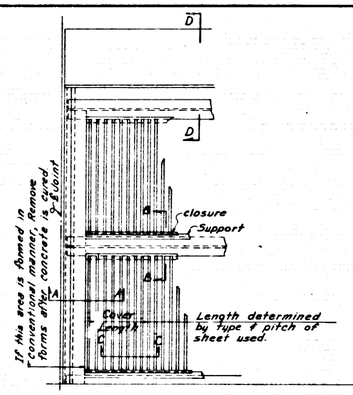
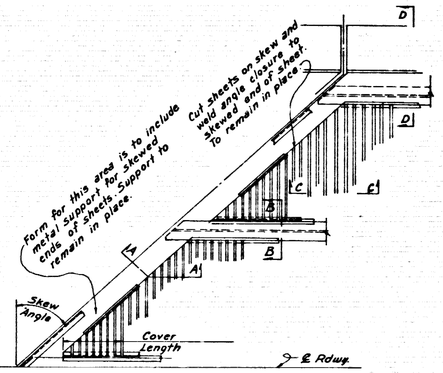
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	FED. AID PROJ.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
8-8-72	509 8-10-72			6	ARK.			17	
				JOB NO.					

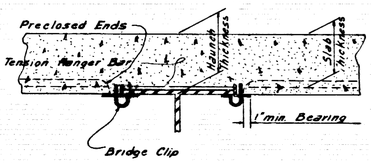
297



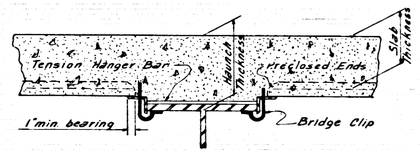
PART PLAN - SQUARE SPAN
1/8"=1'-0"



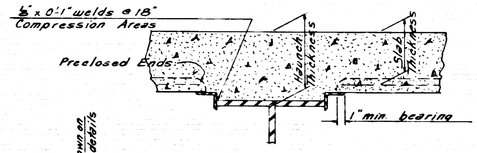
PART PLAN - SKEWED SPAN
1/8"=1'-0"



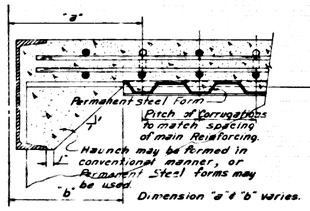
SECTION B-B
Showing permissible support Tension Flange



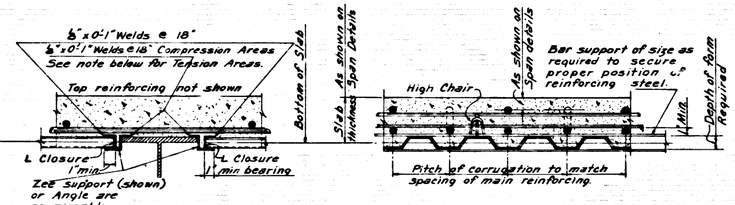
SECTION B-B
Showing permissible support Tension Flange



SECTION B-B
Showing Permissible Support

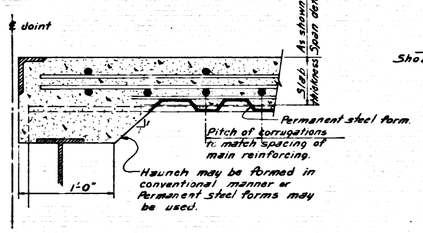


CHANNEL AT END OF SPAN
SECTION A-A
1/2"=1'-0"

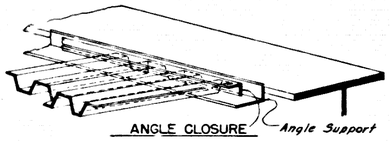


SECTION B-B
(Showing L Closure)
1/2"=1'-0"

SECTION C-C
1/2"=1'-0"

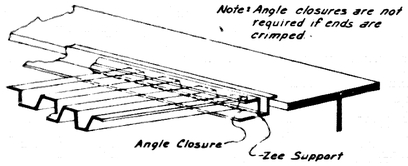


ANGLE AT END OF SPAN
SECTION A-A
1/2"=1'-0"

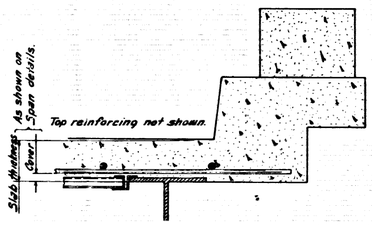


ANGLE CLOSURE

Note: Angle closures are not required if ends are crimped.



SKETCHES OF PERMISSIBLE SUPPORTS



SECTION C D
No Scale

GENERAL NOTES

PERMANENT STEEL FORM SHEETS SHALL BE WELDED TO THE SUPPORTING MEMBER AT EACH END WITH A 1/2" MINIMUM DIAMETER PLUG WELD AT EACH SIDE LAP AND AT CENTER OF SHEET, PRIOR TO CONSTRUCTION TRAFFIC. END SUPPORTS SHALL BE WELDED AS SHOWN ON THIS DRAWING PRIOR TO PLACING OF SHEETS.

ALIGN FORM SHEETS TRANSVERSELY ACROSS THE BRIDGE IN ORDER THAT CONTINUOUS REINFORCING BARS SHALL BE CORRECTLY ORIENTED WITH RESPECT TO THE CORRUGATIONS ACROSS THE VARIOUS FORM SPANS.

BAR SUPPORT RODS ARE TO BE OF SIZE REQUIRED TO SECURE PROPER POSITION OF REINFORCING STEEL AND SUFFICIENT IN NUMBER TO PROVIDE ADEQUATE SUPPORT.

HIGH CHAIRS OF HEIGHT REQUIRED TO SUPPORT TOP ROW OF REINFORCING IN POSITION SHOWN ARE TO BE PLACED AT LOCATIONS SHOWN ON STANDARD DRAWING.

DETAIL PLANS OF PROPOSED PERMANENT STEEL FORMS SHALL BE SUBMITTED AND APPROVED BEFORE WORK OF FORMING ROADWAY SLAB IS STARTED.

WELDING WILL NOT BE PERMITTED IN TENSION AREAS OF BEAM FLANGES. SOME OTHER METHOD, APPROVED BY THE ENGINEER, OF FASTENING Z OR L SUPPORTS TO FLANGE MUST BE USED.

PERMANENT STEEL FORMS MUST MEET THE REQUIREMENTS OF SP 802-2.

SPECIFICATIONS: ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 1972, AND APPLICABLE SPECIAL PROVISIONS.

REVISED 8-8-72 FOR 1972 SPECS.

Note: This drwg. replaces drwg. 14991 dated 2-21-63.

Vernal Pinkerton
BRIDGE ENGINEER

DETAILS OF
PERMISSIBLE TYPE
PERMANENT STEEL BRIDGE DECK FORMS
FOR I-BEAM & PLATE GIRDER SPANS

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: W.W.W. DATE 12-10-70
TRACED BY: DATE
CHECKED BY: FMH DATE 12-10-70
SCALE: as noted

BRIDGE NO. DRAWING NO. 14991

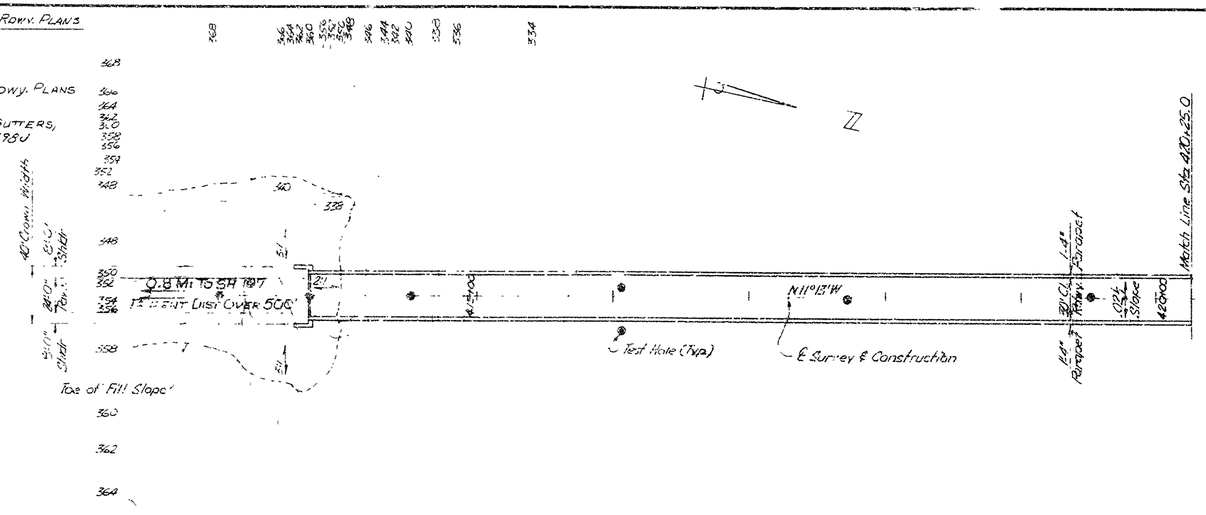
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	F.A. PROJ. NO.	SHEET NO.	TOTAL SHEETS
7 MAY 75		85 [illegible]		6	ARK.	TQS-A128(1)		
11-3-75		10-2[illegible]	9-4-76	JOB NO.		1442	1	23
8-17-76	6-2-9-77							

(1) 5c00-Layout - 18941

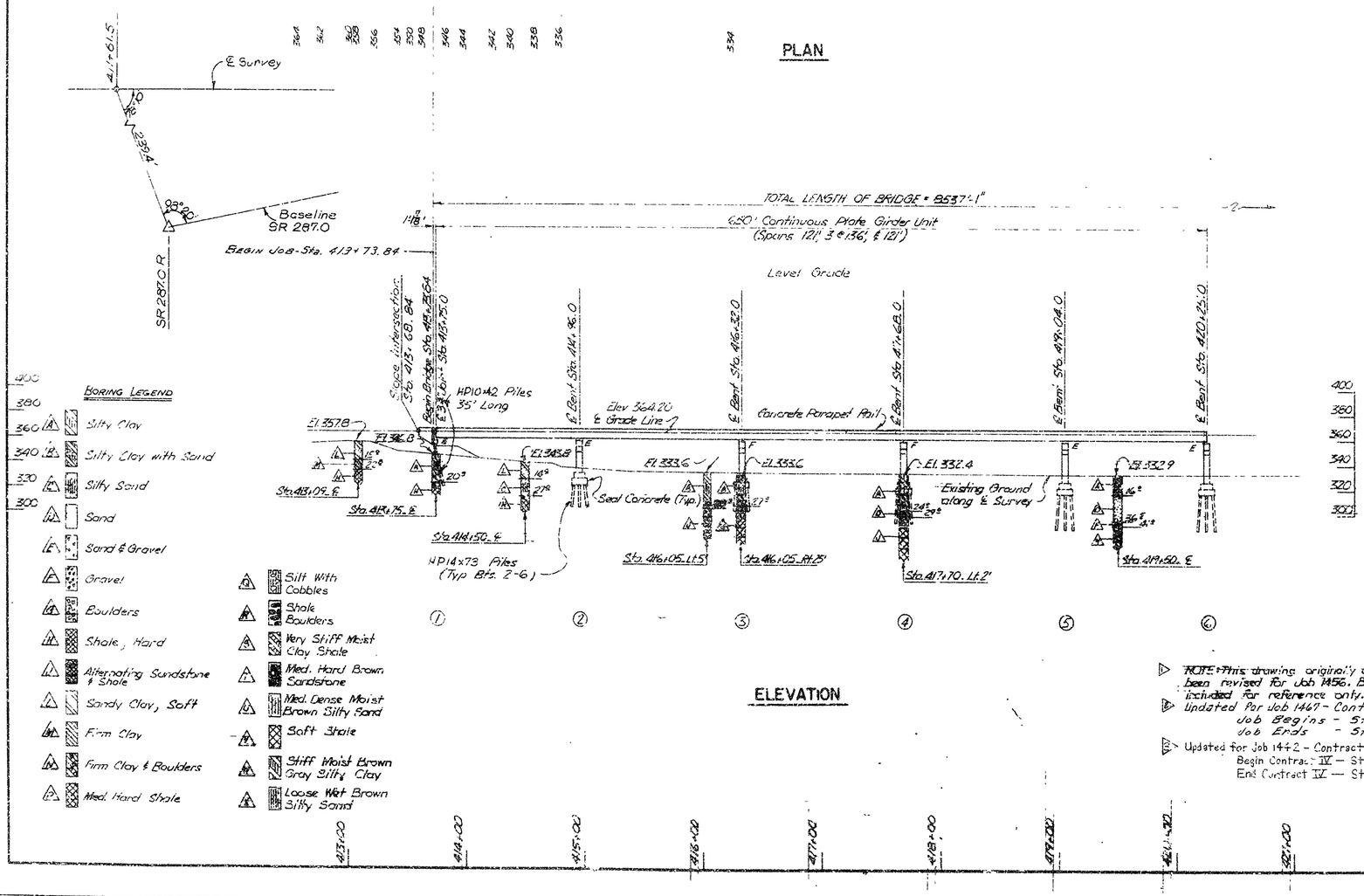
FOR R/W DATA, SEE ROWY. PLANS

FOR GUARD RAIL, SEE ROWY. PLANS

FOR APPROACH SLABS & GUTTERS, SEE DWGS. 18980L & 18980J



PLAN



ELEVATION

NOTE: This drawing originally used in Job 1455, has been revised for Job 1456. Bents 1 thru 42 are included for reference only.

Updated for Job 1467 - Contract III.
Job Begins - Sta. 412 + 73.84
Job Ends - Sta. 465 + 75.00

Updated for Job 1442 - Contract IV.
Begin Contract IV — Sta. 465 + 75.00
End Contract IV — Sta. 499 + 10.94

PILE LENGTH EA. BENT

BENT NO.	HP LENGTH (EA) ALT. 1
2	20.0'
3	24.0'
4	26.0'
5	32.0'
6	37.0'

GENERAL NOTES

BENCH MARK:

SR - 287.0 R - 242' RT. STA. 411+80, ELEV. 372.58
NIS 12" PERSIMMON 2' LT STA. 413+35, ELEV. 352.55
NIS TWIN 30" COTTONWOOD 121' RT. STA. 444+23, ELEV. 343.40
NIS 8" COTTONWOOD 77' RT. STA. 466+73, ELEV. 345.11
STAMPED NDB 124 - 266' LT. STA. 494+20, ELEV. 342.46
NIS 12" RED OAK 8' RT. STA. 497+73, ELEV. 358.08
NIS 20" RED OAK 1' LT. STA. 500+27, ELEV. 396.99

ALL EXPOSED CONCRETE CORNERS SHALL BE CHAMFERED 3/4" UNLESS OTHERWISE NOTED.

ALL CONCRETE IN THE SUBSTRUCTURE, EXCEPT SEAL CONCRETE, SHALL BE CLASS S AND SHALL BE POURED IN THE DRY. *See Dwg. 18953 for Job 1467.*

JOB NO. 1455

END BENT NO. 1 PILING SHALL BE HP10X42 AND SHALL BE DRIVEN WITH AN APPROVED AIR, STEAM, OR DIESEL HAMMER TO A MINIMUM BEARING CAPACITY OF 55 TONS PER PILE AND INTO THE MATERIAL DESIGNATED AS SHALE ON THE BORING LOGS. LENGTHS OF PILING 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 BENT TO BE DRIVEN AFTER EMBANKMENT TO SUBGRADE IS IN PLACE.

