MARION COUNTY

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

Inv. No.	MHTD	Bridge Name	Description	
*MARN01	K 73	North River Bridge	**4-130'**	**riveted Pratt through truss**
			1932	Vincennes Bridge Company
*MARN02	K 931A1	Mark Twain Memorial Br. **(Mississippi River)**	**3-562'**	**riveted cantilever through truss**
			1936	Mt. Vernon Bridge Company; Union Bridge Company
*MARN03	L 99R	Quincy Memorial Bridge **(Mississippi River)**	**2-628'**	**riveted Baltimore through truss**
			1930	Kelly-Atkinson Construction Company; Foundation Co.
*MARN04	012000.7	Lyell Ford Bridge	1- 94'	**pinned Pratt through truss**
			1898	Kansas City Bridge Company
*MARN05	043000.9	Whitaker Ford Bridge	1- 85'	**pinned Pratt pony truss**
			1903	Dildine Bridge Company
*MARN06	051001.8	South Fabius River Bridge	1-140'	**riveted Parker through truss**
			c1930	
MARN07	070002.0	Hester Bridge	1-128'	**pinned Pratt through truss**
			c1900	
*MARN08	072000.2	South Fabius River Bridge	1-150'	**pinned Pratt through truss**
			c1910	
*MARN09	110001.2	North River Bridge	1-100'	**pinned Pratt through truss**
			c1920	
*MARN10	114000.9	North River Bridge	1-130'	**pinned Pratt through truss**
			c1910	
*MARN11	116001.9	North River Bridge		(replaced)
*MARN12	118001.6	Terrill Ford Bridge	1-104'	**pinned Pratt through truss**
			1898	Kansas City Bridge Company
*MARN13	159002.8	Leggett Ford Bridge		(replaced)
*MARN14	160000.4	Voeple Ford Bridge	1-137'	**pinned Pratt through truss**
			1907	Midland Bridge Company
MARN15	174000.4	North River Bridge	1-136'	**pinned Pratt through truss**
			c1910	
*MARN16	195001.8	North River Bridge	1-110'	**pinned Pratt through truss**
			1905	Missouri Bridge and Iron Co.
MARN17	228001.7	South River Bridge		(replaced)
*MARN18	249002.2	Bear Creek Bridge	1- 40'	**concrete through girder**
			1921	county work force
*MARN19	259001.3	Rock Cut Bridge		(replaced)
*MARN20	274001.0	Withers Mill Bridge		(replaced)
*MARN21	289000.7	South Fabius River Bridge	1-110'	**pinned Pratt through truss**
			1914	Dildine Bridge Company
*MARN22	291000.2	Grassy Creek Bridge	1- 67'	**pinned Pratt pony truss**
			1915	Dildine Bridge Company
MARN23	304000.7	Taylor Bridge	**1-200'**	**riveted Parker through truss**
			1929	Chermus Construction Co.

MARION COUNTY

EXCLUDED:

Pratt pony truss
129000.5 185000.1 187001.5 252001.0

Warren pony truss
055002.3 1850R0.2 225000.7

Other truss
U1850011 185000.3 185000.4

Steel stringer

H 115R	T 72	T 994	U1850006	U1850007	X 45	X 345
027000.5	034002.9	052000.2	056000.7	880001.3	135000.8	151001.0
153001.7	167000.1	167001.5	170002.8	178000.8	178002.0	185000.5
186000.5	262000.3	282000.2	283001.0	289001.1	305000.7	

Steel girder
K 237 081000.5 195001.0

Concrete slab/girder
G 974 K 813 U1850008

Concrete box culvert

G 883R	G 975R	H 946R	J 435R	J 463R	J 678R	K 134
K 329	T 17	T 62	T 63	X 76	X 356	

Timber stringer
U1850010

SUMMARY:

	Primary	Secondary	Urban	Other	Total
Included	3	15	0	0	20
Excluded	21	31	5	0	57
	24	46	5	0	77 structures

North River Bridge

MARN01

GENERAL DATA

structure no.: K 73
county: Marion

city/town: 2.1 miles west of Palmyra
feature inters.: North River
cadastral grid: S22, T58N, R6W
highway route: Missouri State Highway 168
highway distr.: 3
current owner: Missouri Highway and Transportation Department

STRUCTURAL DATA

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

span number: 4
span length: 130.0'
total length: 530.0'
roadway width: 22.0'

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

HISTORICAL DATA

erection date: 1932
erection cost: $37,590.57
designer: Missouri State Highway Department
fabricator : Vincennes Bridge Company, Vincennes IN; Inland Steel Company, East Chicago IN
contractor: Vincennes Bridge Company, Vincennes IN

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. K 73; Primary System Bridge Record, located at the Missouri Highway and Transportation Department, Jefferson City MO; field inspection by Clayton Fraser, 8 September 1990.

sign. rating: 47
evaluation: NRHP NRHP non-eligible (typical example of 1930s MSHD truss design)

inventoried by: Clayton B. Fraser 30 April 1992

Mark Twain Memorial Bridge

MARN02

GENERAL DATA

structure no.: K 931A1
county: Marion County MO
Pike County IL

city/town: Hannibal
feature inters.: Mississippi River
cadastral grid: S21, T57N, R4W
highway route: U.S. Highway 36
highway distr.: 3
current owner: States of Missouri and Illinois

STRUCTURAL DATA

superstructure: steel, rigid-connected, cantilever through truss; west end: rigid-connected, polygonal-chorded Warren through truss, with truss two steel stringer approach spans; east end: rigid-connected, polygonal-chorded Warren through truss, with two rigid-connected Warren deck trusses and six steel stringer approach spans

substructure: concrete spill-through piers with Moderne detailing

span number: 3
span length: 562.0'
total length: 2636.0'
roadway width: 22.0'

condition: good
alterations: deck and floor system repairs
floor/decking : concrete deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and double lacing; lower chord: 2 channels with lacing, top and bottom (batten plates on west approach span; vertical: 2 channels with lacing or batten plates; diagonal: 2 channels with lacing, 4 angles with batten plates; lateral bracing: 2 angles; strut: braced channels and angles with lacing; floor beam: built-up plate girder; bridge plate at west approach: **MARK TWAIN MEMORIAL BRIDGE / Named as a tribute to the memory of Samuel L. Clemens (Mark Twain) on the occasion of the centennial of his birth / A.D. 1935 / Federal Emergency Administration of Public Works / Project No. 3624 / built by City of Hannibal, Missouri in cooperation with Hannibal Chamber of Commerce / Financed with the assistance of Missouri State Highway Commission [,] Illinois State Department of Public Works and Buildings[,] And Pike County, Illinois / Consulting Engineers[:] Sverdrup and Parcel[,] St. Louis, Mo / Contractors[:] The Mt. Vernon Bridge Co.[,] Union Bridge & Constr. Co.**

HISTORICAL DATA

erection date: 1934-1936
erection cost: $591,274.00 [additional $203,830.00 in 1971 for painting]
designer: Sverdrup and Parcel, St. Louis MO
fabricator : Mt. Vernon Bridge Company, Mt. Vernon OH
contractor : Mt. Vernon Bridge Company, Mt. Vernon OH (superstructure); Union Bridge Company, New York (substructure)

