

UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

FOR NPS USE ONLY  
RECEIVED DEC 5 1978  
DATE ENTERED JUN 28 1979

## NATIONAL REGISTER OF HISTORIC PLACES INVENTORY -- NOMINATION FORM

SEE INSTRUCTIONS IN HOW TO COMPLETE NATIONAL REGISTER FORMS  
TYPE ALL ENTRIES -- COMPLETE APPLICABLE SECTIONS

### 1 NAME

HISTORIC  
Antelope Hill Highway Bridge  
AND/OR COMMON

### 2 LOCATION

*NW of Tacna*  
*Spanning*  
STREET & NUMBER  
~~Parallel with County Road 328 crossing of Gila River~~ NOT FOR PUBLICATION  
CITY, TOWN  
Tacna VICINITY OF 3 CONGRESSIONAL DISTRICT  
STATE CODE COUNTY CODE  
Arizona 004 Yuma 027

### 3 CLASSIFICATION

CATEGORY	OWNERSHIP	STATUS	PRESENT USE	
<input type="checkbox"/> DISTRICT	<input checked="" type="checkbox"/> PUBLIC	<input type="checkbox"/> OCCUPIED	<input type="checkbox"/> AGRICULTURE	<input type="checkbox"/> MUSEUM
<input type="checkbox"/> BUILDING(S)	<input type="checkbox"/> PRIVATE	<input checked="" type="checkbox"/> UNOCCUPIED	<input type="checkbox"/> COMMERCIAL	<input type="checkbox"/> PARK
<input checked="" type="checkbox"/> STRUCTURE	<input type="checkbox"/> BOTH	<input type="checkbox"/> WORK IN PROGRESS	<input type="checkbox"/> EDUCATIONAL	<input type="checkbox"/> PRIVATE RESIDENCE
<input type="checkbox"/> SITE	<b>PUBLIC ACQUISITION</b>	<b>ACCESSIBLE</b>	<input type="checkbox"/> ENTERTAINMENT	<input type="checkbox"/> RELIGIOUS
<input type="checkbox"/> OBJECT	<input type="checkbox"/> IN PROCESS	<input type="checkbox"/> YES: RESTRICTED	<input type="checkbox"/> GOVERNMENT	<input type="checkbox"/> SCIENTIFIC
	<input type="checkbox"/> BEING CONSIDERED	<input checked="" type="checkbox"/> YES: UNRESTRICTED	<input type="checkbox"/> INDUSTRIAL	<input type="checkbox"/> TRANSPORTATION
		<input type="checkbox"/> NO	<input type="checkbox"/> MILITARY	<input checked="" type="checkbox"/> OTHER: abandoned

### 4 OWNER OF PROPERTY

NAME  
Yuma County, Arizona  
STREET & NUMBER  
Yuma County Courthouse  
CITY, TOWN  
Yuma VICINITY OF STATE  
Arizona

### 5 LOCATION OF LEGAL DESCRIPTION

COURTHOUSE,  
REGISTRY OF DEEDS, ETC. Yuma County Courthouse  
STREET & NUMBER  
168 South 2nd Avenue  
CITY, TOWN  
Yuma STATE  
Arizona

### 6 REPRESENTATION IN EXISTING SURVEYS

TITLE  
DATE  
\_\_\_\_ FEDERAL \_\_\_\_ STATE \_\_\_\_ COUNTY \_\_\_\_ LOCAL  
DEPOSITORY FOR SURVEY RECORDS  
CITY, TOWN STATE

## 7 DESCRIPTION

CONDITION		CHECK ONE	CHECK ONE
<input type="checkbox"/> EXCELLENT	<input checked="" type="checkbox"/> DETERIORATED	<input checked="" type="checkbox"/> UNALTERED	<input checked="" type="checkbox"/> ORIGINAL SITE
<input type="checkbox"/> GOOD	<input type="checkbox"/> RUINS	<input type="checkbox"/> ALTERED	<input type="checkbox"/> MOVED DATE _____
<input type="checkbox"/> FAIR	<input type="checkbox"/> UNEXPOSED		

---

### DESCRIBE THE PRESENT AND ORIGINAL (IF KNOWN) PHYSICAL APPEARANCE

Initially constructed in 1914-15, the Antelope Hill Highway Bridge was a ten-span reinforced concrete girder highway bridge on the designated principal road route between Yuma and Phoenix, Arizona. Within the half dozen years after its construction, the bridge was expanded by the addition of five similar reinforced concrete girder spans and by the construction of a wooden trestle section at one end.

The original Antelope Hill Bridge, built between June 1, 1914 and August 18, 1915, stretched 650 feet across the Gila River at the base of Antelope Hill, about four miles northwest of Tacna. The structure consisted of ten 65-foot reinforced concrete girder spans resting on nine pairs of reinforced concrete piers and two reinforced concrete abutments. The roadway of the bridge was 16 feet wide and on either side supported a handrail composed of 2.5-inch steel pipe, although no walkway was provided. Cost for the construction of the original portion of the bridge was \$42,320.66 to which was added \$12,653.94 incurred by flood damage during construction for a total cost of \$54,974.60.

Floods on the Gila River in 1916 washed out the north approach to the bridge for a distance of two miles while widening the channel of the river at the north end of the structure, requiring the state officials to take some action to restore the bridge to service. The expedient chosen by the state engineer was the extension of the bridge. Five additional reinforced concrete girder spans on concrete piers were placed at the north end of the bridge. These spans were of the same design as those used in the original bridge, together forming a 15-span structure measuring 975 feet in length. This addition to the bridge was begun in 1917 and completed in 1918.

The newly-extended Antelope Hill Bridge remained in service for only a few months. It was used until the week after Thanksgiving 1919, at which time approximately 500 feet of the north approach was washed away and flood waters damaged the concrete structure itself. The third and fourth pairs of piers from the north end settled about .3 foot and shifted downstream a like distance. In February 1920 flood waters cut back the north approach an additional 300 feet, washed away the north abutment, and shifted the northernmost two pairs of piers about a foot downstream, causing them to settle between .2 and .3 foot. The remaining two pairs of concrete piers of the 1917-18 extension settled between .1 and .3 foot.

The office of the Arizona State Engineer made one final effort to save the Antelope Hill Bridge. After the 1919-20 floods, the damaged portion of the concrete section of the bridge was returned to service and an 855-foot timber pile trestle extension was placed on its north end. This trestle crossed the recently widened channel area which had grown north of the original bridge. The bridge continued to be used in this state for some time.

At the present, the Antelope Hill Highway Bridge stands abandoned in the bed of the Gila River at the base of Antelope Hill. It is parallel to the present-day County Road 328 "low water" crossing of the Gila River and the Southern Pacific Railroad multiple overhead truss bridge crossing. Two of the reinforced concrete girder spans have fallen into the river and only remnants can be seen of the timber trestle.

UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

**NATIONAL REGISTER OF HISTORIC PLACES  
INVENTORY -- NOMINATION FORM**

FOR NPS USE ONLY

RECEIVED

DATE ENTERED

JUN 28 1979

CONTINUATION SHEET Description ITEM NUMBER 7 PAGE one

Most of the concrete portion of the bridge, however, remains in place, although the steel pipe handrails have been removed. It is possible to walk across most of the bridge from its south end. A small roadside park, an appropriate location for an interpretive marker, is located near the south abutment of the bridge.

# 8 SIGNIFICANCE

PERIOD	AREAS OF SIGNIFICANCE -- CHECK AND JUSTIFY BELOW			
<input type="checkbox"/> PREHISTORIC	<input type="checkbox"/> ARCHEOLOGY-PREHISTORIC	<input type="checkbox"/> COMMUNITY PLANNING	<input type="checkbox"/> LANDSCAPE ARCHITECTURE	<input type="checkbox"/> RELIGION
<input type="checkbox"/> 1400-1499	<input type="checkbox"/> ARCHEOLOGY-HISTORIC	<input type="checkbox"/> CONSERVATION	<input type="checkbox"/> LAW	<input type="checkbox"/> SCIENCE
<input type="checkbox"/> 1500-1599	<input type="checkbox"/> AGRICULTURE	<input type="checkbox"/> ECONOMICS	<input type="checkbox"/> LITERATURE	<input type="checkbox"/> SCULPTURE
<input type="checkbox"/> 1600-1699	<input type="checkbox"/> ARCHITECTURE	<input type="checkbox"/> EDUCATION	<input type="checkbox"/> MILITARY	<input type="checkbox"/> SOCIAL/HUMANITARIAN
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> ART	<input checked="" type="checkbox"/> ENGINEERING	<input type="checkbox"/> MUSIC	<input type="checkbox"/> THEATER
<input type="checkbox"/> 1800-1899	<input type="checkbox"/> COMMERCE	<input type="checkbox"/> EXPLORATION/SETTLEMENT	<input type="checkbox"/> PHILOSOPHY	<input checked="" type="checkbox"/> TRANSPORTATION
<input checked="" type="checkbox"/> 1900-	<input type="checkbox"/> COMMUNICATIONS	<input type="checkbox"/> INDUSTRY	<input type="checkbox"/> POLITICS/GOVERNMENT	<input type="checkbox"/> OTHER (SPECIFY)
		<input type="checkbox"/> INVENTION		

SPECIFIC DATES 1914-1920

BUILDER/ARCHITECT Arizona State Highway Department

## STATEMENT OF SIGNIFICANCE

The Antelope Hill Highway Bridge across the Gila River near the base of Antelope Hill in southern Yuma County, Arizona, was an integral part of the planned "Ocean to Ocean" Highway, linking California with the remainder of the United States. The bridge provided the crossing of the Gila River on the section of the highway between Yuma and Phoenix. The continued difficulties with flooding at the Antelope Hill site eventually caused the rerouting of the highway from its original position to that of today, the route of Interstate Highway 8. Thus the history of this structure is not merely that of a bridge, but also that of the factors in the decision for the routing of a major transcontinental highway.

