NPS Form 10-900
United States Department of the Interior
National Park Service

OMB No. 1024-0018

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NAT. REGISTER OF HISTORIC PLACES
NATIONAL PARK SERVICE

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in National Register Bulletin, *How to Complete the National Register of Historic Places Registration Form.* If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. **Place additional certification comments, entries, and narrative items on continuation sheets if needed (NPS Form 10-900a).**

1. Name of Property

Historic name Brown's Creek Tributary Masonry Arch Bridge

Other names/site number Mitchell County Bridge B2N; FHWA Number 000620723203620; KHRI: 123-0000-00228

Name of related Multiple Property Listing New Deal-Era Resources of Kansas; Masonry Arch Bridges of Kansas

2. Location

Street & number 2300 Mile on Road B [ ] not for publication

City or town Glen Elder [ ] vicinity

State Kansas Code KS County Mitchell Code 123 Zip code 67446

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended,

I hereby certify that this x 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 x meets ___ does not meet the National Register Criteria. I recommend that this property be considered significant at the following level(s) of significance:

___ national ___ statewide x local Applicable National Register Criteria: x A ___ B x C ___ D

Patrick Zollner 5-20-14

Signature of certifying official/Title Patrick Zollner, Deputy SHPO Date

Kansas State Historical Society

State or Federal agency/bureau or Tribal Government

In my opinion, the property ___ meets ___ does not meet the National Register criteria.

Signature of commenting official Date

Title State or Federal agency/bureau or Tribal Government

4. National Park Service Certification

I hereby certify that this property is:

✓ entered in the National Register ___ determined eligible for the National Register

___ determined not eligible for the National Register ___ removed from the National Register

___ other (explain:)

Joe Edson H. Beall 7.25.14

Signature of the Keeper Date of Action

5. Classification

Ownership of Property
(Check as many boxes as apply.)

	private
x	public - Local
	public - State
	public - Federal

Category of Property
(Check only **one** box.)

	building(s)
	district
	site
x	structure
	object

Number of Resources within Property
(Do not include previously listed resources in the count.)

Contributing	Noncontributing	
		buildings
		sites
1		structures
		objects
1		**Total**

Number of contributing resources previously listed in the National Register

0

6. Function or Use

Historic Functions
(Enter categories from instructions.)

Transportation; road related (vehicular)

Current Functions
(Enter categories from instructions.)

Transportation; road related (vehicular)

7. Description

Architectural Classification
(Enter categories from instructions.)

Other: Works Progress Administration (WPA)

Stone Arch Culvert/Bridge

Materials
(Enter categories from instructions.)

foundation: Stone (Limestone)

walls: Stone (Limestone)

roof: N/A

other: N/A

Narrative Description

(Describe the historic and current physical appearance and condition of the property. Describe contributing and noncontributing resources, if applicable. Begin with **a summary paragraph** that briefly describes the general characteristics of the property, such as its location, type, style, method of construction, setting, size, and significant features. Indicate whether the property has historic integrity.)

Summary

This triple-span stone arch bridge spans a tributary to Brown's Creek. It is located on an east-west rural secondary county road (Road B) just east of 230th Road (See Figures 1 and 2). It was built in 1936 as a Works Progress Administration (WPA) project. The bridge is surrounded by pasture land used for grazing and crop fields. The bridge is virtually unaltered since its construction. Bridge repair and maintenance is the responsibility of Mitchell County.

Elaboration

The Brown's Creek Tributary Bridge is a three-span stone arch bridge. Each span is twelve feet in length. All stones are uniform in thickness, which is approximately 8". They vary in color from tan to gold and most have noticeable striping. The stones feature two different finishes, rusticated and smooth. They are laid in an ashlar pattern. There is a single course of smooth faced stones that corresponds to the level of the driving surface and spans the length of the bridge. The arch stones are smooth faced and each has a keystone. The stones are relatively smooth finished on the underside of each barrel. Some tool marks are present.

