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BARRY COUNTY

INCLUDED: [Significant feature(s) of bridge given in boldface]
[Field inventoried bridge indicated by asterisk]

Inv. No.	MHTD	Bridge Name	Description
*BARR01	J 382	Jenkins Bridge	**3**-120' **riveted Pratt through truss** **1931** Martin Wunderlich
BARR02	K 770	Flat Creek Bridge	**1-170' riveted Parker through truss** **1938** J.C. Ault
BARR03	023000.1	Dry Branch Bridge	1- 30' concrete slab **1912** A.P. Hagedorn
BARR04	043000.7	Hudson Creek Bridge	2- 20' steel stringer **1916** M.E. Gillioz, Monett MO
BARR05	110900.4	SL&SF Railroad Overpass	1-110' **riveted Pratt through truss** 1936 J.C. Ault
*BARR06	312000.1	Jenkins Ford Bridge	1- 96' **pinned Pratt through truss** **1909** Standard Bridge Co., Omaha
*BARR07	324000.4	Flat Creek Bridge	1-100' pinned Pratt through truss **c1905**
*BARR08	341001.6	Star City Bridge	1-142' pinned Parker through truss **c1915**
*BARR09	451000.3	Flat Creek Bridge	1-102' pinned Pratt through truss **c1915**
*BARR10	561000.9	Shoal Creek Bridge	1- 25' **welded kingpost pony truss** 1959 county work force (prob.)

EXCLUDED:

Pratt pony truss
660001.1

Steel stringer

S 669	T 421	039001.0	073000.1	103501.3	115R02.9	159001.4
194001.0	198001.6	451002.2	603000.7	605000.6	734000.5	

Concrete girder

H 483R	H 782R	H 783	J 380R	J 566R	S 671	U28700015
U2870003	U2870004	X 6	X 196	Y 116	111100.3	147000.1
287000.2	287000.6	287000.8	287000.9	287001.0	307002.4	537000.7
603000.4	707000.2	725000.3				

Concrete slab

J 381	015000.8	021001.1	022000.2	043002.7	055000.6	107000.6
107101.4	108000.7	119000.1	147000.7	148000.5	148001.3	287000.3
287000.4	287000.5	296000.5	297000.7	310000.2	318002.4	346000.1
378000.6	385001.1	396000.2	481001.9	512001.3	514000.2	779001.0
808000.2						

BARRY COUNTY

EXCLUDED (cont.):

Concrete box culvert

G 679R	S 670	T 566	X 154	Y 149	010001.4	0730R0.2
202000.1	234001.6	288001.4	307000.7	307003.1	666002.0	

Timber stringer
189000.3

SUMMARY:

	Primary	Secondary	Urban	Other	Total
Included	2	8	0	0	10
Excluded	17	57	6	0	80
	19	65	6	0	90 structures

Jenkins Bridge

BARR01

GENERAL DATA

structure no.: J 382
county: Barry

city/town: 0.7 mile southeast of Jenkins
feature inters.: Flat Creek
cadastral grid: S19, T24N, R25W
highway route: State Highway 248
highway distr.: 7
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: steel, six-panel, rigid-connected Pratt through truss
substructure: concrete abutments, wingwalls and piers

span number: 3
span length: 120.0'
total length: 361.0'
roadway width: 20.0'

condition: good
alterations: none
floor/decking : concrete deck over steel stringers
other features: steel pipe guardrails

HISTORICAL DATA

erection date: 1930-31
erection cost: $35,328.64
designer: Missouri State Highway Department
fabricator : Inland Steel Company, East Chicago IN
contractor: Martin Wunderlich

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. J 382; Missouri Highway and Transportation Department, Primary System Bridge Record, Book 1 (see entries for Barry County), on file at MHTD, Jefferson City MO.

sign. rating: 44
evaluation: NRHP non-eligible (typical example of MSHD standard truss design)

inventoried by: Clayton B. Fraser 15 May 1992

Flat Creek Bridge

BARR02

GENERAL DATA

structure no.: K 770
county: Barry
city/town: 3.1 miles southeast of Jenkins
feature inters.: Flat Creek
cadastral grid: S6, T23N, R25W
highway route: State Highway 39
highway distr.: 7
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: steel, eight-panel, rigid-connected Parker through truss, with steel stringer approach spans
substructure: concrete abutments, wingwalls and piers

span number: 1
span length: 170.0'
total length: 245.0'
roadway width: 22.0'
condition: good
alterations: none
floor/decking : concrete deck over steel stringers
other features: steel guardrails

HISTORICAL DATA

erection date: 1938
erection cost: $24,615.40
designer: Missouri State Highway Department
fabricator : unknown
contractor: J.C. Ault

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. K 770; Missouri Highway and Transportation Department, Primary System Bridge Record, Book 1 (see entries for Barry County), on file at MHTD, Jefferson City MO.

sign. rating: 41
evaluation: NRHP non-eligible (typical example of MSHD standard truss design)

inventoried by: Clayton B. Fraser 15 May 1992

Dry Branch Bridge

BARR03

GENERAL DATA

structure no.: 023000.1
county: Barry
city/town: 5.4 miles northwest of Purdy
feature inters.: Dry Branch
cadastral grid: S22, T25N, R28W
highway route: County Road 23
highway distr.: 7
current owner: Barry County

STRUCTURAL DATA

superstructure: concrete slab
substructure: concrete abutments and wingwalls

span number: 1
span length: 29.0'
total length: 30.0'
roadway width: 13.2'
condition: fair
alterations: unknown
floor/decking : concrete deck
other features: unknown

HISTORICAL DATA

erection date: 1912
erection cost: $188.50
designer: unknown
fabricator : none
contractor: A.P. Hagedorn

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 023000.1; Barry County Court Minute Book (1912-1913): page 115 (5 August 1912); Barry County Court Record O: page 469 (5 August 1912) - located at Barry County Courthouse, Cassville MO.

sign. rating: 30
evaluation: NRHP non-eligible (typical, undistinguished example of common structural type)

inventoried by: Clayton B. Fraser 15 May 1992

Hudson Creek Bridge

BARR04

GENERAL DATA

structure no.: 043000.7
county: Barry
city/town: 3.2 miles northwest of Purdy
feature inters.: Hudson Creek
cadastral grid: S19/24, T25N, R27/28W
highway route: County Road 43
highway distr.: 7
current owner: Barry County

STRUCTURAL DATA

superstructure: steel stringer
substructure: concrete abutments, wingwalls and pier

span number: 2
span length: 20.0'
total length: 41.0'
roadway width: 12.2'
condition: fair
alterations: unknown
floor/decking : concrete deck
other features: unknown

HISTORICAL DATA

erection date: 1916
erection cost: $509.50
designer: Bert Robbins, Barry County Engineer
fabricator : unknown
contractor: M.E. Gillioz, Monett MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 043000.7; Barry County Court Record P: page 587 (6 March 1916); Barry County Court Minutes (January 1915-October 1916): page 292 (6 March 1916), page 331 (3 May 1916) - located at Barry County Courthouse, Cassville MO.

sign. rating: 37
evaluation: NRHP non-eligible (typical example of exceedingly common structural type)

inventoried by: Clayton B. Fraser 15 May 1992

SL&SF Railway Overpass

BARR05

GENERAL DATA

structure no.: 110900.4
county: Barry
city/town: 4.5 miles northwest of Cassville
feature inters.: Saint Louis and San Francisco Railway
cadastral grid: S1, T23N, R28W
highway route: county road
highway distr.: 7
current owner: Barry County

STRUCTURAL DATA

superstructure: steel, six-panel, rigid-connected Pratt through truss, with concrete girder approach spans
substructure: concrete abutments, wingwalls and piers

span number: 1
span length: 110.0'
total length: 299.0'
roadway width: 22.0'
condition: good
alterations: none
floor/decking : concrete deck over steel stringers
other features: steel guardrails

HISTORICAL DATA

erection date: 1936
erection cost: $29,526.65
designer: Missouri State Highway Department
fabricator : unknown
contractor: J.C. Ault

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 110900.4; Missouri Highway and Transportation Department, Primary System Bridge Record, Book 1 (see entries for Barry County), on file at MHTD, Jefferson City MO.

sign. rating: 38
evaluation: NRHP non-eligible (A railroad grade separation built by the state highway department and abandoned to the county, this bridge is a typically configured example of MSHD truss design in the 1930s.)

inventoried by: Clayton B. Fraser 15 May 1992

Jenkins Ford Bridge

BARR06

GENERAL DATA

structure no.: 312000.1
county: Barry
city/town: Jenkins
feature inters.: Flat Creek
cadastral grid: S24, T24N, R26W
highway route: County Road 312
highway distr.: 7
current owner: Barry County

STRUCTURAL DATA

superstructure: steel, six-panel, pin-connected Pratt through truss, with concrete slab approach spans
substructure: concrete/stone abutments and wingwalls; steel H-pile bent piers

span number: 1
span length: 96.0'
total length: 143.0'
roadway width: 12.2'
condition: fair
alterations: approach spans replaced
floor/decking : timber deck over timber stringers
other features: upper chord / end post: two steel channels with cover and batten plates; lower chord: two looped or punched rectangular eyebars; vertical: two channels with lacing (four angles with batten plates at the hip); diagonal: two punched square eyebars; counter: round eyerod with turnbuckle; lateral bracing: round bar with threaded ends; strut: two angles; portal strut: angle M-frame; floor beam: I-beam, field-bolted to vertical; steel pipe guardrails with timber guardrails on approach

HISTORICAL DATA

erection date: 1909
erection cost: $1873.00 (contract amount)
designer: Standard Bridge Company, Omaha NE
fabricator : Standard Bridge Company, Omaha NE; Illinois Steel Company, Chicago IL
contractor: Standard Bridge Company, Omaha NE

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 312000.1; Barry County Court Record N: page 330 (14 June 1909), page 332 (14 June 1909), page 415 (7 December 1909); Barry County Court Record O: page 517 (4 September 1912); Barry County Court Minute Book (May 1908-September 1910): page 153 (5 May 1909), page 163 (29 May 1909), page 170 (14 June 1909) - located at Barry County Courthouse, Cassville MO; Ted Johnson, "Discussion of Steel Foundations for Steel Bridges Constructed in the Missouri Valley," **Nebraska Blue Print** 26 (February 1927), p. 11; field inspection by Clayton Fraser, 16 April 1991.

Jenkins Ford Bridge

sign. rating: 55
evaluation: NRHP possibly eligible (early, well-preserved example of important substructural type)

inventoried by: Clayton B. Fraser 15 May 1992

Flat Creek Bridge

BARR07

GENERAL DATA

structure no.: 324000.4
county: Barry

city/town: 3.4 miles northwest of Jenkins
feature inters.: Flat Creek
cadastral grid: S9, T24N, R26W
highway route: County Road 324
highway distr.: 7
current owner: Barry County

STRUCTURAL DATA

superstructure: steel, six-panel, pin-connected Pratt through truss
substructure: concrete abutments and wingwalls

span number: 1
span length: 100.0'
total length: 102.0'
roadway width: 12.3'

condition: good
alterations: deck replaced; substructure apparently replaced or truss moved to this location
floor/decking : asphalt over corrugated steel deck
other features: upper chord / end post: two channels with cover and batten plates; lower chord: two looped or punched rectangular eyebars; vertical: two channels with lacing (two angles with batten plates at the hip); diagonal: two punched rectangular eyebars; counter: round bar with turnbuckle; lateral bracing: round bar with threaded ends; strut: two angles; A-frame portal strut; I-beam floor beams and stringers; guardrail: steel pipe

HISTORICAL DATA

erection date: c1905
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 324000.4; field inspection by Clayton Fraser, 16 April 1991.

sign. rating: 12
evaluation: NRHP non-eligible (The truss is undistinguished, undocumented and probably moved to this location.)

inventoried by: Clayton B. Fraser 15 May 1992

Star City Bridge

BARR08

GENERAL DATA

structure no.: 341001.6
county: Barry

city/town: 7.1 miles northeast of Cassville
feature inters.: Flat Creek
cadastral grid: S23, T24N, R27W
highway route: County Road 341
highway distr.: 7
current owner: Barry County

STRUCTURAL DATA

superstructure: steel, eight-panel, pin-connected Parker through truss
substructure: concrete abutments and wingwalls

span number: 1
span length: 142.0'
total length: 144.0'
roadway width: 15.6'

condition: good
alterations: deck replaced
floor/decking : asphalt over corrugated steel deck
other features: upper chord / end post: two steel channels with cover plate and lacing; lower chord: two looped rectangular eyebars; vertical: two channels with lacing; diagonal: two looped round eyebars; counter: round eyerod with turnbuckle; lateral bracing: round bar with threaded ends; strut: two angles, braced; portal strut: four-angle lattice with curved knee braces; floor beam: I-beam, field-bolted to vertical; guardrail: lattice

HISTORICAL DATA

erection date: c1915
erection cost: unknown
designer: unknown
fabricator : Jones and Laughlin Steel Company, Pittsburgh PA
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 341001.6; field inspection by Clayton Fraser, 16 April 1991.

sign. rating: 36
evaluation: NRHP non-eligible (undocumented, short-span example of relatively common Pratt truss sub-type)

inventoried by: Clayton B. Fraser 15 May 1992

Flat Creek Bridge

BARR09

GENERAL DATA

structure no.: 451000.3
county: Barry

city/town: 10.7 miles northeast of Cassville
feature inters.: Flat Creek
cadastral grid: S5/8, T24N, R26W
highway route: County Road 451
highway distr.: 7
current owner: Barry County

STRUCTURAL DATA

superstructure: steel, six-panel, pin-connected Pratt through truss, with steel stringer approach span
substructure: concrete abutments and wingwalls; concrete-filled steel cylinder piers with solid concrete diaphragm between piers

span number: 1
span length: 102.0'
total length: 144.0'
roadway width: 13.5'

condition: good
alterations: deck replaced
floor/decking : asphalt over corrugated steel deck
other features: upper chord / end post: two steel channels with cover plate and lacing; lower chord: two looped rectangular eyebars; vertical: two channels with lacing; diagonal: two looped rectangular eyebars; counter: square or round eyebar with turnbuckle; lateral bracing: round bar with threaded ends; strut: two angles; portal strut: angle lattice with curved knee braces; floor beam: I-beam, field-bolted to vertical; lattice guardrails

HISTORICAL DATA

erection date: c1915
erection cost: unknown
designer: unknown
fabricator : Jones and Laughlin Steel Company, Pittsburgh PA
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 451000.3; field inspection by Clayton Fraser, 16 April 1991.

sign. rating: 32
evaluation: NRHP non-eligible (typical example of common structural configuration)

inventoried by: Clayton B. Fraser 15 May 1992

Shoal Creek Bridge

BARR10

GENERAL DATA

structure no.: 561000.9
county: Barry

city/town: 7.4 miles northwest of Cassville
feature inters.: Shoal Creek
cadastral grid: S5, T23N, R28W
highway route: County Road 561
highway distr.: 7
current owner: Barry County

STRUCTURAL DATA

superstructure: steel, two-panel, welded Kingpost pony truss
substructure: concrete abutments with stone wingwalls

span number: 1
span length: 25.0'
total length: 27.0'
roadway width: 12.2'

condition: fair
alterations: none
floor/decking : timber deck over steel stringers
other features: inclined end post: 1 steel channel with continuously welded plate; vertical: wide flange with wide flange outrider; floor beams: I beam; guardrail: none; "**Nov 24, 1959**" appears at weld point between end posts

HISTORICAL DATA

erection date: 1959
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: county work force (probable)

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 561000.9; field inspection by Clayton Fraser, 16 April 1991.

sign. rating: 32
evaluation: NRHP determined non-eligible (makeshift, late example of now-uncommon truss type)

inventoried by: Clayton B. Fraser 15 May 1992

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Jenkins Ford Bridge
MHTD:
312000.1

BARR06

DATE(S) OF CONSTRUCTION
1909

LOCATION
County Road 312 over Flat Creek; S24, T24N, R26W
Jenkins; Barry County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 55)

CONDITION
fair

OWNER
Barry County

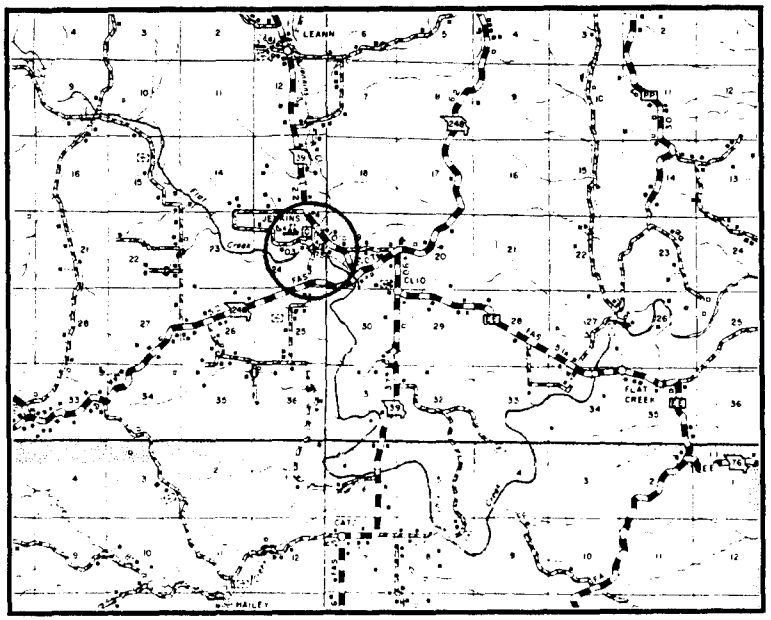
span number:	1	superstructure:	steel, six-panel, pin-connected Pratt through truss, with concrete slab approach spans
span length:	96.0'	substructure:	concrete/stone abutments and wingwalls; steel H-pile bent piers
total length:	143.0'	floor/decking:	timber deck over timber stringers
roadway wdt.:	12.2'	other features:	upper chord / end post: two steel channels with cover and batten plates; lower chord: two looped or punched rectangular eyebars; vertical: two channels with lacing (four angles with batten plates at the hip); diagonal: two punched square eyebars; counter: round eyerod with turnbuckle; lateral bracing: round bar with threaded ends; strut: two angles; portal strut: angle M-frame; floor beam: I-beam, field-bolted to vertical; steel pipe guardrails with timber guardrails on approach

Located just south of Jenkins, in east-central Barry County, the Jenkins Ford Bridge serves to carry a gravel-surfaced road over Flat Creek. Configured as a six-panel, pin-connected Pratt through truss, the bridge also features three concrete slab approach spans on the south end. The crossing's construction history dates to the spring of 1909. That May the citizens of Jenkins petitioned the county for a bridge over Flat Creek just south of town. The county court ordered the bridge built and instructed county surveyor Bert Robbins to survey the site and estimate the structure's cost. Three weeks later the court opened bids from five firms to erect the bridge. With a proposal of $1873.00, the Standard Bridge Company of Omaha received the contract as the low bidder. Specifications called for a 96-foot by 12-foot main span with one 31-foot approach and one 15½-foot approach. A Standard crew built the substructure and erected the truss later that year; the Jenkins Ford Bridge was completed by December.

One of the most prolific bridge fabricators in Nebraska, the Standard Bridge Company was also one of the most innovative of the Midwestern firms. In the 1910s its president, Robert Drake, developed a design for the transverse joist girder, a steel beam bridge that found widespread acceptance in Nebraska, Iowa and Missouri. More importantly, Drake was instrumental in popularizing the use of steel pile bents for bridge substructures. He reportedly developed the H-pile bent around 1903. Consisting of a 5-inch channel riveted to the backs of two 8-inch channels, the new built-up H-piles, as they were termed, largely replaced the use of steel cylinder piers. The built-up piles were superseded by rolled H-sections within ten years, and in the following decades numerous bridges were built in Missouri using pile bent piers and abutments. Although the pinned through truss of the Jenkins Ford Bridge is unremarkable as a typical example of a relatively common structural type, the bridge is significant as one of the earliest and best-preserved examples in the state of an original built-up H-pile substructure.

NAME(S) OF STRUCTURE
Jenkins Ford Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP
TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP

SOURCES
Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 312000.1; Barry County Court Record N: page 330 (14 June 1909), page 332 (14 June 1909), page 415 (7 December 1909); Barry County Court Record O: page 517 (4 September 1912); Barry County Court Minute Book (May 1908-September 1910): page 153 (5 May 1909), page 163 (29 May 1909), page 170 (14 June 1909); Ted Johnson, "Discussion of Steel Foundations for Steel Bridges Constructed in the Missouri Valley," **Nebraska Blue Print** 26 (February 1927), p. 11; field inspection by Clayton Fraser and Carl McWilliams, 16 April 1991.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton B. Fraser and Carl McWilliams	Fraserdesign, Loveland CO	15 May 1991

BARTON COUNTY

INCLUDED: [Significant feature(s) of bridge given in boldface]
[Field inventoried bridge indicated by asterisk]

Inv. No.	MHTD	Bridge Name	Description
BART01	077000.1	Daugherty Bridge	1- 30' steel stringer 1921 Gonterman, Sheldon MO
BART02	080001.5	Black Bridge	1- 80' riveted Pratt pony truss 1924 J.W. Hagney
*BART03	086000.3	Dry Wood Creek Bridge	1- 50' pinned Pratt pony truss c**1890** Missouri Valley Bridge & Iron
*BART04	086000.9	Shiloh Creek Bridge	1- 70' pinned Pratt pony truss c**1910**
*BART05	104000.9	Minor Bridge	1- 75' pinned Pratt half-hip pony truss **1894** Wrought Iron Bridge Company
*BART06	186001.1	Light Plant Bridge	1-100' **riveted Pratt through truss** 1926 Concrete & Steel Constr. Co.
BART07	234500.1	Culvert	3- 6' **stone arch culvert** c1930
*BART08	276001.8	Winton Bridge	1-100' **riveted Pratt through truss** 1921 Concrete & Steel Constr. Co.
*BART09	417000.6	North Fork Bridge	1- 70' pinned Pratt pony truss c**1910**
*BART10	432002.8	Moody Ford Bridge	1- 75' **pinned Pratt through truss** **1884** Missouri Valley Bridge & Iron

EXCLUDED:

Pratt pony truss
507000.9

Warren pony truss
J 108 436000.8

Steel stringer

G 577R	J 109	K 913	T 926	006000.4	016001.1	022R02.8
026000.3	052001.2	069002.6	070003.0	070005.2	075001.9	078001.3078002.3
079001.9	084000.5	114R00.2	117001.0	118000.4	126001.8	147001.0151001.0
154002.5	167000.3	193000.2	196000.4	201000.6	207001.6	208000.6243000.8
246002.4	285R01.0	285001.4	318000.3	340000.4	361000.9	363000.9369000.2
	397002.7	404004.0	417000.3	466001.2	493000.7	

Concrete girder

G 663R	G 664R	G 666R	H 412	H 901	K 556	P 83
S 251	999000.1					

BARTON COUNTY

EXCLUDED (cont.):

Concrete slab

G 578R	H 191R	Y 188	045001.8	079000.4	131000.1	163000.9
213001.2	217000.7	217001.0	219001.7	234500.2	240000.5	244000.1
306000.2	327001.8	350001.1	392000.2	420000.8	484000.3	484001.4

Concrete box culvert

H 900	J 107	P 45	S 899	S 900	X 13	X 762
X 763	Y 225	Y 332	014001.6	192000.6	378000.4	

Timber stringer

139R01.0	139001.1

SUMMARY:

	Primary	Secondary	Urban	Other	Total
Included	0	10	0	0	10
Excluded	26	69	0	0	95
	26	79	0	0	105 structures

Daugherty Bridge

BART01

GENERAL DATA

structure no.: 077000.1
county: Barton
city/town: 10.8 miles northwest of Lamar
feature inters.: branch of Little Dry Wood Creek
cadastral grid: S6/7, T33N, R31W
highway route: County Road 77
highway distr.: 7
current owner: Barton County

STRUCTURAL DATA

superstructure: steel stringer
substructure: concrete abutments and wingwalls

span number: 1
span length: 30.0'
total length: 30.0'
roadway width: 12.0'
condition: good
alterations: unknown
floor/decking : concrete deck
other features: steel pipe guardrails

HISTORICAL DATA

erection date: 1921
erection cost: $705.60 (engineer's estimate)
designer: Barton County Engineer
fabricator : unknown
contractor: Gonterman, Sheldon MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 077000.1; Barton County Bridge Record, Book 1: (n.p.), see entry for Daugherty Bridge, on file at Barton County Clerk's office, Lamar MO.

sign. rating: 26
evaluation: NRHP non-eligible (typical, undistinguished example of exceedingly common structural type)

inventoried by: Clayton B. Fraser 7 May 1992

Black Bridge

BART02

GENERAL DATA

structure no.: 080001.5
county: Barton
city/town: 4.2 miles northeast of Milford
feature inters.: Horse Creek
cadastral grid: S3/10, T33N, R29W
highway route: County Road 80
highway distr.: 7
current owner: Barton County

STRUCTURAL DATA

superstructure: steel, 5-panel, rigid-connected Pratt pony truss
substructure: concrete abutments, wingwalls and piers

span number: 1
span length: 80.0'
total length: 140.0'
roadway width: 11.8'
condition: fair
alterations: abutments extended to raise truss, 1930
floor/decking : concrete deck
other features: guardrails: steel angle

HISTORICAL DATA

erection date: 1924
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: J.W. Hagney

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 080001.5; Barton County Bridge Record, Book 1: (n.p.), see entry for Black Bridge, on file at Barton County Clerk's office, Lamar MO.

sign. rating: 34
evaluation: NRHP non-eligible (typically configured, modestly scaled example of common structural type, with only partial documentation)

inventoried by: Clayton B. Fraser 7 May 1992

Dry Wood Creek Bridge

BART03

GENERAL DATA

structure no.: 086000.3
county: Barton

city/town: 5.1 miles northwest of Liberal
feature inters.: branch of Dry Wood Creek
cadastral grid: S9/16, T33N, R33W
highway route: County Road 86
highway distr.: 7
current owner: Barton County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt pony truss with steel stringer approach spans
substructure: concrete abutments, wingwalls and spill through piers

span number: 1
span length: 50.0'
total length: 118.0'
roadway width: 12.0'

condition: good
alterations: truss evidently moved to this location
floor/decking : timber deck over steel stringers; concrete deck on approaches
other features: upper chord: 2 channels with cover plate and lacing; lower chord: 2 punched rectangular eyebars; vertical: small I-beams with star-bar outriders; diagonal: 2 punched rectangular eyebars; counter: 1 looped eyerod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, U-bolted to vertical; guardrail: 1 channel

HISTORICAL DATA

erection date: c1890
erection cost: unknown
designer: Missouri Valley Bridge and Iron Company, Leavenworth KS
fabricator : Missouri Valley Bridge and Iron Company, Leavenworth KS
contractor: Missouri Valley Bridge and Iron Company, Leavenworth KS

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 086000.3; field inspection by Clayton Fraser, 21 April 1991.

sign. rating: 27
evaluation: NRHP non-eligible (an early steel, typical for its builder, but only partially documented, and moved to this location)

inventoried by: Clayton B. Fraser 7 May 1992

Shiloh Bridge

BART04

GENERAL DATA

structure no.: 086000.9
county: Barton
city/town: 4.9 miles northwest of Liberal
feature inters.: Dry Wood Creek
cadastral grid: S9/10, T33N, R33W
highway route: County Road 86
highway distr.: 7
current owner: Barton County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt pony truss
substructure: concrete abutments, wingwalls and spill through piers

span number: 1
span length: 70.0'
total length: 70.0'
roadway width: 11.0'
condition: fair
alterations: moved to, or re-erected, at this location, 1926
floor/decking : timber deck over steel stringers
other features: upper chord: 2 channels with cover and batten plates; lower chord: 2 looped rectangular eyebars; vertical: 4 angles with lacing; diagonal: 2 looped rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, field-bolted to vertical

HISTORICAL DATA

erection date: c1910
erection cost: unknown
designer: unknown
fabricator : Carnegie Steel Company, Pittsburgh PA
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 086000.9; Barton County Bridge Record, Book 1: (n.p.), see entry for Shiloh Bridge, on file at Barton County Clerk's office, Lamar MO; field inspection by Clayton Fraser, 21 April 1991. (See HAER Inventory Form for additional information.)

sign. rating: 20
evaluation: NRHP non-eligible (undocumented example of common truss type)

inventoried by: Clayton B. Fraser 7 May 1992

Minor Bridge

BART05

GENERAL DATA

structure no.: 104000.9
county: Barton
city/town: 3.6 miles northwest of Liberal
feature inters.: Dry Wood Creek
cadastral grid: S15/22, T33N, R33W
highway route: County Road 104
highway distr.: 7
current owner: Barton County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt half-hip pony truss
substructure: stone abutments; concrete pier at mid span

span number: 1
span length: 75.0'
total length: 75.0'
roadway width: 11.5'
condition: good
alterations: truss moved; mid-span pier added; much of steel on north web replaced
floor/decking : concrete deck over steel stringers
other features: upper chord: 2 steel channels with cover plate, lacing and cast-iron hip blocks; lower chord: two looped rectangular eyebars; vertical: 4 angles with double lacing; diagonal: 2 looped rectangular eyebars; counter: 1 looped square eyebar with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beams;

HISTORICAL DATA

erection date: 1894; moved 1932
erection cost: $1525.00
designer: Wrought Iron Bridge Company, Canton OH
fabricator : Wrought Iron Bridge Company, Canton OH
contractor: Wrought Iron Bridge Company, Canton OH

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 104000.9; Barton County Bridge Record, Book 1: (n.p.), see entry for "Old Oakton Bridge," on file at Barton County Clerk's office, Lamar MO; Barton County Court Record, Book J: page 605 (8 November 1893), page 627 (1 December 1893); Barton County Court Record, Book K: page 88 (4 April 1894), page 160 (9 May 1894); Barton County Court Record, Book 27: page 436 (13 January 1932), page 543 (8 March 1932), page 612 (9 June 1932); field inspection by Clayton Fraser, 21 April 1991. (See HAER Inventory Form for additional information.)

sign. rating: 32
evaluation: NRHP non-eligible (Although relatively early in construction, the truss has suffered extensive alterations, compromising its physical integrity.)

inventoried by: Clayton B. Fraser 7 May 1992

Light Plant Bridge

BART06

GENERAL DATA

structure no.: 186001.1
county: Barton

city/town: 2.3 miles north of Lamar
feature inters.: Muddy Fork of Spring River
cadastral grid: S18, T32N, R30W
highway route: County Road 186
highway distr.: 7
current owner: Barton County

STRUCTURAL DATA

superstructure: steel, 6-panel, rigid-connected Pratt through truss
substructure: concrete abutments and wingwalls

span number: 1
span length: 100.0'
total length: 104.0'
roadway width: 11.0'

condition: good
alterations: none
floor/decking : concrete deck
other features: A-frame portal strut; steel angle guardrails

HISTORICAL DATA

erection date: 1926
erection cost: $5760.00
designer: unknown
fabricator : Scullen Steel Company, Chicago IL
contractor: Concrete and Steel Construction Company, Joplin MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 186001.1; Barton County Bridge Record, Book 1: (n.p.), see entry for "Light Plant Bridge," on file at Barton County Clerk's office, Lamar MO; Barton County Court Record, Book X: page 545 (8 June 1926), page 618 (6 November 1926); field inspection by Clayton Fraser, 21 April 1991.

sign. rating: 33
evaluation: NRHP non-eligible (typical, late example of common structural type)

inventoried by: Clayton B. Fraser 7 May 1992

Culvert

BART07

GENERAL DATA

structure no.: 234500.1
county: Barton
city/town: Lamar
feature inters.: tributary of North Fork of Spring River
cadastral grid: S25,T32N, R31W
highway route: town street
highway distr.: 7
current owner: Town of Lamar

STRUCTURAL DATA

superstructure: stone arch culvert
substructure: stone abutments, wingwalls and piers

span number: 3
span length: 6.0'
total length: 25.0'
roadway width: 47.4'
condition: fair
alterations: roadway widened with concrete slab
floor/decking : asphalt over earth fill
other features: unknown

HISTORICAL DATA

erection date: c1930
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 234500.1.

sign. rating: 22
evaluation: NRHP non-eligible (undocumented, technologically undistinguished structure, with poor physical integrity)

inventoried by: Clayton Fraser 7 May 1992

Winton Bridge

BART08

GENERAL DATA

structure no.: 276001.8
county: Barton
city/town: 6.9 miles east of Lamar
feature inters.: North Fork of Spring River
cadastral grid: S30/31, T32N, R29W
highway route: County Road 276
highway distr.: 7
current owner: Barton County

STRUCTURAL DATA

superstructure: steel, 6-panel, rigid-connected Pratt through truss, with 3-panel, rigid-connected Pratt pony truss approach span
substructure: stone abutments and pier

span number: 1
span length: 100.0'
total length: 163.0'
roadway width: 10.3'
condition: good
alterations: none
floor/decking : concrete deck over steel stringers
other features: A-frame portal strut; steel angle guardrails

HISTORICAL DATA

erection date: 1921
erection cost: $3980.00 (superstructure)
designer: unknown
fabricator : Illinois and Inland Steel Companies, Chicago IL
contractor: Concrete and Steel Construction Company, Joplin MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 276001.8; Barton County Court Record, Book P: page 629 (24 July 1905); original drawings and contract for Winton Bridge, dated 4 October 1921, with Concrete and Steel Construction Company of Joplin, located in unlabeled file drawer at Barton County Clerk's Office, Lamar MO; field inspection by Clayton Fraser, 21 April 1991.

sign. rating: 33
evaluation: NRHP non-eligible (typically configured and modestly scaled example of common structural type)

inventoried by: Clayton B. Fraser 7 May 1992

North Fork Bridge

BART09

GENERAL DATA

structure no.: 417000.6
county: Barton

city/town: 2.5 miles north of Golden City
feature inters.: North Fork of Spring River
cadastral grid: S14, T31N, R29W
highway route: County Road 417
highway distr.: 7
current owner: Barton County

STRUCTURAL DATA

superstructure: steel, 5-panel, pin-connected Pratt pony truss
substructure: stone and concrete abutments and wingwalls, with concrete mid-span pier

span number: 1
span length: 70.0'
total length: 70.0'
roadway width: 11.5'

condition: fair
alterations: concrete pier added at mid-span
floor/decking : concrete deck over steel stringers
other features: upper chord: 2 channels with cover and batten plates; lower chord: 2 looped rectangular eyebars; vertical: 4 angles with lacing; diagonal: 2 looped rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, field-bolted to vertical; guardrail: 1 channel

HISTORICAL DATA

erection date: c1910
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 417000.6; field inspection by Clayton Fraser, 21 April 1991.

sign. rating: 23
evaluation: NRHP non-eligible (undistinguished, undocumented, altered example of common structural type)

inventoried by: Clayton B. Fraser 7 May 1992

Moody Ford Bridge

BART10

GENERAL DATA

structure no.: 432002.8
county: Barton
city/town: 5.8 miles southwest of Lamar
feature inters.: North Fork of Spring River
cadastral grid: S23, T31N, R31W
highway route: County Road 432
highway distr.: 7
current owner: Barton County

STRUCTURAL DATA

superstructure: wrought iron, 5-panel, pin-connected Pratt through truss with steel stringer approach span
substructure: stone abutments and pier

span number: 1
span length: 75.0'
total length: 100.0'
roadway width: 11.5'
condition: fair
alterations: none
floor/decking : timber deck over timber stringers
other features: upper chord: 2 steel channels with cover plate and lacing; lower chord: 2 punched rectangular eyebars; vertical: small I-beam; diagonal: 2 punched rectangular eyebars; counter: round eyerod with unslotted turnbuckles; lateral bracing: round rod with threaded ends; strut: I-beam; floor beam: I-beam, U-bolted to vertical; guardrail: timber (2 steel channels on approach spans); latticed portal strut; builder's plate: **MO VALLEY BRIDGE ... IRON ...(unreadable)...**

HISTORICAL DATA

erection date: 1884
erection cost: $2400.00 (engineer's estimate for superstructure)
designer: Missouri Valley Bridge and Iron Company, Leavenworth KS
fabricator : Missouri Valley Bridge and Iron Company, Leavenworth KS; Carnegie Iron Company, Pittsburgh PA
contractor: Missouri Valley Bridge and Iron Company, Leavenworth KS

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 432002.8; Barton County Court Record, Book F: page 296 (17 December 1883); Barton County Court Record, Book G: pages 4-5 (4 March 1884), page 33 (8 May 1884), page 47 (8 July 1884), page 51 (5 August 1884), page 69 (16 September 1884); original drawings for Moody Ford Bridge built by Missouri Valley Bridge and Iron Company, A.J. Tullock, Engineer and Superintendent, G.P. Sadler, Assistant Engineer, on file in unlabeled file drawer at

Barton County Clerk's Office, Lamar MO; **Historical Atlas of Barton County, Missouri** (Chicago: Davy Map and Atlas Company, 1886), page 169; field inspection by Clayton Fraser, 21 April 1991. (See HAER Inventory Form for additional information.)

sign. rating: 53

evaluation: NRHP possibly eligible (well-preserved example of main-stay structural type)

inventoried by: Clayton B. Fraser 7 May 1992

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Shiloh Bridge
MHTD: 086000.9

BART04

DATE(S) OF CONSTRUCTION
c1910

LOCATION
County Road 86 over Dry Wood Creek; S9/10, T33N, R33W
4.9 miles northwest of Liberal; Barton County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 20)

CONDITION
fair

OWNER
Barton County

span number:	1	superstructure:	steel, 4-panel, pin-connected Pratt pony truss
span length:	70.0'	substructure:	concrete abutments, wingwalls and spill through piers
total length:	70.0'	floor/decking:	timber deck over steel stringers
roadway wdt.:	11.0'	other features:	upper chord: 2 channels with cover and batten plates; lower chord: 2 looped rectangular eyebars; vertical: 4 angles with lacing; diagonal: 2 looped rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, field-bolted to vertical

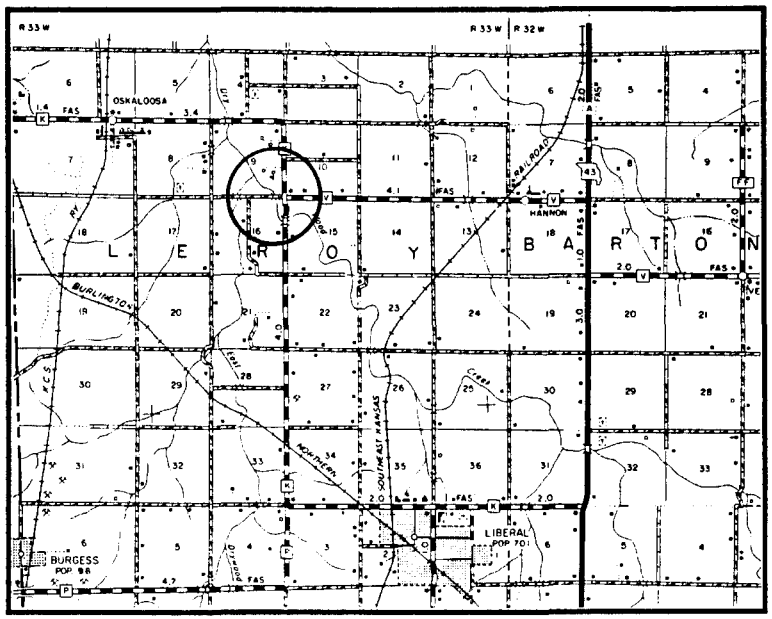
The Shiloh Bridge carries a gravel-surfaced county road over Dry Wood Creek about five miles northwest of Liberal, in northwestern Barton County. A four-panel, pin-connected Pratt pony truss, the bridge features a timber deck and rests on a concrete substructure. On November 15, 1926, Barton County paid contractor C.M. Walls $836.00 for new concrete abutments, steel erection, and laying a wood floor for the Shiloh Bridge - a 70-foot span between sections 9 and 16 of Township 33 North, Range 33 West. Walls' contract included concrete, priced at $8.00 per cubic yard, and $200.00 for erecting steel. It seems most likely that the truss was moved here from another location at that time, but it is also possible that Walls was simply rebuilding the bridge at its original site. Although little is known about the truss's history prior to 1926, based on its appearance and detailing, it was probably fabricated circa 1910. The Shiloh Bridge today is still used by local residents, as it carries traffic on a lightly traveled county road. Subsequent to its 1926 re-erection, the bridge has not suffered any measurable loss of superstructural integrity.

The Shiloh Bridge is one of thousands of medium-span, pinned Pratt ponies erected throughout Missouri in the early 1900s. With its standard detailing and modest dimensions, it lacks any degree of technological significance. Moreover, its 1926 move has diminished the structure's historical significance and integrity.

NAME(S) OF STRUCTURE

Shiloh Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT GENERAL HIGHWAY MAP

SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 086000.9; Barton County Bridge Record 1 (n.p.), see entry for Shiloh Bridge, on file at Barton County Clerk's office, Lamar, Missouri; field inspection by Clayton Fraser and Carl McWilliams, 21 April 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser and Carl McWilliams	Fraserdesign, Loveland CO	7 May 1991

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Minor Bridge
MHTD: 104000.9

BART05

DATE(S) OF CONSTRUCTION
1894; moved 1932

LOCATION
county road over Dry Wood Creek; S15/22, T33N, R33W
3.6 miles northwest of Liberal; Barton County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / closed

RATING NRHP non-eligible (score: 32)

CONDITION
good

OWNER
Barton County

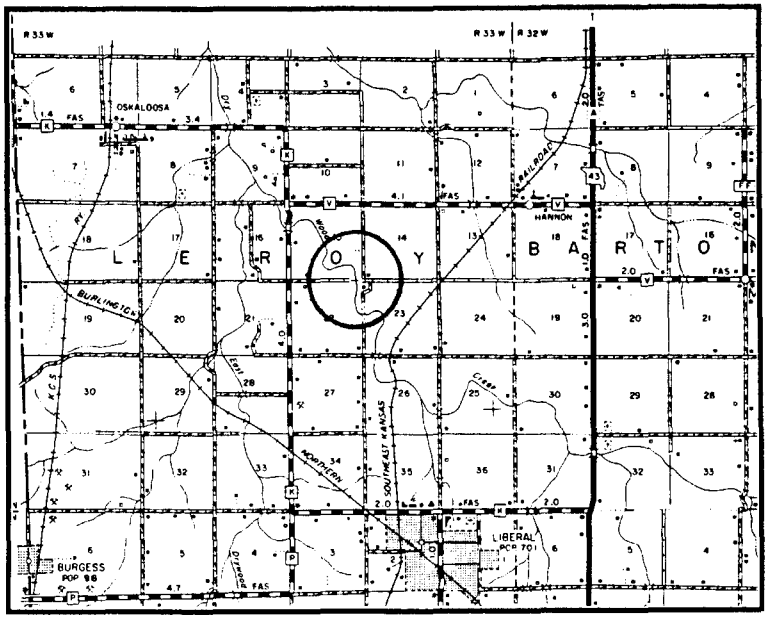
span number:	1	superstructure:	steel or wrought iron, 4-panel, pin-connected Pratt half-hip pony truss
span length:	75.0'	substructure:	stone abutments; concrete pier at mid span
total length:	75.0'	floor/decking:	concrete deck over steel stringers
roadway wdt.:	11.5'	other features:	upper chord: 2 steel channels with cover plate, lacing and cast-iron hip blocks; lower chord: two looped rectangular eyebars; vertical: 4 angles with double lacing; diagonal: 2 looped rectangular eyebars; counter: 1 looped square eyebar with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beams;

Named for adjacent landowner George Minor, the Minor Bridge carries an unpaved county road over Dry Wood Creek 3½ miles northwest of Liberal, in northwestern Barton County. The pinned pony truss was moved here in 1932 from North Fork Township, where it had been known both as the Oakton Bridge and the Tate Ford Bridge. On November 8, 1893, Barton County Bridge Commissioner H.C. Lemon reported that a 75-foot bridge with a 12-foot roadway was needed between sections 8 and 9 of Township 31 North, Range 31 West (North Fork Township). A $1525.00 contract to erect the structure was then awarded to the Wrought Iron Bridge Company on December 1st. Construction took place during the winter and early spring of 1894. On May 9th, Lemon reported that the crossing had been completed according to plans and specifications. The truss subsequently served in its original location for 38 years until it was moved in the summer of 1932. Re-building the bridge at its current site was carried out by local contractor H.W. Patrick. The total amount of Patrick's contract was not recorded, but he was paid $2.00 per short perch for stone, $3.50 per cubic yard for concrete, and $75.00 for re-erecting the truss. In recent years, the Minor Bridge has been closed to traffic. A center concrete pier has been added, and much of the steel on the truss's north side has been replaced. As a result, the bridge has suffered a substantial loss of physical integrity.

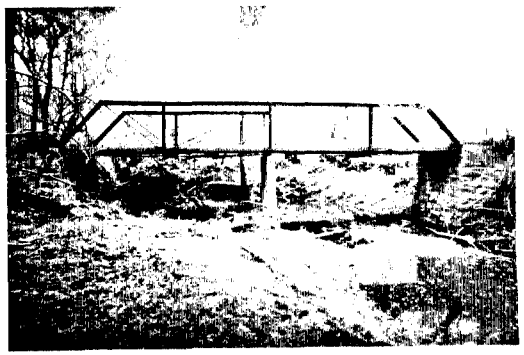
The Wrought Iron Bridge Company was one of the two largest vehicular bridge erectors in the country during the late 1900s, rivaling the giant King Iron Bridge and Manufacturing Company in its nationwide trade. Only a few early WIBCo trusses are known to have survived in Missouri, however. The Minor Bridge features typical WIBCo truss detailing from the early 1890s, with its double-laced verticals and cast-iron hip blocks. Its subsequent move - and, more seriously, the replacement of several superstructural components and bracing with a mid-span concrete pier - diminishes the structure's interpretive value and its technological and historical importance.

NAME(S) OF STRUCTURE
Minor Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP
TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP



SOURCES
Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 104000.9; Barton County Bridge Record 1 (n.p.), see entry for "Old Oakton Bridge," on file at Barton County Clerk's office, Lamar, Missouri; Barton County Court Record J: page 605 (8 November 1893), page 627 (1 December 1893); Barton County Court Record K: page 88 (4 April 1894), page 160 (9 May 1894); Barton County Court Record 27: page 436 (13 January 1932), page 543 (8 March 1932), page 612 (9 June 1932); field inspection by Clayton Fraser and Carl McWilliams, 21 April 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser and Carl McWilliams	Fraserdesign, Loveland CO	7 May 1991

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Moody Ford Bridge BART10
MHTD: 432002.8

DATE(S) OF CONSTRUCTION
1884

LOCATION
County Road 432 over North Fork of Spring River; S23, T31N, R31W
5.8 miles southwest of Lamar; Barton County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 53)

CONDITION
fair

OWNER
Barton County

span number: 1
span length: 75.0'
total length: 100.0'
roadway wdt.: 11.5'

superstructure: wrought iron, 5-panel, pin-connected Pratt through truss with steel stringer approach span
substructure: stone abutments and pier
floor/decking: timber deck over timber stringers
other features: upper chord: 2 steel channels with cover plate and lacing; lower chord: 2 punched rectangular eyebars; vertical: small I-beam; diagonal: 2 punched rectangular eyebars; counter: round eyerod with unslotted turnbuckles; lateral bracing: round rod with threaded ends; strut: I-beam; floor beam: I-beam, U-bolted to vertical; guardrail: timber (2 steel channels on approach spans); latticed portal strut; builder's plate: **MO VALLEY BRIDGE ... IRON ...(unreadable)...**

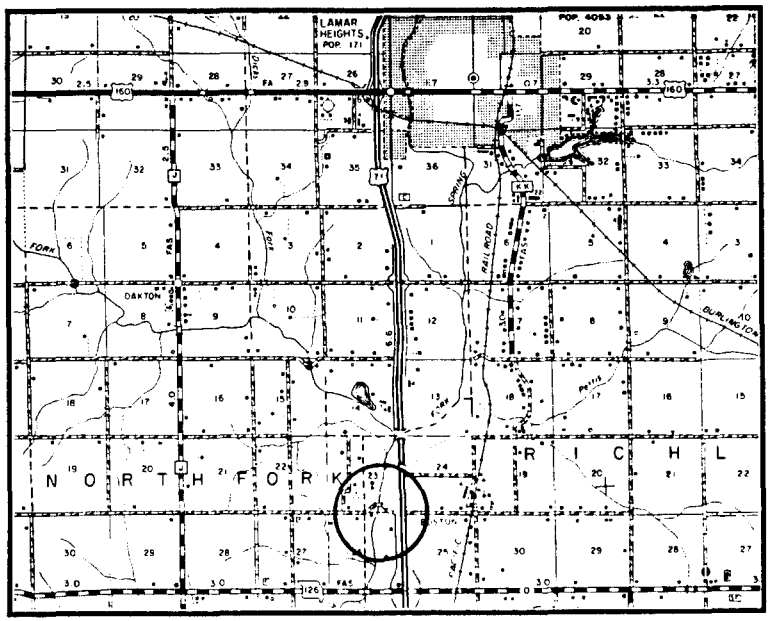
Efforts to build a bridge at this crossing began in late 1883. That December Owen Blacker, the county bridge commissioner, filed plans, specifications and estimates with the county court for an iron bridge across the North Fork of the Spring River between sections 23 and 26 of Township 31 North, Range 31 West, "at a place commonly called Moody Ford." Appropriating $2400.00 from the county bridge fund, the Barton County Court authorized the bridge's construction, and ordered Blacker to solicit bids to build its abutments. In early 1884 a contract was let to local contractor H.R. Meekley to build stone abutments and piers, to be completed by the first of June. The county subsequently contracted with the Missouri Valley Bridge and Iron Company of Leavenworth, Kansas, to fabricate and erect the truss itself. Work on the project was carried out during the spring and summer of 1884. On August 18th, Blacker reported to the court that the bridge had been completed and was ready for use. Located along a seldom-traveled county road, the Moody Ford Bridge still carries local traffic. Virtually all of the structure's original physical integrity has remained intact.

"Barton County to-day has ten iron bridges and six wooden bridges," reported a gazetteer in 1886, "all substantial structures, and all erected within the last five years." Of the ten iron bridges listed, only the Moody Ford Bridge remains. It is one of thousands of pin-connected trusses erected throughout the state in the late 19th century. Built by a regionally important bridge company, the Moody Ford Bridge displays typical configuration and detailing. What distinguishes this truss technologically is its relatively early fabrication date and its extremely high degree of physical integrity. The oldest bridge in Barton County and one of the oldest in the region, it is an important example in Missouri of wrought iron bridge construction.

NAME(S) OF STRUCTURE

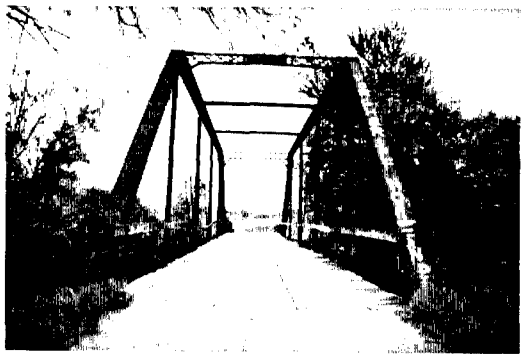
Moody Ford Bridge

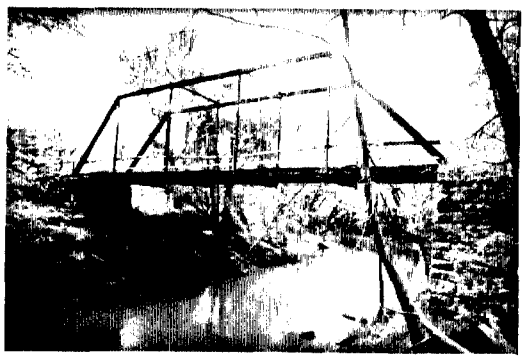
PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT GENERAL HIGHWAY MAP





SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 432002.8; Barton County Court Record F: page 296 (17 December 1883); Barton County Court Record G: pp. 4-5 (4 March 1884), page 33 (8 May 1884), page 47 (8 July 1884), page 51 (5 August 1884), page 69 (16 September 1884); original drawings for Moody Ford Bridge built by Missouri Valley Bridge and Iron Company, A.J. Tullock, Engineer and Superintendent, G.P. Sadler, Assistant Engineer, on file in unlabeled file drawer at Barton County Clerk's Office, Lamar, MO; **Historical Atlas of Barton County, Missouri** (Chicago: Davy Map and Atlas Company, 1886), page 169; field inspection by Clayton Fraser and Carl McWilliams, 21 April 1991.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton B. Fraser and Carl McWilliams	Fraserdesign, Loveland CO	7 May 1991

BATES COUNTY

INCLUDED: [Significant feature(s) of bridge given in boldface]
[Field inventoried bridge indicated by asterisk]

Inv. No.	MHTD	Bridge Name	Description	
*BATE01	G 864	Miami Creek Bridge	1-100'	**riveted Pratt through truss**
			1925	McNerny and Hallett
*BATE02	T 279R	Rich Hill Bridge	1-100'	**riveted polyg. Warren pony truss**
			1935	Otto W. Knutson
*BATE03	T 280	Marais des Cygnes R. Bridge	1-110'	**riveted polyg. Warren pony truss**
			1935	Otto W. Knutson
BATE04	023001.5	Mormon Fork Bridge	1- 70'	pinned Pratt pony truss
			c1905	
*BATE05	032001.3	Mormon Fork Bridge	1- 55'	pinned Pratt pony truss
			1884	Missouri Valley B&I Company
*BATE06	041002.1	Mormon Fork Bridge	1- 55'	pinned Pratt pony truss
			1886	Missouri Valley B&I Company
*BATE07	081000.8	Mormon Fork Bridge	1- 45'	pinned Pratt half-hip pony truss
			1911	Vincennes Bridge Company
*BATE08	104000.2	Elk Fork Bridge	1- 60'	pinned Pratt half hip pony
			c1910	Vincennes Bridge Company
BATE09	124000.6	Little Deer Creek Bridge	1- 50'	pinned Pratt pony truss
			1901	J.W. Hoover, Kansas City
BATE10	169000.7	Miami Ditch Bridge	1- 38'	**2-angle Warren pony truss**
			c1925	
*BATE11	187002.7	Miami Creek Bridge	1- 80'	**pinned Pratt through truss**
			1904	Midland Bridge Company
BATE12	226000.3	Mound Creek Bridge	1- 30'	steel stringer
			1910	Western Bridge Company
*BATE13	248000.1	Johnstown Bridge	1- 70'	pinned Pratt pony truss
			1899	Kansas City Bridge Company
BATE14	263001.3	Bones Branch Bridge	2- 15'	concrete slab
			1908	county work force
BATE15	310000.3	East Mound Creek Bridge	1- 40'	pinned Pratt pony truss
			1900	
*BATE16	316001.6	Bones Branch Bridge	2- 60'	pinned Pratt half-hip pony truss
			1911	Vincennes Bridge Company
*BATE17	344001.7	Gillum Creek Bridge		(replaced)
*BATE18	356001.4	Bridge	1-150'	**pinned Parker through truss**
			1908	Kansas City Bridge Company
BATE19	359000.1	Bones Branch Bridge	1- 30'	pinned Pratt half-hip pony truss
			c1910	
*BATE20	363R02.3	Miami Creek Bridge	1-100'	**pinned Pratt through truss**
			1906	Kansas City Bridge Company
*BATE21	365000.3	Bell's Mill Bridge		(replaced)
*BATE22	419000.5	Mulberry Creek Bridge	1- 70'	pinned Pratt pony truss
			1911	Vincennes Bridge Company

BATES COUNTY

INCLUDED (cont.):

*BATE23	435002.1	Mulberry Creek Bridge	1- 60'	pinned Pratt pony truss
			1886	Missouri Valley B&I Company
*BATE24	460003.1	Bridge	1-100'	**pinned Pratt through truss**
			1908	Kansas City Bridge Company
*BATE25	460004.1	Haymakers Ford Bridge		(replaced)
BATE26	466000.1	Possum Branch Bridge	1- 30'	riveted Pratt half-hip pony truss
			1900	Pittsburgh Bridge Company
BATE27	484003.8	Panther Creek Bridge	1- 30'	steel stringer
			1903	Midland Bridge Company
BATE28	495001.6	South Double Branch Bridge	1- 30'	steel stringer
			1903	Midland Bridge Company
*BATE29	496001.4	Bridge	1-100'	**pinned Pratt through truss**
			1908	Kansas City Bridge Company
BATE30	496001.7	Soap Creek Bridge	1- 30'	riveted Pratt half-hip pony truss
			1908	Kansas City Bridge Company
*BATE31	501002.2	Walnut Creek Bridge	1- 75'	pinned Pratt pony truss
			1899	Kansas City Bridge Company
*BATE32	509003.0	Walnut Creek Bridge	1- 76'	pinned Pratt pony truss
			1899	J.B. March, Rich Hill MO
*BATE33	547001.0	Bridge		(replaced)
*BATE34	547002.6	Water Works Bridge	1-110'	**pinned Parker through truss**
			1907	Kansas City Bridge Company
*BATE35	547003.3	Marais des Cygnes R. Bridge	1-125'	**pinned Pratt through truss**
			c1910	
*BATE36	547004.0	Bridge	1-100'	**pinned Pratt through truss**
			1908	Kansas City Bridge Company
*BATE37	576002.5	Schell City Bridge	1-175'	**pinned Parker through truss**
			1900	A.M. Blodgett, Kansas City
BATE38	624000.2	Sycamore Branch Bridge	1- 40'	pinned Pratt pony truss
			c1910	
*BATE39	628000.9	Camp Branch Bridge	1- 50'	pinned Pratt pony truss
			1898	Youngstown Bridge Company
*BATE40	648000.3	Papinville Bridge	1-116'	**pinned Pratt through truss**
			1884	Kansas City B&I Company
*BATE41	648001.2	Bridge	1-100'	**pinned Pratt through truss**
			1908	Kansas City Bridge Company
*BATE42	none	Elk Fork Bridge	1- 60'	pinned Pratt pony truss
			1884	Missouri Valley B&I Company

EXCLUDED:

Pratt pony truss

088003.4	132001.0	448002.1

Warren pony truss

H 120	034001.2	088000.9	147000.5	181000.6	240001.5	269001.0
298000.8	309001.1	311000.2	399000.6	497000.4	589000.5	598001.2
599000.8	644001.1	647003.5	663000.8			

BATES COUNTY

EXCLUDED (cont.):

Steel stringer / girder

H 258R1	H 400R1	J 597	L 323	S 373	T 32	T 33
T 263	T 278	T 449	T 451	W 536	X 87	X 89
001000.8	018001.4	018002.1	036002.2	055R01.2	079004.6	087000.2088001.3
096000.7	123000.6	125000.3	126R01.2	138000.3	139000.3	144000.9147000.2
154002.3	157001.1	167003.9	167005.0	180002.0	196000.5	243000.9249000.1
259002.6	263000.2	266000.6	268000.7	272001.2	292002.0	303R01.3311000.3
312000.7	318000.9	382000.3	387000.1	390001.5	402000.5	413001.5417000.5
431000.3	431000.7	434R02.2	475002.9	485001.2	497001.5	498000.2499000.6
505000.5	505000.8	505001.7	526001.9	543001.7	544001.4	555002.7555003.3
601R01.5	615000.0	616000.1	619002.1	625002.2	627000.7	627000.8634000.2
654000.6	657000.9	663001.8				

Concrete girder

G 723	X 233	152000.8	214002.7	484000.3	595001.3	596000.4
607001.6						

Concrete slab

G 550	034001.4	040000.9	095000.6	271003.0	279000.3	291000.4291003.4
336000.7						

Concrete box culvert

H 261R	H 263	J 599	P 131	P 612	T 450	T 452
T 453	X 88					

Timber stringer

477000.8	665001.4

SUMMARY:

	Primary	Secondary	Urban	Other	Total
Included	3	34	0	1	38
Excluded	27	105	0	0	132
	30	139	0	1	170 structures

Miami Creek Bridge

BATE01

GENERAL DATA

structure no.: G 864
county: Bates
city/town: 5.3 miles west of Butler
feature inters.: Miami Creek
cadastral grid: S24, T40N, R32W
highway route: State Highway 52
highway distr.: 7
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: steel, 5-panel, rigid-connected Pratt through truss, with two concrete deck girder approach spans
substructure: concrete abutments, wingwalls and piers

span number: 1
span length: 100.0'
total length: 187.0'
roadway width: 20.0'
condition: good
alterations: none
floor/decking : concrete deck over steel stringers
other features: steel pipe guardrails

HISTORICAL DATA

erection date: 1924-25
erection cost: $19,452.87
designer: Missouri State Highway Department
fabricator : Illinois Steel Company, Chicago IL
contractor: McNerney & Hallett; Western Bridge Company, Chicago IL

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number G 864; Missouri Highway and Transportation Department Primary System Bridge Record, Book 1, located at Bridge Division, MHTD, Jefferson City MO; **Fourth Biennial Report of the Missouri State Highway Commission** (1923-24), page 137; **Fifth Biennial Report of the State Highway Commission of Missouri** (1925-26), page 158; field inspection by Clayton Fraser, 1 June 1991.

sign. rating: 38
evaluation: NRHP non-eligible (distinguished somewhat by its concrete girder approach spans, but still a typically configured example of a common highway truss type)

inventoried by: Clayton B. Fraser 19 December 1991

Rich Hill Bridge

BATE02

GENERAL DATA

structure no.: T 279R
county: Bates
city/town: Rich Hill
feature inters.: Bates County Drainage Ditch
cadastral grid: S4/9, T38N, R31W
highway route: State Supplementary Route B
highway distr.: 7
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: steel, 10-panel, rigid-connected Warren pony truss with polygonal upper chord; six steel stringer approach spans
substructure: concrete abutments, wingwalls and piers

span number: 1
span length: 100.0'
total length: 429.0'
roadway width: 20.0'
condition: good
alterations: none
floor/decking : concrete deck over steel stringers
other features: steel guardrails

HISTORICAL DATA

erection date: 1934-35
erection cost: $27,895.40
designer: Missouri State Highway Department
fabricator : Illinois Steel Company, Chicago IL
contractor: Otto W. Knutson

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number T 279R; Missouri Highway and Transportation Department Primary System Bridge Record, Book 1, located at Bridge Division, MHTD, Jefferson City MO; field inspection by Clayton Fraser, 1 June 1991.

sign. rating: 47
evaluation: NRHP non-eligible (typically configured example of a MSHD long-span truss design, substantially altered)

inventoried by: Clayton B. Fraser 19 December 1991

Marais des Cygnes River Bridge

BATE03

GENERAL DATA

structure no.: T 280
county: Bates

city/town: 4.6 miles east of Rich Hill
feature inters.: Marais des Cygnes River
cadastral grid: S1, T38N, R31W
highway route: State Supplementary Route B
highway distr.: 7
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: steel, 10-panel, rigid-connected Warren pony truss with polygonal upper chords; three steel stringer approach spans
substructure: concrete abutments, wingwalls and piers

span number: 1
span length: 110.0'
total length: 264.0'
roadway width: 20.0'

condition: good
alterations: none
floor/decking : concrete deck over steel stringers
other features: steel guardrails

HISTORICAL DATA

erection date: 1934-35
erection cost: $18,973.70
designer: Missouri State Highway Department
fabricator : Illinois Steel Company, Chicago IL
contractor: Otto W. Knutson

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number T 280; Bates County Court Record, Book 6: page 6 (9 January 1884) - located at Bates County Courthouse, Butler MO; field inspection by Clayton Fraser, 1 June 1991.

sign. rating: 51
evaluation: NRHP possibly eligible (well-preserved example of MSHD long-span truss design)

inventoried by: Clayton B. Fraser 19 December 1991

Mormon Fork Bridge

BATE04

GENERAL DATA

structure no.: 023001.5
county: Bates
city/town: 6.4 miles northwest of Adrian
feature inters.: Mormon Fork
cadastral grid: S21/22, T42N, R32W
highway route: County Road 23
highway distr.: 7
current owner: Bates County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt pony truss
substructure: concrete abutments and wingwalls

span number: 1
span length: 70.0'
total length: 70.0'
roadway width: 14.0'
condition: fair
alterations: unknown
floor/decking : timber deck
other features: steel angle guardrails

HISTORICAL DATA

erection date: c1905
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 023001.5.

sign. rating: 29
evaluation: NRHP non-eligible (typical example of common truss type)

inventoried by: Clayton B. Fraser 19 December 1991

Mormon Fork Bridge

BATE05

GENERAL DATA

structure no.: 032001.3
county: Bates
city/town: 3.0 miles northwest of Adrian
feature inters.: Mormon Fork
cadastral grid: S25, T42N, R32W / S30, T42N, R31W
highway route: County Road 32
highway distr.: 7
current owner: Bates County

STRUCTURAL DATA

superstructure: wrought iron, 4-panel, pin-connected Pratt pony truss, with steel stringer approach span on south end
substructure: stone masonry abutments and pier

span number: 1
span length: 55.0'
total length: 78.0'
roadway width: 12.5'
condition: fair
alterations: steel pile bent pier added at south end of truss
floor/decking : timber deck over timber stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 punched rectangular eyebars; vertical: I-beam, with star iron outriders; diagonal: 2 punched rectangular eyebars; counter: one round eye-rod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, U-bolted to lower chord pin; guardrail: removed on main span, steel lattice at approach

HISTORICAL DATA

erection date: 1884
erection cost: $2225.00 (for two iron bridges)
designer: Missouri Valley Bridge and Iron Company, Leavenworth KS
fabricator : Missouri Valley Bridge and Iron Company, Leavenworth KS; Carnegie Iron Company, Pittsburgh PA
contractor: Missouri Valley Bridge and Iron Company, Leavenworth KS

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 032001.3; Bates County Court Record, Book 6: page 116 (2 September 1884) - located at Bates County Courthouse, Butler MO; field inspection by Clayton Fraser, 1 June 1991.

sign. rating: 49
evaluation: NRHP possibly eligible (well-preserved, early example of mainstay structural type)

inventoried by: Clayton B. Fraser 30 December 1991

Mormon Fork Bridge

BATE06

GENERAL DATA

structure no.: 041002.1
county: Bates
city/town: 1.8 miles north of Crescent Hill
feature inters.: Mormon Fork
cadastral grid: S16, T42N, R31W
highway route: County Road 41
highway distr.: 7
current owner: Bates County

STRUCTURAL DATA

superstructure: wrought iron, 4-panel, pin-connected Pratt pony truss
substructure: stone masonry abutments

span number: 1
span length: 55.0'
total length: 55.0'
roadway width: 12.2'
condition: fair
alterations: steel pile bent pier added to one abutment
floor/decking : timber deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 punched rectangular eyebars; vertical: I-beam (2 punched rectangular eyebars at the hip), with star outriders; diagonal: 2 punched rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, U-bolted to lower chord pin; endpost-mounted builder's plate: **MO VALLEY / BRIDGE & IRON WORKS / LEAVENWORTH KANS / 1886**

HISTORICAL DATA

erection date: 1886
erection cost: $450.00
designer: Missouri Valley Bridge and Iron Company, Leavenworth KS
fabricator : Missouri Valley Bridge and Iron Company, Leavenworth KS
contractor: Missouri Valley Bridge and Iron Company, Leavenworth KS

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 041002.1; contract between Bates County and Missouri Valley Bridge and Iron Company, in book titled "Bridge Plans, Bates County," 12 June 1886 - located at Bates County Courthouse, Butler MO; field inspection by Clayton Fraser, 1 June 1991.

sign. rating: 51
evaluation: NRHP possibly eligible (well-preserved early example of pinned truss construction)

inventoried by: Clayton B. Fraser 30 December 1991

Mormon Fork Bridge

BATE07

GENERAL DATA

structure no.: 081000.8
county: Bates
city/town: 2.8 miles northwest of Burdett
feature inters.: Mormon Fork
cadastral grid: S1/12, T42N, R33W
highway route: County Road 81
highway distr.: 7
current owner: Bates County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt half-hip pony truss, with steel stringer approach span
substructure: concrete abutments, wingwalls and pier

span number: 1
span length: 45.0'
total length: 64.0'
roadway width: 14.5'
condition: good
alterations: none
floor/decking : concrete deck over steel stringers
other features: steel pipe guardrails; endpost-mounted builder's plate: **BUILT BY THE VINCENNES BRIDGE CO. / VINCENNES IND**

HISTORICAL DATA

erection date: 1909-11
erection cost: $1279.00 (contract amount)
designer: Vincennes Bridge Company, Vincennes IN
fabricator : Vincennes Bridge Company, Vincennes IN
contractor: Vincennes Bridge Company, Vincennes IN

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 081000.8; Bates County Court Record, Book 12: page 226 (2 February 1909), page 359 (3 August 1909), page 372 (26 August 1909), page 374 (27 August 1909), pages 378-79 (7 September 1909); Book 13: pages 10-11 (2 May 1910), page 112 (16 February 1911) - located at Bates County Courthouse, Butler MO; field inspection by Clayton Fraser, 1 June 1991.

sign. rating: 41
evaluation: NRHP non-eligible (typical example of a common truss configuration, with standard detailing, unremarkable dimensions and an average degree of physical integrity)

inventoried by: Clayton B. Fraser 30 December 1991

Elk Fork Bridge

BATE08

GENERAL DATA

structure no.: 104000.2
county: Bates

city/town: 4.0 miles northeast of Altona
feature inters.: Elk Fork
cadastral grid: S18/19, T42N, R29W
highway route: County Road 104
highway distr.: 7
current owner: Bates County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt half-hip pony truss
substructure: concrete abutments and wingwalls

span number: 1
span length: 60.0'
total length: 62.0'
roadway width: 14.1'

condition: fair
alterations: none
floor/decking : timber deck
other features: steel pipe guardrails; endpost-mounted builder's plate: **BUILT BY THE VINCENNES BRIDGE CO. / VINCENNES IND.**

HISTORICAL DATA

erection date: c1910
erection cost: unknown
designer: Vincennes Bridge Company, Vincennes IN
fabricator : Vincennes Bridge Company, Vincennes IN; Cambria Steel Company, Pittsburgh PA
contractor: Vincennes Bridge Company, Vincennes IN

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 104000.2; field inspection by Clayton Fraser, 1 June 1991.

sign. rating: 40
evaluation: NRHP non-eligible (typical example of common structural type)

inventoried by: Clayton B. Fraser 30 December 1991

Little Deer Creek Bridge

BATE09

GENERAL DATA

structure no.: 124000.6
county: Bates
city/town: 4.2 miles northeast of Adrian
feature inters.: Little Deer Creek
cadastral grid: S30/31, T42N, R30W
highway route: County Road 124
highway distr.: 7
current owner: Bates County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt pony truss
substructure: stone masonry abutments and wingwalls

span number: 1
span length: 50.0'
total length: 52.0'
roadway width: 13.8'
condition: fair
alterations: unknown
floor/decking : timber deck
other features: no guardrails

HISTORICAL DATA

erection date: 1901
erection cost: $289.00 (superstructure cost)
designer: unknown
fabricator : unknown
contractor: J.W. Hoover, Kansas City MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 124000.6; Bates County Court Record, Book 10: page 220 (9 March 1901), page 235 (19 April 1901), page 263 (8 May 1901) - located at Bates County Courthouse, Butler MO.

sign. rating: 41
evaluation: NRHP non-eligible (typical, partially documented example of a common structural type)

inventoried by: Clayton B. Fraser 30 December 1991

Miami Ditch Bridge

BATE10

GENERAL DATA

structure no.: 169000.7
county: Bates
city/town: 3.4 miles east of Amsterdam
feature inters.: Miami Ditch
cadastral grid: S24, T41N, R33W
highway route: County Road 169
highway distr.: 7
current owner: Bates County

STRUCTURAL DATA

superstructure: steel, 3-panel, rigid-connected two-angle Warren pony truss
substructure: concrete abutments and wingwalls

span number: 1
span length: 38.0'
total length: 38.0'
roadway width: 14.2'
condition: fair
alterations: unknown
floor/decking : concrete deck over steel stringers
other features: 2-angle upper chords and inclined end posts

HISTORICAL DATA

erection date: c1925
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 169000.7

sign. rating: 39
evaluation: NRHP non-eligible (short-span example of an uncommon structural type, lacking in documentation)

inventoried by: Clayton B. Fraser 30 December 1991

Miami Creek Bridge

BATE11

GENERAL DATA

structure no.: 187002.7
county: Bates
city/town: 6.7 miles northwest of Butler
feature inters.: Miami Creek
cadastral grid: S10, T40N, R32W
highway route: County Road 187
highway distr.: 7
current owner: Bates County

STRUCTURAL DATA

superstructure: steel, 5-panel, pin-connected Pratt through truss
substructure: stone masonry abutments

span number: 1
span length: 80.0'
total length: 82.0'
roadway width: 14.2'
condition: good
alterations: none
floor/decking : timber deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 punched rectangular eyebars; vertical: two channels with lacing (2 angles at the hip); diagonal: 2 square eyebars; counter: 1 square eyebar with turnbuckle; lateral bracing: round rod with threaded ends; strut: 4 angles with double lacing; portal strut: lattice with curved knee braces; floor beam: I-beam, field-bolted to vertical; guardrail: steel angle; endpost-mounted builder's plate: **1903 / THE MIDLAND BRIDGE CO. / FREYGANG & TROCON / PROPRIETORS / KANSAS CITY, MO.**

HISTORICAL DATA

erection date: 1903-04
erection cost: superstructure: $1140.00; substructure: $950.00
designer: Midland Bridge Company, Kansas City MO
fabricator : Midland Bridge Company, Kansas City MO;
Carnegie Steel Company, Pittsburgh PA
contractor: Midland Bridge Company, Kansas City MO (superstructure);
Brown and Moore (substructure)

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 187002.7; Bates County Court Record, Book 10: page 406 (5 June 1902), page 515 (7 February 1903), pages 518-519 (2 March 1903), page 606 (7 October 1903), page 627 (8 December 1903); Book 11: page 15 (1 February 1904), page 34 (7 March 1904) - located at Bates County Courthouse, Butler MO; field inspection by Clayton Fraser, 1 June 1991.

sign. rating: 45
evaluation: NRHP non-eligible (typically configured, well-preserved example of common pinned truss type)

inventoried by: Clayton B. Fraser 30 December 1991

Mound Creek Bridge

BATE12

GENERAL DATA

structure no.: 226000.3
county: Bates
city/town: 7.3 miles southeast of Adrian
feature inters.: Mound Creek
cadastral grid: S21/22, T41N, R30W
highway route: County Road 226
highway distr.: 7
current owner: Bates County

STRUCTURAL DATA

superstructure: steel stringer
substructure: unknown

span number: 1
span length: 30.0'
total length: 30.0'
roadway width: 13.0'
condition: fair
alterations: unknown
floor/decking : unknown
other features: unknown

HISTORICAL DATA

erection date: 1910
erection cost: $460.00
designer: Western Bridge Company, Harrisonville MO
fabricator : Western Bridge Company, Harrisonville MO
contractor: Western Bridge Company, Harrisonville MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 226000.3; Bates County Court Record, Book 12: page 195 (8 December 1908); Book 13: page 13 (6 June 1910), page 62 (26 September 1910) - located at Bates County Courthouse, Butler MO.

sign. rating: 30
evaluation: NRHP non-eligible (typical example of common bridge type)

inventoried by: Clayton B. Fraser 30 December 1991

Johnstown Bridge

BATE13

GENERAL DATA

structure no.: 248000.1
county: Bates
city/town: Johnstown
feature inters.: Deep Water Creek
cadastral grid: S36, T41N, R29W
highway route: County Road 248
highway distr.: 7
current owner: Bates County

STRUCTURAL DATA

superstructure: steel, 5-panel, pin-connected Pratt pony truss
substructure: stone masonry abutments

span number: 1
span length: 70.0'
total length: 72.0'
roadway width: 14.0'
condition: fair
alterations: none
floor/decking : asphalt over corrugated steel deck, with steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped rectangular eyebars; vertical: 4 angles with double lacing; diagonal: 2 looped rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, U-bolted to lower chord pins; endpost-mounted builder's plate: **BUILT BY / KANSAS CITY BRIDGE CO. / KANSAS CITY MO.**

HISTORICAL DATA

erection date: 1899
erection cost: superstructure: $454.00; substructure: $385.75
designer: Kansas City Bridge Company, Kansas City MO
fabricator : Kansas City Bridge Company, Kansas City MO
contractor: Kansas City Bridge Company, Kansas City MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 248000.1; Bates County Court Record, Book 7: page 580 (22 December 1891); Book 9: page 395 (4 October 1898), page 529 (5 May 1899), page 539 (5 June 1899), page 547 (7 June 1899) - located at Bates County Courthouse, Butler MO; field inspection by Clayton Fraser, 1 June 1991.

sign. rating: 50
evaluation: NRHP possibly eligible (well-preserved, 19th century example of mainstay structural type)

inventoried by: Clayton B. Fraser 30 December 1991

Bones Branch Bridge

BATE14

GENERAL DATA

structure no.: 263001.3
county: Bates
city/town: 3.3 miles south of Adrian
feature inters.: Bones Branch
cadastral grid: S16/21, T41N, R31W
highway route: County Road 263
highway distr.: 7
current owner: Bates County

STRUCTURAL DATA

superstructure: concrete slab
substructure: concrete abutments and pier

span number: 2
span length: 15.0'
total length: 30.0'
roadway width: 16.1'
condition: fair
alterations: unknown
floor/decking : concrete deck
other features: unknown

HISTORICAL DATA

erection date: 1908
erection cost: unknown
designer: unknown
fabricator : none
contractor: county work force

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 263001.3; Bates County Court Record, Book 12: page 138 (1 September 1908) - located at Bates County Courthouse, Butler MO.

sign. rating: 34
evaluation: NRHP non-eligible (undistinguished, small-scale structure, lacking technological significance)

inventoried by: Clayton B. Fraser 30 December 1991

East Mound Creek Bridge

BATE15

GENERAL DATA

structure no.: 310000.3
county: Bates
city/town: 2.8 miles northeast of Butler
feature inters.: East Mound Creek
cadastral grid: S7/18, T40N, R30W
highway route: County Road 31
highway distr.: 7
current owner: Bates County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt pony truss; steel stringer approach spans
substructure: steel pile bent abutments and piers; timber back- and wingwalls

span number: 1
span length: 40.0'
total length: 68.0'
roadway width: 14.0'
condition: fair
alterations: unknown
floor/decking : timber deck
other features: steel guardrails

HISTORICAL DATA

erection date: 1900
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 310000.3; Bates County Court Record, Book 10: page 19 (25 April 1900) - located at Bates County Courthouse, Butler MO.

sign. rating: 31
evaluation: NRHP non-eligible (inadequately documented example of a common structural type)

inventoried by: Clayton B. Fraser 30 December 1991

Bones Branch Bridge

BATE16

GENERAL DATA

structure no.: 316001.6
county: Bates
city/town: 4.0 miles west of Butler
feature inters.: Bones Branch
cadastral grid: S18, T40N, R31W
highway route: County Road 316
highway distr.: 7
current owner: Bates County

STRUCTURAL DATA

superstructure: steel, 3- and 4-panel, pin-connected Pratt half-hip pony truss
substructure: concrete abutments, wingwalls and pier

span number: 2
span length: 60.0'
total length: 108.0'
roadway width: 13.9'
condition: fair
alterations: none
floor/decking : timber deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 punched rectangular eyebars; vertical: 4 angles with lacing, with 1 angle outrider; diagonal: 1-2 square eyebars; lateral bracing: round rod with threaded ends; floor beam: I-beam, field-bolted to vertical; guardrail: steel pipe; builder's plate: **BUILT BY THE / VINCENNES BRIDGE CO. / VINCENNES IND.**

HISTORICAL DATA

erection date: 1911
erection cost: $1699.00
designer: Vincennes Bridge Company, Vincennes IN
fabricator : Vincennes Bridge Company, Vincennes IN; Cambria Steel Company, Pittsburgh PA
contractor: Vincennes Bridge Company, Vincennes IN

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 316001.6; Bates County Court Record, Book 11: page 396 (1 October 1906); Book 12: page 342 (8 June 1909), page 372 (26 August 1909), pages 378-379 (7 September 1909); Book 13: pages 10-11 (2 May 1910), page 14 (7 June 1910), page 49 (1 September 1910), page 112 (16 February 1911) - located at Bates County Courthouse, Butler MO; field inspection by Clayton Fraser, 1 June 1991.

sign. rating: 46
evaluation: NRHP non-eligible (standard example of a mainstay structural type, slightly longer than average)

inventoried by: Clayton B. Fraser 30 December 1991

Bridge

BATE18

GENERAL DATA

structure no.: 356001.4
county: Bates
city/town: 3.7 miles northeast of Foster
feature inters.: Bates County Drainage Ditch
cadastral grid: S9, T39N, R32W
highway route: County Road 356
highway distr.: 7
current owner: Bates County

STRUCTURAL DATA

superstructure: steel, 9-panel, pin-connected Parker through truss, with pin-connected Pratt bedstead and through girder approach spans
substructure: concrete abutments and pier; welded steel pile bent piers

span number: 1
span length: 150.0'
total length: 272.0'
roadway width: 13.7'
condition: fair
alterations: substructure replaced
floor/decking : timber deck over timber stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 punched rectangular eyebars; vertical: 2 channels with lacing; diagonal: two punched rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 angles, braced; portal strut: A-frame; floor beam: I-beam, field bolted to vertical; guardrail: steel channel and pipe

HISTORICAL DATA

erection date: 1907-08
erection cost: unknown
designer: Kansas City Bridge Company, Kansas City MO
fabricator : Kansas City Bridge Company, Kansas City MO
contractor: Kansas City Bridge Company, Kansas City MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 356001.4; Bates County Court Record, Book 11: page 219 (4 May 1905), page 367 (24 July 1906), page 418 (3 December 1906), page 587 (8 October 1907), page 600 (6 November 1907); Book 12: page 18 (8 January 1908), page 36 (4 February 1908) - located at Bates County Courthouse, Butler MO; field inspection by Clayton Fraser, 1 June 1991.

sign. rating: 46
evaluation: NRHP determined non-eligible (typical example of relatively uncommon structural type)

inventoried by: Clayton B. Fraser 31 December 1991

Bones Branch Bridge

BATE19

GENERAL DATA

structure no.: 359000.1
county: Bates
city/town: 4.8 miles southwest of Butler
feature inters.: Bones Branch
cadastral grid: S36, T40N, R32W
highway route: County Road 359
highway distr.: 7
current owner: Bates County

STRUCTURAL DATA

superstructure: steel, pin-connected Pratt half-hip pony truss
substructure: concrete abutments

span number: 1
span length: 30.0'
total length: 32.0'
roadway width: 13.9'
condition: fair
alterations: unknown
floor/decking : timber deck
other features: unknown

HISTORICAL DATA

erection date: c1910
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 359000.1.

sign. rating: 20
evaluation: NRHP non-eligible (undocumented, short-span example of an exceedingly common structural type)

inventoried by: Clayton B. Fraser 31 December 1991

Miami Creek Bridge

BATE20

GENERAL DATA

structure no.: 363R02.3
county: Bates
city/town: 3.8 miles southwest of Butler
feature inters.: Miami Creek
cadastral grid: S31, T40N, R31W
highway route: County Road 363
highway distr.: 7
current owner: Bates County

STRUCTURAL DATA

superstructure: steel, 6-panel, pin-connected Pratt through truss, with steel stringer approach span at each end
substructure: concrete abutments; concrete-filled steel cylinder piers

span number: 1
span length: 100.0'
total length: 135.0'
roadway width: 14.0'
condition: fair
alterations: none
floor/decking : concrete deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 punched rectangular eyebars; vertical: 2 channels with lacing (2 square eyebars at hip); diagonal: 2 punched rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 4 angles with lacing; portal strut: lattice with curved knee braces; floor beam: I-beam, field-bolted to vertical; guardrail: two steel pipes