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. K 931A1; files on Primary System Bridges, located at the Missouri Highway and Transportation Department, Jefferson, Missouri; **The Story of Hannibal** (1976), located at the Free Public Library, Hannibal, Missouri; **Hannibal Courier-Post**: "PWA Orders Contractors To Proceed", pages 1 and 2 (30 October 1934), "Bridge Piers Well Started", page 1 (1 February 1935), "Municipal Bridge Work Progresses", pages 1 and 2 (March 1935), "Start Work On One Of Main Piers To Municipal Bridge Over River; First Real Work In River Depths", page 1 (25 March 1935), "Resume Work On Bridge As River Drops", page 1 (10 June 1935), "Steady Rise in Mississippi Halts Work On One Bridge Pier, Job Goes Forward On Others, Steel In Place", pages 1 and 3 (20 June 1935), "Start Work Again On Bridge Piers" pages 1 and 2 (27 July 1935) "Progress With Bridge Steel", n.p. (28 August 1935), "Work On Bridge Is Near Completion", page 1 (9 December 1935), "New Bridge Roadway To Be Let Soon", page 1 (14 December 1935), "Program Of Events For Bridge Dedication Day", "Dedicating The Bridge", "Hannibal's New Bridge 2,636 Feet Long, Fine Example of Engineering and Construction; Has Sixteen Spans", "L.J. Sverdrup, Head Of Engineers [On] Growing Bridge Project, Has Colorful Career; Born In Norway", "Bridge Stands As Monument To Effort And Cooperation; Story Of Preliminary Activities Is An Interesting Chapter", "Romjue Author of Congressional Act Authorizing Construction of Bridge At Hannibal; Senators Gave Support", "Throngs Line Route to See Roosevelt", "Roosevelt Pays Twain Tribute; Praises Spirit" (3 and 4 September 1936) ; **St. Louis Daily Globe-Democrat**: page 1 (4 September 1936); field inspection by Clayton Fraser, 8 September 1990.

sign. rating: 75
evaluation: NRHP determined NRHP eligible (outstanding large-scale example of highway truss construction on an important interstate crossing)

inventoried by: Clayton B. Fraser 30 April 1992

Quincy Memorial Bridge

MARN03

GENERAL DATA

structure no.: L 99R
county: Marion County MO
Adams County IL

city/town: Quincy
feature inters.: Mississippi River
cadastral grid: S2/11, T59N, R5W
highway route: U.S. Highway 24
highway distr.: 3
current owner: Missouri Highway and Transportation Department and Illinois Department of Transportation

STRUCTURAL DATA

superstructure: steel, rigid-connected, continuous Baltimore through truss, with multiple-span deck girder and stringer approach spans
substructure: concrete abutment; concrete piers with art Moderne detailing under main span; concrete spill-through piers under deck girder approach span and steel stringer approach spans

span number: 2
span length: 628.0'
total length: 1754.0'
roadway width: 24.0'

condition: good
alterations: major repair, 1982
floor/decking : unknown
other features: upper chord and inclined end post: 2 channels with cover plate and built-up, double channel lacing; lower chord: 2 built-up channels with lacing; vertical: 2 laced channels; diagonal: 2 laced channels; lateral bracing: 2 angles; strut: angles with lacing; floor beam: built-up plate girder; guardrail: steel; bridge plates on Illinois side - large plate: "QUINCY MEMORIAL BRIDGE Dedicated to the memory of the men and women who served our country in the Armed Forces Erected June 13, 1930", small plate: "QUINCY MEMORIAL BRIDGE Mississippi River Redecked 1982 by State of Illinois FA RT. 63 SEC 1-2By Proj. BH-F-63 (37) Loading HS20 STR. N0 001 0019"

HISTORICAL DATA

erection date: 1928-30
erection cost: $1.2 million (engineer's estimate)
designer: Strauss Engineering Corporation, Chicago IL
fabricator : unknown
contractor: Kelly-Atkinson Construction Company, Chicago IL (superstructure); Foundation Company, New York NY (substructure)

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. L 99R; files on Primary System Bridges, located at the Missouri Highway and Transportation Department, Jefferson City MO; "Memorial Bridge Plaque Dedicated," **Quincy Herald-Whig**, 31 May 1956; "Making River Bridge–47 Years Ago Here," **Quincy Herald-Whig**, 25 September 1977; "Seven New Mississippi River Highway Bridge," **Engineering News-Record**, 31 July 1930; field inspection by Clayton Fraser, 7 September 1990.

sign. rating: 75

evaluation: NRHP eligible (outstanding example of large-scale highway truss bridge construction)

inventoried by: Clayton B. Fraser 30 April 1992

Lyell Ford Bridge

MARN04

GENERAL DATA

structure no.: 012000.7
county: Marion

city/town: 5.4 miles west of Emerson
feature inters.: South Fabius River
cadastral grid: S21, T59N, R8W
highway route: county road
highway distr.: 3
current owner: Marion County

STRUCTURAL DATA

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

span number: 1
span length: 94.0'
total length: 124.0'
roadway width: 12.0'

condition: fair
alterations: none
floor/decking : timber deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped rectangular eyebars; vertical: 2 channels with lacing (square eyebar with double-pronged ends at the hip); diagonal: 2 looped rectangular eyebars; lateral bracing: round rod with threaded ends; strut: 4 angles with lacing; portal strut: A-frame; floor beam: I-beam, U-bolted to vertical; steel angle guardrail

HISTORICAL DATA

erection date: 1898
erection cost: $1140.00 (contract amount)
designer: Kansas City Bridge Company, Kansas City MO
fabricator : Kansas City Bridge Company, Kansas City MO
contractor: Kansas City Bridge Company, Kansas City MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 012000.7; Marion County Court Record Q: page 291 (4 April 1898), page 313 (6 June 1898), page 327 (6 July 1898), located at the Marion County Courthouse, Palmyra MO; field inspection by Clayton Fraser, 8 September 1990.

sign. rating: 45
evaluation: NRHP non-eligible (typical example of common structural type)

inventoried by: Clayton B. Fraser 30 April 1992

Whitaker Ford Bridge

MARN05

GENERAL DATA

structure no.: 043000.9
county: Marion

city/town: 2.9 miles east of Emerson
feature inters.: Troublesome Creek
cadastral grid: S23, T59N, R7W
highway route: county road
highway distr.: 3
current owner: Marion County

STRUCTURAL DATA

superstructure: steel, 5-panel, pin-connected Pratt pony truss
substructure: concrete-filled steel cylinder piers, with concrete back- and wingwalls

span number: 1
span length: 85.0'
total length: 86.0'
roadway width: 11.8'

condition: fair
alterations: none
floor/decking : timber deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 punched rectangular eyebars; vertical: 4 angles with lacing; diagonal: 2 punched rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, field-bolted to vertical; channel guardrail

HISTORICAL DATA

erection date: 1902-03
erection cost: $600.00 (contract amount)
designer: unknown
fabricator : Jones and Laughlin Steel Company, Pittsburgh PA
contractor: Dildine Bridge Company, Cameron MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 043000.9; Marion County Court Record R: page 329 (14 July 1902), page 365 (10 November 1902), located at the Marion County Courthouse, Palmyra MO; field inspection by Clayton Fraser, 7 September 1990.

sign. rating: 48
evaluation: NRHP non-eligible (well-preserved, long-span example of mainstay structural type)

inventoried by: Clayton B. Fraser 30 April 1992

South Fabius River Bridge

MARN06

GENERAL DATA

structure no.: 051001.8
county: Marion

city/town: 2.1 miles south of Emerson
feature inters.: South Fabius River
cadastral grid: S33, T59N, R7W
highway route: county road
highway distr.: 3
current owner: Marion County

STRUCTURAL DATA

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

span number: 1
span length: 140.0'
total length: 141.0'
roadway width: 20.8'

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

HISTORICAL DATA

erection date: c1930
erection cost: unknown
designer: unknown
fabricator : Inland Steel Company, East Chicago IN
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 051001.8; field inspection by Clayton Fraser, 14 September 1990.

