HISTORIC BRIDGE INVENTORY

Wash Bridge

PROPERTY IDENTIFICATION

county	Pima	inventory number	01020
milepost	277.90	inventory route	I 10; Frontage Rd
location	3.8 mi West Jct SR 83	feature intersected	Wash
city/vicinity	Vail	USGS quadrangle	Vail
district	81	UTM reference	12.524462.3544957

STRUCTURAL INFORMATION

main span number	3	main span type	101
appr. span number	0	appr. span type	
degree of skew	45	guardrail type	4
main span length	22.0	superstructure	concrete slab
structure length	66.0	substructure	concrete abutments, wingwalls and piers
roadway width	24.0	floor/decking	concrete deck with asphalt overlay
structure width	26.7	other features	concrete slotted guardrails

HISTORICAL INFORMATION

construction date	1928	designer/engineer	Arizona Highway Department
project number	FAP 90-A	builder/contractor	Veater & Davis, El Paso TX
information source	ADOT bridge records	structure owner	Arizona Department of Transportation
alteration date(s)		alterations	

NATIONAL REGISTER EVALUATION

For additional information, see "Vehicular Bridges in Arizona 1880-1964" National Register Multiple Property Documentation Form

inventory score	44	NRHP eligibility	eligible
		NRHP criteria	A x B ____ C x
		signif. statement	well-preserved example of early ASHD standard bridge design; on major route

FORM COMPLETED BY

Clayton B. Fraser, Principal

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

WASH BRIDGE

Structure No. 1020

PHOTO INFORMATION

date of photo.: February 2003 view direction: east south photo no.: 03.02.240 03.02.241

CONSTRUCTION HISTORY

Early in 1927 Arizona Highway Department engineers began drafting plans for improvement to U.S. Highway 80 southeast of Tucson. Known locally as the Tucson-Benson Highway, the road was part of the national Ocean-to-Ocean Highway that extended east-west across southern Arizona. The proposed work was designated as Federal Aid Project 90, and involved grading, road surfacing and construction of drainage structures of some 21 miles of roadway for an aggregate cost of $165,000. By May the drawings were complete. One part of the construction involved building a minor concrete bridge over an intermittent wash near Vail. As delineated by AHD, the structure was comprised of three concrete slab spans supported by concrete abutments and piers on spread footings. The 27-foot-wide concrete deck was bounded on both sides by AHD-standard concrete guardrails with slotted cutouts.

The highway department received bids for FAP 90-A in December 1927 and awarded the construction contract to the Veeter & Davis Construction Company of El Paso, Texas. The contractors began work early the following year under the supervision of AHD Resident Engineer J.R. Van Horn. By September AHD reported the highway as almost complete; within weeks Veeter & Davis had the work finished. Since its completion, this small bridge has carried mainline traffic until construction of Interstate 10 in the early 1960s. Since that time, the bridge and adjacent roadway have functioned as a frontage road to the interstate.

SIGNIFICANCE STATEMENT

This small-scale bridge in Pima County is historically noteworthy for its association with US 80. Alternately known as the Ocean-to-Ocean Highway, the road has served historically as the principal east-west transcontinental route across southern Arizona, carrying the heaviest traffic loads in the state. Built in the 1920s during a period of extensive highway construction in Arizona, the Wash Bridge was an integral part of this significant highway. The bridge is technologically important as a representative example of AHD bridge construction. The state had begun using concrete for bridge superstructures as early as 1910. The earliest girder bridges, such as the Antelope Hill Bridge [**abd.**] in Yuma County and the Santa Cruz River Bridge [**8166**] in Santa Cruz County, employed two deep girders that were cast integrally with the concrete deck. By 1922, after a brief dalliance with a three-girder design, AHD had refined its girder standard to incorporate four somewhat shallower girders, to create greater under-bridge clearance. This Wash Bridge uses this latter design. It is today distinguished as one of the earliest intact examples in Arizona of this revised configuration. As such it is a noteworthy remnant of early AHD concrete bridge engineering.

NATIONAL REGISTER EVALUATION

TECHNOLOGICAL SIGNIFICANCE
- ___ represents the work of a master
- ___ possesses high artistic values
- _x_ represents a type, period or method of construction

HISTORICAL SIGNIFICANCE
- ___ associated with significant persons
- _x_ associated with significant events or patterns
- ___ contributes to historical district

