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United States Department of the Interior  
National Park Service

APR 13 1990

National Register of Historic Places  
Registration Form

NATIONAL REGISTER

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 Thomas Arch Bridge  
other names/site number Waveland Bridge

2. Location

street & number SW 1/2, NW 1/2, NW 1/2, SW 1/2, S33, T13S, R15E  not for publication  
city, town Auburn  vicinity  
state Kansas code KS county Shawnee code 177 zip code 66402

3. Classification

Ownership of Property	Category of Property	Number of Resources within Property	
		Contributing	Noncontributing
<input type="checkbox"/> private	<input type="checkbox"/> building(s)	_____	_____ buildings
<input checked="" type="checkbox"/> public-local	<input type="checkbox"/> district	_____	_____ sites
<input type="checkbox"/> public-State	<input type="checkbox"/> site	<u>1</u>	_____ structures
<input type="checkbox"/> public-Federal	<input checked="" type="checkbox"/> structure	_____	_____ objects
	<input type="checkbox"/> object	<u>1</u>	_____ Total

Name of related multiple property listing:  
Masonry Arch Bridges of Kansas

Number of contributing resources previously listed in the National Register 0

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.  
Ramon Povera April 2, 1990  
Signature of certifying official Date  
State Historic Preservation Officer, Kansas State Historical Society  
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): \_\_\_\_\_  
Entered in the National Register  
Alamy Byer 5/10/90  
Signature of the Keeper Date of Action

**8. Statement of Significance**

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

Significance:  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)  
Engineering

Period of Significance  
c. 1916

Significant Dates  
c. 1916

Cultural Affiliation  
N/A

Significant Person  
N/A

Architect/Builder  
Thomas, Williams M.  
Allen and Fulton

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

The Thomas Arch Bridge (c. 1916) is being nominated to the National Register under criterion C for its architectural significance as reinforced concrete, triple hinged, open spandrel arched bridge and is to be included in the "Masonry Arch Bridges of Kansas" thematic resources nomination. This is Kansas' only known example of triple hinged, reinforced concrete construction.

The Thomas Arch Bridge spans the Wakarusa River at Wanamaker Road and 105th Street, near the Osage County line. This is a very rural area of Shawnee County. Wanamaker Road is paved when it crosses the bridge but becomes a gravel road just south of the bridge.

Arch bridges made of reinforced concrete had many advantages over masonry arches. Stone bridges were generally constructed with arches following a semi-circular, or segmental curve. These forms necessarily limited the span length. Stone bridges having a low rise to span ratio were extremely rare, but reinforced concrete lent itself to a low rise to span ratio, and this allowed for longer span length. In addition, concrete bridges generally required less handwork during the erection than stone arch bridges, which decreased their cost and construction time.

Many claims were made for concrete and the positive aspects of its use in bridge building. It was said to be a permanent material, far more durable than stone, and one which actually increased in strength with age. A concrete bridge was said to be frostproof, fireproof, and floodproof. The concrete, it was thought, would permanently protect the steel.

Concrete was first used in the mid-nineteenth century as a monolithic masonry without metal reinforcement, commonly called plain concrete. By itself, concrete can work only in compression, but if reinforced with iron or steel bars, the elastic metal will take the tensile stresses. Reinforcing schemes of varying shapes and types were introduced in the late nineteenth century. Because of the plasticity of concrete, various architectural and aesthetic designs can be incorporated into these bridges.

See continuation sheet

**9. Major Bibliographical References**

Shawnee Chief, 12 May 1916; 13 October 1916; 20 October 1916; 17 November 1916; 24 November 1916; 8 December 1916; 23 March 1917; 27 April 1917; 4 May 1917; 25 May 1917.

Shawnee County, Kansas Commission Journal "P". (Shawnee County, Kansas County Clerk's Office). 8 May 1916; 9 June 1916; 11 August 1916; 18 August 1916; 8 September 1916; 9 September 1916; 15 September 1916.

Topeka Daily Capital, 9 September 1916.

United States Patent Office. The Official Gazette of the United States Patent Office, Containing the Patents, Trade-Marks, Designs, and Labels. (Washington: Government Printing Office, 8 December 1914).

Wallace, Douglass W. and Bird, Roy D.: Witness of the Times: A History of Shawnee County, (Topeka: Shawnee County Historical Society, 1976).

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 # \_\_\_\_\_

Primary location of additional data:

- State historic preservation office
- Other State agency
- Federal agency
- Local government
- University
- Other

Specify repository:

Kansas State Historical Society

**10. Geographical Data**

Acreage of property Less than 1 acre

UTM References

A 

1	5
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2	6	0	4	4	5
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4	3	0	6	3	2	5
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Zone      Easting      Northing

B 

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Zone      Easting      Northing

C 

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D 

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See continuation sheet

Verbal Boundary Description ~~The nominated property is located on the SW $\frac{1}{4}$ , NW $\frac{1}{4}$ , NW $\frac{1}{4}$ , SW $\frac{1}{4}$ , S33, T13S, R15E in Auburn Township, Shawnee County, Kansas on a tract measuring 113'1" x 16'1" whose northeast corner is represented by the northeast corner of the bridge. Beginning at the northeast corner of the bridge the boundary proceeds 113'1" to the southwest, 16'1" to the northwest, 113'1" to the northeast, and 16'1" to the southeast.~~

See continuation sheet

Boundary Justification

The boundary includes only that area that is historically associated with the nominated property.

See continuation sheet

**11. Form Prepared By**

name/title Martha Hagedorn-Krass, Architectural Historian  
organization Kansas State Historical Society date March 30, 1990  
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city or town Topeka state Kansas zip code 66612