The foundation is also of stone construction. Based on previous experience with the demolition of other similar bridges, it is estimated that the foundation extends three to four feet under the surface. The arches spring from these foundation footings. A 16" soil/gravel fill covers each arch to distribute the vehicle loads. The walls extend three courses above the driving surface, serving as bridge rails. As was typical of the era, the wings are at a 45° angle to the bridge and stair-step down from the top of the rail. (Figure 3)

Integrity

The bridge is in good condition. There has been minor tuck pointing of the walls with incompatible mortar and pointing techniques. Water has at times stood under the bridge, which has caused minor deterioration of the stones. Stone arch bridges/culverts have far more load carrying capacity than even the modern traffic applies. A stone arch can collapse under heavy loads if the soil cover is inadequate or if the arch is too flat. The arcs of this bridge are circular, a very strong configuration. With minor occasional tuck pointing, this bridge will last many years.

8. Statement of Significance

Applicable National Register Criteria

(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

- [x] A Property is associated with events that have made a significant contribution to the broad patterns of our history.
- [ ] B Property is associated with the lives of persons significant in our past.
- [x] C Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- [ ] D Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations

(Mark "x" in all the boxes that apply.)

Property is:

- [ ] A Owned by a religious institution or used for religious purposes.
- [ ] B removed from its original location.
- [ ] C a birthplace or grave.
- [ ] D a cemetery.
- [ ] E a reconstructed building, object, or structure.
- [ ] F a commemorative property.
- [ ] G less than 50 years old or achieving significance within the past 50 years.

Areas of Significance

Social History
Government
Engineering

Period of Significance

1936

Significant Dates

1936

Significant Person

(Complete only if Criterion B is marked above.)

NA

Cultural Affiliation

NA

Architect/Builder

Works Progress Administration

Period of Significance (justification)

The period of significance is 1936, the year the bridge was completed.

Criteria Considerations (justification)

N/A

Narrative Statement of Significance

(Provide a summary paragraph that includes level of significance, applicable criteria, justification for the period of significance, and any applicable criteria considerations.)

Summary

This triple-arch native stone arch bridge is nominated to the National Register of Historical Places under Criterion A in the areas of social history and government for its construction under the supervision of the Works Progress Administration (WPA). It is nominated as part of the "New Deal-era Resources of Kansas" multiple property nomination as an example of the transportation property type.

The bridge is also nominated under Criterion C in the area of engineering for its significance as a native limestone triple arch bridge. The limestone construction is typical of structures built in this area and is representative of the master stone builders and craftsmanship of construction workers trained by the WPA. It is nominated as part of the "Masonry Arch Bridges of Kansas" multiple property nomination as an example of the stone arch bridge property type.

The impetus for the nomination of the Brown's Creek Tributary Bridge was a Section 106 case that involved the demolition of another bridge of similar construction built in Mitchell County; the Leban Creek Bridge. The proposal to demolish the Leban Creek Bridge required a permit from the Army Corps of Engineers, a federal agency. The bridge was determined eligible for the National Register and the demolition was considered an adverse effect. Mitchell County agreed to nominate three other bridges to the National Register to mitigate the loss of the Leban Creek Bridge and any other stone arch bridges in Mitchell County that may be replaced in the future.

Elaboration

Mitchell County History

Mitchell County is situated in the north central part of Kansas. The Solomon River flows through the county from the northwest corner to the center of the east boundary. Its many creeks and tributaries make Mitchell County one of the best watered counties in the state.[1] Mitchell County, which includes the towns of Beloit, Cawker City, Hunter, Glen Elder, Simpson (part), Scottsville and Tipton, was named for Captain William D. Mitchell, a Kansas Civil War soldier in the Second Kansas Cavalry who was promoted to officer rank in the Second Kentucky Cavalry and was killed in 1865. Joseph Decker; John Rees; Amos A. Bell; Timothy Hersey; George Campbell; Alexander Campbell; Charles H. Morrill; Edward Valentine; William C. Ingram; and Daniel Kepler organized the county on October 4, 1870. In August 1868 through 1870 conflicts with American Indians intimidated settlers, and as a result, settlers erected a stockade near Cawker City to aid in protection.[2]

Asherville was the first permanent settlement in the county, but Beloit was named the county seat in 1870. The arrival of the first railroads in the Beloit area, beginning with the central branch of the Missouri Pacific in 1879, aided in bringing additional settlers to the area. In 1870 the population of the county was 485 and by 1875 it had grown to 4,885. Settlers chose homesteads that were close to one of the many streams in the county. The county's leading industry has long been agriculture, including wheat, cattle, and corn production.[3]

[1] William Cutler, *History of the State of Kansas*, (Chicago: A.T. Andreas Publishing Co., 1883), 1022.
[2] Ibid.
[3] Kansas Anthropological Association, *Historical Moments of Mitchell County*, (N.p.: A.B.D. Printers, 1976), 65.

