DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED.-ROAD DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040747	1	21
				① I-540 ARKANSAS RIVER BRIDGE PAINTING (S)				

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

MAINTENANCE PLANS

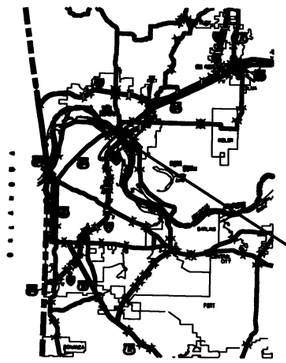
I-540 ARKANSAS RIVER BRIDGE PAINTING (S)

SEBASTIAN & CRAWFORD COUNTIES

ROUTE 540 SECTION 1

FEDERAL AID PROJ. NHPP-1765(4)

JOB 040747

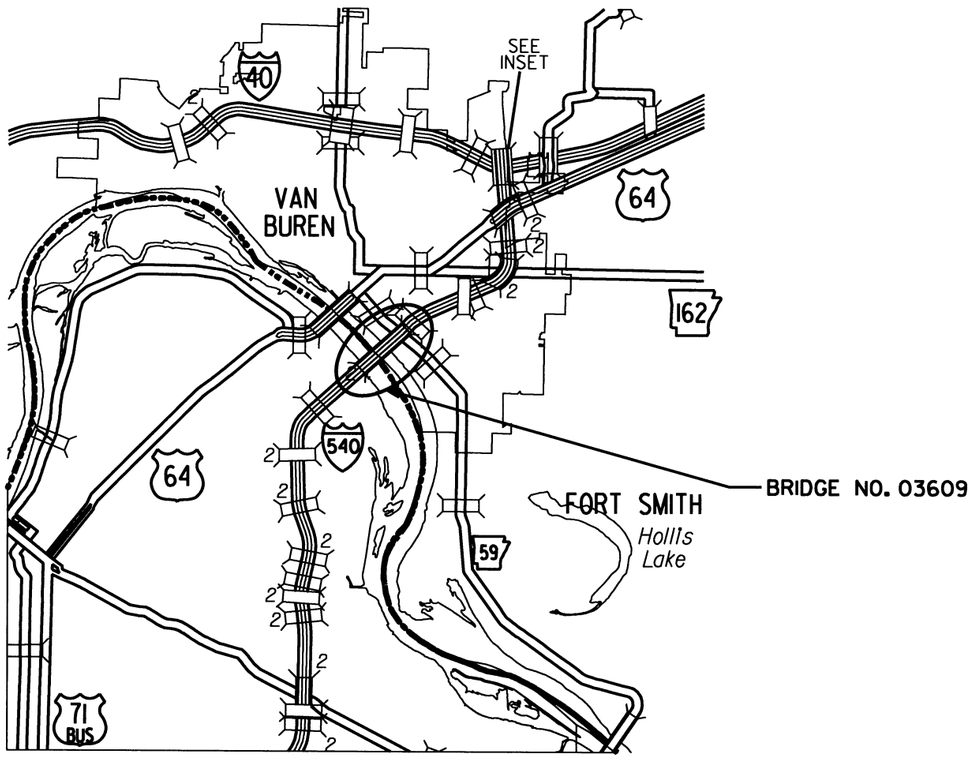


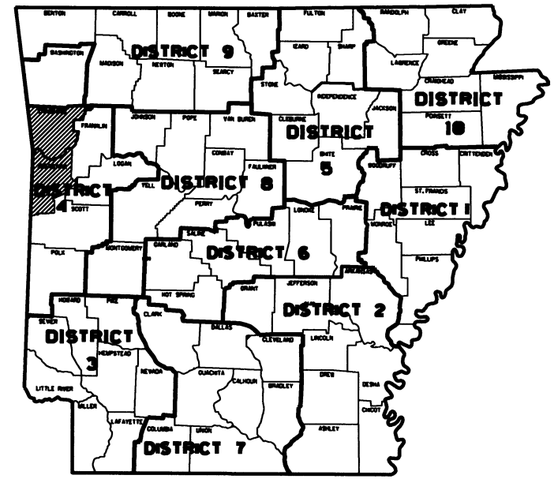
VICINITY MAP

NOT TO SCALE

BRIDGE DATA:

ROUTE I-540
BRIDGE NO. 03609
3394'-0" CONT. & SIMPLE SPANS
COMPOSITE WELDED PLATE GIRDER UNITS
DIVIDED HWY. WITH 28'-6" CLEAR ROADWAYS
& OUT TO OUT WIDTH OF 65'-6"





ARKANSAS HIGHWAY DIST. 4

MID-POINT OF PROJECT
LAT. 35° 25' 9" N LONG. 94° 21' 7" W

NO PROJECT LENGTH INVOLVED

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD REG. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040747	2	21
				INDEX OF SHTS. & GOVERNING SPECS.				

INDEX OF SHEETS

SHEET NO.	TITLE	DRAWING NO.	DATE
1	TITLE SHEET		
2	INDEX OF SHEETS AND GOVERNING SPECIFICATIONS		
3	QUANTITIES AND GENERAL NOTES		
4	SUMMARY OF QUANTITIES AND REVISIONS		
5	BRIDGE PICTURES		
6 - 8	LAYOUT OF BRIDGE NO. 03609 - FOR INFORMATION ONLY		
9 - 16	PLATE GIRDER UNIT DETAILS - FOR INFORMATION ONLY		
17	DETAILS OF BEARINGS - FOR INFORMATION ONLY		
18	DETAILS OF I-BEAM SPANS - FOR INFORMATION ONLY		
19	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-1	9-2-15
20	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-2	9-2-15
21	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-3	9-2-15

GOVERNING SPECIFICATIONS

ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2014, AND THE FOLLOWING SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS:

NUMBER	TITLE
ERRATA	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273	SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY – FEDERAL STANDARDS
FHWA-1273	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273	SUPPLEMENT - WAGE RATE DETERMINATION
100-3	CONTRACTOR'S LICENSE
102-2	ISSUANCE OF PROPOSALS
108-1	LIQUIDATED DAMAGES
108-2	WORK ALLOWED PRIOR TO ISSUANCE OF WORK ORDER
604-1	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
JOB 040747	BIDDING REQUIREMENTS AND CONDITIONS
JOB 040747	CARGO PREFERENCE ACT REQUIREMENTS
JOB 040747	COAST GUARD APPROVAL OF CONSTRUCTION METHOD
JOB 040747	CONTAINMENT SYSTEM
JOB 040747	CONTRACTOR CERTIFICATION
JOB 040747	DOCUMENTATION OF PAYMENTS MADE TO DISADVANTAGED BUSINESS ENTERPRISES
JOB 040747	INSPECTOR'S PERSONAL PROTECTION CLOTHING
JOB 040747	INSURANCE, CONSTRUCTION, AND FLAGGING REQUIREMENTS ON RAILROAD PROPERTY
JOB 040747	MANDATORY ELECTRONIC CONTRACT
JOB 040747	MANDATORY ELECTRONIC DOCUMENT SUBMITTAL
JOB 040747	NESTING SITES OF MIGRATORY BIRDS
JOB 040747	PAINT CONTRACTOR LABEL
JOB 040747	PARTERNING REQUIREMENTS
JOB 040747	SPECIAL SAFETY REQUIREMENTS FOR BRIDGES
JOB 040747	VALUE ENGINEERING

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7627
12-15-16
JOSEPH A. SARTIN

INDEX OF SHEETS & GOVERNING SPECIFICATIONS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040747	3	21
				QUANTITIES & GENERAL NOTES				

CLEANING AND PAINTING EXISTING STRUCTURAL STEEL (TYPE II)

DESCRIPTION	QUANTITY	UNIT
BRIDGE NO. 03609	3784	TON

*DISPOSAL OF HAZARDOUS WASTE

DESCRIPTION	QUANTITY	UNIT
BRIDGE NO. 03609	1.00	LUMP SUM

* POTENTIAL HAZARDOUS WASTE IN THE FORM OF LEAD PAINT DEBRIS WILL BE REMOVED FROM THIS STRUCTURE AND SENT TO AN APPROPRIATE TREATMENT FACILITY AS PER CODE OF FEDERAL REGULATIONS 40 CFR PART 260.

GENERAL NOTES

1. TOTAL ALLOWABLE WORKING DAYS: 175 DAYS
2. PAINT SYSTEM: SEE SECTION 807 AND 820 OF THE STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.
   PRIME COAT: ONE COAT OF INORGANIC ZINC, 3 MIL DFT MINIMUM UNLESS NOTED.
   INTERMEDIATE EPOXY TIE COAT: 2 MIL DFT MINIMUM
   FINISH COAT: ONE COAT URETHANE, 3 MIL DFT MINIMUM, GRAY - FEDERAL STANDARD 595B COLOR CHIP 17200
   MAXIMUM DFT FOR EACH COAT AS RECOMMENDED BY COATING MANUFACTURER.
3. ALL SURFACES TO BE PAINTED SHALL BE CLEAN AND FREE OF DUST OR OTHER OBJECTIONABLE MATTER.
4. CONTRACTOR IS RESPONSIBLE FOR BEING FAMILIAR WITH THE LOCATION OF ALL UTILITIES ON THE BRIDGES BEFORE BIDDING.
5. UTILITIES ON BRIDGES SHOULD BE PROTECTED DURING THE CLEANING AND PAINTING OPERATION.
6. CONTAINMENT REQUIRED :

BRIDGE NUMBER	CLASS OF CONTAINMENT	MIGRATORY BIRDS
03609	4	YES

MOBILIZATION

DESCRIPTION	QUANTITY	UNIT
ENTIRE PROJECT	1.00	LUMP SUM
TOTAL:	1.00	LUMP SUM

**MAINTENANCE OF TRAFFIC

DESCRIPTION	QUANTITY	UNIT
ENTIRE PROJECT	1.00	LUMP SUM
TOTAL:	1.00	LUMP SUM

** ALL TRAFFIC CONTROL DEVICES AND/OR PAVEMENT MARKINGS WILL BE PLACED IF AND WHERE APPROVED BY THE ENGINEER. ALL ITEMS NECESSARY FOR TRAFFIC CONTROL IS SUBSIDIARY TO THE ITEM OF "MAINTENANCE OF TRAFFIC".

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7597
JOSEPH A. SARTINI
5-13-16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	RELEASED FOR BIDDING	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040747	4	21
				SUMMARY OF QUANTITIES & REVISIONS				

SUMMARY OF QUANTITIES

LOCATION			BRIDGE DATA		ITEM NO.	SP & 820	601	SP & 603	820
BRIDGE NUMBER	I-540 LOG MILE	COUNTY	ROADWAY WIDTH (FT)	ROADWAY LENGTH (FT)	PAY ITEM / BRIDGE NAME	CLEANING AND PAINTING EXISTING STRUCTURAL STEEL (TYPE II)	MOBILIZATION	MAINTENANCE OF TRAFFIC	DISPOSAL OF HAZARDOUS WASTE (SITE NO.)
					UNIT	TON	LUMP SUM	LUMP SUM	LUMP SUM
03609	0.22	SEBASTIAN & CRAWFORD	63.25	3394	I-540 OVER AR RIVER	3784			1.00 (SITE NO. 1)
					TOTAL JOB NO. 040747	3784	1.00	1.00	1.00

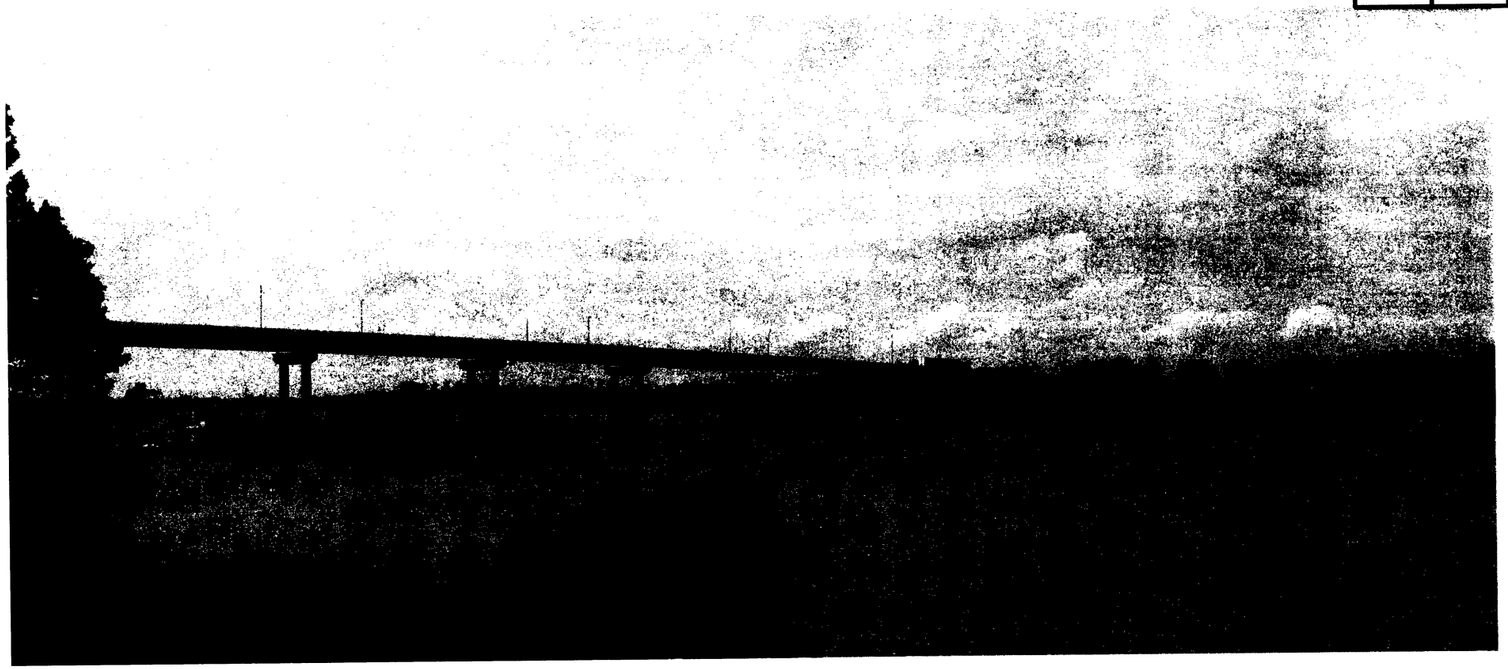
REVISIONS

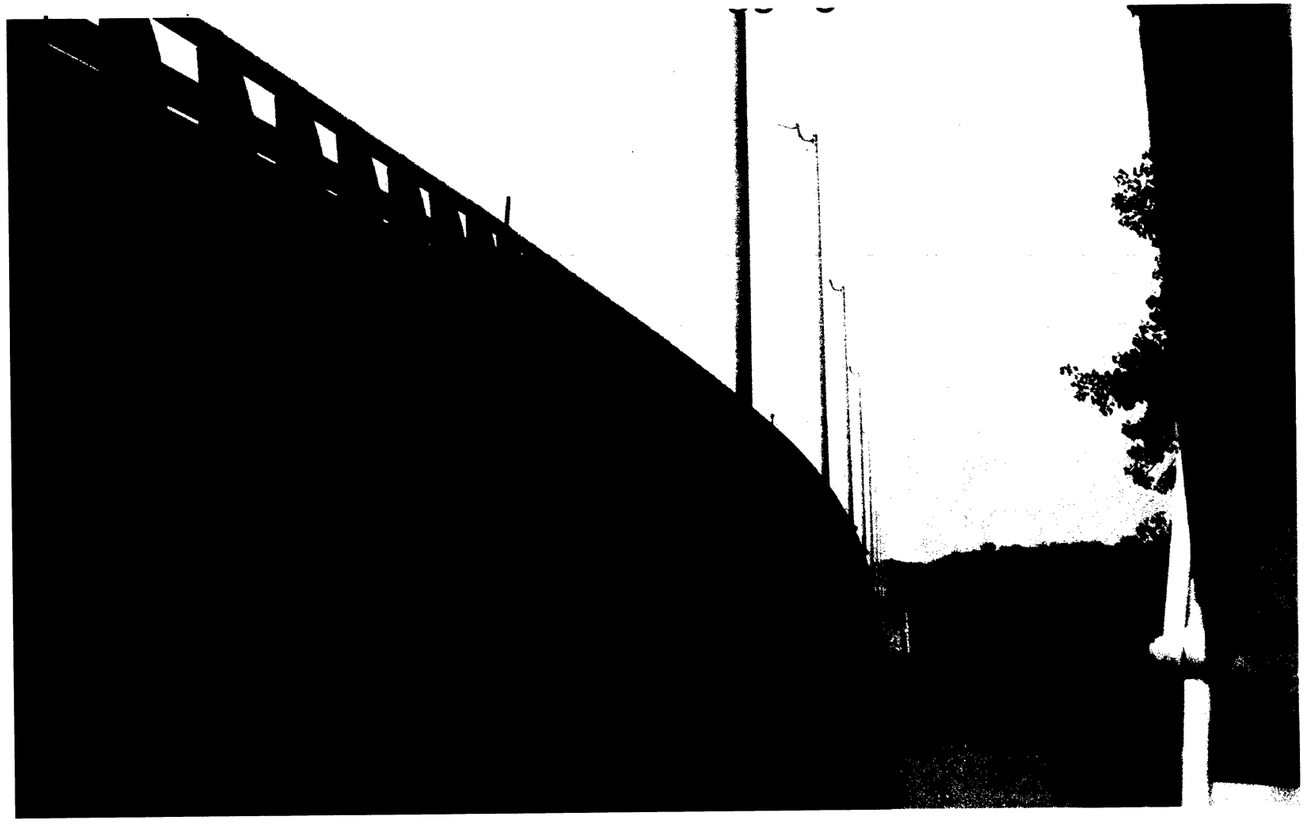
DATE	REVISION	SHEET NO.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7627
12-15-16
JOSEPH A. SARTINI

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	REVISED SHEETS	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040747	5	21

