

# HISTORIC BRIDGE INVENTORY

## Dry Wash Bridge

### PROPERTY IDENTIFICATION

county	Maricopa	inventory number	00015
milepost	225.55	inventory route	SR 88
location	29.9 mi E Jct US 60	feature intersected	Dry Wash
city/vicinity	Tortilla Flat	USGS quadrangle	Horse Mesa Dam
district	83	UTM reference	12.473843.3711015

### STRUCTURAL INFORMATION

main span number	1	main span type	302
appr. span number	0	appr. span type	
degree of skew	0	guardrail type	4
main span length	32.0	superstructure	steel I-beam stringer
structure length	32.0	substructure	coursed stone ashlar abutments with stone rubble wingwalls
roadway width	14.0	floor/decking	concrete deck
structure width	16.7	other features	concrete curbs

### HISTORICAL INFORMATION

construction date	1923	designer/engineer	Arizona Highway Department
project number	non-FA project	builder/contractor	L.C. Lashmet Company, Prescott AZ
information source	ADOT bridge records	structure owner	Arizona Department of Transportation
alteration date(s)		alterations	

### NATIONAL REGISTER EVALUATION

inventory score	59	For additional information, see "Vehicular Bridges in Arizona 1880-1964" National Register Multiple Property Documentation Form	
		NRHP eligibility	eligible
		NRHP criteria	A <u>x</u> B <u>  </u> C <u>x</u>
		signif. statement	well-preserved, early example of common structural type, located on significant early route

### FORM COMPLETED BY

Clayton B. Fraser, Principal

FRASERdesign  
420 South County Road 23E  
Loveland, Colorado 80537  
31 October 2004



PHOTO INFORMATION

date of photo.: February 2003

view direction: west northwest

photo no.: 03.04.226 03.04.227



## CONSTRUCTION HISTORY

In 1922 the Arizona Highway Department undertook an extensive reconstruction project of the Apache Trail, a winding track that extended through the Mazatzal Mountains northeast of Apache Junction in rural Maricopa County. The road had initially been built in 1903-1905 by the US Reclamation Service to provide access to the site of Theodore Roosevelt Dam. After the dam's completion in 1911, the road served as a regional route between Phoenix and the dam. The work undertaken by AHD in 1922 was made necessary in part by the construction of Mormon Flat Dam below Roosevelt on the Salt River. The final component of the roadway project entailed construction of five small-scale bridges—three steel pony trusses with 74-foot, 60-foot and 55-foot spans, a 32-foot steel stringer bridge and a 9-foot culvert built using elephant shelters for centering. The stringer bridge was to span a small, rocky wash about halfway along the Apache Trail's length. As delineated by highway department engineers, it was comprised of a single 16-foot-wide span, with the steel stringer superstructure carried by battered stone ashlar abutments. The roadway deck was poured-in-place concrete; no guardrails were provided but the deck was bounded by integrally poured concrete curbs.

On July 28, 1923, the highway department contracted with L.C. Lashmet of Prescott to erect the Dry Wash Bridge, using concrete for the deck and abutments provided by AHD and steel I-beams procured from the AHD yard in Mesa. Lashmet began construction on August 16 and continued through the remainder of the year. Costing \$2,253 to build, the Dry Wash Bridge was opened to traffic later in 1923. It has functioned in place to the present, without alteration.

## SIGNIFICANCE STATEMENT

The Dry Wash Bridge was erected as a state project, because the narrow, winding Apache Trail could not meet Bureau of Public Roads specifications for a federal aid highway. Though never a major arterial, the Trail passes through some of Arizona's most spectacular desert scenery. It has historically been one of the state's most famous routes and has not changed substantially since its substantial rehabilitation by the highway department in the early 1920s. The Dry Wash Bridge accrues a degree of significance as an integral part of the Apache Trail. Technologically, the bridge is noteworthy for its relatively early date and excellent state of preservation. Steel stringer bridges were built sparingly by the state highway department in the 1910s and 1920s, and few of these early structures remain today. The Dry Wash Bridge is distinguished as the oldest dateable example of this structural type built by the State of Arizona—a well-preserved remnant of early highway construction.

## NATIONAL REGISTER EVALUATION

### TECHNOLOGICAL SIGNIFICANCE

☐ represents the work of a master  
☐ possesses high artistic values  
☒ represents a type, period or method of construction

### HISTORICAL SIGNIFICANCE

☐ associated with significant persons  
☒ associated with significant events or patterns  
☐ contributes to historical district

### NATIONAL REGISTER CRITERIA

☒ Criterion A  
☐ Criterion B  
☒ Criterion C

### NATIONAL REGISTER ELIGIBILITY

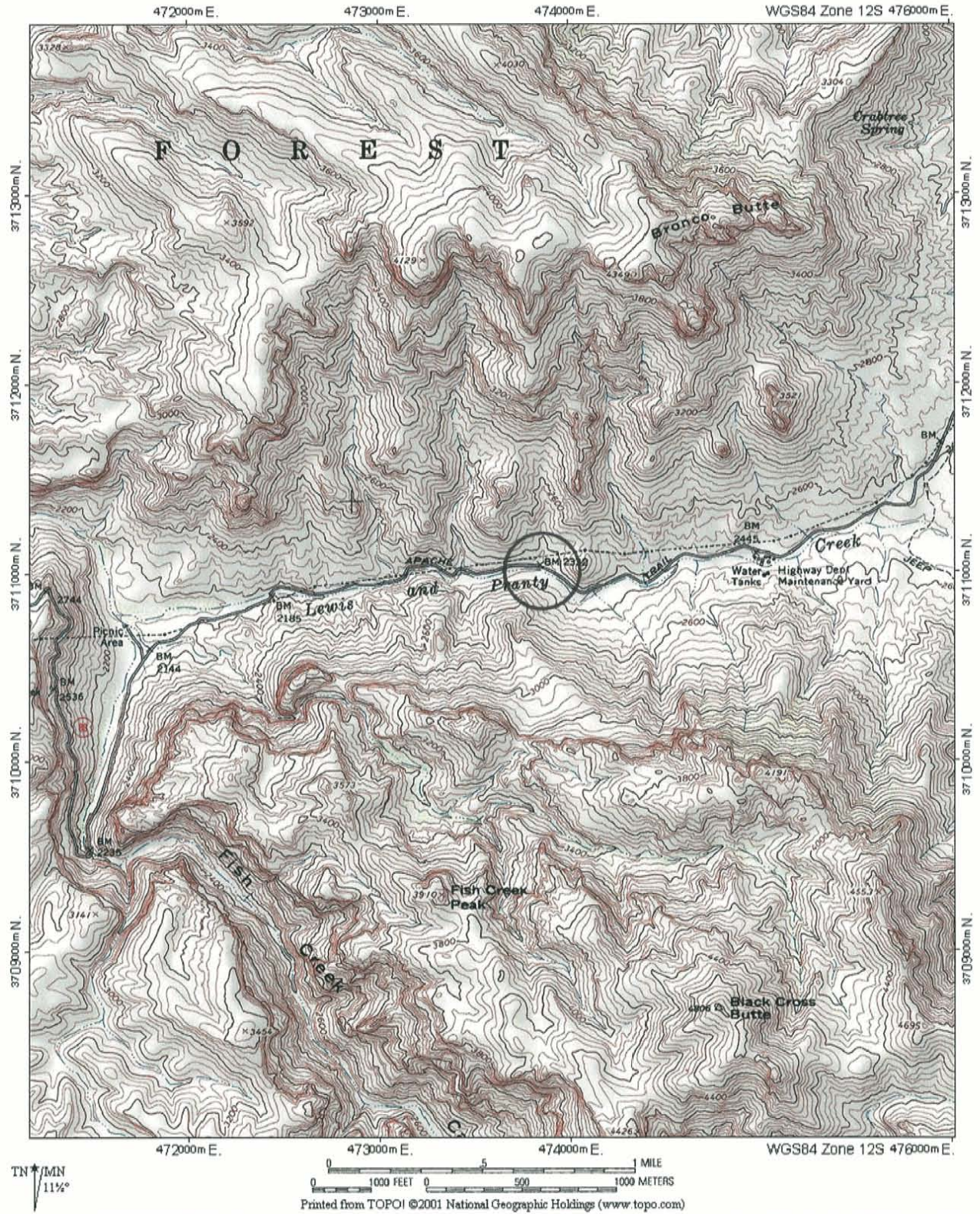
individually eligible ☒ yes ☐ no  
 contributes to district ☐ yes ☒ no

AREA OF SIGNIFICANCE: Transportation; Engineering  
 PERIOD OF SIGNIFICANCE: 1923-1964  
 THEME(S): Transportation: Highways



# DRY WASH BRIDGE

Structure No. 0015



Location Map



# HISTORIC BRIDGE INVENTORY

## Mormon Flat Bridge

### PROPERTY IDENTIFICATION

county	Maricopa	inventory number	00026
milepost	209.62	inventory route	SR 88
location	13.8 mi E Jct US 60	feature intersected	First Water Creek
city/vicinity	Tortilla Flat	USGS quadrangle	Mormon Flat Dam
district	78	UTM reference	12.458845.3711100

### STRUCTURAL INFORMATION

main span number	1	main span type	310
appr. span number	1	appr. span type	302
degree of skew	0	guardrail type	6
main span length	160.0	superstructure	steel rigid-connected Camelback through truss
structure length	180.0	substructure	concrete abutments and pier with brick wingwalls
roadway width	15.0	floor/decking	steel grate deck over steel stringers
structure width	15.6	other features	upper chord: 2 channels w/ cover plate and lacing; lower chord: 2 angles w/ batten plates; vertical/diagonal: 2 or 4 angles w/ batten plates; strut and lateral bracing: 1 angle; floor beam: I-beam; steel channel guardrails

### HISTORICAL INFORMATION

construction date	1924	designer/engineer	Arizona Highway Department
project number	7-1-88-9A	builder/contractor	state work force
information source	ADOT bridge records	structure owner	Arizona Department of Transportation
alteration date(s)	1940 1970	alterations	deck replaced, twice

### NATIONAL REGISTER EVALUATION

inventory score	73	For additional information, see "Vehicular Bridges in Arizona 1880-1964" National Register Multiple Property Documentation Form	
		NRHP eligibility	listed
		NRHP criteria	A <u>x</u> B <u>  </u> C <u>x</u>
		signif. statement	well-preserved example of rare structural type, located on significant early route

### FORM COMPLETED BY

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420 South County Road 23E  
Loveland, Colorado 80537  
31 October 2004



# MORMON FLAT BRIDGE

Site No. 0026



## PHOTO INFORMATION

date of photo: February 2003

view direction: southeast northeast

photo no.: 03.04.205 03.04.210



## CONSTRUCTION HISTORY

As work on the Mormon Flat Dam northeast of Apache Junction neared completion in 1923, the Salt River Valley Water Users' Association was charged with building a new road and two new bridges on the existing Apache Trail to replace existing structures that would be flooded by the newly created reservoir. The association built a 342-foot timber trestle at LaBarge Wash and prepared to build a similar structure over Willow Creek. Calling the LaBarge Wash trestle "of questionable strength and durability," the Arizona Highway Department instead proposed a steel truss across the steep-walled canyon over Willow Creek and agreed to pay the difference in cost. State Engineer W.C. Lefebvre hurriedly supervised the design of this medium-span through truss in September 1924. As delineated by the state's bridge department, the simply supported truss featured a Camelback web configuration, with nine equal-length panels and riveted connections at the chord intersections. The truss superstructure was to be supported by reinforced concrete abutments and battered pier and approached on the south side by a single steel stringer span.

Lefebvre ordered the truss from a fabricator, and on November 28, 1924, a state work force began excavating for the spread footings under the concrete abutments. Under AHD general foreman M.H. Hasler, the men pushed the bridge's construction through the winter. As the rising water from the reservoir flooded the timber bridge on the lower road, traffic was first routed over the partially completed Mormon Flat Bridge on February 1, 1925. The crew completed the decking at the end of the month. The Mormon Flat Bridge has functioned in place since, with the replacement of the original deck with a steel grid deck as the only structural modification of note.

## SIGNIFICANCE STATEMENT

The Mormon Flat Bridge was erected as a state project, because the narrow, winding Apache Trail could not meet Bureau of Public Roads specifications for a federal aid highway. Though never a major arterial, the Trail passes through some of Arizona's most spectacular desert scenery. It has historically been one of the state's most famous routes and has not changed substantially since its substantial rehabilitation by the highway department in the early 1920s. The Mormon Flat Bridge accrues a degree of significance as an integral part of the Apache Trail. Technologically, the bridge is distinguished as one of only three Camelback through trusses found in the inventory (others: Gillespie Dam Bridge [8021] in Maricopa County and Walnut Grove Bridge [8227]) in Yavapai County. As such it is significant as one of the few remaining examples in Arizona of what was once a mainstay structural type.

## NATIONAL REGISTER EVALUATION

## TECHNOLOGICAL SIGNIFICANCE

- ☐ represents the work of a master  
☐ possesses high artistic values  
☒ represents a type, period or method of construction

## HISTORICAL SIGNIFICANCE

- ☐ associated with significant persons  
☒ associated with significant events or patterns  
☐ contributes to historical district

## NATIONAL REGISTER CRITERIA

- ☒ Criterion A  
☐ Criterion B  
☒ Criterion C

## NATIONAL REGISTER ELIGIBILITY

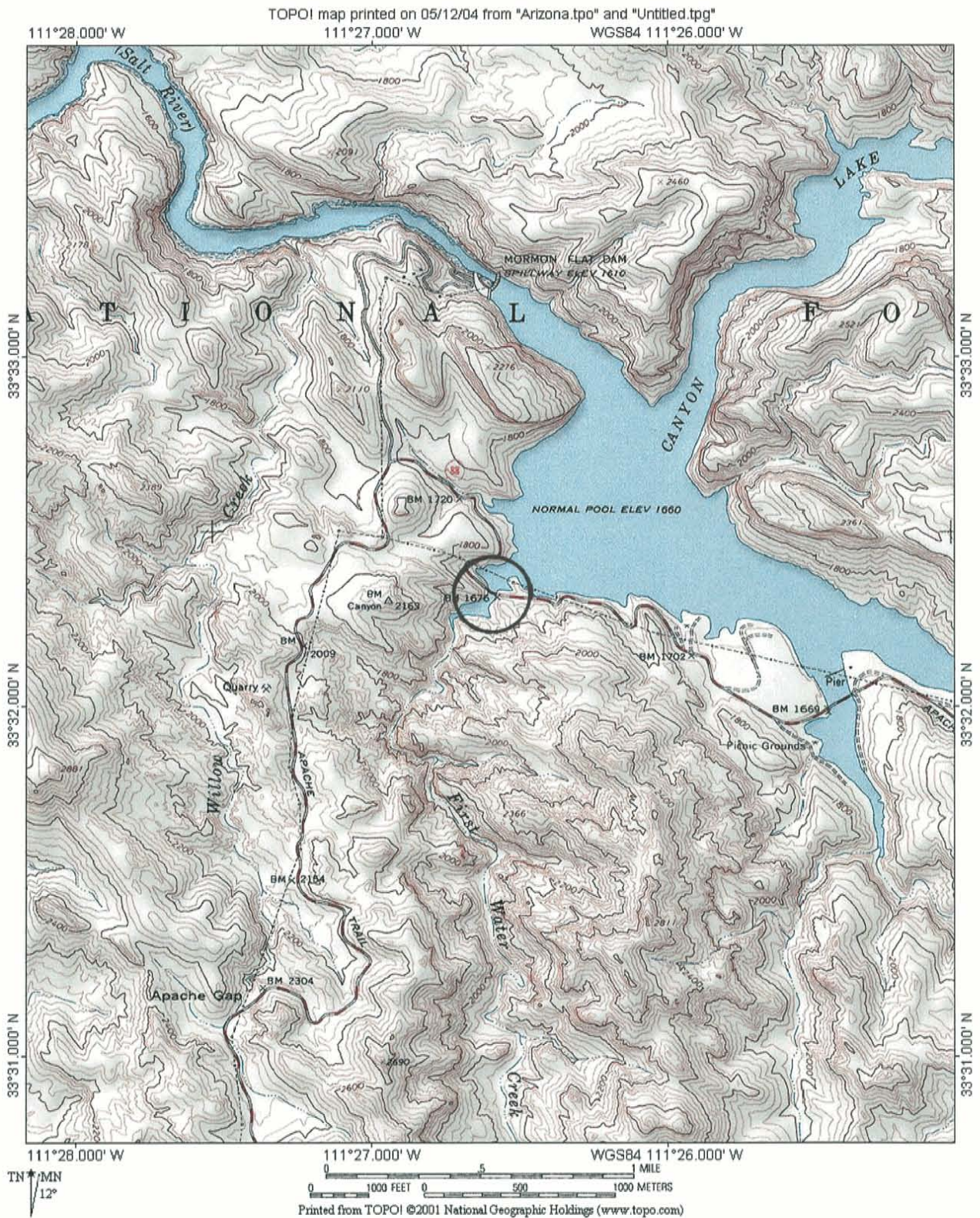
- individually eligible ☒ yes ☐ no  
 contributes to district ☐ yes ☒ no