NATIONAL REGISTER CRITERIA
- _x_ Criterion A
- ___ Criterion B
- _x_ Criterion C

NATIONAL REGISTER ELIGIBILITY

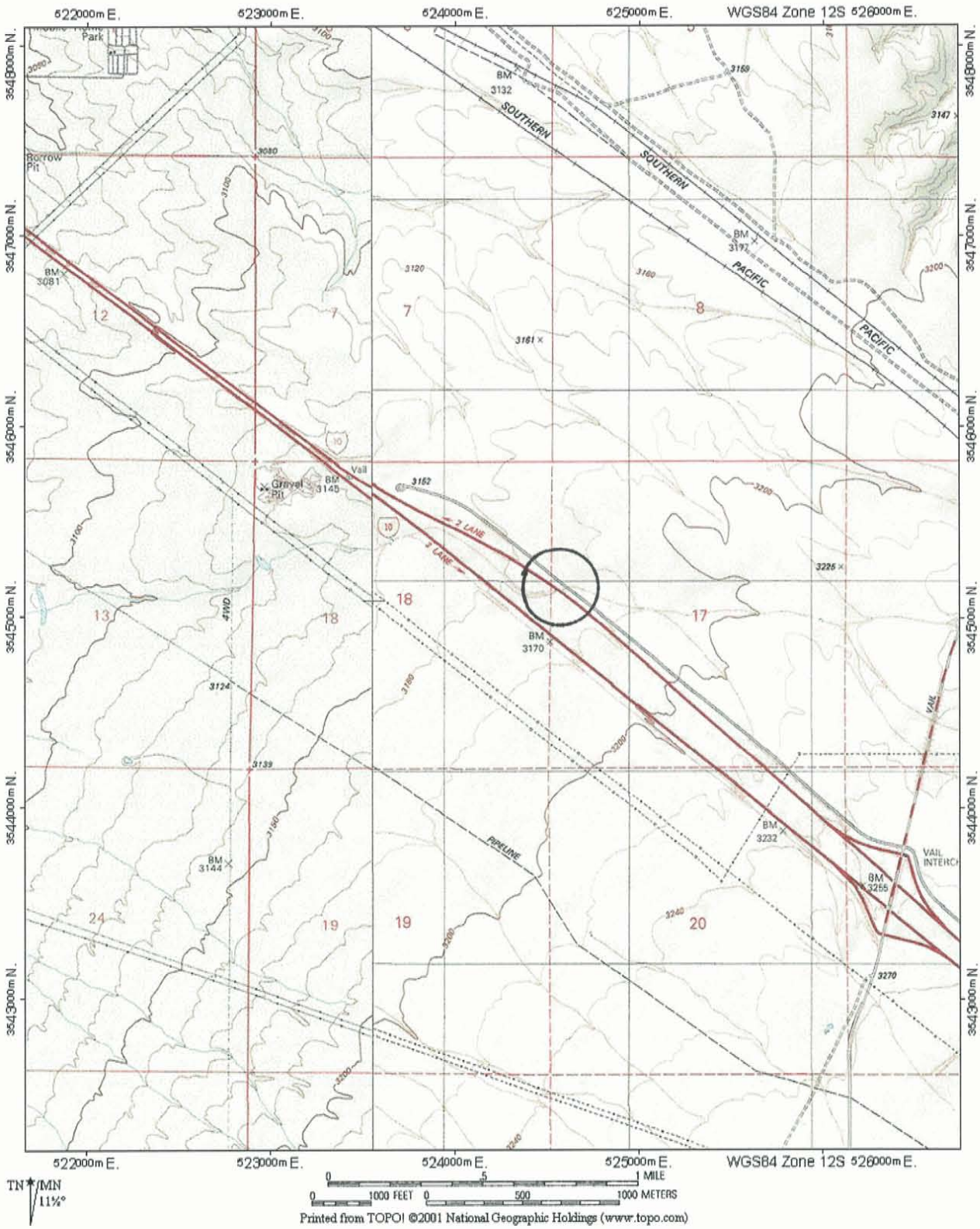
individually eligible _x_ yes ___ no

contributes to district ___ yes _x_ no

AREA OF SIGNIFICANCE: Transportation; Engineering

PERIOD OF SIGNIFICANCE: 1928-1964

THEME(S): Transportation: Highways



Location Map

HISTORIC BRIDGE INVENTORY

Stone Avenue Underpass

PROPERTY IDENTIFICATION

county	Pima	inventory number	07987
milepost	0.00	inventory route	Southern Pacific Railroad
location	3.4 mi North Jct SR 86	feature intersected	Stone Avenue
city/vicinity	Tucson	USGS quadrangle	Tucson
district	81	UTM reference	12.502604.3565615

STRUCTURAL INFORMATION

main span number	2	main span type	207
appr. span number	2	appr. span type	201
degree of skew	29	guardrail type	
main span length	25.0	superstructure	concrete rigid frame
structure length	76.0	substructure	concrete abutments, wingwalls and piers
roadway width	49.0	floor/decking	ballasted railroad grade over concrete slab
structure width	50.0	other features	Mission Style architectural treatment, with curvilinear parapet and arched copings; pierced concrete handrails; metal sconce lights

HISTORICAL INFORMATION

construction date	1936	designer/engineer	Arizona Highway Department
project number	NRM 9	builder/contractor	M.M. Sundt Construction Company, Tucson AZ
information source	ADOT bridge records	structure owner	City of Tucson
alteration date(s)		alterations	

NATIONAL REGISTER EVALUATION

For additional information, see "Vehicular Bridges in Arizona 1880-1964" National Register Multiple Property Documentation Form

inventory score	68	NRHP eligibility	listed
		NRHP criteria	A ____ B ____ C x
		signif. statement	well-preserved example of 1930s AHD architectural treatment on grade separation

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: northeast northwest photo no.: 03.02.274 03.02.275

CONSTRUCTION HISTORY

In 1867 the Territorial Legislature designated Tucson as the territorial capitol, which the town kept for ten years. After the arrival of the Southern Pacific Railroad in 1880, Tucson found prosperity as a supply point for mines in southern Arizona and Mexico. The railroad provided a vital transportation link as it passed through the city center, and heavy traffic on its line posed logistical problems for travel on the streets, snarling traffic and creating dangerous on-grade crossings between pedestrians, wagons and trains. These problems increased considerably with the proliferation of motorcars after 1910.

In 1916 the City of Tucson built a grade separation at Fourth Avenue [**8453**]. Fourteen years later, in 1930, the city built a similar underpass at Sixth Avenue [**7988**]. The agency responsible for a third grade separation in downtown Tucson—at Stone Avenue—was the Arizona Highway Department. Early in 1934 the highway department drafted plans for this structure, which would carry US 89 beneath the railroad tracks. The Stone Avenue Underpass was comprised of a span for each double lane of vehicular traffic, with smaller barrels on both sides to accommodate pedestrian sidewalks. The skewed main barrels were 25-foot concrete rigid frames. The structure featured a Mission Style architectural treatment, with curvilinear parapets and arched copings, decorative iron lamps hung from sconces, concrete guardrails with decorative cutouts and cast concrete cartouches prominently mounted on the spandrels of both sides. In 1935 AHD contracted with the M.M. Sundt Construction Company under project NRM-9 to build the Stone Avenue Underpass. The Tucson contractor completed the structure in January 1936. Since that time, the Stone Avenue structure has functioned in place without substantial alteration. It no longer carries US 89 and has recently undergone a substantial rehabilitation.