Like much of rural Kansas, the Great Depression and the Dust Bowl impacted those living and farming in Mitchell County. The Works Progress Administration (later renamed Work Projects Administration), a federal New-Deal work program, was active in Mitchell County during this decade. The WPA was created by executive order on May 6, 1935 using 1.4 million dollars in funding from the Emergency Relief Appropriations Act. Initially, the agency was designed as a temporary measure and funding was renewed annually. The WPA focused on employing large numbers of people through locally sponsored projects as well as projects sponsored by state and federal agencies.[4] Through the WPA, Kansas realized many new roads, highways and bridges. According to a 1939 report, the WPA constructed or repaired 13,706 miles of roads, 567 bridges, 112 miles of sidewalks and paths and 175 miles of curbs, gutters, and guardrails. In 1939, there were roughly 30,000 Kansans on WPA rolls.[5] "Under the Reorganization Act of 1939, the agency was renamed the Work Projects Administration and was placed under the control of another new body, the Federal Works Agency. With the coming of the war, in 1941, the agency made national defense its chief administrative goal. As the war effort mitigated the Depression and removed the need for federal employment, the agency was liquated in July 1943."[6]

Other known WPA projects in Mitchell County include the construction of a swimming pool at the girls industrial school in Beloit, work to the city water well and water main in Glen Elder, the construction of a vocational agriculture building in Simpson, and the construction of an addition to a school at Scottsville.[7] Unfortunately, specific information about the Brown's Creek Tributary bridge as it relates to the WPA, such as the exact date it was completed or how many workers were employed, is not known.

Stone Arch Bridges in Kansas[8]

Stone arch bridges and culverts were popular in Kansas for many reasons, a major one being the availability of local stone. Thus, large amounts of money expended for construction could be retained within the local area, allowing local builders to benefit from the work. An additional selling point for the stone bridges was their strength. There was ample evidence that they were far better able to withstand the periodic floods than were their metal counterparts.

Stone arch bridges of this type are typically constructed with limestone arch rings, which spring from and are disposed between abutments or piers. Limestone spandrel walls rest on these arch rings and are used to retain the earthen fill which loads the arch. This earth loading allows for even distribution of the live loads and helps strengthen the arch.

Brown's *Creek Tributary Bridge*

The stone used for construction of the bridge was mined locally from what is called the Post Rock Limestone Ledge of the Greenhorn Formation. Much of Mitchell County is underlain with the Greenhorn Limestone formation. One layer of this formation is an 8-inch thick layer of light tan colored stone with a more reddish streak midway in the layer, which came to be known as the Post Rock ledge. This layer outcropped in many places in Mitchell County and was somewhat easily quarried. The overburden dirt

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[4] Elizabeth Rosin "New Deal-era Resources of Kansas" National Register Multiple Property Documentation Form (Topeka, KS: Kansas Historical Society SHPO files, 2002), E-19-22.

Ibid, E-21. Original citation: Works Progress Administration, *Federal Works Agency*, (Topeka, KS: n.p., 1939), 1, 10. Kansas State Historical Society, Topeka, KS.

[6] Rosin, E-20.

[7] Works Progress Administration, Central Office Reference Card Location Project File. (On microfilm at Kansas Historical Society archives, Topeka, KS.)

[8] The following historic context regarding masonry bridges in Kansas is included in Larry Joachims' "Masonry Arch Bridges of Kansas" National Register Multiple Property Documentation Form (Topeka, KS: Kansas Historical Society SHPO files, 1985), sections 7 and 8.

was removed with slips pulled by horses or mules. The stone was then quarried by drilling holes in a straight line at a given distance from the exposed edge and driving wooden or steel pegs (called feathers) into the holes. The feathers were gradually driven in sequence so as to not apply too much pressure to any one single hole. Eventually, the layer would crack along the line of holes. The same procedure would then be used to section the long section into smaller pieces. If a smooth surface was needed, the smaller pieces were placed on a buzz saw table and cut or planed. The stone was very soft when first exposed and cut fairly easy. Corners were sometimes tooled to create a bevel.

