CALDWELL COUNTY

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

Inv. No.	MHTD	Bridge	Name	Description
*CALD01	H 27R	Log Creek Bridge	1- 60'	**concrete filled spandrel arch**
			1925	Land Construction Company
*CALDO2	J 340R	Log Creek Bridge	1-110'	**riveted Pratt through truss**
			1930	Chernus Construction Co.
CALD03	007000.3	Long Branch Bridge	1- 45'	pinned Pratt pony truss
			c1910	
*CALD04	023002.0	Brushy Creek Bridge	1- 80'	pinned Pratt bedstead
			1904	Canton Bridge Co., Canton OH
*CALD05	032000.2	Sheep Creek Bridge	1- 70'	pinned Pratt bedstead
			1904	John H. Sparks, St. Joseph MO
CALD06	041001.6	Bridge	1- 30'	riveted lattice bedstead
			1905	J.H. Sparks, St. Joseph MO
*CALD07	075001.2	Tom Creek Bridge	1- 50'	pinned Pratt bedstead
			1904	Canton Bridge Co., Canton OH
*CALD08	088000.4	Lick Fork Bridge	1- 45'	pinned Pratt half hip pony truss
			c1910	
CALD09	099000.7	Lick Fork Bridge		(replaced)
CALD10	115001.8	Otter Creek Bridge	1- 50'	pinned Pratt half hip pony truss
			c1910	
CALD11	118001.9	Otter Creek Bridge	1- 60'	pinned Pratt half-hip pony truss
			c1910	
*CALD12	127000.8	Cottonwood Creek Bridge		(replaced)
*CALD13	181001.9	Henkin's Ford Bridge	1-125'	**pinned Warren through truss**
			1887	King Bridge Co., Cleveland OH
*CALD14	204001.2	Mud Creek Bridge	1- 90'	**pinned Warren through truss**
			1887	King Bridge Co., Cleveland OH
*CALD15	205000.0	Mud Creek Bridge	1- 48'	pinned Pratt bedstead
			1905	J.H. Sparks (prob.)
*CALD16	207000.9	Bridge	1- 40'	pinned Pratt half hip pony truss
			1908	Standard Bridge Co, Omaha NE
CALD17	215000.3	North Mud Creek Bridge	1- 32'	riveted lattice bedstead
			c1905	Canton Bridge Co., Canton OH
CALD18	227000.6	North Mud Creek Bridge	1- 45'	pinned Pratt bedstead
			1905	
CALD19	239000.1	Bridge	1- 50'	pinned Pratt half-hip pony truss
			c1910	
*CALD20	243000.5	Mud Creek Bridge		(replaced)
CALD21	264001.7	Bridge	1- 50'	pinned Pratt half-hip pony truss
			c1905	
CALD22	268000.9	Crooked River Bridge	1- 30'	riveted lattice bedstead
			c1905	Canton Bridge Co. (prob.)
*CALD23	279001.5	North Mud Creek Bridge	1- 50'	pinned Pratt bedstead
			1904	John H. Sparks, St. Joseph MO
*CALD24	295000.8	North Mud Creek Bridge	1- 54'	pinned Pratt bedstead
			1905	John H. Sparks, St. Joseph MO

CALDWELL COUNTY

INCLUDED (cont.):

*CALD25	299001.0	Bridge	1- 40'	pinned Pratt bedstead
			c1905	
*CALD26	303000.4	Otter Creek Bridge	1-110	**bowstring through arch-truss**
			1875	Missouri Valley B&I (prob.)
CALD27	305001.2	Otter Creek Bridge	1- 50'	pinned Pratt half-hip pony truss
			1901	John H. Sparks, St. Joseph MO
CALD28	307000.2	Little Otter Creek Bridge	1- 60'	pinned Pratt pony truss
			1904	John H. Sparks, St. Joseph MO
CALD29	307002.5	Shoal Creek Bridge	1-120'	**riveted Pratt through truss**
			c1925	
*CALD30	316000.7	Cottonwood Creek Bridge	1- 48'	pinned Pratt bedstead
			1904	John H. Sparks, St. Joseph MO
*CALD31	324000.6	Tom Creek Bridge	1- 60'	pinned Pratt bedstead
			1904	Canton Bridge Co., Canton OH
*CALD32	324001.9	Bonanza Bridge	1-**187'**	**pinned Whipple through truss**
			1883	
CALD33	327000.1	Bridge		(replaced)
CALD34	337000.6	Tom Creek Bridge		(replaced)
*CALD35	341000.9	Shoal Creek Bridge	1-112'	**pinned Pratt through truss**
			c1890	King Iron Bridge Co. (prob.)
*CALD36	342002.8	Cox Ford Bridge	1-114'	**pinned Pratt through truss**
			1888	King Iron Bridge Co.
CALD37	349000.7	Long Creek Bridge	1- 60'	**rivet 2-angle Pratt pony truss**
			c1925	
CALD38	350000.8	Log Creek Bridge	1- 54'	pinned Pratt pony truss
			c1915	
CALD39	351001.3	Tub Creek Bridge	1- 24'	riveted lattice bedstead
			1904	Canton Bridge Co., Canton OH
CALD40	353000.8	Log Creek Bridge	1- 80'	riveted Pratt pony truss
			1908	John H. Sparks, St. Joseph MO
*CALD41	359000.8	Shoal Creek Bridge	1-124'	**pinned Pratt through truss**
			1894	Dildine Bridge Company
CALD42	359001.8	Mill Creek Bridge		(replaced)
CALD43	368001.2	Shoal Creek Bridge	1-**100'**	riveted Pratt pony truss
			c1930	
*CALD44	372000.5	Shoal Creek Bridge	1-120'	**pinned Pratt through truss**
			1901	John H. Sparks, St. Joseph MO
CALD45	383001.5	Shoal Creek Bridge	1- 50'	pinned Pratt bedstead
			c1910	
CALD46	406000.6	Long Creek Bridge	1- 60'	pinned Pratt pony truss
			c1910	
CALD47	407000.2	Long Creek Bridge	1- 60'	pinned Pratt half hip pony truss
			c1910	
CALD48	442002.4	Crooked River Bridge	1- 80'	pinned Pratt pony truss
			c1915	
CALD49	028000.8	West Sheep Creek Bridge	1- 35'	steel deck girder
			1922	Bean & Co., St. Joseph MO

CALDWELL COUNTY

EXCLUDED:

Pratt pony truss
029002.7 165000.5 230000.5 346001.2 358000.0 364001.8 366001.4445000.7
463001.2 475002.1 476001.5

Warren pony truss
001001.8 005000.2 131000.1 242000.4 459001.5

Lattice bedstead
041001.6 250001.0

Steel stringer
S 923 T 844R T 863 004000.1 014000.6 029001.3 031000.3080000.6
122000.3 126002.0 147000.9 151000.3 158001.3 162000.8 168000.7177000.7
196000.3 198000.7 206000.9 216000.9 217000.7 226000.6 256002.9261R01.2
264000.3 307000.8 359002.1 378000.4 378001.2 388001.9 391000.9392000.5
403000.6 404000.5 409001.7 443000.4 449000.4 456000.6460000.3

Concrete girder
G 400 G 401 479001.3

Concrete slab
339000.8

Concrete box culvert
T 318 X 408

Timber stringer
259000.3

SUMMARY:

	Primary	Secondary	Urban	Other	Total
Included	2	41	0	0	43
Excluded	7	57	0	0	74
	9	98	0	0	117 structures

Log Creek Bridge

CALD01

GENERAL DATA

structure no.: H 27R
county: Caldwell
city/town: 2.0 miles south of Kingston
feature inters.: Log Creek
cadastral grid: S33/34, T56N, R28W
highway route: State Highway 13
highway distr.: 1
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: 65.0
roadway width: 27.0
condition: good
alterations: roadway widened and guardrails replaced, 1940
floor/decking : concrete over earth fill
other features: concrete square balustrade guardrails; corbeled arch rings

HISTORICAL DATA

erection date: 1925
erection cost: $7793.68
designer: Missouri State Highway Department
fabricator : none
contractor: Land Construction Company

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. H 27R; Primary System Bridge files - located at the Missouri Highway and Transportation Department, Jefferson City MO; field inspection by Lon Johnson, 9 September 1990.

sign. rating: 36
evaluation: NRHP non-eligible (typical example of MSHD concrete arch construction, substantially altered)

inventoried by: Michelle Crow-Dolby 7 July 1993

Log Creek Bridge

CALD02

GENERAL DATA

structure no.: J 340R
county: Caldwell
city/town: 4.0 miles south of Kingston
feature inters.: Log Creek
cadastral grid: S28/27, T56N, R28W
highway route: State Highway 13
highway distr.: 1
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

superstructure: steel, 6-panel, rigid-connected Pratt through truss, with three concrete girder approach spans on the north
substructure: concrete abutments, wingwalls and piers

span number: 1
span length: 110.0'
total length: 256.0'
roadway width: 20.0'
condition: fair
alterations: guardrails replaced, 1940
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 lacing; diagonal: 2 channels with batten plates; floor beam: I-beam; guardrail: 2 channels; curved approach guardrails at each end; endpost-mounted bridge plate: **Missouri Highway Department / Bridge Nº J340 / 1930**

HISTORICAL DATA

erection date: 1930
erection cost: $34,441.63
designer: Missouri State Highway Department
fabricator : Inland Steel Company, Pittsburgh PA
contractor: Chernus Construction Company

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. J 340R; Primary System Bridge files - located at the Missouri Highway and Transportation Department, Jefferson City MO; field inspection by Lon Johnson, 8 September 1990.

sign. rating: 34
evaluation: NRHP non-eligible (typically configured MSHD highway truss)

inventoried by: Michelle Crow-Dolby 7 July 1993

Long Branch Bridge

CALD03

GENERAL DATA

structure no.:	007000.3	**city/town:**	4.0 miles southwest of Kidder
county:	Caldwell	**feature inters.:**	Long Branch
		cadastral grid:	S4/9, T57N, R28W
		highway route:	County Road 7
		highway distr.:	1
		current owner:	Caldwell County

STRUCTURAL DATA

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

span number:	1	**condition:**	fair
span length:	45.0'	**alterations:**	unknown
total length:	45.0'	**floor/decking :**	timber deck
roadway width:	12.4'	**other features:**	timber 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 007000.3.

sign. rating: 18
evaluation: NRHP non-eligible (typically configured example of common structural type, largely undocumented)

inventoried by: Michelle Crow-Dolby 7 July 1993

Brushy Creek Bridge

CALD04

GENERAL DATA

structure no.: 023002.0
county: Caldwell
city/town: 5.5 miles northeast of Kidder
feature inters.: Brushy Creek
cadastral grid: S28/33, T57N, R29W
highway route: County Road 23
highway distr.: 1
current owner: Caldwell County

STRUCTURAL DATA

superstructure: steel, 6-panel, pin-connected Pratt bedstead
substructure: concrete abutments and wingwalls

span number: 1
span length: 80.0'
total length: 80.0'
roadway width: 11.4'
condition: fair
alterations: substructure replaced
floor/decking : timber deck
other features: upper chord and upright end post: 2 channels with cover plate and lacing; lower chord: 2 channels with cover plate, 2 punched rectangular eyebars; vertical: 4 angles with lacing; diagonal: 1 looped square eyebar with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, field-bolted to vertical; guardrail: steel lattice

HISTORICAL DATA

erection date: 1904
erection cost: $7900.00 (22-bridge contract)
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. 023002.0; Caldwell County Court Record, Book O: page 181 (1 May 1903), page 344 (4 November 1903) - located at the Caldwell County Courthouse, Kingston MO; field inspection by Lon Johnson, 8 September 1990.

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

inventoried by: Clayton Fraser and Michelle Crow-Dolby 7 July 1993

Sheep Creek Bridge

CALD05

GENERAL DATA

structure no.:	032000.2	**city/town:**	5.5 miles southeast of Hamilton
county:	Caldwell	**feature inters.:**	Sheep Creek
		cadastral grid:	S36/1, T57/56N, R29W
		highway route:	County Road 32
		highway distr.:	1
		current owner:	Caldwell County

STRUCTURAL DATA

superstructure: steel, 5-panel, pin-connected, Pratt bedstead
substructure: steel pile bent piers with timber wingwalls

span number:	1	**condition:**	fair
span length:	70.0'	**alterations:**	substructure replaced
total length:	72.0'	**floor/decking :**	timber deck
roadway width:	14.0'	**other features:**	upper chord and upright end post: 2 channels with cover and batten plates; lower chord: 2 angles with batten plate at outriders, forged eye-bars; vertical: 4 angles with lacing; diagonal: square rods, round rods with threaded ends at center panel; lateral bracing: round rods with threaded ends; stringer and floor beam: I-beam; guardrail: steel lattice

HISTORICAL DATA

erection date: 1904
erection cost: $940.00
designer: unknown
fabricator : Cambria Steel Company, Pittsburgh PA
contractor: John H. Sparks, St. Joseph MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 032000.2; Caldwell County Court Record, Book O: page 592 (6 September 1904); Caldwell County Bridge Record, n.p. - both located at the Caldwell County Courthouse, Kingston MO; field inspection by Lon Johnson, 8 September 1990.

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

inventoried by: Michelle Crow-Dolby 7 July 1993

Bridge

CALD06

GENERAL DATA

structure no.:	041001.6	**city/town:**	2.1 miles east of Kidder
county:	Caldwell	**feature inters.:**	tributary of Marrowbone Creek
		cadastral grid:	S5, T57N, R28W
		highway route:	County Road 41
		highway distr.:	1
		current owner:	Caldwell County

STRUCTURAL DATA

superstructure: steel, 2-panel, rigid-connected lattice bedstead with continuous endposts
substructure: concrete abutments and wingwalls

span number:	1	**condition:**	fair
span length:	30.0'	**alterations:**	mid-span pier added
total length:	30.0'	**floor/decking :**	timber deck
roadway width:	13.5'	**other features:**	none

HISTORICAL DATA

erection date: 1905
erection cost: $255.00
designer: unknown
fabricator : unknown
contractor: J.H. Sparks, St. Joseph MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 075001.2; Caldwell County Bridge Record, n.p. - located at the Caldwell County Courthouse, Kingston MO.

sign. rating: 44
evaluation: NRHP non-eligible (small-scale example of common structural type, altered)

inventoried by: Clayton Fraser and Michelle Crow-Dolby 7 July 1993

Tom Creek Bridge

CALD07

GENERAL DATA

structure no.: 075001.2
county: Caldwell

city/town: 2.4 miles southwest of Hamilton
feature inters.: Tom Creek
cadastral grid: S22/27, T57N, R28W
highway route: County Road 75
highway distr.: 1
current owner: Caldwell County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt bedstead
substructure: steel pile bent piers with timber wingwalls

span number: 1
span length: 50.0'
total length: 50.0'
roadway width: 11.6'

condition: fair
alterations: substructure replaced
floor/decking : timber deck over steel stringers
other features: upper chord and upright end post: 2 channels with cover plate and lacing; lower chord: 2 angles with lacing; vertical: 4 angles with lacing; diagonal: 2 looped square eyebars; lateral bracing: round rod with threaded ends; floor beam: I-beam, field-bolted to verticals; guardrail: one angle

HISTORICAL DATA

erection date: 1904
erection cost: $7900.00 (22-bridge contract)
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 Number 075001.2; Caldwell County Court Record, Book O: page 181 (1 May 1903), pages 341-2 (4 November 1903) - located at the Caldwell County Courthouse, Kingston MO; field inspection by Lon Johnson, 8 September 1990.