AREA OF SIGNIFICANCE: Transportation; Engineering  
 PERIOD OF SIGNIFICANCE: 1925-1964  
 THEME(S): Transportation: Highways



# MORMON FLAT BRIDGE

Site No. 0026



Location Map



# HISTORIC BRIDGE INVENTORY

## Fish Creek Bridge

### PROPERTY IDENTIFICATION

county	Maricopa	inventory number	00027
milepost	223.50	inventory route	SR 88
location	27.7 M E Jct US 60	feature intersected	Fish Creek
city/vicinity	Tortilla Flat	USGS quadrangle	Horse Mesa Dam
district	83	UTM reference	12.471480.3709518

### STRUCTURAL INFORMATION

main span number	1	main span type	310
appr. span number	0	appr. span type	
degree of skew	0	guardrail type	6
main span length	74.0	superstructure	steel rigid-connected Warren pony truss
structure length	74.0	substructure	concrete abutments and stone masonry wingwalls
roadway width	15.0	floor/decking	concrete deck over steel stringers
structure width	16.0	other features	upper chord: 2 channels w/ cover plate and lacing; lower chord: 2 angles w/ batten plates; vertical/diagonal: 2 or 4 angles w/ batten plates; lateral bracing: 1 angle; floor beam: I-beam; steel guardrails w/ concrete curbs

### HISTORICAL INFORMATION

construction date	1923	designer/engineer	Arizona Highway Department
project number	non-FA project	builder/contractor	L.C. Lashmet Company, Prescott AZ
information source	ADOT bridge records	structure owner	Arizona Department of Transportation
alteration date(s)		alterations	none

### NATIONAL REGISTER EVALUATION

inventory score	62	For additional information, see "Vehicular Bridges in Arizona 1880-1964" National Register Multiple Property Documentation Form	
		NRHP eligibility	listed
		NRHP criteria	A <u>x</u> B <u>  </u> C <u>x</u>
		signif. statement	well-preserved example of rare structural type, located on significant early route

### FORM COMPLETED BY

Clayton B. Fraser, Principal

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420 South County Road 23E  
Loveland, Colorado 80537  
31 October 2004



# FISH CREEK BRIDGE

Structure No. 0027



## PHOTO INFORMATION

date of photo: February 2003

view direction: east northwest

photo no.: 03.04.220 03.04.218

FRASERDESIGN



## CONSTRUCTION HISTORY

In 1922 the Arizona Highway Department undertook an extensive reconstruction project of the Apache Trail, a winding track that extended through the Mazatzal Mountains northeast of Apache Junction in rural Maricopa County. The road had initially been built in 1903-1905 by the U.S. Reclamation Service to provide access to the site of Theodore Roosevelt Dam. After the dam's completion in 1911, the road served as a regional route between Phoenix and the dam. The work undertaken by AHD in 1922 was made necessary in part by the construction of Mormon Flat Dam below Roosevelt on the Salt River. The final component of the roadway project entailed construction of five small-scale bridges—three steel pony trusses with 74-foot, 60-foot and 55-foot spans, a 32-foot steel stringer bridge and a 9-foot culvert built using elephant shelters for centering. For two of the trusses—to be used over Fish Creek and Lewis and Pranty Creek [0026]—the highway department ordered steel superstructures from the Missouri Valley Bridge & Iron Works of Leavenworth, Kansas, on December 2, 1922. Using steel components rolled by the Inland and Illinois Steel companies, Missouri Valley B&I fabricated the trusses and shipped their pieces by rail to Mesa early the following year. Both bridges featured standard Warren web configurations, with riveted connections and steel stringers to carry concrete decks.

That July AHD contracted with L.C. Lashmet of Prescott to build the abutments and erect the trusses. Work proceeded without report of incident throughout the rest of the year, and both structures were opened to traffic on December 31, 1923. Total cost for the Fish Creek and Lewis and Pranty Creek bridges: \$8,781. Since their completion, both have carried relatively light traffic in place, with their sub- and superstructures in essentially unaltered condition.

## SIGNIFICANCE STATEMENT

The Fish Creek and Lewis and Pranty Creek bridges were erected as a state project, because the narrow, winding Apache Trail could not meet Bureau of Public Roads specifications for a federal aid highway. Though never a major arterial, the Trail passes through some of Arizona's most spectacular desert scenery. It has historically been one of the state's most famous routes and has not changed substantially since its substantial rehabilitation by the highway department in the early 1920s. The two trusses accrue a degree of significance as an integral part of the Apache Trail. Technologically, the bridges typify a mainstay structural type—the rigid-connected Warren pony truss. They are today distinguished as well-preserved, well-documented examples of this common vehicular type.

## NATIONAL REGISTER EVALUATION

## TECHNOLOGICAL SIGNIFICANCE

☐ represents the work of a master  
☐ possesses high artistic values  
☒ represents a type, period or method of construction

## HISTORICAL SIGNIFICANCE

☐ associated with significant persons  
☒ associated with significant events or patterns  
☐ contributes to historical district

## NATIONAL REGISTER CRITERIA

☒ Criterion A  
☐ Criterion B  
☒ Criterion C

## NATIONAL REGISTER ELIGIBILITY

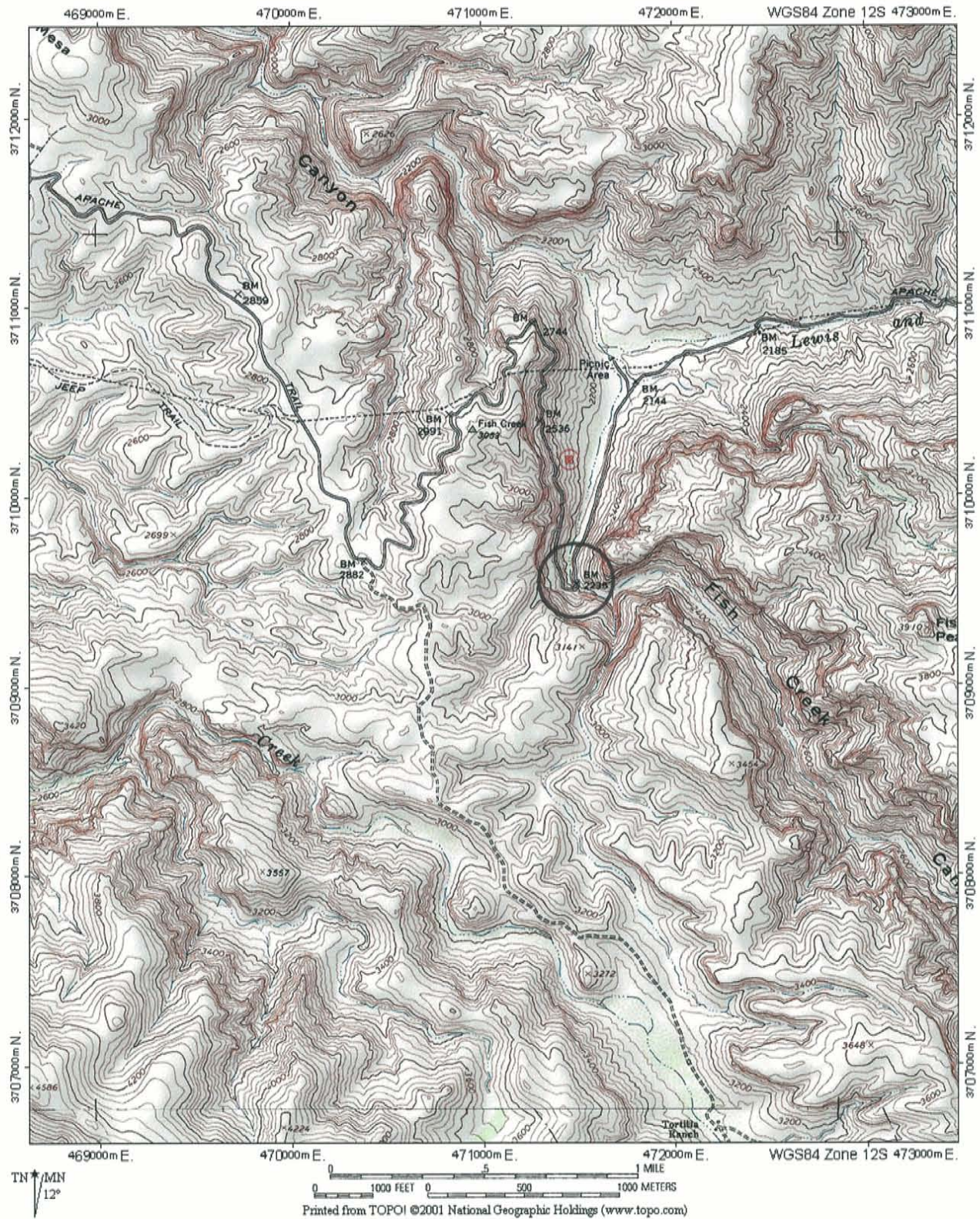
individually eligible ☒ yes ☐ no  
 contributes to district ☐ yes ☒ no

AREA OF SIGNIFICANCE: Transportation; Engineering  
 PERIOD OF SIGNIFICANCE: 1923-1964  
 THEME(S): Transportation: Highways



# FISH CREEK BRIDGE

Structure No. 0027



Location Map



# HISTORIC BRIDGE INVENTORY

## Lewis and Pranty Creek Bridge

### PROPERTY IDENTIFICATION

county	Maricopa	inventory number	00028
milepost	224.60	inventory route	SR 88
location	28.9 Mi E Jct US 60	feature intersected	Lewis and Pranty Creek
city/vicinity	Tortilla Flat	USGS quadrangle	Horse Mesa Dam
district	83	UTM reference	12.472440.3710880

### STRUCTURAL INFORMATION

main span number	1	main span type	310
appr. span number	0	appr. span type	
degree of skew	0	guardrail type	6
main span length	60.0	superstructure	steel rigid-connected Warren pony truss
structure length	60.0	substructure	concrete abutments and stone masonry wingwalls
roadway width	13.0	floor/decking	concrete deck over steel stringers
structure width	16.3	other features	upper chord: 2 channels w/ cover plate and lacing; lower chord: 2 angles w/ batten plates; vertical/diagonal: 2 or 4 angles w/ batten plates; lateral bracing: 1 angle; floor beam: I-beam; steel guardrails w/ concrete curbs

### HISTORICAL INFORMATION

construction date	1923	designer/engineer	Arizona Highway Department
project number	non-FA project	builder/contractor	L.C. Lashmet Company, Prescott AZ
information source	ADOT bridge records	structure owner	Arizona Department of Transportation
alteration date(s)		alterations	

### NATIONAL REGISTER EVALUATION

inventory score	62	For additional information, see "Vehicular Bridges in Arizona 1880-1964" National Register Multiple Property Documentation Form	
		NRHP eligibility	listed
		NRHP criteria	A <input checked="" type="checkbox"/> B <input type="checkbox"/> C <input checked="" type="checkbox"/>
		signif. statement	well-preserved example of rare structural type, located on significant early route

### FORM COMPLETED BY

Clayton B. Fraser, Principal

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420 South County Road 23E  
Loveland, Colorado 80537  
31 October 2004





PHOTO INFORMATION

date of photo.: February 2003

view direction: east northeast

photo no.: 03.04.223 03.04.225



## CONSTRUCTION HISTORY

In 1922 the Arizona Highway Department undertook an extensive reconstruction project of the Apache Trail, northeast of Apache Junction in rural Maricopa County. The road had initially been built in 1903-1905 by the U.S. Reclamation Service to provide access to the site of Theodore Roosevelt Dam. After the dam's completion in 1911, the road served as a regional route between Phoenix and the dam. The work undertaken by AHD in 1922 was made necessary in part by the construction of Mormon Flat Dam below Roosevelt on the Salt River. The final component of the roadway project entailed construction of five small-scale bridges—three steel pony trusses with 74-foot, 60-foot and 55-foot spans, a 32-foot steel stringer bridge and a 9-foot culvert built using elephant shelters for centering. For two of the trusses—to be used over Fish Creek [0027] and Lewis and Pranty Creek—the highway department ordered steel superstructures from the Missouri Valley Bridge & Iron Works of Leavenworth, Kansas, on December 2, 1922. Using steel components rolled by the Inland and Illinois Steel companies, Missouri Valley fabricated the trusses and shipped their pieces by rail to Mesa early the following year. Both bridges featured standard Warren web configurations, with riveted connections and steel stringers to carry concrete decks.

That July AHD contracted with L.C. Lashmet of Prescott to build the abutments and erect the trusses. Work proceeded without report of incident throughout the rest of the year, and both structures were opened to traffic on December 31, 1923. Total cost for the Fish Creek and Lewis and Pranty Creek bridges: \$8,781. Since their completion, both have carried relatively light traffic in place, with their sub- and superstructures in essentially unaltered condition.

## SIGNIFICANCE STATEMENT

The Fish Creek and Lewis and Pranty Creek bridges were erected as a state project, because the narrow, winding Apache Trail could not meet Bureau of Public Roads specifications for a federal aid highway. Though never a major arterial, the Trail passes through some of Arizona's most spectacular desert scenery. It has historically been one of the state's most famous routes and has not changed substantially since its substantial rehabilitation by the highway department in the early 1920s. The two trusses accrue a degree of significance as an integral part of the Apache Trail. Technologically, the bridges typify a mainstay structural type—the rigid-connected Warren pony truss. They are today distinguished as well-preserved, well-documented examples of this common vehicular type.