FOR DETAILS OF END BENT, SEE DWG. NO. 18953
FOR DETAILS OF INTERMEDIATE BENTS, SEE DWG. NOS. 18954, 18955 & 18956

SPECIFICATIONS: ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 1972, AND APPLICABLE SPECIAL PROVISIONS.

DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 1973 WITH 1974 INTERIM SPECIFICATIONS.

LIVE LOADING: HS20

METHOD OF DESIGN: SUBSTRUCTURE - LOAD FACTOR

JOB NO. 1455

INT. BENTS 2 THRU 42 PILING SHALL BE HP14X73 AND SHALL BE DRIVEN WITH AN APPROVED AIR, STEAM, OR DIESEL HAMMER TO A MINIMUM BEARING CAPACITY OF 96 TONS PER PILE AND INTO THE MATERIAL DESIGNATED AS SHALE ON THE BORING LOGS. LENGTHS OF PILING SHOWN ARE FOR ESTIMATING QUANTITIES ONLY.

DRIVE ONE TEST PILE IN EACH BENT. THESE PILES ARE TO BE DRIVEN WITHOUT A FOLLOWER IN ACCORDANCE WITH SECTION 805.040 OF THE STANDARD SPECIFICATIONS. THE LENGTHS OF THE REMAINING PILES IN EACH BENT SHALL BE DETERMINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER BASED UPON THE RESULTS OF THE TEST PILE. CUT-OFF FOR THE TEST PILES WILL NOT BE PAID FOR. CUT-OFFS AND BUILD-UPS FOR ALL PILES OTHER THAN THE TEST PILES, IF NECESSARY, SHALL BE PAID FOR IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. PAYMENT FOR PILES WILL BE BASED ON THE LENGTH IN PLACE IN THE COMPLETED STRUCTURE.

ALL PILING EXCEPT THE TEST PILE MAY BE DRIVEN WITH A FOLLOWER AND THE REQUIREMENT OF SUBSECTION 805.040 THAT ONE PILE IN TEN SHALL BE DRIVEN AS A LONG PILE WITHOUT A FOLLOWER DOES NOT APPLY.

INTERMEDIATE BENTS 43 THRU 60 AND END BENT 61 - FOOTINGS SHALL BE PREPARED IN ACCORDANCE WITH SUBSECTION 801.04 OF THE STANDARD SPECIFICATIONS.

FOOTINGS FOR BENTS 43 THRU 55 SHALL BE SET A MINIMUM OF 2'-0" INTO HARD SHALE OR SANDSTONE. FOOTINGS FOR BENTS 56 THRU 59 SHALL BE SET A MINIMUM OF 5'-0" INTO HARD SHALE. FOOTINGS FOR BENTS 60 AND 61 SHALL BE SET A MINIMUM OF 1'-6" INTO HARD SHALE.

FOR DETAILS OF INTERMEDIATE BENTS 43 THRU 60, SEE DWG. NOS. 19250 THRU 19259

FOR DETAILS OF CIRCULAR FOOTING OPTIONS THAT MAY BE USED IN LIEU OF RECTANGULAR FOOTINGS FOR BENTS 43 THRU 59, SEE DWG. NO. 19238.

FOR DETAILS OF END BENT, SEE DWG. NO. 19260.

FOR FOUNDATION PRESSURES, SEE THE DETAIL DRAWINGS. ONLY THE PRESSURES FOR THE GROUP LOADING THAT CONTROLS THE DESIGN ARE LISTED.

SHEET 1 OF 7

LAYOUT OF BRIDGE OVER ARKANSAS RIVER
ARK. RIVER BR. & APPRS. (CLARKSVILLE)
LOGAN & JOHNSON CO.

ROUTE 109 SEC. 3 & 4

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: K.M.G. DATE: 21 Dec. 73
CHECKED BY: WAS DATE: 21 Aug. 74
DESIGNED BY: E.T.F. DATE: 30 APR. 73

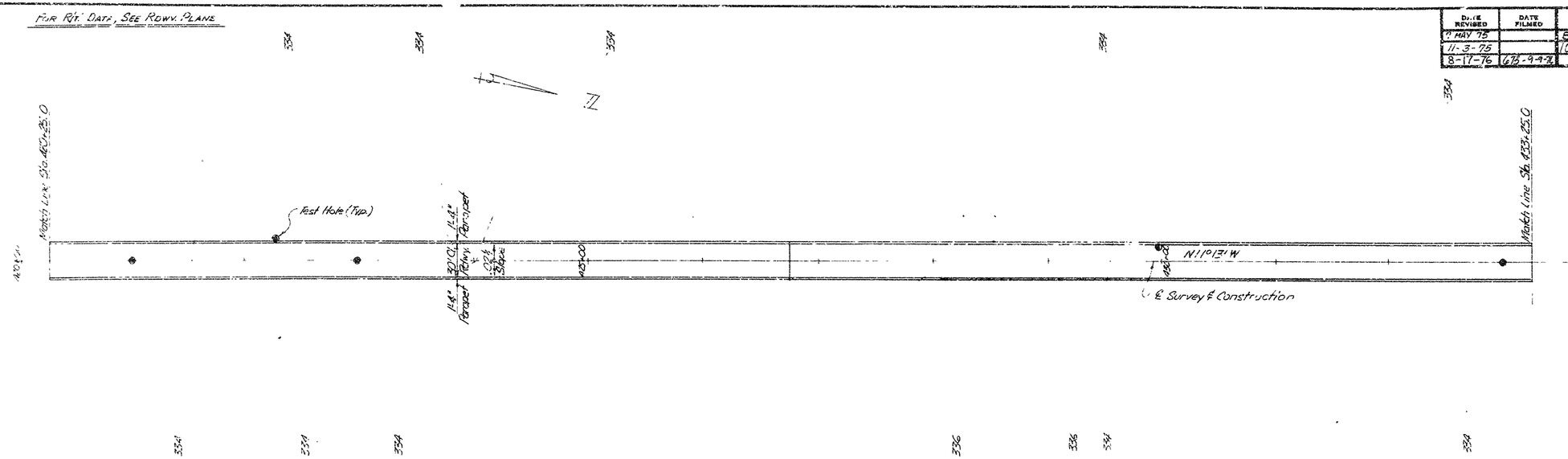
BRIDGE ENGINEER

BRIDGE NO. 5600 DRAWING NO. 18941

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
7 MAY 75		8SEP76		8	ARK.	TQS-A128(1)		
11-3-75		10-4-76	FILE-10-6-76	JOB NO.		1442		
8-17-76	675-9-9-76							

(1) 5600-Layout - 18942

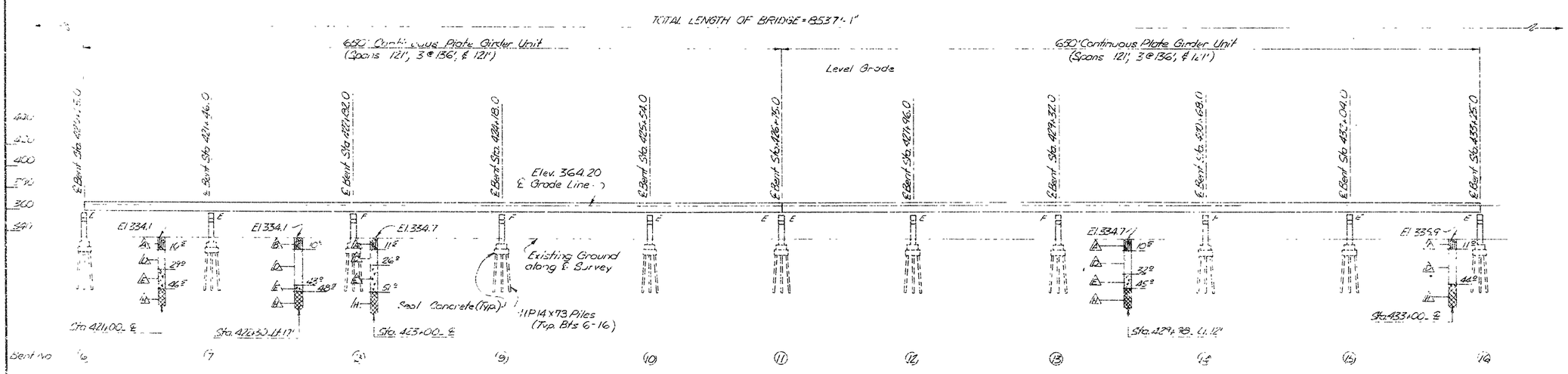
FOR R/W DATA, SEE ROW. PLANS



PLAN

PILE LENGTH EA. BENT

BENT NO.	HP LENGTH (EA.) ALT. 1
6	37.0'
7	40.0'
8	44.0'
9	44.0'
10	41.0'
11	39.0'
12	41.0'
13	41.0'
14	41.0'
15	36.0'
16	37.0'



ELEVATION

NOTE: For "B" ING. LEGEND" & "GENERAL NOTES", Size Sheet 1, Dwg. No. 18941

NOTE: This drawing originally used in Job 1455, has been revised for Job 1456. Bents 1 thru 42 are included for reference only.

Updated for Job 1641 - Contract III.
Job begins - Sta. 413 + 73.84
Job Ends - Sta. 465 + 75.00

Updated for Job 1642 - Contract IV
Begin Contract IV - Sta. 465 + 75.00
End Contract IV - Sta. 497 + 10.93

Neal Parkerton
BRIDGE ENGINEER

SHEET 2 OF 7

LAYOUT OF BRIDGE OVER ARKANSAS RIVER
ARK RIVER BR & APPRS. (CLARKSVILLE)
LOGAN & JOHNSON CO.
ROUTE 109 SEC. 3 & 4
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK

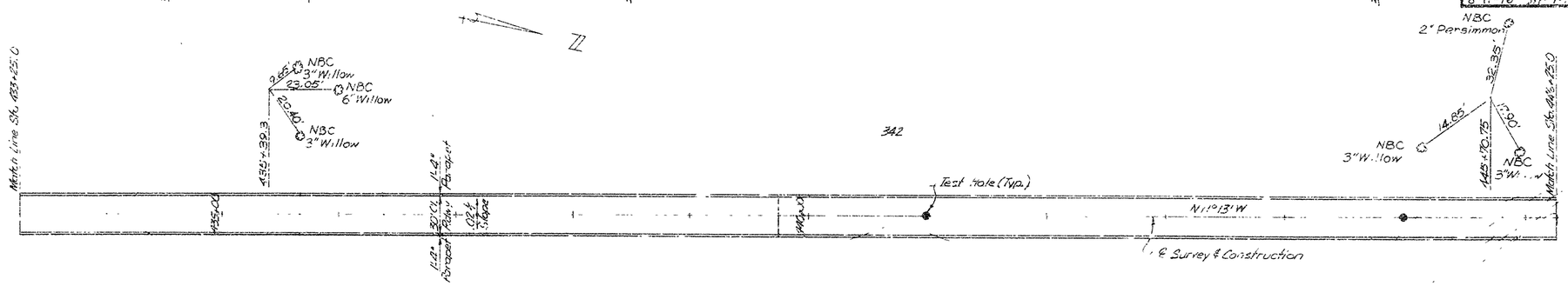
DRAWN BY K.N.G. DATE 30 Dec 73
CHECKED BY W.A.S. DATE 21 Aug 74
DESIGNED BY E.T.F. DATE 30 APR 73
SCALE 1" = 50'-0"

BRIDGE NO. 5600 DRAWING NO. 18942

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
7 MAY 76		8 SEP 76		6	ARK.	TQS-4128(1)		
11-3-76		10-4-76	16-10-76	JOB NO.		1442	3	7
8-17-76	14-9-76							

(1) 5600-Layout- 18943

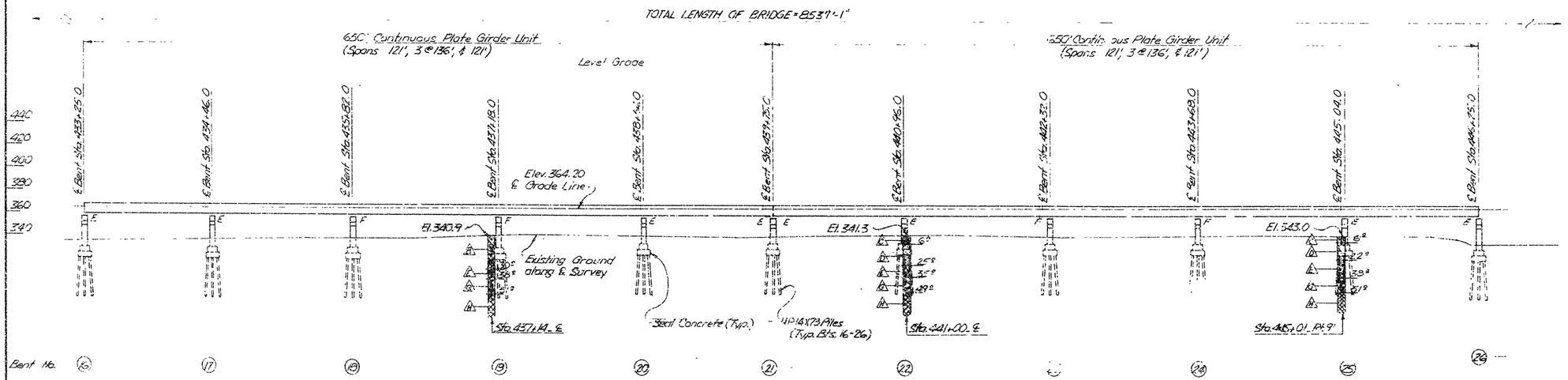
For R/W Data, See Row Plans



PLAN

PILE LENGTH EA BENT

BENT NO.	HP LENGTH (EA) ...A.T. 1
16	37.0'
17	44.0'
18	43.0'
19	44.0'
20	43.0'
21	43.0'
22	42.0'
23	42.0'
24	42.0'
25	42.0'
26	42.0'



ELEVATION

NOTE: For "Boring Legend" & "General Notes", See Sheet 1, Drg No. 18941

NOTE: This drawing originally used in Job 1455 has been revised for Job 1456. Bents 1 thru 42 are included for reference only.