BRIDGE PICTURES





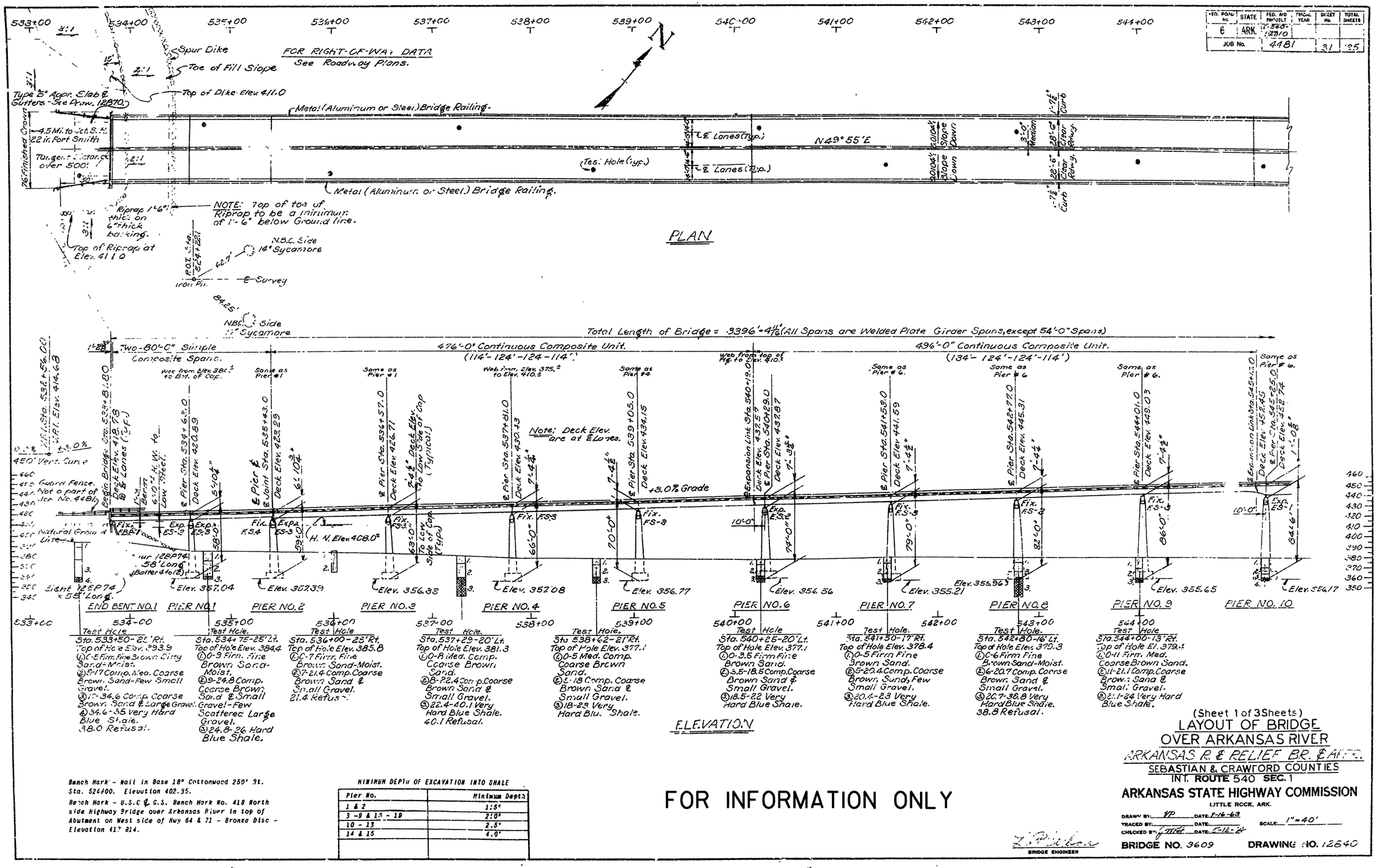
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7527
11-13-16
JOSEPH A. SARTINI

BRIDGE PICTURES

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. ROAD DESIGN.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040747	6	21

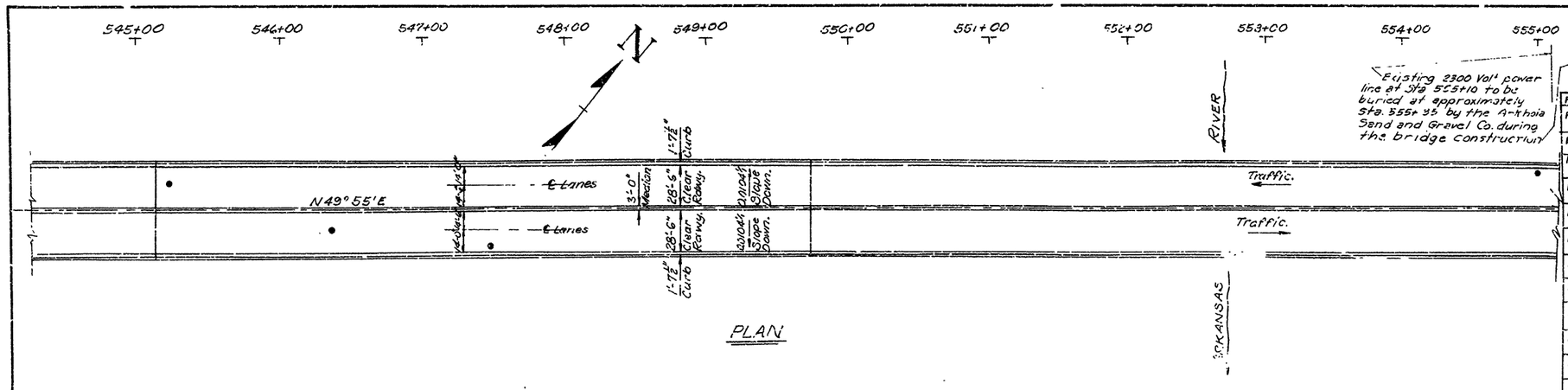
1 BRIDGE PLANS - FOR INFORMATION ONLY

FED. PROJ. NO.	STATE	FED. AID PROJECT	TRAF. YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.	I-540-1(7)10			
JOB No.		4481		31	35



DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040747	7	21

BRIDGE PLANS - FOR INFORMATION ONLY

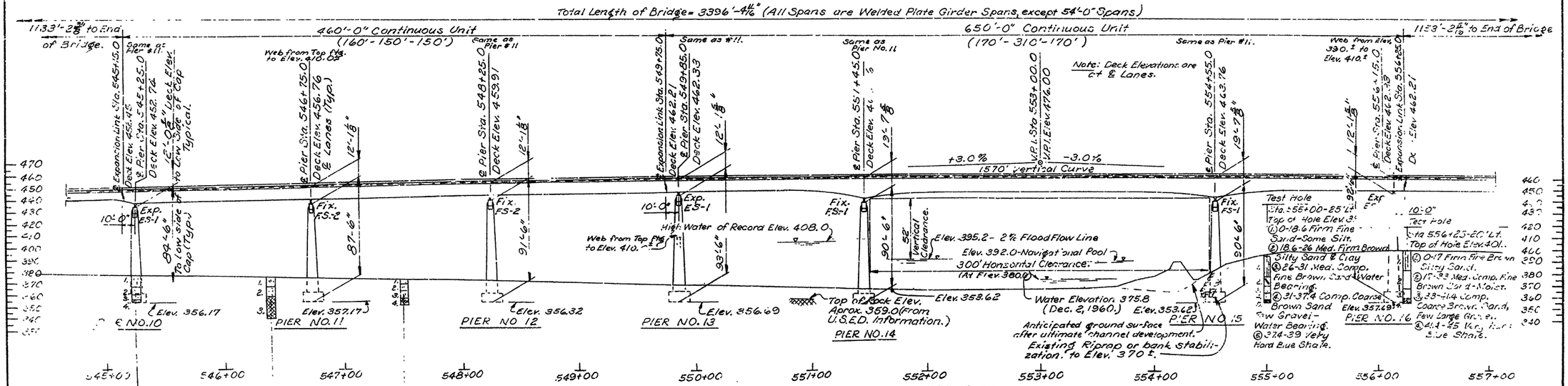


FED ROAD No.	STATE	FED AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.	F-040-1(27)10			
JOB No.	4481			32	125

TABLE OF MAXIMUM FOUNDATION PRESSURES - CALCULATED

Pier No.	Pressure	Group No.	Controlling Pier
Piers 1 & 2	8.0 k/ft² 13.8 k/ft²	Gp. I Gp. II	Pier No. 1 Pier No. 1
Pier 3	8.1 k/ft² 12.3 k/ft²	Gp. I Gp. V	
Piers 4 & 5	8.1 k/ft² 12.3 k/ft²	Gp. I Gp. V	Pier No. 5 Pier No. 5
Piers 6 - 9	7.2 k/ft² 12.0 k/ft²	Gp. I Gp. II	Pier No. 9 Pier No. 7
Piers 10 & 13	7.7 k/ft² 10.8 k/ft²	Gp. I Gp. II	Pier No. 13 Pier No. 13
Piers 11 & 12	8.4 k/ft² 12.0 k/ft²	Gp. I Gp. II	Pier No. 12 Pier No. 12
Piers 14 & 15	9.0 k/ft² 12.7 k/ft²	Gp. I Gp. V	Pier No. 15 Pier No. 15
Piers 16 & 19	8.3 k/ft² 12.2 k/ft²	Gp. I Gp. II	Pier No. 16 Pier No. 16
Piers 17 & 18	8.8 k/ft² 12.6 k/ft²	Gp. I Gp. II	Pier No. 17 Pier No. 17
Piers 20 - 22	98 k/pile 138 k/pile	Gp. I Gp. III	Pier No. 20 Pier No. 20
Pier 23	83 k/pile 120 k/pile	Gp. I Gp. III	
Piers 24 - 26	104 k/pile	Gp. I	Pier No. 25

Total Length of Bridge = 3396'-4 11/16" (All Spans are Welded Plate Girder Spans, except 54'-0" Spans.)



Test Hole
Sta. 545+26 - 17' Lt.
Top of Hole Elev. 378.4
(1) 0-9 Firm Fine Brown Sand.
(2) 9-16 Med. Coarse Brown Sand, Few Small Gravel.
(3) 16-19.8 Coarse Brown Sand & Gravel.
(4) 19.8-21 Hard Blue Shale.

Test Hole
Sta. 546+40 - 16' Rt.
Top of Hole Elev. 377.8
(1) 0-9 Firm Fine Brown Sand - Moist.
(2) 9-17.7 Med. Comp. Coarse Brown Sand, Few Small Gravel - Water Bearing.
(3) 17.7-35 Very Hard Blue Shale. 35' Refusal.

Test Hole.
Sta. 547+50 - 27' Rt.
Top of Hole Elev. 376.2
(1) 0-5 Firm Fine Brown Sand - Wet.
(2) 5-10.1 Med. Comp. Coarse Brown Sand - Water Bearing.
(3) 10.1-17.2 Comp. Coarse Brown Sand & Small Gravel - Water Bearing.
(4) 17.2-22.6 Hard Blue Shale.

DESIGN SPECIFICATION.: AASHO 1961

Live Loading: H20-S16 and Special Interstate Loading of two 24,000# axles spaced 4'0" on center.

Unit Stresses:

Class A Concrete (n=10)	840 psi
Class S Concrete (n=10)	1,200 psi
Reinforcing Steel	20,000 psi
Structural Steel (A 36)	20,000 psi
Structural Steel (A 441) 3/4" and less	27,000 psi
Structural Steel (A 441) over 3/4" to 1 1/2" incl.	24,000 psi
Structural Steel (A 441) over 1 1/2"	22,000 psi

SPECIAL NOTE:

The Contractor must give notice to the Arkhola Sand and Gravel Company at least ten (10) days in advance of commencing any work in the vicinity of piers known and numbered 15, 16 and 17. The performance of all work by the contractor shall be in such a manner as not to interfere with the Arkhola Sand and Gravel Company Company's hauling, storage or business operations, nor damage the electric powerline existing within the right-of-way, and serving the Gravel Company.

ELEVATION

Drainage Area, including Relief Structures, is 150,484 Sq. Miles, of which 128,843 Sq. Miles contribute directly to surface runoff. Maximum flood of record (modified) equals 550,000 cfs.

GENERAL NOTES

All concrete to be poured in the dry. Exposed corners to be chamfered 3/4" unless otherwise noted.

In general, all construction joints in bents or piers shall be horizontal and shall be provided with keys not less than 12" high covering the middle third of both dimensions.

The borings, profile and water elevations shown on the plans were obtained for use of the Highway Department in the preparation of structural designs, and the Bidder is hereby cautioned that the Department assumes no responsibility for the accuracy of the data. Claims for additional compensation due to variations between conditions encountered in construction and as indicated by the plans will not be allowed.

Rock excavations shall be made to neat lines of concrete footings. Care shall be exercised to avoid shattering of rock faces by excessive blasting. Concrete in footings shall be poured directly against excavated surfaces of rock.

See table on Drawing 12840 for minimum depth of excavation into shale for each pier.

GENERAL NOTES (Continued)

The Contractor shall take one recovery core in each end of each footing for Piers 10, 12, 14, 15, and 17. The core shall extend for a minimum of 20 feet below elevation 359.0. This work shall be performed and paid for in accordance with the Special Provision "Drilling Exploratory Holes in Footing Excavations in Rock".

In the footings of Piers 1-9, 11, 13, 16, 18 and 19, the Contractor shall drill two 10' holes after the excavation to plan grade is completed. This work shall be witnessed by the Engineer or his representative. This work will not be paid for directly but will be considered subsidiary to the item, "Excavation for Structures".

All piling shall be 12-BP-38, except End Bent No. 2 which has 12-BP-53, and shall be driven with an approved air, steam or diesel hammer to a minimum capacity of 60 tons per pile for 12-BP-74 and 36 tons per pile for 12-BP-53 and to the material designated as shale on the boring logs. Lengths of pile shown are for estimating quantities only. Order lengths shown; cut-off or build-up, if necessary, to be paid for in accordance with the Standard Specifications.

Piles in End Bents to be driven after embankment is in place.

Any damage to bank stabilization works or revetment shall be repaired by the Contractor at his own expense to the satisfaction of the Corps of Engineers.

SPECIFICATIONS: Arkansas State Highway Commission Standard Specifications for Highway Construction, Edition of 1959, and designated Special Provisions.

Note: Deck Elevations are at ℄ Lanes.

BRIDGE ENGINEER

FOR INFORMATION ONLY

(Sheet 2 of 3 Sheets)

LAYOUT OF BRIDGE OVER ARKANSAS RIVER

ARKANSAS R. & RELIEF FR. & AFFR.

SEBASTIAN & CRAWFORD COUNTIES

IN I. ROUTE 540 SEC. 1

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: VTP DATE: 1-17-63

TRACED BY: DATE:

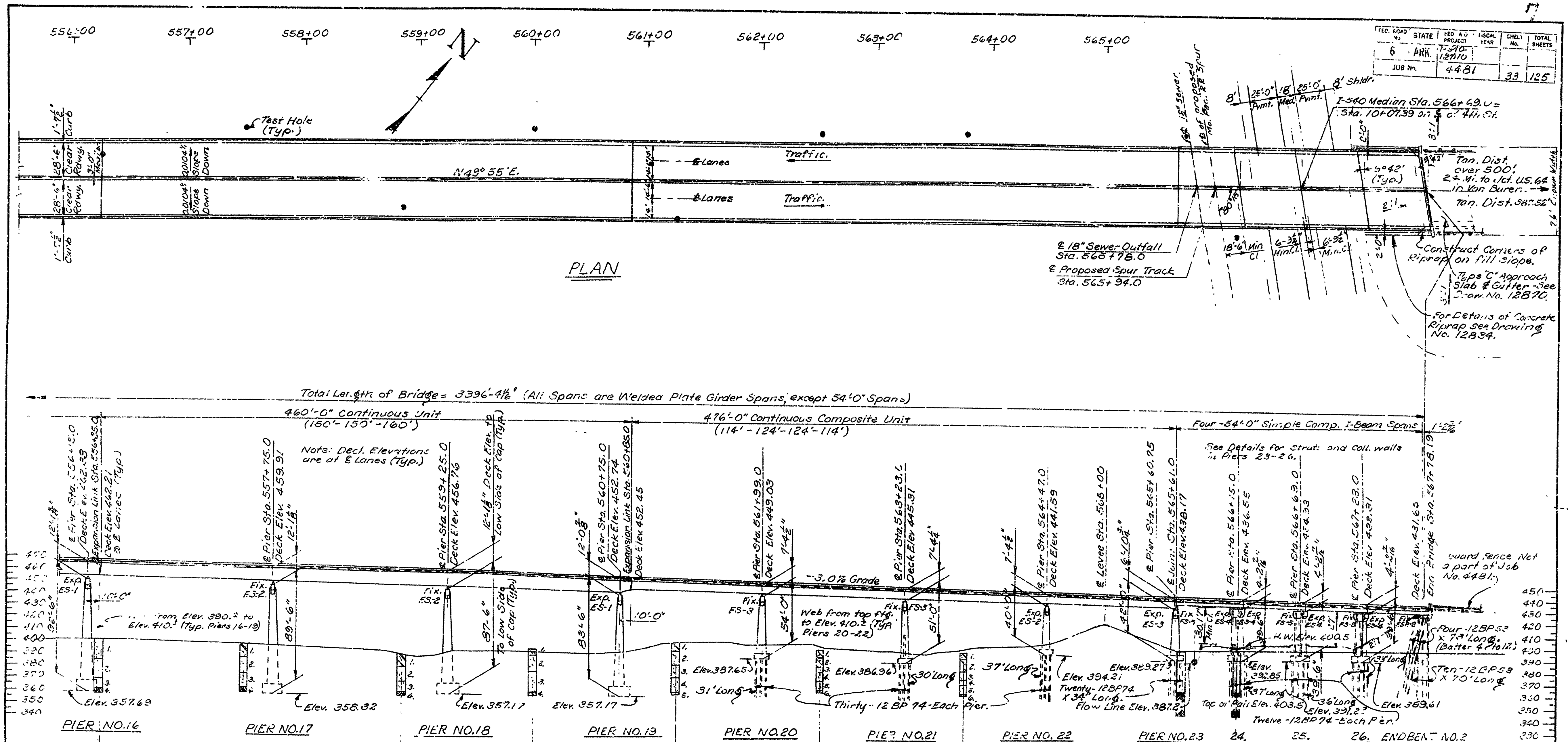
CHECKED BY: DATE: 5-16-63

SCALE: 1" = 40'

BRIDGE NO. 3609 DRAWING NO. 12841.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD REGION	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040747	8	21

① BRIDGE PLANS - FOR INFORMATION ONLY



556+00
Test Hole
Sta. 556+25-20' Lt.
Top of Hole Elev. 401.
① 0-17 Firm Fine Brown Sandy Sand.
② 17-30 Med. Comp. Fine Brown Sand - Moist.
③ 30-41.4 Comp. Coarse Brown Sand, Few Large Gravel.
④ 41.4-4[illegible] Hard Blue Shale.

557+00 558+00
Test Hole
Sta. 557+50-42' Lt.
Top of Hole Elev. 397.4
① 0-11 Med. Firm Brown Sandy Clay - Moist.
② 11-25 Firm. Fine Brown Sand - Dry.
③ 25-37 Comp. Coarse Brown Sand & Small Gravel.
④ 37-40 Hard Blue Shale.