## NATIONAL REGISTER EVALUATION

## TECHNOLOGICAL SIGNIFICANCE

☒ represents the work of a master  
☐ possesses high artistic values  
☐ represents a type, period or method of construction

## HISTORICAL SIGNIFICANCE

☐ associated with significant persons  
☒ associated with significant events or patterns  
☐ contributes to historical district

## NATIONAL REGISTER CRITERIA

☒ Criterion A  
☐ Criterion B  
☒ Criterion C

## NATIONAL REGISTER ELIGIBILITY

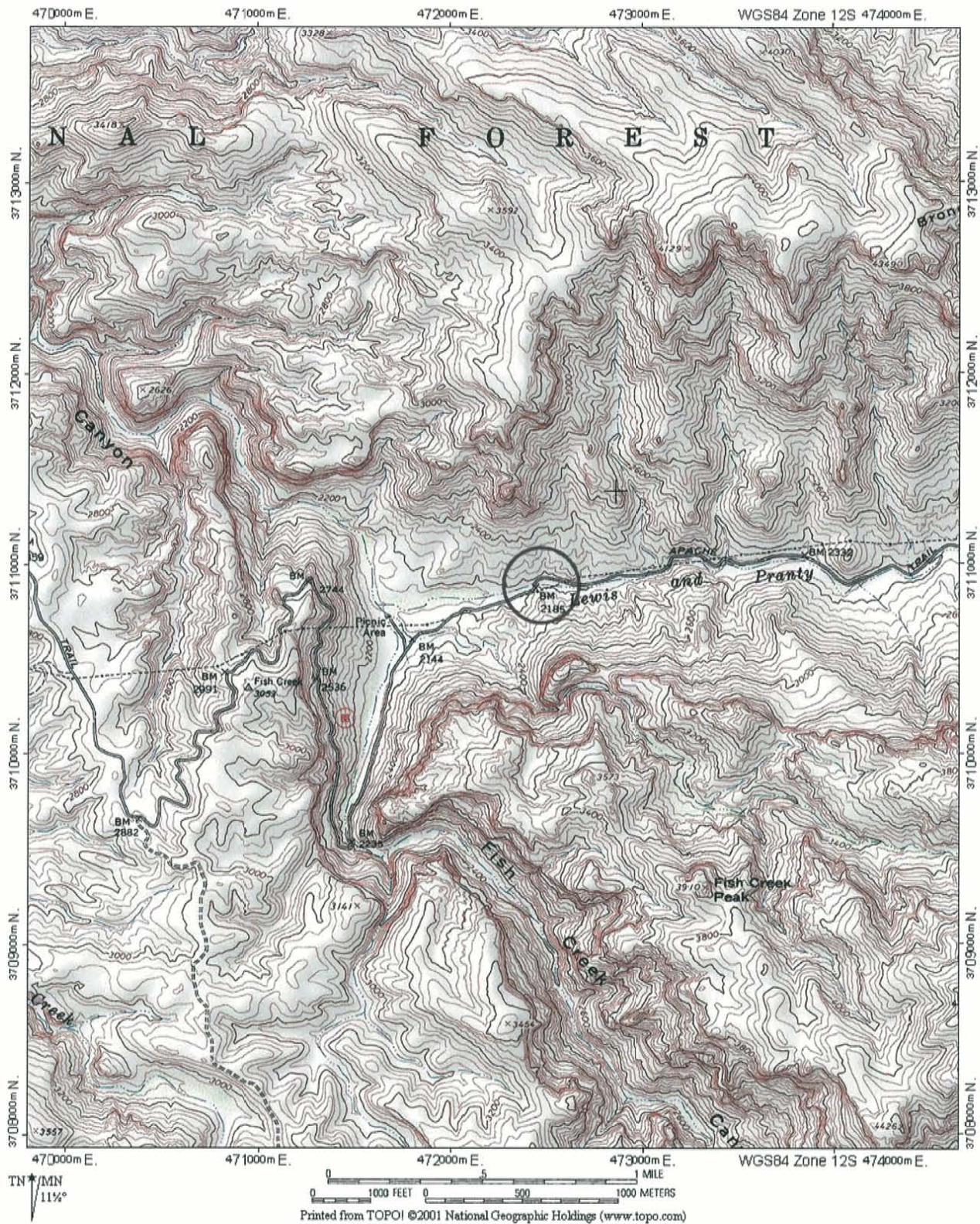
individually eligible ☒ yes ☐ no  
 contributes to district ☐ yes ☒ no

AREA OF SIGNIFICANCE: Transportation; Engineering  
 PERIOD OF SIGNIFICANCE: 1923-1964  
 THEME(S): Transportation: Highways



# LEWIS AND PRANTY CREEK BRIDGE

Structure No. 0028



Location Map



# HISTORIC BRIDGE INVENTORY

## Pine Creek Bridge

### PROPERTY IDENTIFICATION

county	Maricopa	inventory number	00031
milepost	233.50	inventory route	SR 88
location	37.8 mi E Jct US 60	feature intersected	Pine Creek
city/vicinity	Roosevelt	USGS quadrangle	Pinyon Mountain
district	83	UTM reference	12.480970.3717480

### STRUCTURAL INFORMATION

main span number	2	main span type	211
appr. span number	0	appr. span type	
degree of skew	0	guardrail type	4
main span length	48.0	superstructure	concrete filled spandrel arch
structure length	132.0	substructure	concrete abutments, wingwalls and pier
roadway width	16.0	floor/decking	gravel roadway over earth fill
structure width	18.5	other features	moulded concrete guardrails with paneled concrete parapet walls; incised line delineating concrete arch ring

### HISTORICAL INFORMATION

construction date	1925	designer/engineer	Arizona Highway Department
project number	non-FA project	builder/contractor	state work force
information source	ADOT bridge records	structure owner	Arizona Department of Transportation
alteration date(s)		alterations	

### NATIONAL REGISTER EVALUATION

inventory score	59	For additional information, see "Vehicular Bridges in Arizona 1880-1964" National Register Multiple Property Documentation Form	
		NRHP eligibility	listed
		NRHP criteria	A <u>x</u> B <u>  </u> C <u>x</u>
		signif. statement	well-preserved example of rare structural type, located on significant early route

### FORM COMPLETED BY

Clayton B. Fraser, Principal

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Loveland, Colorado 80537  
31 October 2004





## PHOTO INFORMATION

date of photo.: February 2003

view direction: south northeast

photo no.: 03.02.214 02.11.217



## CONSTRUCTION HISTORY

Construction of Horse Mesa Dam, a subsidiary structure to Roosevelt Dam on the Salt River, forced the Arizona Highway Department in the early 1920s to reroute several miles of the Apache Trail (State Highway 88). Built in 1903-1905 to provide access to Roosevelt, the route meandered through the rugged Mazatzal Mountains northeast of Apache Junction. By early 1925 AHD was working on the final nine-mile section below the damsite, termed the Horse Mesa Section. The state work force had completed the realigned road as far as Pine Creek in June and soon thereafter began construction of the Pine Creek Bridge. Designed that year by the highway department, the bridge was comprised of two 48-foot elliptical arches that sprang from concrete abutments and a pier with angled cutwaters, which were set into a solid stone substrate. The bridge featured an 18-foot width, with the earth fill deck bounded on both sides by solid concrete guardrails with recessed rectangular panels.

General Foreman M.H. Hasler supervised the force account laborers as construction on the bridge proceeded throughout the summer. They completed the bridge in September, as work on the adjacent highway was halfway complete. A remote crossing of a small watercourse on a narrow, winding road, the Pine Creek Bridge still carries traffic today in unaltered condition.

## SIGNIFICANCE STATEMENT

In addition to its long-span Luten and open spandrel concrete arches, Arizona Highway Department engineers in the 1910s and 1920s designed what they termed a "common" or segmental filled spandrel arch, which had a profile and reinforcing plan that had been patterned after Daniel Luten's patented design. The Pine Creek Bridge was unusual in that it followed none of these three standards. In this, the bridge is an interesting example of a relatively common structural type. The Pine Creek Bridge is historically significant for its association with the Apache Trail. Though never a major arterial, the route passes through some of Arizona's most spectacular desert scenery. It has historically been one of the state's most famous routes and has not changed substantially since its rehabilitation by the highway department in the 1920s.

## NATIONAL REGISTER EVALUATION

## TECHNOLOGICAL SIGNIFICANCE

☒ represents the work of a master  
☐ possesses high artistic values  
☐ represents a type, period or method of construction

## HISTORICAL SIGNIFICANCE

☐ associated with significant persons  
☒ associated with significant events or patterns  
☐ contributes to historical district

## NATIONAL REGISTER CRITERIA

☒ Criterion A  
☐ Criterion B  
☒ Criterion C

## NATIONAL REGISTER ELIGIBILITY

individually eligible ☒ yes ☐ no  
 contributes to district ☐ yes ☒ no

AREA OF SIGNIFICANCE: Transportation; Engineering  
 PERIOD OF SIGNIFICANCE: 1925-1964  
 THEME(S): Transportation: Highways



## Structure No. 0031





# HISTORIC BRIDGE INVENTORY

## Gila Bend Overpass

### PROPERTY IDENTIFICATION

county	Maricopa	inventory number	00118
milepost	120.46	inventory route	SR B 8; EB
location	0.2 mi E Jct SR 85	feature intersected	Southern Pacific Railroad
city/vicinity	Gila Bend	USGS quadrangle	Gila Bend
district	82	UTM reference	12.341398.3646960

### STRUCTURAL INFORMATION

main span number	3	main span type	303
appr. span number	0	appr. span type	
degree of skew	30	guardrail type	9
main span length	45.0	superstructure	steel I-beam deck girder
structure length	149.0	substructure	concrete abutments, wingwalls and spill-though piers
roadway width	24.0	floor/decking	concrete deck with asphalt overlay
structure width	27.0	other features	Art Moderne stepped concrete pylons; moulded concrete guardrails with arch-pierced parapet walls lined with concrete Jersey barriers

### HISTORICAL INFORMATION

construction date	1934	designer/engineer	Arizona Highway Department
project number	NRS 100-A	builder/contractor	Vinson & Pringle, Phoenix AZ
information source	ADOT bridge records	structure owner	Arizona Department of Transportation
alteration date(s)	1992	alterations	Jersey barriers added inside original guardrails

### NATIONAL REGISTER EVALUATION

inventory score	57	For additional information, see "Vehicular Bridges in Arizona 1880-1964" National Register Multiple Property Documentation Form	
		NRHP eligibility	listed
		NRHP criteria	A <u>x</u> B <u>  </u> C <u>x</u>
		signif. statement	earliest remaining example of AHD architectural treatment on urban grade separation

### FORM COMPLETED BY

Clayton B. Fraser, Principal

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Loveland, Colorado 80537  
31 October 2004



# GILA BEND OVERPASS

Structure No. 0118



## PHOTO INFORMATION

date of photo.: April 2002

view direction: north southwest

photo no.: 02.04.59 02.04.57



## CONSTRUCTION HISTORY

National Recovery Secondary (NRS) Project 100-A involved construction of 25.8 miles of State Highway 84 from Gila Bend east in Maricopa County. At the west end of the project, on the outskirts of Gila Bend, the Arizona Highway Department developed a grade separation to carry the highway over the Southern Pacific Railroad. The Gila Bend Overpass was part of a statewide program intended to eliminate on-grade crossings with railroads. For this overpass—designated as NRS Project 100-B—the AHD bridge department in 1933 engineered a three-span concrete/steel structure. Each span was comprised of two deep-profile, rolled steel I-beam girders, supported by concrete abutments and spill-through piers. The steel girder superstructure was relatively straightforward, but the concrete substructure featured Art Moderne pylons, giving the bridge a distinctively streamlined architectural treatment.

On February 9, 1934, the highway department contracted with Phoenix-based road contractors Vinson & Pringle, low bidders for the project at \$42,528. Legal problems snarled the highway construction, but Vinson & Pringle pushed the work on the overpass, completing it in June 1934. As built, the bridge contained 84,570 pounds of structural steel, 73,555 pounds of reinforcing steel and 540 cubic yards of concrete. The Gila Bend Overpass no longer carries the mainline of traffic over the railroad, but still functions on a secondary basis as part of Business Highway 8. Other than the installation of Jersey barriers inside the original guardrails in 1992, the structure remains in unaltered condition.

## SIGNIFICANCE STATEMENT

Named for a large sweep in the Gila River at this point, the small town of Gila Bend straddled the crossroads of U.S. Highway 80 (the Yuma-Phoenix Highway, part of the Ocean-to-Ocean Highway) and State Highway 84 (the Gila Bend-Tucson Highway). The Gila Bend Overpass was strategically located at this important intersection. It is thus historically significant for its contribution to Arizona transportation. The structure is distinguished as one of three railroad grade separations erected simultaneously with an Art Deco architectural treatment by the Arizona Highway Department—"the first of its type in architectural treatment to be constructed in Arizona," according to AHD. The other two (the Riordan Overpass near Flagstaff and the overpass on US 80 between Tucson and Benson) have since been replaced, leaving the Gila Bend Overpass as the lone example of this formative architectural exercise. It is thus significant as an early foray into bridge aesthetics by the state highway department.

## NATIONAL REGISTER EVALUATION

## TECHNOLOGICAL SIGNIFICANCE

- ☐ represents the work of a master  
☐ possesses high artistic values  
☒ represents a type, period or method of construction

## HISTORICAL SIGNIFICANCE

- ☐ associated with significant persons  
☒ associated with significant events or patterns  
☐ contributes to historical district

## NATIONAL REGISTER CRITERIA

- ☒ Criterion A  
☐ Criterion B  
☒ Criterion C

## NATIONAL REGISTER ELIGIBILITY

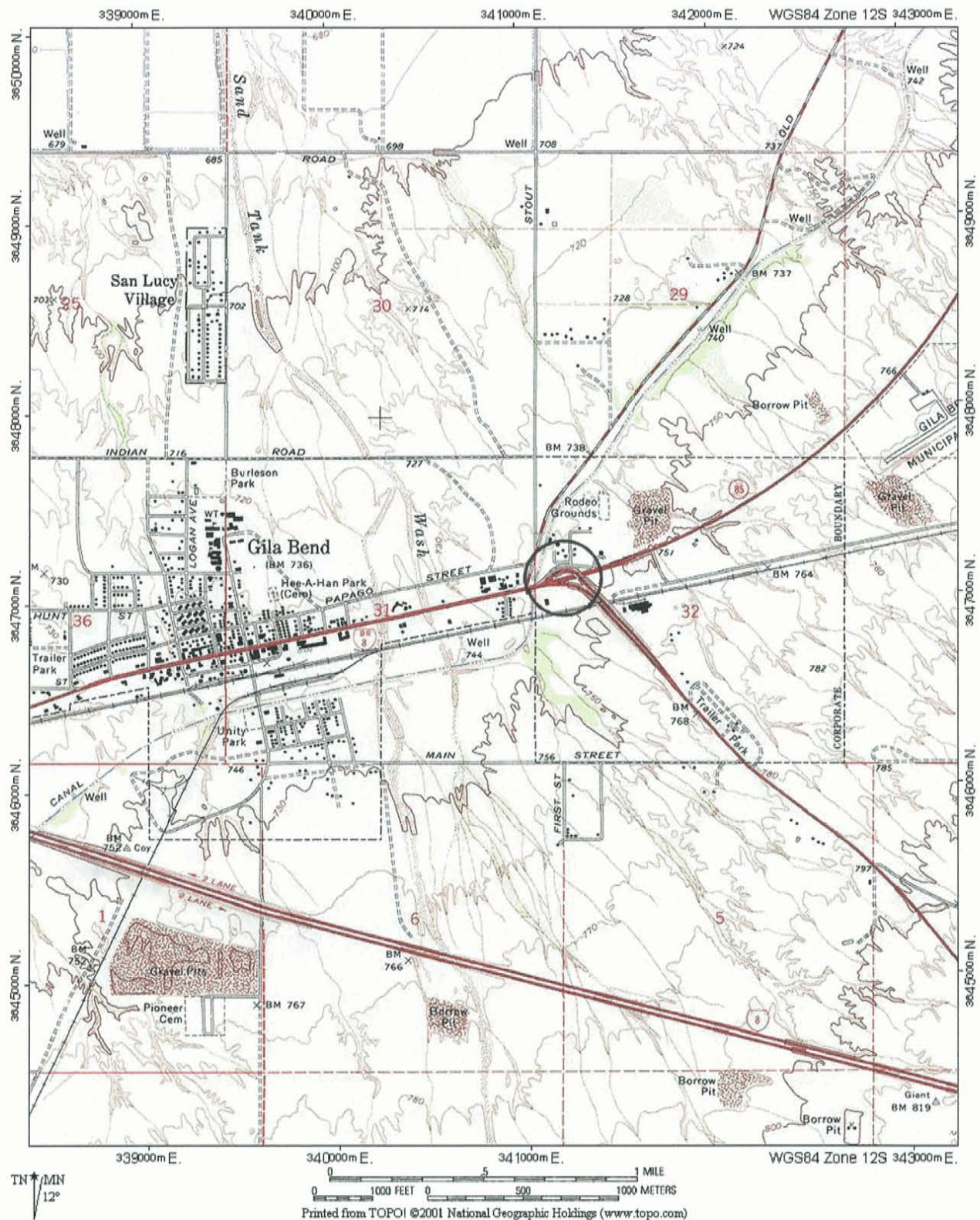
- individually eligible ☒ yes ☐ no  
 contributes to district ☐ yes ☒ no