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

inventoried by: Clayton B. Fraser 30 April 1992

Hester Bridge

MARN07

GENERAL DATA

structure no.:	070002.0	**city/town:**	5.0 miles southwest of Taylor
county:	Marion	**feature inters.:**	South Fabius River
		cadastral grid:	S18, T59N, R6W
		highway route:	county road
		highway distr.:	3
		current owner:	Marion County

STRUCTURAL DATA

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

span number:	1	**condition:**	fair
span length:	128.0'	**alterations:**	abutments extended and truss raised, 1907
total length:	130.0'	**floor/decking :**	timber deck over steel stringers
roadway width:	13.7'	**other features:**	lattice guardrails (installed in 1907)

HISTORICAL DATA

erection date: c1900
erection cost: unknown
designer: unknown
fabricator : Cambria Steel Company, Pittsburgh PA
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 070002.0; Marion County Court Record S: page 589 (3 September 1907), located at the Marion County Courthouse, Palmyra MO; field inspection by Clayton Fraser, 7 September 1990.

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

inventoried by: Clayton B. Fraser 30 April 1992

South Fabius River Bridge

MARN08

GENERAL DATA

structure no.: 072000.2
county: Marion

city/town: 4.2 miles southwest of Taylor
feature inters.: South Fabius River
cadastral grid: S21, T59N, R6W
highway route: county road
highway distr.: 3
current owner: Marion County

STRUCTURAL DATA

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

span number: 1
span length: 150.0'
total length: 151.0'
roadway width: 13.8'

condition: fair
alterations: none
floor/decking : timber deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped rectangular eyebars; vertical: 2 channels with lacing; diagonal: 2 looped rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 angles with angle kneebraces; portal strut: lattice with curved kneebraces; floor beam: I-beam, field-bolted to vertical; guardrail: 2 channels; bridge plate: "H.F. Krizer - Surveyor Cyrus Albertson, J.D. Clark Geo. W. Pine - Judges; stamped in abutments: [partially illegible] "...Trebes Bros"

HISTORICAL DATA

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

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 072000.2; field inspection by Clayton Fraser, 7 September 1990.

sign. rating: 32
evaluation: NRHP non-eligible (typical example of common structural type, inadequately documented)

inventoried by: Clayton B. Fraser 30 April 1992

North River Bridge

MARN09

GENERAL DATA

structure no.: 110001.2
county: Marion

city/town: 5.6 miles west of Philadelphia
feature inters.: North River
cadastral grid: S7/12, T58N, R8/9W
highway route: county road
highway distr.: 3
current owner: Marion County

STRUCTURAL DATA

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

span number: 1
span length: 100.0'
total length: 101.0'
roadway width: 15.0'

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

HISTORICAL DATA

erection date: c1920
erection cost: unknown
designer: unknown
fabricator : Lackawanna and Cambria Steel Companies, Pittsburgh PA
contractor: unknown

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 110001.2; Marion County Court Record P: page 542 (5 August 1895), page 564 (2 September 1895), located at the Marion County Courthouse, Palmyra MO; field inspection by Clayton Fraser, 8 September 1990.

sign. rating: 25
evaluation: NRHP non-eligible (unremarkable example of common structural type, built relatively late in the milieu of pin-connected truss construction)

inventoried by: Clayton B. Fraser 30 April 1992

North River Bridge

MARN10

GENERAL DATA

structure no.: 114000.9
county: Marion

city/town: 4.0 miles west of Philadelphia
feature inters.: North River
cadastral grid: S17, T58N, R8W
highway route: county road
highway distr.: 3
current owner: Marion County

STRUCTURAL DATA

superstructure: steel, 8-panel, pin-connected Pratt through truss
substructure: concrete-filled steel cylinder piers, with concrete back- and wingwalls

span number: 1
span length: 130.0'
total length: 132.0'
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 cover and batten plates; lower chord: 2 punched rectangular eyebars; vertical: 2 channels with lacing; diagonal: 2 looped rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 angles; portal strut: angle A-frame; floor beam: I-beam, field-bolted to vertical; channel guardrails

HISTORICAL DATA

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

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 114000.9; field inspection by Clayton Fraser, 8 September 1990.

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

inventoried by: Clayton B. Fraser 30 April 1992

Terrill Ford Bridge

MARN12

GENERAL DATA

structure no.: 118001.6
county: Marion

city/town: 2.2 miles south of Philadelphia
feature inters.: North River
cadastral grid: S24, T58N, R8W
highway route: county road
highway distr.: 3
current owner: Marion County

STRUCTURAL DATA

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

span number: 1
span length: 104.0'
total length: 153.0'
roadway width: 11.6'

condition: fair
alterations: none
floor/decking : timber deck over steel stringers, with concrete deck on east approach
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped rectangular eyebars; vertical: 2 channels with lacing; diagonal: 2 square eyerods with turnbuckles; counter: square rod with turnbuckle; lateral bracing: round rod with threaded ends; strut: 2 angles; portal strut: angle A-frame; floor beam: I-beam, U-bolted to vertical; steel pipe / steel angle guardrails; portal builder's plate: **1898 Built by Kansas City Bridge Co. Kansas City, Mo.**

HISTORICAL DATA

erection date: 1898
erection cost: $1195.00 (contract amount)
designer: Kansas City Bridge Company, Kansas City MO
fabricator : Kansas City Bridge Company, Kansas City MO
contractor: Kansas City Bridge Company, Kansas City MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 118001.6; Marion County Court Record Book O, page 303 (6 January 1890), Book Q, page 290 (4 April 1898), located at the Marion County Courthouse, Palmyra MO; field inspection by Clayton Fraser, 8 September 1990.

sign. rating: 45
evaluation: NRHP non-eligible (typically configured example of common structural type)

inventoried by: Clayton B. Fraser 30 April 1992

Voeple Ford Bridge

MARN14

GENERAL DATA

structure no.: 160000.4
county: Marion
city/town: 1.9 miles west of Palmyra
feature inters.: North River
cadastral grid: S22, T58N, R6W
highway route: county road
highway distr.: 3
current owner: Marion County

STRUCTURAL DATA

superstructure: steel, 8-panel, pin-connected Pratt through truss, with rigid-connected Pratt pony truss approach span
substructure: concrete abutments and wingwalls; concrete-filled steel cylinder pier

span number: 1
span length: 137.0'
total length: 183.0'
roadway width: 13.5'
condition: fair
alterations: pony truss approach span added
floor/decking : timber deck over steel stringers
other features: main span: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped eyebars; vertical: 2 channels with lacing; diagonal: 2 looped eyebars; lateral bracing: round rod with threaded ends; strut: 2 braced angles; portal strut: A-frame; floor beam: I-beam, field-bolted to vertical; guardrail: 2 channels; pony approach span: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 channels; vertical: 2 channels; diagonal: 2 angles with batten plates

HISTORICAL DATA

erection date: 1906-07
erection cost: $1897.00 (superstructure)
designer: Midland Bridge Company, Kansas City MO
fabricator : Midland Bridge Company, Kansas City MO; Cambria Steel Company, Pittsburgh PA
contractor: Midland Bridge Company, Kansas City MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 160000.4; Marion County Court Record S: page 420 (19 September 1906), 464 (7 January 1907), page 516 (1 April 1907), located at the Marion County Courthouse, Palmyra MO; field inspection by Clayton Fraser, 7 September 1990.