SIGNIFICANCE STATEMENT

Unlike bridges, which were typically located in rural settings, Arizona's urban grade separations were usually designed with consideration of their aesthetic impact. Most featured architectural treatments—either revivalist or modernist— intended to integrate the structures within their urban settings. The Fourth Avenue Underpass features relatively straightforward classical revival detailing. The Sixth Avenue Underpass, in contrast, features an eclectic expression that intermingles Egyptian Revival and Classical Revival elements. The Stone Avenue Underpass displays mainline Mission Style detailing. A prototypical Arizona style, this was an architectural treatment that AHD used for several of its underpasses undertaken during the Great Depression. These three bridges form a group of urban structures that is unique in Arizona. They are significant for their well-preserved architectural expression.

NATIONAL REGISTER EVALUATION

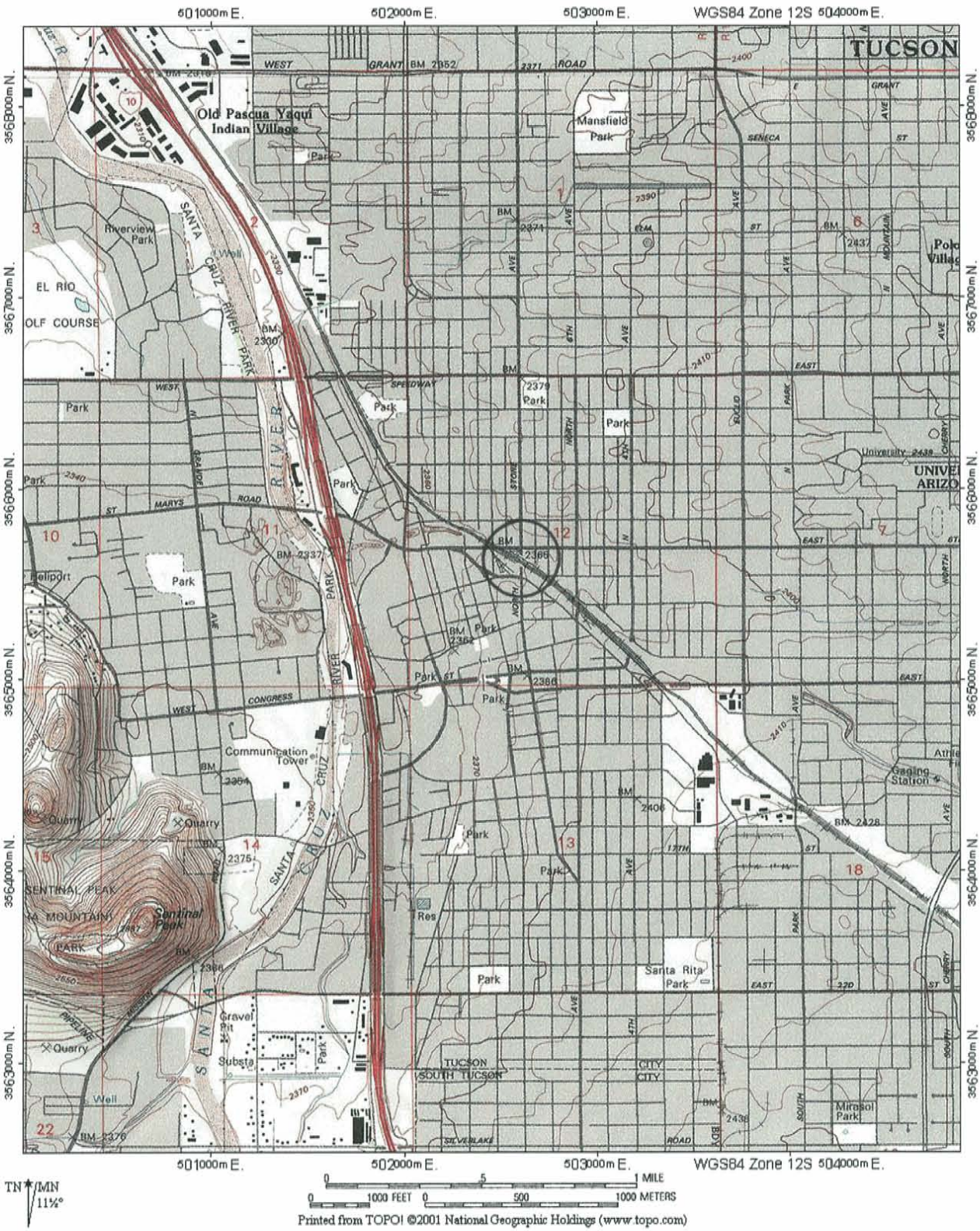
TECHNOLOGICAL SIGNIFICANCE
- ___ represents the work of a master
- ___ possesses high artistic values
- _x_ represents a type, period or method of construction

HISTORICAL SIGNIFICANCE
- ___ associated with significant persons
- ___ associated with significant events or patterns
- ___ contributes to historical district

NATIONAL REGISTER CRITERIA
- ___ Criterion A
- ___ Criterion B
- _x_ Criterion C

NATIONAL REGISTER ELIGIBILITY
individually eligible _x_ yes ___ no
contributes to district ___ yes _x_ no

AREA OF SIGNIFICANCE: Engineering
PERIOD OF SIGNIFICANCE: 1936-1964
THEME(S): Transportation: Highways



Location Map

HISTORIC BRIDGE INVENTORY

Sixth Avenue Underpass

PROPERTY IDENTIFICATION

county	Pima	inventory number	07988
milepost	0.00	inventory route	Southern Pacific Railroad
location	3.2 mi North Jct SR 86	feature intersected	6th Avenue
city/vicinity	Tucson	USGS quadrangle	Tucson
district	81	UTM reference	12.502902.3565388

STRUCTURAL INFORMATION

main span number	4	main span type	302
appr. span number	0	appr. span type	
degree of skew	45	guardrail type	
main span length	14.0	superstructure	steel I-beam stringer
structure length	42.0	substructure	concrete abutments, wingwalls and piers with arched cantilevers
roadway width	80.0	floor/decking	ballasted railroad grade over concrete slab
structure width	88.0	other features	Egyptian Revival Style architectural treatment, with cast concrete squashed balusters and bud capitals; cast iron light standards; paneled concrete sidewalls

