

United States Department of the Interior
National Park Service

REFNUM 86000078

For NPS use only

National Register of Historic Places
Inventory—Nomination Form

received

date entered 1-16-86

See instructions in *How to Complete National Register Forms*
Type all entries—complete applicable sections

1. Name

historic BRECKSVILLE-NORTHFIELD HIGH LEVEL BRIDGE

and or common

2. Location

street & number State Route 82 and Cuyahoga River not for publication

city, town Brecksville; Northfield vicinity of

state Ohio code 039 county Cuyahoga; Summit code 035; 153

3. Classification

Category	Ownership	Status	Present Use
<input type="checkbox"/> district	<input checked="" type="checkbox"/> public	<input checked="" type="checkbox"/> occupied	<input type="checkbox"/> agriculture
<input type="checkbox"/> building(s)	<input type="checkbox"/> private	<input type="checkbox"/> unoccupied	<input type="checkbox"/> commercial
<input checked="" type="checkbox"/> structure	<input type="checkbox"/> both	<input type="checkbox"/> work in progress	<input type="checkbox"/> educational
<input type="checkbox"/> site	Public Acquisition	Accessible	<input type="checkbox"/> entertainment
<input type="checkbox"/> object	<input type="checkbox"/> in process	<input type="checkbox"/> yes: restricted	<input type="checkbox"/> government
	<input type="checkbox"/> being considered	<input checked="" type="checkbox"/> yes: unrestricted	<input type="checkbox"/> industrial
	N/A	<input type="checkbox"/> no	<input type="checkbox"/> military
			<input type="checkbox"/> museum
			<input type="checkbox"/> park
			<input type="checkbox"/> private residence
			<input type="checkbox"/> religious
			<input type="checkbox"/> scientific
			<input checked="" type="checkbox"/> transportation
			<input type="checkbox"/> other:

4. Owner of Property

name *A. Cuyahoga County Commissioners*
B. Summit County Commissioners
Warren Smith, Director, Ohio Department of Transportation

street & number *A. 1219 Ontario St.*
B. 25 S. Front St., P.O. Box 899
C. 175 S. Main St.

city, town *A. Cleveland* *B. Columbus* *C. Akron* vicinity of state Ohio *A. 44114* *B. 43215* *C. 4430*

5. Location of Legal Description

courthouse, registry of deeds, etc. Cuyahoga County Administration Building

street & number 1219 Ontario

city, town Cleveland state Ohio 44114

6. Representation in Existing Surveys

title Ohio Historic Inventory has this property been determined eligible? yes no

date 1976 federal state county local

depository for survey records Ohio Historical Society

city, town Columbus state Ohio

7. Description

Condition		Check one	Check one
<input type="checkbox"/> excellent	<input type="checkbox"/> deteriorated	<input checked="" type="checkbox"/> unaltered	<input type="checkbox"/> original site
<input checked="" type="checkbox"/> good	<input type="checkbox"/> ruins	<input type="checkbox"/> altered	<input type="checkbox"/> moved date _____
<input type="checkbox"/> fair	<input type="checkbox"/> unexposed		

Describe the present and original (if known) physical appearance

The Brecksville-Northfield High Level Bridge carries State Route 82 across the Cuyahoga River Valley and stands half in Cuyahoga County and half in Summit County. It is located within the boundaries of the Cuyahoga Valley National Recreation Area and contributes to the scenic quality of the valley, especially when viewed from below, where the Ohio and Erie Canal and the Valley Railway parallel the river.

This is a double-ribbed, open-spandrel concrete arch bridge, consisting of seven spans. Five arches have a span of 181 feet 3 inches, one arch a span of 135 feet 4.5 inches, and one arch a span of 90 feet 7.5 inches. The arches are parabolic in shape and support slender vertical members which carry the roadway on flattened arches spanning the spandrels between each post. Two of the vertical posts are concentrated at each major pier, so that the two springing arches at the deck create a small pointed arch. The total structure is 1,132 feet long and 145 feet high. The bridge is 40 feet wide with a 30-foot roadway and a 3 foot 6 inch sidewalk on each side. The railings are cast concrete balustrades. The roadway, originally paved with brick, has been surfaced with asphaltic concrete. The present lamp posts are later replacements. The structure is in good condition, although there is some spalling of concrete from the railings and the underside of the deck.