Updated for Job 1467 - Contract III.
Job Begins - Sta. 411+75.84
Job Ends - Sta. 445+75.00

Updated for Job 1442 - Contract IV.
Begin Contract IV - Sta. [illegible]+75.00
End Contract IV - Sta. [illegible]+10.73

SHEET 3 OF 7

LAYOUT OF BRIDGE OVER ARKANSAS RIVER
ARK. RIVER BR. & APPRS. (CLARKSVILLE)
LOGAN & JOHNSON CO.
ROUTE 109 SEC. 3 & 4
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: K.H.G. DATE: 20 Dec. 75
CHECKED BY: A.C. DATE: 21 Aug. 75 SCALE: 1" = 5'-0"
DESIGNED BY: E.L.F. DATE: 30 Apr. 73

Bridge Engineer

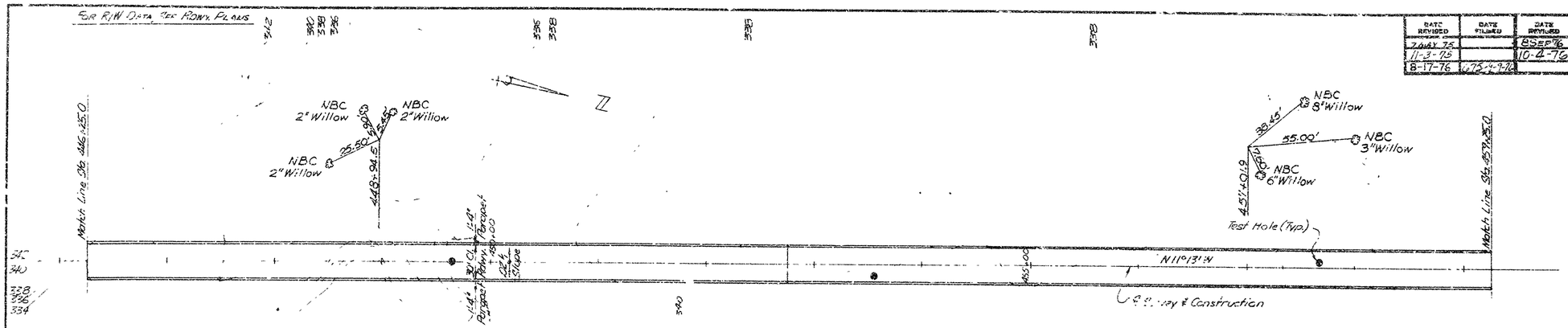
BRIDGE NO. 5600 DRAWING NO. 18943

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. HWAY ADM. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
7 MAY 75		8 SEP 76		6	ARK.	TQS-A128(1)		
11-3-75		10-4-76	17-10-676	JOB NO.		1442	14	33
8-17-76	6-75-9-76							

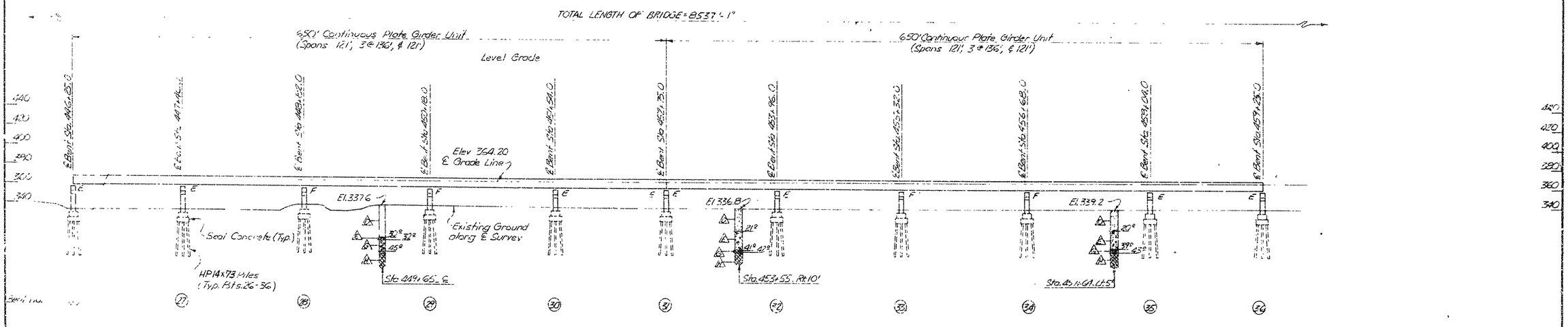
(1) 5600 - Layout - 18944

PILE LENGTH EA. BENT

BENT NO.	HP LENGTH (EA.) ALT. 1
26	42.0'
27	35.0'
28	42.0'
29	42.0'
30	39.0'
31	40.0'
32	37.0'
33	36.0'
34	35.0'
35	34.0'
36	38.0'



PLAN



ELEVATION

NOTE: For "Boring Legend" & "General Notes", See Sheet 1, Dwg No. 18941

NOTE: This drawing originally used in Job 1455 has been revised for Job 1456. Bents 1 thru 42 are included for reference only.

Updated for Job 1467 - Contract III.
Job Begins - Sta. 413+73.84
Job Ends - Sta. 465+75.00

Updated for Job 1442 - Contract IV.
Begin Contract IV - Sta. 465+75.00
End Contract IV - Sta. 499+10.93

SHEET 4 OF 7

LAYOUT OF BRIDGE OVER ARKANSAS RIVER
ARK. RIVER BR. & APPRS. (CLARKSVILLE)
LOGAN & JOHNSON CO.
ROUTE 109 SEC. 3 & 4

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: K.M.G. DATE: 1st Dec. 73
CHECKED BY: LAS DATE: 21 Aug. 74 SCALE: 1" = 50'-0"
DESIGNED BY: L.T.F. DATE: 30 Apr. 73

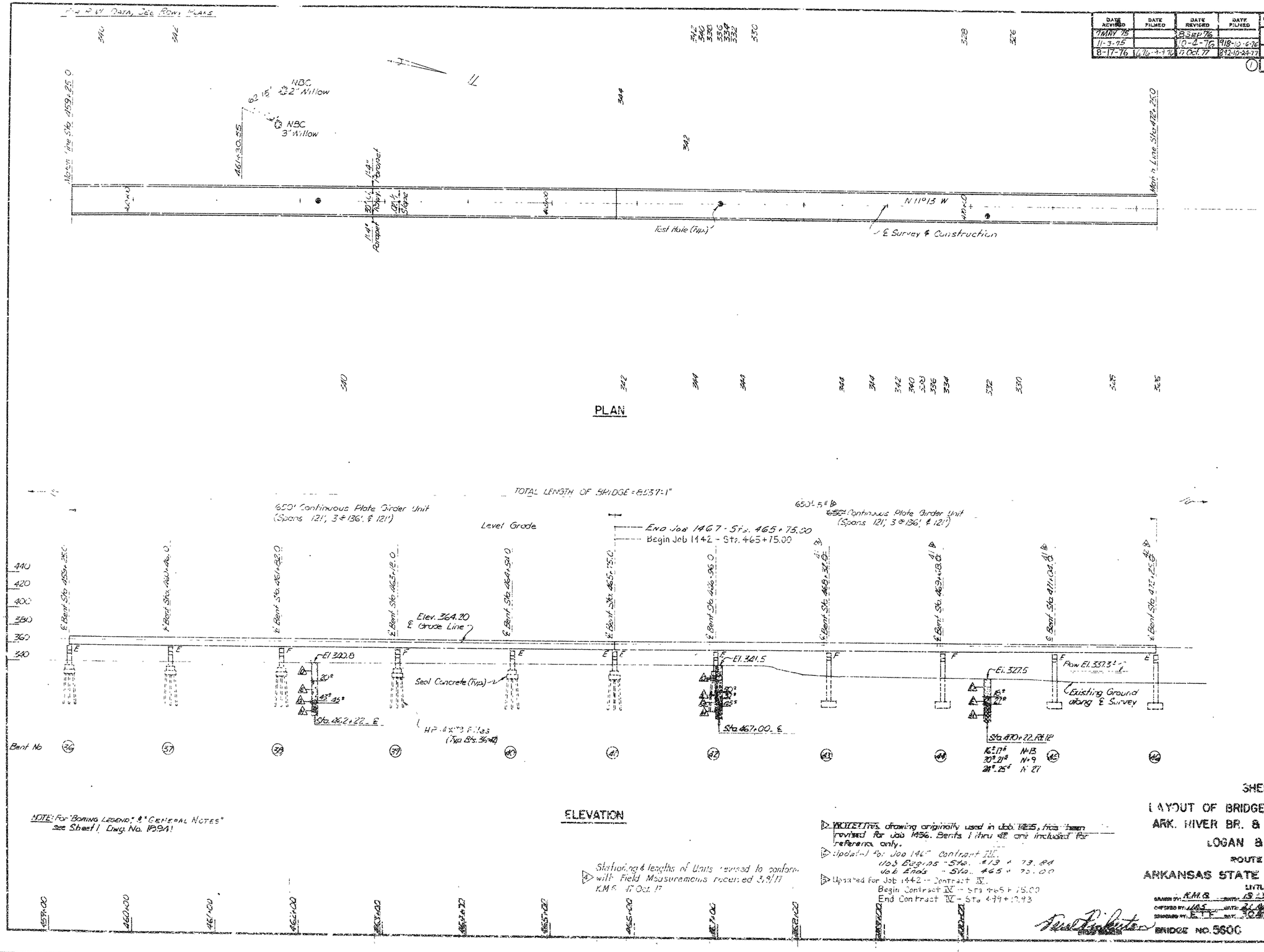
Vernal Pinkerton
BRIDGE ENGINEER

BRIDGE NO. 5600 DRAWING NO. 18944

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7 MAY 75		8 Sep 76	
11-3-75		10-4-76	9 18-10-6-76
8-17-76	10 16-11-1-76	17 Oct. 77	8 22-10-24-77

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	ARK.	TQS-A128(1)		
JOB NO.		1442	15	25

(1) 5600-Layout - 18945



PILE LENGTH EA. BENT

BENT NO	HP LENGTH (EA.) ALT. 1
36	38.0'
37	38.0'
38	38.0'
39	38.0'
40	38.0'
41	38.0'
42	38.0'

NOTE: For "Boring Legend" & "General Notes" see Sheet 1 Dwg. No. 18941

Stationing & lengths of Units revised to conform with Field Measurements received 3/8/77 K.M.B. 17 Oct. 77

NOTE: This drawing originally used in Job 1425, has been revised for Job 1456. Bents 1 thru 42 are included for reference only.

Updated for Job 1467 Contract III.
Job Begins - Sta. 413 + 73.84
Job Ends - Sta. 465 + 75.00

Updated for Job 1442 - Contract IV.
Begin Contract IV - Sta. 465 + 75.00
End Contract IV - Sta. 479 + 12.93

SHEET 5 OF 7

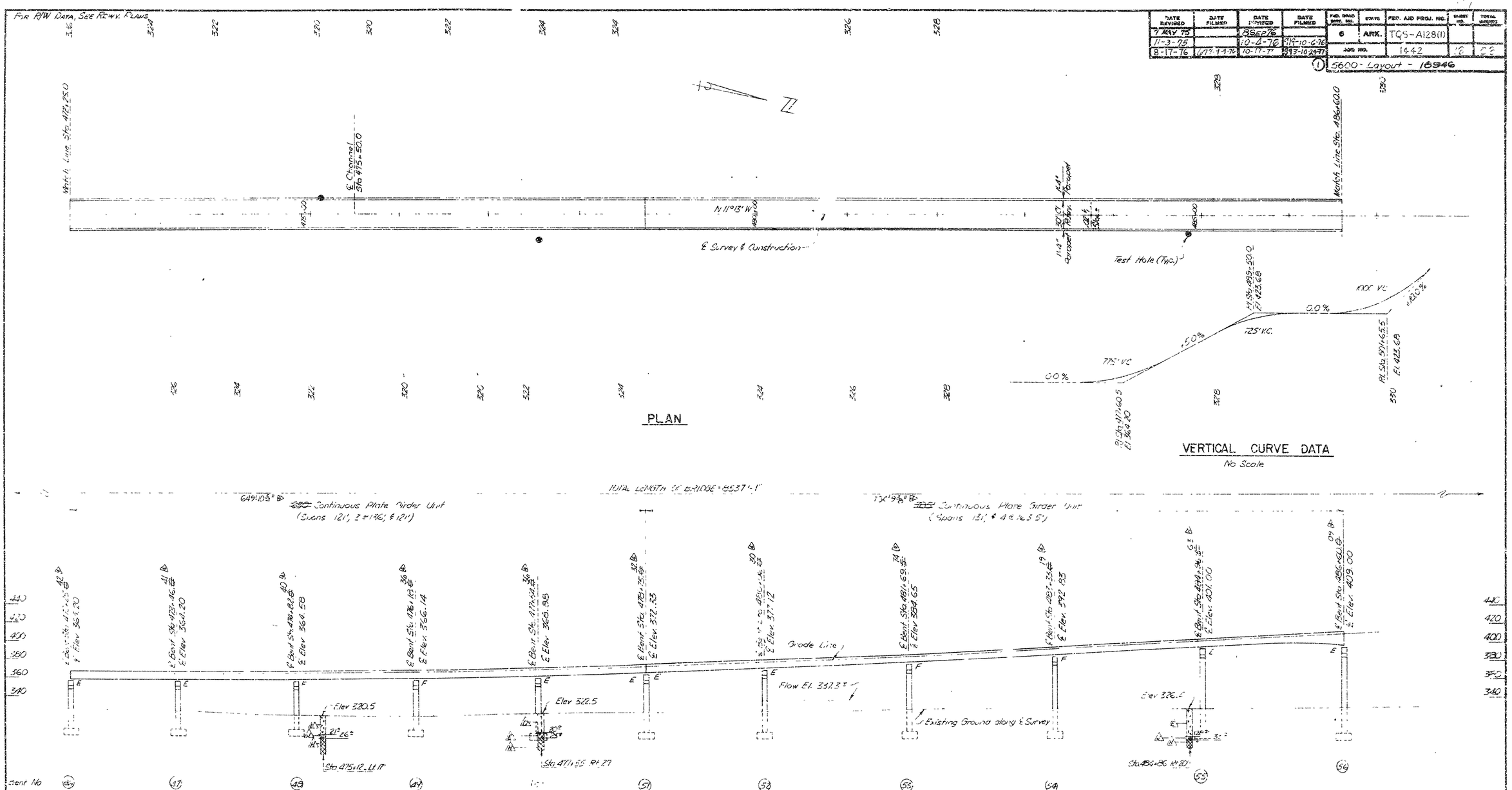
LAYOUT OF BRIDGE OVER ARKANSAS RIVER
ARK. RIVER BR. & APPRS. (CLARKSVILLE)
LOGAN & JOHNSON CO.
ROUTE 109 SEC. 3 & 4
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: K.M.B. DATE: 15 Jan. 73
CHECKED BY: JAS DATE: 24 Jan. 73 SCALE: 1"=50'-0"
SUBMITTED BY: E.T.F. DATE: 30 Jan. 73

BRIDGE NO. 5600 DRAWING NO. 18945

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
7 MAY 75		8 SEP 76		6	ARK.	TCS-A128(1)		
11-3-75		10-1-76	97-10-676		JOB NO.	1442	18	22
8-17-76	97-9-976	10-17-77	97-10-2477					

(1) 5600 - Layout - 18946



NOTE: For "Boring Legend" & "General Notes", see Sheet 1, Dwg No. 18941

Stationing & lengths of Units revised to conform with Field Measurements received 3/9/77. K.M.G. 17 Oct. 77

Updated for Job 1442 -- Contract IV.
Begin Contract IV -- Sta. 465+75.00
End Contract IV -- Sta 499+10.93

NOTE: This drawing originally used in Job 1455, has been revised for Job 1456. Bents 1 thru 42 are included for reference only.

