ARIZONA DEPARTMENT OF TRANSPORTATION

BRIDGE GROUP

BRIDGE DESIGN SECTION C

INITIAL BRIDGE STUDY

ADOT Project No. 88 MA 222 F0494 01L

Federal Aid Project No. N/A

State Route 88 (Apache Trail)
MP 222 - MP 229

Fish Creek Bridge
Structure No. 00027
SR 88 MP 223.50

Lewis Pranty Creek Bridge
Structure No. 00028
SR 88 MP 224.60

Dry Wash Bridge
Structure No. 00015
SR 88 MP 225.55

DATE: October 2023

Prepared By:

Stanley Consultants INC.

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INTRODUCTION

State Route 88 (SR 88) is a scenic and historic roadway located within the Arizona Department of Transportation's Southeast District in Maricopa County. SR 88 is classified as a Rural Major Collector in the Arizona Department of Transportation (ADOT) system. SR 88 (Apache Trail), milepost 222 to milepost 229, is narrow and unpaved with no pavement markings and is surrounded by rugged terrain. There is no posted speed limit. SR 88 provides access to recreation areas at Canyon Lake, Tortilla Flat, Apache Lake, Theodore Roosevelt Lake and Tonto National Monument. The roadway was closed within the project limits due to rockfall and extensive roadway damage and erosion from stormwater runoff associated with the Woodbury Fire in June 2019. ADOT is focused on re-opening the road and improving resiliency.

This Initial Bridge Study is prepared in conjunction with a Design Concept Report and Environmental Overview. The SR 88 study was funded by the state. Design and construction are not included in ADOT's 2024-2028 Five-Year Transportation Facilities Construction Program.

This Initial Bridge Study details the Recommended Alternative per the Design Concept Report at three bridge locations along SR 88: Fish Creek, Lewis & Pranty Creek and Dry Wash.

PROJECT INFORMATION

ADOT Project No.:	F0494 01L
Federal Aid Project No.:	N/A
Name of Project:	State Route 88 (Apache Trail), MP 222 – MP 229
Project Mileposts:	MP 222 to MP 229
Type of Project:	Design Concept and Resiliency Study
Route Numbers:	SR 88

GENERAL PROJECT IMPROVEMENTS

Improvements per the Recommended Alternative include corrective actions to improve service life of the existing bridges and to increase resiliency from future weather events. Preservation of the existing historic bridges will be accomplished by repairing or rehabilitating deficiencies in the existing structural members, reducing risk of Fracture Critical Members (FCM), improving deck sustainability and live load capacity and improving bridge approach markers and reducing or eliminating approach roadway erosion.

PROJECT LOCATION

The project is located within Maricopa County along SR 88 between MP 222 and MP 229. SR 88 runs from Idaho Road in Apache Junction, Arizona, east to SR 188 near Roosevelt Dam, and is known as the Apache Trail. The corridor is orientated primarily southwest to northeast and the project is entirely within the Tonto National Forest (TNF), north of the Superstition Wilderness Area.

See Figures 1 and 2 for a Project Location Map and Structure Vicinity Map outlining the locations of Fish Creek Bridge (MP 223.50), Lewis Pranty Creek Bridge (MP 224.60) and Dry Wash Bridge (MP 225.55).

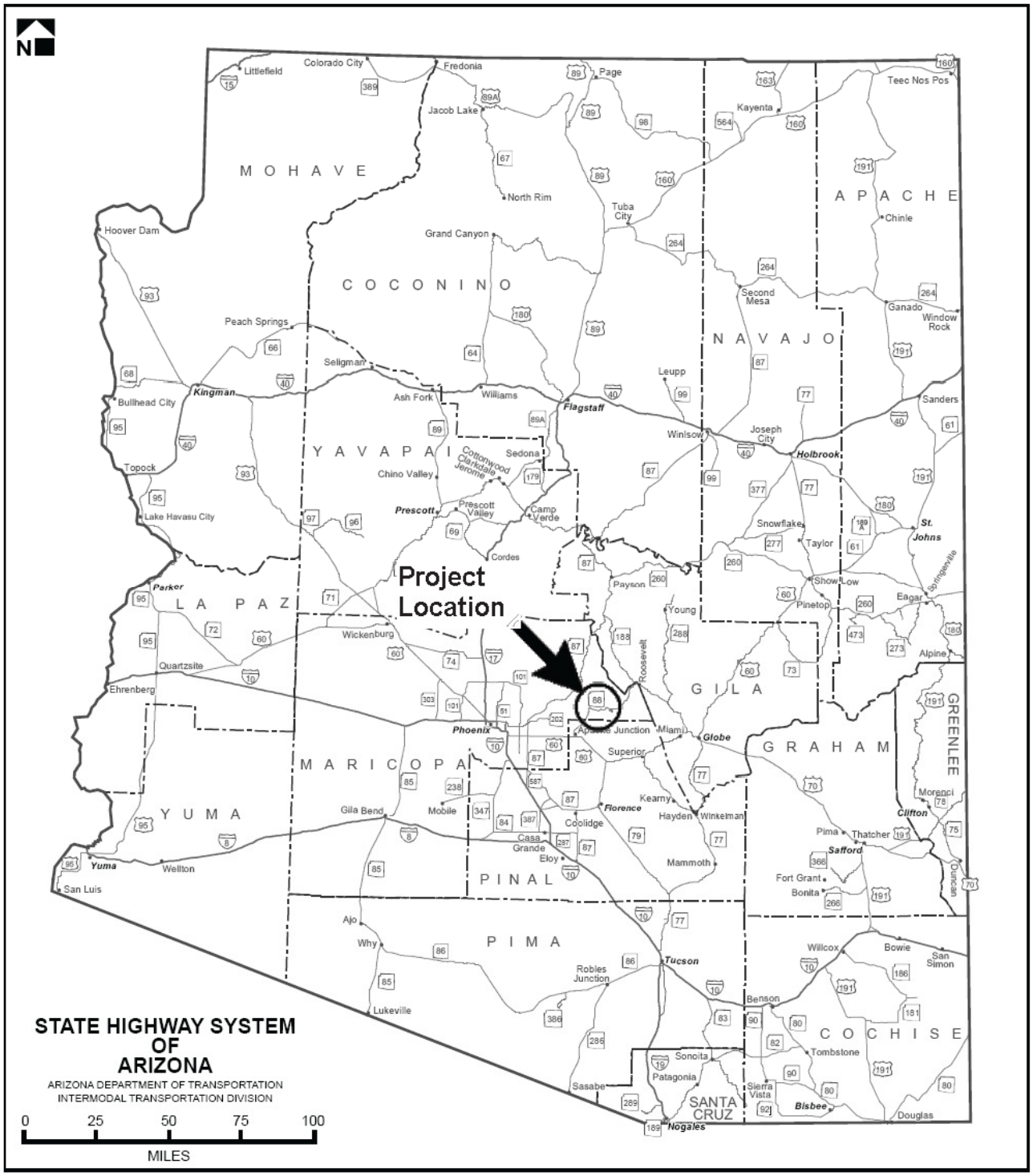


Figure 1: Project Location Map

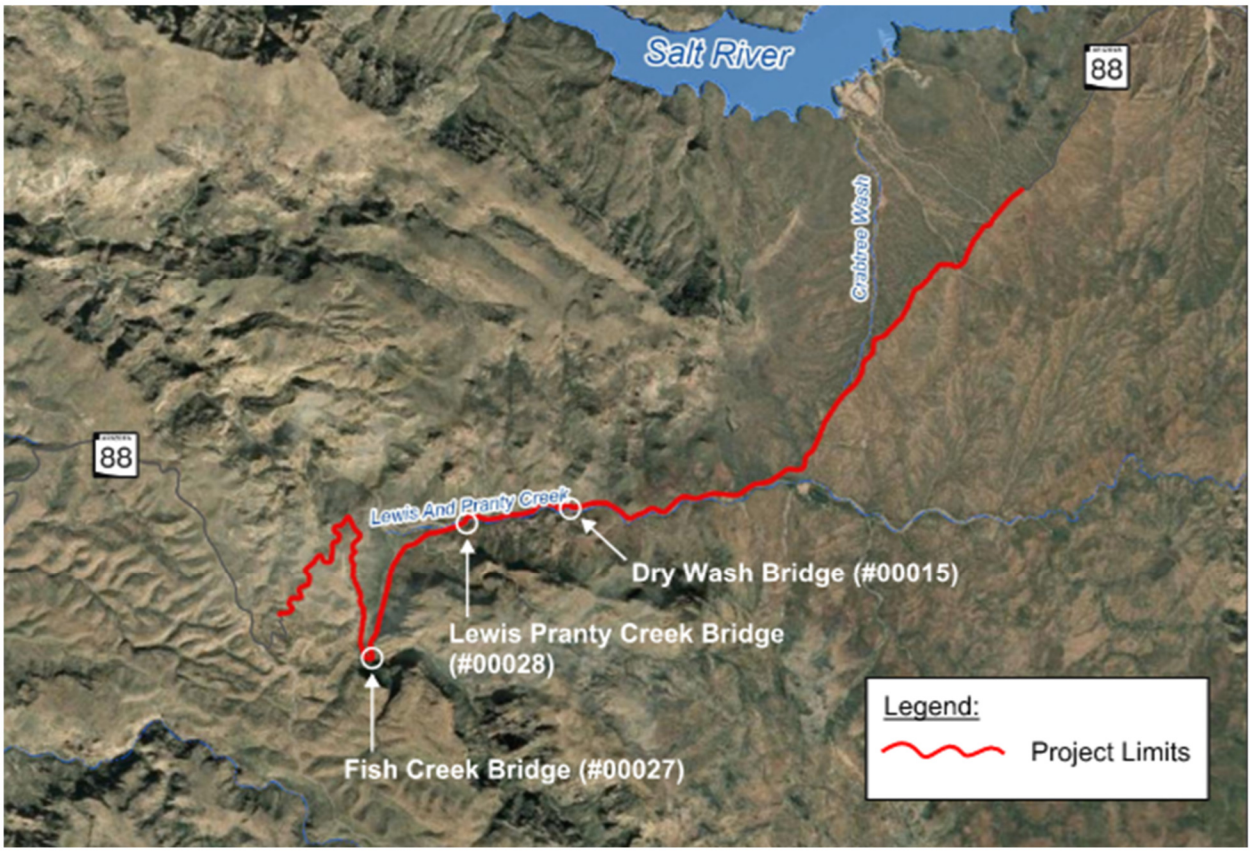


Figure 2: Structure Vicinity Map

EXISTING ROADWAY AND BRIDGE GEOMETRY

The existing traversable roadway width varies from approximately 8’ to 32’. The clear roadway width at the bridges is approximately 15’ and can accommodate only one vehicular lane. The general vertical alignment within the project limits consists of vertical grades that vary from 0% to approximately 10%. The elevation drops from west to east, with an average project elevation of 2500 feet.

The existing **Fish Creek Bridge (Str No. 00027)** is a single-span, steel, rigid connected Warren pony truss with a structure length of 74’-0 and no skew. The upper chord is constructed using two channels with a cover plate and lacing and the lower chord using two angles with batten plates. Vertical and diagonal members are two and four angles, respectively, with batten plates and steel angle knee braces for lateral bracing. The floor beams are steel I-beams made composite with a cast-in-place concrete deck. The out-to-out deck width is 16’-0 with 6” curbs for a clear roadway width of 15’-0. The guardrails are composed of two steel angles attached directly to the vertical members of the truss. Abutment 1 is the south abutment and is constructed of a concrete cap founded on bedrock. The north abutment is Abutment 2 and is a concrete cap on masonry wall founded on bedrock. Wingwalls are constructed of stone masonry and both abutments are pinned, restraining transverse and longitudinal displacements but allowing rotation.

The existing **Lewis Pranty Creek Bridge (Str No. 00028)** is a single-span, steel, rigid connected Warren pony truss with a structure length of 60'-0 and no skew. Construction of the truss is similar to Fish Creek Bridge but without lateral knee bracing. The out-to-out deck width is 14'-0 with 6" curbs for a clear roadway width of 13'-0. The north and south abutments are constructed of concrete caps on masonry abutment walls and masonry wingwalls. The masonry abutment walls are founded on spread footings on bedrock. Both abutments are pinned, restraining transverse and longitudinal displacements but allowing rotation. Hydraulic analysis has revealed that flows in the Lewis and Pranty Creek could overtop the bridge for the existing 25-year flows and will overtop the bridge for the 2030 25-year flows.

ADOT inspection documents identify Fracture Critical Members for Fish Creek Bridge and Lewis Pranty Creek Bridge. All the primary bottom chord members, transverse floor beams and some secondary vertical and diagonal members are fracture critical. Fracture critical members are tension members that would cause partial or total collapse of the bridge if they were to fail. It is possible to substantially reduce the risks associated with all FCM primary bottom chord members and transverse floor beam members with careful transverse and longitudinal design and detailing of the deck replacement.

The existing **Dry Wash Bridge (Str No. 00015)** is a single-span, steel I-beam stringer bridge with a structure length of 32'-0 and no skew. The are seven steel I-beam stringers that are constructed of back-to-back C-channels with bottom flange channel strap plates. The top flanges of the steel stringers are embedded into the cast-in-place concrete deck and spaced at 2'-6. The out-to-out deck width is 16'-6 with an integrally poured parapet and curb of 1'-3 for a clear roadway width of 14'-0. The east and west abutments are constructed of concrete caps on coursed stone ashlar abutments with stone rubble. The stone masonry abutment walls are founded on spread footings on bedrock.

The most recent biennial inspection of the three bridges was in 2018. Inspection reports for the periodic inspections in 2020 and 2022 indicate inspections were not performed due to the road closure inaccessibility. The next biennial inspection should occur in 2024. The inspection reports indicate the structures are in fair condition with numerous repairable work items. Deficiencies include rutting and erosion in approach roadway, impact damage to truss portal members, map cracking and minor spalling of the decks, spalling of concrete curbs, flaking paint on steel members and minor surface corrosion to steel members and bearings.

Record drawings for the original structures are provided in Appendix A. The original construction project numbers are unavailable and record drawing reference numbers are illegible. Inspection reports are provided in Appendix B. Per ADOT State Inventory, reported construction dates for Fish Creek Bridge, Lewis Pranty Creek Bridge and Dry Wash Bridge are 1928, 1922 and 1928, respectively. However, the Historic Property Inventory Forms report that the Arizona Highway Department undertook Apache Trail reconstruction starting in 1922 and that these three bridges were opened to traffic in 1923. Additionally, the recorded dates of 1922 and 1923 are shown in the record drawings.

PROPOSED ROADWAY AND BRIDGE GEOMETRY

Per the Recommended Alternative, the existing structures will remain. Improvements to the roadway will not change the horizontal alignment or existing bridge geometry. However, it is recommended that the Lewis Pranty Creek Bridge be raised to increase resilience and strengthen the bridge against overtopping by storm flows.

DESIGN SPECIFICATION AND LOADING

The technical design specifications and guidelines followed in the development of this Initial Bridge Study report are:

- *Arizona Department of Transportation Standard Specifications for Road and Bridge Construction*, Edition of 2021
- *ADOT Bridge Design Guidelines*
- *AASHTO LRFD Bridge Design Specifications*, 9th Edition, 2020
- *AASHTO Manual for Bridge Evaluation*, 3rd Edition, 2018
- Loading Class – HL-93 with no Permit Vehicle Load
- Arizona Department of Transportation Geotechnical Design Policies

BASIS OF BRIDGE FOUNDATION RECOMMENDATIONS

Geotechnical Assessment, State Route 88 (Apache Trail), MP 222 to 229 by Ethos Engineering dated March 30th, 2023, provided field observations of the existing bridge foundations. No subsurface explorations were performed by Ethos Engineering. From the visual assessments, none of the bridge foundations appeared to be damaged from recent flooding. Scour assessment reports for all three structures indicate the bridges are supported on spread footings founded on bedrock. The competency of the bedrock should be confirmed during final investigation with mapping and borings. The scour assessment reports are provided in Appendix D.

Rehabilitation is not anticipated to extend into the bridge foundations. However, preliminary foundation recommendations are subject to change per final investigations and subsurface explorations.

DEVELOPMENT CONSIDERATIONS

DRAINAGE

All three existing bridges have 3” diameter deck drains. The deck drains outlet directly into the creeks below. It is recommended that larger deck drains be installed in the new concrete decks to avoid clogging.

UTILITIES

There are no existing utilities in the vicinity of the three bridges.

RIGHT-OF-WAY

SR 88 is on an ADOT easement from the Tonto National Forest. The repairs and rehabilitation of the bridges are expected to stay within the SR 88 easement.

ENVIRONMENTAL

Fish Creek Bridge, Lewis Pranty Creek Bridge and Dry Wash Bridge are all listed in the State of Arizona Historic Bridge Inventory. State of Arizona Historic Property Inventory Forms are provided in Appendix C. Rehabilitation and/or repairs will follow the Secretary of the Interior's Standards for the Treatment of Historic Properties for all three bridge locations. Fish Creek Bridge and Lewis Pranty Creek Bridge are listed on the National Register for Historical Places and any repair or rehabilitation requires coordination with the State Historic Preservation Office. Examination for the presence of lead-based paint or asbestos-containing materials has not been performed. An environmental clearance document will be prepared for the project during final design.

MAINTENANCE OF TRAFFIC

Currently, SR 88 from MP 222 to MP 227.2 is closed to traffic. The remaining study segment, MP 227.2 to MP 229, was re-opened to traffic in 2022 to provide access to the Reavis Ranch Trailhead.

ACCELERATED BRIDGE CONSTRUCTION

Accelerated Bridge Construction methods may be implemented to aid the construction of the replacement concrete decks.

RECOMMENDED ALTERNATIVE

The Recommended Alternative is a composite of Alternatives 1 through 3 as outlined in the Final DCR. For the bridge components of this study, the Recommended Alternative strikes a balance among historic preservation and correction of observed deficiencies to extend the useful service life of the bridges. The Recommended Alternative provides medium resilience to future storm events and medium risk of future closures.

Replacement of the century old concrete decks with modern reinforcing steel and concrete materials would substantially increase the useful service life of the bridges. The deck replacements would maintain the existing out-to-out deck widths and clear roadway widths but would be designed with thinner deck sections. For a given thickness, modern cast-in-place reinforced concrete materials could provide roughly 200% of the strength of the existing concrete decks and precast prestressed concrete materials could provide roughly 400%. Replacement of the decks with a thinner deck section would reduce dead load and increase live load capacity. Precast, prestressed concrete deck panels with nominal longitudinal post tensioning at Fish Creek Bridge and Lewis Pranty Creek Bridge could help relieve tension stress in the fracture critical members of the trusses. Composite deck section behavior with longitudinal post tensioning could prestress the bottom chord members of the truss and reduce the truss system tension stress.

As previously mentioned, the Lewis Pranty Creek Bridge could be overtopped by existing 25-year flows and will be overtopped by the 2030 25-year flows. Raising the Lewis Pranty Creek Bridge after the deck is removed would be optimal. This would reduce the weight when lifting the steel truss framework, provide better access to prepare and install riser pedestals at the bearing locations and clean the support bearings.

Figures 3 and 4 below illustrate some of the improvements at Lewis Pranty Creek Bridge. Improvements at Fish Creek Bridge and Dry Wash Bridge are similar. The intent is to extend the service life of the bridge while also maintaining the structure's historic character.

Figure 3: Existing Conditions at Lewis Pranty Creek Bridge

Figure 4: Proposed Improvements at Lewis Pranty Creek Bridge

Below is a tabulated summary of implementation work items for the three bridges.

Table 1: Suggested Preferred Alternative Work Items

Work Item	Fish Creek Bridge MP 223.50 (Str No. 00027)	Lewis Pranty Creek Bridge MP 224.60 (Str No. 00028)	Dry Wash Bridge MP 225.55 (Str No. 00015)
Install ADOT standard approach slabs to reduce rutting and debris transport onto the deck.	✓	✓	✓
Install high visibility object markers to guide vehicles through bridge portals.	✓	✓	
Deck Replacement – Remove and replace reinforced concrete deck.	✓	✓	✓
Remove and replace railing with more robust "rub rails" to protect truss members.	✓	✓	
Repair coating deficiencies and minor corrosion. Repair bent, damaged or missing components.	✓	✓	✓
Clean abutment seats and bearing assemblies.	✓	✓	
Repair abutment concrete deficiencies.		✓	✓
Raise bridge and install riser pedestals.		✓	

COST ESTIMATE

Estimated costs are based on unit prices from ADOT's Construction Cost Data Base and recently bid construction projects in the area. Unit prices have been adjusted to account for the remote location, access limitations and constructability restrictions.

Table 2: Estimated Structure Costs

Alternative	Cost	Cost per SF
Fish Creek Bridge (Structure No. 00027)	$250,000	$211.15
Lewis Pranty Creek Bridge (Structure No. 00028)	$200,000	$238.10
Dry Wash Bridge (Structure No. 00015)	$185,000	$350.38

APPENDIX A

Record Drawings

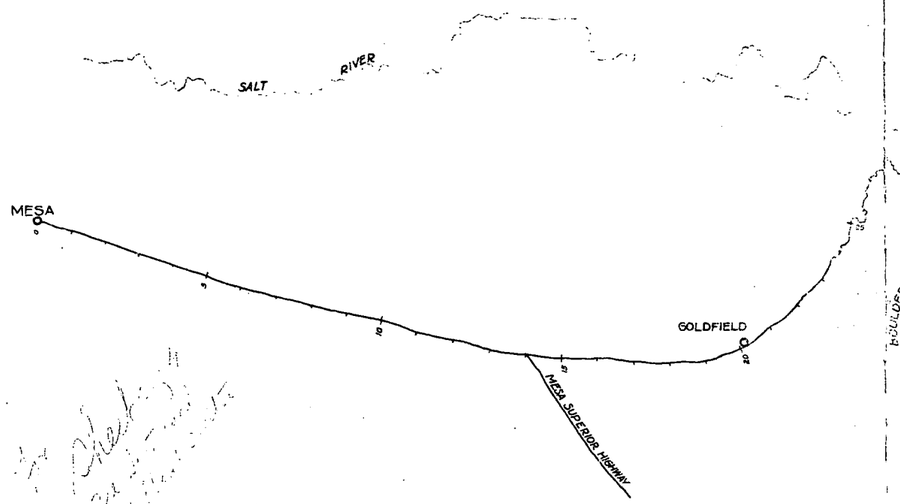
As Built - JRP

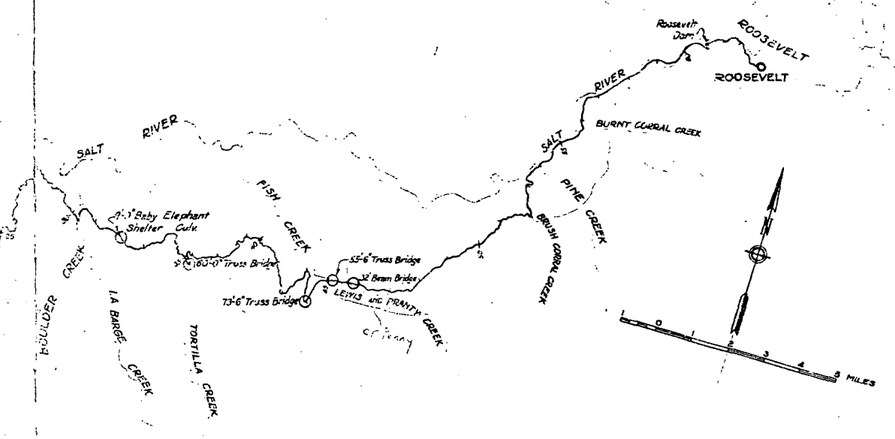
Construction Notes:

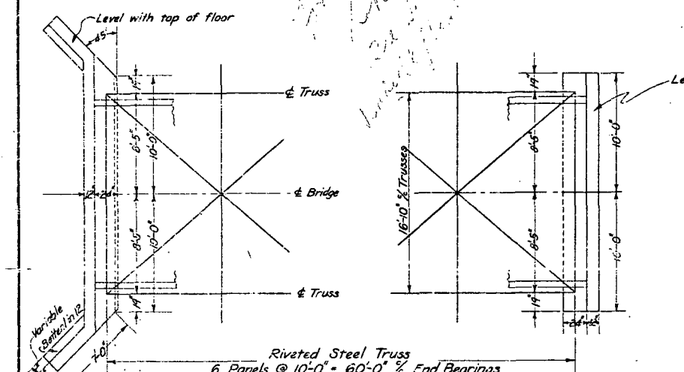
All Structural Steel to be given two coats of light gray paint after erection. Quality of paint used subject to the approval of the State Engineer.