This bridge was constructed by laborers working under the WPA program. It was constructed in 1936, as documented by a date stone in the bridge rail. No primary source documentation other than the date stone could be located, although newspapers of the period indicate that the WPA was active in Mitchell County. In 1939 alone the County had to build or repair at least 27 bridges that were damaged or washed out by severe flooding and it is likely that WPA labor was used for that purpose.[9]

Summary

This bridge was one of several in Mitchell County constructed by WPA laborers. The appearance today of the bridge is nearly as it was following construction. Situated along a secondary road in rural Mitchell County, this bridge retains its integrity of location, design, setting, materials, workmanship, feeling, and association. It is eligible for listing in the National Register of Historic Places under Criteria A and C for its significance in the areas of social history, government, and engineering. It is representative of the types of properties listed as part of the "Masonry Arch Bridges of Kansas" and "New Deal-era Resources of Kansas" multiple property nominations.

[9] "County Stays Within Budget During Year," *The Beloit Gazette,* January 4, 1940, 1.

9. Major Bibliographical References

Bibliography (Cite the books, articles, and other sources used in preparing this form.)

The Beloit Gazette, 4 January 1940.

Cutler, William. *History of the State of Kansas*. Chicago: A.T. Andreas Publishing Co., 1883.

Jochims, Larry. "Masonry Arch Bridges of Kansas" National Register Multiple Property Documentation Form. Topeka, KS: Kansas State Historical Society, 1985. On file in the Cultural Resources Division.

Kansas Anthropological Association. *Historical Moments of Mitchell County*. N.p.: A.B.D. Printers, 1976.

Mitchell County Commissioners Proceedings (Minutes) 1939-1942.

Mitchell County Highway Department Files.

Rosin, Elizabeth et. al. "New Deal-era Resources of Kansas." National Register Multiple Property Document, 2002. Filed at the Kansas State Historic Preservation Office, Topeka, KS.

Works Progress Administration, Central Office Reference Card Location Project File. (On microfilm at Kansas Historical Society archives, Topeka, KS.)

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 # _____
____recorded by Historic American Landscape Survey # _____

Primary location of additional data:

__x__State Historic Preservation Office
____Other State agency
____Federal agency
__x__Local government
____University
____Other
Name of repository: Kansas Historical Society

Historic Resources Survey Number (if assigned): __N/A_____

10. Geographical Data

Acreage of Property Less than 1 acre

Provide latitude/longitude coordinates OR UTM coordinates.
(Place additional coordinates on a continuation page.)

Latitude/Longitude Coordinates
Datum if other than WGS84:_____
(enter coordinates to 6 decimal places)

	Latitude:	Longitude:		Latitude:	Longitude:
1	39.553595	-98.242211	3		
2			4		

Verbal Boundary Description (describe the boundaries of the property)
Brown's Creek Tributary Masonry Arch Bridge is located 0.25 miles east of 230th Road on B Road and is along the section line between Sections 5 and 8 in Township 6S, Range 8W. The boundary is the extent of the bridge structure and its abutments.

Boundary Justification (explain why the boundaries were selected)
The nominated area includes the bridge, the abutments, and the land on which it sits. These are the features historically associated with the Brown's Creek Masonry Arch Bridge.

11. Form Prepared By

name/title John Cashatt for Mitchell County

organization Schwab-Eaton date January 28, 2014

street & number 101 S. Mill telephone 785-738-2725

city or town Beloit state KS zip code 67420

e-mail jcashatt@schwab-eaton.com

Property Owner: (complete this item at the request of the SHPO or FPO)

name Mitchell County

street & number telephone

city or town Beloit state KS zip code 67240

Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C.460 et seq.).

Estimated Burden Statement: Public reporting burden for this form is estimated to average 100 hours per response including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Office of Planning and Performance Management. U.S. Dept. of the Interior, 1849 C. Street, NW, Washington, DC.

Additional Documentation

Submit the following items with the completed form:

Photographs

Submit clear and descriptive photographs. The size of each digital image must be 1600x1200 pixels (minimum), at 300 ppi (pixels per inch) or larger.