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

inventoried by: Clayton Fraser and Michelle Crow-Dolby 7 July 1993

Lick Fork Bridge

CALD08

GENERAL DATA

structure no.: 088000.4
county: Caldwell

city/town: 3.0 miles northeast of Hamilton
feature inters.: Lick Fork
cadastral grid: S5/8, T57N, R27W
highway route: County Road 88
highway distr.: 1
current owner: Caldwell County

STRUCTURAL DATA

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

span number: 1
span length: 45.0'
total length: 45.0'
roadway width: 12.1'

condition: fair
alterations: none
floor/decking : timber deck
other features: upper chord and inclined end post: 2 channels with lacing; lower chord: 2 looped eyebars; vertical: 4 angles with lacing; diagonal: 2 looped square eyebars; lateral bracing: round rod with threaded ends; floor beam: I-beam, U-bolted to lower chord pins; guardrail: 2 channels

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 088000.4; field inspection by Lon Johnson, 8 September 1990.

sign. rating: 21
evaluation: NRHP non-eligible (atypically configured example of common structural type, inadequately documented)

inventoried by: Michelle Crow-Dolby 7 July 1993

Otter Creek Bridge

CALD10

GENERAL DATA

structure no.:	115001.8	**city/town:**	6.0 miles southwest of Breckenridge
county:	Caldwell	**feature inters.:**	Otter Creek
		cadastral grid:	S26/35, T57N, R27W
		highway route:	County Road 115
		highway distr.:	1
		current owner:	Caldwell County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt half-hip pony truss
substructure: steel pile bent abutments with timber wingwalls

span number:	1	**condition:**	fair
span length:	50.0'	**alterations:**	unknown
total length:	76.0'	**floor/decking :**	timber deck
roadway width:	13.4'	**other features:**	steel angle 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 115001.8.

sign. rating: 25
evaluation: NRHP non-eligible (typical example of common structural type, poorly documented)

inventoried by: Michelle Crow-Dolby 7 July 1993

Otter Creek Bridge

CALD11

GENERAL DATA

structure no.:	118001.9	**city/town:**	4.9 miles southeast of Hamilton
county:	Caldwell	**feature inters.:**	Otter Creek
		cadastral grid:	S27/22, T57N, R27W
		highway route:	County Road 118
		highway distr.:	1
		current owner:	Caldwell County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt half-hip pony truss
substructure: steel pile abutments with timber wingwalls

span number:	1	**condition:**	fair
span length:	60.0'	**alterations:**	none
total length:	60.0'	**floor/decking :**	timber deck
roadway width:	11.4'	**other features:**	steel angle 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 118001.9.

sign. rating: 28
evaluation: NRHP non-eligible (typical example of common structural type, poorly documented)

inventoried by: Michelle Crow-Dolby 7 July 1993

Henkin's Ford Bridge

CALD13

GENERAL DATA

structure no.: 181001.9
county: Caldwell
city/town: 3.0 miles east of Proctorville
feature inters.: Shoal Creek
cadastral grid: S8/9, T56N, R26W
highway route: County Road 181
highway distr.: 1
current owner: Caldwell County

STRUCTURAL DATA

superstructure: wrought iron, 10-panel, pin-connected Warren through truss, with steel stringer approach spans
substructure: concrete abutments and wingwalls; concrete-filled iron cylinder piers; pile bent piers at approach spans

span number: 1
span length: 125.0'
total length: 195.0'
roadway width: 14.0'
condition: fair
alterations: replacement of abutments and approach spans
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 looped round eyerods; diagonal: 2 channels with cover and batten plates, 22 looped square eyebars; strut: I-beam; floor beam: riveted plate girder, U-bolted from lower chord pins; guardrail: lattice

HISTORICAL DATA

erection date: 1887
erection cost: $2698.00
designer: King Bridge Company, Cleveland OH
fabricator : King Bridge Company, Cleveland OH
contractor: King Bridge Company, Cleveland OH

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 181001.9; **The Hamiltonian,** 13 May 1887, 22 July 1887, 13 January 1888; **History of Caldwell and Livingston Counties, Missouri** (St. Louis: National Historical Company, 1886), page 254; field inspection by Clayton Fraser and John Roberts, 14 October 1993.

sign. rating: 72
evaluation: NRHP eligible (well-preserved example of early, rare truss type)

inventoried by: Clayton Fraser and Michelle Crow-Dolby 7 July 1993

Mud Creek Bridge

CALD14

GENERAL DATA

structure no.: 204001.2
county: Caldwell
city/town: 2.0 miles northeast of Braymer
feature inters.: Mud Creek
cadastral grid: S36, T56/55N, R26W
highway route: County Road 204
highway distr.: 1
current owner: Caldwell County

STRUCTURAL DATA

superstructure: wrought iron, 6-panel, pin-connected Warren through truss
substructure: concrete abutments and wingwalls

span number: 1
span length: 90.0'
total length: 90.0'
roadway width: 13.6'
condition: fair
alterations: substructure replaced
floor/decking : timber deck
other features: upper chord and inclined end post: 2 channels with cover and batten plates; lower chord: 2 punched rectangular eyebars; diagonal: 2 channels with cover and batten plates, 2 looped square eyebars; lateral bracing: round rod with threaded ends; strut: 2 angles; floor beam: I-beam, U-bolted to lower chord pins; guardrail: 2 angles

HISTORICAL DATA

erection date: 1887
erection cost: unknown
designer: King Bridge Company, Cleveland OH
fabricator : King Bridge Company, Cleveland OH
contractor: King Bridge Company, Cleveland OH

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 204001.2; **The Hamiltonian,** 13 May 1887, 22 July 1887, 13 January 1888; **History of Caldwell and Livingston Counties, Missouri** (St. Louis: National Historical Company, 1886), page 254; Caldwell County Court Record, Book O: page 181 (1 May 1903) - located at the Caldwell County Courthouse, Kingston MO; field inspection by Clayton Fraser and John Roberts, 14 October 1993.

sign. rating: 67
evaluation: NRHP possibly eligible (well-preserved example of early, rare truss type)

inventoried by: Clayton Fraser and Michelle Crow-Dolby 7 July 1993

Mud Creek Bridge

CALD15

GENERAL DATA

structure no.: 205000.0
county: Caldwell/ Livingston

city/town: 3.0 miles northeast of Braymer
feature inters.: Mud Creek
cadastral grid: S25/36, T56N, R26W
highway route: County Road 205
highway distr.: 1
current owner: Caldwell County and Livingston Counties

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt truss-leg bedstead
substructure: truss-leg abutments with timber back- and wingwalls

span number: 1
span length: 48.0'
total length: 50.0'
roadway width: 13.6'

condition: fair
alterations: I-beam reinforcement added to one upper chord
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 angle with batten plates (outer panels), 2 looped rectangular eyebars (inner panel); vertical: 4 angles with lacing; diagonal: 2 looped square eyebars; lateral bracing: round rod with threaded ends; floor beam: I-beam, U-bolted to lower chord pins; guardrail: 2 angle

HISTORICAL DATA

erection date: 1905
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: J.H. Sparks, St. Joseph MO (probable)

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 205000.0; Livingston County Court Record, Book O: page 309 (6 July 1905) - located at Livingston County Courthouse, Chillicothe MO; field inspection by Lon Johnson, 8 September 1990.

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

inventoried by: Clayton Fraser and Michelle Crow-Dolby 7 July 1993

Bridge

CALD16

GENERAL DATA

structure no.: 207000.9
county: Caldwell
city/town: 2.6 miles northwest of Braymer
feature inters.: unnamed stream
cadastral grid: S28/33, T56N, R26W
highway route: County Road 207
highway distr.: 1
current owner: Caldwell County

STRUCTURAL DATA

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

span number: 1
span length: 40.0'
total length: 40.0'
roadway width: 13.6'
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 square eyebars; vertical: 4 angles with lacing; diagonal: 2 looped square eyebars; lateral bracing: round rod with threaded ends; floor beam: I-beam, U-bolted to lower chord pins; guardrail: 1 angle

HISTORICAL DATA

erection date: 1908
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 207000.9; Caldwell County Court Record, Book Q: page 182 (5 May 1908) - located at the Caldwell County Courthouse, Kingston MO; field inspection by Lon Johnson, 8 September 1990.

sign. rating: 38
evaluation: NRHP non-eligible (atypically configured, small-scale example of common structural type)

inventoried by: Clayton Fraser and Michelle Crow-Dolby 7 July 1993

North Mud Creek Bridge

CALD17

GENERAL DATA

structure no.: 215000.3
county: Caldwell
city/town: 4.3 miles northwest of Braymer
feature inters.: North Mud Creek
cadastral grid: S1/6, T55N, R27/26W
highway route: County Road 215
highway distr.: 1
current owner: Caldwell County

STRUCTURAL DATA

superstructure: steel, 2-panel, rigid-connected lattice bedstead with continuous ends
substructure: concrete abutments and wingwalls

span number: 1
span length: 32.0'
total length: 32.0'
roadway width: 13.8'
condition: fair
alterations: unknown
floor/decking : timber deck
other features: unknown

HISTORICAL DATA

erection date: c1905
erection cost: unknown
designer: Canton Bridge Company, Canton OH (probable)
fabricator : Canton Bridge Company, Canton OH (probable)
contractor: Canton Bridge Company, Canton OH (probable)

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 215000.3.

sign. rating: 43
evaluation: NRHP non-eligible (small-scale example of uncommon structural type, partially documented)

inventoried by: Michelle Crow-Dolby 7 July 1993

North Mud Creek Bridge

CALD18

GENERAL DATA

structure no.:	227000.6	city/town:	2.4 miles southwest of Braymer
county:	Caldwell	feature inters.:	North Mud Creek
		cadastral grid:	S16/17, T55N, R26W
		highway route:	County Road 227
		highway distr.:	1
		current owner:	Caldwell County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt bedstead
substructure: steel pile abutments with timber wingwalls

span number:	1	condition:	fair
span length:	45.0'	alterations:	unknown
total length:	65.0'	floor/decking :	timber deck
roadway width:	11.8'	other features:	lattice guardrails

HISTORICAL DATA

erection date: 1905
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 227000.6.

sign. rating: 26
evaluation: NRHP non-eligible (typically configured, small-scale example of common structural type, poorly documented)

inventoried by: Michelle Crow-Dolby 7 July 1993

Bridge

CALD19

GENERAL DATA

structure no.: 239000.1
county: Caldwell

city/town: 2.8 miles southeast of Braymer
feature inters.: tributary of Willow Creek
cadastral grid: S26/25, T55N, R26W
highway route: County Road 239
highway distr.: 1
current owner: Caldwell 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: 50.0'
roadway width: 13.4'

condition: fair
alterations: unknown
floor/decking : timber deck
other features: steel angle 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 239000.1; field inspection by Lon Johnson, 8 September 1990.

sign. rating: 26
evaluation: NRHP non-eligible (typically configured, small-scale example of common structural type, poorly documented)

inventoried by: Michelle Crow-Dolby 7 July 1993

Bridge

CALD21

GENERAL DATA

structure no.:	264001.7	**city/town:**	3.0 miles southwest of Cowgill
county:	Caldwell	**feature inters.:**	branch of East Fork of Crooked River
		cadastral grid:	S32, T55N, R27W
		highway route:	County Road 264
		highway distr.:	1
		current owner:	Caldwell County

STRUCTURAL DATA

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

span number:	1	**condition:**	fair
span length:	50.0'	**alterations:**	none
total length:	51.0'	**floor/decking :**	timber deck
roadway width:	13.4'	**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 264001.7.

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

inventoried by: Michelle Crow-Dolby 7 July 1993

Bridge

CALD22

GENERAL DATA

structure no.:	268000.9	**city/town:**	2.4 miles southwest of Cowgill
county:	Caldwell	**feature inters.:**	branch of East Fork of Crooked River
		cadastral grid:	S29, T55N, R27W
		highway route:	County Road 268
		highway distr.:	1
		current owner:	Caldwell County

STRUCTURAL DATA

superstructure: steel, 2-panel, rigid-connected lattice bedstead with continuous endposts
substructure: concrete abutments and wingwalls

span number:	1	**condition:**	fair
span length:	30.0'	**alterations:**	none
total length:	30.0'	**floor/decking :**	concrete deck
roadway width:	12.0'	**other features:**	unknown

HISTORICAL DATA

erection date: c1905
erection cost: unknown
designer: Canton Bridge Company, Canton OH (probable)
fabricator : Canton Bridge Company, Canton OH (probable)
contractor: Canton Bridge Company, Canton OH (probable)

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 268000.9; field inspection by Lon Johnson, 8 September 1990.

sign. rating: 43
evaluation: NRHP non-eligible (small-scale example of uncommon structural type, partially documented)

inventoried by: Michelle Crow-Dolby 7 July 1993

North Mud Creek Bridge

CALD23

GENERAL DATA

structure no.: 279001.5
county: Caldwell
city/town: 2.5 miles north of Cowgill
feature inters.: North Mud Creek
cadastral grid: S4/9, T55N, R27W
highway route: County Road 279
highway distr.: 1
current owner: Caldwell County

STRUCTURAL DATA

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

span number: 1
span length: 50.0'
total length: 50.0'
roadway width: 13.3'
condition: fair
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 plate (outer panels), 2 looped rectangular eyebars (middle panel); vertical: 4 angles with lacing; diagonal: 2 looped square eyebars; floor beam: I-beam, U-bolted to lower chord pins; guardrail: lattice

HISTORICAL DATA

erection date: 1904
erection cost: $580.00 (contract amount)
designer: unknown
fabricator : Cambria Steel Company, Pittsburgh PA
contractor: John H. Sparks, St. Joseph MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 279001.5; Caldwell County Court Record, Book O: n.p. (12 June 1902), page 591 (6 September 1904) - located at the Caldwell County Courthouse, Kingston MO; field inspection by Lon Johnson, 8 September 1990.

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

inventoried by: Michelle Crow-Dolby 7 July 1993

North Mud Creek Bridge

CALD24

GENERAL DATA

structure no.: 295000.8
county: Caldwell

city/town: 4.5 miles northeast of Cowgill
feature inters.: North Mud Creek
cadastral grid: S35/36, T56N, R27W
highway route: County Road 295
highway distr.: 1
current owner: Caldwell County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt bedstead
substructure: bedstead legs with stone backwall; concrete abutments and wingwalls

span number: 1
span length: 54.0'
total length: 54.0'
roadway width: 13.8'

condition: fair
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 (outer panes), 2 looped rectangular eyebars (inner panel); vertical: 4 angles with lacing; lateral bracing: round rod with threaded ends; floor beam: I-beam, U-bolted to lower chord pins; guard-rail: lattice

HISTORICAL DATA

erection date: 1904-05
erection cost: $644.00
designer: unknown
fabricator : unknown
contractor: John H. Sparks, St. Joseph MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 295000.8; Caldwell County Court Record, Book O: page 592 (6 September 1904); Caldwell County Bridge Record, n.p. - both located at the Caldwell County Courthouse, Kingston MO; field inspection by Lon Johnson, 8 September 1990.

sign. rating: 47
evaluation: NRHP non-eligible (typical example of common structural type)

inventoried by: Michelle Crow-Dolby 7 July 1993

Bridge

CALD25

GENERAL DATA

structure no.: 299001.0
county: Caldwell

city/town: 5.5 miles northeast of Proctorville
feature inters.: branch of Shoal Creek
cadastral grid: S13/24, T56N, R27W
highway route: County Road 299
highway distr.: 1
current owner: Caldwell County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt bedstead
substructure: truss-legs with timber back- and wingwalls

span number: 1
span length: 40.0'
total length: 40.0'
roadway width: 13.8'

condition: fair
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: 4 angles with cover plate (outer panels), 2 looped rectangular eyebars (inner panel); vertical: 4 angles with lacing; diagonal: 2 angles with batten plates, 2 looped rectangular eyebars; lateral: round rod with threaded ends; floor beam: I-beam, U-bolted to lower chord pins; guardrail: 1 angle

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 Number 299001.0; field inspection by Lon Johnson, 8 September 1990.

sign. rating: 28
evaluation: NRHP non-eligible (typical example of common structural type)

inventoried by: Michelle Crow-Dolby 7 July 1993

Otter Creek Bridge

CALD26

GENERAL DATA

structure no.: 303000.4
county: Caldwell

city/town: 6.0 miles east of Proctorville
feature inters.: Otter Creek
cadastral grid: S11, T56N, R27W
highway route: County Road 303
highway distr.: 1
current owner: Caldwell County

STRUCTURAL DATA

superstructure: wrought iron, 10-panel, bolted Bowstring through arch-truss
substructure: timber pile bent abutments and wingwalls

span number: 1
span length: 120.0'
total length: unknown'
roadway width: unknown'

condition: fair
alterations: bridge closed to traffic
floor/decking : timber deck over steel or iron stringers
other features: upper chord: 2 channels with cover plate and double lacing; lower chord: 2 rectangular eyebars, spliced; vertical: star iron; diagonal: round rod with threaded ends; lateral bracing: round rod with threaded ends (top and bottom); strut: pipe; floor beam: riveted plate girder, U-bolted to lower chords; outrider: star iron