Timber Floor and Stringers for Bridge No. 2 shall be of No. 1 Common Oregon Pine, free from loose knots and other defects.

For wearing surface on Bridge No. 2, Grade "D" Asphalt and screenings passing ¼-inch mesh shall be used.



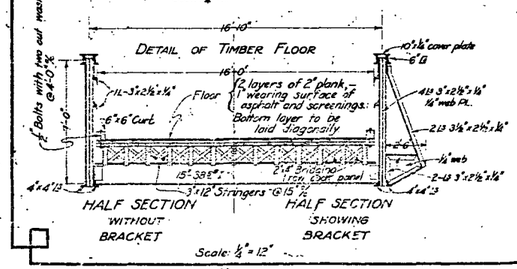




No. 2
BRIDGE ACROSS SOUTH BRANCH OF ASH CREEK
NEAR MILE 35
Scale: 1" = 6'-0"

BRIDGE # 7-1-88-15A

SECTION OF NEW CONC. ABUTMENT
Scale: ½" = 12"



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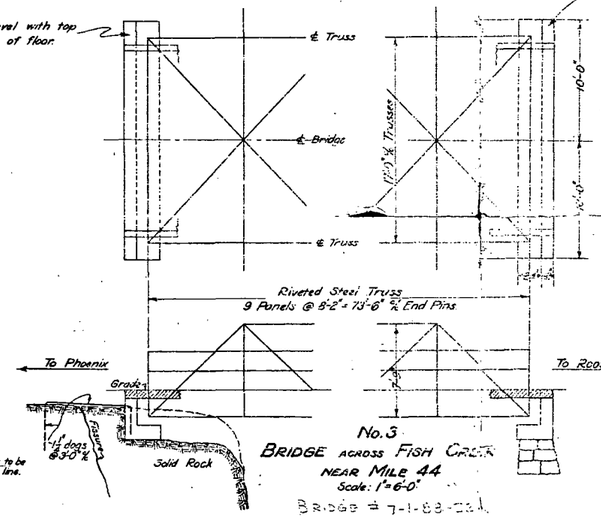
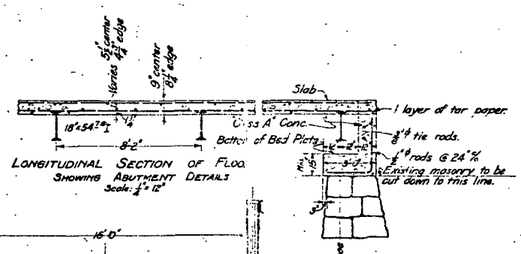
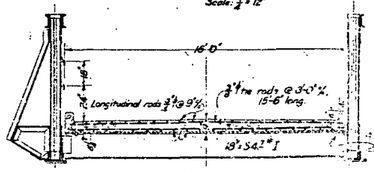


No. 3
BRIDGE ACROSS FISH CREEK
NEAR MILE 44
Scale: 1" = 6'-0"

BRIDGE # 7-1-88-22A



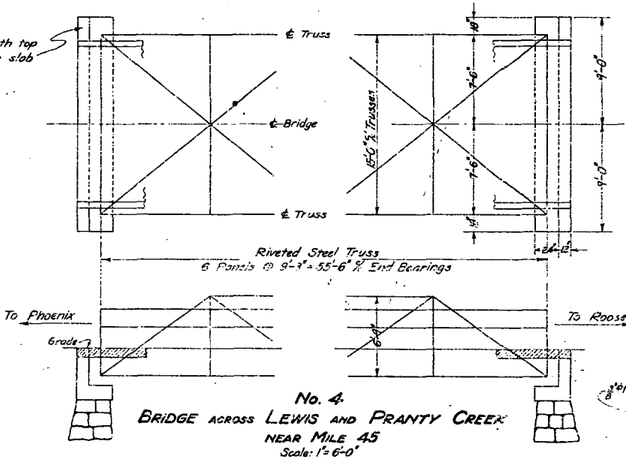
LONGITUDINAL SECTION OF FLOOR SHOWING ABUTMENT DETAILS
Scale: ½" = 12"



DETAIL OF CONCRETE FLOOR

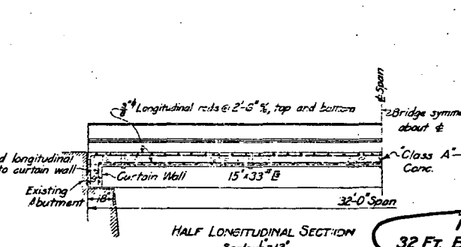
HALF SECTION SHOWING BRACKET | HALF SECTION WITHOUT BRACKET

Scale: ½" = 12"



No. 4
BRIDGE ACROSS LEWIS AND PRANTY CREEK
NEAR MILE 45
Scale: 1" = 6'-0"

BRIDGE # 7-1-88-24A

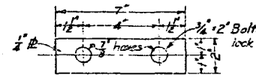


HALF LONGITUDINAL SECTION
Scale: ½" = 12"

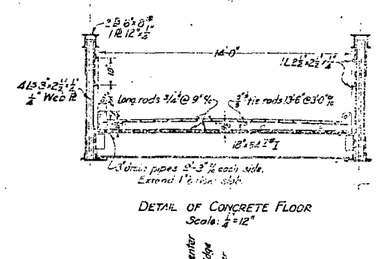
CROSS SECTION
Scale: ½" = 12"

No. 5
32 Ft. BEAM BRIDGE
NEAR MILE 46
Scale: ½" = 12"

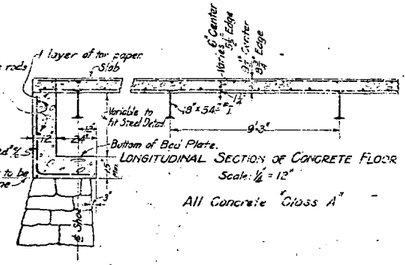
BRIDGE # 7-1-88-24B



DETAIL OF BATTEN PLATE
5G REQUIRED
Scale: 1" = 12"



DETAIL OF CONCRETE FLOOR
Scale: ½" = 12"



LONGITUDINAL SECTION OF CONCRETE FLOOR
Scale: ½" = 12"

All Concrete "Class A"

ARIZONA HIGHWAY DEPARTMENT

BRIDGES ON APACHE TRAIL

BETWEEN MILE POSTS 32 AND 46

MARICOPA COUNTY

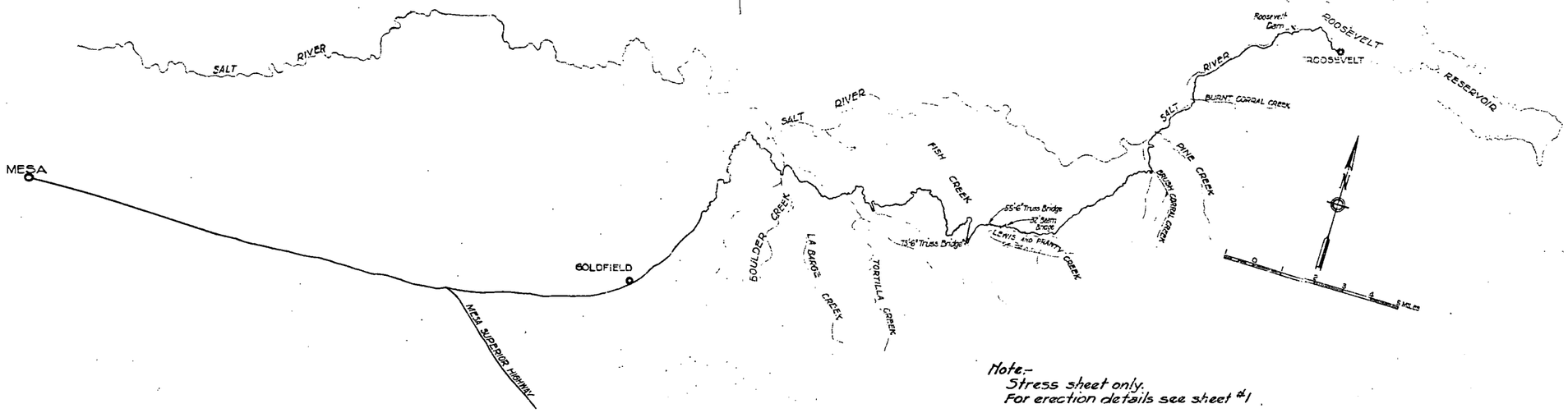
SCALES AS SHOWN

F. R. GOODMAN — STATE ENGINEER

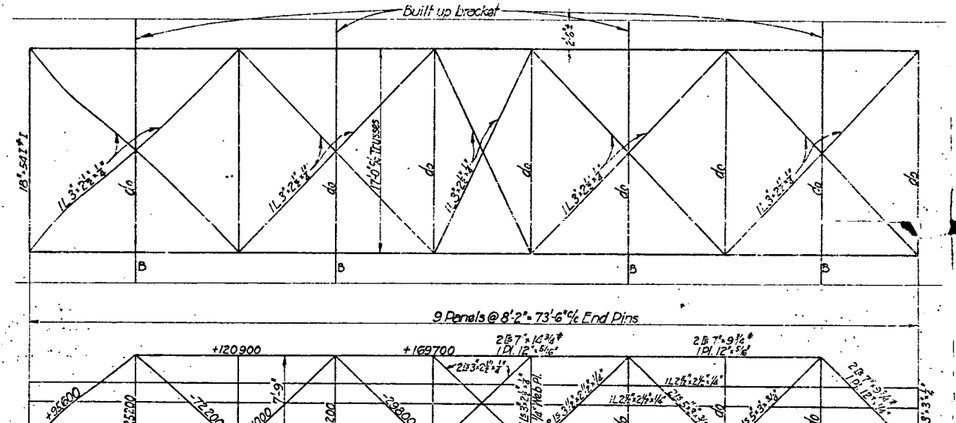
JUNE 13, 1923.

Sheet #1 of 4

As Built - JRP

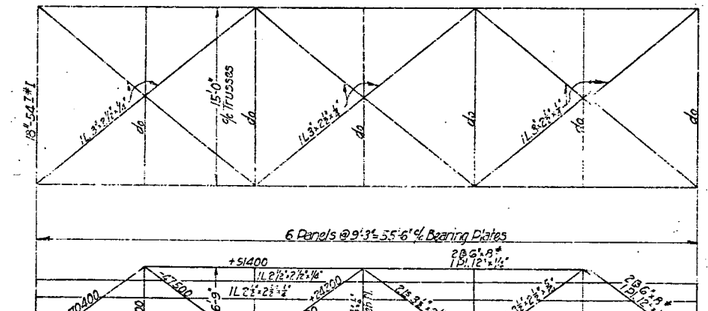


Note.-
Stress sheet only.
For erection details see sheet #1

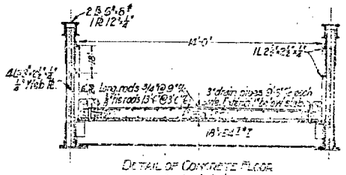


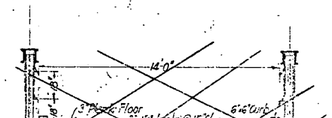
BRIDGE #3
BRIDGE ACROSS FISH CREEK
NEAR MILE 44
Scale 1"=6'-0"

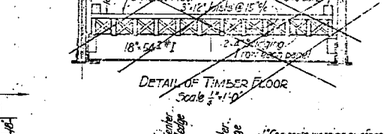
DETAIL OF TIMBER FLOOR
DETAIL OF CONCRETE FLOOR

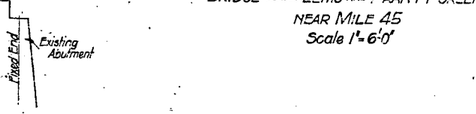


BRIDGE No. 4
BRIDGE ACROSS LEWIS AND PRANTY CREEK
NEAR MILE 45
Scale 1"=6'-0"

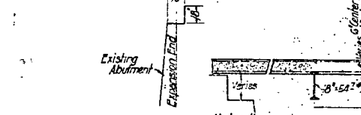




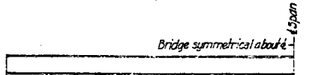




HALF LONGITUDINAL SECTION
Scale ½"=1'-0"



CROSS SECTION
Scale ½"=1'-0"



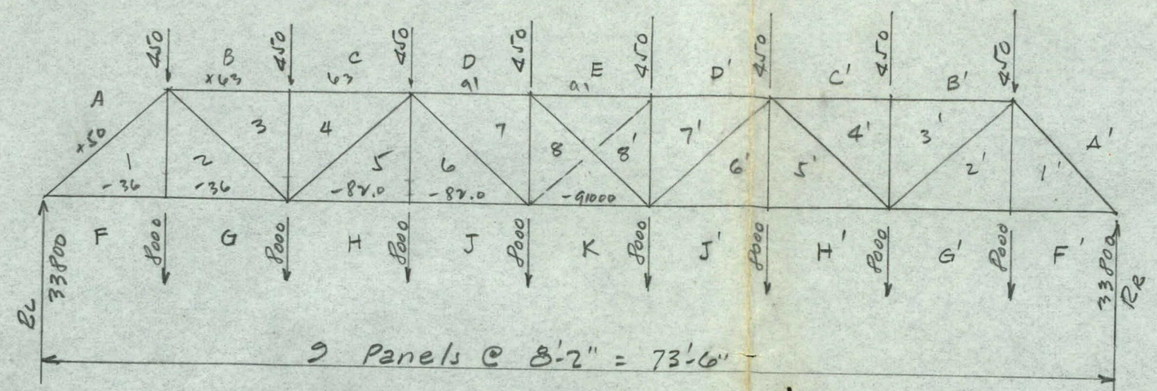
DETAIL OF BATTEN PLATE
56 REQUIRED
Scale 3"=1'2"

BRIDGE No. 5
32 FT. BEAM BRIDGE
NEAR MILE 46
Scale ½"=1'-0"

Merrill Butler - Bridge Engineer

ARIZONA HIGHWAY DEPARTMENT
BRIDGES ON APACHE TRAIL
IN VICINITY OF FISH CREEK
MARICOPA COUNTY
THOS. MADDOCK STATE ENGINEER
SCALE AS SHOWN FEBRUARY 1922

Sheet #4 of 4.



D.L. TRUSS DIAGRAM - Scale 1" = 10'

Top chord. A = 7.76 □"

$\frac{\ell}{r} = \frac{98}{2.35} = 42$

Use 15000 p.s.i.

$f_s = \frac{51}{7.76} = 11.7$ -

available for LL = 3300 p.s.i.

$3.300 \times 7.76 \times 7.8^{\pm} = 200$ 'K ea truss

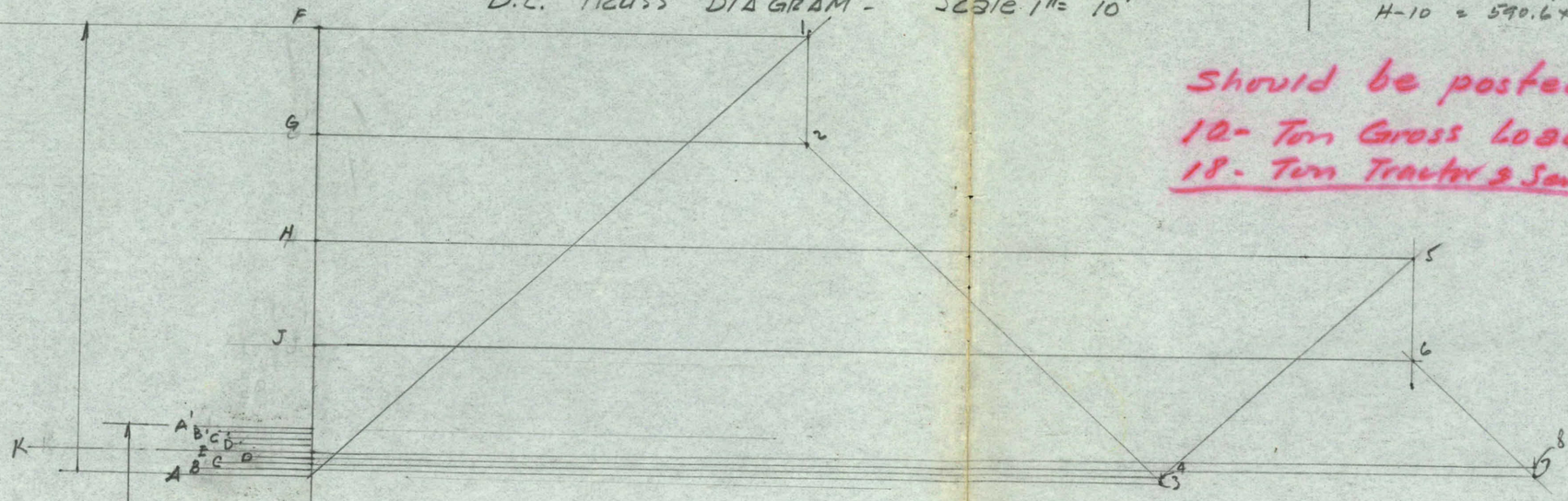
LLM (do not exceed) = 400'K -

design evidently contemplated.

H-10 Loading —

H-10 = 590.6 × .667 = 396'K ✓

Should be posted for.
10- Ton Gross Load - (single vehicle)
18- Ton Tractor & Semi Combination



Net Area Lower chord = 4L' 5 × 3½ × 5/16" : 2.56 × 4 = 10.24 □"

4 holes - 1.88

8.36 □" net.

$f_s = \frac{91,000}{8.36} = 10870$ p.s.i.

Available for LL = 16000 − 10870

5130 p.s.i. = 8.36 × 5130 = 43,300 # tens. total.

then M cannot exceed $43.3 \times 7.8^{\pm} = 344$ 'K per truss -

75'-span - LL M on for H-15 / Lane = 590.6 × .582 = 688 'K

Conclusion:- The truss is good for H-15 Loading
(Not good for HS-15 44) when limited by Lower chord.

File № 27 H. № 88-223.50
Fish Creek Bridge -

Dead Load per panel per truss -

Top ch. - $\frac{7.76}{144}$ x 490 x 8.16 = 215# ✓

Bot. ch. 4 x 8.7 x 8.16 = 283

Web. Vert: [(4 x 4.5) + (5.2)] x 8 = 187 (18 + 5.2)

" Diag 2 x 9.8 x $\frac{8}{.7071}$ = 221

Floor beams - 54.7 x 8.5 = 465

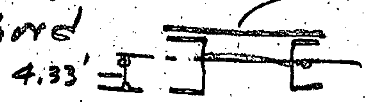
sub. total = 1371
+ 10% for Details = 137
Σ 1508

Conc. Curb - .5 x .58 x 150 x 8.16 = 355
Conc. Curb - .67 x 8.08 x 150 x 8.16 = 6590
DL / panel / truss ⟶ 8453

215
187
402
10% 40
442
say 453 ✓ top
8000 ✓ bott.

6.25
4.33
1.92

Top Chord



$A = 7.76\ in^2$
$r\text{-}min = 2.35$
$l = 98''$

Lower chord.

APPENDIX B

Inspection Reports

Date Printed : 02/08/2019

ARIZONA DEPARTMENT OF TRANSPORTATION

BRIDGE GROUP

Structure Inventory and Appraisal

Structure Number : **00027** Structure Name : **Fish Creek Bridge** Feature Under : **Fish Creek**

Route : **88** MP : **223.5** Road Name : **SR 88** Agency: **ADOT** Location : **27.7 mi E Jct US 60**

LOCATION INFORMATION

N1-State Code :	049
N2-State Hwy District :	Southeast
N3-County Code :	013
N4-Place Code :	00000
N16-Latitude:	33 Deg 31 Min 29.28 Sec
N17-Longitude :	111 Deg 18 Min 25.56 Sec
N98-Border St Code - % Resp:	
N99-Border Bridge Number:	

INVENTORY ROUTE DATA

N19-Detour Length (miles):	99	
N20-Toll:	3	
ROADWAY RECORD	ON	UNDER
N5-Inv Rte:	1 3 1 00088 0	-
N28-Lanes:	1	0.00
N10-Inv Rte Min Vert Clr (feet):	99.99	
N11-Inv Rte Milepoint:	223.59	
N26-Functional Class:	07	
N29-Avg Daily Traffic:	170	
N30-Year of ADT:	2017	
N47-Inv Rte Tot Horiz Clr (feet):	15.0	
N100-Defense Hwy:	0	
N101-Parallel Bridge:	N	
N102-Direction of Traffic:	3	
N104-Hwy System:	0	
N109-Percent Truck Traffic:	14	
N110-National Truck Network:	0	
N114-Future ADT:	180	
N115-Year of Future ADT:	2038	
A200-Is N5 the Princ. Rte?	Y	

RESPONSIBILITY

N21-Maint Responsibility:	01
N22-Bridge Owner:	01
A203-ADOT Org Number:	5231
A229-Agency:	ADOT

NAVIGATION

N38-Navigation Control:	0
N39-Nav Vert clr (feet):	0.00
N40-Nav Horiz Clr (feet):	0.00
N111-Nav Pier/Abut Prot:	
N116-Nav Min Vert Clr (feet):	

GENERAL DATA

N33-Bridge Median:	0
N34-Skew:	0
N35-Structure Flared:	0
N37-Historical Significance:	1
N107-Deck Str Type:	1
N108-Wear Surf Prot System:	1 0 0
A201-Wear Surf Thickness (inches)	

DIMENSIONS

N32:Appr Rdwy Width (feet):	15
N48-Max Span Length (feet):	74
N49-Structure Length (feet):	74
N50a-Lt Curb/Swlk Width (feet):	0.5
N50b-Rt Curb/Swlk Width (feet):	0.5
N51-Br Width Curb-Curb (feet):	15.0
N52-Deck Width Out-Out (feet):	16.0
N112-NBIS Br Length?	Y

VERTICAL & HORIZONTAL CLEARANCE

N53-Min Vert Over Clr (feet):		99.99
N54-Min Vert Under Clr (feet):	N	0.00
N55-Min Lat Under Clr Rt (feet):	N	0.0
N56-Min Lat Under Clr Lt (feet):		0.0

SERVICE, TYPE, and SPAN INFORMATION

N42-Service Type:	1 5
N43-Str Type, Main:	3 10
N44-Str Type, Appr:	0 0
N45-Number of Main Spans:	1
N46-Number of Appr Spans:	0

CONDITION RATINGS

N58-Deck:	6
N59-Superstructure:	7
N60-Substructure:	7
N61-Channel:	8
N62-Culvert:	N

APPRAISAL RATINGS

N67-Struct Evaluation:	7
N68-Deck Geometry:	2
N69-Underclearance Rtg:	N
N71-Waterway Adequacy:	8
N72-Appr Rdw Align:	3
N36-Traffic Safety Features:	0 0 0 0

BRIDGE SCOUR DATA

N113-Scour Critical Rtg:	8
A202-Foundation Type:	3
A220-Found Embed (feet):	0
A221-Scour Countermeasure:	000

LOAD, RATE, and POST

N31-Design Loading:	2
N41-Open, Post, Close:	A
N63-Method Used for Oper. Rtg:	2
N64-Operating Load Rtg/Factor:	48
N65-Method Used for Inv. Rtg:	2
N66-Inventory Load Rtg/Factor:	34
N70-Bridge Posting:	5
N103-Temp Str Designation:	
A211-Posted Limit (Tons):	
A222-Date of Load Rtg:	05/05/1905
A233-Posted Vert Clr NB/EB (ft-in):	0-0
A233-Posted Vert Clr SB/WB (ft-in):	0-0

PROPOSED IMPROVEMENTS

N75-Type of Work:	31 1
N76-Length of Str Imp (feet):	100
N94-Br Improv Cost (x1000):	$96
N95-Rdwy Improv Cost (x1000):	$150
N96-Total Project Cost (x1000):	$776
N97-Year of Cost Estimate:	2018

CONSTRUCTION PROJECT DATA

N27-Year Built:	1928
N106-Year of Reconstruction:	
A204-Orig Project Number:	0
A205-Orig Project Station:	1467+00.00
A223-TRACS Number:	
A225-Deck Area (sq. feet):	1184

INSPECTION

N90-Inspection Date:	09/08/2018
N91-Insp Freq (months):	24
A207-Inspection Quarter:	3
Inspection Type:	FC In-Depth
A228-Next Insp Date:	September 2020

CRITICAL FEATURES

N92A-Fracture Critical:	Y 24
N92B-Underwater Insp:	N
N92C-Special Insp:	N
N93A-Date Fract Crit Insp:	09/08/2018
N93B-Date Underwater Insp:	
N93C-Date Spec Insp:	
A234-Steel In-Depth Insp Freq(months):	24

CULVERT INFORMATION

A217-Culv Barrel Height(feet):	0
A218-Culv Length (feet):	0
A219-Culv Fill Height (feet):	0

BRIDGE RAILING

A206a,b,c- Bridge Rail Type, Geometric Conform, and Structural Conform:	600

SUFFICIENCY RATING

Sufficiency Rating:	F	65.50

A300 - GENERAL COMMENTS

A300: This bridge is on the National Register for Historical Places. Any repair to this bridge should be coordinated with State Historical Preservation Office (SHPO).