559+00
Test Hole
Sta. 558+75-23' Rt.
Top of Hole Elev. 390.6
① 0-10 Med. Firm. Brown. Sandy Clay.
② 10-23 Firm Fine Brown Sand-Wet.
③ 23-31.4 Comp. Coarse Brown Sand & Gravel (Wet).
④ 31.4-33 Hard Blue Shale.

560+00
Test Hole
Sta. 560+00-42' Lt.
Top of Hole Elev. 395.6
① 0-5 Med. Firm Brown Sandy Clay - Moist.
② 5-18 Firm Fine Brown Sandy Clay - Mostly Sand.
③ 18-36.2 Comp. Coarse Brown Sand & Large Gravel.
④ 36.2-38 Hard Blue Shale.

561+00
Test Hole.
Sta. 561+25-31' Rt.
Top of Hole Elev. 399.8
① 0-6 Med. Firm Brown Sandy Clay.
② 6-17 Firm, Fine Brown Sandy Clay - Mostly Sand.
③ 17-21 Med. Comp. Fine Brown Sand.
④ 21-28 Med. Comp. Med. Coarse Brown Sand - Few Small Gravel (Wet.)
⑤ 28-40.2 Comp. Coarse Brown Sand & Large Gravel (Wet).
⑥ 40.2-41.3 Hard Blue Shale.

562+00
Test Hole
Sta. 562+50-42' Lt.
Top of Hole Elev. 396.5
① 0-7 Med. Firm Brown Sandy Clay.
② 7-14 Firm Fine Brown Sandy Clay - Mostly Sand.
③ 14-19 Med. Comp. Fine Brown Sand - Few Gravel (Moist.)
④ 19-26 Med. Comp. Med. Coarse Brown Sand & Small Gravel (Wet.)
⑤ 26-34.4 Comp. Coarse Brown Sand & Large Gravel (Wet.)
⑥ 34.4-35 Hard Blue Shale.

563+00 564+00
Test Hole
Sta. 563+75-42' Lt.
Top of Hole Elev. 395.2
① 0-6 Med. Firm Brown Sandy Clay.
② 6-15 Firm Fine Brown Sandy Clay - Mostly Sand.
③ 15-23 Med. Comp. Fine Brown Sand - Few Gravel (Moist)
④ 23-27 Med. Comp. Med. Coarse Brown Sand - Large Gravel (Wet)
⑤ 27-35.6 Comp. Coarse Brown Sand & Large Gravel (Wet.)
⑥ 35.6-36.2 Hard Blue Shale.

565+00 566+00
Test Hole
Sta. 565+67-42' Lt.
Top of Hole Elev. 396.9
Top of Hard Blue Shale at Elev. 358.9

567+00
Test Hole
Sta. 566+15-42' Rt.
Top of Hole Elev. 397.2
Top of Hard Blue Shale at Elev. 358.7

Material from Top of Hole to top of Shale for these Holes in similar to that shown for test Hole at Sta. 563+75-42' Lt.

Revised: Span Lts. from Levee to end of Bridge. 2-25-64. T.T.

Beach Mark - Top of Iron Pin in center of Levee. Sta. 565+00. Elevation 418.17.

FOR INFORMATION ONLY

ELEVATION

(Sheet 3 of 3 Sheets)

LAYOUT OF BRIDGE OVER ARKANSAS RIVER

ARKANSAS R. & RELIEF [illegible]

SEBASTIAN & CRAWFORD COUNTIES

INT. ROUTE 540 SEC. 1

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: V.P. DATE: 7-18-63
TRACED BY: DATE:
CHECKED BY: [illegible] DATE: 5-6-64
SCALE 1" = 40'

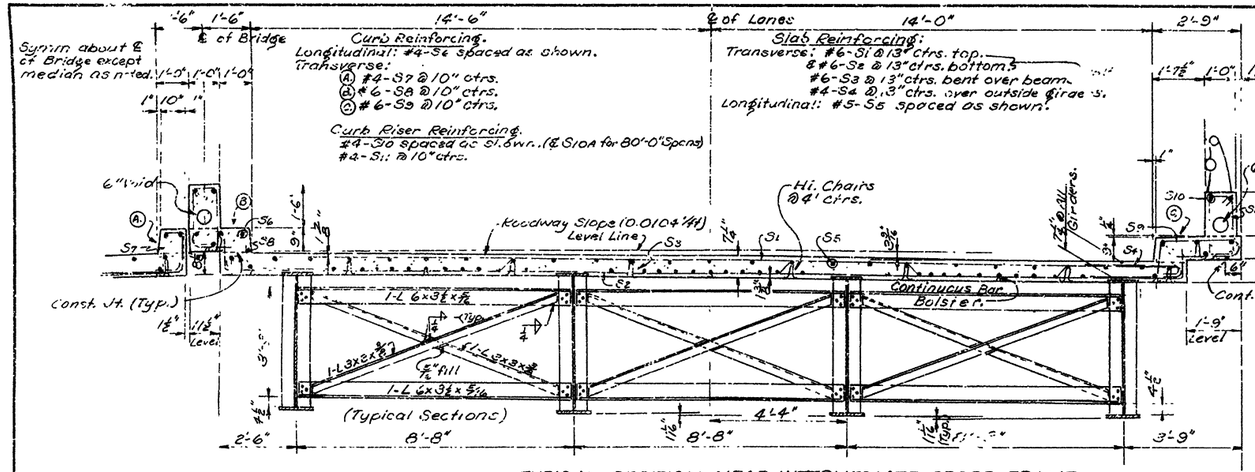
BRIDGE ENGINEER

BRIDGE NO. 3609 DRAWING NO. 12842

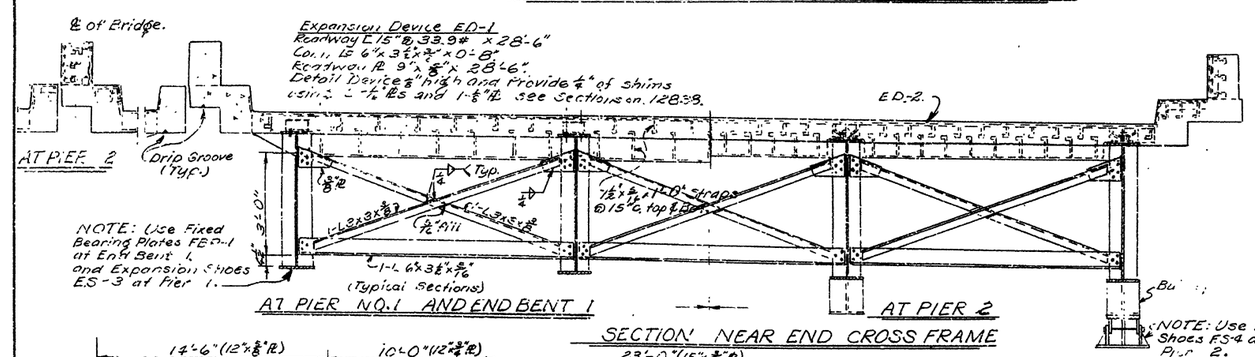
DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040747	9	21

(1) BRIDGE PLANS - FOR INFORMATION ONLY

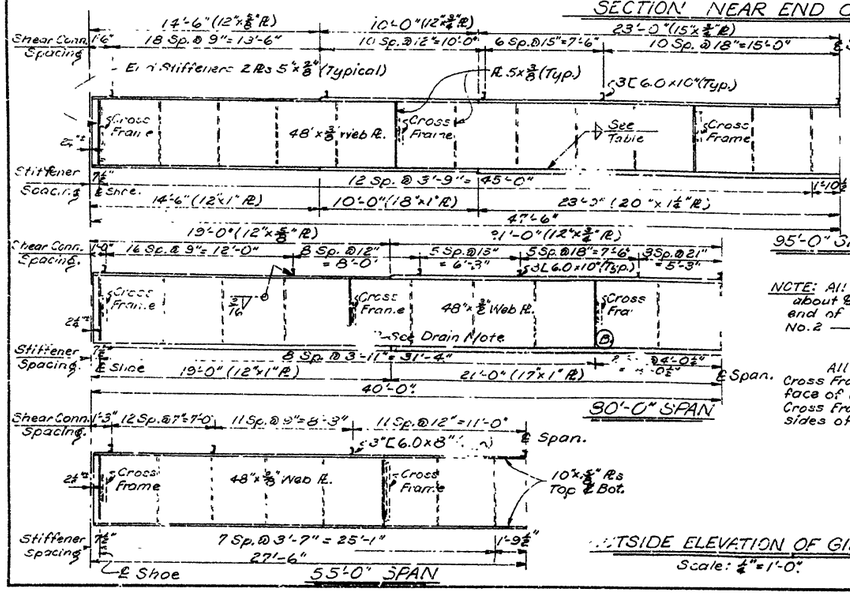
FOR INFORMATION ONLY



TYPICAL SECTION NEAR INTERMEDIATE CROSS FRAME



SECTION NEAR END CROSS FRAME

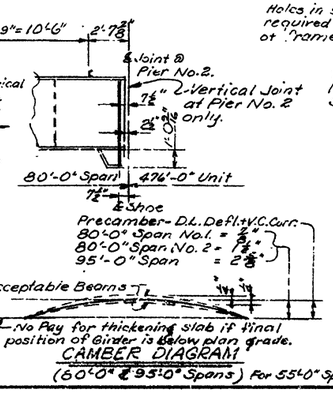


OUTSIDE ELEVATION OF GIRDERS
Scale: ¼" = 1'-0"

DRAIN NOTE:
Use 2 Drains per span per roadway. One at "A" on Downgrade end and one at "B" on upgrade end of Span. See Details on Drawing 12838.

NOTE: All Girders are symmetrical about ℄ of Span except the end of 80'-0" Span at Pier No. 2

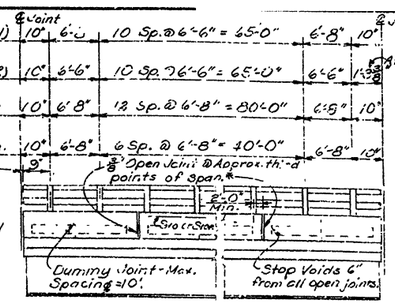
All Stiffeners except at Cross Frames are on inside face of web. Stiffeners at Cross Frames are on both sides of web.



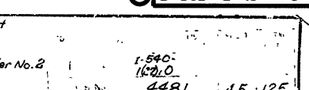
CAMBER DIAGRAM
(80'-0" & 95'-0" Spans) For 55'-0" Span - see note.

NOTE:
Dead Load Deflection for 55'0" span is 1.1". No precamber is required. Fabricate girder with bow side up. Maximum allowable bow equals 3/4". Pay for slab thickening if final position of girder is below plan grade.

Rev. Weld: 8-14-64 HB



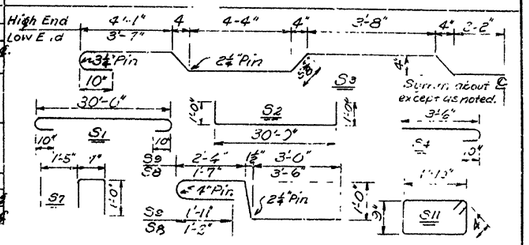
ELEVATION - SHOWING BRIDGE RAILING
No Scale.
*Note: Make center section 20'-0" long for 80'-0" Spans.



BAR LIST - EACH SPAN (BOTH ROADWAYS)

MARK	SIZE	NUMBER PER SPAN 55'-0"	80'-0"	95'-0"	LENGTH	PIN DIA.
S1	#6	104	148	176	32-0	3½"
S2	#6	104	148	176	31-11	2½"
S3	#6	102	146	174	32-9	See Diag.
S4	#4	102	146	174	4-6	3"
S5	#5	240			28-3	Str.
			360		27-10	
				360	32-8	
S6	#4	28			28-0	Str.
			42		27-7	
				42	32-5	
S7	#4	67	97	115	3-11	1½"
S8	#6	67	97	115	7-5	See Diag.
S9	#6	134	194	230	8-5	See Diag.
S10	#4	18			17-10	Str.
			12		29-6	
				18	31-2	
S10A	#4	—	6	—	19-6	Str.
S11	#4	207	297	351	5-9	1½"

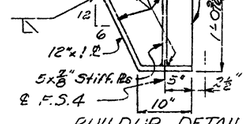
BENDING DIAGRAM



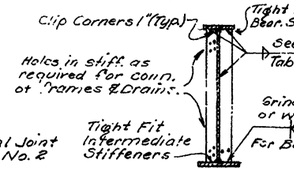
* Provide 7 extra S11 Bars for 80'-0" Span No. 2 for use at end of span. See Detail on Draw. 12863.

Provide 60 extra S6 Bars for 80'-0" Span No. 2 for use at end of Span at E.L.-2. See Section B-B on Drawing No. 12863.

Note: Dimensions are to center of Bars.



BUILDUP DETAIL
Scale: 1" = 1'-0"



STIFFENER DETAILS
Scale: ℄" = 1'-0"

NOTES:

Stud shear connectors, granular flux filled, solid fluxed or equal may be used in place of the channels shown at the following ratios: 3/4" diameter stud in place of 1.82 inches of channel; 7/8" diameter stud in place of 2.52 inches of channel. The studs shall be 4" long and automatically end welded to the girder flanges in accordance with recommendations of the manufacturer. Channel sections will be used as basis of measurement of structural steel in shear connectors.

55' and 95' spans not for use in Job No. 4481.

DESIGN SPECIFICATIONS: AASHO 1961

LOADING: H20-S16 and Special Interstate Loading of two 24,000# axles spaced 4'0" centers.

		Girders 1 and 4	Girders 2 and 3
1. Dead Load			
(a)	To Girder only	760#/'	900#/'
(b)	To Composite Girder	380#/'	336#/'
2. Live Load			
(a)	To Composite Girder	1.40 wheels plus impact	1.57 wheels plus impact

NOTES:

General Details and Notes	Drawing No. 12838
Expansion Device (ED-1 and 2)	Drawing No. 12838 and 12863
Shoes	Drawing No. 12861
Table of Fillet Welds & Weld Detail	Drawing No. 12855

DETAILS OF
SIMPLE COMPOSITE SPANS (55', 80' & 95')
ARKANSAS RIVER BRIDGE
ARKANSAS R. & RELIEF BR. & APPR.
SEBASTIAN & CRAWFORD COUNTIES

INT. ROUTE 540 SEC. 1

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: MP DATE: 1-10-64
TRACED BY: DATE:
CHECKED BY: DV DATE: 5-12-66
SCALE: ¼"=1'-0" And As Shown

BRIDGE ENGINEER

BRIDGE NO. 3609 DRAWING NO. 12854

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. ROAD DIST. No.	STATE	FED. AID PROJ. NO.	SHEET No.	TOTAL SHEETS
				8	ARK.			
				JOB NO.		040747	10	21

BRIDGE PLANS - FOR INFORMATION ONLY

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
8	ARK.	I-540 & I-40(2)10			
JOB No.		4481		46	135

℄ of Joint or ℄ of Expansion Link.

Number of intermediate stiffeners equally spaced between cross frames on inside face of all girders & Link (LJ-2)

AT LJ-2

℄ Link (LJ-1) 4'-0" 13 Sp. @ 12" = 13'-0"

ED-3

Web Splice

Stiff. & Cross Frame 15'-0"

AT LJ-1

114'-0" | 124'-0"

17'-0" | 4 Sp. @ 20'-0" = 80'-0" | 17'-0" | ℄ of Pier 22'-0" | 4 Sp. @ 20'-0" = 80'-0" | 22'-0" | ℄ of Pier

Ser. Gdr. Elevation.

L Conn. to Stiff.

℄ of Girders

Spacing of Supporting Stiff. & Cross Frames.

Drains, spaced as shown, each roadway. See Details on Drawing No 12828.

Wind Shear Plates, At LJ-1. 3/8" ℞ (No. 1 Gdrs. Only.)

ST4WF8.5 (Typ.)

No. 2 Girders

No. 1 Girders.

℄ Bridge

Wind Shear Plates, at LJ-1 (See Detail on Draw. No. 12562

Girder Numbers.

FRAMING PLAN

8'-8" | 8'-8" | 8'-8" | 8'-8" | 8'-8" | 8'-8" | 8'-8" | 8'-8"

GIRDER END AT LINKS

Other details as shown below. For complete details of Girder ends see Link Joint Details.

Use Bolted Lateral Connections. | Use Welded Lateral Connections. | Use Bolted Lateral Connections. | Use Welded Lat. Conn.

Drains - Same Spacing as other side.

86'-0" Weld Stiff. to Top Flg. | 28'-0" Weld Stiff. to Bot. Flg.) | 38'-0" | 55'-0" Weld Stiff. to Top Flg. | 31'-0" Weld Stiff. to Bot. Flg.

(ED-2 & Pier 2, ED-6 & Pier 23) | Field Splice (Typ.) | Shear Conn. Spacing. | Field Splice & Stiff. Weld.

14 Sp. @ 12" = 14'-0" | 12 Sp. @ 15" = 15'-0" | 25 Sp. @ 18" = 37'-6" | 15 Sp. @ 12" = 15'-0" | 6 Sp. @ 12" = 6'-0" | 24 Sp. @ 18" = 36'-0" | 8 Sp. @ 12" = 8'-0" | 9 Sp. @ 12" = 9'-0"

℞ 12"x⅜"x 93'-9½" | 5 3℄ 6.0 x 0.40 (Typ.) | ℞ 12"x⅜"x 77'-0"

Vertical Joint | 2-5"x⅜" ℞ for Bearing Stiff. & Cross Frame | See Table for Size | ℞ 60"x⅜" | F.S.-3 | F.S.3 (Typ. Except at Pier No. 22 use E.S.-2) | 2-℞ 8½"x1" | 2-℞ 8½"x1" Bearing Stiff.

℄ of 476'-0" Unit Symm. about ℄ except as noted.

℞ 16"x1" | ℞ 18"x½" | ℞ 16"x1" | ℞ 18"x½" | ℞ 16"x1" | ℞ 18"x½"

℞ 16"x⅜"x 28'-9½" | ℞ 16"x1" x 42'-0" (Gdrs. No. 1) | ℞ 17"x1" x 42'-0" (Gdrs. No. 2) | ℞ 12½"x⅜"x 23'-0" (Gdr. #1) | ℞ 13"x⅜"x 23'-0" (Gdr. #2) | ℞ 12"x⅜"x 77'-0" (Gdrs. No. 1) | ℞ 13"x⅜"x 77'-0" (Gdrs. No. 2)

5"x⅜" Stiff. ℞ on both faces of web at Cross Frames only.

Intermediate Stiffeners - 1-5"x⅜" ℞ on inside face of web only. Maximum spacing = 5'-0" except 6'-0" @ Splice.

℞ 4"x⅜" Longitudinal Stiffener on Exterior Face of Girders only.

Typical at E.S. 2 & 3.

℄ of Expansion Link. LJ-1

10'-0" ℄ of Pier No. 6.