8. Significance

Period	Areas of Significance—Check and justify below			
<input type="checkbox"/> prehistoric	<input type="checkbox"/> archeology-prehistoric	<input type="checkbox"/> community planning	<input type="checkbox"/> landscape architecture	<input type="checkbox"/> religion
<input type="checkbox"/> 1400-1499	<input type="checkbox"/> archeology-historic	<input type="checkbox"/> conservation	<input type="checkbox"/> law	<input type="checkbox"/> science
<input type="checkbox"/> 1500-1599	<input type="checkbox"/> agriculture	<input type="checkbox"/> economics	<input type="checkbox"/> literature	<input type="checkbox"/> sculpture
<input type="checkbox"/> 1600-1699	<input type="checkbox"/> architecture	<input type="checkbox"/> education	<input type="checkbox"/> military	<input type="checkbox"/> social/
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> art	<input checked="" type="checkbox"/> engineering	<input type="checkbox"/> music	<input type="checkbox"/> humanitarian
<input type="checkbox"/> 1800-1899	<input type="checkbox"/> commerce	<input type="checkbox"/> exploration/settlement	<input type="checkbox"/> philosophy	<input type="checkbox"/> theater
<input checked="" type="checkbox"/> 1900-	<input type="checkbox"/> communications	<input type="checkbox"/> industry	<input type="checkbox"/> politics/government	<input type="checkbox"/> transportation
		<input type="checkbox"/> invention		<input type="checkbox"/> other (specify)

Specific dates 1931 **Builder/Architect** Alfred M. Felgate

Statement of Significance (in one paragraph)

Criterion C

The Brecksville-Northfield High Level Bridge represents one of the high points in the development of the multiple-span concrete arch bridge; it possesses special artistic values compared to those of other bridges of the same class; it was designed by a major Ohio bridge engineer; and it is situated in the context of three historic 19th century transportation systems.

The bridge was erected in 1930-1931 and designed by Alfred M. Felgate, civil engineer, deputy county surveyor, and bridge engineer for Cuyahoga County for over twenty years. The contractor was the Highway Construction Company of Cleveland. Felgate designed the Detroit-Rocky River Bridge between Lakewood and Rocky River, the longest masonry arch in the world when completed in 1910, which was listed in the National Register in 1973 but demolished in 1981 with the concurrence of the Advisory Council. He was design engineer for the Detroit-Superior High Level Bridge in Cleveland, the longest double-deck reinforced concrete bridge in the world in 1918 (NR). He designed the Hilliard Road Bridge in Lakewood (1926), another multiple-span concrete arch bridge.

Other multiple-span concrete arch bridges in Greater Cleveland were the Brooklyn-Brighton Bridge (1916), designed by the county engineer's office and undoubtedly involving Felgate; the Chagrin River Bridge in Willoughby (1921; demolished); the Fulton Road Bridge (1932); the Northfield Road Bridge in Bedford (1932; demolished); and the Brookpark Road Bridge (1933, shown in the Ohio Historic Bridge Inventory, Evaluation, and Preservation Plan).

The concrete bridge in America had developed in the three decades previous to the Brecksville bridge. Originally considered to be an artificial stone masonry, concrete was soon realized to have its own characteristic properties which demanded new engineered forms. Because of its plasticity and the tensile strength which resulted from the steel reinforcing embedded within, the architectural forms tended more and more toward slender proportions. But although there came to be general agreement that concrete should not imitate mortar joints, keystones, and quoins, there remained considerable difference of opinion on the degree to which concrete forms should depart from the massiveness of stonework.

Felgate's bridges were among those that became more and more attenuated. The Brecksville-Northfield bridge embodies the distinctive characteristics

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Brecksville-Northfield High Level Bridge, Cuyahoga/Summit Counties, Ohio

Continuation sheet

Significance

Item number 8

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of concrete bridge construction in the 1920s; however, it also displays the tendency to develop thinner supporting members which is an expression of efficiency in weight, mass, and cost. This balance between thinness and safety gives the structure an elegance that is sought and prized by engineers.

Because of its solid masonry construction, Felgate's Detroit-Rocky River Bridge was at the lower end of this development toward thinness. His Hilliard Road and Detroit-Superior bridges stand at the midpoint of the development, and their proportions are those of the most typical bridges of the period. The same is true of the other five bridges in the region listed above. But Felgate's Brecksville-Northfield Bridge carries this development to a logical conclusion, with its elegant proportions, its parabolic arches springing lightly, its slender supports bearing the deck with breathtaking ease, and the double verticals at each pier culminating in a pointed arch to add a further refinement. It is Alfred M. Felgate's most artistic bridge and possesses high artistic values.

The aesthetic criteria of the Ohio Department of Transportation Bridge Inventory bear out this conclusion. The overall dimensions of the bridge relate well to the surrounding natural environment; it fits coherently with the valley width and depth and the approach landscape; and it fits coherently with the stream width. The texture and massing of the bridge relate well to the details of the natural setting.

Furthermore, the various elements of the bridge relate well to each other in size, spacing, height, and width. The only element that could be called decorative is the slender pointed arch of each pier, and they are appropriate in size, distribution, and character. Finally, the overall shape of the bridge functions as a cohesive entity; its symmetry is well suited to its shape.

