STATE OF ARIZONA

HISTORIC

## HISTORIC PROPERTY INVENTORY FORM

INVENTORY

# Dry Wash Bridge

BRIDGE

PROPERTY IDENTIFICATION
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county milepost location city/vicinity USGS quad STRUCTURAL INFC	Maricopa 225.55 29.9 mi E Jct US 60 Tortilla Flat Horse Mesa Dam RMATION	inventory number inventory route feature intersected structure owner UTM reference	00015 SR 88 dry wash Arizona Department of Transportation 12.473843.3711015	
main span number appr. span number degree of skew main span length structure length	1 0 0 32.0 32.0	main span type appr. span type guardrail type superstructure substructure	302 4 steel I-beam stringer coursed stone ashlar abutments with stone rubble wingwalls	
roadway width structure width	14.0 16.7	floor/decking other features	concrete deck concrete curbs	
HISTORICAL INFORMATION				
construction date project number info source:	1923 non-FA project ADOT bridge records	designer/engineer builder/contractor alteration date(s) alterations	Arizona Hiahwav Department L.C. Lashmet Company, Prescott AZ	
NATIONAL REGISTER EVALUATION				
For additional information, see "Vehicular Bridges in Arizona 1880-1978" National Register Multiple Property Documentation Form				
inventory score interstate exemptic program comment	59 n _ -	NRHP eligibility NRHP criteria signif. statement	eligible A <u>x</u> B C <u>x</u> well-preserved, early example of common structural type, located on significant early route	

### FORM COMPLETED BY

Clayton B. Fraser, Principal





date of photo.: December 2017 view direction: northwest northeast photo no.: DSCF4841 DSCF4848

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, with only minor substructural repairs.

#### 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.

TECHNOLOGICAL SIGNIFICANCE represents the work of a master possesses high artistic values represents a type, period or method of construction	HISTORICAL SIGNIFICANCEassociated with significant peassociated with significant evcontributes to historical district	NATIONAL REGISTER CRITERIA         arsons       x       Criterion A         ents or patterns       Criterion B         ct       x       Criterion C
NATIONAL REGISTER ELIGIBILITY	AREA OF SIGNIFICANCE:	Transportation; Engineering
individually eligible <u>x</u> yes <u>no</u>	PERIOD OF SIGNIFICANCE:	1923-1978
contributes to district <u>yes x</u> no	THEME(S):	Transportation: Highways





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	structure owner	Arizona Department of Transportation	
USGS quad	Mormon Flat Dam	UTM reference	12.458845.3711100	
STRUCTURAL INFC	RMATION			
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 INFOR	RMATION			
construction date	1924	designer/engineer	Arizona Hiahway Department	
project number	7-1-88-9A	builder/contractor	state work force	
info source:	ADOT bridge records	alteration date(s)	) 1940 1970	
		alterations	deck replaced, twice	
NATIONAL REGIST	ER EVALUATION			
		For additional inform National Register N	mation, see "Vehicular Bridges in Arizona 1880-1978" Iultiple Property Documentation Form	
inventory score	73	NRHP eligibility	listed	
interstate exemptio	n _	NRHP criteria	A <u>x</u> B <u>C x</u>	
program comment	-	signif. statement	well-preserved example of rare structural type, located on significant early route	
FORM COMPLETED	) BY			
Clayton B. Fras	ser, Principal		FRASERdesign 5700 Jackdaw Drive Loveland, Colorado 80537 1 October 2018	



date of photo.: December 2017 view direction: southeast northeast photo no.: DSCF4787 DSCF4790

Site No. 00026

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 [08021] in Maricopa County and Walnut Grove Bridge [08227] 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.

TECHNOLOGICAL SIGNIFICANCE	HISTORICAL SIGNIFICANCE	NATIONAL REGISTER CRITERIA
represents the work of a master	associated with significant persons	Criterion A
possesses high artistic values	_x associated with significant events or patterns	s Criterion B
represents a type, period or method of construction	contributes to historical district	_x Criterion C
NATIONAL REGISTER ELIGIBILITY	area of significance: Transpor	tation; Engineering
individually eligible _x_yesno	period of significance: 1925-1978	
contributes to district yes _x no	THEME(S): Transpor	tation: Highways





STATE OF ARIZONA

HISTORIC

## HISTORIC PROPERTY INVENTORY FORM

INVENTORY

# Fish Creek Bridge

BRIDGE

PROPERTY	<b>IDENTIFICATION</b>

county milepost location city/vicinity USGS quad	Maricopa 223.50 27.7 M E Jct US 60 Tortilla Flat Horse Mesa Dam	inventory number inventory route feature intersected structure owner UTM reference	00027 SR 88 Fish Creek Arizona Department of Transportation 12.471480.3709518	
		• .		
main span number	1	main span type	310	
appr. span number	0	appr. span type	<u>^</u>	
degree of skew	U	guardrail type		
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 INFOR	RMATION			
construction date	1923	designer/engineer	Arizona Hiahway Department	
project number	non-FA project	builder/contractor	L.C. Lashmet Company, Prescott AZ	
info source:	ADOT bridge records	alteration date(s)		
	0	alterations		
NATIONAL REGIST	ER EVALUATION			
		For additional information, see "Vehicular Bridges in Arizona 1880-1978" National Register Multiple Property Documentation Form		
inventory score	62	NRHP eliaibility	listed	
interstate exemptio	n _	NRHP criteria	A <sub>X</sub> BC <sub>X</sub>	
, program comment	-	signif. statement	well-preserved example of rare structural type, located on significant early route	
FORM COMPLETED	O BY			
Clayton B. Fras	ser, Principal		FRASERdesign 5700 Jackdaw Drive Loveland, Colorado 80537 1 October 2018	