Updated for Job 1467 - Contract III.
Job Begins - Sta. 412 + 75.84
Job Ends - Sta. 465 + 75.00

SHEET 6 OF 7

LAYOUT OF BRIDGE OVER ARKANSAS RIVER
ARK RIVER BR. & APPRS. (CLARKSVILLE)
LOGAN & JOHNSON CO.
ROUTE 109 SEC. 3 & 4

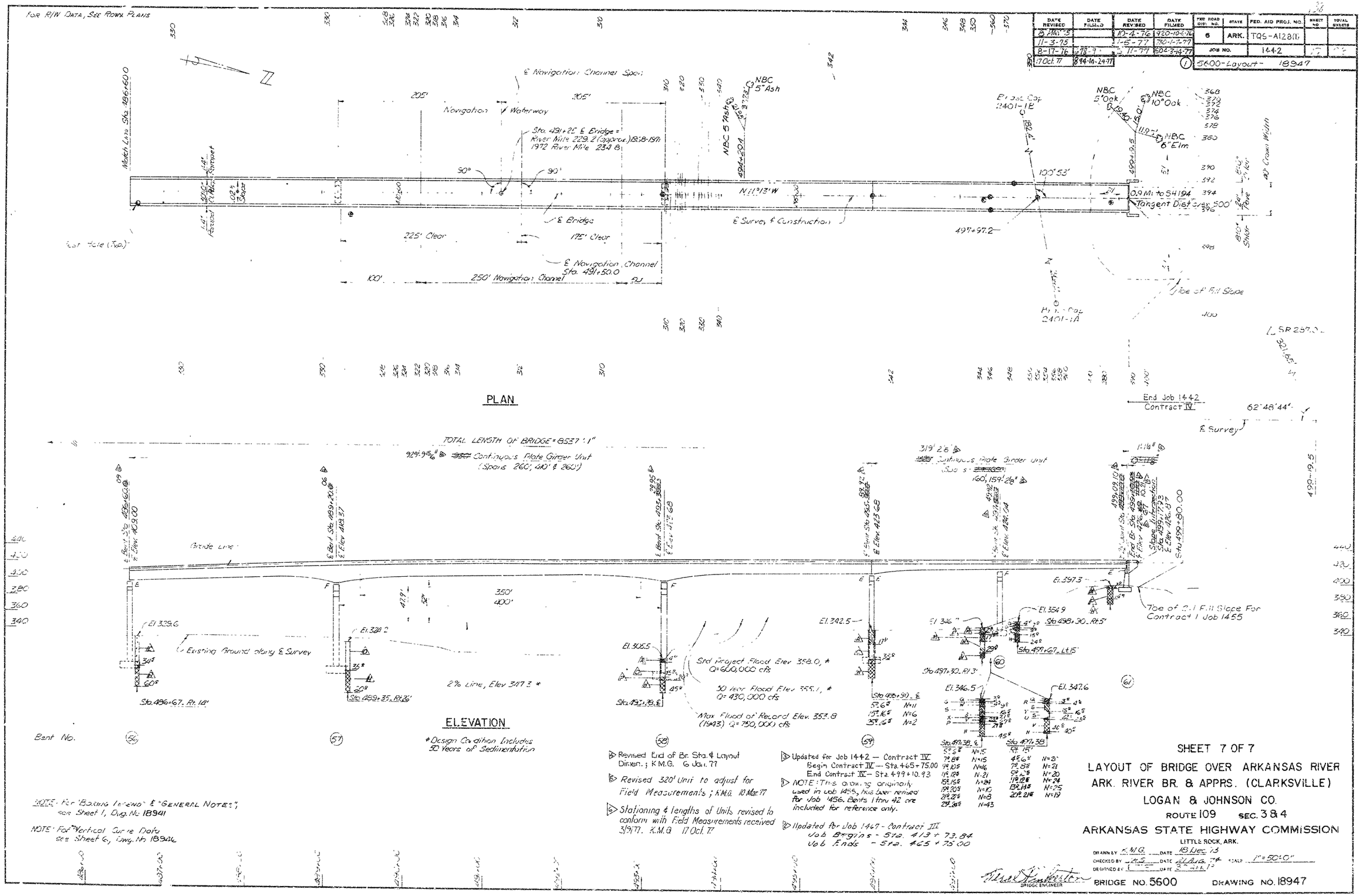
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY K.M.G. DATE 18 Dec. 73
CHECKED BY W.A.S. DATE Feb. 6, 74
DESIGNED BY E.T.F. DATE 30 Apr. 73
SCALE 1" = 50'-0"

BRIDGE ENGINEER

BRIDGE NO. 5600 DRAWING NO. 18946

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO	TOTAL SHEETS
8 May 75		10-4-76	720-10-6-76	6	ARK.	TQS-A128(1)		
11-3-75		1-5-77	730-1-7-77	JOB NO.		1442		
8-17-76	678-9	1-11-77	602-3-14-77					
17 Oct 77	894-11-2497					5600-Layout - 18947		

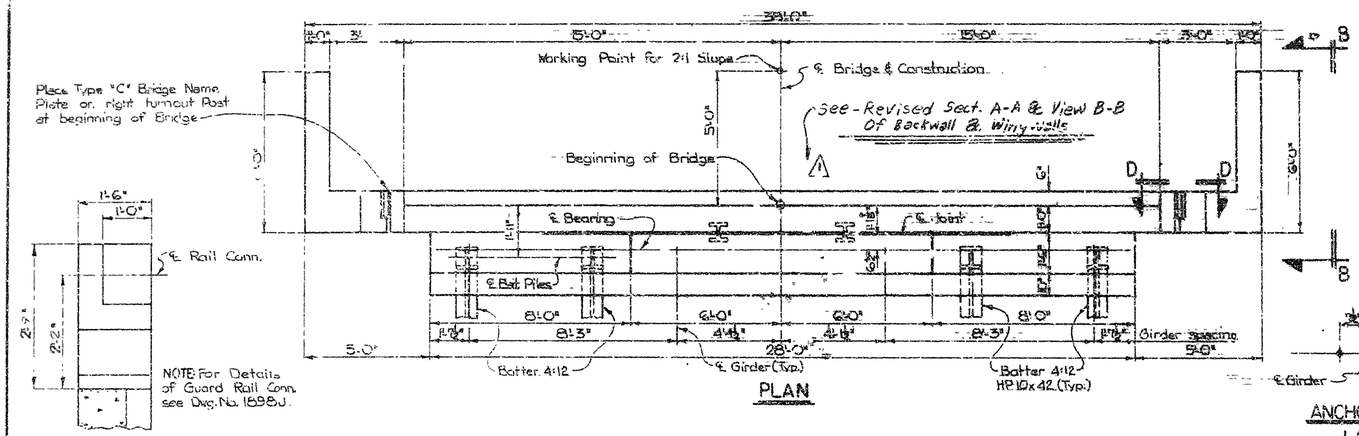


350

~~403~~

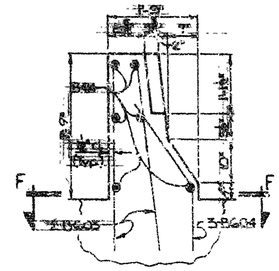
DATE REVISED	DATE PLANNED	DATE REVISED	DATE FILMED	FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
11-3-75				6	ARK.	RS-389(2)		
9-17-76	7-9-21-76			JOB NO.		1467	11	20

S 1 5600 - BENT DTLS - 18953



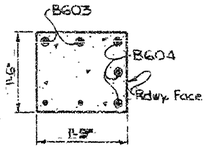
PLAN

VIEW E-E
SCALE: 3/4" = 1'-0"



VIEW D-D
SCALE: 3/4" = 1'-0"

ANCHOR BOLT LAYOUT
NO SCALE
NOTE: For Details of Anchor Bolt Sleeve, see Dwg. No. 18954



SECTION F-F
SCALE: 3/4" = 1'-0"

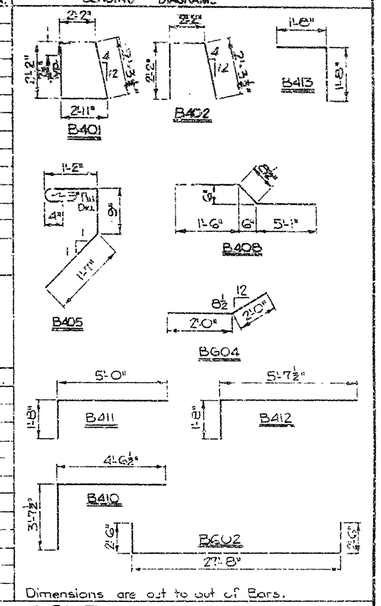
BAR LIST SUBSTR. CONTRACT

MARK	NO. REQ'D.	LENGTH	PIN DIA.
B401	29	10'-5"	2"
B402	18	6'-6"	2"
B403	1	27'-8"	Str.
B404	60	8'-1"	2" Str.
B407	34	7'-2"	Str.
B408	6	18'-3"	2"
B409	8	6'-6"	Str.
B411	14	6'-7"	2"
B412	14	7'-3"	2"
B413	14	3'-3"	2"
B601	4	27'-8"	Str.
B602	6	32'-5"	3 3/4"
B605	10	37'-8"	Str.
B605	30	3'-11"	2"

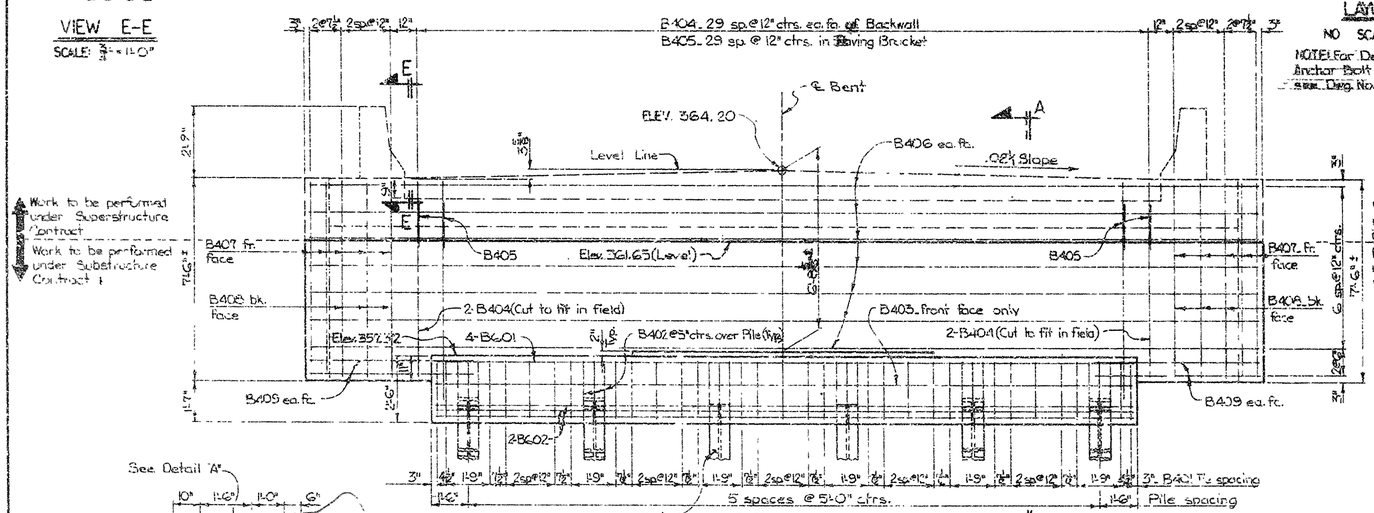
BAR LIST SUPSTR. CONTRACT

MARK	NO. REQ'D.	LENGTH	PIN DIA.
B406	4	37'-8"	Str.
B410	4	8'-1"	2"
B412	4	7'-3"	2"
B413	4	3'-3"	2"
B414	12	1'-2"	Str.
B603	8	4'-2"	Str.
B604	6	3'-11"	3 3/4"

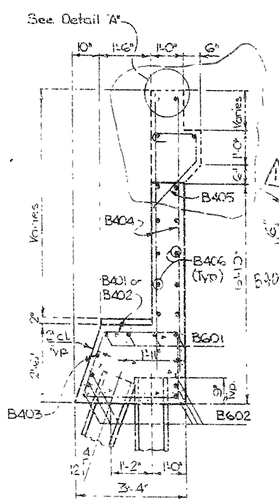
BENDING DIAGRAMS



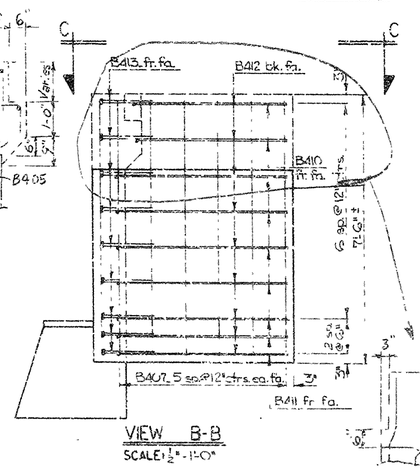
For Details of Pile Splice and Pile Tip Reinforcing, see Dwg. No. 18956



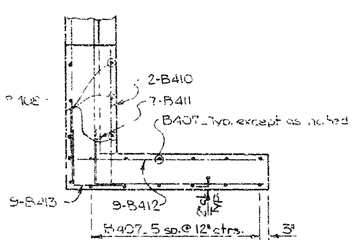
ELEVATION



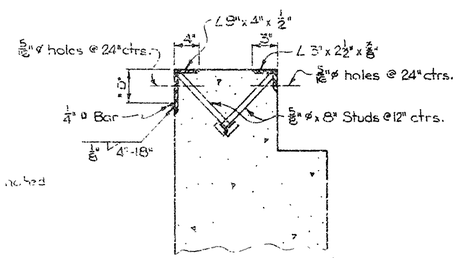
SECTION A-A
SCALE: 1/2" = 1'-0"



VIEW B-B
SCALE: 1/2" = 1'-0"



VIEW C-C
SCALE: 1/2" = 1'-0"



NOTE: The Dimension "D" shall conform to the recommendations of the Seal Manufacturer as approved by the Bridge Engineer. The depth of the Seal shall be approximately equal to the uncompressed width of the Seal.

DETAIL "A"
SCALE: 1 1/2" = 1'-0"

NOTE:

DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 1973 AND INTERIM SPECIFICATIONS.

LIVE LOAD: HS20

METHOD OF DESIGN: LOAD FACTOR

PILING: HP10X42 PILING SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 55 TONS PER PILE. PILES IN END BENTS SHALL BE DRIVEN AFTER EMBANKMENT TO SUBGRADE IS IN PLACE. SEE DWG. NO. 18956 FOR DETAILS OF PILE TIP REINFORCING.

CONCRETE: ALL CONCRETE SHALL BE CLASS S(AE) / MINIMUM 28 DAY COMPRESSIVE STRENGTH f'c = 3500 PSI

CONSTRUCTION JOINTS SHALL BE HORIZONTAL OR AS SHOWN AND SHALL BE PROVIDED WITH KEYS NOT LESS THAN THREE (3) INCHES HIGH COVERING THE MIDDLE ONE-THIRD OF BOTH DIMENSIONS.

REINFORCING STEEL: REINFORCING STEEL SHALL CONFORM TO ASTM A615 OR A617. GRADE 60 (YIELD STRENGTH = 60,000 PSI)

FOR ADDITIONAL NOTES, SEE GENERAL NOTES, DWG. NO. 18941.