HISTORICAL INFORMATION

construction date	1930	designer/engineer	Tucson City Engineer
project number		builder/contractor	Lee Moor Contracting Company, El Paso TX
information source	city bridge records	structure owner	City of Tucson
alteration date(s)		alterations	

NATIONAL REGISTER EVALUATION

For additional information, see "Vehicular Bridges in Arizona 1880-1964" National Register Multiple Property Documentation Form

inventory score	54	NRHP eligibility	listed
		NRHP criteria	A ____ B ____ C x
		signif. statement	well-preserved example of architectural treatment on urban grade separation

FORM COMPLETED BY

Clayton B. Fraser, Principal

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

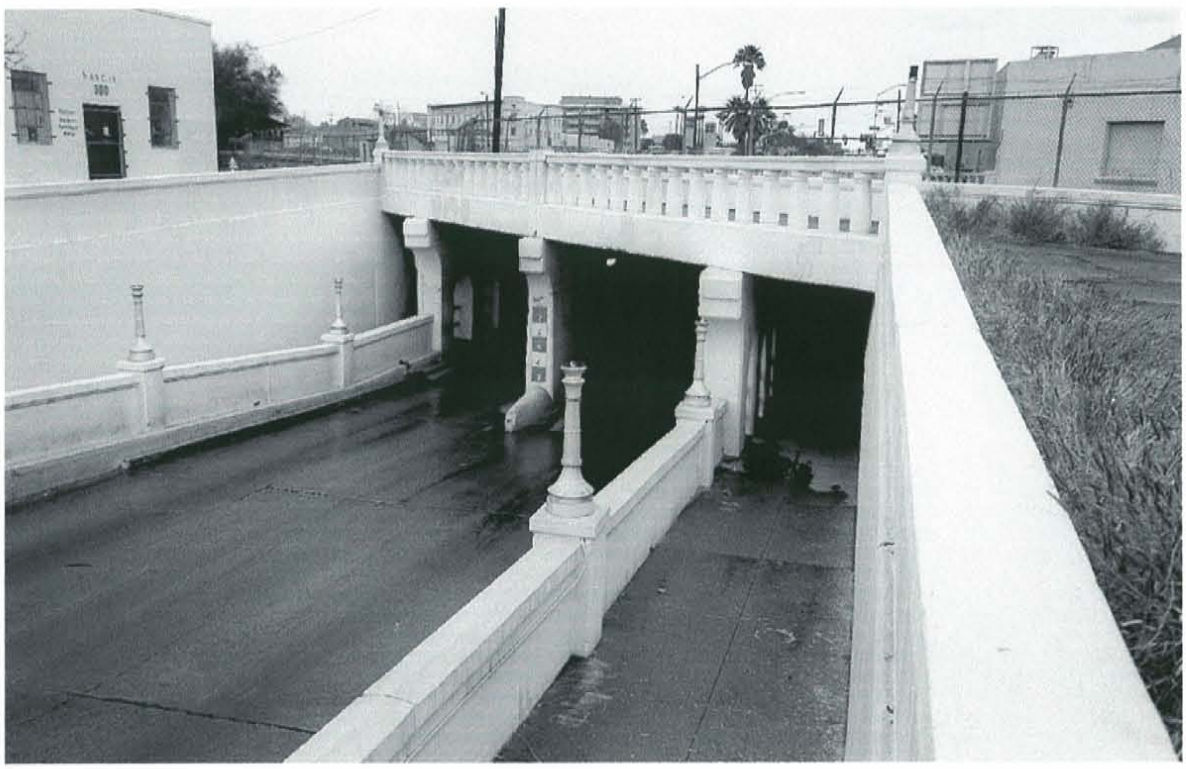


PHOTO INFORMATION

date of photo.: February 2003 view direction: northeast northwest photo no.: 03.02.270 03.02.271

CONSTRUCTION HISTORY

The settlement of Tucson has its origins in antiquity, with several waves of occupation by Spanish, Mexican, Mormon and Catholic contingents before the United States took possession of the region under the Gadsden Purchase in 1856. In 1867 the Territorial Legislature designated Tucson as the territorial capitol, which the town kept for ten years. After the arrival of the Southern Pacific Railroad in 1880, Tucson found prosperity as a supply point for mines in southern Arizona and Mexico. The railroad provided a vital transportation link as it passed through the city center, and heavy traffic on its line posed logistical problems for travel on the streets, snarling traffic and creating dangerous on-grade crossings between pedestrians, wagons and trains. These problems increased considerably with the proliferation of motorcars after 1910.

In 1916 the City of Tucson built a grade separation at Fourth Avenue [**8453**]. Twelve years later city engineer Glenton Sykes designed a similar underpass for Sixth Avenue. Sykes's structure was made up of two 14-foot-long steel stringer spans supported by concrete abutments and pier. One lane of traffic passes beneath each span. At 88 feet, the underpass was not as wide as its predecessor. It featured a vaguely Egyptian Revival architectural treatment, with squashed concrete balusters and bud capitals, paneled concrete parapet walls and cast iron lamp standards lining the sidewalks that passed beneath the spans on either side of the roadway. In May 1930 the city contracted with the Lee Moor Contracting Company of El Paso, Texas, to build this structure. Moor's crew completed work on the Sixth Avenue Underpass later that year. It has functioned in place since with no substantial alterations.

SIGNIFICANCE STATEMENT

Unlike bridges, which were typically located in rural settings, Arizona's urban grade separations were usually designed with consideration of their aesthetic impact. Most featured architectural treatments—either revivalist or modernist— intended to integrate the structures within their urban settings. The Fourth Avenue Underpass features relatively straightforward classical revival detailing. The Sixth Avenue Underpass, in contrast, features an eclectic expression that intermingles Egyptian revival and classical revival elements. These two bridges, along with the Mission Style Stone Avenue Underpass [**7987**], built in 1936, form a group of urban structures that is unique in Arizona. They are significant for their well-preserved architectural expression.