date of photo.: December 2017 view direction: west northeast

photo no.: DSCF4806 DSCF4814

Structure No. 00027

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 [00026]—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 once-common vehicular type.

TECHNOLOGICAL SIGNIFICANCE	HISTORICAL SIGNIFICANCE	NATIONAL REGISTER CRITERIA
possesses high artistic values represents a type, period or method of construction	x associated with significant events or patterns contributes to historical district	Criterion B Criterion C
NATIONAL REGISTER ELIGIBILITY individually eligible <u>x</u> yes <u>no</u> contributes to district <u>yes x</u> no	area of significance: Transporta Period of significance: 1923-1978 Theme(s): Transporta	ttion; Engineering ttion: Highways





## HISTORIC PROPERTY INVENTORY FORM

HISTORIC

BRIDGE

# INVENTORY

# Lewis and Pranty Creek Bridge

PROPERTY IDENTI	FICATION			
county milepost location city/vicinity USGS quad	Maricopa 224.60 28.9 Mi E Jct US 60 Tortilla Flat Horse Mesa Dam	inventory number inventory route feature intersected structure owner UTM reference	00028 SR 88 <sup>1</sup> Lewis and Pranty Creek Arizona Department of Transportation 12.472440.3710880	
main span number appr. span number degree of skew main span length structure length roadway width structure width	1 0 0 60.0 60.0 13.0 16.3	main span type appr. span type guardrail type superstructure substructure floor/decking other features	310 6 steel rigid-connected Warren pony truss concrete abutments and stone masonry wingwalls concrete deck over steel stringers 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 INFOR construction date project number info source: NATIONAL REGIST	1923 non-FA project ADOT bridge records	designer/engineer builder/contractor alteration date(s) alterations	Arizona Hiahwav Department L.C. Lashmet Company, Prescott AZ	
inventory score interstate exemptio program comment FORM COMPLETED	62 n _ - DBY	For additional information, see "Vehicular Bridges in Arizona 1880-1978" National Register Multiple Property Documentation Form NRHP eligibility listed NRHP criteria A <u>x</u> B <u>C x</u> signif. statement well-preserved example of rare structural to located on significant early route		
Clayton B. Fra:	ser, Principal		FRASERdesign 5700 Jackdaw Drive Loveland, Colorado 80537	

1 October 2018



date of photo.: December 2017 view direction: east northeast photo no.: DSCF4820 DSCF4821

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 [00027] 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 once-common vehicular type.

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 pers x associated with significant even contributes to historical district	NAT ons <u>x</u> its or patterns <u>x</u>	IONAL REGISTER CRITERIA Criterion A Criterion B Criterion C
NATIONAL REGISTER ELIGIBILITY individually eligible <u>x</u> yes <u>no</u> contributes to district <u>yes x</u> no	AREA OF SIGNIFICANCE: 7 PERIOD OF SIGNIFICANCE: 1 THEME(S): 7	Fransportation; 923-1978 Fransportation:	Engineering Highways



Structure No. 00028

# HISTORIC BRI

BRIDGE

# INVENTORY

# Pine Creek Bridge

### PROPERTY IDENTIFICATION

county milepost location city/vicinity USGS quad	Maricopa 233.50 37.8 mi E Jct US 60 Roosevelt Pinyon Mountain	inventory number inventory route feature intersected structure owner UTM reference	00031 SR 88 Pine Creek Arizona Department of Transportation 12.480970.3717480
STRUCTURAL INFO	RMATION		
main span number appr. span number degree of skew main span length structure length roadway width structure width	2 0 0 48.0 132.0 16.0 18.5	main span type appr. span type guardrail type superstructure substructure floor/decking other features	211 4 concrete filled spandrel arch concrete abutments, wingwalls and pier gravel roadway over earth fill moulded concrete guardrails with paneled concrete parapet walls; incised line delineating concrete arch ring
HISTORICAL INFOR	RMATION		
construction date project number info source:	1925 non-FA project ADOT bridge records	designer/engineer builder/contractor alteration date(s) alterations	Arizona Hiahway Department state work force
NATIONAL REGIST	ER EVALUATION		
		For additional information, see "Vehicular Bridges in Arizona 1880-1978" National Register Multiple Property Documentation Form	
inventory score interstate exemptio program comment	59 n _ -	NRHP eligibility NRHP criteria signif. statement	listed A _xBCx well-preserved example of rare structural type, located on significant early route

### FORM COMPLETED BY

Clayton B. Fraser, Principal



date of photo.: December 2017 view direction: south northeast photo no.: DSCF4871 DSCF4892

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. Additionally, 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 he state's most famous routes and has not changed substantially since its rehabilitation by the highway department in the 1920s.

