NPS Form 10-900
OMB No. 1024-0018
(Rev. 10/90)

United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

1. **Name of Property**

Historic name: N/A

Other name/site number: Cottonwood River Pratt Truss Bridge (preferred); 09-HT-03

2. **Location** On Main Street, 0.8 miles west of the intersection with 1st Street.

not for publication

city or town Cedar Point X vicinity

state code KS county Chase county code 017 zip code 66843

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1986, as amended, I hereby certify that this **XX** 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 **XX** meets ___does not meet the National Register criteria. I recommend that this property be considered significant nationally **XX** statewide ___locally. (___ See continuation sheet for additional comments.)

Richard D. Pankratz 4-09-03

Signature of certifying official Date

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 for additional comments.)

Signature of commenting or other official Date

State or Federal agency and bureau

4. 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 Keeper Date of Action

5. Classification

Ownership of Property	Category of Property	No. of Resources within Property	
		contributing	noncontributing
___ private	___ building(s)	_____	_____ buildings
X public-local	___ district	_____	_____ sites
___ public-State	___ site	1	_____ structures
___ public-Federal	X structure	_____	_____ objects
	___ object	1	0 Total

Name of related multiple property listing:
(Enter "N/A" if property is not part of a multiple property listing.):

Metal Truss Bridges in Kansas

No. of contributing resources previously listed in the National Register

0

6. Functions 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: Pratt Truss

Materials
(Enter categories from instructions.)

Foundation Concrete, limestone
Walls
Roof
Other Metal: Steel

Narrative Description (Describe the historic and current condition of the property on one or more continuation sheets.)

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.)

____ 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.)

____ A owned by a religious institution or used for religious purposes.

____ B removed from its original location.

____ C a birthplace or a grave.

____ D a cemetery.

____ E a reconstructed building, object, or structure.

____ F a commemorative property.

____ G less than 50 years of age or achieved significance within the past 50 years.

Areas of Significance (Enter categories from instructions.)	Period of Significance	Significant Dates
ENGINEERING	1916	1916
TRANSPORTATION		

Cultural Affiliation

N/A

Significant Person

N/A

Architect/Builder

Missouri Valley Bridge Company (Leavenworth, Kansas)

Narrative Description (Describe the historic and current condition of the property on one or more continuation sheets.)

9. Major Bibliographical References

(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

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:

_X_ State Historic Preservation Office
____ Other State agency
____ Federal agency
_X_ Local government
____ University
____ Other
Specify repository:

10. Geographical Data

Acreage of property <1 acre

UTM References

	Zone	Easting	Northing		Zone	Easting	Northing
1	1/4	6/8/9/5/2/0	4/2/3/6/6/9/0/	3	/	/ / / / /	/ / / / / /
2	/	/ / / / /	/ / / / / /	4	/	/ / / / /	/ / / / / /

___ See continuation sheet

Verbal Boundary Description (Describe the boundaries of the property on a continuation sheet.)

Boundary Justification (Explain why the boundaries were selected on a continuation sheet.)

11. Form Prepared By

name/title Kerry Davis, Architectural Historian & Elizabeth Rosin, Partner

organization Historic Preservation Services date August 5, 2002

street & number 323 West Eighth Street, Suite 112 telephone (816) 221-5133

city or town Kansas City state Missouri zip code 64105

Additional Documentation

Submit the following items with the completed form:

Continuation Sheets

Maps

A USGS map (7.5 or 15 minute series) indicating the property's location.
A sketch map for historic districts and properties having large acreage or numerous resources.

Photographs

Representative black-and-white photographs of the property.

Additional items (Check with the SHPO or FPO for any additional items.)

Property Owners (Complete this item at the request of the SHPO or FPO.)