NATIONAL REGISTER EVALUATION

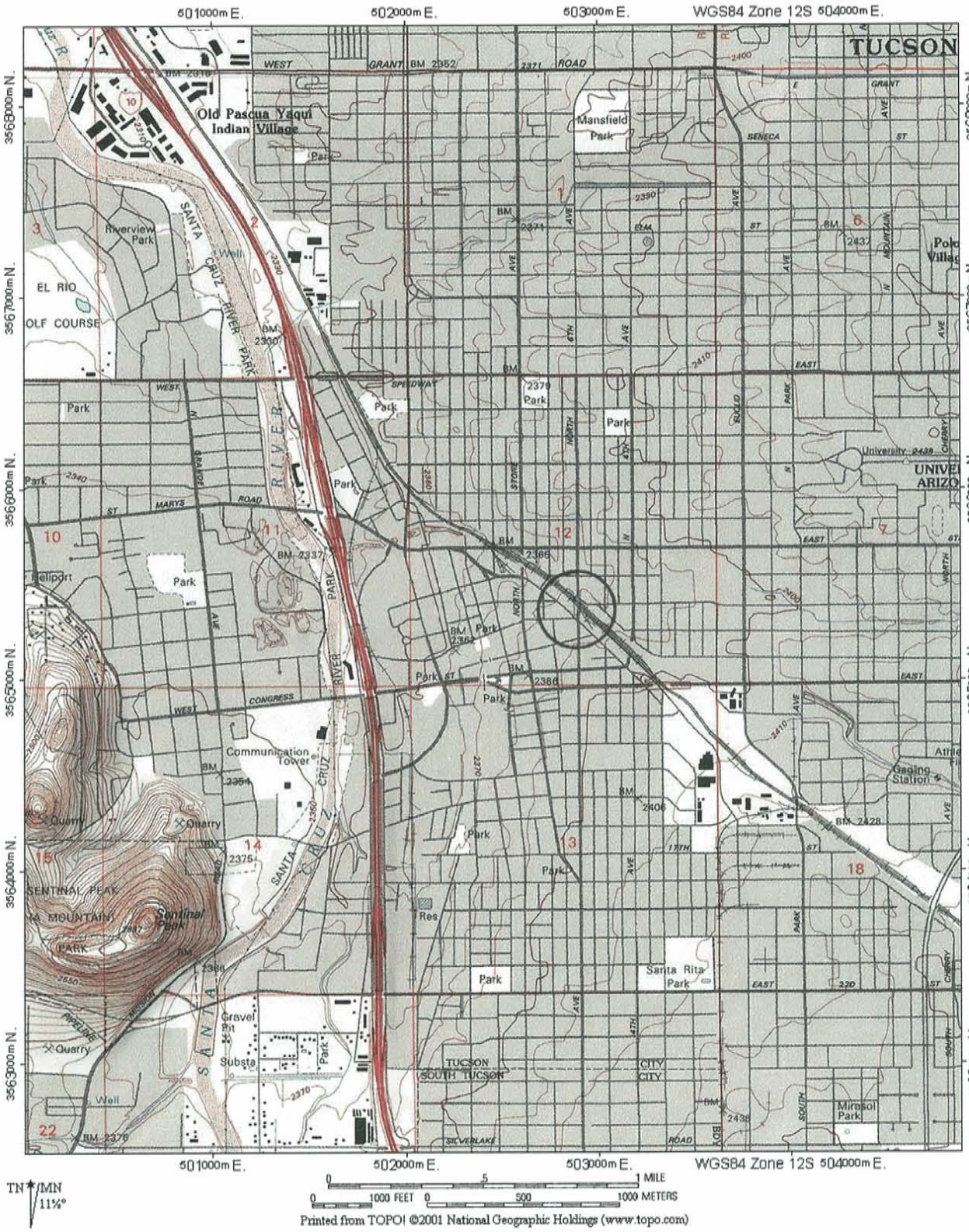
TECHNOLOGICAL SIGNIFICANCE
___ represents the work of a master
___ possesses high artistic values
_x_ represents a type, period or method of construction

HISTORICAL SIGNIFICANCE
___ associated with significant persons
___ associated with significant events or patterns
___ contributes to historical district

NATIONAL REGISTER CRITERIA
___ Criterion A
___ Criterion B
_x_ Criterion C

NATIONAL REGISTER ELIGIBILITY
individually eligible _x_ yes ___ no
contributes to district ___ yes _x_ no

AREA OF SIGNIFICANCE: Engineering
PERIOD OF SIGNIFICANCE: 1930-1964
THEME(S): Transportation: Highways



Location Map

HISTORIC BRIDGE INVENTORY

Cienega Bridge

PROPERTY IDENTIFICATION

county	Pima	inventory number	08293
milepost	0.00	inventory route	Marsh Station Road
location	6.1 mi N Benson Hwy	feature intersected	Cienega Creek & Railroad
city/vicinity	Vail	USGS quadrangle	Vail
district	81	UTM reference	12.533437.3542675

STRUCTURAL INFORMATION

main span number	1	main span type	111
appr. span number	4	appr. span type	101
degree of skew	0	guardrail type	9
main span length	146.0	superstructure	concrete two-rib open-spandrel arch
structure length	278.0	substructure	concrete abutments, wingwalls and piers
roadway width	20.0	floor/decking	concrete deck with asphalt overlay
structure width	23.2	other features	moulded concrete guardrails w/ paneled parapet walls and square concrete balusters

HISTORICAL INFORMATION

construction date	1921	designer/engineer	Arizona Highway Department
project number	FAP 18	builder/contractor	English & Pierce
information source	ADOT bridge records	structure owner	Pima County
alteration date(s)	1989	alterations	guardrails replaced

NATIONAL REGISTER EVALUATION

For additional information, see "Vehicular Bridges in Arizona 1880-1964" National Register Multiple Property Documentation Form

inventory score	64	NRHP eligibility	listed
		NRHP criteria	A x B ____ C x
		signif. statement	well-preserved, long-span example of uncommon structural type