BRIDGE GROUP

Bridge Maintenance Report

Structure Number :	**00027**	Structure Name :	**Fish Creek Bridge**	Inspected by :	**HDR-Tucker/HDR**
Route :	**88**	Road Name :	**SR 88**	Inspection Type:	**FC In-Depth**
MP :	**223.5**	Agency :	**ADOT**	Inspection Date :	**Saturday, September 8, 2018**
ADOT District:	**Southeast**	District Org:	**5231**	Next Insp. Due By :	**September 2020**

Work Candidate ID: 0C6111A-31D9-101018-58AFC1D6C7
Action: 1009 Bearings-Clean Assemblies / Paint
Estimated Quantity:
Estimated Cost: $0.00
A212 - Repair Priority: 3

A216 - Actual Completion Cost $

A215 - Completion Date:

Remove debris around the northwest and southeast bearings. See Photo F.

Work Candidate ID: 0C6111A-31D9-101018-E0FC68BCBF
Action: 1004 Approach Roadway
Estimated Quantity:
Estimated Cost: $0.00
A212 - Repair Priority: 3

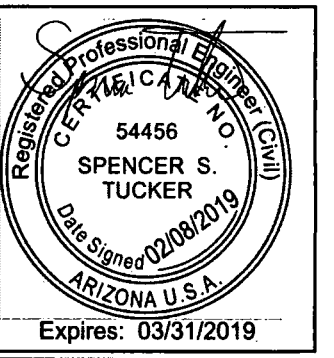
A216 - Actual Completion Cost $

A215 - Completion Date:

Re-grade both approaches to remove rutting. See Photo E.

BRIDGE GROUP

Inspection Report



Expires: 03/31/2019

Structure No.:	00027	Structure Name:	Fish Creek Bridge	Inspected by :	HDR-Tucker/HDR
Route :	88	Road Name:	SR 88	Inspection Type:	FC In-Depth
MP :	223.5	Agency:	ADOT	Inspection Date :	Saturday, September 8, 2018
ADOT District:	Southeast	District Org:	5231	Next Insp. Due By :	September 2020

NBI Condition Ratings

N58 Deck :	6 Satisfactory	N61 Channel:	8 Protected
N59 Superstructure :	7 Good	N62 Culvert :	N N/A (NBI)
N60 Substructure :	7 Good		

Appraisal Ratings

N67 Structural Evaluation:	7 Above Min Criteria	N71 Waterway Adequacy:	8 Equal Desirable
N68 Deck Geometry:	2 Intolerable - Replace	N72 Approach Roadway Align.:	3 Intolerable - Correct
N69 Vert. & Horiz. Clearances:	N Not applicable (NBI)	N113 Scour Critical:	8 Stable Above Footing

Inspection Notes

Roadway/Safety:

1. The dirt approach roadway has rutting up to 6 inches deep in the north approach. The transition at the south approach is smooth. See Photo A. A minimal amount of fill material spilling onto the deck at the south approach. The transition at the north approach is uneven due to 4 inches of rutting in the roadway adjacent to the bridge near the centerline of the bridge and near the west side. See Photo E and the Maintenance Report.
2. There are no approach guardrails present at any of the four corners of the bridge.
3. The southeast object marker is leaning outward slightly, but is functioning as intended. See Photo A.
4. The northwest corner fill has minor erosion occurring adjacent to the north abutment. See Photo G.

Deck:

1. A 6 inch curb is present on both sides of the bridge. The east curb has an approximately 21-foot x full height x full width spall between panel points 1 and 4. See Photo I.
2. Deck drains are located at the front face of the curb on both sides. There is approximately 1-inch of sand and gravel against the west curb. The deck drains are clear.

Superstructure:

1. Secondary members consist of steel knee braces at Panel Points 1, 3, 6, and 8, and lower lateral bracing of the bottom chord.

Waterway:

1. Solid rock canyon. Flow is north to south.
2. Channel is dry but appears stable at the time of the inspection.

Miscellaneous Inspection Notes:

1. An in-depth and fracture critical inspection was performed by On-Call Consultant, HDR Engineering, Inc., under Contract 2013-017.03, Task Order No. 12.
2. The bridge is inventoried from south to north and the trusses identified as west truss and east truss. Panel points of the trusses and the floor beams are numbered south to north from 0 to 9.
3. Fracture critical members include: vertical members of each truss at panel points 1, 3, 6, and 8; each truss's diagonal members U1L2, U3L4, U4L5, U5L4, U6L5, and U8L7; the bottom chords of each truss; and the floor beams. However, since the deck is continuous over the floor beams and the floor beams are spaced at 8 ft. - 2 in., the floor beams are not required to be deemed fracture critical. NDT was not needed during this inspection.
4. No traffic control was required for the inspection of this bridge.
5. The structure was inspected using rope access climbing in conformance with SPRAT Safe Practices for Rope Access Work.
6. There were no previous repairs to verify. There are no new repairs recommended.
7. There were two previous maintenance items recommended in the previous inspection report that were not completed, and are repeated.
   a. Remove debris around the northwest and southeast bearings. See Photo F.
   b. Re-grade both approaches to remove rutting. See Photo E.
8. For the List of Photos, see the Supplemental Report.

Element No.	Element Description	Quantity	Units	Env.	Condition State 1	2	3	4
12	Re Concrete Deck	1184	sq feet	0	784	400	0	0
Description: Cast-in-Place Reinforced Concrete Deck 1. Water staining exists on exterior edges of the deck underside, especially near the deck drains. See Photo H.								
1080	*Delamination/Spall/Patched Area*	10	each	0	0	10	0	0
1. The fasciae have minor spalls at random locations.								
1130	*Cracking (RC and Other)*	390	each	0	0	390	0	0
1. Narrow-to-medium width dense map cracking and scaling observed throughout the top of the deck. See Photo C. 2. Random hairline to narrow longitudinal cracks exist in the deck underside. See Photo D.								

BRIDGE GROUP

Inspection Report

Structure No. :	00027	Structure Name :	Fish Creek Bridge	Inspected by :	HDR-Tucker/HDR
Route :	88	Road Name :	SR 88	Inspection Type:	FC In-Depth
MP :	223.5	Agency :	ADOT	Inspection Date :	Saturday, September 8, 2018
ADOT District:	Southeast	District Org:	5231	Next Insp. Due By :	September 2020

Element No.	Element Description	Quantity	Units	Env.	Condition State 1	2	3	4
120	Steel Truss	148	feet	0	145	3	0	0

Description: Steel Pony Trusses
The bridge is inventoried from south to north and the trusses identified as west truss and east truss. Panel points of the trusses are numbered south to north from 0 to 9. Fracture critical members include: vertical members of each truss at panel points 1, 3, 6, and 8; each truss's diagonal members U1L2, U3L4, U4L5, U5L4, U6L5, and U8L7; and the bottom chords of each truss.
1. Minor surface corrosion was observed on truss members.

515	*Steel Protective Coating*	2290	sq feet	0	2061	229	0	0

1. Minor flaking paint on the truss members was observed.

1900	*Distortion*	3	each	0	0	3	0	0

1. The south exterior flange on the east truss member U4L4 is bent approximately 1/2-in. See Photo J.
2. The knee brace of the east truss at Panel Point 8 is bent to the south approximately 6 inches. See Photo K.
3. There is a small tear in the north end post of the west truss from impact damage to the metal bridge railing. See Photo L.

152	Steel Floor Beam	161	feet	0	161	0	0	0

Description: Steel WF Floor Beams are located at each panel point and have been previously identified as fracture critical members. However, since the deck is continuous over the floor beams and the floor beams are spaced at 8 ft. - 2 in., the floor beams are not required to be deemed fracture critical.
1. The floor beam top flanges are integral with the deck (encased in concrete). The bottom of the top flanges are exposed where the concrete has spalled off.
2. There are isolated small areas of surface corrosion.

515	*Steel Protective Coating*	742	sq feet	0	735	7	0	0

2. There are isolated small areas of minor flaking paint.

162	Stl Gus Plate	36	each	0	34	2	0	0

Description: Primary Connection Steel Gusset Plates
1. Minor surface corrosion is occurring on most gusset plates due to limited effectiveness of the paint system.

515	*Steel Protective Coating*	144	sq feet	0	0	0	144	0

1. The steel protective coating is substantially ineffective on the gusset plates.

7000	*Damage*	2	each	0	0	2	0	0

1. The exterior gusset plate at panel point L3, west truss, has a bullet-sized hole in it. See Photo M.
2. Gusset plate at U8, east truss, has two bullet-sized holes. See Photo N.

215	Re Conc Abutment	33	feet	0	33	0	0	0

The concrete abutment cap at the north abutment is founded on a masonry wall and at the south abutment it is founded on bedrock.
1. No significant defects noted.

313	Fixed Bearing	4	each	0	0	4	0	0

The truss bearings at the abutments are fixed against transverse and longitudinal displacements but allow rotation about 3.5" pins per the original plans.
1. The NW and SE bearings are partially buried with sand and gravel. See Photo F and the list of maintenance items.

1000	*Corrosion*	4	each	0	0	4	0	0

1. All four bearings have active minor surface corrosion.

330	Metal Bridge Railing	147	feet	0	117	30	0	0

The railing is composed of two steel angles attached directly to the vertical members of the truss.
1. The handrail is missing at the southwest and northwest ends. See Photo O.

515	*Steel Protective Coating*	245	sq feet	0	220	25	0	0

1. The steel protective coating is ineffective at sporadic locations throughout the length of the railing.

1900	*Distortion*	30	each	0	0	30	0	0

1. The bridge railing is bent and has impact damage at various locations throughout the bridge.
2. The handrail is damaged at the southeast corner. See Photo P.
3. The end of the northeast lower rail has impact damage.

BRIDGE GROUP

Bridge Inspection Photographs

Structure Number :	**00027**	Structure Name :	**Fish Creek Bridge**	Inspected by :	**HDR-Tucker/HDR**
Route :	**88**	Road Name :	**SR 88**	Inspection Type:	**FC In-Depth**
MP :	**223.5**	Agency :	**ADOT**	Inspection Date :	**Saturday, September 8, 2018**
ADOT District:	**Southeast**	District Org:	**5231**	Next Insp. Due By :	**09/08/2020**

File Name : 00027-2018-09-08-Photo-A.jpg

Description : Photo A. Roadway ID, looking North

BRIDGE GROUP

Bridge Inspection Photographs

Structure Number :	**00027**	Structure Name :	**Fish Creek Bridge**	Inspected by :	**HDR-Tucker/HDR**
Route :	**88**	Road Name :	**SR 88**	Inspection Type:	**FC In-Depth**
MP :	**223.5**	Agency :	**ADOT**	Inspection Date :	**Saturday, September 8, 2018**
ADOT District:	**Southeast**	District Org:	**5231**	Next Insp. Due By :	**09/08/2020**

File Name : 00027-2018-09-08-Photo-B.jpg

Description : Photo B. Elevation ID, looking West

BRIDGE GROUP

Bridge Inspection Photographs

Structure Number :	**00027**	Structure Name :	**Fish Creek Bridge**	Inspected by :	**HDR-Tucker/HDR**
Route :	**88**	Road Name :	**SR 88**	Inspection Type:	**FC In-Depth**
MP :	**223.5**	Agency :	**ADOT**	Inspection Date :	**Saturday, September 8, 2018**
ADOT District:	**Southeast**	District Org:	**5231**	Next Insp. Due By :	**09/08/2020**

File Name : 00027-2018-09-08-Photo-C.jpg

Description : Photo C. Top of Deck

BRIDGE GROUP

Bridge Inspection Photographs

Structure Number :	**00027**	Structure Name :	**Fish Creek Bridge**	Inspected by :	**HDR-Tucker/HDR**
Route :	**88**	Road Name :	**SR 88**	Inspection Type:	**FC In-Depth**
MP :	**223.5**	Agency :	**ADOT**	Inspection Date :	**Saturday, September 8, 2018**
ADOT District:	**Southeast**	District Org:	**5231**	Next Insp. Due By :	**09/08/2020**

File Name : 00027-2018-09-08-Photo-D.jpg

Description : Photo D. Underside of Deck

BRIDGE GROUP

Bridge Inspection Photographs

Structure Number :	**00027**	Structure Name :	**Fish Creek Bridge**	Inspected by :	**HDR-Tucker/HDR**
Route :	**88**	Road Name :	**SR 88**	Inspection Type:	**FC In-Depth**
MP :	**223.5**	Agency :	**ADOT**	Inspection Date :	**Saturday, September 8, 2018**
ADOT District:	**Southeast**	District Org:	**5231**	Next Insp. Due By :	**09/08/2020**

File Name : 00027-2018-09-08-Photo-E.jpg

Description : Photo E. North edge of bridge deck

BRIDGE GROUP

Bridge Inspection Photographs

Structure Number :	**00027**	Structure Name :	**Fish Creek Bridge**	Inspected by :	**HDR-Tucker/HDR**
Route :	**88**	Road Name :	**SR 88**	Inspection Type:	**FC In-Depth**
MP :	**223.5**	Agency :	**ADOT**	Inspection Date :	**Saturday, September 8, 2018**
ADOT District:	**Southeast**	District Org:	**5231**	Next Insp. Due By :	**09/08/2020**

File Name : 00027-2018-09-08-Photo-F.jpg

Description : Photo F. Debris around the northwest bearing

BRIDGE GROUP

Bridge Inspection Photographs

Structure Number :	**00027**	Structure Name :	**Fish Creek Bridge**	Inspected by :	**HDR-Tucker/HDR**
Route :	**88**	Road Name :	**SR 88**	Inspection Type:	**FC In-Depth**
MP :	**223.5**	Agency :	**ADOT**	Inspection Date :	**Saturday, September 8, 2018**
ADOT District:	**Southeast**	District Org:	**5231**	Next Insp. Due By :	**09/08/2020**

File Name : 00027-2018-09-08-Photo-G.jpg

Description : Photo G. Northwest corner minor fill erosion

BRIDGE GROUP

Bridge Inspection Photographs

Structure Number :	**00027**	Structure Name :	**Fish Creek Bridge**	Inspected by :	**HDR-Tucker/HDR**
Route :	**88**	Road Name :	**SR 88**	Inspection Type:	**FC In-Depth**
MP :	**223.5**	Agency :	**ADOT**	Inspection Date :	**Saturday, September 8, 2018**
ADOT District:	**Southeast**	District Org:	**5231**	Next Insp. Due By :	**09/08/2020**

File Name : 00027-2018-09-08-Photo-H.jpg

Description : Photo H. Typical water staining along the exterior edge on the underside of the deck

BRIDGE GROUP

Bridge Inspection Photographs

Structure Number :	**00027**	Structure Name :	**Fish Creek Bridge**	Inspected by :	**HDR-Tucker/HDR**
Route :	**88**	Road Name :	**SR 88**	Inspection Type:	**FC In-Depth**
MP :	**223.5**	Agency :	**ADOT**	Inspection Date :	**Saturday, September 8, 2018**
ADOT District:	**Southeast**	District Org:	**5231**	Next Insp. Due By :	**09/08/2020**

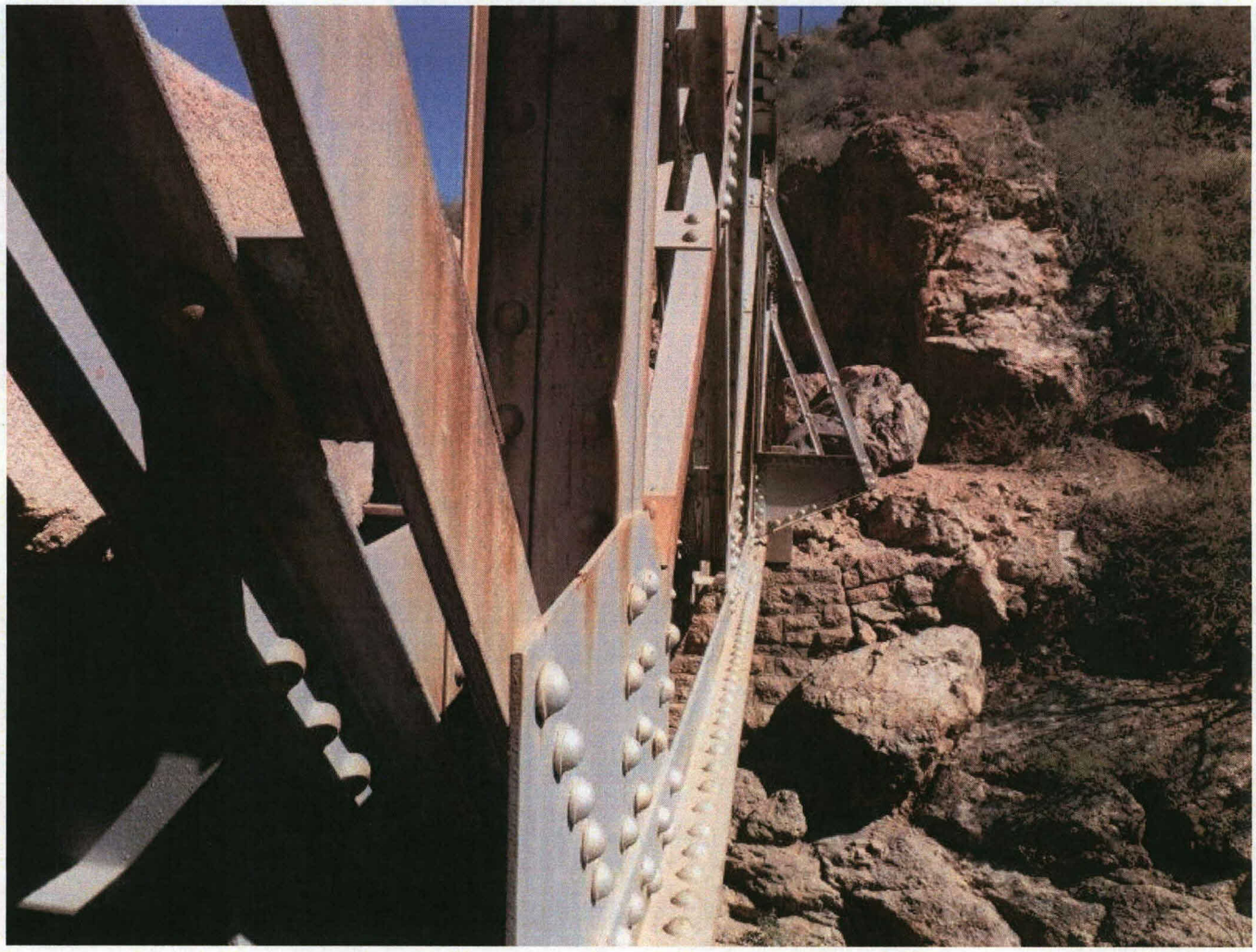
File Name : 00027-2018-09-08-Photo-I.jpg

Description : Photo I. Missing east curb between panel points 1 and 4

BRIDGE GROUP

Bridge Inspection Photographs

Structure Number :	**00027**	Structure Name :	**Fish Creek Bridge**	Inspected by :	**HDR-Tucker/HDR**
Route :	**88**	Road Name :	**SR 88**	Inspection Type:	**FC In-Depth**
MP :	**223.5**	Agency :	**ADOT**	Inspection Date :	**Saturday, September 8, 2018**
ADOT District:	**Southeast**	District Org:	**5231**	Next Insp. Due By :	**09/08/2020**



File Name : 00027-2018-09-08-Photo-J.jpg

Description : Photo J. Exterior flange of East Truss U4L4 on the south edge is bent 1/2-inch maximum

BRIDGE GROUP

Bridge Inspection Photographs

Structure Number :	**00027**	Structure Name :	**Fish Creek Bridge**	Inspected by :	**HDR-Tucker/HDR**
Route :	**88**	Road Name :	**SR 88**	Inspection Type:	**FC In-Depth**
MP :	**223.5**	Agency :	**ADOT**	Inspection Date :	**Saturday, September 8, 2018**
ADOT District:	**Southeast**	District Org:	**5231**	Next Insp. Due By :	**09/08/2020**

File Name : 00027-2018-09-08-Photo-K.jpg

Description : Photo K. Knee brace of East Truss at Panel Point 8 is bent to the south approximately 6 inches

BRIDGE GROUP

Bridge Inspection Photographs

Structure Number :	**00027**	Structure Name :	**Fish Creek Bridge**	Inspected by :	**HDR-Tucker/HDR**
Route :	**88**	Road Name :	**SR 88**	Inspection Type:	**FC In-Depth**
MP :	**223.5**	Agency :	**ADOT**	Inspection Date :	**Saturday, September 8, 2018**
ADOT District:	**Southeast**	District Org:	**5231**	Next Insp. Due By :	**09/08/2020**

File Name : 00027-2018-09-08-Photo-L.jpg

Description : Photo L. Small tear in the west truss north end post due to impact to the metal bridge railing

BRIDGE GROUP

Bridge Inspection Photographs

Structure Number :	**00027**	Structure Name :	**Fish Creek Bridge**	Inspected by :	**HDR-Tucker/HDR**
Route :	**88**	Road Name :	**SR 88**	Inspection Type:	**FC In-Depth**
MP :	**223.5**	Agency :	**ADOT**	Inspection Date :	**Saturday, September 8, 2018**
ADOT District:	**Southeast**	District Org:	**5231**	Next Insp. Due By :	**09/08/2020**