HISTORICAL DATA

erection date: 1906
erection cost: $3600.00
designer: Kansas City Bridge Company, Kansas City MO
fabricator : Kansas City Bridge Company, Kansas City MO; Illinois Steel Company, Chicago IL
contractor: Kansas City Bridge Company, Kansas City MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 363R02.3; Bates County Court Record, Book 11: page 351 (29 May 1906), page 358 (19 June 1906), page 359 (20 June 1906) - located at Bates County Courthouse, Butler MO; field inspection by Clayton Fraser, 1 June 1991.

sign. rating: 43
evaluation: NRHP non-eligible (typical example of pinned Pratt through truss construction)

inventoried by: Clayton B. Fraser 31 December 1991

Mulberry Creek Bridge

BATE22

GENERAL DATA

structure no.: 419000.5
county: Bates
city/town: 1.5 miles northeast of Amoret
feature inters.: Mulberry Creek
cadastral grid: S22, T40N, R33W
highway route: County Road 419
highway distr.: 7
current owner: Bates County

STRUCTURAL DATA

superstructure: steel, 5-panel, pin-connected Pratt pony truss
substructure: concrete abutments and wingwalls

span number: 1
span length: 70.0'
total length: 72.0'
roadway width: 14.0'
condition: fair
alterations: none
floor/decking : concrete on corrugated steel, over steel stringers
other features: upper chord and inclined end post: 2 channels with cover and batten plates; lower chord: 2 looped rectangular eyebars; vertical: 4 angles with lacing, with 2 angle outrider; diagonal: 2 looped rectangular eyebars; counter: square eyebar with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, field bolted to vertical; guardrail: 2 steel pipes

HISTORICAL DATA

erection date: 1909-11
erection cost: $1649.00
designer: Vincennes Bridge Company, Vincennes IN
fabricator : Vincennes Bridge Company, Vincennes IN
contractor: Vincennes Bridge Company, Vincennes IN

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 419000.5; Bates County Court Record, Book 12: page 372 (26 August 1909), pages 378-79 (7 September 1909); Book 13: pages 10-11 (2 May 1910), page 112 (16 February 1911) - located at Bates County Courthouse, Butler MO; field inspection by Clayton Fraser, 1 June 1991.

sign. rating: 42
evaluation: NRHP non-eligible (longer than average, but typically configured example of common structural type)

inventoried by: Clayton B. Fraser 31 December 1991

Mulberry Creek Bridge

BATE23

GENERAL DATA

structure no.: 435002.1
county: Bates
city/town: 2.8 miles southeast of Amoret
feature inters.: Mulberry Creek
cadastral grid: S26/36, T40N, R33W
highway route: County Road 435
highway distr.: 7
current owner: Bates County

STRUCTURAL DATA

superstructure: wrought iron, 4-panel, pin-connected Pratt pony truss, with rolled through girder approach span
substructure: concrete abutments, wingwalls and pier

span number: 1
span length: 60.0'
total length: 90.0'
roadway width: 12.1'
condition: fair
alterations: truss moved
floor/decking : timber deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 punched rectangular eyebars; vertical: I-beam (2 punched rectangular eyebars at hip); diagonal: 2 punched rectangular eyebars; counter: round eyerod with unslotted turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, U-bolted to lower chord pins; star iron outriders

HISTORICAL DATA

erection date: 1886
erection cost: unknown
designer: Missouri Valley Bridge and Iron Company, Leavenworth KS
fabricator : Missouri Valley Bridge and Iron Company, Leavenworth KS; Carnegie Iron Company, Pittsburgh PA
contractor: Missouri Valley Bridge and Iron Company, Leavenworth KS

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 435002.1.

sign. rating: 41
evaluation: NRHP non-eligible (early but largely undocumented example of a common structural configuration, moved to this location)

inventoried by: Clayton B. Fraser 31 December 1991

Bridge

BATE24

GENERAL DATA

structure no.: 460003.1
county: Bates
city/town: 3.1 miles northeast of Foster
feature inters.: Bates County Drainage Ditch
cadastral grid: S6, T39N, R32W
highway route: County Road 460
highway distr.: 7
current owner: Bates County

STRUCTURAL DATA

superstructure: steel, 6-panel, pin-connected Pratt through truss, with steel stringer approach span
substructure: concrete abutments and wingwalls; concrete-filled steel cylinder piers

span number: 1
span length: 100.0'
total length: 126.9'
roadway width: 14.1'
condition: fair
alterations: none
floor/decking : timber deck over timber stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 punched rectangular eyebars; vertical: 2 channels with lacing (2 angles with batten plates at hip); diagonal: 2 punched rectangular eyebars; lateral bracing: round rod with threaded ends; strut: 2 angles, braced; portal strut: lattice with curved knee braces; floor beam: I-beam, field bolted to vertical; guardrail: 2 steel pipes

HISTORICAL DATA

erection date: 1907-08
erection cost: unknown
designer: Kansas City Bridge Company, Kansas City MO
fabricator : Kansas City Bridge Company, Kansas City MO; Illinois Steel Company, Chicago IL
contractor: Kansas City Bridge Company, Kansas City MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 460003.1; Bates County Court Record, Book 11: page 367 (24 July 1906), page 418 (3 December 1906), page 587 (8 October 1907), page 600 (6 November 1907); Book 12: page 18 (8 January 1908), page 36 (4 February 1908) - located at Bates County Courthouse, Butler MO; field inspection by Clayton Fraser, 1 June 1991.

sign. rating: 43
evaluation: NRHP non-eligible (well-preserved, typically configured example of mainstay structural type)

inventoried by: Clayton B. Fraser 31 December 1991

Possum Branch Bridge

BATE26

GENERAL DATA

structure no.: 466000.1
county: Bates
city/town: 4.2 miles south of Butler
feature inters.: Possum Branch
cadastral grid: S4, T39N, R31W
highway route: County Road 466
highway distr.: 7
current owner: Bates County

STRUCTURAL DATA

superstructure: steel, 2-panel, rigid-connected Pratt half-hip pony truss
substructure: concrete abutments and wingwalls

span number: 1
span length: 30.0'
total length: 30.0'
roadway width: 14.0'
condition: fair
alterations: none
floor/decking : timber deck
other features: steel angle guardrails

HISTORICAL DATA

erection date: 1900
erection cost: $487.75
designer: Pittsburgh Bridge Company, Pittsburgh PA
fabricator : Pittsburgh Bridge Company, Pittsburgh PA
contractor: Pittsburgh Bridge Company, Pittsburgh PA

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 466000.1; Bates County Court Record, Book 10: page 17 (9 February 1900), page 108 (9 July 1900) - located at Bates County Courthouse, Butler MO.

sign. rating: 36
evaluation: NRHP non-eligible (typically configured, short-span example of a common structural type)

inventoried by: Clayton B. Fraser 31 December 1991

Panther Creek Bridge

BATE27

GENERAL DATA

structure no.: 484003.8
county: Bates
city/town: 8.0 miles north of Rockville
feature inters.: Panther Creek
cadastral grid: S3, T39N, R29W
highway route: County Road 484
highway distr.: 7
current owner: Bates County

STRUCTURAL DATA

superstructure: steel stringer
substructure: unknown

span number: 1
span length: 30.0'
total length: 30.0'
roadway width: 13.6'
condition: fair
alterations: unknown
floor/decking : unknown
other features: unknown

HISTORICAL DATA

erection date: 1903
erection cost: superstructure: $360.00; substructure: $249.33
designer: Midland Bridge Company, Kansas City MO
fabricator : Midland Bridge Company, Kansas City MO
contractor: Midland Bridge Company, Kansas City MO (superstructure); Cull Biggs (substructure)

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 484003.8; Bates County Court Record, Book 10: page 542 (4 May 1903), page 556 (1 June 1903), page 562 (6 July 1903), page 596 (8 September 1903), page 606 (7 October 1903); Book 11: page 68 (8 June 1904) - located at Bates County Courthouse, Butler MO.

sign. rating: 36
evaluation: NRHP non-eligible (undistinguished example of an exceedingly common structural type)

inventoried by: Clayton B. Fraser 31 December 1991

South Double Branch Bridge

BATE28

GENERAL DATA

structure no.: 495001.6
county: Bates
city/town: 8.7 miles northeast of Rich Hill
feature inters.: South Double Branch
cadastral grid: S16, T39N, R30W
highway route: County Road 495
highway distr.: 7
current owner: Bates County

STRUCTURAL DATA

superstructure: steel stringer
substructure: unknown

span number: 1
span length: 30.0'
total length: 30.0'
roadway width: 13.8'
condition: fair
alterations: unknown
floor/decking : unknown
other features: unknown

HISTORICAL DATA

erection date: 1903
erection cost: superstructure: $415.00; substructure: $276.25
designer: Midland Bridge Company, Kansas City MO
fabricator : Midland Bridge Company, Kansas City MO
contractor: Midland Bridge Company, Kansas City MO (superstructure); Brown & Moore (substructure)

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 495001.6; Bates County Court Record, Book 10: pages 518-19 (2 March 1903), page 628 (9 December 1903) - located at Bates County Courthouse, Butler MO.

sign. rating: 36
evaluation: NRHP non-eligible (undistinguished example of an exceedingly common structural type)

inventoried by: Clayton B. Fraser 31 December 1991

Bridge

BATE29

GENERAL DATA

structure no.: 496001.4
county: Bates
city/town: 5.1 miles northeast of Rich Hill
feature inters.: branch of Miami Ditch
cadastral grid: S15, T39N, R31W
highway route: County Road 496
highway distr.: 7
current owner: Bates County

STRUCTURAL DATA

superstructure: steel, 6-panel, pin-connected Pratt through truss, with pin-connected Pratt half-hip pony truss approach span
substructure: concrete abutments and concrete-filled steel cylinder piers

span number: 1
span length: 100.0'
total length: 168.0'
roadway width: 13.8'
condition: fair
alterations: none
floor/decking : timber deck over timber stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped rectangular eyebars; vertical: 2 channels with lacing (2 angles with batten plates at hip); diagonal: 2 looped rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 angles with continuous plate; portal strut: lattice with curved knee braces; floor beam: I-beam, field-bolted to vertical; guardrail: 2 steel pipes

HISTORICAL DATA

erection date: 1907-08
erection cost: unknown
designer: Kansas City Bridge Company, Kansas City MO
fabricator : Kansas City Bridge Company, Kansas City MO
contractor: Kansas City Bridge Company, Kansas City MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 496001.4; Bates County Court Record, Book 11: page 367 (24 July 1906), page 418 (3 December 1906), page 544 (8 August 1907), page 587 (8 October 1907), page 615 (5 December 1907); Book 12: page 18 (8 January 1908), page 36 (4 February 1908), page 51 (4 March 1908) - located at Bates County Courthouse, Butler MO; field inspection by Clayton Fraser, 1 June 1991.

sign. rating: 43
evaluation: NRHP non-eligible (typical example of a common truss configuration, with standard detailing, unremarkable dimensions and an average degree of physical integrity)

inventoried by: Clayton B. Fraser 2 January 1992

Soap Creek Bridge

BATE30

GENERAL DATA

structure no.: 496001.7
county: Bates
city/town: 5.2 miles northeast of Rich Hill
feature inters.: Soap Creek
cadastral grid: S15, T39W, R31W
highway route: County Road 496
highway distr.: 7
current owner: Bates County

STRUCTURAL DATA

superstructure: steel, 2-panel, rigid-connected Pratt half-hip pony truss
substructure: concrete abutments and wingwalls

span number: 1
span length: 30.0'
total length: 32.0'
roadway width: 14.0'
condition: fair
alterations: unknown
floor/decking : concrete deck
other features: steel pipe guardrails

HISTORICAL DATA

erection date: 1908
erection cost: $959.00
designer: Kansas City Bridge Company, Kansas City MO
fabricator : Kansas City Bridge Company, Kansas City MO
contractor: Kansas City Bridge Company, Kansas City MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 496001.7; Bates County Court Record, Book 12: page 96 (6 June 1908), page 107 (8 July 1908), page 210 (5 January 1909) - located at Bates County Courthouse, Butler MO.

sign. rating: 36
evaluation: NRHP non-eligible (typically built example of a common structural type, used for short-span crossings)

inventoried by: Clayton B. Fraser 2 January 1992

Walnut Creek Bridge

BATE31

GENERAL DATA

structure no.: 501002.2
county: Bates
city/town: 2.5 miles southwest of Foster
feature inters.: Walnut Creek
cadastral grid: S16/21, T39N, R33W
highway route: County Road 501
highway distr.: 7
current owner: Bates County

STRUCTURAL DATA

superstructure: steel, 5-panel, pin-connected Pratt pony truss, with steel stringer approach span at each end

substructure: stone masonry abutments with concrete vertical extensions; steel pile bent piers (paired sets of 2 channels with lacing, braced)

span number: 1
span length: 75.0'
total length: 104.0'
roadway width: 14.1'
condition: good
alterations: deck replaced; substructure altered
floor/decking: asphalt over corrugated steel, with steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped rectangular eyebars; vertical: 4 angles with double lacing; diagonal: 2 looped rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, U-bolted to lower chord pin; guardrail: timber; endpost-mounted builder's plate: (broken) **BUIL... KANS... CIT... BRIDG... KANSAS... M...**

HISTORICAL DATA

erection date: 1899
erection cost: $925.00
designer: Kansas City Bridge Company, Kansas City MO
fabricator: Kansas City Bridge Company, Kansas City MO
contractor: Kansas City Bridge Company, Kansas City MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 501002.2; Bates County Court Record, Book 9: page 441 (10 February 1899), page 469 (10 March 1899), page 499 (6 April 1899), page 515 (8 April 1899), page 528 (4 May 1899) - located at Bates County Courthouse, Butler MO; field inspection by Clayton Fraser, 1 June 1991.

sign. rating: 44
evaluation: NRHP non-eligible (typically configured example of common structural type)

inventoried by: Clayton B. Fraser 2 January 1992

Walnut Creek Bridge

BATE32

GENERAL DATA

structure no.: 509003.0
county: Bates
city/town: 2.3 miles northwest of Hume
feature inters.: branch of Walnut Creek
cadastral grid: S31, T39N, R33W
highway route: County Road 509
highway distr.: 7
current owner: Bates County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt pony truss
substructure: stone abutments and wingwalls

span number: 1
span length: 76.0'
total length: 78.0'
roadway width: 14.1'
condition: good
alterations: one vertical replaced with I-beam
floor/decking : timber deck over timber stringers
other features: upper chord and inclined end post: 2 channels with cover and batten plates; lower chord: 2 looped rectangular eyebars; vertical: 4 angles with lacing; diagonal: 2 looped square eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, U-bolted to lower chord pins

HISTORICAL DATA

erection date: 1898-99
erection cost: $413.50 (superstructure cost)
designer: Kansas City Bridge Company, Kansas City MO (probable)
fabricator : Kansas City Bridge Company, Kansas City MO (probable)
contractor: J.B. March, Rich Hill MO (superstructure); George Alms (substructure)

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 509003.0; Bates County Court Record, Book 9: page 235 (29 September 1897), page 325 (8 April 1898), page 342 (3 May 1898), 437 (7 February 1899) - located at Bates County Courthouse, Butler MO; field inspection by Clayton Fraser, 1 June 1991.

sign. rating: 33
evaluation: NRHP non-eligible (typically configured example of mainstay structural type)

inventoried by: Clayton B. Fraser 2 January 1992

Water Works Bridge

BATE34

GENERAL DATA

structure no.: 547002.6
county: Bates
city/town: 3.5 miles northeast of Rich Hill
feature inters.: Marais des Cygnes River
cadastral grid: S26/27, S34/35, T39N, R31W
highway route: County Road 547
highway distr.: 7
current owner: Bates County

STRUCTURAL DATA

superstructure: steel, 8-panel, pin-connected Parker through truss, with pin-connected Pratt half-hip pony truss approach spans
substructure: concrete abutments; concrete-filled steel cylinder piers

span number: 1
span length: 110.0'
total length: 210.0'
roadway width: 14.8'
condition: good
alterations: none
floor/decking : timber deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped rectangular eyebars; vertical: 2 channels with lacing (2 angles with batten plates at hip); diagonal: 2 looped rectangular eyebars; counter: square eyebar with turnbuckles; lateral bracing: round rod with threaded ends; strut: 2 angles with continuous plate; floor beam: I-beam, field bolted to vertical; guardrail: 2 steel pipes

HISTORICAL DATA

erection date: 1907
erection cost: $6873.00
designer: Kansas City Bridge Company, Kansas City MO
fabricator : Kansas City Bridge Company, Kansas City MO
contractor: Kansas City Bridge Company, Kansas City MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 547002.6; Bates County Court Record, Book 7: page 384 (8 August 1890), page 400 (23 September 1890), page 415 (22 December 1890); Book 10: page 577 (8 August 1903); Book 11: page 23 (4 February 1904), page 236 (24 July 1905), page 397 (1 October 1906), page 433 (2 January 1907), page 486 (3 April 1907), page 525 (5 June 1907), page 588 (8 October 1907), page 616 (5 December 1907), page 24 (10 January 1908) - located at Bates County Courthouse, Butler MO; field inspection by Clayton Fraser, 1 June 1991.

sign. rating: 49
evaluation: NRHP possibly eligible (typically configured example of relatively uncommon structural type)

inventoried by: Clayton B. Fraser 2 January 1992

Marais des Cygnes River Bridge

BATE35

GENERAL DATA

structure no.: 547003.3
county: Bates
city/town: 2.7 miles northeast of Rich Hill
feature inters.: Marais des Cygnes River
cadastral grid: S34, T39N, R31W
highway route: County Road 547
highway distr.: 7
current owner: Bates County

STRUCTURAL DATA

superstructure: steel, 7-panel, pin-connected Pratt through truss, with steel stringer approach span
substructure: steel pile bent piers with timber back- and wingwalls

span number: 1
span length: 125.0'
total length: 140.0'
roadway width: 12.0'
condition: fair
alterations: none
floor/decking : timber deck over timber stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped rectangular eyebars; vertical: 2 channels with lacing (2 angles with lacing at hip); diagonal: 2 looped rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 angles with continuous plate; portal strut: A-frame; floor beam: I-beam, field bolted to vertical; guardrail: 2 angles

HISTORICAL DATA

erection date: c1910
erection cost: unknown
designer: unknown
fabricator : Cambria Steel Company, Pittsburgh PA
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 547003.3; field inspection by Clayton Fraser, 1 June 1991.

sign. rating: 31
evaluation: NRHP non-eligible (With its construction history undocumented, this typically built, pinned Pratt through truss is of extremely limited interpretive value.)

inventoried by: Clayton B. Fraser 2 January 1992

Bridge

BATE36

GENERAL DATA

structure no.: 547004.0
county: Bates
city/town: 2.4 miles northeast of Rich Hill
feature inters.: Bates County Drainage Ditch
cadastral grid: S34/3, T39/38N, R31W
highway route: County Road 547
highway distr.: 7
current owner: Bates County

STRUCTURAL DATA

superstructure: steel, 6-panel, pin-connected Pratt through truss, with two pin-connected Pratt half-hip pony truss and one steel stringer approach spans
substructure: concrete abutments; concrete-filled steel cylinder piers; non-original welded steel pile bent piers

span number: 1
span length: 100.0'
total length: 205.0'
roadway width: 13.7'
condition: fair
alterations: welded steel pile bent pier and steel stringer approach span added
floor/decking: timber deck over timber stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped rectangular eyebars; vertical: 2 channels with lacing (2 angles with batten plates at hip); diagonal: 2 looped rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 angles with continuous plate; portal strut: lattice with curved knee braces; floor beam: I-beam, field bolted to vertical; guardrail: 2 steel pipes; pony truss builder's plate (remnant): ...VILLE Mo...08 (Western Bridge Company, Harrisonville MO)

HISTORICAL DATA

erection date: 1907-08
erection cost: unknown
designer: Kansas City Bridge Company, Kansas City MO (main span); Western Bridge Company, Harrisonville MO (approach spans)
fabricator: Kansas City Bridge Company, Kansas City MO (main span); Western Bridge Company, Harrisonville MO (approach spans)
contractor: Kansas City Bridge Company, Kansas City MO (main span); Western Bridge Company, Harrisonville MO (approach spans)

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 547004.0; Bates County Court Record, Book 11: page 367 (24 July 1906), page 418 (3 December 1906), page 544 (8 August 1907), page 587 (8 October 1907), page 615 (5 December 1907); Book 12: page 18 (8 January 1908), page 36 (4 February 1908),

page 51 (4 March 1908) - located at Bates County Courthouse, Butler MO; bridge plate (located in county engineer's office at Bates County Courthouse, Butler MO): **1907 / J.W. McFadden Pres. Judge / P.A. Bruce Associate Judge / J. Armstrong Associate Judge / E.B. Borron Engineer**; field inspection by Clayton Fraser, 1 June 1991.

sign. rating: 38

evaluation: NRHP non-eligible (typical example of a common truss configuration, with standard detailing, unremarkable dimensions and an average degree of physical integrity)

inventoried by: Clayton B. Fraser 3 January 1992

Schell City Bridge

BATE37

GENERAL DATA

structure no.: 576002.5
county: Bates/Vernon
city/town: 2.1 miles southwest of Rockville
feature inters.: Osage River
cadastral grid: S21, T38N, R29W
highway route: County Road 576
highway distr.: 7
current owner: Bates/Vernon Counties

STRUCTURAL DATA

superstructure: steel, 10-panel, pin-connected Parker through truss, with pin-connected Pratt half-hip pony truss approach span
substructure: stone masonry abutments and pier

span number: 1
span length: 175.0'
total length: 318.0'
roadway width: 13.9'
condition: poor
alterations: truss partially collapsed; deck replaced; outriders added to pony truss
floor/decking : asphalt on corrugated steel deck, over steel stringers
other features: upper chord and inclined end post: 2 angles with cover plate and lacing; lower chord: 2 punched rectangular eyebars; vertical: 2 channels with lacing (2 square eyebars at hip); diagonal: 2 punched rectangular eyebars; counter: square pronged eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 4 angles with lacing, braced; portal strut: lattice with curved knee braces; floor beam: I-beam, U-bolted to vertical; guardrail: 2 pipes; pony truss builder's plate: THE CANTON BRIDGE CO CANTON OHIO

HISTORICAL DATA

erection date: 1900
erection cost: $4340.00
designer: A.M. Blodgett, Kansas City MO (main span);Canton Bridge Company, Canton OH (approach span)
fabricator : Kansas City Bridge Company, Kansas City MO (main span); Canton Bridge Company, Canton OH (approach span); Carnegie Steel Company, Pittsburgh PA
contractor: A.M. Blodgett, Kansas City MO (main span); Canton Bridge Company, Canton OH (approach span)

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 576002.5; Bates County Court Record, Book 9: page 604 (8 November 1899), page 609 (16 November 1899), page 617 (7 December 1899); Book 10: page 136 (17 September 1900), page 151 (22 October 1900); Book 11: page 236 (24 July

1905), page 243 (8 August 1905); Book 13: page 63 (6 October 1910) page 83 (8 December 1910) - located at Bates County Court house, Butler MO; Vernon County Court Record, Book F: 12 August 1890, 27 August 1890, 20 October 1890, 1 June 1891, 22 October 1891; Book I: 9 November 1899, 26 September 1900; Book K: 20 January 1904, 2 March 1904, 22 March 1904, 1 July 1904, 6 September 1904- located at Vernon County Courthouse, Nevada MO; field inspection by Clayton Fraser, 1 June 1991.

sign. rating: 58

evaluation: NRHP potentially eligible (earliest example in state of relatively uncommon truss configuration, partially collapsed)

inventoried by: Clayton B. Fraser 6 January 1992

Sycamore Branch Bridge

BATE38

GENERAL DATA

structure no.: 624000.2
county: Bates
city/town: 6.3 miles northeast of Rich Hill
feature inters.: Sycamore Branch
cadastral grid: S32, T38N, R30W
highway route: County Road 624
highway distr.: 7
current owner: Bates County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt pony truss
substructure: concrete abutments

span number: 1
span length: 40.0'
total length: 42.0'
roadway width: 14.0'
condition: fair
alterations: none
floor/decking : timber deck
other features: no guardrails

HISTORICAL DATA

erection date: c1910
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 624000.2.

sign. rating: 25
evaluation: NRHP non-eligible (typically configured, inadequately documented example of a common structural type)

inventoried by: Clayton B. Fraser 3 January 1992

Camp Branch Bridge

BATE39

GENERAL DATA

structure no.: 628000.9
county: Bates
city/town: 3.0 miles northwest of Rockville
feature inters.: Camp Branch
cadastral grid: S33/4, T39/38N, R29W
highway route: County Road 628
highway distr.: 7
current owner: Bates County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt pony truss
substructure: concrete abutments and wingwalls

span number: 1
span length: 50.0'
total length: 54.0'
roadway width: 14.2'
condition: poor
alterations: east abutment partially collapsed; welded outriders added
floor/decking : timber deck over timber stringers
other features: upper chord and inclined end post: 2 channels with cover and batten plates; lower chord: 2 looped rectangular eyebars; vertical: 4 angles with lacing, with non-original welded outriders; diagonal (counter): square eyerod; lateral bracing: round rod with threaded ends; floor beam: I-beam, U-bolted to vertical; guardrail: removed

HISTORICAL DATA

erection date: 1897-98
erection cost: $335.00
designer: Youngstown Bridge Company, Youngstown OH
fabricator : Youngstown Bridge Company, Youngstown OH; Carnegie Steel Company, Pittsburgh PA
contractor: Youngstown Bridge Company, Youngstown OH

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 628000.9; Bates County Court Record, Book 9: page 189 (8 June 1897), page 198 (7 July 1897), page 298 (11 March 1898), page 340 (2 May 1898) - located at Bates County Courthouse, Butler MO; field inspection by Clayton Fraser, 1 June 1991.

sign. rating: 39
evaluation: NRHP non-eligible (poorly preserved example of common structural type)

inventoried by: Clayton B. Fraser 3 January 1992

Papinville Bridge

BATE40

GENERAL DATA

structure no.: 648000.3
county: Bates
city/town: Papinville
feature inters.: Marais Des Cygnes River
cadastral grid: S16, T38N, R30W
highway route: County Road 648
highway distr.: 7
current owner: Bates County

STRUCTURAL DATA

superstructure: wrought iron, 7-panel, pin-connected Pratt through truss, with rigid-connected Warren pony truss approach spans
substructure: stone abutments; concrete-filled steel cylinder piers

span number: 1
span length: 116.0'
total length: 234.0'
roadway width: 13.8'
condition: fair
alterations: approach spans altered
floor/decking : timber deck over steel stringers
other features: upper chord and inclined end post: 2 angles with cover and batten plates; lower chord: 2 punched rectangular eyebars; vertical: 2 channels with lacing (2 punched rectangular eyebars at hip); diagonal: 2 punched rectangular eyebars; counter: round eyerod with unslotted turnbuckle; lower lateral bracing: round rod with threaded ends; upper lateral bracing: round eyerod with unslotted turnbuckle; strut: I-beam; portal strut: lattice; floor beam: riveted plate girder, U-bolted to lower chord pins; guardrail: 1 channel and timber; portal builder's plate: **KANSAS CITY BRIDGE & IRON COMPANY**

HISTORICAL DATA

erection date: 1884
erection cost: $3750.00
designer: unknown
fabricator : unknown
contractor: Kansas City Bridge & Iron Company, Kansas City MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 648000.3; Bates County Court Record, Book 3: pages 514-15 (January 1873); Book 5: page 560 (9 November 1883), page 566 (3 December 1883); Book 6: page 95 (5 June 1884), page 96 (7 July 1884); Book 9: page 395 (4 October 1898), page 410 (15 November 1898); Book 10: page 344 (7 December 1901), page 354 (3 February 1902), page 482 (2 December 1902), page 520 (3 March 1903); Book 11: page 236 (24 July 1905), page 279 (10 November 1905), page 285 (5 December 1905), page 341 (7 May 1906),

page 370 (6 August 1906) - located at Bates County Courthouse, Butler MO; field inspection by Clayton Fraser, 1 June 1991.

sign. rating: 51
evaluation: NRHP possibly eligible (early example of mainstay structural type)

inventoried by: Clayton B. Fraser 6 January 1992

Bridge

BATE41

GENERAL DATA

structure no.: 648001.2
county: Bates
city/town: 1.0 mile south of Papinsville
feature inters.: Bates County Drainage Ditch
cadastral grid: S21, T38N, R30W
highway route: County Road 648
highway distr.: 7
current owner: Bates County

STRUCTURAL DATA

superstructure: steel, 6-panel, pin-connected Pratt through truss, with two steel stringer approach spans at each end

substructure: concrete-filled steel cylinder piers; non-original steel pile bent pier at south end of main span; steel pile bent abutments and piers under approach spans

span number: 1
span length: 100.0'
total length: 188.0'
roadway width: 14.2'
condition: fair
alterations: substructure and approach spans altered
floor/decking : timber deck over timber stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped rectangular eyebars; vertical: 2 channels with lacing; diagonal: 2 looped rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 angles with continuous plate; portal strut: lattice with curved knee braces; floor beam: I-beam, field bolted to vertical; guardrail: 2 steel pipes

HISTORICAL DATA

erection date: 1907-08
erection cost: unknown
designer: Kansas City Bridge Company, Kansas City MO
fabricator : Kansas City Bridge Company, Kansas City MO; Cambria Steel Company, Pittsburgh PA
contractor: Kansas City Bridge Company, Kansas City MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 648001.2; Bates County Court Record, Book 11: page 367 (24 July 1906), page 418 (3 December 1906), page 544 (8 August 1907), page 587 (8 October 1907), page 615 (5 December 1907); Book 12: page 18 (8 January 1908), page 36 (4 February 1908), page 51 (4 March 1908) - located at Bates County Courthouse, Butler MO; field inspection by Clayton Fraser, 1 June 1991.

sign. rating: 39
evaluation: NRHP non-eligible (typically built example of mainstay structural type, somewhat altered)

inventoried by: Clayton B. Fraser 3 January 1992

Elk Fork Bridge

BATE42

GENERAL DATA

structure no.: none
county: Bates

city/town: 2.0 miles west of Aaron
feature inters.: Elk Fork
cadastral grid: S24/25, T42N, R30W
highway route: vacated county road
highway distr.: 7
current owner: Bates County

STRUCTURAL DATA

superstructure: wrought-iron, 4-panel, pin-connected Pratt pony truss
substructure: stone abutments

span number: 1
span length: 60.0'
total length: 60.0'
roadway width: 14.0'

condition: poor
alterations: west abutment partially collapsed; deck mostly removed
floor/decking : timber deck (mostly removed) over timber stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 punched rectangular eyebars; vertical: I-beam, with star iron outriders; diagonal: 2 punched rectangular eyebars; counter: round eyerod with slotted turnbuckle; lateral bracing: round rod with threaded ends; floor beam: plate girder, field-bolted to vertical; guardrail: none

HISTORICAL DATA

erection date: 1884
erection cost: $2225.00 (3 bridges)
designer: Missouri Valley Bridge and Iron Company, Leavenworth KS
fabricator : Missouri Valley Bridge and Iron Company, Leavenworth KS
contractor: Missouri Valley Bridge and Iron Company, Leavenworth KS

references: Bates County Court Record, Book 5: page 566 (3 December 1883); Book 6: page 116 (2 September 1884) - located at Bates County Courthouse, Butler MO; field inspection by Clayton Fraser, 1 June 1991.

sign. rating: 47
evaluation: NRHP possibly eligible (early example of pinned truss construction)

inventoried by: Clayton B. Fraser 3 January 1992

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Marais des Cygnes River Bridge BATE03
MHTD: T 280

DATE(S) OF CONSTRUCTION
1934-35

LOCATION
State Supplementary Route B over Marais des Cygnes River; S1, T38N, R31W
4.6 miles east of Rich Hill; Bates County, Missouri

USE (ORIGINAL / CURRENT)
highway bridge / highway bridge

RATING NRHP possibly eligible (score: 51)

CONDITION
good

OWNER
Missouri Highway and Transportation Department

span number:	1	superstructure:	steel, 10-panel, rigid-connected Warren pony truss with polygonal upper chords; three steel stringer approach spans
span length:	110.0'		
total length:	264.0'	substructure:	concrete abutments, wingwalls and piers
roadway wdt.:	20.0'	floor/decking:	concrete deck over steel stringers
		other features:	steel guardrails

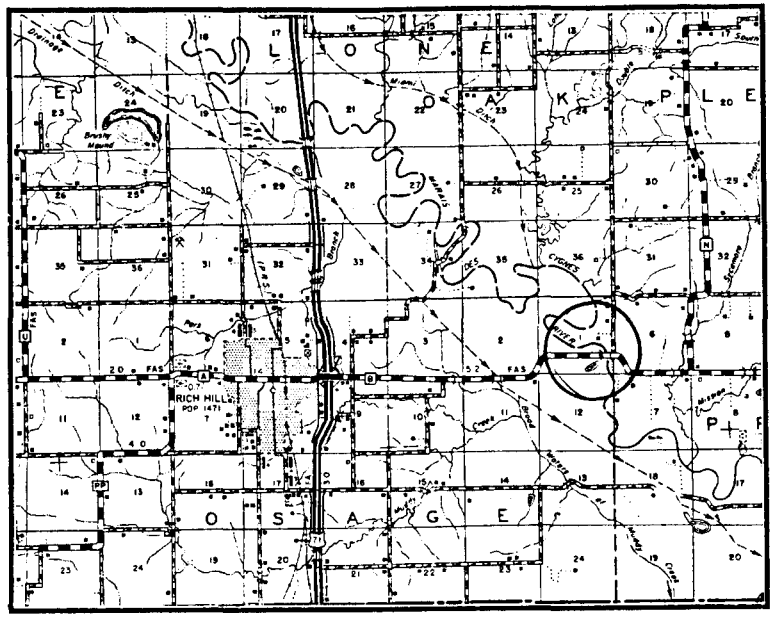
This long-span pony truss carries State Supplementary Route B over the Marais des Cygnes River 4½ miles east of the small town of Rich Hill, in Bates County. The Marais des Cygnes River Bridge is comprised of one rigid-connected Warren pony truss span, with polygonal upper chords, supported by a concrete substructure and approached by three steel stringer spans. The structure was designed by the state highway department in the fall of 1934 and built in 1934-35 by contractor Otto W. Knutson for almost $19,000. Since its completion, the bridge has functioned in place, without substantial alteration.

The Missouri State Highway Department used riveted Warren configurations for its pony trusses almost from the time the agency developed its first bridge standards around 1920. Structurally straightforward and versatile, these ubiquitous trusses were erected by the hundreds throughout the state in span lengths ranging from 40 to 100 feet. In the early 1930s the highway department designed Warren trusses with polygonal upper chords, a variation that was more materially conservant than the straight-chorded Warren for long-span applications. Relatively few of these Warren subtypes were built during the decade, due more to their extreme span length than to their utility. Approximately fifteen of these polygonal Warren pony trusses have been identified as extant by the statewide bridge inventory, all built between 1932 and 1940 and all spanning between 100 and 120 feet. Fabricated from essentially the same drawings, their superstructures were virtually identical. The Rich Hill Bridge is distinguished among these as one of the oldest documented example of this mainstay long-span truss type.

NAME(S) OF STRUCTURE

Marais des Cygnes River Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP

SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number T 280; Bates County Court Record, Book 6: page 6 (9 January 1884) - located at Bates County Courthouse, Butler MO; field inspection by Clayton Fraser, 1 June 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	19 December 1991

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Mormon Fork Bridge
MHTD: 032001.3

BATE05

DATE(S) OF CONSTRUCTION
1884

LOCATION
County Road 32 over Mormon Fork; S25, T42N, R32W / S30, T42N, R31W
3.0 miles northwest of Adrian; Bates County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 49)

CONDITION
fair

OWNER
Bates County

span number:	1	superstructure:	wrought iron, 4-panel, pin-connected Pratt pony truss, with steel stringer approach span on south end
span length:	55.0'		
total length:	78.0'	substructure:	stone masonry abutments and pier
roadway wdt.:	12.5'	floor/decking:	timber deck over timber stringers
		other features:	upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 punched rectangular eyebars; vertical: I-beam, with star iron outriders; diagonal: 2 punched rectangular eyebars; counter: one round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, U-bolted to lower chord pin; guardrail: removed on main span, steel lattice at approach

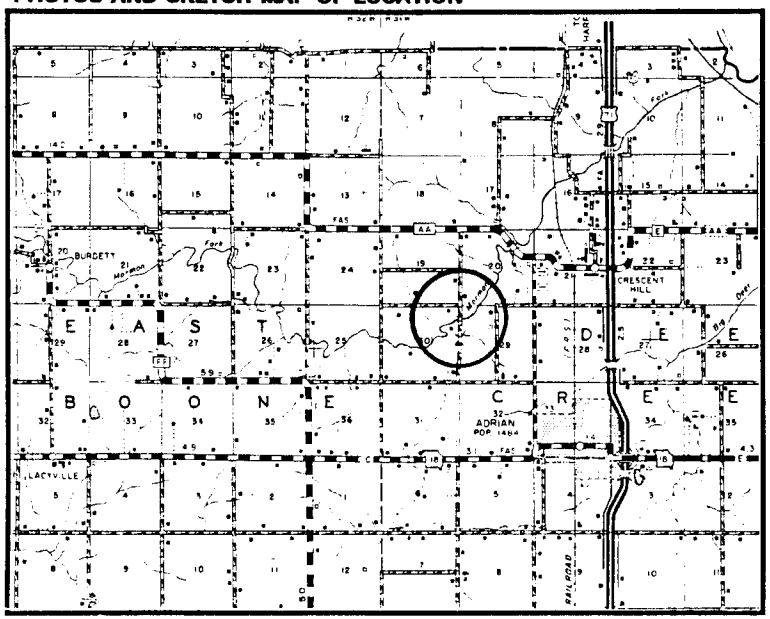
Located on the line between Deer Creek and East Boone Townships, this short-span pony truss carries a gravel-surfaced county road over Mormon Fork northwest of Adrian. The bridge consists of a single pinned Pratt truss, supported by stone masonry abutments and pier and approached on the south end by an iron stringer span. The Mormon Fork Bridge dates to 1884. That year the Bates County Court contracted with the Missouri Valley Bridge and Iron Company for this structure and a bridge over Elk Fork. Using wrought iron components rolled in Pittsburgh by Carnegie, the Leavenworth, Kansas, bridge builder fabricated the truss and erected it on a stone substructure. The two small-scale iron bridges were completed by September for an aggregate cost of $2225.00. The Mormon Fork Bridge has functioned in place since that time, with only repairs to its floor system and the installation of a steel pile bent pier beside one of the abutments as the only alterations of note.

Bridge companies such as Missouri Valley B&I advertised the pinned Pratt truss extensively in their catalogues of standard iron spans in the late 19th century. With its uniformly fabricated components and easy field erection, the Pratt truss was ideally suited for the highly competitive bidding for county bridge construction. Thousands of pinned Pratt ponies were built on Missouri's county road system, and many remain in place today. The Mormon Fork Bridge is distinguished among these for its early construction date and for its well-preserved condition. With both superstructure and substructure intact, it is a technologically significant, early transportation-related resource.

NAME(S) OF STRUCTURE

Mormon Fork Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP

SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 032001.3; Bates County Court Record, Book 6: page 116 (2 September 1884) - located at Bates County Courthouse, Butler MO; field inspection by Clayton Fraser, 1 June 1991.

INVENTORIED BY

Clayton B. Fraser

AFFILIATION

Fraserdesign, Loveland CO

DATE

19 December 1991

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Mormon Fork Bridge
MHTD: 041002.1

BATE06

DATE(S) OF CONSTRUCTION
1886

LOCATION
County Road 41 over Mormon Fork; S16, T42N, R31W
1.8 miles north of Crescent Hill; Bates County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 51)

CONDITION
fair

OWNER
Bates County

span number:	1	superstructure:	wrought iron, 4-panel, pin-connected Pratt pony truss
span length:	55.0'	substructure:	stone masonry abutments
total length:	55.0'	floor/decking:	timber deck over steel stringers
roadway wdt.:	12.2'	other features:	upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 punched rectangular eyebars; vertical: I-beam (2 punched rectangular eyebars at the hip), with star outriders; diagonal: 2 punched rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, U-bolted to lower chord pin; endpost-mounted builder's plate: **MO VALLEY / BRIDGE & IRON WORKS / LEAVENWORTH KANS / 1886**

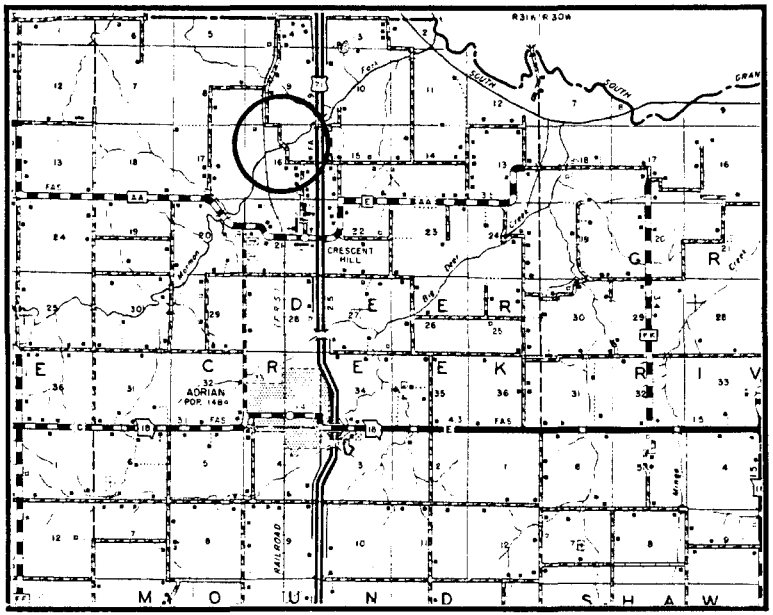
The Mormon Fork Bridge carries County Road 41 over Mormon Fork almost two miles north of Crescent Hill. Consisting of a single pinned Pratt pony truss supported by stone masonry abutments, it dates to 1886. In June of that year the Bates County Court contracted with the Missouri Valley Bridge and Iron Company of Leavenworth, Kansas, to fabricate and erect the truss at this rural Deer Creek Township crossing. Costing $450.00, the small-scale truss was to be completed by September 15 by contractual agreement. Since then, the Mormon Fork Bridge has carried intermittent traffic, with the installation of a steel bent pile pier at one of the abutments as the only alteration of note.

Among Missouri's earliest remaining pinned Pratt pony trusses, this bridge over Mormon Fork is historically noteworthy as an intact remnant of early transportation. A well-preserved and well-documented structure, it is representative of late 19th century pinned truss construction.

NAME(S) OF STRUCTURE

Mormon Fork Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP

SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 041002.1; contract between Bates County and Missouri Valley Bridge and Iron Company, in book titled "Bridge Plans, Bates County," 12 June 1886 - located at Bates County Courthouse, Butler MO; field inspection by Clayton Fraser, 1 June 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	19 December 1991

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Miami Creek Bridge
MHTD: 187002.7

BATE11

DATE(S) OF CONSTRUCTION
1903-04

LOCATION
County Road 187 over Miami Creek; S10, T40N, R32W
6.7 miles northwest of Butler; Bates County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 45)

CONDITION
good

OWNER
Bates County

span number:	1	superstructure:	steel, 5-panel, pin-connected Pratt through truss
span length:	80.0'	substructure:	stone masonry abutments
total length:	82.0'	floor/decking:	timber deck over steel stringers
roadway wdt.:	14.2'	other features:	upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 punched rectangular eyebars; vertical: two channels with lacing (2 angles at the hip); diagonal: 2 square eyebars; counter: 1 square eyebar with turnbuckle; lateral bracing: round rod with threaded ends; strut: 4 angles with double lacing; portal strut: lattice with curved knee braces; floor beam: I-beam, field-bolted to vertical; guardrail: steel angle; endpost-mounted builder's plate: **1903 / THE MIDLAND BRIDGE CO. / FREYGANG & TROCON / PROPRIETORS / KANSAS CITY, MO.**

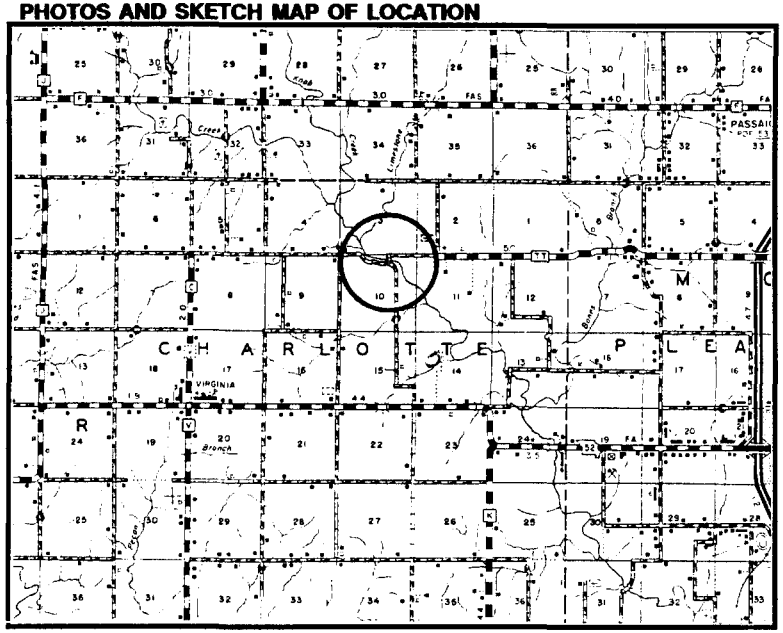
On June 5, 1902, the Bates County Court ordered the county bridge commissioner to place a notice on the existing Miami Creek Bridge announcing its condemnation. In early February of the following year, the county advertised for bids for a steel replacement truss and a new masonry substructure at this location. One month later a $1140.00 contract was awarded to the Midland Bridge Company of Kansas City to fabricate and erect the truss, and a separate $850.00 contract was awarded to local contractors Brown and Moore to build the stone masonry abutments. Work on the new bridge apparently commenced when the stream flow subsided in early fall. After changing its alignment slightly, Brown and Moore completed the masonry work in December. Midland used steel components rolled in Pittsburgh by the Carnegie mills to fabricate the short-span through truss, completing the superstructure and floor in late 1904. The Miami Creek Bridge has since carried intermittent rural traffic on this county road in west-central Bates County.

Thousands of Pratt trusses were erected throughout Missouri in the late 19th and early 20th centuries. Marketed by virtually all of the in-state and regional bridge companies, this versatile structural type was used overwhelmingly by the counties for short- and medium-span applications. With typical dimensions and detailing, the Miami Creek Bridge typifies this statewide bridge building trend.

NAME(S) OF STRUCTURE

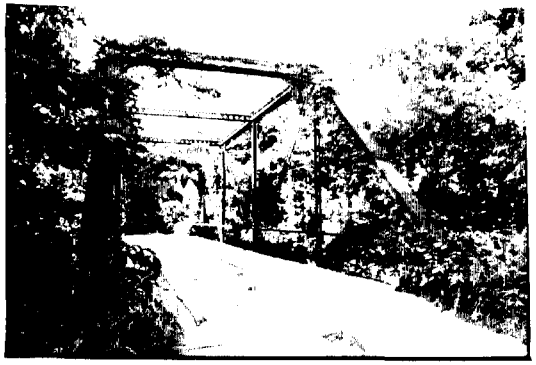
Miami Creek Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP



SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 187002.7; Bates County Court Record, Book 10: page 406 (5 June 1902), page 515 (7 February 1903), pages 518-519 (2 March 1903), page 606 (7 October 1903), page 627 (8 December 1903); Book 11: page 15 (1 February 1904), page 34 (7 March 1904) - located at Bates County Courthouse, Butler MO; field inspection by Clayton Fraser, 1 June 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	19 December 1991

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Johnstown Bridge
MHTD: 248000.1

BATE13

DATE(S) OF CONSTRUCTION
1899

LOCATION
County Road 248 over Deep Water Creek; S36, T41N, R29W
Johnstown; Bates County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 50)

CONDITION
fair

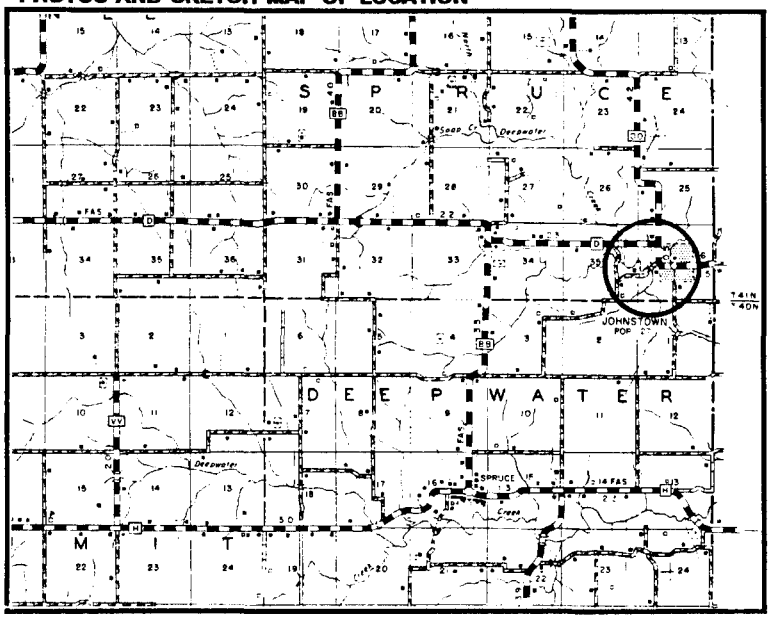
OWNER
Bates County

span number:	1	superstructure:	steel, 5-panel, pin-connected Pratt pony truss
span length:	70.0'	substructure:	stone masonry abutments
total length:	72.0'	floor/decking:	asphalt over corrugated steel deck, with steel stringers
roadway wdt.:	14.0'	other features:	upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped rectangular eyebars; vertical: 4 angles with double lacing; diagonal: 2 looped rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, U-bolted to lower chord pins; endpost-mounted builder's plate: **BUILT BY / KANSAS CITY BRIDGE CO. / KANSAS CITY MO.**

Built in 1899, this medium-span pony truss was not the first structure erected at this crossing on the outskirts of Johnstown, in eastern Bates County. In 1891 a wire suspension bridge was constructed here by the Lyndon Wire Cable Bridge Company. Wire suspension bridges of the time were notoriously unstable, and the 1891 Johnstown Bridge lasted only seven years before it needed replacement. In October 1898 Bates County Bridge Commissioner Robert E. Johnson reported to the county court on the need for a new bridge at this crossing. The court ordered Johnson to advertise for bids for a new steel truss and stone substructure. Local mason C.V. Peacock was hired to build the cut stone abutments; the Kansas City Bridge Company supplied the superstructure and erected it for $454.00. Since its completion in 1899, the Johnstown Bridge continues to carry rural traffic over Deep Water Creek, with only maintenance-related repairs. It is a structurally intact, well-documented example, of a pin-connected Pratt pony truss - Missouri's mainstay design for short span crossings in the late 19th and early 20th centuries.

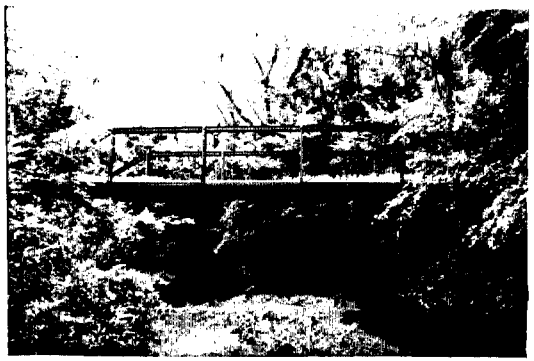
NAME(S) OF STRUCTURE
Johnstown Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP



SOURCES
Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 248000.1; Bates County Court Record, Book 7: page 580 (22 December 1891); Book 9: page 395 (4 October 1898), page 529 (5 May 1899), page 539 (5 June 1899), page 547 (7 June 1899) - located at Bates County Courthouse, Butler MO; field inspection by Clayton Fraser, 1 June 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	19 December 1991

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Bridge BATE18
MHTD: 356001.4

DATE(S) OF CONSTRUCTION
1907-08

LOCATION
County Road 356 over Bates County Drainage Ditch; S9, T39N, R32W
3.7 miles northeast of Foster; Bates County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP determined non-eligible (score: 46)

CONDITION
fair

OWNER
Bates County

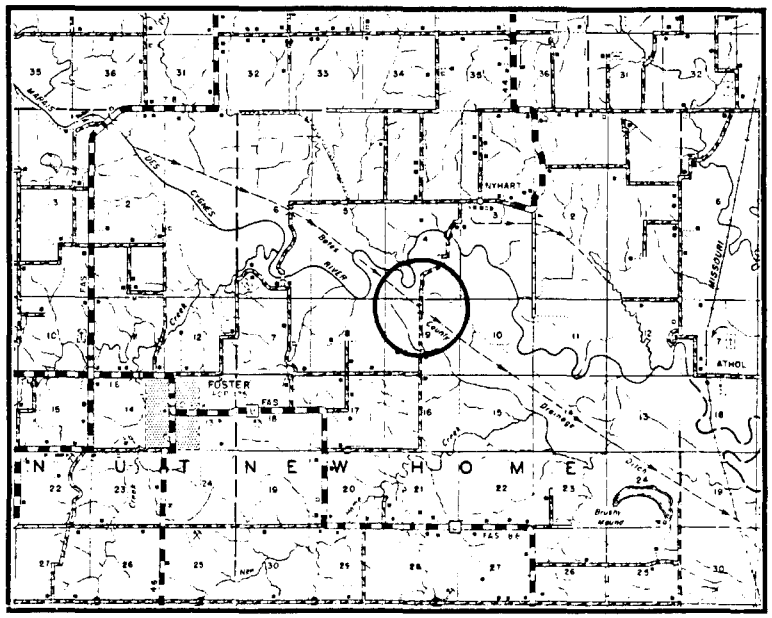
span number: 1
span length: 150.0'
total length: 272.0'
roadway wdt.: 13.7'

superstructure: steel, 9-panel, pin-connected Parker through truss, with pin-connected Pratt bedstead and through girder approach spans
substructure: concrete abutments and pier; welded steel pile bent piers
floor/decking: timber deck over timber stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 punched rectangular eyebars; vertical: 2 channels with lacing; diagonal: two punched rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 angles, braced; portal strut: A-frame; floor beam: I-beam, field bolted to vertical; guardrail: steel channel and pipe

In August 1906 construction began on the Bates County Drainage Ditch, which was designed to carry overflow water from the meandering Marais des Cygnes River. By that winter the work had progressed to the point that several bridges were needed to carry county roads intersected by the ditch. In early December the Bates County Court ordered six major trusses built at various locations over the ditch. Bids from bridge companies in the region were solicited, and early the next year a contract was awarded to the Kansas City Bridge Company to fabricate and erect the trusses. Work progressed throughout the remainder of 1907; by the following March the spans were complete. This short-span Pratt truss northeast of Foster was among those bridges built by KCBCo as part of the 1907 contract. Since its completion, the bridge has functioned in place, with replacement of its substructure as the most notable alteration. It is a typically configured example of a mainstay structural type in Missouri - the pinned Parker through truss.

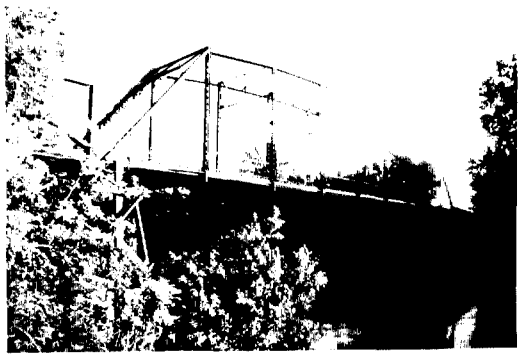
NAME(S) OF STRUCTURE
Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP



SOURCES
Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 356001.4; Bates County Court Record, Book 11: page 219 (4 May 1905), page 367 (24 July 1906), page 418 (3 December 1906), page 587 (8 October 1907), page 600 (6 November 1907); Book 12: page 18 (8 January 1908), page 36 (4 February 1908) - located at Bates County Courthouse, Butler MO; field inspection by Clayton Fraser, 1 June 1991.

INVENTORIED BY
Clayton B. Fraser

AFFILIATION
Fraserdesign, Loveland CO

DATE
19 December 1991

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Miami Creek Bridge
MHTD: 363R02.3

BATE20

DATE(S) OF CONSTRUCTION
1906

LOCATION
County Road 363 over Miami Creek; S31, T40N, R31W
3.8 miles southwest of Butler; Bates County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 43)

CONDITION
fair

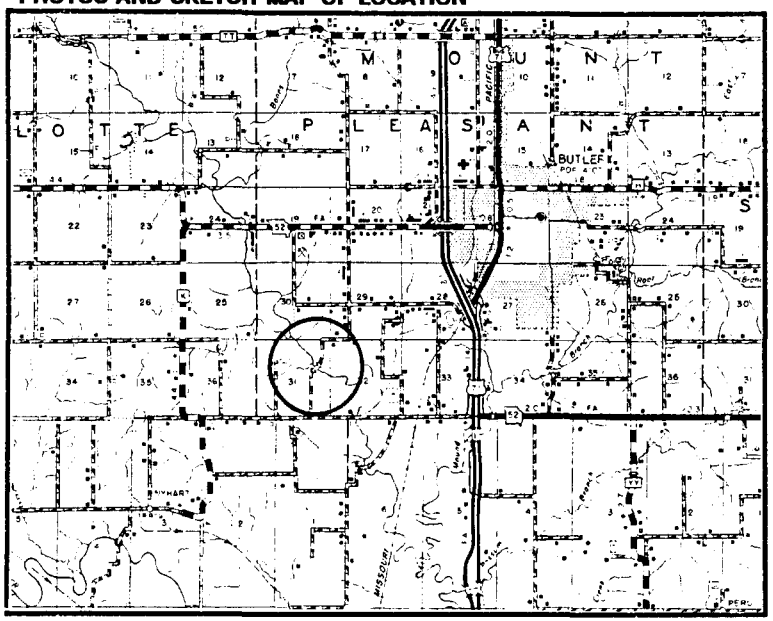
OWNER
Bates County

span number:	1	superstructure:	steel, 6-panel, pin-connected Pratt through truss, with steel stringer approach span at each end
span length:	100.0'	substructure:	concrete abutments; concrete-filled steel cylinder piers
total length:	135.0'	floor/decking:	concrete deck over steel stringers
roadway wdt.:	14.0'	other features:	upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 punched rectangular eyebars; vertical: 2 channels with lacing (2 square eyebars at hip); diagonal: 2 punched rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 4 angles with lacing; portal strut: lattice with curved knee braces; floor beam: I-beam, field-bolted to vertical; guardrail: two steel pipes

Situated in central Bates County almost four miles southwest of Butler, this structure spans Miami Creek. The bridge consists of a concrete-decked Pratt through truss with a steel stringer approach span on each end and concrete-filled steel cylinder piers. The first step toward the bridge's construction occurred on May 1906 when the Bates County Bridge Commissioner advertised "the sale of bridge contracts" for two steel bridges. Very close bidding ensued, in response to the solicitation, with thirteen bids submitted. The county's decision was deferred until the following day, 20 June 1906, pending further discussion. The contract was let to Kansas City Bridge Company of Missouri for $3600.00, which was lower than the company's initial bid. Using steel components rolled by the Illinois Steel Company of Chicago, KCBCo fabricated this pin-connected truss, completing the bridge in late 1906. The Miami Creek Bridge has not undergone significant alterations and continues to carry traffic in its heavily wooded setting. It is a well-preserved example of a mainstay structural type.

NAME(S) OF STRUCTURE
Miami Creek Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP

SOURCES
Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 363R02.3; Bates County Court Record, Book 11: page 351 (29 May 1906), page 358 (19 June 1906), page 359 (20 June 1906) - located at Bates County Courthouse, Butler MO; field inspection by Clayton Fraser, 1 June 1991.

INVENTORIED BY
Clayton B. Fraser

AFFILIATION
Fraserdesign, Loveland CO

DATE
19 December 1991

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Walnut Creek Bridge
MHTD: 501002.2

BATE31

DATE(S) OF CONSTRUCTION
1899

LOCATION
County Road 501 over Walnut Creek; S16/21, T39N, R33W
2.5 miles southwest of Foster; Bates County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 44)

CONDITION
good

OWNER
Bates County

span number: 1
span length: 75.0'
total length: 104.0'
roadway wdt.: 14.1'

superstructure: steel, 5-panel, pin-connected Pratt pony truss, with steel stringer approach span at each end

substructure: stone masonry abutments with concrete vertical extensions; steel pile bent piers (paired sets of 2 channels with lacing, braced)

floor/decking: asphalt over corrugated steel, with steel stringers

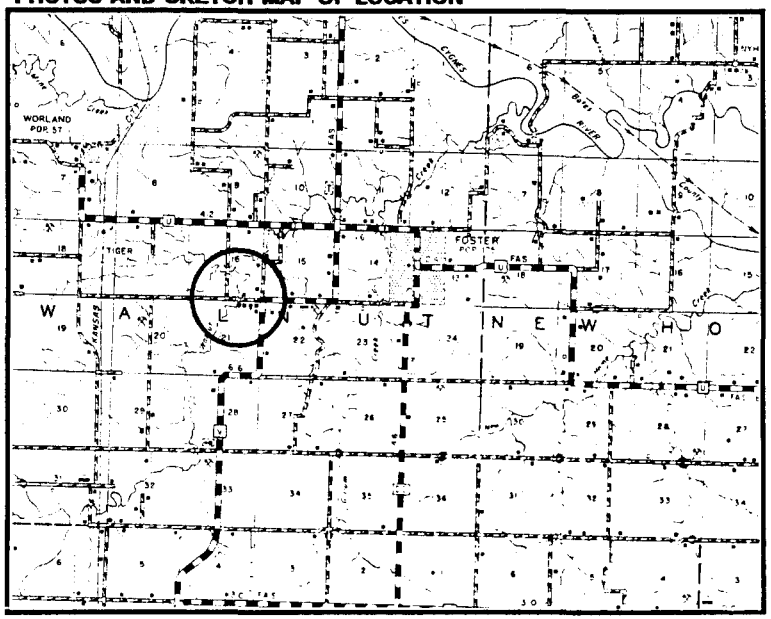
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped rectangular eyebars; vertical: 4 angles with double lacing; diagonal: 2 looped rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, U-bolted to lower chord pin; guardrail: timber; endpost-mounted builder's plate: (broken) **BUIL... KANS... CIT... BRIDG... KANSAS... M...**

On 10 February 1899 Bates County Bridge Commissioner Robert E. Johnson was ordered by the county court to prepare an estimate for the construction of a new steel truss and stone abutments over Walnut Creek, 2½ miles southwest of Foster. A month later, Johnson solicited competitive proposals to erect the structure. In early April all bids for the project were rejected, because they were all deemed too high, and the bridge commissioner was asked to advertise for new bids. On May 4, 1899, the county awarded a $925.00 construction contract for the new bridge to the Kansas City Bridge Company. Since its completion later that year the Walnut Creek Bridge has carried intermittent rural traffic at this crossing in southwestern Bates County. The replacement of its original timber deck and reinforcement of the substructure are the only alterations of note.

Marketed extensively by virtually all of the in-state bridge contractors and promoted in the form of standardized designs, the pinned Pratt pony truss was used extensively by Missouri's counties to carry roads over the state's myriad small streams. Thousands of such small-scale trusses were erected across the state, and many remain today. The Walnut Creek Bridge is noteworthy as a structurally intact, relatively early example of this mainstay structural type.

NAME(S) OF STRUCTURE
Walnut Creek Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP

SOURCES
Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 501002.2; Bates County Court Record, Book 9: page 441 (10 February 1899), page 469 (10 March 1899), page 499 (6 April 1899), page 515 (8 April 1899), page 528 (4 May 1899) - located at Bates County Courthouse, Butler MO; field inspection by Clayton Fraser, 1 June 1991.

INVENTORIED BY
Clayton B. Fraser

AFFILIATION
Fraserdesign, Loveland CO

DATE
19 December 1991

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Walnut Creek Bridge
MHTD: 509003.0

BATE32

DATE(S) OF CONSTRUCTION
1898-99

LOCATION
County Road 509 over branch of Walnut Creek; S31, T39N, R33W
2.3 miles northwest of Hume; Bates County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 33)

CONDITION
good

OWNER
Bates County

span number:	1	superstructure:	steel, 4-panel, pin-connected Pratt pony truss
span length:	76.0'	substructure.	stone abutments and wingwalls
total length:	78.0'	floor/decking:	timber deck over timber stringers
roadway wdt.:	14.1'	other features:	upper chord and inclined end post: 2 channels with cover and batten plates; lower chord: 2 looped rectangular eyebars; vertical: 4 angles with lacing; diagonal: 2 looped square eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, U-bolted to lower chord pins

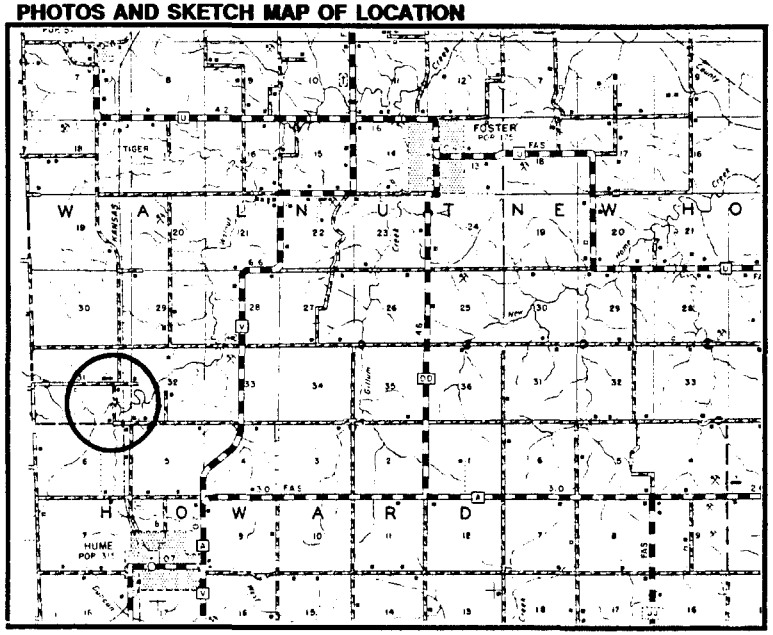
Located northwest of Hume in western Bates County, this medium-span pony truss carries a graveled road over a branch of Walnut Creek. The bridge consists of a timber decked Pratt truss with pinned connections, supported by stone masonry abutments. The Bates County Court first considered construction of the truss and its abutments in September 1897, when it directed the county bridge commissioner to examine two bridge sites in Section 31 of Walnut Township. After soliciting competitive proposals in May 1898, the court hired J.B. March, a former bridge commissioner for the county, to supply and erect the truss and George Alms to build the two stone abutments. The stonework was completed later that summer. March used a truss that was evidently fabricated by the Kansas City Bridge Company, completing the bridge by February 1899. Superstructure cost: $413.50. Since its completion, the Walnut Creek Bridge has since carried intermittent rural traffic, with the replacement of one of its verticals as the only major alteration.

Among Missouri's remaining 19th century pinned Pratt pony trusses, this bridge over Walnut Creek is historically noteworthy as an intact remnant of early transportation. A well-preserved and well-documented truss, the structure is representative of pinned truss construction from the period.

NAME(S) OF STRUCTURE

Walnut Creek Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT GENERAL HIGHWAY MAP

SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 509003.0; Bates County Court Record, Book 9: page 235 (29 September 1897), page 325 (8 April 1898), page 342 (3 May 1898), 437 (7 February 1899) - located at Bates County Courthouse, Butler MO; field inspection by Clayton Fraser, 1 June 1991.

INVENTORIED BY

Clayton B. Fraser

AFFILIATION

Fraserdesign, Loveland CO

DATE

19 December 1991

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Water Works Bridge BATE34
MHTD: 547002.6

DATE(S) OF CONSTRUCTION
1907

LOCATION
County Road 547 over Marais des Cygnes River; S26/27, S34/35, T39N, R31W
3.5 miles northeast of Rich Hill; Bates County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 49)

CONDITION
good

OWNER
Bates County

span number: 1
span length: 110.0'
total length: 210.0'
roadway wdt.: 14.8'

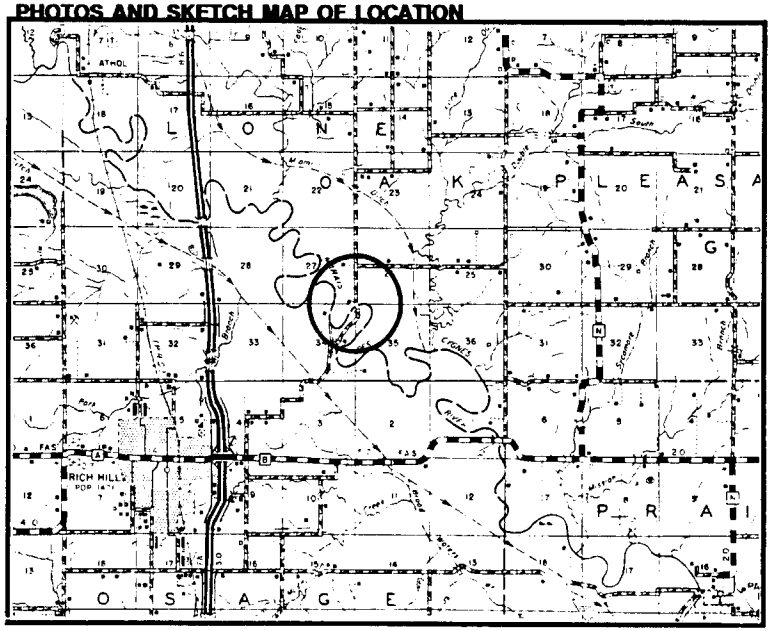
superstructure: steel, 8-panel, pin-connected Parker through truss, with pin-connected Pratt half-hip pony truss approach spans
substructure: concrete abutments; concrete-filled steel cylinder piers
floor/decking: timber deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped rectangular eyebars; vertical: 2 channels with lacing (2 angles with batten plates at hip); diagonal: 2 looped rectangular eyebars; counter: square eyebar with turnbuckles; lateral bracing: round rod with threaded ends; strut: 2 angles with continuous plate; floor beam: I-beam, field bolted to vertical; guardrail: 2 steel pipes

The first known permanent bridge over the Marais des Cygnes River at this crossing was a wire suspension bridge built in 1890 by contractors J.W. Mitchell and E.C. Espry. In October 1906 the Bates County Court ordered the county bridge commissioner to remove the existing span, located near the Rich Hill water works, and prepare an estimate and plans for a steel replacement structure. In early June the court awarded a $6873.00 contract to the Kansas City Bridge Company to fabricate and erect this pinned Parker truss. Completed by the end of December 1907, the Water Works Bridge has since functioned in place in unaltered condition at this southern Bates County crossing.

This span over the Marais des Cygnes River has retained its physical integrity, and is a relatively well-documented example of a pin-connected Parker through truss - a mainstay design for medium- and long-span crossings in the late 19th and early 20th centuries.

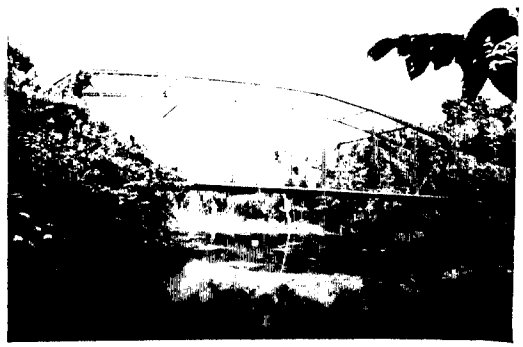
NAME(S) OF STRUCTURE
Water Works Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP



SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 547002.6; Bates County Court Record, Book 7: page 384 (8 August 1890), page 400 (23 September 1890), page 415 (22 December 1890); Book 10: page 577 (8 August 1903); Book 11: page 23 (4 February 1904), page 236 (24 July 1905), page 397 (1 October 1906), page 433 (2 January 1907), page 486 (3 April 1907), page 525 (5 June 1907), page 588 (8 October 1907), page 616 (5 December 1907), page 24 (10 January 1908) - located at Bates County Courthouse, Butler MO; field inspection by Clayton Fraser, 1 June 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	19 December 1991

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Bridge BATE36
MHTD: 547004.0

DATE(S) OF CONSTRUCTION
1907-08

LOCATION
County Road 547 over Bates County Drainage Ditch; S34/3, T39/38N, R31W
2.4 miles northeast of Rich Hill; Bates County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 38)

CONDITION
fair

OWNER
Bates County

span number: 1
span length: 100.0'
total length: 205.0'
roadway wdt.: 13.7'

superstructure: steel, 6-panel, pin-connected Pratt through truss, with two pin-connected Pratt half-hip pony truss and one steel stringer approach spans

substructure: concrete abutments; concrete-filled steel cylinder piers; non-original welded steel pile bent piers

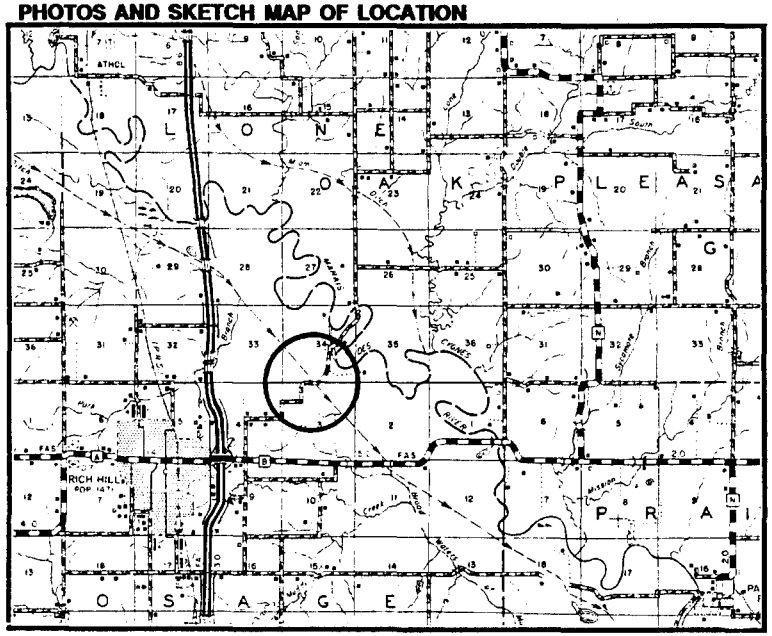
floor/decking: timber deck over timber stringers

other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped rectangular eyebars; vertical: 2 channels with lacing (2 angles with batten plates at hip); diagonal: 2 looped rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 angles with continuous plate; portal strut: lattice with curved knee braces; floor beam: I-beam, field bolted to vertical; guardrail: 2 steel pipes; pony truss builder's plate (remnant): ...VILLE Mo...08 (Western Bridge Company, Harrisonville MO)

In August 1906 construction began on the Bates County Drainage Ditch, which was designed to carry overflow water from the meandering Marais des Cygnes River. By that winter the work had progressed to the point that several bridges were needed to carry county roads intersected by the ditch. In early December the Bates County Court ordered six major trusses built at various locations over the ditch. Bids from bridge companies in the region were solicited, and early the next year a contract was awarded to the Kansas City Bridge Company to fabricate and erect the trusses. Work progressed throughout the remainder of 1907; by the following March the spans were complete. This short-span Pratt truss north of Rich Hill was among those bridges built by KCBCo as part of the 1907 contract. It had apparently been completed less than a year before the county bought two pony truss approach spans from the Western Bridge Company of Harrisonville MO. Other than the subsequent addition of a steel stringer approach span on the end of one of the pony trusses, the bridge remains unaltered, as it continues to carry traffic at this rural crossing. It is a typically configured example of a mainstay structural type in Missouri - the pinned Pratt through truss.

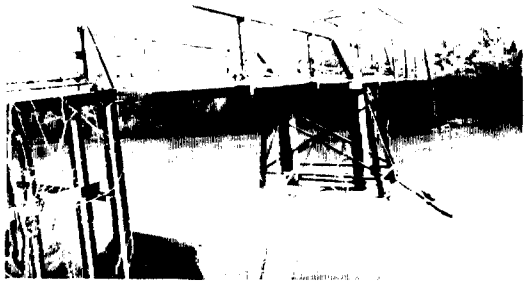
NAME(S) OF STRUCTURE
Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT GENERAL HIGHWAY MAP



SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 547004.0; Bates County Court Record, Book 11: page 367 (24 July 1906), page 418 (3 December 1906), page 544 (8 August 1907), page 587 (8 October 1907), page 615 (5 December 1907); Book 12: page 18 (8 January 1908), page 36 (4 February 1908), page 51 (4 March 1908) - located at Bates County Courthouse, Butler MO; bridge plate (located in county engineer's office at Bates County Courthouse, Butler MO): **1907 / J.W. McFadden Pres. Judge / P.A. Bruce Associate Judge / J. Armstrong Associate Judge / E.B. Borron Engineer**; field inspection by Clayton Fraser, 1 June 1991.

INVENTORIED BY
Clayton B. Fraser

AFFILIATION
Fraserdesign, Loveland CO

DATE
19 December 1991

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Schell City Bridge
MHTD: 576002.5

BATE37

DATE(S) OF CONSTRUCTION
1900

LOCATION
County Road 576 over Osage River; S21, T38N, R29W
2.1 miles southwest of Rockville; Bates/Vernon County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / closed

RATING NRHP possibly eligible (score: 58)

CONDITION
poor

OWNER
Bates/Vernon Counties

span number: 1
span length: 175.0'
total length: 318.0'
roadway wdt.: 13.9'

superstructure: steel, 10-panel, pin-connected Parker through truss, with pin-connected Pratt half-hip pony truss approach span
substructure:stone masonry abutments and pier
floor/decking: asphalt on corrugated steel deck, over steel stringers
other features: upper chord and inclined end post: 2 angles with cover plate and lacing; lower chord: 2 punched rectangular eyebars; vertical: 2 channels with lacing (2 square eyebars at hip); diagonal: 2 punched rectangular eyebars; counter: square pronged eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 4 angles with lacing, braced; portal strut: lattice with curved knee braces; floor beam: I-beam, U-bolted to vertical; guardrail: 2 pipes; pony truss builder's plate: **THE CANTON BRIDGE CO CANTON OHIO**

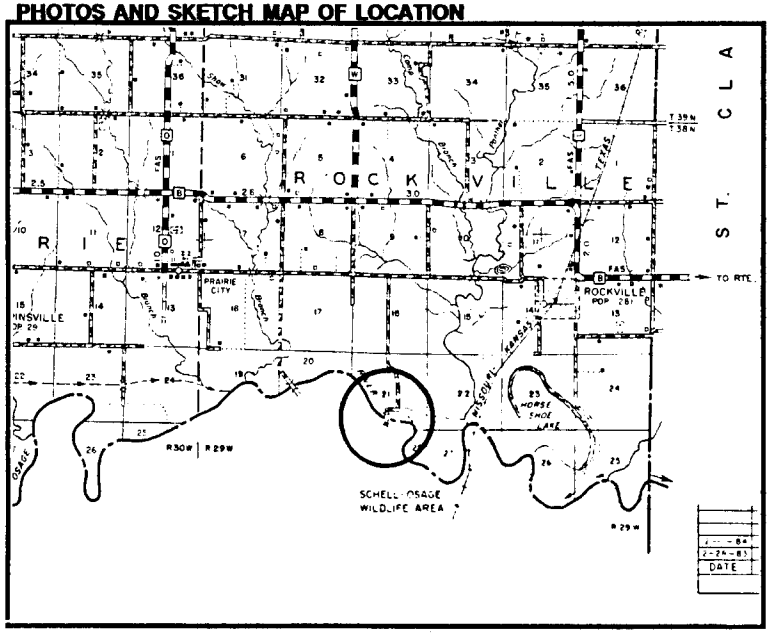
On November 8, 1899, the Bates County Court met with officials from adjacent Vernon County to look at the existing iron bridge across the Osage River near Schell City, on the line between the two counties. The group found "the [bridge] to be unsafe and dangerous to cross," and then they adjourned to the Hotel Davis to discuss whether to repair or replace the structure. The judges decided to construct a new bridge and ordered Bates County Bridge Commissioner Robert E. Johnson to make an estimate for the replacement structure and post "closed" signs on the old truss. A week later Johnson submitted plans for the new bridge, and the county advertised for proposals for several alternate designs, including a timber truss on stone or tubular piers, a steel truss on stone or tubular piers and a wire suspension bridge. On December 7th the two county courts met in a joint session in Nevada, the Vernon County seat, to consider the proposals received from thirteen regional and national companies. Low bidder at $4090.00, A.M. Blodgett of Kansas City was awarded the contract to supply and erect a steel truss on a stone substructure. Blodgett used a pinned Parker through truss that was presumably fabricated by the Kansas City Bridge Company, completing the structure by mid-September 1900. Each county paid half of the $4340.00 bill, an amount $250.00 above the original contract due to extra masonry work. Ten years later, the original south approach span was replaced with a pony truss fabricated by the Canton Bridge Company. Since then, the Schell City Bridge has since carried inter-county traffic at this rural crossing in southeastern Bates County, until its recent closure due to the failure of one of its hip verticals.

The Schell City Bridge is significant as the oldest dateable example remaining in Missouri of the pin-connected Parker through truss - a mainstay design for medium- and long-span river crossings between circa 1900 and 1920. A regionally important crossing between Bates and Vernon Counties, the structure is well-documented and is distinguished technologically by its long span length.

NAME(S) OF STRUCTURE

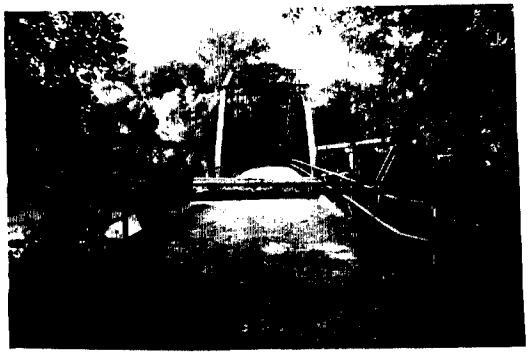
Schell City Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT GENERAL HIGHWAY MAP



SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 576002.5; Bates County Court Record, Book 9: page 604 (8 November 1899), page 609 (16 November 1899), page 617 (7 December 1899); Book 10: page 136 (17 September 1900), page 151 (22 October 1900); Book 11: page 236 (24 July 1905), page 243 (8 August 1905); Book 13: page 63 (6 October 1910), page 83 (8 December 1910) - located at Bates County Courthouse, Butler MO; Vernon County Court Record, Book F: 12 August 1890, 27 August 1890, 20 October 1890, 1 June 1891, 22 October 1891; Book I: 9 November 1899, 26 September 1900; Book K: 20 January 1904, 2 March 1904, 22 March 1904, 1 July 1904, 6 September 1904 - located at Vernon County Courthouse, Nevada MO; field inspection by Clayton Fraser, 1 June 1991.