⚠ Revised - Changed Backwall & Wing walls As shown. 9-17-76 LDF

▷ Updated for Job 1467 - Contract III

DETAILS OF END BENT NO. 1
ARK. RIVER BR. & APPRS. (CLARKSVILLE)

APPROACH BRIDGE SUPERSTRUCTURE

JOHNSON & LOGAN COUNTY
ROUTE 109 SEC. 3 & 4

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: K.M.G. DATE: 12 AUG. 74
DESIGN BY: E.T.F. DATE: 7 AUG. 74
CHECKED BY: E.T.F. DATE: 16 AUG. 74
SCALE: 1/4" = 1'-0" except as noted

BRIDGE ENGINEER

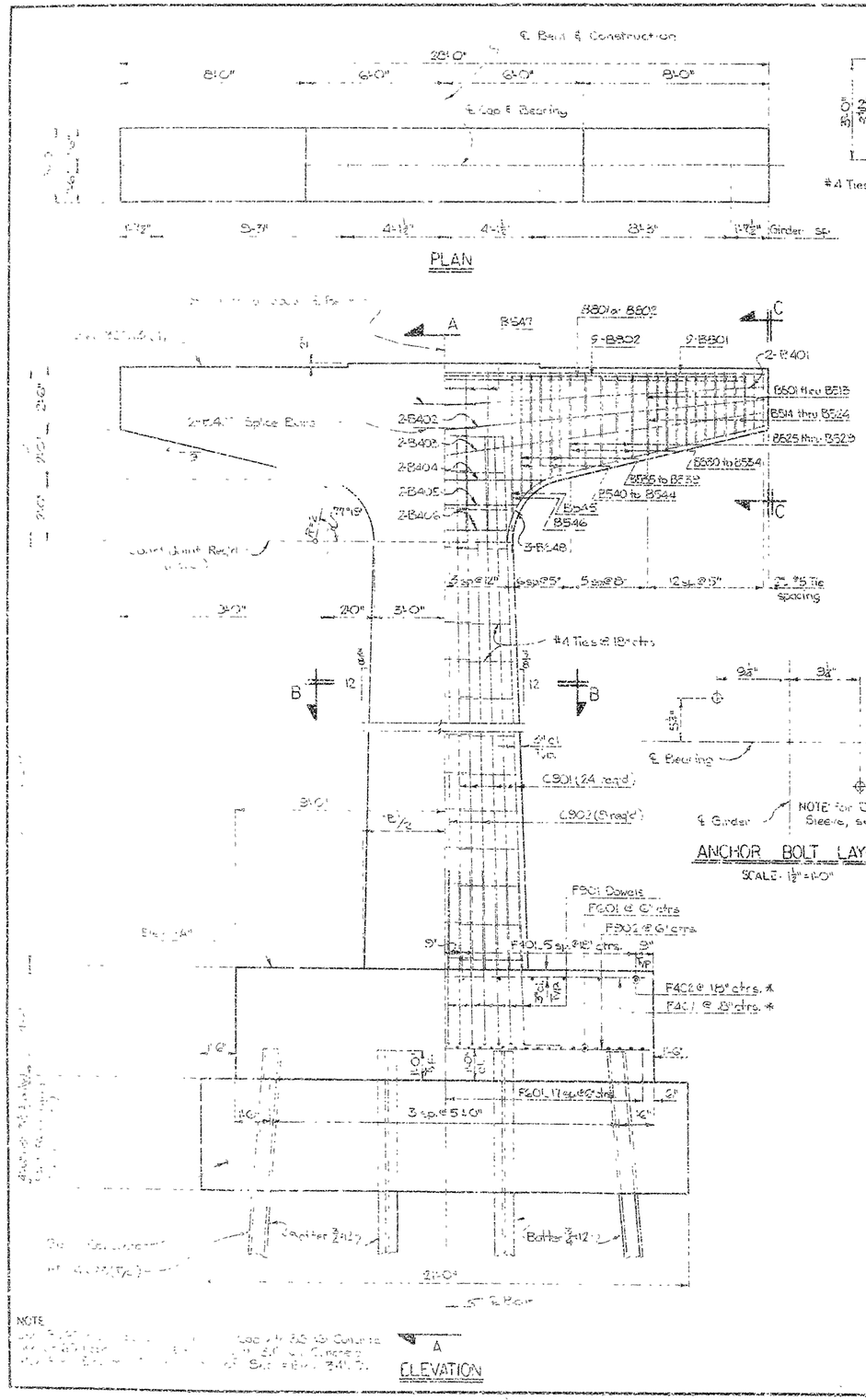
BRIDGE NO. 5600 DRAWING NO. 18953

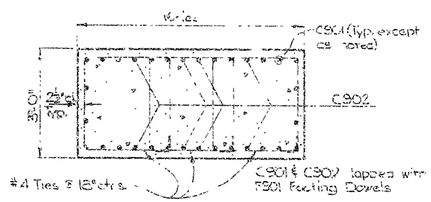
1

4C

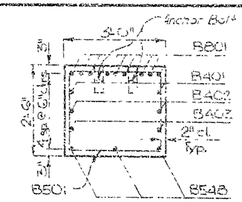
DATE REVISED	DATE REVISED	DATE REVISED	REVISED	FED. AID PROJ. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
5-30-78	5-14-74	2-2-72		S	ARK.		52	54
				JOB NO.	1455			

S (1) 5600 - SENI DES

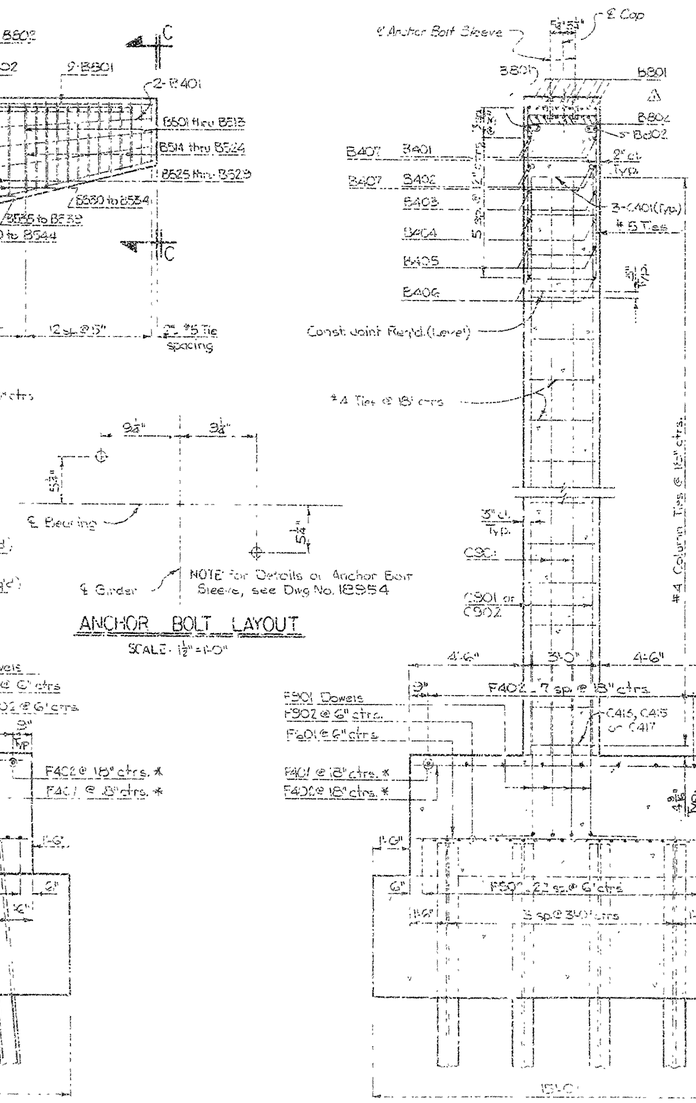




SECTION B-B
SCALE: 1/4" = 1'-0"



VIEW C-C
SCALE: 1/2" = 1'-0"

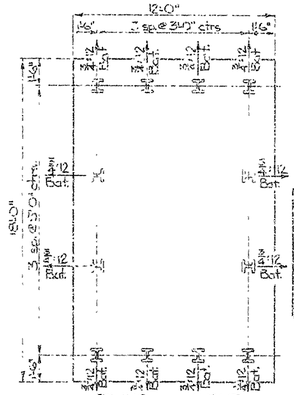


SECTION A-A

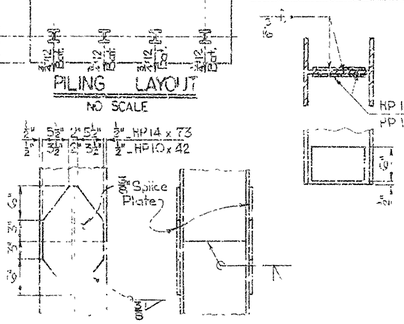
ANCHOR BOLT LAYOUT
SCALE: 1/2" = 1'-0"

TABLE OF VARIABLES

BENT NO.	ELEV. "A"	DIMEN. "B"	COLUMN HT. "C"
3	333.0	7'-0⅞"	17'-1⅜"
4	333.0	7'-0⅞"	17'-1⅜"
8	330.0	7'-3⅝"	20'-1⅜"
9	330.0	7'-3⅝"	20'-1⅜"
13	330.0	7'-3⅝"	20'-1⅜"
14	330.0	7'-3⅝"	20'-1⅜"
18	333.0	7'-0⅞"	17'-1⅜"
19	333.0	6'-10⅝"	14'-1⅜"
23	336.0	6'-10⅝"	14'-1⅜"
24	336.0	6'-10⅝"	14'-1⅜"
28	336.0	6'-10⅝"	14'-1⅜"
29	336.0	6'-10⅝"	14'-1⅜"
33	333.0	7'-0⅞"	17'-1⅜"
34	333.0	7'-0⅞"	17'-1⅜"
38	336.0	6'-10⅝"	14'-1⅜"
39	336.0	6'-10⅝"	14'-1⅜"



PILING LAYOUT
NO SCALE

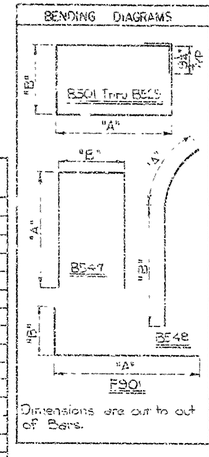


PILE SPLICE DETAIL
NO SCALE

NOTE: The Contractor may at his convenience and at his own expense provide as many as three joints per pile for Steel Bearing Piling. Minimum spacing between joints shall be 5'-0".

BAR LIST COMMON BARS

BENDING DIAGRAMS



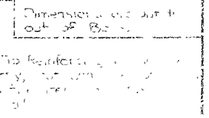
Dimensions are out to out of Bars.

MARK	NO. REQ'D.	LENGTH	"A"	"B"	"C"	"E"	"F"	"N"
B401	4	13'-1"						
B402	4	13'-1"						
B403	4	[illegible]						
B404	4	[illegible]						
B405	4	[illegible]						
B406	4	[illegible]						
B501 to B513	2 of each	Var. 10'-8" to 13'-0"	Var. 2'-1½" to 3'-3½"					
B514 to B524	2 of each	Var. 12'-4" to 17'-2"	Var. 2'-3" to 3'-3½"					
B525 to B529	2 of each	Var. 3'-3" to 14'-6"	Var. 3'-5½" to 4'-10⅝"					
B530 to B534	2 of each	Var. 12'-9" to 4'-0"	Var. 3'-2" to 5'-9⅝"					
B535	2	14'-1"	4'-1½"					
B536	2	11'-3"	4'-3¼"					
B537	2	15'-2"	4'-5"					
B538	2	5'-10"	4'-6⅝"					
B539	2	15'-11"	5'-1½"					
B540	2	14'-2"	5'-10¼"					
B541	2	14'-4"	3'-11⅜"					
B542	2	14'-3"	4'-2"					
B543	2	5'-6"	3'-1¼"					
B544	2	15'-1"	4'-10⅝"					
B545	2	6'-0"	5'-9½"					
B546	2	17'-8"	5'-10⅝"					
B547	5	15'-3"	3'-4"					
B548	6	12'-11"	3'-10"					
B801	11	27'-9"						
B802	11	26'-0"						
C901	24	[illegible]						
C902	8	[illegible]						
F401	35	11'-8"						
F501	32	9'-5"	2'-0"					
F402	23	7'-5"						
* F401	6	10'-8"						
* F402	12	7'-6"						
B407	4	13'-1"						

BAR LIST VARIANT BARS

COLUMN HT. "C"			
14'-9⅜"	17'-1⅜"	20'-1⅜"	

MARK	NO. REQ'D.			LENGTH	"A"	"B"	PIN DIA	BENDING DIAGRAMS
C401 to C413	3 of each	3 of each	3 of each	Var. 10'-4" to 11'-2"	Var. 2'-3⅝" to 2'-7⅛"	2'-7"	2"	
C414		3	3	11'-2"	2'-7⅛"	2'-7"	2"	
C415		3	3	11'-4"	2'-7⅛"	2'-7"	2"	
C416			3	11'-5"	2'-6⅝"	2'-7"	2"	
C417			3	11'-6"	2'-6⅝"	2'-7"	2"	



Dimensions are out to out of Bars.

NOTE: [illegible]

STEEL PILE TIP REINFORCING DETAIL
NO SCALE

NOTE: [illegible]

ALTERNATE NO. 1
DETAILS OF FIXED SPANS
ARK. RIVER BR & APPRS. [illegible]
MORRISON BLUFF [illegible]
GRADING & PARTIAL SUBSTR.
JOHNSON & [illegible] COUNTY
ROUTE 109 SEC. 3 & 4

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

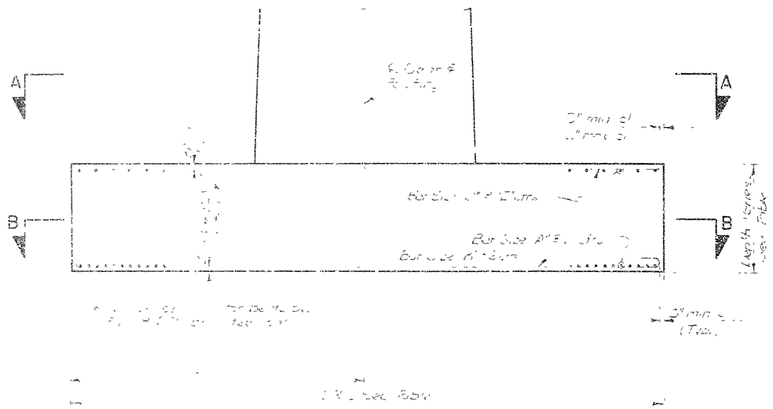
DRAWN BY K.L.C. DATE 8 AUG 74
DESIGNED BY [illegible] DATE [illegible]
CHECKED BY [illegible] DATE [illegible]

BRIDGE ENGINEER

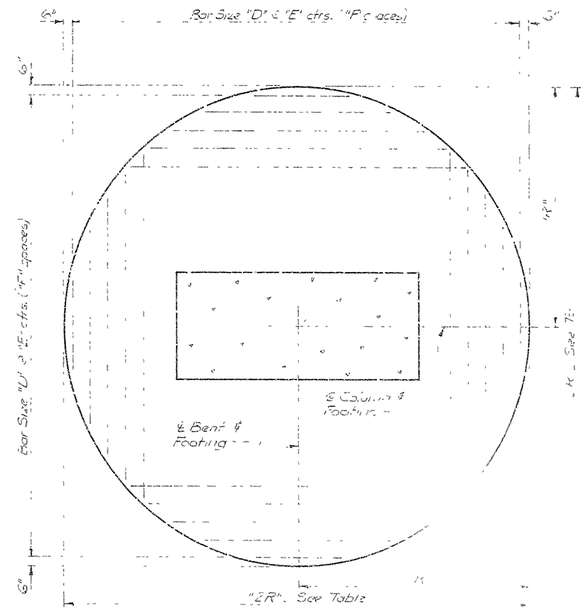
BRIDGE NO. 5600 DRAWING NO. [illegible]

EAST REVISED	CADD FILMED	LAS REVISED	FILMED	FED. ROUTE	STATE	FED. AID PROJ. NO.		
				6	ARK	[illegible]		
				JOB NO.		1436		

S (1) 5600_ FTNG. OPT._ 19238



TRANSVERSE FOOTING ELEV.



SECTION A-A

NOTES FOR OPTION USING CIRCULAR FOOTING

DETAILS FOR BENTS WITH RECTANGULAR FOOTING ARE SHOWN ON DRAWINGS [illegible]

THIS DRAWING SHOWS THE FOOTING DIAMETERS AND REINFORCING STEEL REQUIREMENTS [illegible] CIRCULAR FOOTINGS WHICH MAY BE USED IN LIEU OF THE RECTANGULAR FOOTINGS.