FORM COMPLETED BY

Clayton B. Fraser, Principal

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

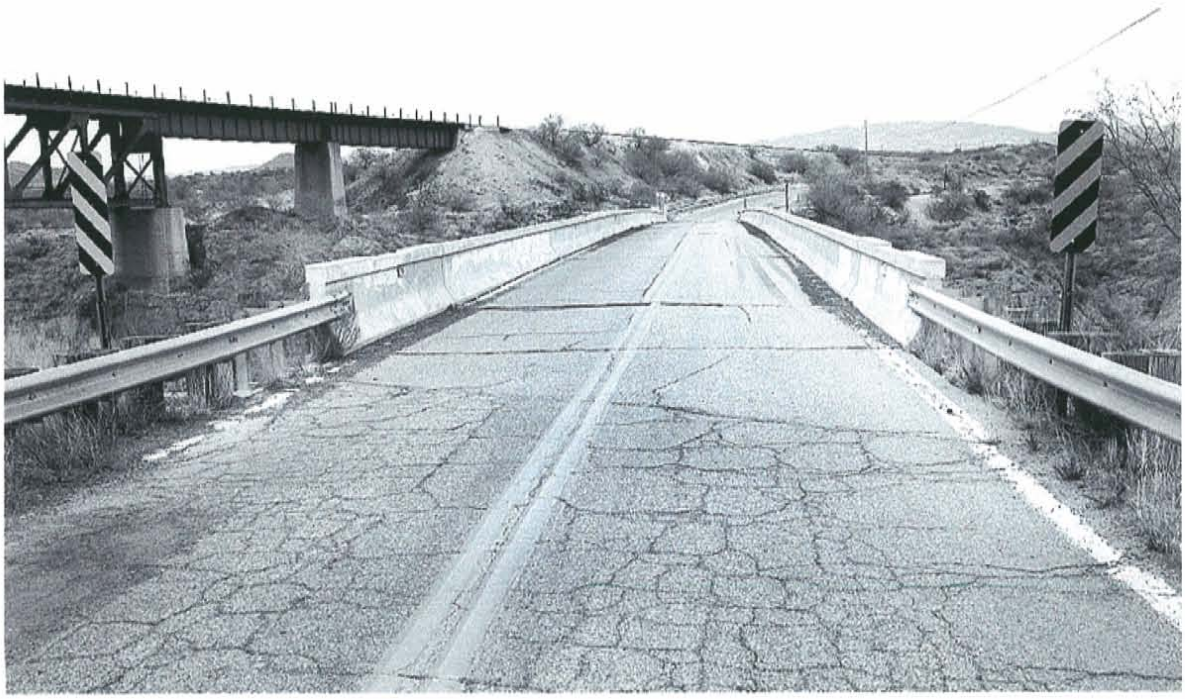


PHOTO INFORMATION

date of photo.: February 2003 view direction: south northwest photo no.: 03.02.102 03.02.104

CONSTRUCTION HISTORY

With equal funding from a Pima County bond issue, the Cochise County Road Fund and Federal Aid Project 18, the Arizona Highway Department in 1920 began construction of a portion of the Borderland Highway across southern Arizona. The 27¾-mile-long section extended between Benson and Vail and included a major crossing of rugged Cienega Canyon near Vail, just east of the Southern Pacific Railroad bridge here. For this, AHD engineers designed a long-span concrete arch over the canyon with a two-span concrete girder viaduct over the railroad tracks. Extending 146 feet, the open spandrel arch was comprised of two tapered ribs that sprang from concrete foundations with spread footings. These ribs supported a series of concrete columns which in turn supported the concrete deck. The deck was bounded on both sides by concrete guardrails with square balusters and paneled bulkheads.

After completing the drawings for the bridge, AHD divided the construction into five sections. The grading and surfacing were undertaken by state work forces and contractors Goodman & Merrill and Eckerman & Chambers. The contract for Section F—the Cienega Bridge—went to Tucson contractors English & Pierce. Using concrete and reinforcing steel provided by the highway department, the contractors completed the structure in March 1921 for a cost of a little more than $40,000. The Cienega Bridge carried mainline traffic on the highway (later redesignated US 80) until construction of Interstate 10 in the 1960s. Today the Cienega Bridge bears intermittent local traffic. The bridge's superstructure remains unaltered, but its guardrails have been replaced with a modified Jersey barrier configuration.

SIGNIFICANCE STATEMENT

In 1919-1920 the AHD bridge department designed three almost identical open spandrel concrete arches for Arizona highways: the Cienega Bridge and bridges over Queen Creek [**abd.**] in Pinal County and Hell Canyon [**abd.**] in Yavapai County. The design of the Hell Canyon bridge was later changed, and the Cienega and Queen Creek structures were built in 1920-1921. Both have survived largely unaltered. Of the three, the Cienega Bridge has the longest span. Additionally, it is the oldest of the surviving open spandrel arches in the inventory. As an excellent example of an uncommon structural type and an integral link on the regionally important Borderland Highway, the Cienega Bridge is one of Arizona's more historically and technologically significant vehicular structures. Replacement of the guardrails has diminished the bridge's structural integrity somewhat, but the sensitive design of the replacements minimizes the impact of this recent construction.