The plans for the construction of a highway bridge across the Gila in the vicinity of Antelope Hill took shape in 1912-13, when a reconnaissance and preliminary survey was made of the 202-mile route between Yuma and Phoenix. At this time bridge sites were considered at both Antelope Hill and the Dome community, but soon Antelope Hill became the preferred location.

During 1913 plans were drawn in the office of the state engineer for a reinforced concrete girder bridge at Antelope Hill. Bids, requested from contractors for the construction of the structure, were opened at Phoenix on December 15, 1913, but after they were considered the state officials decided to postpone construction until May 1914 and to build with state penitentiary inmate labor. Within a short time, however, it was learned that a sufficient number of prisoner laborers was not available. Consequently new plans and specifications were drawn up and approved by the state engineer. Then on May 12, 1914, the new bids were opened and the contract for the bridge was awarded to the lowest bidder, Perry E. Borchers.

Construction began at the bridge site on June 1, 1914, and was carried on by the contractor until August 18, at which time he forfeited his contract due to lack of funds. With his bondsmen, the contractor requested the Yuma County Board of Supervisors, through the Arizona State Highway Department, to continue the work until its completion. The Board of Supervisors agreed, but several months of delay followed because the state highway department required a number of months to secure the equipment necessary to conduct the project, "as the equipment turned over by the contractor was utterly unfit to economically carry on the work." Thus work did not resume until November 10, 1914. Then floods in late December and January so seriously damaged the bridge under construction that work was delayed until the following spring.

By June 3, 1915, the local press could report that two spans of the structure were already in place and that two more would be poured the next week. Much of the work in the spring, however, was devoted to repairing or reconstructing portions of the bridge and approaches which had been damaged in the floods, which caused over \$12,000 worth of damage.

## 9 MAJOR BIBLIOGRAPHICAL REFERENCES

Arizona. State Engineer. "Antelope Hill Bridge No. 9 across the Gila River near Wellton [,] Yuma County." May 5, 1914. 9 lvs. Measured drawings in India ink on linen. Structures Section, Arizona Department of Transportation, Phoenix, Arizona.

Arizona. State Engineer. Report of the State Engineer of the State of Arizona[,] July 1, 1909[,] to June 30, 1914. n.p.: Board of Control, [1914].

## 10 GEOGRAPHICAL DATA

ACREAGE OF NOMINATED PROPERTY 2.52 acres

UTM REFERENCES

A			B		
111	718,014.0	3,623,720	111	717,990.0	3,623,720
ZONE	EASTING	NORTHING	ZONE	EASTING	NORTHING
C			D		

VERBAL BOUNDARY DESCRIPTION

The area encompassed by this nomination extends to 100 feet on either side of the preserved remains of the bridge.

See Continuation Sheet

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE	CODE	COUNTY	CODE
STATE	CODE	COUNTY	CODE

## 11 FORM PREPARED BY

NAME / TITLE

T. Lindsay Baker, Program Manager

ORGANIZATION

History of Engineering Program, Texas Tech University

DATE

July 1, 1978

STREET & NUMBER

P.O. Box 4089

TELEPHONE

806-742-3593

CITY OR TOWN

Lubbock

STATE

Texas

## 12 STATE HISTORIC PRESERVATION OFFICER CERTIFICATION

THE EVALUATED SIGNIFICANCE OF THIS PROPERTY WITHIN THE STATE IS:

NATIONAL

STATE

LOCAL

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

SIGNATURE

*Shirley H. Hall*

TITLE

DATE 11-29-78

FOR NPS USE ONLY

I HEREBY CERTIFY THAT THIS PROPERTY IS INCLUDED IN THE NATIONAL REGISTER

DIRECTOR, OFFICE OF ARCHAEOLOGY AND HISTORIC PRESERVATION

DATE 6-28-79

ATTEST:

*Bill Wrench*

KEEPER OF THE NATIONAL REGISTER

DATE June 27, 1979

KEEPER OF THE NATIONAL REGISTER

UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

**NATIONAL REGISTER OF HISTORIC PLACES  
INVENTORY -- NOMINATION FORM**

FOR NPS USE ONLY	
RECEIVED	
DATE ENTERED	JUN 28 1979

CONTINUATION SHEET Significance      ITEM NUMBER 8      PAGE ONE

Reconstruction work on the northern approach to the bridge was carried out by a group of Arizona State Penitentiary convict laborers, who worked in the Antelope Hill vicinity from March 15, 1915, to June 1, 1916. These men, who comprised what was called the "Honor Prison Camp," numbered between thirty-five and fifty and lived in a tent camp together with their supervisors and guards. Each man was furnished with a cot, mattress, sheets, and blankets. One man was detailed as laundryman for the camp. The prisoners dressed in civilian clothes and with only two exceptions they lived lives similar to men in ordinary construction camps of the day. These exceptions were that they had set hours for going to bed and that they were not allowed to leave the camp without permission, and then only to the extent of one mile free range, with absolutely no permission to enter towns. Food in the camp was described as "on a par with that furnished in the best free labor camps, and better than that furnished in many." Breakfasts consisted of bacon, corn, mush, syrup, bread, and coffee, with hot cakes twice weekly. Lunch included beef stew, potatoes, beans, bread, dried fruits, and coffee, while dinner normally consisted of steak or stewed beef, potatoes, rice or macaroni, canned sweet corn, peas or tomatoes, bread, and coffee. On Sundays a special breakfast of ham and eggs was served. Twice a week pie or cake was served with lunch, and three times a week the men were given smoking or chewing tobacco.

Finally the bridge was opened to traffic on August 18, 1915. Local residents made plans for a gala celebration dedicating the bridge and closing another link in the "Ocean to Ocean" Highway, but they wisely scheduled the festivities to take place in October, after the passage of the high summer temperatures. The celebration was observed at the bridge on Sunday, October 24, 1915, with a day-long affair. The celebrants from Yuma traveled to the bridge first by chartered Southern Pacific train to Tacna, four miles from the bridge, and they they were transported to the site in especially prepared hay wagons. They departed Yuma at 8:30 in the morning, arrived at Tacna by 10:00, and were at the bridge site by about noon. Among the participants at the festivities were Governor George W.P. Hunt and State Engineer Lamar Cobb. For the first two hours the merrymakers entertained themselves by inspecting the bridge, visiting with each other, and exploring the surrounding area, some of them climbing Antelope Hill. Then about 2:00 p.m. all gathered at long wooden tables arranged under the bridge in the dry bed of the Gila, where they would be protected from the sun, and they dined on a meal of barbecue beef, beans, various relishes, coffee, and cold lemonade. After the repast, which, according to the local newspaper, all ate "until they could eat no more," the visitors formed into a long line. They then walked as a group across the dry bed of the river to

UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

**NATIONAL REGISTER OF HISTORIC PLACES  
INVENTORY -- NOMINATION FORM**

FOR NPS USE ONLY	
RECEIVED	DEC 5 1978 JUN 28 1979
DATE ENTERED	

CONTINUATION SHEET Significance ITEM NUMBER 8 PAGE two

the north bank of the Gila, up to the end of the bridge, and then walked along the entire structure to its south end, returning to the riverbed and their places in the shade to listen to speeches by the governor, state engineer, a university professor, and local dignitaries.

By the time that the speeches were over, the sun was going down and the temperature was lowering. Canvas had been stretched over a portion of the deck of the bridge to provide a dancing surface, and to music provided by the Yuma Indian Band, the visitors danced atop the bridge until after the sun had set. As a local reporter noted at the time, "hundreds joined in this part of the festivities, and it made a merry and never-to-be-forgotten picture." Finally the visitors again boarded their hay wagons for the ride back to the waiting train and return to Yuma in the darkness.

