NPS Form 10-900
(Rev. 8-86)

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OMB No. 1024-0018

United States Department of the Interior
National Park Service

National Register of Historic Places
Registration Form

This form is for use in nominating or requesting determinations of eligibility for individual properties or districts. See instructions in *Guidelines for Completing National Register Forms* (National Register Bulletin 16). Complete each item by marking "x" in the appropriate box or by entering the requested information. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, styles, materials, and areas of significance, enter only the categories and subcategories listed in the instructions. For additional space use continuation sheets (Form 10-900a). Type all entries.

1. Name of Property

historic name Buffalo River Bridge

other names/site number HAER No. AR-23

2. Location

street & number State Highway #7, spanning the Buffalo River ☐ not for publication N/A

city, town Pruitt ☐ vicinity N/A

state Arkansas code 05 county Newton code 101 zip code 72671

3. Classification

Ownership of Property	Category of Property	Number of Resources within Property	
		Contributing	Noncontributing
☐ private	☐ building(s)		buildings
☐ public-local	☐ district		sites
☒ public-State	☐ site	1	structures
☐ public-Federal	☒ structure		objects
	☐ object	1	Total

Name of related multiple property listing:
Historic Bridges of Arkansas

Number of contributing resources previously listed in the National Register N/A

4. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1966, as amended, I hereby certify that this ☒ nomination ☐ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property ☒ meets ☐ does not meet the National Register criteria. ☐ See continuation sheet.

Signature of certifying official — Date

Arkansas Historic Preservation Program
State or Federal agency and bureau

In my opinion, the property ☐ meets ☐ does not meet the National Register criteria. ☐ See continuation sheet.

Signature of commenting or other official — Date

State or Federal agency and bureau

5. National Park Service Certification

I, hereby, certify that this property is:

☐ entered in the National Register.
☐ See continuation sheet.

☐ determined eligible for the National Register. ☐ See continuation sheet.

☐ determined not eligible for the National Register.

☐ removed from the National Register.

☐ other, (explain:) _____

Signature of the Keeper — Date of Action

6. Function or Use

Historic Functions (enter categories from instructions)

Transportation/Road-Related

Current Functions (enter categories from instructions)

Transportation/Road-Related

7. Description

Architectural Classification
(enter categories from instructions)

Other: Pennsylvania through-truss

Materials (enter categories from instructions)

foundation concrete
walls steel
roof
other

Describe present and historic physical appearance.

X See continuation sheet

SUMMARY

The Pruitt Bridge is located in the Buffalo National River area of the Ozark Mountain region in north-central Arkansas. Spanning a narrow valley between sandstone bluffs on State Highway 7, it is an unusual interpretation of the Pennsylvania through-truss design.

ELABORATION

The Pruitt Bridge is a steel truss of total length 375 feet, comprised of a center span of 160 feet, two end spans of eighty feet each, and a fifty-five foot girder approach span on the south end. The Warren end spans and the Pennsylvania main span all have eight panels, where a panel is defined by the space spanned by a main diagonal. The horizontal, vertical, and diagonal sub-struts of the main span radiate from the main diagonal at mid-panel width. The end spans have verticals at every other panel point, meeting the top chord where the diagonals are riveted to it.

The inclined top chord of the end trusses slopes five degrees upward to the polygonal top chord of the main span. The top chord for the entire bridge consists of two ten inch deep channels, increasing in weight toward the center of the span, joined by a continuous top plate and lacing bars. The chord is riveted along its length except for a pin connection between the main and secondary span at U7 (see Highway Drawing No. 3223). During construction this joint was riveted to support the center span, which was cantilevered from the end spans. Once the center span was complete, the bridge carried forces as three trusses, and all weight was transferred to the piers and not from one truss to another. So member U7-U8 did not carry any axial load.

The bottom chord, two twelve inch deep channels with lacing and batten plates, is also pin connected at L8 to a fixed hinge on a concrete pier. The similarly positioned panel point on the other end of the bridge is pinned to an expansion rocker, and the extreme ends of the end spans are pinned to expansion rockers. All verticals, sub-struts, and diagonals are riveted to the chords. Throughout the bridge the web members are ten inch deep I sections, oriented with the web transverse to the direction of the bridge.

All lateral, sway, and portal bracing is formed with angles. Top and bottom lateral bracing span one panel diagonally. Those on top are angles with lacing, but the bottom braces are single angles. Sway bracing at each panel point is a three panel double intersection Warren truss. Portal braces are trapezoidal with braces reaching from the center of the top strut to the inclined impost. A portal brace on the diagonal at the first vertical of the main span replaces the sway bracing at that point.

