

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 Cache River Bridge

other names/site number HAER No. AR-25

2. Location

street & number State Highway 25, spanning the Cache River

not for publication N/A

city, town Walnut Ridge

vicinity

state Arkansas

code 05

county Lawrence

code 075

zip code 72476

3. Classification

Ownership of Property

- private
- public-local
- public-State
- public-Federal

Category of Property

- building(s)
- district
- site
- structure
- object

Number of Resources within Property

Contributing	Noncontributing
_____	_____ buildings
_____	_____ sites
<u>1</u>	_____ structures
_____	_____ objects
<u>1</u>	_____ 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: Parker pony-truss

Materials (enter categories from instructions)

foundation concrete

walls steel

roof

other

Describe present and historic physical appearance.

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Section number 7 Page 1

SUMMARY

Located in the flat Delta Region of northeast Arkansas, the Cache River Bridge is a skewed Parker pony-truss supplying vehicular access across the Cache River at the Lawrence and Greene County boundary line.

ELABORATION

The Cache River Bridge is a one hundred foot long Parker pony truss with 276 feet of concrete I-beam approach spans. The two lines of eleven panel trusses are skewed forty-five degrees, creating an offset equal to three panel widths. Floor girders at the ends of the main span and approach spans are also skewed, as are the reinforced concrete piers they bear on. All other members are placed perpendicularly to the truss lines as if no skew existed. The ten stringers run longitudinally, framing into the intermediary steel I-beam girders. Angle braces, spanning two panels, laterally brace the eight panels common to the bottom chords of the two truss lines.

The floor girders are riveted to the bottom chord so that their bottom planes are even. The bottom chord consists of two twelve inch channels with batten plates. Because the thirty inch I-beam floor girders are so much deeper than the bottom chord, the top of the 24 foot wide concrete road deck is almost three feet above the chord.

The web members are riveted to the top and bottom chords. The vertical web members and diagonals in the second and third panels are ten inch deep I-beams with webs transverse to the longitudinal direction of the bridge. The remainder of the diagonals are two angles with batten plates. The polygonal top chord, two channels with a continuous top plate and end plates only on the bottom, reaches a maximum height of twelve feet.

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

United States Department of the Interior
National Park ServiceNational Register of Historic Places
Continuation SheetSection number 8 Page 1

SUMMARY

The Cache River Bridge was designed by the Arkansas State Highway Department and erected as part of a general improvement of the road connecting Walnut Ridge, Lawrence County, and Paragould, Greene County. It was built in 1934 during the Arkansas Highway and Transportation Department Era: 1922-1939 by the Vincennes Bridge Company, historically one of the most important of the twentieth century bridge building companies. The structure, a representative Parker pony-truss, is most renowned for its simple skew which allows the river to be spanned in a very economical fashion. As such, the Cache River Bridge is nominated under Criteria A and C with statewide significance.

ELABORATION

"It is our understanding that the existing Cache River bridge is light and in poor condition, and it must necessarily be replaced."¹

C. E. Swain, District Engineer of the U. S. Public Works, was, in 1934, commenting on a bridge between Walnut Ridge, Lawrence County and Paragould, Greene County. The bridge lay over a small river, the Cache River, which formed the boundary between the two counties. The road, part of Highway 5, was to be reconstructed as part of a 1936 Public Works project.² The project was to involve an interim resurfacing of the road with a "single lane concrete pavement."³ Most of the old bridges had "16-19 foot roadways with an estimated capacity of 10 tons" and the temporary single-lane road justified their retention until the full two-lane roadway was laid.⁴ As Swain noted: "The retention, for the present, of these structures on this basis is satisfactory, that is, with the understanding that when a full two lane width of surfacing is provided, these existing structures will be widened or re-built."⁵

