Bridge over the Passaic River in Newark, New Jersey, a through-truss lift bridge, was constructed in 1935 by Waddell & Hardesty, Consulting Engineers, after the patent of Dr. J.A.L. Waddell. It was constructed for the Pennsylvania Railroad with T.W. Pinard, Chief Engineer of the railroad.

The structure consists of two deck girder approach spans 94 feet and 64 feet long, respectively; a through Warren truss, with verticals, lift span 230 feet long and two deck girder approach spans 64 and 68 feet long, respectively. Bridge A8.50 carries three tracks and C8.50 carries one track. PATH trains are carried on a separate span. The bridges are side by side and operate independently. This bridge has two sets of lift towers supporting three lift towers. The south towers support two bridge structures. Each span has the moving machinery located at the center of the span on the top chord of the trusses.

The substructure is 24 feet above mean high water and the abutments and piers are concrete with stone facings. There are timber fenders on both sides of the channel at the rest piers.

The main drive motors are 260-horsepower DC series wound electric motors. There are electro-hydraulic trustor brakes on each motor. The motors are geared through common spur reduction gears on shafts which transmit power to the cable drums. Cables run over the cable drums to the end of the span where they pass over an idler sheave to the bridge sheave. The bridges are raised and lowered by uphaul and downhaul cables. The counterweight cables are attached to the top chord of the trusses and run over sheaves. There is a 150 horsepower gasoline engine in the machinery house of each span. This engine serves as an emergency power source. There are compressors in the operator's house basement for bridge floor and rail locks. There are AC motor DC generator sets in the operator's house at the north shore. The bridge operator occupies the fifth floor of this house. The operator's level contains the signal interlock box, track model board, reversing drum controllers, and navigation light control. There is a cable tunnel below the river for cables carrying single-phase and 3-phase 4150-volt AC.

The operator's level is the top floor of the five-level house on the north shore. The other floors contain railroad electrical equipment. The house has steam heating which was installed in 1974.

The bridge is in generally good condition with some minor deterioration of some structural elements and need for repair in the mechanical and electrical equipment.

CANCE

AREAS OF SIGNIFICANCE -- CHECK AND JUSTIFY BELOW

| | | | | |
|------|---|---|---|--|
| C | <input type="checkbox"/> ARCHEOLOGY-PREHISTORIC | <input type="checkbox"/> COMMUNITY PLANNING | <input type="checkbox"/> LANDSCAPE ARCHITECTURE | <input type="checkbox"/> RELIGION |
| J | <input type="checkbox"/> ARCHEOLOGY-HISTORIC | <input type="checkbox"/> CONSERVATION | <input type="checkbox"/> LAW | <input type="checkbox"/> SCIENCE |
| 99 | <input type="checkbox"/> AGRICULTURE | <input type="checkbox"/> ECONOMICS | <input type="checkbox"/> LITERATURE | <input type="checkbox"/> SCULPTURE |
| 1699 | <input type="checkbox"/> ARCHITECTURE | <input type="checkbox"/> EDUCATION | <input type="checkbox"/> MILITARY | <input type="checkbox"/> SOCIAL/HUMANITARIAN |
| 1799 | <input type="checkbox"/> ART | <input checked="" type="checkbox"/> ENGINEERING | <input type="checkbox"/> MUSIC | <input type="checkbox"/> THEATER |
| 1899 | <input type="checkbox"/> COMMERCE | <input type="checkbox"/> EXPLORATION/SETTLEMENT | <input type="checkbox"/> PHILOSOPHY | <input checked="" type="checkbox"/> TRANSPORTATION |
| J | <input type="checkbox"/> COMMUNICATIONS | <input type="checkbox"/> INDUSTRY | <input type="checkbox"/> POLITICS/GOVERNMENT | <input type="checkbox"/> OTHER (SPECIFY) |
| | | <input type="checkbox"/> INVENTION | | |

IFIC DATES

1935

BUILDER/ARCHITECT

Waddell and Hardesty

EMENT OF SIGNIFICANCE

Dock Bridge is the only vertical lift bridge on the Northeast Corridor railroad route, and is the newest of the movable bridges on the Corridor. The structure is unique because of the operation of six tracks on three bridges with two lift spans.