AREA OF SIGNIFICANCE: Transportation; Engineering  
 PERIOD OF SIGNIFICANCE: 1934-1964  
 THEME(S): Transportation: Highways



# GILA BEND OVERPASS

Structure No. 0118



Location Map



# HISTORIC BRIDGE INVENTORY

## Peoria Underpass

### PROPERTY IDENTIFICATION

county	Maricopa	inventory number	00160
milepost	152.20	inventory route	AT&SF Railroad
location	8.5 mi W Jct I 17	feature intersected	US 60; WB
city/vicinity	Peoria	USGS quadrangle	Glendale
district	78	UTM reference	12.387008.3714557

### STRUCTURAL INFORMATION

main span number	1	main span type	303
appr. span number	0	appr. span type	
degree of skew	30	guardrail type	
main span length	86.0	superstructure	steel plate through girder
structure length	89.0	substructure	concrete abutments, wingwalls and pier
roadway width	0.0	floor/decking	ballasted railroad bed
structure width	0.0	other features	

### HISTORICAL INFORMATION

construction date	1936	designer/engineer	AT&SF Railroad
project number	WPGH 48	builder/contractor	Daley Construction Company, San Diego CA
information source	ADOT bridge records	structure owner	Atchison, Topeka & Santa Fe Railroad
alteration date(s)	1953	alterations	slopes paved

### NATIONAL REGISTER EVALUATION

inventory score	58	For additional information, see "Vehicular Bridges in Arizona 1880-1964" National Register Multiple Property Documentation Form	
		NRHP eligibility	eligible
		NRHP criteria	A <input checked="" type="checkbox"/> B <input type="checkbox"/> C <input checked="" type="checkbox"/>
		signif. statement	well-preserved example of ASHD architectural treatment for an urban grade separation

### FORM COMPLETED BY

Clayton B. Fraser, Principal

FRASERdesign  
420 South County Road 23E  
Loveland, Colorado 80537  
31 October 2004



# PEORIA UNDERPASS

Structure No. 0160



## PHOTO INFORMATION

date of photo.: April 2002

view direction: southeast east

photo no.: 02.04.43 02.04.31



## CONSTRUCTION HISTORY

The Atchison Topeka & Santa Fe Railroad intersected with the Phoenix-Prescott Highway (US 60) in Peoria northwest of Phoenix, creating a considerable bottleneck for vehicular traffic. To alleviate this recurring problem, the Arizona Highway Department undertook construction of a grade separation that would carry the railroad over the highway. AHD engineers delineated the structure as a single-span steel through girder, employing two deep steel plates with riveted angles for the flanges and web stiffeners. Because the highway and railroad run roughly parallel, the highway is jogged at this point, and the 86-foot span is heavily skewed atop its concrete abutments. The overpass featured rounded pylons at the four corners with Art Moderne light standards. The highway department designated its construction as Works Progress Grade Highway Project 48 and in January 1936 contracted with the Daley Corporation of San Diego to build the structure. Daley started work on the abutments soon thereafter, and two months later had the underpass more than half done. Using a steel superstructure fabricated in Chicago by the Bethlehem Steel Company, the contractors completed the Peoria Underpass in August at a cost of \$102,000. It consumed some 200,000 pounds of structural steel and 97,000 pounds of reinforcing steel. Originally in a rural location, the underpass featured extensive planting around the abutments, but this was eliminated in 1953 when the side slopes were paved. Since then, it has carried mainline traffic without further alteration.

## SIGNIFICANCE STATEMENT

The Peoria Underpass is noteworthy as one of several railroad grade separations in Arizona funded through the New Deal's Hayden-Cartwright Act. Federal relief programs of the mid-1930s broke with past policy by allowing federal funds to be used on urban, as well as rural, highway construction. Much of this money was steered into an extensive nationwide program to eliminate dangerous on-grade railroad crossings. Built in the height of the Great Depression, the Peoria Underpass achieved one of its primary goals—providing employment for local workers on relief. Like many other grade separations designed at the time by AHD, this structure employed a distinctive architectural treatment. Rather than use a classical revival idiom as it had for the Stone Avenue Underpass [7987] in Tucson, the Casa Grande Underpass [0143] and the Winslow Underpass [0194], AHD instead used a simpler, more modern treatment. The Peoria Underpass is one of a handful of such structures to trade on the Art Moderne style (others: Benson Underpass [0264], Gila Bend Overpass [0618] and the Wickenburg Underpass [0195]). Its concrete detailing and use of exotic metals for light standards distinguish it among the state's grade separations. An integral part of an important transcontinental highway, the Peoria Underpass is a well-preserved example of Depression-era bridge construction.

## NATIONAL REGISTER EVALUATION

### TECHNOLOGICAL SIGNIFICANCE

- ☐ represents the work of a master  
☒ possesses high artistic values  
☐ represents a type, period or method of construction

### HISTORICAL SIGNIFICANCE

- ☐ associated with significant persons  
☒ associated with significant events or patterns  
☐ contributes to historical district

### NATIONAL REGISTER CRITERIA

- ☒ Criterion A  
☐ Criterion B  
☒ Criterion C

### NATIONAL REGISTER ELIGIBILITY

- individually eligible ☒ yes ☐ no  
 contributes to district ☐ yes ☒ no

AREA OF SIGNIFICANCE: Transportation; Engineering

PERIOD OF SIGNIFICANCE: 1936-1964

THEME(S): Transportation: Highways



## Structure No. 0160





# HISTORIC BRIDGE INVENTORY

## Wickenburg Bridge

### PROPERTY IDENTIFICATION

county	Maricopa	inventory number	00161
milepost	110.53	inventory route	US 60 WB
location	0.20 mi E Jct US 93	feature intersected	Hassayampa River
city/vicinity	Wickenburg	USGS quadrangle	Wickenburg
district	88	UTM reference	12.340504.3760256

### STRUCTURAL INFORMATION

main span number	6	main span type	303
appr. span number	0	appr. span type	
degree of skew	0	guardrail type	6
main span length	80.0	superstructure	steel plate deck girder
structure length	481.0	substructure	concrete abutments, wingwalls and piers
roadway width	23.9	floor/decking	concrete deck with asphalt overlay
structure width	31.7	other features	steel angle built-up flanges and web stiffeners; steel channel guardrails with slotted concrete guardrails at approaches

### HISTORICAL INFORMATION

construction date	1936	designer/engineer	Arizona Highway Department
project number	NRM 31	builder/contractor	F.D. Shufflebarger, Phoenix AZ
information source	ADOT bridge records	structure owner	Arizona Department of Transportation
alteration date(s)		alterations	

### NATIONAL REGISTER EVALUATION

inventory score	55	For additional information, see "Vehicular Bridges in Arizona 1880-1964" National Register Multiple Property Documentation Form	
		NRHP eligibility	eligible
		NRHP criteria	A <u>x</u> B <u>  </u> C <u>x</u>
		signif. statement	well-preserved example of long-span structural type; major crossing on major route

### FORM COMPLETED BY

Clayton B. Fraser, Principal

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420 South County Road 23E  
Loveland, Colorado 80537  
31 October 2004



# WICKENBURG BRIDGE

Structure No. 0161



## PHOTO INFORMATION

date of photo: February 2003

view direction: east north

photo no.: 03.02.202 03.02.203



## CONSTRUCTION HISTORY

In 1914 Maricopa County erected a four-span concrete bridge to carry the Ocean-to-Ocean Highway over the Hassayampa River at Wickenburg. When that bridge suffered extensive damage during the Thanksgiving flood of 1919, Arizona State Engineer Thomas Maddock designed a three-span Pratt through truss with concrete deck and piers that carried the superstructure at twice the height over the river as the previous bridge. Designated Federal Aid Project 31, the construction was to be funded with equal shares of federal aid and the Maricopa County portion of the State Road Fund. In 1920 AHD contracted with Allied Contractors of Omaha to fabricate and erect the trusses for \$26,000. A state work force poured the concrete substructure and deck, completing the bridge that year.

The trusses carried heavy mainline traffic for fifteen years before the highway department moved to replace them with a heavier, wider structure. As delineated by AHD in the spring of 1935, the replacement bridge at Wickenburg would be comprised of six steel deck girder spans simply supported by concrete abutments and piers set on timber piles driven deep into the streambed within steel sheet piling cofferdams. Extending 80 feet each, the girders featured 6'-6" deep plate webs with riveted angle flanges and web stiffeners. They carried a concrete deck with a 4-foot-wide sidewalk on one side. Architectural stone pylons would carry cast bronze light standards at the four corners. The new bridge was substantially heavier than the original, with almost 530,000 pounds of superstructural steel, 79,000 pounds of reinforcing steel and 894 cubic yards of concrete. Late in 1936 AHD contracted with F.D. Shufflebarger of Phoenix to build the structure under NRM Project 31. The Wickenburg Bridge was formally dedicated on April 26, 1937. Total cost: \$128,000. Although the pylons on the corners have since been removed, the bridge remains otherwise unaltered as it carries traffic on U.S. Highway 60.

## SIGNIFICANCE STATEMENT

Located at the intersection of four of Arizona's most important highways, the Wickenburg Bridge over the Hassayampa River was historically one of the most strategically important river crossings in the state. It proved to be problematic, however, because of the unpredictable nature of the Hassayampa River at this point. The existing bridge is the third structure over the river here. With its six girder spans, the Wickenburg Bridge is one of Arizona's longer early vehicular structures, a relatively well-preserved example of highway bridge construction undertaken during the Great Depression.

## NATIONAL REGISTER EVALUATION

## TECHNOLOGICAL SIGNIFICANCE

- ☐ represents the work of a master  
☐ possesses high artistic values  
☒ represents a type, period or method of construction

## HISTORICAL SIGNIFICANCE

- ☐ associated with significant persons  
☒ associated with significant events or patterns  
☐ contributes to historical district

## NATIONAL REGISTER CRITERIA

- ☒ Criterion A  
☐ Criterion B  
☒ Criterion C

## NATIONAL REGISTER ELIGIBILITY

- individually eligible ☒ yes ☐ no  
 contributes to district ☐ yes ☒ no

AREA OF SIGNIFICANCE: Transportation; Engineering

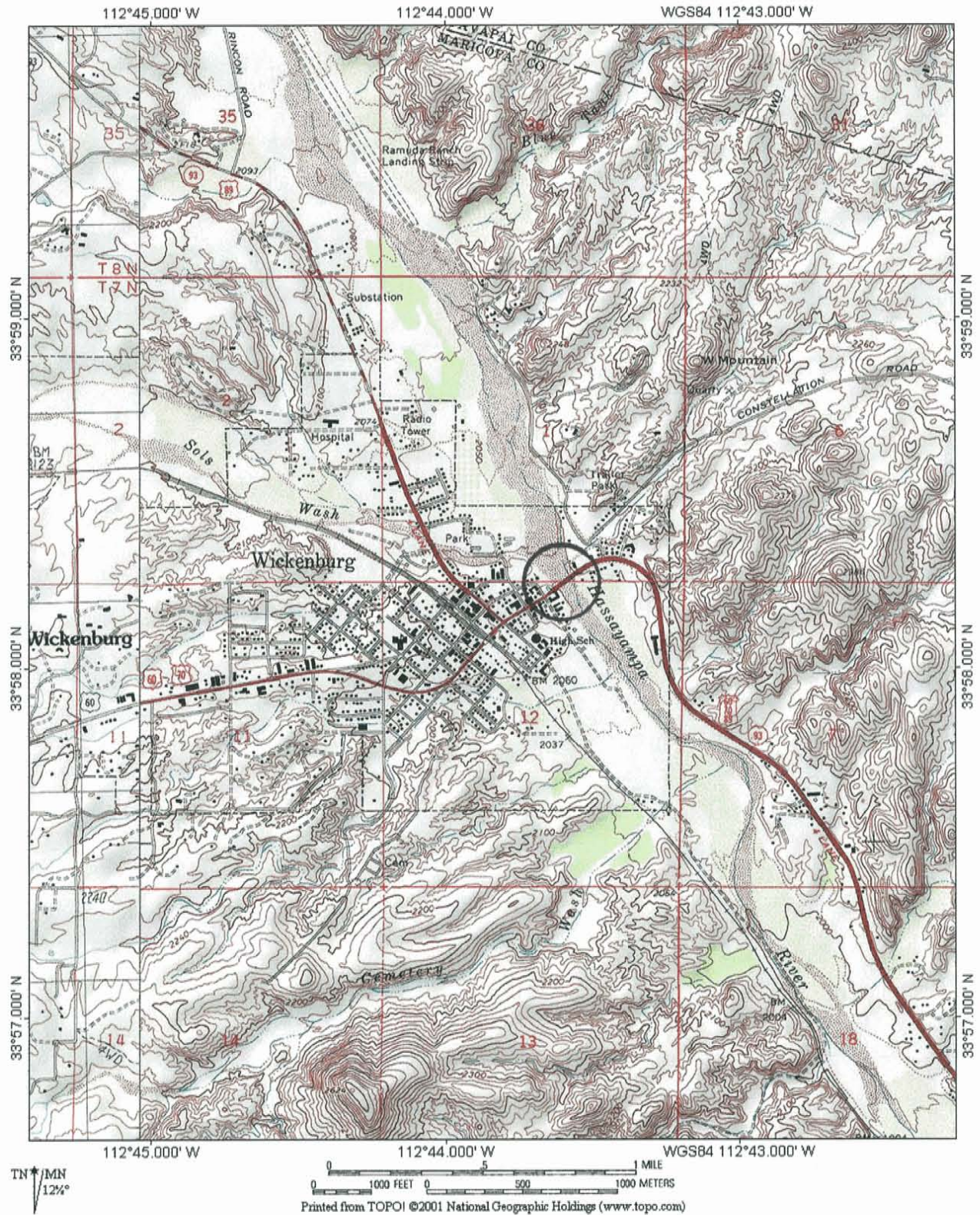
PERIOD OF SIGNIFICANCE: 1937-1964

THEME(S): Transportation: Highways



# WICKENBURG BRIDGE

Structure No. 0161





# HISTORIC BRIDGE INVENTORY

## Boulder Creek Bridge

### PROPERTY IDENTIFICATION

county	Maricopa	inventory number	00193
milepost	211.05	inventory route	SR 88
location	15.2 mi E Jct US 60	feature intersected	Boulder Creek
city/vicinity	Tortilla Flat	USGS quadrangle	Mormon Flat Dam
district	78	UTM reference	12.460677.3710525