INVENTORIED BY

Clayton B. Fraser

AFFILIATION

Fraserdesign, Loveland CO

DATE

19 December 1991

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Camp Branch Bridge
MHTD: 628000.9

BATE39

DATE(S) OF CONSTRUCTION
1897-98

LOCATION
County Road 628 over Camp Branch; S33/4, T39/38N, R29W
3.0 miles northwest of Rockville; Bates County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / closed

RATING NRHP non-eligible (score: 39)

CONDITION
poor

OWNER
Bates County

span number:	1	superstructure:	steel, 3-panel, pin-connected Pratt pony truss
span length:	50.0'	substructure:	concrete abutments and wingwalls
total length:	54.0'	floor/decking:	timber deck over timber stringers
roadway wdt.:	14.2'	other features:	upper chord and inclined end post: 2 channels with cover and batten plates; lower chord: 2 looped rectangular eyebars; vertical: 4 angles with lacing, with non-original welded outriders; diagonal (counter): square eyerod; lateral bracing: round rod with threaded ends; floor beam: I-beam, U-bolted to vertical; guardrail: removed

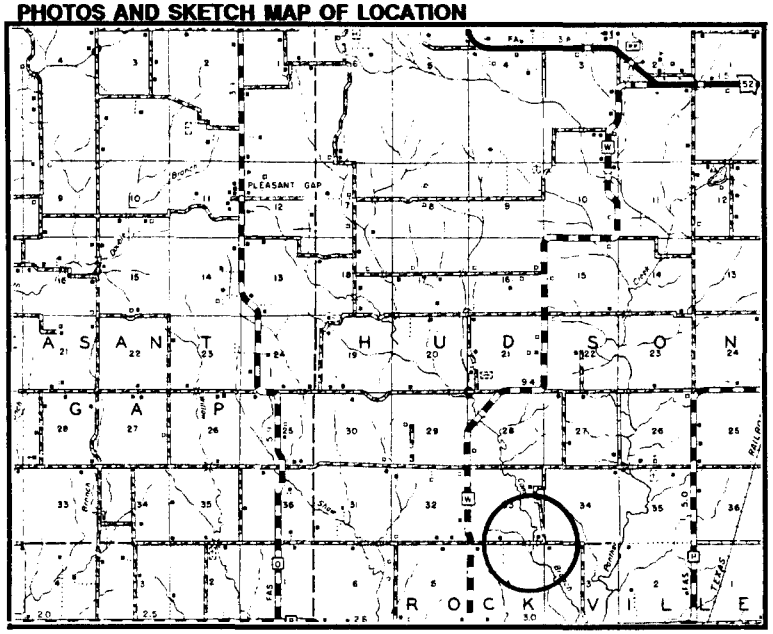
On June 8, 1897, the Bates County Court ordered the county bridge commissioner to advertise for the construction of a bridge over Camp Branch, three miles northwest of Rockville. One month later a contract for $335.00 was awarded to the Youngstown Bridge Company of Youngstown, Ohio, for the new structure. The Camp Branch Bridge was completed in the spring of 1898 and carried traffic at this rural crossing in southeastern Bates County until its closure due to a partial collapse of one abutment.

The Camp Branch Bridge is a typical example of a common truss configuration, with standard detailing, unremarkable dimensions and below-average physical integrity.

NAME(S) OF STRUCTURE

Camp Branch Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT GENERAL HIGHWAY MAP

SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 628000.9; Bates County Court Record, Book 9: page 189 (8 June 1897), page 198 (7 July 1897), page 298 (11 March 1898), page 340 (2 May 1898) - located at Bates County Courthouse, Butler MO; field inspection by Clayton Fraser, 1 June 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	19 December 1991

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Papinville Bridge
MHTD: 648000.3

BATE40

DATE(S) OF CONSTRUCTION
1884

LOCATION
County Road 648 over Marais Des Cygnes River; S16, T38N, R30W
Papinville; Bates County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 51)

CONDITION
fair

OWNER
Bates County

span number: 1
span length: 116.0'
total length: 234.0'
roadway wdt.: 13.8'

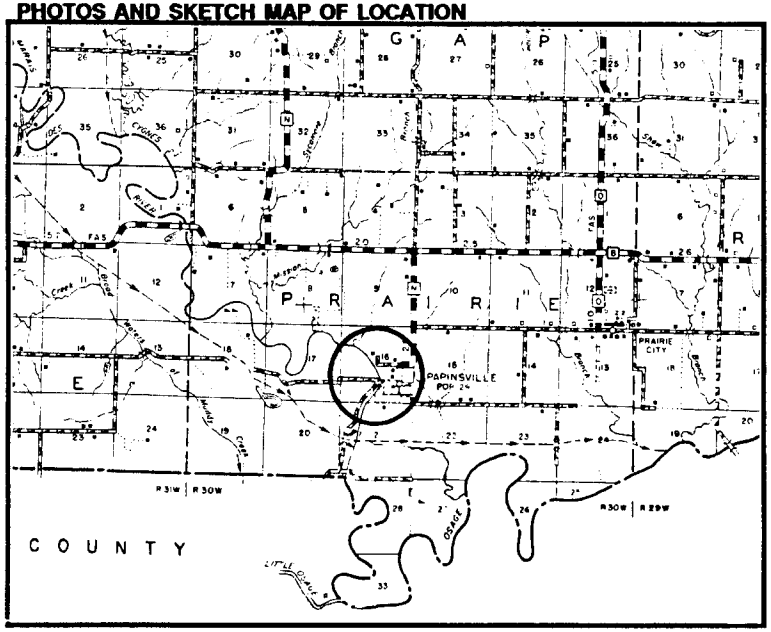
superstructure: wrought iron, 7-panel, pin-connected Pratt through truss, with rigid-connected Warren pony truss approach spans
substructure: stone abutments; concrete-filled steel cylinder piers
floor/decking: timber deck over steel stringers
other features: upper chord and inclined end post: 2 angles with cover and batten plates; lower chord: 2 punched rectangular eyebars; vertical: 2 channels with lacing (2 punched rectangular eyebars at hip); diagonal: 2 punched rectangular eyebars; counter: round eyerod with unslotted turnbuckle; lower lateral bracing: round rod with threaded ends; upper lateral bracing: round eyerod with unslotted turnbuckle; strut: I-beam; portal strut: lattice; floor beam: riveted plate girder, U-bolted to lower chord pins; guardrail: 1 channel and timber; portal builder's plate: **KANSAS CITY BRIDGE & IRON COMPANY**

Located at the western periphery of the small town of Papinsville (originally spelled Papinville), this crossing of the Marais Des Cygnes River featured one of Bates County's first trusses. The timber/iron combination truss that first spanned the river here was replaced in 1873 by the St. Louis Bridge and Iron Company with a Howe combination truss, built on the original stone abutments. Ten years later, in November 1883, the county ordered the construction of a new all-iron superstructure to replace the "wood one now decayed." On 3 December 1883 a $2175.00 contract was awarded to the Kansas City Bridge and Iron Company to erect the new bridge, presumably using at least part of the original stone substructure. The new Papinville Bridge was completed by July 1884, and has since carried traffic at this crossing in southeastern Bates County. The court has ordered numerous repairs on the bridge over the years, including rebuilding the east pier, masonry work and refurbishing the approach spans. Several different contractors have been involved, including the Clinton Bridge Company of Clinton, Iowa, and the Midland Bridge Company of Kansas City. Today the bridge is in fair condition and its approach spans, recently repaired, retain a low degree of structural integrity.

As one of Bates County's two oldest vehicular bridges, the Papinville Bridge is historically noteworthy as an intact and extremely well-documented remnant of early transportation. Among the earliest of all pinned Pratt through trusses statewide, the bridge is representative as a late 19th century example of pinned truss construction.

NAME(S) OF STRUCTURE
Papinville Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP

SOURCES
Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 648000.3; Bates County Court Record, Book 3: pages 514-15 (January 1873); Book 5: page 560 (9 November 1883), page 566 (3 December 1883); Book 6: page 95 (5 June 1884), page 96 (7 July 1884); Book 9: page 395 (4 October 1898), page 410 (15 November 1898); Book 10: page 344 (7 December 1901), page 354 (3 February 1902), page 482 (2 December 1902), page 520 (3 March 1903); Book 11: page 236 (24 July 1905), page 279 (10 November 1905), page 285 (5 December 1905), page 341 (7 May 1906), page 370 (6 August 1906) - located at Bates County Courthouse, Butler MO; field inspection by Clayton Fraser, 1 June 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	19 December 1991

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Bridge BATE41
MHTD: 648001.2

DATE(S) OF CONSTRUCTION
1907-08

LOCATION
County Road 648 over Bates County Drainage Ditch; S21, T38N, R30W
1.0 mile south of Papinsville; Bates County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 39)

CONDITION
fair

OWNER
Bates County

span number: 1
span length: 100.0'
total length: 188.0'
roadway wdt.: 14.2'

superstructure: steel, 6-panel, pin-connected Pratt through truss, with two steel stringer approach spans at each end

substructure: concrete-filled steel cylinder piers; non-original steel pile bent pier at south end of main span; steel pile bent abutments and piers under approach spans

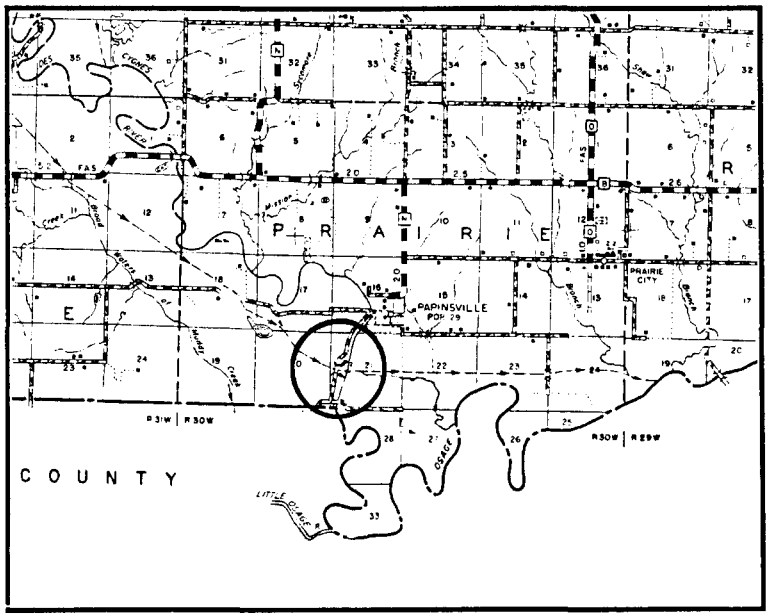
floor/decking: timber deck over timber stringers

other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped rectangular eyebars; vertical: 2 channels with lacing; diagonal: 2 looped rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 angles with continuous plate; portal strut: lattice with curved knee braces; floor beam: I-beam, field bolted to vertical; guardrail: 2 steel pipes

This Pratt through truss, situated in southern Bates County, spans the Bates County Drainage Ditch a mile south of Papinsville. Consisting of a single steel truss, approached by steel stringer spans on both ends, the structure was built as part of a county-wide bridge program in 1907-08. In August 1906 construction began on the Bates County Drainage Ditch, which was designed to carry overflow water from the meandering Marais des Cygnes River. By that winter the work had progressed to the point that several bridges were needed to carry county roads intersected by the ditch. In early December the Bates County Court ordered six major trusses built at various locations over the ditch. Bids from bridge companies in the region were solicited, and early the next year a contract was awarded to the Kansas City Bridge Company to fabricate and erect the trusses. Work progressed throughout the remainder of 1907; by the following March the spans were complete. This short-span Pratt truss north of Rich Hill was among those bridges built by KCBCo as part of the 1907 contract. The main truss remains intact, but the approaches have apparently been replaced. The bridge is a typically configured example of a mainstay structural type in Missouri - the pinned Pratt through truss.

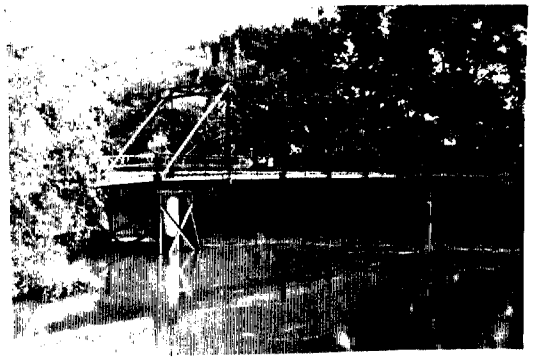
NAME(S) OF STRUCTURE
Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP



SOURCES
Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 648001.2; Bates County Court Record, Book 11: page 367 (24 July 1906), page 418 (3 December 1906), page 544 (8 August 1907), page 587 (8 October 1907), page 615 (5 December 1907); Book 12: page 18 (8 January 1908), page 36 (4 February 1908), page 51 (4 March 1908) - located at Bates County Courthouse, Butler MO; field inspection by Clayton Fraser, 1 June 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	19 December 1991

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Elk Fork Bridge
MHTD: none

BATE42

DATE(S) OF CONSTRUCTION
1884

LOCATION
vacated county road over Elk Fork; S24/25, T42N, R30W
2.0 miles west of Aaron; Bates County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / abandoned

RATING NRHP possibly eligible (score: 47)

CONDITION
poor

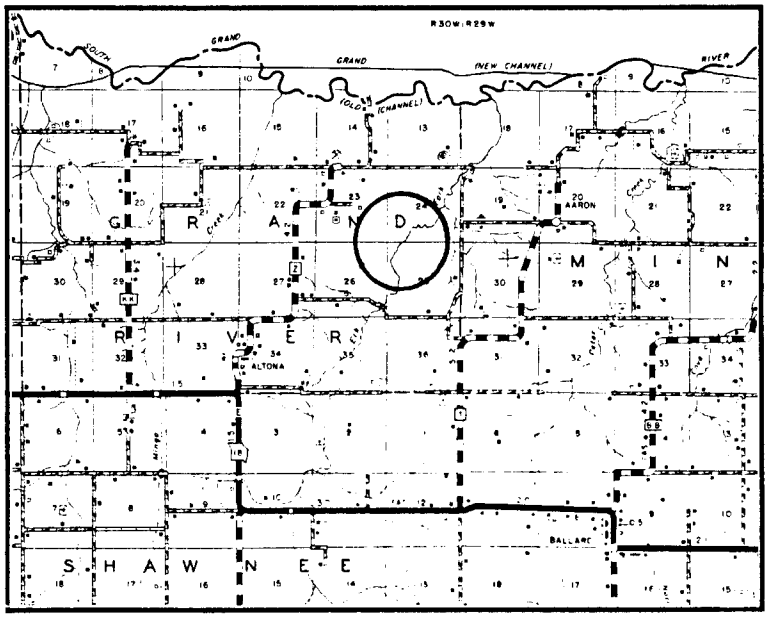
OWNER
Bates County

span number:	1	superstructure:	wrought-iron, 4-panel, pin-connected Pratt pony truss
span length:	60.0'	substructure:	stone abutments
total length:	60.0'	floor/decking:	timber deck (mostly removed) over timber stringers
roadway wdt.:	14.0'	other features:	upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 punched rectangular eyebars; vertical: I-beam, with star iron outriders; diagonal: 2 punched rectangular eyebars; counter: round eyerod with slotted turnbuckle; lateral bracing: round rod with threaded ends; floor beam: plate girder, field-bolted to vertical; guardrail: none

This medium-span pony truss spans Elk Fork some two miles west of Aaron, in Grand Township. Consisting of a pinned Pratt truss, supported by cut stone abutments, the bridge dates to 1884. On December 3, 1883, the Bates County Court appropriated $2225.00 for the construction of three new bridges, two of which were to be erected at crossings over Elk Fork. The contract for the bridges was awarded to the Missouri Valley Bridge and Iron Company of Leavenworth, Kansas, which completed the structures by September 1884. The iron structure with stone abutments carried traffic for almost a century in northeast Bates County. Now abandoned, the structure has been allowed to molder and is overgrown with vegetation. Nonetheless, the Elk Fork Bridge superstructure displays a high degree of historical integrity. As one of Bates County's oldest vehicular bridges - and among the earliest of all trusses statewide - it is historically noteworthy as an example of early transportation.

NAME(S) OF STRUCTURE
Elk Fork Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP

SOURCES
Bates County Court Record, Book 5: page 566 (3 December 1883); Book 6: page 116 (2 September 1884) - located at Bates County Courthouse, Butler MO; field inspection by Clayton Fraser, 1 June 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	19 December 1991

CEDAR COUNTY

INCLUDED: [Significant feature(s) of bridge given in boldface]
[Field inventoried bridge indicated by asterisk]

Inv. No.	MHTD	Bridge Name	Description
*CEDA01	H 623	Cedar Creek Bridge	1-110' **riveted Pratt through truss** 1931 McKerney and Newton (replaced)
*CEDA02	H 963	Sac River Bridge	
*CEDA03	X 190	Cedar Creek Bridge	1-**110'** **riveted polyg. Warren pony truss** 1949 Ben D. Prater
CEDA04	022002.5	Little Alder Creek Bridge	1- 28' steel stringer **1915** Canton Bridge Co., Canton OH
*CEDA05	063000.1	Stump Ford Bridge	1- 65' pinned Pratt pony truss **1906** Canton Bridge Co., Canton OH
*CEDA06	068000.8	Metcalf Bridge	1-145' **pinned Parker through truss** **1919** Pioneer Construction Company
*CEDA07	095000.1	Caplinger Mills Bridge	2-120' **pinned Pratt through truss** **1895** Chicago Bridge and Iron Co.
CEDA08	117000.1	Keich Ford Bridge	1- 28' steel stringer **1917** Canton / county work force
*CEDA09	170000.6	Sullivan Ford Bridge	1- 50' pinned Pratt bedstead **1902** American Bridge Company
*CEDA10	202R00.2	Silver Creek Bridge	1- 50' pin Pratt half-hip pony truss c**1908** Canton Bridge Co., Canton OH
*CEDA11	244000.3	Owens Mill Bridge	1-110' **pinned Pratt through truss** **1906** Canton Bridge Co., Canton OH
*CEDA12	250001.7	Edsall Ford Bridge	1-120' **pinned Pratt through truss** **1911** Canton / county work force
*CEDA13	267000.7	Snag Creek Bridge	1- 48' pinned Pratt pony truss **1915** Canton Bridge Co., Canton OH
*CEDA14	277000.9	Horse Creek Bridge	1- 80' pinned Pratt pony truss **1911** Canton Bridge Co., Canton OH
CEDA15	287000.2	Low Brown Ford Bridge	1-125' **pinned Pratt through truss** **1917** Canton Bridge Co., Canton OH
*CEDA16	309003.4	County Line Bridge	1- 60' pinned Pratt pony truss **1917** Canton Bridge Co., Canton OH
*CEDA17	318000.5	Potter Ford Bridge	1- 85' **pinned Pratt through truss** **1905** Canton Bridge Co., Canton OH
CEDA18	446003.1	Ball Ford Bridge	1- 60' pinned Pratt pony truss **1914** Canton Bridge Co., Canton OH
*CEDA19	none	Kennedy Ford Bridge	2-100' **pinned Pratt through truss** **1896** Wrought Iron Bridge Company

CEDAR COUNTY

EXCLUDED:

Warren pony truss

H 622	X 190	107000.4

Steel stringer

S 428	S 977	S 978	S 980	W 531	003001.9	028000.2
048000.3	069000.9	076001.5	109001.2	123R00.8	132R00.8	155001.9
173000.5	175000.7	177000.8	193000.3	216000.3	244000.9	249001.6
262R00.8	274R03.6	310001.0	321R00.5	323000.3	337000.6	350000.6
352001.0	403R00.3	410001.2	431001.6	446004.6	458R00.8	484R00.8
488000.1	491001.1	523000.2				

Steel girder

S 26

Concrete girder

F 359R1	G 324	H 853R	X 849

Concrete box culvert

F 292R1	H 854	H 855	J 964	J 965	J 966	S 976
X 181	X 723	X 850	X 851			

SUMMARY:

	Primary	Secondary	Urban	Other	Total
Included	2	16	0	1	19
Excluded	23	32	0	0	55
	25	48	0	1	74 structures

Cedar Creek Bridge

CEDA01

GENERAL DATA

structure no.: H 623
county: Cedar

city/town: 5.0 miles west of Stockton
feature inters.: Cedar Creek
cadastral grid: S3, T34N, R27W
highway route: State Highway 32
highway distr.: 7
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: steel, 6-panel, rigid-connected Pratt through truss, with 4 steel stringer approach spans
substructure: concrete abutments, wingwalls and piers

span number: 1
span length: 110.0'
total length: 278.0'
roadway width: 20.0'

condition: good
alterations: none
floor/decking : concrete deck over steel stringers
other features: steel pipe guardrails

HISTORICAL DATA

erection date: 1930-31
erection cost: $21,348.60
designer: Missouri State Highway Department
fabricator : Illinois Steel Company, Chicago IL
contractor: McKerney and Newton

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. H 623; Missouri Primary System Bridge Record, located at Bridge Division, Missouri Highway and Transportation Department, Jefferson City MO; field inspection by Clayton Fraser, 3 June 1991.

sign. rating: 38
evaluation: NRHP non-eligible (typically configured example of MSHD truss design of the 1930s)

inventoried by: Clayton B. Fraser 24 January 1992

Cedar Creek Bridge

CEDA03

GENERAL DATA

structure no.: X 190
county: Cedar
city/town: 3.1 miles southeast of Cedar Springs
feature inters.: Cedar Creek
cadastral grid: S2, T35N, R27W
highway route: State Highway 39
highway distr.: 7
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: steel, 6-panel, rigid-connected, Warren pony truss with polygonal upper chords; 4 steel stringer approach spans
substructure: concrete abutments, wingwalls and piers; timber pile bent piers at approaches

span number: 1
span length: 110.0'
total length: 221.0'
roadway width: 20.0'
condition: good
alterations: none
floor/decking : concrete deck over steel stringers
other features: steel angle guardrails

HISTORICAL DATA

erection date: 1949
erection cost: $42,108.00
designer: Missouri State Highway Department
fabricator : U.S. Steel Company, Pittsburgh PA
contractor: Ben D. Prater

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. X 190; Missouri Primary System Bridge Record, located at Bridge Division, Missouri Highway and Transportation Department, Jefferson City MO; field inspection by Clayton Fraser 3 June 1991.

sign. rating: 48
evaluation: NRHP non-eligible (somewhat noteworthy for its polygonal top chord and long span length, but otherwise an undistinguished, late example of a common structural type)

inventoried by: Clayton B. Fraser 24 January 1992

Little Alder Creek Bridge

CEDA04

GENERAL DATA

structure no.: 022002.5
county: Cedar

city/town: 3.7 miles southeast of Eldorado Springs
feature inters.: Little Alder Creek
cadastral grid: S35, T36N, R28W
highway route: County Road 22
highway distr.: 7
current owner: Cedar County

STRUCTURAL DATA

superstructure: steel stringer
substructure: unknown

span number: 1
span length: 28.0'
total length: 30.0'
roadway width: 12.0'

condition: fair
alterations: unknown
floor/decking : unknown
other features: unknown

HISTORICAL DATA

erection date: 1915
erection cost: $6236.48 (six-bridge contract)
designer: Canton Bridge Company, Canton OH
fabricator : Canton Bridge Company, Canton OH
contractor: county work force

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 022002.5; Cedar County Court Record, Book M: page 67 (2 August 1915), page 124 (10 February 1916) - located at Cedar County Courthouse, Stockton MO.

sign. rating: 37
evaluation: NRHP non-eligible (technologically undistinguished example of beam bridge construction)

inventoried by: Clayton B. Fraser 24 January 1992

Stump Ford Bridge

CEDA05

GENERAL DATA

structure no.: 063000.1
county: Cedar
city/town: 2.4 miles southeast of Cedar Springs
feature inters.: Cedar Creek
cadastral grid: S30, T36N, R26W
highway route: County Road 63
highway distr.: 7
current owner: Cedar County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt half-hip pony truss, with 2 steel stringer and 1 steel girder approach spans
substructure: stone abutments with concrete parging; concrete-filled steel cylinder piers; steel pile bent piers at approaches

span number: 1
span length: 65.0'
total length: 142.0'
roadway width: 13.6'
condition: fair
alterations: approach spans replaced
floor/decking : timber deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover and batten plates; lower chord: 2 looped rectangular eyebars; vertical: 4 angles with double lacing; diagonal: 2 looped square eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, field-bolted to vertical; guardrail: 2 angles; cast iron hip blocks; endpost-mounted builder's plate: THE CANTON BRIDGE COMPANY

HISTORICAL DATA

erection date: 1905-06
erection cost: $5555.00 (three-bridge superstructure contract); $750.00 (substructure)
designer: Canton Bridge Company, Canton OH
fabricator : Canton Bridge Company, Canton OH
contractor: Canton Bridge Company, Canton OH (superstructure); Wolf and Mann (substructure)

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 063000.1; Cedar County Court Record, Book J: page 631 (7 June 1905); Book K: page 11 (11 August 1905), page 14 (11 August 1905), page 21 (6 September 1905), page 24 (26 September 1905), page 33 (9 November 1905), page 115 (6 March 1906), page 184 (11 June 1906); Book M: page 279 (12 September 1917), page 280 (13 September 1917) - located at Cedar County Courthouse, Stockton MO; field inspection by Clayton Fraser, 3 June 1991.

sign. rating: 51
evaluation: NRHP possibly eligible (well-documented example of a mainstay structural type)

inventoried by: Clayton B. Fraser 24 January 1992

Metcalf Bridge

CEDA06

GENERAL DATA

structure no.: 068000.8
county: Cedar
city/town: 3.2 miles northwest of Caplinger Mills
feature inters.: Sac River
cadastral grid: S31, T36N, R26W
highway route: County Road 68
highway distr.: 7
current owner: Cedar County

STRUCTURAL DATA

superstructure: steel, 8-panel, pin-connected Parker through truss
substructure: concrete abutments and wingwalls

span number: 1
span length: 145.0'
total length: 146.0'
roadway width: 11.0'
condition: fair
alterations: none
floor/decking : concrete deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 punched rectangular eyebars; vertical: 2 channels with lacing (2 angles with batten plates at hip); diagonal: 2 punched rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 4 angles with lacing; portal strut: steel lattice with knee braces; floor beam: I-beam, field-bolted to vertical; guardrail: 2 channels

HISTORICAL DATA

erection date: 1919
erection cost: $8895.00 (superstructure); $3095.78 (substructure)
designer: Pioneer Construction Company, Kansas City MO
fabricator : Pioneer Construction Company, Kansas City MO; Inland Steel Company, East Chicago IN
contractor: Pioneer Construction Company, Kansas City MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 068000.8; Cedar County Court Record M: page 325 (7 May 1918), page 336 (5 August 1918), page 350 (13 August 1918), page 371 (8 November 1918), page 382 (30 December 1918), page 439 (5 August 1919) - located at Cedar County Courthouse, Stockton MO; field inspection by Clayton Fraser, 3 June 1991.

sign. rating: 51
evaluation: NRHP possibly eligible (well-preserved, well-documented example of uncommon structural type)

inventoried by: Clayton B. Fraser 24 January 1992

Caplinger Mill Bridge

CEDA07

GENERAL DATA

structure no.: 095000.1
county: Cedar
city/town: 6.7 miles north of Stockton
feature inters.: Sac River
cadastral grid: S16, T35N, R26W
highway route: vacated county road
highway distr.: 7
current owner: Cedar County

STRUCTURAL DATA

superstructure: steel, 8-panel, pin-connected Pratt through truss; steel, 3-panel, pin-connected Pratt deck truss approach span; steel, 5- and 4-panel, pin-connected Pratt pony truss approach spans

substructure: stone abutments; concrete-filled steel cylinder piers; concrete pier between pony trusses

span number: 2
span length: 120.0'
total length: 405.0'
roadway width: ~12.0'
condition: good
alterations: bridge closed
floor/decking : timber deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped square eyebars, or 2 punched rectangular eyebars; vertical: 2 channels with lacing (2 round eyerods at the hip); diagonal: 2 looped square or round eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 angles; portal strut: latticed A-frame with decorative cast-iron cresting; floor beam: I-beam, field-bolted to vertical; guardrail: 2 angles; portal builder's plate: **1895 / CHICAGO BRIDGE C°**

HISTORICAL DATA

erection date: 1894-95
erection cost: $3900.00
designer: Horace E. Horton
fabricator : Chicago Bridge and Iron Company, Chicago IL
contractor: Chicago Bridge and Iron Company, Chicago IL

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 095000.1; Cedar County Court Record H: page 219 (12 May 1894), page 257 (8 June 1894), pages 284-85 (10 August 1894), page 447 (7 March 1895), page 455 (11 May 1895) - located at Cedar County Courthouse, Stockton MO; field inspection by Clayton Fraser, 3 June 1991.

sign. rating: 78
evaluation: NRHP eligible (outstanding early, multiple-span truss bridge)

inventoried by: Clayton B. Fraser 27 January 1992

Keich Ford Bridge

CEDA08

GENERAL DATA

structure no.: 117000.1
county: Cedar
city/town: 7.3 miles northeast of Stockton
feature inters.: Turkey Creek
cadastral grid: S21/28, T35N, R25W
highway route: County Road 117
highway distr.: 7
current owner: Cedar County

STRUCTURAL DATA

superstructure: steel stringer
substructure: unknown

span number: 1
span length: 28.0'
total length: 30.0'
roadway width: 12.8'
condition: fair
alterations: unknown
floor/decking : unknown
other features: unknown

HISTORICAL DATA

erection date: 1917
erection cost: $2750.00 (three-bridge superstructure contract)
designer: Canton Bridge Company, Canton OH
fabricator : Canton Bridge Company, Canton OH
contractor: county work force

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 117000.1; Cedar County Court Record, Book M: page 236 (5 March 1917), page 244 (7 May 1917), page 258 (10 July 1917), page 276 (4 September 1917), page 281 (1 October 1917) - located at Cedar County Courthouse, Stockton MO.

sign. rating: 35
evaluation: NRHP non-eligible (typical example of common beam bridge type)

inventoried by: Clayton B. Fraser 27 January 1992

Sullivan Ford Bridge

CEDA09

GENERAL DATA

structure no.: 170000.6
county: Cedar
city/town: 6.6 miles southeast of Eldorado Springs
feature inters.: Alder Creek
cadastral grid: S18, T35N, R27W
highway route: County Road 170
highway distr.: 7
current owner: Cedar County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt truss-leg bedstead, with steel stringer approach span at each end
substructure: steel bedstead legs set in concrete abutments at south end; steel pile bent pier with timber back- and wingwalls at north end

span number: 1
span length: 33.0'
total length: 34.0'
roadway width: 13.6'
condition: fair
alterations: substructure altered
floor/decking : timber deck over steel stringers
other features: upright end post: 2 channels with cover plate and lacing; upper chord: 2 channels with batten plates; lower chord: 2 angles with batten plates or 2 punched rectangular eyebars; vertical: 4 angles with lacing; diagonal: 2 punched rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam with knee braces, field-bolted to vertical; guardrail: 2 angles

HISTORICAL DATA

erection date: 1902
erection cost: $5200.00 (four-bridge contract)
designer: American Bridge Company, New York NY
fabricator : American Bridge Company, New York NY
contractor: American Bridge Company, New York NY

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 170000.6; Cedar County Court Record, Book J: page 197 (13 May 1902), page 198 (13 June 1902), page 359 (8 September 1902); Book L: page 551 (5 February 1914) - located at Cedar County Courthouse, Stockton MO; field inspection by Clayton Fraser, 3 June 1991.

sign. rating: 39
evaluation: NRHP non-eligible (short-span example of relatively common Pratt truss sub-type)

inventoried by: Clayton B. Fraser 27 January 1992

Silver Creek Bridge

CEDA10

GENERAL DATA

structure no.: 202R00.2
county: Cedar
city/town: 4.6 miles north of Stockton
feature inters.: Silver Creek
cadastral grid: S35, T35N, R26W
highway route: County Road 202
highway distr.: 7
current owner: Cedar County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt half-hip pony truss, with steel stringer approach span
substructure: concrete abutments and pier

span number: 1
span length: 50.0'
total length: 64.0'
roadway width: 11.3'
condition: fair
alterations: none
floor/decking : timber deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped square eyebars; vertical: 4 angles with double lacing; diagonal: 2 looped square eyebars; counter: 1 square eyebar with turnbuckle; floor beam: I-beam, field-bolted to vertical; guardrail: lattice with decorative scrolled ends; gusset plates and spacer blocks at hips; hip builder's plate: **THE CANTON BRIDGE Cº / CANTON OHIO**

HISTORICAL DATA

erection date: c1908
erection cost: unknown
designer: Canton Bridge Company, Canton OH
fabricator : Canton Bridge Company, Canton OH;
Jones & Laughlin Steel Company, Pittsburgh PA
contractor: Canton Bridge Company, Canton OH

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 202R00.2; field inspection by Clayton Fraser, 3 June 1991.

sign. rating: 38
evaluation: NRHP non-eligible (typically configured example of common structural type, partially documented)

inventoried by: Clayton B. Fraser 27 January 1992

Owens Mill Bridge

CEDA11

GENERAL DATA

structure no.: 244000.3
county: Cedar
city/town: 3.1 miles east of Stockton
feature inters.: Bear Creek
cadastral grid: S2, T34N, R26W
highway route: County Road 244
highway distr.: 7
current owner: Cedar County

STRUCTURAL DATA

superstructure: steel, 7-panel, pin-connected Pratt through truss
substructure: stone abutments and wingwalls

span number: 1
span length: 110.0'
total length: 110.0'
roadway width: 13.6'
condition: good
alterations: none
floor/decking : timber deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped square or rectangular eyebars; vertical: 2 channels with lacing; hip vertical: 1 looped square eyebar; diagonal: 2 looped rectangular eyebars; counter: 1 round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 angles with continuous plate; portal strut: A-frame with decorative cross-laced portal cresting; floor beam: I-beam, field-bolted to vertical; guardrail: 2 angles

HISTORICAL DATA

erection date: 1906
erection cost: $5555.00 (three-bridge contract)
designer: Canton Bridge Company, Canton OH
fabricator : Canton Bridge Company, Canton OH;
Lackawanna Steel Company, Pittsburgh PA
contractor: Canton Bridge Company, Canton OH (superstruntre);
Wolf and Mann (substructure)

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 244000.3; Cedar County Court Record, Book J: page 631 (7 June 1905); Book K: page 11 (11 August 1905), page 14 (11 August 1905), page 21 (6 September 1905), page 24 (26 September 1905), page 33 (9 November 1905), page 115 (6 March 1906), page 184 (11 June 1906); Book L: page 551 (5 February 1914) - located at Cedar County Courthouse, Stockton MO; **Standard Atlas of Cedar County, Missouri** (Chicago: George A. Ogle and Company, 1908), page 23; field inspection by Clayton Fraser, 3 June 1991.

sign. rating: 43
evaluation: NRHP non-eligible (well-preserved example of mainstay structural type)

inventoried by: Clayton B. Fraser 27 January 1992

Edsall Ford Bridge

CEDA12

GENERAL DATA

structure no.: 250001.7
county: Cedar
city/town: 5.5 miles west of Stockton
feature inters.: Cedar Creek
cadastral grid: S9, T34N, R27W
highway route: County Road 250
highway distr.: 7
current owner: Cedar County

STRUCTURAL DATA

superstructure: steel, 7-panel, pin-connected Pratt through truss
substructure: concrete abutments and wingwalls

span number: 1
span length: 120.0'
total length: 122.0'
roadway width: 11.7'
condition: good
alterations: none
floor/decking : timber deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped rectangular eyebars; vertical: 2 channels with lacing; diagonal: 2 looped rectangular eyebars; counter: 1 round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 angles with continuous plate; portal strut: A-frame with decorative cross-laced portal cresting; floor beam: I-beam, field-bolted to vertical; guardrail: lattice; portal builder's plate: **1911 / THE CANTON BRIDGE Cº / CANTON OHIO**

HISTORICAL DATA

erection date: 1911
erection cost: $3602.00
designer: Canton Bridge Company, Canton OH
fabricator : Canton Bridge Company, Canton OH;
Cambria Steel Company, Pittsburgh PA
contractor: Canton Bridge Company, Canton OH

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 250001.7; Cedar County Court Record, Book K: page 152 (12 May 1906), page 186 (12 June 1906); Book L: page 261 (18 May 1911), page 266 (9 June 1911), page 309 (9 November 1911), page 323 (19 January 1912) - located at Cedar County Courthouse, Stockton MO; field inspection by Clayton Fraser, 3 June 1991.

sign. rating: 46
evaluation: NRHP non-eligible (well-preserved example of mainstay structural type)

inventoried by: Clayton B. Fraser 27 January 1992

Snag Creek Bridge

CEDA13

GENERAL DATA

structure no.: 267000.7
county: Cedar
city/town: 5.5 miles west of Stockton
feature inters.: Snag Creek
cadastral grid: S21, T34N, R27W
highway route: County Road 267
highway distr.: 7
current owner: Cedar County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt pony truss
substructure: concrete abutments and wingwalls

span number: 1
span length: 48.0'
total length: 50.0'
roadway width: 10.6'
condition: fair
alterations: none
floor/decking : concrete deck over steel stringers
other features: steel angle guardrails

HISTORICAL DATA

erection date: 1915
erection cost: $6236.48 (four-bridge superstructure contract)
designer: Canton Bridge Company, Canton OH
fabricator : Canton Bridge Company, Canton OH;
Cambria Steel Company, Pittsburgh PA
contractor: county work force

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 267000.7; Cedar County Court Record, Book M: page 67 (2 August 1915), page 124 (10 February 1916) - located at Cedar County Courthouse, Stockton MO; field inspection by Clayton Fraser, 3 June 1991.

sign. rating: 39
evaluation: NRHP non-eligible (typically configured example of common structural type)

inventoried by: Clayton B. Fraser 27 January 1992

Horse Creek Bridge

CEDA14

GENERAL DATA

structure no.: 277000.9
county: Cedar

city/town: 4.2 miles northwest of Jerico Springs
feature inters.: Horse Creek
cadastral grid: S24/25, T34N, R29W
highway route: County Road 277
highway distr.: 7
current owner: Cedar County

STRUCTURAL DATA

superstructure: steel, 5-panel, pin-connected Pratt pony truss, with steel stringer approach span
substructure: concrete abutments, steel cylinder pier

span number: 1
span length: 80.0'
total length: 96.0'
roadway width: 11.5'

condition: fair
alterations: none
floor/decking : timber deck over steel stringers
other features: steel lattice guardrails

HISTORICAL DATA

erection date: 1911
erection cost: $2196.20
designer: Canton Bridge Company, Canton OH
fabricator : Canton Bridge Company, Canton OH; Cambria Steel Company, Pittsburgh PA
contractor: Canton Bridge Company, Canton OH

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 277000.9; Cedar County Court Record, Book L: page 259 (16 May 1911), page 261 (18 May 1911), page 266 (9 June 1911), page 309 (9 November 1911), page 320 (20 December 1911) - located at Cedar County Courthouse, Stockton MO; field inspection by Clayton Fraser, 3 June 1991.

sign. rating: 44
evaluation: NRHP non-eligible (typically configured example of common structural type)

inventoried by: Clayton B. Fraser 27 January 1992

Low Brown Ford Bridge

CEDA15

GENERAL DATA

structure no.: 287000.2
county: Cedar
city/town: 9.3 miles southeast of Stockton
feature inters.: Bear Creek
cadastral grid: S26, T34N, R25W
highway route: County Road 287
highway distr.: 7
current owner: Cedar County

STRUCTURAL DATA

superstructure: steel, 8-panel, pin-connected Pratt through truss
substructure: concrete abutments and wingwalls

span number: 1
span length: 125.0'
total length: 126.0'
roadway width: 11.3'
condition: fair
alterations: none
floor/decking : timber deck over steel stringers
other features: steel angle guardrails; portal builder's plate: **1917 / THE CANTON BRIDGE Cº / CANTON OHIO**

HISTORICAL DATA

erection date: 1917
erection cost: $3885.00
designer: Canton Bridge Company, Canton OH
fabricator : Canton Bridge Company, Canton OH
contractor: Canton Bridge Company, Canton OH

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 287000.2; Cedar County Court Record, Book M: page 144 (2 May 1916), page 161 (18 July 1916), page 173 (11 August 1916), page 211 (30 December 1916), page 221 (6 February 1917), page 292 (31 December 1917) - located at Cedar County Courthouse, Stockton MO.

sign. rating: 44
evaluation: NRHP non-eligible (typically configured example of common structural type)

inventoried by: Clayton B. Fraser 27 January 1992

County Line Bridge

CEDA16

GENERAL DATA

structure no.: 309003.4
county: Cedar
city/town: 5.3 miles northwest of Jerico Springs
feature inters.: Horse Creek
cadastral grid: S24, T34N, R29W
highway route: County Road 309
highway distr.: 7
current owner: Cedar County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt pony truss
substructure: concrete abutments and wingwalls

span number: 1
span length: 60.0'
total length: 60.0'
roadway width: 13.8'
condition: fair
alterations: none
floor/decking : concrete deck over steel stringers
other features: steel angle guardrails

HISTORICAL DATA

erection date: 1916-17
erection cost: unknown
designer: Canton Bridge Company, Canton OH
fabricator : Canton Bridge Company, Canton OH;
Illinois Steel Company, Chicago IL
contractor: Canton Bridge Company, Canton OH

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 309003.4; Cedar County Court Record, Book M: page 144 (2 May 1916), page 187 (24 October 1916), page 240 (12 March 1917), page 243 (25 April 1917) - located at Cedar County Courthouse, Stockton MO; field inspection by Clayton Fraser, 3 June 1991.

sign. rating: 42
evaluation: NRHP non-eligible (typically configured example of common structural type)

inventoried by: Clayton B. Fraser 27 January 1992

Potter Ford Bridge

CEDA17

GENERAL DATA

structure no.: 318000.5
county: Cedar

city/town: 3.7 miles southwest of Filley
feature inters.: Horse Creek
cadastral grid: S3/4 T34N, R28W
highway route: County Road 318
highway distr.: 7
current owner: Cedar County

STRUCTURAL DATA

superstructure: steel, 5-panel, pin-connected Pratt through truss, with steel stringer approach spans
substructure: concrete abutments and wingwalls; steel cylinder piers

span number: 1
span length: 85.0'
total length: 153.0'
roadway width: 13.4'

condition: fair
alterations: none
floor/decking : timber deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plates and lacing; lower chord: 2 looped square or rectangular eyebars; vertical: 2 channels with lacing (1 looped square eyebar at the hip); diagonal: 2 looped rectangular eyebars; counter: 1 round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 angles with continuous plate; portal strut: A-frame with cross-bracing; floor beam: I-beam, field-bolted to vertical; guardrail: steel angle

HISTORICAL DATA

erection date: 1905
erection cost: $2400.00
designer: Canton Bridge Company, Canton OH
fabricator : Canton Bridge Company, Canton OH
contractor: Canton Bridge Company, Canton OH

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 318000.5; Cedar County Court Record, Book J: page 467 (30 June 1904), page 470 (1 August 1904), page 557 (6 March 1905), page 603 (5 May 1905), page 631 (7 June 1905); Book M: page 67 (2 August 1915), page 124 (10 February 1916) - located at Cedar County Courthouse, Stockton MO; **Standard Atlas of Cedar County, Missouri** (Chicago: George A. Ogle and Company, 1908), page 47; field inspection by Clayton Fraser, 3 June 1991.

sign. rating: 41
evaluation: NRHP non-eligible (typically configured example of common structural type)

inventoried by: Clayton B. Fraser 27 January 1992

Ball Ford Bridge

CEDA18

GENERAL DATA

structure no.: 446003.1
county: Cedar
city/town: 3.0 miles southeast of Jerico Springs
feature inters.: Cedar Creek
cadastral grid: S24, T33N, R28W
highway route: County Road 446
highway distr.: 7
current owner: Cedar County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt pony truss
substructure: concrete abutments and wingwalls

span number: 1
span length: 60.0'
total length: 62.0'
roadway width: 11.4'
condition: fair
alterations: unknown
floor/decking : timber deck over steel stringers
other features: steel angle guardrails

HISTORICAL DATA

erection date: 1914
erection cost: unknown
designer: Canton Bridge Company, Canton OH
fabricator : Canton Bridge Company, Canton OH
contractor: Canton Bridge Company, Canton OH

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 446003.1; Cedar County Court Record, Book L: page 551 (5 February 1914) - located at Cedar County Courthouse, Stockton MO; field inspection by Clayton Fraser, 3 June 1991.

sign. rating: 40
evaluation: NRHP non-eligible (typical, rather late example of common structural type)

inventoried by: Clayton B. Fraser 27 January 1992

Kennedy Ford Bridge

CEDA19

GENERAL DATA

structure no.: none
county: Cedar

city/town: 2.5 miles northeast of Stockton
feature inters.: Sac River
cadastral grid: S3, T34N, R26W
highway route: vacated county road
highway distr.: 7
current owner: Cedar County

STRUCTURAL DATA

superstructure: steel, 6-panel, pin-connected Pratt through truss
substructure: steel cylinder piers with solid plate diaphragm

span number: 2
span length: 100.0'
total length: 200.0'
roadway width: ~14.0'

condition: poor
alterations: bridge closed; deck and stringers removed; one span removed
floor/decking : removed
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped rectangular eyebars; vertical: 2 channels with lacing (2 looped square eyebars at hip); diagonal: 2 looped square eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends and turnbuckle; strut: I-beam; portal strut: A-frame; floor beam: I-beam, U-bolted to lower chord pins

HISTORICAL DATA

erection date: 1896
erection cost: $3600.00
designer: Wrought Iron Bridge Company, Canton OH
fabricator : Wrought Iron Bridge Company, Canton OH
contractor: Wrought Iron Bridge Company, Canton OH

references: Cedar County Court Record, Book I: page 42 (8 May 1896), page 43 (16 May 1896), page 46 (11 June 1896), page 115 (14 December 1896), page 125 (13 January 1897) - located at Cedar County Courthouse, Stockton MO; field inspection by Clayton Fraser, 3 June 1991.

sign. rating: 33
evaluation: NRHP non-eligible (poorly preserved example of mainstay structural type)

inventoried by: Clayton B. Fraser 27 January 1992

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Stump Ford Bridge (Cedar Creek Bridge) CEDA05
MHTD: 063000.1

DATE(S) OF CONSTRUCTION
1905-06

LOCATION
County Road 63 over Cedar Creek; S30, T36N, R26W
2.4 miles southeast of Cedar Springs; Cedar County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 51)

CONDITION
fair

OWNER
Cedar County

span number: 1
span length: 65.0'
total length: 142.0'
roadway wdt.: 13.6'

superstructure: steel, 4-panel, pin-connected Pratt half-hip pony truss, with 2 steel stringer and 1 steel girder approach spans
substructure: stone abutments with concrete parging; concrete-filled steel cylinder piers; steel pile bent piers at approaches
floor/decking: timber deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover and batten plates; lower chord: 2 looped rectangular eyebars; vertical: 4 angles with double lacing; diagonal: 2 looped square eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, field-bolted to vertical; guardrail: 2 angles; cast iron hip blocks; endpost-mounted builder's plate: **THE CANTON BRIDGE COMPANY**

Located southeast of Cedar Springs, this medium-span truss carries a gravel-surfaced county road, despite the "Bridge Condemned by County Court" painted on one of its end posts. The structure spans Cedar Creek at a crossing known locally as the Stump Ford, in Cedar Township. The Stump Ford Bridge was ordered built by the Cedar County Court in the late spring of 1905. That August the county opened the competitive bids from bridge companies for the Stump Ford Bridge over Cedar Creek and the Owens Mill Bridge [CEDA11] and Bakers Mill Bridge over Bear Creek. The Dildine Bridge Company was low bidder for the three structures, but its - and the other companies' - bids were rejected, and the projects were re-advertised. When the second round of bids was received in September, the Canton Bridge Company, which had built virtually all of the county's bridges over the previous three years, was the low bidder. The Ohio-based firm was awarded the contract to fabricate and erect the three trusses for $5555.00, only $85.00 less than Dildine's earlier proposal. In November local masons Wolf and Mann were hired to build the stone abutments for the Stump Ford Bridge. They worked through the winter on the substructure; by the following June the bridge was completed by Canton. Its approach spans were replaced at some later date, but the original pinned Pratt half-hip pony truss and its tubular piers remain intact.

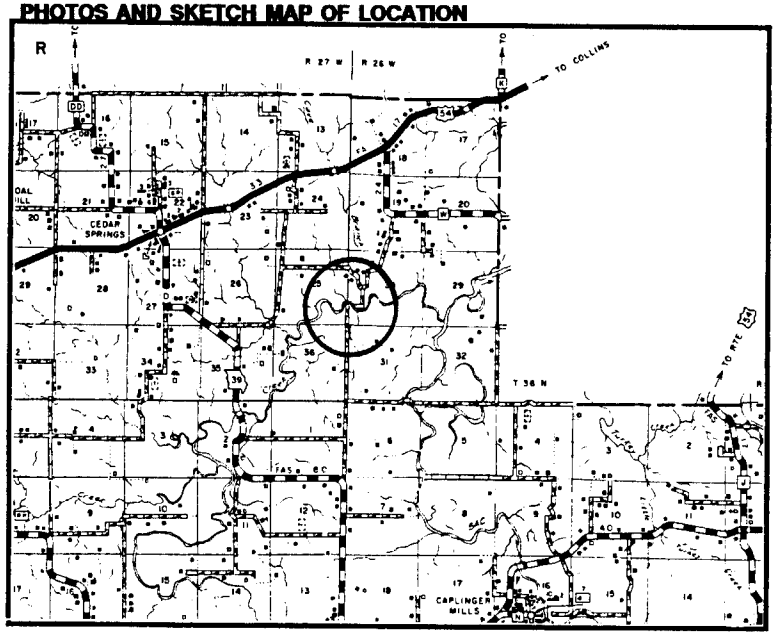
A subtype of the venerable Pratt pony truss, the Pratt half-hip configuration was marketed extensively by Midwestern bridge companies in the early 1900s. Its primary advantage as a structural type was that, by eliminating the vertical members at the hip connections, it was more materially conservant than the standard Pratt. Its disadvantage was that it was generally limited to short-span applications: typically 30 to 60 feet. But Missouri's myriad small streams lent themselves to this range, and, as a result, thousands of half-hip trusses

were erected across the state between 1900 and 1920. One of the more prominent proponents of the half-hip design was the Canton Bridge Company. Around 1900 the Ohio bridge company developed a half-hip standard that featured cast-iron hip blocks and double-laced verticals, remarkably similar to a design used earlier by another Canton-based firm, the Wrought Iron Bridge Company. The Stump Ford Bridge typifies this early truss configuration. A well-preserved, relatively early example of its structural type, it is also noteworthy as an important Cedar County wagon crossing.

NAME(S) OF STRUCTURE

Stump Ford Bridge (Cedar Creek Bridge)

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT GENERAL HIGHWAY MAP

SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 063000.1; Cedar County Court Record, Book J: page 631 (7 June 1905); Book K: page 11 (11 August 1905), page 14 (11 August 1905), page 21 (6 September 1905), page 24 (26 September 1905), page 33 (9 November 1905), page 115 (6 March 1906), page 184 (11 June 1906); Book M: page 279 (12 September 1917), page 280 (13 September 1917) - located at Cedar County Courthouse, Stockton MO; field inspection by Clayton Fraser, 3 June 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	24 January 1992

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Metcalf Bridge (Sac River Bridge) CEDA06
MHTD: 068000.8

DATE(S) OF CONSTRUCTION
1919

LOCATION
County Road 68 over Sac River; S31, T36N, R26W
3.2 miles northwest of Caplinger Mills; Cedar County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 51)

CONDITION
fair

OWNER
Cedar County

span number:	1	superstructure:	steel, 8-panel, pin-connected Parker through truss
span length:	145.0'	substructure:	concrete abutments and wingwalls
total length:	146.0'	floor/decking:	concrete deck over steel stringers
roadway wdt.:	11.0'	other features:	upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 punched rectangular eyebars; vertical: 2 channels with lacing (2 angles with batten plates at hip); diagonal: 2 punched rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 4 angles with lacing; portal strut: steel lattice with knee braces; floor beam: I-beam, field-bolted to vertical; guardrail: 2 channels

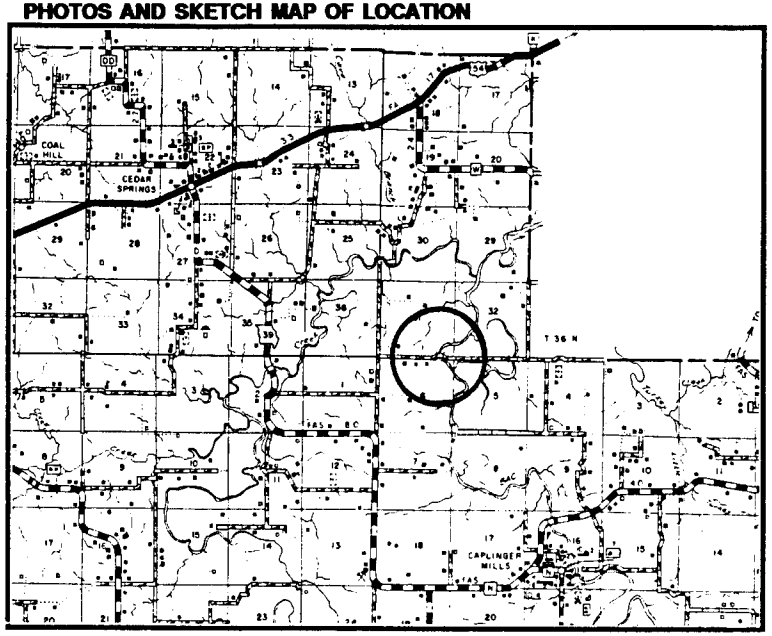
In the summer of 1918 two separate citizens' groups were lobbying the Cedar County Court for bridges over the Sac River in northeast Cedar County. The contingent led by L.A. Barnes wanted a structure 3½ miles east of Cedar Springs in Cedar Township; W.H. Carter's group, on the other hand, wanted a bridge four miles south in Washington Township. The judges visited both sites in August, trying to reconcile the competing requests. When this failed, the judges in a Solomon-like move located the proposed structure midway between the two locations, at what was locally called the Metcalf Ford. In November 1918 the county solicited competitive proposals for the bridge's construction. On December 30th, contracts to build the abutments and erect the steel truss were awarded to the Pioneer Construction Company for $11,990.00. Pioneer used a concrete-decked Parker through truss with pinned connections, completing the structure by August 1919. The Metcalf Bridge has functioned in place since that time in this rural Cedar County crossing, with only minor substructural repairs as the only alteration of note.

The Metcalf Bridge is historically significant as an important crossing of the Sac River. The bridge is technologically significant as a well-preserved example of a Pratt truss subtype that has, in Missouri, become somewhat rare. The Parker truss featured verticals in compression and diagonals in tension in typical Pratt fashion but differed from the more common archetype in its polygonal upper chords. Gaining widespread acceptance after the turn of the century, Parkers were never as popular as Pratts, because they were used principally at long-span crossings. Their long-span configuration, pinned connections and narrow roadway widths have made them prey to subsequent attrition, further dwindling their numbers. Fewer than three dozen pinned Parker trusses remain in place in Missouri today. With a span of 145 feet and a fabrication date of 1919, the Metcalf Bridge rates among the shortest and latest Parkers. It is nevertheless a significant transportation-related resource.

NAME(S) OF STRUCTURE

Metcalf Bridge (Sac River Bridge)

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP

SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 068000.8; Cedar County Court Record M: page 325 (7 May 1918), page 336 (5 August 1918), page 350 (13 August 1918), page 371 (8 November 1918), page 382 (30 December 1918), page 439 (5 August 1919) - located at Cedar County Courthouse, Stockton MO; field inspection by Clayton Fraser, 3 June 1991

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	24 January 1992

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Caplinger Mill Bridge (Sac River Bridge) CEDA07
MHTD: 095000.1

DATE(S) OF CONSTRUCTION
1894-95

LOCATION
vacated county road over Sac River; S16, T35N, R26W
6.7 miles north of Stockton; Cedar County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / abandoned

RATING NRHP eligible (score: 78)

CONDITION
good

OWNER
Cedar County

span number: 2
span length: 120.0'
total length: 405.0'
roadway wdt.: 12.0'

superstructure: steel, 8-panel, pin-connected Pratt through truss; steel, 3-panel, pin-connected Pratt deck truss approach span; steel, 5- and 4-panel, pin-connected Pratt pony truss approach spans
substructure: stone abutments; concrete-filled steel cylinder piers; concrete pier between pony trusses
floor/decking: timber deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped square eyebars, or 2 punched rectangular eyebars; vertical: 2 channels with lacing (2 round eyerods at the hip); diagonal: 2 looped square or round eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 angles; portal strut: latticed A-frame with decorative cast-iron cresting; floor beam: I-beam, field-bolted to vertical; guardrail: 2 angles; portal builder's plate: **1895 / CHICAGO BRIDGE Cº**

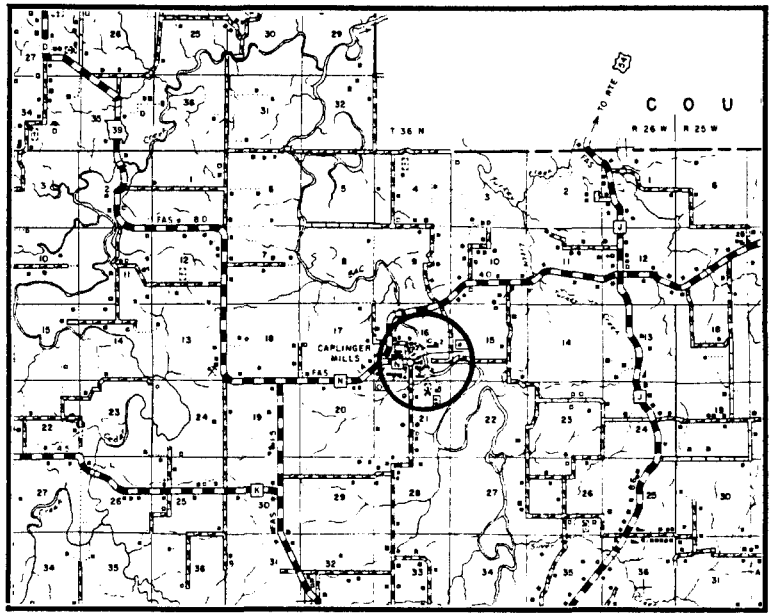
Located in northern Cedar County, the Caplinger Mill was a local landmark and an important wagon crossing of the Sac River in the late 19th century. In May 1894 the county court directed county surveyor F.M. Hackleman to visit the mill to look for the "most practical point" to build a wagon bridge here. "A public bridge across said river at said point would be of great public utility to the citizens of Cedar County," Hackleman reported back in June. The county could build either a wire suspension bridge with a 370-foot span, he stated, or a series of simply supported steel trusses with an aggregate length between 250 and 300 feet, with "good and substantial approaches easy of ascent and decent [sic]." In August 1894 the county received proposals for the bridge from the Wrought Iron Bridge Company of Ohio and the Chicago Bridge and Iron Company of Illinois. WIBCo bid $3890.00 to build a suspension bridge, and Chicago B&I proposed to build a 405-foot iron truss bridge for only ten dollars more. These ridiculously low prices reflected the national depression occurring at that time. Chicago B&I was awarded the contract to fabricate and erect the trusses. Company president Horace E. Horton designed the multiple-span structure, which consisted of two 120-foot Pratt through trusses, two Pratt pony trusses and a Pratt deck truss, supported by steel cylinder piers. Completed in early May 1895, the Caplinger Mill Bridge carried regional traffic until its later supersedure by State Supplementary Route N. The bridge has since been closed to vehicular traffic and is now maintained by the county as a pedestrian crossing and fishing platform.

The oldest documented wagon bridge in Cedar County, the Caplinger Mill Bridge is historically significant as an intact remnant of early transportation. As a strategically placed crossing over a major river, the bridge has played an important role in the development of regional transportation networks. An outstanding, multiple-span truss, the Caplinger Mill Bridge typifies the proclivity among Missouri's counties in the late 19th century for pin-connected truss construction. The bridge is further distinguished technologically by its deck truss (the only one of its kind in the state), multiple pony and through truss spans, its long overall length and by its excellent state of preservation. The Caplinger Mill Bridge is one of Missouri's most important early trusses.

NAME(S) OF STRUCTURE

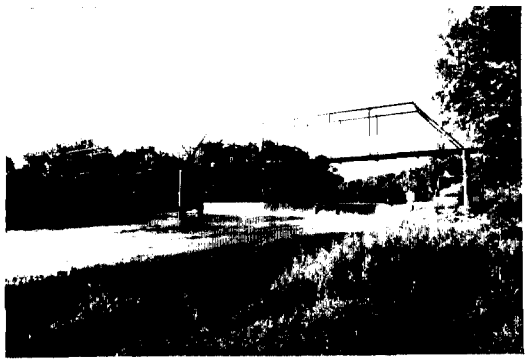
Caplinger Mill Bridge (Sac River Bridge)

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP



SOURCES

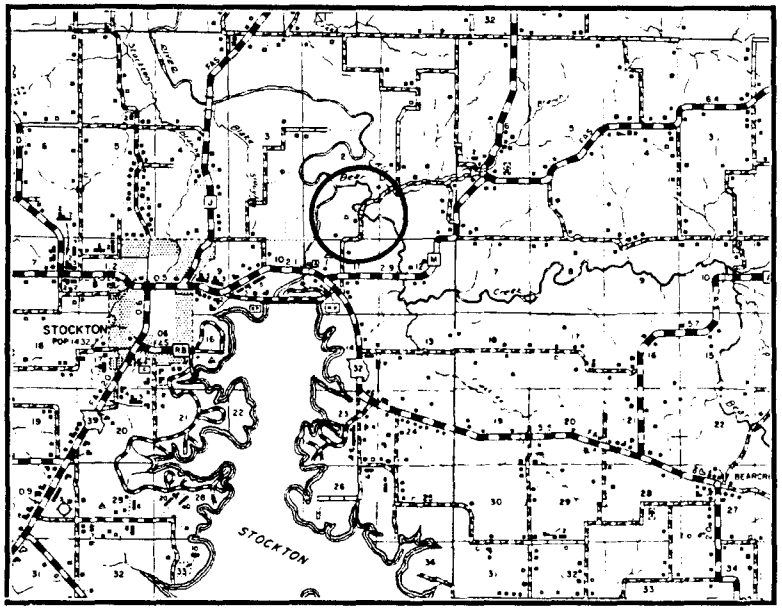
Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 095000.1; Cedar County Court Record H: page 219 (12 May 1894), page 257 (8 June 1894), pages 284-85 (10 August 1894), page 447 (7 March 1895), page 455 (11 May 1895) - located at Cedar County Courthouse, Stockton MO; field inspection by Clayton Fraser, 3 June 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	24 January 1992

NAME(S) OF STRUCTURE

Owens Mill Bridge (Bear Creek Bridge)

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP

SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 244000.3; Cedar County Court Record, Book J: page 631 (7 June 1905); Book K: page 11 (11 August 1905), page 14 (11 August 1905), page 21 (6 September 1905), page 24 (26 September 1905), page 33 (9 November 1905), page 115 (6 March 1906), page 184 (11 June 1906); Book L: page 551 (5 February 1914) - located at Cedar County Courthouse, Stockton MO; **Standard Atlas of Cedar County, Missouri** (Chicago: George A. Ogle and Company, 1908), page 23; field inspection by Clayton Fraser, 3 June 1991.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton B. Fraser	Fraserdesign, Loveland CO	24 January 1992

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Owens Mill Bridge
MHTD: 244000.3

CEDA11

DATE(S) OF CONSTRUCTION
1906

LOCATION
County Road 244 over Bear Creek; S2, T34N, R26W
3.1 miles east of Stockton; Cedar County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 43)

CONDITION
good

OWNER
Cedar County

span number: 1
span length: 110.0'
total length: 110.0'
roadway wdt.: 13.6'

superstructure: steel, 7-panel, pin-connected Pratt through truss
substructure: stone abutments and wingwalls
floor/decking: timber deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped square or rectangular eyebars; vertical: 2 channels with lacing; hip vertical: 1 looped square eyebar; diagonal: 2 looped rectangular eyebars; counter: 1 round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 angles with continuous plate; portal strut: A-frame with decorative cross-laced portal cresting; floor beam: I-beam, field-bolted to vertical; guardrail: 2 angles

In June 1905 the Cedar County Court ordered the construction of three steel bridges - a span over Cedar Creek [**CEDA05**], a span over Bear Creek at Bakers Mill, and this short-span through truss over Bear Creek at Owens Mill. The Owens Mill Bridge would carry the Stockton - Humansville Public Road some three miles east of Stockton, in Linn Township. In August the county opened the competitive bids from bridge companies for the three structures. The Dildine Bridge Company was low bidder, but its - and the other companies' - bids were rejected, and the projects were re-advertised. When the second round of bids was received in September, the Canton Bridge Company, which had built virtually all of the county's bridges over the previous three years, was the low bidder. The Ohio-based firm was awarded the contract to fabricate and erect the three trusses for $5555.00, only $85.00 less than Dildine's earlier proposal. In November local masons Wolf and Mann were hired to build the stone abutments for the Owens Mill Bridge. They worked through the winter on the substructure; by the following June the bridge was completed by Canton. It has functioned in place since that time, in unaltered condition. The Owens Mill Bridge is a well-preserved, representative example of a mainstay structural type for Missouri - the pinned Pratt through truss.

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Edsall Ford Bridge
MHTD: 250001.7

CEDA12

DATE(S) OF CONSTRUCTION
1911

LOCATION
County Road 250 over Cedar Creek; S9, T34N, R27W
5.5 miles west of Stockton; Cedar County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 46)

CONDITION
good

OWNER
Cedar County

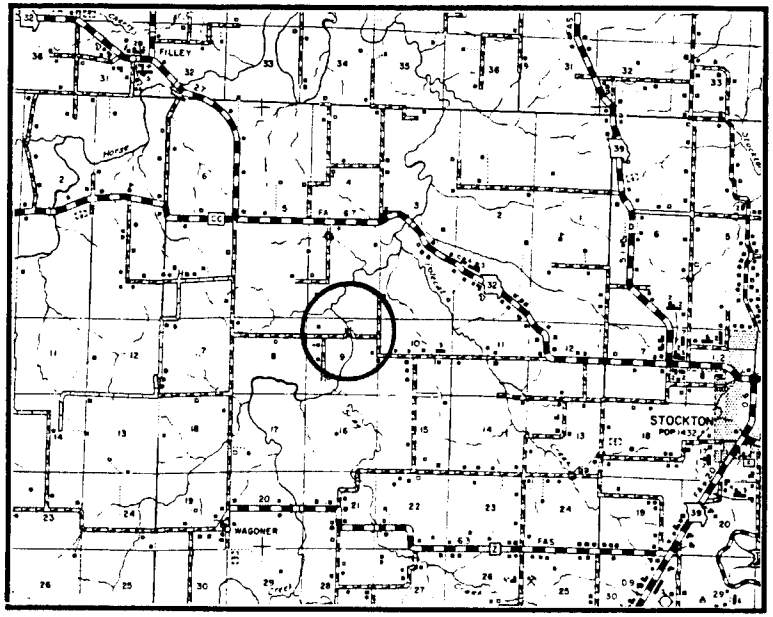
span number:	1	superstructure:	steel, 7-panel, pin-connected Pratt through truss
span length:	120.0'	substructure:	concrete abutments and wingwalls
total length:	122.0'	floor/decking:	timber deck over steel stringers
roadway wdt.:	11.7'	other features:	upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped rectangular eyebars; vertical: 2 channels with lacing; diagonal: 2 looped rectangular eyebars; counter: 1 round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 angles with continuous plate; portal strut: A-frame with decorative cross-laced portal cresting; floor beam: I-beam, field-bolted to vertical; guardrail: lattice; portal builder's plate: **1911 / THE CANTON BRIDGE C° / CANTON OHIO**

In May 1906 Cedar County Surveyor F.M. Hackleman reported to the county court that the wooden deck on the Edsall Ford wire suspension bridge was "badly rotted, worn and broken." The court ordered the structure condemned as dangerous but then waited five years before acting to replace it. In May 1911 the court ordered the county engineer to solicit competitive bids for a replacement structure. Proposals were received a month later from the Kansas City Bridge Company, the Missouri Bridge and Iron Company, the Wichita Construction Company, the Massillon Bridge and Iron Works and the Canton Bridge Company. "The plans submitted by the Canton Bridge Company are the most practible [sic]," the county clerk recorded, as the court awarded the contract to fabricate and erect a medium-span Pratt truss here for $3602.00. Canton used steel components rolled in Pittsburgh by Cambria to fabricate the truss, erecting it on concrete abutments by November 1911. It has functioned in place since that time, in unaltered condition. The Edsall Ford Bridge is a well-preserved example of what was a mainstay structural type in the state - the pin-connected Pratt through truss.

NAME(S) OF STRUCTURE

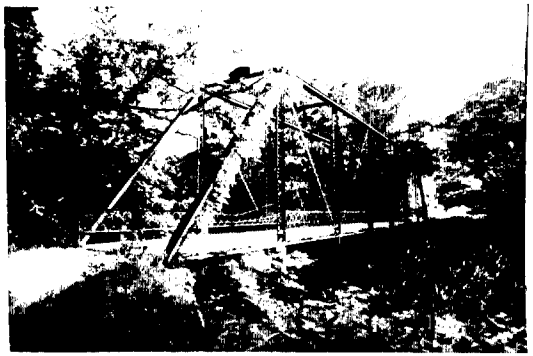
Edsall Ford Bridge (Cedar Creek Bridge)

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP



SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 250001.7; Cedar County Court Record, Book K: page 152 (12 May 1906), page 186 (12 June 1906); Book L: page 261 (18 May 1911), page 266 (9 June 1911), page 309 (9 November 1911), page 323 (19 January 1912) - located at Cedar County Courthouse, Stockton MO; field inspection by Clayton Fraser, 3 June 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	24 January 1992

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Kennedy Ford Bridge
MHTD: none

CEDA19

DATE(S) OF CONSTRUCTION
1896

LOCATION
vacated county road over Sac River; S3, T34N, R26W
2.5 miles northeast of Stockton; Cedar County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / abandoned

RATING NRHP non-eligible (score: 33)

CONDITION
poor

OWNER
Cedar County

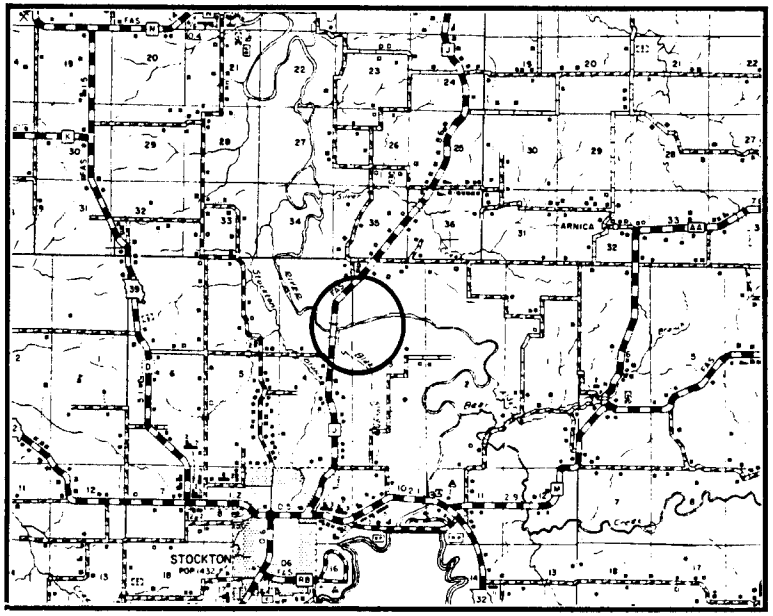
span number:	2	superstructure:	steel, 6-panel, pin-connected Pratt through truss
span length:	100.0'	substructure:	steel cylinder piers with solid plate diaphragm
total length:	200.0'	floor/decking:	removed
roadway wdt.:	~14.0'	other features:	upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped rectangular eyebars; vertical: 2 channels with lacing (2 looped square eyebars at hip); diagonal: 2 looped square eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends and turnbuckle; strut: I-beam; portal strut: A-frame; floor beam: I-beam, U-bolted to lower chord pins

On May 8, 1896, Cedar County surveyor F.M. Hackleman was ordered by the county court to prepare an estimate for a new iron truss or suspension bridge at the location of the Kennedy Ford on the Sac River. One week later Hackleman reported that an iron truss bridge would cost the county about $3500.00, and a suspension structure would cost around $3000.00. Eager to see the idea come to fruition, local citizens offered a $1200.00 subscription for the project. In June a $3600.00 contract was awarded to the Wrought Iron Bridge Company of Canton, Ohio, to fabricate and erect the two-span truss. The Kennedy Ford Bridge was completed by December 1896 and carried rural Cedar County traffic for several decades. The structure is currently closed and has apparently been abandoned for many years. Today one of the original pinned Pratt through trusses is gone, perhaps the victim of flooding, and the timber deck and stringers have all been removed. Standing skeletally high over the river, the Kennedy Ford Bridge typifies pinned Pratt truss construction in the late 19th century.

NAME(S) OF STRUCTURE

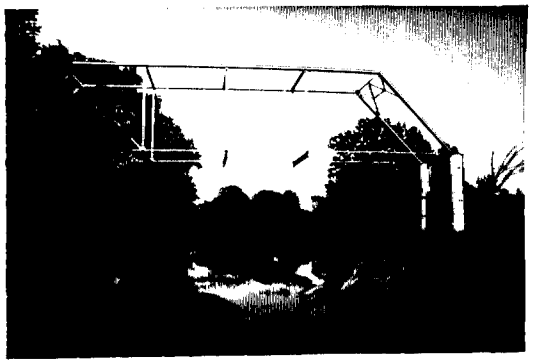
Kennedy Ford Bridge (Sac River Bridge)

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP



SOURCES

Cedar County Court Record, Book I: page 42 (8 May 1896), page 43 (16 May 1896), page 46 (11 June 1896), page 115 (14 December 1896), page 125 (13 January 1897) - located at Cedar County Courthouse, Stockton MO; field inspection by Clayton Fraser, 3 June 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	24 January 1992

DADE COUNTY

INCLUDED: [Significant feature(s) of bridge given in boldface]
[Field inventoried bridge indicated by asterisk]

Inv. No.	MHTD	Bridge Name	Description
DADE01	H 4	South Greenfield Overpass	1-130' **pinned Pratt through truss** 1924 Kelly and Underwood
*DADE02	047000.9	McArthur Bridge	1- 86' pinned Pratt pony truss **1911** Western Bridge Company
*DADE03	141000.7	Coyne Ford Culvert	2- 11' **concrete arch culvert** **1911** Luigi Perlatti
*DADE04	196000.5	Hulston Mill Bridge	1-**108'** **riveted Camelback pony truss** 1927 Fred L. Appleby, Kansas City
*DADE05	214002.3	Odell Bridge	**7**- 20' steel stringer **1905** J.T. Davenport **1910** Canton Bridge Co., Canton OH
*DADE06	333000.9	Comet Bridge	1-110' **pinned Pratt through truss** **1903** Canton Bridge Co., Canton OH
*DADE07	348000.3	Lunsford Ford Bridge	1- 88' **pinned Pratt through truss** **1912** Canton Bridge Co., Canton OH
DADE08	370001.4	Garren Ford Bridge	1- 65' pinned Pratt half-hip pony truss **1907** Western Bridge Company
*DADE09	421000.1	Antioch Bridge	1- 75' pinned Pratt pony truss **1906** Canton Bridge Co., Canton OH
*DADE10	471001.4	Everton Bridge	1- 50' pinned Pratt half-hip pony truss **1910** Canton Bridge Co., Canton OH

EXCLUDED:

Steel stringer

J 64R1	S 37	S 193	S 727	055000.8	086001.8	116000.7
194000.4	196000.4	204000.1	243000.3	260000.5	277000.1	309000.1
326000.6	352001.4	374000.4	375000.1	403000.4	403000.8	408000.2
408001.6	422001.1	454001.5	456000.3	492000.5		

Concrete slab

G 771	G 772	S 192	Z 266	002000.6	011001.6	013000.5
048001.5	053001.2	054000.3	056000.6	057000.3	101001.4	105001.5
109000.2	127001.6	133000.5	146000.5	148001.1	163000.4	173003.1
176000.9	186000.4	209000.6	211001.0	223000.5	223000.9	238000.1
262000.8	268000.6	280002.0	289000.7	293001.5	295001.1	300001.1
305000.7	315000.8	317000.4	329001.3	331000.2	336000.8	347000.4
353001.5	360000.9	360001.1	378000.4	378001.7	382000.1	385000.4
406000.3	413000.2	440001.3	455000.8	460000.5	460001.0	462R00.4
467001.5	470000.1	483002.4	498002.6	499001.3	501000.4	

DADE COUNTY

EXCLUDED (cont.):

Concrete box culvert

H 801	H 867	J 552	S 194	T 147	W 203	W 205

Concrete girder

G 773	G 774	G 775	K 891	K 892	205R00.2	290001.1
071001.2	097001.3	101R01.5	305R00.1	310000.3	322R00.3	340000.3
355000.3	406001.9	487000.3	487002.3			

SUMMARY:

	Primary	Secondary	Urban	Other	Total
Included	1	9	0	0	10
Excluded	20	93	0	0	113
	21	102	0	0	123 structures

South Greenfield Overpass

DADE01

GENERAL DATA

structure no.: H 4
county: Dade
city/town: South Greenfield
feature inters.: St. Louis and San Francisco Railroad
cadastral grid: S6, T30N, R26W
highway route: Missouri State Highway 39
highway distr.: 7
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: steel, 6-panel, pin-connected Pratt through truss, skewed
substructure: concrete abutments wingwalls and piers

span number: 1
span length: 130.0'
total length: 156.0'
roadway width: 20.0'
condition: good
alterations: none
floor/decking : concrete deck over steel stringers
other features: steel lattice guardrails

HISTORICAL DATA

erection date: 1924
erection cost: $5627.62
designer: Missouri State Highway Department
fabricator : unknown
contractor: Kelly and Underwood

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number H 4; Missouri Highway and Transportation Department Primary System Files, located at Bridge Department, MHTD, Jefferson City MO.

sign. rating: 61
evaluation: NRHP determined eligible (only example in state of skewed, pinned truss construction)

inventoried by: Clayton B. Fraser 30 April 1991

McArthur Bridge

DADE02

GENERAL DATA

structure no.: 047000.9
county: Dade
city/town: 11.3 miles northwest of Lockwood
feature inters.: Cedar Creek
cadastral grid: S2, T32N, R28W
highway route: County Road 47
highway distr.: 7
current owner: Dade County

STRUCTURAL DATA

superstructure: steel, 5-panel, pin-connected Pratt pony truss, with steel stringer approach span
substructure: concrete abutments wingwalls and pier

span number: 1
span length: 86.0'
total length: 122.0'
roadway width: 12.0'
condition: fair
alterations: none
floor/decking : concrete deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover and batten plates; lower chord: 2 looped square eyebars; vertical: 4 angles with lacing; diagonal: 2 looped square eyebars; counter: 1 looped square eyebar with turnbuckle; lateral bracing: round rod with threaded ends; floor beams: I-beams, field-bolted to vertical; guardrail: 2 angles; endpost-mounted builder's plate: **WESTERN BRIDGE COMPANY / HARRISONVILLE Mo. / 1911**

HISTORICAL DATA

erection date: 1911
erection cost: $2817.00
designer: Western Bridge Company, Harrisonville MO
fabricator : unknown
contractor: Western Bridge Company, Harrisonville MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 047000.9; Dade County Court Record, Book 17: page 348 (10 June 1909), page 353 (12 June 1919), page 357 (3 August 1909), pages 378-379 (26 August 1909), page 387 (10 September 1909), page 390 (10 February 1910), page 494 (7 May 1910), page 559 (23 August 1910), pages 563-564 (6 September 1910); Book 18: page 24 (3 May 1911), page 105 (12 August 1911), page 125 (9 November 1911), page 227 (7 May 1912), located at Dade County Courthouse, Greenfield MO; field inspection by Clayton Fraser, 26 April 1991.

sign. rating: 42
evaluation: NRHP non-eligible (typically configured, well-preserved example of common structural type)

inventoried by: Clayton B. Fraser 30 April 1991

Coyne Ford Culvert

DADE03

GENERAL DATA

structure no.: 141000.7
county: Dade
city/town: 9.4 miles northwest of Lockwood
feature inters.: Cedar Creek
cadastral grid: S15, T32N, R28W
highway route: County Road 141
highway distr.: 7
current owner: Dade County

STRUCTURAL DATA

superstructure: concrete arch culvert
substructure: concrete abutments, wingwalls and pier

span number: 2
span length: 11.0'
total length: 38.0'
roadway width: 12.8'
condition: poor (guardrails crumbling on east end)
alterations: none
floor/decking : gravel over earth fill
other features: concrete guardrails

HISTORICAL DATA

erection date: 1911
erection cost: $500.00
designer: unknown
fabricator : none
contractor: Luigi Perlatti

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 141000.7; Dade County Court Record, Book 17: page 348 (10 June 1910); Book 18: page 46 (22 May 1911), page 124 (9 November 1911), located at Dade County Courthouse, Greenfield MO; field inspection by Clayton Fraser, 26 April 1991.

sign. rating: 32
evaluation: NRHP non-eligible (poorly preserved, small-scale example of unsophisticated concrete bridge design)

inventoried by: Clayton B. Fraser 30 April 1991

Hulston Mill Bridge

DADE04

GENERAL DATA

structure no.: 196000.5
county: Dade
city/town: 6.8 miles northeast of Greenfield
feature inters.: Sac River
cadastral grid: S1/6, T31N, R26/25W
highway route: County Road 196
highway distr.: 7
current owner: Dade County

STRUCTURAL DATA

superstructure: steel, 6-panel, rigid-connected Camelback pony truss, with steel stringer approach span
substructure: concrete abutments, wingwalls and pier

span number: 1
span length: 108.0'
total length: 137.0'
roadway width: 12.6'
condition: fair
alterations: none
floor/decking : concrete deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 channels with batten plates; vertical: 4 angles with continuous plate; diagonal: 2 angles with batten plates; lateral bracing: 1 angle; floor beam: I-beam; guardrail: steel pipe; builder's plate: **1927 Ed W. Appleby Builder Springfield MO.**; bridge plate: **1927 R.D. Payne Pres. Judge I.D. Stockton Assoc. Judge S.B. Denton Assoc. Judge T.K. McConnell Co. Eng'r E.A. Ball Co. Clerk**

HISTORICAL DATA

erection date: 1927
erection cost: $3900.00 (superstructure cost)
designer: T.K. McConnell, Dade County Engineer
fabricator : Carnegie Steel Company, Pittsburgh PA
contractor: Ed W. Appleby, Springfield MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 196000.5; Dade County Court Record, Book 23: page 496 (3 January 1927), page 534 (6 July 1927), page 540 (8 August 1927), page 546 (10 September 1927), page 550 (3 October 1927), page 560 (6 December 1927), page 561 (12 December 1927), located at Dade County Courthouse, Greenfield MO; field inspection by Clayton Fraser, 21 April 1991.

sign. rating: 52
evaluation: NRHP potentially eligible (well-preserved, long-span example of uncommon Pratt truss subtype)

inventoried by: Clayton B. Fraser 30 April 1991

Odell Bridge

DADE05

GENERAL DATA

structure no.: 214002.3
county: Dade
city/town: 2.6 miles northwest of Lockwood
feature inters.: Horse Creek
cadastral grid: S22/23, T31N, R28W
highway route: County Road 214
highway distr.: 7
current owner: Dade County

STRUCTURAL DATA

superstructure: steel stringer
substructure: stone abutments and piers

span number: 7
span length: 20.0'
total length: 133.0'
roadway width: 13.7'
condition: fair
alterations: none
floor/decking : concrete deck
other features: low steel pipe guardrails

HISTORICAL DATA

erection date: 1905 / 1910
erection cost: $300.00 (1905); $557.00 (1910)
designer: unknown
fabricator : Canton Bridge Company, Canton OH
contractor: J.T. Davenport (1905);
Canton Bridge Company, Canton OH (1910)

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 214002.3; Dade County Court Record, Book 15: page 400 (1 February 1904); Dade County Court Record 16: page 207 (7 August 1905), page 232 (12 August 1905), page 280 (13 November 1905), page 318 (8 February 1906); Book 17: page 527 (24 May 1910); Book 18: page 61 (1 October 1910), located at Dade County Courthouse, Greenfield MO; field inspection by Clayton Fraser, 26 April 1991.

sign. rating: 48
evaluation: NRHP potentially eligible (well-preserved, multiple-span example of exceedingly common structural type)

inventoried by: Clayton B. Fraser 30 April 1991

Comet Bridge

DADE06

GENERAL DATA

structure no.: 333000.9
county: Dade
city/town: Comet
feature inters.: Sac River
cadastral grid: S25, T31N, R25W
highway route: County Road 333
highway distr.: 7
current owner: Dade County

STRUCTURAL DATA

superstructure: steel, 6-panel, pin-connected Pratt through truss, with steel stringer approach spans
substructure: stone abutments; concrete-filled steel cylinder piers; steel pile bent pier at approach spans

span number: 1
span length: 110.0'
total length: 170.0'
roadway width: 13.9'
condition: fair
alterations: none
floor/decking : timber deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped rectangular eyebars; vertical: 2 channels with lacing (two looped square eyebars at the hip); diagonal: 2 looped rectangular eyebars; counter: square eyebar with turnbuckle; lateral bracing: square rod with threaded ends; strut: 2 angles; portal strut: A-frame; floor beam: I-beam, field-bolted to the vertical; guardrail: steel angle or pipe; portal builder's plate: **1903 / THE CANTON BRIDGE Co. / BUILDERS / CANTON OHIO**

HISTORICAL DATA

erection date: 1903
erection cost: $2625.00 (estimated cost)
designer: William H. Vanhooser, Dade County Road and Bridge Commissioner
fabricator : Canton Bridge Company, Canton OH;
Cambria Steel Company and Carnegie Steel Company, Pittsburgh PA
contractor: Canton Bridge Company, Canton OH

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 333000.9; Dade County Minute Book 15: page 252 (11 February 1903), pages 318-319 (13 May 1903), pages 325-326 (8 June 1903); Dade County Court Record, Book 18: page 99 (8 August 1911), page 122 (6 November 1911), page 148 (8 January 1912), located at Dade County Courthouse, Greenfield MO; field inspection by Clayton Fraser, 21 April 1991.

sign. rating: 43
evaluation: NRHP non-eligible (typically configured, well-preserved example of mainstay structural type)

inventoried by: Clayton B. Fraser 30 April 1991

Lunsford Ford Bridge

DADE07

GENERAL DATA

structure no.: 348000.3
county: Dade
city/town: 2.6 miles northeast of South Greenfield
feature inters.: Turnback Creek
cadastral grid: S33, T31N, R26W
highway route: County Road 348
highway distr.: 7
current owner: Dade County

STRUCTURAL DATA

superstructure: steel, 7-panel, pin-connected Pratt through truss, with steel stringer approach spans
substructure: concrete abutments, wingwalls and piers

span number: 1
span length: 88.0'
total length: 176.0'
roadway width: 12.1'
condition: fair
alterations: guardrails replaced
floor/decking : timber deck over steel stringers; concrete deck over steel stringers on approach spans
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped rectangular eyebars; vertical: 2 channels with lacing (2 angles with batten plates at the hip); diagonal: 2 looped rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 angles; portal strut: A-frame; floor beam: I-beam, field-bolted to vertical; guardrail: wire fence fastened to vertical angles; builder's plate: **1911 / THE CANTON BRIDGE Co. / BUILDERS / CANTON OHIO**; endpost bridge plate: **1911 / J.L. KING / ELWOOD RUSE / D.P. STOCKTON - CO COURT / C.H. DEVINE - CO CLERK / J.O. HOWARD - HIGHWAY ENG.**

HISTORICAL DATA

erection date: 1911-12
erection cost: $4368.00
designer: J.O. Howard, Dade County Highway Engineer
fabricator : Canton Bridge Company, Canton OH
contractor: Canton Bridge Company, Canton OH

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 348000.3; Dade County Court Record, Book 18: page 49 (24 May 1911), page 104 (11 August 1911), page 120 (27 September 1911), page 121 (24 October 1911), page 124 (7 November 1911), page 147 (8 January 1912), page 165 (9 February 1912), page 227 (7 May 1912), located at Dade County Courthouse, Greenfield MO; field inspection by Clayton Fraser, 21 April 1991.

sign. rating: 41
evaluation: NRHP non-eligible (typical example of mainstay structural type)

inventoried by: Clayton B. Fraser 30 April 1991

Garren Ford Bridge

DADE08

GENERAL DATA

structure no.: 370001.4
county: Dade
city/town: 5.4 miles southwest of Lockwood
feature inters.: Muddy Fork
cadastral grid: S7/8, T30N, R28W
highway route: County Road 370
highway distr.: 7
current owner: Dade County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected, Pratt half-hip pony truss, with steel stringer approach span
substructure: concrete abutments and wingwalls; steel pile bent pier

span number: 1
span length: 64.0'
total length: 106.0'
roadway width: 14.0'
condition: fair
alterations: none
floor/decking : timber deck over steel stringers
other features: steel angle guardrails

HISTORICAL DATA

erection date: 1908
erection cost: $1950.00 (two-bridge contract)
designer: unknown
fabricator : unknown
contractor: Western Bridge Company, Harrisonville MO

references: Missouri Highway and Transportation Department, Structure, Inventory and Appraisal: Structure Number 370001.4; Dade County Court Record, Book 17: page 77 (4 September 1907), page 82 (4 November 1907), page 133 (9 March 1908), page 144 (28 March 1908), page 190 (8 June 1908), page 207 (6 August 1908), located at Dade County Courthouse, Greenfield MO.

sign. rating: 40
evaluation: NRHP non-eligible (typically configured example of common structural type)

inventoried by: Clayton B. Fraser 30 April 1991

Antioch Bridge

DADE09

GENERAL DATA

structure no.: 421000.1
county: Dade
city/town: 4.2 miles southeast of South Greenfield
feature inters.: Turnback Creek
cadastral grid: S15, T30N, R26W
highway route: County Road 421
highway distr.: 7
current owner: Dade County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt pony truss
substructure: stone abutments with concrete parging

span number: 1
span length: 75.0'
total length: 77.0'
roadway width: 13.9'
condition: fair
alterations: none
floor/decking : timber deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped rectangular eyebars; vertical: 4 angles with double lacing; diagonal: 2 looped square eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, field-bolted to vertical; guardrail: 2 channels

HISTORICAL DATA

erection date: 1906
erection cost: $1245.00
designer: unknown
fabricator : Canton Bridge Company, Canton OH;
Jones and Laughlin Steel Company, Pittsburgh PA
contractor: Canton Bridge Company, Canton OH

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 421000.1; Dade County Court Record, Book 16: page 354 (20 February 1906), page 363 (6 March 1906), page 376 (2 April 1906), page 514 (25 September 1906), page 608 (31 December 1906), located at Dade County Courthouse, Greenfield MO; field inspection by Clayton Fraser, 21 April 1991.

sign. rating: 44
evaluation: NRHP non-eligible (typical example of a common truss configuration, with standard detailing, unremarkable dimensions and an average degree of physical integrity)

inventoried by: Clayton B. Fraser 30 April 1991

Everton Bridge

DADE10

GENERAL DATA

structure no.: 471001.4
county: Dade
city/town: 0.2 mile west of Everton
feature inters.: Sinking Creek
cadastral grid: S8/17, T30N, R25W
highway route: County Road 471
highway distr.: 7
current owner: Dade County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected, Pratt half-hip pony truss
substructure: concrete abutments and wingwalls

span number: 1
span length: 50.0'
total length: 53.0'
roadway width: 13.3'
condition: fair
alterations: concrete pier, braced with I-beams, has been placed under center of truss
floor/decking : concrete deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped square eyebars; vertical: 4 angles with double lacing; diagonal: 2 looped rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, field-bolted to vertical; guardrail: steel lattice; builder's plate [remnant]: **Canton...**

HISTORICAL DATA

erection date: 1910
erection cost: $1048.00
designer: unknown
fabricator : Canton Bridge Company, Canton OH
contractor: Canton Bridge Company, Canton OH

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 471001.4; Dade County Court Record, Book 17: page 353 (12 June 1909), page 357 (3 August 1909), page 378-379 (26 August 1909), page 387 (10 September 1909), page 390 (28 September 1909), page 494 (7 May 1910), page 601 (30 November 1910), page 606 (26 December 1910); Book 18: page 106 (15 August 1911), page 124 (18 August 1911), located at Dade County Courthouse, Greenfield MO; field inspection by Clayton Fraser, 21 April 1991.

sign. rating: 33
evaluation: NRHP non-eligible (altered, partially documented, example of a relatively common Pratt truss sub-type)

inventoried by: Clayton B. Fraser 30 April 1991

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
South Greenfield Overpass
MHTD: H 4

DADE01

DATE(S) OF CONSTRUCTION
1924

LOCATION
Missouri State Highway 39 over St. Louis and San Francisco Railroad; S6, T30N, R26W
South Greenfield; Dade County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP determined eligible (score: 61)

CONDITION
good

OWNER
Missouri Highway and Transportation Department

span number:	1	superstructure:	steel, 6-panel, pin-connected Pratt through truss, skewed
span length:	130.0'	substructure:	concrete abutments wingwalls and piers
total length:	156.0'	floor/decking:	concrete deck over steel stringers
roadway wdt.:	20.0'	other features:	steel lattice guardrails

Located in the small town of South Greenfield, some two miles south of Greenfield, the Dade County seat, this medium-span truss carries Missouri State Highway 39 over the tracks of the St. Louis and San Francisco Railroad. The overpass consists of a single, pin-connected Pratt through truss, supported on a skew by concrete abutments. It was designed by engineers for the Missouri State Highway Department in 1924 and designated Project 13-A on State Route 39. A contract to erect the bridge and grade about 0.3 mile of adjacent highway was let on October 8, 1924, to Kelly and Underwood. Completed sometime the following year for a cost of $5,627.62, the South Greenfield Overpass has functioned in place, without substantial alteration.