TECHNOLOGICAL SIGNIFICANCE _x_ represents the work of a master possesses high artistic values represents a type, period or method of construction	HISTORICAL SIGNIFICANCE associated with significant perso x associated with significant event contributes to historical district	NATIONAL REGISTER CRITERIA         ns       Criterion A         s or patterns       Criterion B         Criterion C
NATIONAL REGISTER ELIGIBILITY	AREA OF SIGNIFICANCE: T	ransportation; Engineering
individually eligible <u>x</u> yes <u>no</u>	PERIOD OF SIGNIFICANCE: 1	925-1978
contributes to district <u>yes x</u> no	THEME(S): T	ransportation: Highways

Location Map

## STATE OF ARIZONA

## HISTORIC PROPERTY INVENTORY FORM



BRIDGE

# INVENTORY

# Gila Bend Overpass

PROPERTY IDENTI	FICATION					
county	Maricopa	inventory number	00118			
milepost	120.46	inventory route	SR B 8; Eeastbound			
location	0.2 mi E Jct SR 85	feature intersected	d Southern Pacific Railroad			
city/vicinity	Gila Bend	structure owner	Arizona Department of Transportation			
USGS quad	Gila Bend	UTM reference	12.341398.3646960			
STRUCTURAL INFC	RMATION					
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-pierce parapet walls lined with concrete Jersey barrie			
HISTORICAL INFOR	RMATION					
construction date	1934	designer/engineer	Arizona Hiahway Department			
project number	NRS 100-A	builder/contractor	Vinson & Pringle, Phoenix AZ			
info source:	ADOT bridge records	alteration date(s)	1992			
		alterations	Jersey barriers added inside original concrete guardrails			
NATIONAL REGIST	ER EVALUATION					
		For additional inform National Register M	mation, see "Vehicular Bridges in Arizona 1880-1978" Iultiple Property Documentation Form			
inventory score	57	NRHP eligibility	listed			
interstate exemptio	n _	NRHP criteria	A <u>x</u> B C <u>x</u>			
program comment	-	signif. statement	earliest remaining example of AHD architectural treatment on urban grade separation			
FORM COMPLETED	) BY					

Clayton B. Fraser, Principal





date of photo.: May 2018

view direction: north southwest

photo no.: DSCF6255 DSCF6260

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 stream lined 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 U.S. 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.

TECHNOLOGICAL SIGNIFICANCE represents the work of a master possesses high artistic values represents a type, period or method of construction	HISTORICAL SIGNIFICANCEassociated with significant personsassociated with significant events ofcontributes to historical district	NATIONAL REGISTER CRITERIA         _x       Criterion A         or patterns       Criterion B         _x       Criterion C
NATIONAL REGISTER ELIGIBILITY	AREA OF SIGNIFICANCE: Tro	insportation; Engineering
individually eligible <u>x</u> yes <u>no</u>	period of significance: 193	4-1978
contributes to district <u>yes x</u> no	theme(s): Tro	insportation: Highways





HISTORIC

BRIDGE

# INVENTORY

# Peoria Underpass

PROPERTY IDENTIF	FICATION			
county milepost location city/vicinity USGS quad	Maricopa 152.20 8.5 mi W Jct I 17 Peoria Glendale	inventory number inventory route feature intersected structure owner UTM reference	00160 AT&SF Railroad US 60; Westbound Atchison, Topeka & Santa Fe Railroad 12.387008.3714557	
STRUCTURAL INFC	RMATION			
main span number appr. span number degree of skew main span length structure length roadway width structure width	1 0 30 86.0 89.0 0.0 0.0	main span type appr. span type guardrail type superstructure substructure floor/decking other features	303 steel plate through girder concrete abutments, wingwalls and pier ballasted railroad bed	
HISTORICAL INFOR	RMATION			
construction date project number info source:	1936 WPGH 48 ADOT bridge records	designer/engineer builder/contractor alteration date(s) alterations	AT&SF Railroad Daley Construction Company, San Diego CA 1953 slopes paved	
NATIONAL REGIST	ER EVALUATION			
		For additional information, see "Vehicular Bridges in Arizona 1880-1978" National Register Multiple Property Documentation Form		
inventory score interstate exemptio program comment	58 n _ -	NRHP eligibility NRHP criteria signif. statement	eligible A _x _ B C _x well-preserved example of ASHD architectural treatment for an urban grade separation	

### FORM COMPLETED BY

Clayton B. Fraser, Principal



date of photo.: December 2017 view direction: northwest north photo no.: DSCF5019 DSCF5022

The Atchison Topeka & Santa Fe Railroad intersected with the Phoenix-Prescott Highway (U.S. 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 [07987] in Tucson, the Casa Grande Underpass [00143] and the Winslow Underpass [00194], 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 [00264], Gila Bend Overpass [00618] and the Wickenburg Underpass [00195]). 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.