Dr. J.A.L. Waddell was one of the first to patent a simplified and improved design of vertical lift bridge in the United States. Vertical lift bridges of small spans and low lifts were constructed in Europe at a fairly early date, but no vertical lifts of any size were constructed until the late 19th century. The consulting engineering firm for the construction of this structure, Waddell & Hardesty, used the patent of Dr. Waddell in the design of the bridge.

Vertical lift bridges were more widespread in the U.S. after 1908. This type is economical in construction and operation and has proven efficient in heavily trafficked areas because the span can be opened in less time than is required for a swing bridge. In addition, the span can be partially raised when height requirements are low. Heavy railroad traffic between New York City and Newark and the frequent openings necessary on the Passaic River make this structure critical to the operation of the Northeast Corridor railroad system.

The machinery and electrical systems which were specifically designed for this bridge have not been significantly altered since their installation. Earle Gear and Machine Company of Philadelphia was the contractor for the machinery and the electrification was done by Gibbs & Hill.

MAJOR BIBLIOGRAPHICAL REFERENCES

1. George A. and W.S. Kinne, eds. Movable and Long-Span Steel Bridges New York, McGraw-Hill Book Co., Inc. 1923.
2. Hovey, Otis Ellis, Movable Bridges New York: John Wiley & Sons, Inc. 1926
3. Plowden, David. Bridges, the Spans of North America. New York: The Viking Press
4. U.S. DOT. Northeast Corridor High Speed Rail Passenger Service Improvement Project, Tasks 15.1, 15.2, Vol. VI, Jan. 1977.

10 GEOGRAPHICAL DATA

1

ACREAGE OF NOMINATED PROPERTY _____

QUADRANGLE NAME Elizabeth

QUADRANGLE SCALE 1:24,000

UTM REFERENCES

A 18 470770 45091570

B

C

D

E

F

G

H

VERBAL BOUNDARY DESCRIPTION

Dock Bridge crosses the Passaic River from Newark, N.J. to Harrison, N.J. on the former Penn Central railroad line.

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

| STATE | CODE | COUNTY | CODE |
|-------------------|------|---------------|------|
| <u>New Jersey</u> | | <u>Essex</u> | |
| <u>New Jersey</u> | | <u>Hudson</u> | |

11 FORM PREPARED BY

NAME / TITLE

Janice Artemel, Cultural Resources Coordinator, October 24, 1977

ORGANIZATION

DATE

STREET & NUMBER

Delouw, Cather/Parsons & Associates, Northeast Corridor Project

TELEPHONE

CITY OR TOWN

1201 Connecticut Avenue, Room 1005

STATE

Washington D.C.

12 STATE HISTORIC PRESERVATION OFFICER CERTIFICATION

THE EVALUATED SIGNIFICANCE OF THIS PROPERTY WITHIN THE STATE IS:

NATIONAL

STATE X

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.

Deputy

STATE HISTORIC PRESERVATION OFFICER SIGNATURE

TITLE

Deputy Commissioner, Department of Environmental Protection

DATE

7-21-79

FOR NPS USE ONLY

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

DATE

ATTEST:

KEEPER OF THE NATIONAL REGISTER

DATE

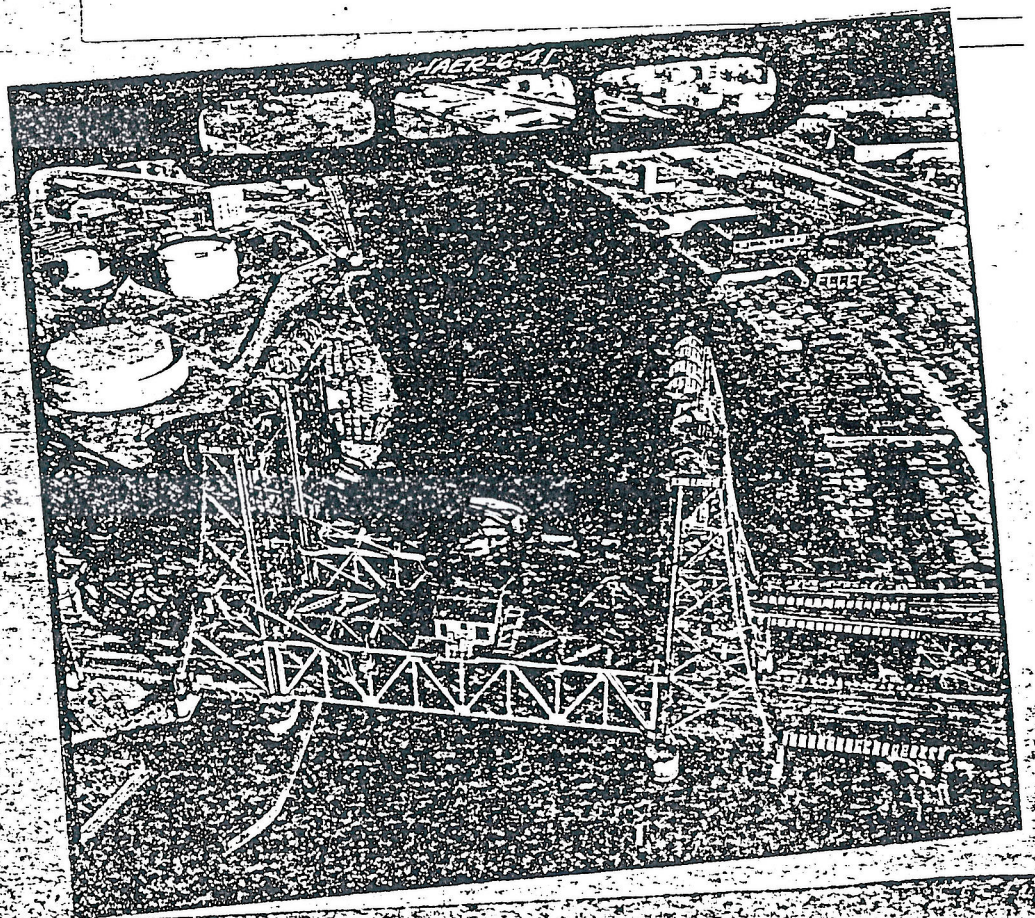
CHIEF OF REGISTRATION

Dock Bridge
Newark
Essex County
New Jersey 034
UTM 18 570770 4509570

ELIZABETH QUADRANGLE
NEW JERSEY - NEW YORK
15 MINUTE SERIES (TOPOGRAPHIC)



NECIP - DeLEUW, CATHER; PARSONS
SUBJECT: Passaic River
VIEW: RR Bridge--aerial
LOCATION: Newark, N.J.
MILEPOST: 8.50
PHOTOGRAPHER: J. Boucher
DATE: April 1977





DANIEL J. O'HERN
COMMISSIONER

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NEW JERSEY

JUL 21 1979

Mr. Charles A. Herrington
Acting Keeper of the National Register
Heritage Conservation and Recreation
Service
Department of the Interior
18th and C Streets, N.W.
Washington, D.C. 20243

Dear Mr. Herrington:

I am pleased to nominate the Dock Bridge, Newark, Essex County to the National Register.

This nomination has received the majority approval of the State Review Committee for Historic Sites.

Should you want any further information concerning this application, please feel free to contact the staff of the Office of Historic Preservation, Department of Environmental Protection, 109 West State Street, Trenton, New Jersey 08625, telephone (609) 292-2023.

Sincerely,


Betty Wilson
Deputy State Historic
Preservation Officer

TYPE:

Individual X
 Historic District _____
 Multiple Property _____
 Documentation Form _____

ONJH FILES

- Contact Sheet

CS:

National Register 10/3/80

Contextual Data _____

DATE _____

NEW JERSEY AND NATIONAL REGISTER FILE REORGANIZATION - 1980-1981
Summary Sheet

NAME Dock Bridge
MUNICIPALITY Newark COUNTY Essex Co

Nomination Form:

Final Nomination Form ☒ Signed ☒ Unsigned ☐

U.S.G.S. Map ☒ Photocopy ☒

Other Maps _____

Plan(s): Site _____ Floor _____

Photographs:

| | <u>Identified</u> | <u>Unidentified</u> | <u>Inadequate Coverage</u> |
|--------------|-------------------|---------------------|-------------------------------------|
| Exterior | _____ | _____ | <input checked="" type="checkbox"/> |
| Interior | _____ | _____ | _____ |
| Streetscapes | _____ | _____ | _____ |
| Outbuildings | _____ | _____ | _____ |
| Historical | _____ | _____ | _____ |

Negatives:

Same as prints _____ Less than prints _____ Additional Negatives _____

Slides: adequate shots

Boundaries:

| | | | |
|-----------------------|-------------------------------------|------------------------|-------------------------------------|
| No precise boundaries | _____ | Defined in nomination | <input checked="" type="checkbox"/> |
| Defined by map | <input checked="" type="checkbox"/> | Latitude & longitude | _____ |
| U.T.M.'s | <input checked="" type="checkbox"/> | Boundary justification | _____ |

National Register notification of listing to SHPO: ☒

Copies of final approved nomination: ☒

Other: Addenda

SHPO Notification Letters:

Intent to nominate ☒ National Register ☒ State Register ☒
Owner list _____

Supplemental Information:

| | | | |
|-----------------------------|-------|-----------------------|-------------------------------------|
| N.J.H.S.I. | _____ | Draft nomination | _____ |
| Newspaper/Magazine articles | _____ | Recent correspondence | <input checked="" type="checkbox"/> |
| Local ordinance data | _____ | Maps | _____ |
| Other <u>Synopsis</u> | _____ | HABS | _____ |

Materials in Storage:

| | | | |
|-----------------------------|-------|------------------|-------------------------------------|
| Public Meeting notification | _____ | Draft nomination | <input checked="" type="checkbox"/> |
| Newspaper articles | _____ | Correspondence | <input checked="" type="checkbox"/> |
| Historical information | _____ | Other | _____ |

State Register Encroachments _____

Tax Act Certification _____

Section 106 Consultations and Comments _____

Grants-in-Aid _____

Notes:

Reorganized by: _____

DAH

Date: _____

8/19/81

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICENATIONAL REGISTER OF HISTORIC PLACES
INVENTORY -- NOMINATION FORM

FOR NPS USE ONLY

RECEIVED

DATE ENTERED

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

HISTORIC

Dock Bridge

AND/OR COMMON

Railroad Lift Bridge over the Passaic River

2 LOCATION

STREET & NUMBER

Passaic River

CITY, TOWN

Newark

NOT FOR PUBLICATION

CONGRESSIONAL DISTRICT

10th

STATE

New Jersey

VICINITY OF
CODE

34

COUNTY

Essex

CODE

013

3 CLASSIFICATION

CATEGORY

☐ DISTRICT
☐ BUILDING(S)
☒ STRUCTURE
☐ SITE
☐ OBJECT

OWNERSHIP

☐ PUBLIC
☒ PRIVATE
☐ BOTH

PUBLIC ACQUISITION

☐ IN PROCESS
☐ BEING CONSIDERED

STATUS

☒ OCCUPIED
☐ UNOCCUPIED
☐ WORK IN PROGRESS
ACCESSIBLE
☒ YES: RESTRICTED
☐ YES: UNRESTRICTED
☐ NO

PRESENT USE

☐ AGRICULTURE
☐ COMMERCIAL
☐ EDUCATIONAL
☐ ENTERTAINMENT
☐ GOVERNMENT
☐ INDUSTRIAL
☐ MILITARY
☐ MUSEUM
☐ PARK
☐ PRIVATE RESIDENCE
☐ RELIGIOUS
☐ SCIENTIFIC
☒ TRANSPORTATION
☐ OTHER:**4 OWNER OF PROPERTY**

NAME Northeast Corridor Operations, National Railroad Passenger Corporation/Amtrak

STREET & NUMBER

1617 John F. Kennedy Building, Room 603

CITY, TOWN

Philadelphia

VICINITY OF

STATE

Pa. 19103

5 LOCATION OF LEGAL DESCRIPTIONCOURTHOUSE,
REGISTRY OF DEEDS, ETC.

STREET & NUMBER

CITY, TOWN

STATE

6 REPRESENTATION IN EXISTING SURVEYS

TITLE Northeast Corridor Aerial Reconnaissance of Historic Structures

DATE

13-15 April 1977

☒ FEDERAL ☐ STATE ☐ COUNTY ☐ LOCAL

DEPOSITORY FOR

SURVEY RECORDS Federal Railroad Administration, DOT/HAER, National Park Service

CITY, TOWN

Washington

D.C.