Unfortunately, the remainder of the story of the Antelope Hill Bridge is not so pleasant as the account of its dedication. The history of the bridge is marred by difficulties with floods. The structure had hardly been opened when it was damaged by high water; floods in January 1916 not only washed out the north approach to the bridge for a distance of approximately two miles, but also widened the channel of the river at the north end of the bridge by approximately 300 feet. The only answer to the problem was to extend the bridge to the north and to attempt to prevent further washing away of the north bank of the Gila. In March 1917 the Arizona State Legislature appropriated \$50,000 from the General Fund for the extension of the bridge and for the construction of a new northern approach. The extension consisted of five additional 65-foot reinforced concrete girder spans resting on pairs of reinforced concrete piers and a reinforced concrete abutment. These spans were identical in design to those on the original bridge. By the summer of 1918 the foundations for the new piers and abutment were complete and the entire extension expected to be finished by the end of the season. At the same time extensive efforts were made to improve the road between the north end of the bridge and Phoenix, as it remained the principal route between the two points despite the repeated bridge problems.

The Antelope Hill Bridge remained in service until the next severe winter floods, which this time came the week after Thanksgiving in 1919. On this occasion about 500 feet of the north approach washed away. Structural damage was done to the piers of the northern extension of the bridge, some of them both sinking and shifting downstream. Then in February 1920 another severe flood destroyed about 300 feet more of the north approach and washed away the north abutment and one of the concrete girder spans. The waters also caused some of the piers on the northern extension of the bridge to sink farther and to move farther downstream. These floods, typical of the annual high water on the Gila, caused the officials of the Arizona State Highway Department to reconsider the location they had chosen for the Yuma to Phoenix section of the "Ocean to Ocean" Highway. Their biennial report for 1918-1920, for example,

UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

**NATIONAL REGISTER OF HISTORIC PLACES  
INVENTORY -- NOMINATION FORM**

FOR NPS USE ONLY	
RECEIVED	JUN 5 1979
DATE ENTERED	JUN 28 1979

CONTINUATION SHEET    Significance    ITEM NUMBER 8    PAGE three

reported that the "Antelope Hill Bridge is located at a point where it is impossible to control the river and keep it under the bridge." Plans were undertaken to shift the route of the highway to "an entirely new location on the south side of the Gila River." This decision would obviate the problems caused by the Antelope Hill crossing.

The bridge, despite its almost yearly flood damage, was not abandoned. The final effort to keep it in service came in 1920, when an 855-foot timber pile trestle was constructed at its north end to carry traffic across the newly widened channel of the Gila. Completed at a cost of \$20,028.87, the new trestle allowed the bridge to stay open for some time. Finally the bridge was replaced in 1929 by the construction of a new suspension bridge across the Gila at Dome, the location originally considered with Antelope Hill as the site for a river crossing, but by this time all major vehicular traffic between Yuma and Phoenix was passing along the new designated route by way of Gila Bend. This route was designated as Federal Aid Project Nos. 26 and 55 and the Yuma County portion was first constructed in 1922-23. This is the route of the present-day Interstate Highway 8 from Yuma toward Phoenix and Tucson.

Today the Antelope Hill Highway Bridge stands abandoned in the bed of the Gila River at the base of Antelope Hill. It is parallel to the crossings of both County Road 328 and the Southern Pacific Railroad. Several of its concrete spans have washed into the river, but most of them remain in position and it is possible to walk across much of the bridge.

The bridge's significance is based on its link in the southern transcontinental road transportation route known as the "Ocean-to-Ocean Highway." It served as the only year-round crossing of the Gila River between Phoenix and Yuma.

*revised  
N.P.S.  
5/30/79*



UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

**NATIONAL REGISTER OF HISTORIC PLACES  
INVENTORY -- NOMINATION FORM**

FOR NPS USE ONLY	
RECEIVED	
DATE ENTERED	JUN 28 1979

CONTINUATION SHEET Bibliography      ITEM NUMBER 9      PAGE one

---

Arizona. State Engineer. Second Report of the State Engineer to the State Highway Commission (State Board of Control) and to the Boards of Supervisors of the Several Counties for the Periods July 1, 1914[, ] to June 30, 1915[, ] and July 1, 1915[, ] to June 30, 1916. Phoenix: The McNeil Company, [1916].

Arizona. State Engineer. Third Biennial Report of the State Engineer to the Governor and the Commission of State Institutions and to the Boards of the Several Counties for the Period July 1, 1916, to June 30, 1918. Phoenix: Arizona State Press, [1918].

Arizona. State Engineer. Fourth Biennial Report of the State Engineer to the Governor of the State of Arizona for the Period July 1, 1918, to December 31, 1920. Phoenix: The Republican Print Shop, [1921].

Arizona. State Engineer. Fifth Biennial Report of the State Engineer to the Governor of the State of Arizona for the Period July 1, 1920, to June 30, 1922. n.p.: n.d.

The Yuma Sun (Yuma, Ariz.). April 10, 1914, p. 3; June 3, 1915, p. 3; Sept. 3, 1915, p. 4; Sept. 17, 1915, p. 1; Oct. 22, 1915, p. 1; Oct. 29, 1915, p. 3.  
(Available on microfilm at Yuma City-County Library, Yuma, Arizona.)

UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

**NATIONAL REGISTER OF HISTORIC PLACES  
INVENTORY -- NOMINATION FORM**

FOR NPS USE ONLY

RECEIVED 3/6/79

JUN 28 1979

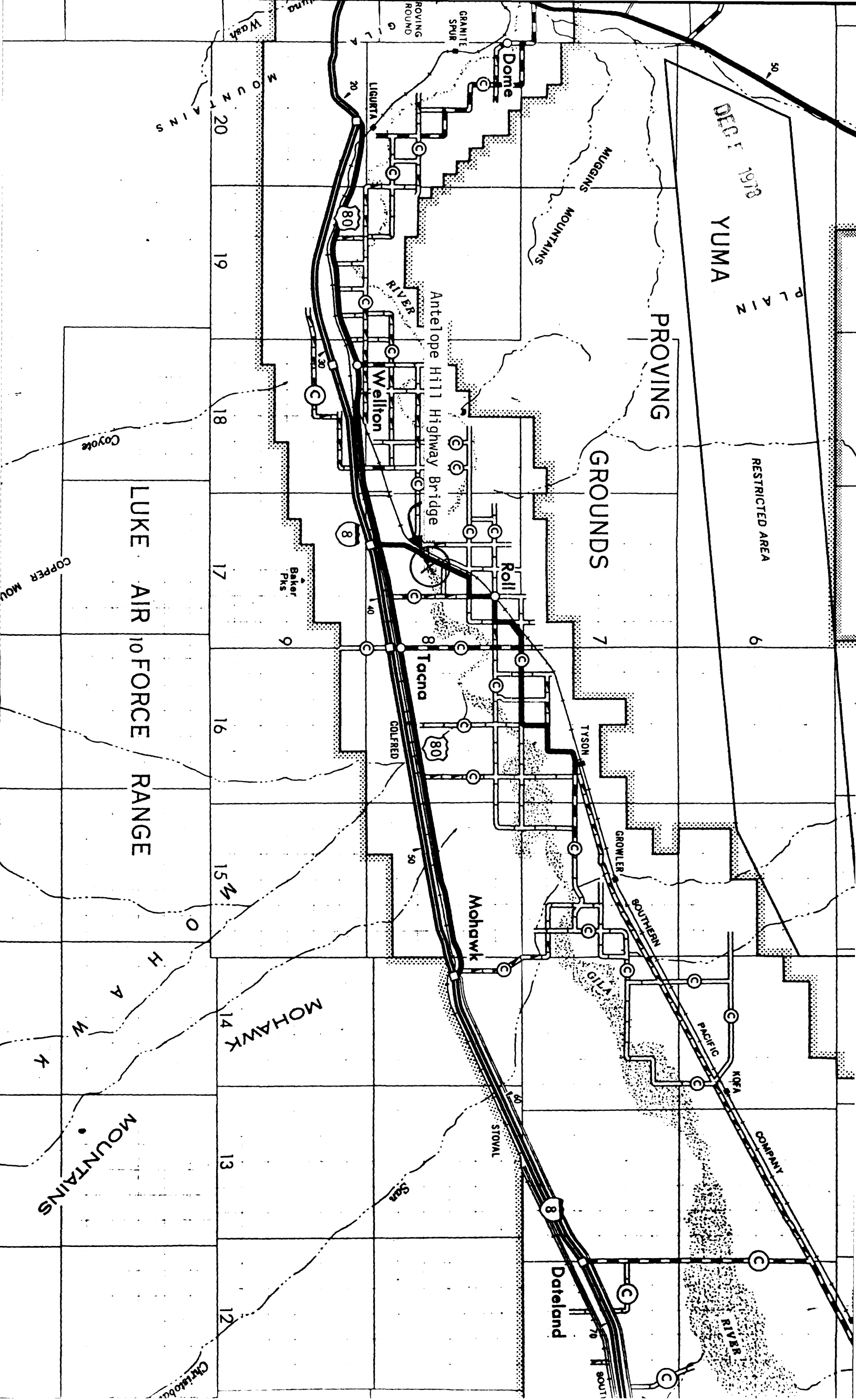
DATE ENTERED

CONTINUATION SHEET Antelope Hill Highway Bridge ITEM NUMBER 10 PAGE 1

---

Excise Boundary Justification for Engineering and Transportation

The nominated portion of the Antelope Hill Highway Bridge includes the 14 concrete spans covering 910 feet, the 45 timber trestle bats covering 855 feet, and 100 foot approaches on either side of the bridge for a total of 1,965 feet. The bridge is 16 feet wide at roadway, and the total width of the nominated portion shall be this 16 feet plus an additional 20 feet on both sides, making a total nominated width of 56 feet. See construction details (Exhibit "A").