TECHNOLOGICAL SIGNIFICANCE represents the work of a master possesses high artistic values represents a type, period or method of construction	HISTORICAL SIGNIFICANCEassociated with significant personsassociated with significant events or pcontributes to historical district	NATIONAL REGISTER CRITERIA         _x       Criterion A         atterns       Criterion B         _x       Criterion C
NATIONAL REGISTER ELIGIBILITY	AREA OF SIGNIFICANCE: Transp	portation; Engineering
individually eligible <u>x</u> yes <u>no</u>	Period of significance: 1936-19	178
contributes to district <u>yes x</u> no	Theme(s): Transp	portation: Highways



112°14,000' W

112°15.000' W

1

WGS84 112°13.000' W

Peoria

STATE OF ARIZONA

HISTORIC

## HISTORIC PROPERTY INVENTORY FORM

INVENTORY

# Wickenburg Bridge

BRIDGE

PROPERTY IDENTIFICATION					
county milepost location city/vicinity USGS quad	Maricopa 110.53 0.20 mi E Jct US 93 Wickenburg Wickenburg	inventory number inventory route feature intersected structure owner UTM reference	00161 US 60 Westbound Hassayampa River Arizona Department of Transportation 12.340504.3760256		
STRUCTURAL INFC	RMATION				
main span number appr. span number degree of skew main span length structure length roadway width structure width	6 0 80.0 481.0 23.9 31.7	main span type appr. span type guardrail type superstructure substructure floor/decking other features	303 6 steel plate deck girder concrete abutments, wingwalls and piers concrete deck with asphalt overlay steel angle built-up flanges and web stiffeners; steel channel guardrails with slotted concrete guardrails at approaches		
HISTORICAL INFOR	RMATION				
construction date project number info source:	1936 NRM 31 ADOT bridge records	designer/engineer builder/contractor alteration date(s) alterations	Arizona Hiahway Department F.D. Shufflebarger, Phoenix AZ bridge converted to pedestrian use		
NATIONAL REGIST	ER EVALUATION				
		For additional information, see "Vehicular Bridges in Arizona 1880-1978" National Register Multiple Property Documentation Form			
inventory score interstate exemptio program comment	55 n _ -	NRHP eligibility NRHP criteria signif. statement	eligible A _x _ B C _x well-preserved example of long-span structural type; major crossing on major route		

## FORM COMPLETED BY

Clayton B. Fraser, Principal

# WICKENBURG BRIDGE



PHOTO INFORMATION

date of photo.: December 2017

view direction: east north

photo no.: DSCF5083 DSCF5092

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.

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 patter contributes to historical district	NATIONAL REGISTER CRITERIA          _x       Criterion A         ns        Criterion B         _x       Criterion C
NATIONAL REGISTER ELIGIBILITY	area of significance: Transpo	ortation; Engineering
individually eligible <u>x</u> yes <u>no</u>	period of significance: 1937-197	8
contributes to district <u>yes x</u> no	theme(s): Transpo	ortation: Highways

Structure No. 00161



FRASERDESIGN 2018

STATE OF ARIZONA

## HISTORIC PROPERTY INVENTORY FORM



BRIDGE

# INVENTORY

# Boulder Creek Bridge

PROPERTY IDENTIF	ICATION		
county milepost location city/vicinity USGS quad STRUCTURAL INFC	Maricopa 211.05 15.2 mi E Jct US 60 Tortilla Flat Mormon Flat Dam RMATION	inventory number inventory route feature intersected structure owner UTM reference	00193 SR 88 Boulder Creek Arizona Department of Transportation 12.460677.3710525
main span number appr. span number degree of skew main span length structure length roadway width structure width	4 0 0 180.0 488.0 15.0 16.3	main span type appr. span type guardrail type superstructure substructure floor/decking other features	310 6 steel rigid-connected Parker / Pratt through truss concrete abutments and wingwalls with spill- though concrete piers concrete deck over steel stringers upper chord / lower chord: 2 channels or angles w/ cover plate and lacing or batten plates; vertical: 2 channels or angles w/ lacing; floor beam: I-beam; steel angle guardrails
construction date project number info source: NATIONAL REGIST	1916 NRS 106 ADOT bridge records <b>ER EVALUATION</b>	designer/engineer builder/contractor alteration date(s) alterations	Arizona Hiahwav Department state work force 1937 1970 trusses moved to this location; bracing modified
inventory score interstate exemptio program comment	74 m _ -	For additional inform National Register M NRHP eligibility NRHP criteria signif. statement	mation, see "Vehicular Bridges in Arizona 1880-1978" Multiple Property Documentation Form listed A _x _ B C _x well-preserved example of rare structural type, located on significant early route

## FORM COMPLETED BY

Clayton B. Fraser, Principal



date of photo.: December 2017

view direction: southwest northwest photo no.: DSCF4794 DSCF4800

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 [**00161**]. The 1920 trusses were then dismantled, combined with a Parker through truss that AHD had designed for LaBarge Creek, and reerected 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 [08021]), the Boulder Creek Bridge is a noteworthy transportation-related resource.