Name County of Chase

street & number Chase County Courthouse telephone 620-273-6386

city or town Cottonwood Falls state KS zip code 66845

DESCRIPTION

LOCATION AND SETTING

The Cottonwood River Pratt Truss Bridge is located 0.8 miles west of the town of Cedar Point in the heart of the Flint Hills region of east-central Kansas; in the NW ¼ of Section 1, Township 21S, Range 5E. The region is defined by rolling prairie hills with deep, tree-lined creek valleys and rocky bluffs. The Cottonwood River Pratt Truss Bridge carries Main Street across the Cottonwood River, a wide and deep river that flows east to join the Neosho River near Emporia. The gravel roadway travels west out of Cedar Point along the section line between sections 1 and 36. It makes a wide curve southwest and travels 0.2 miles before making a fairly sharp curve northwest back up to the section line. The Cottonwood River Pratt Truss Bridge is located at this northwest curve in the road and has a northwest-southeast alignment.

TRUSS TYPE

The Cottonwood River Pratt Truss Bridge is a single span riveted through truss[1] that measures 142 feet in length and 17 feet in width.[2] Standard box-form poured concrete abutments support the bearings of the truss, which rest directly on the abutment seat. The side walls of the abutments extend approximately 18 feet along the approach grades. Rough-cut limestone retaining walls extend another 15-20 feet along the south approach grade.

The inclined end posts rise from the bottom chords and meet the horizontal top chords to form a trapezoidal shape. The top chords and end posts consist of two channels, a top plate, and lacing bars; the bottom chords consist of angle stock with stay plates.

The web members consist of vertical posts that form eight equivalent panels and diagonal ties that intersect within the two central panels. Angle stock and lacing bars compose the vertical posts. Angle stock and riveted stay plates compose the diagonal ties.

A system of intersecting, riveted angle stock forms the portal and sway bracing that connects the top chords at each vertical post, leaving a vertical clearance of 16 feet. Upper lateral bracing rods intersect diagonally between the top chords.

The historic poured concrete deck is 17-feet wide with curbs and downspouts. It rises 32½ feet above the riverbed on steel I-beam stringers. Floor beams located at the base of each vertical post are connected by lower lateral bracing rods.

The historic lattice guardrails are intact along the length of the truss. Identical, rectangular plaques on the southeast and northwest inclined end posts read "C. C. McDowell COMM / J. H. Harbour COMM / Frank Stewart COMM / J. A. Mann CLERK / C. H. Burnett ENG." Letters in relief read "LACKAWANNA" on several structural components.