DEPT 1 1918  
YUMA  
PLAIN

PROVING

GROUND

RESTRICTED AREA

LUKE AIR FORCE RANGE

Antelope Hill Highway Bridge

RIVER

Tacna

Mohawk

Dateland

PACIFIC

COMPANY

SOUTHERN

GILA

GROWLER

TYSON

STIVAL

San

Baker Pks

Wash  
MOUNTAINS

MUGGINS  
MOUNTAINS

MOHAWK  
MOUNTAINS

OHAWK

COPPER MOUNTAINS

Coyote

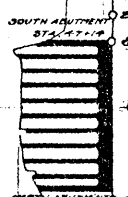
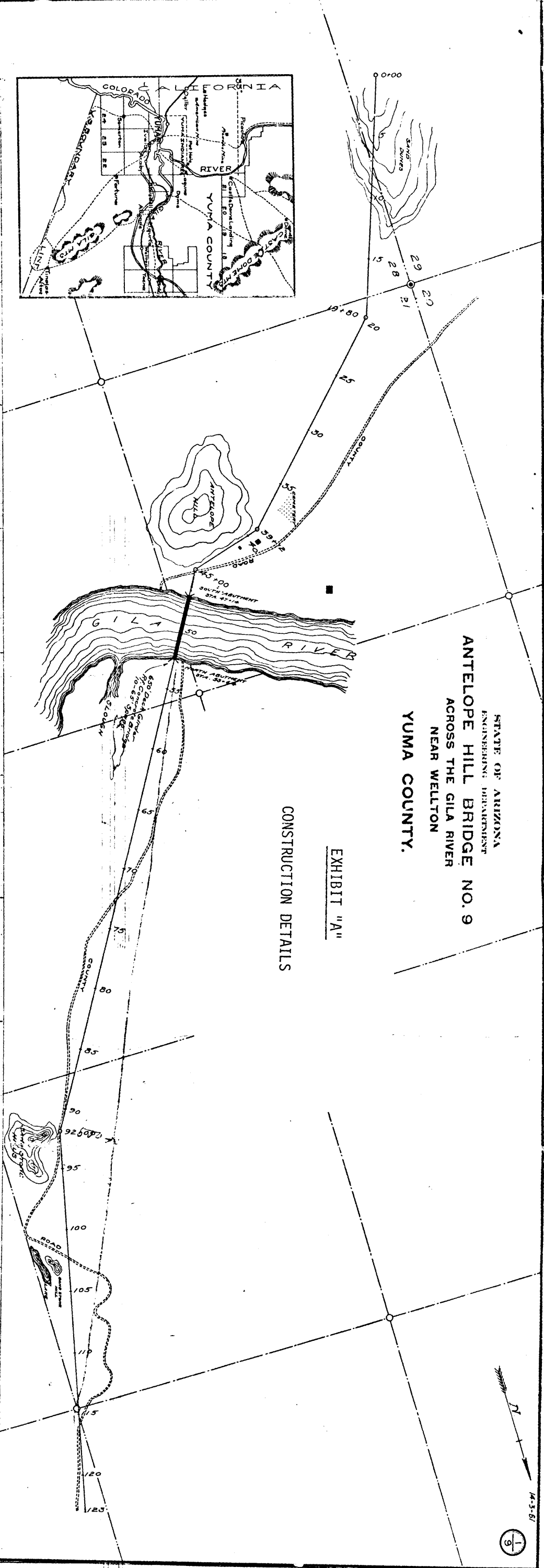
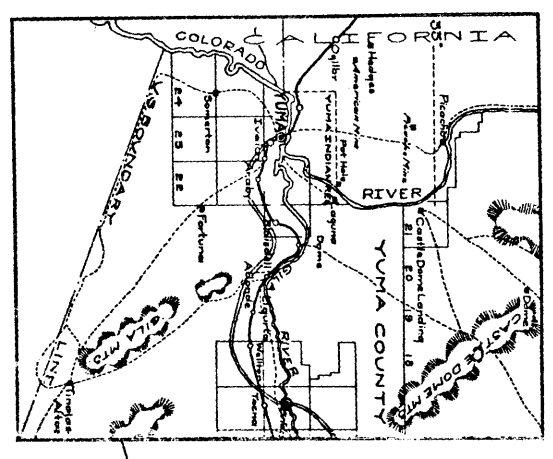
Charlebois

south

3/6/79

STATE OF ARIZONA  
ENGINEERING DEPARTMENT  
**ANTELOPE HILL BRIDGE NO. 9**  
ACROSS THE GILA RIVER  
NEAR WELTON  
YUMA COUNTY.

EXHIBIT "A"  
CONSTRUCTION DETAILS



SOUTH ABUTMENT STA. 2+00  
Grade = 251.875 Top of curb  
Slope on E, 5:1  
Level  
SOUTH ABUTMENT STA. 2+00

SOUTH ABUTMENT STA. 2+00  
Level  
SOUTH ABUTMENT STA. 2+00

SOUTH ABUTMENT STA. 2+00  
Level  
SOUTH ABUTMENT STA. 2+00

SOUTH ABUTMENT STA. 2+00  
Level  
SOUTH ABUTMENT STA. 2+00

SOUTH ABUTMENT STA. 2+00  
Level  
SOUTH ABUTMENT STA. 2+00

SOUTH ABUTMENT STA. 2+00  
Level  
SOUTH ABUTMENT STA. 2+00

SOUTH ABUTMENT STA. 2+00  
Level  
SOUTH ABUTMENT STA. 2+00

SOUTH ABUTMENT STA. 2+00  
Level  
SOUTH ABUTMENT STA. 2+00

SOUTH ABUTMENT STA. 2+00  
Level  
SOUTH ABUTMENT STA. 2+00

SOUTH ABUTMENT STA. 2+00  
Level  
SOUTH ABUTMENT STA. 2+00

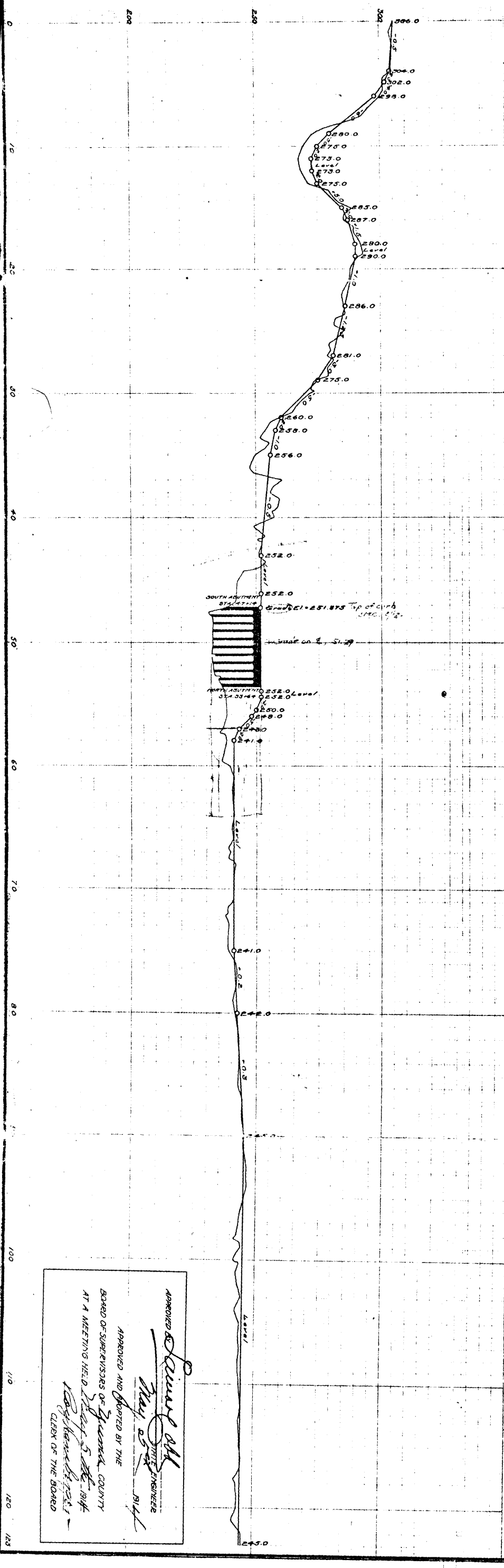
SOUTH ABUTMENT STA. 2+00  
Level  
SOUTH ABUTMENT STA. 2+00