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 path contributes to historical district	NATIONAL REGISTER CRITERIA          x       Criterion A         erns       Criterion B         Criterion C
NATIONAL REGISTER ELIGIBILITY	area of significance: Transp	oortation; Engineering
individually eligible <u>x</u> yes <u>no</u>	period of significance: 1920-19	78
contributes to district <u>yes x</u> no	theme(s): Transp	oortation: Highways





## STATE OF ARIZONA

## HISTORIC PROPERTY INVENTORY FORM



BRIDGE

# INVENTORY

# Wickenburg Underpass

PROPERTY IDENTI	FICATION		
county milepost location city/vicinity USGS quad	Maricopa 110.25 0.08 mi W Jct US 93 Wickenburg Wickenburg	inventory number inventory route feature intersected structure owner UTM reference	00195 AT&SF Railroad US 60 Atchison, Topeka & Santa Fe Railroad 12.340066.3759955
main span number appr. span number degree of skew main span length structure length roadway width structure width HISTORICAL INFOR	2 0 0 30.0 62.0 34.0 36.2	main span type appr. span type guardrail type superstructure substructure floor/decking other features	207 4 concrete rigid frame concrete abutments, wingwalls and pier concrete deck with asphalt overlay solid concrete guardrails with recessed panels
construction date project number info source: NATIONAL REGIST	1937 WPGM 98-I ADOT bridge records FR EVALUATION	designer/engineer builder/contractor alteration date(s) alterations	Arizona Hiahway Department Phoenix-Tempe Stone Co., Phoenix AZ
		For additional inform National Register M	nation, see "Vehicular Bridges in Arizona 1880-1978" Iultiple Property Documentation Form

inventory score interstate exemption	61	NRHP eligibility NRHP criteria signif statement	eligible A <u>x</u> uncommon	B	C l tvi	_x
program comment	-	signin. statement	highway ro	ute	LLYI	

## FORM COMPLETED BY

Clayton B. Fraser, Principal

STATE OF ARIZONA

HISTORIC

## HISTORIC PROPERTY INVENTORY FORM

INVENTORY

# Frontier Street Overpass

BRIDGE

PROPERTY IDENTIF	FICATION			
county milepost location city/vicinity USGS quad	Maricopa 110.26 0.1 mi W Jct US 93 Wickenburg Wickenburg	inventory number inventory route feature intersected structure owner UTM reference	01000 Frontier Street US 60 Arizona Department of Transportation 12.340088.3759970	
STRUCTURAL INFO	RMATION			
main span number appr. span number degree of skew main span length structure length roadway width structure width	2 0 0 33.0 62.0 24.0 31.1	main span type appr. span type guardrail type superstructure substructure floor/decking other features	207 4 concrete rigid frame concrete abutments, wingwalls and pier concrete deck with asphalt overlay solid concrete guardrails with recessed panels	
HISTORICAL INFOR	RMATION			
construction date project number info source:	1937 WPGM 98-I ADOT bridge records	designer/engineer builder/contractor alteration date(s) alterations	Arizona Hiahway Department Phoenix-Tempe Stone Co., Phoenix AZ	
NATIONAL REGIST	ER EVALUATION			
		For additional information, see "Vehicular Bridges in Arizona 1880-1978" National Register Multiple Property Documentation Form		
inventory score interstate exemptio program comment	61 n _ -	NRHP eligibility NRHP criteria signif. statement	eligible A <u>x</u> B <u>C x</u> uncommon structural type, altered, on major highway route	

### FORM COMPLETED BY

Clayton B. Fraser, Principal

## HISTORIC PROPERTY INVENTORY FORM



BRIDGE



## Washington Street Overpass

### PROPERTY IDENTIFICATION

county milepost location city/vicinity USGS quad STRUCTURAL INFO	Maricopa 110.24 0.09 mi W Jct US 93 Wickenburg Wickenburg RMATION	inventory number inventory route feature intersected structure owner UTM reference	00535 Washington Street US 60 Arizona Department of Transportation 12.339983.3759853
main span number appr. span number degree of skew main span length structure length roadway width structure width	2 0 0 30.0 58.0 23.8 35.2	main span type appr. span type guardrail type superstructure substructure floor/decking other features	207 4 concrete rigid frame concrete abutments, wingwalls and pier concrete deck with asphalt overlay solid concrete guardrails with recessed panels
HISTORICAL INFOR	MATION		
construction date project number info source:	1937 WPGM 98-I ADOT bridge records	designer/engineer builder/contractor alteration date(s) alterations	Hoffman-Miller Engineers, Phoenix AZ Phoenix-Tempe Stone Co., Phoenix AZ
NATIONAL REGIST	ER EVALUATION		
		For additional inforr National Register M	nation, see "Vehicular Bridges in Arizona 1880-1978" Iultiple Property Documentation Form
inventory score interstate exemptio	61 n _	NRHP eligibility NRHP criteria	eligible A _x B C _x
program comment	-	signif. statement	uncommon structural type, altered, on major hiahway route

### FORM COMPLETED BY

Clayton B. Fraser, Principal



date of photo.: December 2017

view direction: north west

photo no.: DSCF5056 DSCF5071

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 [00161] 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 [00195], the other carrying Washington Street [00535], Frontier Street [01000] 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—U.S. 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.