The 27 inch deep I-beam floor girders are supported on the bottom chord and are riveted to the vertical web members. The girders support the twenty foot wide concrete slab deck with curbs without the aid of stringers.

The Buffalo River Bridge at Pruitt is in excellent condition and is currently being maintained by the Arkansas Highway and Transportation Department.

SUMMARY

Constructed during the Arkansas Highway and Transportation Department Era: 1923-1939, the bridge over the Buffalo River at Pruitt was erected in 1931 by Fred Luttjohann of Topeka, Kansas, a contractor very successful in Arkansas. The bridge design was completed, following standard Highway Department bridge drawings, in only one day. The success of the structure, which may be considered to be the epitome of steel through-truss principles, is undoubtedly due to the care of the contractor as much as it is due to the work of the State Highway Department. This bridge survives as one of four known Pennsylvania through-trusses in the state. As such, the Pruitt Bridge is nominated under Criteria A and C with statewide significance.

ELABORATION

A new bridge over the Buffalo River on the scenic Highway 7 was considered by the State Highway Department of Arkansas as early as February 13, 1931.[1] Located near Jasper, county seat of Newton County, the site of the projected bridge was already occupied by a bridge. In 1931 this old bridge was still in good condition. In fact, it was noted at the time of considering the new bridge that the officials were "not seriously alarmed by the condition of this bridge."[2] An anonymous representative of the Bridge Department was recorded as saying that the old bridge "was almost as good today as when it was built."[3]

While the old bridge was not in a condition that required immediate replacement, its older design required limited loading. In a study of the older bridge by the Highway Department, the bridge engineers suggested that "a three ton load limit sign should be placed on the old Buffalo River bridge."[4]

DESIGN AND CONTRACT

The design of the new bridge for the Buffalo River was not yet underway by April 8, 1931. The State Highway engineer W. M. Mitchell reported in a letter of that date that the bridge designers had not "been able to get the plans started due to other work that was ordered ahead of this."[5]

On May 6, Mitchell requested the bridge engineers of the State Highway Department to commence and complete the plans "as early as possible."[6] He specifically requested the urgent attention of the bridge engineers to this project as "considerable pressure is being brought to bear to get this bridge in the next letting."[7] It could not be ascertained precisely where that "pressure" was coming from; however, the dire need for bridge projects to aid employment in the years of the Depression would suggest that pressure originated at the county level.

The plans were commenced on May 11, 1931, and completed in the remarkably short time of one day, on May 12.[8] The speed with which the design of the bridge was completed was undoubtedly due to the standardized work procedures and designs established by the State Highway Department.

The contract was advertised on May 13, with an estimated cost of $65,461.43. The contractor, Fred Luttjohann, of Topeka, Kansas received the contract for the lowest bid of $55,226.09. The Virginia Bridge and Iron Company, Roanoke, Virginia, was the fabricator. Work began on the bridge on July 18, 1931, with a contracted building period of 210 days.[9]

ENDNOTES

1. W.M. Mitchell, Assistant State Highway Engineer, to R.C. Gibson, Bridge Department, State Highway Department, February 13, 1931. AHTD Microfilm Files.

2. Mitchell to Mr. Justin Mathews, Little Rock, April 8, 1931. AHTD Microfilm Files.

3. ibid.