### STRUCTURAL INFORMATION

main span number	4	main span type	310
appr. span number	0	appr. span type	
degree of skew	0	guardrail type	6
main span length	180.0	superstructure	steel rigid-connected Parker / Pratt through truss
structure length	488.0	substructure	concrete abutments and wingwalls with spill-through concrete piers
roadway width	15.0	floor/decking	concrete deck over steel stringers
structure width	16.3	other features	upper chord: 2 channels w/ cover plate and lacing; lower chord: 2 channels or angles w/ batten plates; vertical: 2 channels or angles w/ lacing; diagonal: wide flange or 2 angles w/ lacing; floor beam: I-beam; steel angle guardrails

### HISTORICAL INFORMATION

construction date	1916	designer/engineer	Arizona Highway Department
project number	NRS 106	builder/contractor	state work force
information source	ADOT bridge records	structure owner	Arizona Department of Transportation
alteration date(s)	1937 1970	alterations	trusses moved to this location; bracing modified

### NATIONAL REGISTER EVALUATION

inventory score	74	For additional information, see "Vehicular Bridges in Arizona 1880-1964" National Register Multiple Property Documentation Form	
		NRHP eligibility	listed
		NRHP criteria	A <u>x</u> B <u>  </u> C <u>x</u>
		signif. statement	well-preserved example of rare structural type, located on significant early route

### FORM COMPLETED BY

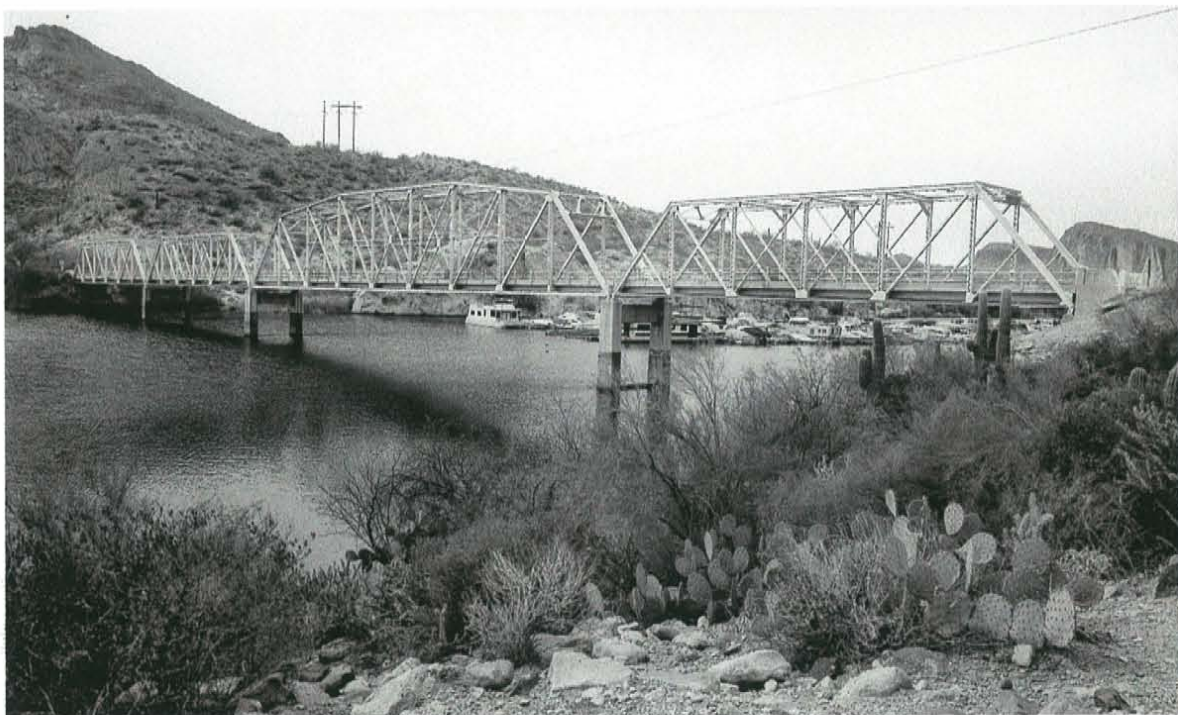
Clayton B. Fraser, Principal

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31 October 2004



# BOULDER CREEK BRIDGE

Structure No. 0193



## PHOTO INFORMATION

date of photo: February 2003

view direction: southwest northwest

photo no.: 03.02.211 02.11.213



## CONSTRUCTION HISTORY

Built in 1914 by Maricopa County to carry the Ocean-to-Ocean Highway, the original Wickenburg Bridge was comprised of four concrete spans over the Hassayampa River. The two westernmost spans washed out in autumn 1916 and were replaced. When the bridge suffered extensive further damage in the disastrous Thanksgiving flood of 1919, the highway department moved to replace it entirely with a heavier steel truss. That year State Bridge Engineer Merrill Butler designed a three-span through truss with riveted connections and a Pratt web configuration. The bridge featured a concrete deck and massive concrete piers, which carried the superstructure at twice the height over the river as the previous bridge to avoid further washouts.

Designated Federal Aid Project 31, the construction was to be funded with equal shares of federal aid and the Maricopa County portion of the State Road Fund. In 1920 the state highway department contracted with Allied Contractors of Omaha to fabricate and erect the trusses for a little over \$26,000. A state work force of day laborers poured the concrete substructure and deck, completing the bridge that year. In 1937 AHD again replaced the Wickenburg Bridge, this time with a steel deck girder superstructure [0161]. The 1920 trusses were then dismantled, combined with a Parker through truss that AHD had designed for LaBarge Creek, and re-erected over Boulder Creek on the Apache Trail. Since its completion, the Boulder Creek Bridge has functioned with only minor structural alterations.

## SIGNIFICANCE STATEMENT

Located at the intersection of two of Arizona's most important highways, the Wickenburg crossing of the Hassayampa River has historically been one of the most strategically important river crossings in the state. It proved to be starcrossed, however. "Previous efforts to construct and maintain this bridge have cost the taxpayers of Maricopa County something over \$20,000, together with a part-time loss of use," Arizona State Engineer Thomas Maddock reported in 1921. "This department contemplates an additional expenditure of about \$70,000, making a total of over \$90,000. A properly designed bridge in the first place would have saved \$60,000 and much inconvenience." The Wickenburg truss was thus one of Arizona's most important highway bridges in the 1920s and 1930s. The subsequent move to another noteworthy road, the Apache Trail (State Highway 88), exemplifies the portable nature of steel trusses. Although their integrity of location under Criterion A has been diminished by the move, their integrity of design, materials and workmanship under Criterion C remains intact. One of the two multiple-span through trusses in the inventory (other: Gillespie Dam Bridge [8021]), the Boulder Creek Bridge is technologically significant as one of the state's few multiple-span trusses.

## NATIONAL REGISTER EVALUATION

## TECHNOLOGICAL SIGNIFICANCE

☐ represents the work of a master  
☐ possesses high artistic values  
☒ represents a type, period or method of construction

## HISTORICAL SIGNIFICANCE

☐ associated with significant persons  
☒ associated with significant events or patterns  
☐ contributes to historical district

## NATIONAL REGISTER CRITERIA

☒ Criterion A  
☐ Criterion B  
☒ Criterion C

## NATIONAL REGISTER ELIGIBILITY

individually eligible ☒ yes ☐ no  
 contributes to district ☐ yes ☒ no

AREA OF SIGNIFICANCE: Transportation; Engineering  
 PERIOD OF SIGNIFICANCE: 1920-1964  
 THEME(S): Transportation: Highways



## Structure No. 0193





# HISTORIC BRIDGE INVENTORY

## Wickenburg Underpass

### PROPERTY IDENTIFICATION

county	Maricopa	inventory number	00195
milepost	110.25	inventory route	AT&SF Railroad
location	0.08 mi W Jct US 93	feature intersected	US 60
city/vicinity	Wickenburg	USGS quadrangle	Wickenburg
district	88	UTM reference	12.340066.3759955

### STRUCTURAL INFORMATION

main span number	2	main span type	207
appr. span number	0	appr. span type	
degree of skew	0	guardrail type	4
main span length	30.0	superstructure	concrete rigid frame
structure length	62.0	substructure	concrete abutments, wingwalls and pier
roadway width	34.0	floor/decking	concrete deck with asphalt overlay
structure width	36.2	other features	solid concrete guardrails with recessed panels

### HISTORICAL INFORMATION

construction date	1937	designer/engineer	Arizona Highway Department
project number	WPGM 98-I	builder/contractor	Phoenix-Tempe Stone Co., Phoenix AZ
information source	ADOT bridge records	structure owner	Atchison, Topeka & Santa Fe Railroad
alteration date(s)		alterations	

### NATIONAL REGISTER EVALUATION

inventory score	61	For additional information, see "Vehicular Bridges in Arizona 1880-1964" National Register Multiple Property Documentation Form	
		NRHP eligibility	eligible
		NRHP criteria	A <u>x</u> B <u>  </u> C <u>x</u>
		signif. statement	uncommon structural type, altered, on major highway route

### FORM COMPLETED BY

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420 South County Road 23E  
Loveland, Colorado 80537  
31 October 2004



# WICKENBURG UNDERPASS

Structure Nos. 0195, 0535 and 1000



## PHOTO INFORMATION

date of photo: February 2003

view direction: north west

photo no.: 03.02.197 03.02.200



## CONSTRUCTION HISTORY

In 1935-1936 the Arizona Highway Department undertook a major improvement to U.S. Highway 60 in the small town of Wickenburg. The work was undertaken in part as a reaction to a horrendous crash in which a tank truck crashed into a house after its brakes had failed, killing four people. The construction involved replacing the existing steel truss bridge over the Hassayampa River with an all-new steel girder structure and building an underpass structure to separate the highway from rail traffic on the Atchison Topeka & Santa Fe Railroad and city street traffic on Washington and Railroad streets. The Wickenburg Bridge [0161] was built in 1936-1937 under NRM Project 31. The underpass was designated as Works Progress Grade Maintenance Project 98-I. With traffic from four separate arteries converging at this single point, the structure took on unusual proportions. "The odd design of the proposed Wickenburg underpass met the problem of separating both railroad and highway traffic," the agency stated in March 1936. "Two streets parallel the railroad as the hazards of the rails are removed safely from U.S. Highway 60 below. R.A. Hoffman, bridge engineer for AHD, designed the structure, while Earl V. Miller, engineer of plans, conceived the street design and layout." As delineated by Hoffman, the Wickenburg Underpass was comprised of two separate concrete rigid frame spans (one to carry Railroad Street [0195], the other carrying Washington Street [0535], Frontier Street [1000] and the Santa Fe tracks), supported by concrete abutments. The structure featured modestly scaled Art Moderne detailing, with stepped concrete pylons at the corners, aluminum guardrails with concrete posts and applied aluminum letters that spelled "Wickenburg" on either side. The highway department awarded a contract that spring to build the underpass to the Phoenix Tempe Stone Company. The contractors began work excavating for the new highway grade soon thereafter. On April 26, 1937, the underpass was dedicated. Cost: \$90,000. It has functioned in place since, with minimal repairs.

## SIGNIFICANCE STATEMENT

Four of Arizona's most heavily trafficked routes—US 60, 70, 79 and 89—intersected in Wickenburg, making this a strategic location for highway traffic. The Wickenburg Underpass formed a vital grade separation for these routes and as such accrues historical significance for its role in Arizona highway transportation. The underpass is one of several structures built by the Arizona Highway Department during the Great Depression in an extensive program to eliminate on-grade highway crossings. Like many other grade separations designed by AHD at the time, this structure featured a distinctive architectural treatment. Its scored Art Moderne concrete detailing and use of exotic metals for signage distinguish it among the state's urban grade separations. An integral part of an important transcontinental highway, the Wickenburg Underpass is a well-preserved example of Depression-era bridge construction.

## NATIONAL REGISTER EVALUATION

## TECHNOLOGICAL SIGNIFICANCE

- ☐ represents the work of a master  
☒ possesses high artistic values  
☐ represents a type, period or method of construction

## HISTORICAL SIGNIFICANCE

- ☐ associated with significant persons  
☒ associated with significant events or patterns  
☐ contributes to historical district

## NATIONAL REGISTER CRITERIA

- ☒ Criterion A  
☐ Criterion B  
☒ Criterion C

## NATIONAL REGISTER ELIGIBILITY

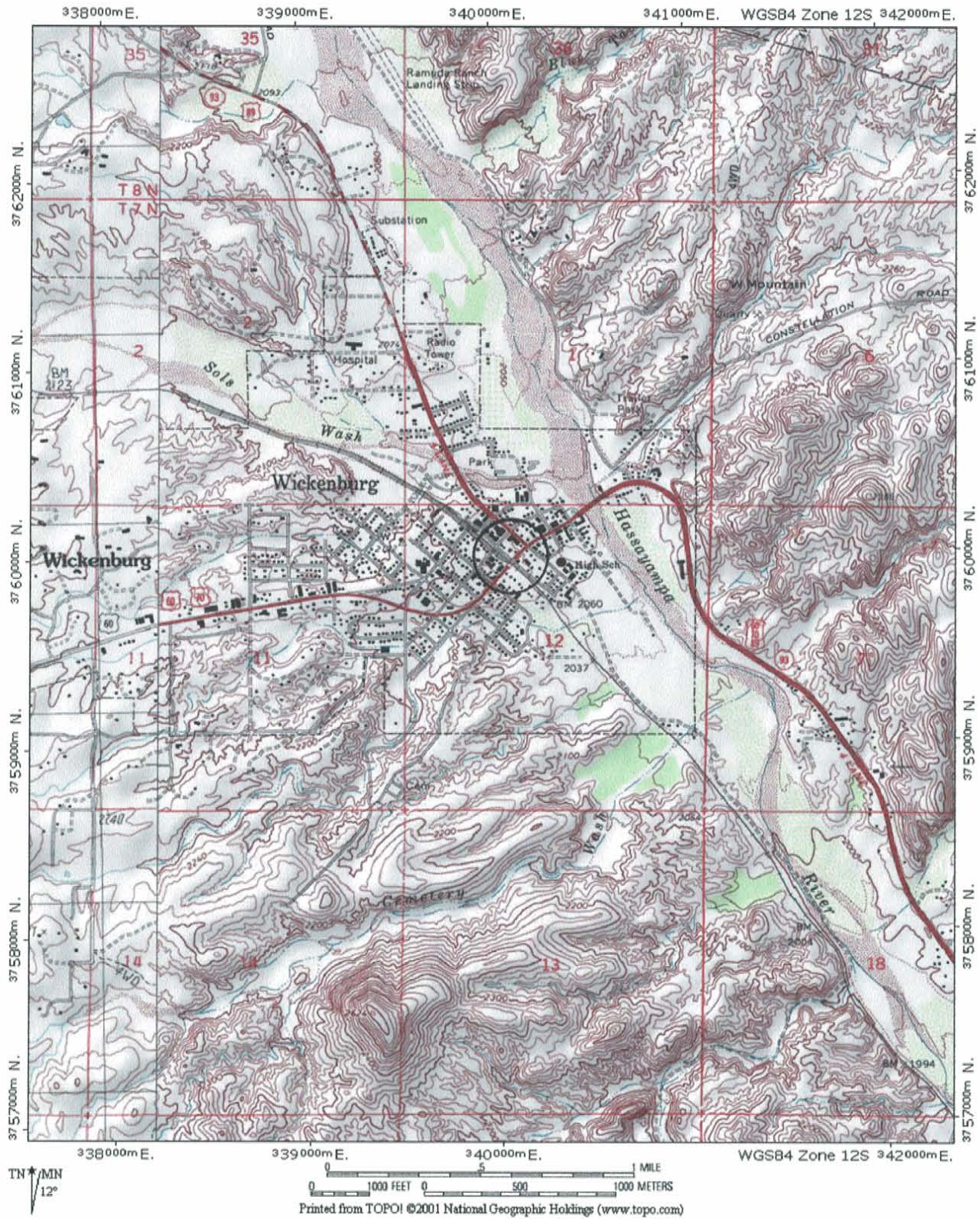
- individually eligible ☒ yes ☐ no  
 contributes to district ☐ yes ☒ no

