

UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

NATIONAL 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 DUNLAP'S CREEK BRIDGE

AND/OR COMMON

First Cast Iron Bridge in America

2 LOCATION

STREET & NUMBER

Application 496, Station 40+42 over Dunlap's Creek

CITY, TOWN

Brownsville

VICINITY OF

CONGRESSIONAL DISTRICT  
22nd

STATE

Pennsylvania

CODE

42

COUNTY

Fayette

CODE

051

3 CLASSIFICATION

CATEGORY	OWNERSHIP	STATUS	PRESENT USE	
<input type="checkbox"/> DISTRICT	<input checked="" type="checkbox"/> PUBLIC	<input type="checkbox"/> OCCUPIED	<input type="checkbox"/> AGRICULTURE	<input type="checkbox"/> MUSEUM
<input type="checkbox"/> BUILDING(S)	<input 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	<input type="checkbox"/> PUBLIC ACQUISITION	<input type="checkbox"/> 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 checked="" 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

Pennsylvania Department of Transportation - District 12

STREET & NUMBER

P. O. Box 459, North Gallatin Avenue Extension

CITY, TOWN

Uniontown

VICINITY OF

STATE  
Pennsylvania 15401

5 LOCATION OF LEGAL DESCRIPTION

COURTHOUSE,  
REGISTRY OF DEEDS, ETC.

Fayette County Courthouse

STREET & NUMBER

East Main Street

CITY, TOWN

Uniontown

STATE  
Pennsylvania

6 REPRESENTATION IN EXISTING SURVEYS

TITLE

Pennsylvania Inventory of Historic Places

DATE

1973

FEDERAL  STATE  COUNTY  LOCAL

DEPOSITORY FOR  
SURVEY RECORDS

Pennsylvania Historical & Museum Commission

CITY, TOWN

Harrisburg

STATE  
Pennsylvania 17120

## 7 DESCRIPTION

CONDITION		CHECK ONE	CHECK ONE
<input type="checkbox"/> EXCELLENT	<input type="checkbox"/> DETERIORATED	<input type="checkbox"/> UNALTERED	<input checked="" type="checkbox"/> ORIGINAL SITE
<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> RUINS	<input checked="" 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

Located in the north western end of Fayette County, the first cast iron bridge crosses Dunlap's Creek at Brownsville. The 80 foot one span bridge has changed little since its construction in 1837-1839. The only major changes being the laying of a concrete deck and I-Beams supports, and new wrought iron railings.

A description of the bridge as originally planned for the location designated by President Jackson is contained in a "Memoir on the Dunlap's Creek Bridge on the Cumberland Road East of the Ohio" signed by G. W. Cass and Richard Delafield at "Cumberland Road Office, Brownsville, September 27, 1837." The important dimensions and details are as follows:

The abutments and their wing walls are built of sandstone. The breast walls at 25 feet in length, 14 feet in thickness at the base and, with their wing walls, average 42 feet in height. The base or foundation width of the wing walls is 16½ feet.

"The span of the arch is 80' and the rise 8'."

"The arch is composed of 5 ribs 5'.77 distant from centre to centre; they are all alike, of the same dimensions, and have a perpendicular direction towards the water. Each rib presents two distinct parts, the first massive and is the lower part; the second reaches from the first, to the platform of the bridge, is open, and is called the spandrel supporter."

"The flooring rest on the spandrel supporter; and on the out edge of the flooring plates are placed, in a vertical direction, the plates for supporting the roadway. The railing is to be attached to the road sustaining plates."

"The massive, or lower part of each rib, is composed of nine pieces, or segments, of equal lengths, called voussoirs. The voussoirs composing the same rib are not in immediate contact; transversal or cross plates traversing at right angles all the ribs."

"The voussoirs are hollow; a section gives two concentric ellipses ...the transverse and conjugate axis of the outer ellipses are 2'6" and 10-¾" and the inner 2'3¼" and 8" respectively, the thickness of the voussoirs being 1.37". The voussoirs at each extremity of the arch are not immediately against the abutment, but against springing plates."