Photograph Log

Name of Property: Brown's Creek Tributary Masonry Arch Bridge

City or Vicinity: Glen Elder, Kansas

County: Mitchell State: Kansas

Photographer: John Cashatt

Date Photographed: 3-3-2014

Description of Photograph(s) and number, include description of view indicating direction of camera:
1 of 10: Roadway looking west
2 of 10: Date stone on north rail
3 of 10: Side elevation looking north
4 of 10: South keystone of east arch
5 of 10 South end of pier

6 of 10: South side view looking northeast
7 or 10: Southeast wing
8 of 10: East cell arch stones looking northeast
9 of 10: West cell arch stones looking northwest
10 of 10: Northwest wing and rail

Figures

Include GIS maps, figures, scanned images below.

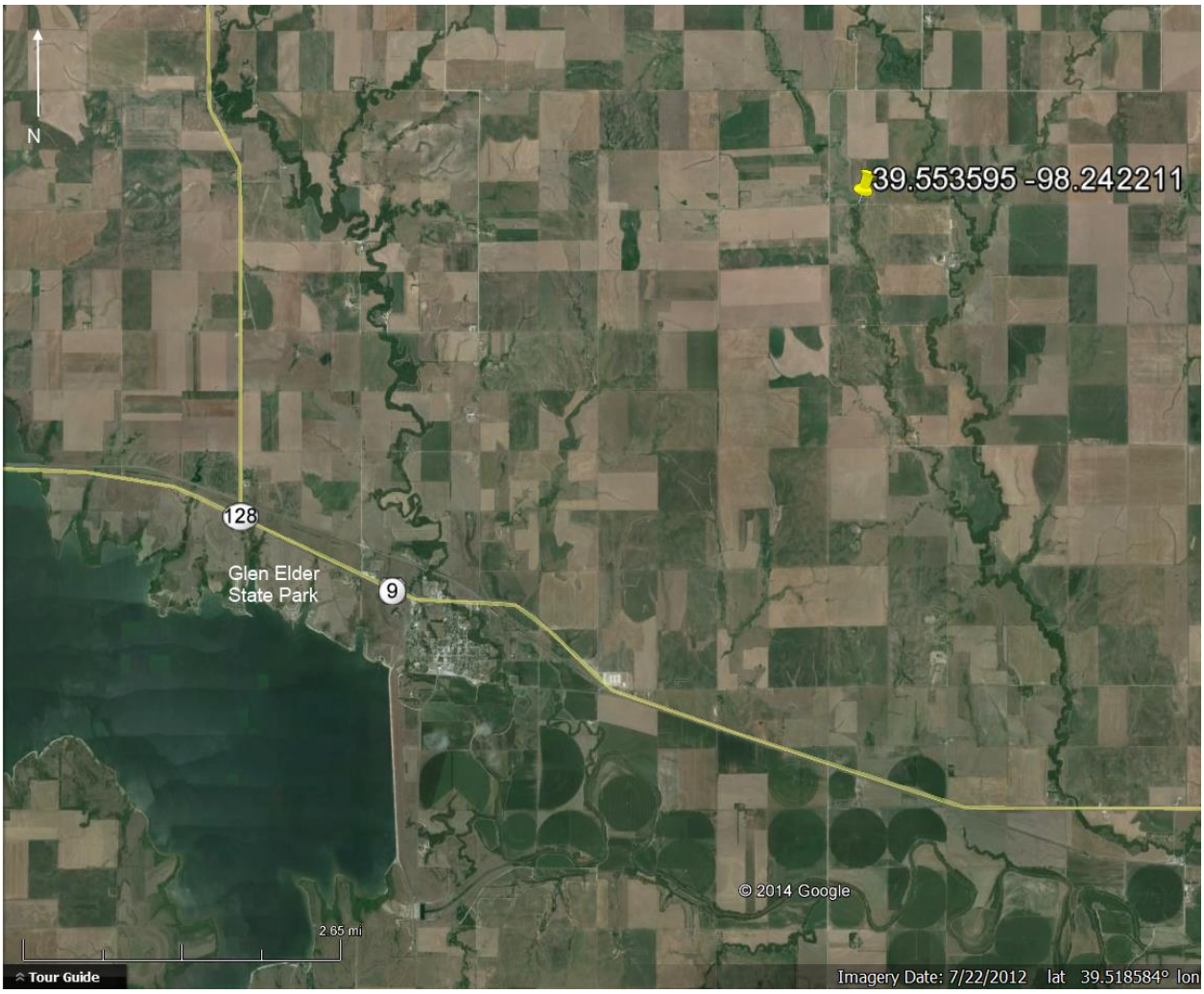

Figure 1: Brown's Creek Masonry Arch Bridge location (Google Earth)