TECHNOLOGICAL SIGNIFICANCE represents the work of a master	HISTORICAL SIGNIFICANCE associated with significant persons	NATIONAL REGISTER CRITERIA
possesses high artistic values	x associated with significant events or patterns	Criterion B
represents a type, period or method of construction	contributes to historical district	_x Criterion C
NATIONAL REGISTER ELIGIBILITY individually eligible <u>x</u> yes <u>no</u> no contributes to district yes x no	AREA OF SIGNIFICANCE: Transporte PERIOD OF SIGNIFICANCE: 1937-1978 THEME(S): Transporte	ation; Engineering ation: Highways



LOCATION MAP

HISTORIC

BRIDGE



# Davis Wash Bridge

#### PROPERTY IDENTIFICATION inventory number 00221 county Maricopa milepost 231.70 inventory route SR 88 feature intersected Davis Wash location 36.0 mi E Jct US 60 city/vicinity structure owner Arizona Department of Transportation Roosevelt USGS quad Pinyon Mountain 12.480286.3715776 UTM reference STRUCTURAL INFORMATION main span type 201 main span number 3 0 appr. span number appr. span type 30 4 degree of skew guardrail type 25.0 main span length superstructure concrete slab 76.0 concrete abutments, wingwalls and piers structure length substructure 24.0 concrete deck roadway width floor/decking 26.8 structure width concrete quardrails with blind arcades other features HISTORICAL INFORMATION construction date 1940 Arizona Highway Department designer/engineer project number AFE 2202(39) Works Progress Administration builder/contractor info source: ADOT bridge records alteration date(s) alterations NATIONAL REGISTER EVALUATION For additional information, see "Vehicular Bridges in Arizona 1880-1978" National Register Multiple Property Documentation Form 46 eligible inventory score NRHP eligibility В С A <sub>X</sub> interstate exemption NRHP criteria standard structural type, built by Depressionsignif. statement program comment era agency on significant early route

### FORM COMPLETED BY

Clayton B. Fraser, Principal



date of photo.: December 2017 view direction: southwest northwest photo no.: DSCF4857 DSCF4860

The Apache Trail was constructed after the turn of the 20<sup>th</sup> century to provide access to the Roosevelt Dam over the Salt River. Completed in 1905, the road immediately carried tons of material and equipment to the damsite. A few sections of the road were later rerouted due to subsequent dam construction on the Salt River, but the route remained largely in place. In 1939 the highway department moved to widen the roadway and make improvements to the Apache Trail between Davis Wash and Pinal Creek. The agency designated the construction project as A.F.E. 2202 and combined a Works Progress Administration crew with other state laborers to undertake the work. One part of the project involved replacement of the existing bridge over Davis Wash with a new concrete structure. As designed by AHD engineers, the structure was comprised of three 25-foot concrete slab spans, carried by concrete abutments and piers. Like most rural structures designed by the highway department, the Davis Wash Bridge was relatively plain-faced, with the concrete guardrails providing the only architectural embellishment.

The construction project began in the autumn of 1939 and, under the supervision of AHD resident engineer R.D. Canfield, the men worked through the winter. Work on the roadway and bridge concluded in late summer 1940. Since that time, the Davis Wash Bridge has carried relatively light traffic, with no alteration.

#### SIGNIFICANCE STATEMENT

During the 1930s the Great Depression devastated the nation's economy, leaving millions of Americans jobless and homeless. By 1933 more than 13 million workers were unemployed, more than 1,000 homes were being foreclosed upon each day, and cities and counties across the country were bankrupt. In an effort to alleviate the financial distress, President Roosevelt established an array of federal agencies whose primary purpose was to funnel billions of dollars of relief money to the destitute citizenry. A favored way of distributing funds to the unemployed was by so-called make-work projects—maintaining national forests and parks, documenting historic sites, constructing buildings, dams, roads, bridges, etc.—through agencies such the WPA. The Davis Wash Bridge is distinguished as a well-preserved example of WPA-sponsored construction. Additionally, it 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 he state's most famous routes and has not changed substantially since its rehabilitation by the highway department in the 1920s.