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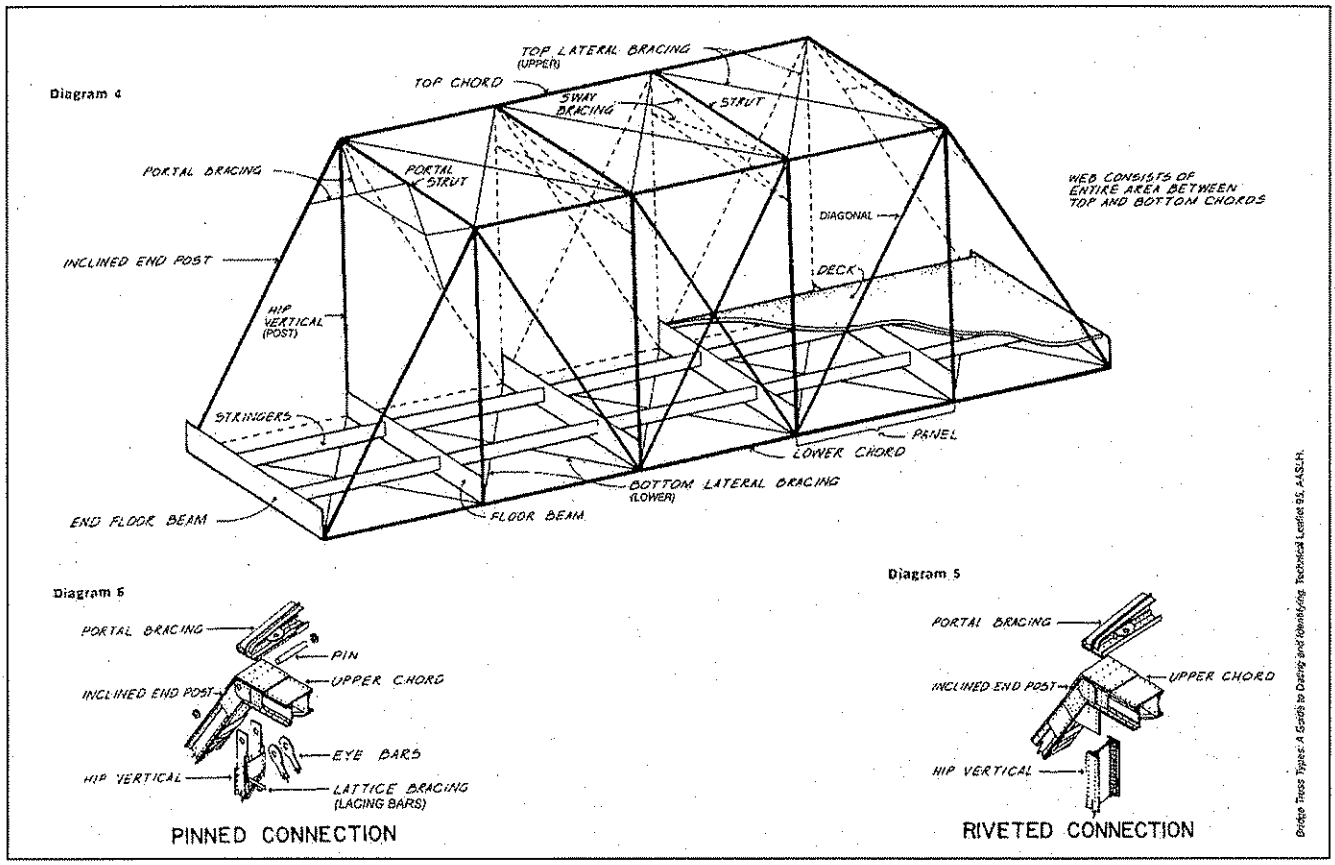
[1] A through truss is also referred to as a high truss.
[2] The length equals the distance between abutments; the width equals deck width.