HISTORICAL DATA

erection date: 1875
erection cost: $4000.00 (approximate cost)
designer: Missouri Valley Bridge and Iron Works, Leavenworth KS (probable)
fabricator : Missouri Valley Bridge and Iron Works, Leavenworth KS (probable)
contractor: Missouri Valley Bridge and Iron Works, Leavenworth KS (probable)

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 303000.4; **History of Caldwell and Livingston Counties, Missouri** (St. Louis: National Historical Company, 1886), page 254; field inspection by Lon Johnson, 8 September 1990.

sign. rating: 76
evaluation: NRHP eligible (excellent example of now-rare structural type)

inventoried by: Clayton Fraser and Michelle Crow-Dolby 7 July 1993

Otter Creek Bridge

CALD27

GENERAL DATA

structure no.:	305001.2	**city/town:**	4.0 miles south of Leton
county:	Caldwell	**feature inters.:**	Otter Creek
		cadastral grid:	S35/2, T57N, R27W
		highway route:	County Road 305
		highway distr.:	1
		current owner:	Caldwell County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt half-hip pony truss
substructure: steel pile bent pier and abutments with timber back- and wingwalls

span number:	1	**condition:**	fair
span length:	50.0'	**alterations:**	unknown
total length:	66.0'	**floor/decking :**	timber deck
roadway width:	11.4'	**other features:**	steel angle guardrails

HISTORICAL DATA

erection date: 1901
erection cost: $570.00 (contract amount)
designer: unknown
fabricator : unknown
contractor: John H. Sparks, St. Joseph Mo

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 305001.2; Caldwell County Court Record, Book N: page 403 (3 April 1901), page 415 (22 April 1901) - located at the Caldwell County Courthouse, Kingston MO.

sign. rating: 43
evaluation: NRHP non-eligible (typical example of common structural type)

inventoried by: Michelle Crow-Dolby 7 July 1993

Little Otter Creek Bridge

CALD28

GENERAL DATA

structure no.:	307000.2	city/town:	5.8 miles southeast of Hamilton
county:	Caldwell	feature inters.:	Little Otter Creek
		cadastral grid:	S9/10, T56N, R27W
		highway route:	County Road 307
		highway distr.:	1
		current owner:	Caldwell County

STRUCTURAL DATA

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

span number:	1	condition:	fair
span length:	60.0'	alterations:	unknown
total length:	60.0'	floor/decking :	timber deck
roadway width:	11.5'	other features:	steel angle guardrails

HISTORICAL DATA

erection date: 1904
erection cost: $1120.00 (3-bridge contract)
designer: unknown
fabricator : unknown
contractor: John H. Sparks, St. Joseph MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 307000.2; Caldwell County Court Record, Book O: page 530 (4 August 1904) - located at the Caldwell County Courthouse, Kingston MO.

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

inventoried by: Michelle Crow-Dolby 7 July 1993

Shoal Creek Bridge

CALD29

GENERAL DATA

structure no.: 307002.5
county: Caldwell

city/town: 6.5 miles southeast of Hamilton
feature inters.: Shoal Creek
cadastral grid: S9/10, T56N, R27W
highway route: County Road 307
highway distr.: 1
current owner: Caldwell County

STRUCTURAL DATA

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

span number: 1
span length: 120.0'
total length: 360.0'
roadway width: 14.5'

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

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 307002.5.

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

inventoried by: Michelle Crow-Dolby 7 July 1993

Cottonwood Creek Bridge

CALD30

GENERAL DATA

structure no.: 316000.7
county: Caldwell

city/town: 2.5 miles northeast of Bonanza
feature inters.: Cottonwood Creek
cadastral grid: S8/9, T56N, R27W
highway route: County Road 316
highway distr.: 1
current owner: Caldwell County

STRUCTURAL DATA

superstructure: steel, 3-panel, pin-connected Pratt bedstead
substructure: truss leg abutments with timber back- and wingwalls

span number: 1
span length: 48.0'
total length: 48.0'
roadway width: 13.8'

condition: fair
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 plate (outer panels), 2 looped rectangular eyebars (inner panel); vertical: 4 angles with lacing; diagonal: 2 looped square eyebars; lateral bracing: round rod with threaded ends; floor beam: I-beam, U-bolted to lower chord pins; guardrail: 2 angles

HISTORICAL DATA

erection date: 1904
erection cost: $579.00
designer: unknown
fabricator : Cambria Steel Company, Pittsburgh PA
contractor: John H. Sparks, St. Joseph MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 316000.7; Caldwell County Court Record, Book O: n.p. (12 June 1902), page 592 (6 September 1904); Caldwell County Bridge Record, n.p. - both located at the Caldwell County Courthouse, Kingston MO; field inspection by Lon Johnson, 8 September 1990.

sign. rating: 38
evaluation: NRHP non-eligible (typical example of common structural type)

inventoried by: Michelle Crow-Dolby 7 July 1993

Tom Creek Bridge

CALD31

GENERAL DATA

structure no.: 324000.6
county: Caldwell

city/town: 1.0 mile north of Bonanza
feature inters.: Tom Creek
cadastral grid: S14, T56N, R27W
highway route: County Road 324
highway distr.: 1
current owner: Caldwell 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: 61.0'
roadway width: 11.7'

condition: fair
alterations: none
floor/decking : timber deck over steel stringers
other features: upper chord and upright end post: 2 channels with cover plate and lacing; lower chord: 2 angles with lacing (outer panels), 2 looped rectangular eyebars (inner panels); vertical: 4 angles with lacing; diagonal: 2 looped square eyebars; lateral bracing: round rod with threaded ends; floor beam: I-beam, U-bolted to lower chord pins; guardrail: single channel

HISTORICAL DATA

erection date: 1904
erection cost: $7900.00 (22-bridge contract)
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 Number 324000.6; Caldwell County Court Record, Book O: page 181 (1 May 1903), page 343 (4 November 1903) - located at the Caldwell County Courthouse, Kingston MO; field inspection by Lon Johnson, 8 September 1990.

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

inventoried by: Michelle Crow-Dolby 7 July 1993

Bonanza Bridge

CALD32

GENERAL DATA

structure no.: 324001.9
county: Caldwell

city/town: Bonanza
feature inters.: Shoal Creek
cadastral grid: S19, T56N, R27W
highway route: County Road 324
highway distr.: 1
current owner: Caldwell County

STRUCTURAL DATA

superstructure: wrought iron, 11-panel, pin-connected Whipple through truss
substructure: concrete-filled iron cylinder pier abutment with concrete backwalls (north); stone masonry abutment (south)

span number: 1
span length: 187.0'
total length: 187.0'
roadway width: 14.0'

condition: fair
alterations: partial replacement of substructure
floor/decking : timber/concrete deck over iron or 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 double lacing, 2 looped square rods at hip; diagonal: 2 punched rectangular eyebars; lateral bracing: round rod with threaded ends (top and bottom); floor beam: riveted plate girder, U-bolted to lower chord pins; guardrail: 2 channels

HISTORICAL DATA

erection date: 1883
erection cost: $6000.00 (approximate cost)
designer: unknown
fabricator : Carnegie Iron Company, Pittsburgh PA
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 324001.9; **The Hamiltonian**, 21 September 1883; **History of Caldwell and Livingston Counties, Missouri** (St. Louis: National Historical Company, 1886), page 254; Fraserdesign, "Bonanza Bridge: Preliminary Determination of NRHP Eligibility for the Missouri Historic Bridge Inventory," 25 September 1991; letter and enclosures from Richard Heisler, P.E., to Michael W. Weichman, dated 28 August 1991; field inspection by Lon Johnson, 8 September 1990.

sign. rating: 66
evaluation: NRHP eligible (exceptional, long-span example of now-rare structural type)

inventoried by: Clayton Fraser and Michelle Crow-Dolby 7 July 1993

Shoal Creek Bridge

CALD35

GENERAL DATA

structure no.: 341000.9
county: Caldwell

city/town: 1.6 miles northeast of Kingston
feature inters.: Shoal Creek
cadastral grid: S23, T56N, R28W
highway route: County Road 341
highway distr.: 1
current owner: Caldwell County

STRUCTURAL DATA

superstructure: steel or wrought iron, 7-panel, pin-connected Pratt through truss, with steel stringer approach spans
substructure: stone masonry abutments; concrete-filled iron cylinder piers; steel pile bent piers at approach spans

span number: 1
span length: 112.0'
total length: 168.0'
roadway width: 13.6'

condition: fair
alterations: none
floor/decking : timber deck over iron or 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 double lacing, looped round eyerod at hips; diagonal: 2 looped rectangular or square eyebars; lateral bracing: round rod with threaded ends; strut: one angle; portal strut: lattice, with knee braces; floor beam: variable depth "fishtail" plate girder, U-bolted to lower chord pins; guardrail: lattice

HISTORICAL DATA

erection date: c1890
erection cost: unknown
designer: unknown
fabricator : Carnegie Iron Company, Pittsburgh PA
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 341000.9; field inspection by Lon Johnson, 8 September 1990.

sign. rating: 34
evaluation: NRHP non-eligible (well-preserved, inadequately documented example of mainstay structural type)

inventoried by: Clayton Fraser and Michelle Crow-Dolby 7 July 1993

Cox Ford Bridge

CALD36

GENERAL DATA

structure no.: 342002.8
county: Caldwell

city/town: 3.5 miles east of Kingston
feature inters.: Shoal Creek
cadastral grid: S24, T56N, R28W
highway route: County Road 342
highway distr.: 1
current owner: Caldwell County

STRUCTURAL DATA

superstructure: wrought iron, 6-panel, pin-connected Pratt through truss, with steel stringer approach spans
substructure: concrete abutments and wingwalls; concrete-filled iron cylinder piers; steel pile bents piers at approach spans

span number: 1
span length: 114.0'
total length: 194.0'
roadway width: 14.5'

condition: fair
alterations: none
floor/decking : timber deck over iron or 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 double lacing, 2 looped round eyerods at hip; diagonal: 2 punched rectangular eyebars; counter: looped round eyerod with turnbuckle; lateral bracing: round rod with threaded ends (top and bottom); strut: 4 angles with lacing; floor beam: variable depth, "fishtail" plate girder; guardrail: 2 channels; portal builder's plate: **1888 / King Iron Bridge Company / Cleveland, O**

HISTORICAL DATA

erection date: 1888
erection cost: $4095.00 (contract amount)
designer: King Iron Bridge Company, Cleveland OH
fabricator : King Iron Bridge Company, Cleveland OH
contractor: King Iron Bridge Company, Cleveland OH

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 342002.8; **The Hamiltonian**, 17 April 1885, 23 April 1886, 17 February 1888, 6 April 1888, 25 May 1888, 22 June 1888; **History of Caldwell and Livingston Counties, Missouri** (St. Louis: National Historical Company, 1886), page 254; field inspection by Lon Johnson, 8 September 1990.

sign. rating: 53
evaluation: NRHP possibly eligible (well-preserved, well-documented example of mainstay structural type)

inventoried by: Clayton Fraser and Michelle Crow-Dolby 7 July 1993

Long Creek Bridge

CALD37

GENERAL DATA

structure no.: 349000.7
county: Caldwell

city/town: 2.1 miles south of Kingston
feature inters.: branch of Long Creek
cadastral grid: S33/34, T55/56N, R28W
highway route: County Road 349
highway distr.: 1
current owner: Caldwell County

STRUCTURAL DATA

superstructure: steel, 4-panel, rigid-connected 2-angle Pratt pony truss
substructure: concrete abutments and wingwalls

span number: 1
span length: 60.0'
total length: 60.0'
roadway width: 12.8'

condition: fair
alterations: none
floor/decking : concrete deck over steel stringers
other features: no guardrails

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 349000.7.

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

inventoried by: Michelle Crow-Dolby 7 July 1993

Log Creek Bridge

CALD38

GENERAL DATA

structure no.:	350000.8	city/town:	3.0 miles southwest of Kingston
county:	Caldwell	feature inters.:	Log Creek
		cadastral grid:	S31/6, T56/55N, R28W
		highway route:	County Road 350
		highway distr.:	1
		current owner:	Caldwell County

STRUCTURAL DATA

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

span number:	1	condition:	fair
span length:	54.0'	alterations:	none
total length:	112.0'	floor/decking :	timber deck
roadway width:	13.8'	other features:	steel angle guardrails

HISTORICAL DATA

erection date: c1915
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 350000.8.

sign. rating: 25
evaluation: NRHP non-eligible (typical example of common structural type, poorly documented)

inventoried by: Michelle Crow-Dolby 7 July 1993

Tub Creek Bridge

CALD39

GENERAL DATA

structure no.:	351001.3	**city/town:**	2.7 miles southwest of Kingston
county:	Caldwell	**feature inters.:**	Tub Creek
		cadastral grid:	S31, T56N, R28W
		highway route:	County Road 351
		highway distr.:	1
		current owner:	Caldwell County

STRUCTURAL DATA

superstructure: steel, 2-panel, rigid-connected lattice bedstead, with steel stringer approach spans

substructure: steel pile bent piers and abutments with timber back- and wingwalls

span number:	1	**condition:**	fair
span length:	24.0'	**alterations:**	none
total length:	56.0'	**floor/decking :**	timber deck
roadway width:	12.2'	**other features:**	unknown

HISTORICAL DATA

erection date: 1904

erection cost: $7900.00 (22-bridge contract)

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 Number 351001.3; Caldwell County Court Record, Book M: page 187 (7 June 1897); Book O: page 344 (4 November 1903) - located at the Caldwell County Courthouse, Kingston MO.

sign. rating: 47

evaluation: NRHP non-eligible (small-scale example of uncommon structural type)

inventoried by: Michelle Crow-Dolby 7 July 1993

Log Creek Bridge

CALD40

GENERAL DATA

structure no.: 353000.8
county: Caldwell

city/town: 1.4 miles southwest of Kingston
feature inters.: Log Creek
cadastral grid: S28/29, T56N, R28W
highway route: County Road 353
highway distr.: 1
current owner: Caldwell County

STRUCTURAL DATA

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

span number: 1
span length: 80.0'
total length: 80.0'
roadway width: 13.7'

condition: fair
alterations: unknown
floor/decking : timber deck
other features: steel angle guardrails

HISTORICAL DATA

erection date: 1908
erection cost: unknown
designer: Dildine Bridge Company, Cameron MO
fabricator : unknown
contractor: Dildine Bridge Company, Cameron MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 353000.8; Caldwell County Court Record, Book O: page 530 (4 August 1904); Book Q: page 182 (5 May 1908) - located at the Caldwell County Courthouse, Kingston MO.

sign. rating: 53
evaluation: NRHP possibly eligible (earliest dateable example in state of mainstay structural type)

inventoried by: Clayton Fraser and Michelle Crow-Dolby 7 July 1993

Shoal Creek Bridge

CALD41

GENERAL DATA

structure no.: 359000.8
county: Caldwell

city/town: 2.9 miles northwest of Kingston
feature inters.: Shoal Creek
cadastral grid: S17/18, T56N, R28W
highway route: County Road 359
highway distr.: 1
current owner: Caldwell County

STRUCTURAL DATA

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

span number: 1
span length: 124.0'
total length: 204.0'
roadway width: 12.3'

condition: fair
alterations: none
floor/decking : timber/concrete 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 looped square eyebars at hip; diagonal: 2 looped rectangular eyebars; counter: looped square eyebar with turnbuckle; lateral bracing: round rod with threaded ends (top and bottom); strut: 4 angles with double lacing; floor beam: I-beam, U-bolted to lower chord pins; guardrail: 2 channels; portal builder's plate: **1894 / John Dildine / and Co / Builders / Wmure / L.L. Frost / JM Loomis / CO / Judges**

HISTORICAL DATA

erection date: 1894
erection cost: unknown
designer: John Dildine and Company, Cameron MO
fabricator : unknown
contractor: John Dildine and Company, Cameron MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 359000.8; field inspection by Lon Johnson, 8 September 1990.

sign. rating: 52
evaluation: NRHP possibly eligible (well-preserved, relatively early example of mainstay structural type)

inventoried by: Clayton Fraser and Michelle Crow-Dolby 7 July 1993

Shoal Creek Bridge

CALD43

GENERAL DATA

structure no.:	368001.2	city/town:	4.8 miles northwest of Kingston
county:	Caldwell	feature inters.:	Shoal Creek
		cadastral grid:	S11/12, T56N, R28W
		highway route:	County Road 368
		highway distr.:	1
		current owner:	Caldwell County