4. N.B. Garver, Bridge Engineer, State Highway Department to Mitchell, February 3, 1931. AHTD Microfilm Files.

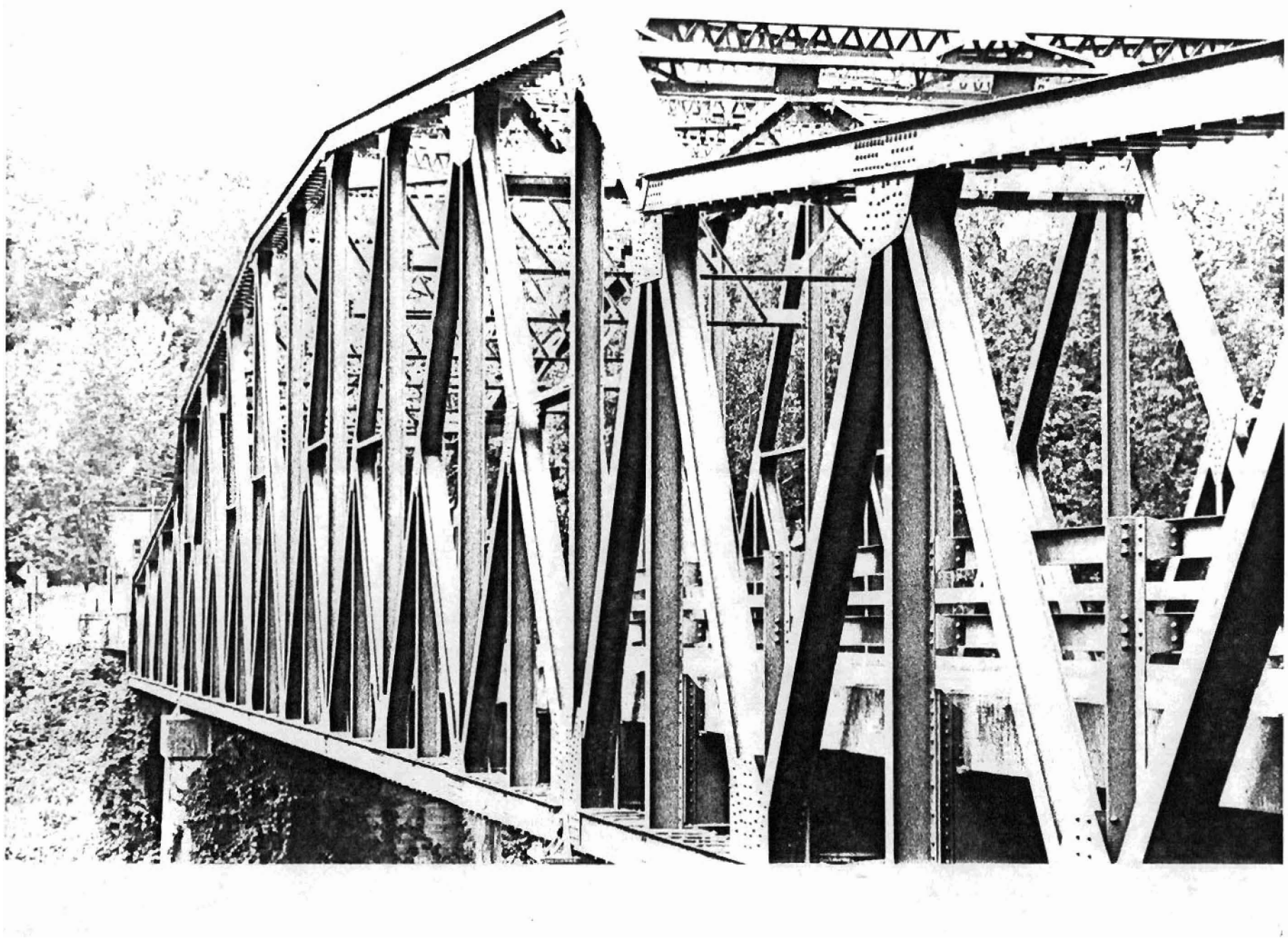
5. Mitchell to Mathews, loc. cit.