Swain considered that, due to the poor conditions of the old Cache River Bridge, its replacement was a necessary priority. The bridge lay midway between Paragould and Walnut Ridge, yet the planned process of construction was to commence at both towns simultaneously, with the roads developing towards each other. The process was to be "from Walnut Ridge east towards the Cache River...and from Paragould west, in sections..."⁶ With this process of construction, the Cache River bridge would, logically, be constructed last. Swain felt its reconstruction should be undertaken at the earliest possible time. As he stated in his letter: "The point we are trying to make is that the existing Cache River bridge...is the weak link in this highway between Walnut Ridge and Paragould, and the reconstruction of it should not be deferred as one of the last phases of the construction of this highway."⁷

Swain's request was granted by the Highway Department; the Cache River Bridge plans were commenced in the next month, on March 22, and received approval from the Bureau of Public Road on June 15, 1934.⁸

SIX BRIDGES

In a letter of May 9, 1934, N. B. Garver, Bridge Engineer to the State Highway Department, listed six bridges as part of the proposed development project between Walnut Ridge and Paragould.⁹ This list consisted of four untitled bridges, a bridge over Eight Mile Creek, near Paragould, and the Cache River bridge.

The characteristic linking the bridges was a "very little clearance above highwater."¹⁰ Though it caused some minor revisions of the designs, the low clearance was justified by the geography of the areas crossed by the bridges, where "drainage areas are largely indeterminate due to the flat nature of the ground."¹¹

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Section number 8 Page 2

The Cache River bridge was undoubtedly the most important of the six bridges. The four untitled bridges were simple "I-beam spans with concrete floors", ranging in length from 46 feet to 100 feet.¹² The Eight Mile Creek bridge was an 84 foot pony truss of a relatively standard design.¹³ In contrast, the Cache River bridge was a large 371 ft. bridge, with its skewed design as its most striking feature.

THE BRIDGE AND THE SKEW

The contract for the bridge was advertised on the same date the bridge received its approval, June 12, 1934. It was let on June 20 at an estimated cost of \$40,020.64. The Vincennes Bridge Company won the bid with a contract price of \$34,626.21. The projected bridge of 376.11 feet consisted of a central 100 foot pony truss with a 45 degree skew, supported on precast concrete pile bents and concrete piers with untreated timber foundation piles. The bridge was to be approached at either end by three I-beam spans, also skewed. The deck was concrete with a comparatively narrow 24 foot roadway and no sidewalks.¹⁴

The Cache River Bridge was built with a singularly efficient skew. The skew was a solution to two conflicting factors, the road meeting the river at a sharp angle, and the limited funds available for the bridge. While the sharp angle of the crossing suggested the use of a long main span, the financial limitations obviated this as a possibility. However, the potentially complex members of a skew could have increased cost beyond available funds.

The State Highway Department bridge engineers produced a remarkably successful and simple answer to the problem. They designed a simple pony truss with one side of the truss moved three panels forward, thus making an angle of 45 degrees between the ends of each side. Consequently, the standard truss form could be used with a minimum of modifications to its design and at a scale much smaller than would otherwise have been required.