STRUCTURAL DATA

superstructure: steel, 5-panel, rigid-connected Pratt pony truss, with steel stringer approach spans

substructure: concrete abutments, wingwalls and piers

span number:	1	condition:	fair
span length:	100.0'	alterations:	unknown
total length:	131.0'	floor/decking :	unknown
roadway width:	13.6'	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 368001.2.

sign. rating: 28
evaluation: NRHP non-eligible (typically configured, poorly documented example of common structural type)

inventoried by: Michelle Crow-Dolby 7 July 1993

Shoal Creek Bridge

CALD44

GENERAL DATA

structure no.: 372000.5
county: Caldwell

city/town: 3.9 miles of northwest of Kingston
feature inters.: Shoal Creek
cadastral grid: S12/7, T56N, R28W
highway route: County Road 372
highway distr.: 1
current owner: Caldwell County

STRUCTURAL DATA

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

span number: 1
span length: 120.0'
total length: 180.0'
roadway width: 13.7'

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 batten plates; diagonal: 2 punched rectangular eyebars; counter: 2 looped round eyerods with turnbuckles; lateral bracing: round rod with threaded ends at top and bottom; strut and floor beam: I-beam; guardrail: 2 angles

HISTORICAL DATA

erection date: 1901
erection cost: $1710.00 (contract amount)
designer: unknown
fabricator : Illinois Steel Company, Chicago IL
contractor: John H. Sparks, St. Joseph MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 372000.5; Caldwell County Court Record, Book N: page 403 (3 April 1901), page 415 (22 April 1901) - located at the Caldwell County Courthouse, Kingston MO; field inspection by Lon Johnson, 8 September 1990.

sign. rating: 46
evaluation: NRHP non-eligible (typically configured example of common structural type)

inventoried by: Clayton Fraser and Michelle Crow-Dolby 7 July 1993

Shoal Creek Bridge

CALD45

GENERAL DATA

structure no.:	383001.5	**city/town:**	9.0 miles southwest of Kidder
county:	Caldwell	**feature inters.:**	Shoal Creek
		cadastral grid:	S7, T56N, R29W
		highway route:	County Road 383
		highway distr.:	1
		current owner:	Caldwell County

STRUCTURAL DATA

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

span number:	1	**condition:**	fair
span length:	50.0'	**alterations:**	none
total length:	51.0'	**floor/decking :**	timber deck
roadway width:	13.6'	**other features:**	steel angle 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 383001.5.

sign. rating: 29
evaluation: NRHP non-eligible (typically configured, inadequately documented example of common structural type)

inventoried by: Michelle Crow-Dolby 7 July 1993

Long Creek Bridge

CALD46

GENERAL DATA

structure no.: 406000.6
county: Caldwell

city/town: 2.2 miles northwest of Polo
feature inters.: Long Creek
cadastral grid: S16, T55N, R28W
highway route: County Road 406
highway distr.: 1
current owner: Caldwell 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: 13.2'

condition: fair
alterations: none
floor/decking : concrete deck over steel stringers
other features: steel angle 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 406000.6.

sign. rating: 28
evaluation: NRHP non-eligible (typical example of common structural type, poorly documented)

inventoried by: Michelle Crow-Dolby 7 July 1993

Long Creek Bridge

CALD47

GENERAL DATA

structure no.:	407000.2	**city/town:**	1.0 mile northwest of Polo
county:	Caldwell	**feature inters.:**	Long Creek
		cadastral grid:	S17/20, T55N, R28W
		highway route:	County Road 407
		highway distr.:	1
		current owner:	Caldwell County

STRUCTURAL DATA

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

span number:	1	**condition:**	fair
span length:	60.0'	**alterations:**	none
total length:	60.0'	**floor/decking :**	concrete deck over steel stringers
roadway width:	11.6'	**other features:**	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 Number 407000.2.

sign. rating: 28
evaluation: NRHP non-eligible (typical example of common structural type, poorly documented)

inventoried by: Michelle Crow-Dolby 7 July 1993

Crooked River Bridge

CALD48

GENERAL DATA

structure no.:	442002.4	**city/town:**	5.7 miles southwest of Polo
county:	Caldwell	**feature inters.:**	Crooked River
		cadastral grid:	S34, T55N, R29W
		highway route:	County Road 442
		highway distr.:	1
		current owner:	Caldwell County

STRUCTURAL DATA

superstructure: steel, 4-panel, pin-connected Pratt pony truss
substructure: unknown

span number:	1	**condition:**	fair
span length:	80.0'	**alterations:**	none
total length:	118.0'	**floor/decking :**	timber deck
roadway width:	13.8'	**other features:**	steel angle guardrails

HISTORICAL DATA

erection date: c1915
erection cost: unknown
designer: unknown
fabricator : unknown
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 442002.4.

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

inventoried by: Michelle Crow-Dolby 7 July 1993

West Sheep Creek Bridge

CALD49

GENERAL DATA

structure no.:	028000.8	city/town:	0.5 mile east of Barwick
county:	Caldwell	feature inters.:	West Sheep Creek
		cadastral grid:	S26/35, T57N, R29W
		highway route:	County Road 28
		highway distr.:	1
		current owner:	Caldwell County

STRUCTURAL DATA

superstructure: steel deck girder
substructure: concrete abutments and wingwalls

span number:	1	condition:	fair
span length:	35.0'	alterations:	none
total length:	36.0'	floor/decking :	concrete deck
roadway width:	15.8'	other features:	steel angle guardrails

HISTORICAL DATA

erection date: 1922
erection cost: $7,057.86 (five-bridge contract)
designer: Missouri State Highway Department
fabricator : unknown
contractor: Bean and Company, St. Joseph MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 442002.4; Missouri State Highway Board, **Third Biennial Report**: 1921-1922, page 137.

sign. rating: 36
evaluation: NRHP possibly eligible (earliest dateable example in state of this MSHD beam-bridge design)

inventoried by: Michelle Crow-Dolby 7 July 1993

HAER INVENTORY

Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Brushy Creek Bridge
MHTD: 023002.0

CALD04

DATE(S) OF CONSTRUCTION
1904

LOCATION
County Road 23 over Brushy Creek; S28/33, T57N, R29W
5.5 miles northeast of Kidder; Caldwell County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 42)

CONDITION
fair

OWNER
Caldwell County

span number:	1	superstructure:	steel, 6-panel, pin-connected Pratt bedstead
span length:	80.0'	substructure:	concrete abutments and wingwalls
total length:	80.0'	floor/decking:	timber deck
roadway wdt.:	11.4'	other features:	upper chord and upright end post: 2 channels with cover plate and lacing; lower chord: 2 channels with cover plate, 2 punched rectangular eyebars; vertical: 4 angles with lacing; diagonal: 1 looped square eyebar with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, field-bolted to vertical; guardrail: steel lattice

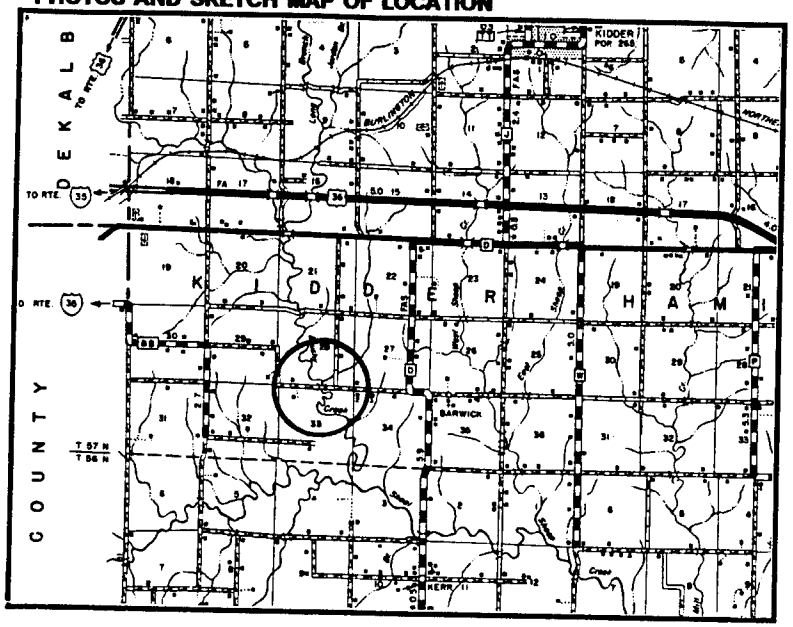
Located in Kidder Township, this long-span steel truss carries a gravel-surfaced county road over Brushy Creek. The structure is comprised of a pinned bedstead, supported by concrete abutments. The Brushy Creek Bridge was one of 22 bridges erected in Caldwell County from a single contract let in November 1903. The bridges had been surveyed by the county road and bridge commissioner that spring and a contract let to the Canton Bridge Company for $8990.00 to fabricate and build all 22 spans. For some reason this contract was never executed, however, and a second contract was signed with the Canton, Ohio, bridge firm in November for a thousand dollars less. Canton used steel components rolled in Pittsburgh by the Cambria steel works to fabricate this 80-foot bedstead, erecting it over Brushy Creek northeast of Kidder in 1904. The Brushy Creek Bridge has functioned in place since that time, with no major alterations and minimal maintenance.

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 1890s and early 1900s. Hundreds remain in place today; in fact Missouri has probably more bedsteads than any other state. The Brushy Creek Bridge is a long-span, though not particularly distinguished, example of this statewide bridge construction trend.

NAME(S) OF STRUCTURE

Brushy 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. 023002.0; Caldwell County Court Record, Book O: page 181 (1 May 1903), page 344 (4 November 1903) - located at the Caldwell County Courthouse, Kingston MO; field inspection by Lon Johnson, 8 September 1990.

INVENTORIED BY

Clayton Fraser and Michelle Crow-Dolby

AFFILIATION

Fraserdesign, Loveland CO

DATE

7 July 1993

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Sheep Creek Bridge
MHTD: 032000.2

CALD05

DATE(S) OF CONSTRUCTION
1904

LOCATION
County Road 32 over Sheep Creek; S36/1, T57/56N, R29W
5.5 miles southeast of Hamilton; Caldwell County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 44)

CONDITION
fair

OWNER
Caldwell County

span number:	1	superstructure:	steel, 5-panel, pin-connected, Pratt bedstead
span length:	70.0'	substructure:	steel pile bent piers with timber wingwalls
total length:	72.0'	floor/decking:	timber deck
roadway wdt.:	14.0'	other features:	upper chord and upright end post: 2 channels with cover and batten plates; lower chord: 2 angles with batten plate at outriders, forged eye-bars; vertical: 4 angles with lacing; diagonal: square rods, round rods with threaded ends at center panel; lateral bracing: round rods with threaded ends; stringer and floor beam: I-beam; guardrail: steel lattice

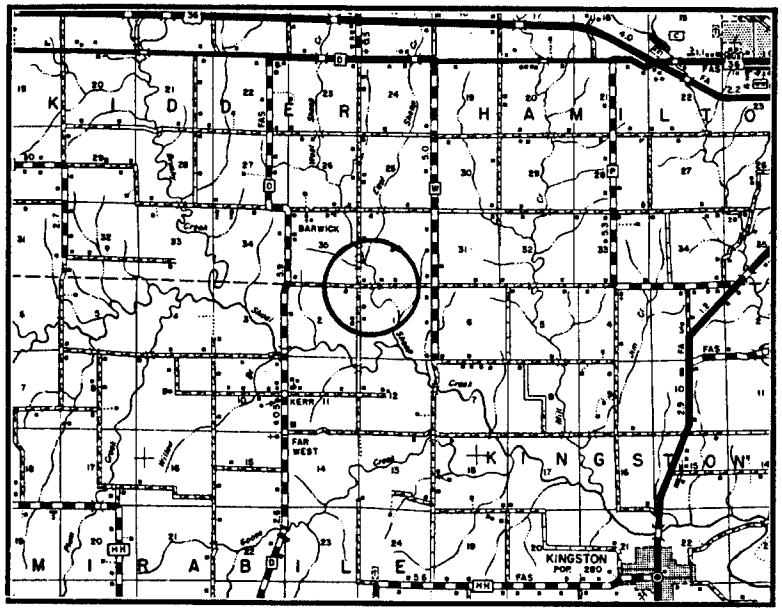
On September 6, 1904, the Caldwell County Court executed a contract with J.H. Sparks of St. Joseph, Missouri, for the erection of a 70-foot truss between Kidder and Mirabile Townships in the northwestern part of the county. The truss - a pin-connected bedstead on 18-foot legs - would span Sheep Creek southeast of Hamilton. Sparks utilized steel components rolled in Pittsburgh by the Cambria Steel Company for the span, erecting it later that year for $940.00. The Sheep Creek Bridge has carried vehicular traffic since, with the subsequent replacement of its truss legs with concrete abutments as the most serious alteration.

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 late 1890s and early 1900s. Hundreds remain in place today -in fact, Missouri has probably more bedsteads than any other state. The Sheep Creek Bridge is a typically configured example of this statewide bridge construction trend.

NAME(S) OF STRUCTURE

Sheep 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 032000.2; Caldwell County Court Record, Book O: page 592 (6 September 1904); Caldwell County Bridge Record, n.p. - both located at the Caldwell County Courthouse, Kingston MO; field inspection by Lon Johnson, 8 September 1990.

INVENTORIED BY	AFFILIATION	DATE
Clayton Fraser and Michelle Crow-Dolby	Fraserdesign, Loveland CO	7 July 1993

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Tom Creek Bridge
MHTD: 075001.2

CALD07

DATE(S) OF CONSTRUCTION
1904

LOCATION
County Road 75 over Tom Creek; S22/27, T57N, R28W
2.4 miles southwest of Hamilton; Caldwell County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 40)

CONDITION
fair

OWNER
Caldwell County

span number:	1	superstructure:	steel, 3-panel, pin-connected Pratt bedstead
span length:	50.0'	substructure:	steel pile bent piers with timber wingwalls
total length:	50.0'	floor/decking:	timber deck over steel stringers
roadway wdt.:	11.6'	other features:	upper chord and upright end post: 2 channels with cover plate and lacing; lower chord: 2 angles with lacing; vertical: 4 angles with lacing; diagonal: 2 looped square eyebars; lateral bracing: round rod with threaded ends; floor beam: I-beam, field-bolted to verticals; guardrail: one angle

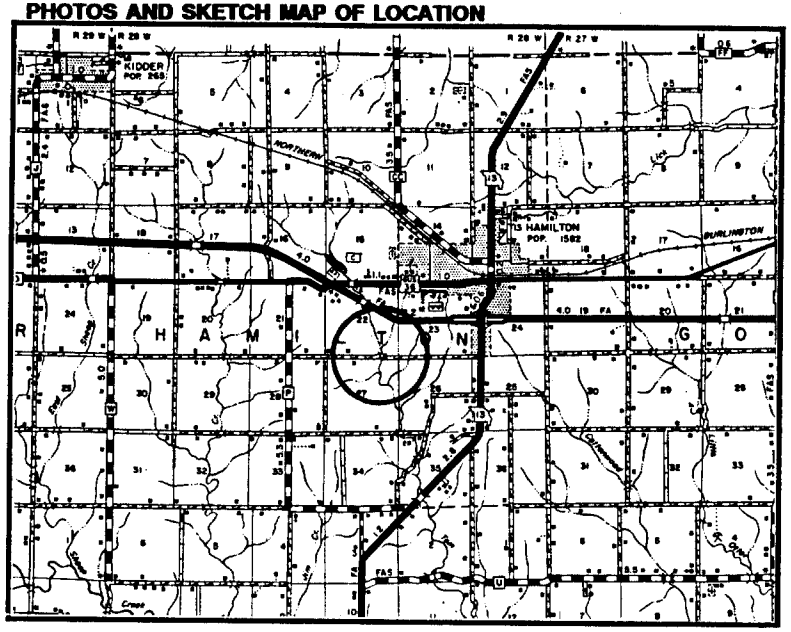
Located in Hamilton Township, this medium-span steel truss carries a gravel-surfaced county road over Tom Creek. The structure is comprised of a pinned bedstead, supported by concrete abutments. The Tom Creek Bridge was one of 22 bridges erected in Caldwell County from a single contract let in November 1903. The bridges had been surveyed by the county road and bridge commissioner that spring and a contract let to the Canton Bridge Company for $8990.00 to fabricate and build all 22 spans. For some reason this contract was never executed, however, and a second contract was signed with the Canton, Ohio, bridge firm in November for a thousand dollars less. Canton used steel components rolled in Pittsburgh by the Cambria steel works to fabricate this 80-foot bedstead, erecting it over Tom Creek east of Kidder in 1904. The Brushy Creek Branch Bridge has functioned in place since that time, with no major alterations and minimal maintenance.