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 o contributes to historical district	NATIONAL REGISTER CRITERIA           _x         Criterion A           or patterns         Criterion B           Criterion C
NATIONAL REGISTER ELIGIBILITY	AREA OF SIGNIFICANCE: Tro	msportation; Engineering
individually eligible <u>x</u> yes <u>no</u>	PERIOD OF SIGNIFICANCE: 194	0-1978
contributes to district <u>yes x</u> no	THEME(S): Tro	msportation: Highways



LOCATION MAP

## HISTORIC PROPERTY INVENTORY FORM

HISTORIC

BRIDGE

# INVENTORY

# Alchesay Canyon Bridge

PROPERTY IDENTIF	FICATION		
county milepost location city/vicinity USGS quad STRUCTURAL INFC	Maricopa 241.10 45.4 mi E Jct US 60 Roosevelt Theodore Roosevelt D	inventory number inventory route feature intersected structure owner UTM reference	01532 SR 88 Alchesay Canyon Arizona Department of Transportation 12.485228.3725360
main span number appr. span number degree of skew main span length structure length roadway width structure width HISTORICAL INFOR	1 0 0 18.0 22.0 18.5 20.5	main span type appr. span type guardrail type superstructure substructure floor/decking other features	111 4 concrete filled spandrel arch concrete abutments and extended wingwalls gravel roadway over earth fill solid concrete parapet walls
construction date project number info source: NATIONAL REGIST	1905 ADOT bridge records ER EVALUATION	designer/engineer builder/contractor alteration date(s) alterations	Arizona Hiahwav Department US Reclamation Service work force
inventory score interstate exemptio program comment	76 n _ -	For additional inform National Register M NRHP eligibility NRHP criteria signif. statement	nation, see "Vehicular Bridges in Arizona 1880-1978" lultiple Property Documentation Form listed A _x B C _x oldest documented vehicular bridge in Arizona

#### FORM COMPLETED BY

Clayton B. Fraser, Principal



date of photo.: December 2017 view direction: south southwest photo no.: DSCF4902 DSCF4912

Structure No. 01532

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 form work 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.

represents the work of a master	associated with significant persons	<u>x</u> Criterion A
possesses high artistic values	associated with significant events or patte	erns Criterion B
_x represents a type, period or method of construction	contributes to historical district	x Criterion C
NATIONAL REGISTER ELIGIBILITY	area of significance: Transp	ortation; Engineering
individually eligible <u>x</u> yes <u>no</u>	period of significance: 1905-19	78
contributes to districtyesxno	THEME(S): Transp	ortation: Highways



LOCATION MAP

## HISTORIC PROPERTY INVENTORY FORM

HISTORIC

BRIDGE

# INVENTORY

## 17th Avenue Underpass

FICATION		
Maricopa 0.00 South of Madison St. Phoenix Phoenix	inventory number inventory route feature intersected structure owner UTM reference	07770 Southern Pacific Railroad 17th Avenue City of Phoenix 12.398155.3701045
2 0 25.0 65.0 77.1 79.1	main span type appr. span type guardrail type superstructure substructure floor/decking other features	207 concrete rigid frame concrete abutments, wingwalls and piers concrete deck with asphalt overlay angled haunches on spandrels; cast concrete medallions on spandrels; stepped pylons on abutments and piers; slotted concrete guardrails
1936 NRH 30-D ADOT bridge records ER EVALUATION	designer/engineer builder/contractor alteration date(s) alterations	Arizona Hiahway Department R.C. Tanner; W.E. Hall
	For additional infor	mation, see "Vehicular Bridges in Arizona 1880-1978"
65 n _ -	National Register M NRHP eligibility NRHP criteria signif. statement	lultiple Property Documentation Form eligible A <u>x</u> B <u>C x</u> handsomely detailed, well-preserved example of Depression-era bridge construction
	Image: Cation         Maricopa         0.00         South of Madison St.         Phoenix         Phoenix         RMATION         2         0         25.0         65.0         77.1         79.1         1936         NRH 30-D         ADOT bridge records         ER EVALUATION         65         n         -	Maricopa       inventory number         0.00       inventory route         South of Madison St.       feature intersected         Phoenix       structure owner         Phoenix       UTM reference         RMATION       appr. span type         0       guardrail type         25.0       superstructure         65.0       substructure         77.1       floor/decking         79.1       other features         MATION       builder/contractor         1936       designer/engineer         NRH 30-D       builder/contractor         ADOT bridge records       alteration date(s)         alterations       alterations         ER EVALUATION       For additional inform         65       NRHP eligibility         n       -       signif. statement

## FORM COMPLETED BY

Clayton B. Fraser, Principal



date of photo.: December 2017

view direction: west north

photo no.: DSCF4928 DSCF4932

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 cartouches 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. U.S. 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 alternately known as the Frank W. Flittner Underpass (after the Bureau of Public Roads associate construction engineer) 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 [00160], Gila Bend Overpass [00618] and the Central Avenue Underpass [09168], 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.