In the face of an increasing number of traffic fatalities attributable to car-train collisions, the Missouri State Highway Department undertook an extensive program of grade separation construction in the 1920s. "The saving in abolishing railroad grade crossings alone will more than pay all engineering expense for the entire state highway system," the highway commission stated in 1924. During the 1923-24 biennium, in which the South Greenfield Overpass was conceived, MSHD eliminated some 160 on-grade crossings by relocating state highways and built 29 grade separations. These were typically funded on an equally shared basis with the railroads. The railroads provided engineering for the underpasses, and the highway department designed the overpasses. "As the road program advances and more roads are built," MSHD stated, "more grade crossings will be eliminated by relocation and more structures built to separate the grades. On next year's program alone, the Department will have 45 overheads and underpasses to be built in all parts of the state and will probably eliminate 100 to 150 more grade crossings by relocation." The highway department continued its program of crossing elimination through the 1920s and 1930s, actually increasing the pace of construction during the Great Depression with massive federal relief funds. The South Greenfield Overpass thus typifies this statewide construction trend. It is one of hundreds of such relatively small-scale overpasses built by the highway department, many of which remain in use today. The Overpass is thus undistinguished historically on either state or local levels.

The bridge accrues a degree of technological distinction for its pin-connected construction and skewed configuration. Before the Missouri State Highway Department began building major bridges in the 1920s, the pin-connected Pratt truss was the structure of choice for short-

to medium-span crossings. Patented in 1844 by Thomas and Caleb Pratt, the Pratt design is distinguished by vertical members acting in compression and diagonals that act in tension. "The Pratt truss is the type most commonly used in America for spans under two hundred and fifty (250) feet in length," noted bridge engineer J.A.L. Waddell wrote in 1916. "Its advantages are simplicity, economy of metal, and suitability for connecting to the floor and lateral systems." Virtually all of the major regional bridge fabricators manufactured Pratt trusses and marketed them extensively to Missouri's counties. As a result, thousands of such trusses in both through and pony configurations were erected across the state.

Although most have since been demolished, the Pratt truss today remains the most common all-metal truss type in Missouri, greatly outnumbering all of the other trusses combined. Almost 300 pinned Pratt through trusses and 500 pinned Pratt pony trusses have been identified by the statewide historic bridge inventory. With a span of 130 feet, the South Greenfield Overpass is unremarkable in its scale. And with an erection date of 1924-25, it is one of the youngest pinned trusses remaining in the state. The scale of the Overpass pales in comparison with other pinned Pratts in Missouri: bridges such as the Frenchman's Bluff Bridge, a 200-foot span built in 1887, or even the Quick City Bridge, a 200-foot span erected in 1929.

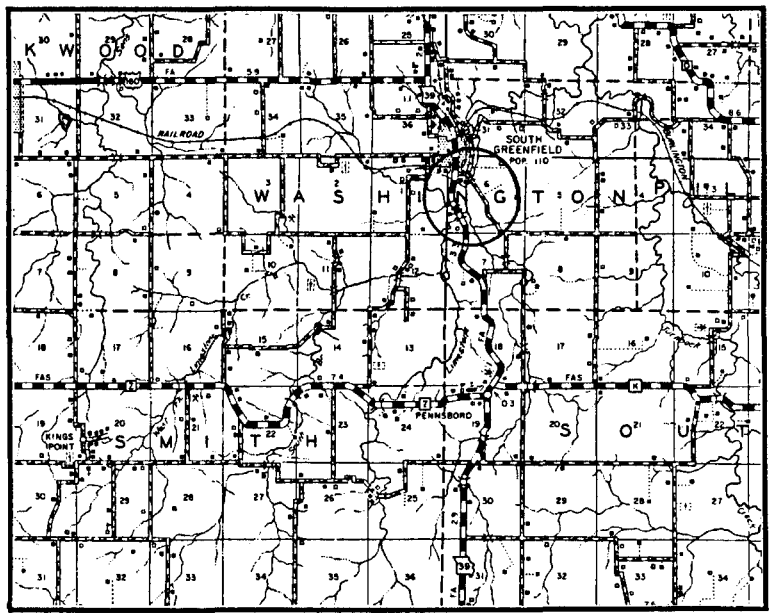
The skewed configuration of the South Greenfield Overpass makes it unusual among Missouri's trusses. Skewed bridges, in which the structure's portals and floor system are carried at an angle other than 90 degrees to the abutments, were never very common in Missouri, or elsewhere in the country. Large-scale skewed trusses necessitated unique engineering considerations in the 19th century. Missouri's most noteworthy skewed truss was the Kansas City Railroad Bridge, built in 1867-68 as the state's first great river bridge and the first permanent span in the country over the Lower Missouri River. Even at that, the bridge's superstructure was overshadowed by its piers in terms of construction difficulty and engineering significance. By the 20th century–and certainly by the late 1920s–the mathematical anomalies that skewing presented had long since been worked out. Skewed bridges were never built in abundance more for reasons of economy than engineering. They were slightly more costly to fabricate and erect than right-angled spans and tended to require more substructural maintenance. Given the fiercely frugal climate of county bridge construction–in which local officials shaved pennies at every turn and bridge companies competed for their business–any increase in cost, no matter how marginal, was avoided.

Spanning a railroad, not a river, the South Greenfield Overpass could be skewed without considerations of substructural scouring. Its angled configuration required a special design from MSHD engineers, who were just beginning to standardize bridge design as this span was built. The highway department built relatively few skewed trusses, for many of the same reasons that the counties had not. The statewide historic inventory has identified some two dozen skewed trusses, built both by the state and the individual counties. (Their exact number is unrecorded, because they were not regarded as a significant subset of more general truss types.) They are clearly uncommon among Missouri's bridges, as are truss bridges with 30-foot roadway widths, those with 9-panel webs, those with 4-inch pin diameters and those with ornamental guardrails. Relative rarity does not necessarily equate with true significance. The question to be answered is this: does a skewed configuration signify technological importance? For the Kansas City Bridge, built at the frontier of 19th bridge construction, the answer is: yes, skewing the spans represented an important aspect of the bridge's design and construction. For a minor span built in the late 1920s over a railroad, using a retardaire pin-connected design, skewing does not indicate any technological innovation, nor does it represent any significant design trend. Nevertheless it has been determined eligible for the National Register.

NAME(S) OF STRUCTURE

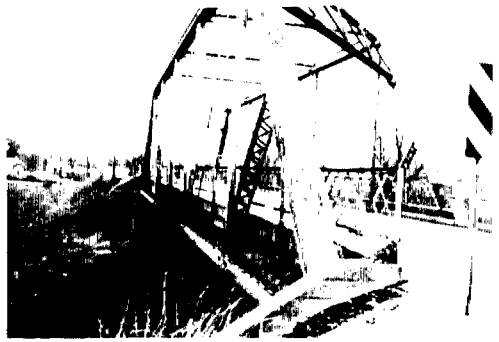
South Greenfield Overpass

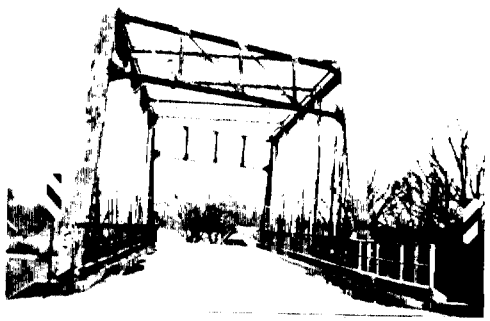
PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP





SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number H 4; Missouri Highway and Transportation Department Primary System Files, located at Bridge Department, MHTD, Jefferson City MO.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton B. Fraser	Fraserdesign, Loveland CO	30 April 1991

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
McArthur Bridge (Cedar Creek Bridge) DADE02
MHTD: 047000.9

DATE(S) OF CONSTRUCTION
1911

LOCATION
County Road 47 over Cedar Creek; S2, T32N, R28W
11.3 miles northwest of Lockwood; Dade County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 42)

CONDITION
fair

OWNER
Dade County

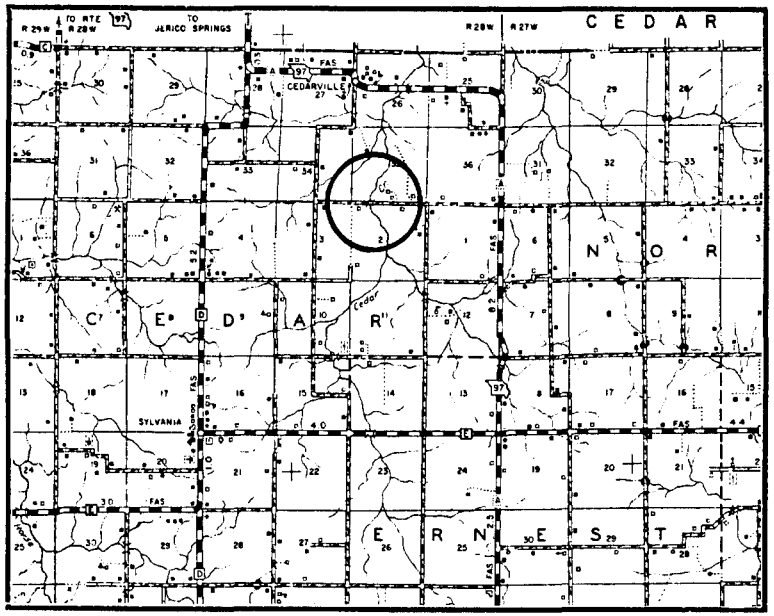
span number:	1	superstructure:	steel, 5-panel, pin-connected Pratt pony truss, with steel stringer approach span
span length:	86.0'	substructure:	concrete abutments wingwalls and pier
total length:	122.0'	floor/decking:	concrete deck over steel stringers
roadway wdt.:	12.0'	other features:	upper chord and inclined end post: 2 channels with cover and batten plates; lower chord: 2 looped square eyebars; vertical: 4 angles with lacing; diagonal: 2 looped square eyebars; counter: 1 looped square eyebar with turnbuckle; lateral bracing: round rod with threaded ends; floor beams: I-beams, field-bolted to vertical; guardrail: 2 angles; endpost-mounted builder's plate: **WESTERN BRIDGE COMPANY / HARRISONVILLE Mo. / 1911**

Because Dade County's three county court judges disagreed over its necessity, the McArthur Bridge took nearly two years to complete from the time its construction was first proposed. On June 12, 1909, J.B. McArthur, J.B. Hagens and others submitted a petition asking that a permanent bridge be erected across Cedar Creek at this ford crossing. The judges initially granted the request, and the county engineer prepared plans for a 100-foot high truss. Two months later a contract to erect three bridges was awarded to the Western Bridge Company of Harrisonville, Missouri. Among the structures to be built by Western Bridge was one at McArthur's Ford. In September, however, the project was put on hold. And in February 1910, by a 2-to-1 vote the county judges revoked the contract with Western Bridge for the structure at McArthur's Ford. Not coincidentally, Judge McArthur voted in favor of the bridge. In May the idea of a bridge at McArthur's Ford was broached once again, and three months later the judges voted 2-to-1 in favor of its erection. Plans for the 100-foot high truss were scrapped, and the county highway engineer instead designed an 85-foot pony truss with a 36-foot approach. Western Bridge again received the contract for the same price as their original bid of $2617.00. An additional $200.00 was paid to S.A. Sweeney for work on the approaches, bringing the crossing's total cost to $2817.00. The structure has been periodically re-floored, but otherwise continues to serve as originally built. The McArthur Bridge is a well-documented, pin-connected Pratt pony truss. Although it exhibits a high degree of physical integrity, the structure's design is technologically unremarkable.

NAME(S) OF STRUCTURE

McArthur Bridge (Cedar Creek Bridge)

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT GENERAL HIGHWAY MAP

SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 047000.9; Dade County Court Record, Book 17: page 348 (10 June 1909), page 353 (12 June 1919), page 357 (3 August 1909), pages 378-379 (26 August 1909), page 387 (10 September 1909), page 390 (10 February 1910), page 494 (7 May 1910), page 559 (23 August 1910), pages 563-564 (6 September 1910); Book 18: page 24 (3 May 1911), page 105 (12 August 1911), page 125 (9 November 1911), page 227 (7 May 1912), located at Dade County Courthouse, Greenfield MO; field inspection by Clayton Fraser, 26 April 1991.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton B. Fraser	Fraserdesign, Loveland CO	30 April 1991

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Coyne Ford Culvert
MHTD: 141000.7

DADE03

DATE(S) OF CONSTRUCTION
1911

LOCATION
County Road 141 over Cedar Creek; S15, T32N, R28W
9.4 miles northwest of Lockwood; Dade County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 32)

CONDITION
poor (guardrails crumbling on east end)

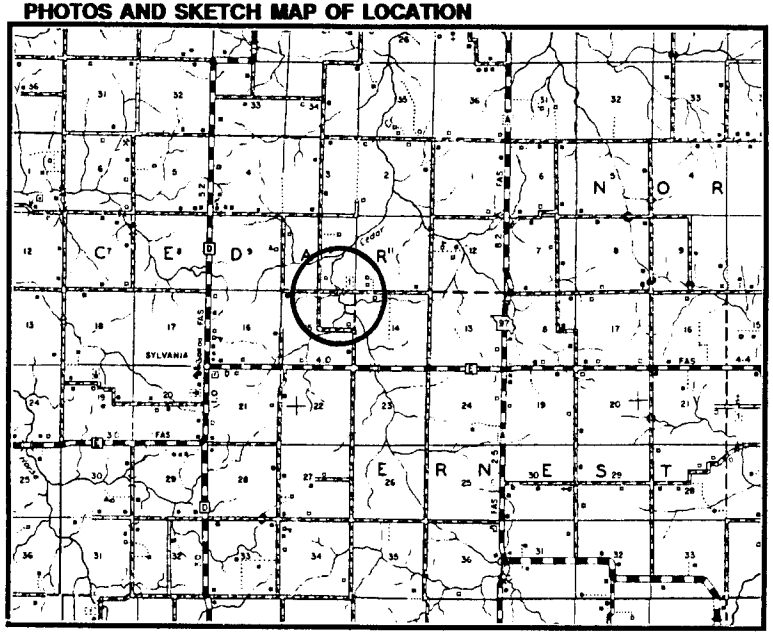
OWNER
Dade County

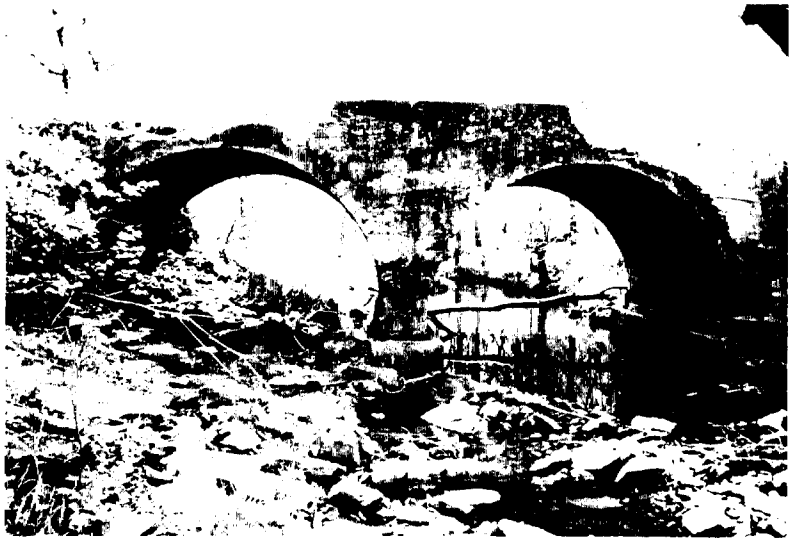
span number:	2	superstructure:	concrete arch culvert
span length:	11.0'	substructure:	concrete abutments, wingwalls and pier
total length:	38.0'	floor/decking:	gravel over earth fill
roadway wdt.:	12.8'	other features:	concrete guardrails

The crossing at Coyne Ford features a two-span concrete arch culvert with concrete guardrails, which are deteriorating on their east end. On June 10, 1909, members of the Dade County Court ordered the county highway engineer to prepare plans and estimate the cost for a steel bridge at Coyne Ford. Construction of a steel truss was never authorized, however, and the project was forgotten for another two years. Then, in May 1911 the court directed the county highway engineer to prepare plans and specifications for a "two eyed concrete arch culvert" at Coyne Ford. Local contractor Luigi Perlatti was awarded a $500.00 contract to erect the culvert and one other small bridge. Local petitioners, meanwhile, took responsibility for the Coyne Ford crossing's approach work and grading. By early fall 1911 the project was completed, and the structure has served to carry vehicular traffic since that time. The Coyne Ford Culvert is a well-documented, but rather common example of an unsophisticated concrete structure.

NAME(S) OF STRUCTURE
Coyne Ford Culvert

PHOTOS AND SKETCH MAP OF LOCATION





LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP

SOURCES
Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 141000.7; Dade County Court Record, Book 17: page 348 (10 June 1910); Book 18: page 46 (22 May 1911), page 124 (9 November 1911), located at Dade County Courthouse, Greenfield MO; field inspection by Clayton Fraser, 26 April 1991.

INVENTORIED BY
Clayton B. Fraser

AFFILIATION
Fraserdesign, Loveland CO

DATE
30 April 1991

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Hulston Mill Bridge (Sac River Bridge) DADE04
MHTD: 196000.5

DATE(S) OF CONSTRUCTION
1927

LOCATION
County Road 196 over Sac River; S1/6, T31N, R26/25W
6.8 miles northeast of Greenfield; Dade County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP potentially eligible (score: 52)

CONDITION
fair

OWNER
Dade County

span number: 1
span length: 108.0'
total length: 137.0'
roadway wdt.: 12.6'

superstructure: steel, 6-panel, rigid-connected Camelback pony truss, with steel stringer approach span
substructure: concrete abutments, wingwalls and pier
floor/decking: concrete deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 channels with batten plates; vertical: 4 angles with continuous plate; diagonal: 2 angles with batten plates; lateral bracing: 1 angle; floor beam: I-beam; guardrail: steel pipe; builder's plate: **1927 Ed W. Appleby Builder Springfield MO.**; bridge plate: **1927 R.D. Payne [illegible]s. Judge I.D. Stockton Assoc. Judge S.B. Denton Assoc. Judge T.K. McConnell C.. Eng'r E.A. Ball Co. Clerk**

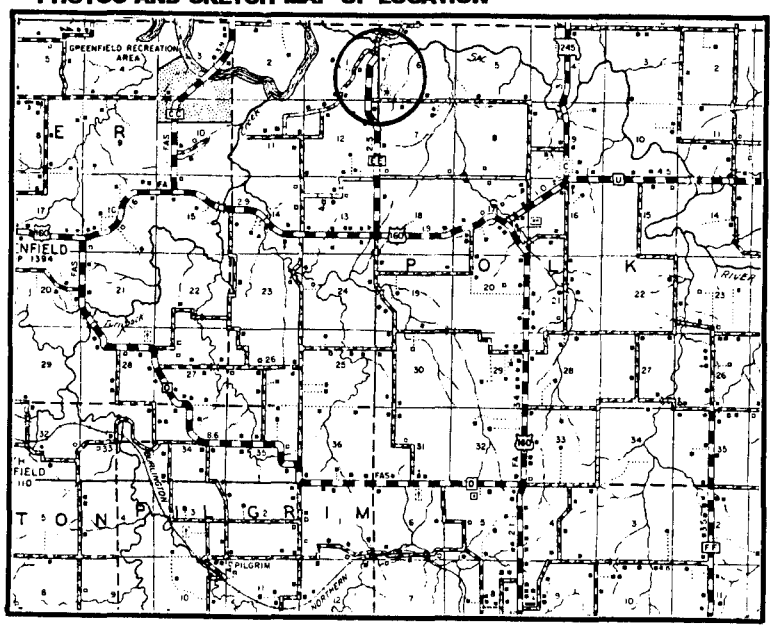
The Hulston Mill Bridge is a single-span, rigid-connected, Camelback pony truss resting on a concrete substructure. A bridge plate reveals that the structure was erected in 1927 by Ed Appleby, a regionally prominent bridge builder from Springfield. On January 3, 1927, a delegation from the Hulston Mill district petitioned the county court for a bridge across the Sac River at this site. After first tabling the proposal, the members of the court in July 1927 visited the location and agreed that a bridge was indeed needed. Dade County Surveyor T.K. McConnell then designed the structure. On August 8th, the county solicited separate bids for the structure's fabrication and erection. Local citizens, meanwhile, agreed to haul concrete for the abutments and to grade the bridge's approach spans. The long-span truss was fabricated from steel rolled at the Carnegie mills in Pittsburgh that year for $3900.00. Appleby, meanwhile, received the erection contract. On December 12, 1927, McConnell surveyed the new bridge and reported it had been erected in a good and workmanlike manner. Also on December 12th, Appleby was issued a $900.00 warrant for "balance due" on the bridge at Hulston Mill, but the total amount of Appleby's contract was not recorded.

Having served to carry vehicular traffic for more than six decades, the Hulston Mill Bridge is little changed from its original construction. The structure is one of 16 rigid-connected Camelback pony trusses included in Missouri's statewide bridge inventory. Nearly all of these bridges are between 80 and 100 feet in length, thus with its 108-foot span the Hulston Mill Bridge is surpassed in length by only one other such structure. The crossing, therefore, stands out as a superlative, well-preserved, and well-documented example of its type.

NAME(S) OF STRUCTURE

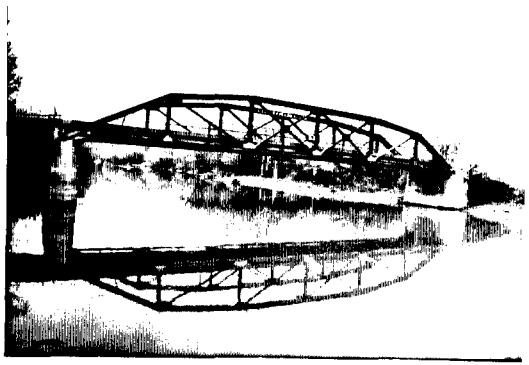
Hulston Mill Bridge (Sac River Bridge)

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT GENERAL HIGHWAY MAP



SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 196000.5; Dade County Court Record, Book 23: page 496 (3 January 1927), page 534 (6 July 1927), page 540 (8 August 1927), page 546 (10 September 1927), page 550 (3 October 1927), page 560 (6 December 1927), page 561 (12 December 1927), located at Dade County Courthouse, Greenfield MO; field inspection by Clayton Fraser, 21 April 1991.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton B. Fraser	Fraserdesign, Loveland CO	30 April 1991

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Odell Bridge (Horse Creek Bridge) DADE05
MHTD: 214002.3

DATE(S) OF CONSTRUCTION
1905 / 1910

LOCATION
County Road 214 over Horse Creek; S22/23, T31N, R28W
2.6 miles northwest of Lockwood; Dade County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP potentially eligible (score: 48)

CONDITION
fair

OWNER
Dade County

span number:	7	superstructure:	steel stringer
span length:	20.0'	substructure:	stone abutments and piers
total length:	133.0'	floor/decking:	concrete deck
roadway wdt.:	13.7'	other features:	low steel pipe guardrails

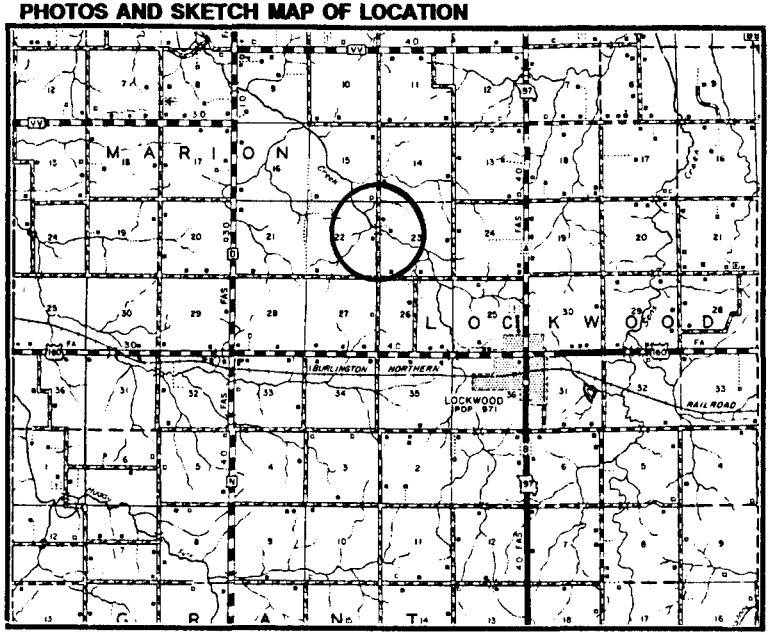
In the summer of 1905, local citizens reported that an existing bridge across Horse Creek at this location had been partially destroyed by floodwaters. Dade County Bridge Commissioner J.W. Scott, who investigated the matter, prepared plans and estimated the cost of reconstructing the crossing. Wasting little time, the county court on August 12th contracted with local contractor J.T. Davenport to "rebuild the Odell Bridge on stone abutments to be the same in every way as the former bridge, except it is to be two feet higher." Davenport evidently built new stone piers and abutments, but reused the stringers and floor system from the earlier bridge. He completed the project by the end of 1905, for which he was paid $300.00. Five years later, in May 1910, the county highway engineer reported that the Odell Bridge needed a new floor and new steel joists. A $557.00 contract was subsequently let to the Canton Bridge Company of Ohio; by the end of the summer Canton Bridge had installed seven new lines of stringers and a new deck. The bridge as it appears today, therefore, is comprised of the stone substructure built by Davenport in 1905 and the steel stringers and guardrail erected by Canton Bridge in 1910. The bridge, since its 1910 reconstruction, has retained a high degree of historical integrity.

Although technologically undistinguished with its 20-foot steel stringer spans, the Odell Bridge is noteworthy for its multiplicity of spans and cut stone abutments. Several older steel stringer structures remain in use on Missouri's secondary road system, but most of these are single-span structures. Few multiple-span stringer bridges are as well preserved as the Odell Bridge. For this reason, it enjoys a marginal degree of technological significance.

NAME(S) OF STRUCTURE

Odell Bridge (Horse Creek Bridge)

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT GENERAL HIGHWAY MAP

SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 214002.3; Dade County Court Record, Book 15: page 400 (1 February 1904); Dade County Court Record 16: page 207 (7 August 1905), page 232 (12 August 1905), page 280 (13 November 1905), page 318 (8 February 1906); Book 17: page 527 (24 May 1910); Book 18: page 61 (1 October 1910), located at Dade County Courthouse, Greenfield MO; field inspection by Clayton Fraser, 26 April 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	30 April 1991

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Comet Bridge (Sac River Bridge) DADE06
MHTD: 333000.9

DATE(S) OF CONSTRUCTION
1903

LOCATION
County Road 333 over Sac River; S25, T31N, R25W
Comet; Dade County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 43)

CONDITION
fair

OWNER
Dade County

span number: 1
span length: 110.0'
total length: 170.0'
roadway wdt.: 13.9'

superstructure: steel, 6-panel, pin-connected Pratt through truss, with steel stringer approach spans
substructure: stone abutments; concrete-filled steel cylinder piers; steel pile bent pier at approach span
floor/decking: timber deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped rectangular eyebars; vertical: 2 channels with lacing (two looped square eyebars at the hip); diagonal: 2 looped rectangular eyebars; counter: square eyebar with turnbuckle; lateral bracing: square rod with threaded ends; strut: 2 angles; portal strut: A-frame; floor beam: I-beam, field-bolted to the vertical; guardrail: steel angle or pipe; portal builder's plate: **1903 / THE CANTON BRIDGE Co. / BUILDERS / CANTON OHIO**

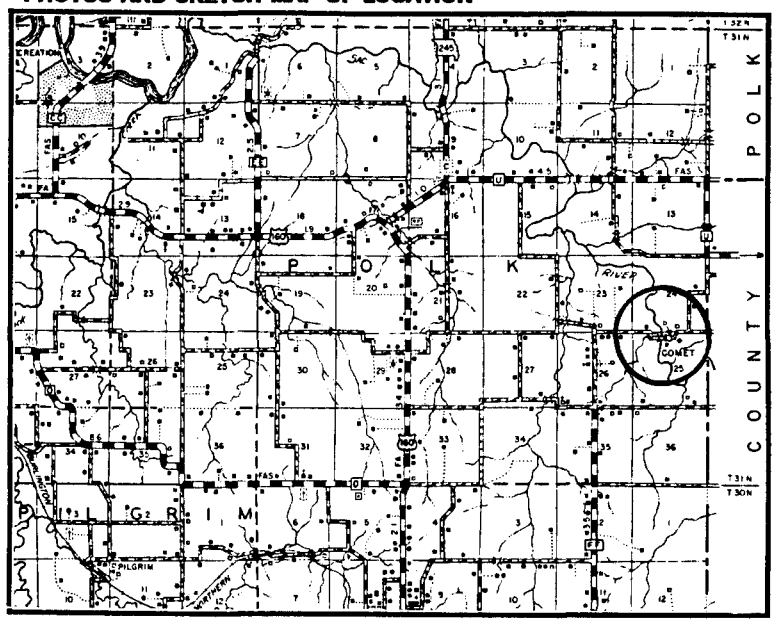
Located on the western edge of the small town of Comet, this short-span through truss carries a county road across the Sac River in eastern Dade County. A builder's plate at the truss's portal indicates that the structure was built by the Canton Bridge Company of Canton, Ohio, in 1903. In May of that year, Dade County Road and Bridge Commissioner William H. Vanhooser presented plans and specifications to the Dade County Court for a trussed crossing at Comet. Based upon his estimate of the bridge's cost at $2625.00, the county court solicited proposals for its construction. Canton Bridge received the construction contract in June, completing the structure by early fall. The original steel stringers on the Comet Bridge lasted only eight years. In August 1911 bids were solicited to replace the structure's steel sleepers. The Western Bridge Company of Harrisonville, Missouri, subsequently replaced the bridge's stringers for $979.70. Having served to carry vehicular traffic for nearly ninety years, the Comet Bridge exhibits a high degree of historical integrity.

The pinned Pratt truss, with its standardized fabrication and relatively simple erection, was marketed extensively by virtually all of the major bridge companies active in Missouri in the early 20th century. Among these was the Canton Bridge Company of Ohio, one of the most prolific of the out-of-state bridge erectors active in the state during this period. Canton's proclivity for pinned Pratt truss construction is evidenced by the Comet Bridge. Its standard Pratt configuration and prefabricated components are typical of thousands of such trusses built by Canton Bridge and other companies on Missouri's secondary road system.

NAME(S) OF STRUCTURE

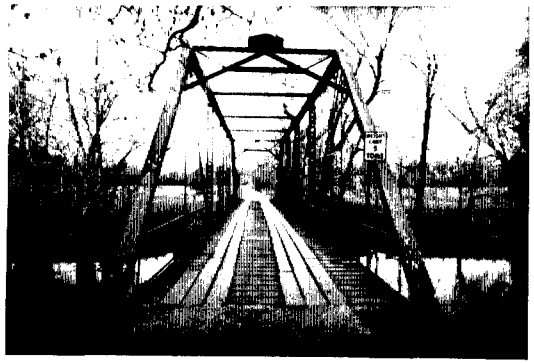
Comet Bridge (Sac River Bridge)

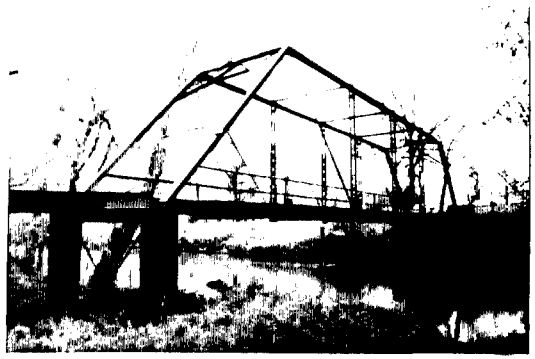
PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT GENERAL HIGHWAY MAP





SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 333000.9; Dade County Minute Book 15: page 252 (11 February 1903), pages 318-319 (13 May 1903), pages 325-326 (8 June 1903); Dade County Court Record, Book 18: page 99 (8 August 1911), page 122 (6 November 1911), page 148 (8 January 1912), located at Dade County Courthouse, Greenfield MO; field inspection by Clayton Fraser, 21 April 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	30 April 1991

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Lunsford Ford Bridge (Fiddler's Ford Bridge) DADE07
MHTD: 348000.3

DATE(S) OF CONSTRUCTION
1911-12

LOCATION
County Road 348 over Turnback Creek; S33, T31N, R26W
2.6 miles northeast of South Greenfield; Dade County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 41)

CONDITION
fair

OWNER
Dade County

span number: 1
span length: 88.0'
total length: 176.0'
roadway wdt.: 12.1'

superstructure: steel, 7-panel, pin-connected Pratt through truss, with steel stringer approach spans
substructure: concrete abutments, wingwalls and piers
floor/decking: timber deck over steel stringers; concrete deck over steel stringers on approach spans
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped rectangular eyebars; vertical: 2 channels with lacing (2 angles with batten plates at the hip); diagonal: 2 looped rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 angles; portal strut: A-frame; floor beam: I-beam, field-bolted to vertical; guardrail: unoriginal wire fence fastened to vertical angles; portal builder's plate: **1911 / THE CANTON BRIDGE Co. / BUILDERS / CANTON OHIO**; endpost-mounted bridge plate: **1911 / J.L. KING / ELWOOD RUSE / D.P. STOCKTON - CO COURT / C.H. DEVINE - CO CLERK / J.O. HOWARD - HIGHWAY ENG.**

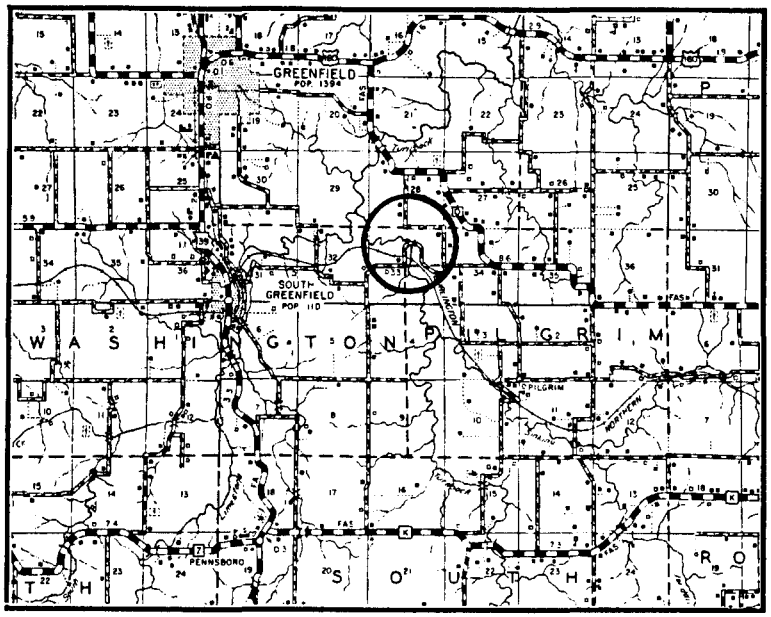
The Lunsford Ford Bridge carries a gravel-surfaced county road across Turnback Creek in central Dade County. A builder's plate indicates that the truss was fabricated by the Canton Bridge Company in 1911. According to county records, however, the bridge was not actually completed until early in 1912. On August 11, 1911, Herb Lee, James Wheeler and other citizens petitioned the Dade County Court for a bridge across Turnback Creek at Lunsford Ford. Viewing the request favorably, the judges ordered the county highway engineer to visit the proposed site and estimate the bridge's cost. In September the county solicited bids for construction of the Lunsford Ford Bridge and two other steel spans. The court in November awarded a contract to fabricate and erect the Lunsford Ford Bridge to the Canton Bridge Company of Ohio. The court, however, did not formally approve the contact until January 8, 1912. Canton completed this short-span Pratt truss later that year for a cost of $4368.00. Known more recently as the Fiddler's Ford Bridge, the structure has functioned in place to the present, with a replacement of its guardrails as the only alteration of note.

Exhibiting an average degree of physical integrity, the Lunsford Ford Bridge is an unremarkable example of a pinned Pratt through truss. Built extensively in the years surrounding the turn of the century, hundreds of these bridges remain in use on Missouri's roadways.

NAME(S) OF STRUCTURE

Lunsford Ford Bridge (Fiddler's Ford Bridge)

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT GENERAL HIGHWAY MAP

SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 348000.3; Dade County Court Record, Book 18: page 49 (24 May 1911), page 104 (11 August 1911), page 120 (27 September 1911), page 121 (24 October 1911), page 124 (7 November 1911), page 147 (8 January 1912), page 165 (9 February 1912), page 227 (7 May 1912), located at Dade County Courthouse, Greenfield MO; field inspection by Clayton Fraser, 21 April 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	30 April 1991

JASPER COUNTY

INCLUDED: [Significant feature(s) of bridge given in boldface]
[Field inventoried bridge indicated by asterisk]

Inv. No.	MHTD	Bridge Name	Description
JASP01	H 274	Dry Fork Bridge	(replaced)
*JASP02	H 278	Kendricktown Bridge	1- 80' **concrete open spandrel arch** 1929 List and Weatherly
*JASP03	H 279	Spring River Bridge	**3**-122' **concrete open spandrel arch** 1929 List and Weatherly
*JASP04	H 311	Highway 71 Viaduct	**13**-45' **concrete deck girder viaduct** 1929 List and Weatherly
JASP05	T 425	Center Creek Bridge	1-140' **riveted Pratt through truss** 1935 J.M. Roark
JASP06	T 426	Spring River Bridge	1-140' **riveted Pratt through truss** 1935 J.M. Roark
JASP07	X 435	Spring River Bridge	1-**100'** riveted Pratt pony truss 1949 Joseph L. Pohl
JASP08	U2205001	Seventh Street Viaduct	**12**-55' **concrete deck girder viaduct** 1940
JASP09	006000.7	Blackberry Creek Bridge	1- 64' pinned Pratt pony truss **1903** J.H. Sparks
*JASP10	067000.5	Coon Creek Bridge	2- 27' steel rolled deck girder **1910**
JASP11	072000.1	Hawthorne Drive Viaduct	1-**100'** **steel plate through girder** 1936 Neyer Construction Co.
JASP12	091001.2	Blackberry Creek Bridge	1- 50' riveted Warren pony truss **1913** Illinois Steel Bridge Company
*JASP13	114001.9	Hille's Ford Bridge	1-120' **riveted Pratt through truss** **1913** Fred L. Appleby
*JASP14	175000.5	Buck Branch Bridge	1- 60' pinned Pratt bedstead **1906** Vincennes Bridge Company
JASP15	179001.0	Miller Ford Bridge	**5**- 32' concrete slab **1917** Fred L. Appleby
*JASP16	196001.7	Spring River Bridge	1- 52' **concrete filled spandrel arch** c1920
*JASP17	202002.0	Purcell Bridge	1-148' **riveted Parker through truss** **1912** Blodgett Construction Company
*JASP18	218000.2	Galesburg Bridge	1-130' **pinned Pratt through truss** **1886** **Wrought Iron Bridge Company**
JASP19	220501.7	Joplin Creek Bridge	**12**-55' **concrete deck girder viaduct** 1929
*JASP20	223002.7	Georgia City Bridge	1-120' **bowstring through arch-truss** **1871** **Wrought Iron Bridge Company**
JASP21	228000.7	Bridge	1- 32' **concrete filled spandrel arch** c1935
JASP22	248000.8	Little Spring River Bridge	1- 60' pinned Pratt pony truss **1911**

JASPER COUNTY

INCLUDED (cont.):

*JASP23	321000.6	Merrick Ford Bridge	1-150'	**pinned Pratt through truss**
			1891	Missouri Valley B&I Works
*JASP24	359000.9	Center Creek Bridge	1-110'	**pinned Pratt through truss**
			c1895	
JASP25	566000.6	Jenkins Creek Bridge	1- 60'	pinned Pratt pony truss
			c1910	
*JASP26	628000.7	Johnson Arch Bridge	1- 80'	**concrete filled spandrel arch**
			1912	Missouri Valley B&I Works
*JASP27	685002.1	Bridge	1- 22'	concrete slab
			1908	
*JASP28	697001.2	Jenkins Creek Bridge	1- 80'	pinned Pratt pony truss
			1885	Wrought Iron Bridge Company
JASP29	699002.5	Jones Creek Bridge	1- 20'	**concrete filled spandrel arch**
			1919	

EXCLUDED:

Pratt pony truss
088000.8 561000.2

Warren pony truss
T 373 Y 593 073000.8 145001.2 202001.9 259000.8 399000.1
562000.9 571000.9

Steel stringer
F1139R1 L 289R L 293R S 834 U220500.4 022000.3 034000.5
072000.5 140001.8 185000.6 324000.1 324000.2 391000.3 391000.4
641000.4 702000.6 712000.4

Steel girder
071500.1 310000.8 606000.1

Concrete slab
H 524 H 592R U220501.5 U220501.6 U450500.2 015000.6 026000.4
038000.1 050000.1 052000.5 062000.2 071500.1 072000.3 076001.7
104001.4 105001.1 116001.2 126000.9 129001.3 130000.5 134000.5
135001.1 136001.3 138001.0 140001.4 140003.1 141001.0 143001.5
150000.9 170000.8 179001.0 195000.2 220500.1 220500.2 220500.3
220500.8 233000.1 246000.2 248000.6 251000.9 254000.9 260003.4
303000.1 337000.2 359000.6 360000.0 363000.3 368000.1 368001.2
370000.8 374000.3 385001.2 391000.1 391000.2 391000.5 438000.8
443000.9 460000.1 460000.3 461000.5 476000.1 476000.6 483000.3
491000.8 523000.4 539001.3 540000.4 550000.3 553000.5 571001.0
571001.2 571001.3 571001.4 575000.3 587001.2 589000.8 603000.1
635000.5 639000.4 656000.4 638000.9 683002.1 699002.6 705000.1

JASPER COUNTY

EXCLUDED (cont.):

Concrete girder

G 530R	H 83R1	H 273R	H 277R1	H 525	H 949	J 199
J 339R1	J 427R	K 415R	K 428	K 921R	L 290	L 409
072000.4	230000.3	542001.2	667000.1	707001.0	710000.2	

Concrete box culvert

H 11R	H 13R	H 275	H 276	H 526R	H 528	H 529R
J 198	J 387	J 540R	J 541	J 801R1	K 122R	K 422R
L 291R	L 292R	L 294R	L 861	S 252	S 835	T 778
T 918	T 990	U072001.0	U072001.1	U220500.7	U220500.8	U220501.0
W 155	W 566	X 532	Y 334	Y 409	Y 428	050000.8
323000.4	469001.2	498001.3	636000.2	688001.0	711000.5	

Timber stringer

U072000.6 519003.8

SUMMARY:

	Primary	Secondary	Urban	Other	Total
Included	4	21	3	0	28
Excluded	41	118	20	0	179
	45	139	23	0	207 structures

Kendricktown Bridge

JASP02

GENERAL DATA

structure no.: H 278
county: Jasper
city/town: Kendricktown
feature inters.: North Fork of the Spring River
cadastral grid: S33, T29N, R31W
highway route: U.S. Highway 71
highway distr.: 7
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: concrete, two-rib, open spandrel arch, flanked by five concrete deck girder approach spans on each end
substructure: concrete abutments and wingwalls; concrete spill-through piers

span number: 1
span length: 80.0'
total length: 512.0'
roadway width: 20.0'
condition: good
alterations: light posts removed from bulkheads on parapet
floor/decking : asphalt over concrete
other features: standard Missouri Highway Department concrete guardrails with open balustrade; concrete sidewalk along west side; bridge plate: **Missouri Highway Dept Bridge No H 278 1928**

HISTORICAL DATA

erection date: 1928
erection cost: $36,873.13
designer: Missouri State Highway Department
fabricator : unknown
contractor: List and Weatherly

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. H 278; Primary System Bridge Record, located at Missouri Highway and Transportation Department, Jefferson City, Missouri; **Sixth Biennial Report of the State Highway Commission of Missouri** (for period ending 1 December 1928), pages 170-72; field inspection by Clayton Fraser, 23 April 1991.

sign. rating: 45
evaluation: NRHP non-eligible (typical example of MSHD concrete arch bridge construction)

inventoried by: Clayton B. Fraser 1 May 1993

Spring River Bridge

JASP03

GENERAL DATA

structure no.: H 279
county: Jasper
city/town: Carthage
feature inters.: North Fork of Spring River
cadastral grid: S33, T29N, R31W
highway route: U.S. Highway 71
highway distr.: 7
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: concrete, two-rib, open spandrel arch, with five-span concrete deck girder approach on north end and two-span concrete deck girder approach on the south end
substructure: concrete abutments and wingwalls; concrete spill-through piers

span number: 3
span length: 100.0'; 77.5'; 122.5'
total length: 615.0'
roadway width: 20.0'
condition: good
alterations: none
floor/decking : asphalt over concrete
other features: standard Missouri State Highway Department concrete guardrails with open balustrade; concrete sidewalk along west side; light standards mounted on bulkheads of guardrail parapets, "**Carthage Foundry & Machine Co**" is printed in the steel at the base of each light; bridge plate: **Missouri Highway Dept Bridge No H 279 1928**

HISTORICAL DATA

erection date: 1928
erection cost: $54,788.99
designer: Missouri State Highway Department
fabricator : none
contractor: List and Weatherly

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. H 279; Primary System Bridge Record, located at Missouri Highway and Transportation Department, Jefferson City, Missouri; **Sixth Biennial Report of the State Highway Commission of Missouri** (for period ending 1 December 1928), pages 170-72; field inspection by Clayton Fraser, 23 April 1991.

sign. rating: 50
evaluation: NRHP possibly eligible (typical example of MSHD concrete arch bridge construction)

inventoried by: Clayton B. Fraser 1 May 1993

Highway 71 Viaduct

JASP04

GENERAL DATA

structure no.: H 311
county: Jasper
city/town: Carthage
feature inters.: Missouri Pacific Railroad
cadastral grid: S33, T29N, R31W
highway route: U.S. Highway 71
highway distr.: 7
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: concrete deck girder
substructure: concrete abutments and wingwalls; concrete spill-through piers

span number: 13
span length: 45.0'
total length: 494.0'
roadway width: 20.0'
condition: good
alterations: none
floor/decking : asphalt over concrete
other features: standard Missouri Highway Department concrete guardrails with open balustrade; concrete sidewalks along both sides; light posts mounted on bulkheads of guardrail parapets, **Carthage Foundry & Machine Co** at the base of each light; bridge plate: **Missouri Highway Dept Bridge No H 311 1928**

HISTORICAL DATA

erection date: 1928
erection cost: $42,880.52
designer: Missouri Highway and Transportation Department
fabricator : none
contractor: List and Weatherly

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. H 311; Primary System Bridge Record, located at Missouri Highway and Transportation Department, Jefferson City, Missouri; **Sixth Biennial Report of the State Highway Commission of Missouri** (for period ending 1 December 1928), pages 170-72; field inspection by Clayton Fraser, 23 April 1991.

sign. rating: 45
evaluation: NRHP non-eligible (typical example of MSHD concrete beam bridge construction)

inventoried by: Clayton B. Fraser 1 May 1993

Center Creek Bridge

JASP05

GENERAL DATA

structure no.: T 425
county: Jasper
city/town: 0.7 mile south of Oronogo
feature inters.: Center Creek
cadastral grid: S5, T28N, R32W
highway route: County Road D
highway distr.: 7
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: steel, 7-panel, rigid-connected Pratt through truss, with steel stringer approach spans
substructure: concrete piers and stone masonry abutments with concrete caps

span number: 1
span length: 140.0'
total length: 347.0'
roadway width: 20.0'
condition: good
alterations: none
floor/decking : concrete deck over steel stringers
other features: steel guardrails

HISTORICAL DATA

erection date: 1935
erection cost: $21,531.20
designer: Missouri State Highway Department
fabricator : unknown
contractor: J.M. Roark

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. T 425; Primary System Bridge Record, located at Missouri Highway and Transportation Department, Jefferson City, Missouri.

sign. rating: 39
evaluation: NRHP non-eligible (typically configured example of MSHD highway truss design)

inventoried by: Clayton B. Fraser 1 May 1993

Spring River Bridge

JASP06

GENERAL DATA

structure no.: T 426
county: Jasper
city/town: 0.9 mile south of Alba
feature inters.: Spring River
cadastral grid: S21/22, T29N, R32W
highway route: County Road O
highway distr.: 7
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: steel, 7-panel, rigid-connected Pratt through truss, with steel stringer approach spans
substructure: concrete abutments, wingwalls and piers

span number: 1
span length: 140.0'
total length: 188.0'
roadway width: 20.0'
condition: good
alterations: none
floor/decking : concrete deck over steel stringers
other features: steel guardrails

HISTORICAL DATA

erection date: 1935
erection cost: $18,513.30
designer: Missouri State Highway Department
fabricator : unknown
contractor: J.M. Roark

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. T 426; Primary System Bridge Record, located at Missouri Highway and Transportation Department, Jefferson City, Missouri.

sign. rating: 39
evaluation: NRHP non-eligible (typically configured example of MSHD highway truss design)

inventoried by: Clayton B. Fraser 1 May 1993

Spring River Bridge

JASP07

GENERAL DATA

structure no.: X 435
county: Jasper

city/town: 4.0 miles southwest of Jasper
feature inters.: North Fork of the Spring River
cadastral grid: S33, T30N, R31W
highway route: County Road M
highway distr.: 7
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: steel, 9-panel, rigid-connected Pratt pony truss, with steel stringer approach spans
substructure: concrete abutments, wingwalls and piers

span number: 1
span length: 100.0'
total length: 324.0.0'
roadway width: 20.0'

condition: good
alterations: none
floor/decking : concrete deck over steel stringers
other features: steel guardrails

HISTORICAL DATA

erection date: 1949
erection cost: $65,940.10
designer: Missouri State Highway Department
fabricator : unknown
contractor: Joseph L. Pohl

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. X 435; Primary System Bridge Record, located at Missouri Highway and Transportation Department, Jefferson City, Missouri.

sign. rating: 37
evaluation: NRHP non-eligible (typical example of exceedingly common structural type)

inventoried by: Clayton B. Fraser 1 May 1993

Seventh Street Viaduct

JASP08

GENERAL DATA

structure no.: U2205001
county: Jasper
city/town: Joplin
feature inters.: Joplin Creek and Kansas City Southern RR
cadastral grid: S2, T27N, R33W
highway route: Seventh Street
highway distr.: 7
current owner: Jasper County

STRUCTURAL DATA

superstructure: concrete deck girder
substructure: concrete abutments and wingwalls; concrete spill-through piers

span number: 12
span length: 55.0'
total length: 960.0'
roadway width: 42.0'
condition: fair
alterations: none
floor/decking : concrete deck
other features: arched girder haunches; concrete posts with metal guardrails; decorative scoring on concrete pier pylons

HISTORICAL DATA

erection date: 1940
erection cost: unknown
designer: unknown
fabricator : none
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. U2205001.

sign. rating: 39
evaluation: NRHP determined non-eligible (relatively late, multiple-span example of mainstay structural type)

inventoried by: Clayton B. Fraser 1 May 1993

Blackberry Creek Bridge

JASP09

GENERAL DATA

structure no.: 006000.7
county: Jasper
city/town: 5.8 miles north of Asbury
feature inters.: Blackberry Creek
cadastral grid: S16/17, T30N, R33W
highway route: County Road 6
highway distr.: 7
current owner: Jasper County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt pony truss
substructure: stone masonry and concrete abutments

span number: 1
span length: 64.0'
total length: 67.0'
roadway width: 22.0'
condition: fair
alterations: none
floor/decking : concrete deck over steel stringers
other features: steel lattice guardrails

HISTORICAL DATA

erection date: 1903
erection cost: $1400.00
designer: unknown
fabricator : unknown
contractor: J.H. Sparks

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 006000.7; Jasper County Court Record, Book 29, page 137 (6 August 1903), located at Jasper County Courthouse, Joplin MO.

sign. rating: 44
evaluation: NRHP non-eligible (typically configured example of common structural type)

inventoried by: Clayton B. Fraser 1 May 1993

Coon Creek Bridge

JASP10

GENERAL DATA

structure no.: 067000.5
county: Jasper
city/town: 7.2 miles east of Jasper
feature inters.: Coon Creek
cadastral grid: S13/18, T30N, R30/29W
highway route: County Road 67
highway distr.: 7
current owner: Jasper County

STRUCTURAL DATA

superstructure: steel, rolled deck girder
substructure: concrete abutments and wingwalls; concrete pier with angled cutwaters

span number: 2
span length: 27.0'
total length: 56.0'
roadway width: 17.2'
condition: fair
alterations: none
floor/decking : concrete deck over steel stringers
other features: steel lattice guardrails with continuous ends and outriders; bridge plate (broken): [1]**910**...[CL]**ASS A** [B]**RIDGE**... **KOHLMAN**... **O**... **ENGINEER**

HISTORICAL DATA

erection date: 1910
erection cost: unknown
designer: unknown
fabricator : Cambria Steel Company, Pittsburgh PA
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 067000.5; field inspection by Clayton Fraser, 23 April 1991.

sign. rating: 40
evaluation: NRHP possibly eligible (early example of mainstay structural type)

inventoried by: Clayton B. Fraser 1 May 1993

Hawthorne Drive Viaduct

JASP11

GENERAL DATA

structure no.: 072000.1
county: Jasper
city/town: Carthage
feature inters.: Saint Louis and San Francisco Railway
cadastral grid: S5/6, T28N, R31W
highway route: Hawthorne Drive
highway distr.: 7
current owner: Jasper County

STRUCTURAL DATA

superstructure: steel plate through girder with concrete deck girder approach spans
substructure: concrete abutments and wingwalls, with hammerhead spill-through piers

span number: 1
span length: 100.0'
total length: 380.0'
roadway width: 24.0'
condition: fair
alterations: none
floor/decking : concrete deck over steel stringers
other features: MSHD standard concrete guardrails

HISTORICAL DATA

erection date: 1936
erection cost: $36,095.90
designer: Missouri State Highway Department
fabricator : unknown
contractor: Neyer Construction Company

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 072000.0; Primary System Bridge Record, located at Missouri Highway and Transportation Department, Jefferson City, Missouri.

sign. rating: 54
evaluation: NRHP possibly eligible (well-preserved, long-span example of MSHD beam bridge design)

inventoried by: Clayton B. Fraser 1 May 1993

Blackberry Creek Bridge

JASP12

GENERAL DATA

structure no.: 091001.2
county: Jasper
city/town: 5.4 miles north of Asbury
feature inters.: Blackberry Creek
cadastral grid: S16/21, T30N, R33W
highway route: County Road 91
highway distr.: 7
current owner: Jasper County

STRUCTURAL DATA

superstructure: steel, 4-panel, rigid-connected Warren pony truss
substructure: stone masonry abutments

span number: 1
span length: 50.0'
total length: 52.0'
roadway width: 17.9'
condition: fair
alterations: unknown
floor/decking : concrete deck over steel stringers
other features: steel pipe guardrails

HISTORICAL DATA

erection date: 1913
erection cost: $920.00
designer: Illinois Steel Bridge Company, Chicago IL
fabricator : Illinois Steel Bridge Company, Chicago IL
contractor: Illinois Steel Bridge Company, Chicago IL

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 091001.2; Jasper County Court Record, Book 39: page 629 (8 January 1913), located at Jasper County Courthouse, Carthage MO.

sign. rating: 37
evaluation: NRHP non-eligible (typically configured example of common structural type)

inventoried by: Clayton B. Fraser 1 May 1993

Hille's Ford Bridge

JASP13

GENERAL DATA

structure no.: 114001.9
county: Jasper
city/town: 3.7 miles southwest of Jasper
feature inters.: North Fork of the Spring River
cadastral grid: S29/32, T30N, R31W
highway route: County Road 114
highway distr.: 7
current owner: Jasper County

STRUCTURAL DATA

superstructure: steel, 8-panel, rigid-connected Pratt through truss
substructure: concrete abutments and wingwalls

span number: 1
span length: 120.0'
total length: 124.0'
roadway width: 13.9'
condition: fair
alterations: none
floor/decking : concrete deck over corrugated steel, with steel stringers
other features: upper chord and inclined end post: two channels with cover plate and lacing; lower chord: four angles with lacing; vertical: two channels with lacing (four angles with lacing at the hip); diagonal: two or four angles with lacing; lateral bracing: round rod with threaded ends; strut: four angles, braced; lattice portal strut with curved knee braces; steel lattice guardrail; bridge plate: **J.L. Ross, Perry Brock, J.F. Lee, Co. Court L.M. Thomas, Co Clerk T.V. Grieb, Eng.**

HISTORICAL DATA

erection date: 1913
erection cost: $5480.00
designer: unknown
fabricator : Illinois Steel Company, Chicago IL
contractor: Fred L. Appleby, Springfield MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 114001.9; Jasper County Court Record, Book 40: pages 223-334 (4 March 1913), page 237 (25 March 1913), page 244 (7 April 1913), page 636 (5 December 1913); Book 42: page 4 (20 January 1914), located at Jasper County Courthouse, Carthage MO; field inspection by Clayton Fraser, 23 April 1991.

sign. rating: 47
evaluation: NRHP possibly eligible (well-preserved, early example of mainstay structural type)

inventoried by: Clayton B. Fraser 1 May 1993

Buck Branch Bridge

JASP14

GENERAL DATA

structure no.: 175000.5
county: Jasper
city/town: 4.1 miles north of Carthage
feature inters.: Buck Branch
cadastral grid: S15/16, T29N, R31W
highway route: County Road 175
highway distr.: 7
current owner: Jasper County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt bedstead
substructure: concrete abutments and wingwalls

span number: 1
span length: 60.0'
total length: 60.0'
roadway width: 14.0'
condition: fair
alterations: truss legs cut off and set in concrete abutments
floor/decking : timber deck over steel stringers
other features: upper chord and upright end post: two channels with cover plate and lacing; lower chord: two angles with batten plates; vertical: four angles with lacing, two channels with lacing; diagonal: two punched rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, U-bolted to lower chord pins; guardrail: two channels

HISTORICAL DATA

erection date: 1906
erection cost: $7279.75 (three-bridge contract)
designer: Vincennes Bridge Company, Vincennes IN
fabricator : Vincennes Bridge Company, Vincennes IN; Jones and Laughlin Steel Company, Pittsburgh PA
contractor: Vincennes Bridge Company, Vincennes IN

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 175000.5; Jasper County Court Record, Book 32: page 104 (7 March 1906), Jasper County Courthouse, Carthage MO; field inspection by Clayton Fraser, 23 April 1991.

sign. rating: 40
evaluation: NRHP non-eligible (typically configured example of common structural type, altered)

inventoried by: Clayton B. Fraser 1 May 1993

Miller Ford Bridge

JASP15

GENERAL DATA

structure no.: 179001.0
county: Jasper
city/town: 6.6 miles north of Carthage
feature inters.: Dry Fork
cadastral grid: S4/5, T29N, R31W
highway route: County Road 179
highway distr.: 7
current owner: Jasper County

STRUCTURAL DATA

superstructure: concrete slab
substructure: concrete abutments, wingwalls and piers

span number: 5
span length: 32.0'
total length: 152.0'
roadway width: 15.3'
condition: fair
alterations: unknown
floor/decking : concrete deck
other features: concrete guardrails with recessed rectangular panels

HISTORICAL DATA

erection date: 1917
erection cost: unknown
designer: unknown
fabricator : none
contractor: Fred L. Appleby, Springfield MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 179001.0; Jasper County Court Record, Book 44: page 93 (24 May 1917), page 100 (4 June 1917), page 122 (27 June 1917), page 127 (5 July 1917), located at Jasper County Courthouse, Carthage MO.

sign. rating: 42
evaluation: NRHP non-eligible (structurally undistinguished example of common concrete bridge type)

inventoried by: Clayton B. Fraser 1 May 1993

Spring River Bridge

JASP16

GENERAL DATA

structure no.: 196001.7
county: Jasper
city/town: 4.4 miles northwest of Carthage
feature inters.: Spring River
cadastral grid: S25/26, T29N, R32W
highway route: County Road 196
highway distr.: 7
current owner: Jasper County

STRUCTURAL DATA

superstructure: concrete filled spandrel arch
substructure: concrete abutments and wingwalls

span number: 1
span length: 52.0'
total length: 55.0'
roadway width: 17.3'
condition: fair
alterations: bridge widened in 1990 by addition of pre-stressed concrete beams on one side
floor/decking : concrete deck over earth fill
other features: steel pipe guardrails with concrete posts

HISTORICAL DATA

erection date: c1920
erection cost: unknown
designer: unknown
fabricator : none
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 196001.7; field inspection by Clayton Fraser, 23 April 1991.

sign. rating: 21
evaluation: NRHP non-eligible (poorly documented, poorly preserved concrete arch bridge)

inventoried by: Clayton B. Fraser 1 May 1993

Purcell Bridge

JASP17

GENERAL DATA

structure no.: 202002.0
county: Jasper
city/town: 1.0 mile north of Purcell
feature inters.: North Fork of the Spring River
cadastral grid: S4/5, T29N, R32W
highway route: County Road 202
highway distr.: 7
current owner: Jasper County

STRUCTURAL DATA

superstructure: steel, 8-panel, rigid-connected Parker through truss, with a three-span steel plate through girder approach on the north end
substructure: concrete abutments and wingwalls; concrete-filled steel cylinder piers with steel plate diaphragm, between main and approach spans; steel pile bent piers on concrete pedestals between approach spans

span number: 1
span length: 148.0'
total length: 253.0'
roadway width: 16.9'
condition: fair
alterations: superstructure raised on piers
floor/decking : asphalt over corrugated steel, with steel stringers
other features: upper chord and inclined end post: two steel channels with cover plate and lacing; lower chord: four angles; vertical: two channels with lacing (four angles with lacing at the hip); diagonal: four angles with lacing; lateral bracing: round rod with threaded ends; strut: angles, braced; floor beam: I-beam, field bolted to verticals; steel pipe guardrails

HISTORICAL DATA

erection date: 1912
erection cost: $8597.00
designer: unknown
fabricator : Lackawanna Steel Company, Pittsburgh PA
contractor: Blodgett Construction Company (superstructure); W.W. Williams (substructure)

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 202002.0; Jasper County Court Record, Book 39: page 77 (9 November 1911), page 338 (7 March 1912); Book 40: page 86 (16 July 1912), page 89 (5 August 1912), page 90 (21 October 1912), page 632 (6 January 1913), located at Jasper County Courthouse, Carthage MO; field inspection by Clayton Fraser, 23 April 1991.

sign. rating: 51
evaluation: NRHP possibly eligible (earliest example in Missouri of mainstay long-span truss type)

inventoried by: Clayton B. Fraser 1 May 1993

Galesburg Bridge

JASP18

GENERAL DATA

structure no.: 218000.2
county: Jasper
city/town: 1.5 miles north of Galesburg
feature inters.: North Fork of the Spring River
cadastral grid: S3, T29N, R33W
highway route: County Road 218
highway distr.: 7
current owner: Jasper County

STRUCTURAL DATA

superstructure: wrought iron, 8-panel, pin-connected Pratt through truss
substructure: stone masonry abutments

span number: 1
span length: 130.0'
total length: 135.0'
roadway width: 12.0'
condition: fair
alterations: wire fence has been installed in lieu of guardrails
floor/decking : timber deck over timber stringers
other features: upper chord and inclined end post: two channels with cover and batten plates; lower chord: two looped rectangular eyebars; vertical: two channels with flat wide laces; diagonal: two looped rectangular eyebars; counter: round eyerod with sleeve bolt; lateral bracing: round rod with threaded ends (lower), looped round eyerod (upper); strut: I-beam; lattice portal strut, with latticed, curved knee braces; floor beam: I-beam, U-bolted to lower chord pins; no guardrail; portal builder's plate: **Wrought Iron Bridge Co Builders Canton Ohio**

HISTORICAL DATA

erection date: 1886
erection cost: $3050.00
designer: Wrought Iron Bridge Company, Canton OH
fabricator : Wrought Iron Bridge Company, Canton OH;
Phoenix Iron Company, Philadelphia PA
contractor: Wrought Iron Bridge Company, Canton OH (superstructure);
Israel Brewer (substructure)

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 218000.2; Jasper County Court Record, Book M: page 610 (4 May 1886); Book N: page 55 (21 June 1886), pages 94-5 (9 August 1886), page 124 (27 October 1886), page 231 (23 February 1887), located at Jasper County Courthouse, Carthage MO; field inspection by Clayton Fraser, 23 April 1991.

Galesburg Bridge

sign. rating: 56
evaluation: NRHP possibly eligible (well-preserved, early example of mainstay structural type)

inventoried by: Clayton B. Fraser 1 May 1993

Joplin Creek Viaduct

JASP19

GENERAL DATA

structure no.: 220501.7
county: Jasper
city/town: Joplin
feature inters.: Joplin Creek and Kansas City Southern Railway
cadastral grid: S2, T27N, R33W
highway route: city street
highway distr.: 7
current owner: Jasper County

STRUCTURAL DATA

superstructure: concrete deck girder
substructure: concrete abutments and wingwalls, with hammerhead spill-through piers

span number: 12
span length: 55.0'
total length: 483.0'
roadway width: 26.8'
condition: fair
alterations: none
floor/decking : concrete deck
other features: concrete guardrails

HISTORICAL DATA

erection date: 1929
erection cost: unknown
designer: unknown
fabricator : none
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 220501.7.

sign. rating: 39
evaluation: NRHP non-eligible (typically configured urban viaduct)

inventoried by: Clayton B. Fraser 1 May 1993

Georgia City Bridge

JASP20

GENERAL DATA

structure no.: 223002.7
county: Jasper
city/town: 3.3 miles southeast of Asbury
feature inters.: Spring River
cadastral grid: S4, T29N, R33W
highway route: County Road 223
highway distr.: 7
current owner: Jasper County

STRUCTURAL DATA

superstructure: wrought iron, 12-panel, bowstring through-arch truss, with three pin-connected Pratt pony truss approach spans
substructure: stone masonry abutments and piers

span number: 1
span length: 120.0'
total length: 218.0'
roadway width: 14.3'
condition: fair
alterations: pony trusses added, 1885
floor/decking : timber deck over timber stringers
other features: tubular arch ribs of Hammond and Abbotts Column, patented April 1870; lower chord: two flat bars; vertical: star bars alternate with two angles, bolted through arch ribs; diagonal: round looped eyerods, creating an "X" pattern between the verticals; lateral bracing: round looped eyerods; strut: four angles with double lacing; transverse timber stringers lie directly on the lower chords; **Patent June 17, 1862** on main span

HISTORICAL DATA

erection date: 1871
erection cost: $9100.00
designer: Wrought Iron Bridge Company, Canton OH
fabricator : Wrought Iron Bridge Company, Canton OH;
Phoenix Iron Company, Philadelphia PA;
Carnegie Iron Company, Pittsburgh PA
contractor: Wrought Iron Bridge Company, Canton OH

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 223002.7; Jasper County Court Record, Book E: page 744 (3 May 1870), page 755 (5 May 1870); Book F: page 13 (2 August 1870), pages 18-28 (3 August 1870), pages 52-3 (31 August 1870), pages 62-4 (5 September 1870), page 131 (12 December 1870), pages 144-45 (22 December 1870), page 154 (17 January 1871), pages 157-160 (18 January 1871); Book L: page 446 (19 Decem ber 1883); Book M: page 119 (29 September 1884), page 207 (2

February 1885), page 293 (11 April 1885), page 299 (21 April 1885), page 320 (9 May 1885), page 340 (21 May 1885); Book P: page 6 (30 December 1889); Book V: page 597 (15 February 1897); Book W: page 54 (3 May 1897), pages 388-89 (4 January 1898); Victor C. Darnell, **American Bridge Building Companies 1840 - 1900**, pages 48, 79; "Group Starts Effort To Save Historic Bridge." **The Joplin Globe**, 27 February 1988, sec. B, page 1, located at Jasper County Courthouse, Carthage MO; field inspection by Clayton Fraser, 23 April 1991.

sign. rating: 86

evaluation: NRHP determined eligible (Missouri's oldest remaining all-metal vehicular bridge)

inventoried by: Clayton B. Fraser 1 May 1993

Bridge

JASP21

GENERAL DATA

structure no.: 228000.7
county: Jasper

city/town: 4.0 miles north of Carl Junction
feature inters.: Spring River Tributary
cadastral grid: S17/18, T29N, R33W
highway route: County Road 228
highway distr.: 7
current owner: Jasper County

STRUCTURAL DATA

superstructure: concrete filled spandrel arch
substructure: concrete abutments and wingwalls

span number: 1
span length: 32.0'
total length: 43.0'
roadway width: 16.0'

condition: fair
alterations: unknown
floor/decking : concrete deck over earth fill
other features: concrete guardrails with recessed rectangular panels

HISTORICAL DATA

erection date: c1935
erection cost: unknown
designer: unknown
fabricator : none
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 228000.7.

sign. rating: 18
evaluation: NRHP non-eligible (undistinguished, small-scale concrete arch bridge)

inventoried by: Clayton B. Fraser 1 May 1993

Little Spring River Bridge

JASP22

GENERAL DATA

structure no.: 248000.8
county: Jasper
city/town: 2.8 miles northwest of Neck City
feature inters.: Little Spring River
cadastral grid: S1, T29N, R33W
highway route: County Road 248
highway distr.: 7
current owner: Jasper County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt pony truss
substructure: concrete abutments and wingwalls

span number: 1
span length: 60.0'
total length: 62.0'
roadway width: 15.0'
condition: fair
alterations:
floor/decking : concrete deck over steel stringers
other features: steel pipe guardrails

HISTORICAL DATA

erection date: 1911
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 248000.8.

sign. rating: 32
evaluation: NRHP non-eligible (typical example of common structural type)

inventoried by: Clayton B. Fraser 1 May 1993

Merrick Ford Bridge

JASP23

GENERAL DATA

structure no.: 321000.6
county: Jasper
city/town: 3.6 miles northwest of Carl Junction
feature inters.: Spring River
cadastral grid: S26, T29N, R34W
highway route: County Road 321
highway distr.: 7
current owner: Jasper County

STRUCTURAL DATA

superstructure: wrought iron or steel, 7-panel, pin-connected Pratt through truss, with flanking pin-connected Pratt pony truss approach spans and one additional steel stringer approach on the east end

substructure: concrete abutments and wingwalls; concrete-filled steel cylinder piers between main and approach spans; concrete and stone pier between pony truss and steel stringer approaches on the east end

span number: 1
span length: 150.0'
total length: 249.0'
roadway width: 14.0'
condition: fair
alterations: collision damage and repair to one vertical on the main span
floor/decking : timber deck over steel stringers
other features: upper chord and inclined end post: two channels with cover plate and lacing; lower chord: two punched rectangular eyebars; vertical: two channels with lacing (two punched rectangular eyes at the hip); diagonal: two punched rectangular eyebars; counter: square eyebar with turnbuckle; lateral bracing: round rod with threaded ends; strut: two angles with angle knee braces; lattice portal strut with knee braces; floor beam: riveted plate girder, U-bolted to lower chord pins; steel angle guardrails; builder's plate: **Built By Mo Valley Bridge and Iron Works Leavenworth Kansas**

HISTORICAL DATA

erection date: 1891
erection cost: $4500.00
designer: Missouri Valley Bridge and Iron Works Company, Leavenworth KS
fabricator : Missouri Valley Bridge and Iron Works Company, Leavenworth KS
contractor: Missouri Valley Bridge and Iron Works Company, Leavenworth KS

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 321000.6; Jasper County Court Record, Book P: page 367 (7 October 1890), page 373 (29 October 1890), page 519 (23 February 1891), pages 556-57 (18 March 1891), located at Jasper County Courthouse, Carthage MO; field inspection by Clayton Fraser, 23 April 1991.