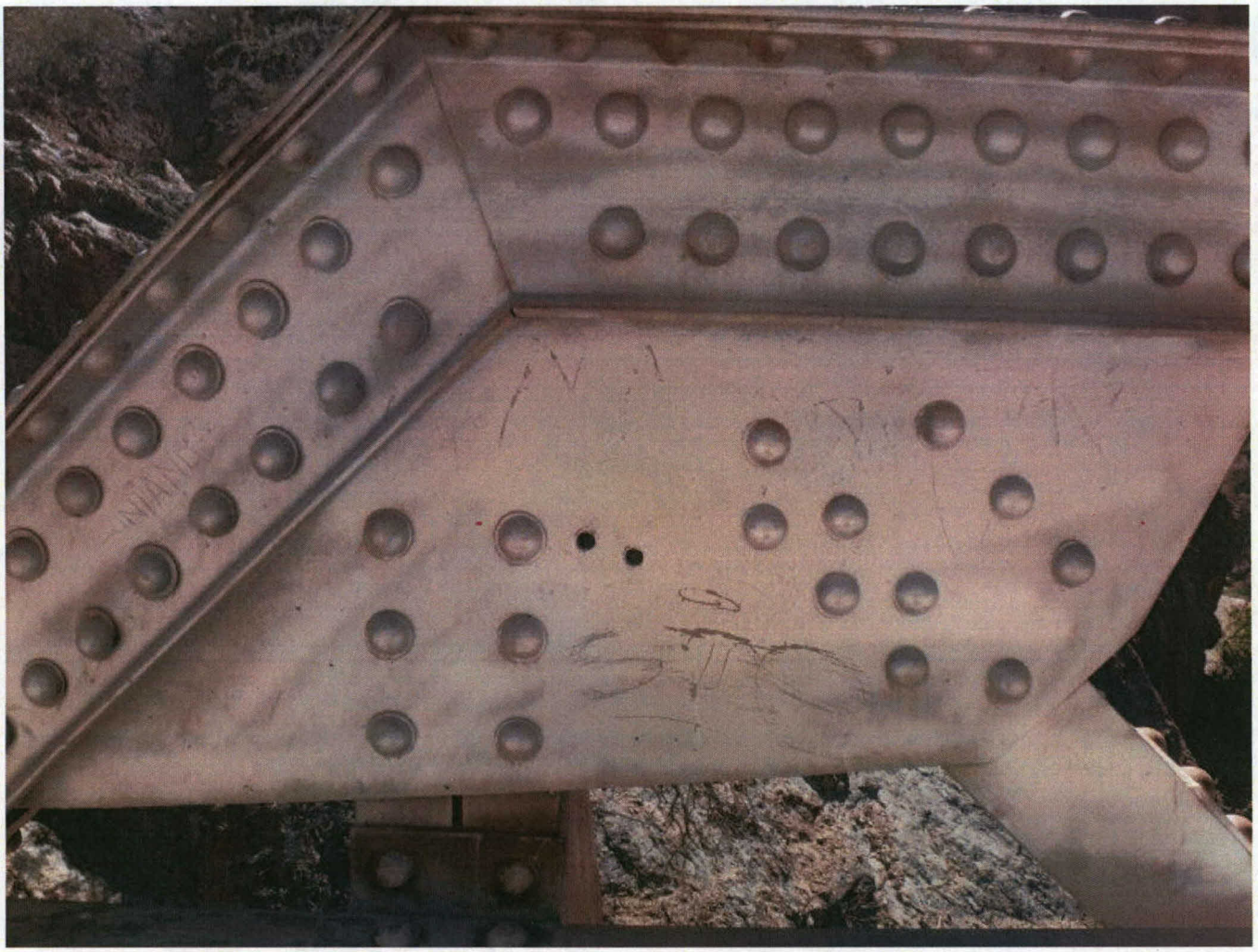
File Name : 00027-2018-09-08-Photo-M.jpg

Description : Photo M. Bullet hole in the L3 exterior gusset plate of the west truss

BRIDGE GROUP

Bridge Inspection Photographs

Structure Number :	00027	Structure Name :	Fish Creek Bridge	Inspected by :	HDR-Tucker/HDR
Route :	88	Road Name :	SR 88	Inspection Type:	FC In-Depth
MP :	223.5	Agency :	ADOT	Inspection Date :	Saturday, September 8, 2018
ADOT District:	Southeast	District Org:	5231	Next Insp. Due By :	09/08/2020



File Name : 00027-2018-09-08-Photo-N.jpg

Description : Photo N. Two bullet holes in the U8 interior gusset plate of the east truss

BRIDGE GROUP

Bridge Inspection Photographs

Structure Number :	**00027**	Structure Name :	**Fish Creek Bridge**	Inspected by :	**HDR-Tucker/HDR**
Route :	**88**	Road Name :	**SR 88**	Inspection Type:	**FC In-Depth**
MP :	**223.5**	Agency :	**ADOT**	Inspection Date :	**Saturday, September 8, 2018**
ADOT District:	**Southeast**	District Org:	**5231**	Next Insp. Due By :	**09/08/2020**

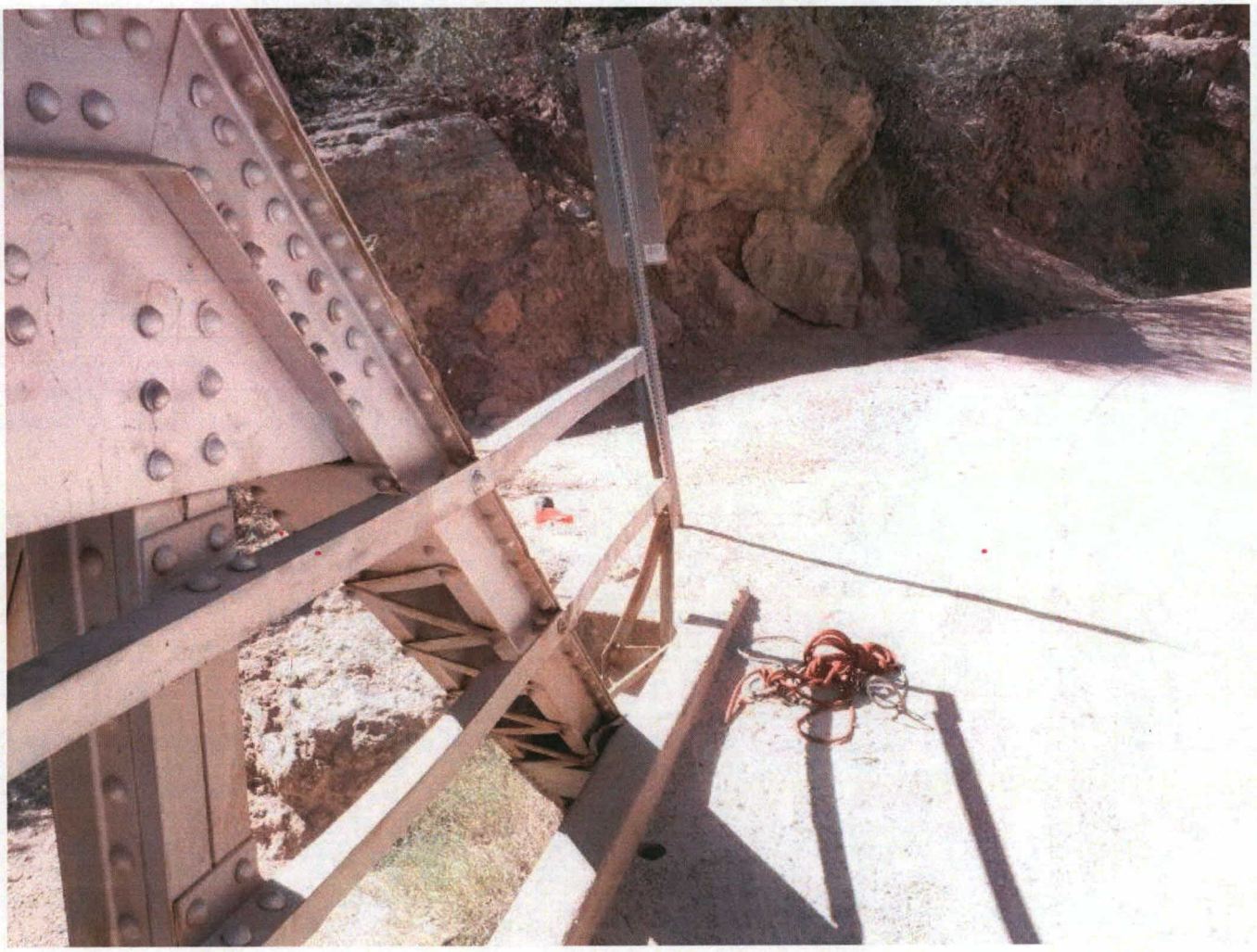
File Name : 00027-2018-09-08-Photo-O.jpg

Description : Photo O. Missing metal bridge railing at the southwest end of the bridge

BRIDGE GROUP

Bridge Inspection Photographs

Structure Number :	**00027**	Structure Name :	**Fish Creek Bridge**	Inspected by :	**HDR-Tucker/HDR**
Route :	**88**	Road Name :	**SR 88**	Inspection Type:	**FC In-Depth**
MP :	**223.5**	Agency :	**ADOT**	Inspection Date :	**Saturday, September 8, 2018**
ADOT District:	**Southeast**	District Org:	**5231**	Next Insp. Due By :	**09/08/2020**



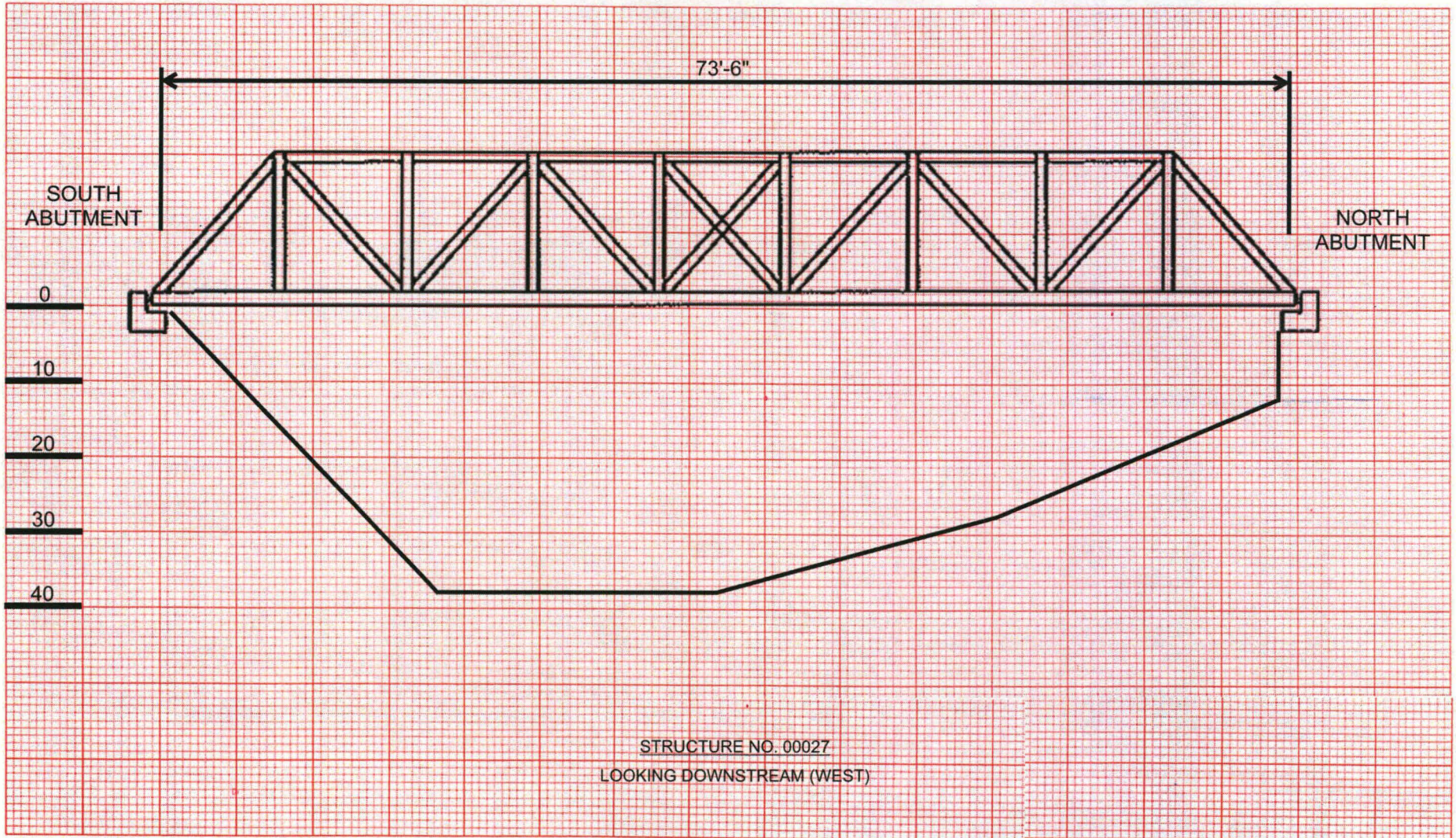
File Name : 00027-2018-09-08-Photo-P.jpg

Description : Photo P. Damaged metal bridge railing at the southeast end of the bridge

Name of Structure: Fish Creek Bridge
Structure No. 27
Location: Route 88 MP 223.50

Channel Profile Diagram

Arizona Department of Transportation
Bridge Group
Supplemental Page to Bridge Inspection Report



Insp. No.	Insp. date	Inspector's Initial	Channel Profile Location (U/S or D/S)	Depth at Abut. 'A1' face or at Support, 'P '(RHS)	Depth at quarter span	Depth at mid span	Depth at 3/4 span	Depth at the left side of Support 'P	Depth at the right side of Support 'P	Depth at quarter span	Depth at mid span	Depth at 3/4 span	Depth at the left side of Support 'P	Depth at the Right side of Support 'P	Depth at quarter span	Depth at mid span	Depth at 3/4 span	Depth at Abut. 'A2' face or at Support, 'P '(LHS)
	09/08/18	HDR	U/S	0.2'	38.2'	38.2'	28.1'											12.5'

†● 64-4505 R07/06

Note: Channel depths will be measured from the bottom of the girder or the slab; For short span (<40'), depths at quarter & three-quarter lengths may not be necessary; Local scour, if observed at locations other than above, will be noted on this sheet with inspection date; RHS-->Right Hand Side; LHS--> Left Hand Side.

Fracture Critical Members In-Depth Inspection Field Sheet

Structure #: 00027
Bridge Name: Fish Creek Bridge
Route: 88
MP: 223.5

Bridge Description

Fish Creek Bridge has one span of steel through-trusses with a concrete deck supported by multiple steel rolled floor beams attached to the truss bottom chords. The trusses are made of riveted angle and channel members.

Fracture Critical Members (see FCM Plan and Drawings in bridge file)

1. Tension members of the east and west steel trusses in Span 1.
2. Floorbeams in Span 1.

Members and Details that require Inspection
-Panel points are numbered south to north.
-Inspection methods listed are required for that member. Any other method used in conjunction with these should be noted.

SPAN	FRACTURE CRITICAL MEMBERS	INSPECTION METHODS USED	INSPECTION COMPLETED	
			Yes	No
Span 1	Tension stress areas in the floor beams at panel points.	(VT) PT	X	
Comments:	Isolated small areas of surface corrosion.			
	EAST TRUSS			
Span 1	Lower chord members: L0-L1, L1-L2, L2-L3, L3-L4, L4-L5, L5-L6, L6-L7, L7-L8, L8-L9	(VT) PT	X	
Comments:	Minor surface corrosion.			
Span 1	Vertical members: U1-L1, U-3-L3, U6-L6, U8-L8	(VT) PT	X	
Comments:	Minor surface corrosion.			
Span 1	Diagonal members: U1-L2, U3-L4, U4-L5, U5-L4, U6-L5, U8-L7	(VT) PT	X	
Comments:	Minor surface corrosion.			

SPAN	FRACTURE CRITICAL MEMBERS	INSPECTION METHODS USED	INSPECTION COMPLETED	
			Yes	No
WEST TRUSS				
Span 1	Lower chord members: L0-L1, L1-L2, L2-L3, L3-L4, L4-L5, L5-L6, L6-L7, L7-L8, L8-L9	(VT)/PT	X	
Comments:	Minor surface corrosion.			
Span 1	Vertical members: U1-L1, U-3-L3, U6-L6, U8-L8	(VT)/PT	X	
Comments:	Minor surface corrosion.			
Span 1	Diagonal members: U1-L2, U3-L4, U4-L5, U5-L4, U6-L5, U8-L7	(VT)/PT	X	
Comments:	Minor surface corrosion.			

-VT = Visual Inspection Test; PT = Dye Penetrant Test;
Note: The tension stresses are distributed over the member cross sections as follows:
- Bottom flange and lower 1/2 of the web of steel floor beams in the positive moment regions
- Top flange and upper 1/2 of the web of steel floor beams in the negative moment regions
- The engineer shall choose PT for FCM inspection whereas VT is not applicable.

Additional Comments/Observations:

Fracture Critical Members In-Depth Inspection Plan

Structure #: 00027
Bridge Name: Fish Creek Bridge
Route: 88
MP: 223.5

Bridge Description

Fish Creek Bridge has one span of steel through trusses with a concrete deck supported by multiple steel rolled floor beams attached to the truss bottom chords. The trusses are made of riveted angle and channel members.

Fracture Critical Members

1. Tension members of the east and west steel trusses in Span 1.
2. Floorbeams in Span 1.

Members and Details that require Inspection

Panel points are numbered south to north.

SPAN	FRACTURE CRITICAL MEMBERS	INSPECTION METHODS USED	INSPECTION COMPLETED	
			Yes	No
Span 1	Tension stress areas in the floor beams at panel points.	(VT)PT	X	
	EAST TRUSS			
Span 1	Lower chord members: L0-L1, L1-L2, L2-L3, L3-L4, L4-L5, L5-L6, L6-L7, L7-L8, L8-L9	(VT)PT	X	
Span 1	Vertical members: U1-L1, U-3-L3, U6-L6, U8-L8	(VT)PT	X	
Span 1	Diagonal members: U1-L2, U3-L4, U4-L5, U5-L4, U6-L5, U8-L7	(VT)PT	X	
	WEST TRUSS			
Span 1	Lower chord members: L0-L1, L1-L2, L2-L3, L3-L4, L4-L5, L5-L6, L6-L7, L7-L8, L8-L9	(VT)PT	X	
Span 1	Vertical members: U1-L1, U-3-L3, U6-L6, U8-L8	(VT)PT	X	
Span 1	Diagonal members: U1-L2, U3-L4, U4-L5, U5-L4, U6-L5, U8-L7	(VT)PT	X	

Note: The tension stresses are distributed over the member cross sections as follows:
- Bottom flange and lower 1/2 of the web of steel floor beams in the positive moment regions
- Top flange and upper 1/2 of the web of steel floor beams in the negative moment regions
- The engineer shall choose PT for FCM inspection whereas VT is not applicable.

Inspection Methods

1. Visual Inspection (VT)

   Visual inspections will be conducted in accordance with NBIS Code of Federal Regulation 23 CFR Part 650, The inspection procedure recommendation in the FHWA NHI 03-001 "Bridge Inspection Reference Manual," 2006 and AASHTO "Manual for Condition Evaluation of Bridges," 1994, second edition and the "Inspection of Fracture Critical Bridge Members" FHWA Report No. FHWA-IP-86-26 will be followed. These inspections shall be hands-on with the inspector being within arm length of the component. Critical areas shall be specially cleaned prior to the inspections and additional lighting and magnification shall be used.

2. Liquid (Dye) Penetrant Testing (PT)

   The testing will be performed by a Certified ASNT Level II inspector from a selected ADOT qualified on-call inspection company in accordance to ANSI/ASNT Testing Specifications. Refer also to: *Inspection of Fracture Critical Bridge Members*, FHWA Report No. IP-86-26.

Special inspection Needs

1. Inspection Access Method Discussion

   The bridge spans over Fish Creek at MP223.5 on SR88 with a narrow single-lane roadway and no shoulders. There are steep rock ledges around abutments. The diagonal and vertical truss members can be accessed through the bridge deck because these are shallow trusses. The bottom chords of the trusses and the floor beams at panel points beneath the deck can be inspected by ropes or by under-bridge inspection vehicle (snooper). Temporary bridge closure may be required if snooper is used.

2. Traffic Control Plan

   The selected ADOT qualified on-call inspection company shall coordinate with the Regional Maintenance Engineer of ADOT Globe Construction & Maintenance District.

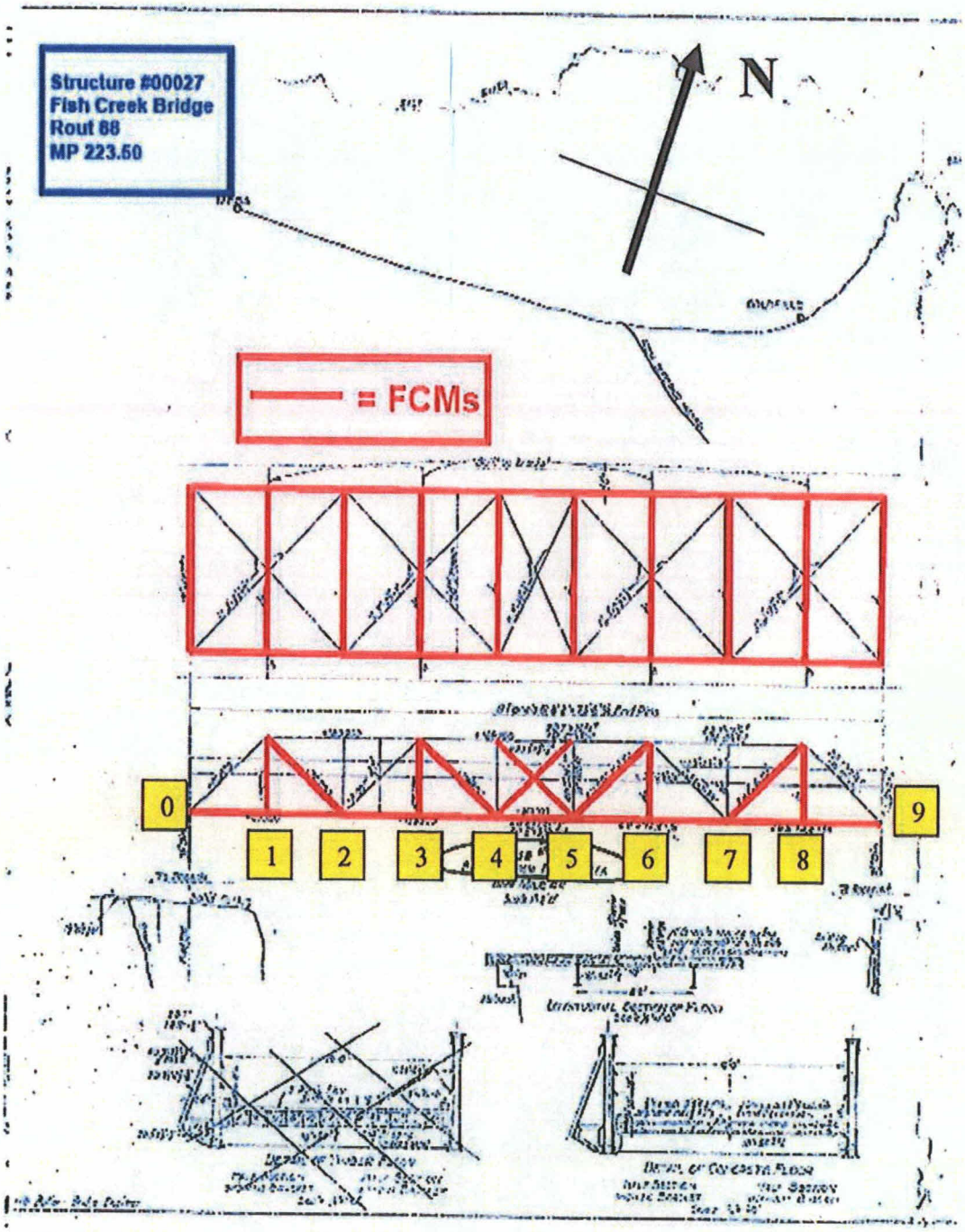
3. Equipment

   The selected ADOT qualified on-call inspection company shall equip with the tools necessary to perform the In-depth inspection for this bridge.

Revised by: _____ Date: 3/25/2014
Henry M. Sung, P.E.

Revised by: _____ Date: 3/25/2014
Homer Saidi, P.E.

Approved by: _____ Date: 3/25/2014
Peng Chen, P.E.