AREA OF SIGNIFICANCE: Transportation; Engineering  
 PERIOD OF SIGNIFICANCE: 1937-1964  
 THEME(S): Transportation: Highways



# WICKENBURG UNDERPASS

Structure Nos. 0195, 0535 and 1000





# HISTORIC BRIDGE INVENTORY

## Washington Street Underpass

### PROPERTY IDENTIFICATION

county	Maricopa	inventory number	00535
milepost	110.24	inventory route	Washington Street
location	0.09 mi W Jct US 93	feature intersected	US 60
city/vicinity	Wickenburg	USGS quadrangle	Wickenburg
district	88	UTM reference	12.339983.3759853

### STRUCTURAL INFORMATION

main span number	2	main span type	207
appr. span number	0	appr. span type	
degree of skew	0	guardrail type	4
main span length	30.0	superstructure	concrete rigid frame
structure length	58.0	substructure	concrete abutments, wingwalls and pier
roadway width	23.8	floor/decking	concrete deck with asphalt overlay
structure width	35.2	other features	solid concrete guardrails with recessed panels

### HISTORICAL INFORMATION

construction date	1937	designer/engineer	Hoffman-Miller Engineers, Phoenix AZ
project number	WPGM 98-I	builder/contractor	Phoenix-Tempe Stone Co., Phoenix AZ
information source	ADOT bridge records	structure owner	Arizona Department of Transportation
alteration date(s)		alterations	

### NATIONAL REGISTER EVALUATION

inventory score	61	For additional information, see "Vehicular Bridges in Arizona 1880-1964" National Register Multiple Property Documentation Form	
		NRHP eligibility	eligible
		NRHP criteria	A <u>x</u> B <u>  </u> C <u>x</u>
		signif. statement	uncommon structural type, altered, on major highway route

### FORM COMPLETED BY

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420 South County Road 23E  
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31 October 2004



# HISTORIC BRIDGE INVENTORY

## Frontier Street Underpass

### PROPERTY IDENTIFICATION

county	Maricopa	inventory number	01000
milepost	110.26	inventory route	Frontier Street
location	0.1 mi W Jct US 93	feature intersected	US 60
city/vicinity	Wickenburg	USGS quadrangle	Wickenburg
district	88	UTM reference	12.340088.3759970

### STRUCTURAL INFORMATION

main span number	2	main span type	207
appr. span number	0	appr. span type	
degree of skew	0	guardrail type	4
main span length	33.0	superstructure	concrete rigid frame
structure length	62.0	substructure	concrete abutments, wingwalls and pier
roadway width	24.0	floor/decking	concrete deck with asphalt overlay
structure width	31.1	other features	solid concrete guardrails with recessed panels

### HISTORICAL INFORMATION

construction date	1937	designer/engineer	Arizona Highway Department
project number	WPGM 98-I	builder/contractor	Phoenix-Tempe Stone Co., Phoenix AZ
information source	ADOT bridge records	structure owner	Arizona Department of Transportation
alteration date(s)		alterations	

### NATIONAL REGISTER EVALUATION

inventory score	61	For additional information, see "Vehicular Bridges in Arizona 1880-1964" National Register Multiple Property Documentation Form	
		NRHP eligibility	eligible
		NRHP criteria	A <u>x</u> B <u>  </u> C <u>x</u>
		signif. statement	uncommon structural type, altered, on major highway route

### FORM COMPLETED BY

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31 October 2004



# HISTORIC BRIDGE INVENTORY

## Alchesay Canyon Bridge

### PROPERTY IDENTIFICATION

county	Maricopa	inventory number	01532
milepost	241.10	inventory route	SR 88
location	45.4 mi E Jct US 60	feature intersected	Alchesay Canyon
city/vicinity	Roosevelt	USGS quadrangle	Theodore Roosevelt Dam
district	83	UTM reference	12.485228.3725360

### STRUCTURAL INFORMATION

main span number	1	main span type	111
appr. span number	0	appr. span type	
degree of skew	0	guardrail type	4
main span length	18.0	superstructure	concrete filled spandrel arch
structure length	22.0	substructure	concrete abutments and extended wingwalls
roadway width	18.5	floor/decking	gravel roadway over earth fill
structure width	20.5	other features	solid concrete parapet walls

### HISTORICAL INFORMATION

construction date	1905	designer/engineer	Arizona Highway Department
project number		builder/contractor	US Reclamation Service work force
information source	USRS records	structure owner	Arizona Department of Transportation
alteration date(s)		alterations	

### NATIONAL REGISTER EVALUATION

inventory score	76	For additional information, see "Vehicular Bridges in Arizona 1880-1964" National Register Multiple Property Documentation Form	
		NRHP eligibility	listed
		NRHP criteria	A <u>x</u> B <u>  </u> C <u>x</u>
		signif. statement	oldest documented vehicular bridge in Arizona

### FORM COMPLETED BY

Clayton B. Fraser, Principal

FRASERdesign  
420 South County Road 23E  
Loveland, Colorado 80537  
31 October 2004





## PHOTO INFORMATION

date of photo: February 2003

view direction: south southwest

photo no.: 03.02.235 02.11.234



## CONSTRUCTION HISTORY

Before construction could begin on the immense Roosevelt Dam over the Salt River, an access road had to be graded from the railroad at Mesa to the damsite. Surveyed by U.S. Reclamation Service engineers, the road was routed alongside the ancient Apache Trail on its serpentine route through the rugged Mazatzal Mountains east of Phoenix. In 1903 the cities of Phoenix and Mesa contributed \$71,500 from bond issues, and the USRS construction engineer Louis C. Hill began supervision of the grading. When he could not recruit enough Anglos from the local work force, Hill brought in Apache Indians as laborers to bolster his manpower on the hurried project. The men worked under excruciating conditions through the remainder of 1903 and into 1904.

Located close to the top of the road near the damsite, the road crossed Alchesay Canyon. Here the Reclamation Service constructed a small-scale concrete arch bridge as one of the last structures completed on the route. The bridge—little more than a culvert, actually—spanned only 18 feet between abutments and featured simple concrete detailing, crude formwork and extended concrete wingwalls on its downstream side to accommodate a switchback curve in the narrow canyon. The road was completed in March 1905 for a total cost of \$206,000. Soon millions of tons of materials and equipment began rumbling over it to the dam. Roosevelt Dam was completed in 1911. The Alchesay Canyon Bridge has stood in place since then, in unaltered condition. Recently replaced with a new bridge immediately downhill, the 1905 structure no longer carries vehicular traffic.

## SIGNIFICANCE STATEMENT

The first reclamation project financed by the federal government under the Newlands Act of 1902, the construction of Theodore Roosevelt Dam was the most significant event in the history of central Arizona. The Apache Trail to the dam was called by one source "almost as great a monument to (Hill's) engineering ability as the Roosevelt Dam itself," and is now one of Arizona's most famous roads. Though no longer a main arterial, it passes through some of the state's most spectacular desert scenery. A few sections of the road have been rerouted due to subsequent dam construction on the Salt River, and replacement bridges have been built in a major rehabilitation in the early 1920s. The Alchesay Canyon Bridge is today distinguished as the only original bridge left from the Trail's construction in 1903-1905. A modestly scaled and technologically unremarkable concrete arch, it is important as the oldest dateable vehicular bridge in Arizona—a historically significant remnant of early territorial road construction.

## NATIONAL REGISTER EVALUATION

### TECHNOLOGICAL SIGNIFICANCE

- ☐ represents the work of a master  
☐ possesses high artistic values  
☒ represents a type, period or method of construction

### HISTORICAL SIGNIFICANCE

- ☐ associated with significant persons  
☒ associated with significant events or patterns  
☐ contributes to historical district

### NATIONAL REGISTER CRITERIA

- ☒ Criterion A  
☐ Criterion B  
☒ Criterion C

### NATIONAL REGISTER ELIGIBILITY

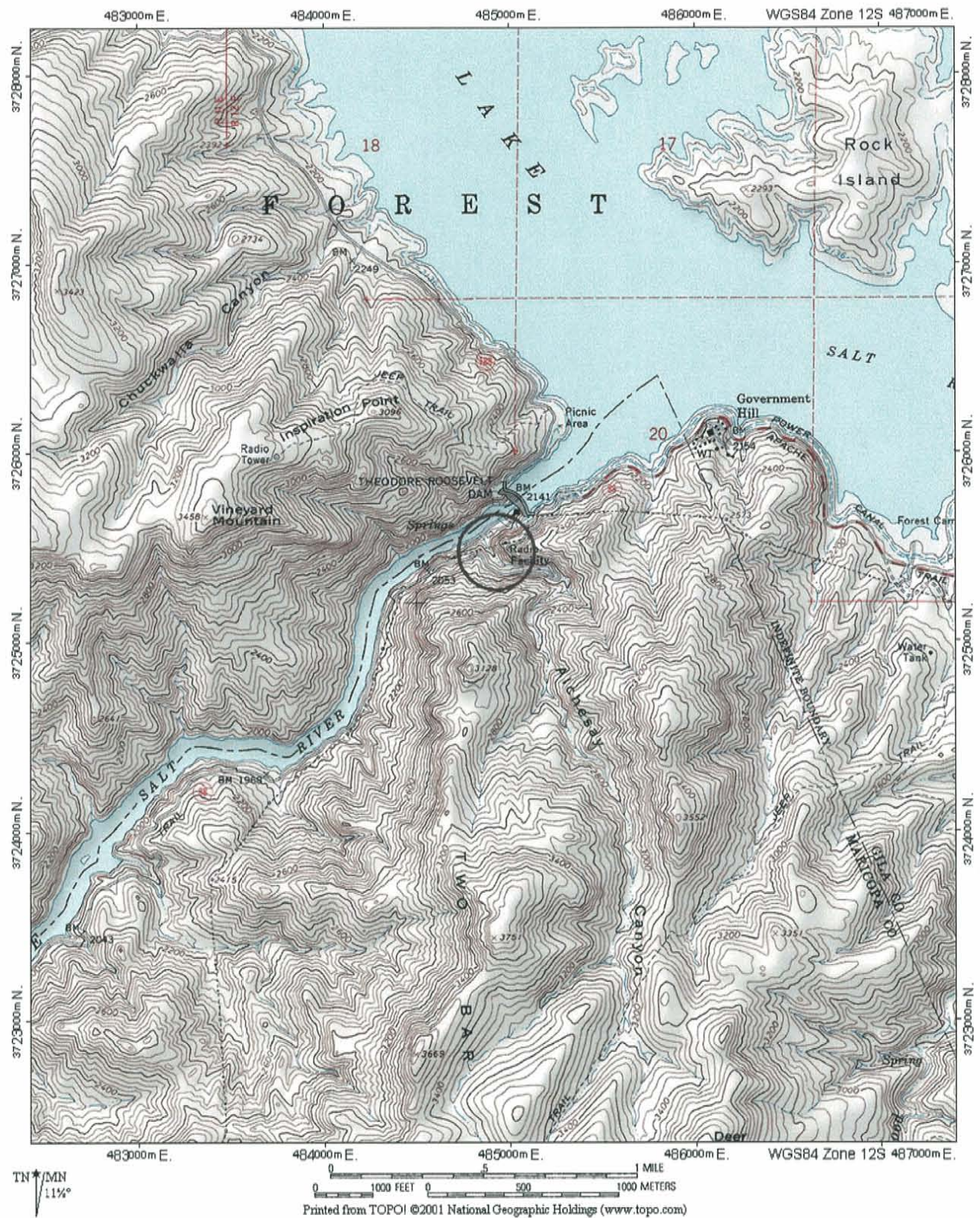
- individually eligible ☒ yes ☐ no  
 contributes to district ☐ yes ☒ no

AREA OF SIGNIFICANCE: Transportation; Engineering  
 PERIOD OF SIGNIFICANCE: 1905-1964  
 THEME(S): Transportation: Highways



# ALCHESAY CANYON BRIDGE

Structure No. 1532



Location Map



# HISTORIC BRIDGE INVENTORY

## Seventeenth Avenue Underpass

### PROPERTY IDENTIFICATION

county	Maricopa	inventory number	07770
milepost	0.00	inventory route	Southern Pacific Railroad
location	South of Madison St.	feature intersected	17th Avenue
city/vicinity	Phoenix	USGS quadrangle	Phoenix
district	81	UTM reference	12.398155.3701045

### STRUCTURAL INFORMATION

main span number	2	main span type	207
appr. span number	0	appr. span type	
degree of skew	0	guardrail type	
main span length	25.0	superstructure	concrete rigid frame
structure length	65.0	substructure	concrete abutments, wingwalls and piers
roadway width	77.1	floor/decking	concrete deck with asphalt overlay
structure width	79.1	other features	angled haunches on spandrels; cast concrete medallions on spandrels; stepped pylons on abutments and piers; slotted concrete guardrails

### HISTORICAL INFORMATION

construction date	1935	designer/engineer	Arizona Highway Department
project number	NRH 30-D	builder/contractor	R.C. Tanner; W.E. Hall
information source	ADOT bridge records	structure owner	City of Phoenix
alteration date(s)		alterations	

### NATIONAL REGISTER EVALUATION

inventory score	65	For additional information, see "Vehicular Bridges in Arizona 1880-1964" National Register Multiple Property Documentation Form	
		NRHP eligibility	eligible
		NRHP criteria	A <u>x</u> B <u>  </u> C <u>x</u>
		signif. statement	handsomely detailed, well-preserved example of Depression-era bridge construction

### FORM COMPLETED BY

Clayton B. Fraser, Principal

FRASERdesign  
420 South County Road 23E  
Loveland, Colorado 80537  
31 October 2004



## SEVENTEENTH AVENUE UNDERPASS

Structure No. 7770



### PHOTO INFORMATION

date of photo.: April 2002

view direction: west north

photo no.: 02.04.48 02.04.46



## CONSTRUCTION HISTORY

The Seventeenth Avenue Underpass was built to carry the tracks of the Southern Pacific Railroad over the Phoenix-Yuma Highway (U.S. Highway 60) in downtown Phoenix. Designed in February 1935 by the Arizona Highway Department, the structure is configured as a concrete rigid frame, with two 25-foot spans over the northbound and southbound lanes of the street and smaller openings for pedestrian sidewalks at both sides. The underpass was scaled to accommodate the multi-track railyards here, with an 80-foot-wide deck. As designed, it featured an eclectic classical revival architectural treatment, incorporating angled haunches and stepped concrete pylons, decoratively slotted concrete guardrails on the sidewalls and cast concrete car-touches on the spandrels.

The highway department designated construction of this underpass as National Recovery Highway Project 30-D and in June 1935 let the contract to R.C. Tanner and W.E. Hall, low bidders at \$90,000. The Phoenix-based contractors began substructural excavation soon thereafter, completing the underpass by the end of the year. US 60 has since been rerouted away from Seventeenth Avenue, leaving this grade separation to carry relatively light city-street traffic. It has been well-maintained and functions in place without substantial alteration.

## SIGNIFICANCE STATEMENT

Located only two blocks from the Arizona Department of Transportation complex, this structure was alternatively known as the Frank W. Flittner Underpass when it was completed late in 1935. It was one of some thirteen underpass structures built by AHD between 1932 and 1935, along with seventeen overpasses and 59 route relocations, in a massive effort to eliminate dangerous on-grade highway crossings with railroads. Like many other grade separations designed by AHD at the time, this structure featured a distinctive architectural treatment to integrate it with its urban surroundings. It is one of a handful of such structures to employ the Art Moderne idiom (others: Peoria Underpass [0160], Gila Bend Overpass [0618] and the Central Avenue Underpass [9168], all in Maricopa County). Its handsome proportions, stepped concrete pylons, carefully executed concrete detailing and applied ornamentation distinguish it among the state's urban grade separations. An integral part of an important transcontinental highway, the Seventeenth Avenue Underpass is a well-preserved example of Depression-era bridge construction.