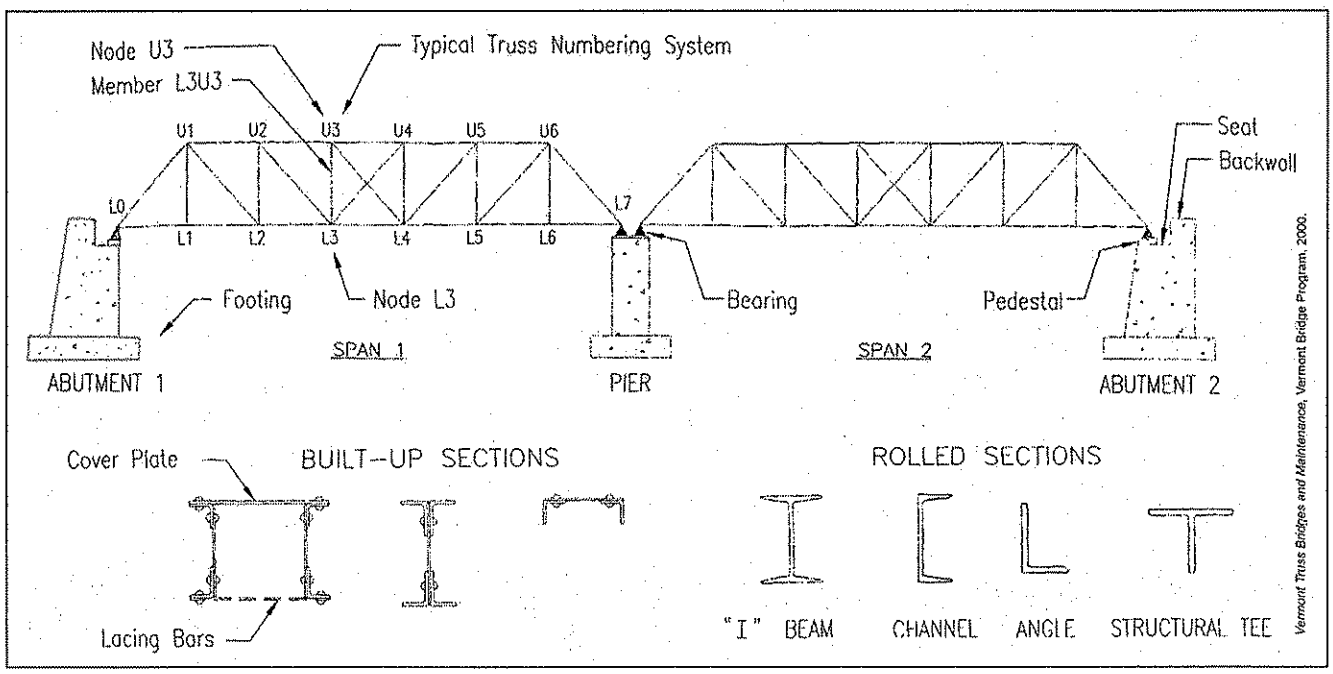
INTEGRITY

The Cottonwood River Pratt Truss Bridge is an excellent example this bridge type, historically the most popular built in Kansas.[3] It retains a high degree of integrity with no apparent alterations to the original design or materials. The original workmanship, materials, design, setting, and feeling of the property are readily apparent. Furthermore, the potential for preservation of the bridge is high. Located on a lightly traveled road, it is unlikely that traffic requirements will necessitate alteration or replacement.

[3] Larry Jochims, *Metal Truss Bridges in Kansas 1861-1939, National Register of Historic Places Multiple Property Documentation Form,* (Topeka: Kansas State Historical Society, 1989), E1. Jochims identified approximately 262 extant Pratt trusses in Kansas. Dale Nimz, *Activity III Review Initial Assessment Metal Truss Bridges.* (Topeka: Kansas State Historical Society, 1998), 6. Nimz identifies approximately 800 extant Pratt trusses in Kansas.

TRUSS TERMINOLOGY





STATEMENT OF SIGNIFICANCE

The Cottonwood River Pratt Truss Bridge is significant under National Register Criterion C in the areas of Engineering and Transportation. As defined by the *Multiple Property Documentation Form for Metal Truss Bridges in Kansas*, it is an excellent example of the Pratt Truss bridge type. Built in 1916, the Cottonwood River Pratt Truss Bridge is a common bridge solution applied to a relatively long span. Its riveted structure and concrete abutments illustrate the standardization of these construction techniques and materials during the period of significance. As no historic name identifies this bridge, the preferred name "Cottonwood River Pratt Truss Bridge" has been assigned. This describes the location, design, and function of the structure.

ELABORATION

The need for all-weather crossings of rivers and streams corresponded to the growth of the market economy across Kansas during the late nineteenth and early twentieth centuries. Bridges provided farmers easy access to markets and could make the difference between growth and stagnation for the many small, young communities across the state.[1] Proximity of a bridge often secured a town's economic stability, and it contributed to a local sense of modernity.

Prior to the 1930s, the railroad was the primary means of long-distance travel and there was little need for roads to extend more than a few dozen miles. With little stimulus for improved long-distance roads that would cross multiple jurisdictions, road construction and maintenance remained local concerns. County commissioners often carried the burden of selecting bridge locations, over which much contention was common.

The range of choices for bridge designs and companies was vast. Many of the larger bridge companies sold metal truss bridges through mail order catalogues. County commissioners could simply specify the span, clearance needs, and truss type (if there was a preference), then choose the lowest bidder from the numerous competing companies who had salesmen in the field.