Structure #00027
Fish Creek Bridge
Rout 88
MP 223.50
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Date Printed : 02/13/2019

ARIZONA DEPARTMENT OF TRANSPORTATION

BRIDGE GROUP

Structure Inventory and Appraisal

Structure Number : **00028** Structure Name : **Lewis Pranty Crk Br** Feature Under : **Lewis Pranty Creek**

Route : **88** MP : **224.6** Road Name : **SR 88** Agency: **ADOT** Location : **28.9 Mi E Jct US 60**

LOCATION INFORMATION

N1-State Code :	049
N2-State Hwy District :	Southeast
N3-County Code :	013
N4-Place Code :	00000
N16-Latitude:	33 Deg 32 Min 4.56 Sec
N17-Longitude :	111 Deg 18 Min 12.96 Sec
N98-Border St Code - % Resp:	
N99-Border Bridge Number:	

INVENTORY ROUTE DATA

N19-Detour Length (miles):	99	
N20-Toll:	3	
ROADWAY RECORD	ON	UNDER
N5-Inv Rte:	1 3 1 00088 0 | -	
N28-Lanes:	1	0.00
N10-Inv Rte Min Vert Clr (feet):	99.99	
N11-Inv Rte Milepoint:	224.60	
N26-Functional Class:	07	
N29-Avg Daily Traffic:	170	
N30-Year of ADT:	2017	
N47-Inv Rte Tot Horiz Clr (feet):	13.0	
N100-Defense Hwy:	0	
N101-Parallel Bridge:	N	
N102-Direction of Traffic:	3	
N104-Hwy System:	0	
N109-Percent Truck Traffic:	14	
N110-National Truck Network:	0	
N114-Future ADT:	180	
N115-Year of Future ADT:	2037	
A200-Is N5 the Princ. Rte?	Y	

RESPONSIBILITY

N21-Maint Responsibility:	01
N22-Bridge Owner:	01
A203-ADOT Org Number:	5357
A229-Agency:	ADOT

NAVIGATION

N38-Navigation Control:	0
N39-Nav Vert clr (feet):	0.00
N40-Nav Horiz Clr (feet):	0.00
N111-Nav Pier/Abut Prot:	
N116-Nav Min Vert Clr (feet):	

GENERAL DATA

N33-Bridge Median:	0
N34-Skew:	0
N35-Structure Flared:	0
N37-Historical Significance:	1
N107-Deck Str Type:	1
N108-Wear Surf Prot System:	1 0 0
A201-Wear Surf Thickness (inches)	

DIMENSIONS

N32:Appr Rdwy Width (feet):	13
N48-Max Span Length (feet):	59
N49-Structure Length (feet):	60
N50a-Lt Curb/Swlk Width (feet):	0.5
N50b-Rt Curb/Swlk Width (feet):	0.5
N51-Br Width Curb-Curb (feet):	13.0
N52-Deck Width Out-Out (feet):	14.0
N112-NBIS Br Length?	Y

VERTICAL & HORIZONTAL CLEARANCE

N53-Min Vert Over Clr (feet):		99.99
N54-Min Vert Under Clr (feet):	N	0.00
N55-Min Lat Under Clr Rt (feet):	N	0.0
N56-Min Lat Under Clr Lt (feet):		0.0

SERVICE, TYPE, and SPAN INFORMATION

N42-Service Type:	1 5
N43-Str Type, Main:	3 10
N44-Str Type, Appr:	0 0
N45-Number of Main Spans:	1
N46-Number of Appr Spans:	0

CONDITION RATINGS

N58-Deck:	6
N59-Superstructure:	6
N60-Substructure:	7
N61-Channel:	7
N62-Culvert:	N

APPRAISAL RATINGS

N67-Struct Evaluation:	6
N68-Deck Geometry:	2
N69-Underclearance Rtg:	N
N71-Waterway Adequacy:	8
N72-Appr Rdw Align:	3
N36-Traffic Safety Features:	0 0 0 0

BRIDGE SCOUR DATA

N113-Scour Critical Rtg:	8
A202-Foundation Type:	3
A220-Found Embed (feet):	0
A221-Scour Countermeasure:	006

LOAD, RATE, and POST

N31-Design Loading:	2
N41-Open, Post, Close:	A
N63-Method Used for Oper. Rtg:	2
N64-Operating Load Rtg/Factor:	44
N65-Method Used for Inv. Rtg:	2
N66-Inventory Load Rtg/Factor:	31
N70-Bridge Posting:	5
N103-Temp Str Designation:	
A211-Posted Limit (Tons):	
A222-Date of Load Rtg:	05/05/1905
A233-Posted Vert Clr NB/EB (ft-in):	0-0
A233-Posted Vert Clr SB/WB (ft-in):	0-0

PROPOSED IMPROVEMENTS

N75-Type of Work:	31 1
N76-Length of Str Imp (feet):	85
N94-Br Improv Cost (x1000):	$71
N95-Rdwy Improv Cost (x1000):	$140
N96-Total Project Cost (x1000):	$733
N97-Year of Cost Estimate:	2018

CONSTRUCTION PROJECT DATA

N27-Year Built:	1922
N106-Year of Reconstruction:	
A204-Orig Project Number:	
A205-Orig Project Station:	1526+00.00
A223-TRACS Number:	
A225-Deck Area (sq. feet):	840

INSPECTION

N90-Inspection Date:	08/30/2018
N91-Insp Freq (months):	24
A207-Inspection Quarter:	3
Inspection Type:	FC In-Depth
A228-Next Insp Date:	August 2020

CRITICAL FEATURES

N92A-Fracture Critical:	Y 24
N92B-Underwater Insp:	N
N92C-Special Insp:	N
N93A-Date Fract Crit Insp:	08/30/2018
N93B-Date Underwater Insp:	
N93C-Date Spec Insp:	
A234-Steel In-Depth Insp Freq(months):	24

CULVERT INFORMATION

A217-Culv Barrel Height(feet):	0
A218-Culv Length (feet):	0
A219-Culv Fill Height (feet):	0

BRIDGE RAILING

A206a,b,c- Bridge Rail Type, Geometric Conform, and Structural Conform:	600

SUFFICIENCY RATING

Sufficiency Rating:	F	59.30

A300 - GENERAL COMMENTS

A300: This bridge is on the National Register for Historical Places. Any repair to this bridge should be coordinated with State Historical Preservation Office (SHPO).

BRIDGE GROUP

Bridge Maintenance Report

Structure Number :	**00028**	Structure Name :	**Lewis Pranty Crk Br**	Inspected by :	**HDR-Ashby/Tucker**
Route :	**88**	Road Name :	**SR 88**	Inspection Type:	**FC In-Depth**
MP :	**224.6**	Agency :	**ADOT**	Inspection Date :	**Thursday, August 30, 2018**
ADOT District:	**Southeast**	District Org:	**5357**	Next Insp. Due By :	**August 2020**

Work Candidate ID: 0E31D2A-033D-092118-514E10246A
Action: 1015 Bridge Rail-Repair
Estimated Quantity:
Estimated Cost: $0.00
A212 - Repair Priority: 1

A216 - Actual Completion Cost $

A215 - Completion Date:

Repair or replace the damaged metal railing at all four corners of the bridge.

Work Candidate ID: 0E31D2A-033D-092118-528E838EC1
Action: 1078 Superstructure-Repair Concrete
Estimated Quantity:
Estimated Cost: $0.00
A212 - Repair Priority: 3

A216 - Actual Completion Cost $

A215 - Completion Date:

Replace the curbs at the northeast and southeast corners.

Work Candidate ID: 0E31D2A-033D-092118-09ABBB7E35
Action: 1037 Deck-Wash
Estimated Quantity:
Estimated Cost: $0.00
A212 - Repair Priority: 3

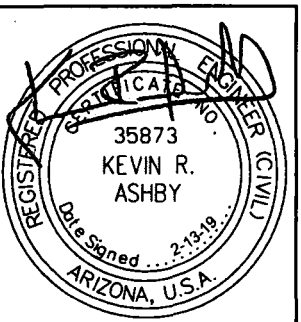
A216 - Actual Completion Cost $

A215 - Completion Date:

Remove the dirt\debris from the deck surface adjacent to the curbs and the abutment seats.

BRIDGE GROUP

Inspection Report



EXPIRES 3/31/2019

Structure No.:	00028	Structure Name:	Lewis Pranty Crk Br	Inspected by :	HDR-Ashby/Tucker
Route :	88	Road Name:	SR 88	Inspection Type:	FC In-Depth
MP :	224.6	Agency:	ADOT	Inspection Date :	Thursday, August 30, 2018
ADOT District:	Southeast	District Org:	5357	Next Insp. Due By :	August 2020

NBI Condition Ratings

N58 Deck :	6 Satisfactory	N61 Channel:	7 Minor Damage
N59 Superstructure :	6 Satisfactory	N62 Culvert :	N N/A (NBI)
N60 Substructure :	7 Good		

Appraisal Ratings

N67 Structural Evaluation:	6 Equal Min Criteria	N71 Waterway Adequacy:	8 Equal Desirable
N68 Deck Geometry:	2 Intolerable - Replace	N72 Approach Roadway Align.:	3 Intolerable - Correct
N69 Vert. & Horiz. Clearances:	N Not applicable (NBI)	N113 Scour Critical:	8 Stable Above Footing

Inspection Notes

NOTE: A222 needs to be updated. Refer to Bridge Management Section for load rating.

Waterway:
Six Wire-tied rock gabions.
1. The channel was dry and stable at the time of the inspection; which flows from east to west.

Roadway/Safety
1. The gravel approach roadway has potholes and rutting.
2. The transitions are somewhat rough but the fills are in good condition(see photos E and F).

Other Miscellaneous Inspection Notes:
1. FC - In-Depth inspection performed by On-Call Consultant, HDR Engineering, Inc., under Contract 2013-017.03, Task Order No. 12. A ladder was used to gain access for this inspection. Traffic Control was not used.
2. Recommended repair items: Previous to verify = 0, Completed = 0, New = 0, Total = 0
3. Recommended Maint. items: Previous to verify =3, Completed = 0, New = 0, Total = 3
A. Remove the dirt\debris from the deck surface adjacent to the curbs and the abutment seats (see photo G, K, M and Q).
B. Replace the curbs at the northeast and southwest corners (see photo R).
C. Repair or replace the damaged metal railing at all four corners of the bridge (see photo J and K)
4. Photos
Photo A - Roadway ID looking North
Photo B - Roadway ID looking Southwest
Photo C - Elevation ID looking East
Photo D - Elevation ID looking West
Photo E – South Approach Condition
Photo F – North Approach Condition
Photo G – Typical Top of Deck Condition
Photo H – Typical Deck cracking and scaling
Photo I – Typical Bottom of Deck
Photo J – East Truss looking South
Photo K – West Truss looking South
Photo L – Floor Beam 6 East end looking NE
Photo M – North Abutment Cap with debris around bearings (looking West)
Photo N – South Abutment looking South
Photo O - South Abutment broken masonry block
Photo P - Southwest corner soffit, medium cracks and delamination
Photo Q – West Truss L6 looking North, buildup of debris at bearing
Photo R - Southwest corner, missing/damaged curb
Photo S - West truss panel point L4 gusset plate looking east

Element No.	Element Description	Quantity	Units	Env.	Condition State			
					1	2	3	4
12	Re Concrete Deck	840	sq feet	0	0	827	13	0

BRIDGE GROUP

Inspection Report

Structure No. :	00028	Structure Name :	Lewis Pranty Crk Br	Inspected by :	HDR-Ashby/Tucker
Route :	88	Road Name :	SR 88	Inspection Type:	FC In-Depth
MP :	224.6	Agency :	ADOT	Inspection Date :	Thursday, August 30, 2018
ADOT District:	Southeast	District Org:	5357	Next Insp. Due By :	August 2020

Element No.	Element Description	Quantity	Units	Env.	Condition State 1	2	3	4
Description: Cast-in-Place Reinforced Concrete Deck supported by Steel Floorbeams 1) There is a spall in the underside of the deck at the east end of floor beam 6 approximately 22 inches by 4 inches by 1 inch (see photo L). 2) There are small spalls located at floor beams 3 and 5 adjacent to the top flange. 3) The deck drains were open at the time of the inspection; but there is approximately 4 inches of debris buildup adjacent to the curbs (see photos G, K and list of maintenance items). 4) The curbs at the southwest and northeast corners have broken off approximately 9 feet and 5 feet respectively (see photo R and list of maintenance items).								
1130	*Cracking (RC and Other)*	840	each	0	0	827	13	0
1) The concrete deck has medium map cracking and abrasion (see photos G and H). 2) The deck soffit has medium longitudinal cracks (mainly along the edge) and hairline map cracking (see photo I and P). The NW and SW corners have adjacent delaminated concrete at the exterior side of the cracks.								
120	Steel Truss	120	feet	0	0	120	0	0
Description: Steel Trusses are made up of riveted built-up members. The panel points are numbered south to north and the trusses are labeled east and west. Fracture critical members include the bottom chord, diagonals (U1-L2 & L4-U5) and the verticals (L1-U1, L3-U3, & L5-U5). 1) The following defects were noted: a) West truss L0-U1 has a bent lacing bar b) West truss L0_U1 has moderate impact damage(see photo R). c) West truss L2-U1 has a bend in the flange approximately 16" from the base of the member. d) West truss U5-L6 has minor impact damage. e) East truss L1-U1 has a bend in the southeast flange approximately at the middle of the member. f) East truss L5-U5 has a slight bend in the southwest flange near the curb line. g) East truss U5-L6 has moderate impact damage.								
515	*Steel Protective Coating*	1318	sq feet	0	0	1283	35	0
1) The paint system is failing (see photos J and K).								
1000	*Corrosion*	120	each	0	0	120	0	0
1) There is minor to moderate surface corrosion throughout; no measurable section loss found (see photos J and K).								
152	Steel Floor Beam	98	feet	0	0	98	0	0
Description: Rolled Steel Floor Beams The floor beams are numbered south to north and are fracture critical. 1) The steel floor beams are in good condition.								
515	*Steel Protective Coating*	369	sq feet	0	0	339	30	0
1. Minor to moderate paint system failure throughout, with isolated small areas on the truss connections exhibiting complete failure								
1000	*Corrosion*	98	each	0	0	98	0	0
1. Minor to moderate surface corrosion throughout (see Photo D).								
162	Stl Gus Plate	24	each	0	0	24	0	0
Description: Primary member connection steel gusset plates.								
515	*Steel Protective Coating*	242	sq feet	0	0	242	0	0
1) The steel gusset plates paint system is starting to fail.								
1000	*Corrosion*	24	each	0	0	24	0	0
1) The steel gusset plates have minor to moderate surface corrosion throughout (see photo S).								
215	Re Conc Abutment	33	feet	0	32	1	0	0
Description: Reinforced concrete abutment caps above masonry abutment walls. 1) The abutment seats have dirt and debris that has accumulated around the bearings (see photos M, Q and list of maintenance items).								
1130	*Cracking (RC and Other)*	1	each	0	0	1	0	0
1) The concrete abutment caps have hairline shrinkage cracks with the south abutment having a narrow crack at approximately the centerline (see photos N and O).								
217	Masonry Abutment	36	feet	0	20	14	2	0
Description: Masonry abutment walls on spread footing.								

BRIDGE GROUP

Inspection Report

Structure No. :	00028	Structure Name :	Lewis Pranty Crk Br	Inspected by :	HDR-Ashby/Tucker
Route :	88	Road Name :	SR 88	Inspection Type:	FC In-Depth
MP :	224.6	Agency :	ADOT	Inspection Date :	Thursday, August 30, 2018
ADOT District:	Southeast	District Org:	5357	Next Insp. Due By :	August 2020

Element No.	Element Description	Quantity	Units	Env.	Condition State			
					1	2	3	4
1610	*Mortar Breakdown (Masonry)*	14	each	0	0	14	0	0
1) The masonry abutments below the concrete abutment caps have narrow cracks in the joint mortar at various locations(see photos N and O).								
1620	*Split/Spall (Masonry)*	2	each	0	0	0	2	0
1) The south masonry abutments has a broken block (see photos N and O).								
313	Fixed Bearing	4	each	0	0	4	0	0
Description: Two fixed steel bearings at each abutment.								
1) The fixed bearings covered with dirt\debris (see photos M, Q and list of maintenance items).								
1000	*Corrosion*	4	each	0	0	4	0	0
1) The fixed bearings have minor to moderate corrosion.								
330	Metal Bridge Railing	120	feet	0	0	70	50	0
Description: Metal Railing								
1000	*Corrosion*	90	each	0	0	70	20	0
1) The metal railing paint system has failed with minor to moderate surface corrosion throughout (see photos G, J, K, and R).								
7000	*Damage*	30	each	0	0	0	30	0
1) The metal railing has moderate impact damage at all four corners (see photos G, J, K, R and list of maintenance items).								

BRIDGE GROUP

Bridge Inspection Photographs

Structure Number :	00028	Structure Name :	Lewis Pranty Crk Br	Inspected by :	HDR-Ashby/Tucker
Route :	88	Road Name :	SR 88	Inspection Type:	FC In-Depth
MP :	224.6	Agency :	ADOT	Inspection Date :	Thursday, August 30, 2018
ADOT District:	Southeast	District Org:	5357	Next Insp. Due By :	08/30/2020

File Name : 00028-2018-08-30-Photo-A.jpg

Description : Photo A - Roadway ID looking North

BRIDGE GROUP

Bridge Inspection Photographs

Structure Number :	**00028**	Structure Name :	**Lewis Pranty Crk Br**	Inspected by :	**HDR-Ashby/Tucker**
Route :	**88**	Road Name :	**SR 88**	Inspection Type:	**FC In-Depth**
MP :	**224.6**	Agency :	**ADOT**	Inspection Date :	**Thursday, August 30, 2018**
ADOT District:	**Southeast**	District Org:	**5357**	Next Insp. Due By :	**08/30/2020**

File Name : 00028-2018-08-30-Photo-B.jpg

Description : Photo B - Roadway ID looking Southwest

BRIDGE GROUP

Bridge Inspection Photographs

Structure Number :	**00028**	Structure Name :	**Lewis Pranty Crk Br**	Inspected by :	**HDR-Ashby/Tucker**
Route :	**88**	Road Name :	**SR 88**	Inspection Type:	**FC In-Depth**
MP :	**224.6**	Agency :	**ADOT**	Inspection Date :	**Thursday, August 30, 2018**
ADOT District:	**Southeast**	District Org:	**5357**	Next Insp. Due By :	***08/30/2020***

File Name : 00028-2018-08-30-Photo-C.jpg

Description : Photo C - Elevation ID looking East

BRIDGE GROUP

Bridge Inspection Photographs

Structure Number :	**00028**	Structure Name :	**Lewis Pranty Crk Br**	Inspected by :	**HDR-Ashby/Tucker**
Route :	**88**	Road Name :	**SR 88**	Inspection Type:	**FC In-Depth**
MP :	**224.6**	Agency :	**ADOT**	Inspection Date :	**Thursday, August 30, 2018**
ADOT District:	**Southeast**	District Org:	**5357**	Next Insp. Due By :	**08/30/2020**

File Name : 00028-2018-08-30-Photo-D.jpg

Description : Photo D - Elevation ID looking West

BRIDGE GROUP

Bridge Inspection Photographs

Structure Number :	**00028**	Structure Name :	**Lewis Pranty Crk Br**	Inspected by :	**HDR-Ashby/Tucker**
Route :	**88**	Road Name :	**SR 88**	Inspection Type:	**FC In-Depth**
MP :	**224.6**	Agency :	**ADOT**	Inspection Date :	**Thursday, August 30, 2018**
ADOT District:	**Southeast**	District Org:	**5357**	Next Insp. Due By :	**08/30/2020**

File Name : 00028-2018-08-30-Photo-E.jpg

Description : Photo E – South Approach Condition

BRIDGE GROUP

Bridge Inspection Photographs

Structure Number :	**00028**	Structure Name :	**Lewis Pranty Crk Br**	Inspected by :	**HDR-Ashby/Tucker**
Route :	**88**	Road Name :	**SR 88**	Inspection Type:	**FC In-Depth**
MP :	**224.6**	Agency :	**ADOT**	Inspection Date :	**Thursday, August 30, 2018**
ADOT District:	**Southeast**	District Org:	**5357**	Next Insp. Due By :	**08/30/2020**

File Name : 00028-2018-08-30-Photo-F.jpg

Description : Photo F – North Approach Condition

BRIDGE GROUP

Bridge Inspection Photographs

Structure Number :	**00028**	Structure Name :	**Lewis Pranty Crk Br**	Inspected by :	**HDR-Ashby/Tucker**
Route :	**88**	Road Name :	**SR 88**	Inspection Type:	**FC In-Depth**
MP :	**224.6**	Agency :	**ADOT**	Inspection Date :	**Thursday, August 30, 2018**
ADOT District:	**Southeast**	District Org:	**5357**	Next Insp. Due By :	**08/30/2020**

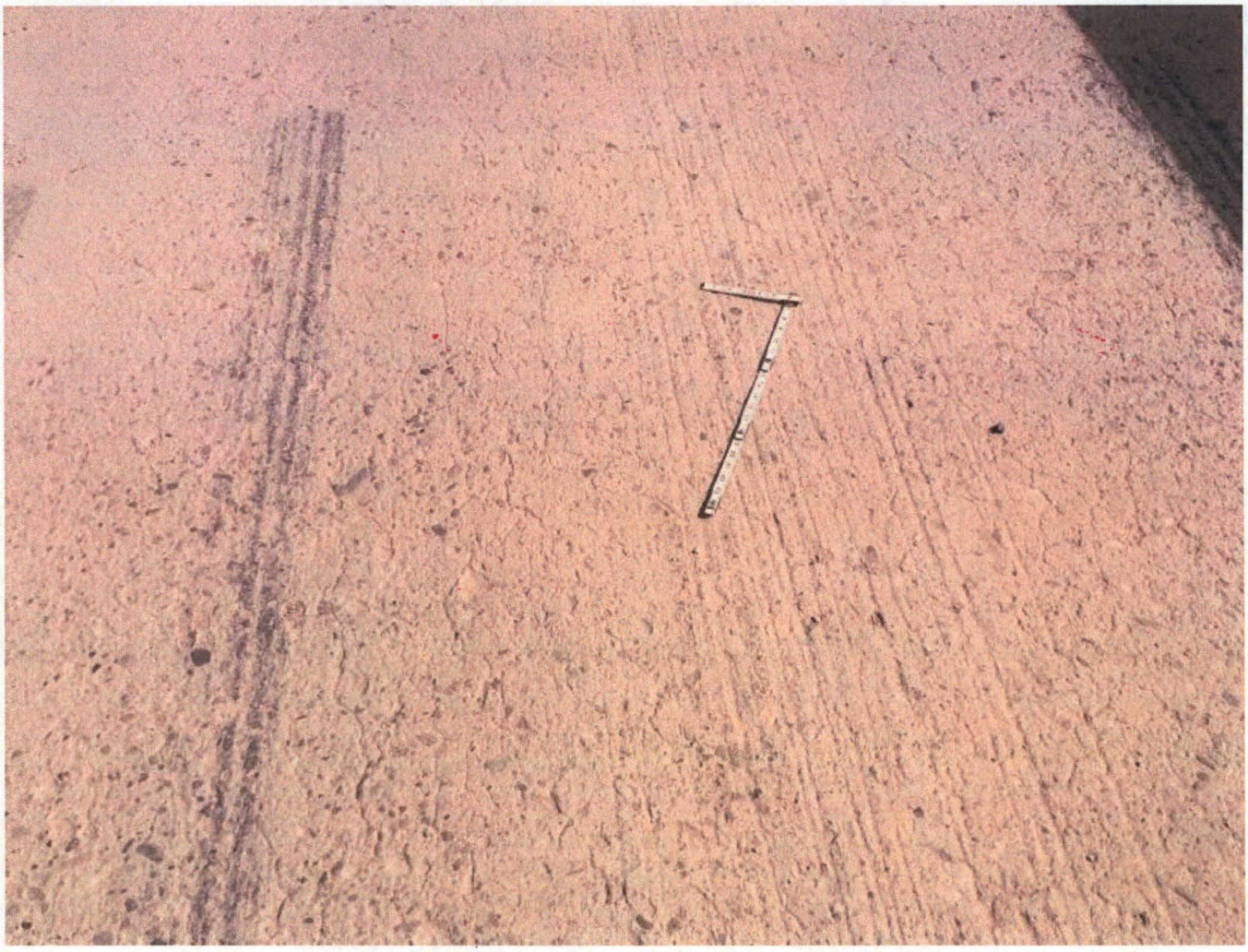
File Name : 00028-2018-08-30-Photo-G.jpg