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

inventoried by: Clayton B. Fraser 30 April 1992

North River Bridge

MARN15

GENERAL DATA

structure no.:	174000.4	**city/town:**	3.7 miles northeast of Palmyra
county:	Marion	**feature inters.:**	North River
		cadastral grid:	S8, T58N, R5W
		highway route:	county road
		highway distr.:	3
		current owner:	Marion County

STRUCTURAL DATA

superstructure: steel, 8-panel, pin-connected Pratt through truss
substructure: concrete-filled steel cylinder piers

span number:	1	**condition:**	fair
span length:	136.0'	**alterations:**	unknown
total length:	201.0'	**floor/decking :**	timber deck
roadway width:	15.7'	**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 No. 174000.4.

sign. rating: 28
evaluation: NRHP non-eligible (typical example of common structural type, lacking in historical documentation)

inventoried by: Clayton B. Fraser 30 April 1992

North River Bridge

MARN16

GENERAL DATA

structure no.: 195001.8
county: Marion

city/town: 6.4 miles south of Philadelphia
feature inters.: South Fork of North River
cadastral grid: S12, T57N, R8W
highway route: county road
highway distr.: 3
current owner: Marion County

STRUCTURAL DATA

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

span number: 1
span length: 110.0'
total length: 150.0'
roadway width: 11.3'

condition: fair
alterations: none
floor/decking : timber deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped rectangular eyebars; vertical: 2 channels with lacing (2 looped square eyebars at the hip); diagonal: 2 looped rectangular eyebars; counter: square eyebar with turnbuckle; lateral bracing: round rod with threaded ends; strut: 4 angles with lacing; portal strut: 4 angles with lacing; floor beam: I-beam, U-bolted to vertical; guardrail: 2 channels; portal builder's plate: **Missouri Bridge and Iron Co. / 1905 / St. Louis, Mo.**

HISTORICAL DATA

erection date: 1905
erection cost: unknown
designer: unknown
fabricator : Missouri Bridge and Iron Company, St. Louis MO; Lackawanna Steel Company, Pittsburgh PA
contractor: Missouri Bridge and Iron Company, St. Louis MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 195001.8; field inspection by Clayton Fraser, 7 September 1990.

sign. rating: 45
evaluation: NRHP non-eligible (typically configured example of common structural type)

inventoried by: Clayton B. Fraser 30 April 1992

Bear Creek Bridge

MARN18

GENERAL DATA

structure no.: 249002.2
county: Marion

city/town: 4.0 miles west of Withers Mill
feature inters.: Bear Creek
cadastral grid: S24, T57N, R6W
highway route: old Route 36
highway distr.: 3
current owner: Marion County

STRUCTURAL DATA

superstructure: skewed concrete through girder
substructure: concrete abutments and wingwalls

span number: 1
span length: 40.0'
total length: 43.0'
roadway width: 18.0'

condition: good
alterations: none
floor/decking : concrete deck
other features: concrete guardrail with recessed panels

HISTORICAL DATA

erection date: 1920-21
erection cost: $8260.00
designer: Missouri State Highway Department
fabricator : none
contractor: county work force

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 249002.2; Missouri State Highway Department Primary System Bridge Record, located at Bridge Division, MHTD, Jefferson City MO; Missouri State Highway Board, **First Biennial Report**: 1917-18, pages 100-101; Missouri State Highway Board, **Second Biennial Report**: 1919-20, pages 129, 133, 148-49; field inspection by Clayton Fraser, 7 September 1990.

sign. rating: 57
evaluation: NRHP possibly eligible (well-preserved, early example of MSHD bridge design)

inventoried by: Clayton B. Fraser 30 April 1992

South Fabius River Bridge

MARN21

GENERAL DATA

structure no.: 289000.7
county: Marion

city/town: 5.4 miles east of Philadelphia
feature inters.: South Fabius River
cadastral grid: S2, T58N, R7W
highway route: county road
highway distr.: 3
current owner: Marion County

STRUCTURAL DATA

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

span number: 1
span length: 110.0'
total length: 160.0'
roadway width: 11.8'

condition: fair
alterations: none
floor/decking : concrete deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 punched rectangular eyebars; vertical: 2 channels with lacing; diagonal: 2 punched rectangular eyebars; counter: square eyebar with turnbuckle; lateral bracing: round rod with threaded ends; strut: braced angles; portal strut: angle A-frame; floor beam: I-beam, field-bolted to vertical; steel lattice guardrails

HISTORICAL DATA

erection date: 1914
erection cost: $2900.00
designer: unknown
fabricator : Lackawanna Steel Company, Pittsburgh PA
contractor: Dildine Bridge Company, Cameron MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 289000.7; Marion County Court Record V: page 82 (6 January 1915), located at the Marion County Courthouse, Palmyra MO; field inspection by Clayton Fraser, 8 September 1990.

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

inventoried by: Clayton B. Fraser 30 April 1992

Grassy Creek Bridge

MARN22

GENERAL DATA

structure no.: 291000.2
county: Marion
city/town: Hester
feature inters.: Grassy Creek
cadastral grid: S13, T59N, R7W
highway route: county road
highway distr.: 3
current owner: Marion County

STRUCTURAL DATA

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

span number: 1
span length: 67.0'
total length: 68.0'
roadway width: 11.7'
condition: fair (bridge closed)
alterations: none
floor/decking : timber deck over steel stringers
other features: upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 punched rectangular eyebars; vertical: 4 angles with lacing; diagonal: 2 punched rectangular eyebars; counter: round eyerod with turnbuckle; lateral bracing: round rod with threaded ends; floor beam: I-beam, field-bolted to vertical; steel lattice guardrails

HISTORICAL DATA

erection date: 1915
erection cost: unknown
designer: unknown
fabricator : Cambria Steel Company, Pittsburgh PA
contractor: Dildine Bridge Company, Hannibal MO

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 291000.2; Marion County Court Record, Book R, page 241 (7 October 1901), Book R, page 287 (3 March 1902), Book T, page 453 (6 June 1910), Book V, page 229 (20 July 1915), located at the Marion County Courthouse, Palmyra MO; field inspection by Clayton Fraser, 8 September 1990.