United States Department of the Interior
National Park Service

National Register of Historic Places
Continuation Sheet

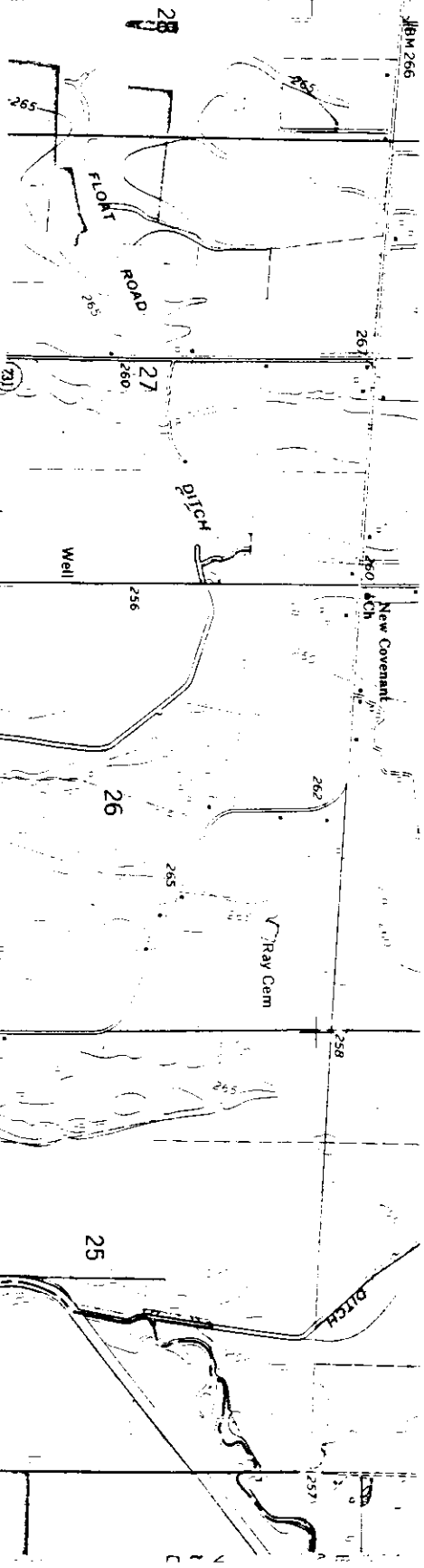
Section number 8 Page 3

ENDNOTES

1. C.E. Swain, District Engineer, Bureau of Public Roads to J.M. Page, Senior Highway Engineer, Little Rock, February 15, 1934. AHTD Microfilm Files.
2. *ibid.*, and N.B. Garver, Bridge Engineer to W.A. Vaught, Resident Engineer, Walnut Ridge, May 9, 1934. AHTD Microfilm Files.
3. Swain to Page, *loc. cit.*
4. *ibid.*
5. *ibid.*
6. *ibid.*
7. *ibid.*
8. Bridge Memorandum, by C.S. Vincent, Highway Bridge Engineer, June 15, 1934, AHTD Microfilm Files.
9. Garver to Vaught, May 9, 1934. AHTD Microfilm Files.
10. Bridge Memorandum, C.S. Vincent, *loc. cit.*
11. *ibid.*
12. *ibid.*
13. *ibid.*
14. Bridge 1892, Card Index. AHTD. c.f. also Bridge Memorandum by C.S. Vincent, *loc. cit.* The Builder's plate reads: "Cache River: Vincennes Bridge Co., Contractor; Arkansas; State Highway Commission; Jas. R. Rhyne, Director; N.B. Garver, Bridge Engineer; 1934."

VILLE 63 MI.
JT RIDGE 4.9 MI.