STATE

7 DESCRIPTION

CONDITION

☐ EXCELLENT
☒ GOOD
☐ FAIR

☐ DETERIORATED
☐ RUINS
☐ UNEXPOSED

CHECK ONE

☒ UNALTERED
☐ ALTERED

CHECK ONE

☒ ORIGINAL SITE
☐ MOVED DATE _____

DESCRIBE THE PRESENT AND ORIGINAL (IF KNOWN) PHYSICAL APPEARANCE

Dock Bridge over the Passaic River in Newark, New Jersey, a through-truss lift bridge, was constructed in 1935 by Waddell & Hardesty, Consulting Engineers, after the patent of Dr. J.A.L. Waddell. It was constructed for the Pennsylvania Railroad with T.W. Pinard, Chief Engineer of the railroad.

The structure consists of two deck girder approach spans 94 feet and 64 feet long, respectively; a through Warren truss, with verticals, lift span 230 feet long and two deck girder approach spans 64 and 68 feet long, respectively. Bridge A8.50 carries three tracks and C8.50 carries one track. PATH trains are carried on a separate span. The bridges are side by side and operate independently. This bridge has two sets of lift towers supporting three lift towers. The south towers support two bridge structures. Each span has the moving machinery located at the center of the span on the top chord of the trusses.

The substructure is 24 feet above mean high water and the abutments and piers are concrete with stone facings. There are timber fenders on both sides of the channel at the rest piers.

The main drive motors are 260-horsepower DC series wound electric motors. There are electro-hydraulic trustor brakes on each motor. The motors are geared through common spur reduction gears on shafts which transmit power to the cable drums. Cables run over the cable drums to the end of the span where they pass over an idler sheave to the bridge sheave. The bridges are raised and lowered by uphaul and downhaul cables. The counterweight cables are attached to the top chord of the trusses and run over sheaves. There is a 150 horsepower gasoline engine in the machinery house of each span. This engine serves as an emergency power source. There are compressors in the operator's house basement for bridge floor and rail locks. There are AC motor DC generator sets in the operator's house at the north shore. The bridge operator occupies the fifth floor of this house. The operator's level contains the signal interlock box, track model board, reversing drum controllers, and navigation light control. There is a cable tunnel below the river for cables carrying single-phase and 3-phase 4150-volt AC.

The operator's level is the top floor of the five-level house on the north shore. The other floors contain railroad electrical equipment. The house has steam heating which was installed in 1974.

The bridge is in generally good condition with some minor deterioration of some structural elements and need for repair in the mechanical and electrical equipment.

SIGNIFICANCE

RIOD

AREAS OF SIGNIFICANCE -- CHECK AND JUSTIFY BELOW

| | | | | |
|----------|---|---|---|--|
| HISTORIC | <input type="checkbox"/> ARCHEOLOGY-PREHISTORIC | <input type="checkbox"/> COMMUNITY PLANNING | <input type="checkbox"/> LANDSCAPE ARCHITECTURE | <input type="checkbox"/> RELIGION |
| 0-1499 | <input type="checkbox"/> ARCHEOLOGY-HISTORIC | <input type="checkbox"/> CONSERVATION | <input type="checkbox"/> LAW | <input type="checkbox"/> SCIENCE |
| 0-1599 | <input type="checkbox"/> AGRICULTURE | <input type="checkbox"/> ECONOMICS | <input type="checkbox"/> LITERATURE | <input type="checkbox"/> SCULPTURE |
| 0-1699 | <input type="checkbox"/> ARCHITECTURE | <input type="checkbox"/> EDUCATION | <input type="checkbox"/> MILITARY | <input type="checkbox"/> SOCIAL/HUMANITARIAN |
| 0-1799 | <input type="checkbox"/> ART | <input checked="" type="checkbox"/> ENGINEERING | <input type="checkbox"/> MUSIC | <input type="checkbox"/> THEATER |
| 0-1899 | <input type="checkbox"/> COMMERCE | <input type="checkbox"/> EXPLORATION/SETTLEMENT | <input type="checkbox"/> PHILOSOPHY | <input checked="" type="checkbox"/> TRANSPORTATION |
| 0- | <input type="checkbox"/> COMMUNICATIONS | <input type="checkbox"/> INDUSTRY | <input type="checkbox"/> POLITICS/GOVERNMENT | <input type="checkbox"/> OTHER (SPECIFY) |
| | | <input type="checkbox"/> INVENTION | | |

IFIC DATES

1935

BUILDER/ARCHITECT

Waddell and Hardesty

EMENT OF SIGNIFICANCE

Dock Bridge is the only vertical lift bridge on the Northeast Corridor railroad route, and is the newest of the movable bridges on the Corridor. The structure is unique because of the operation of six tracks on three bridges with two lift spans.