SOUTH ABUTMENT STA. 2+00  
Level  
SOUTH ABUTMENT STA. 2+00

SOUTH ABUTMENT STA. 2+00  
Level  
SOUTH ABUTMENT STA. 2+00

APPROVED AND ADOPTED BY THE  
BOARD OF SUPERVISORS OF YUMA COUNTY  
AT A MEETING HELD MAY 5, 1914  
1914  
CLERK OF THE BOARD

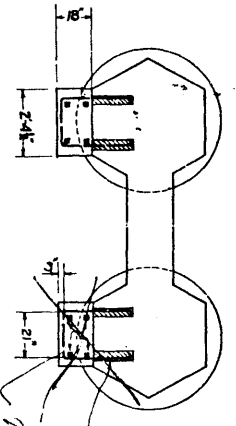
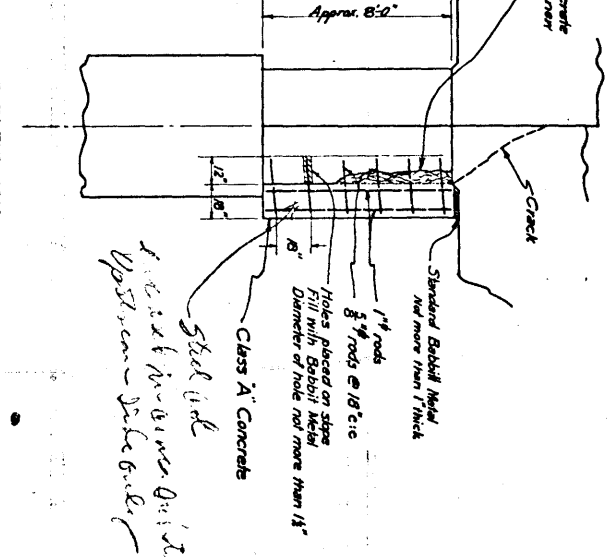
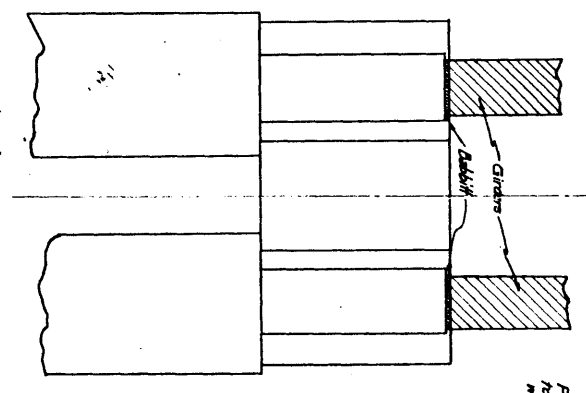
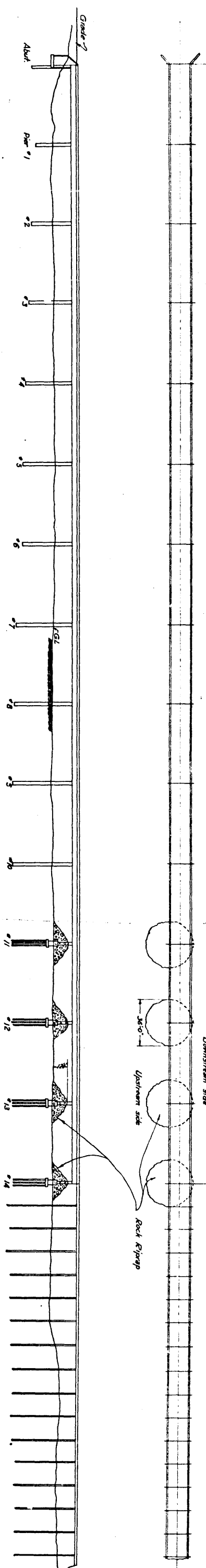
APPROVED  
MAY 5, 1914  
CLERK OF THE BOARD



ANTELOPE HILL BRIDGE  
REPAIRS - SEPT. - 1923.

Concrete Bridge  
14 Spans @ 65' 5" x 10.0

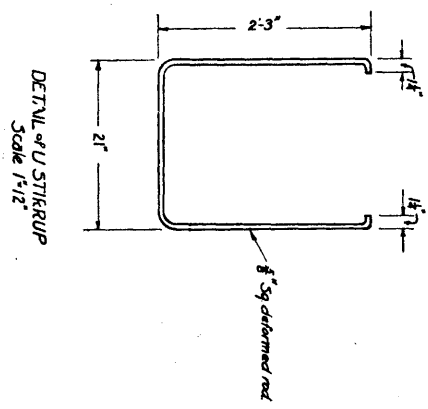
Timber Trestle  
45 Bays @ 19'-0" x 853'-0"



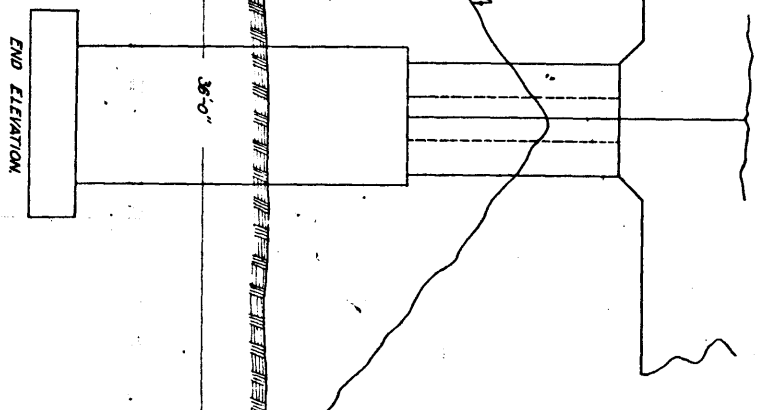
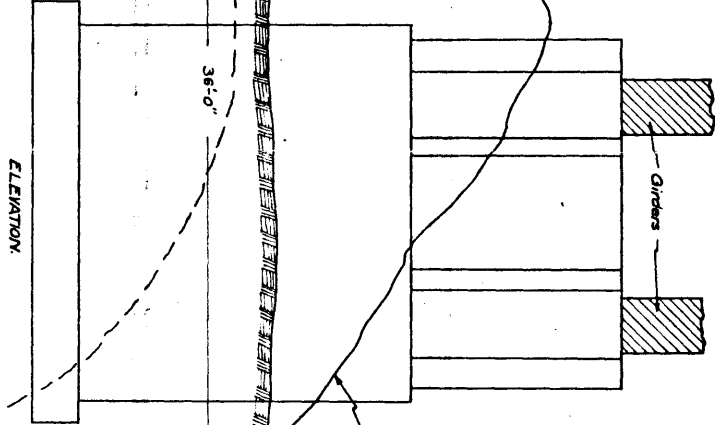
PLAN  
Scale 1/2"

REPAIRS AT PIER No 10  
Specifications:  
Concrete- State Stand. No. 9  
Steel - " " " 10

Babbitt Metal - Not more than 10% lead  
Concrete to be poured to within 1/2" of girder seat  
and allowed to set 7 days before pouring babbitt  
for girder bearing.  
Babbitt to be poured between girder and top of pier  
concrete seat. The entire metal required for each  
seat to be melted and poured of one time.  
Any remaining space to be filled with the same  
metal by drawing it in with approved caulking tools.



DETAIL of U-SHIRT RUP  
Scale 1/2"



ROCK RIPRAP  
PIERS No. 11, 12, 13, & 14.  
Specifications:-

Rock to be placed in the form of a cone as shown, the apex of the cone to be flush with the up-stream edge of the pier.  
The rock shall be hard and durable of least 60% of which shall consist of pieces having for their smallest dimension 20 inches or more, and no rock having dimension of less than 10 inches shall be used.  
The filling rock on these cones shall be of the larger sizes.  
Care shall be taken to prevent injury to the bridge or its railing during the placing of the rock.  
Each cone = 150 Cu. Yds.