By the late nineteenth century, fabrication of iron and steel was widespread. The speed of construction and the relatively low cost of metal truss bridge parts ensured their popularity over labor-intensive masonry bridges and short-lived timber bridges. Toward the end of the nineteenth century the quality, quantity, and cost of steel improved to such a degree that it virtually replaced wrought iron for bridge construction by 1910.[2]

Most metal trusses were constructed of built-up members composed of mass-produced, standard-shaped channel, plate, and angle stock purchased from one or more of the numerous steel companies nationwide. The bridge companies preassembled trusses in their factories then simply shipped them to the bridge site for installation. Installation involved grading approaches, constructing abutments and piers, erecting preassembled floor and truss members, and placing deck material.

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[1] Jochims, E.
[2] Jochims, F.

Before 1900, generally all panel point connections – the locations at which structural bridge elements intersect – were made with the use of a pin. This technique was so widespread that it became one of the distinctive features of American bridge construction in the nineteenth century.[3] However, subsequent advancements in pneumatic riveting techniques greatly improved rivet installation quality, enabling more reliable panel point connections. With the increased portability of this construction technology, the more rigid riveting technique rapidly surpassed pin-connected bridge construction during the first years of the twentieth century. The riveted construction of the Cottonwood River Pratt Truss Bridge illustrates the standardization of this technique.

In addition, the contemporary development of economic cement production promoted the widespread combination of steel and concrete in bridge construction. It was not uncommon for older metal truss bridges to receive new reinforced concrete decks or poured concrete reinforcements for older stone abutments. By the 1920s, reinforced concrete was the standard material for abutments, piers, and decks of steel truss bridges. While the concrete deck and abutments of the Cottonwood River Pratt Truss Bridge are typical of bridges built during this period, the limestone retaining walls that extend from the side walls of the southeast abutment also suggest a continued reliance on traditional building techniques during this transition period.[4]

The Cottonwood River Pratt Truss Bridge is a classic example of this truss design. Patented in 1844, the Pratt truss incorporates vertical members in compression and diagonal members in tension, a design that reduces the required length of compression members, helping to prevent bending or buckling.[5] The Pratt truss became the most common bridge type of the late nineteenth and early twentieth centuries and spawned numerous design variations including Parker, Camelback, Baltimore, Truss Leg Bedstead, Lenticular, and Pennsylvania trusses.[6]

In Kansas, Pratt truss bridges were constructed well into the twentieth century, suggesting the appeal of the design's strength and economical construction costs.[7] In 1998, approximately 800 Pratt truss bridges, including the Cottonwood River Pratt Truss Bridge, existed throughout the state of Kansas.[8]

STRUCTURE HISTORY

Settled by 1857,[9] the nearby town of Cedar Point was a thriving rural community during the late nineteenth and early twentieth centuries. In 1883, it had two general stores, a post office, a blacksmith shop, and the three-story Drinkwater & Schriver water gristmill. William G. Cutler referred to the mill as "the largest and finest in Chase

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[3] Ibid, F.
[4] "Commissioners Proceedings." *Cottonwood Valley News,* 10 June 1915. Contemporary reports indicate that the road and river crossing did not exist prior to 1916, suggesting that the limestone retaining walls are not remnants of a previous bridge abutment.
[5] T. Allan Comp and Donald Jackson, *Bridge Truss Types: A guide to dating and identifying.* (Nashville, Tennessee: American Association for State and Local History, Technical Leaflet 95), 8.
[6] Ibid, 8.
[7] Jochims, F2.
[8] Nimz, 6.
[9] William G. Cutler, *History of the State of Kansas: Chase County.* (Chicago: A. T. Andreas, 1883). Captain O. H. Drinkwater, senior partner of Drinkwater & Shriver, millers, settled at what is now Cedar Point in 1857.

County or in this part of the State [. ...it] manufactures flour of a very fine quality which is shipped East and West to points at considerable distance."[10] Cedar Point was typical of small towns throughout Kansas that served as trading and shipping points for area cattlemen and farmers. As a result, fords and bridges that provided access to local markets were critical to the survival of the regional economy.