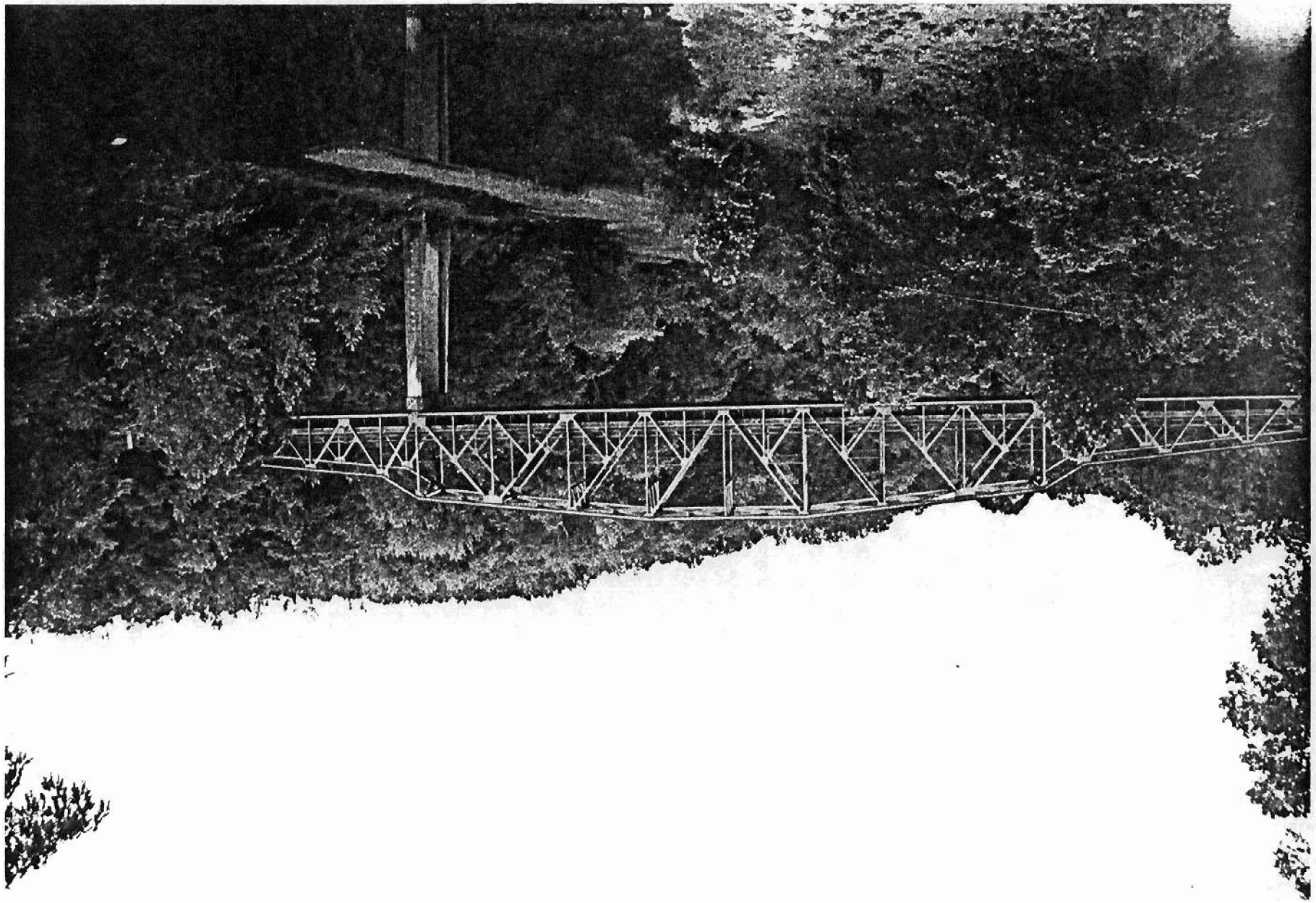
6. Mitchell to Garver, May 6, 1931, AHTD Microfilm Files.

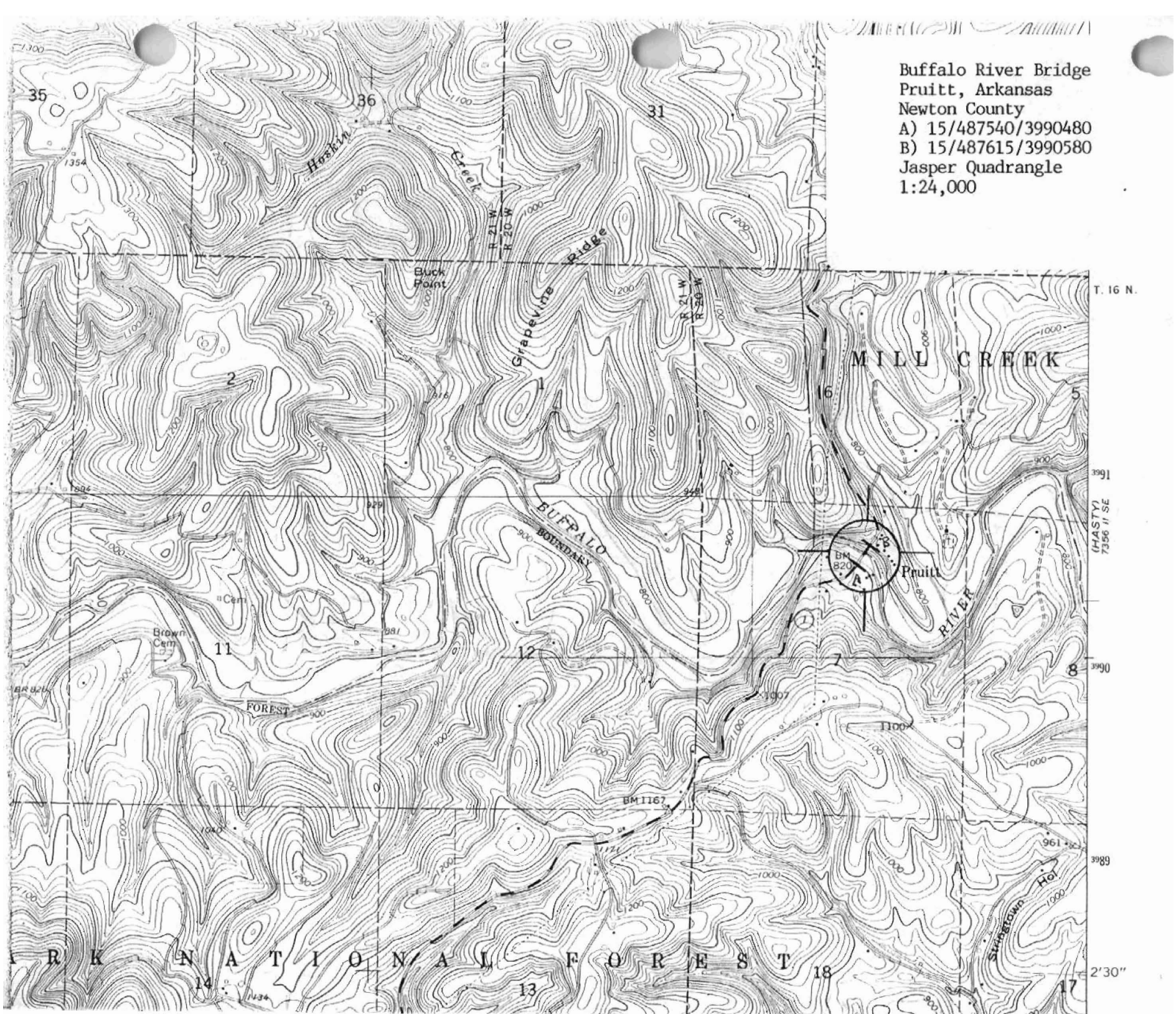
7. ibid.