Description : Photo G – Typical Top of Deck Condition

BRIDGE GROUP

Bridge Inspection Photographs

Structure Number :	**00028**	Structure Name :	**Lewis Pranty Crk Br**	Inspected by :	**HDR-Ashby/Tucker**
Route :	**88**	Road Name :	**SR 88**	Inspection Type:	**FC In-Depth**
MP :	**224.6**	Agency :	**ADOT**	Inspection Date :	**Thursday, August 30, 2018**
ADOT District:	**Southeast**	District Org:	**5357**	Next Insp. Due By :	**08/30/2020**



File Name : 00028-2018-08-30-Photo-H.jpg

Description : Photo H – Typical Deck cracking and scaling

BRIDGE GROUP

Bridge Inspection Photographs

Structure Number :	**00028**	Structure Name :	**Lewis Pranty Crk Br**	Inspected by :	**HDR-Ashby/Tucker**
Route :	**88**	Road Name :	**SR 88**	Inspection Type:	**FC In-Depth**
MP :	**224.6**	Agency :	**ADOT**	Inspection Date :	**Thursday, August 30, 2018**
ADOT District:	**Southeast**	District Org:	**5357**	Next Insp. Due By :	**08/30/2020**

File Name : 00028-2018-08-30-Photo-I.jpg

Description : Photo I – Typical Bottom of Deck

BRIDGE GROUP

Bridge Inspection Photographs

Structure Number :	**00028**	Structure Name :	**Lewis Pranty Crk Br**	Inspected by :	**HDR-Ashby/Tucker**
Route :	**88**	Road Name :	**SR 88**	Inspection Type:	**FC In-Depth**
MP :	**224.6**	Agency :	**ADOT**	Inspection Date :	**Thursday, August 30, 2018**
ADOT District:	**Southeast**	District Org:	**5357**	Next Insp. Due By :	**08/30/2020**

File Name : 00028-2018-08-30-Photo-J.jpg

Description : Photo J – East Truss looking South

BRIDGE GROUP

Bridge Inspection Photographs

Structure Number :	**00028**	Structure Name :	**Lewis Pranty Crk Br**	Inspected by :	**HDR-Ashby/Tucker**
Route :	**88**	Road Name :	**SR 88**	Inspection Type:	**FC In-Depth**
MP :	**224.6**	Agency :	**ADOT**	Inspection Date :	**Thursday, August 30, 2018**
ADOT District:	**Southeast**	District Org:	**5357**	Next Insp. Due By :	**08/30/2020**

File Name : 00028-2018-08-30-Photo-K.jpg

Description : Photo K – West Truss looking South

BRIDGE GROUP

Bridge Inspection Photographs

Structure Number :	**00028**	Structure Name :	**Lewis Pranty Crk Br**	Inspected by :	**HDR-Ashby/Tucker**
Route :	**88**	Road Name :	**SR 88**	Inspection Type:	**FC In-Depth**
MP :	**224.6**	Agency :	**ADOT**	Inspection Date :	**Thursday, August 30, 2018**
ADOT District:	**Southeast**	District Org:	**5357**	Next Insp. Due By :	***08/30/2020***

File Name : 00028-2018-08-30-Photo-L.jpg

Description : Photo L – Floor Beam 6 East end looking NE

BRIDGE GROUP

Bridge Inspection Photographs

Structure Number :	00028	Structure Name :	Lewis Pranty Crk Br	Inspected by :	HDR-Ashby/Tucker
Route :	88	Road Name :	SR 88	Inspection Type:	FC In-Depth
MP :	224.6	Agency :	ADOT	Inspection Date :	Thursday, August 30, 2018
ADOT District:	Southeast	District Org:	5357	Next Insp. Due By :	08/30/2020

File Name : 00028-2018-08-30-Photo-M.jpg

Description : Photo M – North Abutment Cap with debris around bearings (looking West)

BRIDGE GROUP

Bridge Inspection Photographs

Structure Number :	**00028**	Structure Name :	**Lewis Pranty Crk Br**	Inspected by :	**HDR-Ashby/Tucker**
Route :	**88**	Road Name :	**SR 88**	Inspection Type:	**FC In-Depth**
MP :	**224.6**	Agency :	**ADOT**	Inspection Date :	**Thursday, August 30, 2018**
ADOT District:	**Southeast**	District Org:	**5357**	Next Insp. Due By :	**08/30/2020**

File Name : 00028-2018-08-30-Photo-N.jpg

Description : Photo N – South Abutment looking South

BRIDGE GROUP

Bridge Inspection Photographs

Structure Number :	**00028**	Structure Name :	**Lewis Pranty Crk Br**	Inspected by :	**HDR-Ashby/Tucker**
Route :	**88**	Road Name :	**SR 88**	Inspection Type:	**FC In-Depth**
MP :	**224.6**	Agency :	**ADOT**	Inspection Date :	**Thursday, August 30, 2018**
ADOT District:	**Southeast**	District Org:	**5357**	Next Insp. Due By :	**08/30/2020**

File Name : 00028-2018-08-30-Photo-O.jpg

Description : Photo O - South Abutment broken masonry block

BRIDGE GROUP

Bridge Inspection Photographs

Structure Number :	**00028**	Structure Name :	**Lewis Pranty Crk Br**	Inspected by :	**HDR-Ashby/Tucker**
Route :	**88**	Road Name :	**SR 88**	Inspection Type:	**FC In-Depth**
MP :	**224.6**	Agency :	**ADOT**	Inspection Date :	**Thursday, August 30, 2018**
ADOT District:	**Southeast**	District Org:	**5357**	Next Insp. Due By :	**08/30/2020**

File Name : 00028-2018-08-30-Photo-P.jpg

Description : Photo P - Southwest corner soffit, medium cracks and delamination

BRIDGE GROUP

Bridge Inspection Photographs

Structure Number :	**00028**	Structure Name :	**Lewis Pranty Crk Br**	Inspected by :	**HDR-Ashby/Tucker**
Route :	**88**	Road Name :	**SR 88**	Inspection Type:	**FC In-Depth**
MP :	**224.6**	Agency :	**ADOT**	Inspection Date :	**Thursday, August 30, 2018**
ADOT District:	**Southeast**	District Org:	**5357**	Next Insp. Due By :	**08/30/2020**

File Name : 00028-2018-08-30-Photo-Q.jpg

Description : Photo Q – West Truss L6 looking North, buildup of debris at bearing

BRIDGE GROUP

Bridge Inspection Photographs

Structure Number :	**00028**	Structure Name :	**Lewis Pranty Crk Br**	Inspected by :	**HDR-Ashby/Tucker**
Route :	**88**	Road Name :	**SR 88**	Inspection Type:	**FC In-Depth**
MP :	**224.6**	Agency :	**ADOT**	Inspection Date :	**Thursday, August 30, 2018**
ADOT District:	**Southeast**	District Org:	**5357**	Next Insp. Due By :	**08/30/2020**

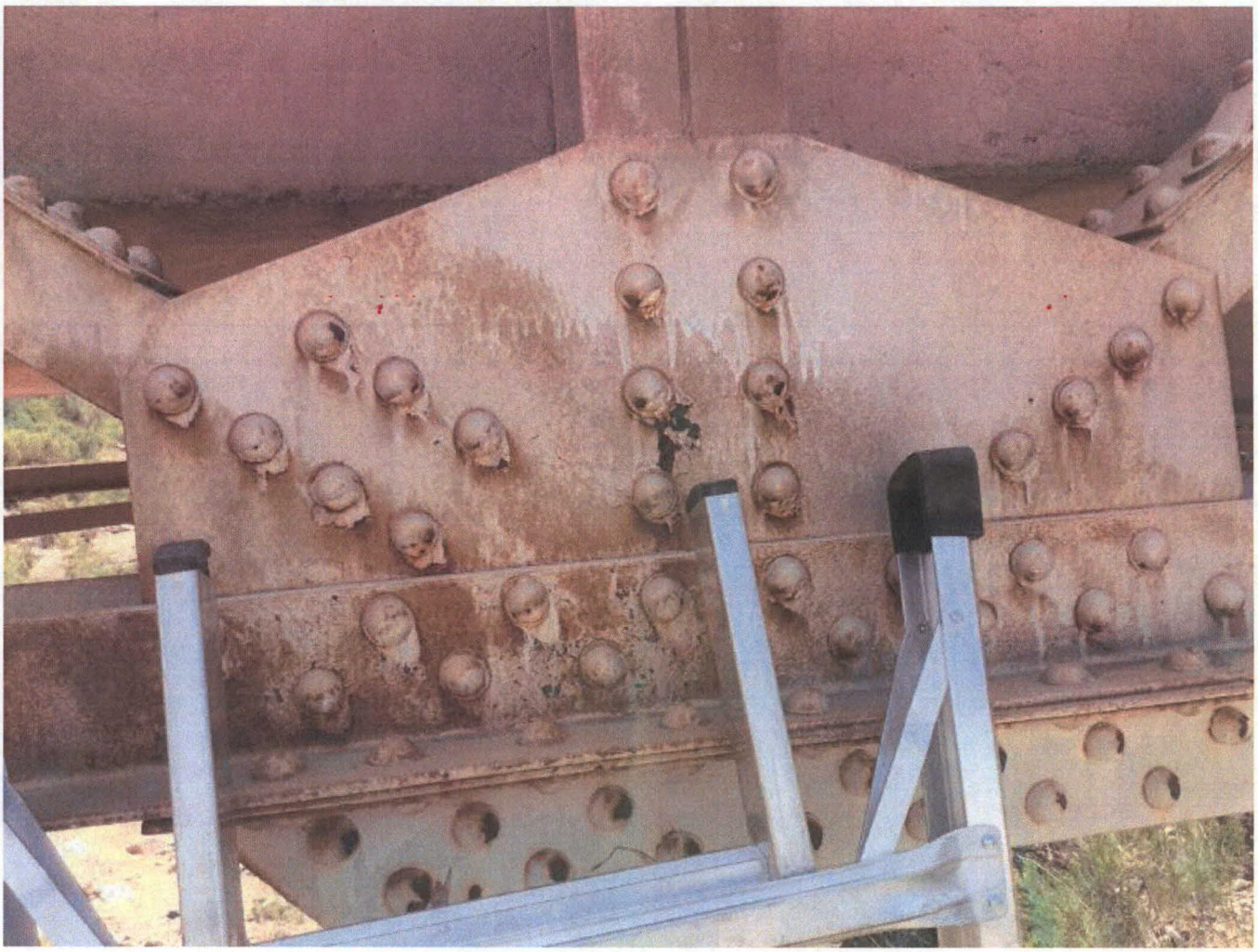
File Name : 00028-2018-08-30-Photo-R.jpg

Description : Photo R - Southwest corner, missing/damaged curb

BRIDGE GROUP

Bridge Inspection Photographs

Structure Number :	**00028**	Structure Name :	**Lewis Pranty Crk Br**	Inspected by :	**HDR-Ashby/Tucker**
Route :	**88**	Road Name :	**SR 88**	Inspection Type:	**FC In-Depth**
MP :	**224.6**	Agency :	**ADOT**	Inspection Date :	**Thursday, August 30, 2018**
ADOT District:	**Southeast**	District Org:	**5357**	Next Insp. Due By :	**08/30/2020**



File Name : 00028-2018-08-30-Photo-S.jpg

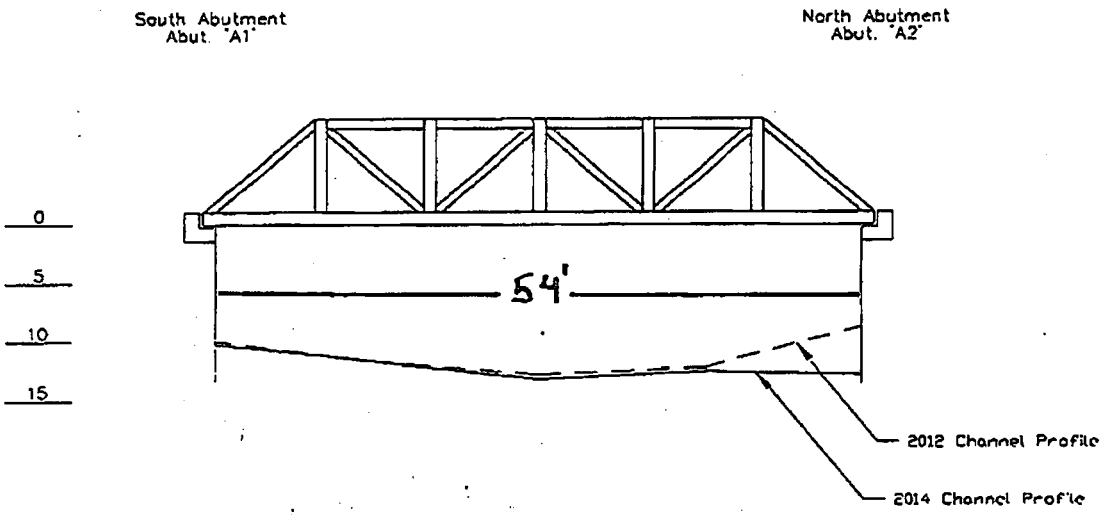
Description : Photo S - West truss panel point L4 gusset plate looking east

Name of Structure: Lewis Prenty Crk Br
Structure No. 0028
Location: Route 88 MP 224.50

Channel Profile Diagrcm

Page 1 of 1

Arizona Department of Transportation
Bridge Group
Supplemental Page to Bridge Inspection Report



STRUCTURE NO. 00028
LOOKING DOWNSTREAM

Note: Downstream is West

Insp. No.	Insp. date	Inspector's Initials	Channel Profile Location (U/S or D/S)	Depth at Abut. 'A1' face or at Support 'P' (RHS)	Depth at quarter span	Depth at mid span	Depth at 3/4 span	Depth at the left side of Support 'P'	Depth at the right side of Support 'P'	Depth at quarter span	Depth at mid span	Depth at 3/4 span	Depth at the left side of Support 'P'	Depth at the right side of Support 'P'	Depth at quarter span	Depth at mid span	Depth at 3/4 span	Depth at Abut. 'A2' face or at Support 'P' (LHS)
23	10/15/12	D_P	U/S	9.82	11.60	12.69	12.10											8.40
24	9/23/14	BKS/JAC	U/S	10.1	11.6	13.1	12.4											12.7
25	3/12/16	DT/AE	U/S	9.8	11.6	13.1	12.2											12.2
	8/30/18	HDR	U/S	9.8	11.6	12.8	12.6											12.2

Note: Channel depths will be measured from the bottom of the girder or the slab: For short span (<40'), depths at quarter & three-quarter lengths may not be necessary; Local scour, if observed at locations other than above, will be noted on this sheet with inspection date; RHS-->Right Hand Side; LHS-->Left Hand Side

Fracture Critical Members In-Depth Inspection Field Sheet

Structure #: 00028
Bridge Name: Lewis Pranty Creek Br
Route: 88
MP: 224.6

Bridge Description

Lewis Pranty Creek Bridge has one span of steel pony through-trusses with a concrete deck supported by multiple steel rolled floor beams on the truss bottom chords. The trusses are made of riveted angle and channel members.

Fracture Critical Members (see FCM Plan and Drawings in bridge file)

1. Tension members of the east and west steel trusses in Span 1.
2. Floor beams in Span 1.

Members and Details that require Inspection
-Panel points are numbered south to north.
-Inspection methods listed are required for that member. Any other method used in conjunction with these should be noted.

SPAN	FRACTURE CRITICAL MEMBERS	INSPECTION METHODS USED	INSPECTION COMPLETED	
			Yes	No
Span 1	Tension stress areas in the floor beams at panel points.	VT	X	
Comments:	No deficiencies noted.			
	EAST TRUSS			
Span 1	Lower chord members: L0-L1, L1-L2, L2-L3, L3-L4, L4-L5, L5-L6	VT	X	
Comments:	No deficiencies noted.			
Span 1	Vertical members: U1-L1, U-3-L3, U5-L5	VT	X	
Comments:	U1-L1 has a bend in the southeast flange near the middle of the member. U5-L5 has a slight bend in the southwest flange at the curb line.			
Span 1	Diagonal members: U1-L2, U5-L4	VT	X	
Comments:	No deficiencies noted.			
	WEST TRUSS			
Span 1	Lower chord members: L0-L1, L1-L2, L2-L3, L3-L4, L4-L5, L5-L6	VT	X	
Comments:	No deficiencies noted.			

SPAN	FRACTURE CRITICAL MEMBERS	INSPECTION METHODS USED	INSPECTION COMPLETED	
			Yes	No
Span 1	Vertical members: U1-L1, U-3-L3, U5-L5	VT	X	
Comments: No deficiencies noted.				
Span 1	Diagonal members: U1-L2, U5-L4	VT	X	
Comments: U1-L2 has a bend in the flange approx. 16" from the base of the member.				
-VT = Visual Inspection Test; PT = Dye Penetrant Test; Note: The tension stresses are distributed over the member cross sections as follows: - Bottom flange and lower 1/2 of the web of steel floor beams in the positive moment regions - Top flange and upper 1/2 of the web of steel floor beams in the negative moment regions				

Additional Comments/Observations:

1. In-Depth FC inspection performed by On-Call Consultant, HDR Engineering, Inc., under Contract 2013-017.03, Task Order No. 12.

Fracture Critical Members In-Depth Inspection Plan

Structure #: 00028
Bridge Name: Lewis Pranty Creek Br
Route: 88
MP: 224.6

Bridge Description

Lewis Pranty Creek Bridge has one span of steel pony through trusses with a concrete deck supported by multiple steel rolled floor beams attached to the truss bottom chords. The trusses are made of riveted, angle and channel members.

Fracture Critical Members

1. Tension members of the east and west steel trusses in Span 1.
2. Floor beams in Span 1.

Members and Details that require Inspection

Panel points are numbered south to north.

SPAN	FRACTURE CRITICAL MEMBERS	INSPECTION METHODS USED	INSPECTION COMPLETED	
			Yes	No
Span 1	Tension stress areas in the floor beams at panel points.	VT/PT	X	
EAST TRUSS				
Span 1	Lower chord members: L0-L1, L1-L2, L2-L3, L3-L4, L4-L5, L5-L6	VT/PT	X	
Span 1	Vertical members: U1-L1, U-3-L3, U5-L5	VT/PT	X	
Span 1	Diagonal members: U1-L2, U5-L4	VT/PT	X	
WEST TRUSS				
Span 1	Lower chord members: L0-L1, L1-L2, L2-L3, L3-L4, L4-L5, L5-L6	VT/PT	X	
Span 1	Vertical members: U1-L1, U-3-L3, U5-L5	VT/PT	X	
Span 1	Diagonal members: U1-L2, U5-L4	VT/PT	X	

Note: The tension stresses are distributed over the member cross sections as follows:
- Bottom flange and lower 1/2 of the web of steel floor beams in the positive moment regions
- Top flange and upper 1/2 of the web of steel floor beams in the negative moment regions
- The engineer shall choose PT for FCM inspection whereas VT is not applicable.

Inspection Methods

1. Visual Inspection (VT)

   Visual inspections will be conducted in accordance with NBIS Code of Federal Regulation 23 CFR Part 650, The inspection procedure recommendation in the FHWA NHI 03-001 "Bridge Inspection Reference Manual," 2006 and AASHTO "Manual for Condition Evaluation of Bridges," 1994, second edition and the "Inspection of Fracture Critical Bridge Members" FHWA Report No. FHWA-IP-86-26 will be followed. These inspections shall be hands-on with the inspector being within arm length of the component. Critical areas shall be specially cleaned prior to the inspections and additional lighting and magnification shall be used.

2. Liquid (Dye) Penetrant Testing (PT)

   The testing will be performed by a Certified ASNT Level II inspector from a selected ADOT qualified on-call inspection company in accordance to ANSI/ASNT Testing Specifications. Refer also to: *Inspection of Fracture Critical Bridge Members*, FHWA Report No. IP-86-26.

Special inspection Needs

1. Inspection Access Method Discussion

   The bridge spans over Lewis Pranty Creek at MP224.60 on SR88 with a narrow single-lane roadway and no shoulders. The bridge is surrounded with a shallow rugged rocky canyon terrain. The diagonal and vertical truss members can be accessed through bridge deck because these are shallow through-trusses. Bottom truss chords and floor beams at panel points beneath the deck can be reached by ropes, ladders or under-bridge inspection vehicle (snooper). Temporary bridge closure may be required if snooper is used.

2. Traffic Control Plan

   The selected ADOT qualified on-call inspection company shall coordinate with the Regional Maintenance Engineer of ADOT Globe Construction & Maintenance District.

3. Equipment

   The selected ADOT qualified on-call inspection company shall equip with the tools necessary to perform the In-depth inspection for this bridge.

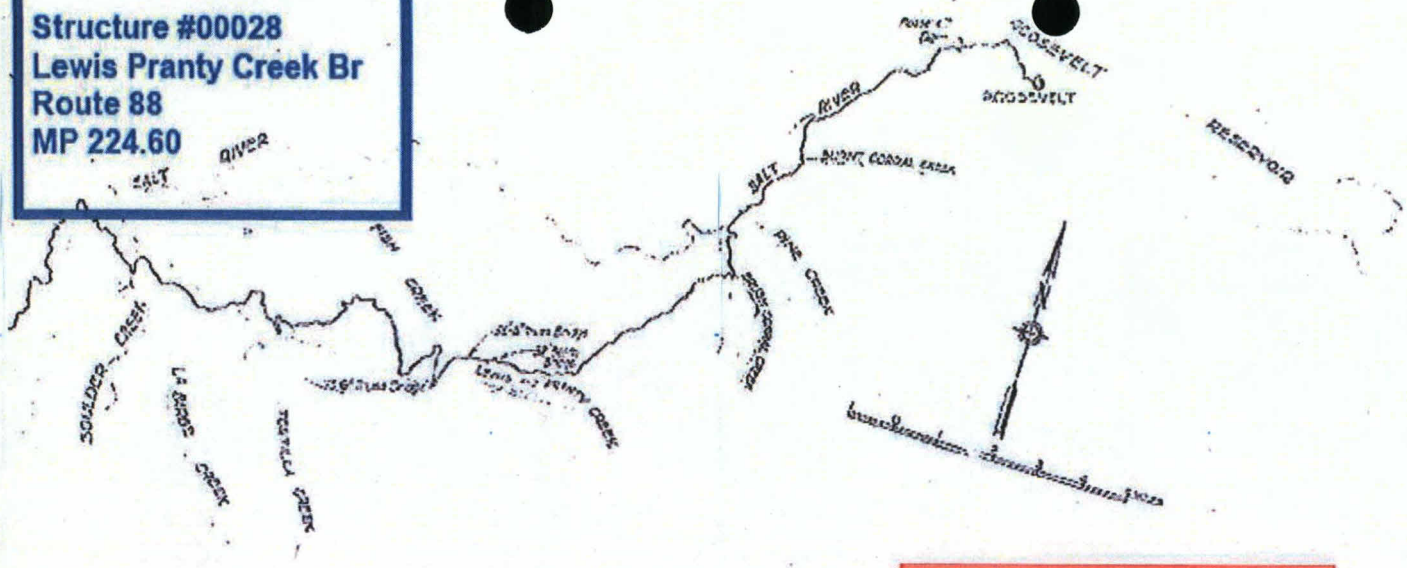
Revised by: _____ Date: 3/25/2014
Henry M. Sung, P.E.

Revised by: _____ Date: 3/25, 2014
Homer Saidi, P.E.

Approved by: _____ Date: 3/25/2014
Peng Chen, P.E.