QUANTITIES

THE QUANTITIES SHOWN ON THE QUANTITY SHEET ARE FOR THE RECTANGULAR FOOTINGS AND THE QUANTITIES WILL BE USED AS THE BASIS OF PAYMENT FOR THE CIRCULAR FOOTING [illegible] THE RECTANGULAR FOOTING.

EXCAVATION

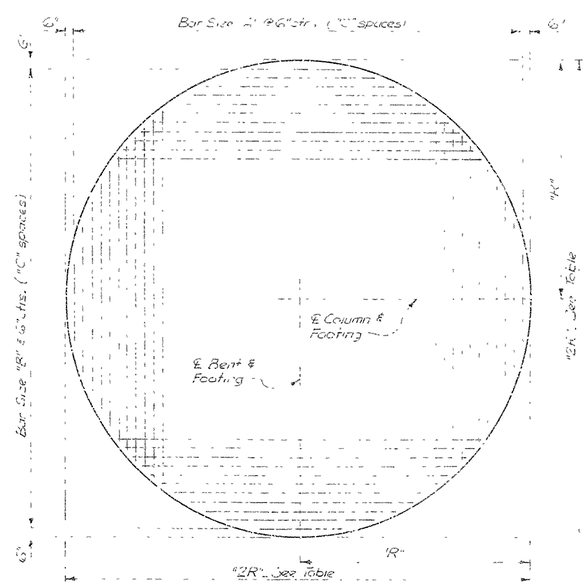
IF THE CIRCULAR FOOTING OPTION IS SELECTED AND IT BECOMES NECESSARY TO EXCAVATE THE FOOTING DEEPER THAN THE ELEVATIONS SHOWN ON THE PLANS, THE VOLUME OF THE EXCAVATION SHALL BE PAID FOR USING THE RECTANGULAR FOOTING DIMENSIONS AND [illegible] BY SECTION 801.12 OF THE STANDARD SPECIFICATIONS.

REINFORCING STEEL

THE BAR SIZES AND SPACINGS OF THE REINFORCING STEEL ARE GIVEN [illegible] THE SHOP DRAWING DIAGRAMS ARE TO BE SUBMITTED AND APPROVAL SECURED BEFORE FABRICATION IS BEGUN. THE LENGTHS OF BARS IN TOP OF FOOTING SHOULD BE CALCULATED USING A MINIMUM CLEARANCE OF 3 INCHES AND A MAXIMUM CLEARANCE OF 6 INCHES. THE LENGTHS OF BARS IN BOTTOM OF FOOTING SHOULD BE CALCULATED USING A 3 INCH CLEARANCE.

BENT NO	"2R" FOR CIRCULAR FTNG. OPTION	DEPTH	BAR SIZE "A"	BAR SIZE "B"	"C" SPACES	BAR SIZE "D"	"E" CTRS.	"F" SPACES	FOUNDATION PRESSURE (KSF)		
									GROUP LOAD	MAX.	MIN.
43,44,48,49	26'-0"	4'-0"	#9	#8	50	#7	12"	25	V	4.12	0.0
45,47,50	24'-0"	3'-6"	#8	#9	42	#5	12"	21	II	6.42	0.0
46	23'-0"	3'-6"	#8	#8	44	#5	12"	22	II	4.60	0.0
51	21'-0"	4'-0"	#6	#5	40	#5	12"	20	II	6.60	0.0
52	23'-0"	4'-0"	#8	#6	44	#5	12"	22	II	8.22	0.0
53,54	26'-0"	5'-0"	#8	#6	50	#8	12"	25	II	8.33	0.57
55	25'-0"	4'-0"	#7	#7	50	#6	12"	25	II	8.20	0.0
56,59	55'-0"	6'-0"	#7	#8	68	#9	6"	68	II	6.38	0.57
57,58	48'-0"	7'-0"	#11	#10	94	#10	12"	47	II	6.39	0.0
60	31'-0"	4-0"	#9	#9	60	#7	12"	30	II	6.48	0.0

TABLE OF VARIABLES



SECTION B-B

DETAILS OF
CIRCULAR FOOTING OPTION FOR BENTS 43-60
ARK. RIVER BR. & APPRS. (CLARKSVILLE)
MAIN BRIDGE SUBSTRUCTURE
LOGAN & JOHNSON CO.
ROUTE 109 SEC. 3 & 4

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

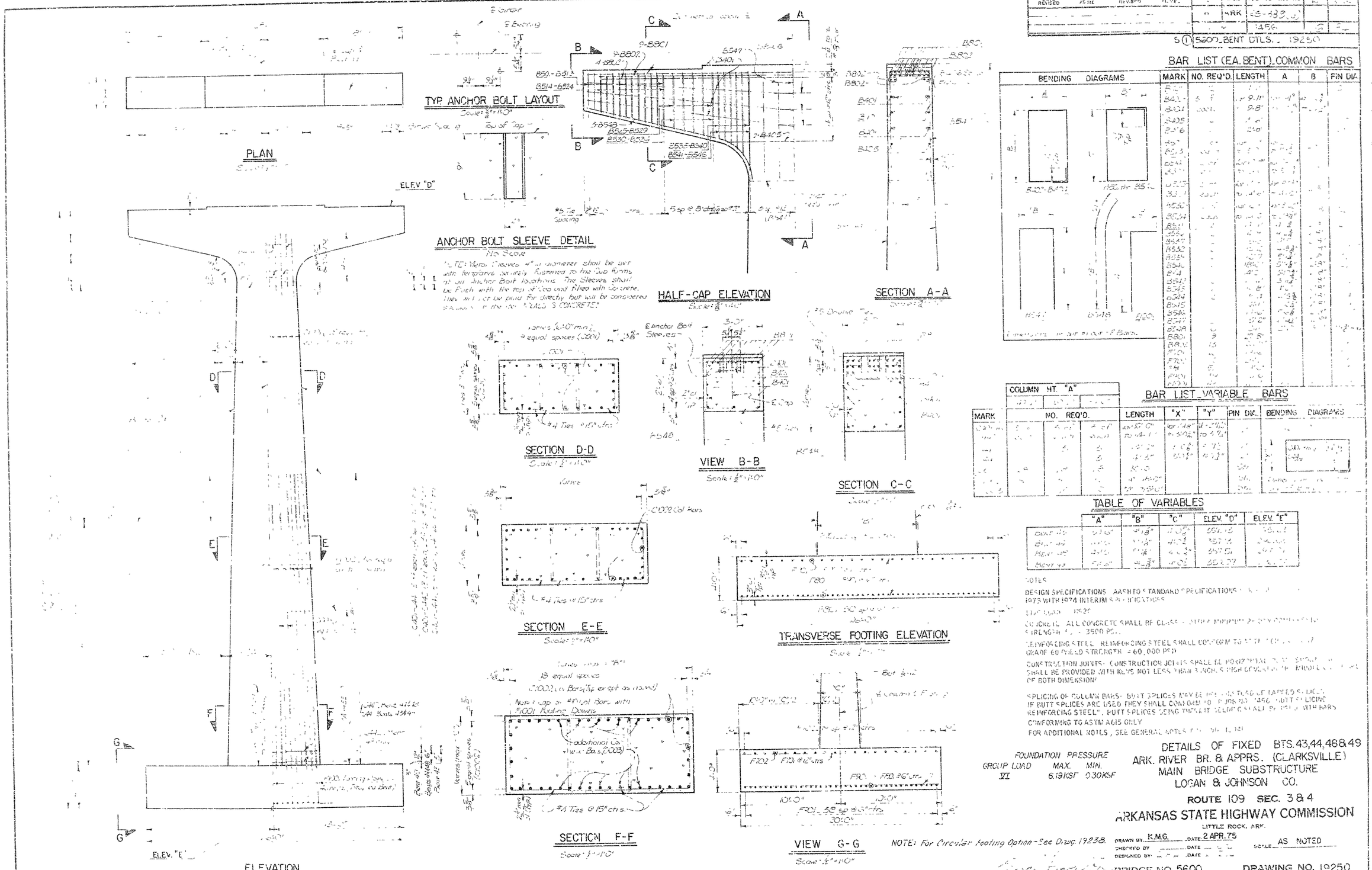
DRAWN BY K.M.G. DATE 16 JULY 75
CHECKED BY DATE
DESIGNED BY DATE
SCALE NONE

BRIDGE ENGINEER

BRIDGE NO. 5600 DRAWING NO. 19238

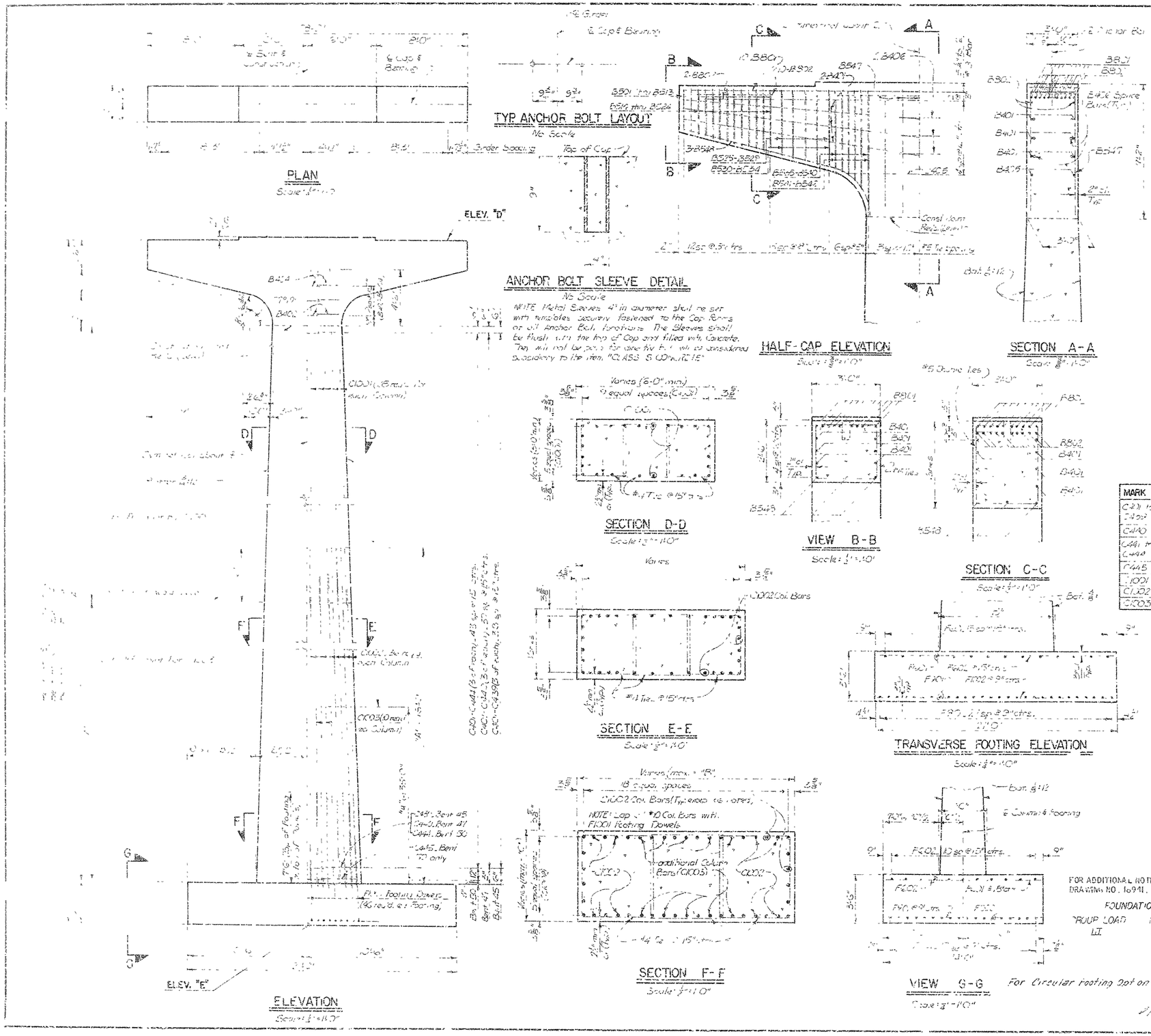
DATE REVISED	DATE PLANE	DATE REVISED	DATE PLANE			FED. AID PROJ. NO.		
					ARK	BS-883(3)		
						1456	3	3

S (1) 5600 BENT DTLS. 19250



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RDWY. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.	BS-BBB (6)		
				JOB NO.	1456		7	32

S (1) 5600 BENT DTLS. 19251



BAR LIST (EA. BENT) COMMON BARS

BENDING DIAGRAMS	MARK	NO. REQ'D.	LENGTH	"A"	"B"	PIN DIA.
	B40	6	14'-1			5"
	B402	3 of 6	Var. 2'-11" to 12'-1"	Var. 2'-11" to 12'-1"	Var. 2'-11" to 12'-1"	
	B404	each	to 9'-8	to 12'-1	to 12'-1"	
	B405	3	9'-6"			5"
	B406	6	2'-8"			5"
	B501 - B503	2 of 3 each	Var. 1'-0" to 3'-7"	Var. 2'-2" to 3'-3"		1.5"
	B514 - B524	2 of 10 each	Var. 10'-8" to 21'-0"	Var. 2'-7" to 3'-3"		1.5"
	B525 - B529	2 of 5 each	Var. 13'-5" to 19'-0"	Var. 3'-5" to 4'-0"	3.5"	1.5"
	B530 - B534	2 of 5 each	Var. 12'-7" to 18'-0"	Var. 3'-2" to 4'-9"	3.5"	1.5"
	B535	2	13'-7"	4'-1"	2'-8"	2.5"
	B536	2	14'-9"	4'-2"	2'-8"	2.5"
	B537	2	15'-3"	4'-5"	2'-8"	2.5"
	B538	2	15'-10"	4'-8"	2'-8"	2.5"
	B539	2	16'-7"	5'-1"	2'-8"	2.5"
	B540	2	8'-0"	5'-3"	2'-8"	2.5"
	B541	2	14'-2"	3'-10"	2'-8"	2.5"
	B542	2	14'-4"	3'-11"	2'-8"	2.5"
	B543	2	14'-8"	4'-1"	2'-8"	2.5"
	B544	2	15'-4"	4'-5"	2'-8"	2.5"
	B545	2	16'-1"	4'-10"	2'-8"	2.5"
	B546	2	17'-0"	5'-6"	2'-8"	2.5"
	B547	5	15'-2"	4'-3"	2'-8"	2.5"
	B548	6	16'-1"	9'-1"	3'-10"	2.5"
	B801	10	27'-8"			5"
	B802					5"
	F601	14	18'-0"			5"
	F602	11	20'-0"			5"
	F701	28	13'-0"			5"
	F1002	18	20'-0"			5"
	F1001	46	12'-1	10'-7"	1'-10"	5"

Dimensions are out to out of Bars.