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

inventoried by: Clayton B. Fraser 30 April 1992

Taylor Bridge

MARN23

GENERAL DATA

structure no.: 304000.7
county: Marion
city/town: Taylor
feature inters.: North Fabius River
cadastral grid: S2, T59N, R6W
highway route: old Route 61
highway distr.: 3
current owner: Marion County

STRUCTURAL DATA

superstructure: steel, 10-panel, rigid-connected Parker through truss
substructure: concrete abutments and wingwalls

span number: 1
span length: 200.0'
total length: 201.0'
roadway width: 19.8'
condition: good
alterations: none
floor/decking : concrete deck over steel stringers
other features: steel pipe guardrails

HISTORICAL DATA

erection date: 1928-29
erection cost: $29,411.75
designer: Missouri State Highway Department
fabricator : unknown
contractor: Chermus Construction Company

references: Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 304000.7; files on Primary System Bridges - located at the Missouri Highway and Transportation Department, Jefferson City MO; Marion County Court Record Q: page 439 (7 March 1899), page 455 (1 March 1899); Marion County Court Record S: page 55 (7 September 1904); Marion County Court Record V: page 327 (6 December 1916), page 483 (11 July 1916); Marion County Court Record W: page 93 (24 July 1917) - located at the Marion County Courthouse, Palmyra MO.

sign. rating: 43
evaluation: NRHP non-eligible (typically configured example of long-span truss design by MSHD in 1920s and 1930s)

inventoried by: Clayton B. Fraser 30 April 1992

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Mark Twain Memorial Bridge
MHTD: K 931A1

MARN02

DATE(S) OF CONSTRUCTION
1934-1936

LOCATION
U.S. Highway 36 over Mississippi River; S21, T57N, R4W
Hannibal; Marion County MO / Pike County IL

USE (ORIGINAL / CURRENT)
highway bridge / highway bridge

RATING NRHP determined NRHP eligible (score: 75)

CONDITION
good

OWNER
States of Missouri and Illinois

span number: 3
span length: 562.0'
total length: 2636.0'
roadway wdt.: 22.0'

superstructure: steel, rigid-connected, cantilever through truss; west end: rigid-connected, polygonal-chorded Warren through truss, with truss two steel stringer approach spans; east end: rigid-connected, polygonal-chorded Warren through truss, with two rigid-connected Warren deck trusses and six steel stringer approach spans

substructure: concrete spill-through piers with Moderne detailing

floor/decking: concrete deck over steel stringers

other features: upper chord and inclined end post: 2 channels with cover plate and double lacing; lower chord: 2 channels with lacing, top and bottom (batten plates on west approach span; vertical: 2 channels with lacing or batten plates; diagonal: 2 channels with lacing, 4 angles with batten plates; lateral bracing: 2 angles; strut: braced channels and angles with lacing; floor beam: built-up plate girder; bridge plate at west approach: **MARK TWAIN MEMORIAL BRIDGE / Named as a tribute to the memory of Samuel L. Clemens (Mark Twain) on the occasion of the centennial of his birth / A.D. 1935 / Federal Emergency Administration of Public Works / Project No. 3624 / built by City of Hannibal, Missouri in cooperation with Hannibal Chamber of Commerce / Financed with the assistance of Missouri State Highway Commission [,] Illinois State Department of Public Works and Buildings[,] And Pike County, Illinois / Consulting Engineers[:] Sverdrup and Parcel[,] St. Louis, Mo / Contractors[:] The Mt. Vernon Bridge Co.[,] Union Bridge & Constr. Co.**

Although the citizens of eastern Missouri and western Illinois in the Hannibal region had been agitating for years to build a highway bridge over the Mississippi River at this point, it was not until passage of the Industrial Recovery Act in 1933 that the project became financially possible. As one of President Roosevelt's measures intended to mitigate the effects of the Depression, the law provided, among other things, for municipalities to secure federal funding for highway and bridge construction projects. While the legislation was working its way through Congress in May 1933, Ivan C. Yates, president of the Hannibal Chamber of Commerce's Public Works Committee, met with city, county and state officials, boosting for the bridge. In July 1933, at the urging of the Public Works Committee, the Hannibal City Council commissioned St. Louis engineers Sverdrup and Parcel to produce a preliminary feasibility study for the bridge. The Public

Works Committee then shuttled between state highway department officials in Jefferson City and Springfield, the War Department, Marion County (Missouri) and Pike County (Illinois) officials, the Missouri State Legislature, and even the Wabash Railroad, which held the charter for the existing railroad bridge over the Mississippi River at Hannibal.

After Sverdrup and Parcel's plans were approved by the War Department, Missouri Congressman M.A. Romjue introduced a bill authorizing construction of the proposed bridge, but it failed to pass during the 1933 session. Romjue re-introduced the measure the next year; it was ratified by the Senate on February 24, 1934. According to the **Hannibal Courier-Post:**

> **Enthusiasm ran high, for the bridge project was one of the most important steps in the progress of Hannibal, northeast Missouri and western Illinois. It would give the city a modern span across the Mississippi connecting the east and west sections of the Pikes Peak Ocean-to-Ocean highway, one of the most important east-west routes of the nation. Bearing the traffic of U.S. highway 36, it would make Hannibal a key point for cross-country travel as well as giving the city an up-to-date vehicular bridge for its everyday traffic.**

The Illinois Department of Public Works and Bridges appropriated $217,506.00 for the east approach, and the Missouri State Highway Commission appropriated $43,900.00 for the west approach and $200,000 for the bridge proper. In April 1934 the federal Public Works Administration pledged a $386,000.00 loan toward the bridge's construction and agreed to pay up to 30 percent of the labor costs (a commitment that eventually totaled $573,438.35). This last appropriation assured the bridge's construction. Sverdrup and Parcel completed the construction drawings, and in August 1934 the city contracted with the Union Bridge and Construction Company of Kansas City for the substructure (bid: $228,438.00), and the Mount Vernon Bridge Company of Mount Vernon, Ohio, for the superstructure (bid: $362,836.00).

Preliminary work on the piers began later that fall. By the end of November pile driving for the east-side land piers was well underway; by the end of the year excavation for six piers had been completed and a steel pile cofferdam built for the seventh. Using both open cofferdams and pneumatic caissons to build the massive piers, the Union Bridge crew continued work throughout the rest of the winter and, after suspending operations for spring flooding in March 1935, through the following year. On June 6, 1935, the Mount Vernon Bridge workers placed the first steel on the Illinois side. As construction was underway in 1935, the substructure and superstructure crews both averaged 100 men. Work on the cantilevered spans pushed through that August and September; the two ends of the channel span were riveted together in early November. After again suspending operations in the winter of 1935-36, work resumed on the superstructure the following spring. The last paint was applied to the steel on July 6th. Two days later the trusses were given a final inspection, and on July 20th the completed bridge was accepted by the City of Hannibal.