GIRDER ELEVATION

124'-0"

8'-0" | 22'-0" | 4 Sp. @ 20'-0" = 80'-0" | 22'-0" | ℄ of Pier No. 7.

ED-3

Girder Numbers.

FRAMING PLAN - 496'-0" UNIT

Rest of Framing Plan for 496'-0" Unit is the same as shown for 476'-0" Unit.

103'-0" Weld Stiff. to Top Flg. (Use Bolted Lateral Connections) | 31'-0" Weld Stiff. to Bot. Flg. (Use Welded Lat. Conn.)

℄ Weld these Stiffeners to Bot. Flange.

20'-0" | 17 Sp. @ 12" = 17'-0" | 12 Sp. @ 15" = 15'-0" | 25 Sp. @ 18" = 37'-6" | 11 Sp. @ 12" = 11'-0" | 10 Sp. @ (2" Shear Conn. Spacing = 12'-0"

℞ 12"x⅜"x 114'-6"

2-℞ 7½" (Tapered to 6½" @ Top) x 1⅛" ℞ for Bearing Stiff.

Stiff. at ℄ Web Splice.

℞ 60"x⅜"

Field Splice (Typ.)

2-℞ 8½"x1" Bearing Stiff.

E.S.-2 | ℞ 16"x⅜"x 42'-0" | ℞ 16"x1" x 41'-0" (Gdrs. No. 1) | ℞ 17"x1" x 41'-0" (Gdrs. No. 2) | ℞ 12½"x⅜"x 24'-0" (Gdr. #1) | ℞ 13"x⅜"x 24'-0" (Gdr. #2) | F.S.-3

℄ Pier

10'-0" ℄ Pier

134'-0"

PART OUTSIDE ELEVATION OF GIRDER FOR 496'-0" UNIT

Rest of 496'-0" Unit Same as 476'-0" Unit.

Tension Flange

2 Pcs 5"x⅜" Stiff. at cross frames. For Bearing Stiff. size see girder Elevation.

Tight Fit Holes as reqd. for conn. of Frames & Drains

Outside Face.

⅜" | ℞ 4"x⅜" | 1'-0" Typ. | 60" | ℞ 5"x⅜" Intermediate Stiffener | Typ. See Table for Size for Int. stiff. | Typ. See Table.

Bearing Stiff. Grind to bear or weld with TC-U5a.

STIFFENER DETAILS

Scale: ¾" = 1'-0"

TABLE OF FILLET WELDS

MAXIMUM THICKNESS OF THICKER PART	FILLET WELD SIZE
To ¾" incl.	5/16"
Over ¾" to ⅞"	¼"
Over ⅞" to 1½"	5/16"
Over 1½" to 2¼"	⅜"
Over 2¼"	½"

2" | ℄ of Splice | 2" | 2@3" | 4@3" | 2" | 2"

℞ 12"x⅞"x 2'-1" | 2-℞ 5"x⅞"x 2'-1" | 2-℞ 5"x7/16"x 2'-1" | ℞ 12"x⅞"x 2'-1" | 2-20"x⅝"℞ x 55'

Other Flgs.

GIRDER FIELD SPLICE

Scale: ¾" = 1'-0"

Bottom Flange - Gdrs. No. 1.

Rev. ℞ Size Added Gdr. Lateral Conn. 9-14-64 TP

⅝" ℞ May be Shop welded to one lateral.

Clear Anchor bolts at end of 476'-0" unit.

(Typ.) See Table for Size.

No Scale.

2-ST4WF8.5 (Typ.)

⅝" ℞

Notch as Reqd to clear Stifferers.

LATERAL CONNECTIONS

Scale: ¾" = 1'-0"

NOTE: Where called for on the girder elevations, use bolted lateral connection to girder flange in place of the welded connection shown. Use 9-¾" H.S. Bolts spaced 24" (min.) for each connection with 2 laterals and 6 for each connection with 1 lateral.

PLAN OF FLANGE SPLICE

Note: Omit Grind on top surface of Top Flange.

EQUAL THICKNESS | UNEQUAL THICKNESS

FLANGE SPLICES

EQUAL THICKNESS | UNEQUAL THICKNESS

WEB SPLICES

Joints shown are for manual shielded metal arc welding. Submerged arc welding may be used, in which case, refer to current American Welding Society Specification D2.0 for appropriate joint designation.

BUTT WELD DETAILS

No Scale.

ITEM	LOCATION - DRAWING NO.
General Details and Index	12838
Expansion Devices (ED-2, 3 and 4)	12860
Shoes	12861
Cross section, Rail and Reinforcing	12859
Deflection Diagram & Slab Pouring Sequence	12864
Hanger Girder & Link Joint and Shear Plate Details	12862

FOR INFORMATION ONLY

FRAMING PLAN OF 476'-0" & 496'-0" UNITS

ARKANSAS RIVER BRIDGE

ARKANSAS R.R. & RELIEF BR. & APPR.

SEBASTIAN & CRAWFORD COUNTIES

INT. ROUTE 540 SEC. 1

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: TP DATE: 2-3-64

TRACED BY: DATE:

CHECKED BY: DV DATE: 3-12-64

SCALE: 3/32" = 1'-0" & As Noted

BRIDGE ENGINEER

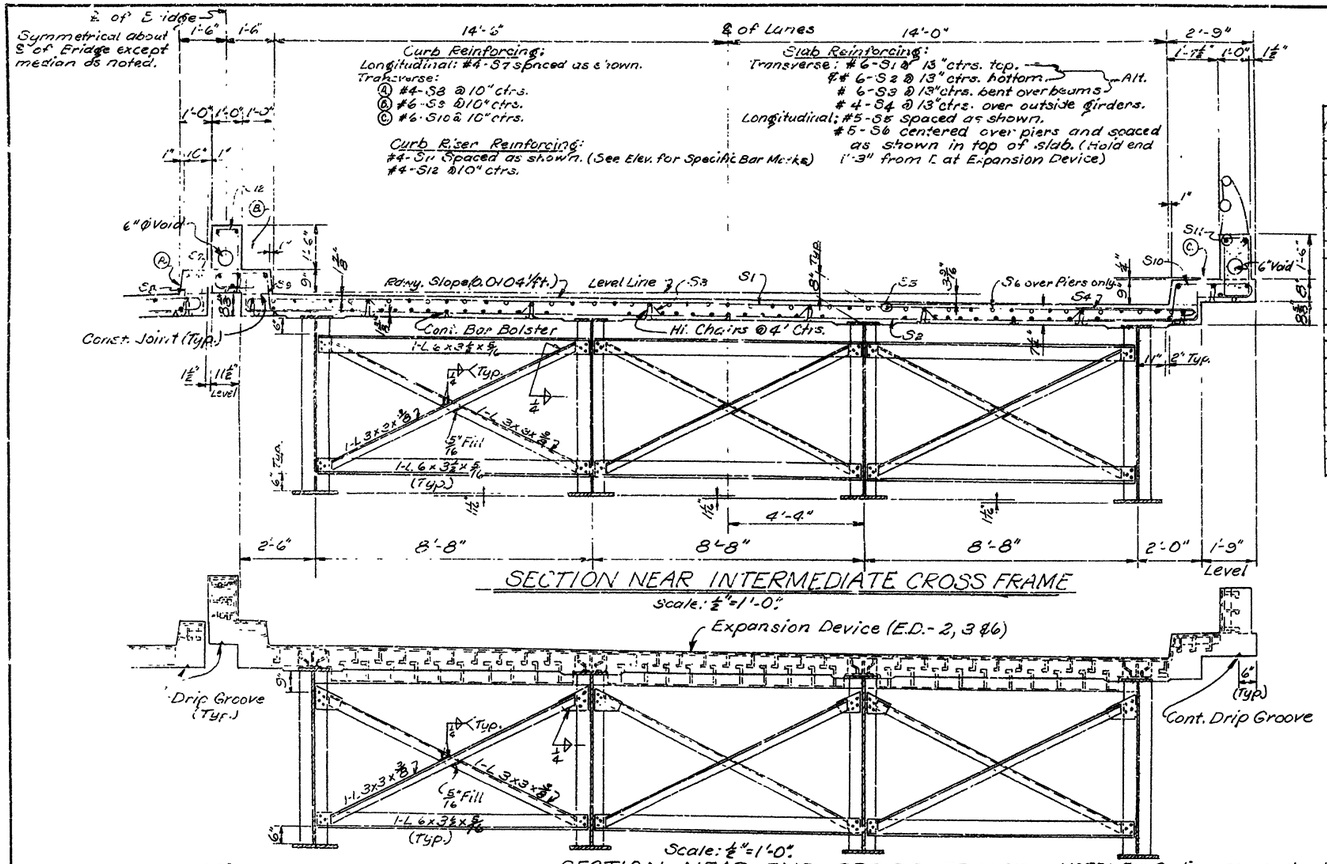
BRIDGE NO. 3609 DRAWING NO. 12855.

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040747	11	21

(1) BRIDGE PLANS - FOR INFORMATION ONLY

21

L-540-1(2)10 4481 47 12.5



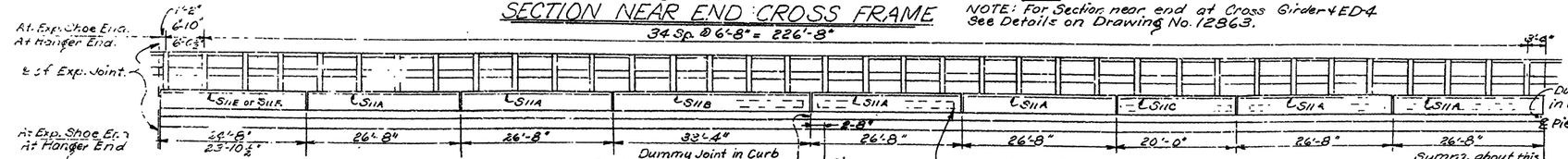
SECTION NEAR INTERMEDIATE CROSS FRAME

Scale: ½"=1'-0"

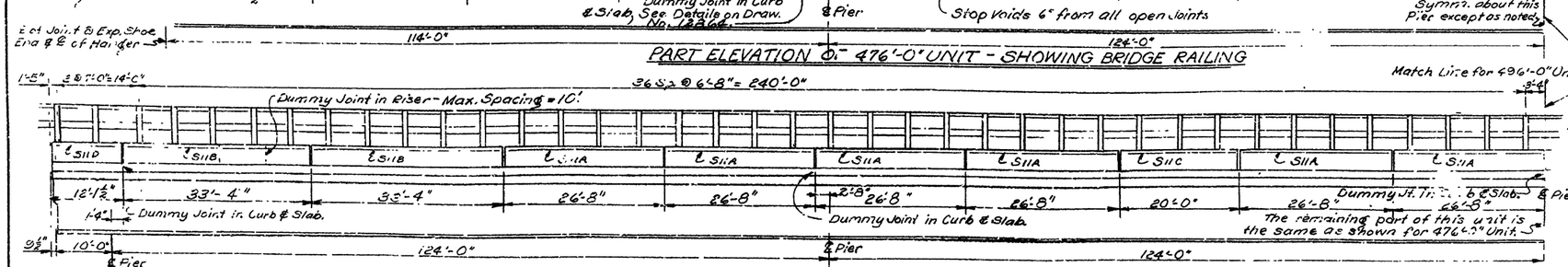
Scale: ½"=1'-0"

SECTION NEAR END CROSS FRAME

NOTE: For Section near end at Cross Girder 4 ED 4 See Details on Drawing No. 12863.



PART ELEVATION OF 476'-0" UNIT - SHOWING BRIDGE RAILING



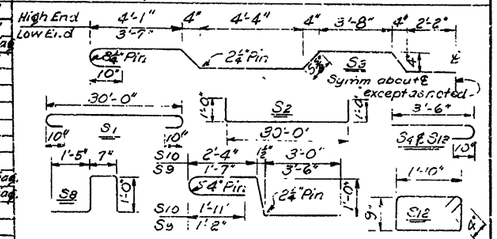
PART ELEVATION OF 496'-0" UNIT - SHOWING BRIDGE RAILING

Horizontal Scale: 1"=10'-0"

BAR LIST - EACH UNIT, BOTH RDWYS.

MARK	SIZE	NUMBER PER UNIT 476'-0"	NUMBER PER UNIT 496'-0"	LENGTH	PIN DIA.
S1	#6	878	914	32-0	3¼"
S2	#6	878	914	31-11	2¼"
S3	#6	876	912	32-9	See Diag.
S3a	#4	876	912	4-6	3"
S5	#5	1920	—	31-9	Str.
		—	1920	33-0	Str.
S6	#5	144	192	25-0	Str.
S7	#4	224	—	31-4	Str.
		—	224	32-7	Str.
S8	#4	572	596	2-11	1¼"
S9	#6	572	596	1-5	See Diag.
S10	#6	1144	1192	8-5	See Diag.
S11A	#4	72	72	26-8	Str.
S11B	#4	12	18	32-10	Str.
S11C	#4	12	12	19-6	Str.
S11D	#4	None.	6	11-7	Str.
S12	#4	1775*	1853*	5-9	1¼"
S13	#6	120**	120**	4-6	3¼"
S11E	#4	6	None	24-2	Str.
S11F	#4	6	6	23-5	Str.

BENDING DIAGRAM



* This includes 14 bars for use in curb at the end of units. See Details on Drawing 12863.
** For use at Exp. Devices - see Sect. A-A on Draw. No. 12863. Dimensions are to centers of bars.

NOTES: For General Notes and Details not shown see Drawing No. 12838.

For Slab Pouring sequence and Deflection Diagrams see Drawing No. 12864.

For Details of Bridge Railing see Drawing No. 14982.

The 4" outside diameter rail member shall be continuous such that each section shall be attached to at least 3 posts.

Expansion joints in rail members as shown on Drawing No. 14982 shall be at expansion joints in superstructure and at intermediate points with a spacing not to exceed 50'.

Stud shear connectors, granular flux filled, solid fluxed or equal may be used in place of the channels shown at the following ratios: 3/4" diameter stud in place of 1.82 inches of channel; 7/8" diameter stud in place of 2.82 inches of channel. The studs shall be 4" long and automatically end welded to all girder flanges in accordance with recommendations of the manufacturer. Channel sections will be used as basis of measurement of structural steel in shear connectors.

DESIGN SPECIFICATIONS: AASHO 1961

LOADING: H20-S16 and Special Interstate Loading of two 24,000# axles spaces at 4'0" centers

		Girders 1 and 4	Girders 2 and 3
1.	Dead Load		
	(a) To Girders only	820#/'	960#/'
	(b) To Composite Girder	380#/'	336#/'
2.	Live Load		
	(a) To Composite Girder	1.406 wheels plus impact	1.576 wheels plus impact

FOR INFORMATION ONLY

DETAILS OF CONCRETE DECK & BRIDGE RAILING FOR 476'0" & 496'0" UNITS

ARKANSAS RIVER BRIDGE

ARKANSAS R. & RELIEF S.R. & APPR.

SEBASTIAN & CRAWFORD COUNTIES

INT. ROUTE 540 SEC. 1.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: VP DATE: 1-15-64
TRACED BY: DATE: SCALE: As Noted.
CHECKED BY: DV DATE: 5-12-64

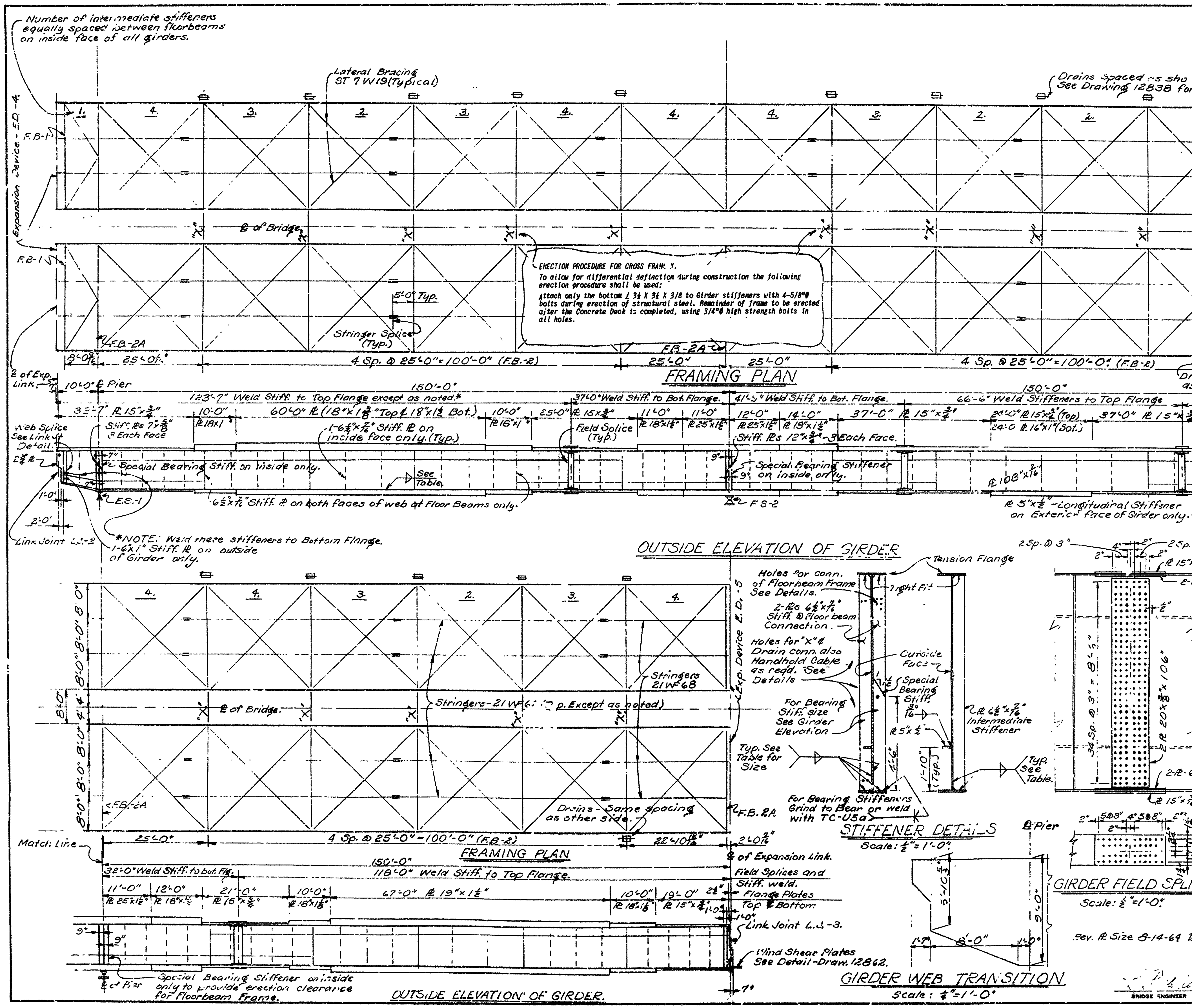
BRIDGE ENGINEER

BRIDGE NO. 3609 DRAWING NO. 12856

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040747	12	21

BRIDGE PLANS - FOR INFORMATION ONLY

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.	I-540-1(4)10			
JOB No.		4481		43	125



ITEM	LOCATION - DRAWING NO.
General Details and Notes	12838
Expansion Devices	12863
Shoes	12861
Cross Section, Railing & Reinforcing	12859
Weld Details & Table of Fillet Welds	12855
Link Joint	12862
Deflection Diagram & Slab Pouring Sequence	126[illegible]

DESIGN SPECIFICATIONS: AASHO 1961

LOADING: H20-S16 and Special Interstate Loading of two 24,000# spaced 4'0" ctrs.
Dead Load to each Girder (includes 300#/lin.ft. future wearing surface), 2,654#/'.
Live Load to each Girder - 1.167 Lanes plus Impact.
Dead Load to each Stringer (includes 160#/' future wearing surface), 922#/'.
Live Load to each Stringer - 1.454 wheels plus impact.