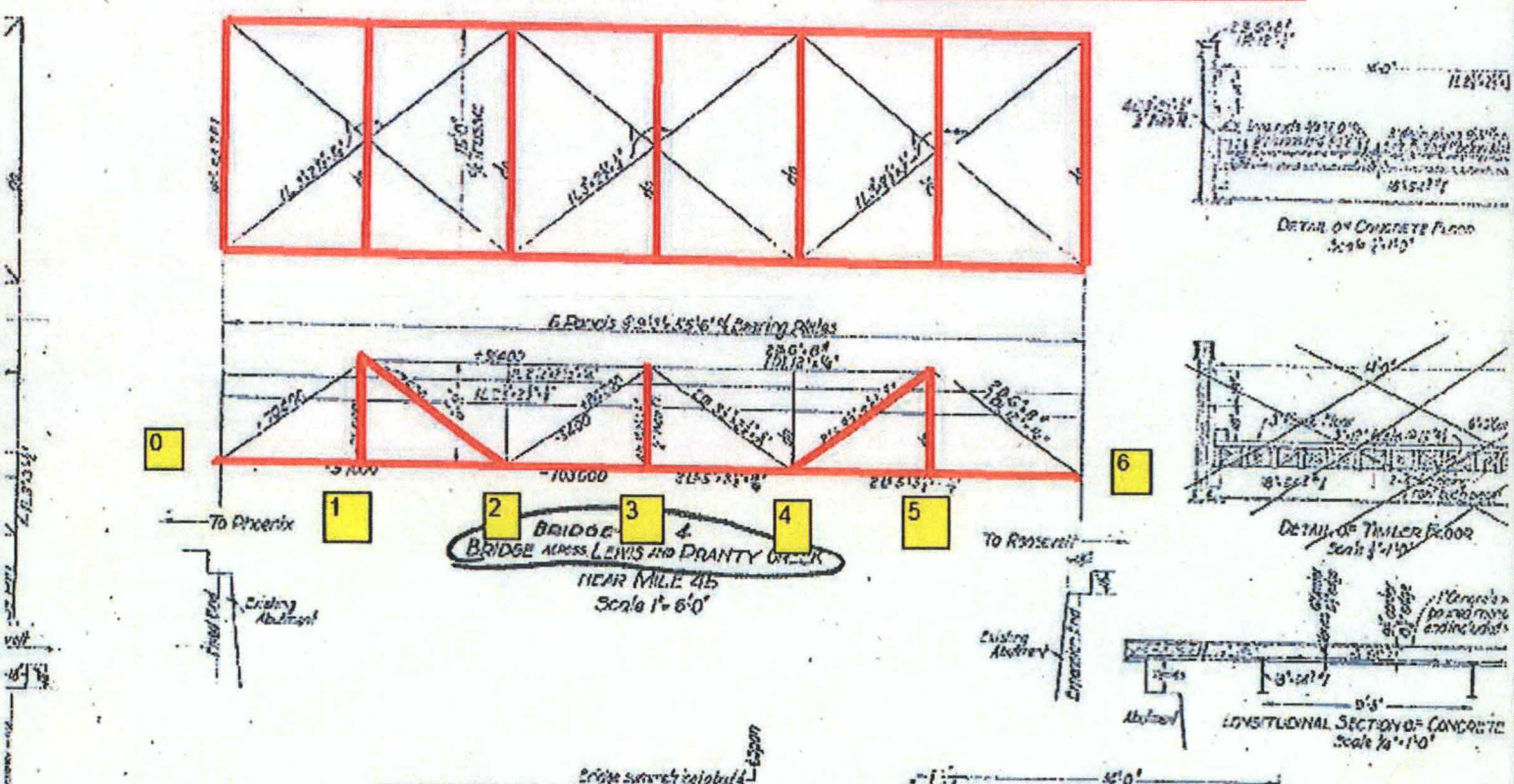
Structure #00028
Lewis Pranty Creek Br
Route 88
MP 224.60

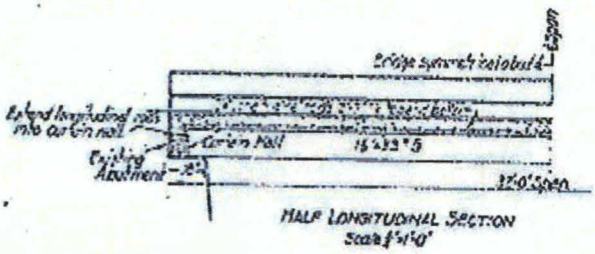
As Bui

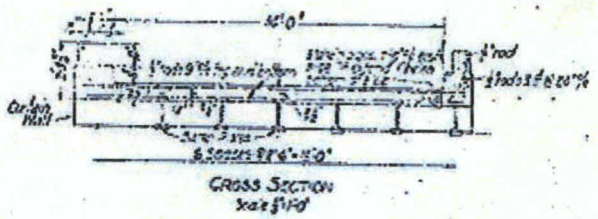


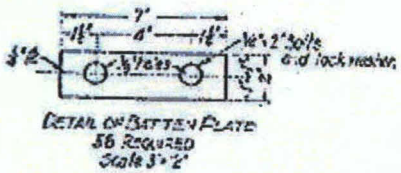
Note:
Stress sheet only.
For erection details see sheet #1

— = FCMs









Bridge No. 5
32 Ft. Beam Bridge
Near Mile 46
Scale 1/2"=1'-0"

ARIZONA HIGHWAY DEPA
BRIDGES ON APACHE TR
IN VICINITY OF FO
MARICOPA COUNT
THOS MADDOCK STATE
SCALE AS SHOWN PROJ

Sheet #4 of 6

Date Printed : 08/09/2018

ARIZONA DEPARTMENT OF TRANSPORTATION

BRIDGE GROUP

Structure Inventory and Appraisal

Structure Number : **00015** Structure Name : **Dry Wash Bridge** Feature Under : **Dry Wash**

Route : **88** MP : **225.55** Road Name : **SR 88** Agency: **ADOT** Location : **29.9 mi E Jct US 60**

LOCATION INFORMATION

N1-State Code :	049
N2-State Hwy District :	Southeast
N3-County Code :	013
N4-Place Code :	00000
N16-Latitude:	33 Deg 32 Min 18.60 Sec
N17-Longitude :	111 Deg 17 Min 10.68 Sec
N98-Border St Code - % Resp:	
N99-Border Bridge Number:	

INVENTORY ROUTE DATA

N19-Detour Length (miles):	99	
N20-Toll:	3	
ROADWAY RECORD	ON	UNDER
N5-Inv Rte:	1 3 1 00088 0 | -	
N28-Lanes:	1	0.00
N10-Inv Rte Min Vert Clr (feet):	99.99	
N11-Inv Rte Milepoint:	225.55	
N26-Functional Class:	07	
N29-Avg Daily Traffic:	170	
N30-Year of ADT:	2017	
N47-Inv Rte Tot Horiz Clr (feet):	14.0	
N100-Defense Hwy:	0	
N101-Parallel Bridge:	N	
N102-Direction of Traffic:	3	
N104-Hwy System:	0	
N109-Percent Truck Traffic:	14	
N110-National Truck Network:	0	
N114-Future ADT:	180	
N115-Year of Future ADT:	2038	
A200-Is N5 the Princ. Rte?	Y	

RESPONSIBILITY

N21-Maint Responsibility:	01
N22-Bridge Owner:	01
A203-ADOT Org Number:	5357
A229-Agency:	ADOT

NAVIGATION

N38-Navigation Control:	0
N39-Nav Vert clr (feet):	0.00
N40-Nav Horiz Clr (feet):	0.00
N111-Nav Pier/Abut Prot:	
N116-Nav Min Vert Clr (feet):	

GENERAL DATA

N33-Bridge Median:	0
N34-Skew:	0
N35-Structure Flared:	0
N37-Historical Significance:	5
N107-Deck Str Type:	1
N108-Wear Surf Prot System:	1 0 0
A201-Wear Surf Thickness (inches)	

DIMENSIONS

N32:Appr Rdwy Width (feet):	14
N48-Max Span Length (feet):	32
N49-Structure Length (feet):	32
N50a-Lt Curb/Swlk Width (feet):	0.4
N50b-Rt Curb/Swlk Width (feet):	0.4
N51-Br Width Curb-Curb (feet):	14.0
N52-Deck Width Out-Out (feet):	16.7
N112-NBIS Br Length?	Y

VERTICAL & HORIZONTAL CLEARANCE

N53-Min Vert Over Clr (feet):		99.99
N54-Min Vert Under Clr (feet):	N	0.00
N55-Min Lat Under Clr Rt (feet):	N	0.0
N56-Min Lat Under Clr Lt (feet):		0.0

SERVICE, TYPE, and SPAN INFORMATION

N42-Service Type:	1 5
N43-Str Type, Main:	3 2
N44-Str Type, Appr:	0 0
N45-Number of Main Spans:	1
N46-Number of Appr Spans:	0

CONDITION RATINGS

N58-Deck:	6
N59-Superstructure:	6
N60-Substructure:	6
N61-Channel:	7
N62-Culvert:	N

APPRAISAL RATINGS

N67-Struct Evaluation:	6
N68-Deck Geometry:	2
N69-Underclearance Rtg:	N
N71-Waterway Adequacy:	8
N72-Appr Rdw Align:	3
N36-Traffic Safety Features:	0 0 0 0

BRIDGE SCOUR DATA

N113-Scour Critical Rtg:	5
A202-Foundation Type:	3
A220-Found Embed (feet):	0
A221-Scour Countermeasure:	004

LOAD, RATE, and POST

N31-Design Loading:	5
N41-Open, Post, Close:	A
N63-Method Used for Oper. Rtg:	1
N64-Operating Load Rtg/Factor:	40
N65-Method Used for Inv. Rtg:	1
N66-Inventory Load Rtg/Factor:	24
N70-Bridge Posting:	5
N103-Temp Str Designation:	
A211-Posted Limit (Tons):	
A222-Date of Load Rtg:	09/14/2015
A233-Posted Vert Clr NB/EB (ft-in):	0-0
A233-Posted Vert Clr SB/WB (ft-in):	0-0

PROPOSED IMPROVEMENTS

N75-Type of Work:	31 1
N76-Length of Str Imp (feet):	57
N94-Br Improv Cost (x1000):	$57
N95-Rdwy Improv Cost (x1000):	$145
N96-Total Project Cost (x1000):	$721
N97-Year of Cost Estimate:	2018

CONSTRUCTION PROJECT DATA

N27-Year Built:	1928
N106-Year of Reconstruction:	
A204-Orig Project Number:	
A205-Orig Project Station:	1735+00.00
A223-TRACS Number:	
A225-Deck Area (sq. feet):	534

INSPECTION

N90-Inspection Date:	08/01/2018
N91-Insp Freq (months):	24
A207-Inspection Quarter:	3
Inspection Type:	Routine
A228-Next Insp Date:	August 2020

CRITICAL FEATURES

N92A-Fracture Critical:	N
N92B-Underwater Insp:	N
N92C-Special Insp:	N
N93A-Date Fract Crit Insp:	
N93B-Date Underwater Insp:	
N93C-Date Spec Insp:	
A234-Steel In-Depth Insp Freq(months):	48

CULVERT INFORMATION

A217-Culv Barrel Height(feet):	0
A218-Culv Length (feet):	0
A219-Culv Fill Height (feet):	0

BRIDGE RAILING

A206a,b,c- Bridge Rail Type, Geometric Conform, and Structural Conform:	400

SUFFICIENCY RATING

Sufficiency Rating:	F	55.60

A300 - GENERAL COMMENTS

BRIDGE GROUP

Bridge Maintenance Report

Structure Number :	**00015**	Structure Name :	**Dry Wash Bridge**	Inspected by :	**ADOT-Sharma/Casteel**
Route :	**88**	Road Name :	**SR 88**	Inspection Type:	**Routine**
MP :	**225.55**	Agency :	**ADOT**	Inspection Date :	**Wednesday, August 1, 2018**
ADOT District:	**Southeast**	District Org:	**5357**	Next Insp. Due By :	**August 2020**

Work Candidate ID: 20FC5E2-2954-080218-94F90F9D2D

Action: 1059 Misc-Tighten Bolts and Nuts

Estimated Quantity:

Estimated Cost: $0.00

A212 - Repair Priority: 3

A216 - Actual Completion Cost $

A215 - Completion Date:

Replace the missing bolt in the girder 7 strap plate adjacent to the east abutment.

Work Candidate ID: 20FC5E2-2954-080218-8B89C442A5

Action: 1070 Substructure-Patch spalls

Estimated Quantity:

Estimated Cost: $0.00

A212 - Repair Priority: 3

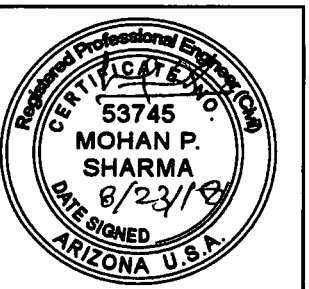
A216 - Actual Completion Cost $

A215 - Completion Date:

Repair abutment cracks and spalls.

BRIDGE GROUP

Inspection Report



Expires 9/30/18

Structure No.:	00015	Structure Name:	Dry Wash Bridge	Inspected by :	ADOT-Sharma/Casteel
Route :	88	Road Name:	SR 88	Inspection Type:	Routine
MP :	225.55	Agency:	ADOT	Inspection Date :	Wednesday, August 1, 2018
ADOT District:	Southeast	District Org:	5357	Next Insp. Due By :	August 2020

NBI Condition Ratings

N58 Deck :	6 Satisfactory	N61 Channel:	7 Minor Damage
N59 Superstructure :	6 Satisfactory	N62 Culvert :	N N/A (NBI)
N60 Substructure :	6 Satisfactory		

Appraisal Ratings

N67 Structural Evaluation:	6 Equal Min Criteria	N71 Waterway Adequacy:	8 Equal Desirable
N68 Deck Geometry:	2 Intolerable - Replace	N72 Approach Roadway Align.:	3 Intolerable - Correct
N69 Vert. & Horiz. Clearances:	N Not applicable (NBI)	N113 Scour Critical:	5 Stable w/in footing

Inspection Notes

Roadway/Safety:
1. 1-lane dirt road, ride is rough.
2. Fills are in good condition.
3. B/Y object markers are at all four corners. Narrow bridge signs are at both approaches.

Deck:
1. Curbs have hairline to narrow cracks and minor spalls. North parapet has minor spalls on top edge and at NE corner. South parapet has large spall at SE corner.
2. 3" dia deck drains at both sides are open.

Substructure:
1. Stone masonry wingwalls have few narrow sized random cracks.

Waterway:
1. Rocky, gravelly and steep channel with light to moderate vegetation. Water flows N to S.
2. The channel was dry and stable at the time of the inspection.
3. Grouted rock is at toe of abutments, extended around all 4 corners.

Miscellaneous Inspection Notes:
1. No previous repairs to verify and no new repairs and maintenance items are recommended. out of 3 previously recommended maintenance items, one was completed (Remove the dirt and debris from the bridge deck and abutment seats) and other two were not complete and are repeated. See Maintenance Report.
2. Since this is a routine inspection, not all comments made in the last In-depth inspection were verified. However, they are retained and may be updated during the next In-depth inspection. Refer to In-depth Inspection dated 8/12/16 for most recent In-depth inspection notes.
3. Photos:
a. Roadway ID looking W
b. Elevation ID looking N
c. Deck top
d. Soffit
e. E abutment crack and missing strap bolt

Element No.	Element Description	Quantity	Units	Env.	Condition State 1	2	3	4
12	Re Concrete Deck	534	sq feet	0	284	250	0	0
Single span RC deck: 1. Deck top surface has few narrow sized random cracks with moderate abrasion. 2. The soffit has hairline sized transverse and longitudinal cracks of moderate density.								
1130	*Cracking (RC and Other)*	150	each	0	150	0	0	0
1. Deck top surface has few narrow sized random cracks.								
1190	*Abrasion(PSC/RC)*	250	each	0	0	250	0	0
1. Deck top surface has moderate abrasion.								
107	Steel Opn Girder/Beam	223	feet	0	73	150	0	0

BRIDGE GROUP

Inspection Report

Structure No. :	00015	Structure Name :	Dry Wash Bridge	Inspected by :	ADOT-Sharma/Casteel
Route :	88	Road Name :	SR 88	Inspection Type:	Routine
MP :	225.55	Agency :	ADOT	Inspection Date :	Wednesday, August 1, 2018
ADOT District:	Southeast	District Org:	5357	Next Insp. Due By :	August 2020

Element No.	Element Description	Quantity	Units	Env.	Condition State 1	2	3	4
7 back-to-back steel C-channel painted beams, single span: 1. The abutments are numbered west to east and the girders are numbered left to right facing east. 2. There are no fracture critical members on this bridge. 3. Girder 7 has a missing bolt in the bottom flange back to back channel strap plate adjacent to the east abutment. See photo "e" and Maintenance Report. 4. The paint system has failed and there is minor to moderate surface corrosion throughout. 5. Girder 2 has a bent back to back channel strap plate adjacent to the east abutment. 6. Paints were pilling off in few locations								
515	*Steel Protective Coating*	772	sq feet	0	0	772	0	0
1. Black painted steel structures. 2. Paints were pilling off in few locations.								
1000	*Corrosion*	150	each	0	0	150	0	0
217	Masonry Abutment	33	feet	0	29	1	3	0
Stone masonry walls with concrete seat on top and spread footings: 1. The W abutment under girder 1 has up to 1/4" wide vertical crack and E abutment under girders 3 & 5 have up to 1/8" wide vertical cracks. E abutment under girder 4 has 12" x6" spall /construction void. See photo "e" and Maintenance Report.								
1610	*Mortar Breakdown (Masonry)*	3	each	0	0	0	3	0
1. The W abutment under girder 1 has up to 1/4" wide vertical crack and E abutment under girders 3 & 5 have up to 1/8" wide vertical cracks.								
1620	*Split/Spall (Masonry)*	1	each	0	0	1	0	0
1. E abutment under girder 4 has 12" x6" spall /construction void.								
331	Re Conc Bridge Railing	64	feet	0	50	12	2	0
12" high RC parapets on 6" high curbs at both sides: 1. Parapets have few narrow sized vertical cracks. The N parapet has minor spalls on the top edge and the E end. S parapet has a large spall at the E end with an exposed rebar.								
1080	*Delamination/Spall/Patched Area*	8	each	0	0	6	2	0
1. N parapet has minor spalls on the top edge and the E end. S parapet has a large spall at the E end with an exposed rebar.								
1130	*Cracking (RC and Other)*	8	each	0	8	0	0	0
1. Parapets have few narrow sized vertical cracks.								

BRIDGE GROUP

Bridge Inspection Photographs

Structure Number :	**00015**	Structure Name :	**Dry Wash Bridge**	Inspected by :	**ADOT-Sharma/Casteel**
Route :	**88**	Road Name :	**SR 88**	Inspection Type:	**Routine**
MP :	**225.55**	Agency :	**ADOT**	Inspection Date :	**Wednesday, August 1, 2018**
ADOT District:	**Southeast**	District Org:	**5357**	Next Insp. Due By :	**08/01/2020**

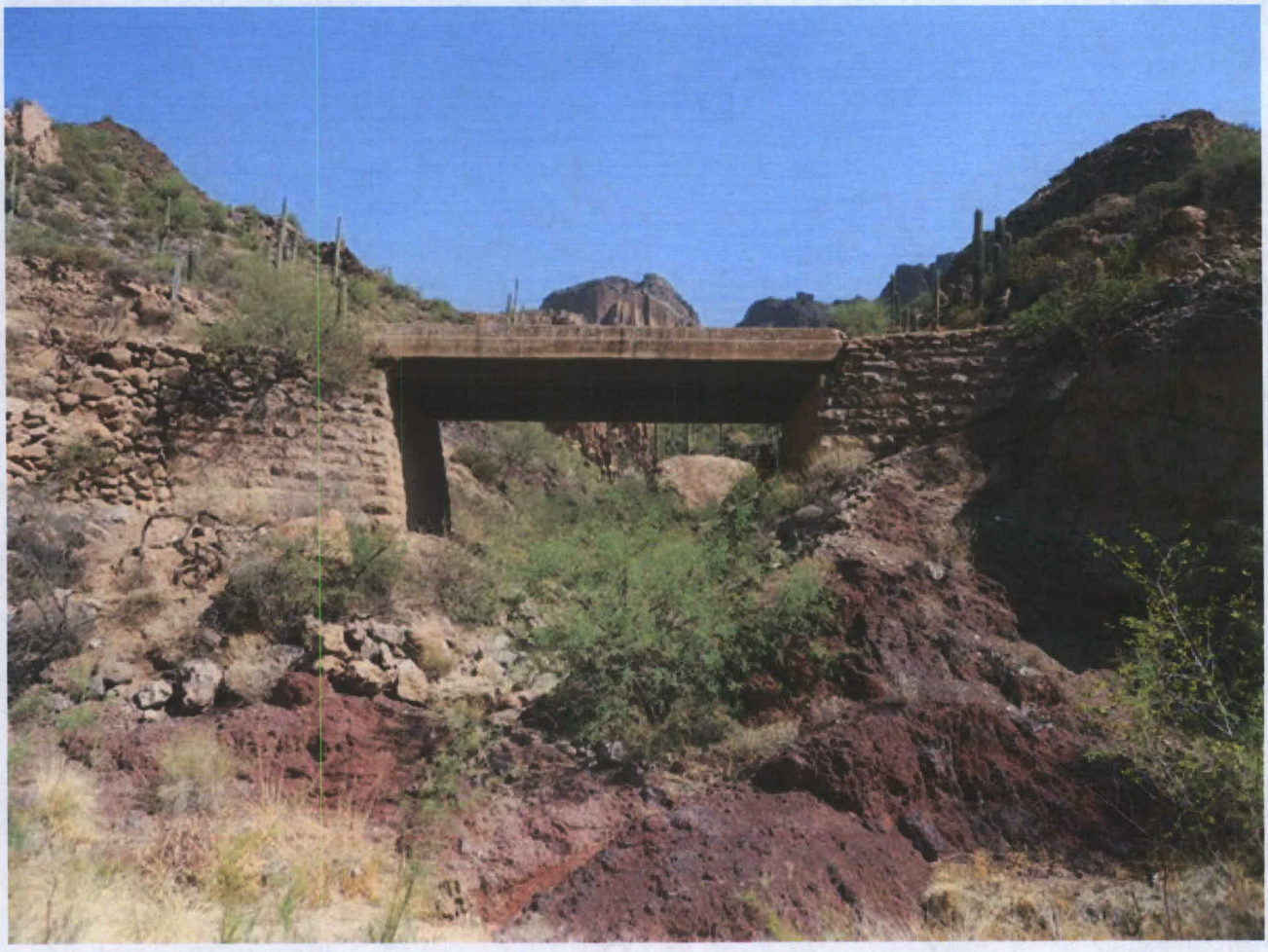
File Name : 00015-2018-08-01-Photo-a.jpg

Description : Roadway ID looking W

BRIDGE GROUP

Bridge Inspection Photographs

Structure Number :	**00015**	Structure Name :	**Dry Wash Bridge**	Inspected by :	**ADOT-Sharma/Casteel**
Route :	**88**	Road Name :	**SR 88**	Inspection Type:	**Routine**
MP :	**225.55**	Agency :	**ADOT**	Inspection Date :	**Wednesday, August 1, 2018**
ADOT District:	**Southeast**	District Org:	**5357**	Next Insp. Due By :	**08/01/2020**



File Name : 00015-2018-08-01-Photo-b.jpg

Description : Elevation ID looking N

BRIDGE GROUP

Bridge Inspection Photographs

Structure Number :	**00015**	Structure Name :	**Dry Wash Bridge**	Inspected by :	**ADOT-Sharma/Casteel**
Route :	**88**	Road Name :	**SR 88**	Inspection Type:	**Routine**
MP :	**225.55**	Agency :	**ADOT**	Inspection Date :	**Wednesday, August 1, 2018**
ADOT District:	**Southeast**	District Org:	**5357**	Next Insp. Due By :	**08/01/2020**