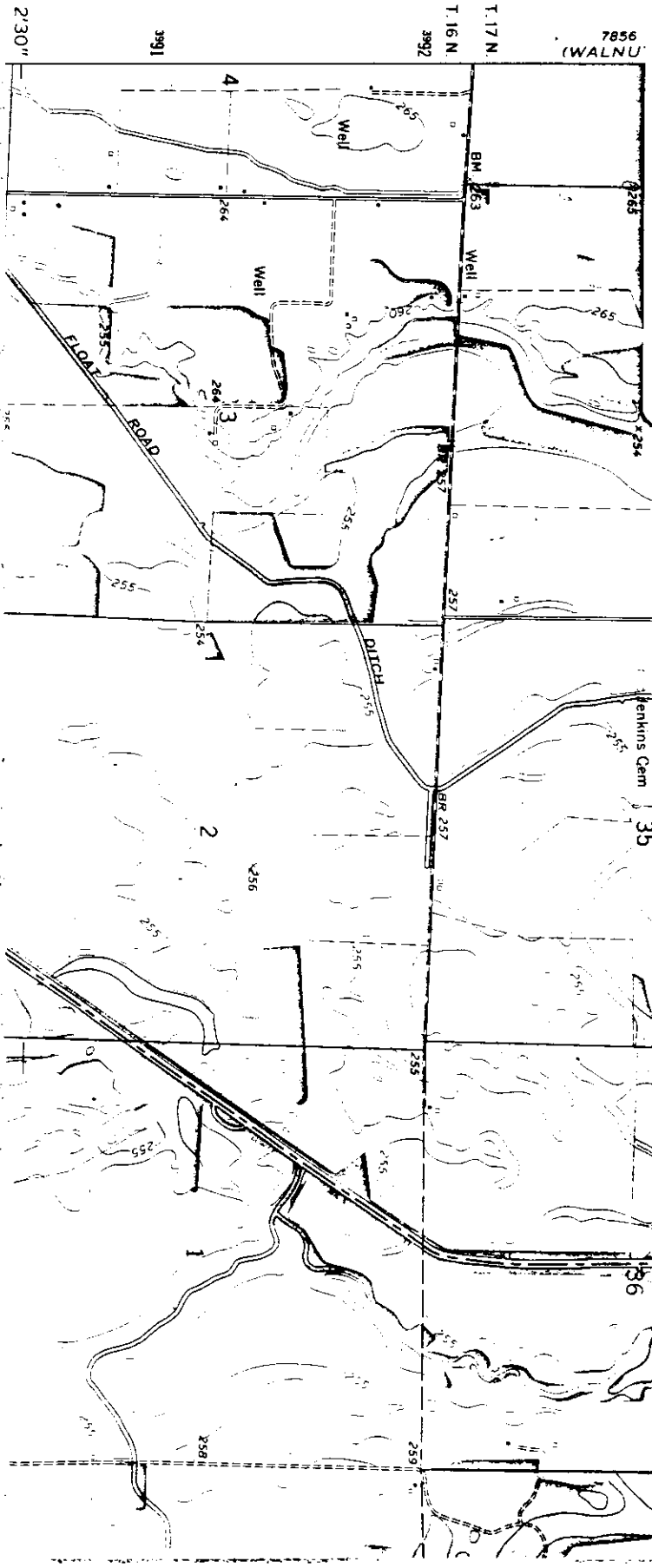
57
3995



Cache River Bridge
Walnut Ridge Vic., Arkansas
Lawrence County
A) 15/695925/3993600
B) 15/696040/3993600
Walnut Ridge Quadrangle
1:24,000

7856
(WALNU)

T. 17 N.
T. 16 N.
3992



2'30"

3. 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)

Transportation

Engineering

Significant Person

N/A

Period of Significance

1934-1939

Significant Dates

1934

Cultural Affiliation

N/A

Architect/Builder

Architect: Arkansas Highway & Transportation

Builder: Vincennes Bridge 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.

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-25

See continuation sheet

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

A

1	5
---	---

6	9	5	9	2	5
---	---	---	---	---	---

3	9	9	3	6	0	0
---	---	---	---	---	---	---

Zone Easting Northing

C

--	--

--	--	--	--	--	--

--	--	--	--	--	--	--

B

1	5
---	---

6	9	6	0	4	0
---	---	---	---	---	---

3	9	9	3	6	0	0
---	---	---	---	---	---	---

Zone Easting Northing

D

--	--

--	--	--	--	--	--

--	--	--	--	--	--	--

See continuation sheet

Verbal Boundary Description

Beginning at a point approximately 2,300 feet east of the intersection of New Covenant Church Road and State Highway 25, the boundary of the Cache River Bridge starts here at the west abutment, then continues east across the Cache River for approximately 376 feet, where it terminates at the east abutment.

See continuation sheet

Boundary Justification

The boundary includes the main span, approach spans, piers and abutments that are historically 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 Coordinator
organization Arkansas Historic Preservation Program date February 5, 1990
street & number 225 East Markham Street telephone (501) 371-2763
city or town Little Rock state Arkansas zip code 72201