The Hannibal Bridge was enormous, with 17 steel spans of varying lengths and configurations, supported by heavy concrete piers. By the time it was completed, the bridge had consumed some 5.4 million pounds of fabricated structural steel, 645,000 pounds of reinforcing steel, 9,550 cubic yards of concrete, 10,050 tons of stone and 7,200 tons of sand. The Mark Twain Memorial Bridge, as it was officially

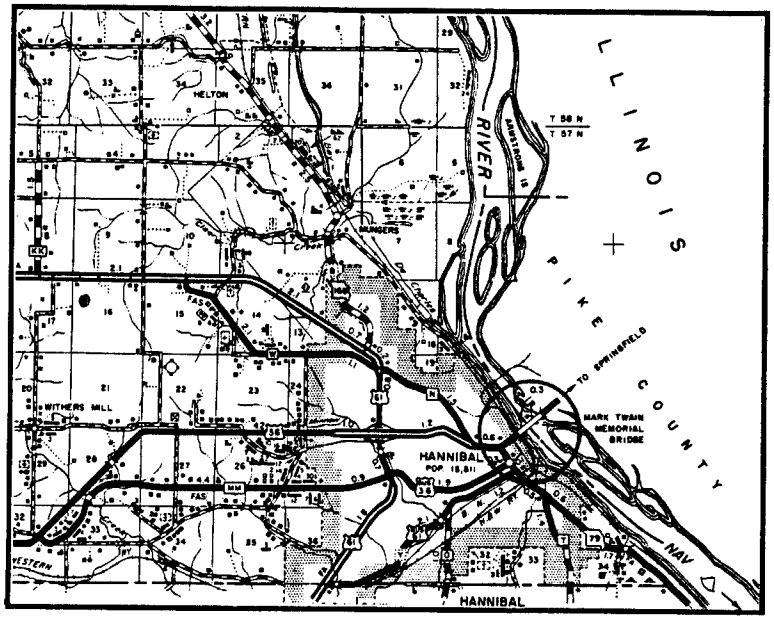
named, was formally dedicated in a gala celebration on September 4, 1936. Tolls were charged to defray the cost of the construction bonds and loans, until the bridge was eventually paid off and made toll-free. Today it carries heavy interstate traffic on U.S. 36, with deck and floor system repairs as the only alteration of note.

Bridges over the Mississippi River comprise some of America's longest examples of vehicular truss construction. With over 400 miles fronting on the great river, Missouri possesses several notable Mississippi River bridges. Seven of the state's longest crossings over the Mississippi are included in the statewide bridge inventory, all of which are considered eligible for the National Register. The Mark Twain Bridge is historically significant because it served as a pivotal transportation link between Illinois and Missouri on a major interstate highway, and it had a major impact on the socioeconomic development of northeastern Missouri. Completed in the fall of 1936, the bridge's importance is reflected in its extravagant dedication ceremony. Featuring no less a personage than President Franklin Roosevelt as the keynote speaker, the gala event attracted the governors of Missouri and Illinois and several members of both states' congressional delegations, including Missouri Senator Harry Truman. Featuring a cantilevered design, the Mark Twain Bridge ranks among Missouri's most monumental examples of steel truss construction. With its multiple through and deck truss and beam spans, the structure ranks as a superlative, well-preserved example of its type.

NAME(S) OF STRUCTURE

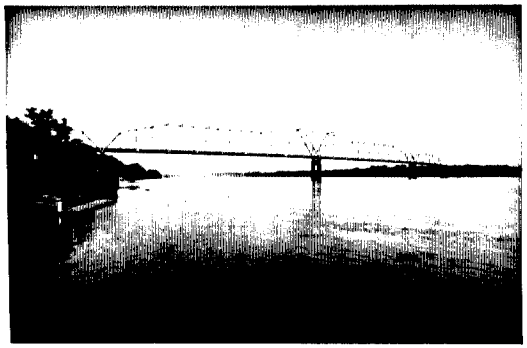
Mark Twain Memorial Bridge

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. K 931A1; files on Primary System Bridges, located at the Missouri Highway and Transportation Department, Jefferson, Missouri; **The Story of Hannibal** (1976), located at the Free Public Library, Hannibal, Missouri; **Hannibal Courier-Post**: "PWA Orders Contractors To Proceed", pages 1 and 2 (30 October 1934), "Bridge Piers Well Started", page 1 (1 February 1935), "Municipal Bridge Work Progresses", pages 1 and 2 (March 1935), "Start Work On One Of Main Piers To Municipal Bridge Over River; First Real Work In River Depths", page 1 (25 March 1935), "Resume Work On Bridge As River Drops", page 1 (10 June 1935), "Steady Rise in Mississippi Halts Work On One Bridge Pier, Job Goes Forward On Others, Steel In Place", pages 1 and 3 (20 June 1935), "Bridge Stands As Monument To Effort And Cooperation; Story Of Preliminary Activities Is An Interesting Chapter", "Throngs Line Route to See Roosevelt", "Roosevelt Pays Twain Tribute; Praises Spirit" (3 and 4 September 1936); **St. Louis Daily Globe-Democrat**: page 1 (4 September 1936); field inspection by Clayton Fraser, 8 September 1990.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton B. Fraser	Fraserdesign, Loveland CO	30 April 1992

HAER INVENTORY
Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Quincy Memorial Bridge
MHTD: L 99R

MARN03

DATE(S) OF CONSTRUCTION
1928-30

LOCATION
U.S. Highway 24 over Mississippi River; S2/11, T59N, R5W
Quincy; Marion County MO / Adams County IL County, Missouri

USE (ORIGINAL / CURRENT)
highway and railroad bridge / highway and railroad bridge

RATING NRHP eligible (score: 75)

CONDITION
good

OWNER
Missouri Highway and Transportation Department and Illinois Department of Transportation

span number: 2
span length: 628.0'
total length: 1754.0'
roadway wdt.: 24.0'

superstructure: steel, rigid-connected, continuous Baltimore through truss, with multiple-span deck girder and stringer approach spans

substructure: concrete abutment; concrete piers with art Moderne detailing under main span; concrete spill-through piers under deck girder approach span and steel stringer approach spans

floor/decking: unknown

other features: upper chord and inclined end post: 2 channels with cover plate and built-up, double channel lacing; lower chord: 2 built-up channels with lacing; vertical: 2 laced channels; diagonal: 2 laced channels; lateral bracing: 2 angles; strut: angles with lacing; floor beam: built-up plate girder; guardrail: steel; bridge plates on Illinois side - large plate: "**QUINCY MEMORIAL BRIDGE Dedicated to the memory of the men and women who served our country in the Armed Forces Erected June 13, 1930**", small plate: "**QUINCY MEMORIAL BRIDGE Mississippi River Redecked 1982 by State of Illinois FA RT. 63 SEC 1-2By Proj. BH-F-63 (37) Loading HS20 STR. N0 001 0019**"

Early 20th century motorists wishing the cross the Mississippi River at Quincy faced two options: riding the ferry that traversed the river in the warm-weather months, or crossing on the vehicular runways cantilevered from the sides of the CB&Q railroad bridge. With neither alternative especially palatable, the local citizenry boosted for a highway bridge at this point off-and-on for years. Plans to build the bridge finally began to coalesce in 1927 with the formation of the Quincy Memorial Bridge Company, a consortium of local business interests. The corporation proposed to build a highway bridge at Quincy and pay for its construction through tolls levied on bridge users. To design the immense structure, the Quincy Memorial Bridge Company hired the Chicago-based Strauss Engineering Corporation–the civil engineering firm later responsible for the design of the Golden Gate Bridge. As delineated by Strauss, the proposed bridge extended 1256 feet, with two 628-foot, rigid-connected Baltimore through truss spans carried continuously over a center concrete pier in the river's channel. The Kelly-Atkinson Construction Company, also of Chicago, was contracted to build the bridge's approaches and erect the superstructural steel; the Foundation Company of New York would build the 36 river piers.