The Canton Bridge Company, fabricator for this medium-span bestead, maintained an extensive list of standard truss types and was extensively involved in Missouri bridge construction after the turn of the century. The bedstead truss, as built by Canton and others incorporated a single "leg" at each of the four corners, which acted as both end post and substructural support. 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 bedsteads were erected throughout Missouri in the 1890s and early 1900s. Hundreds remain in place today -in fact, Missouri has probably more bedsteads than any other state. The Tom Creek Bridge is a typically configured example of this statewide bridge construction trend.

NAME(S) OF STRUCTURE

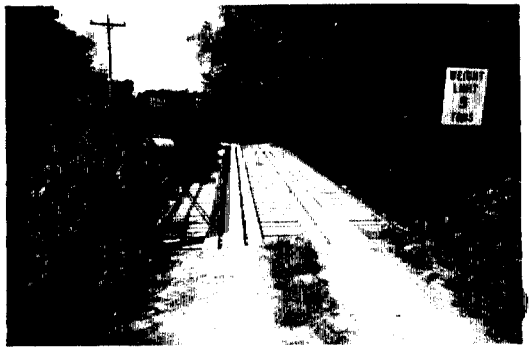
Tom Creek Bridge

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 075001.2; Caldwell County Court Record, Book O: page 181 (1 May 1903), pages 341-2 (4 November 1903) - located at the Caldwell County Courthouse, Kingston MO; field inspection by Lon Johnson, 8 September 1990.

INVENTORIED BY	AFFILIATION	DATE
Clayton Fraser and Michelle Crow-Dolby	Fraserdesign, Loveland CO	7 July 1993

HAER INVENTORY

Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Henkin's Ford Bridge
MHTD: 181001.9

CALD13

DATE(S) OF CONSTRUCTION
1887

LOCATION
County Road 181 over Shoal Creek; S8/9, T56N, R26W
3.0 miles east of Proctorville; Caldwell County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP eligible (score: 72)

CONDITION
fair

OWNER
Caldwell County

span number: 1
span length: 125.0'
total length: 195.0'
roadway wdt.: 14.0'

superstructure: wrought iron, 10-panel, pin-connected Warren through truss, with steel stringer approach spans

substructure: concrete abutments and wingwalls; concrete-filled iron cylinder piers; pile bent piers at approach spans

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 looped round eyerods; diagonal: 2 channels with cover and batten plates, 22 looped square eyebars; strut: I-beam; floor beam: riveted plate girder, U-bolted from lower chord pins; guardrail: lattice

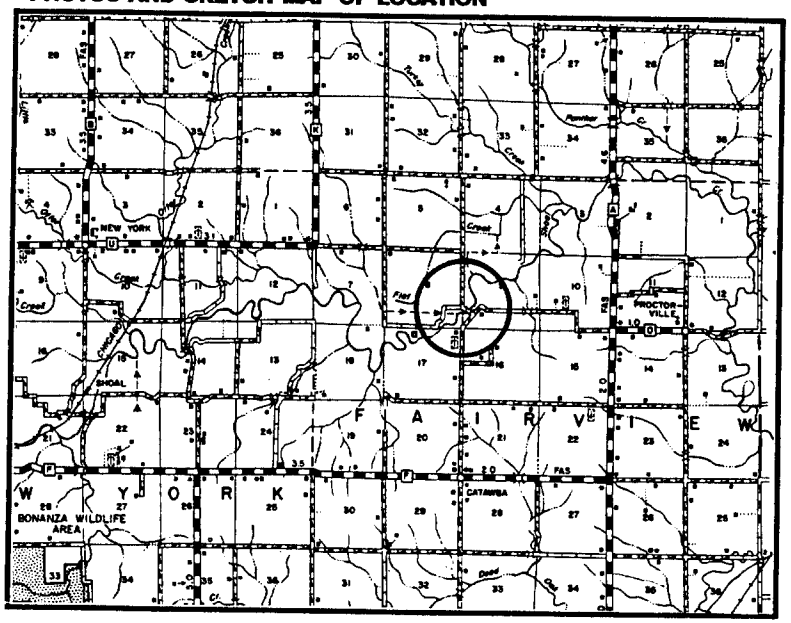
One of Caldwell County's earliest county road crossing sites was Henkin's Ford, located some three miles west of Proctorville in Fairview Township. In 1870 a 140-foot timber truss was built here - only the second major span built in the county. By the late 1880s, however, the timber span was showing signs of wear, and the county court moved to replace it. At their request, County Surveyor W.J. Boyd inspected the site and made estimates for a new structure in May 1887. Boyd solicited competitive proposals for the new span the following month, and in July a contract for its fabrication and erection was awarded to the King Bridge Company for $2698.00. The Cleveland-based bridge giant used a pin-connected Warren truss configuration for the bridge, erecting the 125-foot span on iron tubular piers in 1887. In January 1888, King was paid for the completion of the Henkin's Ford Bridge across Shoal Creek and a shorter span over Mud Creek near Braymer [CALD14]. Since its completion, the Henkin's Ford Bridge has functioned in place, with the replacement of its abutments and approach spans as the most serious alterations to date.

The Pratt and Warren truss configurations were both developed in the 1840s, but it was the Pratt that received the most widespread use in the late 19th century. The reasons for this probably relate to the versatility of the pin-connected Pratt for different spans lengths and its easier erection using timber falseworks. Relatively few pinned Warren trusses were ever built in Missouri and only a couple remain in use today - both in Caldwell County - with the Henkin's Ford Bridge being the longer. Thus, this structure is distinguished as a well-preserved example of a rare 19th century truss type.

NAME(S) OF STRUCTURE

Henkin'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 181001.9; **The Hamiltonian**, 13 May 1887, 22 July 1887, 13 January 1888; **History of Caldwell and Livingston Counties, Missouri** (St. Louis: National Historical Company, 1886), page 254; field inspection by Clayton Fraser and John Roberts, 14 October 1993.

INVENTORIED BY

Clayton Fraser and Michelle Crow-Dolby

AFFILIATION

Fraserdesign, Loveland CO

DATE

7 July 1993

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Mud Creek Bridge
MHTD: 204001.2

CALD14

DATE(S) OF CONSTRUCTION
1887

LOCATION
County Road 204 over Mud Creek; S36, T56/55N, R26W
2.0 miles northeast of Braymer; Caldwell County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 67)

CONDITION
fair

OWNER
Caldwell County

span number:	1	superstructure:	wrought iron, 6-panel, pin-connected Warren through truss
span length:	90.0'	substructure:	concrete abutments and wingwalls
total length:	90.0'	floor/decking:	timber deck
roadway wdt.:	13.6'	other features:	upper chord and inclined end post: 2 channels with cover and batten plates; lower chord: 2 punched rectangular eyebars; diagonal: 2 channels with cover and batten plates, 2 looped square eyebars; lateral bracing: round rod with threaded ends; strut: 2 angles; floor beam: I-beam, U-bolted to lower chord pins; guardrail: 2 angles

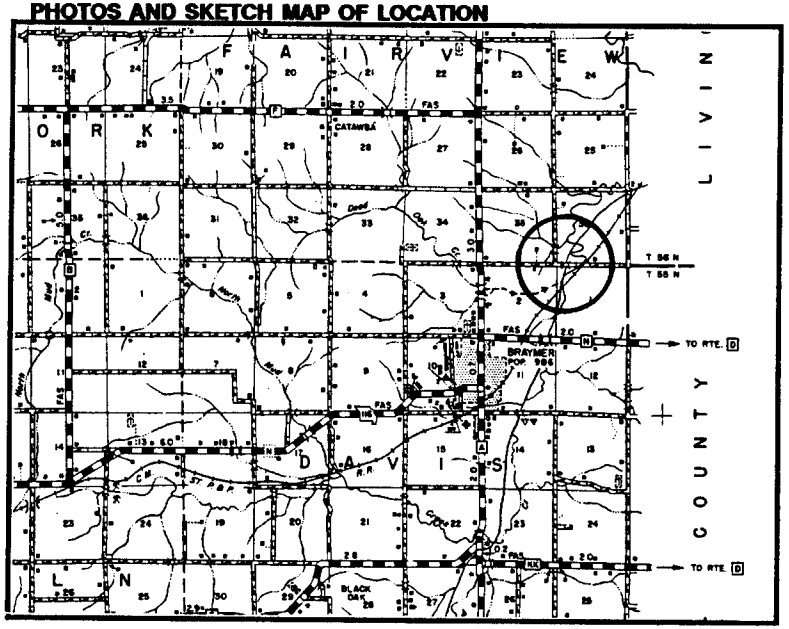
Located two miles northeast of Braymer, this short-span through carries an unpaved county road across Mud Creek in Davis Township. The structure consists of a single pin-connected Warren truss, supported by concrete abutments. The Mud Creek Bridge is one of two such pinned Warren spans erected for the county in 1887 by the King Bridge Company of Cleveland, Ohio [other: **CALD13**]. Completed by January 1888, the Mud Creek Bridge has since carried vehicular traffic to the present. Its original substructure has been replaced with concrete, possibly as a part of an extensive bridge construction program undertaken in 1903. Other than this alteration, the structure remains physically intact.

The Mud Creek Bridge employs a classic Warren truss configuration, with a web that relies on simple triangulation for its rigidity. "The term Warren truss or Warren girder was originally applied only to the particular use of the Triangular truss in which the web triangles are all equilateral; but later writers generally use the name for any triangular truss," noted bridge engineer J.A.L. Waddell wrote in his 1916 treatise **Bridge Engineering**. "As there is no special advantage in making the web triangles equilateral, there does not appear to be any good raison d'etre for the use of the true Warren type." In a state dominated by bowstrings and Pratt trusses in the 1870s and early 1880s, relatively few Warren trusses were built. Only a couple of such bridges survive in Missouri to the present, both erected in Caldwell County in 1887. Built by the one of the nation's most prolific bridge builders, it is an important early transportation-related resource.

NAME(S) OF STRUCTURE

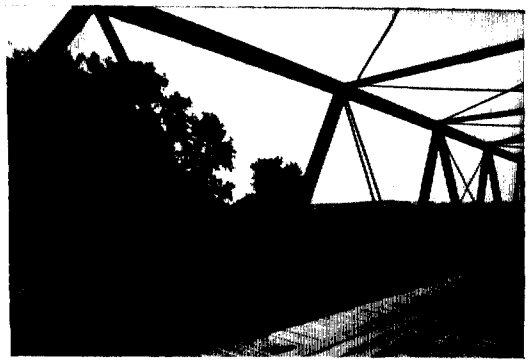
Mud Creek Bridge

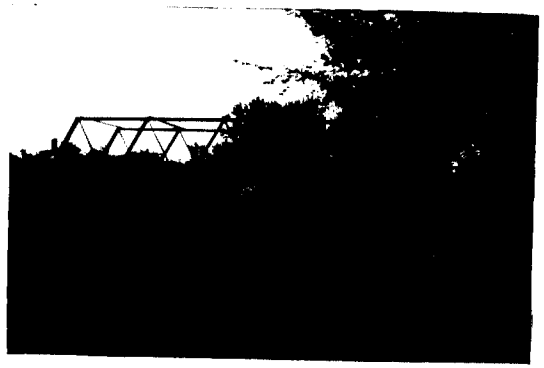
PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT GENERAL HIGHWAY MAP





SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 204001.2; **The Hamiltonian**, 13 May 1887, 22 July 1887, 13 January 1888; **History of Caldwell and Livingston Counties, Missouri** (St. Louis: National Historical Company, 1886), page 254; Caldwell County Court Record, Book O: page 181 (1 May 1903) - located at the Caldwell County Courthouse, Kingston MO; field inspection by Clayton Fraser and John Roberts, 14 October 1993.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton Fraser and Michelle Crow-Dolby	Fraserdesign, Loveland CO	7 July 1993

HAER INVENTORY

Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
North Mud Creek Bridge
MHTD: 279001.5

CALD23

DATE(S) OF CONSTRUCTION
1904

LOCATION
County Road 279 over North Mud Creek; S4/9, T55N, R27W
2.5 miles north of Cowgill; Caldwell County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 38)

CONDITION
fair

OWNER
Caldwell County

span number:	1	superstructure:	steel, 3-panel, pin-connected Pratt bedstead
span length:	48.0'	substructure:	concrete abutments and wingwalls
total length:	48.0'	floor/decking:	timber deck over steel stringers
roadway wdt.:	13.3'	other features:	upper chord and upright end post: 2 channels with cover and batten plates; lower chord: 2 angles with batten plate (outer panels), 2 looped rectangular eyebars (middle panel); vertical: 4 angles with lacing; diagonal: 2 looped square eyebars; floor beam: I-beam, U-bolted to lower chord pins; guardrail: lattice

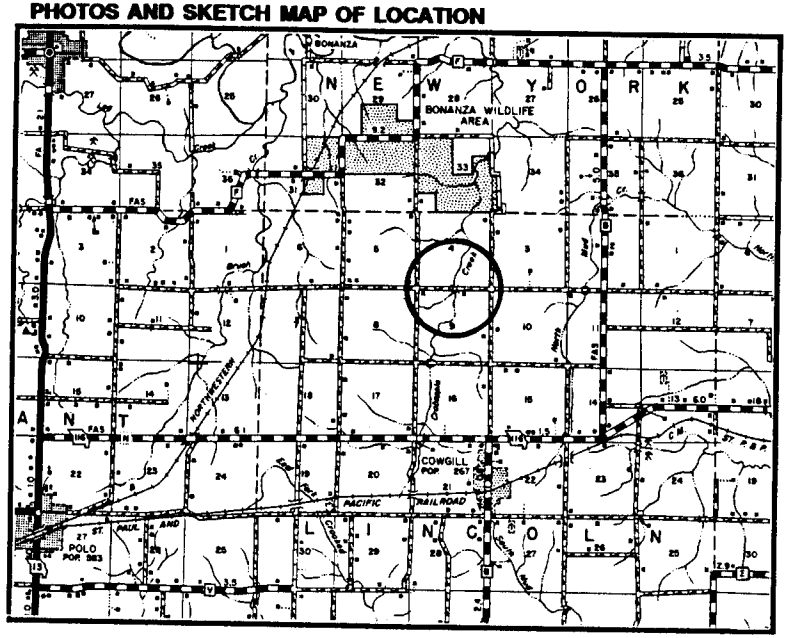
Carrying County Road 279 in south-central Caldwell County north of Cowgill, this bridge spans North Mud Creek. Configured as a single-span pin-connected Pratt bedstead, the truss is supported by a concrete substructure. Preceding this truss was a crossing which dates to 1902. In June of that year county officials entered into a contract with Dildine Bridge Company of Cameron to erect a bridge at this location. The bridge, costing $329.00, however was short-lived. Only two years later, in September of 1904, county officials were letting a contract to St. Joseph-based John H. Sparks for a 48-foot bedstead crossing North Mud Creek. The cost of the bridge was $580.00. Since its completion in 1904, the North Mud Creek Bridge has carried intermittent traffic with no major alterations of note.

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 late 1890s and early 1900s. Hundreds remain in place today -in fact, Missouri has probably more bedsteads than any other state. The Tom Creek Bridge is a well-preserved, though not particularly distinguished, example of this statewide bridge construction trend.

NAME(S) OF STRUCTURE

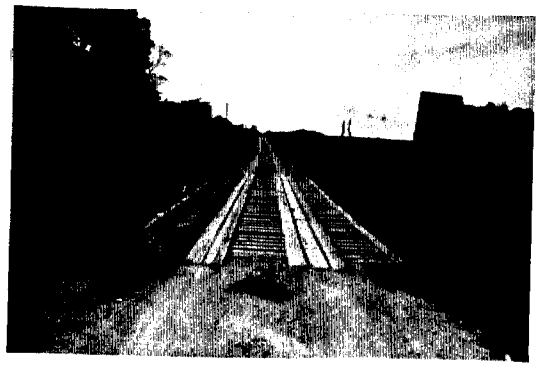
North Mud Creek Bridge

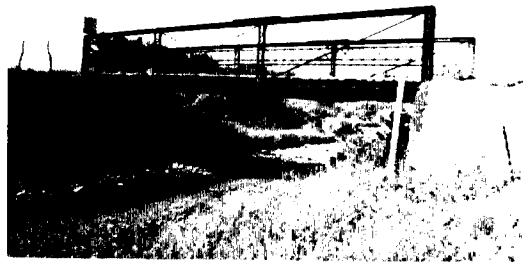
PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT GENERAL HIGHWAY MAP





SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 279001.5; Caldwell County Court Record, Book O: n.p. (12 June 1902), page 591 (6 September 1904) - located at the Caldwell County Courthouse, Kingston MO; field inspection by Lon Johnson, 8 September 1990.