FOR INFORMATION ONLY

FRAMING PLAN
OF 460'-0" UNITS
ARKANSAS RIVER BRIDGE
ARKANSAS R. & RELIEF BR. & APPR.
SEBASTIAN & CRAWFORD COUNTIES

INT. ROUTE 540 SEC. 1

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: V.P. DATE: 1-22-64
TRACED BY: DATE:
CHECKED BY: DV DATE: 3-12-64
SCALE: 3/32" = 1'-0" & As Noted

BRIDGE ENGINEER

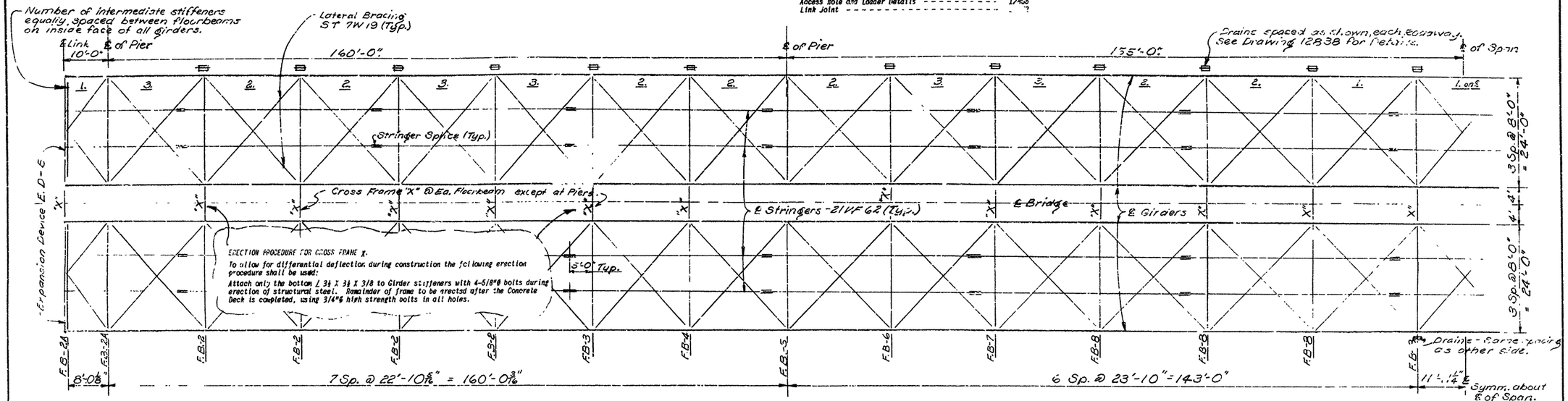
BRIDGE NO. 3609 DRAWING NO 12857

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040747	13	21

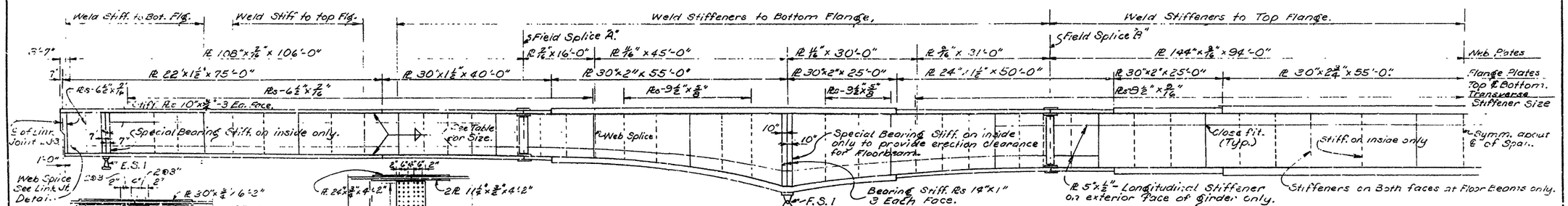
BRIDGE PLANS - FOR INFORMATION ONLY

ITEM	LOCATION - DRAWING NO.
General Details and Notes	12838
Expansion Device (ED-3)	12863
Shoes	12861
Cross Section, Railing and Reinforcing	12859
Weld Details and Table of Fillet Welds	12855
Deflection Diagram & Slab Pouring Sequence	12864
Access Hole and Ladder Details	12905
Link Joint	- -

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.	I-540-1(27)0			
JOB No.		4481		29	125



FRAMING PLAN



FOR INFORMATION ONLY

DESIGN SPECIFICATIONS: AASHO 1961

LOADING: H20-S16 and Special Interstate Loading of two 24,000# spaced at 4'0" ctrs.

Dead Load to each Girder-(includes 300#/' future wearing surface) 2,881#/' typical except 3,151#/' for 310' mid-section.

Live Load to each Girder- 1.16 lanes plus impact.

Dead Load to each Stringer - (includes 140#/' future wearing surface, 922#/'.

Live Load to each Stringer - 1.454 wheels plus impact.

FRAMING PLAN
OF 650'-0" UNIT
ARKANSAS RIVER BRIDGE
ARKANSAS R. & REL. "E" & "F" PPR.
SEBASTIAN & CRAWFORD COUNTIES

INT. ROUTE 540 SEC. 1

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: WP DATE: 3-19-64
TRACED BY: DATE:
CHECKED BY: DV DATE: 5-12-64
SCALE: 3/32" = 1'-0" Exc. Noted.

BRIDGE ENGINEER

BRIDGE NO. 3609 DRAWING NO. 12858

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED

FED. ROAD DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.	F-302-(6)10			
JOB NO.		040747		14	21

BRIDGE PLANS - FOR INFORMATION ONLY

Symmetrical about ℄ of Bridge except mention as noted.

℄ of Bridge

℄ of Lanes.

14'-6" | 14'-0" | 2'-9"

Curb Reinforcing:
Longitudinal: #4-S7 Spaced as shown.
Transverse:
(A) #4-S8 @ 10" ctrs.
(B) #6-S9 @ 10" ctrs.
(C) #6-S10 @ 10" ctrs.

Curb Riser Reinforcing
#4-S11 Spaced as shown.
#4-S12 @ 10" ctrs.

Slab Reinforcing:
Transverse: #5-S1 @ 13" ctrs. top
#6-S2 @ 13" ctrs. Bottom. — Alt.
#6-S3 @ 13" ctrs. bent over beams
#4-S4 @ 13" centers over outside Girders.
Longitudinal: #6-S5 - Spaced as shown.
#5-S6 - Centered over piers and spaced as shown in top of slab. (Hold end 1'-3" from ℄ of Expansion Device.)
Note: S1A, S3A & S13 are for use at access Holes.

#5-S6 over piers only:

Construction Joint (Typ)

Rdwy. Slope (0.010 4" (A) Level Line

Drip Groove

Slab Bar bolster.

High Chairs @ 4' ctrs.

Cont. Drip Groove (Typ.)

460'-0" Units
650'-0" Unit.

Typ.

Close Fit

24 WF 76

Level

ST5WF19.5

ST5WF24.5

Mid Span

Holes for Cross Frame "X"

Cross Frame "X"
Fill ℝ-Thickness of Stiffener

℄ Exp. Joint

Level Line

FB-2-4,6,8 8 Sp. @ 5'-1"
FB-2A & 5 16 Sp. @ 2'-8"

8'-0" | 8'-0" | 8'-0" | 4'-9"

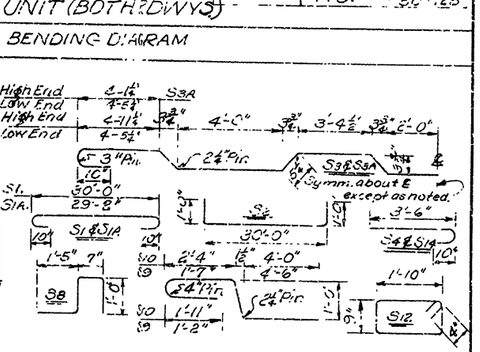
TYPICAL SECTION (AT FLOORBEAM F.B.-2 & 3)
Scale: ½"=1'-0"

See Drawings 12857 & 12858 for Erection Procedure for Cross "X"

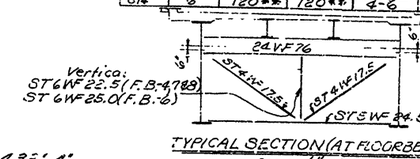
BAR LIST-EACH UNIT (BOTH ROWS)

MARK	SIZE	NUMBER PER UNIT 460'-0"	NUMBER PER UNIT 650'-0"	LENGTH	PIN DIA.
S1	#6	648	1197	31'-11"	3"
S1A	#6	None	6	31'-1"	3"
S2	#6	848	1197	31'-11"	2½"
S3	#6	844	1138	32'-7"	See Diag.
S3A	#6	None	6	31'-9"	See Diag.
S4	#6	844	1198	4'-6"	3"
S5	#5	1888	—	30'-9"	Str.
		—	2478	33'-0"	
S6	#5	156	208	25'-0"	Str.
S7	#4	224	—	30'-4"	Str.
		—	294	32'-7"	Str.
S8	#4	553	782	3'-11"	1½"
S9	#6	553	778	8'-5"	See Diag.
S10	#6	1106	1564	9'-5"	See Diag.
S11A	#4	6	None	8'-10"	Str.
S11B	#4	18	4	19'-6"	Str.
S11C	#4	84	128	26'-2"	Str.
S11D	#4	6	None	17'-0"	Str.
S11E	#4	None	12	8'-8"	Str.
S11F	#4	None	4	23'-2"	Str.
S11G	#4	None	6	27'-4"	Str.
S11H	#4	None	2	16'-0"	Str.
S12	#4	1727*	2342*	5'-9"	1½"
S13	#5	None	15	7'-0"	Str.
S14	6	120**	120**	4'-6"	3"

BENDING DIAGRAM



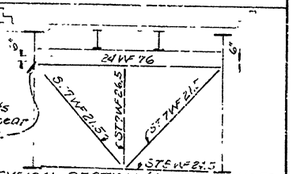
* This includes 14 bars for use in curb at the end of units. See Details on Drawing No. 12863.
** For use at Expansion Joints - See Sect. A-A on Drawing No. 12865. Dimensions are to centers of bars.



TYPICAL SECTION (AT FLOORBEAMS F.B.-4, 6, 7&8)
Scale: ½"=1'-0"

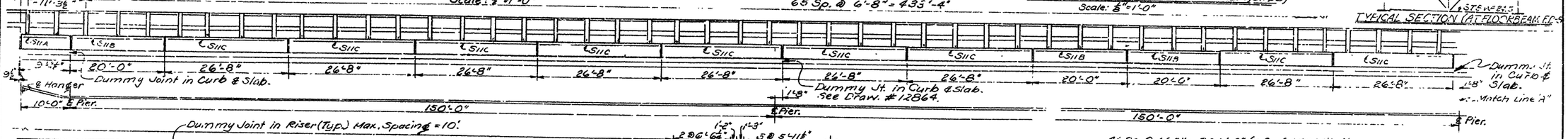
Note: Details not shown and Median Cross Frames are the same as shown for F.B.-2!

Plan Bolts with Nuts to bear on stiffeners.



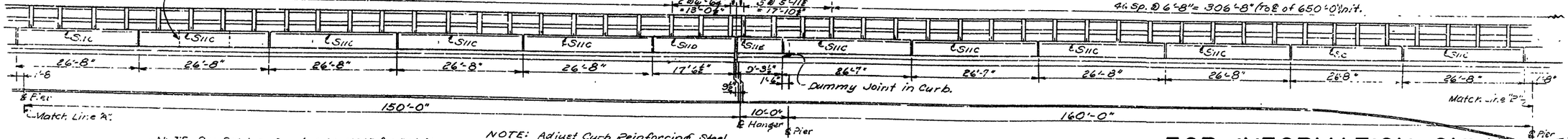
TYPICAL SECTION (AT FLOORBEAM F.B.-5)

65 Sp. @ 6'-8" = 435'-4"



Dummy Joint in Riser (Typ.) Max. Spacing ℄ = 10'.

46 Sp. @ 6'-8" = 306'-8" from ℄ of 650'-0" Unit.



NOTE: See Detail on Drawing No. 12865 for Details of Access Hole in Median.

S11F in Median Riser

S11G in Median Riser

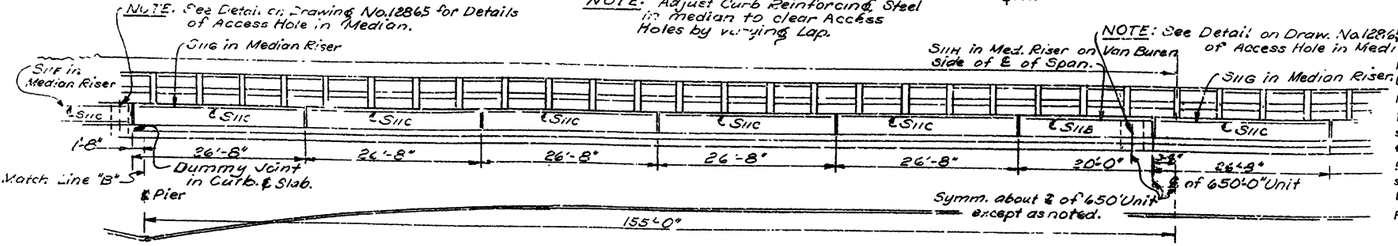
NOTE: Adjust Curb Reinforcing ℄ Steel in median to clear Access Holes by varying Lap.

S11H in Med. Riser on Side of ℄ of Span.

NOTE: See Detail on Draw. No. 12865 for Details of Access Hole in Median.

Van Buren

S11G in Median Riser



ELEVATION OF 460'-0" & 650'-0" UNITS SHOWING BRIDGE RAILING
Horizontal Scale: 1"=10'-0"

NOTES:
For Slab pouring Sequence and Deflection Diagrams see Drawing No. 12864.
For Details of Bridge Railing see Dwg. No. 14992.
The 4" outside flange Rail member shall be continuous such that each section shall be attached to at least 3 posts.
Expansion joints in rail members as shown on Dwg. 14992 shall be at expansion joints in superstructure and at intermediate points with a spacing not to exceed 50'.
For Design Notes see Drawings 12857 and 12858.

FOR INFORMATION ONLY

DETAILS OF CONCRETE DECK & BRIDGE RAILING FOR 460'0" & 650'-0" UNITS

ARKANSAS RIVER BRIDGE

ARKANSAS R. & RELIEF BR. & APPR.

SEBASTIAN & CRAWFORD COUNTIES

INT. ROUTE 540 SEC. 1.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: JP DATE: 1-17-64
TRACED BY: DATE:
CHECKED BY: JV DATE: 5-5-64
SCALE: As Noted

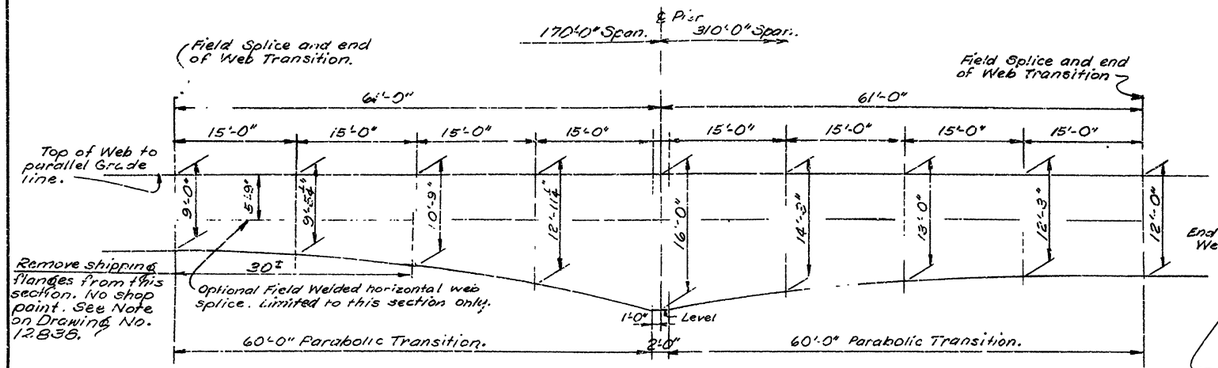
BRIDGE ENGINEER

BRIDGE NO. 3609 DRAWING NO. 12863

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040747	15	21

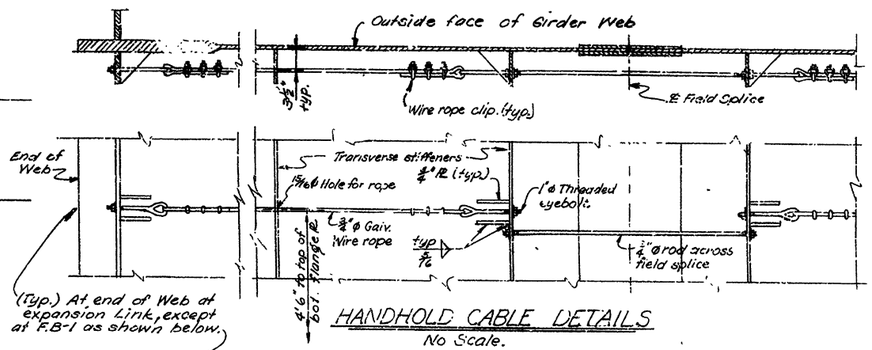
BRIDGE PLANS - FOR INFORMATION ONLY

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.	I-540 (2)10			
JOB No.		4481		51	125



GIRDER WEB TRANSITION - 650'-0" UNIT

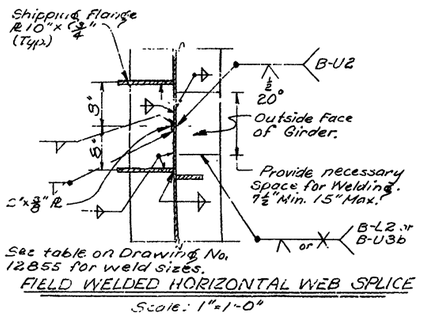
Scale: ⅛"=1'-0"



HANDHOLD CABLE DETAILS

No Scale.