Construction on the bridge proper commenced on June 15, 1928, with construction of the river piers begun in September. Laborers worked on the concrete piers despite massive floodwaters along the Mississippi in November 1928 and again in March 1929. Carrying the cantilevered weight of both main spans, the center pier was the most critical. Men in a pneumatic caisson excavated almost 118 feet below the river's surface to found the center pier on bedrock. The substructure was completed in September 1929. Steelworkers erected the multiple beam and truss spans in 1929-30, assembling the last of the superstructural steel by March 1, 1930.

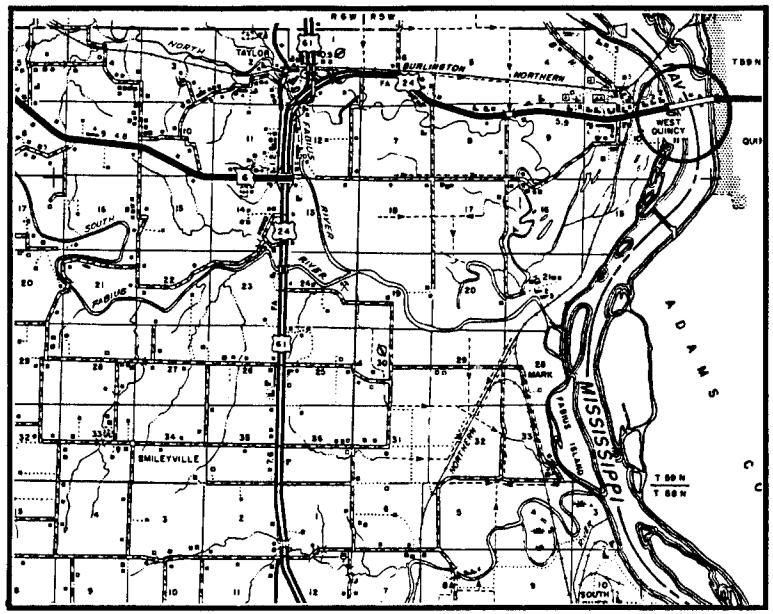
The Quincy Memorial Bridge was opened ceremoniously to traffic on June 16, 1930. It remained under the aegis of the Quincy Memorial Bridge Company as a toll crossing until the construction bonds were retired in 1945. Ownership of the bridge was then transferred to the states of Missouri and Illinois, and the bridge was made toll-free. In 1982, the St. Louis Bridge Construction Company was hired to reconstruct the bridge's deck. The original concrete floor was removed at that time and replaced with a steel grid deck. Other than this, the Quincy Memorial Bridge remains essentially unaltered.

Bridges over the Mississippi River comprise some of America's longest examples of vehicular truss construction. With over 400 miles fronting on the great river, Missouri possesses several notable Mississippi River bridges. Seven of the state's longest crossings over the Mississippi are included in the statewide bridge inventory, all of which are considered eligible for the National Register. The Quincy Memorial Bridge is historically significant because it served as a pivotal transportation link between Illinois and Missouri on a major interstate highway, and it had a major impact on the socioeconomic development of northeastern Missouri. Featuring an unusually configured continuous truss design and multiple girder approach spans, the bridge ranks among Missouri's most monumental examples of steel truss construction–a superlative, well-preserved example of its type.

NAME(S) OF STRUCTURE

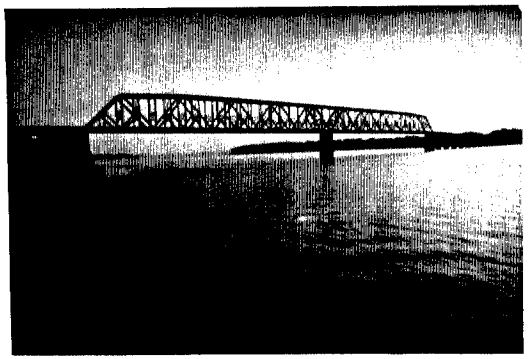
Quincy Memorial Bridge

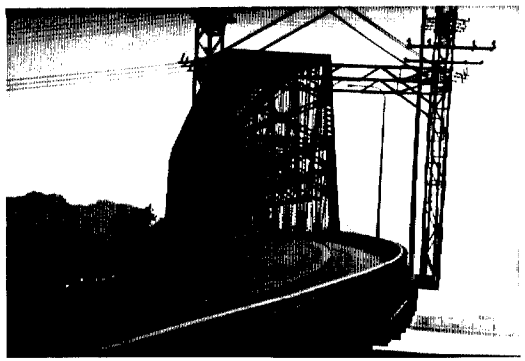
PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT GENERAL HIGHWAY MAP





SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. L 99R; files on Primary System Bridges, located at the Missouri Highway and Transportation Department, Jefferson City MO; "Memorial Bridge Plaque Dedicated," **Quincy Herald-Whig**, 31 May 1956; "Making River Bridge–47 Years Ago Here," **Quincy Herald-Whig**, 25 September 1977; "Seven New Mississippi River Highway Bridge," **Engineering News-Record**, 31 July 1930; field inspection by Clayton Fraser, 7 September 1990.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	30 April 1992

HAER INVENTORY

Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Lyell Ford Bridge
MHTD: 012000.7

MARN04

DATE(S) OF CONSTRUCTION
1898

LOCATION
county road over South Fabius River; S21, T59N, R8W
5.4 miles west of Emerson; Marion County, Missouri

USE (ORIGINAL / CURRENT)
roadway bridge / roadway bridge

RATING NRHP non-eligible (score: 45)

CONDITION
fair

OWNER
Marion County

span number:	1	superstructure:	steel, 6-panel, pin-connected Pratt through truss, with steel stringer approach spans
span length:	94.0'	substructure:	concrete abutments and concrete-filled steel cylinder piers
total length:	124.0'	floor/decking:	timber deck over steel stringers
roadway wdt.:	12.0'	other features:	upper chord and inclined end post: 2 channels with cover plate and lacing; lower chord: 2 looped rectangular eyebars; vertical: 2 channels with lacing (square eyebar with double-pronged ends at the hip); diagonal: 2 looped rectangular eyebars; lateral bracing: round rod with threaded ends; strut: 4 angles with lacing; portal strut: A-frame; floor beam: I-beam, U-bolted to vertical; steel angle guardrail

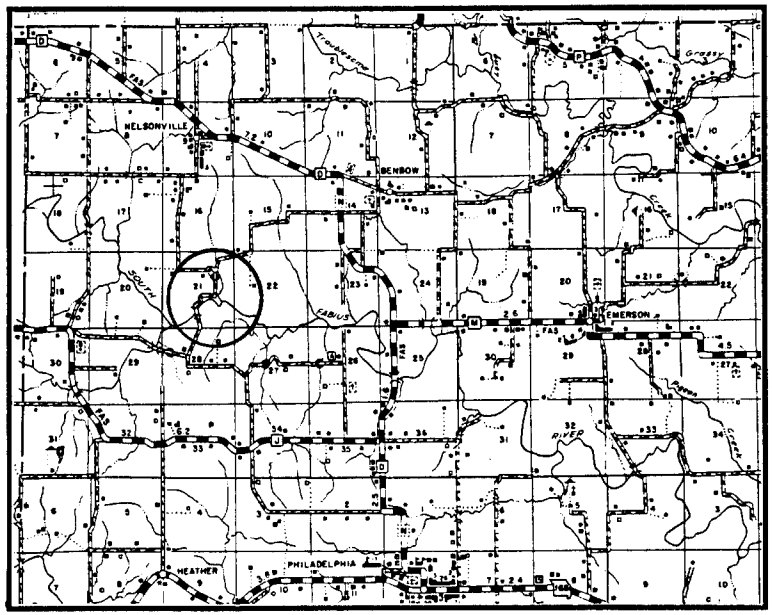
This medium-span through truss carries a gravel-surfaced county road over the South Fabius River west of Emerson. Preparations for construction of the structure began in April 1898, when the Marion County Court directed County Road and Bridge Commissioner Charles Wright to survey the site for a new bridge at Lyell Ford. Two months later the court ordered Wright to solicit competitive bids for the bridge's fabrication and erection, and in July the county awarded a contract to the Kansas City Bridge Company for $1140.00. Kansas City Bridge began excavating for the substructure later that summer; by the end of the year the bridge had been completed. The Lyell Ford Bridge has carried county-road traffic since, with only minor maintenance-related repairs and deck replacements.