INVENTORIED BY

Clayton Fraser and Michelle Crow-Dolby

AFFILIATION

Fraserdesign, Loveland CO

DATE

7 July 1993

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
North Mud Creek Bridge
MHTD: 295000.8

CALD24

DATE(S) OF CONSTRUCTION
1904-05

LOCATION
County Road 295 over North Mud Creek; S35/36, T56N, R27W
4.5 miles northeast of Cowgill; Caldwell County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 47)

CONDITION
fair

OWNER
Caldwell County

span number:	1	superstructure:	steel, 3-panel, pin-connected Pratt bedstead
span length:	54.0'	substructure:	bedstead legs with stone backwall; concrete abutments and wingwalls
total length:	54.0'	floor/decking:	timber deck over steel stringers
roadway wdt.:	13.8'	other features:	upper chord and upright end post: 2 channels with cover and batten plates; lower chord: 2 angles with batten plates (outer panes), 2 looped rectangular eyebars (inner panel); vertical: 4 angles with lacing; lateral bracing: round rod with threaded ends; floor beam: I-beam, U-bolted to lower chord pins; guardrail: lattice

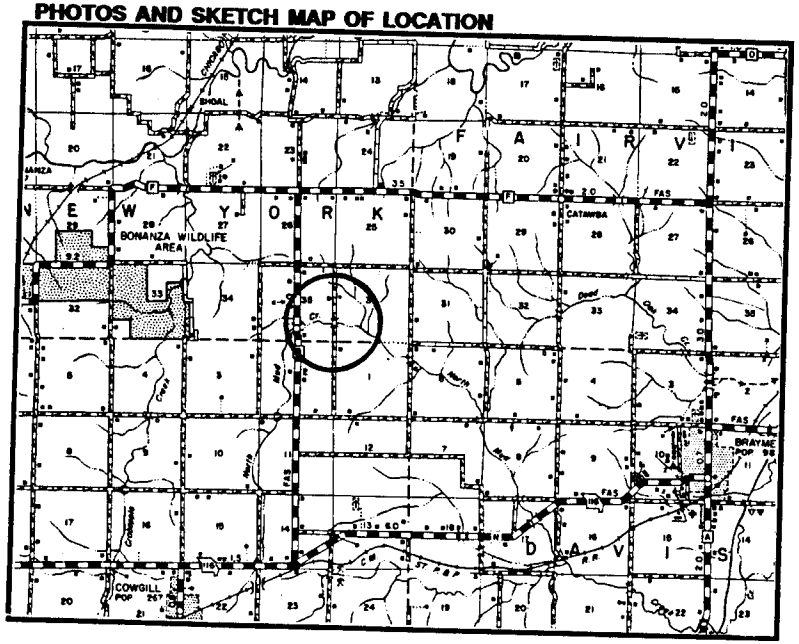
Carrying County Road 295 in central Caldwell County northeast of Cowgill, this bridge spans North Mud Creek. Configured as a single-span pin-connected Pratt bedstead, the truss is supported by a stone and concrete substructure. The history of this truss dates to 1904. In September of that year, county court officials let a contract to John H. Sparks of St. Joseph for the erection of a bridge at this location. The contract amount for the project was $644.00. The North Mud Creek Bridge, since its construction in 1905, has carried local traffic with no major structural alterations for almost ninety 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 late 1890s and early 1900s. Hundreds remain in place today -in fact, Missouri has probably more bedsteads than any other state. The North Mud Creek Bridge is a well-preserved, though not particularly distinguished, example of this statewide bridge construction trend.

NAME(S) OF STRUCTURE

North Mud 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 295000.8; Caldwell County Court Record, Book O: page 592 (6 September 1904); Caldwell County Bridge Record, n.p. - both located at the Caldwell County Courthouse, Kingston MO; field inspection by Lon Johnson, 8 September 1990.

INVENTORIED BY

Clayton Fraser and Michelle Crow-Dolby

AFFILIATION

Fraserdesign, Loveland CO

DATE

7 July 1993

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Otter Creek Bridge
MHTD: 303000.4

CALD26

DATE(S) OF CONSTRUCTION
1875

LOCATION
County Road 303 over Otter Creek; S11, T56N, R27W
6.0 miles east of Proctorville; Caldwell County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / closed

RATING NRHP eligible (score: 76)

CONDITION
fair

OWNER
Caldwell County

span number:	1	superstructure:	wrought iron, 10-panel, bolted Bowstring through arch-truss
span length:	120.0'	substructure:	timber pile bent abutments and wingwalls
total length:	unknown	floor/decking:	timber deck over steel or iron stringers
roadway wdt.:	unknown	other features:	upper chord: 2 channels with cover plate and double lacing; lower chord: 2 rectangular eyebars, spliced; vertical: star iron; diagonal: round rod with threaded ends; lateral bracing: round rod with threaded ends (top and bottom); strut: pipe; floor beam: riveted plate girder, U-bolted to lower chords; outrider: star iron

Like virtually all of Missouri's counties, Caldwell County followed a definite progression in its bridge construction in the 19th century, in response to evolving transportation needs and technological development in the bridge industry. The first simple spans, built as the county was undergoing its initial settlement, were rudimentary timber structures. These were cheap and easy to build but lacking in durability and limited in span length. With greater revenues from increased settlement, the county could undertake more ambitious timber/iron combination trusses in the 1860s and 1870s. These, in turn, were superseded in the mid-1870s by all-iron spans, made readily available by mass production. Although the county court barely noticed the transition from iron to steel in the 1890s, this evolution marked a watershed that would continue into the 20th century for bridge fabricators and the rolling mills that supplied them. Only one of the earliest iron spans remains in place in the county: this medium-span bowstring arch-truss that spans Otter Creek in New York Township. According to an 1886 history of Caldwell County, the Otter Creek Bridge was erected at this rural crossing east of Proctorville in 1875 for an approximate cost of $4000.00. The fabricator is not reported, but physical attributes of the arch itself suggest that it was built by the Missouri Valley Bridge and Iron Works of Leavenworth, Kansas. The Otter Creek carried traffic for over a hundred years, with only maintenance-related repairs, until its more recent closure to traffic. Today it stands at the end of a vacated county road.

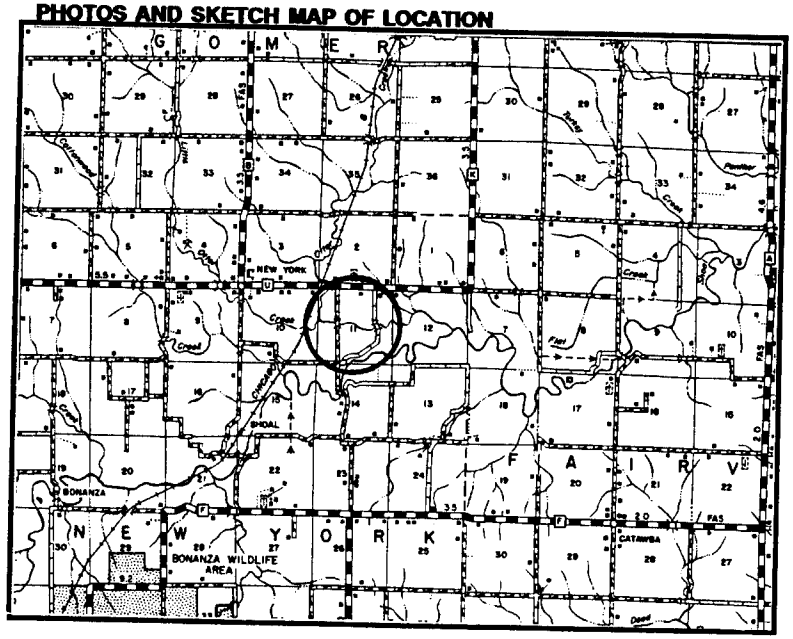
The bowstring arch-truss was the iron span of choice for Missouri counties in the late 1860s and 1870s. Marketed extensively throughout the Midwest by such industry giants as the King Iron Bridge and Manufacturing Company, the Wrought Iron Bridge Company and the Missouri Valley Bridge and Iron Works, these often-patented bridge forms featured a wide range of span lengths, economical fabrication costs 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 Missouri 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 a handful remains in place. Caldwell County's first all-iron span, the Otter Creek Bridge is thus technologically significant as a well-preserved, now-rare example in the state of what was once a mainstay structural type.

NAME(S) OF STRUCTURE

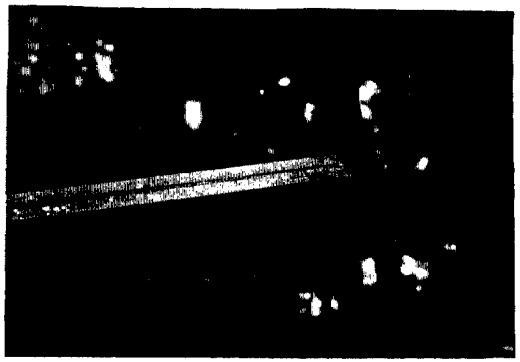
Otter Creek Bridge

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 303000.4; **History of Caldwell and Livingston Counties, Missouri** (St. Louis: National Historical Company, 1886), page 254; field inspection by Lon Johnson, 8 September 1990.

INVENTORIED BY

Clayton Fraser and Michelle Crow-Dolby

AFFILIATION

Fraserdesign, Loveland CO

DATE

7 July 1993

HAER INVENTORY

Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Cottonwood Creek Bridge
MHTD: 316000.7

CALD30

DATE(S) OF CONSTRUCTION
1904

LOCATION
County Road 316 over Cottonwood Creek; S8/9, T56N, R27W
2.5 miles northeast of Bonanza; Caldwell County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 38)

CONDITION
fair

OWNER
Caldwell County

span number:	1	superstructure:	steel, 3-panel, pin-connected Pratt bedstead
span length:	48.0'	substructure:	truss leg abutments with timber back- and wingwalls
total length:	48.0'	floor/decking:	timber deck over steel stringers
roadway wdt.:	13.8'	other features:	upper chord and upright end post: 2 channels with cover and batten plates; lower chord: 2 angles with batten plate (outer panels), 2 looped rectangular eyebars (inner panel); vertical: 4 angles with lacing; diagonal: 2 looped square eyebars; lateral bracing: round rod with threaded ends; floor beam: I-beam, U-bolted to lower chord pins; guardrail: 2 angles

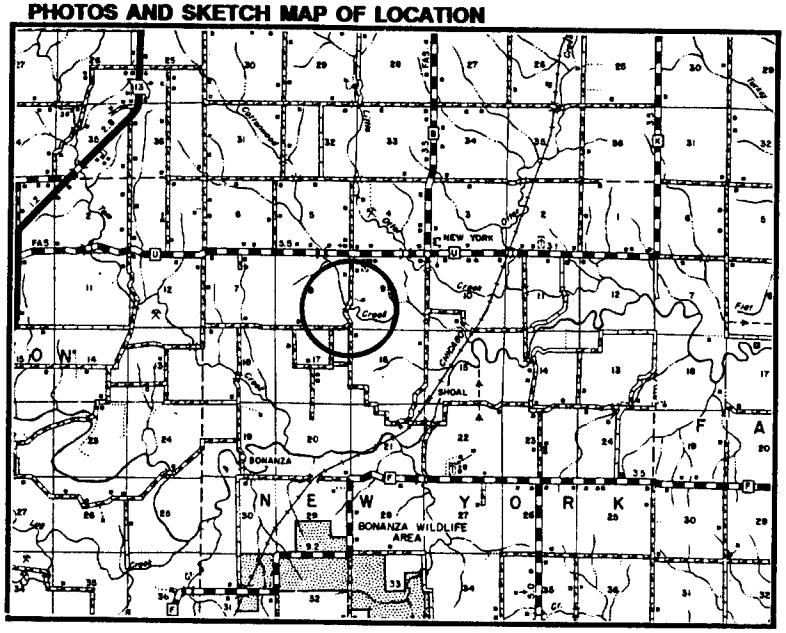
Carrying County Road 316 in central Caldwell County northeast of Bonanza, this bridge spans Cottonwood Creek. Configured as a single-span pin-connected Pratt bedstead, the truss is supported by a steel and timber substructure. Preceding this truss was a crossing which dates to 1902. In June of that year county officials entered into a contract with John H. Sparks to erect a bridge at this location. The bridge, costing $125.00, however, was short-lived. Only two years later, in September of 1904, county officials were again contracting with Sparks for a 48-foot bedstead crossing Cottonwood Creek. The cost of the bridge had increased to $579.00. Since its completion in 1904, the Cottonwood Creek has carried intermittent traffic with no major alterations of note.

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 late 1890s and early 1900s. Hundreds remain in place today -in fact, Missouri has probably more bedsteads than any other state. The Cottonwood Creek Bridge is a well-preserved, though not particularly distinguished, example of this statewide bridge construction trend.

NAME(S) OF STRUCTURE

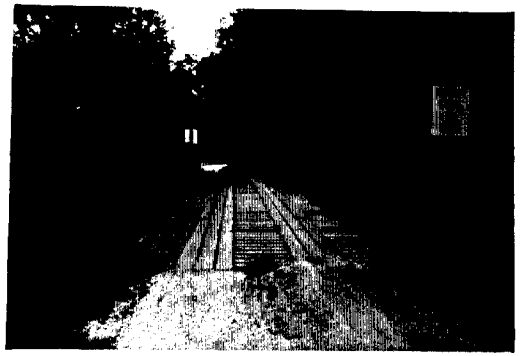
Cottonwood Creek Bridge

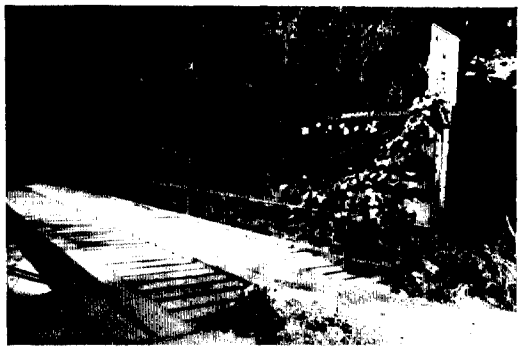
PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT GENERAL HIGHWAY MAP





SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 316000.7; Caldwell County Court Record, Book O: n.p. (12 June 1902), page 592 (6 September 1904); Caldwell County Bridge Record, n.p. - both located at the Caldwell County Courthouse, Kingston MO; field inspection by Lon Johnson, 8 September 1990.