Late in 1914, the citizens of Cottonwood Township began petitioning for a western extension of Main Street out of Cedar Point that would curve north and cross the Cottonwood River. After nearly a year, the board of county commissioners officially agreed to the petition in August of 1915 and appropriated the funds for a bridge to cross the Cottonwood River on this road. They estimated the cost at between $7,500 and $8,000.[11] Bridge companies declared the bridge could not be built at such low cost, and no bids were submitted at the September bid opening. The commissioners subsequently passed a resolution appropriating $10,000, of which the town of Cedar Point was to contribute $500, and a second round of bids were received in October 1915. Upon receipt, the commissioners rejected all bids, which ranged from $8,779 to $9,573, on the grounds that they were too high. Missouri Valley Bridge Company lowered their bid to $8,750 and received the contract.[12]

The Missouri Valley Bridge Company of Leavenworth, Kansas, a prolific Kansas bridge builder, built the Cottonwood River Pratt Truss Bridge. Markings on the structural members indicate that they purchased the stock metal from the Lackawanna Steel Company of Buffalo, New York. In 1874, Edwin I. Farnsworth and D. W. Eaves of the Wrought Iron Bridge Company (Canton, Ohio) founded the Missouri Valley Bridge Company in an effort to manufacture and sell bridges locally rather than import them from eastern firms. By 1904, the company incorporated as the Missouri Valley Bridge and Iron Company and built everything from bridges to boats. Their most notable project was the construction of the piers for the San Francisco Bay Bridge in 1936.[13]

By early November 1915, work had commenced on the Cottonwood River Pratt Truss Bridge under the supervision of the County Engineer, Charles H. Burnett, and the Foreman, Mr. Rice.[14] The specifications called for a bridge that "will doubtless be the best steel river bridge in Kansas."[15] Work continued with no significant delays except for a few days pause in work while "waiting for a power riviter."[16] Construction was completed in April 1916.

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[10] Ibid. This mill, built in 1876, is still standing.
[11] *The Cottonwood Valley News,* 10 June 1915.
[12] *The Cottonwood Valley News,* 14 October 1915.
[13] Jochims, E3.
[14] This was the same foreman who was in charge of construction of the c.1915 bridge at Cottonwood Falls. His first name is not known.
[15] *The Cottonwood Valley News,* 14 October 1915.
[16] *The Cottonwood Valley News,* 9 March 1916.

BIBLIOGRAPHY

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"Commissioners Proceedings." *Cottonwood Valley News,* 10 June 1915.

"Commissioners Proceedings." *Cottonwood Valley News,* 6 April 1916.

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Second Ohio Historic Bridge Inventory: The Evaluation and Preservation Plan. Columbus: Ohio Department of Transportation, 1990.

Vermont Truss Bridges and Maintenance. Vermont Bridge Program, 2000.

WPA Guide to 1930s Kansas. Lawrence: University of Kansas Press, 1984.