Dr. J.A.L. Waddell was one of the first to patent a simplified and improved design of vertical lift bridge in the United States. Vertical lift bridges of small spans and low lifts were constructed in Europe at a fairly early date, but no vertical lifts of any size were constructed until the late 19th century. The consulting engineering firm for the construction of this structure, Waddell & Hardesty, used the patent of Dr. Waddell in the design of the bridge.

Vertical lift bridges were more widespread in the U.S. after 1908. This type is economical in construction and operation and has proven efficient in heavily trafficked areas because the span can be opened in less time than is required for a swing bridge. In addition, the span can be partially raised when height requirements are low. Heavy railroad traffic between New York City and Newark and the frequent openings necessary on the Passaic River make this structure critical to the operation of the Northeast Corridor railroad system.

The machinery and electrical systems which were specifically designed for this bridge have not been significantly altered since their installation. Earle Gear and Machine Company of Philadelphia was the contractor for the machinery and the electrification was done by Gibbs & Hill.

9 MAJOR BIBLIOGRAPHICAL REFERENCES

- Hool, George A. and W.S. Kinne, eds. Movable and Long-Span Steel Bridges New York, McGraw-Hill Book Co., Inc. 1923.
- Hovey, Otis Ellis, Movable Bridges New York: John Wiley & Sons, Inc. 1926
- Plowden, David. Bridges, the Spans of North America. New York: The Viking Press
- U.S. DOT. Northeast Corridor High Speed Rail Passenger Service Improvement Project, Tasks 15.1, 15.2, Vol. VI, Jan. 1977.

10 GEOGRAPHICAL DATA

ACREAGE OF NOMINATED PROPERTY _____

QUADRANGLE NAME Elizabeth

QUADRANGLE SCALE 1:24,000

UTM REFERENCES

A 18 570770 45091570

B

C

D

E

F

G

H

VERBAL BOUNDARY DESCRIPTION

Dock Bridge crosses the Passaic River from Newark, N.J. to Harrison, N.J. on the former Penn Central railroad line.

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

STATE New Jersey CODE _____ COUNTY Essex CODE _____

STATE New Jersey CODE _____ COUNTY Hudson CODE _____

11 FORM PREPARED BY

NAME / TITLE Janice Artemel, Cultural Resources Coordinator, October 24, 1977

ORGANIZATION _____ DATE _____

STREET & NUMBER Delow, Cather/Parsons & Associates, Northeast Corridor Project TELEPHONE _____

CITY OR TOWN 1201 Connecticut Avenue, Room 1005 STATE _____

Washington D.C.

12 STATE HISTORIC PRESERVATION OFFICER CERTIFICATION

THE EVALUATED SIGNIFICANCE OF THIS PROPERTY WITHIN THE STATE IS:

NATIONAL _____ STATE X 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.

Deputy - Active

STATE HISTORIC PRESERVATION OFFICER SIGNATURE 7-21-79

TITLE Deputy Commissioner, Department of Environmental Protection DATE _____

FOR NPS USE ONLY

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

DATE _____

ATTEST:

KEEPER OF THE NATIONAL REGISTER

DATE _____

CHIEF OF REGISTRATION

Dock Bridge
Newark

Essex County

New Jersey 034

UTM 18 570770 4509570

ELIZABETH QUADRANGLE

NEW JERSEY - NEW YORK

7.5 MINUTE SERIES (TOPOGRAPHIC)

74° 0' 30"

40° 45'

2 140 000 FEET (N.J.)

10'

569



690 000 FEET
(N.J.)



NECIP-DeLEUW, CATHER/PARSONS
SUBJECT: Passaic R. RR
VIEW: Bridge
LOCATION: Newark, N.J.
MILEPOST: 8.50
PHOTOGRAPHER: Jack Boucher
DATE: April 1977

NECIP - DeLEUW, CATHER/PARSONS
SUBJECT: Passaic River
VIEW: RR Bridge--aerial
LOCATION: Newark, N.J.
MILEPOST: 8.50
PHOTOGRAPHER: J. Boucher
DATE: April 1977