In Missouri, the pinned Pratt through truss was the bridge of choice for short- and medium-span applications in the late 19th and early 20th centuries. As a result, thousands of Pratts were built across the state, and today Pratts constitute the most populous group of through trusses. Though it retains a relatively high degree of physical integrity, the Lyell Ford Bridge is unremarkable in its design, dimensions and detailing.

NAME(S) OF STRUCTURE

Lyell Ford Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT GENERAL HIGHWAY MAP

SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 012000.7; Marion County Court Record Q: page 291 (4 April 1898), page 313 (6 June 1898), page 327 (6 July 1898), located at the Marion County Courthouse, Palmyra MO; field inspection by Clayton Fraser, 8 September 1990.

INVENTORIED BY	AFFILIATION	DATE
Clayton B. Fraser	Fraserdesign, Loveland CO	30 April 1992

HAER INVENTORY

Missouri Historic Bridge Inventory

NAME(S) OF STRUCTURE
Bear Creek Bridge
MHTD: 249002.2

MARN18

DATE(S) OF CONSTRUCTION
1920-21

LOCATION
old Route 36 over Bear Creek; S24, T57N, R6W
4.0 miles west of Withers Mill; Marion County, Missouri

USE (ORIGINAL / CURRENT)
highway bridge / roadway bridge

RATING NRHP possibly eligible (score: 57)

CONDITION
good

OWNER
Marion County

span number:	1	superstructure:	skewed concrete through girder
span length:	40.0'	substructure:	concrete abutments and wingwalls
total length:	43.0'	floor/decking:	concrete deck
roadway wdt.:	18.0'	other features:	concrete guardrail with recessed panels

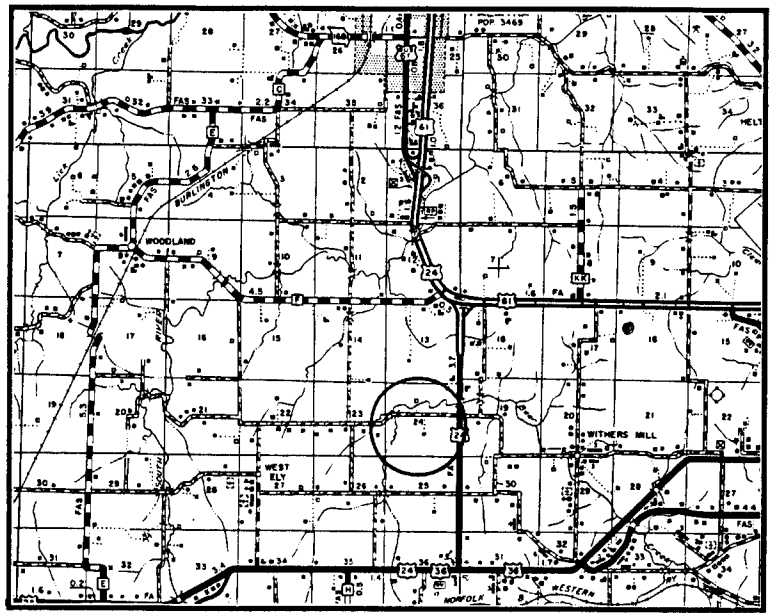
This medium-span concrete bridge carries a paved county road over Bear Creek some four miles west of Withers Mill. It is one of three such structures designed by the Missouri State Highway Department in 1920 as part of construction of the state road that extended westward from Hannibal. Designated Project 62, bids for construction of this 10¼-mile stretch of highway were solicited by the highway department early in 1920. As reported by the department in its biennial report, "The First letting held on May 24, 1920, resulted in two bids in excess of the engineer's estimate of cost. The second letting held on August 21, 1920, resulted in no bids whatever being received." Instead, the Marion County Court requested that the MSHD award the contract directly to the county, and the county then built the highway and bridges using force account labor. The total cost of the Withers Mill Bridge was reported as $8260.00. It has since carried varying degrees of traffic - first as State Highway 8, later as U.S. Highway 36, and finally as a county road - in essentially unaltered condition.

One of the provisions of the Hawes Road Law establishing the Missouri State Highway Department was that the newly formed agency would develop plans and specifications for bridges and culverts. "The Highway Department has maintained a drafting room which has been called upon for many kinds of service," the department reported in 1918, "but the especial function of which has been the preparation of bridge and culvert designs." By 1920, the department had developed several standards for short- and medium-span bridges, as well as special designs for almost 200 larger-scale structures. One of the latter was the Bear Creek Bridge in Marion County, designated MSHD Structure No. F-168. The highway department experimented with concrete through girders briefly as it was developing its first bridge standards but soon discarded the design in favor of deck girders and slabs. As a result, relatively few through girders were ever built in Missouri, and fewer yet remain in use today. The Bear Creek Bridge, like the Withers Mill Bridge [**MARN20**], is thus technologically significant as an uncommon, early example of early state highway department bridge engineering.

NAME(S) OF STRUCTURE

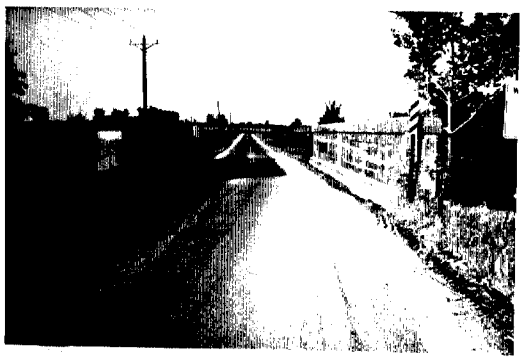
Bear Creek Bridge

PHOTOS AND SKETCH MAP OF LOCATION



LOCATION MAP

TAKEN FROM MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT GENERAL HIGHWAY MAP



SOURCES

Missouri Highway and Transportation Department, Structure Inventory and Appraisal: Structure No. 249002.2; Missouri State Highway Department Primary System Bridge Record, located at Bridge Division, MHTD, Jefferson City MO; Missouri State Highway Board, **First Biennial Report**: 1917-18, pages 100-101; Missouri State Highway Board, **Second Biennial Report**: 1919-20, pages 129, 133, 148-49; field inspection by Clayton Fraser, 7 September 1990.

INVENTORIED BY	**AFFILIATION**	**DATE**
Clayton B. Fraser	Fraserdesign, Loveland CO	30 April 1992