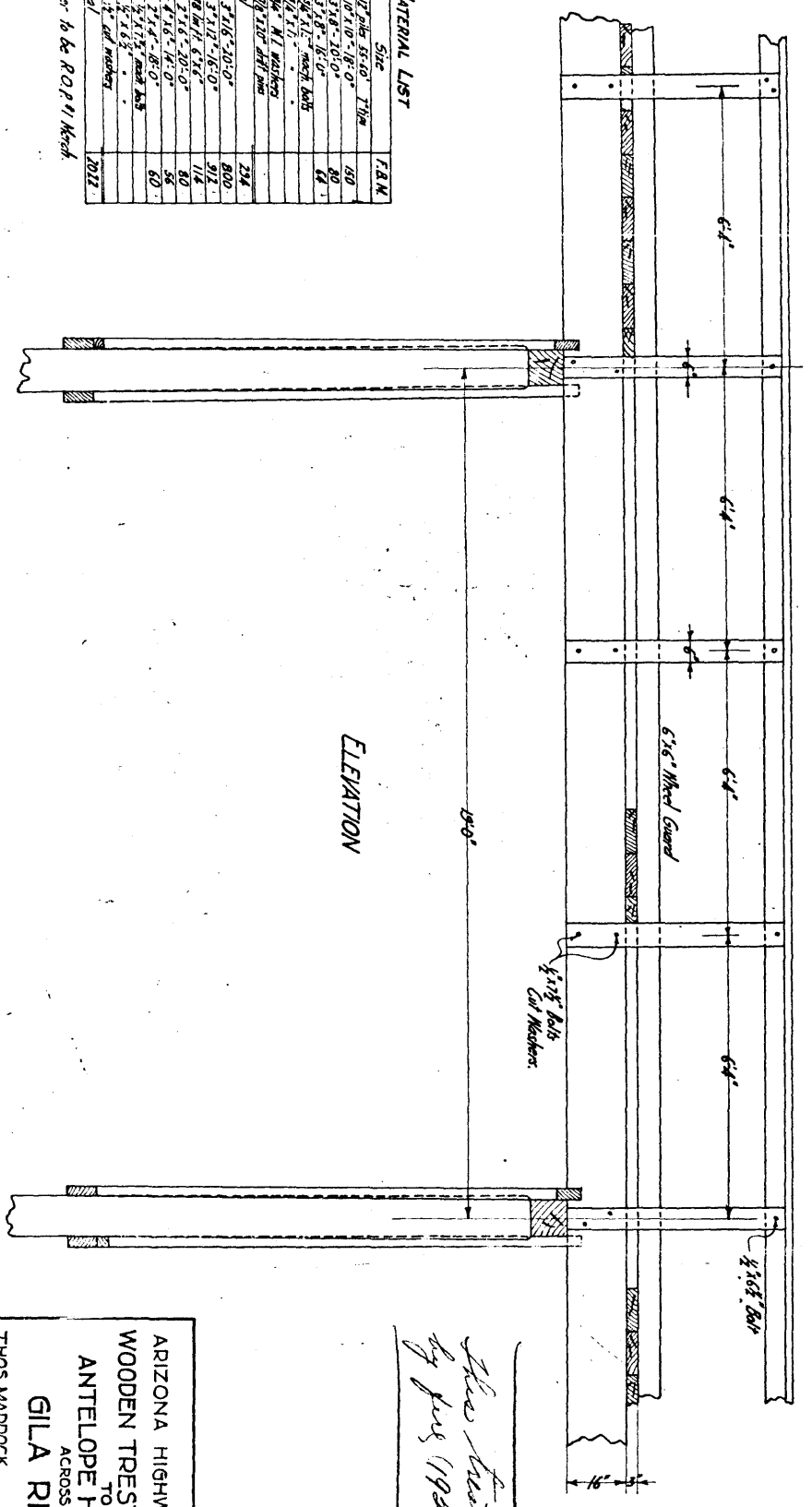
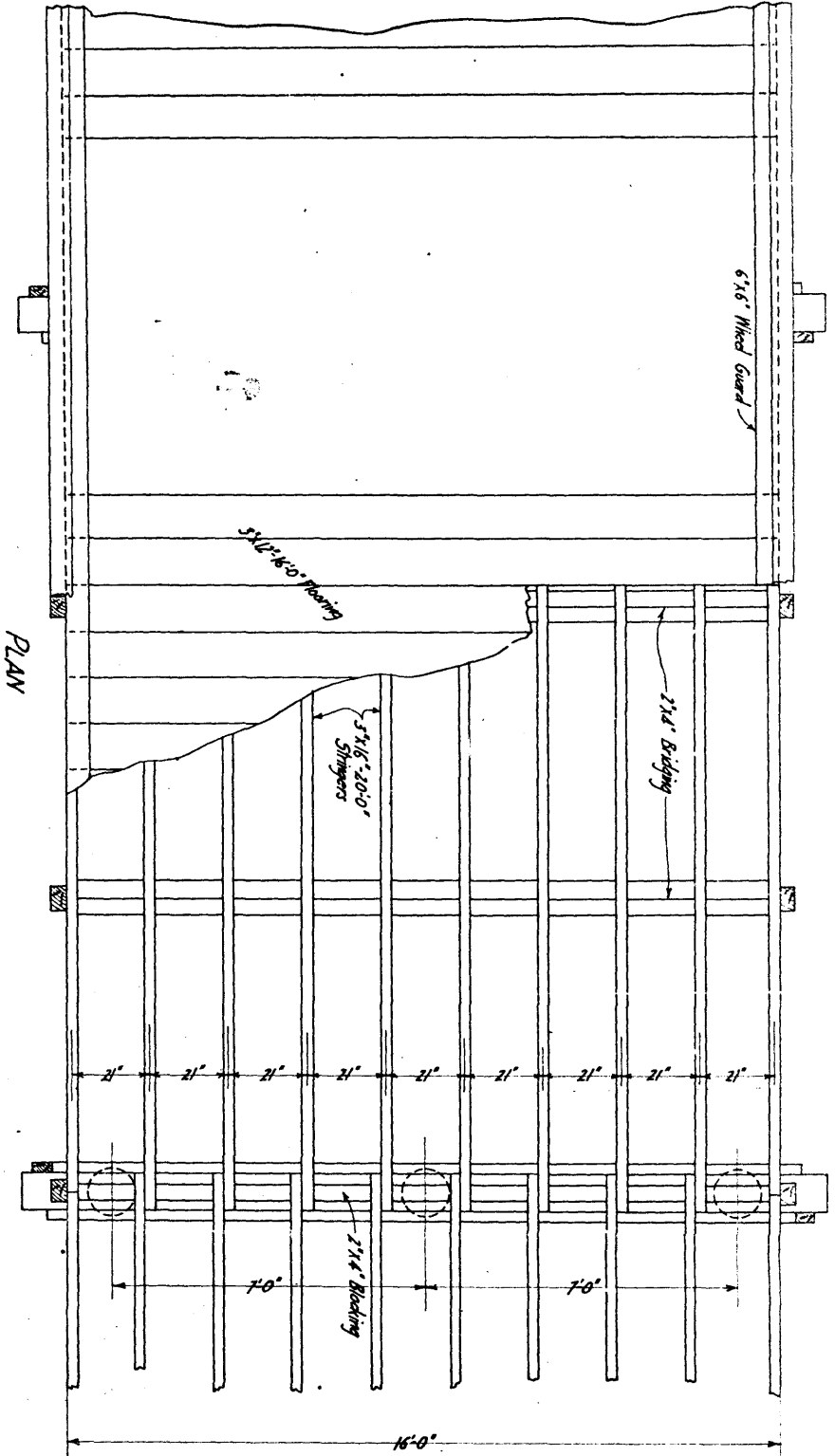
PLAN  
Scale 1/2"

ARIZONA HIGHWAY DEPARTMENT  
PHOENIX YUMA HIGHWAY  
ANTELOPE HILL BRIDGE  
REPAIRS.  
F. R. GOODMAN STATE ENGINEER  
Approved SEP. 1923  
ASSIST. STATE ENGR.