## NATIONAL REGISTER EVALUATION

## TECHNOLOGICAL SIGNIFICANCE

- ☐ represents the work of a master  
☐ possesses high artistic values  
☒ represents a type, period or method of construction

## HISTORICAL SIGNIFICANCE

- ☐ associated with significant persons  
☒ associated with significant events or patterns  
☐ contributes to historical district

## NATIONAL REGISTER CRITERIA

- ☒ Criterion A  
☐ Criterion B  
☒ Criterion C

## NATIONAL REGISTER ELIGIBILITY

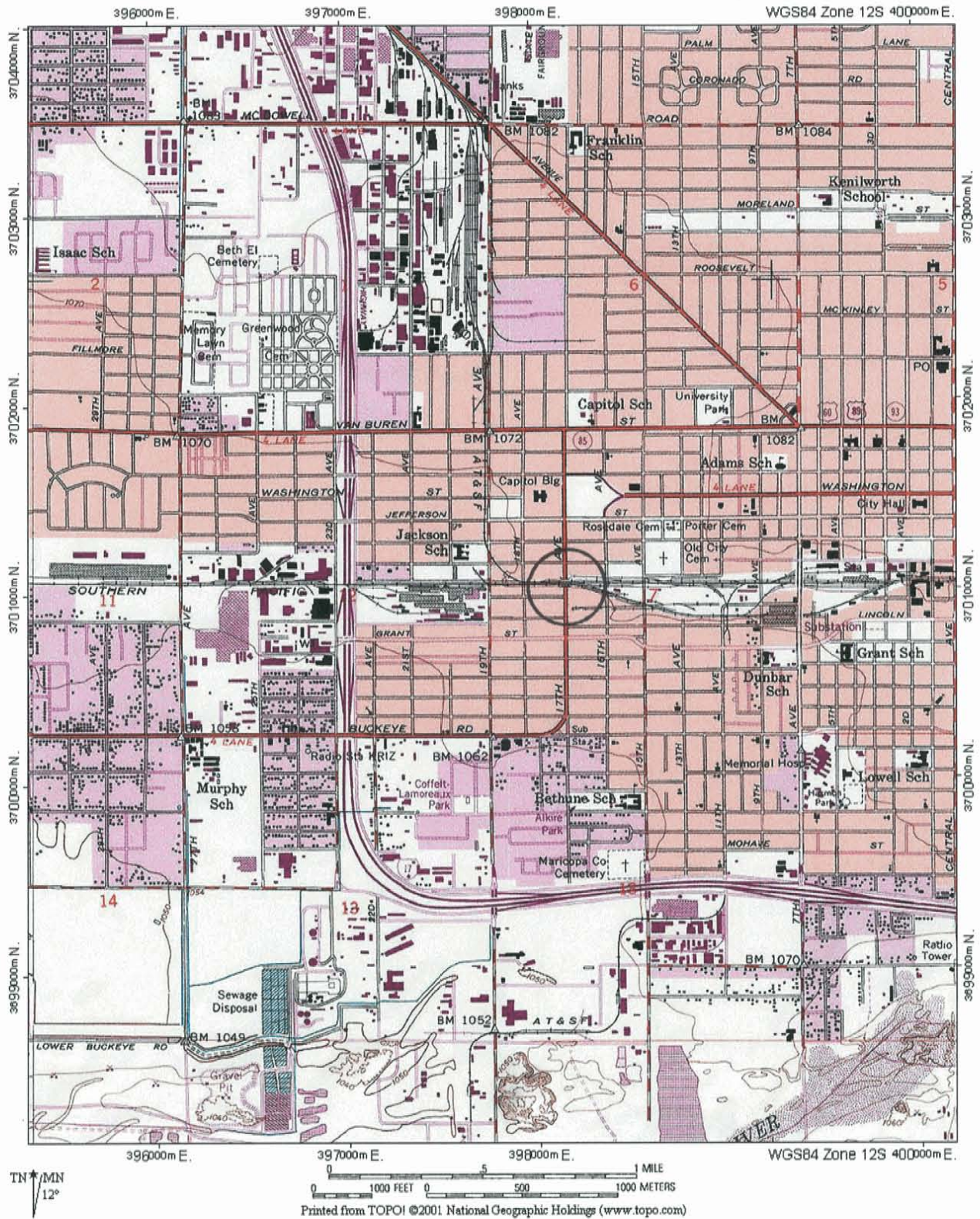
- individually eligible ☒ yes ☐ no  
 contributes to district ☐ yes ☒ no

AREA OF SIGNIFICANCE: Transportation; Engineering  
 PERIOD OF SIGNIFICANCE: 1935-1964  
 THEME(S): Transportation: Highways



# SEVENTEENTH AVENUE UNDERPASS

Structure No. 7770





# HISTORIC BRIDGE INVENTORY

## Gillespie Dam Bridge

### PROPERTY IDENTIFICATION

county	Maricopa	inventory number	08021
milepost	0.00	inventory route	Old US 80 Hwy
location	south of Gillespie Dam	feature intersected	Gila River
city/vicinity	Arlington	USGS quadrangle	Spring Mountain
district	78	UTM reference	12.335120.3677868

### STRUCTURAL INFORMATION

main span number	9	main span type	310
appr. span number	0	appr. span type	
degree of skew	0	guardrail type	6
main span length	200.0	superstructure	steel rigid-connected Camelback through truss
structure length	1662.0	substructure	concrete abutments, wingwalls and piers
roadway width	19.0	floor/decking	concrete deck over steel stringers
structure width	25.0	other features	upper chord: 2 channels w/ cover plate and double lacing; lower chord: 2 channels w/ batten plates; vertical/diagonal: 2 or 4 channels w/ lacing or batten plates; lateral bracing: 1 angle; floor beam: I-beam; steel pipe guardrails

### HISTORICAL INFORMATION

construction date	1927	designer/engineer	Arizona Highway Department
project number	FAP 64-B	builder/contractor	Lee Moor Contracting Company, El Paso TX
information source	ADOT bridge records	structure owner	Maricopa County
alteration date(s)		alterations	

### NATIONAL REGISTER EVALUATION

inventory score	94	For additional information, see "Vehicular Bridges in Arizona 1880-1964" National Register Multiple Property Documentation Form	
		NRHP eligibility	listed
		NRHP criteria	A <u>x</u> B <u>  </u> C <u>x</u>
		signif. statement	outstanding multiple-span truss bridge; major crossing on important highway

### FORM COMPLETED BY

Clayton B. Fraser, Principal

FRASERdesign  
420 South County Road 23E  
Loveland, Colorado 80537  
31 October 2004





PHOTO INFORMATION

date of photo: April 2002

view direction: east southeast

photo no: 02.04.74 02.04.76



## CONSTRUCTION HISTORY

The Arizona Highway Department began planning for a concrete girder bridge over the Gila River at this point even before Frank Gillespie completed his dam west of Phoenix in 1921. In the interim, a novel crossing was devised in which autos were pulled by horse teams across an apron poured at the dam's downstream toe. Mindful of the problems encountered at other large-scale concrete bridges over the Gila, AHD in April 1925 contracted for soundings and borings and then hired a consulting engineer to help locate and design the structure. For its superstructure, the engineers dropped the concrete bridge design and instead delineated a series of rigid-connected through trusses weighing a total of 2.3 million pounds. Each spanning 200 feet, the trusses featured Camelback web configurations, with built-up box beams for the upper and lower chords. These were supported by solid concrete abutments and piers placed on bedrock at a 25-foot depth, with the deepest pier extending 43 feet below the riverbed. The 19-foot-wide concrete deck sat on steel stringers and was bounded on the sides by steel pipe guardrails.

In January 1926 eleven contractors submitted competitive bids for the construction. The highway department let the contract to the lowest bidder, Lee Moor Construction Company of El Paso, Texas. Moor's crew began work on the piers immediately and completed the immense structure in July 1926. Total cost: \$320,000. The Gillespie Dam Bridge carried mainline traffic on the Ocean-to-Ocean Highway (US 80) until a route realignment in 1956 moved the road. At that time the bridge reverted to county road status, under which it now functions today in unaltered condition.

## SIGNIFICANCE STATEMENT

Prior to 1927 traffic on the Ocean-to-Ocean Highway at this point was often halted by flooding on the Gila River. The Gillespie Dam Bridge was thus strategically important to Arizona transportation in that it finally allowed all-weather travel over this vital transcontinental route. Technologically, the bridge is noteworthy as one of the longest vehicular structures in the state. Arizona's longest bridges have historically been built over the Gila. In fact, more effort and money was spent building—and maintaining—bridges over the Gila than any other river in the state. Of the five longest vehicular structures in the state in 1927 (Antelope Hill [abd.], 1765 feet; Gillespie Dam, 1660 feet; Tempe, 1508 feet; Sacaton [3165], 1486 feet; and Florence, 1430 feet), four spanned the Gila and the Gillespie Dam Bridge was the only steel structure. Several multiple-span vehicular through trusses were erected in the state in the 1910s and 1920s, but through attrition only two exist today (other: Boulder Creek (Wickenburg) Bridge [0193]). The Gillespie Dam Bridge is one of the most important examples of early bridge construction in Arizona.

## NATIONAL REGISTER EVALUATION

## TECHNOLOGICAL SIGNIFICANCE

☐ represents the work of a master  
☐ possesses high artistic values  
☒ represents a type, period or method of construction

## HISTORICAL SIGNIFICANCE

☐ associated with significant persons  
☒ associated with significant events or patterns  
☐ contributes to historical district

## NATIONAL REGISTER CRITERIA

☒ Criterion A  
☐ Criterion B  
☒ Criterion C

## NATIONAL REGISTER ELIGIBILITY

individually eligible ☒ yes ☐ no  
 contributes to district ☐ yes ☒ no

AREA OF SIGNIFICANCE: Transportation; Engineering

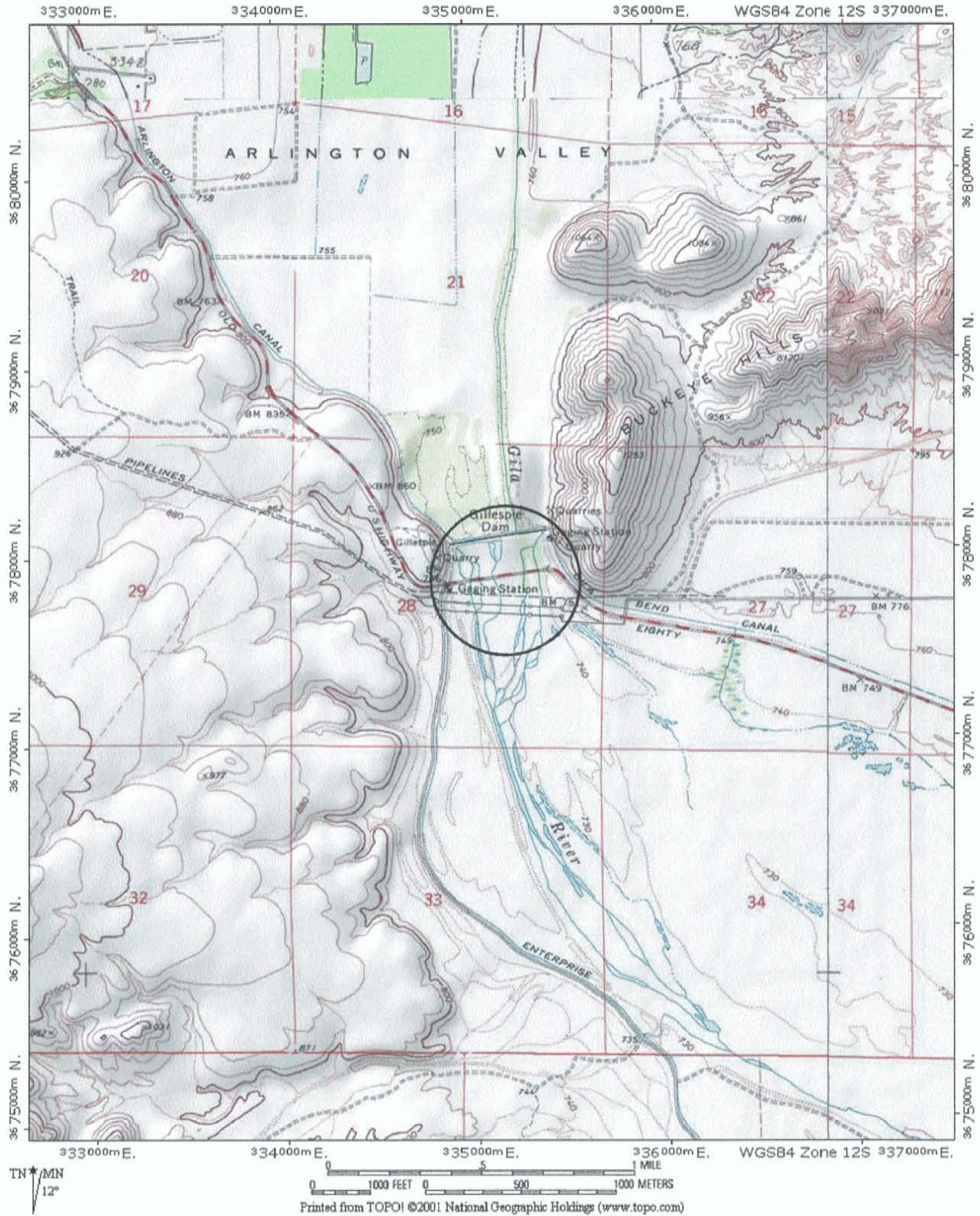
PERIOD OF SIGNIFICANCE: 1927-1964

THEME(S): Transportation: Highways



# GILLESPIE DAM BRIDGE

Structure No. 8021



Location Map



# HISTORIC BRIDGE INVENTORY

## Central Avenue Underpass

### PROPERTY IDENTIFICATION

county	Maricopa	inventory number	09168
milepost	6.89	inventory route	Jackson St; SP Railroad
location	Central Av S of Madison	feature intersected	Central Avenue
city/vicinity	Phoenix	USGS quadrangle	Phoenix
district	81	UTM reference	12.400210.3701085

### STRUCTURAL INFORMATION

main span number	2	main span type	207
appr. span number	0	appr. span type	
degree of skew	0	guardrail type	4
main span length	30.0	superstructure	concrete rigid frame
structure length	59.0	substructure	concrete abutments, wingwalls and pier
roadway width	0.0	floor/decking	concrete deck with asphalt overlay
structure width	0.0	other features	concrete guardrails; modest Art Moderne corbelling on pylons; cast concrete winged motif panels and aluminum applied letters on spandrels

### HISTORICAL INFORMATION

construction date	1940	designer/engineer	Arizona Highway Department
project number	FAGM 2-A(1)	builder/contractor	Lee Moor Contracting Company, El Paso TX
information source	ADOT bridge records	structure owner	City of Phoenix
alteration date(s)		alterations	

### NATIONAL REGISTER EVALUATION

inventory score	58	For additional information, see "Vehicular Bridges in Arizona 1880-1964" National Register Multiple Property Documentation Form	
		NRHP eligibility	eligible
		NRHP criteria	A _____ B _____ C <u>x</u>
		signif. statement	well-preserved example of Depression-era bridge construction

### FORM COMPLETED BY

Clayton B. Fraser, Principal

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420 South County Road 23E  
Loveland, Colorado 80537  
31 October 2004



# CENTRAL AVENUE UNDERPASS

Structure No. 9168



## PHOTO INFORMATION

date of photo.: February 2003

view direction: north east

photo no.: 03.02.282 03.02.283



## CONSTRUCTION HISTORY

The Central Avenue Underpass was built in 1939-1940 in the central business district of Phoenix as a "4-lane divided roadway structure passing under both the Southern Pacific and Santa Fe tracts [sic] and providing street level crossing of Jackson Street." As described by P.F. Glendenning, project engineer for the Arizona Highway Department, "Central Avenue between Jackson street and the Southern Pacific tracks will be entirely covered except for a light well and stairway at the Southern Pacific tracks." As delineated by AHD in the summer of 1939, the structure was configured as a concrete rigid frame, with two 30-foot spans over the northbound and southbound lanes of the street. The underpass was scaled to accommodate the multi-track railyards here, with an 60-foot-wide deck. As designed, it featured minimalistic proportions and Art Moderne architectural detailing, with corbeled pylons, cast concrete winged motifs and the words "Central Avenue" rendered in Art Moderne aluminum letters applied the portals.