"To prevent lateral motion, cross plates traverse at right angles all the ribs, and are as many in number as there are joints between the voussoirs of each rib. The cross plates are 24'8" from out to out, 2'6" wide and 2½" thick, with an opening 4'10" wide between the ribs."

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FIRST CAST IRON BRIDGE IN AMERICA - Fayette County

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Description:

"The spandrel supporters are composed of open ribs resting vertically on the hollow elliptical ribs (voussoirs) and present the figure of triangles (two rows one above the other) which decrease in size as you approach the key of the arch. The spandrel supporters do not rest against the abutment, but against a springing plate 24'8" long and 2½" thick. St. Andrew's crosses are used as braces between the spandrel supporters."

"The road covering plates (floor) are of a curved form and rest immediately upon the spandrel supporters as piers and are 1" thick. On the road covering plates 1'6" of McAdam metal is to be placed and to keep it from falling over the sides of the bridge, road sustaining plates are fastened to the road covering plate."

The railings are of wrought iron, 3'7" in height from the tops of the road sustaining plates.

In the final construction a few changes were made for economic reasons. These are described in Captain Dutton's annual report of September 30, 1839:

"The arrow heads proposed in the original plan for crowning the railings of the bridge have been omitted and it has been finished off with a light cast iron top rail. The numerous small rosettes intended for the lattice work of the railing have been necessarily omitted from the time and expense required to put them in, and only the larger ones, for the dividing of alternate panels introduced."

"The parapet walls have been made of the same material with the abutments, viz., sandstone neatly dressed and coped, the iron railing of the bridge being fitted into newels at their commencement."

"The completion of this bridge terminates all the work on the Cumberland east of the Ohio contemplated by the various Acts of appropriation in reference to this subject hitherto made by Congress."

# 18 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/HUMANITARIAN
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> ART	<input checked="" type="checkbox"/> ENGINEERING	<input type="checkbox"/> MUSIC	<input type="checkbox"/> THEATER
<input checked="" type="checkbox"/> 1800-1899	<input type="checkbox"/> COMMERCE	<input type="checkbox"/> EXPLORATION/SETTLEMENT	<input type="checkbox"/> PHILOSOPHY	<input checked="" type="checkbox"/> TRANSPORTATION
<input type="checkbox"/> 1900-	<input type="checkbox"/> COMMUNICATIONS	<input type="checkbox"/> INDUSTRY	<input type="checkbox"/> POLITICS/GOVERNMENT	<input type="checkbox"/> OTHER (SPECIFY)
		<input checked="" type="checkbox"/> INVENTION		

SPECIFIC DATES 1836-1839

BUILDER/ARCHITECT Richard Delafield

## STATEMENT OF SIGNIFICANCE

The first bridge over Dunlap's Creek between Brownsville and Bridgeport was in existence prior to 1794. This wooden structure was considered dilapidated at the October 22, 1801 meeting of the county commissioners at which time repairs were being considered. But early in the spring of 1808 a heavy rain and flood destroyed this wooden bridge.

An important link in the National Road between Uniontown and Wheeling, a new Dunlap's Creek bridge was greatly needed. On February 13 and 14, 1809, the commissioners met at the site to discuss the building of a new bridge. Plans, specifications, and estimated expense were sent to the President of the United States and a request for building funds. On April 20, 1809 a contract was made with Isaac Rogers for building abutments. Judge James Finley patented his design for the new bridge, and a bridge suspended from chains was built. This bridge was 30 feet above the creek and spanned not only the creek but considerable width of the banks on either side. In March of 1820, the bridge fell under the weight of heavy snow and a team of heavily loaded wagons crossing at the time.

The third bridge over Dunlap's Creek was constructed by Isaac Core and was completed by August 21, 1821. This wooden timber (solid oak) bridge was set on four stone piers; the two original piers and two new stone piers laid in lime mortar. But by 1834 plans were being made for a more permanent bridge over Dunlap's Creek. In 1832, Captain Richard Delafield was assigned to be in charge of reconstruction work east of the Ohio River. Assisted by Lieutenant George W. Coss and Lieutenant William R. McKee plans were formalized for a cast iron bridge to cross Dunlap's Creek. In defense of this unusual plan Captain Delafield wrote to Brigadier General Charles Gratiot, Chief Engineer.