Merrick Ford Bridge

sign. rating: 55
evaluation: NRHP possibly eligible (early, well-preserved example of mainstay structural type)

inventoried by: Clayton B. Fraser 1 May 1993

Center Creek Bridge

JASP24

GENERAL DATA

structure no.: 359000.9
county: Jasper
city/town: 2.4 miles northwest of Webb City
feature inters.: Center Creek
cadastral grid: S1/2, T28N, R33W
highway route: County Road 359
highway distr.: 7
current owner: Jasper County

STRUCTURAL DATA

superstructure: wrought iron or steel, 7-panel, pin-connected Pratt through truss, with a three-span steel stringer approach on the north end and a one-span steel stringer approach on the south end
substructure: stone masonry and concrete abutments and piers

span number: 1
span length: 110.0'
total length: 235.0'
roadway width: 13.6'
condition: fair
alterations: truss possibly moved to this location; deck replaced with concrete
floor/decking : concrete deck over steel stringers
other features: upper chord and inclined end post: two channels with cover and batten plates; lower chord: two punched rectangular eyebars; vertical: two channels with lacing (two square looped eyebars at the hip); diagonal: two looped rectangular eyebars; counter: round eyebar with turnbuckle; lateral bracing: round rod with threaded ends; strut: four angles with lacing; latticed A-frame portal strut; floor beam: tapered "fishtail" plate girder, U-bolted to lower chord pins; steel lattice guardrail

HISTORICAL DATA

erection date: c1895
erection cost: unknown
designer: unknown
fabricator : Jones and Laughlin Steel Company, Pittsburgh PA
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 359000.9; field inspection by Clayton Fraser, 23 April 1991.

sign. rating: 25
evaluation: NRHP non-eligible (typically configured example of mainstay structural type, largely undocumented and possibly moved to this location)

inventoried by: Clayton B. Fraser 1 May 1993

Jenkins Creek Bridge

JASP25

GENERAL DATA

structure no.: 566000.6
county: Jasper
city/town: 5.9 miles west of Sarcoxie
feature inters.: Jenkins Creek
cadastral grid: S16/17, T27N, R30W
highway route: County Road 566
highway distr.: 7
current owner: Jasper County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt pony truss
substructure: concrete abutments and wingwalls

span number: 1
span length: 60.0'
total length: 62.0'
roadway width: 15.8'
condition: fair
alterations: unknown
floor/decking : timber deck
other features: steel lattice guardrails

HISTORICAL DATA

erection date: c1910
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 566000.6.

sign. rating: 28
evaluation: NRHP non-eligible (typically configured, inadequately documented example of common structural type)

inventoried by: Clayton B. Fraser 1 May 1993

Johnson Arch Bridge

JASP26

GENERAL DATA

structure no.: 628000.7
county: Jasper
city/town: 3.8 miles northwest of Joplin
feature inters.: Turkey Creek
cadastral grid: S30, T28N, R33W
highway route: County Road 628
highway distr.: 7
current owner: Jasper County

STRUCTURAL DATA

superstructure: concrete, filled spandrel arch
substructure: concrete abutments and wingwalls

span number: 1
span length: 80.0'
total length: 114.0'
roadway width: 20.2'
condition: good
alterations: fill raised on one end to provide for approach
floor/decking : asphalt deck over earth fill
other features: concrete guardrails with open concrete balustrade

HISTORICAL DATA

erection date: 1912
erection cost: $6390.00
designer: unknown
fabricator : none
contractor: Missouri Valley Bridge and Iron Works Company, Leavenworth KS

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 628000.7; Jasper County Court Record, Book 39: page 338 (7 March 1912), page 375 (8 May 1912), located at Jasper County Courthouse, Carthage MO; field inspection by Clayton Fraser, 23 April 1991.

sign. rating: 56
evaluation: NRHP possibly eligible (excellent, large-scale example of pre-MSHD concrete bridge construction)

inventoried by: Clayton B. Fraser 1 May 1993

Bridge

JASP27

GENERAL DATA

structure no.: 685002.1
county: Jasper
city/town: 3.7 miles west of Sarcoxie
feature inters.: tributary of Motley Creek
cadastral grid: S11, T27N, R30W
highway route: County Road 685
highway distr.: 7
current owner: Jasper County

STRUCTURAL DATA

superstructure: concrete slab, skewed
substructure: concrete abutments and wingwalls

span number: 1
span length: 22.0'
total length: 24.0'
roadway width: 13.8'
condition: fair
alterations: none
floor/decking : concrete deck
other features: plainly formed low parapet guardrails; **NO 91** on parapet

HISTORICAL DATA

erection date: 1908
erection cost: unknown
designer: unknown
fabricator : none
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 685002.1; field inspection by Clayton Fraser, 23 April 1991.

sign. rating: 28
evaluation: NRHP non-eligible (undistinguished, small-scale example of common structural type, built early but inadequately documented)

inventoried by: Clayton B. Fraser 1 May 1993

Jenkins Creek Bridge

JASP28

GENERAL DATA

structure no.: 697001.2
county: Jasper

city/town: 4.9 miles southwest of Sarcoxie
feature inters.: Jenkins Creek
cadastral grid: S15/22, T27N, R30W
highway route: County Road 697
highway distr.: 7
current owner: Jasper County

STRUCTURAL DATA

superstructure: wrought iron, 5-panel, pin-connected Pratt pony truss
substructure: concrete abutments and wingwalls

span number: 1
span length: 80.0'
total length: 82.0'
roadway width: 15.8'

condition: fair
alterations: bridge moved to this location, I-beams welded to ends of floor beams to form outriders
floor/decking : timber deck over timber stringers
other features: upper chord and inclined end post: two channels with cover and batten plates; lower chord: two looped rectangular eyebars; vertical: two tees with double lacing; diagonal: two looped square eyebars; counter: round eye rod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: tapered "fishtail" plate girder, U-bolted to lower chord pins; steel channel guardrails; cast iron hip blocks

HISTORICAL DATA

erection date: 1884-85
erection cost: unknown
designer: Wrought Iron Bridge Company, Canton OH
fabricator : Wrought Iron Bridge Company, Canton OH
contractor: Wrought Iron Bridge Company, Canton OH

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 697001.2; Jasper County Court Record, Book M: pages 43-44 (23 June 1884), page 98 (22 August 1884), page 106 (11 September 1884), page 119 (29 September 1884), page 195 (20 December 1884), page 243 (16 February 1885) - located at Jasper County Courthouse, Carthage MO; field inspection by Clayton Fraser, 23 April 1991.

sign. rating: 54
evaluation: NRHP possibly eligible (early, patented example of mainstay structural type)

inventoried by: Clayton B. Fraser 1 May 1993

Jones Creek Bridge

JASP29

GENERAL DATA

structure no.: 699002.5
county: Jasper

city/town: 2.9 miles southeast of Fidelity
feature inters.: Jones Creek
cadastral grid: S13/24, T27N, R31W
highway route: County Road 699
highway distr.: 7
current owner: Jasper County

STRUCTURAL DATA

superstructure: concrete filled spandrel arch
substructure: concrete abutments and wingwalls

span number: 1
span length: 20.0'
total length: 26.0'
roadway width: 16.9'

condition: fair
alterations: none
floor/decking : concrete deck over earth
other features: concrete guardrails with recessed rectangular panels

HISTORICAL DATA

erection date: 1919
erection cost: unknown
designer: unknown
fabricator : none
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 699002.5; Jasper County Court Record, Book 46: page 568 (22 July 1919), page 592 (3 September 1919), located at Jasper County Courthouse, Carthage MO.

sign. rating: 24
evaluation: NRHP non-eligible (structurally undistinguished, small-scale concrete arch bridge)

inventoried by: Clayton B. Fraser 1 May 1993

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Spring River Bridge JASP03
MHTD: H 279

DATE(S) OF CONSTRUCTION
1928

LOCATION
U.S. Highway 71 over North Fork of Spring River; S33, T29N, R31W
Carthage; Jasper County, Missouri

USE (ORIGINAL / CURRENT)
highway bridge / highway bridge

RATING NRHP possibly eligible (score: 50)

CONDITION
good

OWNER
Missouri Highway and Transportation Department

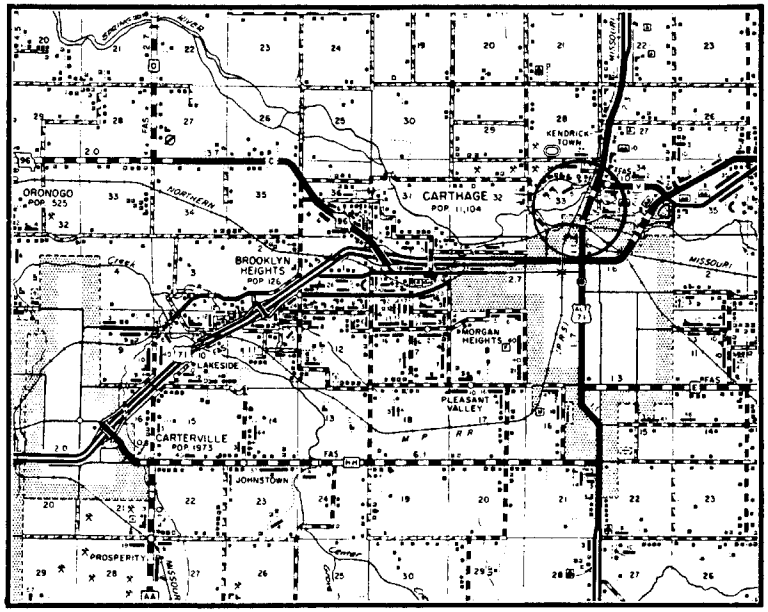
span number:	3	superstructure:	concrete, two-rib, open spandrel arch, with five-span concrete deck girder approach on north end and two-span concrete deck girder approach on the south end
span length:	100.0'; 77.5'; 122.5'	substructure:	concrete abutments and wingwalls; concrete spill-through piers
total length:	615.0'	floor/decking:	asphalt over concrete
roadway wdt.:	20.0'	other features:	standard Missouri State Highway Department concrete guardrails with open balustrade; concrete sidewalk along west side; light standards mounted on bulkheads of guardrail parapets, "**Carthage Foundry & Machine Co**" is printed in the steel at the base of each light; bridge plate: **Missouri Highway Dept Bridge No H 279 1928**

Spanning the North Fork of the Spring River, this multiple-span concrete bridge carries U.S. Highway 71 at the northern edge of Carthage. The structure is comprised of three open spandrel arches approached by a total of seven concrete deck girder spans, all on concrete piers and abutments. Engineers for the Missouri State Highway Department delineated plans and specifications for the bridge and on July 6, 1928, contracted with List and Weatherly to build the structure. Completed in 1928 for $54,788.99, the Spring River Bridge continues to carry traffic with no notable alterations.

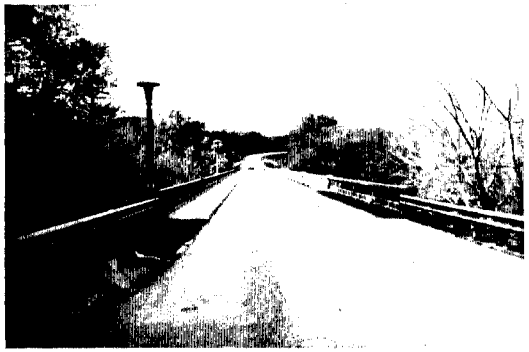
After it developed designs for the concrete open spandrel arch in the mid-1920s, the Missouri State Highway Department characteristically used this graceful design for its concrete structures with 80 feet or more of span length. With some notable exceptions, filled arches were employed for shorter-span applications. MSHD engineers designed a number of open spandrel arches in the 1920s and 1930s, primarily in the southern counties, employing both single- and multiple-span configurations. Built in 1929, with a span length of 122 feet, the Highway 71 Viaduct Bridge falls squarely within the mainstream of this bridge building trend. The structure is a well-preserved, multiple-span example of open spandrel arch construction.

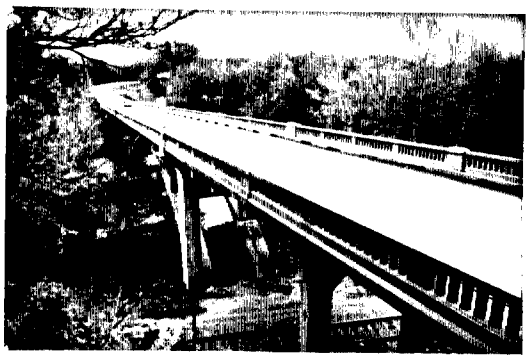
NAME(S) OF STRUCTURE
Spring River Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP
TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT GENERAL HIGHWAY MAP





SOURCES
Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. H 279; Primary System Bridge Record, located at Missouri Highway and Transportation Department, Jefferson City, Missouri; **Sixth Biennial Report of the State Highway Commission of Missouri** (for period ending 1 December 1928), pages 170-72; field inspection by Clayton Fraser, 23 April 1991.

INVENTORIED BY
Clayton B. Fraser

AFFILIATION
Fraserdesign, Loveland CO

DATE
1 May 1993

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Coon Creek Bridge
MHTD: 067000.5

JASP10

DATE(S) OF CONSTRUCTION
1910

LOCATION
County Road 67 over Coon Creek; S13/18, T30N, R30/29W
7.2 miles east of Jasper; Jasper County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 40)

CONDITION
fair

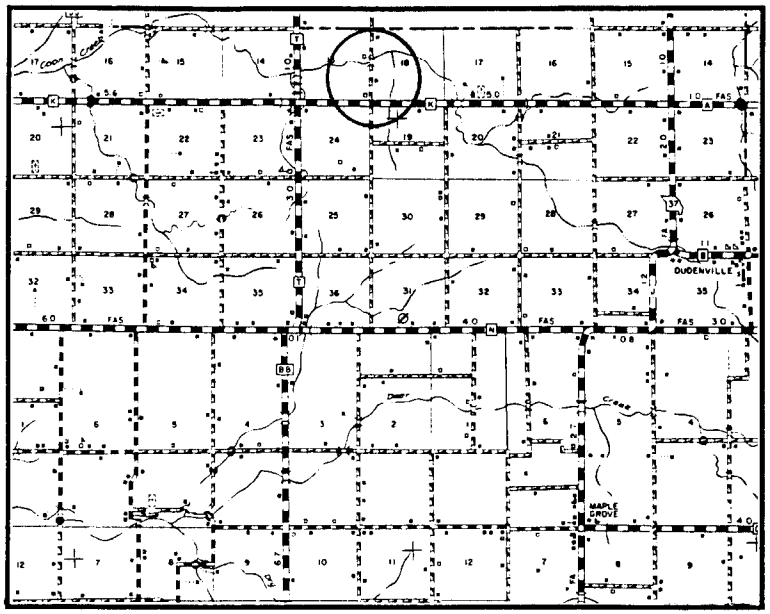
OWNER
Jasper County

span number:	2	superstructure:	steel, rolled deck girder
span length:	27.0'	substructure:	concrete abutments and wingwalls; concrete pier with angled cutwaters
total length:	56.0'	floor/decking:	concrete deck over steel stringers
roadway wdt.:	17.2'	other features:	steel lattice guardrails with continuous ends and outriders; bridge plate (broken): [1]**910**...[CL]**ASS A** [B]**RIDGE... KOHLMAN... O... ENGINEER**

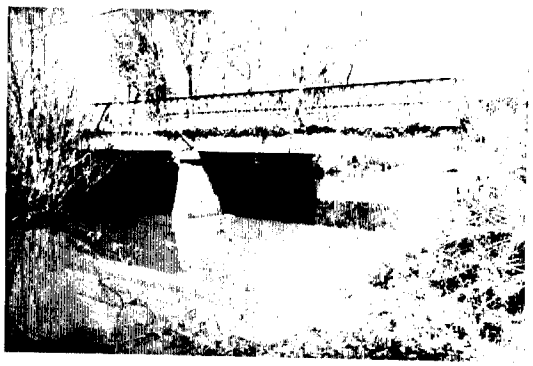
Located on a gravel-surfaced county road east of Jasper, this small-scale steel bridge spans Coon Creek. The structure is comprised of two rolled steel deck girder spans, supported by a concrete substructure, with steel lattice guardrails. A plate mounted on the bridge indicates that it was built in 1910. Jasper County Court records do not mention its construction, however, suggesting that it was funded by one of the special road districts then functioning in the county. This lack of documentation is unfortunate, because this bridge is noteworthy as among the state's oldest remaining steel deck girder structures, a mainstay beam bridge configuration. As it stands, the Coon Creek Bridge is a well-preserved, early example of its type, with only partial documentation by which to interpret its history.

NAME(S) OF STRUCTURE
Coon Creek Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP
TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP



SOURCES
Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 067000.5; field inspection by Clayton Fraser, 23 April 1991.

INVENTORIED BY
Clayton B. Fraser

AFFILIATION
Fraserdesign, Loveland CO

DATE
1 May 1993

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Hawthorne Drive Viaduct
MHTD: 072000.1

JASP11

DATE(S) OF CONSTRUCTION
1936

LOCATION
Hawthorne Drive over Saint Louis and San Francisco Railway; S5/6, T28N, R31W
Carthage; Jasper County, Missouri

USE (ORIGINAL / CURRENT)
highway bridge / roadway bridge

RATING possibly eligible (score: 54)

CONDITION
fair

OWNER
Jasper County

span number:	1	superstructure:	steel plate through girder with concrete deck girder approach spans
span length:	100.0'	substructure:	concrete abutments and wingwalls, with hammerhead spill-through piers
total length:	380.0'	floor/decking:	concrete deck over steel stringers
roadway wdt.:	24.0'	other features:	MSHD standard concrete guardrails

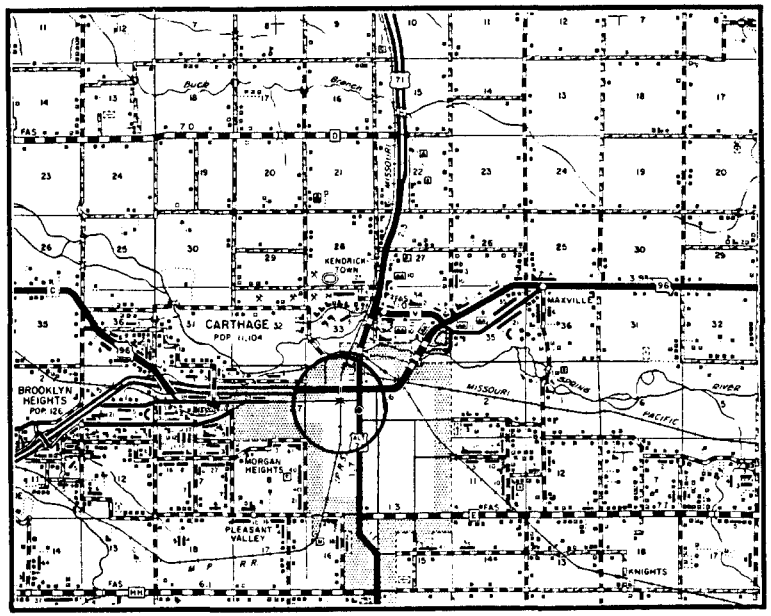
As part of the effort to create jobs during the Depression, Congress in 1934 passed an act allowing federal monies to be used for road and bridge construction within municipalities. Taking advantage of the new legislation, the Missouri State Highway Commission undertook a number of urban road and bridge projects that year. Located on Hawthorne Drive (old U.S. Highway 66) in the city of Carthage, this multiple-span viaduct was one such construction project. To span the tracks of the St. Louis and San Francisco Railroad, the highway department engineered a 100-foot steel plate through girder, flanked by three 55-foot and two 50-foot concrete deck girder spans, all supported by concrete spill-through piers. On April 10, 1936, a $36,095.90 contract for the structure's construction was awarded to the Neyer Construction Company. Completed later that year, the Hawthorne Drive Viaduct has since carried increasingly heavy traffic loads on the principal highway through the city.

As an important crossing of the SL&SF Railroad on Route 66, the Hawthorne Drive Viaduct has formed an integral part of the city's street system. The viaduct is also important as one of the railroad separation projects funded through the New Deal's Hayden-Cartwright Act. Federal relief programs of the 1930s broke with past practice by allowing federal funds to be used for urban, as well as rural highways. Grade separation was a major focus of the highway department during this period, requiring commitment of much staff time. The Hawthorne Drive Viaduct is technologically distinguished as one of the few steel through girders identified in the statewide bridge inventory. Through the 1930s and 1940s, the Missouri State Highway Department designed and built progressively longer steel beam bridges, using both rolled and plate girders in through and deck configurations. This culminated at the end of the decade with spans around 150 feet. Other longer girders had been built elsewhere in the country, but for Missouri, this represented a noteworthy technological feat. With its 100-foot through girder span and 1936 construction date, the Hawthorne Drive Viaduct is noteworthy as one of the earliest of these long-span beam bridges.

NAME(S) OF STRUCTURE

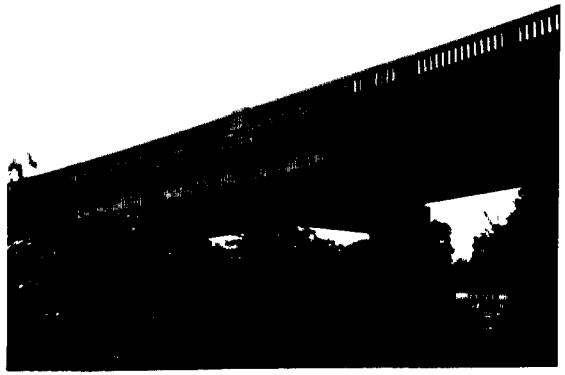
Hawthorne Drive Viaduct

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP



SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 072000.0; Primary System Bridge Record, located at Missouri Highway and Transportation Department, Jefferson City, Missouri.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	3 July 1993

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Hille's Ford Bridge JASP13
MHTD: 114001.9

DATE(S) OF CONSTRUCTION
1913

LOCATION
County Road 114 over North Fork of the Spring River; S29/32, T30N, R31W
3.7 miles southwest of Jasper; Jasper County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 47)

CONDITION
fair

OWNER
Jasper County

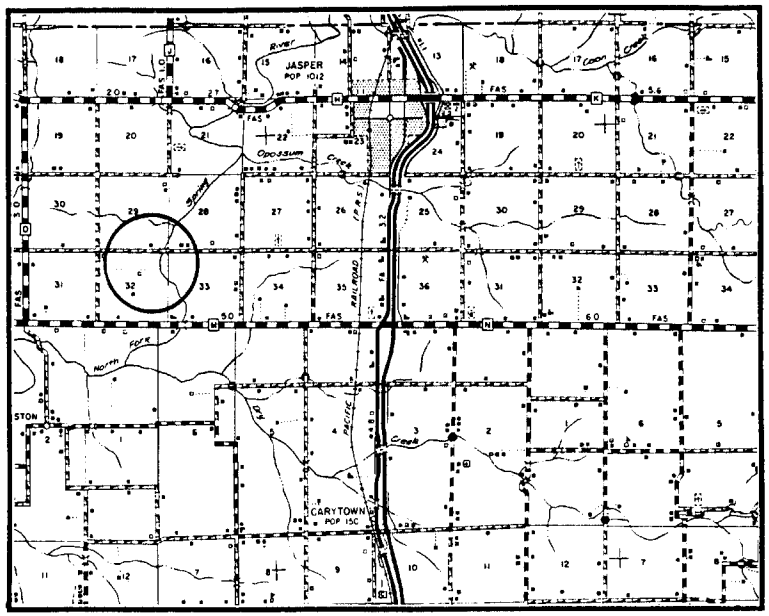
span number:	1	superstructure:	steel, 8-panel, rigid-connected Pratt through truss
span length:	120.0'	substructure:	concrete abutments and wingwalls
total length:	124.0'	floor/decking:	concrete deck over corrugated steel, with steel stringers
roadway wdt.:	13.9'	other features:	upper chord and inclined end post: two channels with cover plate and lacing; lower chord: four angles with lacing; vertical: two channels with lacing (four angles with lacing at the hip); diagonal: two or four angles with lacing; lateral bracing: round rod with threaded ends; strut: four angles, braced; lattice portal strut with curved knee braces; steel lattice guardrail; bridge plate: **J.L. Ross, Perry Brock, J.F. Lee, Co. Court L.M. Thomas, Co Clerk T.V. Grieb, Eng.**

The Hille's Ford Bridge carries a county road over the North Fork of the Spring River in north-central Jasper County. A single-span riveted Pratt through truss, the bridge was erected in 1913 by Fred L. Appleby. A regionally active bridge builder from Springfield, Appleby received a $16,609.00 contract to erect four Jasper County bridges on March 4, 1913. Among these was a 120-foot span to be built at Hille's Ford, between sections 29 and 32, Township 30 North, Range 31 West. Construction of the four bridges was carried out by Appleby in routine fashion. On December 5, 1913, he was paid $4500.00 for "part payment Hille's Ford Bridge." This was followed by a payment of $980.00 issued to Appleby on January 20, 1914, with the notation "payment in full Hille's Ford Bridge." Having now served to carry vehicular traffic for eighty years, the Hille's Ford Bridge has not been significantly altered.

The Missouri State Highway Department employed the riveted Pratt configuration as its standard medium-span truss design for hundreds of bridges throughout the state. This bridge type was thus a mainstay structural type in Missouri during the 1920s and 1930s. But before the highway department developed its design, the counties had begun building riveted Pratts on their own, based on standard designs by the regional bridge builders. Relatively few pre-MSHD riveted Pratts were built in Missouri by the counties, owing to the short time span between their introduction and their adoption by the highway department. The Hille's Ford Bridge is noteworthy among these as one of the oldest surviving riveted Pratt through truss in Missouri–a well-preserved, early example of a state bridge staple.

NAME(S) OF STRUCTURE
Hille's Ford Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP
TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP

SOURCES
Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 114001.9; Jasper County Court Record, Book 40: pages 223-334 (4 March 1913), page 237 (25 March 1913), page 244 (7 April 1913), page 636 (5 December 1913); Book 42: page 4 (20 January 1914), located at Jasper County Courthouse, Carthage MO; field inspection by Clayton Fraser, 23 April 1991.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton B. Fraser	Fraserdesign, Loveland CO	1 May 1993

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Purcell Bridge JASP17
MHTD: 202002.0

DATE(S) OF CONSTRUCTION
1912

LOCATION
County Road 202 over North Fork of the Spring River; S4/5, T29N, R32W
1.0 mile north of Purcell; Jasper County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 51)

CONDITION
fair

OWNER
Jasper County

span number: 1
span length: 148.0'
total length: 253.0'
roadway wdt.: 16.9'

superstructure: steel, 8-panel, rigid-connected Parker through truss, with a three-span steel plate through girder approach on the north end

substructure: concrete abutments and wingwalls; concrete-filled steel cylinder piers with steel plate diaphragm, between main and approach spans; steel pile bent piers on concrete pedestals between approach spans

floor/decking: asphalt over corrugated steel, with steel stringers

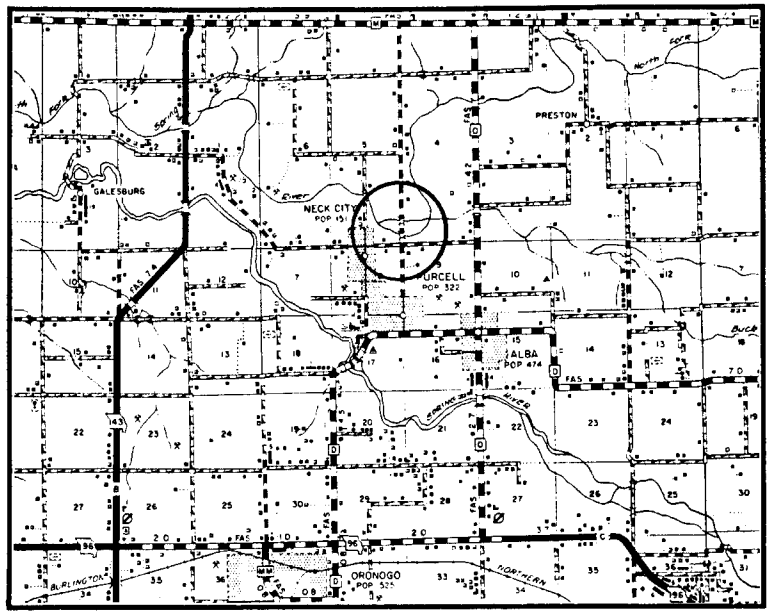
other features: upper chord and inclined end post: two steel channels with cover plate and lacing; lower chord: four angles; vertical: two channels with lacing (four angles with lacing at the hip); diagonal: four angles with lacing; lateral bracing: round rod with threaded ends; strut: angles, braced; floor beam: I-beam, field bolted to verticals; steel pipe guardrails

On March 17, 1912, the Jasper County Court opened competitive bids for the construction of three bridges: The Johnson Arch Bridge, located east of Belleville; the Moss Springs Bridge; and the Purcell Bridge, located over the North Fork of the Spring River a mile north of Purcell. Contracts to erect the superstructures for the Purcell and Moss Springs Bridges were let to the Blodgett Construction Company of Kansas City. Contracts to build the substructures for both bridges, meanwhile, were awarded to W.W. Williams of Joplin. For the Purcell Bridge, Blodgett Construction contracted to erect the superstructure for $6091.00, while Williams contracted to build the substructure for $2506.00. The erection of the Purcell Bridge was evidently carried out as planned. Warrants for work on the abutments were issued to Williams on July 16th, and August 5th, while Blodgett received payments for erecting the truss on October 21st, and on January 6, 1913. Today, the Purcell Bridge still carries traffic in its original location, and has not suffered any measurable loss of physical integrity.

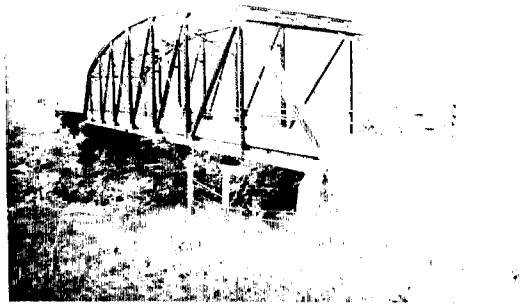
The Missouri State Highway Department employed the riveted Parker configuration as its standard long-span truss design for hundreds of bridges throughout the state. This bridge type was thus a mainstay structural type in Missouri during the 1920s and 1930s. But before the highway department developed its design, the counties had begun building riveted Parkers on their own, based on standard designs by the regional bridge builders. Relatively few pre-MSHD riveted Parkers were built in Missouri by the counties, owing to the short time span between their introduction and their adoption by the highway department. The Purcell Bridge is noteworthy among these as the oldest surviving riveted Parker through truss in Missouri–a well-preserved, early example of a state bridge staple.

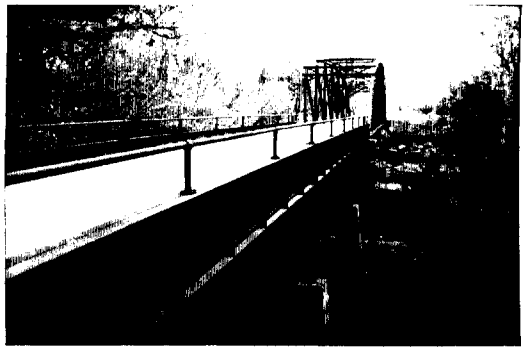
NAME(S) OF STRUCTURE
Purcell Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP
TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP





SOURCES
Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 202002.0; Jasper County Court Record, Book 39: page 77 (9 November 1911), page 338 (7 March 1912); Book 40: page 86 (16 July 1912), page 89 (5 August 1912), page 90 (21 October 1912), page 632 (6 January 1913), located at Jasper County Courthouse, Carthage MO; field inspection by Clayton Fraser, 23 April 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	1 May 1993

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Galesburg Bridge JASP18
MHTD: 218000.2

DATE(S) OF CONSTRUCTION
1886

LOCATION
County Road 218 over North Fork of the Spring River; S3, T29N, R33W
1.5 miles north of Galesburg; Jasper County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 56)

CONDITION
fair

OWNER
Jasper County

span number:	1	superstructure:	wrought iron, 8-panel, pin-connected Pratt through truss
span length:	130.0'	substructure:	stone masonry abutments
total length:	135.0'	floor/decking:	timber deck over timber stringers
roadway wdt.:	12.0'	other features:	upper chord and inclined end post: two channels with cover and batten plates; lower chord: two looped rectangular eyebars; vertical: two channels with flat wide laces; diagonal: two looped rectangular eyebars; counter: round eyerod with sleeve bolt; lateral bracing: round rod with threaded ends (lower), looped round eyerod (upper); strut: I-beam; lattice portal strut, with latticed, curved knee braces; floor beam: I-beam, U-bolted to lower chord pins; no guardrail; portal builder's plate: **Wrought Iron Bridge Co Builders Canton Ohio**

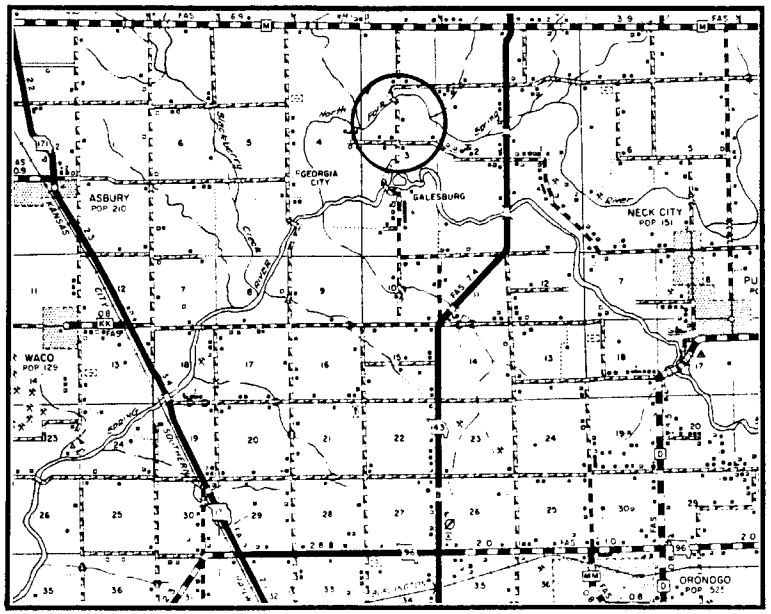
Comprised of a single pinned Pratt through truss, supported by stone masonry abutments, this medium-span wrought iron bridge is located 1½ miles north of Galesburg. The Galesburg Bridge dates to 1886. On June 21st of that year the Jasper County Court directed the county bridge commissioner to advertise for the erection of three iron bridges. One of the three spans, located at Norris Mill (later known as American Mill) was subsequently built by the Missouri Valley Bridge and Iron Company. Contracts to erect the other two bridges, meanwhile, were let to the Wrought Iron Bridge Company. For this crossing over the North Fork of the Spring River, WIBCo's contract called for fabrication and erection of superstructure for $2500.00. Local stonemason Israel Brewer received a separate $550.00 contract to build stone abutments. The bridge was constructed in a timely and routine manner. The abutments were declared completed on October 27, 1886; on February 23, 1887, the bridge commissioner reported that the superstructure had been completed and accepted. Now more than a century old, the Galesburg Bridge remains open to vehicular traffic. Located in a picturesque rural setting, it today exhibits a remarkably high degree of physical integrity.

Marketed extensively by such industry giants as Wrought Iron, the Pratt through truss was the bridge of choice for counties building medium-span structures on their roads. Its standardized fabrication, efficiency of materials and relative ease of erection made it an economical structural type for counties facing extensive bridge construction programs with limited funds. As a result, thousands of such trusses were built on Missouri's roads in the late 19th and early 20th centuries. The Galesburg Bridge is technologically significant as one of the oldest Pratts remaining in the state. One of the three oldest bridges in Jasper County, the Galesburg Bridge is a well-preserved remnant of early overland transportation.

NAME(S) OF STRUCTURE

Galesburg Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT GENERAL HIGHWAY MAP

SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 218000.2; Jasper County Court Record, Book M: page 610 (4 May 1886); Book N: page 55 (21 June 1886), pages 94-5 (9 August 1886), page 124 (27 October 1886), page 231 (23 February 1887), located at Jasper County Courthouse, Carthage MO; field inspection by Clayton Fraser, 23 April 1991.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton B. Fraser	Fraserdesign, Loveland CO	1 May 1993

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Georgia City Bridge
MHTD: 223002.7

JASP20

DATE(S) OF CONSTRUCTION
1871

LOCATION
County Road 223 over Spring River; S4, T29N, R33W
3.3 miles southeast of Asbury; Jasper County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP determined eligible (score: 86)

CONDITION
fair

OWNER
Jasper County

span number: 1
span length: 120.0'
total length: 218.0'
roadway wdt.: 14.3'

superstructure: wrought iron, 12-panel, bowstring through-arch truss, with three pin-connected Pratt pony truss approach spans
substructure: stone masonry abutments and piers
floor/decking: timber deck over timber stringers
other features: tubular arch ribs of Hammond and Abbotts Column, patented April 1870; lower chord: two flat bars; vertical: star bars alternate with two angles, bolted through arch ribs; diagonal: round looped eyerods, creating an "X" pattern between the verticals; lateral bracing: round looped eyerods; strut: four angles with double lacing; transverse timber stringers lie directly on the lower chords; **Patent June 17, 1862** on main span

Erected in 1871 by the Wrought Iron Bridge Company, the Georgia City Bridge is Missouri's oldest remaining all-metal bridge. Planning for the structure began to take shape in the spring of 1870. On May 3rd of that year the Jasper County Court appropriated $11,000.00 for a 120-foot iron bridge to be built over the Spring River at Georgia City. Two months later, on August 2nd, County Road Commissioner Alonzo H. Hubbard presented specifications and estimates for the piers, tresselwork (approach spans) and embankments, for the bridge to be built at Georgia City. The work was put out to bid, and on August 31st John Miller and Israel Brewer were awarded a $4,800.00 contract to build the tressels, piers and embankments for the Georgia City Bridge "in a good substantial workmanlike manner, according to the best of their art and skill."

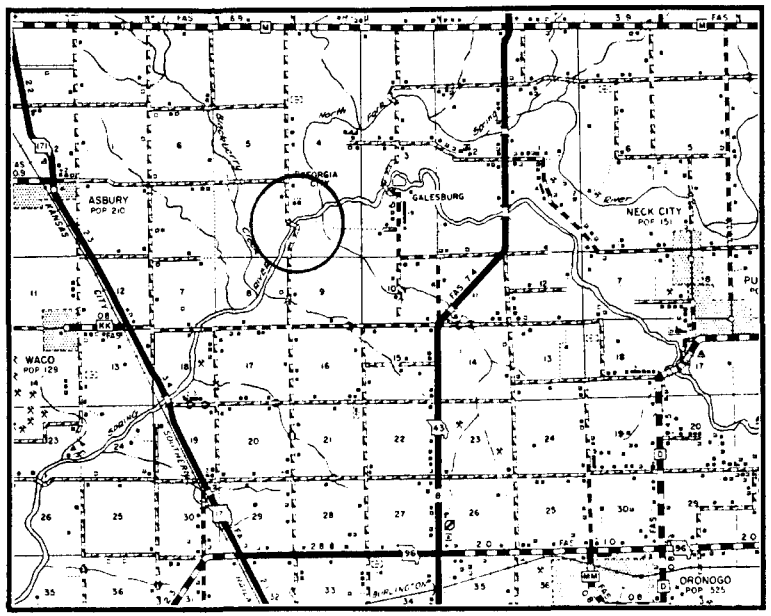
On December 12th, James Spence, who had replaced Hubbard as road commissioner, reported that the piers were in place, and the county then began to plan the erection of the truss itself. On December 21st a $4300.00 contract to build a wrought iron bridge of "Hammonds and Abbotts Column" across the Spring River at Georgia City was let to Eleazer Coffein, agent for the "Canton Ohio Bridge Company." This entry, recorded in the county court minutes on January 17, 1871, seems confusing because the Canton Bridge Company did not come into existence until 1876. In truth the truss was built, not by Canton Bridge which did not yet exist, but rather by another Canton based firm - the newly formed Wrought Iron Bridge Company. The Hammond referred to in the contract was David A. Hammond, who in 1864 had formed a bridge building partnership with Washington R. Reeves. Six years later, in April 1870, Hammond and a new partner, Job Abbott, patented the Hammond and Abbotts Column design, from which the Georgia City Bridge was patterned.

The contract for the Georgia City Bridge was signed on December 21, 1870, with Coffein acting as the agent, and Hammond, and perhaps Abbott, acting as sole proprietors. Then in January 1871, just as work on the Georgia City crossing was beginning, Hammond incorporated his bridge building enterprise under the name of the Wrought Iron Bridge Company. Thus the court's reference to the "Canton Ohio Bridge Company" was actually a general reference to Hammond's firm which was soon to be incorporated as the Wrought Iron Bridge Company. These facts provide compelling evidence that the Georgia City Bridge was likely one of the first iron structures built under the auspices of the Wrought Iron Bridge Company. In 1885 the county contracted with J.C. Gaston to replace the structure's timber approach spans with two small pony trusses. A third pony truss approach was added around the turn of the century. Although closed to vehicular traffic in 1986, the bridge has thus far been preserved in its original location, and retains an exceptionally high degree of structural integrity.

The bowstring arch-truss was the iron span of choice for Missouri counties in the late 1860s and 1870s. Marketed extensively throughout the Midwest by such industry giants as the King Iron Bridge and Manufacturing Company and the Wrought Iron Bridge Company, these often-patented bridge forms featured a wide range of span lengths, economical fabrication cost and relatively quick erection. The proliferation of the bowstring corresponded with the initial development of Missouri's road system; as a result, perhaps thousands of these prototypical iron spans were erected throughout the state. The bowstring had some rather severe structural flaws, however, relating primarily to lateral stability of the arches, and it was largely superseded by the pin-connected truss in the early 1880s. Despite this, some bowstrings were still erected in Iowa in the 1880s, although the number dwindled precipitously by the decade's end. Through subsequent attrition, almost all of Missouri's bowstrings have since been demolished and replaced. Now only four bowstring through arch-trusses remain. The Georgia City Bridge is historically and technologically significant as the oldest example in the state of what was once a mainstay structural type.

NAME(S) OF STRUCTURE
Georgia City Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP
TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP

SOURCES
Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 223002.7; Jasper County Court Record, Book E: page 744 (3 May 1870), page 755 (5 May 1870); Book F: page 13 (2 August 1870), pages 18-28 (3 August 1870), pages 52-3 (31 August 1870), pages 62-4 (5 September 1870), page 131 (12 December 1870), pages 144-45 (22 December 1870), page 154 (17 January 1871), pages 157-160 (18 January 1871); Book L: page 446 (19 December 1883); Book M: page 119 (29 September 1884), page 207 (2 February 1885), page 293 (11 April 1885), page 299 (21 April 1885), page 320 (9 May 1885), page 340 (21 May 1885); Book P: page 6 (30 December 1889); Book V: page 597 (15 February 1897); Book W: page 54 (3 May 1897), pages 388-89 (4 January 1898); Victor C. Darnell, **American Bridge Building Companies 1840 - 1900**, pages 48, 79; "Group Starts Effort To Save Historic Bridge." **The Joplin Globe**, 27 February 1988, sec. B, page 1, located at Jasper County Courthouse, Carthage MO; field inspection by Clayton Fraser, 23 April 1991.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton B. Fraser	Fraserdesign, Loveland CO	1 May 1993

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Merrick Ford Bridge
MHTD: 321000.6

JASP23

DATE(S) OF CONSTRUCTION
1891

LOCATION
County Road 321 over Spring River; S26, T29N, R34W
3.6 miles northwest of Carl Junction; Jasper County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 55)

CONDITION
fair

OWNER
Jasper County

span number: 1
span length: 150.0'
total length: 249.0'
roadway wdt.: 14.0'

superstructure: wrought iron or steel, 7-panel, pin-connected Pratt through truss, with flanking pin-connected Pratt pony truss approach spans and one additional steel stringer approach on the east end

substructure: concrete abutments and wingwalls; concrete-filled steel cylinder piers between main and approach spans; concrete and stone pier between pony truss and steel stringer approaches on the east end

floor/decking: timber deck over steel stringers

other features: upper chord and inclined end post: two channels with cover plate and lacing; lower chord: two punched rectangular eyebars; vertical: two channels with lacing (two punched rectangular eyes at the hip); diagonal: two punched rectangular eyebars; counter: square eyebar with turnbuckle; lateral bracing: round rod with threaded ends; strut: two angles with angle knee braces; lattice portal strut with knee braces; floor beam: riveted plate girder, U-bolted to lower chord pins; steel angle guardrails; builder's plate: **Built By Mo Valley Bridge and Iron Works Leavenworth Kansas**

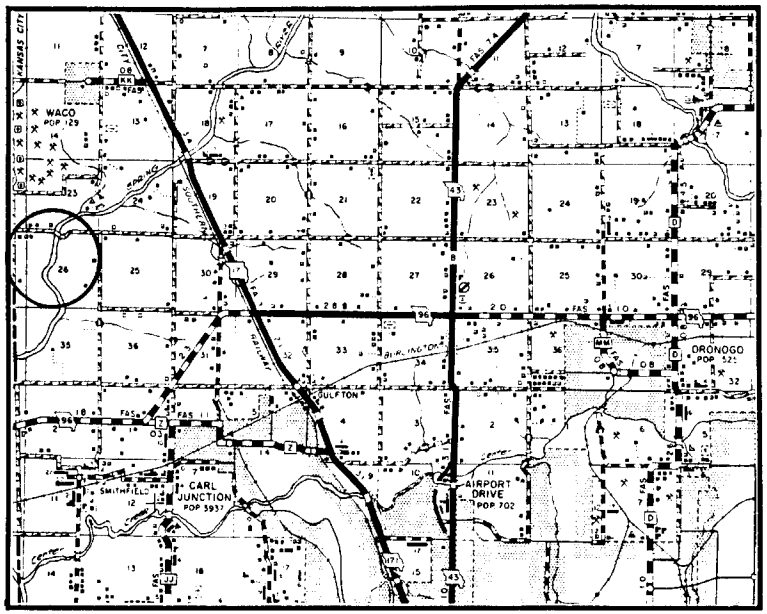
The Merrick Ford Bridge carries a county road over the Spring River about 3½ miles northwest of Carl Junction, near the Kansas state line. Configured as a pinned Pratt through truss, flanked on either end by pin-connected Pratt pony truss approach spans, the superstructure is supported by concrete-filled steel cylinder piers and concrete abutments. The bridge was built in 1891 by the Missouri Valley Bridge and Iron Works for $4500.00. In the fall of 1890 the Jasper County Court advertised for the construction of iron bridges at Gibson and Merrick Fords. On October 29, 1890, the court contracted with Missouri Valley for the Merrick Ford crossing, and in early 1891 a contract for the Gibson Ford Bridge was let to the Wrought Iron Bridge Company. There was some confusion between the two contracts, and the one for the Merrick Ford Bridge was subsequently amended and reissued. The confusion, however, caused only slight delay, if any. On March 18, 1891, George Bradford, the county road and bridge commissioner reported that he had inspected the Merrick Ford Bridge, and that he had found it completed in an acceptable manner. The county court then authorized full payment of $4500.00 to Missouri Valley. The Merrick Ford Bridge has changed little over the years, and still carries vehicular traffic in its original location.

Pinned Pratt through trusses were erected in abundance throughout Missouri during the later 19th and early 20th centuries. Their standardized fabrication, efficiency of materials and relative ease of erection made them an economical structural type for counties facing extensive bridge construction programs with limited funds. The Merrick Ford Bridge is distinguished among the many Pratt trusses remaining in place in the state with its relatively early construction date and its excellent state of preservation. One of the more noteworthy examples of this mainstay structural type, it is a significant early wagon bridge.

NAME(S) OF STRUCTURE

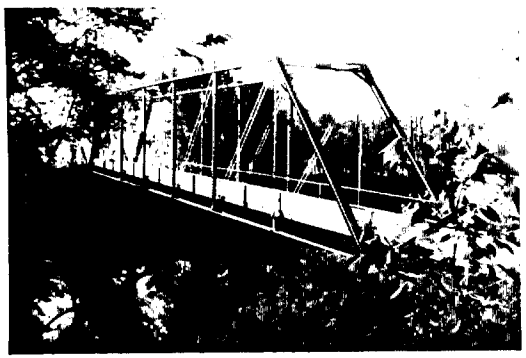
Merrick Ford Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP



SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 321000.6; Jasper County Court Record, Book P: page 367 (7 October 1890), page 373 (29 October 1890), page 519 (23 February 1891), pages 556-57 (18 March 1891), located at Jasper County Courthouse, Carthage MO; field inspection by Clayton Fraser, 23 April 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	1 May 1993

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Johnson Arch Bridge
MHTD: 628000.7

JASP26

DATE(S) OF CONSTRUCTION
1912

LOCATION
County Road 628 over Turkey Creek; S30, T28N, R33W
3.8 miles northwest of Joplin; Jasper County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 56)

CONDITION
good

OWNER
Jasper County

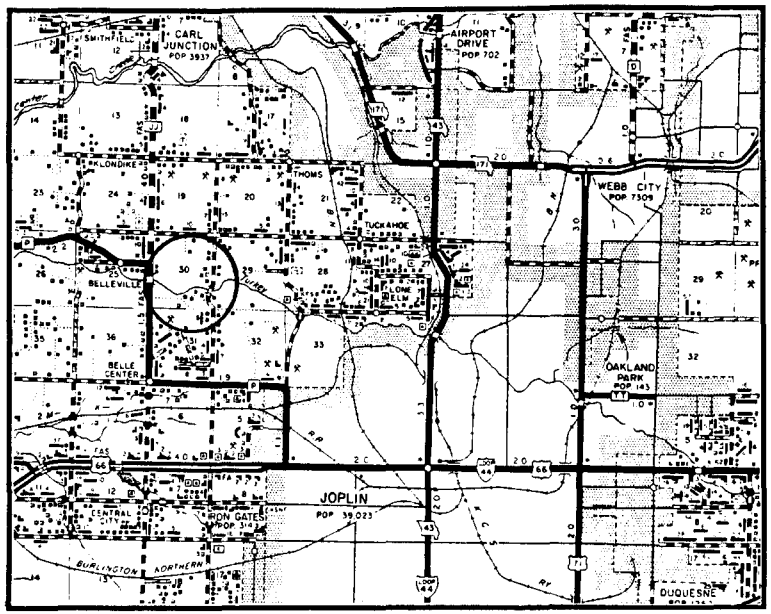
span number:	1	superstructure:	concrete, filled spandrel arch
span length:	80.0'	substructure:	concrete abutments and wingwalls
total length:	114.0'	floor/decking:	asphalt deck over earth fill
roadway wdt.:	20.2'	other features:	concrete guardrails with open concrete balustrade

On March 17, 1912, the Jasper County Court opened bids for the construction of three bridges: the Purcell Bridge, a steel truss located over the North Fork of the Spring River north of Purcell; the Moss Springs Bridge, another steel truss; and the Johnson Arch Bridge, located between Belleville and Joplin. The county hired A.M. Blodgett of Kansas City to erect the two trusses, but the low bidder for the Johnson Arch Bridge at $6390.00 was the Missouri Valley Bridge and Iron Company of Leavenworth, Kansas. Carrying a county road over Turkey Creek in southeastern Jasper County, the Johnson Arch differed from previous vehicular spans built by the county in that it employed a filled spandrel concrete arch, rather than a traditional truss, for its superstructure. The bridge's name alone–Johnson Arch Bridge–indicates that it was viewed differently from the county's other bridges. The bridge has withstood the test of time in fine fashion. Located less than four miles northwest of Joplin, the region's largest city, the Johnson Arch Bridge still functions as originally built. Built from an independently developed design in a county that had not built any concrete arches up until this point, the Johnson Arch Bridge is something of an anomaly. It is noteworthy among Missouri's vehicular bridges for its long span, early construction date and well-preserved condition.

NAME(S) OF STRUCTURE

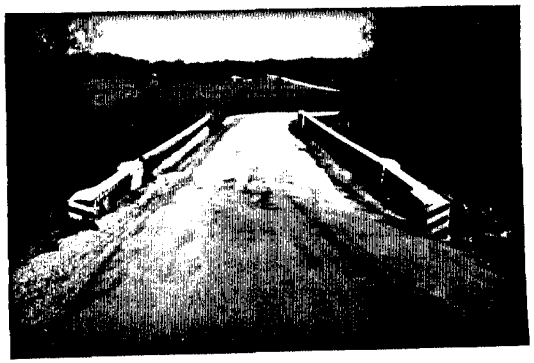
Johnson Arch Bridge

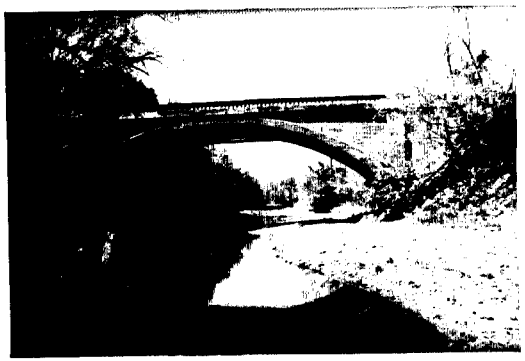
PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP





SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 628000.7; Jasper County Court Record, Book 39: page 338 (7 March 1912), page 375 (8 May 1912), located at Jasper County Courthouse, Carthage MO; field inspection by Clayton Fraser, 23 April 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	1 May 1993

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Jenkins Creek Bridge
MHTD: 697001.2

JASP28

DATE(S) OF CONSTRUCTION
1884-85

LOCATION
County Road 697 over Jenkins Creek; S15/22, T27N, R30W
4.9 miles southwest of Sarcoxie; Jasper County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 54)

CONDITION
fair

OWNER
Jasper County

span number:	1	superstructure:	wrought iron, 5-panel, pin-connected Pratt pony truss
span length:	80.0'	substructure:	concrete abutments and wingwalls
total length:	82.0'	floor/decking:	timber deck over timber stringers
roadway wdt.:	15.8'	other features:	upper chord and inclined end post: two channels with cover and batten plates; lower chord: two looped rectangular eyebars; vertical: two tees with double lacing; diagonal: two looped square eyebars; counter: round eye rod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: tapered "fishtail" plate girder, U-bolted to lower chord pins; steel channel guardrails; cast iron hip blocks

This long-span pony truss spans Jenkins Creek on a gravel-surfaced county road, almost five miles southwest of Sarcoxie. The structure is comprised of a wrought iron Pratt truss supported by a concrete substructure. The truss employs features–cast iron hip blocks and paired tees for the verticals–that earmark it as having been fabricated by the Wrought Iron Bridge Company in the mid-1880s. In June 1884 the Jasper County Court ordered two 80-foot trusses from WIBCo for a bridge over the North Fork of the Spring River a mile west of Jasper. The court hired Napolean Gosney to build the masonry abutments and pier. In August the court then ordered the masonry work for bridges over Center Creek at Oronogo Ford and at Madill Ford. Gosney had completed the stonework on the Spring River bridge late in September, and a few weeks later WIBCo had delivered the structural steel for the two trusses to be used at this crossing.

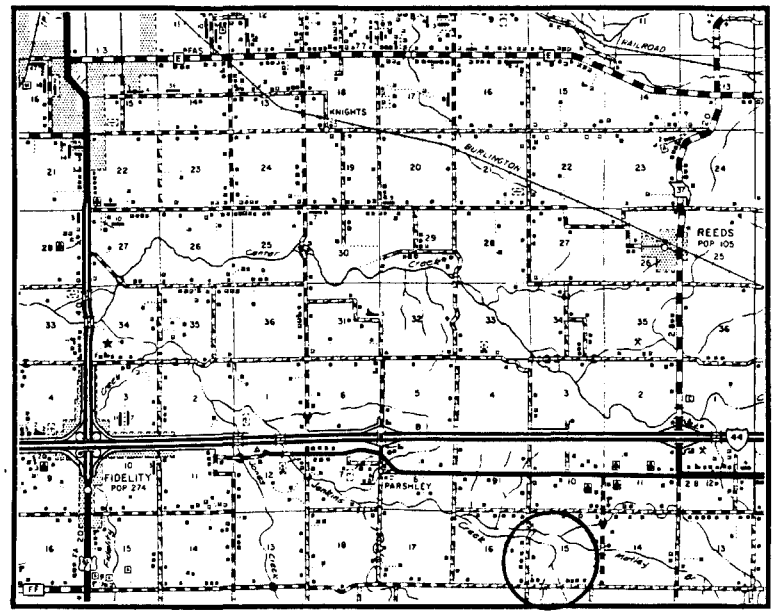
For some reason, however, the county in December instead directed WIBCo to erect one truss at each of the Oronago Ford and Madill Ford crossings, the masonry substructures for which had also been completed. The two structures–along with a third bridge over the Spring River–were reported complete by mid-February 1885. At some later time, one of these spans was probably moved to its present location over Jenkins Creek almost five miles southwest of Sarcoxie. Since its re-erection on new concrete abutments, the Jenkins Creek Bridge has functioned in place, with the addition of welded steel outriders at the verticals the only noteworthy structural alteration.

As one of America's most prolific bridge fabricators, the Wrought Iron Bridge Company maintained an extensive catalogue of truss types, ranging from the exotic to the commonplace. WIBCo, like most of the region's bridge builders of the time, relied heavily on pin-connected Pratt truss variants for its standard truss types. Patented in 1844 by Thomas and Caleb Pratt, the Pratt design was characterized by upper chords and vertical members acting in compression and lower chords and diagonals that acted in tension. Its parallel

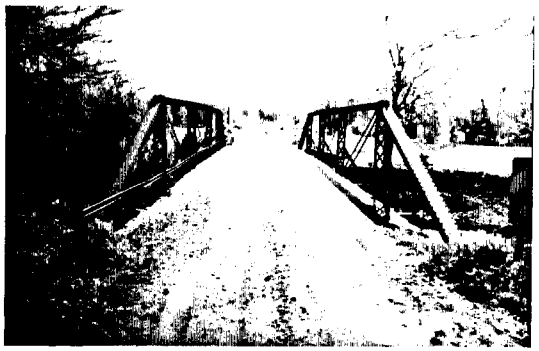
chords and equal panel lengths resulted in standardized sizes for the verticals, diagonals and chord members, making fabrication and assembly relatively easy. In the highly competitive bridge manufacturing industry, in which efficiency equated with profit, Pratt trusses received almost universal use. "The Pratt truss is the type most commonly used in America for spans under two hundred and fifty feet in length," noted bridge engineer J.A.L. Waddell wrote in 1916. "Its advantages are simplicity, economy of metal, and suitability for connecting to the floor and lateral systems." Virtually all of the major regional fabricators manufactured Pratt trusses and marketed them extensively to Missouri's counties in the late 19th and early 20th centuries. The Jenkins Creek Bridge, although moved to its present location, is distinguished among these for its relatively early fabrication date and its patented configuration.

NAME(S) OF STRUCTURE
Jenkins Creek Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP
TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP



SOURCES
Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 697001.2; Jasper County Court Record, Book M: pages 43-44 (23 June 1884), page 98 (22 August 1884), page 106 (11 Spetember 1884), page 119 (29 September 1884), page 195 (20 December 1884), page 243 (16 February 1885) - located at Jasper County Courthouse, Carthage MO; field inspection by Clayton Fraser, 23 April 1991.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton B. Fraser	Fraserdesign, Loveland CO	1 May 1993

LAWRENCE COUNTY

INCLUDED: [Significant feature(s) of bridge given in boldface]
[Field inventoried bridge indicated by asterisk]

Inv. No.	MHTD	Bridge Name	Description
LAWR01	H 787	StL&SF RR Overpass	1-120' **riveted Pratt through truss** 1935
LAWR02	082001.0	Johnson Bridge	1- 23' concrete slab 1923 John Newberry, Mt. Vernon MO
*LAWR03	091000.8	Sac River Bridge	4- 18' concrete slab **1915** Fred L. Appleby, Kansas City MO
*LAWR04	178000.0	Bowers Mill Bridge	1-120' **pinned Pratt through truss** **1898** Kansas City Bridge Company
LAWR05	201000.2	Spring River Bridge	1-100' **riveted Pratt through truss** c1930
LAWR06	251000.6	Henson Bridge	4- 16' concrete slab **1919** Ira Patton, Mt. Vernon MO
*LAWR07	272001.0	Spencer Bridge	1-100' **riveted Pratt through truss** 1923 Baker and Koontz
*LAWR08	272001.8	Turnback Creek Bridge	3- 70' riveted Warren pony truss 1923 Baker and Koontz
*LAWR09	342000.1	Elm Street Bridge	3- 35' concrete deck girder **1919** M.E. Gillioz, Monett MO
*LAWR10	342000.2	Walnut Street Bridge	1- 62' pinned Pratt half-hip pony truss **1911**
*LAWR11	362002.9	Lister Ford Bridge	3- 34' concrete deck girder **1917** Fred L. Appleby, Kansas City
*LAWR12	477001.5	Bridge	2- 22' concrete slab **1916** Canton Bridge Company
*LAWR13	517001.4	Baugh Ford Bridge	1- 60' pinned Pratt pony truss **1894** Kansas City Bridge Company
*LAWR14	531001.1	Honey Creek Bridge	2- 26' concrete deck girder **1914** T.A. Miller
*LAWR15	531001.1	Honey Creek Bridge	1- 24' concrete deck girder **1914** T.A. Miller
*LAWR16	531001.4	Spring River Bridge	2- 20' concrete deck girder **1914** T.A. Miller
LAWR17	560000.6	Adams Ford Bridge	4- 25' concrete slab 1920 M.E. Gillioz, Monett MO
LAWR18	796000.2	Bridge	2- 13' concrete slab **1916** Canton Bridge Co., Canton OH

EXCLUDED:

Pratt pony truss
G 505 396000.4

LAWRENCE COUNTY

EXCLUDED (CONT.):

Warren pony truss
071000.8

Lattice pony truss
262000.4

Steel stringer

K 865	L 180	S 479	T 190	T 319	T 320	T 619
042000.8	087000.7	105000.2	158000.7	200000.4	212000.2	222000.2
225000.7	241000.3	284000.1	309000.4	311000.7	312000.6	323001.7
327002.9	370000.7	375000.9	379000.8	418000.9	443002.6	445002.5
464000.9	477001.6	477001.7	660000.4	774000.5	812001.7	

Concrete girder

F 393R	F 395R	G 890	H 633	H 891R	H 892R	H 961R1
H 962R	J 478	J 619	K 8	K 806	K 947	L 114
Y 151	237000.2	249000.3	342000.4	438000.1	531001.1	899000.8

Concrete slab

H 957	S 896	011001.0	017000.8	020000.2	050002.7	061001.3
064001.1	103000.8	212000.3	266000.1	318000.6	327001.5	331001.3
342000.3	344000.6	366000.4	407000.7	454000.2	457000.2	460001.0
465000.3	470000.1	477001.5	483000.3	490000.4	494000.9	514000.9
606000.8	611000.4	622000.7	627000.1	634000.8	684000.3	667000.6
742000.1	756000.9	758000.6	761000.4	808000.2	832000.9	900000.1

Concrete box culvert

F 394R	H 53	H 54	H 634	H 635	H 886R	H 887
H 888	H 893	H 960R	K 864	S 56	S 240	S 480
S 481	S 482	S 723	S 895	S 987	T 924	T1021
U020000.1	W 571	X 335	X 964	Y 134	009000.8	026000.2
314000.3	320000.6	394000.1	692000.8	737000.9	741001.5	875000.3
883000.1						

Timber stringer

T1001	T1022	T1023	T1024	T1025	641000.1	656000.8

SUMMARY:

	Primary	Secondary	Urban	Other	Total
Included	1	16	0	0	17
Excluded	53	88	3	0	144
	54	104	3	0	161 structures

StL&SF Railroad Overpass

LAWR01

GENERAL DATA

structure no.: H 787
county: Lawrence
city/town: 12.5 miles southwest of Mt. Vernon
feature inters.: St. Louis & San Francisco Railroad
cadastral grid: S26, T26N, R27W
highway route: State Business Route 60
highway distr.: 7
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: steel, 6-panel, rigid-connected Pratt through truss, with concrete girder approach spans
substructure: concrete abutments and wingwalls, with concrete hammerhead spill-through piers

span number: 1
span length: 120.0'
total length: 357.0'
roadway width: 22.0'
condition: good
alterations: none
floor/decking : concrete deck over steel stringers
other features: MSHD standard concrete guardrails

HISTORICAL DATA

erection date: 1935
erection cost: unknown
designer: Missouri State Highway Department
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number H 787.

sign. rating: 35
evaluation: NRHP non-eligible (relatively late example of a mainstay structural type, with unremarkable dimensions and detailing)

inventoried by: Clayton B. Fraser 26 November 1992

Johnson Bridge

LAWR02

GENERAL DATA

structure no.: 082001.0
county: Lawrence
city/town: 5.3 miles northwest of Halltown
feature inters.: Dry Branch
cadastral grid: S2/3, T29N, R25W
highway route: County Road 82
highway distr.: 7
current owner: Lawrence County

STRUCTURAL DATA

superstructure: concrete slab
substructure: concrete abutments and wingwalls

span number: 1
span length: 23.0'
total length: 24.0'
roadway width: 11.0'
condition: fair
alterations: none
floor/decking : concrete deck
other features: concrete curbing and guardrails

HISTORICAL DATA

erection date: 1923
erection cost: unknown
designer: unknown
fabricator : none
contractor: John Newberry, Mt. Vernon MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 082001.0.

sign. rating: 20
evaluation: NRHP non-eligible (short-span example of a common, rudimentary design)

inventoried by: Clayton B. Fraser 26 November 1992

Sac River Bridge

LAWR03

GENERAL DATA

structure no.: 091000.8
county: Lawrence
city/town: 4.8 miles northeast of Halltown
feature inters.: Sac River
cadastral grid: S1, T29N, R25W
highway route: County Road 91
highway distr.: 7
current owner: Lawrence County

STRUCTURAL DATA

superstructure: concrete slab
substructure: concrete abutments, wingwalls and piers

span number: 4
span length: 18.0'
total length: 80.0'
roadway width: 14.0'
condition: fair
alterations: none
floor/decking : concrete deck
other features: low concrete curbs

HISTORICAL DATA

erection date: 1915
erection cost: $497.00
designer: unknown
fabricator : none
contractor: Fred Appleby, Kansas City MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 091000.8; "Fred L. Appleby Bridge Engineer and Contractor, Copy of Contract for Bridge on County Line Between Lawrence and Greene Counties, Mo." (3 August 1915) - located at Lawrence County Courthouse, Mt. Vernon MO; field inspection by Clayton Fraser, 16 April 1991.

sign. rating: 46
evaluation: NRHP possibly eligible (relatively early example of concrete bridge design)

inventoried by: Clayton B. Fraser 26 November 1991

Bowers Mill Bridge

LAWR04

GENERAL DATA

structure no.: 178000.0
county: Lawrence
city/town: 7.1 miles northwest of Stotts City
feature inters.: Spring River
cadastral grid: S12, T28N, R29W
highway route: county road
highway distr.: 7
current owner: Lawrence County

STRUCTURAL DATA

superstructure: steel, 7-panel, pin-connected Pratt through truss
substructure: stone abutments

span number: 1
span length: 120.0'
total length: 123.0'
roadway width: 13.0'
condition: good
alterations: none
floor/decking : asphalt covered timber deck, over steel stringers
other features: upper chord and inclined end post: two channels with cover plate and lacing; lower chord: two looped rectangular eyebars; vertical: two channels with lacing; diagonal: two looped rectangular eyebars; counter: square eyebar with turnbuckles; lateral bracing: round rod with threaded ends; strut: two channels with lacing; floor beam: I-beams, U-bolted to verticals; guardrail: steel lattice; portal strut: A-frame

HISTORICAL DATA

erection date: 1898
erection cost: $2478.00
designer: Kansas City Bridge Company, Kansas City MO
fabricator : Kansas City Bridge Company, Kansas City MO; Carnegie Steel Company, Pittsburgh PA
contractor: Kansas City Bridge Company, Kansas City

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 178000.0; Lawrence County Road Record F: page 324 (3 November 1897), page 330 (4 January 1898), page 340 (10 February 1898), page 348 (1 March 1898), pages 358-59 (11 April 1898), page 362 (2 May 1898), page 376 (1 July 1898), page 386 (7 September 1898), page 397 (11 November 1898), page 471 (2 December 1912) - located at Lawrence County Courthouse, Mt. Vernon MO; field inspection by Clayton Fraser, 16 April 1991.

sign. rating: 53
evaluation: NRHP possibly eligible (well-preserved, relatively early example of mainstay 19th century structural type)

inventoried by: Clayton B. Fraser 26 November 1992

Spring River Bridge

LAWR05

GENERAL DATA

structure no.: 201000.2
county: Lawrence
city/town: 3.3 miles northwest of Stotts City
feature inters.: Spring River
cadastral grid: S15/16, T28N, R28W
highway route: County Road 201
highway distr.: 7
current owner: Lawrence County

STRUCTURAL DATA

superstructure: steel, 5-panel, rigid-connected Pratt through truss
substructure: concrete abutments and wingwalls

span number: 1
span length: 100.0'
total length: 104.0'
roadway width: 13.8'
condition: fair
alterations: unknown
floor/decking : concrete deck over steel stringers
other features: steel angle guardrails

HISTORICAL DATA

erection date: c1930
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 201000.2.

sign. rating: 23
evaluation: NRHP non-eligible (undocumented, relatively late example of a standard truss configuration)

inventoried by: Clayton B. Fraser 26 November 1992

Henson Bridge

LAWR06

GENERAL DATA

structure no.: 251000.6
county: Lawrence
city/town: Mt. Vernon
feature inters.: Williams Creek
cadastral grid: S30, T28N, R26W
highway route: County Road 251
highway distr.: 7
current owner: Lawrence County

STRUCTURAL DATA

superstructure: concrete slab
substructure: concrete abutments and piers

span number: 4
span length: 16.0'
total length: 66.0'
roadway width: 16.2'
condition: fair
alterations: none
floor/decking : concrete deck
other features: no guardrails

HISTORICAL DATA

erection date: 1919
erection cost: $1135.56
designer: unknown
fabricator : none
contractor: Ira Patton, Mt. Vernon MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 251000.6; Lawrence County Road Record, Book J: page 19 (11 October 1919), page 27 (2 December 1919), page 39 (6 January 1920) - located at Lawrence County Courthouse, Mt. Vernon MO.

sign. rating: 39
evaluation: NRHP non-eligible (simple concrete design, with unremarkable dimensions and features)

inventoried by: Clayton B. Fraser 26 November 1992

Spencer Bridge

LAWR07

GENERAL DATA

structure no.: 272001.0
county: Lawrence
city/town: 8.4 miles north of Mt. Vernon
feature inters.: Johnson Creek
cadastral grid: S31, T29N, R25W
highway route: County Road 272
highway distr.: 7
current owner: Lawrence County

STRUCTURAL DATA

superstructure: steel, 5-panel, rigid-connected Pratt through truss
substructure: concrete abutments and wingwalls

span number: 1
span length: 100.0'
total length: 104.0'
roadway width: 20.0'
condition: good
alterations: none
floor/decking : concrete deck
other features: steel pipe guardrails

HISTORICAL DATA

erection date: 1923
erection cost: $14,887.15
designer: Missouri State Highway Department
fabricator : unknown
contractor: Baker and Koontz

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 272001.0; Primary System Bridge Files, located at Missouri Highway and Transportation Department, Jefferson City MO; field inspection by Clayton Fraser, 16 April 1991.

sign. rating: 38
evaluation: NRHP non-eligible (typical example of rigid-connected Pratt through truss construction, with average length and standard details)

inventoried by: Clayton B. Fraser 26 November 1992

Turnback Creek Bridge

LAWR08

GENERAL DATA

structure no.: 272001.8
county: Lawrence
city/town: 9.4 miles northeast of Mt. Vernon
feature inters.: Turnback Creek
cadastral grid: S29, T29N, R25W
highway route: County Road 272
highway distr.: 7
current owner: Lawrence County

STRUCTURAL DATA

superstructure: steel, 3-panel, rigid-connected Warren pony truss
substructure: concrete abutments, wingwalls and piers

span number: 3
span length: 70.0'
total length: 216.0'
roadway width: 20.0'
condition: good
alterations: none
floor/decking : concrete deck over steel stringers
other features: steel pipe guardrails

HISTORICAL DATA

erection date: 1923
erection cost: $22,780.75
designer: Missouri State Highway Department
fabricator : unknown
contractor: Baker and Koontz

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 272001.8; Primary System Bridge Record, located at Missouri Highway and Transportation Department, Jefferson city MO; **Fourth Biennial Report of the State Highway Commission of Missouri**: 1923-24, page 137; field inspection by Clayton Fraser, 16 April 1991.

sign. rating: 49
evaluation: NRHP possibly eligible (relatively early, multiple-span example of MSHD truss design)

inventoried by: Clayton B. Fraser 26 November 1992

Elm Street Bridge

LAWR09

GENERAL DATA

structure no.: 342000.1
county: Lawrence
city/town: Pierce City
feature inters.: Clear Creek
cadastral grid: S28, T26N, R28W
highway route: Elm Street
highway distr.: 7
current owner: Lawrence County

STRUCTURAL DATA

superstructure: concrete deck girder
substructure: concrete abutments and piers

span number: 3
span length: 35.0'
total length: 102.0'
roadway width: 15.8'
condition: fair
alterations: none
floor/decking : concrete deck
other features: low concrete curbs

HISTORICAL DATA

erection date: 1919
erection cost: $5785.00
designer: Bert Robbins, Lawrence County Highway Engineer
fabricator : none
contractor: M.E. Gillioz, Monett MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 342000.1; Lawrence County Road Record, Book I: page 517 (31 December 1918), page 537 (3 March 1919), page 556 (8 April 1919), page 575 (6 May 1919), pages 580-85 (8 May 1919), page 586 (2 June 1919), page 603 (7 July 1919); Lawrence County Road Record, Book J: page 6 (5 August 1919) - located at Lawrence County Courthouse, Mt. Vernon MO.

sign. rating: 44
evaluation: NRHP non-eligible (unsophisticated concrete structure, average integrity)

inventoried by: Clayton B. Fraser 26 November 1992

Walnut Street Bridge

LAWR10

GENERAL DATA

structure no.: 342000.2
county: Lawrence
city/town: Pierce City
feature inters.: Clear Creek
cadastral grid: S28, T26N, R28W
highway route: Walnut Street
highway distr.: 7
current owner: Lawrence County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt half-hip pony truss, with steel stringer approach span
substructure: concrete abutments and pier, stone wingwalls

span number: 1
span length: 62.0'
total length: 81.0'
roadway width: 10.5'
condition: fair
alterations: cantilevered sidewalk on east side of truss removed
floor/decking : concrete deck over steel stringers
other features: upper chord and inclined end post: two channels with cover and batten plates; lower chord: two looped rectangular eyebars; vertical: four angles with lacing; diagonal: two looped rectangular eyebars; counter: looped round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, field bolted to vertical; guardrail: steel pipe

HISTORICAL DATA

erection date: 1911
erection cost: unknown
designer: unknown
fabricator : Lackawanna Steel Company, Pittsburgh PA
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 342000.2; Lawrence County Road Record, Book H: page 134 (9 March 1910), page 328 (6 September 1911) - located at Lawrence County Courthouse, Mt. Vernon MO; field inspection by Clayton Fraser, 16 April 1991.

sign. rating: 34
evaluation: NRHP non-eligible (well-preserved, but undocumented example of a common structural type)

inventoried by: Clayton B. Fraser 26 November 1992

Lister Ford Bridge

LAWR11

GENERAL DATA

structure no.: 362002.9
county: Lawrence
city/town: 4.5 miles northwest of Mt. Vernon
feature inters.: Spring River
cadastral grid: S20/29, T28N, R27W
highway route: County Road 363
highway distr.: 7
current owner: Lawrence County

STRUCTURAL DATA

superstructure: concrete deck girder, skewed
substructure: concrete abutments, wingwalls and piers

span number: 3
span length: 34.0'
total length: 100.0'
roadway width: 12.8'
condition: fair
alterations: none
floor/decking : concrete deck with curbs
other features: low concrete guardrails

HISTORICAL DATA

erection date: 1917
erection cost: $2984.00
designer: unknown
fabricator : none
contractor: Fred L. Appleby, Kansas City

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 362002.9; Lawrence County Road Record, Book I: page 305 (10 May 1917), page 325 (2 July 1917), pages 350-55 (6 August 1917), page 384 (7 September 1917); "Estimate of cost of concrete bridges...100 foot span at Lister Ford $3750.00" (handwritten note signed by County Surveyor, W.G. Heagerty, n.d.); "Notice to Contractors", (notification of bid opening, n.d.); construction bids from M.E. Gillioz, Joe Schneider, and Davis & Bacus; bridge contract between Fred L. Appleby and W.G. Heagerty, Lawrence County Surveyor (6 August 1917) - located at Lawrence County Courthouse, Mt. Vernon MO; field inspection by Clayton Fraser, 16 April 1991.

sign. rating: 52
evaluation: NRHP possibly eligible (well-preserved, relatively early example of small-scale concrete bridge construction)

inventoried by: Clayton B. Fraser 6 December 1992

Bridge

LAWR12

GENERAL DATA

structure no.: 477001.5
county: Lawrence
city/town: 8.5 miles southeast of Mt. Vernon
feature inters.: intermittent stream
cadastral grid: S16/17, T27N, R25W
highway route: County Road 477
highway distr.: 7
current owner: Lawrence County

STRUCTURAL DATA

superstructure: concrete slab
substructure: concrete abutments, wingwalls and pier

span number: 2
span length: 22.0'
total length: 36.0'
roadway width: 14.3'
condition: fair
alterations: none
floor/decking : concrete deck
other features: low concrete curbs

HISTORICAL DATA

erection date: 1916
erection cost: $2187.00 (two-bridge contract)
designer: unknown
fabricator : none
contractor: Canton Bridge Company, Canton OH

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 477001.5; Lawrence County Road Record, Book I: page 195 (3 May 1916) - located at Lawrence County Courthouse, Mt. Vernon MO; field inspection by Clayton Fraser, 16 April 1991.

sign. rating: 46
evaluation: NRHP possibly eligible (well-preserved, relatively early example of small-scale concrete bridge construction)

inventoried by: Clayton B. Fraser 6 December 1991

Baugh Ford Bridge

LAWR13

GENERAL DATA

structure no.: 517001.4
county: Lawrence
city/town: 3.1 miles southwest of Mt. Vernon
feature inters.: Spring River
cadastral grid: S34, T28N, R27W / S3, T27N, R27W
highway route: county road
highway distr.: 7
current owner: Lawrence County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt pony truss; one steel stringer approach span at each end
substructure: stone abutment (east end), concrete abutment (west end); concrete-filled steel cylinder piers

span number: 1
span length: 60.0'
total length: 92.0'
roadway width: 12.3'
condition: fair
alterations: west abutment replaced
floor/decking : asphalt-covered concrete deck over steel stringers
other features: upper chord and inclined end post: two channels with cover plates and lacing; lower chord: two looped rectangular eyebars; vertical: four angles with lacing; diagonal: two looped rectangular eyebars; counter: looped round rod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beams, U-bolted to verticals; no guardrails

HISTORICAL DATA

erection date: 1894
erection cost: $1831.00 (two bridge contract - superstructures only)
designer: Kansas City Bridge Company, Kansas City MO
fabricator : Kansas City Bridge Company, Kansas City MO
contractor: Kansas City Bridge Company, Kansas City (superstructure); T.B. Leach (masonry substructure)

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 517001.4; Lawrence County Road Record E: page 418 (11 August 1893), page 456 (11 November 1893), page 461 (5 December 1893), page 467 (3 January 1894); Lawrence County Road Record F: pages 3- 4 (7 February 1894), page 21 (6 April 1894), page 42 (2 July 1884), page 51 (4 September 1894) - located at Lawrence County Courthouse, Mt. Vernon MO; field inspection by Clayton Fraser and Carl McWilliams, 16 April 1991.

sign. rating: 48
evaluation: NRHP possibly eligible (well-preserve, relatively early example of mainstay wagon truss consruction)

inventoried by: Clayton B. Fraser 6 December 1992

Honey Creek Bridges

LAWR14; LAWR15

GENERAL DATA

structure no.: 531001.1; 531001.2 **city/town:** 2.5 miles southwest of Mt. Vernon
county: Lawrence **feature inters.:** Honey Creek
cadastral grid: S2, T27N, R27W
highway route: County Road 531
highway distr.: 7
current owner: Lawrence County

STRUCTURAL DATA

superstructure: concrete four-rib deck girder
substructure: concrete abutments, wingwalls and pier

span number: 2; 1 **condition:** fair
span length: 26.0'; 24.0' **alterations:** none
total length: 54.0'; 26.0' **floor/decking :** concrete deck
roadway width: 19.0' **other features:** low concrete curbs

HISTORICAL DATA

erection date: 1914
erection cost: $900.00 (contract amount)
designer: Joseph Schneider, Monett MO
fabricator : none
contractor: T.A. Miller

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 531001.2; Lawrence County Road Record, Book I: page 1 (29 September 1914), page 2 (5 October 1914), page 18 (8 December 1914) - located at Lawrence County Courthouse, Mt. Vernon MO; field inspection by Clayton Fraser, 16 April 1991.

sign. rating: 45
evaluation: NRHP possibly eligible (well-preserved, relatively early examples of small-scale concrete bridge construction)

inventoried by: Clayton B. Fraser 6 December 1992

Spring River Bridge

LAWR16

GENERAL DATA

structure no.: 531001.4
county: Lawrence
city/town: 2.8 miles southwest of Mt. Vernon
feature inters.: Spring River
cadastral grid: S11, T27N, R27W
highway route: County Road 531
highway distr.: 7
current owner: Lawrence County

STRUCTURAL DATA

superstructure: concrete four-rib deck girder, skewed
substructure: concrete abutments, wingwalls and pier

span number: 2
span length: 20.0'
total length: 40.0'
roadway width: 19.5'
condition: fair
alterations: none
floor/decking : concrete deck
other features: concrete curbs

HISTORICAL DATA

erection date: 1914
erection cost: $675.00 (contract amount)
designer: Joseph Schneider, Monett MO
fabricator : none
contractor: T.A. Miller

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 531001.4; Lawrence County Road Record, Book I: page 1 (29 September 1914), page 2 (5 October 1914), page 18 (8 December 1914) - located at Lawrence County Courthouse, Mt. Vernon MO; field inspection by Clayton Fraser, 16 April 1991.

sign. rating: 44
evaluation: NRHP possibly eligible (well-preserved, relatively early example of small-scale concrete bridge construction)

inventoried by: Clayton B. Fraser 6 December 1992

Adams Ford Bridge

LAWR17

GENERAL DATA

structure no.: 560000.6
county: Lawrence
city/town: 3.4 miles southwest of Mt. Vernon
feature inters.: Spring River
cadastral grid: S12/13, T27N, R27W
highway route: County Road 560
highway distr.: 7
current owner: Lawrence County

STRUCTURAL DATA

superstructure: concrete slab
substructure: concrete abutments, wingwalls and piers

span number: 4
span length: 25.0'
total length: 92.0'
roadway width: 14.4'
condition: fair
alterations: none
floor/decking : concrete deck
other features: concrete curbs

HISTORICAL DATA

erection date: 1920
erection cost: $2198.00 (main spans); $1470.00 (approach span)
designer: unknown
fabricator : none
contractor: M.E. Gillioz, Monett MO (main spans); John B. Newberry (approach span)

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 560000.6; Lawrence County Road Record, Book I: page 68 (9 April 1920), page 111 (8 October 1920), page 118 (4 November 1920), page 167 (10 June 1921), page 169 (6 July 1921); "Specifications" (3 pages of "instructions to bidders", dated 3 April 1920) - located at Lawrence County Courthouse, Mt. Vernon MO.

sign. rating: 41
evaluation: NRHP non-eligible (small-scale concrete structure)

inventoried by: Clayton B. Fraser 6 December 1992

Bridge

LAWR18

GENERAL DATA

structure no.: 796000.2
county: Lawrence
city/town: 1.7 miles southwest of Marionville
feature inters.: intermittent stream
cadastral grid: S3/10, T26N, R25W
highway route: County Road 796
highway distr.: 7
current owner: Lawrence County

STRUCTURAL DATA

superstructure: concrete slab
substructure: concrete abutments, wingwalls and pier

span number: 2
span length: 13.0'
total length: 29.0'
roadway width: 19.7'
condition: fair
alterations: none
floor/decking : concrete deck
other features: steel pipe guardrails

HISTORICAL DATA

erection date: 1916
erection cost: $2187.00 (two-bridge contract)
designer: unknown
fabricator : none
contractor: Canton Bridge Company, Canton OH

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 796000.2; Lawrence County Road Record, Book I: page 195 (3 May 1916) - located at Lawrence County Courthouse, Mt. Vernon MO.

sign. rating: 41
evaluation: NRHP non-eligible (well-preserved, relatively early example of small-scale concrete bridge construction)

inventoried by: Clayton B. Fraser 6 December 1992

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Sac River Bridge
MHTD: 091000.8

LAWR03

DATE(S) OF CONSTRUCTION
1915

LOCATION
County Road 91 over Sac River; S1, T29N, R25W
4.8 miles northeast of Halltown; Lawrence County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 46)

CONDITION
fair

OWNER
Lawrence County

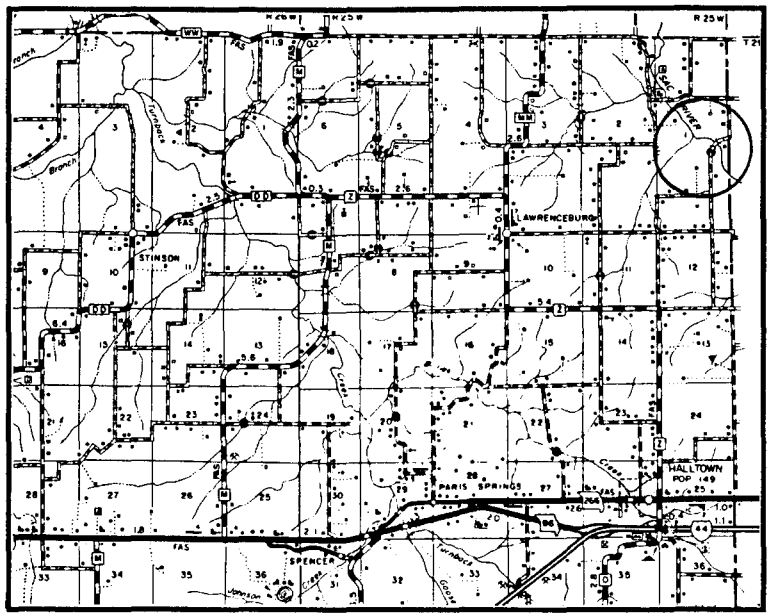
span number:	4	superstructure:	concrete slab
span length:	18.0'	substructure:	concrete abutments, wingwalls and piers
total length:	80.0'	floor/decking:	concrete deck
roadway wdt.:	14.0'	other features:	low concrete curbs

Located some five miles northeast of Halltown, this small-scale concrete bridges carries a gravel-surfaced county road over the Sac River. The structure is comprised of four concrete slab spans, supported low above the river by solid concrete piers and abutments. It features simple formwork and detailing, with only low curbs to define the edges of the concrete deck. The Sac River Bridge was built for the county by Kansas City bridge contractor Fred L. Appleby, under an agreement executed in August 1915. Appleby completed the structure later that year for slightly less than $500. Since its completion, the Sac River Bridge has functioned in place without alteration.