NATIONAL REGISTER EVALUATION

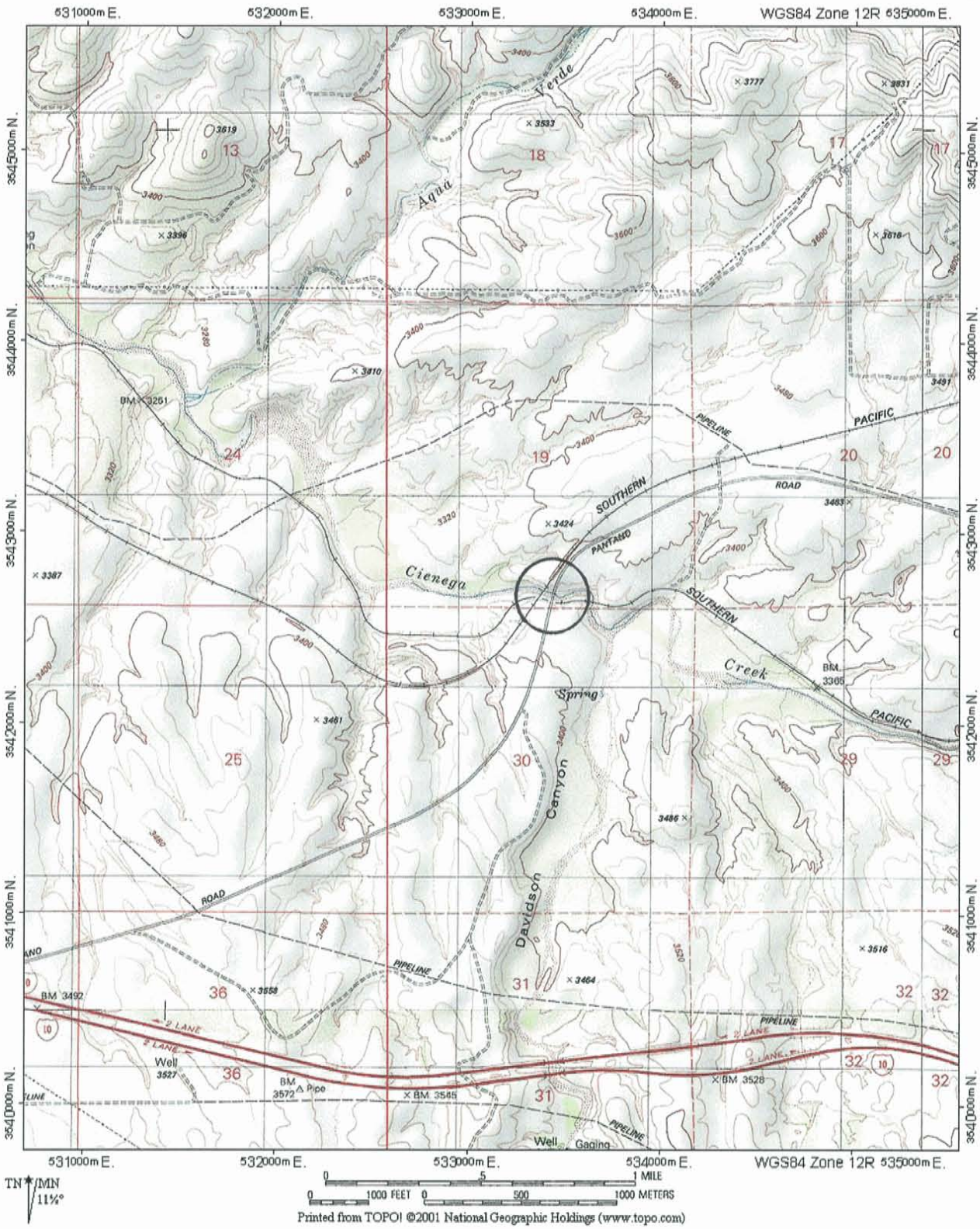
TECHNOLOGICAL SIGNIFICANCE
___ represents the work of a master
___ possesses high artistic values
_x_ represents a type, period or method of construction

HISTORICAL SIGNIFICANCE
___ associated with significant persons
_x_ associated with significant events or patterns
___ contributes to historical district

NATIONAL REGISTER CRITERIA
_x_ Criterion A
___ Criterion B
_x_ Criterion C

NATIONAL REGISTER ELIGIBILITY
individually eligible _x_ yes ___ no
contributes to district ___ yes _x_ no

AREA OF SIGNIFICANCE: Transportation; Engineering
PERIOD OF SIGNIFICANCE: 1921-1964
THEME(S): Transportation: Highways



Location Map

HISTORIC BRIDGE INVENTORY

Fourth Avenue Underpass

PROPERTY IDENTIFICATION

county	Pima	inventory number	08453
milepost	0.00	inventory route	Southern Pacific Railroad
location	North of Toole Avenue	feature intersected	Fourth Avenue
city/vicinity	Tucson	USGS quadrangle	Tucson
district	81	UTM reference	12.503175.3565134

STRUCTURAL INFORMATION

main span number	4	main span type	103
appr. span number	0	appr. span type	
degree of skew	0	guardrail type	
main span length	12.0	superstructure	concrete deck girder
structure length	46.0	substructure	concrete abutments, wingwalls and piers
roadway width	0.0	floor/decking	railroad ballast bed over concrete slab
structure width	257.0	other features	paneled concrete parapets and sidewalls; cast concrete columns; chain handrails with paneled concrete posts

HISTORICAL INFORMATION

construction date	1916	designer/engineer	Tucson City Engineer
project number		builder/contractor	
information source	city bridge records	structure owner	City of Tucson
alteration date(s)		alterations	

NATIONAL REGISTER EVALUATION

For additional information, see "Vehicular Bridges in Arizona 1880-1964" National Register Multiple Property Documentation Form

inventory score	52	NRHP eligibility	listed
		NRHP criteria	A x B ____ C x
		signif. statement	Arizona's oldest urban grade separation

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: northwest northeast photo no.: 03.02.265 03.02.269

CONSTRUCTION HISTORY

The settlement of Tucson has its origins in antiquity, with several waves of occupation by Spanish, Mexican, Mormon and Catholic contingents before the United States took possession of the region under the Gadsden Purchase in 1856. In 1867 the Territorial Legislature designated Tucson as the territorial capitol, which the town kept for ten years. After the arrival of the Southern Pacific Railroad in 1880, Tucson found prosperity as a supply point for mines in southern Arizona and Mexico. The railroad provided a vital transportation link as it passed through the city center, and heavy traffic on its line posed logistical problems for travel on the streets, snarling traffic and creating dangerous on-grade crossings between pedestrians, wagons and trains. These problems increased considerably with the proliferation of motorcars after 1910.