8. Bridge 1689. Card Index, AHTD.

9. ibid.






Buffalo River Bridge
Pruitt, Arkansas
Newton County
A) 15/487540/3990480
B) 15/487615/3990580
Jasper Quadrangle
1:24,000
T. 16 N.
R 21 W
R 20 W
Grapevine Ridge
Buck Point
Hoskins Creek
MILL CREEK
BUFFALO
BOUNDARY
RIVER
Pruitt
BM 820
Brown Cem.
FOREST
BM 1167
Sunnstown
(HASTY) 7356 II SE
3991
3990
3989
2'30"
35
36
31
2
1
6
5
11
12
7
8
14
13
18
17

8. Statement of Significance

Certifying official has considered the significance of this property in relation to other properties:

☐ nationally ☒ statewide ☐ locally

Applicable National Register Criteria ☒ A ☐ B ☒ C ☐ D

Criteria Considerations (Exceptions) ☐ A ☐ B ☐ C ☐ D ☐ E ☐ F ☐ G

Areas of Significance (enter categories from instructions)	Period of Significance	Significant Dates
Transportation	1931-1939	1931
Engineering		

Cultural Affiliation

N/A

Significant Person

N/A

Architect/Builder

Architect: Arkansas Highway & Transportation
Builder: Luttjohann, Fred
Fabricator: Virginia Bridge & Iron Company

State significance of property, and justify criteria, criteria considerations, and areas and periods of significance noted above.

☒ See continuation sheet

9. Major Bibliographical References

See Historic Bridges of Arkansas, Multiple Property Nomination, Section H.

☐ See continuation sheet

Previous documentation on file (NPS):
- ☐ preliminary determination of individual listing (36 CFR 67) has been requested
- ☐ previously listed in the National Register
- ☐ previously determined eligible by the National Register
- ☐ designated a National Historic Landmark
- ☐ recorded by Historic American Buildings Survey #
- ☒ recorded by Historic American Engineering Record # HAER No. AR-23

Primary location of additional data:
- ☒ State historic preservation office
- ☐ Other State agency
- ☒ Federal agency
- ☐ Local government
- ☐ University
- ☐ Other

Specify repository: U.S. Library of Congress

10. Geographical Data

Acreage of property Less than one acre

UTM References

	Zone	Easting	Northing
A	15	487540	3990480
B	15	487615	3990580
C			
D			

☐ See continuation sheet

Verbal Boundary Description

Beginning at a point approximately 220 feet south of the intersection of Mill Creek Church Road and State Highway 7, the Buffalo River Bridge boundary starts here at the north abutment, then continues south across the Buffalo River for approximately 375 feet, where it terminates at the south abutment.

☐ See continuation sheet

Boundary Justification

The boundary includes the main span, approach spans, piers and abutments that are historicall associated with this property.

☐ See continuation sheet

11. Form Prepared By

name/title Text by Sean O'Reilly & Corinne Smith; edited by Michael Swanda, Survey Coordin
organization Arkansas Historic Preservation Program date February 5, 1990
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