One Bay			One Bent		
No	Size	F.A.M.	No	Size	F.A.M.
1	1 1/2" x 10'-0" C&G	174	1	1 1/2" x 10'-0" C&G	174
2	2" x 4" - 10'-0"	80	2	2" x 4" - 10'-0"	80
3	2" x 4" - 10'-0"	80	3	2" x 4" - 10'-0"	80
4	3/4" x 1 1/2" - 10'-0"	48	4	3/4" x 1 1/2" - 10'-0"	48
5	3/4" x 1 1/2" - 10'-0"	48	5	3/4" x 1 1/2" - 10'-0"	48
6	3/4" x 1 1/2" - 10'-0"	48	6	3/4" x 1 1/2" - 10'-0"	48
7	3/4" x 1 1/2" - 10'-0"	48	7	3/4" x 1 1/2" - 10'-0"	48
8	3/4" x 1 1/2" - 10'-0"	48	8	3/4" x 1 1/2" - 10'-0"	48
9	3/4" x 1 1/2" - 10'-0"	48	9	3/4" x 1 1/2" - 10'-0"	48
10	3/4" x 1 1/2" - 10'-0"	48	10	3/4" x 1 1/2" - 10'-0"	48
11	3/4" x 1 1/2" - 10'-0"	48	11	3/4" x 1 1/2" - 10'-0"	48
12	3/4" x 1 1/2" - 10'-0"	48	12	3/4" x 1 1/2" - 10'-0"	48
13	3/4" x 1 1/2" - 10'-0"	48	13	3/4" x 1 1/2" - 10'-0"	48
14	3/4" x 1 1/2" - 10'-0"	48	14	3/4" x 1 1/2" - 10'-0"	48
15	3/4" x 1 1/2" - 10'-0"	48	15	3/4" x 1 1/2" - 10'-0"	48
16	3/4" x 1 1/2" - 10'-0"	48	16	3/4" x 1 1/2" - 10'-0"	48
17	3/4" x 1 1/2" - 10'-0"	48	17	3/4" x 1 1/2" - 10'-0"	48
18	3/4" x 1 1/2" - 10'-0"	48	18	3/4" x 1 1/2" - 10'-0"	48
19	3/4" x 1 1/2" - 10'-0"	48	19	3/4" x 1 1/2" - 10'-0"	48
20	3/4" x 1 1/2" - 10'-0"	48	20	3/4" x 1 1/2" - 10'-0"	48
21	3/4" x 1 1/2" - 10'-0"	48	21	3/4" x 1 1/2" - 10'-0"	48
22	3/4" x 1 1/2" - 10'-0"	48	22	3/4" x 1 1/2" - 10'-0"	48
23	3/4" x 1 1/2" - 10'-0"	48	23	3/4" x 1 1/2" - 10'-0"	48
24	3/4" x 1 1/2" - 10'-0"	48	24	3/4" x 1 1/2" - 10'-0"	48
25	3/4" x 1 1/2" - 10'-0"	48	25	3/4" x 1 1/2" - 10'-0"	48
26	3/4" x 1 1/2" - 10'-0"	48	26	3/4" x 1 1/2" - 10'-0"	48
27	3/4" x 1 1/2" - 10'-0"	48	27	3/4" x 1 1/2" - 10'-0"	48
28	3/4" x 1 1/2" - 10'-0"	48	28	3/4" x 1 1/2" - 10'-0"	48
29	3/4" x 1 1/2" - 10'-0"	48	29	3/4" x 1 1/2" - 10'-0"	48
30	3/4" x 1 1/2" - 10'-0"	48	30	3/4" x 1 1/2" - 10'-0"	48
31	3/4" x 1 1/2" - 10'-0"	48	31	3/4" x 1 1/2" - 10'-0"	48
32	3/4" x 1 1/2" - 10'-0"	48	32	3/4" x 1 1/2" - 10'-0"	48
33	3/4" x 1 1/2" - 10'-0"	48	33	3/4" x 1 1/2" - 10'-0"	48
34	3/4" x 1 1/2" - 10'-0"	48	34	3/4" x 1 1/2" - 10'-0"	48
35	3/4" x 1 1/2" - 10'-0"	48	35	3/4" x 1 1/2" - 10'-0"	48
36	3/4" x 1 1/2" - 10'-0"	48	36	3/4" x 1 1/2" - 10'-0"	48
Total		234	Total		234

All lumber to be R.O.P. 11 Mesh  
M.A.S.

MATERIAL LIST



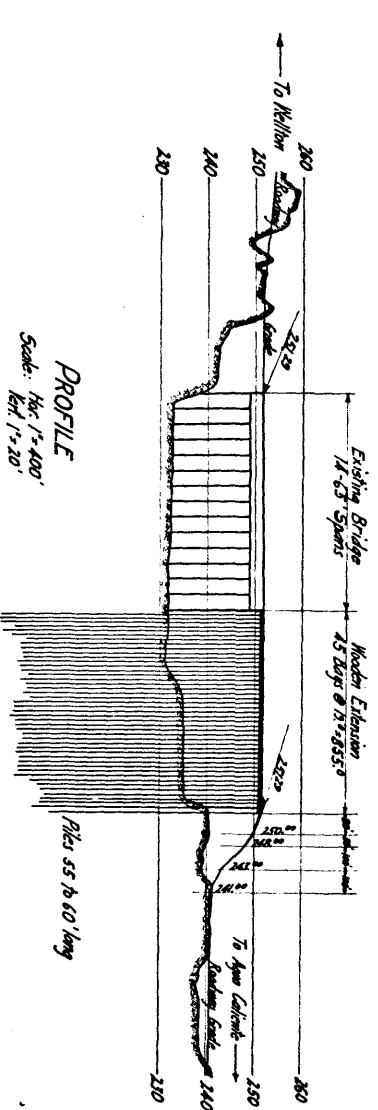
*These truss drawings by Eng (1928-37)*

ARIZONA HIGHWAY DEPARTMENT  
WOODEN TRESTLE EXTENSION  
TO  
ANTELOPE HILL BRIDGE  
ACROSS THE  
GILA RIVER  
THOS MADDOCK STATE ENGINEER  
APRIL 1921  
SCALE: 1/2" = 1'-0"