In 1913 the city moved to separate Fourth Avenue—a major thoroughfare in downtown Tucson—from the railroad by constructing a grade separation to carry the street under the railroad. The design for the structure was completed in June 1913 by L.R. Walker in behalf of Tucson City Engineer J. Ruthrauff. As delineated by Walker the structure was comprised of two 12-foot-long, skewed concrete slab spans, supported by concrete abutments and pier. One lane of traffic passes beneath each span. The underpass was wide—almost 260 feet wide—to accommodate the railyards it carried. It featured a classical revival architectural treatment, with recessed rectangular panels cast into the concrete sidewalls, spandrels and parapets. A series of three-foot-tall concrete posts carries two heavy chains that act as handrails between the streets and the pedestrian sidewalks that flanked them on both sides. The structure was completed in 1916. Since that time, the Fourth Avenue Underpass has carried city street traffic, in essentially unaltered condition.

SIGNIFICANCE STATEMENT

Unlike bridges, which were typically located in rural settings, Arizona's urban grade separations were usually designed with consideration of their aesthetic impact. Most featured architectural treatments— either revivalist or modernist— intended to integrate the structures within their urban settings. The Fourth Avenue Underpass features relatively simple, classical revival detailing. It is today distinguished as Arizona's oldest dateable urban grade separation. It is a companion structure to two other historic grade separations in downtown Tucson. The Sixth Avenue Underpass [**7988**] features an eclectic expression that intermingles Egyptian revival and classical revival elements. These two bridges, along with the Mission Style Stone Avenue Underpass [**7987**], built in 1936, form a group of urban structures that is unique in Arizona. They are significant for their well-preserved architectural expression.

NATIONAL REGISTER EVALUATION

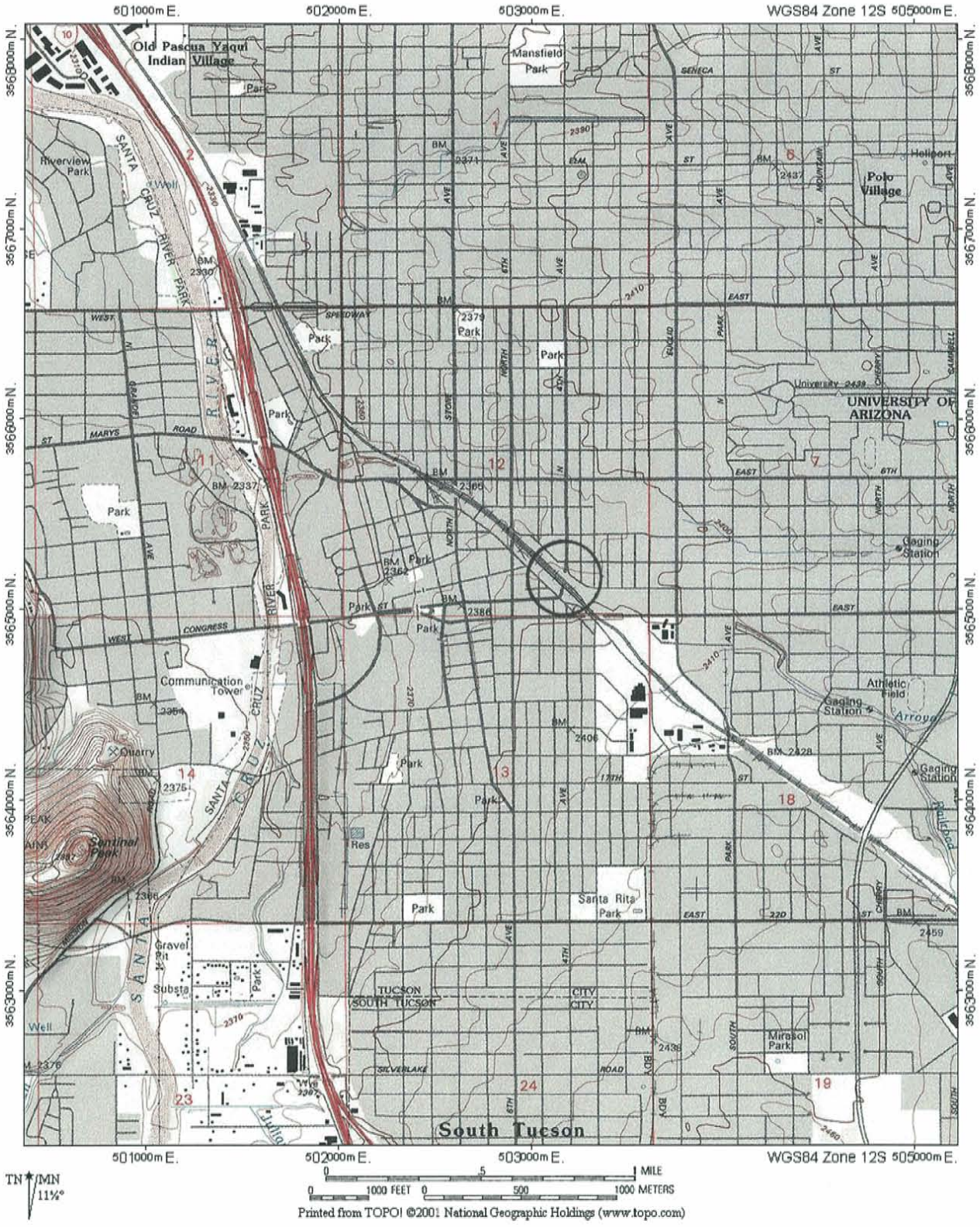
TECHNOLOGICAL SIGNIFICANCE
- ___ represents the work of a master
- ___ possesses high artistic values
- _x_ represents a type, period or method of construction

HISTORICAL SIGNIFICANCE
- ___ associated with significant persons
- _x_ associated with significant events or patterns
- ___ contributes to historical district

NATIONAL REGISTER CRITERIA
- _x_ Criterion A
- ___ Criterion B
- _x_ Criterion C

NATIONAL REGISTER ELIGIBILITY
individually eligible _x_ yes ___ no
contributes to district ___ yes _x_ no

AREA OF SIGNIFICANCE: Transportation; Engineering
PERIOD OF SIGNIFICANCE: 1916-1964
THEME(S): Transportation: Highways



Location Map