Figure 2: Brown's Creek Masonry Arch Bridge location (Google Earth)

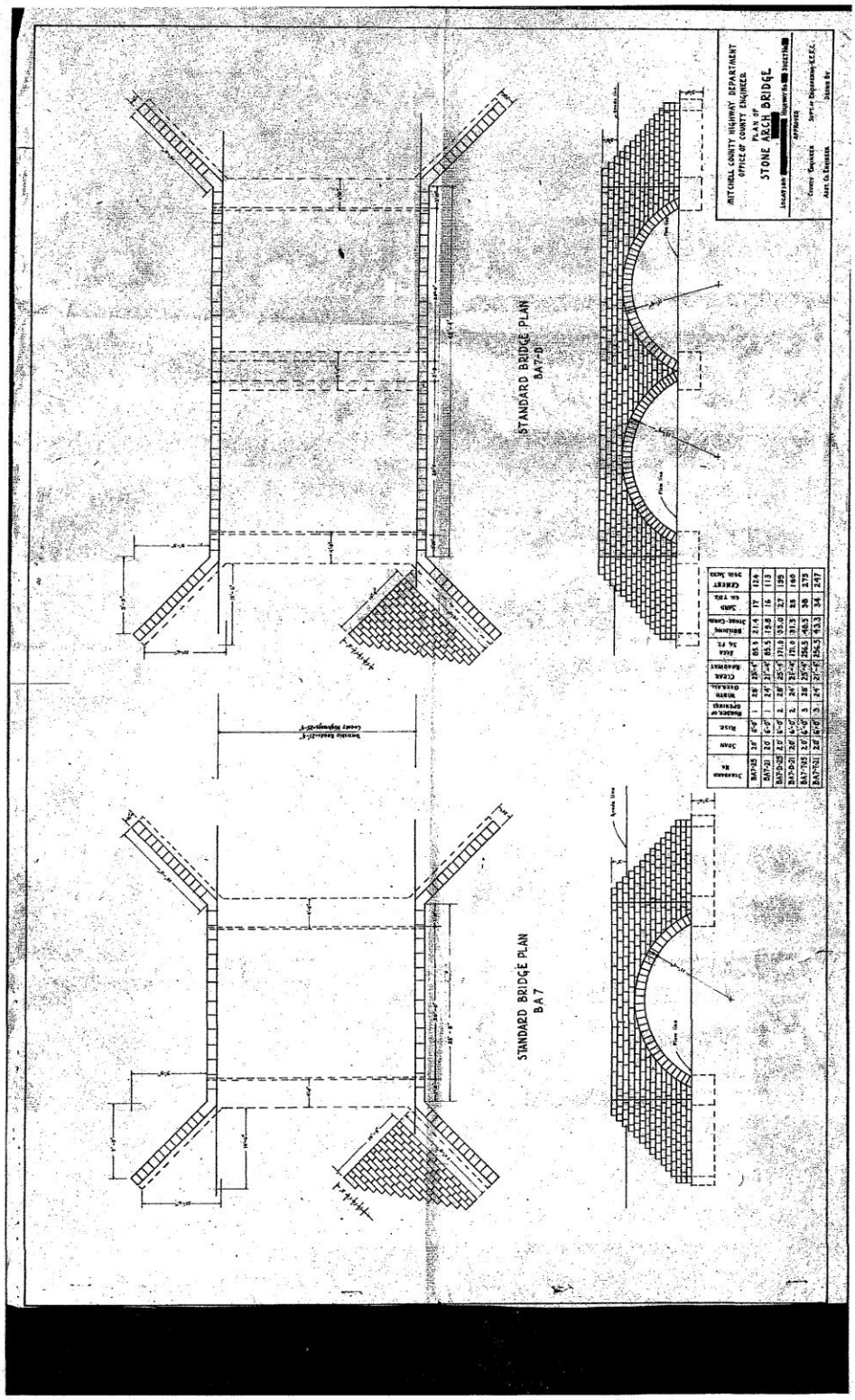

Figure 3 Standard bridge plan from the WPA period. Courtesy of Mitchell County

03.03.2014

MITCHELL
& P
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