Missouri was slow to embrace concrete as a bridge superstructural material after the turn of the century. It was not until the state highway department began promulgating standard concrete slab and girder designs in the 1920s that the counties began building all-concrete bridges with any regularity. As a result, concrete bridges built before 1922 are a relative rarity outside the state's urban areas. For some reason, however, Lawrence County was an exception to this statewide trend, employing concrete extensively for vehicular bridges in the 1910s. Built by a variety of local and regional contractors, these small-scale structures carried the roadway low above the watercourses, like low water crossings, and featured simple formwork and detailing. Although structurally and architecturally modest, the Sac River Bridge and others in the group are significant in Missouri bridge building history as early, well-preserved examples of what would later become mainstay structural types.

NAME(S) OF STRUCTURE
Sac River Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP
TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP

SOURCES
Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 091000.8; "Fred L. Appleby Bridge Engineer and Contractor, Copy of Contract for Bridge on County Line Between Lawrence and Greene Counties, Mo." (3 August 1915) - located at Lawrence County Courthouse, Mt. Vernon MO; field inspection by Clayton Fraser, 16 April 1991.

INVENTORIED BY
Clayton B. Fraser

AFFILIATION
Fraserdesign, Loveland CO

DATE
6 December 1992

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Bowers Mill Bridge
MHTD: 178000.0

LAWR04

DATE(S) OF CONSTRUCTION
1898

LOCATION
County Road 178 over Spring River; S12, T28N, R29W
7.1 miles northwest of Stotts City; Lawrence County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 53)

CONDITION
good

OWNER
Lawrence County

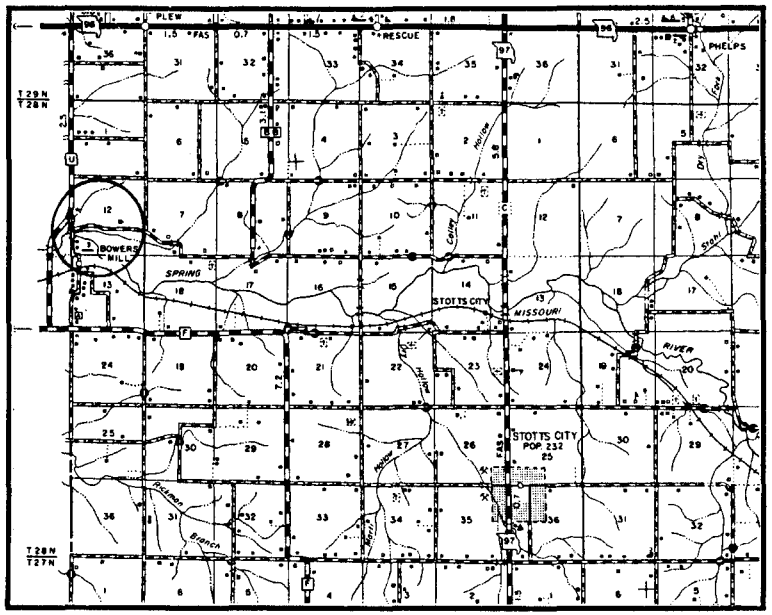
span number:	1	superstructure:	steel, 7-panel, pin-connected Pratt through truss
span length:	120.0'	substructure:	stone masonry abutments and wingwalls
total length:	123.0'	floor/decking:	asphalt covered timber deck over steel stringers
roadway wdt.:	13.0'	other features:	upper chord and inclined end post: two channels with cover plate and lacing; lower chord: two looped rectangular eyebars; vertical: two channels with lacing; diagonal: two looped rectangular eyebars; counter: looped square eyebar with turnbuckle; lateral bracing: round rod with threaded ends; strut: two channels with lacing; portal strut: A-frame; floor beam: I-beam, U-bolted to verticals; guardrail: steel lattice

On November 3, 1897, the Lawrence County Court ordered County Surveyor N.B. Spillman "to proceed to the county line of this county where Spring River leaves Lawrence County to take a profile and prepare plans and estimates for a bridge across Spring River at said point and report to this court." Two months later the court ordered the county to pay its portion of the construction, such cost to be shared with adjacent Jasper County. In March 1898 the two counties signed an agreement committing each to pay one-half the cost of the structure and its future maintenance. The next month a $2478.00 contract was awarded to the Kansas City Bridge Company. Spillman was assigned the responsibility of overseeing the construction, which was completed by the following November. Located some seven miles northwest of Stotts City, the Bowers Mill Bridge has since carried intermittent rural traffic over the Spring River, with no substantial alteration.

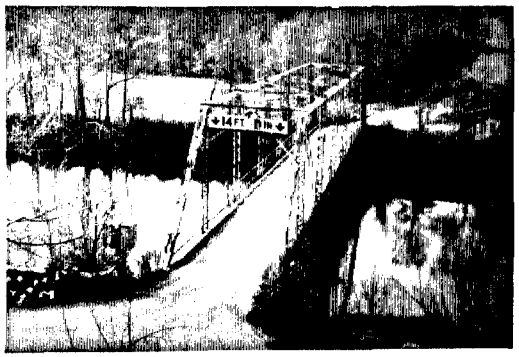
Marketed extensively by virtually all of the in-state and regional bridge contractors and promoted in the form of standardized designs, the pinned Pratt through truss was widely used by Missouri's counties to carry roads over the state's myriad watercourses. Thousands of such trusses were erected across the state in the late 19th and early 20th centuries, and many remain in place today. The Bowers Mill Bridge typifies this widespread bridge building trend.

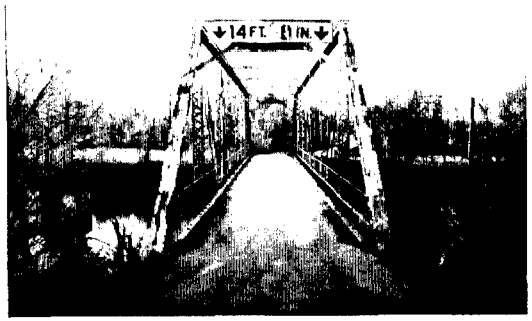
NAME(S) OF STRUCTURE
Bowers Mill Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP
TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP





SOURCES
Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 178000.0; Lawrence County Road Record, Book F: page 324 (3 November 1897), page 330 (4 January 1898), page 340 (10 February 1898), page 348 (1 March 1898), pages 358-59 (11 April 1898), page 362 (2 May 1898), page 376 (1 July 1898), page 386 (7 September 1898), page 397 (11 November 1898), page 471 (2 December 1912) - located at Lawrence County Courthouse, Mt. Vernon MO; field inspection by Clayton Fraser, 16 April 1991.

INVENTORIED BY
Clayton B. Fraser

AFFILIATION
Fraserdesign, Loveland CO

DATE
6 December 1992

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Turnback Creek Bridge
MHTD: 272001.8

LAWR08

DATE(S) OF CONSTRUCTION
1923

LOCATION
County Road 272 over Turnback Creek; S29, T29N, R25W
9.4 miles northeast of Mt. Vernon; Lawrence County, Missouri

USE (ORIGINAL / CURRENT)
highway bridge / roadway bridge

RATING NRHP possibly eligible (score: 49)

CONDITION
good

OWNER
Lawrence County

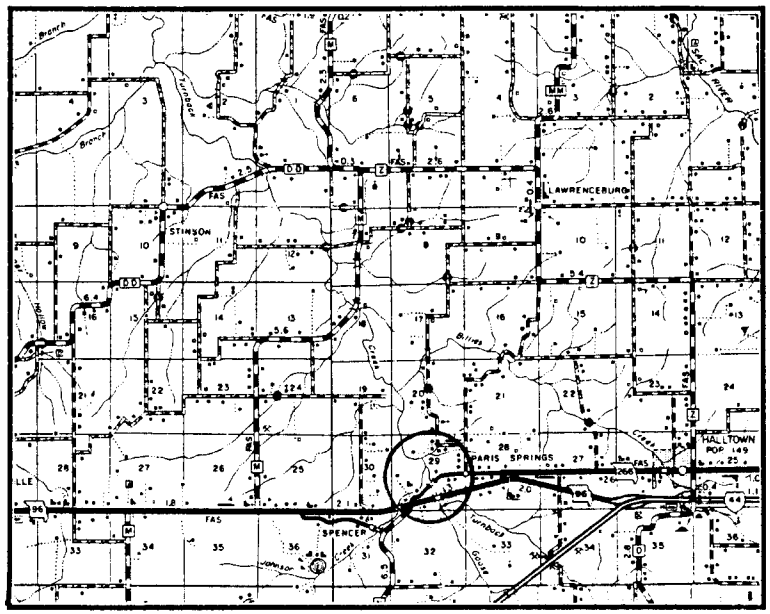
span number:	3	superstructure:	steel, 3-panel, rigid-connected Warren pony truss
span length:	70.0'	substructure:	concrete abutments, wingwalls and piers
total length:	216.0'	floor/decking:	concrete deck over steel stringers
roadway wdt.:	20.0'	other features:	steel pipe guardrails

Located some 9½ miles northeast of Mt. Vernon, this three-span pony truss carries a county road over Turnback Creek. The channel spans are rigid-connected Warren pony trusses, carried by a concrete substructure. The Turnback Creek Bridge was designed early in 1923 by engineers for the Missouri State Highway Department. On March 24th a contract to build the bridge was awarded to Baker and Koontz of St. Louis. The contractors used steel rolled by the Illinois Steel Company for the truss, completing the bridge later that year. Total cost: approximately $23,000.00. Since its completion, the Turnback Creek Bridge has functioned in place, with no serious alterations.

The Missouri State Highway Department used riveted Warren configurations for its pony trusses almost from the time the agency developed its first bridge standards around 1920. Structurally straightforward and versatile, these ubiquitous trusses were erected by the hundreds throughout the state in span lengths ranging from 40 to 100 feet. The Turnback Creek Bridge is distinguished among Missouri's Warren trusses as among the oldest extant examples of this mainstay structural type.

NAME(S) OF STRUCTURE
Turnback Creek Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP

SOURCES
Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 272001.8; Primary System Bridge Record, located at Missouri Highway and Transportation Department, Jefferson city MO; **Fourth Biennial Report of the State Highway Commission of Missouri**: 1923-24, page 137; field inspection by Clayton Fraser, 16 April 1991.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton B. Fraser	Fraserdesign, Loveland CO	6 December 1992

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Lister Ford Bridge
MHTD: 362002.9

LAWR11

DATE(S) OF CONSTRUCTION
1917

LOCATION
County Road 363 over Spring River; S20/29, T28N, R27W
4.5 miles northwest of Mt. Vernon; Lawrence County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 52)

CONDITION
fair

OWNER
Lawrence County

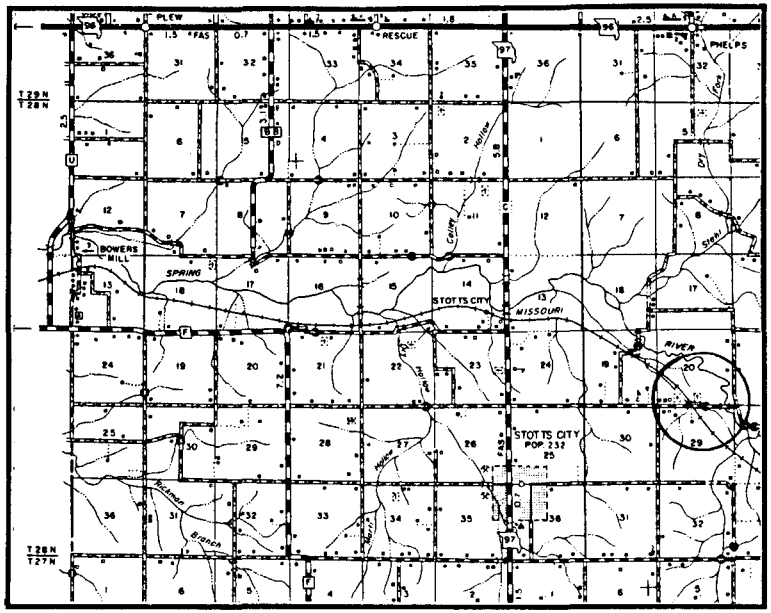
span number:	3	superstructure:	concrete deck girder, skewed
span length:	34.0'	substructure:	concrete abutments, wingwalls and piers
total length:	100.0'	floor/decking:	concrete deck with curbs
roadway wdt.:	12.8'	other features:	low concrete guardrails

On May 10, 1917, the Lawrence County Court ordered the county to construct a bridge across Spring River just above Lister Ford, some four miles northwest of Mt. Vernon. Two months later, county surveyor W.G. Heagerty presented plans and specifications for the new structure. The county court approved the plans and then ordered that the job be advertised for competitive bids. Proposals were opened on August 6, 1917, and a $2984.00 contract was awarded to Fred L. Appleby of Kansas City. In early September the court approved Appleby's construction bond and work began on the bridge. Completed the same year, the Lister Ford Bridge has since carried intermittent rural traffic without alteration.

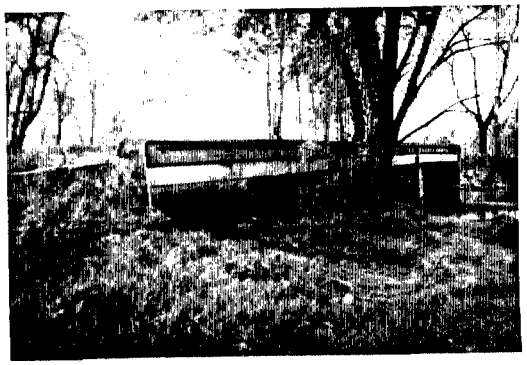
Missouri was slow to embrace concrete as a bridge superstructural material after the turn of the century. It was not until the state highway department began promulgating standard concrete slab and girder designs in the 1920s that the counties began building all-concrete bridges with any regularity. As a result, concrete bridges built before 1922 are a relative rarity outside the state's urban areas. For some reason, however, Lawrence County was an exception to this statewide trend, employing concrete extensively for vehicular bridges in the 1910s. Built by a variety of local and regional contractors, these small-scale structures carried the roadway low above the watercourses, like low water crossings, and featured simple formwork and detailing. Although structurally and architecturally modest, the Lister Ford Bridge and others in the group are significant in Missouri bridge building history as early, well-preserved examples of what would later become mainstay structural types.

NAME(S) OF STRUCTURE
Lister Ford Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP
TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP



SOURCES
Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 362002.9; Lawrence County Road Record, Book I: page 305 (10 May 1917), page 325 (2 July 1917), pages 350-55 (6 August 1917), page 384 (7 September 1917); "Estimate of cost of concrete bridges...100 foot span at Lister Ford $3750.00" (handwritten note signed by County Surveyor, W.G. Heagerty, n.d.); "Notice to Contractors", (notification of bid opening, n.d.); construction bids from M.E. Gillioz, Joe Schneider, and Davis & Bacus; bridge contract between Fred L. Appleby and W.G. Heagerty, Lawrence County Surveyor (6 August 1917) - located at Lawrence County Courthouse, Mt. Vernon MO; field inspection by Clayton Fraser, 16 April 1991.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton B. Fraser	Fraserdesign, Loveland CO	6 December 1992

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Bridge LAWR12
MHTD: 477001.5

DATE(S) OF CONSTRUCTION
1916

LOCATION
County Road 477 over intermittent stream; S16/17, T27N, R25W
8.5 miles southeast of Mt. Vernon; Lawrence County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 46)

CONDITION
fair

OWNER
Lawrence County

span number:	2	superstructure:	concrete slab
span length:	22.0'	substructure:	concrete abutments, wingwalls and pier
total length:	36.0'	floor/decking:	concrete deck
roadway wdt.:	14.3'	other features:	low concrete curbs

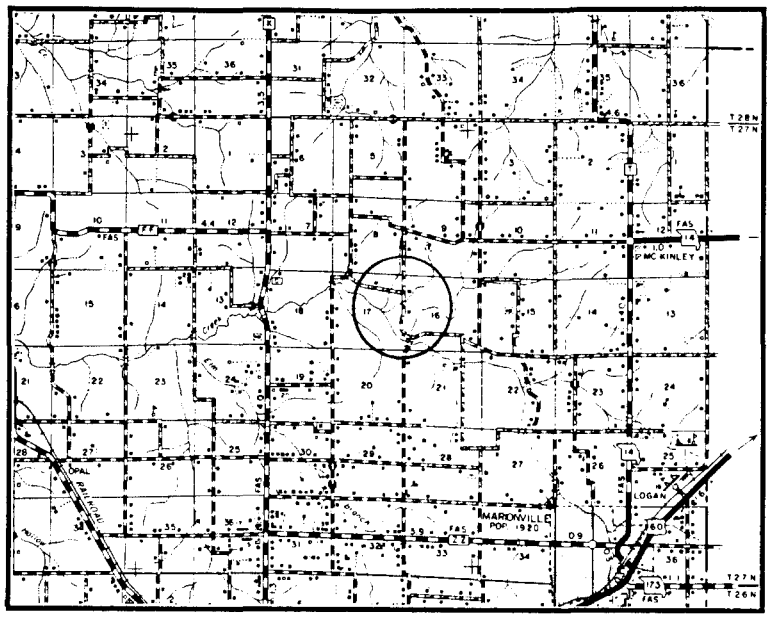
Located southeast of Mt. Vernon, this small-scale concrete bridge carries a gravel-surfaced county road over an intermittent stream. The structure is comprised of two concrete slab spans, supported low above the river by solid concrete piers and abutments. It features simple formwork and detailing, with only a low curb to define the edges of the concrete deck. The bridge was built for the county by the Canton Bridge Company of Canton, Ohio, under an agreement executed early in 1916. In May Canton had delivered the materials to the site, completing the bridge later that summer. Since that time, the bridge has functioned in place without alteration.

Missouri was slow to embrace concrete as a bridge superstructural material after the turn of the century. It was not until the state highway department began promulgating standard concrete slab and girder designs in the 1920s that the counties began building all-concrete bridges with any regularity. As a result, concrete bridges built before 1922 are a relative rarity outside the state's urban areas. For some reason, however, Lawrence County was an exception to this statewide trend, employing concrete extensively for vehicular bridges in the 1910s. Built by a variety of local and regional contractors, these small-scale structures carried the roadway low above the watercourses, like low water crossings, and featured simple formwork and detailing. Although structurally and architecturally modest, these bridges as a group are significant in Missouri bridge building history as early, well-preserved examples of what would later become mainstay structural types.

NAME(S) OF STRUCTURE

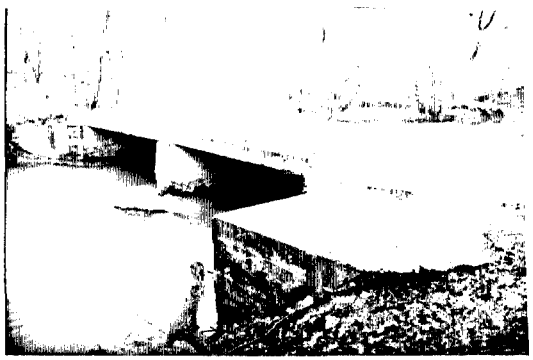
Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP



SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 477001.5; Lawrence County Road Record, Book I: page 195 (3 May 1916) - located at Lawrence County Courthouse, Mt. Vernon MO; field inspection by Clayton Fraser, 16 April 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	6 December 1992

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Baugh Ford Bridge LAWR13
MHTD: 517001.4

DATE(S) OF CONSTRUCTION
1894

LOCATION
County Road 517 over Spring River; S34, T28N, R27W / S3, T27N, R27W
3.1 miles southwest of Mt. Vernon; Lawrence County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 48)

CONDITION
fair

OWNER
Lawrence County

span number: 1
span length: 60.0'
total length: 92.0'
roadway wdt.: 12.3'

superstructure: steel, 4-panel, pin-connected Pratt pony truss, with steel stringer approach span at each end

substructure: stone abutment (east end), concrete abutment (west end); concrete-filled steel cylinder piers

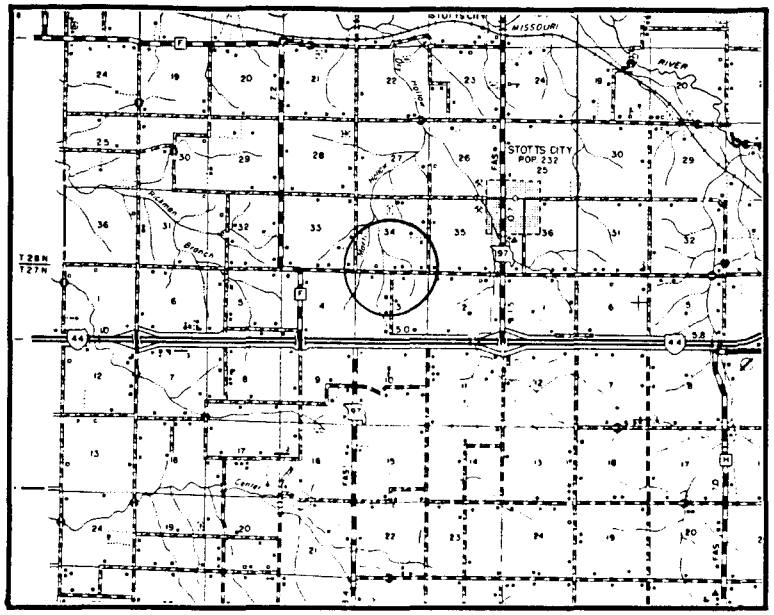
floor/decking: asphalt-covered concrete deck over steel stringers
other features:upper chord and inclined end post: two channels with cover plates and lacing; lower chord: two looped rectangular eyebars; vertical: four angles with lacing; diagonal: two looped rectangular eyebars; counter: looped round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, U-bolted to verticals; no guardrails

On August 11, 1893, the Lawrence County Court ordered county surveyor A.B. Waterson "to view and report the practicable and suitable places on Spring River and Turnback Creek for the building of bridges." Three months later county road and bridge commissioner John McAndrews reported Waterson's findings. The court chose a location for the bridge on Spring River and ordered that bids be let for construction of stone abutments. In December 1893 the court ordered that the bridge be built at a site known as Baugh Ford. On February 7, 1894, the Kansas City Bridge Company was awarded a $1831.00 contract to build this and one other bridge. A separate contract was awarded the same day to T.B. Leach for build stone abutments for the bridge at Baugh Ford. By early May the abutments were in place, and Kansas City Bridge had begun work on the superstructure. The Baugh Ford Bridge was completed later that year. Located some three miles southwest of Mt. Vernon, it has since carried intermittent rural traffic.

Thousands of Pratt trusses in both through and pony configurations were erected throughout Missouri in the late 19th and early 20th centuries. Marketed by virtually all of the in-state and regional bridge companies, this versatile structural type was used overwhelmingly by counties for short- and medium-span applications. With typical dimensions and detailing, the Baugh Ford Bridge is a well-documented pinned Pratt pony truss, dating from shortly before the turn of the century.

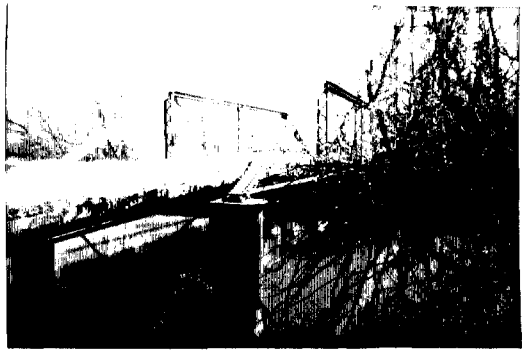
NAME(S) OF STRUCTURE
Baugh Ford Bridge

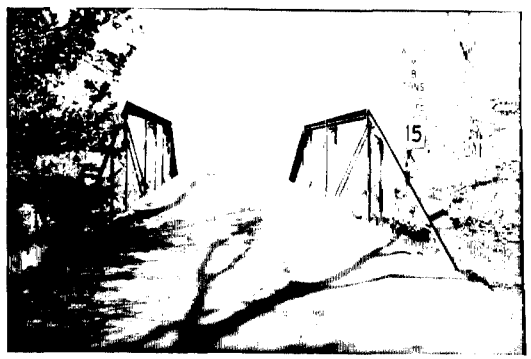
PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP





SOURCES
Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 517001.4; Lawrence County Road Record, Book E: page 418 (11 August 1893), page 456 (11 November 1893), page 461 (5 December 1893), page 467 (3 January 1894); Lawrence County Road Record, Book F: pages 3-4 (7 February 1894), page 21 (6 April 1894), page 42 (2 July 1884), page 51 (4 September 1894) - located at Lawrence County Courthouse, Mt. Vernon MO; field inspection by Clayton Fraser, 16 April 1991.

INVENTORIED BY
Clayton B. Fraser

AFFILIATION
Fraserdesign, Loveland CO

DATE
6 December 1992

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Honey Creek Bridges
MHTD: 531001.1; 531001.2

DATE(S) OF CONSTRUCTION
LAWR14; LAWR15 1914

LOCATION
County Road 531 over Honey Creek; S2, T27N, R27W
2.5 miles southwest of Mt. Vernon; Lawrence County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 45)

CONDITION
fair

OWNER
Lawrence County

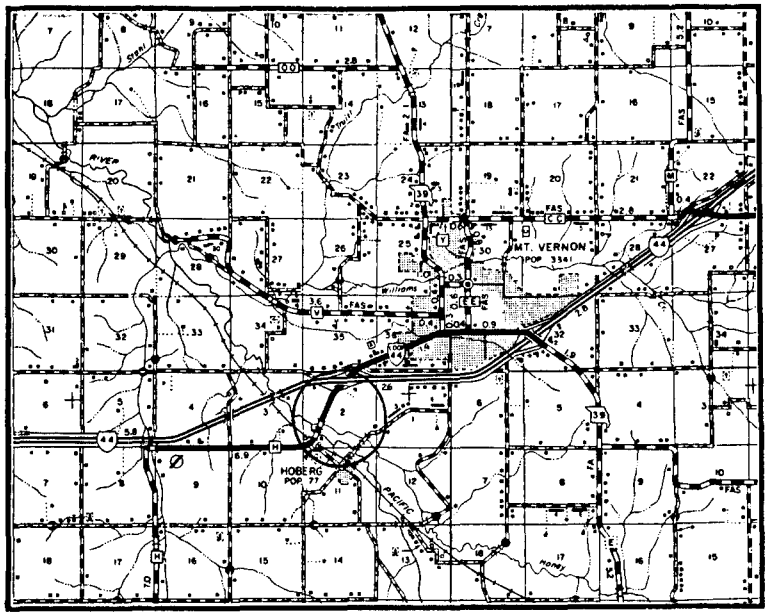
span number:	2; 1	superstructure:	concrete four-rib deck girder
span length:	26.0'; 24.0'	substructure:	concrete abutments, wingwalls and pier
total length:	54.0'; 26.0'	floor/decking:	concrete deck
roadway wdt.:	19.0'	other features:	low concrete curbs

Located southwest of Mt. Vernon, these two small-scale concrete bridges carry a gravel-surfaced county road over two channels of Honey Creek. Both structures are comprised of concrete girder spans, supported low above the creek by solid concrete piers and abutments. They features simple formwork and detailing, with only a low curb to define the edges of the concrete deck. The Honey Creek Bridges were designed by Joseph Schneider of Monett, Missouri, and built in 1914. In September of that year the Lawrence County Court received bids from local contractor T.A. Miller to build small-scale concrete structures over Honey Creek and the Spring River [**LAWR16**]. According to the contract awarded to Miller, the Honey Creek Bridges would cost $900.00. Miller shipped concrete and reinforcing steel to the site, built formworks for the bridges that fall and completed the structures by the end of the year. Since their completion, the Honey Creek Bridges have functioned in place without serious alteration.

Missouri was slow to embrace concrete as a bridge superstructural material after the turn of the century. It was not until the state highway department began promulgating standard concrete slab and girder designs in the 1920s that the counties began building all-concrete bridges with any regularity. As a result, concrete bridges built before 1922 are a relative rarity outside the state's urban areas. For some reason, however, Lawrence County was an exception to this statewide trend, employing concrete extensively for vehicular bridges in the 1910s. Built by a variety of local and regional contractors, these small-scale structures carried the roadway low above the watercourses, like low water crossings, and featured simple formwork and detailing. Although structurally and architecturally modest, the Honey Creek Bridges and others in the group are significant in Missouri bridge building history as early, well-preserved examples of what would later become mainstay structural types.

NAME(S) OF STRUCTURE
Honey Creek Bridges

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP
TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP

SOURCES
Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 531001.2; Lawrence County Road Record, Book I: page 1 (29 September 1914), page 2 (5 October 1914), page 18 (8 December 1914) - located at Lawrence County Courthouse, Mt. Vernon MO; field inspection by Clayton Fraser, 16 April 1991.

INVENTORIED BY
Clayton B. Fraser

AFFILIATION
Fraserdesign, Loveland CO

DATE
6 December 1992

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Spring River Bridge
MHTD: 531001.4

LAWR16

DATE(S) OF CONSTRUCTION
1914

LOCATION
County Road 531 over Spring River; S11, T27N, R27W
2.8 miles southwest of Mt. Vernon; Lawrence County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 44)

CONDITION
fair

OWNER
Lawrence County

span number:	2	superstructure:	concrete four-rib deck girder, skewed
span length:	20.0'	substructure:	concrete abutments, wingwalls and pier
total length:	40.0'	floor/decking:	concrete deck
roadway wdt.:	19.5'	other features:	concrete curbs

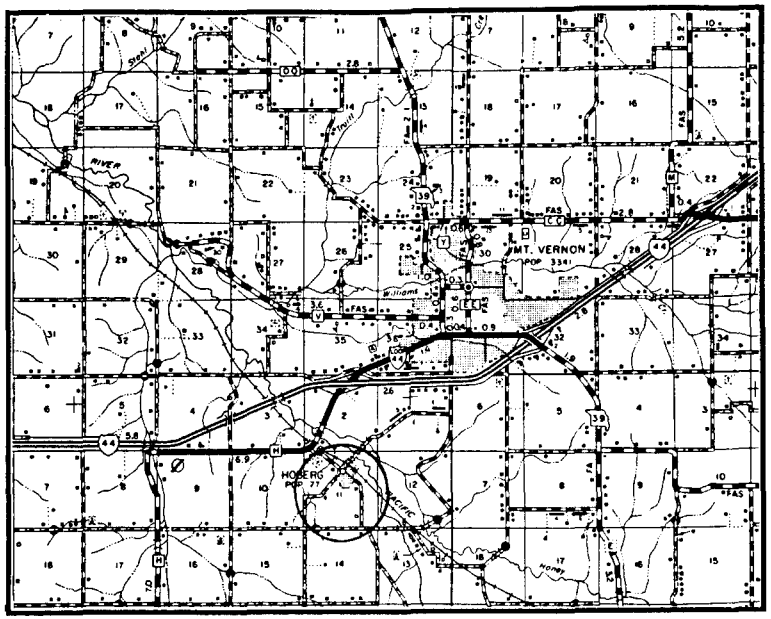
Located some three miles southwest of Mt. Vernon, this small-scale concrete bridge carries a gravel-surfaced county road over Honey Creek. The structure is comprised of two skewed concrete girder spans, supported low above the river by solid concrete piers and abutments. It features simple formwork and detailing, with only a low curb to define the edges of the concrete deck. The Spring River Bridge was designed by Joseph Schneider of Monett, Missouri, and built in 1914. In September of that year the Lawrence County Court received bids from local contractor T.A. Miller to build small-scale concrete structures over the Spring River and Honey Creek [**LAWR14** and **LAWR15**]. According to the contract awarded to Miller, the Spring River Bridge would cost $675.00. Miller shipped concrete and reinforcing steel to the site, built formworks for the bridge that fall and completed the structure by the end of the year. Since its completion, the Spring River Bridge has functioned in place without serious alteration.

Missouri was slow to embrace concrete as a bridge superstructural material after the turn of the century. It was not until the state highway department began promulgating standard concrete slab and girder designs in the 1920s that the counties began building all-concrete bridges with any regularity. As a result, concrete bridges built before 1922 are a relative rarity outside the state's urban areas. For some reason, however, Lawrence County was an exception to this statewide trend, employing concrete extensively for vehicular bridges in the 1910s. Built by a variety of local and regional contractors, these small-scale structures carried the roadway low above the watercourses, like low water crossings, and featured simple formwork and detailing. Although structurally and architecturally modest, the Spring River Bridge and others in the group are significant in Missouri bridge building history as early, well-preserved examples of what would later become mainstay structural types.

NAME(S) OF STRUCTURE

Spring River Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP

SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 531001.4; Lawrence County Road Record, Book I: page 1 (29 September 1914), page 2 (5 October 1914), page 18 (8 December 1914) - located at Lawrence County Courthouse, Mt. Vernon MO; field inspection by Clayton Fraser, 16 April 1991.

INVENTORIED BY

Clayton B. Fraser

AFFILIATION

Fraserdesign, Loveland CO

DATE

6 December 1992

McDONALD COUNTY

INCLUDED: [Significant feature(s) of bridge given in boldface]
[Field inventoried bridge indicated by asterisk]

Inv. No.	MHTD	Bridge Name	Description
*MACD01	H 780	Anderson Bridge	**3-100' concrete open spandrel arch** 1929 M.E. Gillioz, Monett MO
*MACD02	H 792A	Lanagan Bridge	**3-110' riveted Pratt through truss** 1928 W.A. Ross Construction Co.
*MACD03	181000.9	Bridge	1- 38' **stone masonry arch** c1935
*MACD04	209000.1	Anderson Bridge	2-112' **pinned Pratt through truss** **1908** Marcus Bridge and Iron Co.
*MACD05	249000.5	Powell Bridge	1-140' **pinned Pratt through truss** **1915** East St. Louis B&I Company
*MACD06	311003.1	State Line Bridge	2- 29' concrete filled spandrel arch **1914**

EXCLUDED:

Pratt pony truss
393000.1

Steel stringer

H 970R	H 971R	J 372	K 621	S 121	S 366	S 874
T 811	T 929	285000.5	365000.3	404000.2		

Concrete girder

H 432	H 794	J 243	S 86	X 5	162000.1	394000.8

Concrete slab

J 240	J 242	162000.6	245000.1	337000.3	352000.1	376500.1
388000.1	395000.3	395003.7				

Concrete box culvert

G 509R	H 827	H 839	J 76	J 509	K 622	K 623
K 629	L 335	T 931	X 298	Y 876	120000.6	356000.2

Timber stringer

T1002	T1003	T1004	T1005	T1006	T1007

SUMMARY:

	Primary	Secondary	Urban	Other	Total
Included	2	4	0	0	6
Excluded	33	19	0	0	52
	35	23	0	0	58 structures

Anderson Bridge

MACD01

GENERAL DATA

structure no.: H 780
county: McDonald
city/town: 1.0 mile southeast of Anderson
feature inters.: Indian River
cadastral grid: S18, T22N, R32W
highway route: Missouri State Highway 76
highway distr.: 7
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: concrete, two-rib, open spandrel arch
substructure: concrete abutments, wingwalls and piers

span number: 3
span length: 100.0'
total length: 312.0'
roadway width: 20.0'
condition: good
alterations: none
floor/decking : asphalt covered concrete deck
other features: concrete guardrail (Missouri Highway Department standard design); bridge plate: MISSOURI HIGHWAY DEPT BRIDGE NO. H.780 1929; builder's plate: BUILT BY M.E. GILLIOZ CONTRACTOR MONETT MO.

HISTORICAL DATA

erection date: 1929
erection cost: $38,000.94
designer: Missouri State Highway Department
fabricator : none
contractor: M.E. Gillioz, Monett MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. H 780; McDonald County Court Record J: page 165 (9 September 1905), page 194 (6 December 1905), page 198 (7 December 1905), page 229 (29 December 1905), page 348 (7 June 1906), page 310 (12 December 1908), located at the McDonald County Courthouse, Pineville MO; field inspection by Clayton Fraser, 19 April 1991.

sign. rating: 54
evaluation: NRHP possibly eligible (well-preserved, multiple-span example of MSHD standard concrete bridge design)

inventoried by: Clayton B. Fraser 7 May 1991

Lanagan Bridge

MACD02

GENERAL DATA

structure no.: H 792A
county: McDonald
city/town: 0.8 mile northeast of Lanagan
feature inters.: Indian Creek
cadastral grid: S36, T22N, R33W
highway route: Missouri State Secondary Route EE
highway distr.: 7
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: steel, 6-panel, rigid-connected Pratt through truss
substructure: concrete abutments, wingwalls and piers

span number: 3
span length: 110.0'
total length: 305.0'
roadway width: 20.0'
condition: good
alterations: none
floor/decking : concrete deck over steel stringers
other features: steel pipe guardrails

HISTORICAL DATA

erection date: 1928
erection cost: $27,247.27
designer: Missouri State Highway Department
fabricator : Illinois Steel Company, Chicago IL
contractor: W.A. Ross Construction Company

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. H 792A; McDonald County Court Record J: page 194 (6 December 1905), page 228 (29 December 1905), page 230 (30 December 1905), page 239 (5 March 1906), pages 282-83 (10 March 1906), page 461 (5 December 1906); McDonald County Court Record K: page 310 (12 December 1908); McDonald County Court Record P: page 59 (13 May 1919), page 267 (14 February 1920), page 388 (23 October 1920), pages 446-47 (11 January 1921), page 478 (16 February 1921) -located at McDonald County Courthouse, Pineville MO; field inspection by Clayton Fraser, 19 April 1991.

sign. rating: 41
evaluation: NRHP non-eligible (typically configured example of MSHD standard bridge design)

inventoried by: Clayton B. Fraser 7 May 1991

Bridge

MACD03

GENERAL DATA

structure no.: 181000.9
county: McDonald
city/town: 6.7 miles west of Anderson
feature inters.: Elk River tributary
cadastral grid: S13/14, T22N, R34W
highway route: county road
highway distr.: 7
current owner: McDonald County

STRUCTURAL DATA

superstructure: stone arch with concrete slab approach span at the north end, skewed
substructure: stone abutments and wingwalls

span number: 1
span length: 38.0'
total length: 40.0'
roadway width: 19.0'
condition: fair
alterations: modified approach span
floor/decking : earth covered deck
other features: low stone parapet walls

HISTORICAL DATA

erection date: c1935
erection cost: unknown
designer: unknown
fabricator : none
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 181000.9; field inspection by Clayton Fraser, 19 April 1991.

sign. rating: 44
evaluation: NRHP non-eligible (an example of an uncommon structural type, but lacking in documentation)

inventoried by: Clayton B. Fraser 7 May 1991

Anderson Bridge

MACD04

GENERAL DATA

structure no.: 209000.1
county: McDonald
city/town: Anderson
feature inters.: Indian Creek
cadastral grid: S12, T22N, R33W
highway route: county road
highway distr.: 7
current owner: McDonald County

STRUCTURAL DATA

superstructure: steel, 6-panel, pin-connected Pratt through truss
substructure: concrete abutments, wingwalls and piers

span number: 2
span length: 112.0'
total length: 222.0'
roadway width: 11.7'
condition: fair
alterations: none
floor/decking : timber deck over steel stringers
other features: upper chord: 2 channels with cover plate and lacing; lower chord: 2 looped rectangular eyebars; vertical: 2 channels with lacing (2 looped square eyebars at the hip); diagonal: 2 looped rectangular eyebars; counter: round rod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 4 angles with lacing; floor beam: I-beam, field bolted to vertical; guardrail: 2 angles

HISTORICAL DATA

erection date: 1908
erection cost: $4023.50 (contract amount)
designer: John M. Sherwood
fabricator : Lackawanna Steel Company, Pittsburgh PA; Cambria Steel Company, Pittsburgh PA
contractor: Marcus Bridge and Iron Company, Peoria IL

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 209000.1; McDonald County Court Record J: page 285 (10 March 1906); McDonald County Court Record K: page 203 (2 June 1908), page 230 (29 June 1908), page 232 (30 June 1908), page 239 (8 September 1908), page 285 (5 November 1908), page 289 (8 December 1908), page 294 (9 December 1908), ; McDonald County Court Record P: page 59 (13 May 1919), page 161 (27 October 1919), page 163 (28 October 1919), page 166 (10 November 1919), page 200 (18 December 1919), page 235 (9 February 1920), page 267 (14 February 1920), page 285 (11 May 1920) - located at McDonald County Courthouse, Pineville MO; field inspection by Clayton Fraser, 19 April 1991.

sign. rating: 34
evaluation: NRHP determined non-eligible (typically configured example of mainstay structural type, moved to this location)

inventoried by: Clayton B. Fraser 7 May 1991

Powell Bridge

MACD05

GENERAL DATA

structure no.: 249000.5
county: McDonald
city/town: 0.4 mile southwest of Powell
feature inters.: Big Sugar Creek
cadastral grid: S21, T22N, R30W
highway route: county road
highway distr.: 7
current owner: McDonald County

STRUCTURAL DATA

superstructure: steel, 8-panel, pin-connected Pratt through truss with 4-panel, pin-connected Pratt pony truss approach span
substructure: concrete abutments, wingwalls and pier

span number: 1
span length: 140.0'
total length: 210.0'
roadway width: 11.7'
condition: fair
alterations: pier cap reinforced with steel plate
floor/decking : timber deck over steel stringers
other features: upper chord / inclined end post: 2 channels with cover plate and lacing; lower chord: 2 punched rectangular eyebars; vertical: 2 channels with lacing (2 angles with batten plates at the hip); diagonal: 2 looped rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 4 angles with double lacing; floor beam: I-beam, field bolted to vertical; guardrail: steel lattice

HISTORICAL DATA

erection date: 1914-15
erection cost: $3530.00
designer: unknown
fabricator : Illinois Steel Company, Chicago IL
contractor: East St. Louis Bridge Company, East St. Louis IL (superstructure); Fred L. Appleby, Kansas City MO (substructure)

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 249000.5; McDonald County Court Record M: page 15 (2 June 1913), page 80 (10 November 1913), page 236 (15 July 1914), page 554 (16 August 1915) - located at McDonald County Courthouse, Pineville MO; field inspection by Clayton Fraser, 19 April 1991.

sign. rating: 46
evaluation: NRHP possibly eligible (well-preserved, long-span example of mainstay structural type)

inventoried by: Clayton B. Fraser 7 May 1991

State Line Bridge

MACD06

GENERAL DATA

structure no.: 311003.1
county: McDonald
city/town: 2.3 miles northwest of Southwest City
feature inters.: Honey Creek tributary
cadastral grid: S21, T21N, R34W
highway route: county road
highway distr.: 7
current owner: McDonald County

STRUCTURAL DATA

superstructure: concrete filled spandrel arch
substructure: concrete abutments, wingwalls and pier

span number: 2
span length: 29.0'
total length: 61.0'
roadway width: 23.8'
condition: poor
alterations: bridge widened by addition of steel stringers on west side, west guardrail replaced
floor/decking : earth fill over concrete
other features: solid concrete guardrail with incised rectangular panels on east guardrail: inscription on east guardrail: **M.... 30 1914**

HISTORICAL DATA

erection date: 1914
erection cost: unknown
designer: unknown
fabricator : none
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 311003.1; field inspection by Clayton Fraser and Carl McWilliams, 19 April 1991.

sign. rating: 24
evaluation: NRHP non-eligible (undocumented, poorly preserved, modestly scaled example of concrete arch construction)

inventoried by: Clayton Fraser and Carl McWilliams 7 May 1991

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Anderson Bridge (Indian River Bridge) MACD01
MHTD: H 780

DATE(S) OF CONSTRUCTION
1929

LOCATION
Missouri State Highway 76 over Indian River; S18, T22N, R32W
1.0 mile southeast of Anderson; McDonald County, Missouri

USE (ORIGINAL / CURRENT)
highway bridge / highway bridge

RATING potentially NRHP eligible (score: 54)

CONDITION
good

OWNER
Missouri Highway and Transportation Department

span number:	3	superstructure:	concrete, two-rib, open spandrel arch
span length:	100.0'	substructure:	concrete abutments, wingwalls and piers
total length:	312.0'	floor/decking:	asphalt covered concrete deck
roadway wdt.:	20.0'	other features:	concrete guardrail (Missouri Highway Department standard design); bridge plates: MISSOURI HIGHWAY DEPT BRIDGE NO. H.780 1929; BUILT BY M.E. GILLIOZ CONTRACTOR MONETT MO.

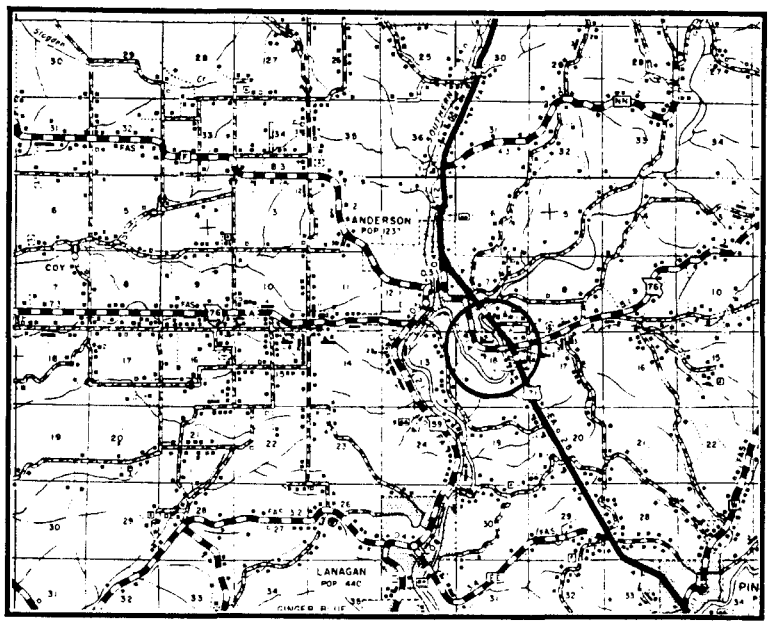
The first bridge over Indian Creek at this important crossing southeast of Anderson was erected in 1905-06 by the Carthage Bridge Company, under contract with the McDonald County Court. A timber pile structure, the bridge carried traffic for over twenty years before it was replaced by this concrete open spandrel arch. Engineers of the Missouri State Highway Department designed the imposing structure in 1929; using MSHD standard two-rib arch configuration, the bridge featured three 100-foot arches. That April a contract to build the bridge was let to M.E. Gillioz of Monett, Missouri. The structure was completed for $38,000.94. It has carried highway traffic since, in unaltered condition.

After it developed standard designs for the concrete open spandrel arch in the mid-1920s, the Missouri State Highway Department characteristically used this graceful design for its concrete structures with 80 feet or more of span. With some notable exceptions, filled spandrel arches were employed for shorter-span applications. MSHD engineers designed a number of open spandrel arches in the 1920s and 1930s, primarily in the southern counties, employing both single- and multiple-span configurations. Built in 1929, with a span length of 100 feet, the Anderson Bridge falls well within the mainstream of this bridge building trend. The structure is distinguished somewhat as a well-preserved, multiple-span example of open spandrel arch construction.

NAME(S) OF STRUCTURE

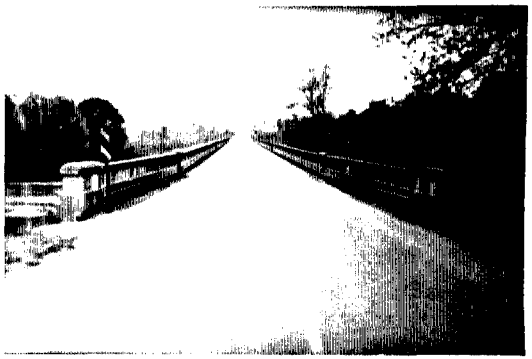
Anderson Bridge (Indian River Bridge)

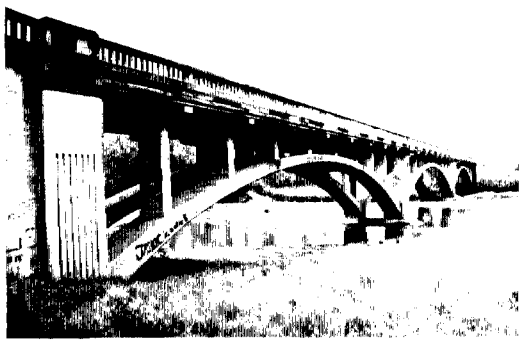
PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP





SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. H 780; McDonald County Court Record J: page 165 (9 September 1905), page 194 (6 December 1905), page 198 (7 December 1905), page 229 (29 December 1905), page 348 (7 June 1906), page 310 (12 December 1908) - located at McDonald County Courthouse, Pineville MO; field inspection by Clayton Fraser and Carl McWilliams, 19 April 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton Fraser and Carl McWilliams	Fraserdesign, Loveland CO	7 May 1991

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Anderson Bridge (Indian Creek Bridge) MACD04
MHTD: 209000.1

DATE(S) OF CONSTRUCTION
1908

LOCATION
county road over Indian Creek; S12, T22N, R33W
Anderson; McDonald County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING determined NRHP non-eligible (score: 34)

CONDITION
fair

OWNER
McDonald County

span number:	2	superstructure:	steel, 6-panel, pin-connected Pratt through truss
span length:	112.0'	substructure:	concrete abutments, wingwalls and piers
total length:	222.0'	floor/decking:	timber deck over steel stringers
roadway wdt.:	11.7'	other features:	upper chord: 2 channels with cover plate and lacing; lower chord: 2 looped rectangular eyebars; vertical: 2 channels with lacing (2 looped square eyebars at the hip); diagonal: 2 looped rectangular eyebars; counter: round rod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 4 angles with lacing; floor beam: I-beam, field bolted to vertical; guardrail: 2 angles

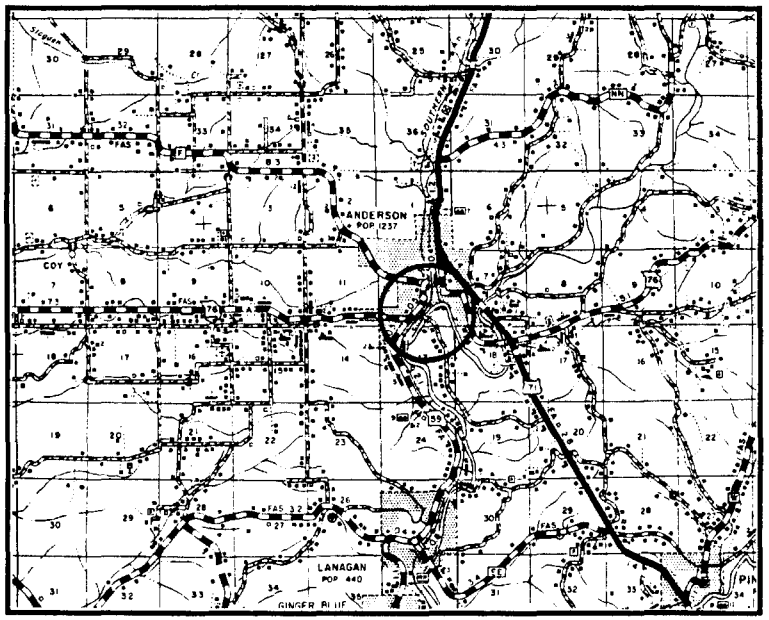
In December 1905, the McDonald County Court ordered county surveyor W.M. Lett and Civil Engineer John M. Sherwood to survey and design two wagon bridges. One would span Indian Creek at Lanagan, the other would cross the Elk River at the east edge of Pineville, the county seat. For the Pineville Bridge, Sherwood delineated a pin-connected steel truss, consisting of two 112-foot spans supported by steel cylinder piers, with a 160-foot timber pile approach. The judges approved Sherwood's design but took no further action on the bridge until June 1908 when they received another citizens' petition, signed by J.W. Noramore and some 750 others. In the face of such overwhelming support, the court agreed to build the bridge, if the petitioners would contribute $1000 toward its construction. Sherwood's design was taken off the shelf and the bridge let for competitive bid. Later that month a construction contract was awarded to the Marcus Bridge and Iron Company of Peoria, Illinois, for $4023.50. Using steel components rolled by the Lackawanna and Cambria mills in Pittsburgh, Marcus fabricated and erected the trusses, completing the structure in December 1908. After minor defects were corrected by the bridge company, the Pineville Bridge carried traffic until it was replaced by a new structure circa 1965. The old bridge was then soon moved to a new crossing over Indian Creek at the southern periphery of Anderson and re-erected on a new concrete substructure. Unaltered since its move, the Anderson Bridge today carries marginal traffic.

In Missouri, the pinned Pratt through truss was the bridge of choice for short- and medium-span applications in the late 19th and early 20th centuries. As a result, thousands of Pratts were built across the state, and today Pratts constitute the most populous group of through trusses. No longer functioning in its original location, the Anderson Bridge is somewhat noteworthy for its two-span configuration but is otherwise unremarkable in its design and detailing.

NAME(S) OF STRUCTURE

Anderson Bridge (Indian Creek Bridge)

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP

SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 209000.1; McDonald County Court Record J: page 285 (10 March 1906); McDonald County Court Record K: page 203 (2 June 1908), page 230 (29 June 1908), page 232 (30 June 1908), page 239 (8 September 1908), page 285 (5 November 1908), page 289 (8 December 1908), page 294 (9 December 1908), page 300 (10 December 1908), page 310 (12 December 1908); McDonald County Court Record P: page 59 (13 May 1919), page 161 (27 October 1919), page 163 (28 October 1919), page 166 (10 November 1919), page 200 (18 December 1919), page 235 (9 February 1920), page 267 (14 February 1920), page 285 (11 May 1920) - located at McDonald County Courthouse, Pineville MO; field inspection by Clayton Fraser and Carl McWilliams, 19 April 1991.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton Fraser and Carl McWilliams	Fraserdesign, Loveland CO	7 May 1991

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Powell Bridge (Big Sugar Creek Bridge) MACD05
MHTD: 249000.5

DATE(S) OF CONSTRUCTION
1914-15

LOCATION
county road over Big Sugar Creek; S21, T22N, R30W
0.4 mile southwest of Powell; McDonald County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP potentially eligible (score: 46)

CONDITION
fair

OWNER
McDonald County

span number: 1
span length: 140.0'
total length: 210.0'
roadway wdt.: 11.7'

superstructure: steel, 8-panel, pin-connected Pratt through truss with 4-panel, pin-connected Pratt pony truss approach span
substructure: concrete abutments, wingwalls and pier
floor/decking: timber deck over steel stringers
other features: upper chord / inclined end post: 2 channels with cover plate and lacing; lower chord: 2 punched rectangular eyebars; vertical: 2 channels with lacing (2 angles with batten plates at the hip); diagonal: 2 looped rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 4 angles with double lacing; floor beam: I-beam, field bolted to vertical; guardrail: steel lattice

The judges of the McDonald County Court were responding to a local petition from R.H. Buck and other locals when in June 1913 they ordered the construction of a major bridge over Big Sugar Creek in Powell. Located in east-central McDonald County, the structure would carry wagon traffic over the Bentonville Hollow Ford at the south edge of the small town. County surveyor S.P. Lett designed a steel structure for the crossing, comprised of a 140-foot "square arch" [Pratt through truss] over the creek's main channel and a 70-foot pony truss on the north approach. The trusses were supported by concrete abutments and a massive, 30-foot-high concrete pier. When competitive bids were received by the county in July, the Kansas City Bridge Company proposed to build the entire structure for $3670.00, the East St. Louis Bridge Company offered to fabricate and erect the trusses for $2240.00, and Fred L. Appleby, a Kansas City contractor and bridge company agent, offered to build the substructure for $1290.00. The court contracted with East St. Louis Bridge and Appleby to construct the bridge. Construction continued slowly over the next year; on August 16, 1915, the Powell Bridge was completed and accepted by the county court. It carried traffic without alteration for over 70 years. Recently the tops of the concrete abutments and pier have been crudely repaired with concrete, but the trusses themselves remain intact.

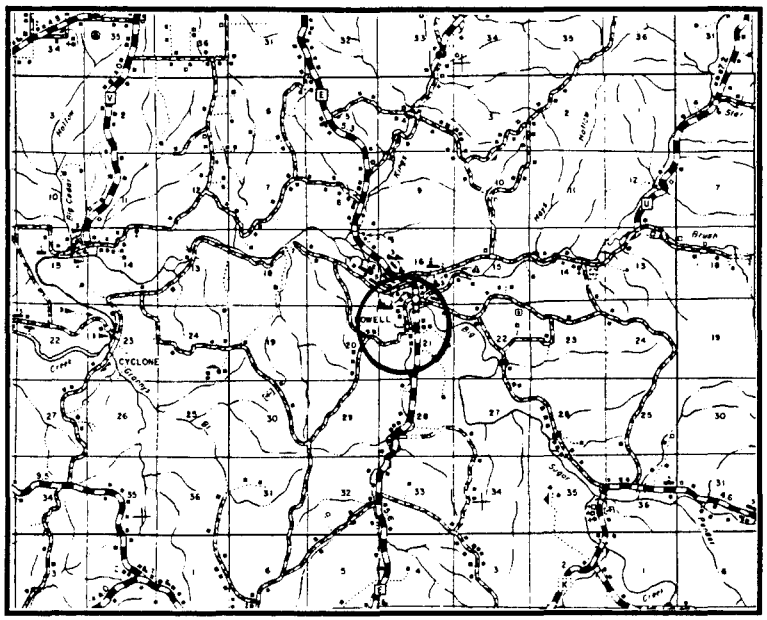
From the early 1880s until the establishment of state riveted truss standards in the early 1920s, the pin-connected Pratt through truss was the overwhelming bridge of choice for medium-span roadway crossings in Missouri. Its standardized fabrication, economy of materials and ease of erection made it a mainstay among the various state and regional bridge companies. Thousands of such trusses were built

throughout the state during this period, and numerous examples remain in place today. The Powell Bridge is distinguished among these for its relatively long span length, excellent documentation and well-preserved condition. It is also one of the few roadway bridges in Missouri that combine through and pony truss spans. Its recent substructural repairs have compromised the bridge's historical integrity somewhat, but the structure remain a significant transportation-related resource.

NAME(S) OF STRUCTURE

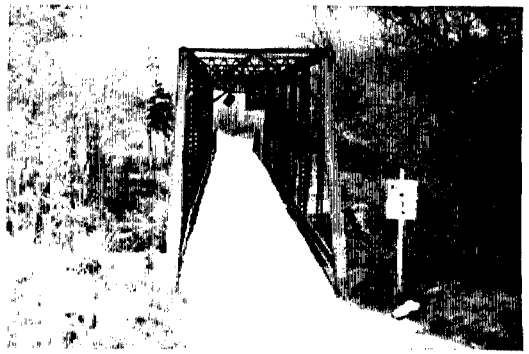
Powell Bridge (Big Sugar Creek Bridge)

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP



SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 249000.5; McDonald County Court Record M: page 15 (2 June 1913), page 80 (10 November 1913), page 236 (15 July 1914), page 554 (16 August 1915) - located at McDonald County Courthouse, Pineville MO; field inspection by Clayton Fraser and Carl McWilliams, 19 April 1991.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton Fraser and Carl McWilliams	Fraserdesign, Loveland CO	7 May 1991

NEWTON COUNTY

INCLUDED: [Significant feature(s) of bridge given in boldface]
[Field inventoried bridge indicated by asterisk]

Inv. No.	MHTD	Bridge Name	Description
*NEWT01	J 349	Redings Mill Bridge	**3- 90' concrete open spandrel arch** 1930 M.E. Gillioz, Monett MO
NEWT02	Y 160	Silver Creek Culvert	1- 20' **stone arch culvert** 1939
NEWT03	Z 210	Spring Branch Bridge	**2-** 17' concrete slab **1914** Concrete & Steel Const. Co. (prob.)
*NEWT04	008000.3	Fillmore Bridge	**4- 66' concrete filled spandrel arch** **1919** Concrete & Steel Construction Co.
*NEWT05	026004.5	Tipton Ford Bridge	**14-**50' concrete deck girder **1918** Concrete & Steel Construction Co.
NEWT06	026004.6	Culvert	8- 9' **concrete arch culvert** c1920
NEWT07	086001.7	Dry Branch Bridge	1- 24' steel stringer **1911** Western Bridge Company
NEWT08	089002.4	Jones Creek Bridge	1- 26' **concrete filled spandrel arch** **1919** Concrete & Steel Constr. Company
NEWT09	090003.5	Jenkins Creek Bridge	1- 80' pinned Pratt pony truss **c1910**
NEWT10	209000.2	Cedar Creek Culvert	**4-** 9' **concrete arch culvert** c1920
NEWT11	214001.3	Baynham Branch Culvert	**4-** 9' **concrete arch culvert** c1920
NEWT12	220501.1	Shoal Creek Bridge	**8-** 17' concrete slab **1919**
*NEWT13	312000.2	Clear Creek Bridge	(replaced)
*NEWT14	327001.0	Willow Branch Bridge	1- 44' pinned Pratt half-hip pony truss **c1900** Canton Bridge Company (prob.)
NEWT15	382200.1	Culvert	**4-** 10' **concrete arch culvert** c1925
NEWT16	382200.2	Culvert	**2-** 11' **concrete arch culvert** c1925
*NEWT17	384001.2	Neosho Bridge	1-136' **pinned Pratt through truss** **1882** King Iron Bridge Company
NEWT18	395500.2	Ottawa Street Bridge	1- 50' pinned Pratt pony truss **c1910**
*NEWT19	427000.9	North Indian Creek Bridge	1- 48' pinned Pratt half-hip pony truss **1896** Wrought Iron Bridge Company
*NEWT20	459001.4	Capps Creek Bridge	1-110' **pinned Pratt through truss** **1906** Midland Bridge Co., Kansas City
*NEWT21	533001.0	Mason Spring Creek Bridge	1- 50' pinned Pratt half-hip pony truss **1901** Canton Bridge Company
*NEWT22	598003.0	South Indian Creek Bridge	1-118' **pinned Pratt through truss** **1903** Midland Bridge Co., Kansas City
NEWT23	611000.8	Stella Bridge	**4-** 20' concrete slab 1920 Concrete & Steel Construction Co.

NEWTON COUNTY

INCLUDED (cont.):

*NEWT24	655001.3	Sycamore Creek Bridge	1- 50' c1920	**concrete filled spandrel arch**
NEWT25	708000.7	Five Mile Creek Culvert	**3-** 9' c1920	**concrete arch culvert**
*NEWT26	713000.6	Granby Bridge	**5-** 43' **1919**	**concrete filled spandrel arch** Concrete & Steel Construction Co.
*NEWT27	715000.3	Dry Branch Bridge	1- 30' c1920	**concrete through girder**
*NEWT28	none	Jolly Mill Bridge	1- 90' **1905**	**pinned Camelback through truss** James B. Diver Bridge Company

EXCLUDED:

Pratt pony truss
F 576R3

Warren pony truss

F 946A	567000.7	653R00.2	693000.2

Steel stringer

J 279	J 454	K 765	K 990	K 991	L 348	W 278
Y 395	Y 466	058001.8	067002.2	107001.0	113000.2	148000.7
193002.0	203000.1	203000.2	214000.2	434000.6	554003.3	556000.2
560000.8	560001.5	601001.0	601003.8	607001.8	613001.2	620000.3
629000.3						

Concrete girder

F 575	G 406R	J 623	K 764	Y 482	479000.0	715000.3

Concrete slab

G 624	G 669	W 286	W 447	W 448	W 568	X 14
Y 305	029003.0	041000.5	076001.0	089002.5	102000.7	107000.2
179000.7	180000.8	218001.8	220501.2	220501.8	261002.0	291000.5
300500.3	325000.2	333002.5	395500.1	405000.1	428000.7	532000.8
554002.5	611000.8	611001.3	640001.8	654000.9	703001.0	708000.4

Concrete box culvert

G 429R	J 448	J 621	J 622	J 624	K 766	K 992
L 82R	R 838	S 85	S 90	S 91	S 163	S 164
S 171	S 213	S 838	T 55	T 655	Y 621	Y 622
Y 623	Y 881	055000.0	062000.5	064000.5	115000.1	134000.8

Concrete box culvert

160000.5	214001.3	219000.7	220000.1	232001.0	241001.4	254000.7
259001.4	261001.2	309000.7	331001.0	349000.9	407001.1	509000.7
534000.5	539000.3	568000.8	625000.9	627000.4	650002.5	650003.1

Timber stringer

T1008	027000.0

NEWTON COUNTY

SUMMARY:

	Primary	Secondary	Urban	Other	Total
Included	0	23	3	1	27
Excluded	47	69	4	0	120
	47	92	7	1	147 structures

Redings Mill Bridge

NEWT01

GENERAL DATA

structure no.: J 349
county: Newton
city/town: Redings Mill
feature inters.: Shoal Creek
cadastral grid: S35, T27N, R33W
highway route: Missouri State Highway 43
highway distr.: 7
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: concrete, two-rib, open spandrel arch, with two concrete deck girder approach spans at each end
substructure: concrete abutments, wingwalls and piers

span number: 3
span length: 90.0'
total length: 417.0'
roadway width: 20.0'
condition: good
alterations: none
floor/decking : concrete deck
other features: concrete guardrails with open balustrade (standard Missouri State Highway Department design); concrete sidewalk; curved approach at north end; builder's plate: **Built By M.E. Gillioz Contractor Monett MO**

HISTORICAL DATA

erection date: 1930
erection cost: $49,179.26
designer: Missouri State Highway Department
fabricator : none
contractor: M.E. Gillioz, Monett MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. J 349; Primary System Bridge Record, located at the Missouri Highway and Transportation Department, Jefferson City MO; Newton County Court Record, Book J: page 283 (31 August 1903), page 298 (29 September 1903), page 342 (7 November 1903) - located at Newton County Courthouse, Neosho MO; field inspection by Clayton Fraser, 19 April 1991.

sign. rating: 48
evaluation: NRHP determined non-eligible (typically configured example of MSHD concrete arch bridge design)

inventoried by: Clayton B. Fraser 9 March 1994

Silver Creek Culvert

NEWT02

GENERAL DATA

structure no.: Y 160
county: Newton

city/town: Cliff Village
feature inters.: Spring Branch
cadastral grid: S34/35, T27N, R33W
highway route: Missouri State Highway 86
highway distr.: 7
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: stone masonry arch culvert
substructure: stone abutments and wingwalls

span number: 1
span length: 20.0'
total length: 21.0'
roadway width: 24.0'

condition: fair
alterations: unknown
floor/decking : asphalt deck over earth fill
other features: unknown

HISTORICAL DATA

erection date: 1939
erection cost: unknown
designer: unknown
fabricator : none
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. Y 160.

sign. rating: 28
evaluation: NRHP non-eligible (technologically undistinguished, inadequately documented example of small-scale culvert type)

inventoried by: Clayton B. Fraser 9 March 1994

Spring Branch Bridge

NEWT03

GENERAL DATA

structure no.: Z 210
county: Newton
city/town: Neosho
feature inters.: Spring Branch
cadastral grid: S19/30, T25N, R31W
highway route: Missouri State Highway 86
highway distr.: 7
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: concrete slab
substructure: concrete abutments, wingwalls and pier

span number: 2
span length: 17.0'
total length: 38.0'
roadway width: 24.0'
condition: fair
alterations: roadway widened and guardrails replaced
floor/decking : concrete deck
other features: concrete guardrails with recessed panels

HISTORICAL DATA

erection date: 1914
erection cost: unknown
designer: unknown
fabricator : none
contractor: Concrete and Steel Construction Company, Joplin MO (probable)

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. Z 210.

sign. rating: 31
evaluation: NRHP non-eligible (technologically undistinguished example of early concrete bridge type, substantially altered)

inventoried by: Clayton B. Fraser 9 March 1994

Fillmore Bridge

NEWT04

GENERAL DATA

structure no.: 008000.3
county: Newton

city/town: 0.5 mile southwest of Joplin
feature inters.: Shoal Creek
cadastral grid: S29, T27N, R33W
highway route: County Road 8
highway distr.: 7
current owner: Newton County

STRUCTURAL DATA

superstructure: concrete filled spandrel arch
substructure: concrete abutments, wingwalls and piers

span number: 4
span length: 66.0'
total length: 263.0'
roadway width: 18.5'

condition: fair
alterations: none
floor/decking : concrete deck over earth fill
other features: concrete post-and-beam guardrails; bullnosed cutwaters at the piers

HISTORICAL DATA

erection date: 1919
erection cost: unknown
designer: unknown
fabricator : none
contractor: Concrete and Steel Construction Company, Joplin MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 008000.3; **Report of the State Highway Board of Missouri,** December 1920; field inspection by Clayton Fraser, 19 April 1991.

sign. rating: 55
evaluation: NRHP possibly eligible (significant example of pre-MSHD concrete bridge construction)

inventoried by: Clayton B. Fraser 9 March 1994

Tipton Ford Bridge

NEWT05

GENERAL DATA

structure no.: 026004.5
county: Newton
city/town: 7.4 miles northwest of Neosho
feature inters.: Shoal Creek
cadastral grid: S15/16, T26N, R32W
highway route: County Road 26
highway distr.: 7
current owner: Newton County

STRUCTURAL DATA

superstructure: concrete, two-rib, deck girder
substructure: concrete abutments, wingwalls and bullnosed piers

span number: 14
span length: 50.0'
total length: 387.0'
roadway width: 18.3'
condition: fair
alterations: none
floor/decking : concrete deck
other features: concrete post-and-beam guardrails

HISTORICAL DATA

erection date: 1918
erection cost: $15,749.00
designer: unknown
fabricator : none
contractor: Concrete and Steel Construction Company, Joplin MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 026004.5; Newton County Court Record, Book I: page 531 (26 December 1900), page 549 (6 February 1901), page 617 (9 August 1901); Newton County Court Record, Book S: page 1 (18 April 1918), page 20 (14 May 1918), page 36 (6 June 1918), page 40 (14 June 1918), page 50 (1 July 1918), page 62 (23 July 1918), page 75 (5 August 1918), page 122 (3 September 1918), page 135 (7 October 1918), page 154 (4 November 1918), page 189 (25 November 1918), page 197 (6 December 1918); field inspection by Clayton Fraser, 19 April 1991.

sign. rating: 60
evaluation: NRHP possibly eligible (important, large-scale example of pre-MSHD concrete bridge design)

inventoried by: Clayton B. Fraser 9 March 1994

Culvert

NEWT06

GENERAL DATA

structure no.: 026004.6
county: Newton
city/town: 7.3 miles northwest of Neosho
feature inters.: overflow of Shoal Creek
cadastral grid: S15/16, T26N, R32W
highway route: County Road 26
highway distr.: 7
current owner: Newton County

STRUCTURAL DATA

superstructure: concrete arch culvert
substructure: concrete abutments, wingwalls and piers

span number: 8
span length: 9.0'
total length: 74.0'
roadway width: 19.8'
condition: fair
alterations: unknown
floor/decking : concrete deck
other features: concrete guardrails with open balustrade

HISTORICAL DATA

erection date: c1920
erection cost: unknown
designer: unknown
fabricator : none
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 026004.6.

sign. rating: 27
evaluation: NRHP non-eligible (With its construction history undocumented, the bridge is of extremely limited interpretive value.)

inventoried by: Clayton B. Fraser 9 March 1994

Dry Branch Bridge

NEWT07

GENERAL DATA

structure no.: 086001.7
county: Newton
city/town: 2.3 miles northeast of Wentworth
feature inters.: Dry Valley Branch
cadastral grid: S25/26, T27N, R29W
highway route: County Road 86
highway distr.: 7
current owner: Newton County

STRUCTURAL DATA

superstructure: steel stringer
substructure: concrete abutments and wingwalls

span number: 1
span length: 24.0'
total length: 26.0'
roadway width: 12.3'
condition: fair
alterations: unknown
floor/decking : concrete deck
other features: steel angle guardrails

HISTORICAL DATA

erection date: 1911
erection cost: $400.00
designer: Gabe Brown, Newton County Highway Engineer
fabricator : unknown
contractor: Western Bridge Company, Harrisonville MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 086001.7; Newton County Court Record, Book S: page 399 (3 September 1919) - located at Newton County Courthouse, Neosho MO.

sign. rating: 30
evaluation: NRHP non-eligible (typically configured example of common structural type)

inventoried by: Clayton B. Fraser 9 March 1994

Jones Creek Bridge

NEWT08

GENERAL DATA

structure no.: 089002.4
county: Newton
city/town: 5.0 miles northeast of Diamond
feature inters.: Jones Creek
cadastral grid: S13/24, T27N, R31W
highway route: County Road 89
highway distr.: 7
current owner: Newton County

STRUCTURAL DATA

superstructure: concrete filled spandrel arch
substructure: concrete abutments and wingwalls

span number: 1
span length: 26.0'
total length: 26.0'
roadway width: 16.2'
condition: fair
alterations: none
floor/decking : concrete deck
other features: concrete guardrails with recessed rectangular panels

HISTORICAL DATA

erection date: 1919
erection cost: unknown
designer: unknown
fabricator : none
contractor: Concrete and Steel Construction Company, Joplin MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 089002.4; Newton County Court Record, Book S: page 399 (3 September 1919) - located at Newton County Courthouse, Neosho MO.

sign. rating: 30
evaluation: NRHP non-eligible (technologically undistinguished example of a concrete bridge type)

inventoried by: Clayton B. Fraser 9 May 1991

Jenkins Creek Bridge

NEWT09

GENERAL DATA

structure no.: 090003.5
county: Newton

city/town: 10.0 miles northeast of Granby
feature inters.: Jenkins Creek
cadastral grid: S15/22, T27N, R30W
highway route: County Road 90
highway distr.: 7
current owner: Newton County

STRUCTURAL DATA

superstructure: steel, 5-panel, pin-connected Pratt pony truss
substructure: concrete abutments and wingwalls

span number: 1
span length: 80.0'
total length: 82.0'
roadway width: 15.8'

condition: fair
alterations: unknown
floor/decking : timber deck
other features: no guardrails

HISTORICAL DATA

erection date: c1910
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 090003.5.

sign. rating: 30
evaluation: NRHP non-eligible (undistinguished example of common structural type)

inventoried by: Clayton B. Fraser 9 March 1994

Cedar Creek Culvert

NEWT10

GENERAL DATA

structure no.: 209000.2
county: Newton
city/town: 6.8 miles northwest of Neosho
feature inters.: Cedar Creek
cadastral grid: S22, T26N, R32W
highway route: County Road 209
highway distr.: 7
current owner: Newton County

STRUCTURAL DATA

superstructure: concrete arch culvert
substructure: concrete abutments, wingwalls and piers

span number: 4
span length: 9.0'
total length: 40.0'
roadway width: 18.2'
condition: fair
alterations: unknown
floor/decking : concrete deck over earth fill
other features: no guardrails

HISTORICAL DATA

erection date: c1920
erection cost: unknown
designer: unknown
fabricator : none
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 209000.2.

sign. rating: 22
evaluation: NRHP non-eligible (technologically undistinguished, small-scale example of concrete arch construction)

inventoried by: Clayton B. Fraser 9 March 1994

Baynham Branch Culvert

NEWT11

GENERAL DATA

structure no.: 214001.3
county: Newton

city/town: 1.9 miles southeast of Tipton Ford
feature inters.: Baynham Branch
cadastral grid: S24, T26N, R32W
highway route: County Road 214
highway distr.: 7
current owner: Newton County

STRUCTURAL DATA

superstructure: concrete arch culvert
substructure: concrete abutments, wingwalls and piers

span number: 4
span length: 9.0'
total length: 35.0'
roadway width: 18.0'

condition: fair
alterations: unknown
floor/decking : concrete deck over earth fill
other features: no guardrails

HISTORICAL DATA

erection date: c1920
erection cost: unknown
designer: unknown
fabricator : none
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 214001.3.

sign. rating: 22
evaluation: NRHP non-eligible (technologically undistinguished, small-scale example of concrete arch construction)

inventoried by: Clayton B. Fraser 9 March 1994

Jackson Avenue Bridge

NEWT12

GENERAL DATA

structure no.: 220501.1
county: Newton
city/town: Joplin
feature inters.: Shoal Creek
cadastral grid: S27, T27N, R33W
highway route: County Road 220
highway distr.: 7
current owner: Newton County

STRUCTURAL DATA

superstructure: concrete slab
substructure: concrete abutments, wingwalls and piers

span number: 8
span length: 17.0'
total length: 138.0'
roadway width: 14.0'
condition: fair
alterations: none
floor/decking : concrete deck
other features: no guardrails

HISTORICAL DATA

erection date: 1919
erection cost: unknown
designer: unknown
fabricator : none
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 220501.1.

sign. rating: 32
evaluation: NRHP non-eligible (marginally noteworthy for its multiple spans, but otherwise a technologically rudimentary concrete structure)

inventoried by: Clayton B. Fraser 9 March 1994

Willow Branch Bridge

NEWT14

GENERAL DATA

structure no.: 327001.0
county: Newton
city/town: 7.9 miles northwest of Neosho
feature inters.: Willow Branch
cadastral grid: S2, T25N, R33W
highway route: County Road 327
highway distr.: 7
current owner: Newton County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt half-hip pony truss
substructure: concrete abutments and wingwalls

span number: 1
span length: 44.0'
total length: 45.0'
roadway width: 15.9'
condition: fair
alterations: stringers replaced
floor/decking : concrete deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped square or round eyebars; vertical: 4 angles with double lacing; diagonal: 2 looped square eyebars; counter: round rod with sleeve bolt; lateral bracing: round rod with threaded ends; floor beam: I-beam, U-bolted to vertical

HISTORICAL DATA

erection date: c1900
erection cost: Canton Bridge Company, Canton OH (probable)
designer: Canton Bridge Company, Canton OH (probable)
fabricator : Carnegie Steel Company, Pittsburgh PA
contractor: Canton Bridge Company, Canton OH (probable)

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 327001.0; field inspection by Clayton Fraser, 19 April 1991.

sign. rating: 29
evaluation: NRHP non-eligible (typical example of a common truss type, poorly documented)

inventoried by: Clayton B. Fraser 9 March 1994

Culvert

NEWT15

GENERAL DATA

structure no.: 382200.1
county: Newton
city/town: Saginaw
feature inters.: branch of Shoal Creek
cadastral grid: S31, T27N, R32W
highway route: County Road 382
highway distr.: 7
current owner: Newton County

STRUCTURAL DATA

superstructure: concrete arch culvert
substructure: concrete abutments, wingwalls and piers

span number: 4
span length: 10.0'
total length: 41.0'
roadway width: 18.0'
condition: fair
alterations: unknown
floor/decking : concrete deck over earth fill
other features: unknown

HISTORICAL DATA

erection date: c1925
erection cost: unknown
designer: unknown
fabricator : none
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 382200.1; field inspection by Clayton Fraser, 19 April 1991.

sign. rating: 32
evaluation: NRHP non-eligible (technologically undistinguished example of concrete bridge construction)

inventoried by: Clayton B. Fraser 9 March 1994

Culvert

NEWT16

GENERAL DATA

structure no.: 382200.2
county: Newton
city/town: Saginaw
feature inters.: Shoal Creek
cadastral grid: S31, T27N, R32W
highway route: County Road 382 (old U.S. Highway 71)
highway distr.: 7
current owner: Newton County

STRUCTURAL DATA

superstructure: concrete arch culvert
substructure: concrete abutments, wingwalls and piers

span number: 2
span length: 11.0'
total length: 39.0'
roadway width: 25.3'
condition: fair
alterations: unknown
floor/decking : concrete deck
other features: concrete guardrails with recessed panels

HISTORICAL DATA

erection date: c1925
erection cost: unknown
designer: unknown
fabricator : none
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 382200.2.

sign. rating: 30
evaluation: NRHP non-eligible (undocumented and undistinguished example of an early concrete bridge type)

inventoried by: Clayton B. Fraser 9 March 1994

Neosho Bridge

NEWT17

GENERAL DATA

structure no.: 384001.2
county: Newton
city/town: 1.4 mile north of Neosho
feature inters.: Shoal Creek
cadastral grid: S7, T25N, R31W
highway route: County Road 384
highway distr.: 7
current owner: Newton County

STRUCTURAL DATA

superstructure: steel, 8-panel, pin-connected Pratt through truss; 2 steel stringer approach spans at each end
substructure: concrete abutments, wingwalls and piers

span number: 1
span length: 136.0'
total length: 186.0'
roadway width: 16.0'
condition: fair
alterations: substructure replaced
floor/decking : concrete deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 punched rectangular eyebars; vertical: 2 channels with cover plate and lacing (2 channels at the hip); diagonal: 2 punched rectangular eyebars; counter: square eyebar with sleeve bolt; lateral bracing: looped forked eyebar, bolted to floor beams at verticals; strut: 1 channel with 2 angle knee braces; floor beams; I-beam; guardrail: 2 channels; builder's plate: **1882 King Iron Bridge Co Cleveland O**

HISTORICAL DATA

erection date: 1882
erection cost: $4000.00
designer: King Iron Bridge Company, Cleveland OH
fabricator : King Iron Bridge Company, Cleveland OH
contractor: Kansas City Bridge Company, Kansas City MO (superstructure); C.W. Hulls (substructure)

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 384001.2; Newton County Court Record, Book F: page 128 (15 May 1882), page 130 (5 June 1882), page 133 (6 June 1882), page 141 (11 July 1882), pages 144 and 145 (7 August 1882), page 152 (4 September 1882), page 155 (4 September 1882), page 191 (4 January 1883), page 194 (22 January 1883) - located Newton County Courthouse, Neosho MO; field inspection by Clayton Fraser, 19 April 1991.