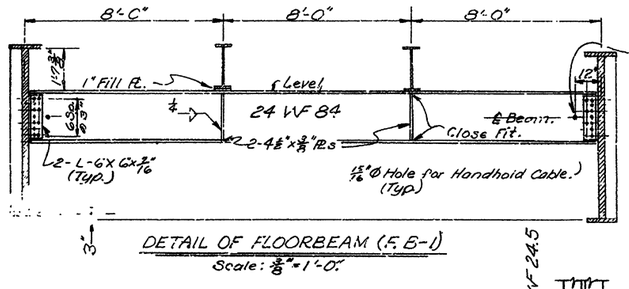
(Typ.) At end of Web at expansion Link, except at F.B-1 as shown below.



See table on Drawing No. 12855 for weld sizes.

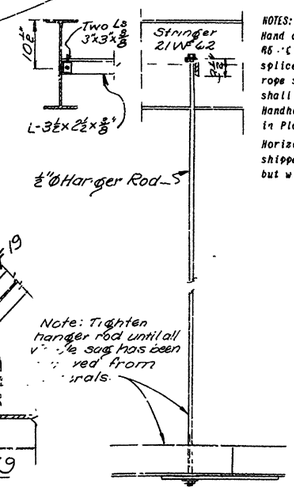
FIELD WELDED HORIZONTAL WEB SPLICE

Scale: 1"=1'-0"

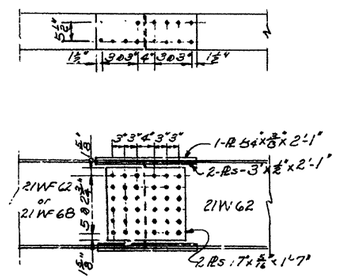


DETAIL OF FLOORBEAM (F.B-1)

Scale: ⅜"=1'-0"

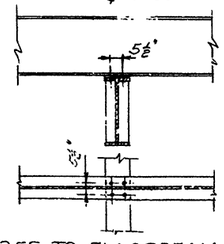


AT PIERS 10 & 19



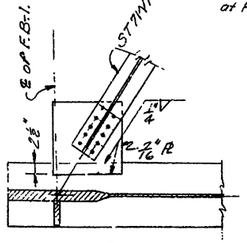
STRINGER SPLICE DETAIL

Scale: ¾"=1'-0"

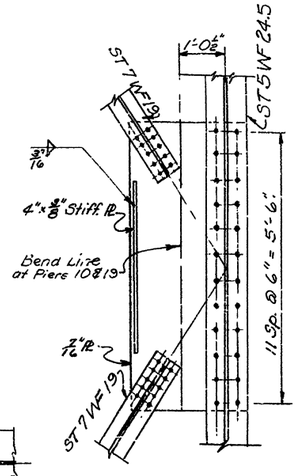


STRINGER TO FLOORBEAM CONN.

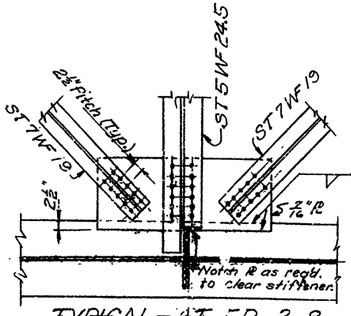
Scale: ½"=1'-0"



AT F.B-1



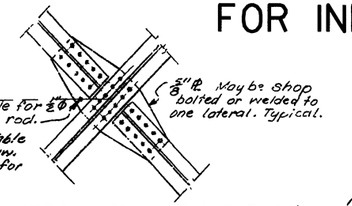
TO F.B-2 AT PIERS 10 & 19 & TO F.B-2 AT F.B-5



TYPICAL - AT F.B-2-8

LATERAL CONNECTION DETAILS

Scale: ½"=1'-0"



LATERAL CONN. AT MID-PANEL

650'-0" & 460'-0" UNITS.

Scale ½"=1'-0"

NOTES:

Hand cables are to be provided on inside of each girder for the entire length of the 65'-0" unit and the two 460'-0" units. Cables shall be continuous between field splices. Omit rod and cable between floor beams at link joints. Holes for wire rope shall be free of sharp edges. After cables have been installed, the eye bolts shall be tightened until all visible sag has been removed from the cable. All Handhold cables and incidentals thereto shall be paid for as "Structural Steel in Plate Girder Spans" (A 36).

Horizontal web splice may be field welded if girder section at haunches cannot be shipped full depth. Shipping flanges and backing bar shall be provided as shown but will not be measured for payment.

FOR INFORMATION ONLY

MISCELLANEOUS FRAMING DETAILS

650'-0" & 460'-0" UNITS

ARKANSAS RIVER BRIDGE

ARKANSAS R. & RELIEF BR. & APPR.

SEBASTIAN & CRAWFORD COUNTIES

INT. ROUTE 540 SEC. 1

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: VP DATE: 3-25-64

TRACED BY: DATE:

CHECKED BY: DV DATE: 5-13-64

SCALE: As Noted

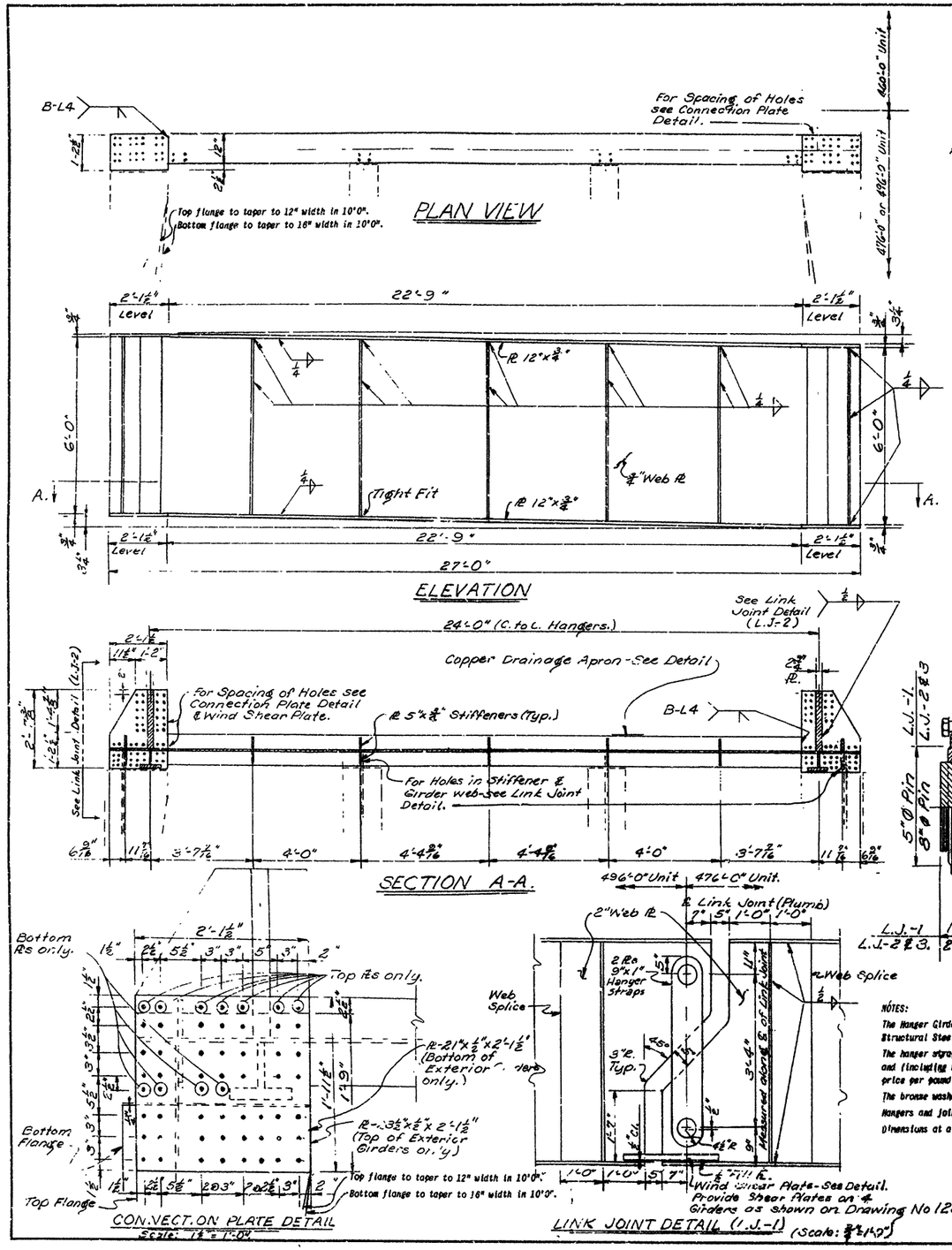
BRIDGE ENGINEER

BRIDGE NO. 3609 DRAWING NO. 12860

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040747	15	21

(1) BRIDGE PLANS - FOR INFORMATION ONLY

FED ROAD NO.	STATE	FED AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.	F-390-1(27)10			
JOB No.		4481	53	125	



NOTES:

The Hanger Girder including connection plates and the 2¾" hanger plate shall be Structural Steel ASTM Designation A 36.

The hanger straps shall be high strength, low alloy steel, ASTM Designation A 441; and (including hanger pin and nut assembly) shall be paid for at the contract unit price per pound bid for "Structural Steel in Plate Girder Spans A 441".

The bronze washers shall be ASTM Designation B 22 Alloy D or E.

Hangers and joints to be detailed plumb; stiffeners to be normal to grade.

Dimensions at all joints are shown for 60°F.

Rev. ℓ Designation 8-12-64 HB
Rev. Location of set screw in Link ℓ 9-4-64 HB

BRIDGE ENGINEER

DETAILS OF HANGER GIRDER AND LINK JOINTS ARKANSAS RIVER BRIDGE

ARKANSAS R. & RELIEF BR. & APPR.

SEBASTIAN & CRAWFORD COUNTIES

INT. ROUTE 540 SEC. 1

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: ZP DATE: 1-28-64
TRACED BY: DATE:
CHECKED BY: DV DATE: 5-13-64

SCALE: ½" = 1'-0" & As Noted.

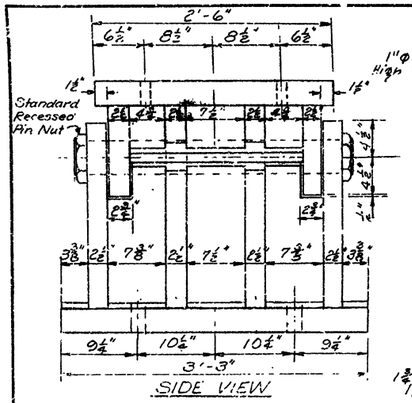
BRIDGE NO. 3603 **DRAWING NO.** 12865

FOR INFORMATION ONLY

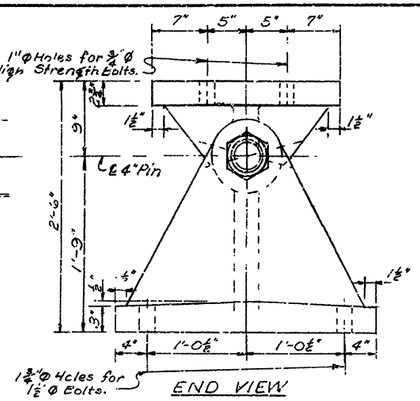
DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040747	17	21

BRIDGE PLANS - FOR INFORMATION ONLY

STATE	JOB PROJECT	FINAL	SHEET	TOTAL SHEETS
	I-540-1(27)10			
ARK.	448		52	135

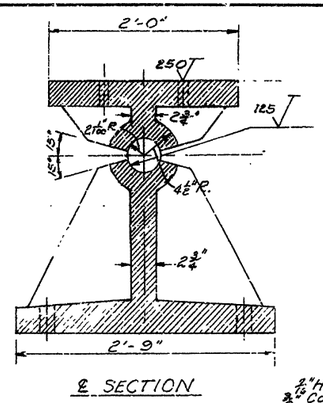


SIDE VIEW

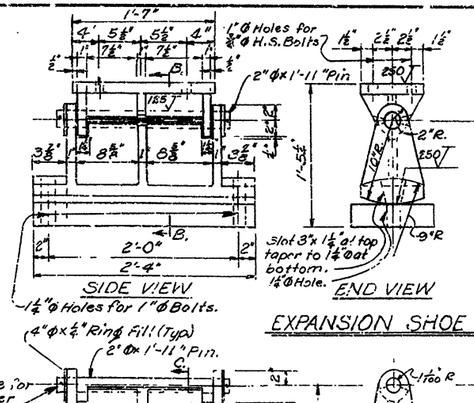


END VIEW

FIXED SHOE FS-1

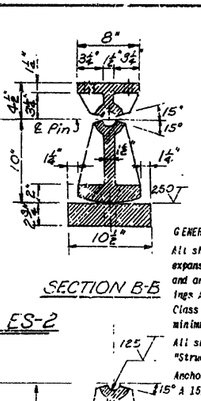


℄ SECTION



SIDE VIEW

END VIEW



SECTION B-B

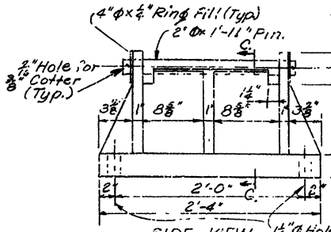
EXPANSION SHOE ES-2

GENERAL NOTES:

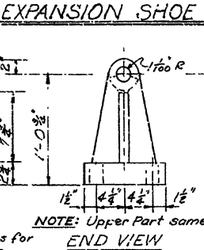
All shoe materials shall be carbon steel. Masonry plates for expansion shoes, both plates for fixed bearing plates (FBP-1) and anchor bolts shall be ASTM A 36. All shoes shall be castings ASTM A 27 - Grade 65-35. All pins shall be ASTM A 235, Class E or ASTM A 108 - Grade 1021 to 1030 inclusive, with a minimum Rockwell Scale B Hardness of 85.

All shoes and anchor bolts shall be measured and paid for as "Structural Steel in Plate Girder Spans (A 36)."

Anchor bolts shall be galvanized to conform to ASTM Specification A 153.

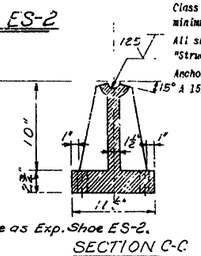


SIDE VIEW



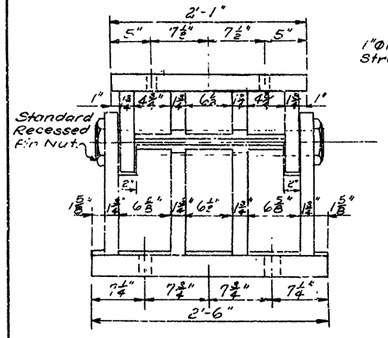
END VIEW

NOTE: Upper Part same as Exp. Shoe ES-2.

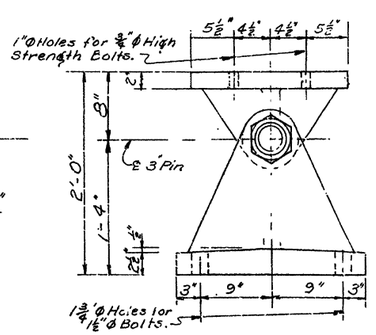


SECTION C-C

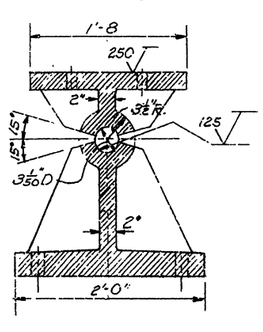
FIXED SHOE FS-3



SIDE VIEW

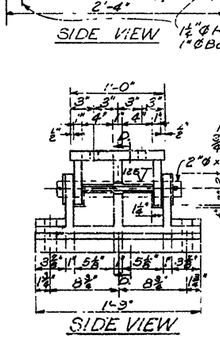


END VIEW

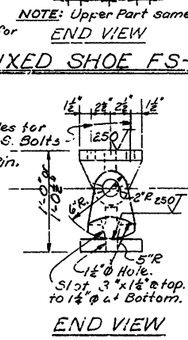


℄ SECTION

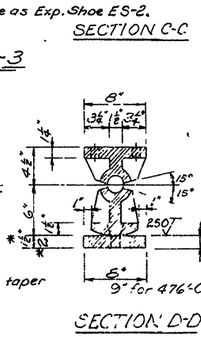
FIXED SHOE FS-2



SIDE VIEW



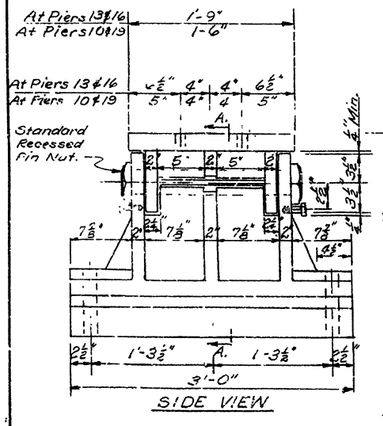
END VIEW



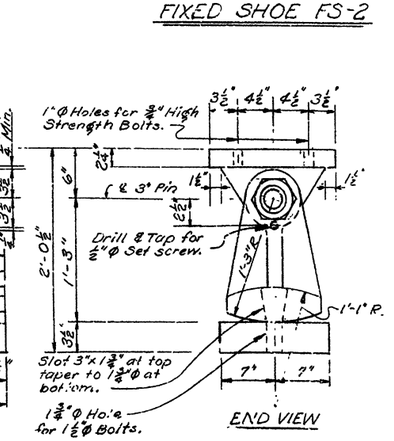
SECTION D-D

* Use 1½" R for 80'-0" Span No. 1 and Use 2" R. for 80'-0" Span No. 2 and 476'-0" Units.

EXPANSION SHOE ES-3

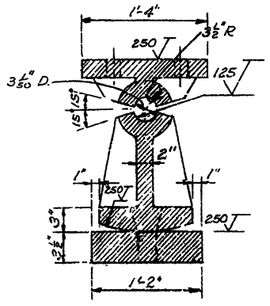


SIDE VIEW

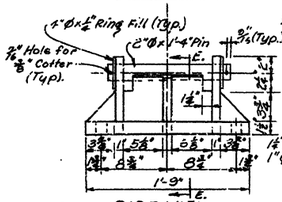


END VIEW

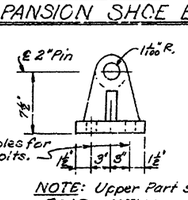
EXPANSION SHOE ES-1



SECTION A-A

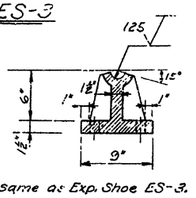


SIDE VIEW



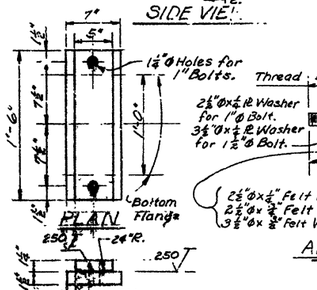
END VIEW

NOTE: Upper Part same as Exp. Shoe ES-3.