GEOGRAPHICAL DATA

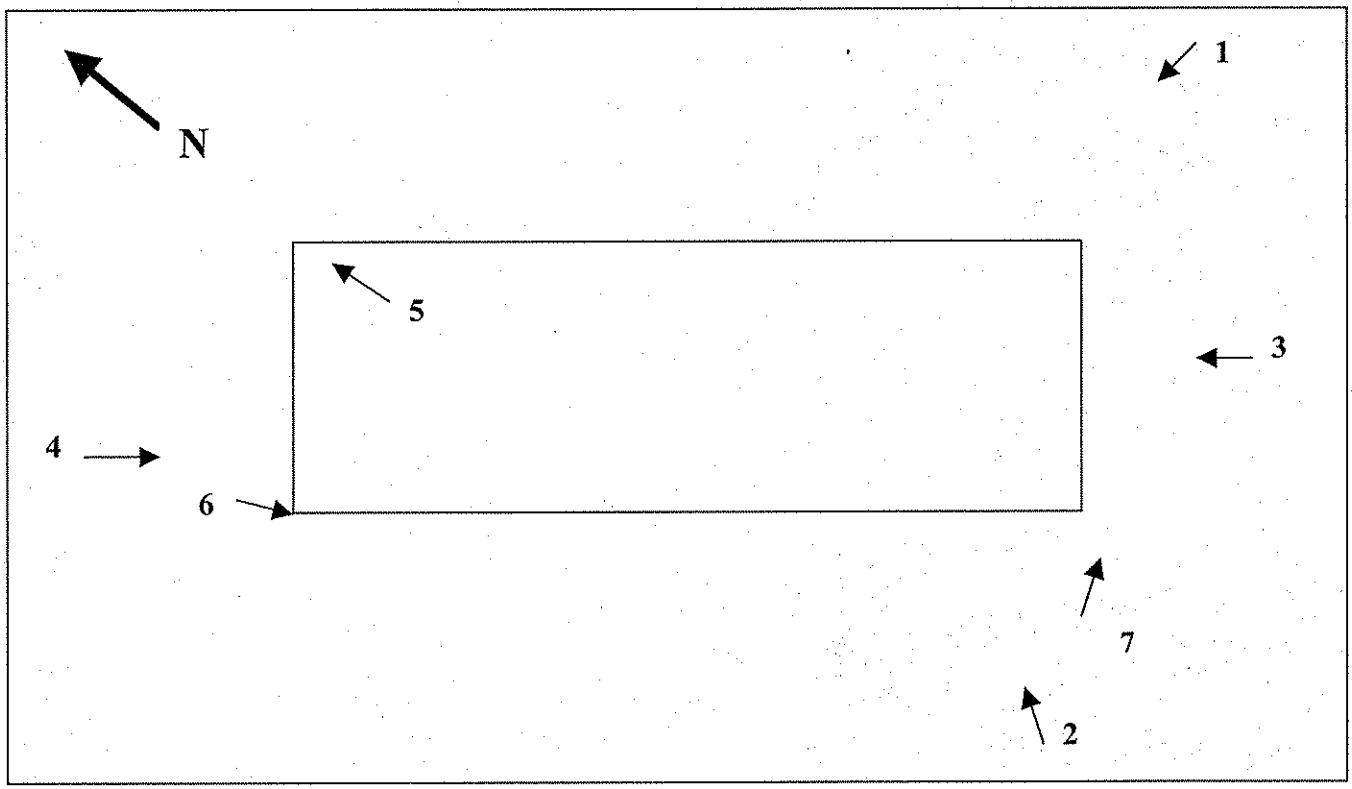
Verbal Boundary Description:
Located on the NW ¼ of Section 1, Township 21S, Range 5E, the Cottonwood River Pratt Truss Bridge encompasses an area measuring approximately 142 feet by 17 feet. The northwest corner of this area corresponds to the northwest corner of the bridge.