Neosho Bridge

sign. rating: 52
evaluation: NRHP possibly eligible (relatively early example of mainstay structural type)

inventoried by: Clayton B. Fraser 9 March 1994

Ottawa Street Bridge

NEWT18

GENERAL DATA

structure no.: 395500.2
county: Newton
city/town: Seneca
feature inters.: Little Lost Creek
cadastral grid: S36, T25N, R34W
highway route: County Road 395
highway distr.: 7
current owner: Newton County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt pony truss
substructure: stone masonry abutments

span number: 1
span length: 50.0'
total length: 52.0'
roadway width: 20.0'
condition: fair
alterations: none
floor/decking : timber deck over steel stringers
other features: steel lattice guardrails; sidewalk cantilevered outside of web on one side of truss; cannon-ball finials at top of inclined end post

HISTORICAL DATA

erection date: c1910
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 395500.2.

sign. rating: 27
evaluation: NRHP non-eligible (typically configured, inadequately documented example of common structural type)

inventoried by: Clayton B. Fraser 9 March 1994

North Indian Creek Bridge

NEWT19

GENERAL DATA

structure no.: 427000.9
county: Newton
city/town: 3.0 miles south of Newtonia
feature inters.: North Indian Creek
cadastral grid: S35, T25N, R30W
highway route: County Road 427
highway distr.: 7
current owner: Newton County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt half-hip pony truss
substructure: concrete abutments and wingwalls; timber wingwalls at west end

span number: 1
span length: 48.0'
total length: 50.0'
roadway width: 19.0'
condition: fair
alterations: bridge moved
floor/decking : timber deck over steel stringers
other features: upper chord: 2 channels with cover plate and lacing; inclined end post: 2 channels with batten plates on top and bottom; lower chord: 2 looped rectangular eyebars; vertical: 4 angles with double lacing; diagonal: 2 looped square eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, U-bolted to vertical; guardrail: steel lattice; builder's plate (broken): **Wrt. Ir...Bridge...Builde...Canton...1896**

HISTORICAL DATA

erection date: 1896
erection cost: $907.00
designer: Wrought Iron Bridge Company, Canton OH
fabricator : Wrought Iron Bridge Company, Canton OH
contractor: Wrought Iron Bridge Company, Canton OH

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 427000.9; Newton County Court Record, Book I: page 25 (3 March 1896), pages 57 and 58 (8 May 1896), page 63 (1 June 1896), page 69 (6 July 1896), page 93 (13 September 1896), page 105 (10 November 1896) - located at Newton County Courthouse, Neosho MO; field inspection by Clayton Fraser, 19 April 1991.

sign. rating: 46
evaluation: NRHP possibly eligible (patented WIBCo truss type, moved to this location)

inventoried by: Clayton B. Fraser 9 March 1994

Capps Creek Bridge

NEWT20

GENERAL DATA

structure no.: 459001.4
county: Newton
city/town: 6.0 miles northeast of Newtonia
feature inters.: Capps Creek
cadastral grid: S11, T25N, R29W
highway route: County Road 459
highway distr.: 7
current owner: Newton County

STRUCTURAL DATA

superstructure: steel, 6-panel, pin-connected Pratt through truss
substructure: concrete abutments and wingwalls

span number: 1
span length: 110.0'
total length: 110.0'
roadway width: 12.0'
condition: fair
alterations: bridge moved
floor/decking : timber deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped rectangular eyebars; vertical: 2 channels with lacing (2 looped square eyebars at the hip); diagonal: 2 looped rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 4 angles with lacing; portal strut: A-frame; floor beam: I-beam, field-bolted to vertical; guardrail: timber or steel lattice; builder's plate: **1906 / The Midland Bridge Co. / Kansas City Mo. / Freygang & Trocon Proprietors**

HISTORICAL DATA

erection date: 1906
erection cost: $3249.00
designer: Midland Bridge Company, Kansas City MO
fabricator : Midland Bridge Company, Kansas City MO; Cambria Steel Company, Pittsburgh PA
contractor: Midland Bridge Company, Kansas City MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 459001.4; Newton County Court Record, Book K: pages 307-309 (9 August 1905), pages 312 and 313 (9 August 1905), pages 362 and 363 (4 September 1905), pages 366-368 (5 September 1905), pages 548-550 (5 April 1906), page 556 (14 April 1906) - located at Newton County Courthouse, Neosho MO; field inspection by Clayton Fraser, 19 April 1991.

Capps Creek Bridge

sign. rating: 40
evaluation: NRHP non-eligible (typically configured example of mainstay structural type, moved to this location)

inventoried by: Clayton B. Fraser 9 March 1994

Mason Spring Creek Bridge

NEWT21

GENERAL DATA

structure no.: 533001.0
county: Newton
city/town: 3.7 miles southeast of Seneca
feature inters.: Mason Spring Creek
cadastral grid: S27/28, T24N, R34W
highway route: County Road 533
highway distr.: 7
current owner: Newton County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt half-hip pony truss
substructure: stone masonry abutments and wingwalls with concrete parging

span number: 1
span length: 50.0'
total length: 52.0'
roadway width: 15.9'
condition: fair
alterations: none
floor/decking : timber deck over timber stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped square eyebars; vertical: 4 angles with double lacing; diagonal: 2 looped square eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, field-bolted to vertical; guardrail: steel lattice

HISTORICAL DATA

erection date: 1901
erection cost: unknown
designer: Canton Bridge Company, Canton OH
fabricator : Canton Bridge Company, Canton OH
contractor: Canton Bridge Company, Canton OH

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 533001.0; field inspection by Clayton Fraser, 19 April 1991.

sign. rating: 41
evaluation: NRHP non-eligible (typically configured, inadequately documented example of a common structural type)

inventoried by: Clayton B. Fraser 9 March 1994

South Indian Creek Bridge

NEWT22

GENERAL DATA

structure no.: 598003.0
county: Newton
city/town: 1.3 miles southeast of Boulder City
feature inters.: South Indian Creek
cadastral grid: S24, T24N, R31W
highway route: County Road 598
highway distr.: 7
current owner: Newton County

STRUCTURAL DATA

superstructure: steel, 8-panel, pin-connected Pratt through truss; 1 timber stringer approach span at the south end
substructure: concrete abutments, wingwalls and pier

span number: 1
span length: 118.0'
total length: 136.0'
roadway width: 16.0'
condition: fair
alterations: moved, 1930
floor/decking : timber deck over timber stringers
other features: upper chord and inclined end post: 2 channels with cover and batten plates; lower chord: 2 looped rectangular eyebars; vertical: two channels with wide, flat lacing (2 looped square eyebars at the hip); diagonal: 2 looped rectangular eyebars; counter: round rod with unslotted turnbuckle; lateral bracing: round rod with threaded ends; strut: 1 channel; portal strut: 4 angles with lacing and laced knee braces; floor beams; I-beam, U-bolted to vertical; guardrail: steel pipe; builder's plate: **1903 The Midland Bridge Co. Kansas City Mo. Freygang & Trocon Proprietors**

HISTORICAL DATA

erection date: 1903
erection cost: unknown
designer: Midland Bridge Company, Kansas City MO
fabricator : Midland Bridge Company, Kansas City MO; Phoenix Iron Company, Philadelphia PA
contractor: Midland Bridge Company, Kansas City MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 598003.0; Newton County Court Record, Book J: page 283 (31 August 1903), page 298 (29 September 1903), page 342 (7 November 1903) - located Newton County Courthouse, Neosho MO; field inspection by Clayton Fraser, 19 April 1991.

South Indian Creek Bridge

sign. rating: 43
evaluation: NRHP non-eligible (typically configured example of mainstay structural type, moved to this location)

inventoried by: Clayton B. Fraser 9 March 1994

Stella Bridge

NEWT23

GENERAL DATA

structure no.: 611000.8
county: Newton
city/town: 3.3 miles southwest of Fairview
feature inters.: Middle Indian Creek
cadastral grid: S10/11, T24N, R30W
highway route: County Road 611
highway distr.: 7
current owner: Newton County

STRUCTURAL DATA

superstructure: concrete slab
substructure: concrete abutments, wingwalls and piers

span number: 4
span length: 20.0'
total length: 80.0'
roadway width: 20.0'
condition: fair
alterations: unknown
floor/decking : concrete deck
other features: concrete post-and-beam guardrails

HISTORICAL DATA

erection date: 1920
erection cost: unknown
designer: unknown
fabricator : none
contractor: Concrete and Steel Construction Company, Joplin MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 611000.8; Newton County Court Record, Book S: page 605 (20 June 1920), page 622 (20 July 1920) - located at Newton County Courthouse, Neosho MO.

sign. rating: 33
evaluation: NRHP non-eligible (technologically undistinguished example of a simple concrete bridge design)

inventoried by: Clayton B. Fraser 9 March 1994

Sycamore Creek Bridge

NEWT24

GENERAL DATA

structure no.: 655001.3
county: Newton

city/town: 2.8 miles southeast of Seneca
feature inters.: Sycamore Creek
cadastral grid: S15/22, T24N, R34W
highway route: County Road 655
highway distr.: 7
current owner: Newton County

STRUCTURAL DATA

superstructure: concrete filled spandrel arch, skewed
substructure: concrete abutments and wingwalls with stone backing

span number: 1
span length: 50.0'
total length: 50.0'
roadway width: 28.5'

condition: fair
alterations: none
floor/decking : concrete deck over earth fill
other features: concrete curbs without guardrails

HISTORICAL DATA

erection date: c1920
erection cost: unknown
designer: unknown
fabricator : none
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 655001.3; field inspection by Clayton Fraser, 19 April 1991.

sign. rating: 26
evaluation: NRHP non-eligible (inadequately documented example of a concrete filled spandrel arch, marginally noteworthy for its skewed configuration)

inventoried by: Clayton B. Fraser 9 March 1994

Five Mile Creek Culvert

NEWT25

GENERAL DATA

structure no.: 708000.7
county: Newton
city/town: 12.0 miles northwest of Neosho
feature inters.: Five Mile Creek
cadastral grid: S20, T26N, R33W
highway route: County Road 708
highway distr.: 7
current owner: Newton County

STRUCTURAL DATA

superstructure: concrete arch culvert
substructure: concrete abutments, wingwalls and piers

span number: 3
span length: 9.0'
total length: 31.0'
roadway width: 19.5'
condition: poor
alterations: two spans have collapsed
floor/decking : concrete deck
other features: no guardrails

HISTORICAL DATA

erection date: c1920
erection cost: unknown
designer: unknown
fabricator : none
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 708000.7.

sign. rating: 33
evaluation: NRHP non-eligible (poorly documented example of a rudimentary concrete bridge type)

inventoried by: Clayton B. Fraser 9 March 1994

Granby Bridge

NEWT26

GENERAL DATA

structure no.: 713000.6
county: Newton
city/town: 1.9 miles north of Granby
feature inters.: Shoal Creek
cadastral grid: S25, T26N, R31W
highway route: County Road 713
highway distr.: 7
current owner: Newton County

STRUCTURAL DATA

superstructure: concrete filled spandrel arch
substructure: concrete abutments, wingwalls and piers

span number: 5
span length: 43.0'
total length: 215.0'
roadway width: 18.3'
condition: fair
alterations: none
floor/decking : concrete deck over earth fill
other features: concrete post-and-beam guardrails; "Z-642" Missouri Highway and Transportation Department designation spray painted on concrete at approach

HISTORICAL DATA

erection date: 1919
erection cost: $14,600.00
designer: unknown
fabricator : none
contractor: Concrete and Steel Construction Company, Joplin MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 713000.6; **Report of the State Highway Board of Missouri for the Period Ending December 1, 1918**, located at the Missouri Highway and Transportation Department, Jefferson City MO; Newton County Court Record S: pages 313 and 314 (21 April 1919), page 360 (7 July 1919), page 391 (19 August 1919), page 392 (1 September 1919) - located at Newton County Courthouse, Neosho MO; McDonald County Court Record, Book P: page 252 (12 February 1920) -located at McDonald County Courthouse, Pineville MO; field inspection by Clayton Fraser, 19 April 1991.

sign. rating: 53
evaluation: NRHP possibly eligible (significant example of pre-MSHD concrete bridge construction)

inventoried by: Clayton B. Fraser 9 March 1994

Dry Branch Bridge

NEWT27

GENERAL DATA

structure no.: 715000.3
county: Newton
city/town: northern edge of Granby
feature inters.: Dry Branch
cadastral grid: S31, T26N, R30W
highway route: County Road 715
highway distr.: 7
current owner: Newton County

STRUCTURAL DATA

superstructure: concrete through girder, skewed
substructure: concrete abutments and wingwalls

span number: 1
span length: 30.0'
total length: 35.0'
roadway width: 17.8'
condition: fair
alterations: none
floor/decking : concrete deck
other features: solid concrete guardrails with recessed rectangular panels

HISTORICAL DATA

erection date: c1920
erection cost: unknown
designer: unknown
fabricator : none
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 715000.3; field inspection by Clayton Fraser, 19 April 1991.

sign. rating: 30
evaluation: NRHP non-eligible (well-preserved example of uncommon structural type, inadequately documented)

inventoried by: Clayton B. Fraser 9 March 1994

Jolly Mill Bridge

NEWT28

GENERAL DATA

structure no.: none
county: Newton

city/town: 6.6 miles northeast of Newtonia
feature inters.: Capps Creek Bridge
cadastral grid: S11, T25N, R29W
highway route: county road
highway distr.: 7
current owner: Newton County

STRUCTURAL DATA

superstructure: steel, 6-panel, pin-connected Camelback through truss
substructure: non-original concrete piers; no abutments

span number: 1
span length: 90.0'
total length: 90.0'
roadway width: 16.0'

condition: good
alterations: bridge moved to Jolly Mill Park, under restoration
floor/decking : no deck or stringers at time of survey
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped rectangular eyebars; vertical: 2 channels with lacing (4 angles with lacing at the hip); diagonal: 2 looped rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: angles, braced; portal strut: A-frame; floor beam: I-beam, field-bolted to vertical; guardrail: steel lattice; builder's plate (removed): **Built by James B. Diver Bridge Co., Keokuk Ia**

HISTORICAL DATA

erection date: 1905
erection cost: $2569.00
designer: unknown
fabricator : unknown
contractor: James B. Diver Bridge Company, Keokuk IA

references: Newton County Court Record, Book J: page 357 (29 December 1903), pages 393 and 394 (5 February 1904), page 581 (6 September 1904); Newton County Court Record, Book K: page 174 (19 March 1905) - located at Newton County Courthouse, Neosho MO; "Jolly Mill To Be Preserved," **Monett Times** (6 June 1973) page 1; "Group Hopes To Restore Jolly Mill," **Joplin Globe** (24 April 1983), n.p.; field inspection by Clayton Fraser, 19 April 1991.

Jolly Mill Bridge

sign. rating: 38
evaluation: NRHP non-eligible (short-span example of uncommon structural type, recently moved)

inventoried by: Clayton B. Fraser 9 March 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Redings Mill Bridge
MHTD: J 349

NEWT01

DATE(S) OF CONSTRUCTION
1930

LOCATION
Missouri State Highway 43 over Shoal Creek; S35, T27N, R33W
Redings Mill; Newton County, Missouri

USE (ORIGINAL / CURRENT)
highway bridge / highway bridge

RATING NRHP determined non-eligible (score: 48)

CONDITION
good

OWNER
Missouri Highway and Transportation Department

span number:	3	superstructure:	concrete, two-rib, open spandrel arch, with two concrete deck girder approach spans at each end
span length:	90.0'		
total length:	417.0'	substructure:	concrete abutments, wingwalls and piers
roadway wdt.:	20.0'	floor/decking:	concrete deck
		other features:	concrete guardrails with open balustrade (standard Missouri State Highway Department design); concrete sidewalk; curved approach at north end; builder's plate: **Built By M.E. Gillioz Contractor Monett MO**

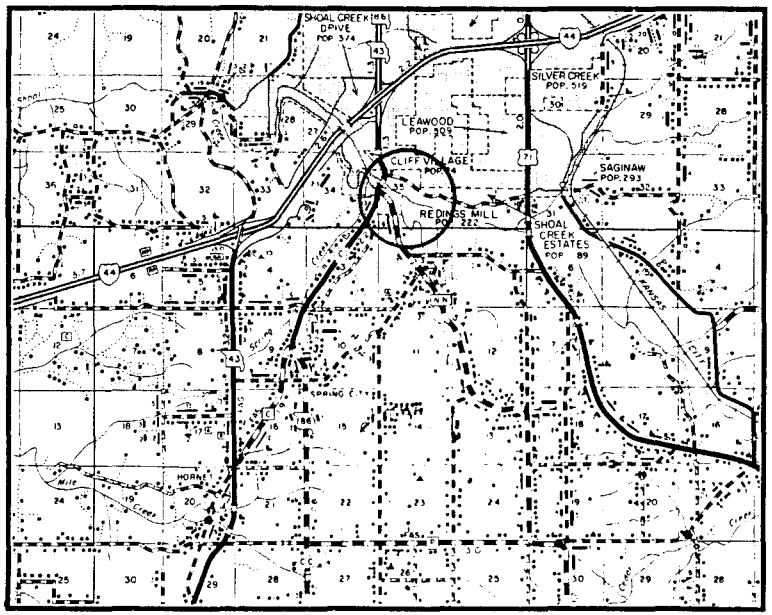
The history of the Redings Mill Bridge dates to 1903. That summer Newton County contracted with the Midland Bridge Company to construct a two-span steel truss over Shoal Creek at Redings Mill, just south of the city of Joplin. Completed in September, the structure functioned without alteration until 1930. Located along the heavily traveled route south of Joplin, a replacement bridge had become necessary because of the crossing's increased use. Accordingly, the state highway department designed the replacement and contracted with M.E. Gillioz of Monett, Missouri, to build the new Redings Mill Bridge–a wider and more substantial three-span concrete arch structure. The two steel spans built by Midland in 1903 were still in good condition, however, and the county decided to re-erect them at less heavily trafficked, rural locations. One of the two Midland spans [**NEWT22**] was rebuilt over South Indian Creek near Boulder City, while the other [**NEWT13**] was moved to a crossing over Clear Creek east of Ritchey. Completed in 1930, the Redings Mill Bridge is still in service and has not been seriously altered.

The Missouri State Highway Department typically used open spandrel designs for its concrete arches with 80 feet or more of span. Although numerous single-span, open spandrel arches were built in the 1920s and 1930s, multiple-span examples were erected far less often. Approximately 20 multiple-span open spandrel arches have been identified by the statewide bridge inventory. Among these, the Redings Mill Bridge ranks as a well-preserved, representative example of MSHD concrete bridge design.

NAME(S) OF STRUCTURE

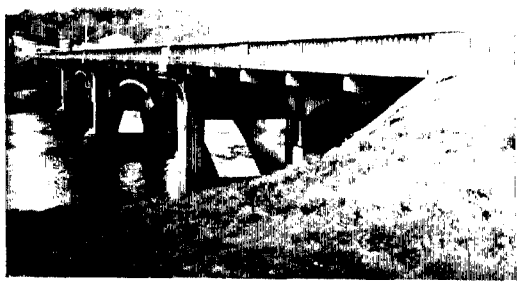
Redings Mill Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT GENERAL HIGHWAY MAP



SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. J 349; Primary System Bridge Record, located at the Missouri Highway and Transportation Department, Jefferson City MO; Newton County Court Record, Book J: page 283 (31 August 1903), page 298 (29 September 1903), page 342 (7 November 1903) - located at Newton County Courthouse, Neosho MO; field inspection by Clayton Fraser, 19 April 1991.

INVENTORIED BY

Clayton B. Fraser

AFFILIATION

Fraserdesign, Loveland CO

DATE

9 March 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Fillmore Bridge
MHTD: 008000.3

NEWT04

DATE(S) OF CONSTRUCTION
1919

LOCATION
County Road 8 over Shoal Creek; S29, T27N, R33W
0.5 mile southwest of Joplin; Newton County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / abandoned

RATING NRHP possibly eligible (score: 55)

CONDITION
fair

OWNER
Newton County

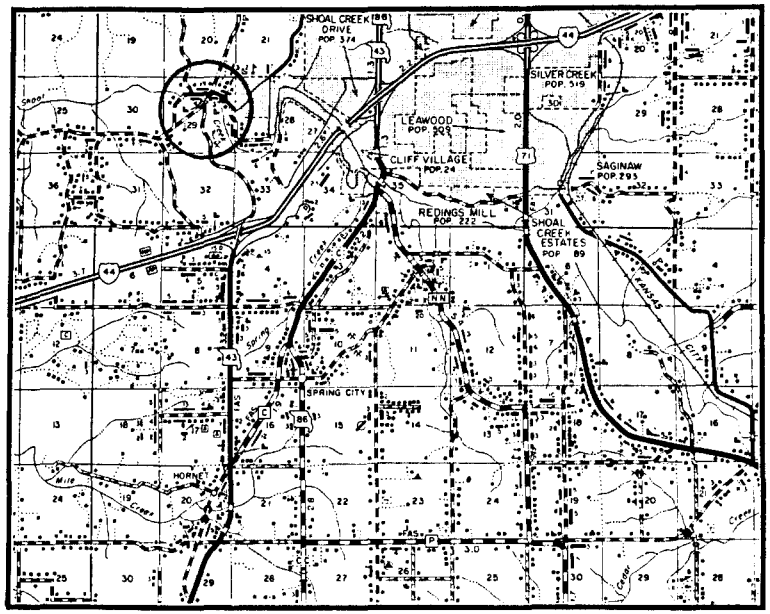
span number:	4	superstructure:	concrete filled spandrel arch
span length:	66.0'	substructure:	concrete abutments, wingwalls and piers
total length:	263.0'	floor/decking:	concrete deck over earth fill
roadway wdt.:	18.5'	other features:	concrete post-and-beam guardrails; bullnosed cutwaters at the piers

Located on an abandoned section of road in Shoal Creek Township, this large-scale concrete bridge spans Shoal Creek on the western periphery of Joplin. The structure is comprised of four elliptically shaped, filled spandrel concrete arches, supported by concrete piers and abutments. The bridge is plainly detailed, with triangular cutwaters on the piers and concrete post-and-beam guardrails. This structure dates to 1919. That year the Joplin Special Road District began planning for a substantial replacement for the Fillmore Bridge, a timber pile structure that had deteriorated beyond repair. The road district hired the Concrete and Steel Road District to build the new bridge. The Joplin-based firm built timber centering on Shoal Creek, placed the concrete and completed the bridge that year, while simultaneously building an almost identical concrete bridge over Shoal Creek north of Granby [**NEWT26**]. The Fillmore Bridge carried increasingly heavy traffic until its eventual replacement by Interstate 44. It has more recently been abandoned in place, deteriorating but intact.

Before the Missouri State Highway Department began designing vehicular bridges in the late 1910s, the state's counties, municipalities and road districts were individually responsible for their own bridge design and construction. Most opted for metal truss bridges, which were cheaply and quickly erected and were typically engineered by the bridge companies. The highway department began using concrete for its highway spans in the 1920s as an alternative to metal truss construction, but the counties never really embraced concrete as a superstructural material. There are a few noteworthy exceptions to this statewide trend, among them the Fillmore Bridge. With its 1919 construction date and locally generated concrete arch design, this Newton County structure is historically and technologically significant for its deviation from what is an overwhelming trend in Missouri bridge construction. A regionally important crossing on the road west of Joplin, it is today an important and well-preserved example of pre-MSHD concrete bridge design.

NAME(S) OF STRUCTURE
Fillmore Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP
TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP

SOURCES
Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 008000.3; **Report of the State Highway Board of Missouri**, December 1920; field inspection by Clayton Fraser, 19 April 1991.

INVENTORIED BY
Clayton B. Fraser

AFFILIATION
Fraserdesign, Loveland CO

DATE
9 March 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Tipton Ford Bridge
MHTD: 026004.5

NEWT05

DATE(S) OF CONSTRUCTION
1918

LOCATION
County Road 26 over Shoal Creek; S15/16, T26N, R32W
7.4 miles northwest of Neosho; Newton County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 60)

CONDITION
fair

OWNER
Newton County

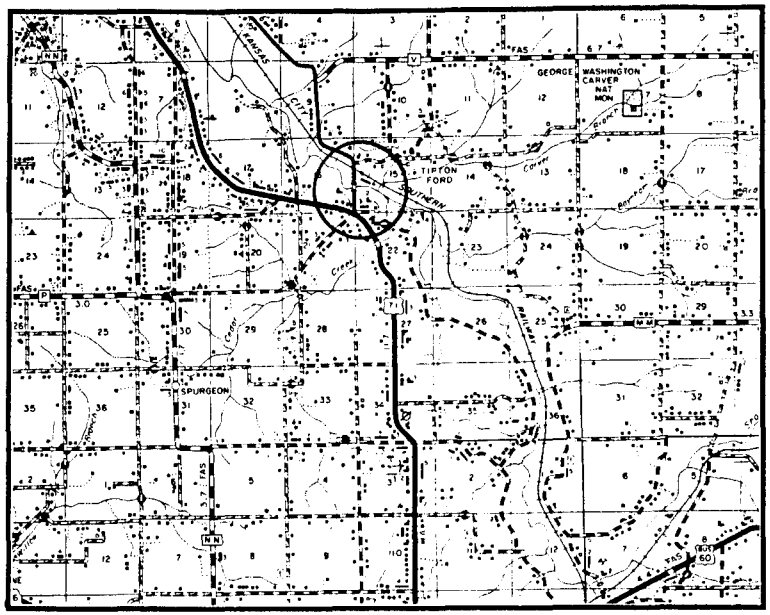
span number:	14	superstructure:	concrete, two-rib, deck girder
span length:	50.0'	substructure:	concrete abutments, wingwalls and bullnosed piers
total length:	387.0'	floor/decking:	concrete deck
roadway wdt.:	18.3'	other features:	concrete post-and-beam guardrails

Citizens in the area of Tipton Ford south of Joplin first petitioned for a bridge on the Neosho-Joplin Road at this site in 1896. With members of the county court divided on the issue, however, it was more than five years before a bridge was actually built. During the spring and summer of 1901 the Wrought Iron Bridge Company erected a 125-foot steel truss with a 375-foot timber pile approach at Tipton Ford. Built for $2252.00, this structure lasted only 17 years. In the spring of 1918 county highway engineer O.A. Hearrell inspected the Tipton Ford Bridge and determined that a new structure was needed. Bids were solicited, and on June 6, 1918, a contract was awarded to the Concrete and Steel Construction Company of Joplin to build the bridge for $15,749.00. As built, the replacement structure was comprised 14 concrete deck girder spans, each made up of two deep ribs, a concrete deck and concrete post-and-beam guardrails. Work on the project began in early July and continued through the summer and fall. On November 25, 1918, the county court formally accepted the Tipton Ford Bridge as complete. The Tipton Ford Bridge continues to carry traffic, and appears essentially the same today as when originally built.

Unlike many Midwestern states, Missouri did not employ reinforced concrete extensively for construction of vehicular bridge superstructures in the 1910s. The various counties and, to a lesser extent, the state highway department continued to prefer steel for bridge superstructures well after concrete had received widespread acceptance elsewhere. This, combined with subsequent attrition, has resulted in a relatively small number of concrete bridges that exist today from this formative period. The Tipton Ford Bridge is an example of a locally produced concrete design, built just prior to the development of state bridge standards emanating from the 1918 Hawes Road Law. A forerunner of one of several State Highway Department designs for short- and medium-span bridges, this concrete deck girder structure is notable for its multiple-span configuration. Only four such structures identified by the statewide bridge inventory have more than 14 spans, and just five have individual spans longer than 50 feet.

NAME(S) OF STRUCTURE
Tipton Ford Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP
TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP

SOURCES
Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 026004.5; Newton County Court Record, Book I: page 531 (26 December 1900), page 549 (6 February 1901), page 617 (9 August 1901); Newton County Court Record, Book S: page 1 (18 April 1918), page 20 (14 May 1918), page 36 (6 June 1918), page 40 (14 June 1918), page 50 (1 July 1918), page 62 (23 July 1918), page 75 (5 August 1918), page 122 (3 September 1918), page 135 (7 October 1918), page 154 (4 November 1918), page 189 (25 November 1918), page 197 (6 December 1918); field inspection by Clayton Fraser, 19 April 1991.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton B. Fraser	Fraserdesign, Loveland CO	9 March 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Neosho Bridge
MHTD: 384001.2

NEWT17

DATE(S) OF CONSTRUCTION
1882

LOCATION
County Road 384 over Shoal Creek; S7, T25N, R31W
1.4 mile north of Neosho; Newton County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / abandoned

RATING NRHP possibly eligible (score: 52)

CONDITION
fair

OWNER
Newton County

span number: 1
span length: 136.0'
total length: 186.0'
roadway wdt.: 16.0'

superstructure: steel, 8-panel, pin-connected Pratt through truss; 2 steel stringer approach spans at each end
substructure: concrete abutments, wingwalls and piers
floor/decking: concrete deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 punched rectangular eyebars; vertical: 2 channels with cover plate and lacing (2 channels at the hip); diagonal: 2 punched rectangular eyebars; counter: square eyebar with sleeve bolt; lateral bracing: looped forked eyebar, bolted to floor beams at verticals; strut: 1 channel with 2 angle knee braces; floor beams; I-beam; guardrail: 2 channels; builder's plate: **1882 King Iron Bridge Co Cleveland O**

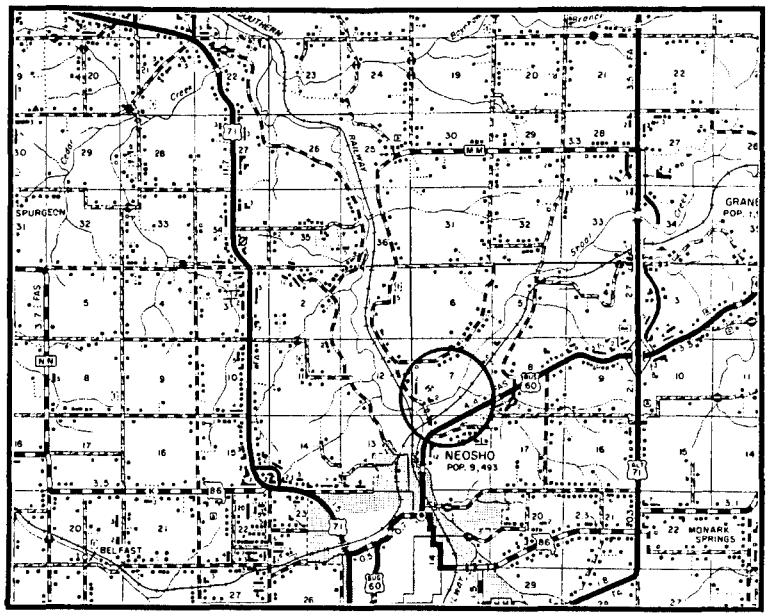
Erected in 1882 about 1½ miles north of the town for which it was named, the Neosho Bridge is Newton County's oldest remaining vehicular crossing. Minutes of the Newton County Court indicate that the county contracted with the Kansas City Bridge and Iron Company to build the structure, but a builder's plate denotes that it was erected by the King Iron Bridge Company of Cleveland. Kansas City Bridge evidently received the contract, and then subcontracted the bridge's fabrication to King. A single-span, pin-connected Pratt through truss, with flanking steel stringer approach spans, the bridge's history dates to the spring of 1882. On May 15th of that year the county court appropriated $3500.00 for a bridge across Shoal Creek at "a point near the center of the county as practicable." Bids were let on July 11th, and just under a month later, on August 7th, the Kansas City Bridge and Iron Company was awarded a $3900.00 contract to erect the structure. C.W. Hulls, meanwhile, received a separate contract to build the abutments priced at $3.00 per perch. By the end of the year, the substructure was in place, and Hulls had been issued two warrants totaling $100.00. Kansas City Bridge, meanwhile, was paid half its contract price of $1950.00 on January 4, 1883. Just over two weeks later, on January 22nd, the bridge was completed, and a second payment of $1950.00 was issued to Kansas City Bridge. Hulls's original stone abutments have been replaced with concrete, but the structure otherwise appears as originally built. In 1979 a new bridge was built and the existing roadway realigned. In this way, it was possible to preserve the old Neosho Bridge in its original location.

As the oldest remaining wagon crossing in Newton County, the Neosho Bridge is historically significant as an intact remnant of early

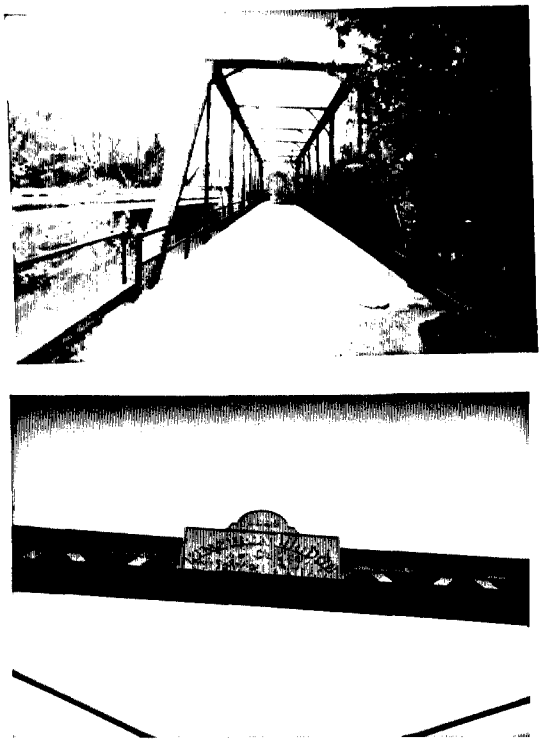
transportation. The structure is also technologically representative as one of Missouri's earliest pinned Pratt through trusses–a mainstay structural type for medium-span crossings built in the late 19th century. Statewide, only four pinned Pratt through trusses that still remain are documented to have been built earlier than the Neosho Bridge.

NAME(S) OF STRUCTURE
Neosho Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP
TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP



SOURCES
Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 384001.2; Newton County Court Record, Book F: page 128 (15 May 1882), page 130 (5 June 1882), page 133 (6 June 1882), page 141 (11 July 1882), pages 144 and 145 (7 August 1882), page 152 (4 September 1882), page 155 (4 September 1882), page 191 (4 January 1883), page 194 (22 January 1883) - located Newton County Courthouse, Neosho MO; field inspection by Clayton Fraser, 19 April 1991.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton B. Fraser	Fraserdesign, Loveland CO	9 March 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
North Indian Creek Bridge
MHTD: 427000.9

NEWT19

DATE(S) OF CONSTRUCTION
1896

LOCATION
County Road 427 over North Indian Creek; S35, T25N, R30W
3.0 miles south of Newtonia; Newton County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 46)

CONDITION
fair

OWNER
Newton County

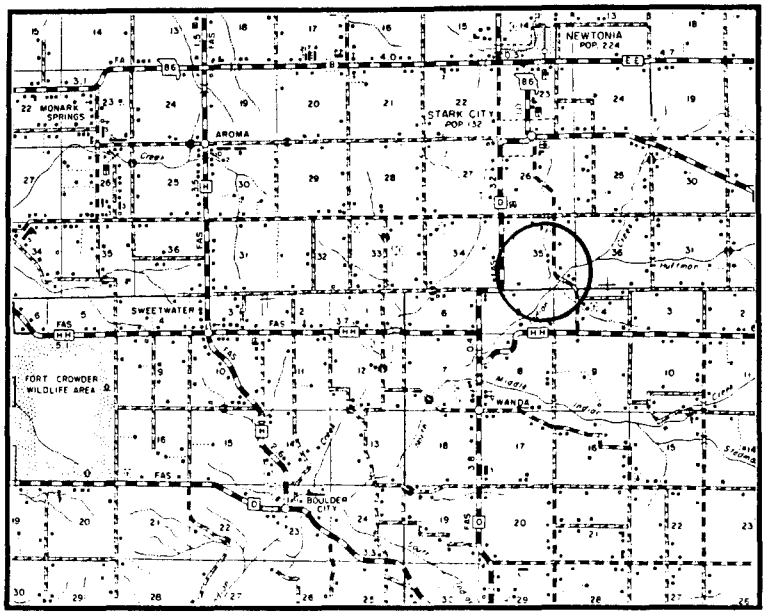
span number:	1	superstructure:	steel, 4-panel, pin-connected Pratt half-hip pony truss
span length:	48.0'	substructure:	concrete abutments and wingwalls; timber wingwalls at west end
total length:	50.0'	floor/decking:	timber deck over steel stringers
roadway wdt.:	19.0'	other features:	upper chord: 2 channels with cover plate and lacing; inclined end post: 2 channels with batten plates on top and bottom; lower chord: 2 looped rectangular eyebars; vertical: 4 angles with double lacing; diagonal: 2 looped square eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, U-bolted to vertical; guardrail: steel lattice; builder's plate (broken): **Wrt. Ir...Bridge...Builde...Canton...1896**

The North Indian Creek Bridge is located along an unpaved county road three miles south of Newtonia, in southeastern Newton County. A pin-connected Pratt half-hip pony truss, the bridge is supported by a concrete substructure. The truss was built in 1896, but is no longer in its original location. In early March 1896 a petition for a bridge across Shoal Creek at Spring Ford was filed with the Newton County Court. Two months later, on May 8th, the county court ordered the erection of two bridges over Shoal Creek–one near Granby, and this bridge at Spring Ford. Bids were solicited, and on June 1st the Wrought Iron Bridge Company received the contract to build both spans. Construction on both structures began later that summer. At Spring Ford, local residents built the approaches, while Wrought Iron Bridge erected the main span for $907.00. The date that the truss was moved to its current location is undocumented. Although no longer at its original location, the North Indian Creek Bridge is a well-documented example of a mainstay structural type–the pin-connected Pratt half-hip pony truss.

NAME(S) OF STRUCTURE

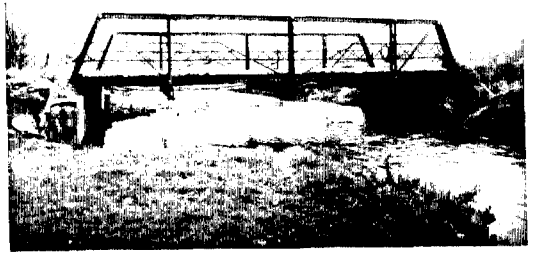
North Indian Creek Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP



SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 427000.9; Newton County Court Record, Book I: page 25 (3 March 1896), pages 57 and 58 (8 May 1896), page 63 (1 June 1896), page 69 (6 July 1896), page 93 (13 September 1896), page 105 (10 November 1896) - located at Newton County Courthouse, Neosho MO; field inspection by Clayton Fraser, 19 April 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	9 March 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Capps Creek Bridge
MHTD: 459001.4

NEWT20

DATE(S) OF CONSTRUCTION
1906

LOCATION
County Road 459 over Capps Creek; S11, T25N, R29W
6.0 miles northeast of Newtonia; Newton County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 40)

CONDITION
fair

OWNER
Newton County

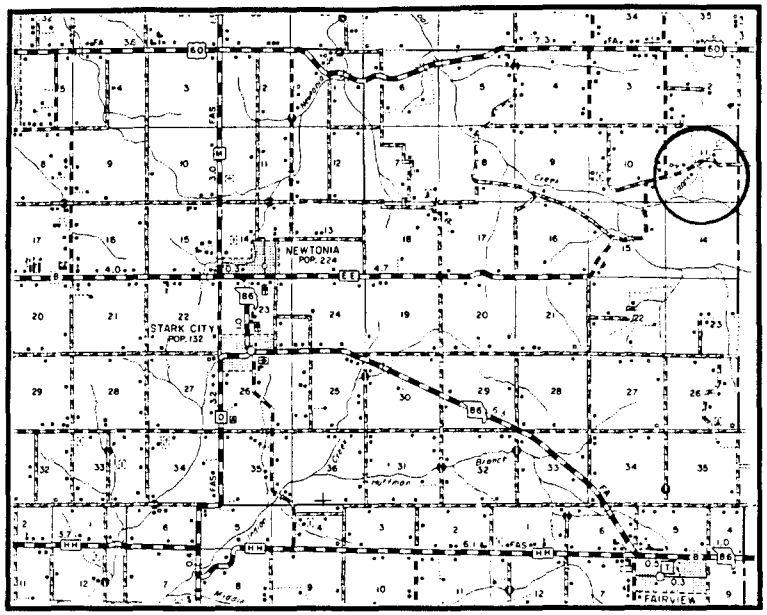
span number:	1	superstructure:	steel, 6-panel, pin-connected Pratt through truss
span length:	108.0'	substructure:	concrete abutments and wingwalls
total length:	110.0'	floor/decking:	timber deck over steel stringers
roadway wdt.:	12.0'	other features:	upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped rectangular eyebars; vertical: 2 channels with lacing (2 looped square eyebars at the hip); diagonal: 2 looped rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 4 angles with lacing; portal strut: A-frame; floor beam: I-beam, field-bolted to vertical; guardrail: timber or steel lattice; builder's plate: **1906 / The Midland Bridge Co. / Kansas City Mo. / Freygang & Trocon Proprietors**

The Capps Creek Bridge is located six miles northeast of Newtonia, in eastern Newton County. A builder's plate reveals that the bridge was built in 1906. County records show that the structure is no longer in its original location, however. On August 9, 1905, J.R. Smith presented a petition for a bridge over Indian Creek near Boulder City in Section 23 of Township 24 North, Range 31 West. County officials viewed the petition favorably, and John Sherwood, the road and bridge commissioner, prepared plans for a 108-foot steel through truss and a 40-foot pony truss approach. On September 5, 1905, a contract to erect the crossing was let to the Midland Bridge Company of Kansas City. Midland completed the project by early spring, and on April 5, 1906, the company was issued a warrant for $3249.00. The length of time that the bridge carried traffic over Indian Creek prior to being moved to Capps Creek has not been documented.

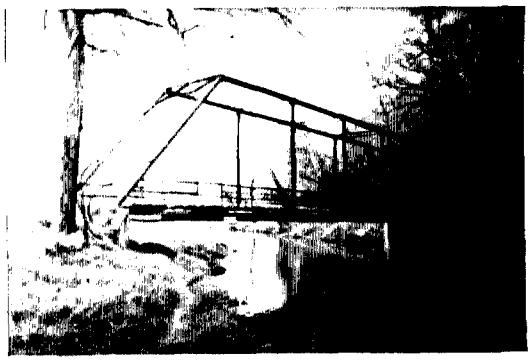
Although no longer at its original location, the Capps Creek Bridge is a well-documented example of a mainstay structural type–the pin-connected Pratt through truss. The bridge displays standard detailing, unremarkable dimensions, and an average degree of physical integrity

NAME(S) OF STRUCTURE
Capps Creek Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP
TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP



SOURCES
Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 459001.4; Newton County Court Record, Book K: pages 307-309 (9 August 1905), pages 312 and 313 (9 August 1905), pages 362 and 363 (4 September 1905), pages 366-368 (5 September 1905), pages 548-550 (5 April 1906), page 556 (14 April 1906) - located at Newton County Courthouse, Neosho MO; field inspection by Clayton Fraser, 19 April 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	9 March 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Mason Spring Creek Bridge NEWT21
MHTD: 533001.0

DATE(S) OF CONSTRUCTION
1901

LOCATION
County Road 533 over Mason Spring Creek; S27/28, T24N, R34W
3.7 miles southeast of Seneca; Newton County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 41)

CONDITION
fair

OWNER
Newton County

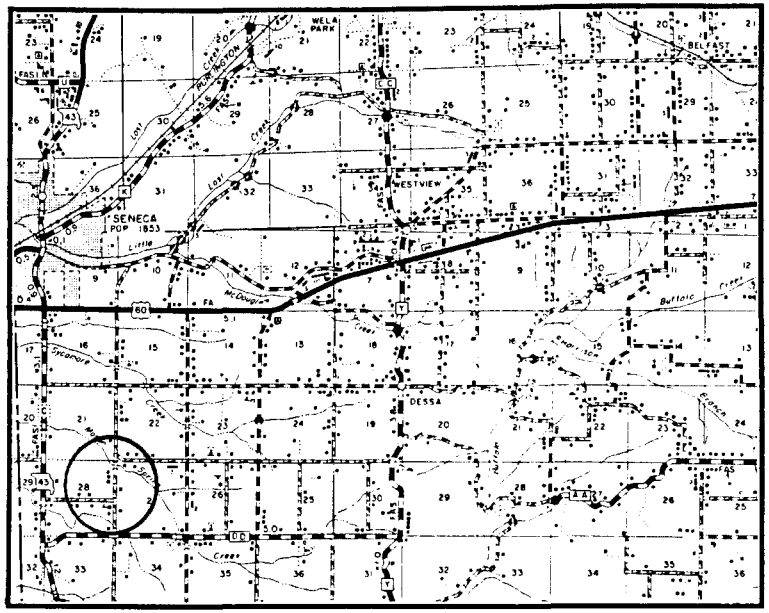
span number:	1	superstructure:	steel, 4-panel, pin-connected Pratt half-hip pony truss
span length:	50.0'	substructure:	stone masonry abutments and wingwalls with concrete parging
total length:	52.0'	floor/decking:	timber deck over timber stringers
roadway wdt.:	15.9'	other features:	upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped square eyebars; vertical: 4 angles with double lacing; diagonal: 2 looped square eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, field-bolted to vertical; guardrail: steel lattice

Located some 3.7 miles southeast of Seneca, this single-span truss carries an unpaved county road across Mason Spring Creek. The structure was evidently built under contract for the county by the Canton Bridge Company of Canton, Ohio, in 1901. As constructed, the Mason Spring Creek Bridge is comprised of a pinned Pratt half-hip pony truss, supported by stone masonry abutments. The truss employs Canton's standard configuration, which until recently included decorative cast iron finials at the hips. The substructure has been parged with concrete in places, the finials have been broken off, and the truss has undergone minor repairs, but the bridge remains otherwise intact.

The Mason Spring Creek Bridge is a relatively well-preserved example of a mainstay structural type–the pin-connected Pratt half-hip pony truss. The bridge displays standard detailing and unremarkable dimensions.

NAME(S) OF STRUCTURE
Mason Spring Creek Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP
TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP

SOURCES
Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 533001.0; field inspection by Clayton Fraser, 19 April 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	9 March 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
South Indian Creek Bridge
MHTD: 598003.0

NEWT22

DATE(S) OF CONSTRUCTION
1903

LOCATION
County Road 598 over South Indian Creek; S24, T24N, R31W
1.3 miles southeast of Boulder City; Newton County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 43)

CONDITION
fair

OWNER
Newton County

span number: 1
span length: 118.0'
total length: 136.0'
roadway wdt.: 16.0'

superstructure: steel, 8-panel, pin-connected Pratt through truss; 1 timber stringer approach span at the south end
substructure: concrete abutments, wingwalls and pier
floor/decking: timber deck over timber stringers
other features: upper chord and inclined end post: 2 channels with cover and batten plates; lower chord: 2 looped rectangular eyebars; vertical: two channels with wide, flat lacing (2 looped square eyebars at the hip); diagonal: 2 looped rectangular eyebars; counter: round rod with unslotted turnbuckle; lateral bracing: round rod with threaded ends; strut: 1 channel; portal strut: 4 angles with lacing and laced knee braces; floor beams; I-beam, U-bolted to vertical; guardrail: steel pipe; builder's plate: **1903 The Midland Bridge Co. Kansas City Mo. Freygang & Trocon Proprietors**

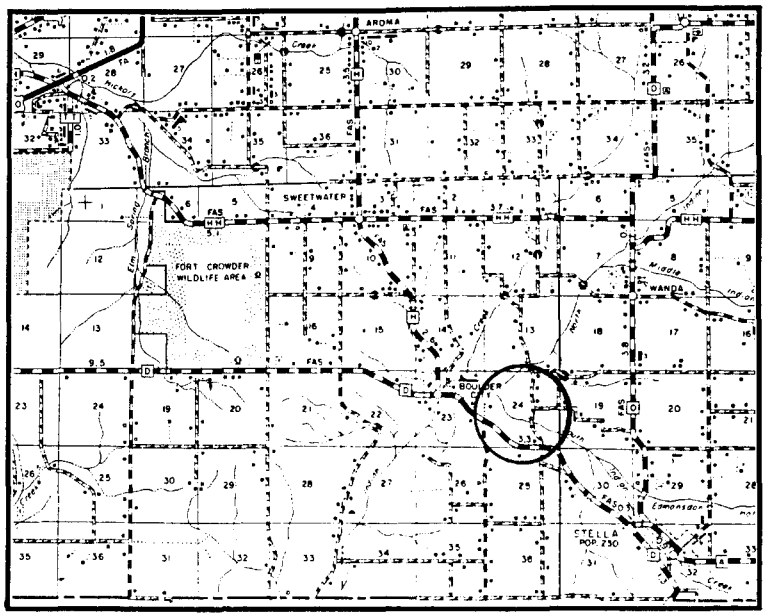
Located in southern Newton County, this bridge carries a secondary county road across South Indian Creek, just over a mile southeast of Boulder City. A single-span, pinned Pratt through truss, the structure features concrete abutments and a timber deck. The truss was fabricated in 1903. That summer Newton County contracted with the Midland Bridge Company to fabricate and build a two-span, steel truss over Shoal Creek at Redings Mill, just south of the city of Joplin. Completed in September 1903, the two spans served at the Redings Mill crossing until 1930. That year the state highway department built a concrete replacement structure [**NEWT01**], and the two 1903 steel trusses were dismantled and moved to less trafficked, rural crossings. One of the two spans [**NEWT13**] was rebuilt over Clear Creek three miles east of Ritchey, while the other was moved to this site and has since served to carry traffic over South Indian Creek. The South Indian Creek Bridge still features Midland's original portal plate.

Moved from its original location in 1930, the South Indian Creek Bridge is a typical example of a common truss configuration. The crossing features standard detailing, unremarkable dimensions and an average degree of physical integrity.

NAME(S) OF STRUCTURE

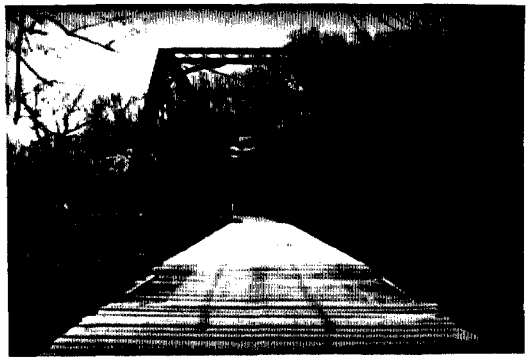
South Indian Creek Bridge

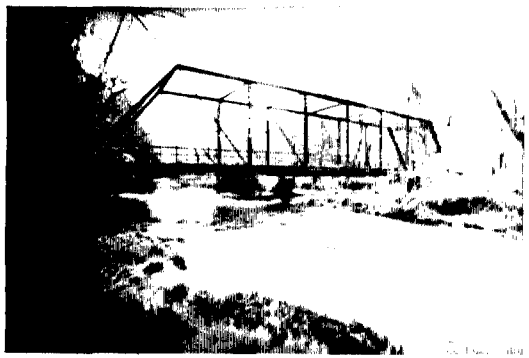
PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT GENERAL HIGHWAY MAP





SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 598003.0; Newton County Court Record, Book J: page 283 (31 August 1903), page 298 (29 September 1903), page 342 (7 November 1903) - located Newton County Courthouse, Neosho MO; field inspection by Clayton Fraser, 19 April 1991.

INVENTORIED BY

Clayton B. Fraser

AFFILIATION

Fraserdesign, Loveland CO

DATE

9 March 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Granby Bridge
MHTD: 713000.6

NEWT26

DATE(S) OF CONSTRUCTION
1919

LOCATION
County Road 713 over Shoal Creek; S25, T26N, R31W
1.9 miles north of Granby; Newton County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 53)

CONDITION
fair

OWNER
Newton County

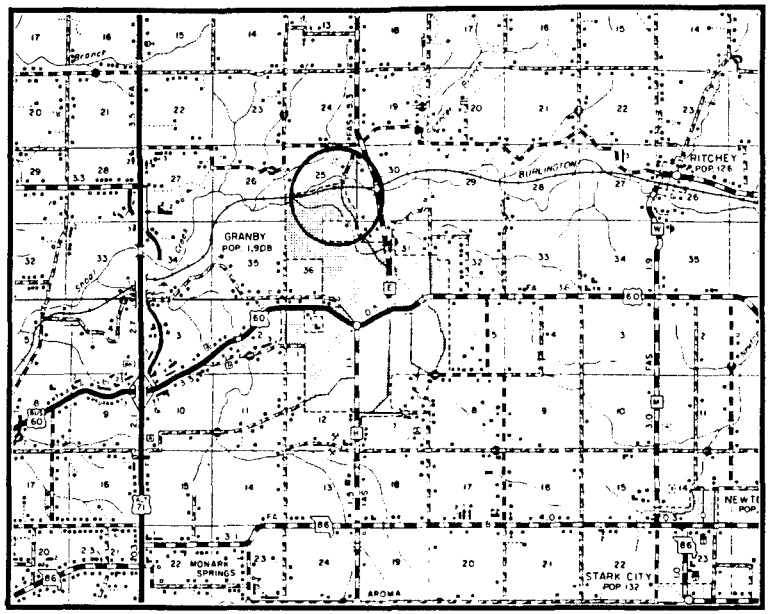
span number:	5	superstructure:	concrete filled spandrel arch
span length:	43.0'	substructure:	concrete abutments, wingwalls and piers
total length:	215.0'	floor/decking:	concrete deck over earth fill
roadway wdt.:	18.3'	other features:	concrete post-and-beam guardrails; "Z-642" Missouri Highway and Transportation Department designation spray painted on concrete at approach

The Granby Bridge carries a secondary county road over Shoal Creek immediately north of Granby, in central Newton County. Designed in early 1919 as a replacement for an earlier truss bridge, the five-span concrete filled spandrel arch structure was built by the Concrete and Steel Construction Company. The Joplin-based contracting firm was hired by the Newton County Court to build the large-scale structure on April 21, 1919, for $14,600.00. The contractors pushed construction on the bridge during the spring and summer, while simultaneously building an almost identical concrete bridge over Shoal Creek south of Joplin [**NEWT05**]. On September 1, 1919, the new Granby Bridge was declared complete and formally accepted by the court. Meanwhile, the trusses from the old Granby bridge had been sold to McDonald County for $1050.00. McDonald County also paid to have the old truss moved, and then re-erected it over Mikes Creek, near Powell in southeastern McDonald County. Since its completion, the new Granby Bridge has carried vehicular traffic in essentially unaltered condition. It served for a while as a state highway bridge but has more recently reverted to county ownership.

Before the Missouri State Highway Department began designing vehicular bridges in the late 1910s, the state's counties, municipalities and road districts were individually responsible for their own bridge design and construction. Most opted for metal truss bridges, which were cheaply and quickly erected and were typically engineered by the bridge companies. The highway department began using concrete for its highway spans in the 1920s as an alternative to metal truss construction, but the counties never really embraced concrete as a superstructural material. There are a few noteworthy exceptions to this statewide trend, among them the Granby Bridge. With its 1919 construction date and locally generated concrete arch design, this Newton County structure is historically and technologically significant for its deviation from what is an overwhelming trend in Missouri bridge construction. A regionally important crossing in central Newton County, it is today an important and well-preserved example of pre-MSHD concrete bridge design.

NAME(S) OF STRUCTURE
Granby Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP
TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP

SOURCES
Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 713000.6; **Report of the State Highway Board of Missouri for the Period Ending December 1, 1918**, located at the Missouri Highway and Transportation Department, Jefferson City MO; Newton County Court Record S: pages 313 and 314 (21 April 1919), page 360 (7 July 1919), page 391 (19 August 1919), page 392 (1 September 1919) - located at Newton County Courthouse, Neosho MO; McDonald County Court Record, Book P: page 252 (12 February 1920) -located at McDonald County Courthouse, Pineville MO; field inspection by Clayton Fraser, 19 April 1991.

INVENTORIED BY
Clayton B. Fraser

AFFILIATION
Fraserdesign, Loveland CO

DATE
9 March 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Dry Branch Bridge
MHTD: 715000.3

NEWT27

DATE(S) OF CONSTRUCTION
c1920

LOCATION
County Road 715 over Dry Branch; S31, T26N, R30W
northern edge of Granby; Newton County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 30)

CONDITION
fair

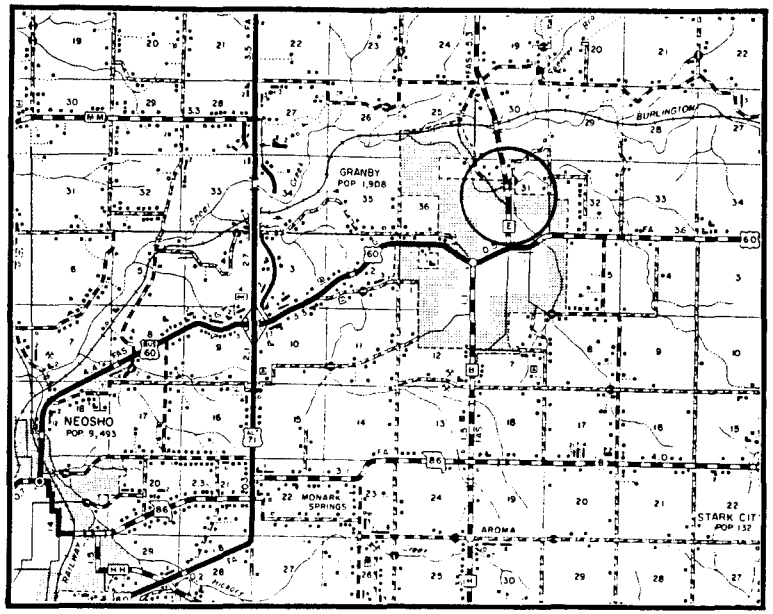
OWNER
Newton County

span number:	1	superstructure:	concrete through girder, skewed
span length:	30.0'	substructure:	concrete abutments and wingwalls
total length:	35.0'	floor/decking:	concrete deck
roadway wdt.:	17.8'	other features:	solid concrete guardrails with recessed rectangular panels

Before the Missouri State Highway Department began designing vehicular bridges in the late 1910s, the state's counties, municipalities and road districts were individually responsible for their own bridge design and construction. Most opted for metal truss bridges, which were cheaply and quickly erected and were typically engineered by the bridge companies. The highway department began using concrete for its highway spans in the 1920s as an alternative to metal truss construction, but the counties never really embraced concrete as a superstructural material. There are a few noteworthy exceptions to this statewide trend, among them Newton County. In the late 1910s and 1920s, the county contracted extensively for major concrete bridges such as the Fillmore Bridge [**NEWT05**], the Tipton Ford Bridge [**NEWT05**] and the Granby Bridge [**NEWT26**]. This small-scale concrete girder span over a branch of Shoal Creek north of Granby also typifies the county's early commitment to concrete bridge construction. The dearth of information around its construction tends to limit its interpretive value, however.

NAME(S) OF STRUCTURE
Dry Branch Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP
TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP

SOURCES
Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 715000.3; field inspection by Clayton Fraser, 19 April 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	9 March 1994

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Jolly Mill Bridge
MHTD: none

NEWT28

DATE(S) OF CONSTRUCTION
1905

LOCATION
county road over Capps Creek Bridge; S11, T25N, R29W
6.6 miles northeast of Newtonia; Newton County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / none

RATING NRHP non-eligible (score: 38)

CONDITION
good

OWNER
Newton County

span number:	1	superstructure:	steel, 6-panel, pin-connected Camelback through truss
span length:	90.0'	substructure:	non-original concrete piers; no abutments
total length:	90.0'	floor/decking:	no deck or stringers at time of survey
roadway wdt.:	16.0'	other features:	upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped rectangular eyebars; vertical: 2 channels with lacing (4 angles with lacing at the hip); diagonal: 2 looped rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: angles, braced; portal strut: A-frame; floor beam: I-beam, field-bolted to vertical; guardrail: steel lattice; builder's plate (removed): **Built by James B. Diver Bridge Co., Keokuk Ia**

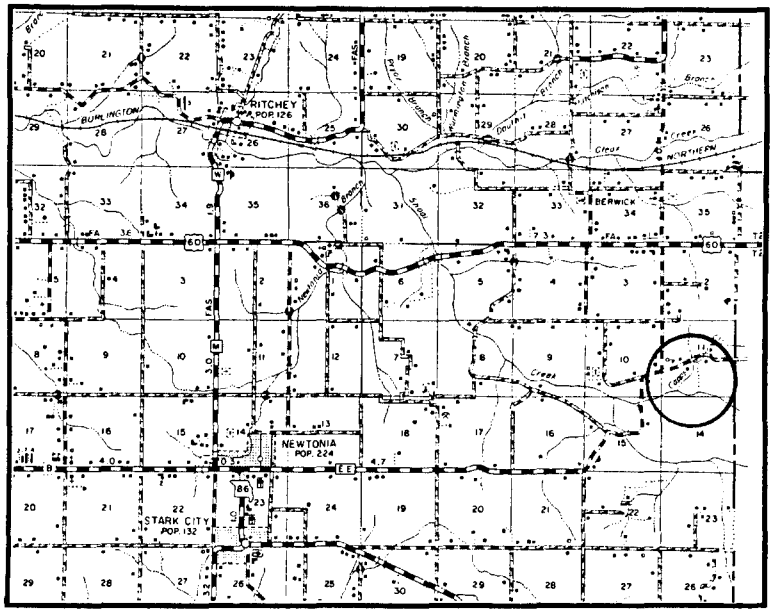
On December 29, 1903, A.L. White headed a group of petitioners asking the Newton County Court that bridges be built across Shoal and Capps Creeks in the eastern part of the county. The court replied that both bridges were "a public necessity and entirely practicable." The judges then ordered that both bridges be built–one over Shoal Creek in Newtonia Township and this bridge over Capps Creek in Franklin Township. R.F. Jones, the road and bridge commissioner was directed to draft plans and specifications and to advertise for the bridges' construction. Bids from fourteen firms were received, and on February 4, 1904, the James B. Diver Bridge Company of Keokuk, Iowa, was awarded the contract. Diver was paid $2540.00 plus $3.50 per foot for approaches to build both bridges. By March 1905 the county court formally accepted both bridges. A pin-connected Camelback through truss, the Capps Creek Bridge served in its original location until the late 1980s. In more recent years, the bridge has been re-erected near the historic Jolly Mill where plans call for its adaptive reuse at the restored Jolly Mill Park. The bridge's abutments, approach spans, and floor system had not yet been restored as of May 1991.

Through the 19th century, the pin-connected Pratt truss was the bridge of choice for medium- and long-span roadway crossings in Missouri. Late in the century, polygonal-chorded truss types began to replace the straight-chorded Pratts, however. The inclined upper chords of these structures afforded a degree of efficiency in long span trusses, where bending moment stresses at mid-span greatly exceed the sheer stresses at the ends. Their drawback was that, unlike the straight-chorded Pratt truss, the polygonal chords necessitated different-length verticals and diagonals at each panel, increasing their fabrication costs somewhat. Because trusses were generally priced on the basis of their superstructural steel weight, the lighter overall weight of a polygonal-chord truss more than offset the slight increase in fabricating costs in spans greater than 160 feet. In the highly competitive bridge industry, this economy equated directly with profit.

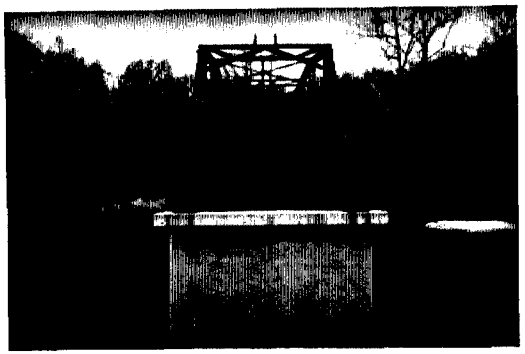
These bridges generally employed Pratt-type web configurations, with upper chords and verticals in compression and lower chords and diagonals in tension. The most common of these Pratt variants was the Parker truss. Another was the Camelback truss, a Parker with five upper-chord facets. With its distinctive profile, the Camelback configuration was disdained by many engineers (including the redoubtable J.A.L. Waddell, who called it "uncompromisingly ugly") for its tendency under certain conditions to reverse compressive and tensile forces acting on the individual members. As a result, Camelback trusses never received widespread acceptance. Relatively few were ever built on Missouri's roads, and fewer than ten remain in place today. The Jolly Mill Bridge in Newton County is one of these, although its relatively short span and its recent move fail to distinguish it among the remaining examples of its type.

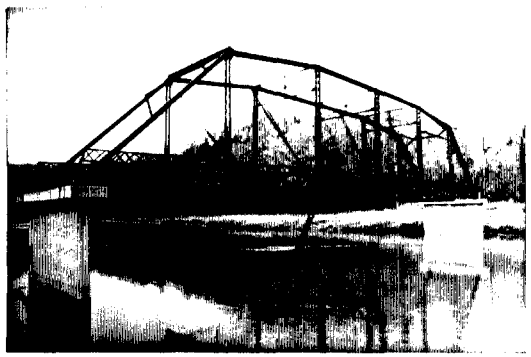
NAME(S) OF STRUCTURE
Jolly Mill Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP
TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP





SOURCES
Newton County Court Record, Book J: page 357 (29 December 1903), pages 393 and 394 (5 February 1904), page 581 (6 September 1904); Newton County Court Record, Book K: page 174 (19 March 1905) - located at Newton County Courthouse, Neosho MO; "Jolly Mill To Be Preserved," **Monett Times** (6 June 1973) page 1; "Group Hopes To Restore Jolly Mill," **Joplin Globe** (24 April 1983), n.p.; field inspection by Clayton Fraser, 19 April 1991.

INVENTORIED BY
Clayton B. Fraser

AFFILIATION
Fraserdesign, Loveland CO

DATE
9 March 1994

ST. CLAIR COUNTY

INCLUDED: [Significant feature(s) of bridge given in boldface]
[Field inventoried bridge indicated by asterisk]

Inv. No.	FHWA	Bridge Name	Description
SACL01	020R02.0	Monegaw Creek Bridge	1- 46' pinned Pratt pony truss **c1910** Standard Bridge Co., Omaha NE
SACL02	050R00.6	Coopers Creek Bridge	1- 60' riveted Pratt pony truss **1914** Standard Bridge Co., Omaha NE
SACL03	056R01.9	Gallinipper Bridge	1- 30' steel stringer **1914** Standard Bridge Co., Omaha NE
*SACL04	182000.6	Campbell Branch Bridge	1- 40' pinned Pratt bedstead **1904** A.M. Blodgett, Kansas City
*SACL05	184000.2	State Ford Bridge	1- 62' pinned Pratt pony truss **1908** Standard Bridge Co., Omaha NE
*SACL06	262002.3	Pape Bridge	1- 95' **pinned Pratt through truss** **1911** Standard Bridge Co., Omaha NE
SACL07	348003.2	Weaubleau Bridge	1- 75' riveted Pratt pony truss 1920 Pioneer Construction Company
*SACL08	362002.0	Bridge	1- 46' pinned Pratt pony truss **c1910** Standard Bridge Co., Omaha NE
*SACL09	373000.1	Nichols Ford Bridge	1-**160'** **pinned Pratt through truss** 1922 Pioneer Construction Company

EXCLUDED:

Warren pony truss
111001.0 146001.7 236000.1 293001.1 338002.1

Steel stringer
T 467 002000.5 006000.5 010000.3 013000.7 019000.8 044001.7
072000.9 092000.5 095000.5 096000.8 096001.9 105002.0 114001.1
115002.3 121000.8 143000.3 148000.9 166000.9 188002.5 205R00.8
223002.3 251001.2 298001.0 308000.4 323003.2 329001.0 329001.2
349001.3 352000.9 413004.2 416001.0 428000.5 433000.4

Steel girder
400000.9

Concrete girder
H 7R J 266 J 305 J 957R

Concrete slab
J 306 150002.0 159000.7 238000.8 308001.1 373001.5 379000.5

ST. CLAIR COUNTY

EXCLUDED (cont.):

Concrete box culvert

J 231	J 267	S 283	T 343	T 441	T 442	T 507
T 509	X 208	X 209	222000.4	378000.1	434002.1	434002.7

Timber stringer
405001.8

SUMMARY:

	Primary	Secondary	Urban	Other	Total
Included	0	9	0	0	9
Excluded	16	50	0	0	67
	16	59	0	0	76 structures

Monegaw Creek Bridge

SACL01

GENERAL DATA

structure no.: 020R02.0
county: St. Clair
city/town: 8.2 miles northwest of Monegaw Springs
feature inters.: Monegaw Creek
cadastral grid: S1/36, T38/39N, R28W
highway route: county road
highway distr.: 7
current owner: St. Clair County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt pony truss with laced end posts
substructure: timber pile bent abutments and wingwalls

span number: 1
span length: 46.0'
total length: 47.0'
roadway width: 16.0'
condition: fair
alterations: unknown
floor/decking : timber deck
other features: unknown

HISTORICAL DATA

erection date: c1910
erection cost: unknown
designer: Standard Bridge Company, Omaha NE
fabricator : Standard Bridge Company, Omaha NE
contractor: Standard Bridge Company, Omaha NE

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 020R02.0.

sign. rating: 33
evaluation: NRHP non-eligible (The laced endposts are unusual, but this typically configured bridge is otherwise undistinguished and insufficiently documented.)

inventoried by: Clayton B. Fraser 13 January 1992

Coopers Creek Bridge

SACL02

GENERAL DATA

structure no.: 050R00.6
county: St. Clair
city/town: 11.7 miles north of Monegaw Springs
feature inters.: Coopers Creek
cadastral grid: S5/6, T39N, R26W
highway route: county road
highway distr.: 7
current owner: St. Clair County

STRUCTURAL DATA

superstructure: steel, 4-panel, rigid-connected Pratt pony truss
substructure: stone abutments and wingwalls

span number: 1
span length: 60.0'
total length: 60.0'
roadway width: 13.6'
condition: fair
alterations: none
floor/decking : timber deck
other features: steel lattice guardrails

HISTORICAL DATA

erection date: 1914
erection cost: $1077.00 (contract amount)
designer: Standard Bridge Company, Omaha NE
fabricator : Standard Bridge Company, Omaha NE
contractor: Standard Bridge Company, Omaha NE (superstructure); E.A. Bledsoe (substructure)

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 050R00.6; St. Clair County Court Record, Book R: page 418 (7 July 1910), page 420 (1 August 1910), page 475 (15 November 1910); Book S: page 479 (18 July 1914), page 524 (8 August 1914), located at St. Clair County Courthouse, Osceola MO.

sign. rating: 40
evaluation: NRHP non-eligible (typical example of common structural type)

inventoried by: Clayton B. Fraser 13 January 1992

Gallinipper Bridge

SACL03

GENERAL DATA

structure no.: 056R01.9
county: Saint Clair
city/town: 6.9 miles northeast of Monegaw Springs
feature inters.: Gallinipper Creek
cadastral grid: S27, T39N, R26W
highway route: county road
highway distr.: 7
current owner: Saint Clair County

STRUCTURAL DATA

superstructure: steel stringer
substructure: stone abutments and wingwalls

span number: 1
span length: 30.0'
total length: 30.0'
roadway width: 14.0'
condition: fair
alterations: unknown
floor/decking : timber deck
other features: steel angle guardrails

HISTORICAL DATA

erection date: 1914
erection cost: $6500.00 (four-bridge contract)
designer: Standard Bridge Company, Omaha NE
fabricator : Standard Bridge Company, Omaha NE
contractor: Standard Bridge Company, Omaha NE

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 056R01.9; St. Clair County Court Record, Book S: page 453 (8 May 1914), page 472 (9 May 1914), pages 474-75 (3 June 1914), page 527 (5 October 1914), located at St. Clair County Courthouse, Osceola MO.

sign. rating: 37
evaluation: NRHP non-eligible (typical, small-scale example of exceedingly common structural type)

inventoried by: Clayton B. Fraser 13 January 1992

Campbell Branch Bridge

SACL04

GENERAL DATA

structure no.: 182000.6
county: St. Clair
city/town: 7.1 miles south of Appleton City
feature inters.: Campbell Branch
cadastral grid: S6/7, T38N, R28W
highway route: county road
highway distr.: 7
current owner: St. Clair County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt truss-leg bedstead, with steel stringer approach spans
substructure: truss legs set in concrete, with steel pile bent piers

span number: 1
span length: 40.0'
total length: 89.0'
roadway width: 14.1'
condition: fair
alterations: approach spans added or replaced
floor/decking : timber deck over steel stringers
other features: upper chord: 2 channels with cover and batten plates; upright end post: 2 channels with lacing; lower chord: 2 looped rectangular eyebars, or 2 angles with batten plates; vertical: 4 angles with lacing; diagonal: 2 looped rectangular eyebars; counter: 1 looped square eyebar with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam with knee braces, U-bolted to vertical

HISTORICAL DATA

erection date: 1904
erection cost: $750.00
designer: A. M. Blodgett, Kansas City MO
fabricator : unknown
contractor: A. M. Blodgett, Kansas City MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 182000.6; St. Clair County Court Record, Book N: page 594 (11 November 1904), page 568 (15 October 1904), page 515 (4 June 1904), located at St. Clair County Courthouse, Osceola MO; field inspection by Clayton Fraser, 2 June 1991.

sign. rating: 39
evaluation: NRHP non-eligible (typically configured example of common structural type)

inventoried by: Clayton B. Fraser 13 January 1992

State Ford Bridge

SACL05

GENERAL DATA

structure no.: 184000.2
county: St. Clair
city/town: 8.8 miles southeast of Appleton City
feature inters.: Monegaw Creek
cadastral grid: S6/7, T38N, R27W
highway route: county road
highway distr.: 7
current owner: St. Clair County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt pony truss
substructure: concrete abutments and wingwalls, with steel pile bent piers

span number: 1
span length: 62.0'
total length: 123.0'
roadway width: 14.1'
condition: fair
alterations: none
floor/decking : timber deck
other features: steel angle guardrails

HISTORICAL DATA

erection date: 1908
erection cost: $1437.00
designer: Standard Bridge Company, Omaha NE
fabricator : Standard Bridge Company, Omaha NE
contractor: Standard Bridge Company, Omaha NE

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 184000.2; St. Clair County Court Record, Book O: page 374 (9 February 1907), page 431 (11 May 1908), page 621 (9 June 1908); Book R: page 115 (31 December 1908), located at St. Clair County Courthouse, Osceola MO; field inspection by Clayton Fraser, 2 June 1991.

sign. rating: 46
evaluation: NRHP non-eligible (typically configured example of common structural type)

inventoried by: Clayton B. Fraser 13 January 1992

Pape Bridge

SACL06

GENERAL DATA

structure no.: 262002.3
county: St. Clair
city/town: 7.5 miles southwest of Monegaw Springs
feature inters.: Little Clear Creek
cadastral grid: S13, T37N, R28W
highway route: county road
highway distr.: 7
current owner: St. Clair County

STRUCTURAL DATA

superstructure: steel, 6-panel, pin-connected Pratt through truss, with steel stringer approach span
substructure: stone abutments, wingwalls and pier

span number: 1
span length: 95.0'
total length: 143.0'
roadway width: 13.7'
condition: good
alterations: none
floor/decking : timber deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover and batten plates; lower chord: 2 looped rectangular eyebars; vertical: 2 channels with lacing; diagonal: 2 looped rectangular eyebars; counter: 1 round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 angles with continuous plate; floor beam: I-beam, field-bolted to vertical; guardrail: 2 angles, with steel pipe guardrails at approach spans

HISTORICAL DATA

erection date: 1911
erection cost: $2160.00 (contract amount)
designer: Standard Bridge Company, Omaha NE
fabricator : Standard Bridge Company, Omaha NE
contractor: Standard Bridge Company, Omaha NE

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 262002.3; St. Clair County Court Record, Book R: page 607 (22 July 1911), pages 628-29 (11 August 1911), located at St. Clair County Courthouse, Osceola MO; field inspection by Clayton Fraser, 2 June 1991.

sign. rating: 39
evaluation: NRHP non-eligible (well-preserved example of mainstay structural type)

inventoried by: Clayton B. Fraser 13 January 1992

Weaubleau Bridge

SACL07

GENERAL DATA

structure no.: 348003.2
county: Saint Clair
city/town: 9.0 miles southeast of Osceola
feature inters.: Weaubleau River
cadastral grid: S21, T37N, R24W
highway route: county road
highway distr.: 7
current owner: Saint Clair County

STRUCTURAL DATA

superstructure: steel, 5-panel, rigid-connected Pratt pony truss
substructure: concrete abutments, wingwalls and pier

span number: 1
span length: 75.0'
total length: 90.0'
roadway width: 13.7'
condition: good
alterations: wood deck replaced with concrete
floor/decking : concrete deck over steel stringers
other features: steel angle guardrails

HISTORICAL DATA

erection date: 1920
erection cost: $8885.00 (contract amount)
designer: Pioneer Construction Company, Kansas City MO
fabricator : unknown
contractor: Pioneer Construction Company, Kansas City MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 348003.2; St. Clair County Court Record, Book U: page 54 (14 May 1919), page 100 (1 July 1919), page 173 (4 May 1920), page 188 (10 June 1920), located at St. Clair County Courthouse, Osceola MO.

sign. rating: 36
evaluation: NRHP non-eligible (typical example of common structural type)

inventoried by: Clayton B. Fraser 13 January 1992

Bridge

SACL08

GENERAL DATA

structure no.: 362002.0
county: St. Clair

city/town: 2.5 miles southwest of Monegaw Springs
feature inters.: tributary of Clear Creek
cadastral grid: S8, T36N, R28W
highway route: county road
highway distr.: 7
current owner: St. Clair County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt pony truss
substructure: concrete abutments and wingwalls

span number: 1
span length: 46.0'
total length: 47.0'
roadway width: 14.4'

condition: fair
alterations: none
floor/decking : timber deck over steel stringers
other features: upper chord and inclined end post: 2 channels with lacing; lower chord: 2 looped rectangular eyebars; vertical: 2 angles with batten plates; diagonal: 1 square eyebar with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, field-bolted to verticals

HISTORICAL DATA

erection date: c1910
erection cost: unknown
designer: Standard Bridge Company, Omaha NE
fabricator : Standard Bridge Company, Omaha NE
contractor: Standard Bridge Company, Omaha NE

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 362002.0; field inspection by Clayton Fraser, 2 June 1991.

sign. rating: 33
evaluation: NRHP non-eligible (The laced endposts are unusual, but this typically configured bridge is otherwise undistinguished and insufficiently documented.)

inventoried by: Clayton B. Fraser 13 January 1992

Nichols Ford Bridge

SACL09

GENERAL DATA

structure no.: 373000.1
county: St. Clair
city/town: 11.4 miles south of Monegaw Springs
feature inters.: Sac River
cadastral grid: S21, T36N, R26W
highway route: County Road 373
highway distr.: 7
current owner: St. Clair County

STRUCTURAL DATA

superstructure: steel, 10-panel, pin-connected Pratt through truss, with steel through girder approach span
substructure: concrete abutments and wingwalls; concrete-filled steel cylinder piers

span number: 1
span length: 160.0'
total length: 194.0'
roadway width: 13.6'
condition: good
alterations: none
floor/decking : timber deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover and batten plates; lower chord: 2 looped rectangular eyebars; vertical: 2 channels with lacing (2 round eyerods at the hip); diagonal: 2 looped rectangular eyebars; counter: 1 round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 angles with continuous plate; floor beam: I-beam, U-bolted to vertical; guardrail: 2 angles

HISTORICAL DATA

erection date: 1922
erection cost: $15,917.36
designer: St. Clair County Highway Engineer
fabricator : unknown
contractor: Pioneer Construction Company, Kansas City MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 373000.1; St. Clair County Court Record, Book U: page 290 (1 August 1921), page 336 (23 June 1922), page 356 (12 October 1922), located at St. Clair County Courthouse, Osceola MO; field inspection by Clayton Fraser, 3 June 1991.

sign. rating: 48
evaluation: NRHP possibly eligible (excellent, well-preserved, long-span, and relatively late example of pin-connected truss technology)

inventoried by: Clayton B. Fraser 13 January 1992

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Pape Bridge (Little Clear Creek Bridge) SACL06
MHTD: 262002.3

DATE(S) OF CONSTRUCTION
1911

LOCATION
county road over Little Clear Creek; S13, T37N, R28W
7.5 miles southwest of Monegaw Springs; St. Clair County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 39)

CONDITION
good

OWNER
St. Clair County

span number:	1	superstructure:	steel, 6-panel, pin-connected Pratt through truss, with steel stringer approach span
span length:	95.0'	substructure:	stone abutments, wingwalls and pier
total length:	143.0'	floor/decking:	timber deck over steel stringers
roadway wdt.:	13.7'	other features:	upper chord and inclined end post: 2 channels with cover and batten plates; lower chord: 2 looped rectangular eyebars; vertical: 2 channels with lacing; diagonal: 2 looped rectangular eyebars; counter: 1 round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 angles with continuous plate; floor beam: I-beam, field-bolted to vertical; guardrail: 2 angles, with steel pipe guardrails at approach spans

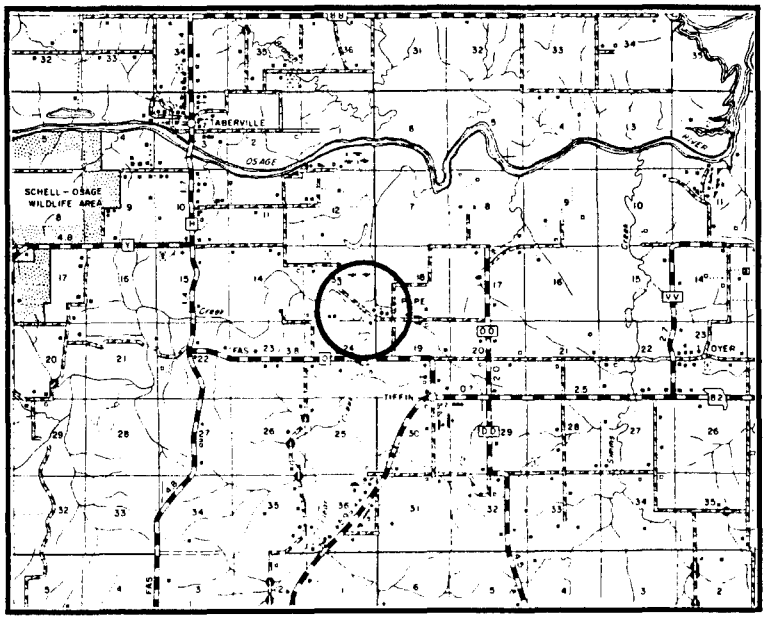
The Pape Bridge carries an unpaved county road over Little Clear Creek immediately west of the crossroads settlement of Pape, in southwestern St. Clair County. The bridge's origins date to mid-1911, when the county court ordered county surveyor L.L. Griggs to visit the site and make an estimate regarding the cost of bridge here. After Griggs reported back that the structure would cost approximately $1500.00 to build, the county advertised for competitive proposals for its fabrication and erection. A month later the bids were received; the county contracted with the Standard Bridge Company of Omaha for the Pape Bridge and two other structures - all pin-connected trusses supported by stone masonry substructures. The lump sum contract for the three structures totalled $4625.00, of which $2160.00 was attributable to the Pape Bridge. Standard Bridge began the excavation for the massive abutments and pier soon thereafter, completing the Pape Bridge later that year. It has carried vehicular traffic since in essentially unaltered condition.

From the early 1880s through the 1920s, the pin-connected Pratt through truss was virtually the exclusive structural type used for medium-span roadway crossings in Missouri. Its standardized fabrication, economy of materials and ease of erection made it a mainstay among the various state and regional bridge companies, as well as for the state highway department in the later years. Thousands of such trusses were built throughout the state during this period, and numerous examples remain in use today. With a span length of 95 feet and an erection date of 1911, the Pape Bridge falls squarely within the mainstream of this structural trend. The bridge is distinguished somewhat by its handsome stonework on the abutments and pier and by its excellent state of preservation.