"In the estimates of the services of the year I have asked an appropriation for a cast iron bridge for Dunlap's Creek, induced so to do from the circumstance of finding no durable stone that will resist the thrust of the arch required to span the creek (100 feet) preferring it to a wooden structure, perishable from the decay of the timber, and exposed to fire, a risk more hazardous than with the many excellent structures of the kind throughout the country, from the circumstances of there being no guard or toll keeper to prevent travelers carrying fire through and upon it."

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Significance:

After some local quarreling about the location of the new bridge construction, at the old bridge site began in the summer of 1836 under a contract with Keys and Searight.

The pig iron used in the bridge was purchased at Portsmouth, Ohio, and was of very high quality. The castings of the structure were made in the Herbertson Foundry, Brownsville. The wrought iron used in the bridge railings and elsewhere in the work were made in the John Snowden plant at Brownsville. The construction was sufficiently completed to permit its use for general traffic service in July 1838 but was not entirely completed until July 4, 1839.

The first cast iron bridge was a farsighted step in a time when bridges were made of stone and wood. Designed to overcome the problem of the thrust of the arch required to span 100 feet, the Dunlap's Creek bridge has proved to be successful not only in design but also in materials, as seen in the 1921 testing of iron from the bridge by the laboratory of the American Rolling Mill Company, of Middletown, Ohio. Their reports showed that the bridge had deteriorated very little and that the iron was nearly as rust-resistant as commercially pure iron manufactured in the open hearth furnaces of today (1920's).

**9 MAJOR BIBLIOGRAPHICAL REFERENCES**

Searight, Thomas W. The Old Pike. Orange, Va.: Greentree Press, 1971, p. 61-62.  
 Corps of Engineers Reports, 1836-39, U. S. Army. 11 pages.  
 Ellis, Franklin. History of Fayette County, Pennsylvania. Philadelphia: L. H. Everts & Co., 1882, p. 434-436.  
 Condit, Carl. American Building Art. Oxford, Press, 1960, p. 184-185.

**10 GEOGRAPHICAL DATA**

ACREAGE OF NOMINATED PROPERTY .1 acre

UTM REFERENCES

A	17	594	850	44	30500	B					
	ZONE	EASTING	NORTHING			ZONE	EASTING	NORTHING			
C						D					

VERBAL BOUNDARY DESCRIPTION

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  
 Susan M. Zacher, Curator, Office of Historic Preservation

ORGANIZATION  
 Pennsylvania Historical & Museum Commission

DATE  
 August, 1977

STREET & NUMBER  
 William Penn Memorial Museum, P. O. Box 1026

TELEPHONE  
 (717) 787-4363

CITY OR TOWN  
 Harrisburg

STATE  
 Pennsylvania 17120

**12 STATE HISTORIC PRESERVATION OFFICER CERTIFICATION**

THE EVALUATED SIGNIFICANCE OF THIS PROPERTY WITHIN THE STATE IS:

NATIONAL X 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 *William J. Wewer*