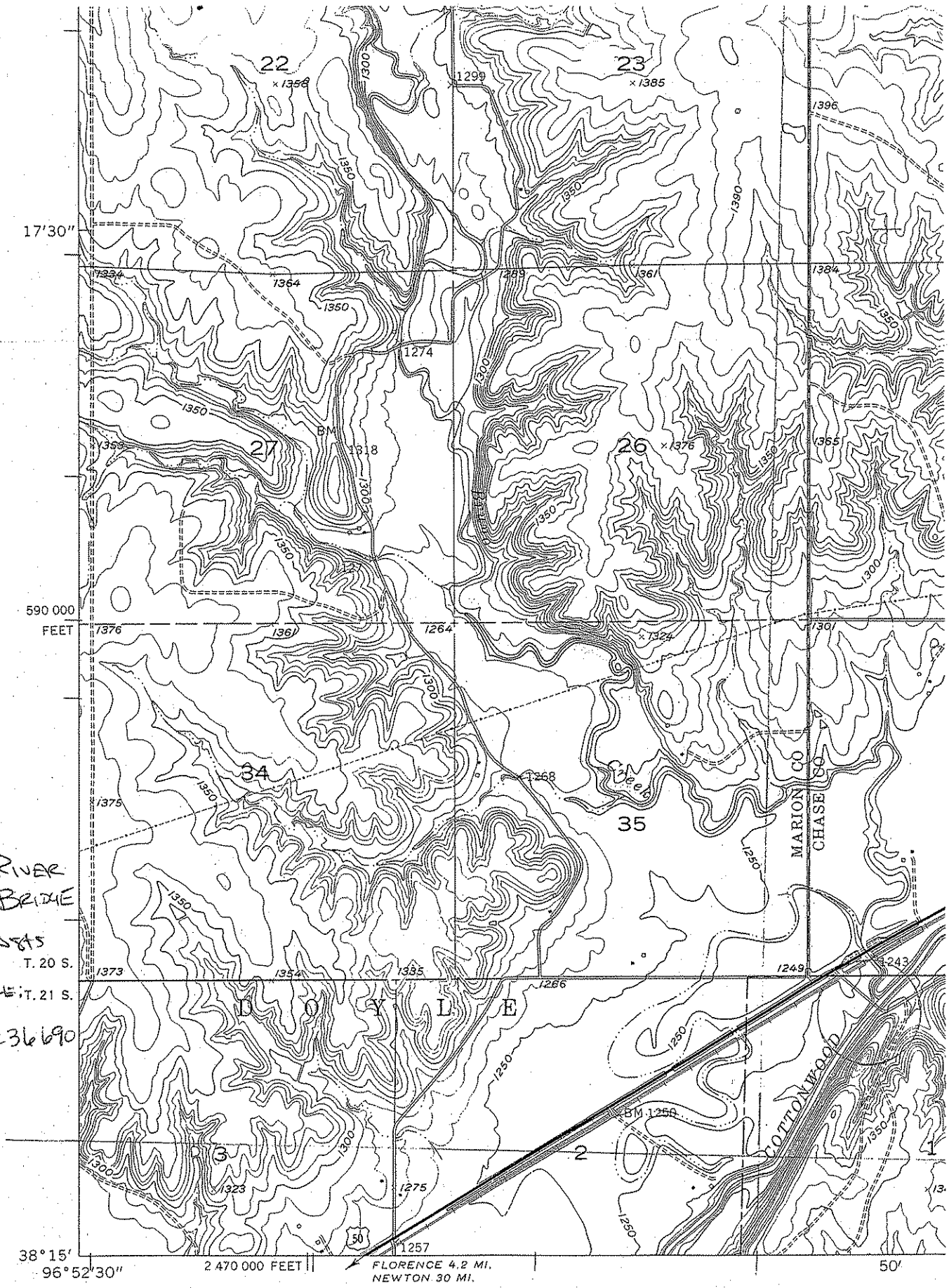
Boundary Justification:
The boundary includes the truss, deck, abutments, and associated approaches that represent the significant features associated with the bridge structure.

PHOTO LOG

Photographer: Kerry Davis
Date of Photographs: February 2002
Location of Original Negative: Kansas State Historical Society, Topeka, Kansas

Photograph Number	Camera View
1.	View W, bridge truss and abutments
2.	View NE, bridge truss and abutments
3.	View NW, along roadway through portal
4.	View SE, along roadway through portal
5.	View N, detail upper nodes, sway bracing, and web members
6.	View SE, plaque detail
7.	View SE, southeast abutment and retaining wall





COTTONWOOD RIVER
PRATT TRUSS BRIDGE
CHASE CO., KANSAS

UTM REFERENCE:
14/689520/4236690

Mapped, edited, and published by the Geological Survey
in cooperation with State of Kansas agencies

Control by USGS and USC&GS

Topography from aerial photographs by Kelsh plotter
Aerial photographs taken 1956. Field check 1957

Polyconic projection. 1927 North American datum
10,000-foot grid based on Kansas coordinate system, south zone
1000-meter Universal Transverse Mercator grid ticks,

(FLORENCE)

9½°

IE NORTH
ETIC NORTH