BAR LIST VARIABLE BARS

MARK	NO. REQ'D. (COLUMN HT. "A" 48'-6")	(COLUMN HT. "A" 49'-6")	(COLUMN HT. "A" 55'-6")	LENGTH	"X"	"Y"	PIN DIA.	BENDING DIAGRAMS
C401 to C409	2 of each	3 of each	3 of each	Var. 6'-0" to 13'-0"	Var. 1'-11 1/16" to 2'-11 1/16"	Var. 3'-1 1/16" to 3'-7"	2"	
C410	—	3	3	6'-0"	3'-0"	3'-1 1/16"	2"	
C411 to C440	—	—	6 of each	Var. 11'-2" to 14'-6"	Var. 3'-2 1/16" to 3'-3 1/16"	Var. 6'-7 1/16" to 8'-8 3/16"	2"	
C445	—	—	3	14'-1"	3'-1 3/16"	2'-8 1/16"	2"	
C1001	28	28	28	20'-0"			5"	
C1002	36	36	36	21'-10"			5"	
C1003	10	10	10	31'-0" to 35'-0"			5"	

TABLE OF VARIABLES

	"A"	"B"	"C"	ELEV. "D"	ELEV. "E"
BENT 45	48'-6"	9'-0 3/8"	4'-0 1/8"	356.81	297.83
BENT 47	49'-6"	9'-1 1/8"	4'-0 5/8"	356.85	296.83
BENT 50	55'-6"	9'-5 5/8"	4'-1 1/4"	361.51	295.51

NOTES

DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES 1973 WITH 1974 INTERIM SPECIFICATIONS

LIVE LOAD: HS20

CONCRETE: ALL CONCRETE SHALL BE CLASS S WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH (f'c) = 3500 PSI.

REINFORCING STEEL: REINFORCING STEEL SHALL CONFORM TO ASTM A615, OR A617, GRADE 60 (YIELD STRENGTH = 60,000 PSI).

CONSTRUCTION JOINTS: CONSTRUCTION JOINTS SHALL BE HORIZONTAL OR AS SHOWN AND SHALL BE PROVIDED WITH KEYS NOT LESS THAN 2 INCHES HIGH COVERING THE MIDDLE ONE THIRD OF BOTH DIMENSIONS.

SPLICING OF COLUMN BARS: BUTT SPLICES MAY BE USED INSTEAD OF LAPPED SPLICES. IF BUTT SPLICES ARE USED THEY SHALL CONFORM TO SP JOB NO. 1456. BUTT SPLICING REINFORCING STEEL: BUTT SPLICES USING THERMIT WELDING SHALL BE USED WITH BARS CONFORMING TO ASTM A615 ONLY.

FOR ADDITIONAL NOTES, SEE GENERAL DRAWING NO. 16941.

FOUNDATION PRESSURE

GROUP LOAD	MAXIMUM	MINIMUM
LI	9.26 KSF	7.0 KSI

DETAILS OF EXP. INT. BTS. 45, 47 & 50
ARK. RIVER BR. & APPRS. (CLARKSVILLE)
MAIN BRIDGE SUBSTRUCTURE
LOGAN & JOHNSON CO.

ROUTE 109 SEC. 2 & 4

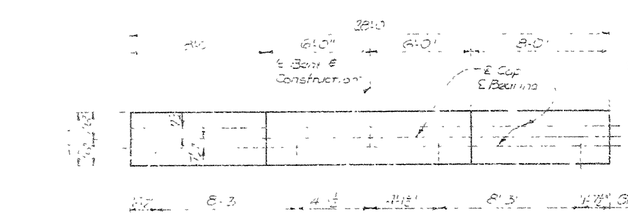
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

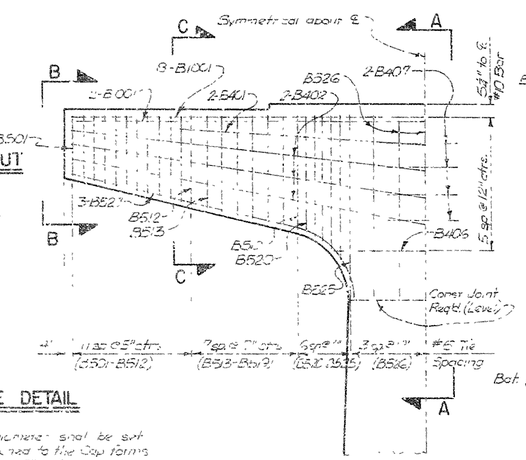
DRAWN BY K.M.G. DATE 1 APR. 75
CHECKED BY DATE
DESIGNED BY DATE
SCALE AS NOTED

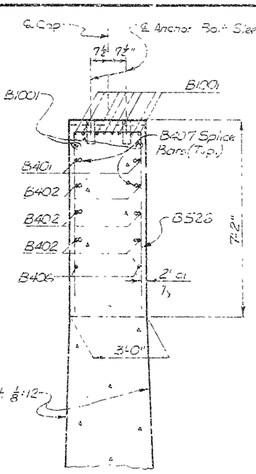
BRIDGE ENGINEER

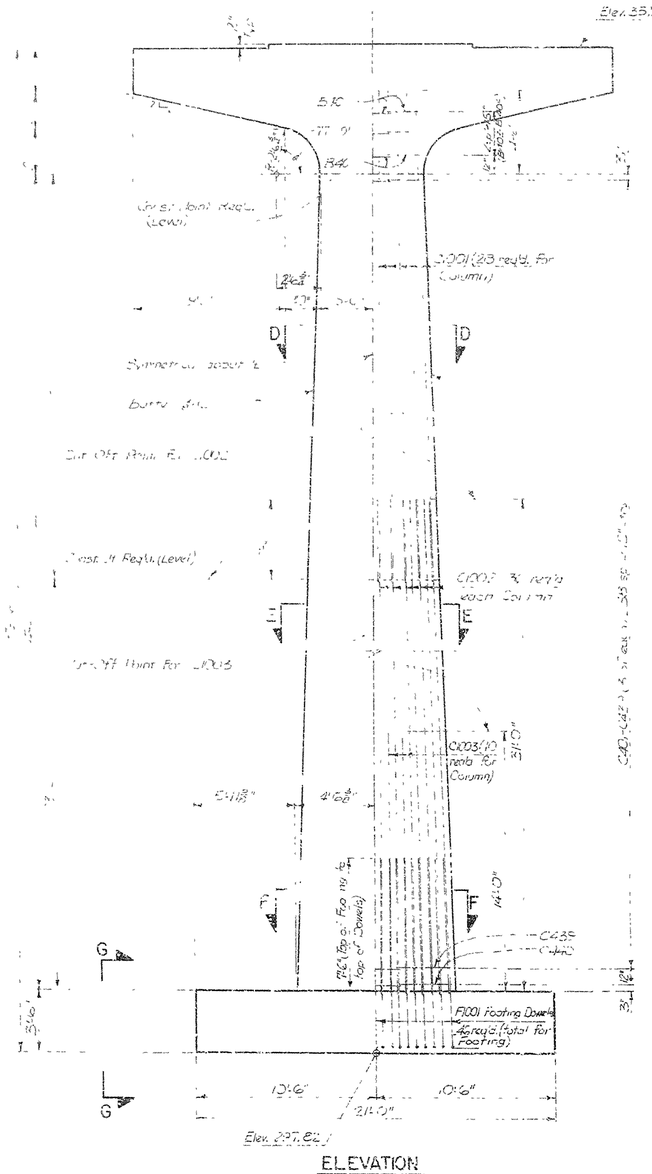
BRIDGE NO. 5600 DRAWING NO. 19251

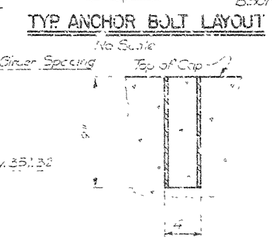
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHT. NO.	TOTAL SHTS.
				6	ARK	(25-323 3)		
				JOB NO.		1456		
				S (1) 5600 BENT DTLS. 19252				

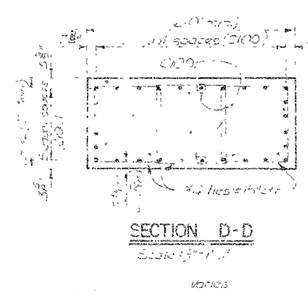


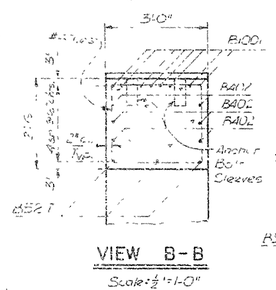


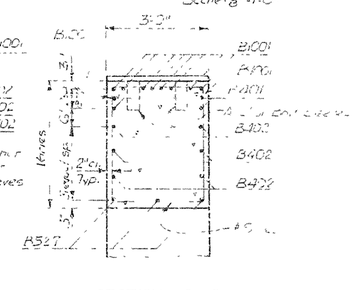


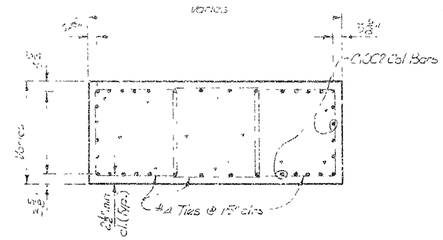


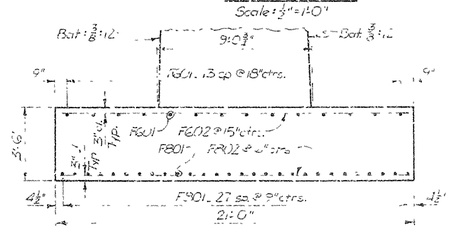


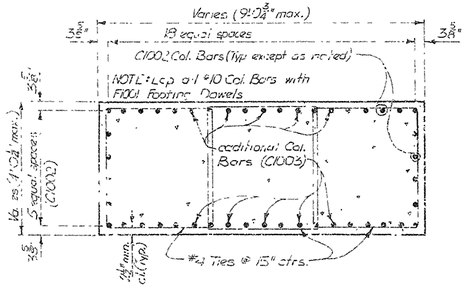


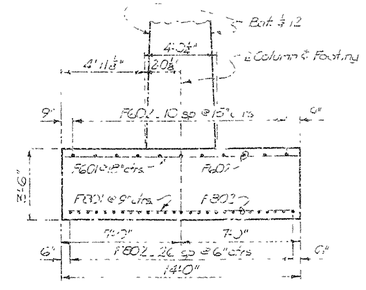


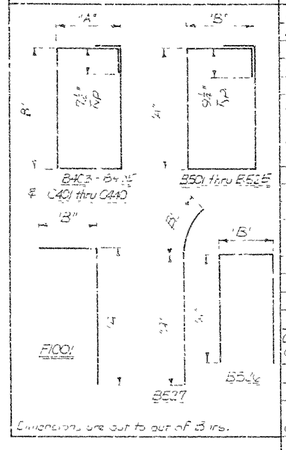












BAR LIST

MARK	NO. REQ'D.	LENGTH	"A"	"B"	PIN DIA.
B401	4	41'-3"			5"
B402	2	18'-3"			5"
B406	2	[illegible]			[illegible]
B407	8	21'-8"			[illegible]
B501	2 of	[illegible]	for [illegible]	2'-8"	[illegible]
B512	[illegible]	[illegible]	to [illegible]		
B513 - B519	2 of [illegible]	for B512 to [illegible]	for [illegible] to [illegible]	2'-8"	[illegible]
B520	4	[illegible]	[illegible]	[illegible]	[illegible]
B521	2	[illegible]	[illegible]	[illegible]	[illegible]
B522	2	15'-7"	[illegible]	2'-8"	[illegible]
B523	2	16'-[illegible]	4'-10[illegible]	2'-8"	[illegible]
B524	2	16'-11"	[illegible]	2'-8"	[illegible]
B525	2	[illegible]	[illegible]	2'-8"	[illegible]
B526	8	15'-10"	[illegible]	2'-8"	[illegible]
B527	6	[illegible]	[illegible]	[illegible]	[illegible]
B100	12	[illegible]	[illegible]		5"
C401	[illegible]	for 10'-0"	for [illegible]	for [illegible]	2"
C440	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
C440	8	[illegible]	[illegible]	[illegible]	2"
C1001	28	30'-3"			[illegible]
C1002	36	31'-[illegible]			[illegible]
C1003	10	[illegible]			[illegible]
F201	10	[illegible]			[illegible]
F602	11	[illegible]			[illegible]
F801	28	[illegible]			[illegible]
F802	27	[illegible]			[illegible]
F901	106	16'-3"	10'-11"	3'-0"	10"
B402 - B405	2 of each	for 41'-1" to 41'-8"	15'-8½" to 16'-0½"	for 2'-8" to 2'-8"	

NOTES

DESIGN SPECIFICATION: AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 1973 WITH 1974 INTERIM SPECIFICATIONS

LIVE LOAD: HS20

CONCRETE: ALL CONCRETE SHALL BE CLASS S WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH f'c = 3500 PSI

REINFORCING STEEL: REINFORCING STEEL SHALL CONFORM TO ASTM A615 OR A617 GRADE 60 (YIELD STRENGTH = 60,000 PSI)

CONSTRUCTION JOINTS: CONSTRUCTION JOINTS SHALL BE HORIZONTAL OR AS SHOWN AND SHALL BE PROVIDED WITH KEYS NOT LESS THAN 3 INCHES HIGH COVERING THE MIDDLE 1/3 OF FOOTING DIMENSION

SPLICING OF COLUMN BARS: BUTT SPLICES MAY BE USED INSTEAD OF LAPPED SPLICES. IF BUTT SPLICES ARE USED THEY SHALL CONFORM TO SP. JOB NO. 1456 "BUTT SPLICING REINFORCING STEEL". BUTT SPLICES USING THERMIT WELDING SHALL BE USED WITH BARS CONFORMING TO ASTM A615 ONLY

FOR ADDITIONAL NOTES, SEE GENERAL NOTES DRAWING NO. 18941

FOUNDATION PRESSURE	MAXIMUM	MINIMUM
CAP LOAD 11	7.70 KSF	0.0 KSF

For Circular Footing Option - See Drwg. 19238.

DETAILS OF EXP-EXP BENT 46
ARK RIVER BR & APPRS. (CLARKSVILLE)
MAIN BRIDGE STRUCTURE
LOGAN & JOHNSON CO.