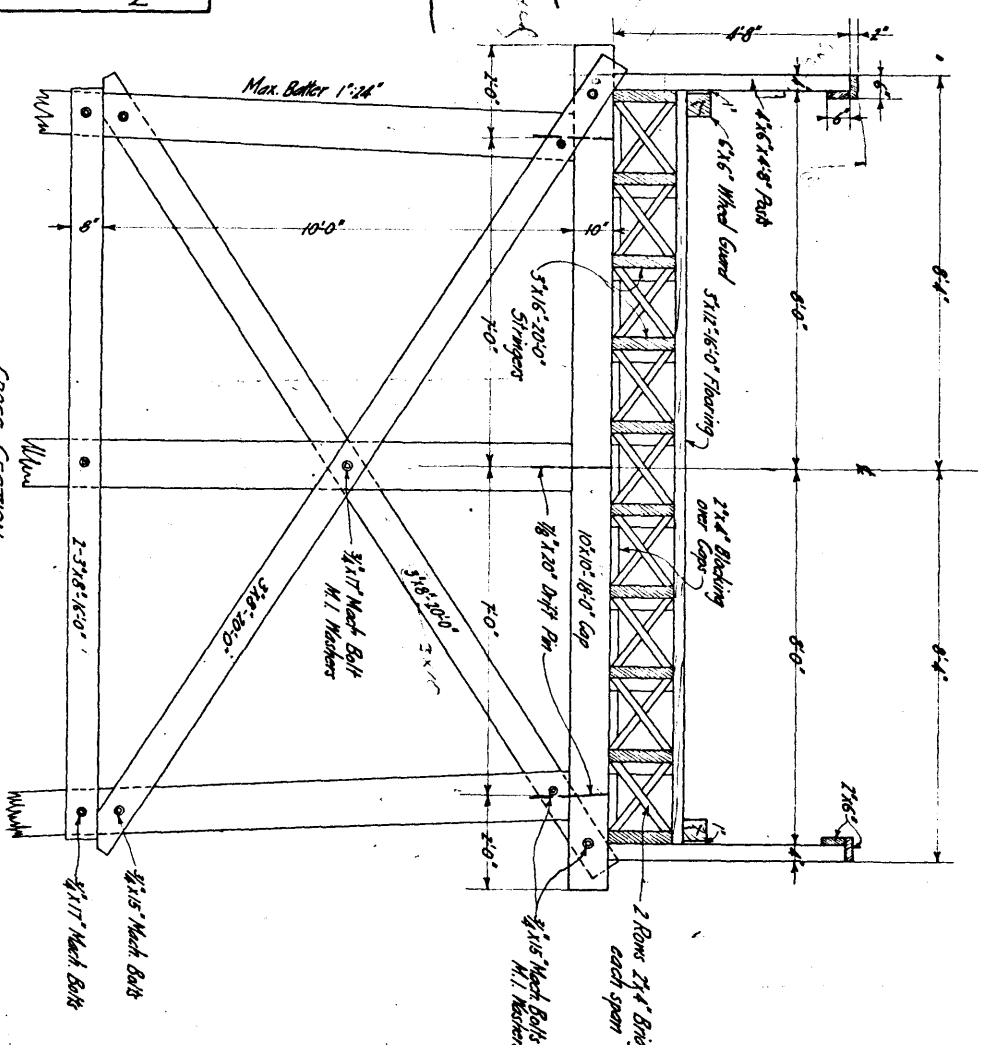
PILE PENETRATION RECORD  
No. 5a-f

Station	Penetration	Remarks
1+00	28'-0"	28'-0" 28'-0" 28'-0"
2+00	28'-0"	28'-0" 28'-0" 28'-0"
3+00	28'-0"	28'-0" 28'-0" 28'-0"
4+00	28'-0"	28'-0" 28'-0" 28'-0"
5+00	28'-0"	28'-0" 28'-0" 28'-0"
6+00	28'-0"	28'-0" 28'-0" 28'-0"
7+00	28'-0"	28'-0" 28'-0" 28'-0"
8+00	28'-0"	28'-0" 28'-0" 28'-0"
9+00	28'-0"	28'-0" 28'-0" 28'-0"
10+00	28'-0"	28'-0" 28'-0" 28'-0"
11+00	28'-0"	28'-0" 28'-0" 28'-0"
12+00	28'-0"	28'-0" 28'-0" 28'-0"
13+00	28'-0"	28'-0" 28'-0" 28'-0"
14+00	28'-0"	28'-0" 28'-0" 28'-0"
15+00	28'-0"	28'-0" 28'-0" 28'-0"
16+00	28'-0"	28'-0" 28'-0" 28'-0"
17+00	28'-0"	28'-0" 28'-0" 28'-0"
18+00	28'-0"	28'-0" 28'-0" 28'-0"
19+00	28'-0"	28'-0" 28'-0" 28'-0"
20+00	28'-0"	28'-0" 28'-0" 28'-0"
21+00	28'-0"	28'-0" 28'-0" 28'-0"
22+00	28'-0"	28'-0" 28'-0" 28'-0"
23+00	28'-0"	28'-0" 28'-0" 28'-0"
24+00	28'-0"	28'-0" 28'-0" 28'-0"
25+00	28'-0"	28'-0" 28'-0" 28'-0"
26+00	28'-0"	28'-0" 28'-0" 28'-0"
27+00	28'-0"	28'-0" 28'-0" 28'-0"
28+00	28'-0"	28'-0" 28'-0" 28'-0"
29+00	28'-0"	28'-0" 28'-0" 28'-0"
30+00	28'-0"	28'-0" 28'-0" 28'-0"
31+00	28'-0"	28'-0" 28'-0" 28'-0"
32+00	28'-0"	28'-0" 28'-0" 28'-0"
33+00	28'-0"	28'-0" 28'-0" 28'-0"
34+00	28'-0"	28'-0" 28'-0" 28'-0"
35+00	28'-0"	28'-0" 28'-0" 28'-0"
36+00	28'-0"	28'-0" 28'-0" 28'-0"
37+00	28'-0"	28'-0" 28'-0" 28'-0"
38+00	28'-0"	28'-0" 28'-0" 28'-0"
39+00	28'-0"	28'-0" 28'-0" 28'-0"
40+00	28'-0"	28'-0" 28'-0" 28'-0"
41+00	28'-0"	28'-0" 28'-0" 28'-0"
42+00	28'-0"	28'-0" 28'-0" 28'-0"
43+00	28'-0"	28'-0" 28'-0" 28'-0"
44+00	28'-0"	28'-0" 28'-0" 28'-0"
45+00	28'-0"	28'-0" 28'-0" 28'-0"
46+00	28'-0"	28'-0" 28'-0" 28'-0"
47+00	28'-0"	28'-0" 28'-0" 28'-0"
48+00	28'-0"	28'-0" 28'-0" 28'-0"
49+00	28'-0"	28'-0" 28'-0" 28'-0"
50+00	28'-0"	28'-0" 28'-0" 28'-0"

Note: Pile penetrations are below ground line shown on Profile 14-P-23 taken in June 1921. Locations of bulkhead piles shown on Profile 14-P-23.



PROFILE  
Scale: 1/4" = 4'-0"  
1/2" = 20'



CROSS-SECTION

# HABS/HAER INVENTORY

PREV. LISTED

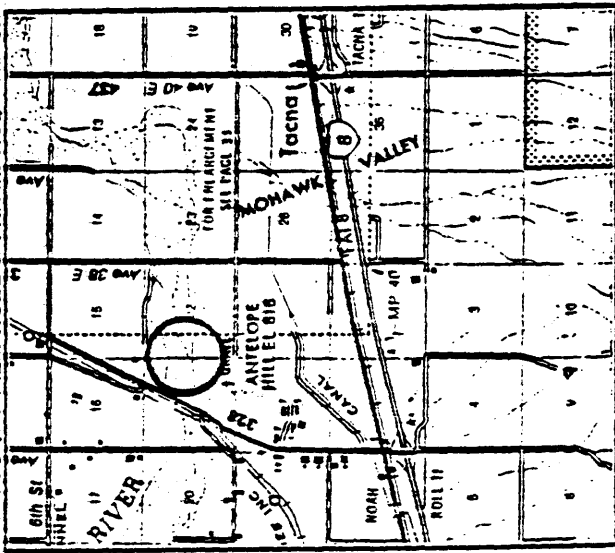
See "HABS/HAER Inventory Guidelines" before filling out the card.

<b>1. NAME(S) OF STRUCTURE</b> Antelope Hill Bridge (Gila River Bridge)		<b>3. DATE(S) OF CONSTRUCTION</b> 1914-15
<b>2. LOCATION</b> Abandoned highway grade parallel with Yuma County Road 328 3.6 miles northwest of Tacna; SE1/4 S21 T8S R17W Yuma County, Arizona		<b>4. USE (ORIGINAL/CURRENT)</b> highway bridge / abandoned
<b>6. CONDITION</b> deteriorated		<b>5. RATING</b> Individually listed, NRHP: state significance
<b>7. DESCRIPTION</b> span number : 15 span length : 65.0' total length: 975.0' roadway wdt. : 16.0' superstructure: reinforced concrete slab and girder (2 girder) substructure : concrete abutments and wingwalls w/ solid concrete piers floor/decking : concrete deck other features: incised panels on girders; threaded steel pipe guardrails removed; concrete curbs owner: Yuma County		
<b>8. HISTORICAL DATA</b> An integral part of the Ocean-to-Ocean Highway across southern Arizona was the bridge over the Gila River at the foot of Antelope Hill. In 1912, Arizona State Engineer Lamar Cobb first surveyed sites at Antelope Hill and the nearby town of Dome and selected the former for a bridge. The next year, his office designed a multi-span concrete girder structure and in December advertised for bids. Opting to use prison labor, the state then rejected all bids, but later redesigned and rebid the project when it became apparent that not enough prison manpower would be available. In May 1914, Perry Borchers was hired to build the bridge. He began construction in June but soon defaulted, and, after floods damaged the partially completed structure that winter, the state again undertook the project with prison laborers. The bridge was finally opened to traffic on August 18, 1915. With a poorly selected site, however, the bridge suffered extensive damage with almost every major flood on the Gila. After years of repeated reconstruction of the concrete bridge and the timber pile approach trestles, the Antelope Hill Bridge was replaced in 1929 by the Dome Bridge and abandoned.		
<b>9. SIGNIFICANCE</b> As a major crossing on a nationally important transcontinental route, the Antelope Hill Bridge is significant for its pivotal role in early Arizona transportation. The bridge is also significant in Arizona history as one of the few structures remaining from the early state period which had been built using prison labor. Finally, the bridge is technologically significant as an outstanding example of an unusual structural type. Although numerous concrete girder bridges were built throughout Arizona in the 1910s, 20s and 30s, most featured designs with four or more relatively shallow girders. The earliest bridges typically employed two-girder designs. Of these, only the Antelope Hill, Hill Canyon and Santa Cruz bridges remain. A visually striking structure, individually enrolled on NRHP in 1979, the Antelope Hill Bridge is an important early remnant of highway construction in Arizona.		

10. NAME(S) OF STRUCTURE

Antelope Hill Bridge (Gila River Bridge)

11. PHOTOS (W/ FILM ROLL & FRAME NO.) AND SKETCH MAP OF LOCATION



LOCATION MAP  
TAKEN FROM DEPARTMENT OF TRANSPORTATION  
GENERAL HIGHWAY MAP



Report of the State Engineer of Arizona, 1909-1914 (Phoenix: Arizona State Press, 1914), pages 69, 94, 129.  
 Second Biennial Report of the State Engineer of Arizona, 1914-1916 (Phoenix: The McNeil Company 1916), pages 248-544.  
 Yuma Sun: 10 April 1914, 3 June 1915, 3 September 1915, 17 September 1915, 22 October 1915, 29 October 1915.  
 A.F. Rath, "Completion of the New Suspension Dome Bridge Marks Passage of Dangerous Crossing," Arizona Highways: 12:1929:8-9.

Field inspection by Clayton Fraser, 11 December 1986.

13. INVENTORIED BY:

Clayton B. Fraser

AFFILIATION

Fraserdesign Loveland Colorado

DATE

1 April 1987