TECHNOLOGICAL SIGNIFICANCE represents the work of a master possesses high artistic values represents a type, period or method of construction	HISTORICAL SIGNIFICANCEassociated with significant personsassociated with significant events or patternscontributes to historical district	NATIONAL REGISTER CRITERIA         x       Criterion A         Criterion B         Criterion C
NATIONAL REGISTER ELIGIBILITY individually eligible <u>x</u> yes <u>no</u> no contributes to district <u>yes x</u> no	AREA OF SIGNIFICANCE: Transport Period of significance: 1935-1978 Theme(s): Transport	tation; Engineering tation: Highways



LOCATION MAP

STATE OF ARIZONA

## HISTORIC PROPERTY INVENTORY FORM

HISTORIC

BRIDGE

# INVENTORY

# Gillespie Dam Bridge

PROPERTY IDENTI	FICATION		
county milepost location city/vicinity USGS quad	Maricopa 0.00 south of Gillespie Dam Arlington Spring Mountain	inventory number inventory route feature intersected structure owner UTM reference	08021 Old US 80 Gila River Maricopa County 12.335120.3677868
STRUCTURAL INFO	DRMATION		
main span number appr. span number degree of skew main span length structure length roadway width structure width	9 0 200.0 1662.0 19.0 25.0	main span type appr. span type guardrail type superstructure substructure floor/decking other features	310 6 steel rigid-connected Camelback through truss concrete abutments, wingwalls and piers concrete deck over steel stringers 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 INFO	RMATION		
construction date project number info source:	1927 FAP 64-B ADOT bridge records	designer/engineer builder/contractor alteration date(s) alterations	Arizona Hiahwav Department Lee Moor Contracting Company, El Paso TX
NATIONAL REGIST	TER EVALUATION		
		For additional inform National Register M	nation, see "Vehicular Bridges in Arizona 1880-1978" Iultiple Property Documentation Form
inventory score interstate exemptic program comment	94 on _ -	NRHP eligibility NRHP criteria signif. statement	listed A _x B _ C _x outstanding multiple-span truss bridge; major crossing on important highway
FORM COMPLETE	D BY		
Clayton B. Fra	ser, Principal		FRASERdesign 5700 Jackdaw Drive Loveland, Colorado 80537 1 October 2018



date of photo.: May 2018 view direction: east southeast photo no.: DSCF5247 DSCF5250

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 1927. Total cost: \$320,000. The Gillespie Dam Bridge carried mainline traffic on the Ocean-to-Ocean Highway (U.S. 80) until a route realignment in 1956 moved the road. At that time the bridge reverted to county road status, under which it 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.**], 1,765 feet; Gillespie Dam, 1,660 feet; Tempe, 1,508 feet; Sacaton [**03165**], 1,486 feet; and Florence, 1,430 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 [**00193**]). The Gillespie Dam Bridge is one of the most important examples of early bridge construction in Arizona.

TECHNOLOGICAL SIGNIFICANCE	HISTORICAL SIGNIFICANCE	NATIONAL REGISTER CRITERIA
represents the work of a master	associated with significant persons	_x Criterion A
possesses high artistic values	_x associated with significant events or patterns	Criterion B
represents a type, period or method of construction	contributes to historical district	_x Criterion C
NATIONAL REGISTER ELIGIBILITY individually eligible <u>x</u> yes <u>no</u> contributes to district <u>yes x</u> no	AREA OF SIGNIFICANCE: Transportat PERIOD OF SIGNIFICANCE: 1927-1978 THEME(S): Transportat	ion; Engineering ion: Highways



HISTORIC

INVENTORY

# Mill Avenue Bridge

BRIDGE

	PROPERTY	<b>IDENTIFICATION</b>
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county milepost location city/vicinity USGS quad STRUCTURAL INFO	Maricopa 0.00 0.2 mi S of Curry Road Tempe Tempe	inventory number inventory route feature intersected structure owner UTM reference	09954 Mill Avenue Salt River City of Tempe 12.412480.3699692	
	10	main span type	211	
appr. span number	2	appr. span type	204	
degree of skew	0	quardrail 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 roadwa cantilevered deck w/ moulded cantilever brackets	
HISTORICAL INFOR	RMATION			
construction date	1931	designer/engineer	Arizona Hiahway Department	
project number	FAP 2-B	builder/contractor	Lynch Canon Engineering Co., Los Angeles	
info source:	ADOT bridge records	alteration date(s)		
		alterations		
NATIONAL REGIST	ER EVALUATION			
		For additional inform National Register M	mation, see "Vehicular Bridges in Arizona 1880-1978" Iultiple Property Documentation Form	
inventory score	86	NRHP eligibility	listed	
interstate exemptio	n _	NRHP criteria	A <u>x</u> B <u>C x</u>	
program comment	-	signif. statement	one of Arizona's most historically and technologically significant bridges	
FORM COMPLETED	) BY			
Clayton B. Fra:	ser, Principal		FRASERdesign 5700 Jackdaw Drive Loveland, Colorado 80537 1 October 2018	





date of photo.: May 2018 view direction: north northwest photo no.: DSCF6810 DSCF6832

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 1,600 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. In addition to its historical significance, 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.

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 <u>x</u> yes <u>no</u> contributes to district <u>yes</u> <u>x</u> no	area of significance: Transporte period of significance: 1931-1978 theme(s): Transporte	ation; Engineering ation: Highways