INVENTORIED BY	AFFILIATION	DATE
Clayton Fraser and Michelle Crow-Dolby	Fraserdesign, Loveland CO	7 July 1993

HAER INVENTORY

Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Tom Creek Bridge
MHTD: 324000.6

CALD31

DATE(S) OF CONSTRUCTION
1904

LOCATION
County Road 324 over Tom Creek; S14, T56N, R27W
1.0 mile north of Bonanza; Caldwell County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 44)

CONDITION
fair

OWNER
Caldwell County

span number:	1	superstructure:	steel, 4-panel, pin-connected Pratt bedstead
span length:	60.0'	substructure:	concrete abutments and wingwalls
total length:	61.0'	floor/decking:	timber deck over steel stringers
roadway wdt.:	11.7'	other features:	upper chord and upright end post: 2 channels with cover plate and lacing; lower chord: 2 angles with lacing (outer panels), 2 looped rectangular eyebars (inner panels); vertical: 4 angles with lacing; diagonal: 2 looped square eyebars; lateral bracing: round rod with threaded ends; floor beam: I-beam, U-bolted to lower chord pins; guardrail: single channel

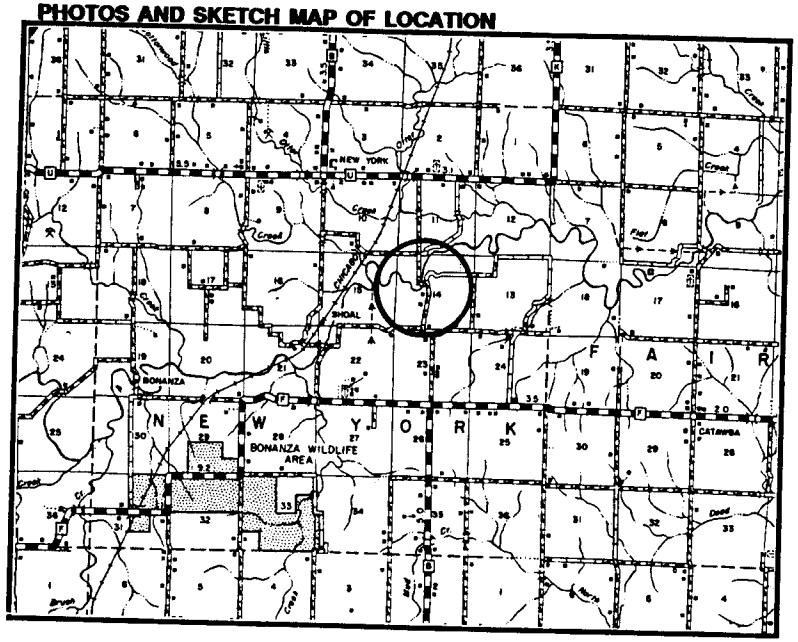
Located in New York Township, this medium-span steel truss carries a gravel-surfaced county road over Tom Creek. The structure is comprised of a pinned bedstead, supported by concrete abutments. The Tom Creek Bridge was one of 22 bridges erected in Caldwell County from a single contract let in November 1903. The bridges had been surveyed by the county road and bridge commissioner that spring and a contract let to the Canton Bridge Company for $8990.00 to fabricate and build all 22 spans. For some reason this contract was never executed, however, and a second contract was signed with the Canton, Ohio, bridge firm in November for a thousand dollars less. Canton used steel components rolled in Pittsburgh by the Cambria steel works to fabricate this 60-foot bedstead, erecting it over Tom Creek a mile north of Bonanza in 1904. The Tom Creek Bridge has functioned in place since that time, with no major alterations and minimal maintenance.

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 late 1890s and early 1900s. Hundreds remain in place today -in fact, Missouri has probably more bedsteads than any other state. The Tom Creek Bridge is a well-preserved, though not particularly distinguished, example of this statewide bridge construction trend.

NAME(S) OF STRUCTURE

Tom 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 324000.6; Caldwell County Court Record, Book O: page 181 (1 May 1903), page 343 (4 November 1903) - located at the Caldwell County Courthouse, Kingston MO; field inspection by Lon Johnson, 8 September 1990.

INVENTORIED BY

Clayton Fraser and Michelle Crow-Dolby

AFFILIATION

Fraserdesign, Loveland CO

DATE

7 July 1993

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Bonanza Bridge
MHTD: 324001.9

CALD32

DATE(S) OF CONSTRUCTION
1883

LOCATION
County Road 324 over Shoal Creek; S19, T56N, R27W
Bonanza; Caldwell County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP eligible (score: 66)

CONDITION
fair

OWNER
Caldwell County

span number: 1
span length: 187.0'
total length: 187.0'
roadway wdt.: 14.0'

superstructure: wrought iron, 11-panel, pin-connected Whipple through truss
substructure: concrete-filled iron cylinder pier abutment with concrete backwalls (north); stone masonry abutment (south)
floor/decking: timber/concrete deck over iron or 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 double lacing, 2 looped square rods at hip; diagonal: 2 punched rectangular eyebars; lateral bracing: round rod with threaded ends (top and bottom); floor beam: riveted plate girder, U-bolted to lower chord pins; guardrail: 2 channels

One of the more significant bridges included in Missouri's statewide historic bridge inventory is this long-span truss located just south of Bonanza, in central Caldwell County. Configured as a pin-connected Whipple (or double-intersection Pratt) through truss, the Bonanza Bridge is one of less than ten such structures known to exist in Missouri. First patented by Squire Whipple, bridge engineer and builder from New York, the Whipple truss was a popular choice for longer span crossings - generally in excess of 150 feet - between 1850 and 1890. Whipple trusses were used on most of the railroad bridges built across the Missouri River in the 1880s, due largely to engineer George S. Morison. But they were never very common for wagon trusses. The Whipple truss differed from the more common Pratt in that its diagonal members extended across, not one, but two panels. Although more costly, this variation provided greater lateral support for the diagonals, a critical consideration on deep, long-span trusses. By the turn of the century, Parker and Camelback trusses (Pratt variants with polygonal upper chords) had supplanted the Whipple as the truss of choice for longer span crossings. Accordingly, all of Missouri's extant Whipples date from before that time.

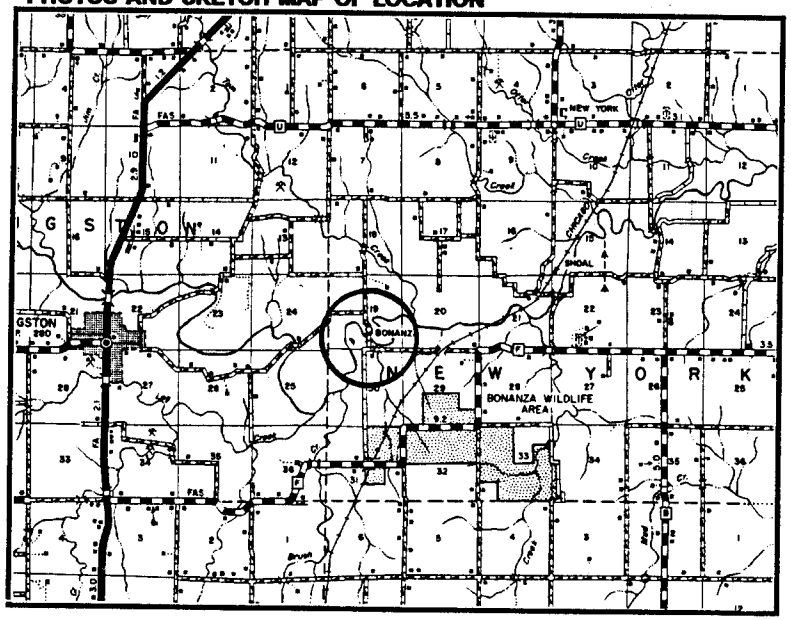
With its Whipple web configuration, rolled, wrought iron components, U-bolted, plate girder floor beams, and unslotted turnbuckles, the Bonanza Bridge typifies wagon truss construction of the early 1880s. According to an 1886 history of the county, the structure was erected here in 1883 for an approximate cost of $6000.00. Unfortunately, county records that would have provided details of the span's construction history were evidently lost when the Caldwell County Courthouse burned shortly before the turn of the century. It is known

that the Caldwell County Court was still considering construction of the Bonanza Bridge late in September 1883. If the county history is correct, a contract to fabricate and build the long-span truss must have been awarded soon thereafter, but the contractor is not known at this time. Despite this gap in the bridge's documentation, it still remains an important transportation-related resource: an exceptional early wrought iron truss located at an important county road crossing.

NAME(S) OF STRUCTURE

Bonanza 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 324001.9; **The Hamiltonian**, 21 September 1883; **History of Caldwell and Livingston Counties, Missouri** (St. Louis: National Historical Company, 1886), page 254; Fraserdesign, "Bonanza Bridge: Preliminary Determination of NRHP Eligibility for the Missouri Historic Bridge Inventory," 25 September 1991; letter and enclosures from Richard Heisler, P.E., to Michael W. Weichman, dated 28 August 1991; field inspection by Lon Johnson, 8 September 1990.

INVENTORIED BY	AFFILIATION	DATE
Clayton Fraser and Michelle Crow-Dolby	Fraserdesign, Loveland CO	7 July 1993

HAER INVENTORY

Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Shoal Creek Bridge
MHTD: 341000.9

CALD35

DATE(S) OF CONSTRUCTION
c1890

LOCATION
County Road 341 over Shoal Creek; S23, T56N, R28W
1.6 miles northeast of Kingston; Caldwell County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / abandoned

RATING NRHP non-eligible (score: 34)

CONDITION
fair

OWNER
Caldwell County

span number: 1
span length: 112.0'
total length: 168.0'
roadway wdt.: 13.6'

superstructure: steel or wrought iron, 7-panel, pin-connected Pratt through truss, with steel stringer approach spans

substructure: stone masonry abutments; concrete-filled iron cylinder piers; steel pile bent piers at approach spans

floor/decking: timber deck over iron or steel stringers

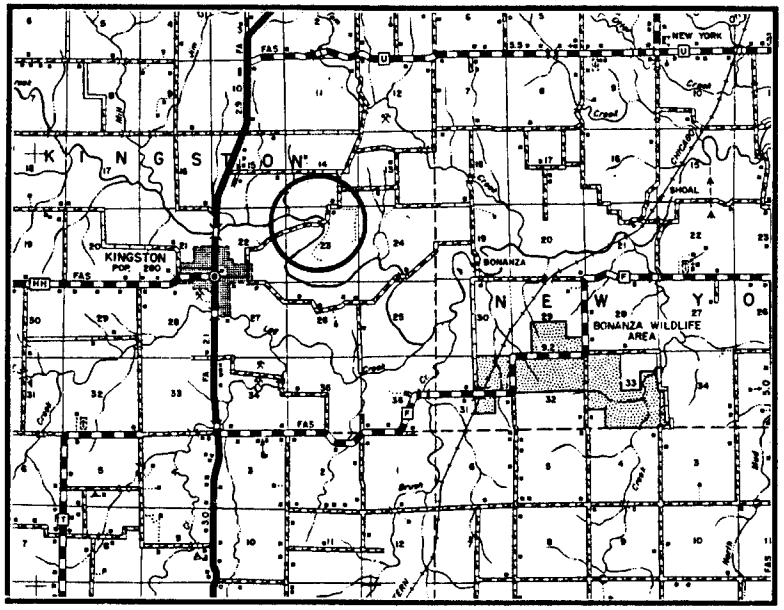
other features: upper chord and inclined end post: 2 channels with cover and batten plates; lower chord: 2 punched rectangular eyebars; vertical: 2 channels with double lacing, looped round eyerod at hips; diagonal: 2 looped rectangular or square eyebars; lateral bracing: round rod with threaded ends; strut: one angle; portal strut: lattice, with knee braces; floor beam: variable depth "fishtail" plate girder, U-bolted to lower chord pins; guardrail: lattice

This short-span crossing of Shoal Creek is located some two miles northeast of Kingston, in rural Kingston Township. Comprised of a pin-connected Pratt through truss with steel stringer approach spans, the superstructure is supported by stone masonry abutments and iron tubular piers. Physical attributes of the truss suggest that it was fabricated around 1890, and the stone/iron substructure suggests that it remains in its original location. County records are inconclusive regarding the bridge's construction, however, largely due to a courthouse fire in the late 1890s. The Shoal Creek Bridge thus remains a well-preserved, but inadequately documented, example of what was once a mainstay structural type in Missouri.

NAME(S) OF STRUCTURE

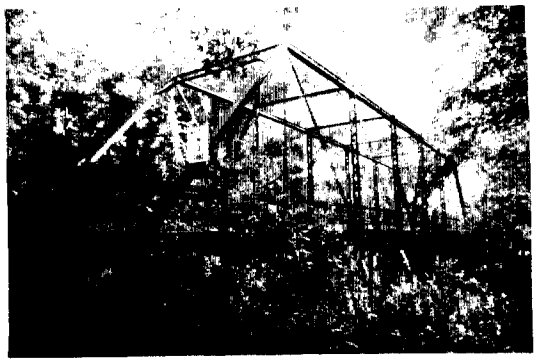
Shoal Creek Bridge

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 341000.9; field inspection by Lon Johnson, 8 September 1990.

INVENTORIED BY	AFFILIATION	DATE
Clayton Fraser and Michelle Crow-Dolby	Fraserdesign, Loveland CO	7 July 1993

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Cox Ford Bridge
MHTD: 342002.8

CALD36

DATE(S) OF CONSTRUCTION
1888

LOCATION
County Road 342 over Shoal Creek; S24, T56N, R28W
3.5 miles east of Kingston; Caldwell County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 53)

CONDITION
fair

OWNER
Caldwell County

span number: 1
span length: 114.0'
total length: 194.0'
roadway wdt.: 14.5'

superstructure: wrought iron, 6-panel, pin-connected Pratt through truss, with steel stringer approach spans

substructure: concrete abutments and wingwalls; concrete-filled iron cylinder piers; steel pile bents piers at approach spans

floor/decking: timber deck over iron or 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 double lacing, 2 looped round eyerods at hip; diagonal: 2 punched rectangular eyebars; counter: looped round eyerod with turnbuckle; lateral bracing: round rod with threaded ends (top and bottom); strut: 4 angles with lacing; floor beam: variable depth, "fishtail" plate girder; guardrail: 2 channels; portal builder's plate: **1888 / King Iron Bridge Company / Cleveland, O**

This short-span crossing of Shoal Creek is located some 3½ miles east of Kingston, in rural Kingston Township. Comprised of a pin-connected Pratt through truss with steel stringer approach spans, the superstructure is supported by stone masonry abutments and iron tubular piers. In April 1885 the Caldwell County Court received a citizens' petition for a bridge at the Cox Ford of Shoal Creek to carry the road between Kingston and Bonanza. That and subsequent petitions were dismissed by the court for three years. It was not until April 1888, in fact, that the judges granted the petitioners their wish and ordered county road and bridge commissioner W.J. Boyd to view the site and make estimates for the proposed bridge. Boyd advertised for competitive proposals for the Cox Ford and four other bridges in May, awarding a contract to build the Cox Ford span to the King Iron Bridge Company for $4095.00. King fabricated the 114-foot truss in its huge Cleveland, Ohio, shops, and assembled the span over iron tubular piers later that year. Since its completion, the Cox Ford Bridge has carried vehicular traffic, with only maintenance-related repairs.

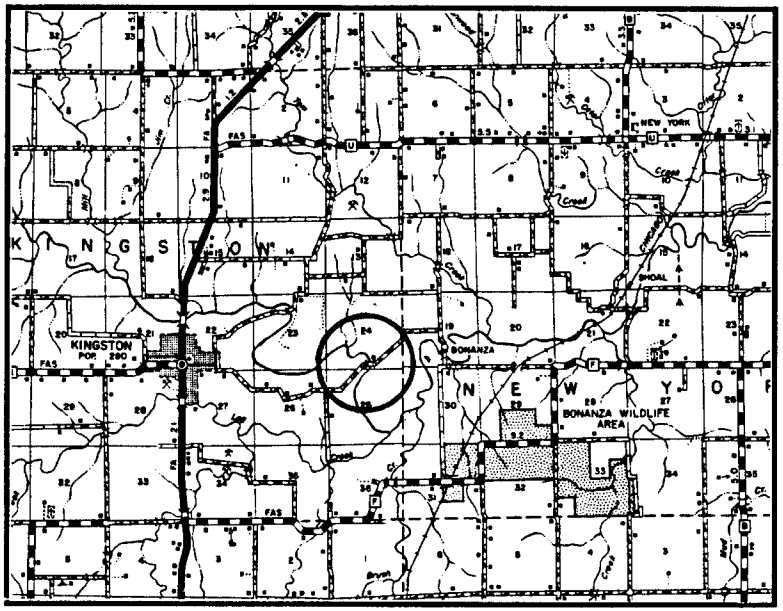
As one of America's most prolific bridge fabricators, the King Iron Bridge Company maintained an extensive catalogue of truss types, ranging from the exotic to the commonplace. King, like most of the region's bridge builders of the time, relied heavily on pin-connected Pratt truss variants for its standard 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. As a result, thousands were built during this period of extensive bridge construction. Hundreds remain in use today, of which the Cox Ford Bridge in Caldwell County is a relatively early, well-preserved example.