TITLE WILLIAM J. WEWER, Executive Director

Pennsylvania Historical & Museum Commission

DATE 1-16-78

FOR NPS USE ONLY

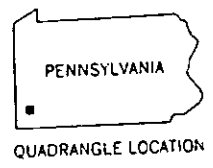
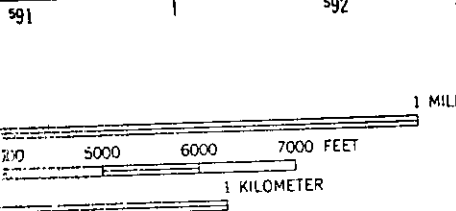
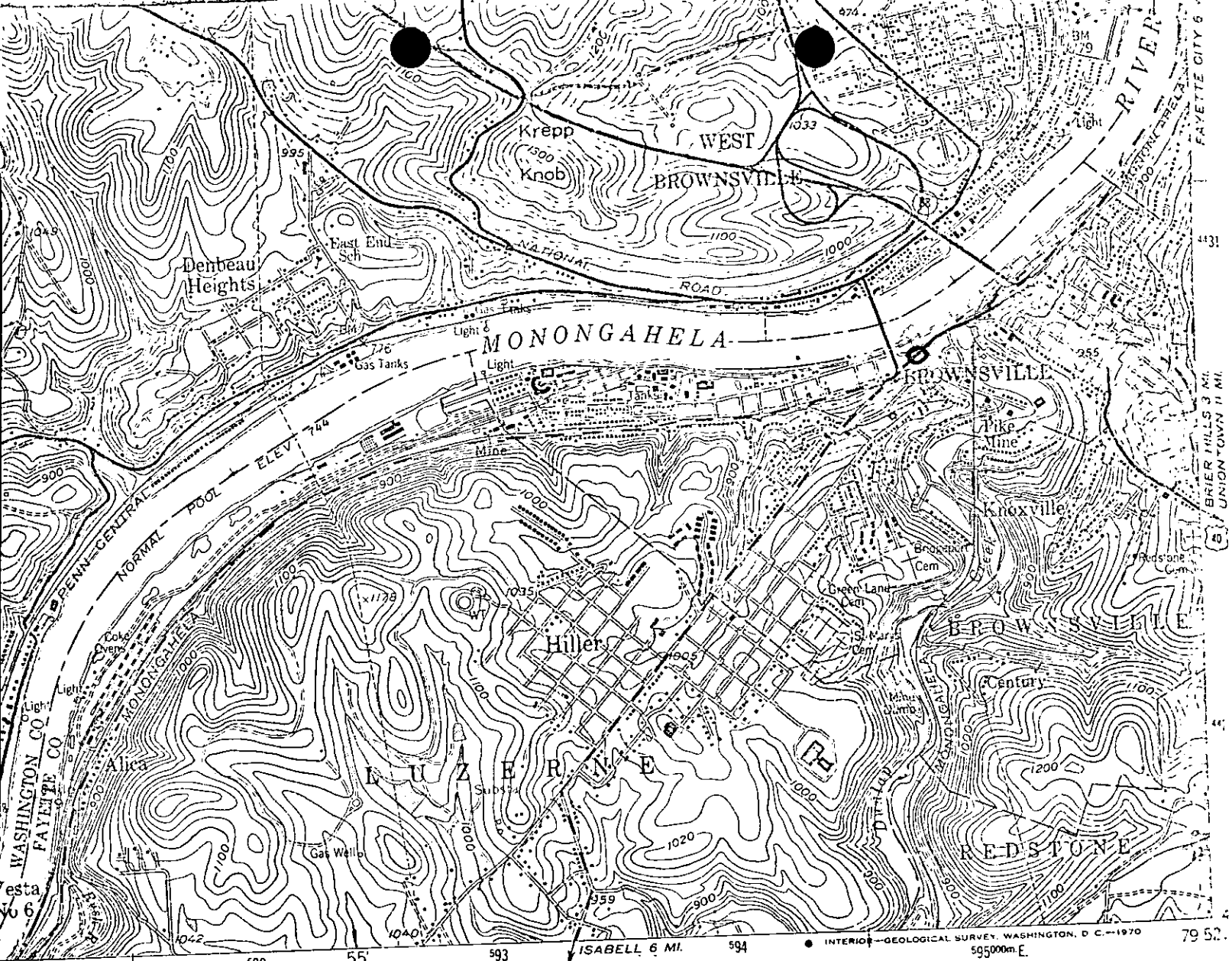
I HEREBY CERTIFY THAT THIS PROPERTY IS INCLUDED IN THE NATIONAL REGISTER

DATE

DIRECTOR, OFFICE OF ARCHEOLOGY AND HISTORIC PRESERVATION

ATTEST: DATE

KEEPER OF THE NATIONAL REGISTER



ROAD CLASSIFICATION

Heavy-duty	Light-duty
Medium-duty	Unimproved dirt
U. S. Route	State Route
Interstate Route	

CALIFORNIA, PA.  
SW/4 BROWNVILLE 15 QUADRANGLE  
N4000-W7952.5/7.5

1954  
PHOTOREVISED 1966  
AMS 5064 III SW-SERIES V82

17 594850 44/30 500