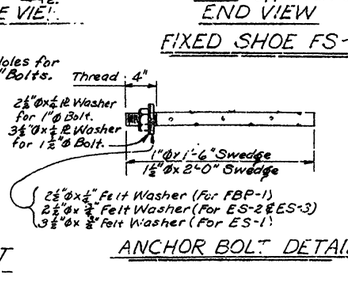


SECTION E-E

FIXED SHOE FS-4



FIXED BEARING PLATES FB.



ANCHOR BOLT DETAIL

FOR INFORMATION ONLY

DETAILS OF SHOES

ARKANSAS RIVER BRIDGE

ARKANSAS R. & RELIEF BR. & APPR.

SEBASTIAN & CRAWFORD COUNTIES

INT. ROUTE 540 SEC. 1.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: V.H. DATE: 1-8-64

TRACED BY: DATE:

CHECKED BY: D.V. DATE: 5-13-64

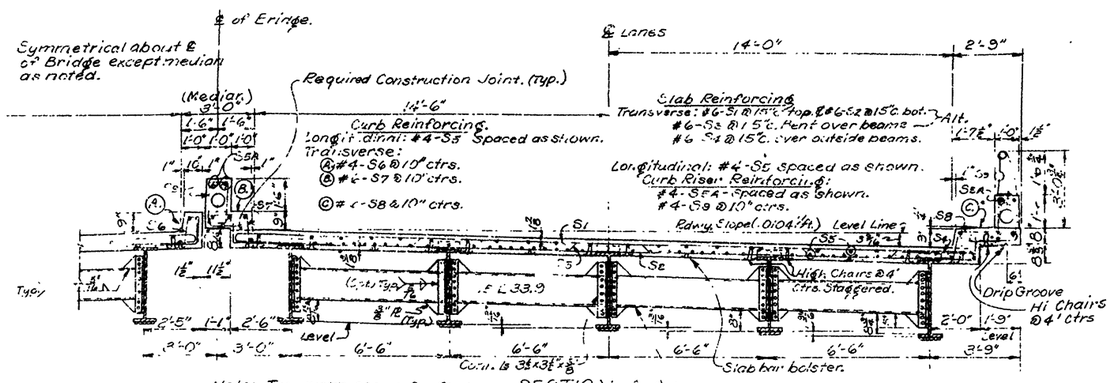
SCALE: 1½" = 1'-0"

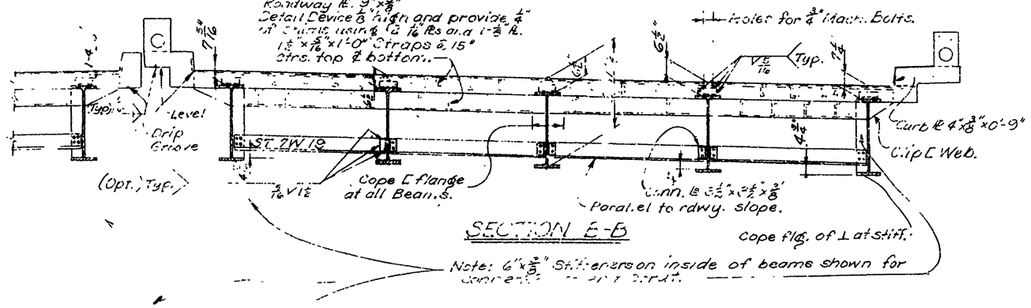
BRIDGE NO. 3609. DRAWING NO. 12861

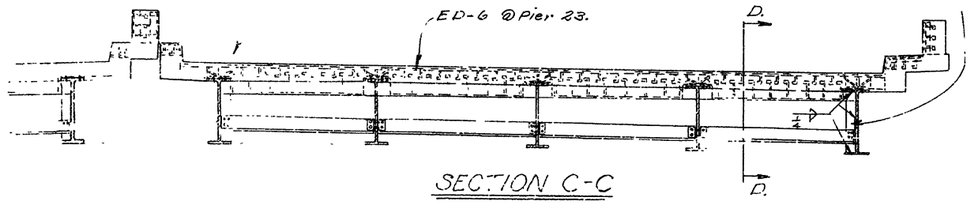
H. Rainey
BRIDGE ENGINEER

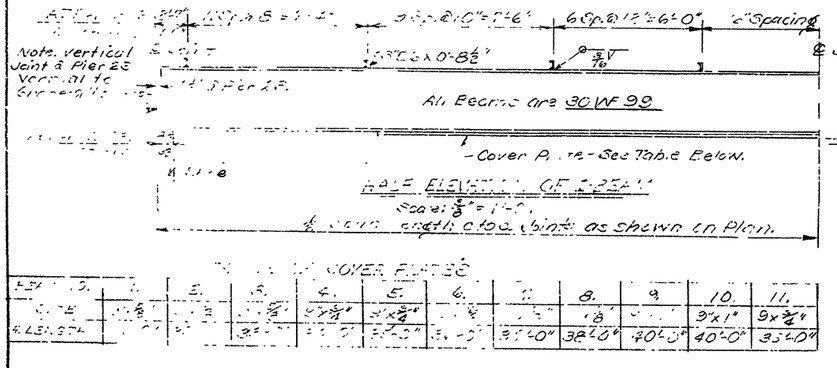
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	REVISED SHEETS	SHEET	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040747	18	21

BRIDGE PLANS - FOR INFORMATION ONLY

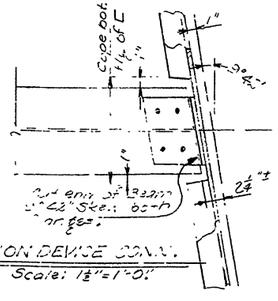


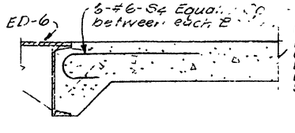






	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
C.P.										9"x1"	9"x¾"
No. Req'd.										4	4
Length							31'-0"	38'-0"	40'-0"	40'-0"	35'-0"

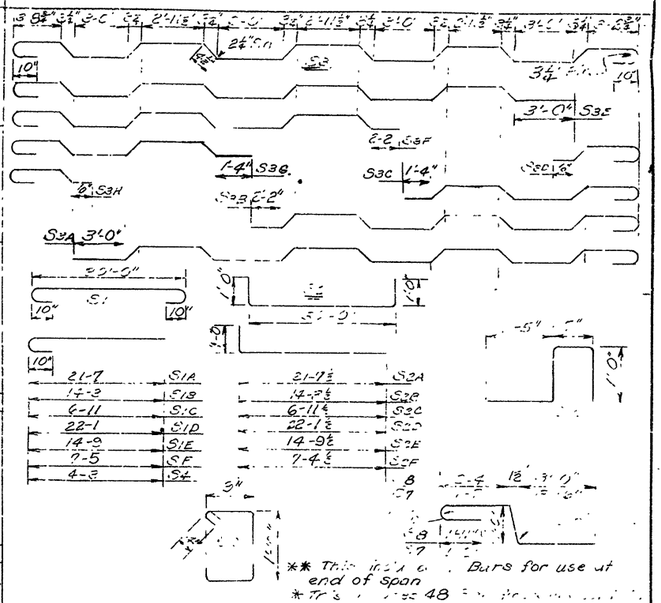




ITEM	LOCATION - DRAWING NO.
Plan View	12866
General Details & Notes	12838
Expansion Device (ED-6)	12863
Expansion Device (ED-7)	12838
Shoes	12838

BAR LIST (BOTH RDWYS)

MARK	SIZE	NUMBER TRANS. SPAN	NUMBER SKEWED SPAN	LENGTH	PIN ℄
S1	#6	82	80	32-0	
S1A	#6	1	2	33-7	
S1B	#6	1	2	15-3	
S1C	#6	1	2	7-11	3¼"
S1D	#6	1	2	23-1	
S1E	#6	1	2	15-9	
S1F	#6	1	2	8-5	
S2	#6	82	80	31-11	
S2A	#6	1	2	22-7	
S2B	#6	1	2	15-3	
S2C	#6	1	2	7-11	2¼"
S2D	#6	1	2	23-1	
S2E	#6	1	2	15-9	
S2F	#6	1	2	8-5	
S3	#6	82	78	32-7	
S3A	#6	1	2	27-6	
S3B	#6	1	2	20-0	
S3C	#6	1	2	12-7	
S3D	#6	1	2	5-1	See Diagram
S3E	#6	1	2	28-0	
S3F	#6	1	2	20-6	
S3G	#6	1	2	13-1	
S3H	#6	1	2	5-7	
S4	#6	194*	86	5-3	3¼"
S5	#4	142	284	27-7	
S5A	#4	6	18	17-6	
S5B	#4	6	None	15-9	Str.
S5C	#4	6	None	19-3	
S5D	#4	36	None	23-10	
S5E	#4	36	None	29-4	
S5F	#4	36	None	31-9	
S5G	#4	34	None	26-4	
S6	#4	64	64	3-11	1½"
S7	#6	64	64	7-5	See Diag.
S8	#6	130	128	5-6	See Diag.
S9	#4	201**	196	4-3	1½"



NOTES:

All structural steel shall be ASTM A 36 steel.

Stud shear connectors, granular flux filled, solid fluxed or equal may be used in place of the channels shown at the following ratios: 3/4" diameter stud in place of 1.82 inches of channel, 7/8" diameter stud in place of 2.52 inches of channel. The studs shall be 4" long and automatically end welded to the beam flanges in accordance with recommendations of the manufacturer. Channel sections will be used as basis for measurement of structural steel in shear connectors.

DESIGN SPECIFICATIONS: AASHO 1961

LOADING: H20-S16 and Special Interstate Loading of two 24,000# axles spaced @ 4'0" centers.

	Beams 1 and 5	Beams 2, 3, and 4
1. Dead Load		
(a) To WF Beam	637#/'	637#/'
(b) To Composite Beam	282#/'	240#/'
2. Live Load		
(a) To each Composite Beam	1.156 wheels plus impact	1.192 wheels plus impact

SHEET 2 OF 2 SHEETS

DETAILS OF 54'-0" COMPOSITE I-BEAM SPANS

BRIDGE OVER ARKANSAS RIVER

ARKANSAS & CRAWFORD COUNTIES

SEE SECTIONAL & GENERAL DATA SHT.

INT. ROUTE 540 SEC. 1.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY VP DATE 11-4-63

TRACED BY DATE

CHECKED BY DV DATE 5-17-64

SCALE ⅜"=1'-0" and as noted.

BRIDGE NO. 3609 DRAWING NO. 23,[illegible]

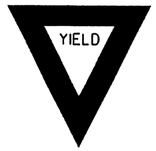
FOR INFORMATION ONLY

BRIDGE ENGINEER

R1-1

STANDARD 30"X30"
EXPRESSWAY 36"X36"
SPECIAL 48"X48"

R1-2



STD. 36"X36"X36"
EXPWY. 48"X48"X48"
FWY. 60"X60"X60"

R2-1

STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

W3-5

STD. 36"X36"
EXPWY. 48"X48"
FWY. 48"X48"

W3-5a

STD. 36"X36"
EXPWY. 48"X48"
FWY. 48"X48"

R4-1

STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R4-2

STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

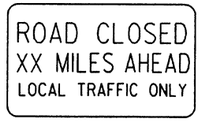
R5-1

STD. 30"X30"
EXPWY. 36"X36"
SPECIAL 48"X48"

R11-2

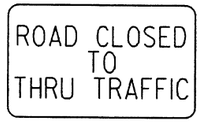
48"X30"

R11-3A



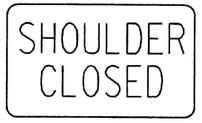
60"X30"

R11-4



60"X30"

RSP-1



48"X30"

W1-1

STD. 36"X36"
FWY. 48"X48"

W1-2

STD. 36"X36"
FWY. 48"X48"

W1-3

STD. 48"X48"

W1-4

STD. 48"X48"

W1-6

STD. 48"X24"
SPECIAL 60"X30"

W1-8

STD. 18"X24"
SPECIAL 24"X30"
EXPWY. 30"X36"
FWY. 36"X48"

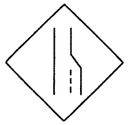
W3-1

STD. 36"X36"
SPECIAL 48"X48"

W3-2

STD. 36"X36"
SPECIAL 48"X48"

W4-2



STD. 36"X36"
FWY. 48"X48"

W5-1

STD. 36"X36"
SPECIAL 48"X48"

W6-3

EXPWY. 36"X36"
SPECIAL 48"X48"

W8-7

EXPWY. 36"X36"
FWY. 48"X48"

W9-2

STD. 36"X36"
FWY. 48"X48"

W13-1

STD. 24"X24"

W20-1

STD. 48"X48"

W20-2

STD. 48"X48"

W20-3

STD. 48"X48"

W20-4

STD. 48"X48"

W20-5

STD. 48"X48"

W20-7a

STD. 36"X36"
FWY. 48"X48"

W21-2

STD. 30"X30"
SPECIAL 36"X36"

W21-5

STD. 30"X30"
SPECIAL 36"X36"

W24-1

STD. 36"X36"

W1-4b

STD. 48"X48"

R56-1

STD. 18"X18"

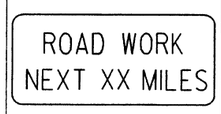
W8-11

STD. 36"X36"
FWY. 48"X48"

W8-9

STD. 36"X36"
FWY. 48"X48"

G20-1



60"X24"

G20-2

48"X24"

OM-3L OM-3R

12"X36"

M4-9

STD. 30"X24"
SPECIAL 48"X36"
SPECIAL 60"X48"

M4-10

48"X18"

R55-1

36"X60"

• USE 6" C LETTERS
•• USE 4" D LETTERS

ADVANCE DISTANCES
(XXXX)

500 FT	½ MILE
1000 FT	¾ MILE
1500 FT	1 MILE
	AHEAD

GENERAL NOTES:

1. ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE STANDARD HIGHWAY SIGNS, LATEST EDITION, OR AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION.
2. TRAFFIC CONTROL DEVICES SHALL BE SET UP JUST BEFORE THE START OF CONSTRUCTION OPERATIONS AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SUCH CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS NEEDED AND REMOVED THEREAFTER.
3. EXISTING SIGNS AND CONSTRUCTION SIGNS SHALL BE KEPT IN PROPER POSITION, AND BE CLEAN AND LEGIBLE AT ALL TIMES. SIGNS THAT DO NOT APPLY TO EXISTING CONDITIONS SHALL BE REMOVED. SIGNS THAT ARE DAMAGED, DEFACED, OR THAT ACCUMULATE DIRT DURING CONSTRUCTION SHALL BE CLEANED, REPAIRED, OR REPLACED.
- 4. SIGNS ARE USUALLY MOUNTED ON A SINGLE POST, ALTHOUGH THOSE WIDER THAN 36" OR LARGER THAN 10 SQ. FT. SHALL BE MOUNTED ON TWO POSTS OR ABOVE A TYPE III BARRICADE.
- 5. SIGN POSTS DIRECT BURIED IN SOIL SHALL BE 2 LB. MINIMUM CHANNEL POST OR 4"x4" WOOD POSTS. CHANNEL POSTS SHALL BE PAINTED GREEN. WOOD POSTS SHALL BE PAINTED WHITE. ALL POSTS SHALL BE NEATLY CONSTRUCTED, AND SHALL BE REPLUMBED, CLEANED, OR REPAIRED AS NEEDED FOR THE DURATION OF THE JOB. THERE SHALL NOT BE MORE THAN 2 POSTS IN A 7' PATH FOR WOOD OR CHANNEL POSTS. ANY CHANNEL POST SPLICE SHALL BE IN ACCORDANCE WITH STANDARD DRAWING TC-3.
6. POST MOUNTED SIGNS IN RURAL AREAS SHALL BE CONSTRUCTED WITH THE NEAR EDGE OF THE SIGN FROM 6 TO 12 FEET FROM THE PAVEMENT EDGE. SIGNS IN URBAN AREAS AND BARRICADE MOUNTED SIGNS SHALL BE MOUNTED A MINIMUM OF 2 FEET FROM THE PAVEMENT EDGE.
7. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN URBAN AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN RURAL AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE, EXCEPT A MINIMUM OF 6' SHALL BE USED WHEN MOUNTING AN ADVISORY SIGN BELOW A WARNING SIGN. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR INTERMEDIATE TERM STATIONARY WORK CONDITIONS. THE SIGNS MINIMUM MOUNTING HEIGHT SHALL BE 5'. RETROREFLECTIVE DEVICES SHALL BE USED. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR SHORT-TERM, SHORT DURATION, AND MOBILE CONDITIONS. THEY SHALL BE NO LESS THAN ONE (1) FOOT ABOVE THE TRAVELED WAY. LONG-TERM STATIONARY SIGNS SHALL BE DIRECT BURIED IN SOIL, UNLESS CONDITIONS NECESSITATE THE USE OF PORTABLE SIGNS, OR AS APPROVED BY THE ENGINEER. CONCRETE PADS, CONCRETE OR ROCK BALLAST, OR OTHER SOLID MATERIALS SHALL NOT BE UTILIZED WITH PORTABLE SIGN SUPPORTS.
8. FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.
9. MOST OF THE SIGNS SHOWN ARE ORIENTED TO THE RIGHT, HOWEVER, THIS DOES NOT PRECLUDE THE USE OF MIRROR IMAGES OF THESE SIGNS WHERE THE REVERSE ORIENTATION MIGHT BETTER CONVEY TO MOTORISTS THE PROPER DIRECTION OF MOVEMENT.
10. R55-1 SIGNS SHALL BE PLACED AT LEAST 1500' BUT NOT MORE THAN 1 MILE IN ADVANCE OF THE WORK ZONE. IF A SPEED LIMIT REDUCTION IS IN EFFECT, THE SIGN SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE "REDUCED SPEED AHEAD" SIGN.