File Name : 00015-2018-08-01-Photo-c.jpg

Description : Deck top

BRIDGE GROUP

Bridge Inspection Photographs

Structure Number :	**00015**	Structure Name :	**Dry Wash Bridge**	Inspected by :	**ADOT-Sharma/Casteel**
Route :	**88**	Road Name :	**SR 88**	Inspection Type:	**Routine**
MP :	**225.55**	Agency :	**ADOT**	Inspection Date :	**Wednesday, August 1, 2018**
ADOT District:	**Southeast**	District Org:	**5357**	Next Insp. Due By :	**08/01/2020**

File Name : 00015-2018-08-01-Photo-d.jpg

Description : Soffit

BRIDGE GROUP

Bridge Inspection Photographs

Structure Number :	**00015**	Structure Name :	**Dry Wash Bridge**	Inspected by :	**ADOT-Sharma/Casteel**
Route :	**88**	Road Name :	**SR 88**	Inspection Type:	**Routine**
MP :	**225.55**	Agency :	**ADOT**	Inspection Date :	**Wednesday, August 1, 2018**
ADOT District:	**Southeast**	District Org:	**5357**	Next Insp. Due By :	**08/01/2020**

File Name : 00015-2018-08-01-Photo-e.jpg

Description : E abutment crack and missing strap bolt

Name of Structure: Dry Wash Bridge

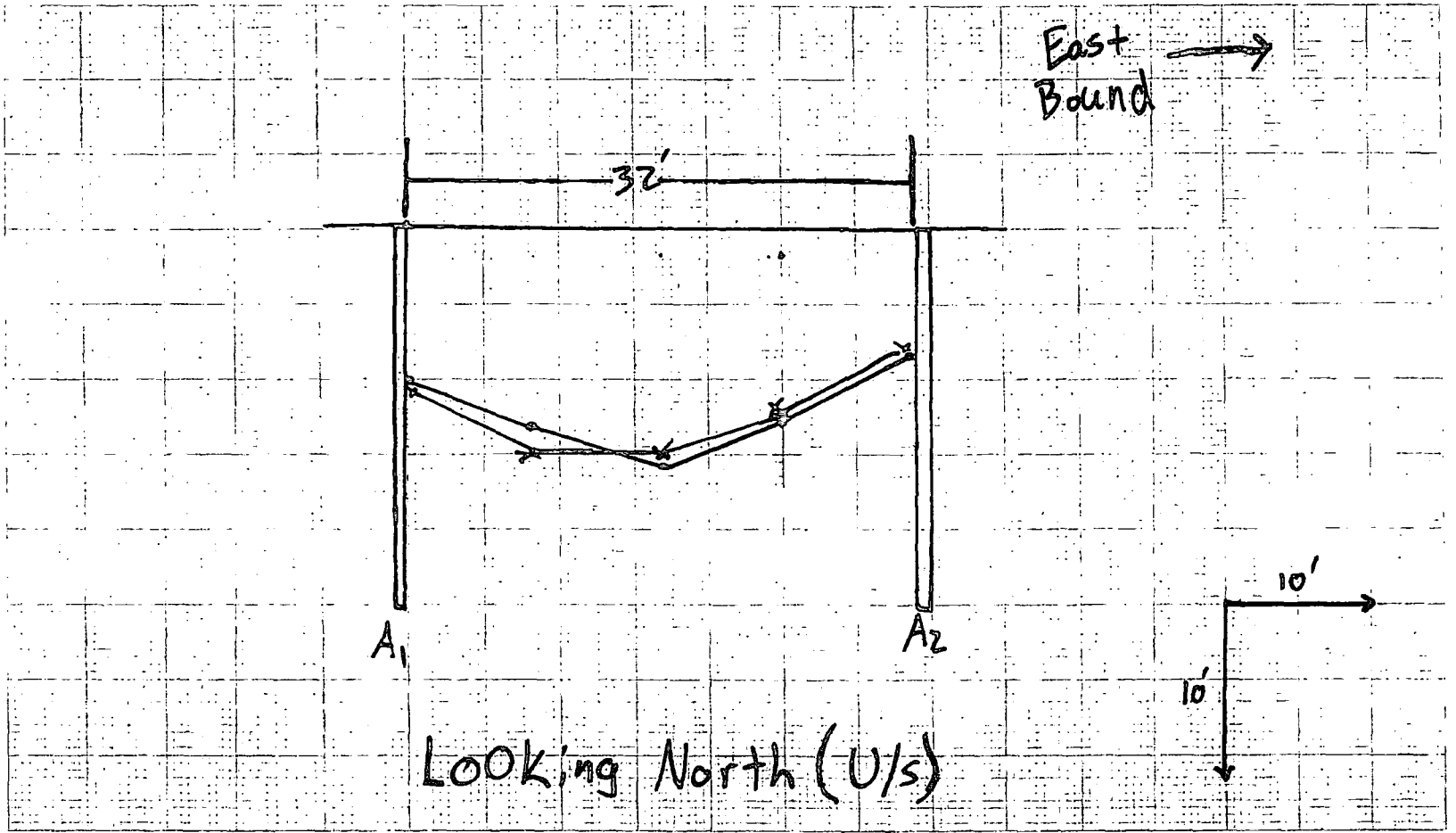
Structure No. 88 15

Location: Route 88 MP 225.55

Channel Profile Diagram

Page 1 of 1

Arizona Department of Transportation
Bridge Group
Supplemental Page to Bridge Inspection Report



Insp. No.	Insp. date	Inspector's Initial	Channel Profile Location (U/S or D/S)	Depth at Abut. (A1) face or at Support, 'P '(RHS)	Depth at quarter span	Depth at mid span	Depth at 3/4 span	Depth at the left side of Support 'P	Depth at the right side of Support 'P	Depth at quarter span	Depth at mid span	Depth at 3/4 span	Depth at the left side of Support 'P	Depth at the Right side of Support 'P	Depth at quarter span	Depth at mid span	Depth at 3/4 span	Depth at Abut. (A2) face or at Support, 'P '(LHS)
22	7/13/16	SS/AN	D/S	10'-9"	13'-8"	15-8'	12-7'											8'-8"
23	8/12/20	DT/AH	D/S	10-7'	14.8'	14.3'	12.6'											7.8"
24	8-1-18/MS	AC	D/S	10.6	14.8	14.3	12.6											7.9

† 64-4505 R07/06

Note: Channel depths will be measured from the bottom of the girder or the slab; For short span (<40'), depths at quarter & three-quarter lengths may not be necessary; Local scour, if observed at locations other than above, will be noted on this sheet with inspection date; RHS-->Right Hand Side; LHS--> Left Hand Side.

APPENDIX C

State of Arizona
Historic Property Inventory Forms

HISTORIC BRIDGE INVENTORY

Fish Creek Bridge

PROPERTY IDENTIFICATION

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

STRUCTURAL INFORMATION

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

HISTORICAL INFORMATION

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

NATIONAL REGISTER EVALUATION

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

inventory score 62

NRHP eligibility listed

NRHP criteria A x B _____ C x

signif. statement well-preserved example of rare structural type, located on significant early route

FORM COMPLETED BY

Clayton B. Fraser, Principal

FRASERdesign
420 South County Road 23E
Loveland, Colorado 80537
May 2009

HISTORIC BRIDGE INVENTORY

Lewis and Pranty Creek Bridge

PROPERTY IDENTIFICATION

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

STRUCTURAL INFORMATION

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

HISTORICAL INFORMATION

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

NATIONAL REGISTER EVALUATION

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

inventory score 62

NRHP eligibility listed

NRHP criteria A x B _____ C x

signif. statement well-preserved example of rare structural type, located on significant early route

FORM COMPLETED BY

Clayton B. Fraser, Principal

FRASERdesign
420 South County Road 23E
Loveland, Colorado 80537
May 2009

HISTORIC BRIDGE INVENTORY

Dry Wash Bridge

PROPERTY IDENTIFICATION

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

STRUCTURAL INFORMATION

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

HISTORICAL INFORMATION

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

NATIONAL REGISTER EVALUATION

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

inventory score 59

NRHP eligibility eligible

NRHP criteria A x B _____ C x

signif. statement well-preserved, early example of common structural type, located on significant early route

FORM COMPLETED BY

Clayton B. Fraser, Principal

FRASERdesign
420 South County Road 23E
Loveland, Colorado 80537
May 2009

APPENDIX D

Scour Assessment Reports

12/23/2015

Scour Assessment Report for

Structure #27 is available in the

Bridge Hydraulics Section file cabinet.

The file cabinet is sorted numerically by structure number. If you need any assistance locating this report, please check with Bridge Group Administration.

Fish Creek Bridge

Highway: 88

Milepost: 223.5

ARIZONA DEPARTMENT OF TRANSPORTATION
SCOUR DATA SHEET

DATE 11-25-92 HWY SYSTEM(104) 4

STRUCTURE NO. 00027 AGENCY 1 PLACE CODE 00000

ROAD OR STREET/ROUTE & MILEPOST SR88 223.500

NAME OF BRIDGE OR WATERWAY Fish Creek Bridge

STRUCTURE LENGTH 74' NO. OF SPANS 1 YR BUILT 1928

FROM PLANS: Q50 _____ Q100 _____ DRAIN AREA _____

EMBEDEMENT NA FLOW DEPTH NA FOUNDATION TYPE 3

STUDY CATEGORY: (circle as appropriate)

(B) - CONFIRMED SPREAD FOOTING ON BEDROCK

C - CANAL BRIDGE, OR CONTROLLED, LINED CHANNEL

N - STRUCTURE DESIGNED SINCE 1980 WITH PROPER SCOUR DESIGN

K - STUDY COMPLETED, NO WORK RECOMMENDED

W - STUDY COMPLETED, WATCH ON INSPECTIONS

R - STUDY COMPLETED, COUNTERMEASURES CONSTRUCTED

P - STUDY COMPLETED, COUNTERMEASURES PENDING

A - ALL OTHER SITES

SPECIAL STUDY EMPHASIS: (circle YES OR NO as appropriate)

Y (N)

Emphasis should be given to those sites where gravel mining is within a half mile, or where there has been a history of degradation, or where floods have previously caused damage, or where previous countermeasures need review, or where special conditions warrant a higher priority be given to a scour study.

ORIGINAL DATA BY GDH

INSP. NO.	13	14					
DATE	11/23/92	4/8/96					
INITIAL	DCC GWM	g					

(03/05/92)

ARIZONA DEPARTMENT OF TRANSPORTATION
STRUCTURES SECTION

SCOUR COMMITTEE REVIEW
of
SCOUR ASSESSMENT REPORT

SITE NO. 172 **BRIDGE NAME** Fish Creek Bridge

ROUTE 88 **STRUCTURE NUMBER(s)** 27

MILEPOST 223.50

COUNTERMEASURES RECOMMENDED IN THE REPORT:

No work is recommended. All foundations are on competent bedrock based on a visual inspection.

SCOUR COMMITTEE REVIEW COMMENTS:

The Scour Committee concurs.

SCOUR COMMITTEE MEETING DATE: June 11, 1991

Attendance:

C. D. Grigg
F. D. Davis
G. A. Lopez-Cepero
W. R. Bruesch
J. R. Pyne
M. B. Sarsam

APPROVED _____
Assistant State Engineer - Structures

SCOUR DATA SHEET

DATE 4-11-88

STRUCTURE NO. 27 ROUTE S88 MILEPOST 223.50

BRIDGE NAME FISH CREEK BRIDGE

STRUCTURE LENGTH 74 NO. SPANS 1 YR BLT 2800

STRUCTURE TYPE 310 FOUNDATION TYPE 3

FROM PLANS: Q50 Q100 DRN AREA

EMBEDMENT NA FLOW DEPTH NA

STUDY CATEGORY: (circle as appropriate)

(B) - CONFIRMED SPREAD FOOTING ON BEDROCK

C - CANAL BRIDGE, OR CONTROLLED, LINE CHANNEL

N - STRUCTURE DESIGNED SINCE 1980

K - STUDY COMPLETED, NO WORK RECOMMENDED

W - STUDY COMPLETED, WATCH ON INSPECTIONS

R - STUDY COMPLETED, COUNTERMEASURES CONSTRUCTED

P - STUDY COMPLETED, COUNTERMEASURES PENDING

A - ALL OTHER SITES

SPECIAL STUDY EMPHASIS: (circle Yes or No as appropriate

Y (N)

Emphasis should be given to those sites where gravel mining is within a half mile, or where there has been a history of degradation, or where floods have previously caused damage, or where previous countermeasures need review, or where special conditions warrant a higher priority be given to a scour study.

data by updated by GDH

SCOUR ASSESSMENT REPORT

BRIDGE MAINTENANCE BRANCH

STRUCTURE NO. 0027 ROUTE SR 88 MILEPOST 223.50

BRIDGE NAME FISH CREEK BRIDGE SITE NO. _____

STRUCTURE LENGTH 74' NO. SPANS 1 YEAR BUILT 1923

STRUCTURE TYPE 310 FOUNDATION TYPE 3

XXX WATERWAY BRIDGE WITH FOUNDATIONS ON BEDROCK

☐ CANAL BRIDGE WITH CONTROLLED OR LINED CHANNEL

FOUNDATION MATERIAL CONFIRMED FROM:

☐ AS BUILT PLANS

XXX VISUAL OBSERVATION

☐ OTHER INVESTIGATION

STATEMENT OF FOUNDATION CONFIRMATION:

BRIDGE IS DEFINITELY ON BEDROCK. I SEEN IT WITH ME OWN EYES!

SEE ATTACHED PHOTOS.

DATE PREPARED 04/26/91

BRIDGE MAINTENANCE ENGINEER Gerald D. Hogsett

GERALD D. HOGSETT

BEDROCK AT NORTH ABUTMENT
FISH CREEK BRIDGE
SR 88 - 223.50
STRUCTURE NO. 0027 04/17/91

BEDROCK AT SOUTH ABUTMENT
FISH CREEK BRIDGE
SR 88 - 223.50
STRUCTURE NO. 0027 04/17/91

12/23/2015

Scour Assessment Report for

Structure #28 is available in the

Bridge Hydraulics Section file cabinet.

The file cabinet is sorted numerically by structure number. If you need any assistance locating this report, please check with Bridge Group Administration.

Lewis Pranty Crk Br

Highway: 88

Milepost: 224.6

ARIZONA DEPARTMENT OF TRANSPORTATION
SCOUR DATA SHEET

DATE 11-25-92 HWY SYSTEM(104) 4

STRUCTURE NO. 00028 AGENCY 1 PLACE CODE 00000

ROAD OR STREET/ROUTE & MILEPOST SR 88 224.60

NAME OF BRIDGE OR WATERWAY Lewis Prantz Creek

STRUCTURE LENGTH 60 NO. OF SPANS 1 YR BUILT 1922

FROM PLANS: Q50 _____ Q100 _____ DRAIN AREA _____

EMBEDEMENT _____ FLOW DEPTH _____ FOUNDATION TYPE 3

STUDY CATEGORY: (circle as appropriate)

(B) - CONFIRMED SPREAD FOOTING ON BEDROCK

C - CANAL BRIDGE, OR CONTROLLED, LINED CHANNEL

N - STRUCTURE DESIGNED SINCE 1980 WITH PROPER SCOUR DESIGN

K - STUDY COMPLETED, NO WORK RECOMMENDED

W - STUDY COMPLETED, WATCH ON INSPECTIONS

R - STUDY COMPLETED, COUNTERMEASURES CONSTRUCTED

P - STUDY COMPLETED, COUNTERMEASURES PENDING

A - ALL OTHER SITES

SPECIAL STUDY EMPHASIS: (circle YES OR NO as appropriate)

Y (N)

Emphasis should be given to those sites where gravel mining is within a half mile, or where there has been a history of degradation, or where floods have previously caused damage, or where previous countermeasures need review, or where special conditions warrant a higher priority be given to a scour study.

ORIGINAL DATA BY GDH

INSP. NO.	12	14					
DATE	11/23/92	4/8/96					
INITIAL	DCC GWM	J					

(03/05/92)

ARIZONA DEPARTMENT OF TRANSPORTATION
STRUCTURES SECTION

SCOUR COMMITTEE REVIEW
of
SCOUR ASSESSMENT REPORT

SITE NO. 173 **BRIDGE NAME** Lewis Pranty Creek

ROUTE 88 **STRUCTURE NUMBER(s)** 28

MILEPOST 224.60

COUNTERMEASURES RECOMMENDED IN THE REPORT:

During Inspection #11 Bridge Maintenance Personnel hand dug along the west wall to confirm the foundation is on bedrock. The east abutment rests on exposed rock. No work is necessary.

SCOUR COMMITTEE REVIEW COMMENTS:

The Scour Committee concurs.

SCOUR COMMITTEE MEETING DATE: June 11, 1991

Attendance:

C. D. Grigg
F. D. Davis
G. A. Lopez-Cepero
W. R. Bruesch
J. R. Pyne
M. B. Sarsam

APPROVED _____
Assistant State Engineer - Structures

SCOUR ASSESSMENT REPORT
BRIDGE MAINTENANCE BRANCH

STRUCTURE NO. 0028 ROUTE SR 88 MILEPOST 224.60

BRIDGE NAME LEWIS PRANTY CREEK SITE NO. _____

STRUCTURE LENGTH 60' NO. SPANS 1 YEAR BUILT 1923

STRUCTURE TYPE 310 FOUNDATION TYPE 3

XXX WATERWAY BRIDGE WITH FOUNDATIONS ON BEDROCK

☐ CANAL BRIDGE WITH CONTROLLED OR LINED CHANNEL

FOUNDATION MATERIAL CONFIRMED FROM:

☐ AS BUILT PLANS
XXX VISUAL OBSERVATION
☐ OTHER INVESTIGATION

STATEMENT OF FOUNDATION CONFIRMATION:

ON INSPECTION #11 (04/17/91) WE DUG ALONG THE FRONT OF THE ROCK MASONRY WALL OF THE WEST ABUTMENT AND FOUND IT SITTING ON A BEDROCK OUTCROPPING.

BEDROCK IS EXPOSED FULL LENGTH OF EAST ABUTMENT.

SEE PHOTOS

DATE PREPARED 04/26/91

BRIDGE MAINTENANCE ENGINEER Gerald D. Hogsett
GERALD D. HOGSETT

BEDROCK AT SOUTH ABUTMENT
LEWIS PRANTY CREEK BRIDGE
SR 88 - 224.60
STRUCTURE NO. 0028 04/17/91

BEDROCK AT NORTH ABUTMENT
LEWIS PRANTY CREEK BRIDGE
SR 88 - 224.60
STRUCTURE NO. 0028 04/17/91

SCOUR DATA SHEET

DATE 4-11-88

STRUCTURE NO. 28 ROUTE S88 MILEPOST 224.60

BRIDGE NAME LEWIS PRANTY CREEK

STRUCTURE LENGTH 60 NO. SPANS 1 YR BLT 2200

STRUCTURE TYPE 310 FOUNDATION TYPE 3

FROM PLANS: Q50 Q100 DRN AREA

EMBEDMENT FLOW DEPTH 11'

STUDY CATEGORY: (circle as appropriate)

(B) - CONFIRMED SPREAD FOOTING ON BEDROCK

C - CANAL BRIDGE, OR CONTROLLED, LINE CHANNEL

N - STRUCTURE DESIGNED SINCE 1980

K - STUDY COMPLETED, NO WORK RECOMMENDED

W - STUDY COMPLETED, WATCH ON INSPECTIONS

R - STUDY COMPLETED, COUNTERMEASURES CONSTRUCTED

P - STUDY COMPLETED, COUNTERMEASURES PENDING

(A) - ALL OTHER SITES

SPECIAL STUDY EMPHASIS: (circle Yes or No as appropriate.

Y (N)

Emphasis should be given to those sites where gravel mining is within a half mile, or where there has been a history of degradation, or where floods have previously caused damage, or where previous countermeasures need review, or where special conditions warrant a higher priority be given to a scour study.

data by updated by GDH

ARIZONA DEPARTMENT OF TRANSPORTATION
SCOUR DATA SHEET

DATE 11-25-92 HWY SYSTEM(104) 4

STRUCTURE NO. 00015 AGENCY 1 PLACE CODE 00000

ROAD OR STREET/ROUTE & MILEPOST SR88 225.55

NAME OF BRIDGE OR WATERWAY Dry Wash Bridge

STRUCTURE LENGTH 32 NO. OF SPANS 1 YR BUILT 1928

FROM PLANS: Q50 _____ Q100 _____ DRAIN AREA _____

EMBEDEMENT _____ FLOW DEPTH _____ FOUNDATION TYPE 3

STUDY CATEGORY: (circle as appropriate)

B - CONFIRMED SPREAD FOOTING ON BEDROCK

C - CANAL BRIDGE, OR CONTROLLED, LINED CHANNEL

N - STRUCTURE DESIGNED SINCE 1980 WITH PROPER SCOUR DESIGN

K - STUDY COMPLETED, NO WORK RECOMMENDED

W - STUDY COMPLETED, WATCH ON INSPECTIONS

R - STUDY COMPLETED, COUNTERMEASURES CONSTRUCTED

P - STUDY COMPLETED, COUNTERMEASURES PENDING

(A) - ALL OTHER SITES

SPECIAL STUDY EMPHASIS: (circle YES OR NO as appropriate)

Y (N)

Emphasis should be given to those sites where gravel mining is within a half mile, or where there has been a history of degradation, or where floods have previously caused damage, or where previous countermeasures need review, or where special conditions warrant a higher priority be given to a scour study.

ORIGINAL DATA BY GDH

INSP. NO.	12	13					
DATE	11/23/92	4/8/96					
INITIAL	DCC Gom	Y					

(03/05/92)

SCOUR ASSESSMENT REPORT
STRUCTURES SECTION
SCOUR SUBCOMMITTEE

BRIDGE NAME Dry Wash Bridge

ROUTE SR 88 STRUCTURE NUMBER(S) 15

MILEPOST 222.55 SITE NUMBER 257

TYPE OF FOUNDATIONS FOR EACH SUBSTRUCTURE UNIT:

This is a simply supported single span steel girder bridge with stone masonry abutments. No bridge plan is available for this bridge.

TYPE OF FOUNDATION MATERIAL; ERODABILITY:

The bridge inspection reports indicate that the foundation of this bridge appears to be footings on rock.

EXPECTED SCOUR CONDITIONS AND OVERALL VULNERABILITY:

The bridge is not vulnerable to scour if it was founded on nonerodible rock.

RECOMMENDED COUNTERMEASURE(S):

Conduct a foundation investigation to determine whether the bridge was founded on nonerodible rock.

W R Brunch
BRIDGE OPERATIONS ENGINEER-MANAGER

DATE 3/16/93

SCOUR DATA SHEET

DATE 4-11-88

STRUCTURE NO. 15 ROUTE S88 MILEPOST 225.55

BRIDGE NAME DRY WASH BRIDGE

STRUCTURE LENGTH 32 NO. SPANS 1 YR BLT 2800

STRUCTURE TYPE 302 FOUNDATION TYPE 3

FROM PLANS: Q50 Q100 DRN AREA

EMBEDMENT Unknown FLOW DEPTH

STUDY CATEGORY: (circle as appropriate)

(B) - CONFIRMED SPREAD FOOTING ON BEDROCK

C - CANAL BRIDGE, OR CONTROLLED, LINE CHANNEL

N - STRUCTURE DESIGNED SINCE 1980

K - STUDY COMPLETED, NO WORK RECOMMENDED

W - STUDY COMPLETED, WATCH ON INSPECTIONS

R - STUDY COMPLETED, COUNTERMEASURES CONSTRUCTED

P - STUDY COMPLETED, COUNTERMEASURES PENDING

(A) - ALL OTHER SITES

SPECIAL STUDY EMPHASIS: (circle Yes or No as appropriate

Y (N)

Emphasis should be given to those sites where gravel mining is within a half mile, or where there has been a history of degradation, or where floods have previously caused damage, or where previous countermeasures need review, or where special conditions warrant a higher priority be given to a scour study.

data by updated by GDH