In addition, the bridge stands within the Cuyahoga Valley National Recreation Area. From the point of view of historical interpretation by the National Park Service, the bridge is the product of one of a series of events that have made a significant contribution to the broad patterns of our history; a) the use of the Indian trail and waterway along the Cuyahoga River; b) the construction of the Ohio and Erie Canal (1827, NR); c) the construction of the Valley Railway (1880, NR approval by SHPO, 1985); and d) the development of 1920s public highway technology. The relationship between these four historic transportation systems up to 1931 is a significant part of the interpretation of the valley and considered to be of considerable importance by the Cuyahoga Valley staff of the National Park Service.

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The bridge is included in the Ohio Historic Bridge Inventory (File Number 7706871). It is one of sixteen open-spandrel concrete arches selected for a reserve pool, which means that if the bridge is programmed for replacement, guidelines for evaluating the bridge in relation to others in the same category will be followed by ODOT.

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Brecksville-Northfield High Level Bridge, Cuyahoga and Summit Counties, Ohio

Continuation sheet

Item number 4

Page 1

Ownership:

Cuyahoga County Commissioners
1219 Ontario
Cleveland, OH 44114

Marilyn L. Hysell
Clerk of County Council
Summit County Commissioners
175. S. Main Street
Akron, OH 44308

9. Major Bibliographical References

Ohio Historic Bridge Inventory, Evaluation & Preservation Plan (Columbus, 1983)
David Billington, The Tower and the Bridge (New York, 1983).
Sarah Ruth Watson and John R. Wolfs, Bridges of Metropolitan Cleveland (Cleve., 1981)
Office of the Cuyahoga County Engineer.

10. Geographical Data

Acreage of nominated property Two

Quadrangle name Northfield

Quadrangle scale 1:24,000

UTM References

A

1	7
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 Zone

4	5	0	8	4	0
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 Easting

4	5	7	4	3	8	0
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 Northing

B

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 Zone

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 Easting

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 Northing

C

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 Zone

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 Easting

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 Northing

D

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 Zone

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 Easting

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 Northing

E

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 Zone

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 Northing

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 Northing

H

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 Zone

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 Easting

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 Northing

Verbal boundary description and justification

The property consists of the structure described in (7.) and its right-of-way, which is 80 feet wide, being the property under single ownership.

List all states and counties for properties overlapping state or county boundaries

state Ohio code 039 county Cuyahoga code 035

state Ohio code 039 county Summit code 153

11. Form Prepared By

name/title Eric Johannesen, Preservation Officer

organization Western Reserve Historical Society date May 1985

street & number 10825 East Boulevard telephone 216-721-5722

city or town Cleveland state Ohio 44106

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 W. Ray Lee

title SHPO date 11/18/85

For NPS use only

I hereby certify that this property is included in the National Register

date

Keeper of the National Register

Attest:

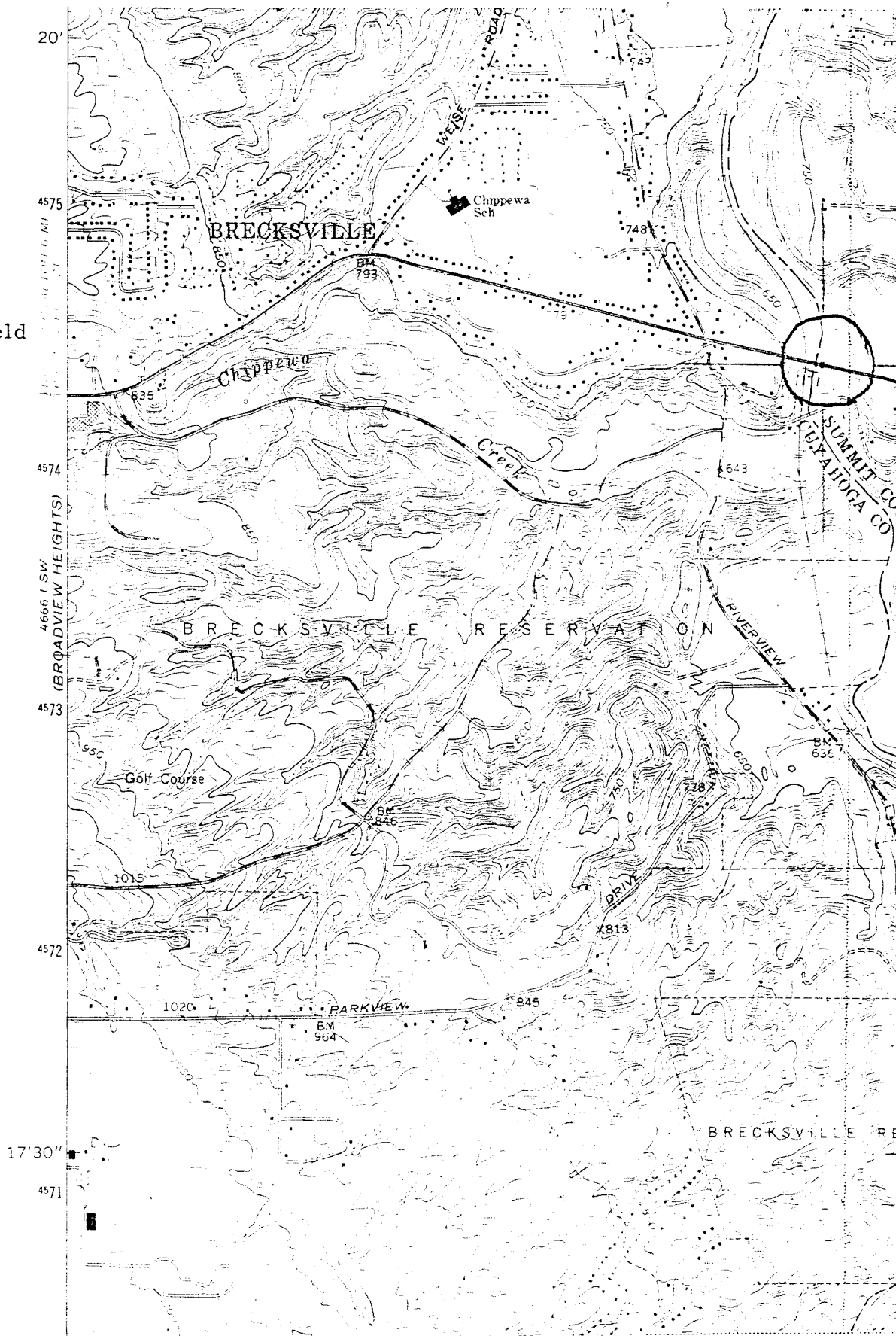
date

Chief of Registration

Brecksville-Northfield
High Level Bridge

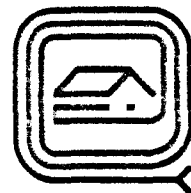
East: 17 450/840

North: 4574/380



Ohio Historic Preservation Office

1985 Velma Avenue
Columbus, Ohio 43211
614/466-1500



OHIO
HISTORICAL
SOCIETY
SINCE 1885

February 11, 1986

Cuyahoga County Commissioners
1219 Ontario Street
Cleveland, Ohio 44114

Dear Sirs:

Re: Brecksville-Northfield High Level Bridge, State Route 82

This is to inform you that Brecksville-Northfield High Level Bridge has been entered into the National Register of Historic Places by the National Park Service, Department of the Interior.

The nomination was made in connection with a state plan to identify and document prehistoric and historic places in Ohio which qualify for National Register status under provisions of the National Historic Preservation Act of 1966. All nominations are approved by the Ohio Historic Site Preservation Advisory Board.

Enclosed is information explaining the purposes and goals of the National Register of Historic Places.

Sincerely,

A handwritten signature in cursive script that reads "W. Ray Luce".

W. Ray Luce
State Historic Preservation Officer

WRL/DAS:dwm
Enclosure

xc: Jeff Brown, RC
Eric Johanessen, WRHS
Mayor of Brecksville
ODOT - Byrd Finley
Sagamore Hills Twp. Trustees
NOACA

Senator Grace Drake
Senator Oliver Ocasek
Representative Robert Jaskulski
Representative Thomas W. Watkins
Brecksville Twp. Trustees
NEFCO

Ohio Historic Preservation Office

1985 Velma Avenue
Columbus, Ohio 43211
614/466-1500



OHIO
HISTORICAL
SOCIETY
SINCE 1885

February 13, 1986

Marilyn L. Hysell
Clerk of County Council
Summit County Commissioners
175 S. Main Street
Akron Ohio 44308

Dear Ms. Hysell:

Re: Brecksville-Northfield High Level Bridge, State Route 82

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Sincerely,

W. Ray Luce
State Historic Preservation Officer

WRL/DAS:dwm
Enclosure

xc: Jeff Brown, RC
Eric Johanessen, WRHS
Mayor of Brecksville
ODOT-Byrd Finley
Sagamore Hills Twp. Trustees
NOACA

Senator Grace Drake
Senator Oliver Ocasek
Representative Robert Jaskulski
Representative Thomas W. Watkins
Brecksville Twp. Trustees
NEFCO

Ohio Historic Preservation Office

National Register of Historic Places File Checklist

The following materials are contained in this file of the National Register form for:

Name: Brecksville-Northfield High Level Bridge

County: Cuyahoga

Original National Register of Historic Places nomination form

Multiple Property Nomination form

Photographs

Photographs (copies)

USGS maps

USGS maps (copies)

Sketch map(s)/figure(s)/exhibit(s)

Correspondence

Other published info: 1982, 1932