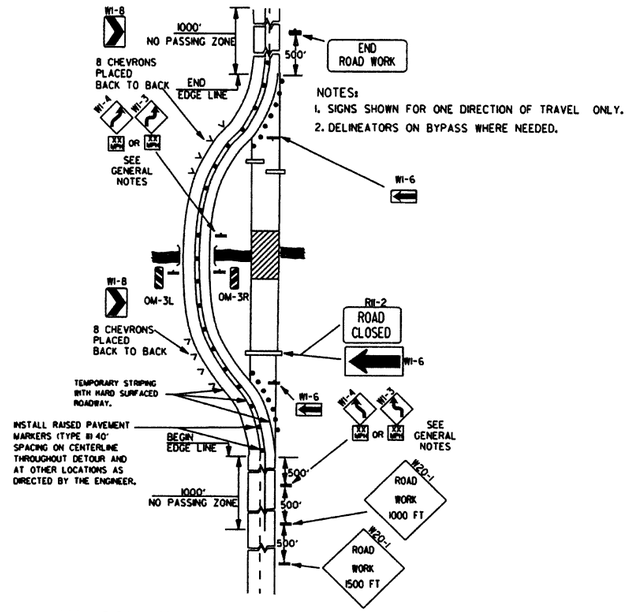
• NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.

DATE	REVISION	FILMED
9-2-15	REVISED REDUCED SPEED LIMIT AHEAD SIGNS REVISED ROAD WORK NEXT XX MILES	
12-15-11	REVISED W24-1	
11-17-10	DELETED W8-9a & ADDED W8-9	
10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1	
4-17-08	REVISED SIGN DESIGNATIONS	
8-18-04	REVISED NOTES	
10-9-03	REVISED NOTE 1	
8-16-01	REVISED NOTE 7	
9-28-00	REVISED NOTE	
8-18-98	ADDED NOTE	
6-26-97	REVISED NOTE 5	
4-03-97	REVISED NOTE 5	
10-18-96	ADDED CONTROLLED ACCESS HWY. SIGN & TO NOTE 7	
10-12-95	ADDED R55-1	
6-8-95	REVISED TO CORRECT SIGN ILLUSTRATIONS	6-8-95
2-2-95	REVISED PER PART VI, MUTCD SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

ARKANSAS STATE HIGHWAY COMMISSION

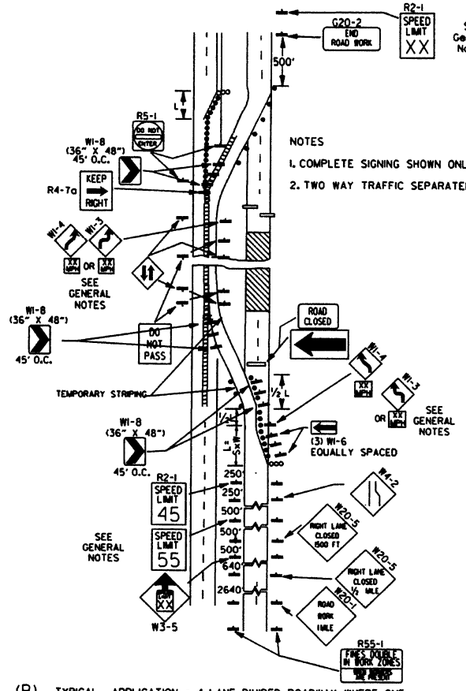
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-1



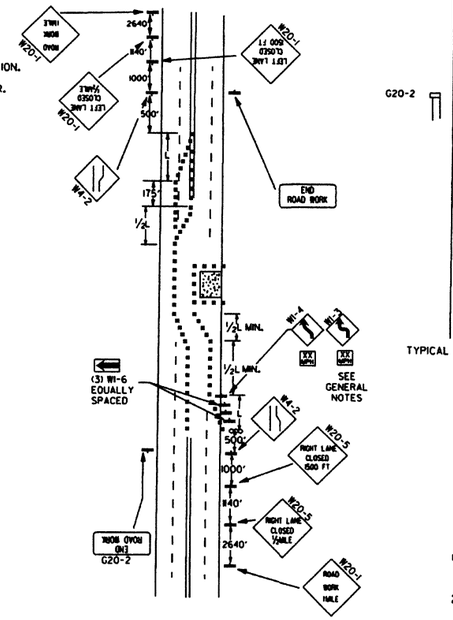
NOTES:
1. SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.
2. DELINEATORS ON BYPASS WHERE NEEDED.

(A) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON A 2-LANE HIGHWAY WHERE THE ENTIRE ROADWAY IS CLOSED AND A BYPASS DETOUR IS PROVIDED.

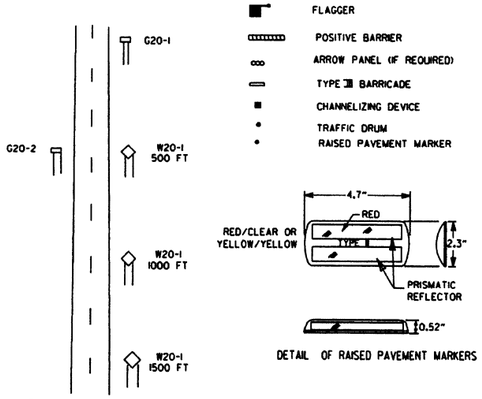


NOTES
1. COMPLETE SIGNING SHOWN ONLY IN CROSSOVER DIRECTION.
2. TWO WAY TRAFFIC SEPARATED WITH POSITIVE BARRIER.

(B) TYPICAL APPLICATION - 4-LANE DIVIDED ROADWAY WHERE ONE ROADWAY IS CLOSED.



(C) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



TYPICAL ADVANCE WARNING SIGN PLACEMENT

KEY:
- FLAGGER
- POSITIVE BARRIER
- ARROW PANEL (IF REQUIRED)
- TYPE III BARRICADE
- CHANNELIZING DEVICE
- TRAFFIC DRUM
- RAISED PAVEMENT MARKER

DETAIL OF RAISED PAVEMENT MARKERS

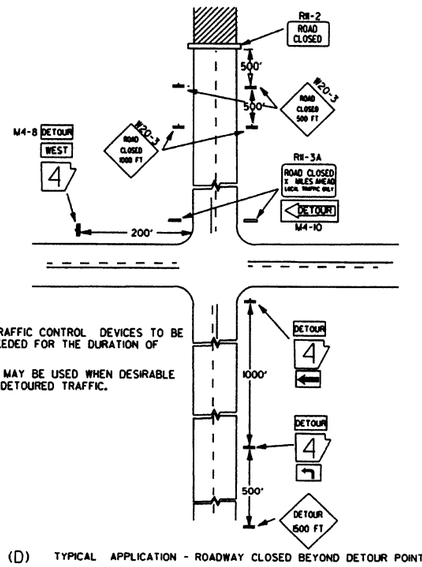
TAPER FORMULAE:

L=SXW FOR SPEEDS OF 45MPH OR MORE.

$L = \frac{WS^2}{60}$ FOR SPEEDS OF 40MPH OR LESS.

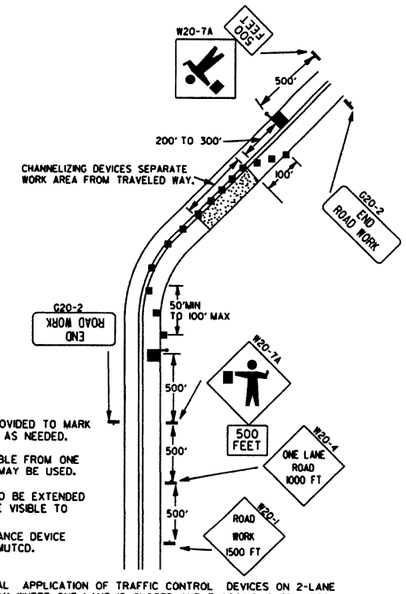
WHERE:
L= MINIMUM LENGTH OF TAPER.
S= NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85TH PERCENTILE SPEED.
W= WIDTH OF OFFSET.

GENERAL NOTES:
1. ADVISORY SPEED POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS TO BE DETERMINED AT SITE. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS.
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1 45MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
3. WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-1(55) SHALL BE OMITTED. ADDITIONAL R2-1 55MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
4. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT, OR AS DIRECTED BY THE ENGINEER.
5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
6. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
7. TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE.
8. DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE AHTD QUALIFIED PRODUCTS LIST.



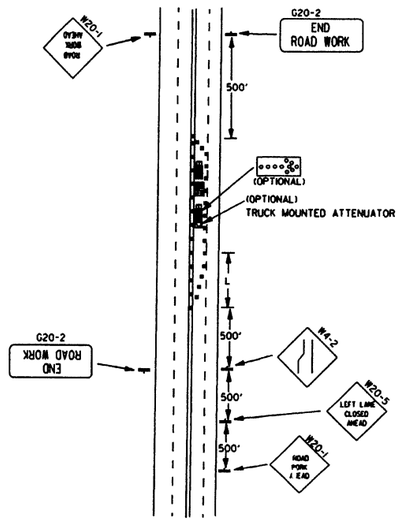
NOTES:
1. REGULATORY TRAFFIC CONTROL DEVICES TO BE MODIFIED AS NEEDED FOR THE DURATION OF THE DETOUR.
2. STREET NAMES MAY BE USED WHEN DESIRABLE FOR DIRECTING DETOURED TRAFFIC.

(D) TYPICAL APPLICATION - ROADWAY CLOSED BEYOND DETOUR POINT.



NOTES:
1. FLOOD LIGHTS SHOULD BE PROVIDED TO MARK FLAGGER STATIONS AT NIGHT AS NEEDED.
2. IF ENTIRE WORK AREA IS VISIBLE FROM ONE STATION, A SINGLE FLAGGER MAY BE USED.
3. CHANNELIZING DEVICES ARE TO BE EXTENDED TO A POINT WHERE THEY ARE VISIBLE TO APPROACHING TRAFFIC.
4. AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD) OPTIONAL. REFER TO MUTCD.

(E) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON 2-LANE HIGHWAY WHERE ONE LANE IS CLOSED AND FLAGGING IS PROVIDED.



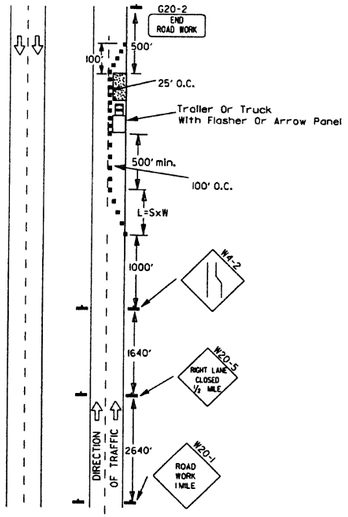
(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.

DATE	REVISION	FILMED
9-2-15	REVISED NOTE 2, ADDED NOTE 8, REVISED DRAWING (A) & REPLACED R2-5A WITH W3-5	
9-12-13	REVISED DETAIL OF RAISED PAVEMENT MARKERS	
3-8-10	ADDED (AFAD)	
8-20-08	REVISED SIGN DESIGNATIONS	
8-18-04	ADDED GENERAL NOTE	
10-18-96	ADDED R55-1	
4-26-96	CORRECTED (a) BEHIND G20-2	
6-8-95	CORRECTED SIGN IDENT. ON W1-4A	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

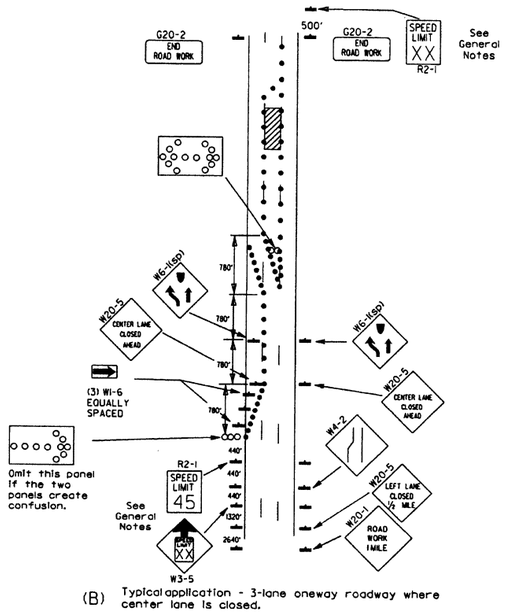
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

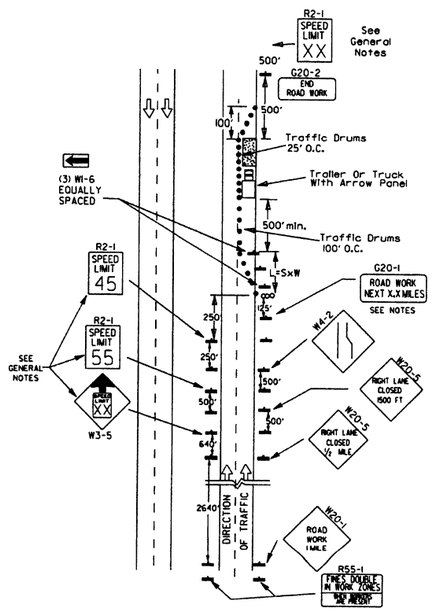
STANDARD DRAWING TC-2



(A) Typical application - daytime maintenance operations of short duration on a 4-lane divided roadway where half of the roadway is closed.



(B) Typical application - 3-lane oneway roadway where center lane is closed.



(C) Typical application - construction operations of intermediate to long term duration on a 4-lane divided roadway where half of the roadway is closed.

KEY:

ooo Arrow Panel (If Required)

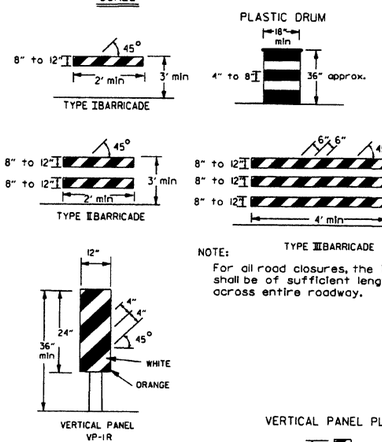
■ Channelizing Device

● Traffic drum

GENERAL NOTES:

1. A speed limit reduction may be implemented ONLY when designated in the plan or when recommended by the Roadway Design Division.
2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the W3-5 shall be installed at that location. Additional R2-1 45mph speed limit signs shall be installed at a maximum of 1 mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
3. When the existing speed limit is 65mph and the plans require a speed limit of 55mph, the R2-1(45) shall be omitted. Additional R2-1 55mph speed limit signs shall be installed at a maximum of 1 mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
4. The maximum spacing between channelizing devices in a taper should be approximately equal in feet to the speed limit. Beyond the taper, maximum spacing shall be two times the speed limit or as directed by the Engineer.
5. Warning lights and/or flags may be mounted to signs or channelizing devices at night as needed.
6. Pavement markings no longer applicable which might create confusion in the minds of vehicle operators shall be removed or obliterated as soon as practicable.
7. The G20-1 sign will be required on jobs of over two miles in length. When the lane closure is not at the beginning of the project, the G20-1 sign shall be erected 125' in advance of the job limit. Additional W20-1 (1 MILE) signs are not required in advance of lane closures that begin inside the project limits.
8. Flaggers shall use STOP/SLOW paddles for controlling traffic through work zones. Flags may be used only for emergency situations.
9. All plastic drums and cones shall meet the requirements of NCHRP-350 or Manual For Assessing Safety Hardware (MASH).
10. Trailer mounted devices such as arrow panels and portable changeable message signs shall be delineated by affixing conspicuity material in a continuous line on the face of the trailer. When placed on or adjacent to the shoulder and not behind a positive barrier, these devices shall be delineated by placing five (5) traffic drums, equally spaced along the traffic side of the device.

Channelizing devices



NOTE:
For all road closures, the Type III barricades shall be of sufficient length to extend across entire roadway.

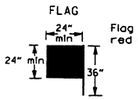
TRAFFIC CONTROL DEVICES
FOR
VERTICAL PAVEMENT DIFFERENTIALS

VERTICAL DIFFERENTIAL	LOCATIONS	TRAFFIC CONTROL
1" to 3"	Centerline, lane lines	W8-11
1" to 3"	Edge of shoulder	W8-9
Greater than 3"	Lane lines	Standard lane closure required
Greater than 3"	Edge of traveled lane	*RSP-1 and vertical panels, drums or concrete barrier
Greater than 3"	Edge of shoulder	*Vertical panels, drums or concrete barrier

* When shown on the plans concrete barrier will be used.

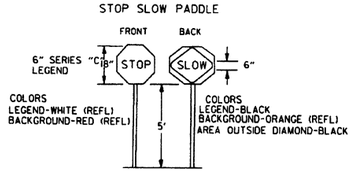
When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.

FLAG

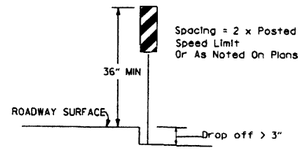


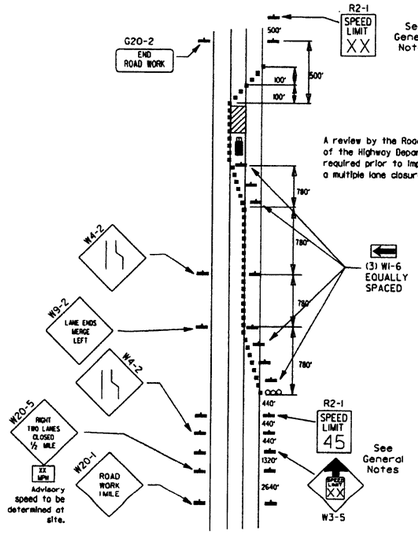
Flag shall be of good grade red material

STOP SLOW PADDLE



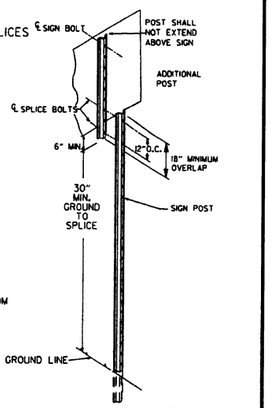
VERTICAL PANEL PLACEMENT





(D) Typical application - closing multiple lanes of a multilane highway.

DETAIL OF SPLICES



NOTES: USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-21

NORMAL INSTALLATIONS WILL REQUIRE 1/4" DIA. BOLTS TO MOUNT SIGNS TO POST AND 5/16" DIA. BOLTS TO ASSEMBLE THE VARIOUS POST SUPPORTS. EACH OF THESE BOLTS SHALL BE CARRIAGE BOLTS.

SIGN POSTS SHALL BE PAINTED GREEN; SIGNS SHALL NOT BE PAINTED, AND ALL SIGN POSTS SHALL BE PLUMB.

DATE	REVISION	FILMED
9-2-15	REVISED NOTE 2 & REPLACED R2-5A WITH W3-5	
10-15-09	ADDED REFERENCE TO MASH	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED NOTE	
10-1-98	ADDED NOTE	
4-03-97	ADDED (SP) TO W6-1 & REVISED TRAFFIC CONTROL DEVICES NOTE	
10-18-96	ADDED R55-1	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL, TEXT	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-3