NAME(S) OF STRUCTURE

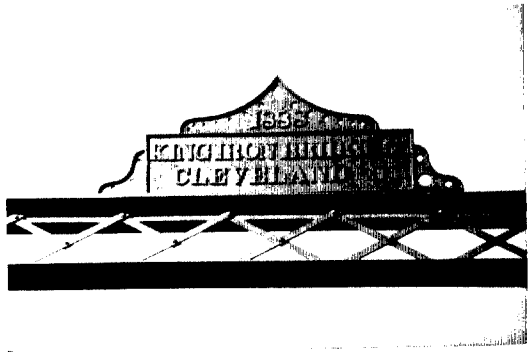
Cox Ford Bridge

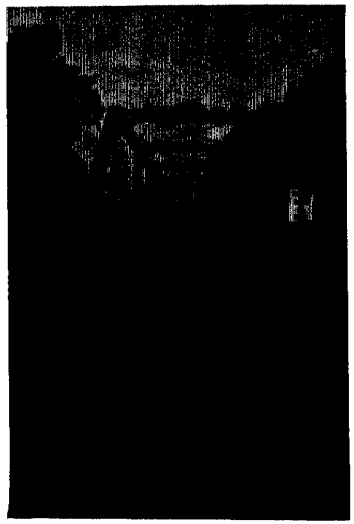
PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT GENERAL HIGHWAY MAP





SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure Number 342002.8; **The Hamiltonian**, 17 April 1885, 23 April 1886, 17 February 1888, 6 April 1888, 25 May 1888, 22 June 1888; **History of Caldwell and Livingston Counties, Missouri** (St. Louis: National Historical Company, 1886), page 254; field inspection by Lon Johnson, 8 September 1990.

INVENTORIED BY	AFFILIATION	DATE
Clayton Fraser and Michelle Crow-Dolby	Fraserdesign, Loveland CO	7 July 1993

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Log Creek Bridge
MHTD: 353000.8

CALD40

DATE(S) OF CONSTRUCTION
1908

LOCATION
County Road 353 over Log Creek; S28/29, T56N, R28W
1.4 miles southwest of Kingston; Caldwell County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 53)

CONDITION
fair

OWNER
Caldwell County

span number:	1	superstructure:	steel, 5-panel, rigid-connected Pratt pony truss
span length:	80.0'	substructure:	concrete abutments and wingwalls
total length:	80.0'	floor/decking:	timber deck
roadway wdt.:	13.7'	other features:	steel angle guardrails

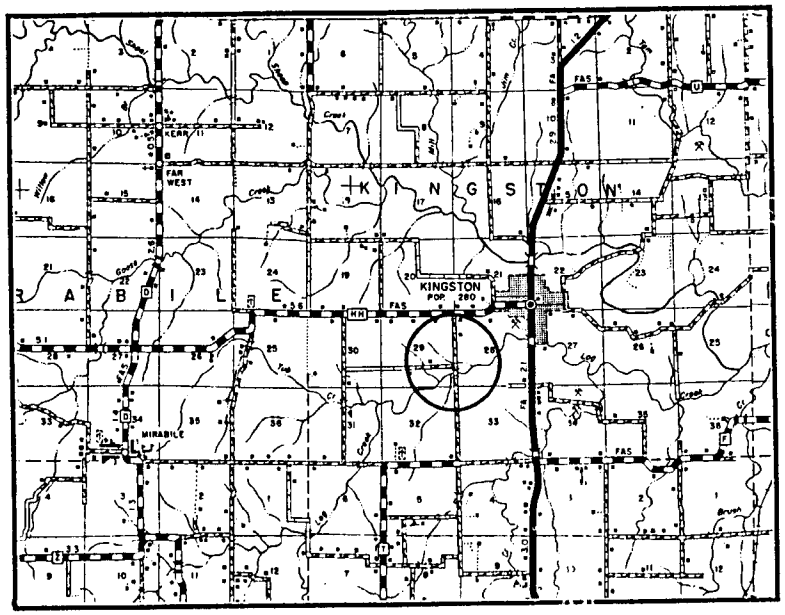
Located 1½ miles southwest of Kingston, this long-span pony truss carries a gravel-surfaced county road over Log Creek. The Log Creek Bridge is comprised of a single rigid-connected Pratt truss, supported by concrete abutments. The Log Creek Bridge dates to 1908. In May of that year the Caldwell County Engineer contracted for six steel bridges: four to the Standard Bridge Company of Omaha, and two–including this span–to the Dildine Bridge Company of Cameron. Apparently completed later in 1908, the Log 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 Log Creek Bridge in Caldwell 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

Log 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 353000.8; Caldwell County Court Record, Book O: page 530 (4 August 1904); Book Q: page 182 (5 May 1908) - located at the Caldwell County Courthouse, Kingston MO.

INVENTORIED BY	AFFILIATION	DATE
Michelle Crow-Dolby	Fraserdesign, Loveland CO	12 May 1992

HAER INVENTORY

Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Shoal Creek Bridge
MHTD: 359000.8

CALD41

DATE(S) OF CONSTRUCTION
1894

LOCATION
County Road 359 over Shoal Creek; S17/18, T56N, R28W
2.9 miles northwest of Kingston; Caldwell County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 52)

CONDITION
fair

OWNER
Caldwell County

span number:	1	superstructure:	steel, 7-panel, pin-connected Pratt through truss, with steel stringer approach spans
span length:	124.0'	substructure:	concrete abutments and wingwalls; steel pile bent piers
total length:	204.0'	floor/decking:	timber/concrete 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 looped rectangular eyebars; vertical: 2 channels with lacing, 2 looped square eyebars at hip; diagonal: 2 looped rectangular eyebars; counter: looped square eyebar with turnbuckle; lateral bracing: round rod with threaded ends (top and bottom); strut: 4 angles with double lacing; floor beam: I-beam, U-bolted to lower chord pins; guardrail: 2 channels; portal builder's plate: **1894 / John Dildine / and Co / Builders / Wmure / L.L. Frost / JM Loomis / CO / Judges**

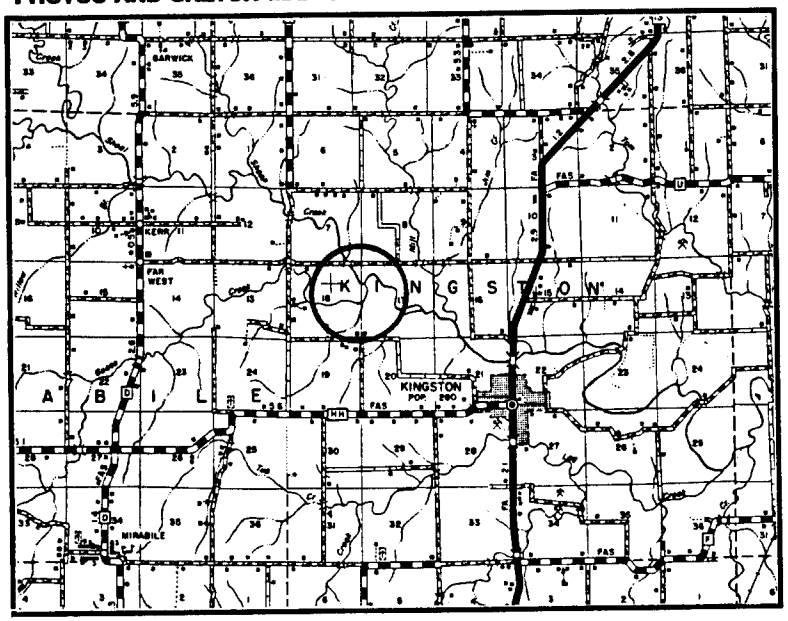
According to its builder's plate, the Shoal Creek Bridge was erected in 1894 by John Dildine and Company of Cameron, Missouri. Caldwell County Court records provide no additional construction documentation, however, due largely to a courthouse fire in the late 1890s. Configured as a single-span, pin-connected Pratt through truss, the structure is supported by a concrete and steel substructure. Located in rural west-central Caldwell County northwest of Kingston, the seven-panel bridge functions in place today, with no substantial alterations. The Shoal Creek Bridge is a well-preserved, although rather poorly documented, early example of a mainstay structural type - the pin-connected Pratt through truss.

Like most of the region's bridge builders of the time, the Dildine Bridge Company 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. As a result, thousands were built during this period of extensive bridge construction. Hundreds remain in use today, of which the Shoal Creek Bridge in Caldwell County is a relatively early, well-preserved example.

NAME(S) OF STRUCTURE

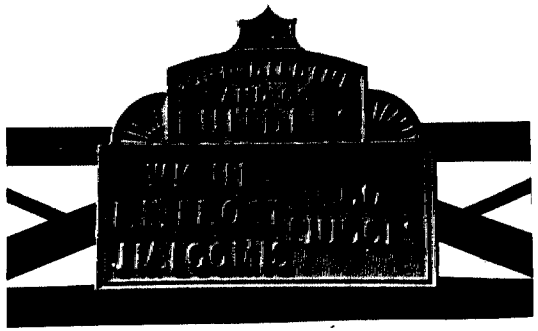
Shoal Creek Bridge

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 359000.8; field inspection by Lon Johnson, 8 September 1990.

INVENTORIED BY	AFFILIATION	DATE
Clayton Fraser and Michelle Crow-Dolby	Fraserdesign, Loveland CO	7 July 1993

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Shoal Creek Bridge
MHTD: 372000.5

CALD44

DATE(S) OF CONSTRUCTION
1901

LOCATION
County Road 372 over Shoal Creek; S12/7, T56N, R28W
3.9 miles of northwest of Kingston; Caldwell County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 46)

CONDITION
fair

OWNER
Caldwell County

span number: 1
span length: 120.0'
total length: 180.0'
roadway wdt.: 13.7'

superstructure: steel, 6-panel, pin-connected Pratt through truss, with steel stringer approach spans
substructure: concrete abutments and wingwalls with solid concrete 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 punched rectangular eyebars; vertical: 4 angles with batten plates; diagonal: 2 punched rectangular eyebars; counter: 2 looped round eyerods with turnbuckles; lateral bracing: round rod with threaded ends at top and bottom; strut and floor beam: I-beam; guardrail: 2 angles

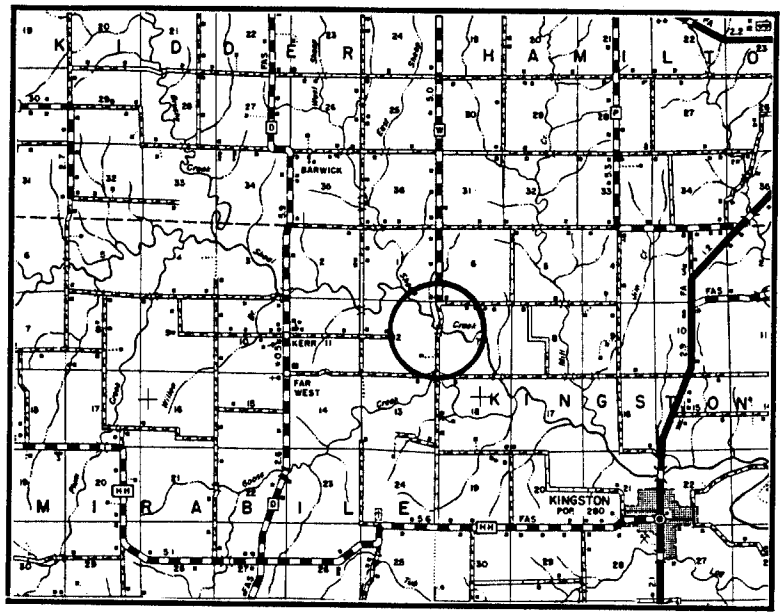
This medium-scale Pratt through truss spans Shoal Creek almost four miles northwest of Kingston, the county seat. The single-span 6-panel structure is approached by two steel stringers on the north and one steel stringer on the south. Carrying County Road 372, the bridge features a timber deck and concrete substructure. According to county court records, on April 3, 1901, Caldwell County officials advertised for competitive bids for a bridge at this location. By the end of the month, a contract had been let to the St. Joseph-based John H. Sparks for the aggregate sum of $1710.00. Completed by the contractor later the same year using steel components rolled by the Illinois Steel Company, the Shoal Creek Bridge functions in place today. The bridge retains a high degree of structural integrity while being used by local travelers in west-central Caldwell County.

Marketed exclusively 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. A typically configured and well-preserved example of a mainstay bridge type in Missouri.

NAME(S) OF STRUCTURE

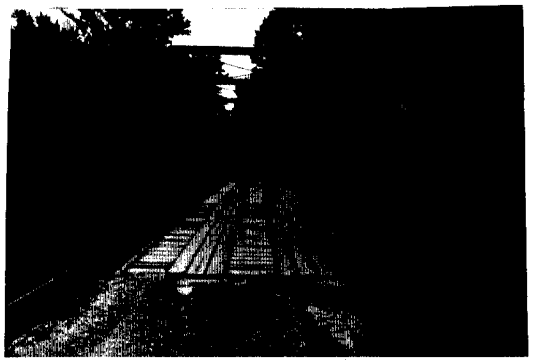
Shoal Creek Bridge

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 372000.5; Caldwell County Court Record, Book N: page 403 (3 April 1901), page 415 (22 April 1901) - located at the Caldwell County Courthouse, Kingston MO; field inspection by Lon Johnson, 8 September 1990.

INVENTORIED BY	AFFILIATION	DATE
Clayton Fraser and Michelle Crow-Dolby	Fraserdesign, Loveland CO	7 July 1993

HAER INVENTORY

Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
West Sheep Creek Bridge
MHTD: 028000.8

CALD49

DATE(S) OF CONSTRUCTION
1922

LOCATION
County Road 28 over West Sheep Creek; S26/35, T57N, R29W
0.5 mile east of Barwick; Caldwell County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP possibly eligible (score: 36)

CONDITION
fair

OWNER
Caldwell County

span number:	1	superstructure:	steel deck girder
span length:	35.0'	substructure:	concrete abutments and wingwalls
total length:	36.0'	floor/decking:	concrete deck
roadway wdt.:	15.8'	other features:	steel angle guardrails

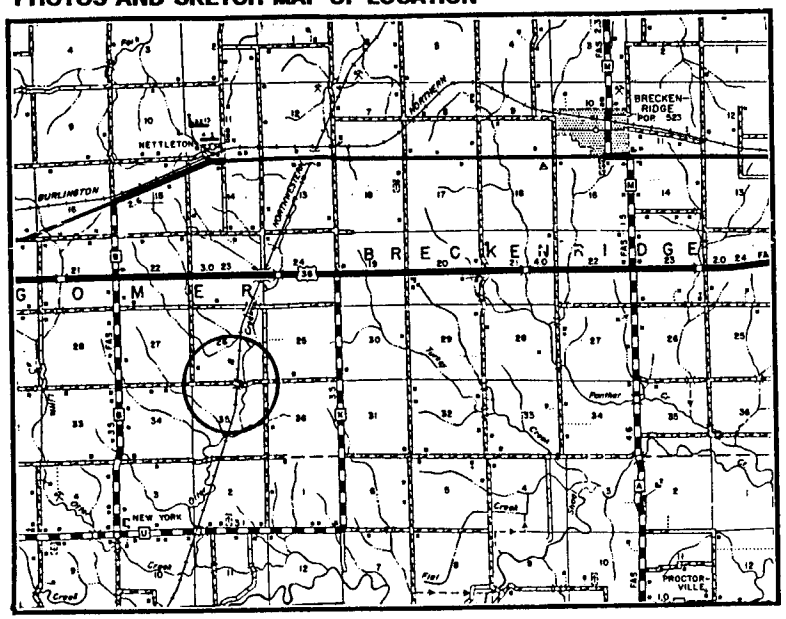
Spanning West Sheep Creek a half mile east of Barwick, this small-scale structure was designed by the Missouri State Highway Department in 1922 as part of construction on the East-West Highway through Caldwell County. As delineated by the agency's bridge department, the structure consisted of a single steel deck girder supported by concrete abutments. That year the highway department contracted with Bean and Company of St. Joseph, Missouri, to build this bridge, four others and a mile of adjacent highway. The contractors completed the structures and road for a total cost of $7,057.86. The other spans have since been replaced, but the West Sheep Creek Bridge remains in place on this secondary county road.

In the 1921-22 biennium, the highway department prepared special designs for 293 structures, for an aggregate length of some 20,000 feet and a cost in excess of $2.3 million. With a single 35-foot span, the West Sheep Creek Bridge numbered among the technologically less noteworthy of these. Despite this, the bridge is today important as the earliest dateable example of MSHD beam bridge design - an important resource from the state highway department's formative period.

NAME(S) OF STRUCTURE

West Sheep 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 442002.4; Missouri State Highway Board, **Third Biennial Report**: 1921-1922, page 137.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	7 July 1993