Built entirely with federal funds under Federal Aid Grade Municipal Project 2-A(1), this underpass was advertised for competitive bids in April 1939, and the construction contract was awarded to the Lee Moor Contracting Company of El Paso, Texas. Moor began work on June 7, completing much of the work before construction was shut down by a labor strike in November. Moor was able to settle with the AFL and continue work later that year; the underpass was complete by the contracted deadline in May 1940. It has carried heavy city-street traffic since, in essentially unaltered condition.

## SIGNIFICANCE STATEMENT

Located near the heart of downtown Phoenix, the Central Avenue Underpass was "the largest and most expensive grade separation project yet undertaken" in Arizona, according to the state highway department. Like many other grade separations designed by AHD at the time, this structure featured a distinctive architectural treatment to integrate it with its urban surroundings.. Rather than use a classical revival idiom as it had for the Stone Avenue Underpass [7987] in Tucson, the Casa Grande Underpass [0143] and the Winslow Underpass [0194], AHD instead used a simpler, more modern treatment. The Central Avenue Underpass is one of a handful of such structures to trade on the Art Moderne style (others: Peoria Underpass [0160], Gila Bend Overpass [0618] and the 17th Avenue Underpass [7770], all in Maricopa County). Its proportions and detailing distinguish it among the state's urban grade separations as a well-preserved example of Depression-era bridge construction.

## NATIONAL REGISTER EVALUATION

## TECHNOLOGICAL SIGNIFICANCE

- ☐ represents the work of a master  
☐ possesses high artistic values  
☒ represents a type, period or method of construction

## HISTORICAL SIGNIFICANCE

- ☐ associated with significant persons  
☐ associated with significant events or patterns  
☐ contributes to historical district

## NATIONAL REGISTER CRITERIA

- ☐ Criterion A  
☐ Criterion B  
☒ Criterion C

## NATIONAL REGISTER ELIGIBILITY

- individually eligible ☒ yes ☐ no  
 contributes to district ☐ yes ☒ no

AREA OF SIGNIFICANCE: Engineering

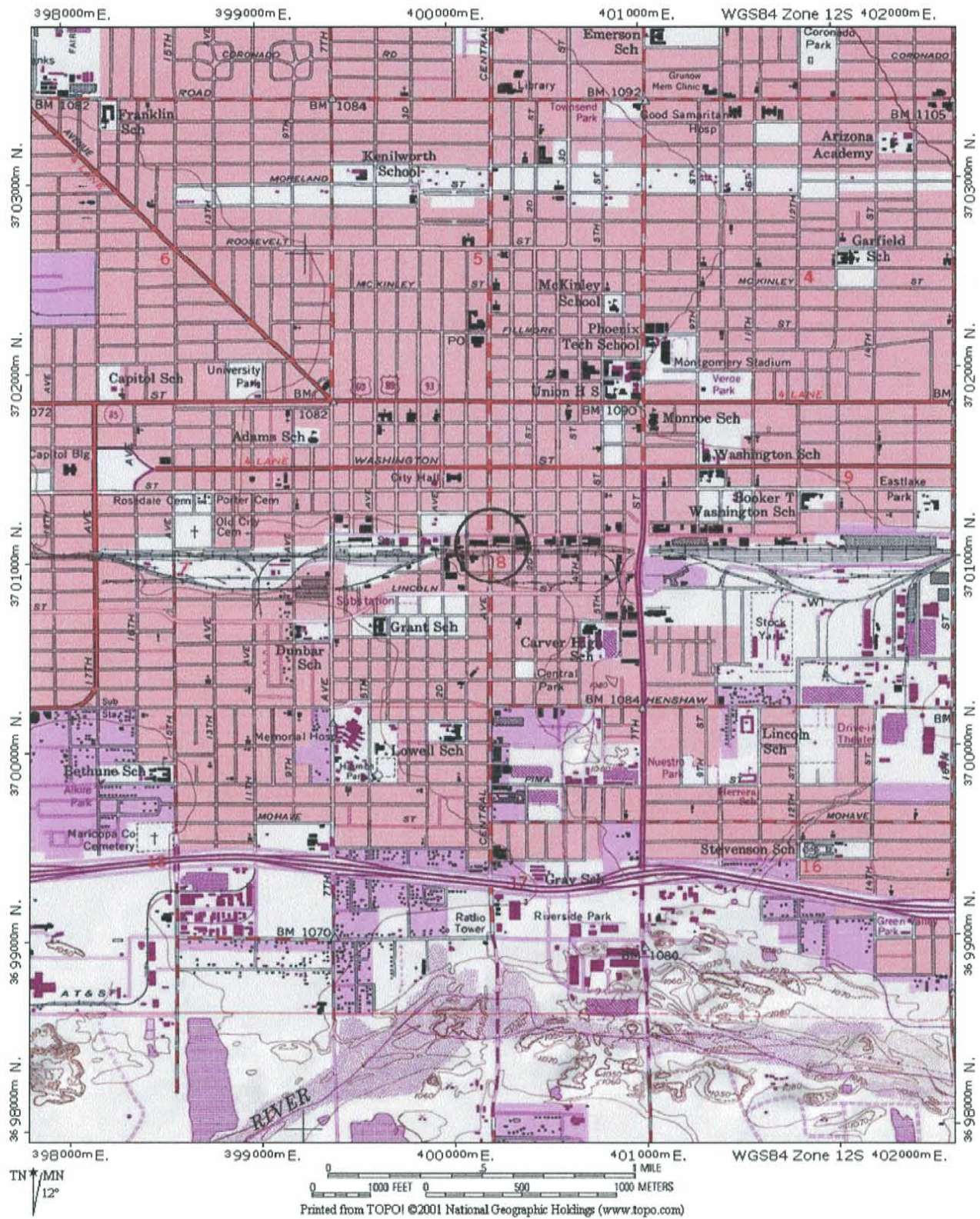
PERIOD OF SIGNIFICANCE: 1940-1964

THEME(S): Transportation: Highways



# CENTRAL AVENUE UNDERPASS

Structure No. 9168



Location Map



# HISTORIC BRIDGE INVENTORY

## Mill Avenue Bridge

### PROPERTY IDENTIFICATION

county	Maricopa	inventory number	09954
milepost	0.00	inventory route	Mill Avenue SB
location	0.2 mi S of Curry Road	feature intersected	Salt River
city/vicinity	Tempe	USGS quadrangle	Tempe
district	78	UTM reference	12.412480.3699692

### STRUCTURAL INFORMATION

main span number	10	main span type	211
appr. span number	2	appr. span type	204
degree of skew	0	guardrail type	4
main span length	150.0	superstructure	concrete two-rib open spandrel arch
structure length	1577.0	substructure	concrete abutments and spill-through piers on spread footings
roadway width	36.0	floor/decking	concrete deck with asphalt overlay
structure width	46.8	other features	moulded concrete guardrails w/ pierced parapet walls and paneled bulkheads; decorative concrete vestibules beside roadway; cantilevered deck w/ moulded cantilever brackets

### HISTORICAL INFORMATION

construction date	1931	designer/engineer	Arizona Highway Department
project number	FAP 2-B	builder/contractor	Lynch Canon Engineering Co., Los Angeles CA
information source	ADOT bridge records	structure owner	City of Tempe
alteration date(s)		alterations	

### NATIONAL REGISTER EVALUATION

inventory score	86	For additional information, see "Vehicular Bridges in Arizona 1880-1964" National Register Multiple Property Documentation Form	
		NRHP eligibility	listed
		NRHP criteria	A <u>x</u> B <u>  </u> C <u>x</u>
		signif. statement	one of Arizona's most historically and technologically significant bridges

### FORM COMPLETED BY

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420 South County Road 23E  
Loveland, Colorado 80537  
31 October 2004



# MILL AVENUE BRIDGE

Structure No. 9954



## PHOTO INFORMATION

date of photo.: April 2002

view direction: north northeast

photo no.: 02.04.27 02.04.24

## CONSTRUCTION HISTORY

One of the first bridges undertaken by Territorial Engineer J.B. Girand was a major multiple-span structure over the Salt River in Tempe. Consisting of eleven 125-foot concrete arch spans, it was built in 1911-1913 by convict laborers from the territorial prison at Florence. The Tempe Bridge provided an all-weather crossing of the Salt to connect Phoenix with the eastern part of the state. Additionally, the bridge formed a pivotal link on the north-south territorial highway then under construction. The original Tempe Bridge functioned in place with occasional repairs, but its 18-foot width eventually proved to be an impediment to traffic at this congested crossing. In May 1928 a delegation of Tempe businessmen appeared before the Arizona Highway Commission with a request to replace the bridge with another parallel structure. The Commission, which had previously considered the matter, quickly concurred. Later that year AHD bridge engineer Ralph Hoffman designed a multi-span open spandrel concrete arch along the same lines of the earlier structure. The bridge was later realigned slightly to place the footings on a granite dike that extended beneath the river. With 16 spans of 150 feet, it extended almost 1600 feet, and its 36-foot deck width was double that of the earlier structure. Its superstructure was comprised of concrete arches, each with two open spandrel arch rings supported by solid concrete piers with bullnosed cutwaters.

On January 20, 1930, AHD let a contract to the Lynch-Canon Engineering Company to build the immense structure under Federal Aid Project 2B for almost \$400,000. The Los Angeles contractors began work on the abutments and piers immediately and progressed steadily through the rest of the year. Completed and dedicated formally in July 1931, the Mill Avenue Bridge has since carried heavy traffic with only minor alterations. It has more recently been turned over to Maricopa County for use by local traffic.

## SIGNIFICANCE STATEMENT

As the crossroads for three of Arizona's major highways, located as the principle all-weather crossing over the Salt River in the state's largest metropolitan area, both the 1913 and 1931 Tempe bridges have provided a pivotal link in the state's transportation system. Their importance to vehicular traffic in Arizona can thus hardly be overstated. The Mill Avenue Bridge is technologically significant as having the longest total and span lengths among the four open spandrel vehicular arches in Arizona and, at the time of its completion, was the longest highway bridge in the state. It is one of Arizona's most historically and technologically significant vehicular structures.

## NATIONAL REGISTER EVALUATION

## TECHNOLOGICAL SIGNIFICANCE

- ☐ represents the work of a master  
☐ possesses high artistic values  
☒ represents a type, period or method of construction

## HISTORICAL SIGNIFICANCE

- ☐ associated with significant persons  
☒ associated with significant events or patterns  
☐ contributes to historical district

## NATIONAL REGISTER CRITERIA

- ☒ Criterion A  
☐ Criterion B  
☒ Criterion C

## NATIONAL REGISTER ELIGIBILITY

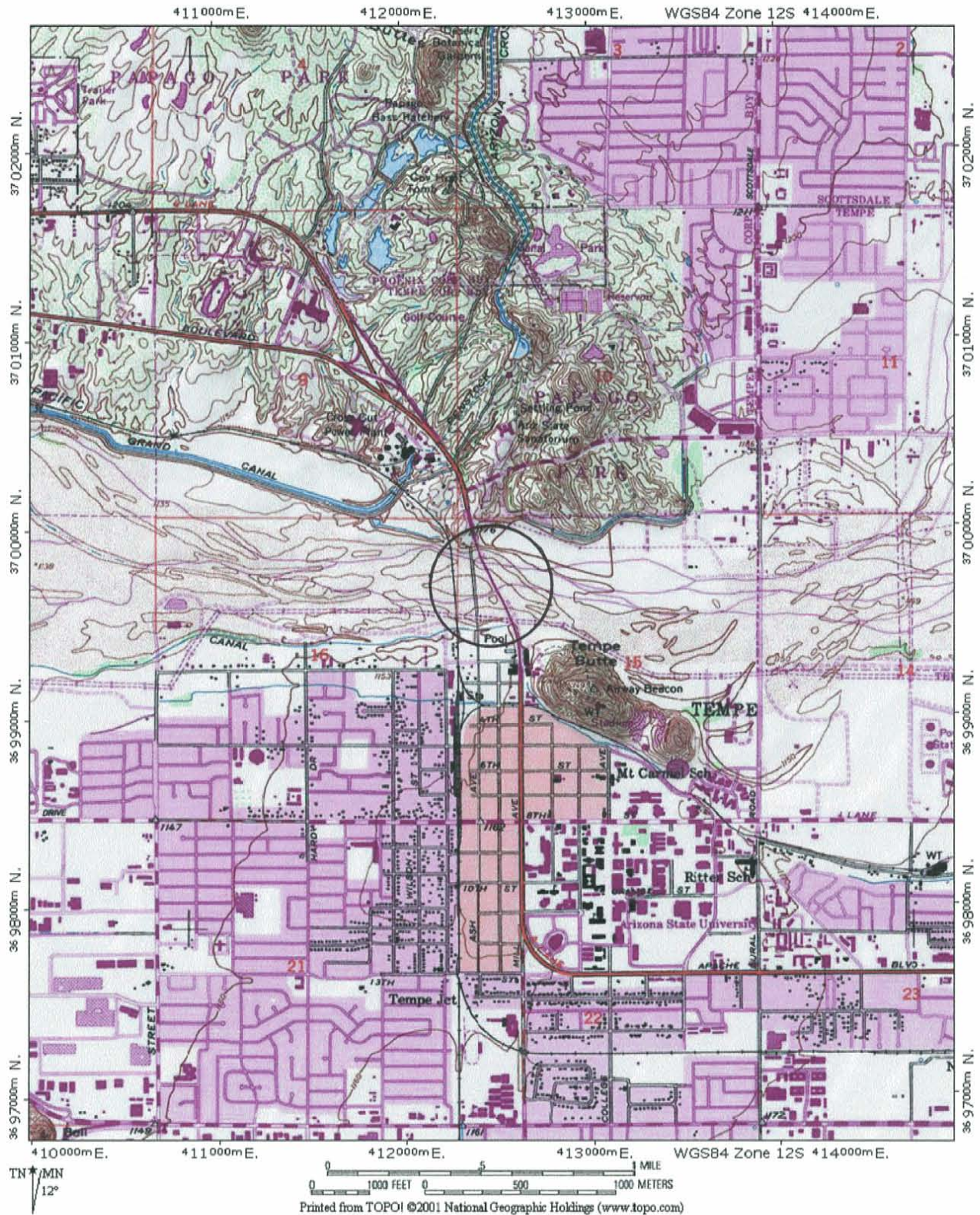
- individually eligible ☒ yes ☐ no  
 contributes to district ☐ yes ☒ no

AREA OF SIGNIFICANCE: Transportation; Engineering  
 PERIOD OF SIGNIFICANCE: 1931-1964  
 THEME(S): Transportation: Highways



# MILL AVENUE BRIDGE

Structure No. 9954



Location Map