NAME(S) OF STRUCTURE

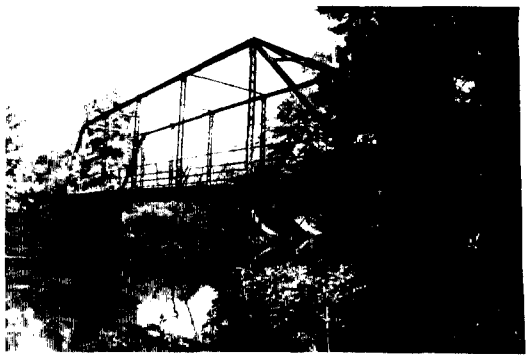
Pape Bridge (Little Clear Creek Bridge)

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP



SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 262002.3; St. Clair County Court Record, Book R: page 607 (22 July 1911), pages 628-29 (11 August 1911), located at St. Clair County Courthouse, Osceola MO; field inspection by Clayton Fraser, 2 June 1991.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton B. Fraser	Fraserdesign, Loveland CO	13 January 1992

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Nichols Ford Bridge
MHTD: 373000.1

SACL09

DATE(S) OF CONSTRUCTION
1922

LOCATION
County Road 373 over Sac River; S21, T36N, R26W
11.4 miles south of Monegaw Springs; St. Clair County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 48)

CONDITION
good

OWNER
St. Clair County

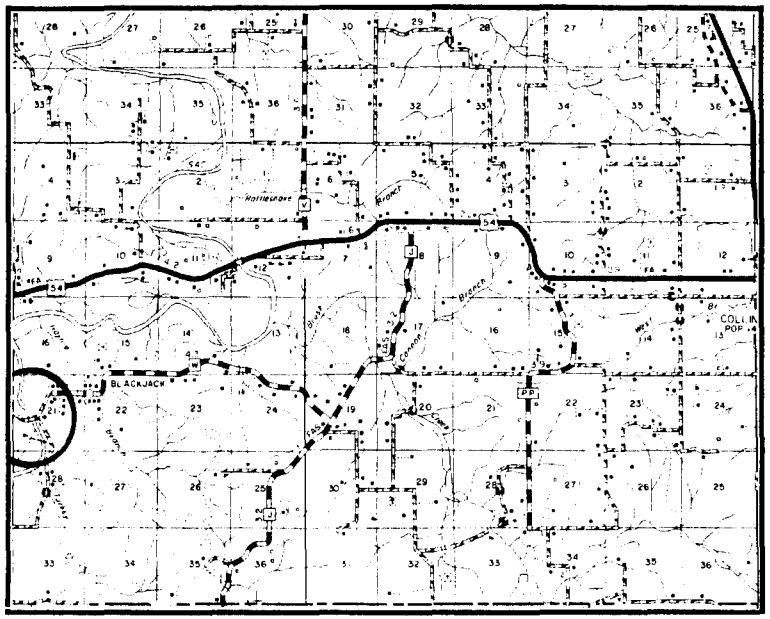
span number:	1	superstructure:	steel, 10-panel, pin-connected Pratt through truss, with steel through girder approach span
span length:	160.0'	substructure:	concrete abutments and wingwalls; concrete-filled steel cylinder piers
total length:	194.0'	floor/decking:	timber deck over steel stringers
roadway wdt.:	13.6'	other features:	upper chord and inclined end post: 2 channels with cover and batten plates; lower chord: 2 looped rectangular eyebars; vertical: 2 channels with lacing (2 round eyerods at the hip); diagonal: 2 looped rectangular eyebars; counter: 1 round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 angles with continuous plate; floor beam: I-beam, U-bolted to vertical; guardrail: 2 angles

The county courts of Vernon, Cedar and St. Clair counties received numerous petitions over the years from citizens near their common corner for a permanent bridge over the Sac River. Such a major bridge at the Nichols Ford, they argued, would facilitate travel and commerce among the three counties. But the courts repeatedly tabled the petitions. It was not until 1921 that St. Clair and Vernon counties agreed to share the cost of the bridge at this point. In August the St. Clair County highway engineer was ordered to visit the site and make an estimate for the bridge. But even though the decision had finally been made to build the bridge, the counties still moved slowly toward its prosecution. They eventually approved the plans and specifications for Nichols Ford Bridge in June 1922. Later that year the Pioneer Construction Company of Kansas City erected the long-span structure for the reported cost of $15,917.36, divided evenly between the two counties. The Nichols Ford Bridge has carried traffic since in essentially unaltered condition.

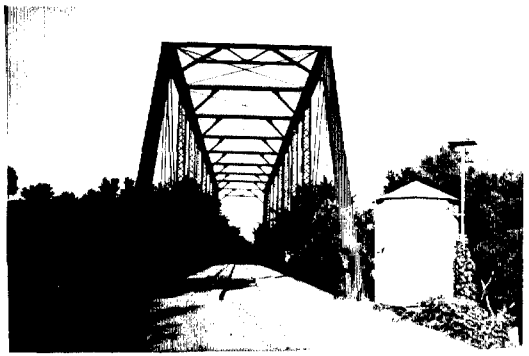
As a strategically placed crossing over a major river at the corner of St. Clair, Vernon and Cedar counties, the Nichols Ford Bridge has played a regionally important role in the transportation and commerce of the three counties. It typifies the proclivity among Missouri's counties for pin-connected truss construction, even in the 1920s when most other states had adopted rigid-connected truss technology. A Pratt through truss, the Nichols Ford Bridge is one of thousands of such structures built throughout the state in the late 19th and early 20th centuries. It is distinguished technologically by its substantial, though hardly state-of-the-art, construction, its long span length and by its excellent state of preservation.

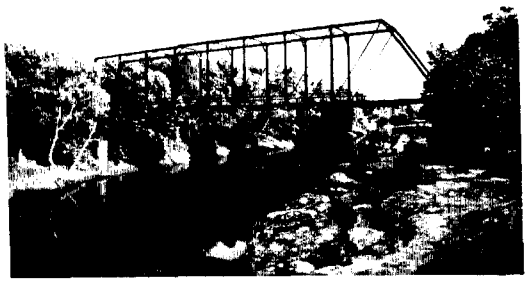
NAME(S) OF STRUCTURE
Nichols Ford Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP
TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP





SOURCES
Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 373000.1; St. Clair County Court Record, Book U: page 290 (1 August 1921), page 336 (23 June 1922), page 356 (12 October 1922), located at St. Clair County Courthouse, Osceola MO; field inspection by Clayton Fraser, 3 June 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	13 January 1992

VERNON COUNTY

INCLUDED: [Significant feature(s) of bridge given in boldface]
[Field inventoried bridge indicated by asterisk]

Inv. No.	MHTD	Bridge Name	Description
*VERN01	F 815R	Fly Creek Bridge	1- 60' **concrete filled spandrel arch** 1922 R.R. Littrell
VERN02	X 186	Horse Creek Bridge	1-**110'** riveted Warren pony truss 1948 M.E. Gillioz, Monett MO
*VERN03	083000.0	Schell City Bridge	1-**175'** **pinned Parker through truss** **1900** Farnsworth & Blodgett, Ks City
VERN04	086001.7	Bridge	2- 14' **stone masonry arch culvert** c1920
*VERN05	127001.6	Little Creek Bridge	1- 48' pinned Pratt bedstead c1905
VERN06	136001.5	Ladies Branch Bridge	**3**- 24' steel stringer **1909** county work force
*VERN07	218002.2	Marmaton River Bridge	1-126' **pinned Pratt through truss** c1905
VERN08	229001.3	Marmaton River Bridge	1-140' **riveted Pratt through truss** 1925 R.H. Harper Construction Co. (replaced)
VERN09	251000.8	Bridge	
*VERN10	271002.4	Melton Creek Bridge	1- 75' pinned Pratt pony truss c1905 Canton Bridge Co., Canton OH
VERN11	301000.0	Douglas Branch Bridge	3- 20' steel stringer **1907** county work force (replaced)
*VERN12	301001.4	Caton Ford Bridge	
VERN13	305000.3	Bridge	3- 24' steel stringer **1908** county work force
*VERN14	336002.0	Young's Ford Bridge	1-100' **pinned Pratt through truss** **1884** St. Louis Bridge and Iron Co.
VERN15	360001.6	Green Branch Bridge	4- 20' steel stringer **1907** county work force
VERN16	382002.5	Culvert	2- 11' **concrete arch culvert** c1920
*VERN17	466001.8	Kelly Ford Bridge	1- 80' **pinned Pratt through truss** **1891** Chicago Bridge and Iron Company
VERN18	479000.7	Clear Creek Bridge	5- 30' steel stringer **1906** A.M. Blodgett, Kansas City
VERN19	543001.1	Bridge	4- 24' steel stringer **1908** county work force
VERN20	547000.5	McKill Creek Bridge	5- 24' steel stringer **1909** county work force
VERN21	571000.7	Bridge	3- 24' steel stringer **1906** A.M. Blodgett, Kansas City
*VERN22	625003.3	County Line Bridge	1- 60' pinned Pratt pony truss **1916** Canton Bridge Co., Canton OH
*VERN23	632000.5	Moundville Bridge	1- 50' pinned Pratt bedstead **1894** Farnsworth & Blodgett

VERNON COUNTY

INCLUDED (cont.):

*VERN24	657001.4	McCarty Creek Bridge	1- 60'	pinned Pratt pony truss
			c1895	Missouri Valley B&I Works
*VERN25	679000.6	Clear Creek Bridge	1- 60'	riveted Pratt pony truss
			1908	A.M. Blodgett, Kansas City
*VERN26	699000.6	Clear Creek Bridge	1- 80'	pinned Pratt bedstead
			1893	Missouri Valley B&I Works
*VERN27	717002.3	County Line Bridge	1- 70'	pinned Pratt pony truss
			1895	Missouri Valley B&I Works

EXCLUDED:

Pratt pony truss

449000.9	644002.0	663000.2

Warren pony truss

G 711R1	019001.2	091000.8

Steel stringer

F 284R1	F 285R1	G 707R	L 307	T179	Y 186	003000.7
014000.2	017000.5	053002.6	086002.0	092000.5	104002.8	106R00.3
107001.1	112000.5	113001.9	114000.9	117000.9	120001.3	122R00.8
131R00.8	143001.9	147000.8	147001.9	157R02.1	157000.6	159001.0
173000.3	183R00.4	199R01.1	218R01.1	218001.0	220000.3	224002.2
228R02.0	238001.1	244000.4	246000.4	252000.8	253000.8	255001.2
258002.1	278000.6	290000.6	297000.8	301000.1	301000.2	301000.3
301000.6	301000.7	301001.0	309000.2	312001.3	313R01.1	317000.6
318000.5	324000.5	324000.9	324002.7	326001.1	326003.9	334000.9
338001.9	338002.8	346001.1	354001.7	359000.6	371001.5	372000.8
379003.6	383002.3	387000.7	387000.8	389000.2	396000.6	396003.0
430000.1	437002.3	439000.9	458R01.3	458002.9	461001.4	478R00.3
479001.4	483001.6	490000.9	491000.8	508R00.5	508001.0	509001.9
517001.3	518002.3	531000.4	545002.4	549000.8	552000.4	568000.8
578001.0	581000.2	583002.6	585000.6	593002.2	595001.9	597R01.2
598000.5	614001.0	616000.2	616001.2	620003.3	624000.9	629000.5
633000.3	633000.4	637000.1	637000.6	649000.5	662000.9	663001.4
674001.3	686R00.5	702000.4	709001.4	713000.6	717R01.8	717000.1
719000.9	723000.1					

Concrete girder

J 863	T 685	X 520	008000.4	073000.5	188002.0	229000.1
565000.6	598001.7					

Concrete slab

H 401R	129000.6	141002.3	178001.4	242000.6	254002.3	256000.8
306000.4	307000.9	310000.2	323000.2	360001.5	400000.4	557001.1
578000.8	584001.9	641000.6				

VERNON COUNTY

EXCLUDED (cont.):

Concrete box culvert

F 814R	G 709R	G 710R	J 112	J 799	R 17	S 544
S 546	S 547	S 548	S 710	X 185	X 764	

SUMMARY:

	Primary	Secondary	Urban	Other	Total
Included	2	23	0	0	25
Excluded	24	149	0	0	173
	26	172	0	0	198 structures

Fly Creek Bridge

VERN01

GENERAL DATA

structure no.: F 815R
county: Vernon
city/town: 2.7 miles northeast of Dederick
feature inters.: Fly Creek
cadastral grid: S25, T36N, R29W
highway route: U.S. Highway 54
highway distr.: 7
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: concrete filled spandrel arch
substructure: concrete abutments and wingwalls

span number: 1
span length: 60.0'
total length: 104.0'
roadway width: 20.0'
condition: good
alterations: roadway widened and guardrails replaced, 1940
floor/decking : concrete deck over earth fill
other features: MSHD standard design guardrails; fluted pylons on abutments

HISTORICAL DATA

erection date: 1922
erection cost: $9021.65
designer: Missouri State Highway Department
fabricator : none
contractor: R.R. Littrell

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. F 815R; Missouri Primary System Bridge Record, located at the Missouri Highway and Transportation Department, Jefferson City MO.

sign. rating: 44
evaluation: NRHP determined non-eligible (standard MSHD example of a medium-span, concrete structural type, substantially altered)

inventoried by: Clayton B. Fraser 25 July 1993

Horse Creek Bridge

VERN02

GENERAL DATA

structure no.: X 186
county: Vernon
city/town: 5.3 miles southeast of Montevallo
feature inters.: Horse Creek
cadastral grid: S26/35, T34N, R29W
highway route: State Secondary Route B
highway distr.: 7
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: steel, 10-panel, polygonal, rigid-connected Warren pony truss, skewed; 2 steel stringer approach spans
substructure: concrete abutments, wingwalls and piers

span number: 1
span length: 110.0'
total length: 200.0'
roadway width: 22.0'
condition: good
alterations: none
floor/decking : concrete deck over steel stringers
other features: steel angle guardrails

HISTORICAL DATA

erection date: 1947-48
erection cost: $47,080.80
designer: Missouri State Highway Department
fabricator : unknown
contractor: M.E. Gillioz, Monett MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. X 186; Missouri Primary System Bridge Record, located at the Missouri Highway and Transportation Department, Jefferson City MO.

sign. rating: 63
evaluation: NRHP possibly eligible (late, long-span example of a relatively common MSHD design, distinguished somewhat for its skewed configuration)

inventoried by: Clayton B. Fraser 25 July 1993

Schell City Bridge

VERN03

GENERAL DATA

structure no.: 083000.0
county: Vernon / Bates

city/town: 2.1 miles northwest of Schell City
feature inters.: Osage River
cadastral grid: S21, T38N, R29W
highway route: County Road 83
highway distr.: 7
current owner: Bates and Vernon Counties

STRUCTURAL DATA

superstructure: steel, 10-panel, pin-connected Parker through truss, with pin-connected Pratt half-hip pony truss approach span
substructure: stone masonry abutments and pier

span number: 1
span length: 175.0'
total length: 318.0'
roadway width: 13.9'

condition: poor
alterations: truss partially collapsed; deck replaced; outriders added to pony truss
floor/decking : asphalt on corrugated steel deck, over steel stringers
other features: upper chord and inclined end post: 2 angles with cover plate and lacing; lower chord: 2 punched rectangular eyebars; vertical: 2 channels with lacing (2 square eyebars at hip); diagonal: 2 punched rectangular eyebars; counter: square pronged eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 4 angles with lacing, braced; portal strut: lattice with curved knee braces; floor beam: I-beam, U-bolted to vertical; guardrail: 2 pipes; pony truss builder's plate: **THE CANTON BRIDGE CO CANTON OHIO**

HISTORICAL DATA

erection date: 1900
erection cost: $4340.00
designer: A.M. Blodgett, Kansas City MO (main span);Canton Bridge Company, Canton OH (approach span)
fabricator : Kansas City Bridge Company, Kansas City MO (main span); Canton Bridge Company, Canton OH (approach span); Carnegie Steel Company, Pittsburgh PA
contractor: A.M. Blodgett, Kansas City MO (main span); Canton Bridge Company, Canton OH (approach span)

Schell City Bridge

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 083000.0; Bates County Court Record, Book 9: page 604, (8 November 1899), page 609 (16 November 1899), page 617 (7 December 1899); Bates County Court Record, Book 10: page 136 (17 September 1900), page 151 (22 October 1900); Bates County Court Record, Book 11: page 236 (24 July 1905), page 243 (8 August 1905); Bates County Court Record, Book 13: page 63 (6 October 1910), page 83 (8 December 1910) - located at Bates County Courthouse, Butler MO; Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 083000.0; Vernon County Court Record, Book F: page 394 (27 August 1890), page 400 (20 October 1890), page 497 (1 June 1891), page 550 (22 October 1891); Vernon County Court Record, Book I: page 335 (9 November 1899), page 548 (26 September 1900); Vernon County Court Record, Book K: page 189 (20 January 1904), page 232 (2 March 1904), page 232 (22 March 1904), page 378 (6 September 1904) - located at Vernon County Courthouse, Nevada MO; field inspection by Clayton Fraser, 1 June 1991.

sign. rating: 58

evaluation: NRHP possibly eligible (earliest example in state of relatively uncommon truss configuration, partially collapsed)

inventoried by: Clayton B. Fraser 6 January 1992

Culvert

VERN04

GENERAL DATA

structure no.: 086001.7
county: Vernon
city/town: 4.0 miles southeast of Harwood
feature inters.: Kitten Creek tributary
cadastral grid: S25/26, T37N, R29W
highway route: County Road 86
highway distr.: 7
current owner: Vernon County

STRUCTURAL DATA

superstructure: stone masonry arch culvert
substructure: stone abutments, wingwalls and pier

span number: 2
span length: 14.0'
total length: 29.0'
roadway width: 13.5'
condition: good
alterations: unknown
floor/decking : gravel over earth fill
other features: unknown

HISTORICAL DATA

erection date: c1920
erection cost: unknown
designer: unknown
fabricator : none
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 086001.7.

sign. rating: 31
evaluation: NRHP non-eligible (noteworthy for use of native stone and display of craftsmanship, but lacking in documentation)

inventoried by: Clayton B. Fraser 25 July 1993

Little Creek Bridge

VERN05

GENERAL DATA

structure no.: 127001.6
county: Vernon
city/town: 2.5 miles northwest of Stotesbury
feature inters.: Little Creek
cadastral grid: S8, T37N, R33W
highway route: County Road 127
highway distr.: 7
current owner: Vernon County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt truss-leg bedstead, with steel stringer approach span at each end
substructure: steel bedstead leg piers; steel pile bent abutments with timber wing-walls

span number: 1
span length: 48.0'
total length: 105.0'
roadway width: 11.7'
condition: good
alterations: none
floor/decking : timber deck over steel stringers
other features: upper chord and upright end post: 2 channels with cover and batten plates; lower chord: 2 angles with batten plates (2 punched rectangular eyebars at center panel); vertical: 4 angles with lacing; diagonal: 2 punched rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, field-bolted to vertical; guardrail: 1 channel

HISTORICAL DATA

erection date: c1905
erection cost: unknown
designer: unknown
fabricator : Cambria Steel Company, Pittsburgh PA
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 127001.6; field inspection by Clayton Fraser, 31 May 1991.

sign. rating: 28
evaluation: NRHP non-eligible (typically configured example of relatively common structural type, inadequately documented)

inventoried by: Clayton B. Fraser 25 July 1993

Ladies Branch Bridge

VERN06

GENERAL DATA

structure no.: 136001.5
county: Vernon
city/town: 3.4 miles northwest of Harwood
feature inters.: Ladies Branch
cadastral grid: S11/14, T37N, R30W
highway route: County Road 136
highway distr.: 7
current owner: Vernon County

STRUCTURAL DATA

superstructure: steel stringer
substructure: steel pile bent abutments with timber back- and wingwalls

span number: 3
span length: 24.0'
total length: 73.0'
roadway width: 14.0'
condition: fair
alterations: unknown
floor/decking : timber deck over steel stringers
other features: steel angle guardrails

HISTORICAL DATA

erection date: 1909
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: county work force

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 136001.5; Vernon County Court Record, Book M, page 332 (30 April 1909) - located at Vernon County Courthouse, Nevada MO.

sign. rating: 40
evaluation: NRHP non-eligible (relatively early, small-scale example of exceedingly common structural type)

inventoried by: Clayton B. Fraser 25 July 1993

Marmaton River Bridge

VERN07

GENERAL DATA

structure no.: 218002.2
county: Vernon
city/town: 3.5 miles northeast of Deerfield
feature inters.: Marmaton River
cadastral grid: S34, T36N, R32W
highway route: County Road 218
highway distr.: 7
current owner: Vernon County

STRUCTURAL DATA

superstructure: steel, 7-panel, pin-connected Pratt through truss; 2 steel stringer approach spans at each end
substructure: concrete abutments; concrete-filled steel cylinder piers

span number: 1
span length: 126.0'
total length: 222.0'
roadway width: 13.8'
condition: fair
alterations: none
floor/decking : timber deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped rectangular eyebars; vertical: 2 channels with lacing (2 angles with lacing at the hip); diagonal: 2 looped rectangular eyebars; counter: square eyebar with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 angles with knee braces; floor beam: I-beam, field-bolted to vertical; guardrail: 2 angles

HISTORICAL DATA

erection date: c1905
erection cost: unknown
designer: unknown
fabricator : Cambria Steel Company, Pittsburgh PA
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 218002.2; field inspection by Clayton Fraser, 31 May 1991.

sign. rating: 34
evaluation: NRHP non-eligible (typically configured example of relatively common structural type, inadequately documented)

inventoried by: Clayton B. Fraser 25 July 1993

Marmaton River Bridge

VERN08

GENERAL DATA

structure no.: 229001.3
county: Vernon
city/town: 5.9 miles north of Nevada
feature inters.: Marmaton River
cadastral grid: S4/9, T36N, R31W
highway route: U.S. Highway 71 Bypass
highway distr.: 7
current owner: Vernon County

STRUCTURAL DATA

superstructure: steel, 7-panel, rigid-connected Pratt through truss, with steel stringer approach spans
substructure: concrete abutments, wingwalls and piers

span number: 1
span length: 140.0'
total length: 395.0'
roadway width: 20.0'
condition: good
alterations: none
floor/decking : asphalt-covered concrete deck, over steel stringers
other features: steel angle guardrails

HISTORICAL DATA

erection date: 1925
erection cost: $38,218.58
designer: Missouri State Highway Department
fabricator : Illinois Steel Company, Chicago IL
contractor: R.H. Harper Construction Company

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 229001.3; Missouri Primary System Bridge Record, located at the Missouri Highway and Transportation Department, Jefferson City MO.

sign. rating: 41
evaluation: NRHP non-eligible (typical example of MSHD Pratt truss design of the 1920s)

inventoried by: Clayton B. Fraser 25 July 1993

Melton Creek Bridge

VERN10

GENERAL DATA

structure no.: 271002.4
county: Vernon
city/town: 2.8 miles northeast of Dederick
feature inters.: Melton Creek
cadastral grid: S22/23, T36N, R29W
highway route: County Road 271
highway distr.: 7
current owner: Vernon County

STRUCTURAL DATA

superstructure: steel, 5-panel, pin-connected Pratt pony truss
substructure: concrete abutment and wingwalls; stone abutment

span number: 1
span length: 75.0'
total length: 75.0'
roadway width: 12.0'
condition: fair
alterations: none
floor/decking : timber deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped square eyebars; vertical: 4 angles with double lacing; diagonal: 2 looped square eyebars; counter: 2 round rods with turnbuckles; lateral bracing: round rod with threaded ends; floor beam: I-beam, field-bolted to vertical; cast iron hip blocks

HISTORICAL DATA

erection date: c1905
erection cost: unknown
designer: Canton Bridge Company, Canton OH
fabricator : Canton Bridge Company, Canton OH;
Jones and Laughlin Steel Company, Pittsburgh PA
contractor: Canton Bridge Company, Canton OH

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 271002.4; field inspection by Clayton Fraser, 31 May 1991.

sign. rating: 39
evaluation: NRHP non-eligible (well-preserved, but inadequately documented example of a common structural type)

inventoried by: Clayton B. Fraser 25 July 1993

Douglas Branch Bridge

VERN11

GENERAL DATA

structure no.: 301000.0
county: Vernon
city/town: Nevada
feature inters.: unnamed stream
cadastral grid: S16/17, T35N, R31W
highway route: County Road 301
highway distr.: 7
current owner: Vernon County

STRUCTURAL DATA

superstructure: steel stringer
substructure: steel pile bent abutments and piers

span number: 3
span length: 21.0'
total length: 64.0'
roadway width: 12.0'
condition: fair
alterations: none
floor/decking : concrete deck
other features: steel angle guardrails

HISTORICAL DATA

erection date: 1907
erection cost: $1808.70 (two-bridge contract)
designer: unknown
fabricator : unknown
contractor: county work force

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 301000.0; Vernon County Court Record, Book L: page 499 (17 April 1907), page 551 (2 August 1907) - located at Vernon County Courthouse, Nevada MO.

sign. rating: 40
evaluation: NRHP non-eligible (technologically undistinguished, common, small-scale structure)

inventoried by: Clayton B. Fraser 25 July 1993

Bridge

VERN13

GENERAL DATA

structure no.: 305000.3
county: Vernon
city/town: 0.5 mile southeast of Richards
feature inters.: unnamed stream
cadastral grid: S15, T36N, R33W
highway route: County Road 305
highway distr.: 7
current owner: Vernon County

STRUCTURAL DATA

superstructure: steel stringer
substructure: concrete abutments and wingwalls

span number: 3
span length: 24.0'
total length: 72.0'
roadway width: 14.0'
condition: fair
alterations: unknown
floor/decking : concrete deck
other features: steel angle guardrails

HISTORICAL DATA

erection date: 1908
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: county work force

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 305000.3; Vernon County Court Record, Book M: page 29 (6 February 1908) - located at Vernon County Courthouse, Nevada MO.

sign. rating: 40
evaluation: NRHP non-eligible (undistinguished small scale structure, lacking in technological significance)

inventoried by: Clayton B. Fraser 25 July 1993

Young's Ford Bridge

VERN14

GENERAL DATA

structure no.: 336002.0
county: Vernon
city/town: 1.9 miles northeast of Dederick
feature inters.: Clear Creek
cadastral grid: S26, T36N, R29W
highway route: County Road 336
highway distr.: 7
current owner: Vernon County

STRUCTURAL DATA

superstructure: wrought iron, 6-panel, pin-connected Pratt through truss
substructure: stone masonry abutments and wingwalls

span number: 1
span length: 100.0'
total length: 100.0'
roadway width: 11.3'
condition: fair
alterations: 2 angle outriders added to support guardrails
floor/decking : timber deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover and batten plates; lower chord: 2 punched rectangular eyebars; vertical: 2 channels with lacing (2 round eyerods with shovel ends at the hip); diagonal: 2 punched rectangular eyebars; counter: round eyerod with sleeve bolt; lateral bracing: looped round eyerod; strut: I-beam; portal strut: lattice; floor beam: tapered "fishtail" plate girder, U-bolted to vertical; guardrail: 2 channels

HISTORICAL DATA

erection date: 1884
erection cost: $1900.00 (superstructure); $3.75 per cubic yard of masonry (substructure)
designer: St. Louis Bridge and Iron Company, St. Louis MO
fabricator : St. Louis Bridge and Iron Company, St. Louis MO; Carnegie Steel Company, Pittsburgh PA
contractor: St. Louis Bridge and Iron Company, St. Louis (superstructure); J. Blair and James O'Riley (substructure)

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 336002.0; Vernon County Court Record, Book D: page 593 (24 May 1884), page 598 (25 June 1884); Vernon County Court Record, Book E: page 22 (28 August 1884) - located at Vernon County Courthouse, Nevada MO; field inspection by Clayton Fraser, 31 May 1991.

sign. rating: 58
evaluation: NRHP possibly eligible (well-preserved, relatively early example of mainstay structural type)

inventoried by: Clayton B. Fraser 25 July 1993

Green Branch Bridge

VERN15

GENERAL DATA

structure no.: 360001.6
county: Vernon
city/town: 2.2 miles southwest of Deerfield
feature inters.: Green Branch
cadastral grid: S13/14, T35N, R33W
highway route: County Road 360
highway distr.: 7
current owner: Vernon County

STRUCTURAL DATA

superstructure: steel stringer
substructure: steel pile bent abutments and piers

span number: 4
span length: 20.0'
total length: 81.0'
roadway width: 14.0'
condition: fair
alterations: unknown
floor/decking : concrete deck
other features: steel angle guardrails

HISTORICAL DATA

erection date: 1907
erection cost: $1808.70 (two-bridge contract)
designer: unknown
fabricator : unknown
contractor: county work force

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 360001.6; Vernon County Court Record, Book L: page 499 (17 April 1907), page 551 (2 August 1907) - located at Vernon County Courthouse, Nevada MO.

sign. rating: 40
evaluation: NRHP non-eligible (typical example of a short-span beam bridge)

inventoried by: Clayton B. Fraser 25 July 1993

Culvert

VERN16

GENERAL DATA

structure no.: 382000.5
county: Vernon
city/town: 2.9 miles southwest of Nevada
feature inters.: unnamed stream
cadastral grid: S12, T35N, R32W
highway route: County Road 382
highway distr.: 7
current owner: Vernon County

STRUCTURAL DATA

superstructure: concrete arch culvert
substructure: concrete abutments, wingwalls and pier

span number: 2
span length: 11.0'
total length: 22.0'
roadway width: 16.0'
condition: fair
alterations: unknown
floor/decking : gravel over earth fill
other features: no guardrails

HISTORICAL DATA

erection date: c1920
erection cost: unknown
designer: unknown
fabricator : none
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 382002.5.

sign. rating: 20
evaluation: NRHP non-eligible (undocumented, undistinguished, small-scale example of a concrete structural type)

inventoried by: Clayton B. Fraser 25 July 1993

Kelly Ford Bridge

VERN17

GENERAL DATA

structure no.: 466001.8
county: Vernon
city/town: 2.4 miles southeast of Dederick
feature inters.: Mulberry Creek
cadastral grid: S10, T35N, R29W
highway route: County Road 466
highway distr.: 7
current owner: Vernon County

STRUCTURAL DATA

superstructure: steel or wrought iron, 5-panel, pin-connected Pratt through truss, with steel stringer approach span at each end
substructure: stone masonry abutments; concrete-filled iron cylinder piers

span number: 1
span length: 80.0'
total length: 118.0'
roadway width: 12.1'
condition: good
alterations: none
floor/decking : timber deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped rectangular eyebars; vertical: 2 channels with lacing (2 looped rectangular eyebars at the hip); diagonal: 2 looped rectangular eyebars; counter: 1 double-pronged square eyebar with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 angles; portal strut: latticed; floor beam: I-beam, field-bolted to vertical; guardrail: 1 channel; portal builder's plate: **1891 CHICAGO BRIDGE COMPANY**

HISTORICAL DATA

erection date: 1891
erection cost: $2270.00
designer: Chicago Bridge and Iron Company, Chicago IL
fabricator : Chicago Bridge and Iron Company, Chicago IL
contractor: Chicago Bridge and Iron Company, Chicago IL

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 466001.8; Vernon County Court Record, Book F: page 516 (14 August 1891), page 526 (10 September 1891); Vernon County Court Record, Book G, page 10 (20 January 1892) - located at Vernon County Courthouse, Nevada MO; field inspection by Clayton Fraser, 31 May 1991.

sign. rating: 50
evaluation: NRHP possibly eligible (well-preserved, relatively early example of mainstay structural type)

inventoried by: Clayton B. Fraser 25 July 1993

Clear Creek Bridge

VERN18

GENERAL DATA

structure no.: 479000.7
county: Vernon
city/town: 5.4 miles southeast of Nevada
feature inters.: West Fork of Clear Creek
cadastral grid: S8/17, T35N, R30W
highway route: County Road 479
highway distr.: 7
current owner: Vernon County

STRUCTURAL DATA

superstructure: steel stringer
substructure: steel pile bent piers and abutments

span number: 5
span length: 30.0'
total length: 94.0'
roadway width: 16.0'
condition: fair
alterations: unknown
floor/decking : timber deck
other features: steel angle guardrails

HISTORICAL DATA

erection date: 1906
erection cost: $2471.00 (two-bridge contract)
designer: unknown
fabricator : unknown
contractor: A.M. Blodgett, Kansas City MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 479000.7; Vernon County Court Record, Book L: page 280 (9 August 1906), page 284 (10 August 1906), page 432 (6 March 1907) - located at Vernon County Courthouse, Nevada MO.

sign. rating: 45
evaluation: NRHP non-eligible (multiple-span example of an otherwise technologically undistinguished crossing)

inventoried by: Clayton B. Fraser 25 July 1993

Bridge

VERN19

GENERAL DATA

structure no.: 543001.1
county: Vernon
city/town: 6.5 miles northwest of Bronaugh
feature inters.: unnamed stream
cadastral grid: S5, T34N, R33W
highway route: County Road 543
highway distr.: 7
current owner: Vernon County

STRUCTURAL DATA

superstructure: steel stringer
substructure: steel pile bent piers and abutments

span number: 4
span length: 24.0'
total length: 95.0'
roadway width: 14.0'
condition: fair
alterations: unknown
floor/decking : timber deck
other features: steel angle guardrails

HISTORICAL DATA

erection date: 1908
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: county work force

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 543001.1; Vernon County Court Record, Book L: page 604 (4 November 1907) - located at Vernon County Courthouse, Nevada MO.

sign. rating: 41
evaluation: NRHP non-eligible (typical, multiple-span, example of a rudimentary structural type)

inventoried by: Clayton B. Fraser 25 July 1993

McKill Creek Bridge

VERN20

GENERAL DATA

structure no.: 547000.5
county: Vernon
city/town: 4.8 miles southwest of Bronaugh
feature inters.: McKill Creek
cadastral grid: S34, T34N, R33W
highway route: County Road 547
highway distr.: 7
current owner: Vernon County

STRUCTURAL DATA

superstructure: steel stringer
substructure: steel pile bent piers and abutments

span number: 5
span length: 24.0'
total length: 115.0'
roadway width: 14.0'
condition: fair
alterations: unknown
floor/decking : timber deck
other features: steel angle guardrails

HISTORICAL DATA

erection date: 1909
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: county work force

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 547000.5; Vernon County Court Record, Book M: page 332 (30 April, 1909) - located at Vernon County Courthouse, Nevada MO.

sign. rating: 41
evaluation: NRHP non-eligible (largely undocumented, multiple-span example of a rudimentary bridge type)

inventoried by: Clayton B. Fraser 25 July 1993

Bridge

VERN21

GENERAL DATA

structure no.: 571000.7
county: Vernon
city/town: 3.4 miles southeast of Moundville
feature inters.: Dry Wood Creek tributary
cadastral grid: S2, T34N, R32W
highway route: County Road 571
highway distr.: 7
current owner: Vernon County

STRUCTURAL DATA

superstructure: steel stringer
substructure: steel pile bent abutments

span number: 3
span length: 24.0'
total length: 49.0'
roadway width: 14.0'
condition: fair
alterations: unknown
floor/decking : timber deck
other features: steel angle guardrails

HISTORICAL DATA

erection date: 1906
erection cost: $2471.00 (two-bridge contract)
designer: unknown
fabricator : unknown
contractor: A.M. Blodgett, Kansas City MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 571000.7; Vernon County Court Record, Book L: page 261 (9 July 1906), page 280 (9 August 1906), page 283 (10 August 1906), page 432 (6 March 1907) - located at Vernon County Courthouse, Nevada MO.

sign. rating: 44
evaluation: NRHP non-eligible (typical example of an exceedingly common bridge type)

inventoried by: Clayton B. Fraser 25 July 1993

County Line Bridge

VERN22

GENERAL DATA

structure no.: 625003.3
county: Vernon
city/town: 3.9 miles southeast of Montevallo
feature inters.: Horse Creek
cadastral grid: S23, T34N, R29W
highway route: County Road 625
highway distr.: 7
current owner: Vernon County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt pony truss
substructure: concrete abutments and wingwalls

span number: 1
span length: 60.0'
total length: 62.0'
roadway width: 14.0'
condition: fair
alterations: none
floor/decking : concrete deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover and batten plates; lower chord: 2 punched rectangular eyebars; vertical: 4 angles with lacing; diagonal: 2 punched rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, field-bolted to vertical; guardrail: 2 channels

HISTORICAL DATA

erection date: 1916
erection cost: unknown
designer: Canton Bridge Company, Canton OH
fabricator : Canton Bridge Company, Canton OH; Illinois Steel Company, Chicago IL
contractor: Canton Bridge Company, Canton OH

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 625003.3; field inspection by Clayton Fraser, 31 May 1991.

sign. rating: 42
evaluation: NRHP non-eligible (well-preserved, typically configured example of common truss type)

inventoried by: Clayton B. Fraser 25 July 1993

Moundville Bridge

VERN23

GENERAL DATA

structure no.: 632000.5
county: Vernon
city/town: 3.2 miles east of Moundville
feature inters.: Little Dry Wood Creek
cadastral grid: S31, T35N, R31W
highway route: County Road 632
highway distr.: 7
current owner: Vernon County

STRUCTURAL DATA

superstructure: steel or wrought iron, 3-panel, pin- and rigid-connected Pratt truss-leg bedstead, with steel stringer approach span at each end
substructure: steel pile bent abutments with timber back- and wingwalls; steel bedstead leg piers

span number: 1
span length: 50.0'
total length: 96.0'
roadway width: 14.0'
condition: poor
alterations: approach spans are unoriginal; bedstead legs reinforced on south end with steel pile bent pier; one diagonal reinforced with wire rope; original timber deck replaced by corrugated steel deck with asphalt covering
floor/decking : asphalt-covered corrugated steel deck over steel stringers
other features: upper chord and upright end post: 2 channels with cover plate and lacing; lower chord: 2 angles with batten plates; vertical: 2 angles with lacing; diagonal: 2 looped rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, field-bolted to vertical; guardrail: steel pipe

HISTORICAL DATA

erection date: 1893-94
erection cost: unknown
designer: unknown
fabricator : Cambria Steel Company, Pittsburgh PA
contractor: Farnsworth & Blodgett, Kansas City MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 632000.5; Vernon County Court Record, Book G: page 191 (21 April 1893), page 279 (15 January 1894) - located at Vernon County Courthouse, Nevada MO; field inspection by Clayton Fraser, 31 May 1991.

sign. rating: 51
evaluation: NRHP possibly eligible (one of earliest examples in state of this mainstay structural type)

inventoried by: Clayton B. Fraser 25 July 1993

McCarty Creek Bridge

VERN24

GENERAL DATA

structure no.: 657001.4
county: Vernon
city/town: 2.0 miles northwest of Montevallo
feature inters.: McCarty Creek
cadastral grid: S5, T34N, R29W
highway route: County Road 657
highway distr.: 7
current owner: Vernon County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt pony truss
substructure: stone masonry abutments

span number: 1
span length: 60.0'
total length: 60.0'
roadway width: 12.3'
condition: fair
alterations: none
floor/decking : timber deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover and batten plates; lower chord: 2 punched rectangular eyebars; vertical: small I-beam with star iron outrider; diagonal: 2 punched rectangular eyebars; counter: round rod with unslotted turnbuckle; lateral bracing: round rod with threaded ends; floor beam: plate girder, U-bolted to vertical; guardrail: 1 channel

HISTORICAL DATA

erection date: c1895
erection cost: unknown
designer: Missouri Valley Bridge and Iron Works, Leavenworth KS
fabricator : Missouri Valley Bridge and Iron Works, Leavenworth KS; Carnegie Steel Company, Pittsburgh PA
contractor: Missouri Valley Bridge and Iron Works, Leavenworth KS

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 657001.4; field inspection by Clayton Fraser, 31 May 1991.

sign. rating: 40
evaluation: NRHP non-eligible (well-preserved, relatively early example of mainstay structural type, partially documented)

inventoried by: Clayton B. Fraser 25 July 1993

Clear Creek Bridge

VERN25

GENERAL DATA

structure no.: 679000.6
county: Vernon
city/town: 5.0 miles northeast of Sheldon
feature inters.: Clear Creek
cadastral grid: S9/16, T34N, R30W
highway route: County Road 679
highway distr.: 7
current owner: Vernon County

STRUCTURAL DATA

superstructure: steel, 4-panel, rigid-connected Pratt pony truss
substructure: concrete-filled steel cylinder piers with timber back- and wingwalls

span number: 1
span length: 60.0'
total length: 60.0'
roadway width: 13.6'
condition: fair
alterations: none
floor/decking : timber deck over steel stringers
other features: steel lattice guardrails

HISTORICAL DATA

erection date: 1908
erection cost: $1538.00
designer: unknown
fabricator : unknown
contractor: A.M. Blodgett, Kansas City MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 679000.6; Vernon County Court Record, Book M: page 113 (29 April 1908), page 127 (3 June 1908) - located at Vernon County Courthouse, Nevada MO.

sign. rating: 51
evaluation: NRHP possibly eligible (very early example of mainstay structural type)

inventoried by: Clayton B. Fraser 25 July 1993

Clear Creek Bridge

VERN26

GENERAL DATA

structure no.: 699000.6
county: Vernon
city/town: 2.2 miles northeast of Sheldon
feature inters.: Clear Creek
cadastral grid: S19/30, T34N, R30W
highway route: County Road 699
highway distr.: 7
current owner: Vernon County

STRUCTURAL DATA

superstructure: steel or wrought iron, 5-panel, pin-connected Pratt bedstead
substructure: concrete abutments and wingwalls

span number: 1
span length: 80.0'
total length: 80.0'
roadway width: 14.0'
condition: fair
alterations: truss legs cut off and truss set on concrete
floor/decking : timber deck over steel stringers
other features: upper chord and upright end post: 2 channels with lacing; lower chord: 2 angles with lacing (2 punched rectangular eyebars at outer panels); vertical: 3 angles with batten plates; diagonal: 2 punched rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: plate girder; guardrail: 1 channel

HISTORICAL DATA

erection date: 1893
erection cost: $1792.00
designer: Missouri Valley Bridge and Iron Works, Leavenworth KS
fabricator : Missouri Valley Bridge and Iron Works, Leavenworth KS
contractor: Missouri Valley Bridge and Iron Works, Leavenworth KS

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 699000.6; Vernon County Court Record, Book G: page 234 (19 July 1893), page 292 (18 January 1894) - located at Vernon County Courthouse, Nevada MO; field inspection by Clayton Fraser, 31 May 1991.

sign. rating: 56
evaluation: NRHP possibly eligible (early long-span example of mainstay structural type)

inventoried by: Clayton B. Fraser 25 July 1993

County Line Bridge

VERN27

GENERAL DATA

structure no.: 717002.3
county: Vernon
city/town: 5.2 miles west of Sheldon
feature inters.: Little Dry Wood Creek
cadastral grid: S36, T34N, R32W
highway route: County Road 717
highway distr.: 7
current owner: Vernon County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt pony truss; 2 steel stringer approach spans at the south end
substructure: stone abutment at south end; concrete-filled steel cylinder piers encased in concrete, at north end

span number: 1
span length: 70.0'
total length: 106.0'
roadway width: 11.8'
condition: good
alterations: none
floor/decking : timber deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 punched rectangular eyebars; vertical: I-beam, with inverted T-section outrider; diagonal: 2 punched rectangular eyebars; counter: square eyerod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, U-bolted to vertical; guardrail: 1 channel

HISTORICAL DATA

erection date: 1895
erection cost: $1700.00
designer: Missouri Valley Bridge and Iron Works, Leavenworth KS
fabricator : Missouri Valley Bridge and Iron Works, Leavenworth KS
contractor: Missouri Valley Bridge and Iron Works, Leavenworth KS

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 717002.3; Vernon County Court Record, Book G: page 335 (11 June 1894), page 362 (18 September 1894), page 384 (15 November 1894), page 438 (1 March 1895) - located at Vernon County Courthouse, Nevada MO; field inspection by Clayton Fraser, 31 May 1991.

sign. rating: 51
evaluation: NRHP possibly eligible (well-preserved example of mainstay structural type)

inventoried by: Clayton B. Fraser 25 July 1993

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Horse Creek Bridge
MHTD: X 186

VERN02

DATE(S) OF CONSTRUCTION
1947-48

LOCATION
State Secondary Route B over Horse Creek; S26/35, T34N, R29W
5.3 miles southeast of Montevallo; Vernon County, Missouri

USE (ORIGINAL / CURRENT)
highway bridge / highway bridge

RATING NRHP possibly eligible (score: 63)

CONDITION
good

OWNER
Missouri Highway and Transportation Department

span number: 1
span length: 110.0'
total length: 200.0'
roadway wdt.: 22.0'

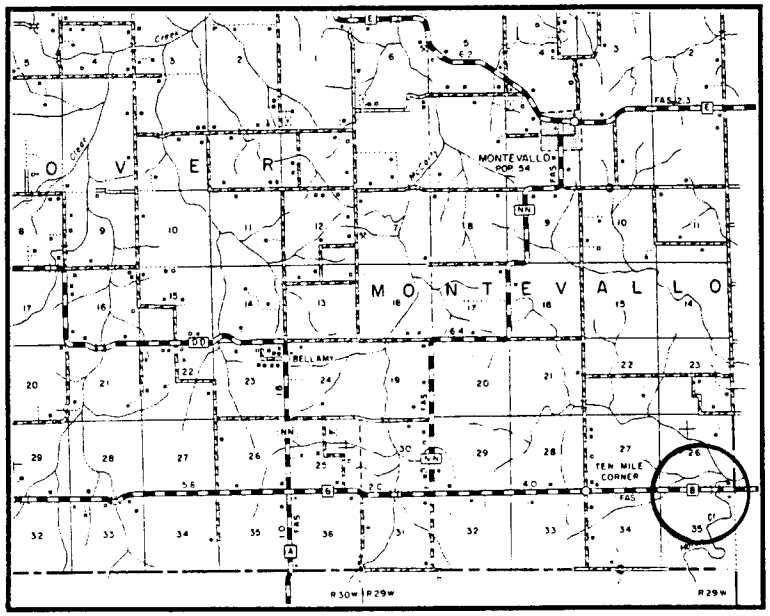
superstructure: steel, 10-panel, polygonal, rigid-connected Warren pony truss, skewed; 2 steel stringer approach spans
substructure: concrete abutments, wingwalls and piers
floor/decking: concrete deck over steel stringers
other features: steel angle guardrails

Located southeast of Montevallo, this long-span pony truss carries State Route B over Horse Creek. The bridge is comprised of a single rigid-connected pony truss span, which is supported on a skew by a concrete substructure and approached by steel stringer spans. The Calumet Creek Bridge was designed by the state highway department and constructed in 1947-48 by contractor M.E. Gillioz of Monett, Missouri, for $47,080.80. The bridge is today essentially unaltered.

The Missouri State Highway Department used riveted Warren configurations for its pony trusses almost from the time the agency developed its first bridge standards around 1920. Structurally straightforward and versatile, these ubiquitous trusses were erected by the hundreds throughout the state in span lengths ranging from 40 to 100 feet. In the early 1930s the highway department designed Warren trusses with polygonal upper chords, a variation that was more materially conservant than the straight-chorded Warren for long-span applications. Relatively few of these Warren subtypes were built during the decade, due more to their extreme span length than to their utility. Approximately fifteen of these polygonal Warren pony trusses have been identified as extant by the statewide bridge inventory, all built between 1932 and 1940 and all spanning 100 feet or more. Fabricated from essentially the same drawings, their superstructures were virtually identical. With a construction date of 1947-48, this span in Vernon County falls well within the mainstream of this minor structural trend in Missouri. It is distinguished somewhat by its skewed configuration.

NAME(S) OF STRUCTURE
Horse Creek Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP

SOURCES
Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. X 186; Missouri Primary System Bridge Record, located at the Missouri Highway and Transportation Department, Jefferson City MO.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	25 July 1993

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Little Creek Bridge
MHTD: 127001.6

VERN05

DATE(S) OF CONSTRUCTION
c1905

LOCATION
County Road 127 over Little Creek; S8, T37N, R33W
2.5 miles northwest of Stotesbury; Vernon County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 28)

CONDITION
good

OWNER
Vernon County

span number: 1
span length: 48.0'
total length: 105.0'
roadway wdt.: 11.7'

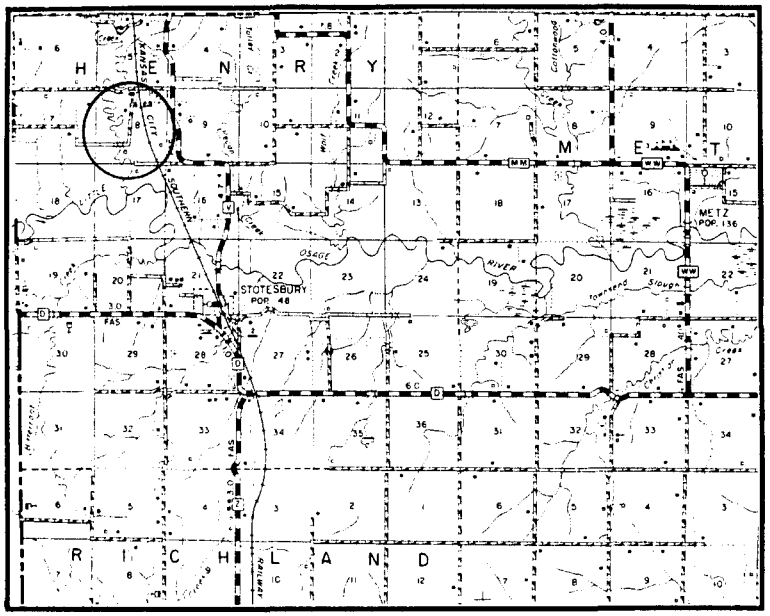
superstructure: steel, 3-panel, pin-connected Pratt truss-leg bedstead, with steel stringer approach span at each end
substructure: steel bedstead leg piers; steel pile bent abutments with timber wingwalls
floor/decking: timber deck over steel stringers
other features: upper chord and upright end post: 2 channels with cover and batten plates; lower chord: 2 angles with batten plates (2 punched rectangular eyebars at center panel); vertical: 4 angles with lacing; diagonal: 2 punched rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, field-bolted to vertical; guardrail: 1 channel

This small-scale span carries a secondary county road over Little Creek some 2½ miles northwest of Stotesbury in northeastern Vernon County. A three-panel, pin-connected Pratt truss-leg bedstead, the main span is approached on each end by a steel stringer approaches. No references to the structure's construction were found in county records, but based on its design details and bedstead configuration, it was probably built between 1900 and 1905. The Midland Bridge Company and A.M. Blodgett, two bridge building firms from Kansas City, were both active in Vernon County during this period. The Little Creek Bridge may have been built by one of these firms, but it also may be attributable to some other firm or to a county work force. Today, the structure appears virtually the same as when it was built. In its original location, the bridge has not suffered any measurable loss of its physical integrity.

The pin-connected truss-leg bedstead was a mainstay structural type for short-span crossings in Missouri between 1895 and 1915. Supported by their iron or steel legs, these bridges proved structurally inferior to the more common pinned Pratt pony truss. Many bedsteads have had their legs cut off and have been reset on new concrete substructures–often at new locations. The Little Creek Bridge is one of Missouri's relatively small number of in situ, structurally intact, bedsteads. Although noteworthy in this regard, the structure suffers from a lack of documentation.

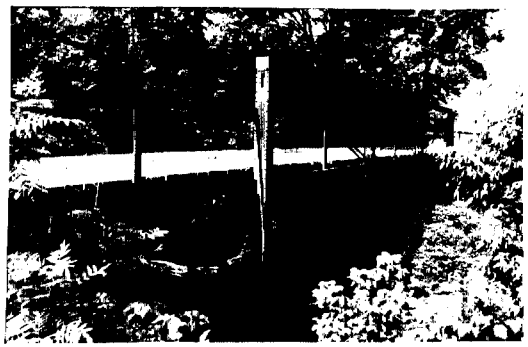
NAME(S) OF STRUCTURE
Little Creek Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP



SOURCES
Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 127001.6; field inspection by Clayton Fraser, 31 May 1991.

INVENTORIED BY
Clayton B. Fraser

AFFILIATION
Fraserdesign, Loveland CO

DATE
25 July 1993

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Marmaton River Bridge
MHTD: 218002.2

VERN07

DATE(S) OF CONSTRUCTION
c1905

LOCATION
County Road 218 over Marmaton River; S34, T36N, R32W
3.5 miles northeast of Deerfield; Vernon County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 34)

CONDITION
fair

OWNER
Vernon County

span number: 1
span length: 126.0'
total length: 222.0'
roadway wdt.: 13.8'

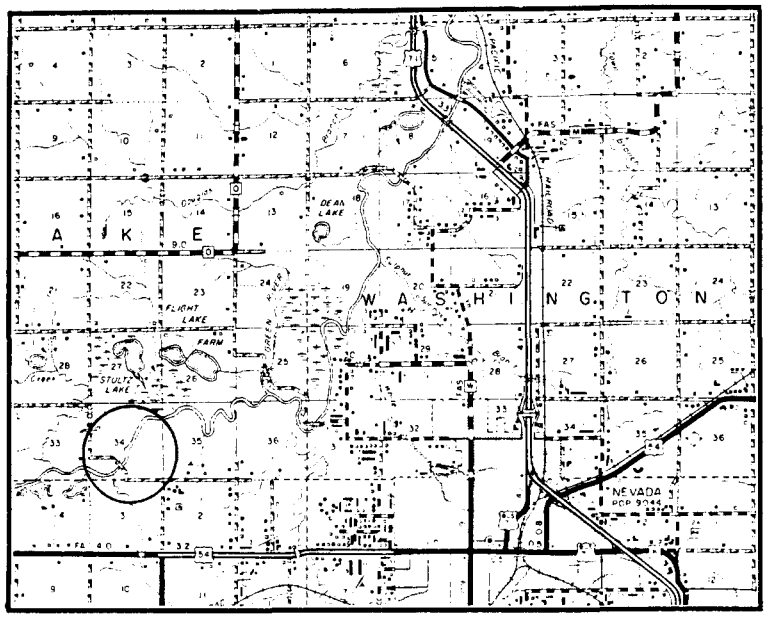
superstructure: steel, 7-panel, pin-connected Pratt through truss; 2 steel stringer approach spans at each end
substructure: concrete abutments; concrete-filled steel cylinder piers
floor/decking: timber deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped rectangular eyebars; vertical: 2 channels with lacing (2 angles with lacing at the hip); diagonal: 2 looped rectangular eyebars; counter: square eyebar with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 angles with knee braces; floor beam: I-beam, field-bolted to vertical; guardrail: 2 angles

This medium-scale truss carries a secondary county road over the Marmaton River some 3½ miles northeast of Deerfield in west-central Vernon County. A seven-panel, pin-connected Pratt through truss, the structure's main span is approached on each end by two steel stringer approaches. No references to the structure's construction were found in county records, but based on its physical condition and technological attributes, it was probably built circa 1910. Today, the Marmaton River Bridge appears unchanged from its original construction. Displaying a high degree of historical integrity, the bridge still serves to carry local traffic in a rural setting.

The Marmaton River Bridge is technologically representative as a pinned Pratt through truss - Missouri's mainstay structural type for medium-span crossings built in the early 20th century. Although the crossing is structurally intact, it does not appear to be a particularly early example, and suffers from a complete lack of historical documentation.

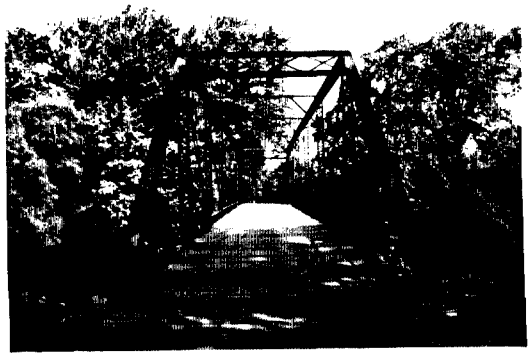
NAME(S) OF STRUCTURE
Marmaton River Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP



SOURCES
Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 218002.2; field inspection by Clayton Fraser, 31 May 1991.

INVENTORIED BY
Clayton B. Fraser

AFFILIATION
Fraserdesign, Loveland CO

DATE
25 July 1993

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Young's Ford Bridge
MHTD: 336002.0

VERN14

DATE(S) OF CONSTRUCTION
1884

LOCATION
County Road 336 over Clear Creek; S26, T36N, R29W
1.9 miles northeast of Dederick; Vernon County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 58)

CONDITION
fair

OWNER
Vernon County

span number:	1	superstructure:	wrought iron, 6-panel, pin-connected Pratt through truss
span length:	100.0'	substructure:	stone masonry abutments and wingwalls
total length:	100.0'	floor/decking:	timber deck over steel stringers
roadway wdt.:	11.3'	other features:	upper chord and inclined end post: 2 channels with cover and batten plates; lower chord: 2 punched rectangular eyebars; vertical: 2 channels with lacing (2 round eyerods with shovel ends at the hip); diagonal: 2 punched rectangular eyebars; counter: round eyerod with sleeve bolt; lateral bracing: looped round eyerod; strut: I-beam; portal strut: lattice; floor beam: tapered "fishtail" plate girder, U-bolted to vertical; guardrail: 2 channels

Erected in 1884 by the St. Louis Bridge and Iron Company, the Young's Ford Bridge is Vernon County's oldest remaining vehicular span. Featuring elements that were archaic even by the turn of the century–most notably fishtail plate girder floor beams, sleeve bolts and U-bolted lower chord connections–the structure also ranks among Missouri's earliest examples of truss bridge construction. In the spring of 1884 citizens from the vicinity of Dederick in east-central Vernon County petitioned for construction of a bridge across Clear Creek at the Young's Ford crossing northeast of town. A subscription of $800.00 was raised, the subscribers agreeing to deposit the money when a contract for the bridge was let. The county court agreed that a bridge was indeed needed, and on August 28, 1884, separate contracts were let for construction of the substructure and superstructure. For the substructure, J. Blair and James O'Riley were to build masonry abutments priced at $3.75 per cubic yard. The contract to fabricate and erect the truss was awarded to the St. Louis Bridge and Iron Company, which agreed to build it for $1900.00. The pinned Pratt truss was completed according to plan and subsequently served to carry wagons, pedestrians, and in later years, motorized vehicles, across Clear Creek. The bridge today appears in fair condition, with its physical integrity intact. Having been in use for more than a century, the crossing still functions as originally built.

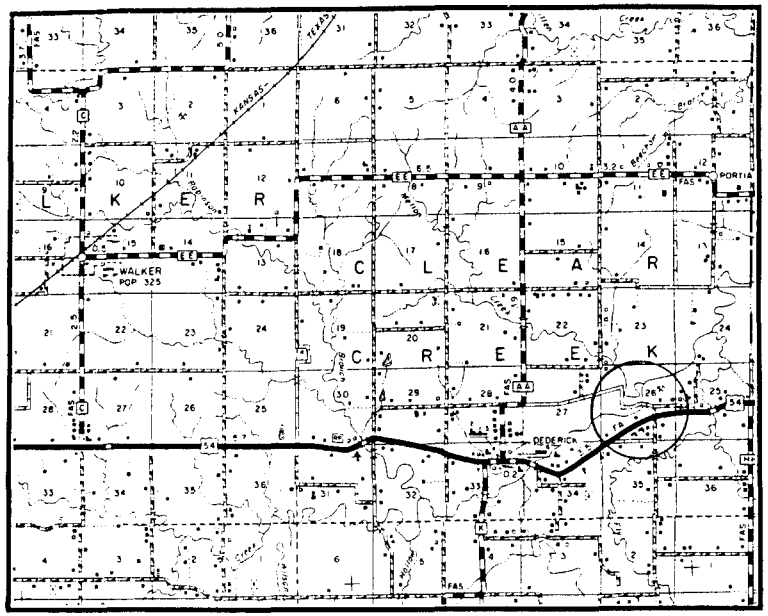
Bridge companies such as St. Louis B&I marketed the pinned Pratt truss extensively among their standard iron spans in the late 19th century. With its uniformly fabricated components and easy field erection, the Pratt truss was ideally suited for the highly competitive bidding for county bridge construction. Thousands of pinned Pratt through trusses were built on Missouri's county road system, and many

remain in place today. The Young's Ford Bridge is distinguished among these for its early construction date and for its well-preserved condition. With both superstructure and substructure intact, it is a noteworthy transportation-related resource. The bridge is also noteworthy for its association with the St. Louis Bridge and Iron Works. Founded by J.W. Sebastian in the early 1880s, St. Louis B&I was among Missouri's earliest bridge manufacturers. The oldest wagon bridge in Vernon County, the Young's Ford Bridge rank among the oldest St. Louis B&I structures still in use in the state.

NAME(S) OF STRUCTURE

Young's Ford Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP

SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 336002.0; Vernon County Court Record, Book D: page 593 (24 May 1884), page 598 (25 June 1884); Vernon County Court Record, Book E: page 22 (28 August 1884) - located at Vernon County Courthouse, Nevada MO; field inspection by Clayton Fraser, 31 May 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	25 July 1993

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Kelly Ford Bridge
MHTD: 466001.8

VERN17

DATE(S) OF CONSTRUCTION
1891

LOCATION
County Road 466 over Mulberry Creek; S10, T35N, R29W
2.4 miles southeast of Dederick; Vernon County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 50)

CONDITION
good

OWNER
Vernon County

span number: 1
span length: 80.0'
total length: 118.0'
roadway wdt.: 12.1'

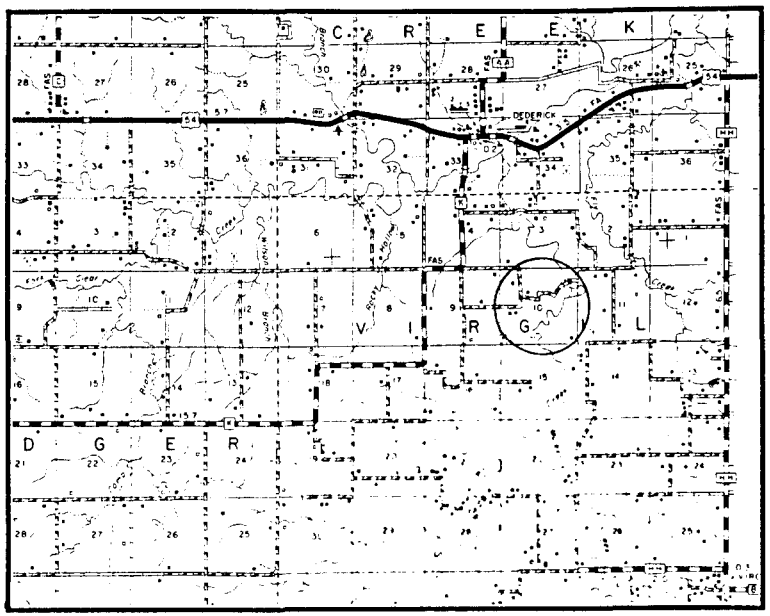
superstructure: steel or wrought iron, 5-panel, pin-connected Pratt through truss, with steel stringer approach span at each end
substructure: stone masonry abutments; concrete-filled iron cylinder piers
floor/decking: timber deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped rectangular eyebars; vertical: 2 channels with lacing (2 looped rectangular eyebars at the hip); diagonal: 2 looped rectangular eyebars; counter: 1 double-pronged square eyebar with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 angles; portal strut: latticed; floor beam: I-beam, field-bolted to vertical; guardrail: 1 channel; portal builder's plate: **1891 CHICAGO BRIDGE COMPANY**

On August 14, 1891, the Vernon County Court directed the county bridge commissioner to advertise for the construction of three iron bridges: at Dalton Ford in Dover Township, at Colleys Ford in Osage Township, and at Kelly Ford in Virgil Township. Not quite a month later, on September 10th, contracts for all three structures were awarded to the Chicago Bridge and Iron Company. Work on the three bridges commenced within days and was completed in January 1892. The largest of the structures was the one across the Osage River at Colleys Ford, a 150-foot span, which Chicago Bridge and Iron built for $5125.00. The price for the Dalton Ford Bridge, a 65-foot span, was $1795.00, while the cost of the Kelly Ford Bridge was $2270.00. Located some 2½ miles southeast of Dederick, the Kelly Ford Bridge is the only one of these three bridges that still remains. Its configuration and design elements earmark it as an early example of pinned truss bridge construction. Exhibiting a high degree of physical integrity, the Kelly Ford Bridge still functions as originally built.

In Missouri, the pinned Pratt through truss was the bridge of choice for medium-span applications in the late 19th and early 20th centuries. Thousands of Pratts were built across the state during this period, and today these bridges constitute the most populous group of through trusses. Retaining a high degree of physical integrity and a relatively early construction date, the Kelly Ford Bridge is a noteworthy example of pinned Pratt truss construction.

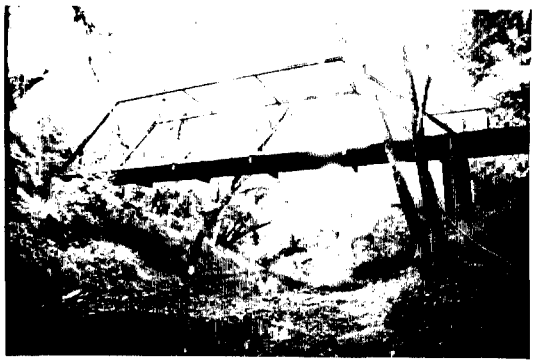
NAME(S) OF STRUCTURE
Kelly Ford Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP



SOURCES
Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 466001.8; Vernon County Court Record, Book F: page 516 (14 August 1891), page 526 (10 September 1891); Vernon County Court Record, Book G, page 10 (20 January 1892) - located at Vernon County Courthouse, Nevada MO; field inspection by Clayton Fraser, 31 May 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	25 July 1993

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Moundville Bridge
MHTD: 632000.5

VERN23

DATE(S) OF CONSTRUCTION
1893-94

LOCATION
County Road 632 over Little Dry Wood Creek; S31, T35N, R31W
3.2 miles east of Moundville; Vernon County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 51)

CONDITION
poor

OWNER
Vernon County

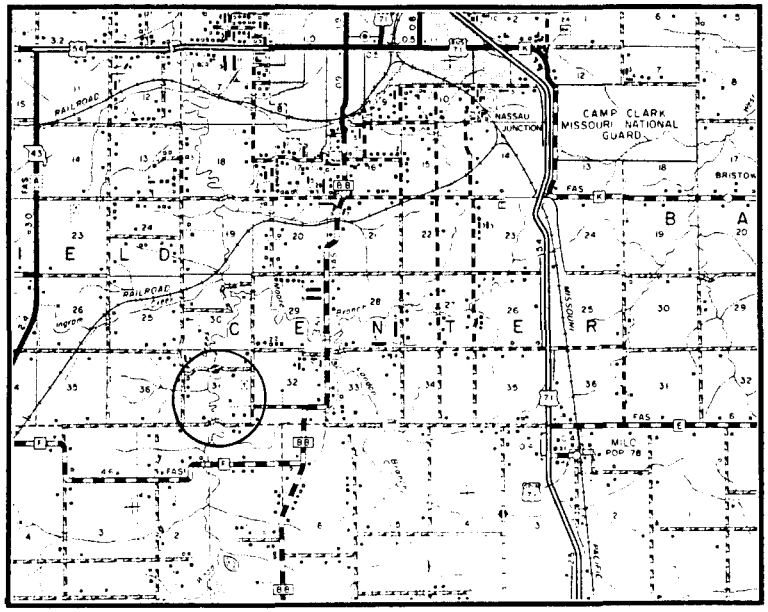
span number:	1	superstructure:	steel or wrought iron, 3-panel, pin- and rigid-connected Pratt truss-leg bedstead, with steel stringer approach span at each end
span length:	50.0'		
total length:	96.0'	substructure:	steel pile bent abutments with timber back- and wingwalls; steel bedstead leg piers
roadway wdt.:	14.0'	floor/decking:	asphalt-covered corrugated steel deck over steel stringers
		other features:	upper chord and upright end post: 2 channels with cover plate and lacing; lower chord: 2 angles with batten plates; vertical: 2 angles with lacing; diagonal: 2 looped rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, field-bolted to vertical; guardrail: steel pipe

At a meeting of the Vernon County Court held on April 21, 1893, citizens from throughout the county presented petitions asking for the construction of several bridges. Among these was a request to span Little Drywood Creek some three miles east of Moundville. The county court reviewed many of the petitions favorably, and over the course of the summer, contracts were let for the construction of several crossings. The contract to fabricate and erect the Moundville Bridge was let to Farnsworth and Blodgett, bridge builders from Kansas City. Opting for a Pratt truss-leg bedstead design, Farnsworth and Blodgett completed the structure late that year. The bedstead design was unusual in that it featured a combination of pinned and riveted connections. On January 15, 1894, county road and bridge commissioner, W.H. Wood, reported that the Moundville Bridge had been completed in accordance with the plans and specifications on file. Although it still functions largely as originally built, the Moundville Bridge has lost a measure of its historical integrity over the years.

In a bedstead truss, a single "leg" functioned as both end post and support at each corner of the structure. This combined super- and substructure reduced erection costs somewhat, but bedsteads were prey to flood and collision damage and suffered from inherent structural weaknesses relating to compression stress in the lower chords. Despite these weaknesses, numerous truss leg bedsteads were erected throughout Missouri in the later 1890s and early 1900s. Hundreds remain in place today - in fact, Missouri has probably more bedsteads than any other state. The Moundville Bridge is distinguished as a relatively well-preserved example of this statewide bridge construction trend - one of the oldest bedsteads remaining in the state.

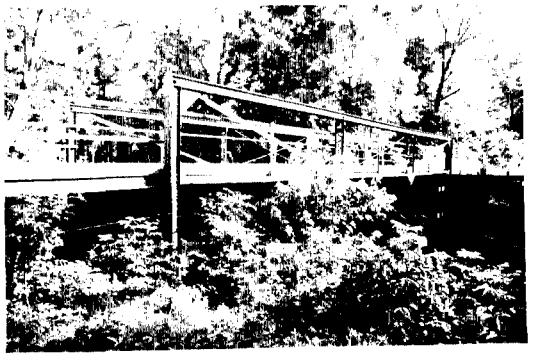
NAME(S) OF STRUCTURE
Moundville Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP



SOURCES
Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 632000.5; Vernon County Court Record, Book G: page 191 (21 April 1893), page 279 (15 January 1894) - located at Vernon County Courthouse, Nevada MO; field inspection by Clayton Fraser, 31 May 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	25 July 1993

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
McCarty Creek Bridge
MHTD: 657001.4

VERN24

DATE(S) OF CONSTRUCTION
c1895

LOCATION
County Road 657 over McCarty Creek; S5, T34N, R29W
2.0 miles northwest of Montevallo; Vernon County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 40)

CONDITION
fair

OWNER
Vernon County

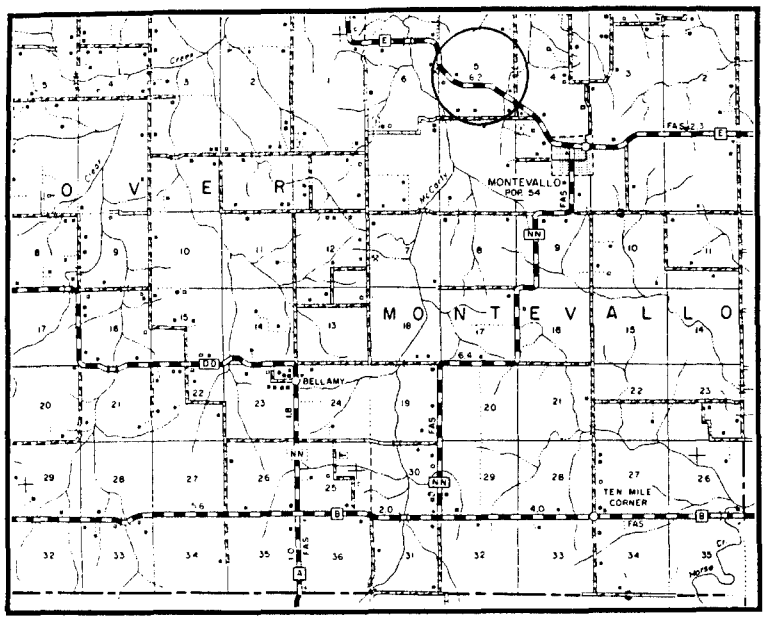
span number:	1	superstructure:	steel, 4-panel, pin-connected Pratt pony truss
span length:	60.0'	substructure:	stone masonry abutments
total length:	60.0'	floor/decking:	timber deck over steel stringers
roadway wdt.:	12.3'	other features:	upper chord and inclined end post: 2 channels with cover and batten plates; lower chord: 2 punched rectangular eyebars; vertical: small I-beam with star iron outrider; diagonal: 2 punched rectangular eyebars; counter: round rod with unslotted turnbuckle; lateral bracing: round rod with threaded ends; floor beam: plate girder, U-bolted to vertical; guardrail: 1 channel

Located about two miles northwest of Montevallo, in southeastern Vernon County, this modestly scaled bridge carries a gravel-surfaced road over McCarty Creek. Configured as a four-panel, pin-connected Pratt pony truss, the bridge is supported by cut stone abutments. Specific references to the bridge have not been located in minutes the Vernon County Court, but structural elements of the truss itself earmark it as having been fabricated around 1895 by the Missouri Valley Bridge and Iron Works of Leavenworth, Kansas. Today, the McCarty Creek Bridge exhibits an exceptionally high degree of physical integrity. Although its construction history remains obscure, the bridge is unchanged from its original construction.

In Missouri, the pinned Pratt through truss was the bridge of choice for medium-span applications in the late 19th and early 20th centuries. Thousands of Pratt ponies were built across the state during this period, and today these bridges constitute the most populous group of through trusses. Retaining a high degree of physical integrity and a relatively early construction date, the McCarty Creek Bridge is a noteworthy example of pinned Pratt truss construction.

NAME(S) OF STRUCTURE
McCarty Creek Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP
TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP

SOURCES
Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 657001.4; field inspection by Clayton Fraser, 31 May 1991.

INVENTORIED BY
Clayton B. Fraser

AFFILIATION
Fraserdesign, Loveland CO

DATE
25 July 1993

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Clear Creek Bridge
MHTD: 679000.6

VERN25

DATE(S) OF CONSTRUCTION
1908

LOCATION
County Road 679 over Clear Creek; S9/16, T34N, R30W
5.0 miles northeast of Sheldon; Vernon County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 51)

CONDITION
fair

OWNER
Vernon County

span number:	1	superstructure:	steel, 4-panel, rigid-connected Pratt pony truss
span length:	60.0'	substructure:	concrete-filled steel cylinder piers with timber back- and wingwalls
total length:	60.0'	floor/decking:	timber deck over steel stringers
roadway wdt.:	13.6'	other features:	steel lattice guardrails

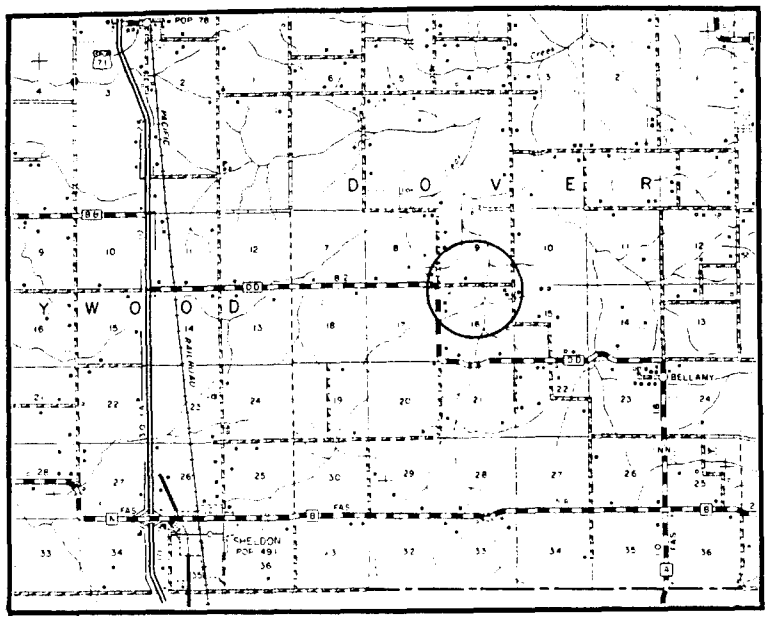
Located five miles northeast of Sheldon in Dover Township, this medium-span pony truss carries a gravel-surfaced county road over Clear Creek. The Clear Creek Bridge is comprised of a single rigid-connected Pratt truss, supported by steel cylinder piers. The Clear Creek Bridge dates to 1908. In April of that year J.M. Clack, the Vernon County Road and Bridge Commissioner, reported to the county court that a bridge at this crossing would cost about $1600.00 to build. The court directed Clack to solicit competitive proposals for the bridge, and in June a contract for its fabrication and erection was awarded to Kansas City bridge builder A.M. Blodgett. Completed later in 1908, the Clear Creek Bridge has functioned in place since, with only maintenance-related repairs.

Thousands of Pratt trusses were erected throughout Missouri in the late 19th and early 20th centuries. Marketed by virtually all of the in-state and regional bridge companies, this versatile structural type was used overwhelmingly by the counties for short- and medium-span applications. These all featured what was termed the American method of construction, with chord members joined by pins. After the turn of the century, however, riveted connections began to supersede pinned, and eventually the riveted Pratt pony displaced its pinned predecessor. The Clear Creek Bridge in Vernon County is distinguished as one of the earliest riveted Pratt pony truss–a harbinger of what would soon become a mainstay structural type in Missouri.

NAME(S) OF STRUCTURE

Clear Creek Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP

SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 679000.6; Vernon County Court Record, Book M: page 113 (29 April 1908), page 127 (3 June 1908) - located at Vernon County Courthouse, Nevada MO.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	25 July 1993

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Clear Creek Bridge
MHTD: 699000.6

VERN26

DATE(S) OF CONSTRUCTION
1893

LOCATION
County Road 699 over Clear Creek; S19/30, T34N, R30W
2.2 miles northeast of Sheldon; Vernon County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 56)

CONDITION
fair

OWNER
Vernon County

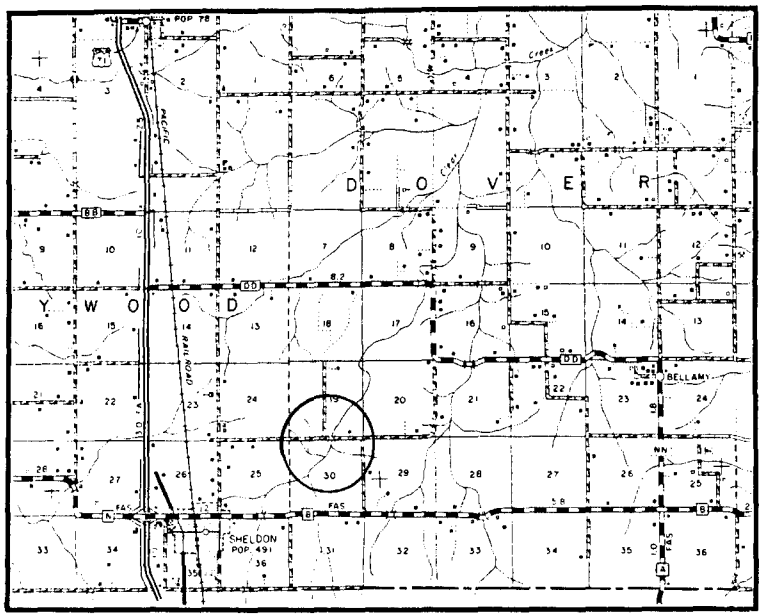
span number:	1	superstructure:	steel or wrought iron, 5-panel, pin-connected Pratt bedstead
span length:	80.0'	substructure:	concrete abutments and wingwalls
total length:	80.0'	floor/decking:	timber deck over steel stringers
roadway wdt.:	14.0'	other features:	upper chord and upright end post: 2 channels with lacing; lower chord: 2 angles with lacing (2 punched rectangular eyebars at outer panels); vertical: 3 angles with batten plates; diagonal: 2 punched rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: plate girder; guardrail: 1 channel

At a meeting of the Vernon County Court held on April 21, 1893, citizens from throughout the county presented petitions asking for the construction of several bridges. Among these was a request to bridge Clear Creek some two miles northeast of Sheldon, in Drywood Township. The county court reviewed this and several other petitions favorably, and over the course of the summer contracts were let for the construction of many of the bridges. The contract for the Clear Creek Bridge was let to the Missouri Valley Bridge and Iron Works of Leavenworth, Kansas, for $1792.00. For the crossing, Missouri Valley employed a long-span Pratt truss-leg bedstead with pinned connections. The Clear Creek Bridge was completed late that year. On January 18, 1894, County Road and Bridge Commissioner W.H. Wood reported that the Clear Creek Bridge, and the Moore's Branch Bridge (also built by Missouri Valley) had been completed according to plan. Typical of bedstead trusses, the Clear Creek Bridge's truss legs have been cut off and replaced with concrete abutments. The structure, otherwise, appears largely as originally built.

The pin-connected truss-leg bedstead was a mainstay structural type for short-span crossings in Missouri between circa 1895 - 1915. Supported by their iron, or steel, legs these bridges proved structurally inferior to the more common pinned Pratt pony truss. Many bedsteads, including this one, have had their legs cut off and have been reset on new concrete substructures. Built in 1893, the Clear Creek Bridge ranks among Missouri's earliest remaining bedstead trusses. The structure is also technologically significant as one of Missouri's longest and oldest bedsteads - a note.

NAME(S) OF STRUCTURE
Clear Creek Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP

SOURCES
Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 699000.6; Vernon County Court Record, Book G: page 234 (19 July 1893), page 292 (18 January 1894) - located at Vernon County Courthouse, Nevada MO; field inspection by Clayton Fraser, 31 May 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	25 July 1993

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
County Line Bridge
MHTD: 717002.3

VERN27

DATE(S) OF CONSTRUCTION
1895

LOCATION
County Road 717 over Little Dry Wood Creek; S36, T34N, R32W
5.2 miles west of Sheldon; Vernon County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 51)

CONDITION
good

OWNER
Vernon County

span number: 1
span length: 70.0'
total length: 106.0'
roadway wdt.: 11.8'

superstructure: steel, 4-panel, pin-connected Pratt pony truss; 2 steel stringer approach spans at the south end

substructure: stone abutment at south end; concrete-filled steel cylinder piers encased in concrete, at north end

floor/decking: timber deck over steel stringers

other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 punched rectangular eyebars; vertical: I-beam, with inverted T-section outrider; diagonal: 2 punched rectangular eyebars; counter: square eyerod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, U-bolted to vertical; guardrail: 1 channel

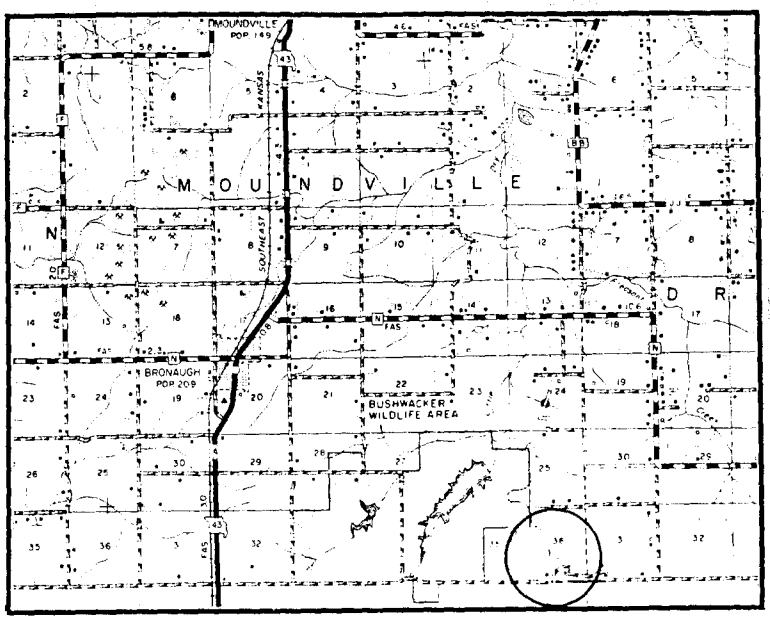
Located some five miles west of Sheldon, just north of the Barton County line, this medium-scale truss carries a secondary road over Little Drywood Creek. The structure dates to the spring of 1894. At a meeting held on June 11th of that year, the Vernon County Court agreed to build a bridge at this location, provided Barton County would pay half the cost. Barton County officials, however, balked at sharing the cost equally, contending they should pay less because the bridge was to be in Vernon County. (The proposed bridge site was located approximately 100 yards north of the county line.) While the two counties spent the summer haggling over how the cost would be split, Vernon County Road and Bridge Commissioner W.H. Wood advertised for bids to build the structure. An agreement was finally reached in late fall. On November 15, 1894, a $1700.00 contract for the bridge's fabrication and erection was awarded to the Missouri Valley Bridge and Iron Works of Leavenworth, Kansas. Vernon County grudgingly paid the lion's share, footing the bill for $1200.00 of the cost. Barton County, meanwhile, paid just $500.00. The County Line Bridge today displays an unusually high degree of physical integrity. Sited in its original location, and with its structural members intact, the bridge appears unchanged from its original construction.

The County Line Bridge is a well-documented and well-preserved example of pinned Pratt pony truss construction. Exhibiting excellent physical integrity, the structure represents Missouri bridge construction trends in the late 19th century.

NAME(S) OF STRUCTURE

County Line Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT
GENERAL HIGHWAY MAP

SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 717002.3; Vernon County Court Record, Book G: page 335 (11 June 1894), page 362 (18 September 1894), page 384 (15 November 1894), page 438 (1 March 1895) - located at Vernon County Courthouse, Nevada MO; field inspection by Clayton Fraser, 31 May 1991.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	25 July 1993