ROUTE 109 SEC. 3 & 4

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

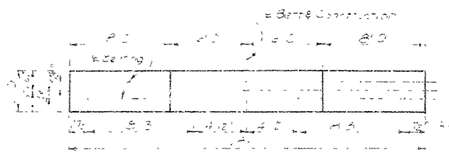
DRAWN BY: K.M.G. DATE: 8 APR. 75
CHECKED BY: [illegible] DATE: [illegible]
DESIGNED BY: [illegible] DATE: [illegible]
SCALE: AS NOTED

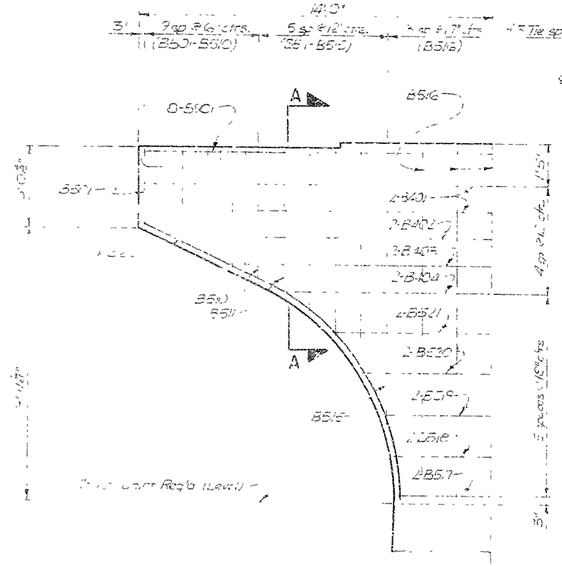
BRIDGE ENGINEER

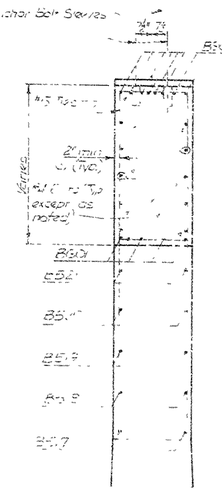
BRIDGE NO. 5600 DRAWING NO. 19252

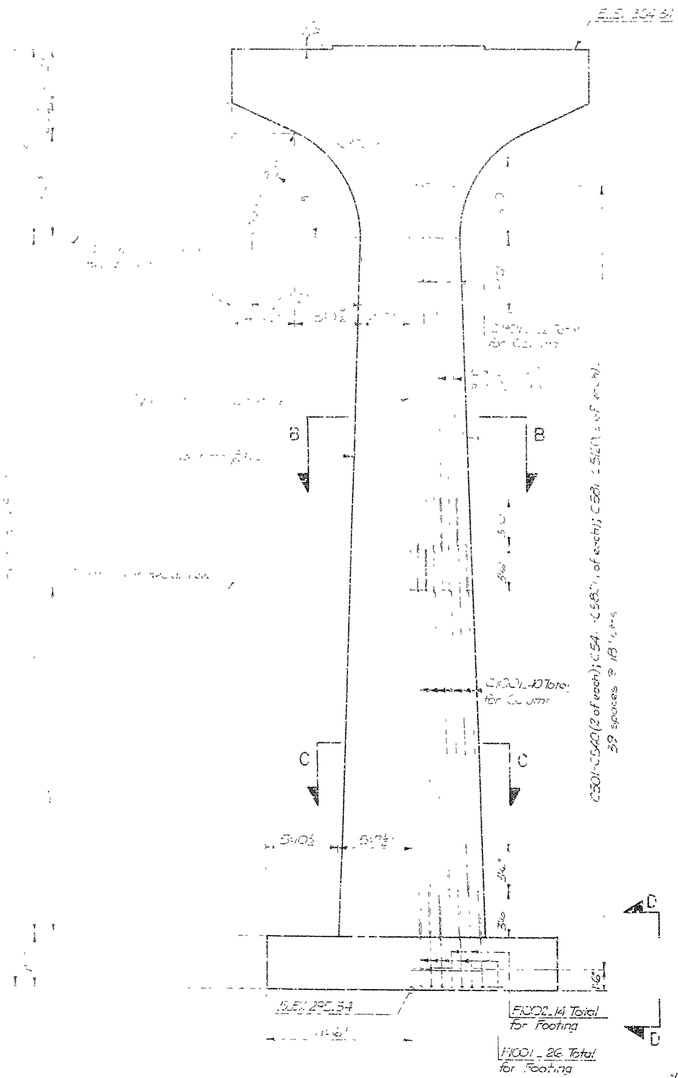
DATE REVISED	DATE PLANS	DATE REVISED	DATE FILMED	FED ROAD DIV.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.	[illegible]		
				JOB NO.	1456			

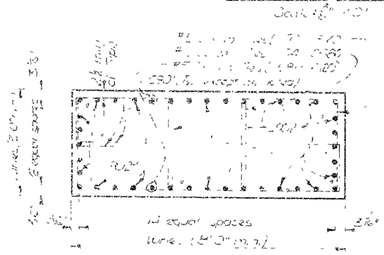
S (1) 5600 _ BENT DTLS. _ 19253

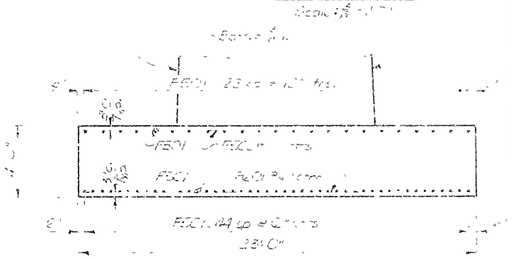


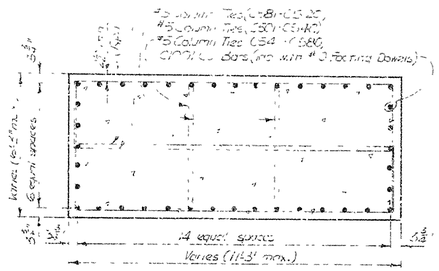


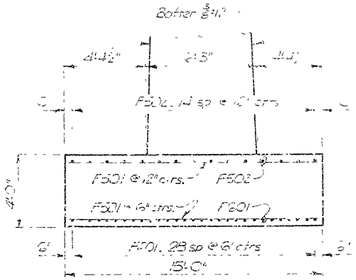


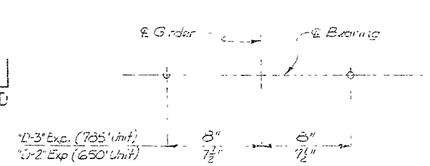


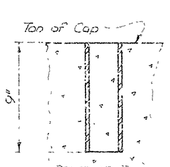












NOTE: Metal Sleeves 4" in diameter shall be set with templates securely fastened to the Cap forms at all Anchor Bolt Locations. The Sleeves shall be flush with the top of Cap and shall be filled with Concrete. They will not be paid for directly but will be considered subsidiary to the item "CLASS S CONCRETE".

BAR LIST

MARK	NO. REQ'D.	LENGTH	"A"	"B"	PIN DIA.	BENDING DIAGRAMS
[illegible]	[illegible]	[illegible]			[illegible]	

CTLS

[illegible] SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES [illegible] WITH 1974 INTERIM SPECIFICATIONS.

LIVE LOAD: HS20.

CONCRETE: ALL CONCRETE SHALL BE CLASS S WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3500 PSI.

REINFORCING STEEL: REINFORCING STEEL SHALL CONFORM TO ASTM [illegible] GRADE 60 WITH YIELD STRENGTH OF 60,000 PSI.

CONSTRUCTION JOINTS: CONSTRUCTION JOINTS SHALL BE HORIZONTAL UNLESS SHOWN AND SHALL BE PROVIDED WITH KEYS NOT LESS THAN 3 INCHES HIGH OVERALL IN MIDDLE ONE-THIRD OF BOTH DIMENSIONS.

SPLICING OF COLUMN BARS: BUTT SPLICES MAY BE USED INSTEAD OF LAP SPLICES. IF BUTT SPLICES ARE USED THEY SHALL CONFORM TO SECTION 1456 [illegible] REINFORCING STEEL. BUTT SPLICES USING THERMIT WELDING SHALL BE USED WITH BARS CONFORMING TO ASTM A615, ONLY.

FOR ADDITIONAL NOTES, SEE GENERAL NOTES DWG. [illegible]

FOUNDATION PRESSURE

GROUP	LOAD	MAX.	U.P.
III		7.65 KSF	1.42 KSF

For Circular Footing Option - See Drwg. 19258

DETAILS OF INTERMEDIATE BENT 51
ARK. RIVER BR. & APPRS. (CLARKSVILLE)
MAIN BRIDGE SUBSTRUCTURE
LOGAN & JOHNSON CO.

ROUTE 109 SEC. 3 & 4

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY K.M.G. DATE 30 APR. 75
BY _____ DATE _____
CHECKED BY D.B. DATE [illegible]
SCALE: AS NOTED

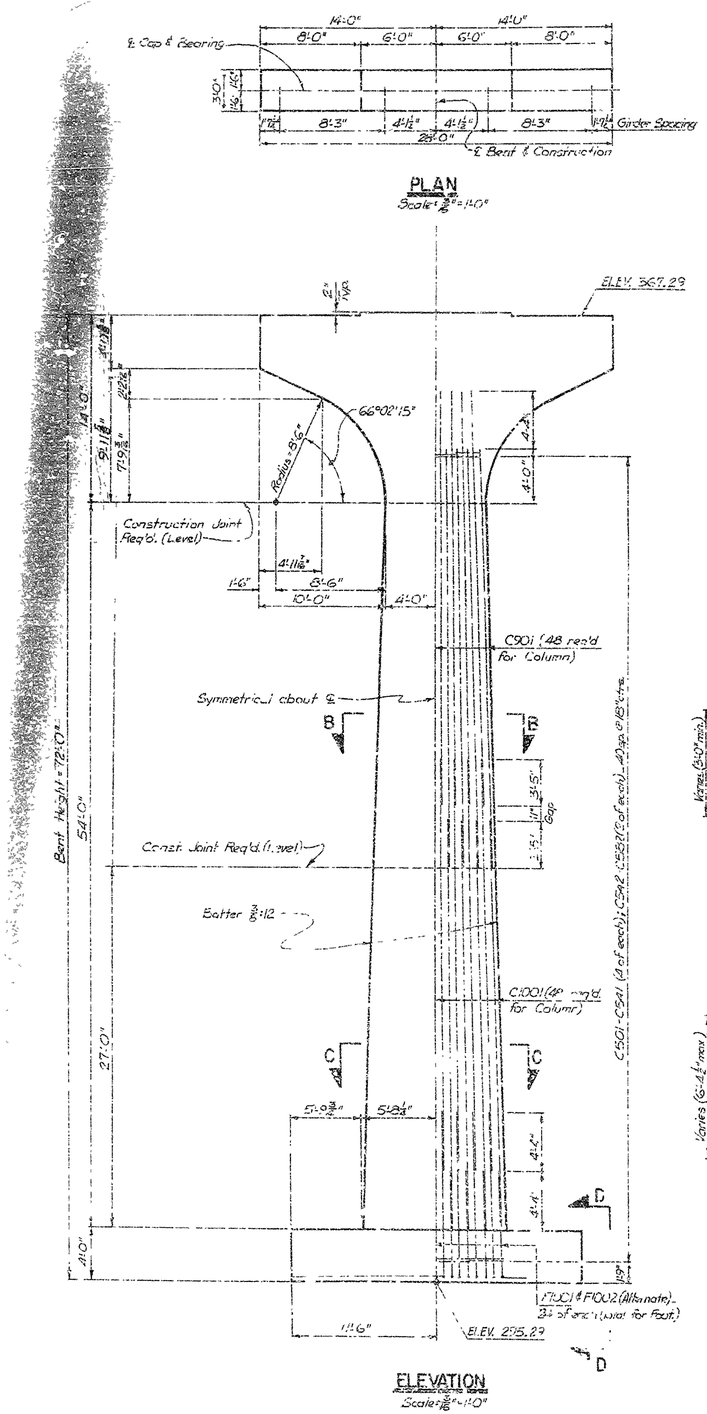
BRIDGE ENGINEER

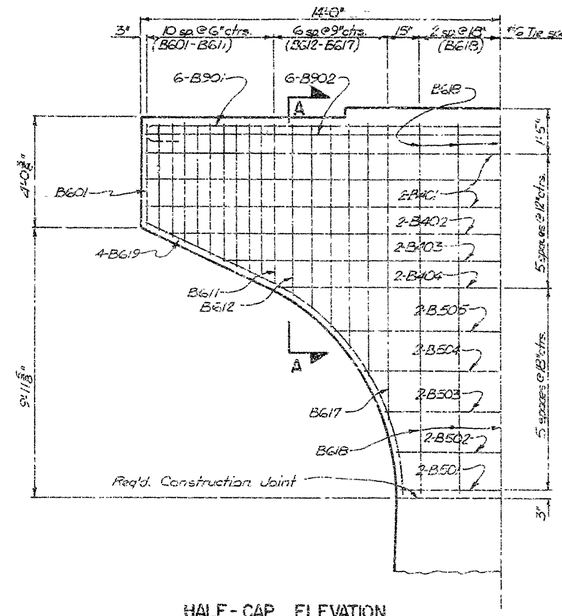
BRIDGE NO. 5600 **DRAWING NO. 19253**

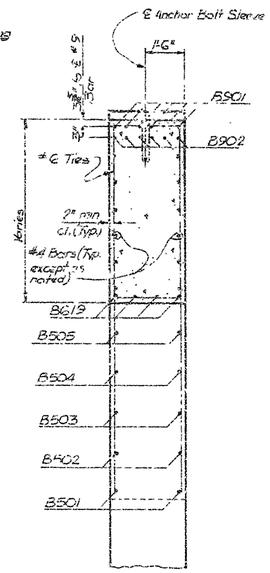
336

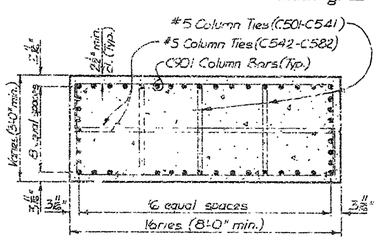
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
31 JAN 77	77-2-3-71			15	ARK	RS-389(6)		
				JOB NO.		1456	20	34

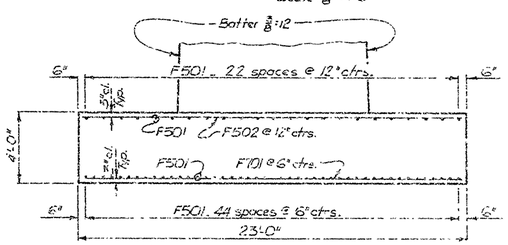
(1) 5600_ BENT DTLS._ 19254

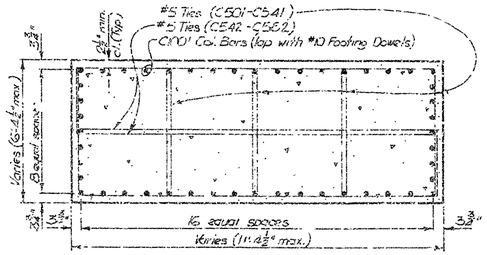


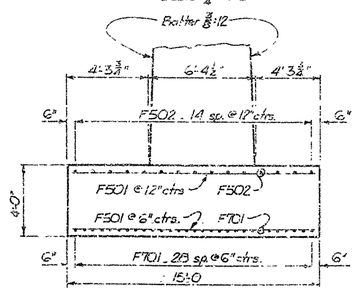


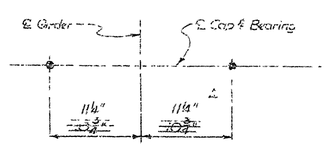


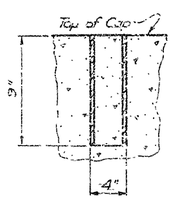












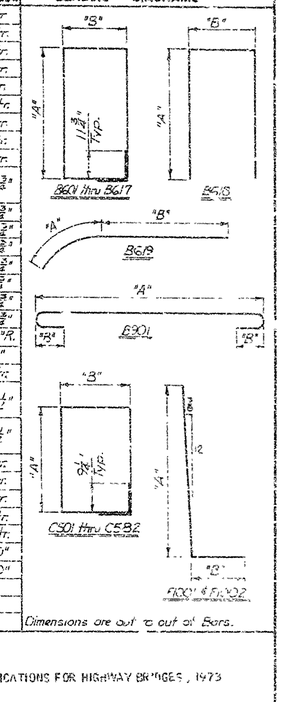
NOTE: Metal Sleeves 4" in diameter shall be set with templates securely fastened to the Cap forms at all Anchor Bolt Locations. The Sleeves shall be flush with the top of Cap and filled with Concrete. They will not be paid for directly but will be considered subsidiary to the item "CLASS S CONCRETE".

⚠ Revised Anchor Bolt Layout. K.M.G. 31 JAN '77

BAR LIST

MARK	NO. REQ'D.	LENGTH	"A"	"B"	PIN DIA.
B401	6	27'-0"			Str.
B402	2	26'-0"			Str.
B403	2	21'-6"			Str.
B404	2	17'-6"			Str.
B501	2	7'-3"			Str.
B502	2	7'-11"			Str.
B503	2	8'-5"			Str.
B504	2	10'-4"			Str.
B505	2	12'-10"			Str.
B601-B611	2 of each	Var. 4'-2" to 18'-9"	Var. 3'-9 3/8" to 6'-10 5/8"	2'-8"	3 3/4"
B612	2	19'-5"	6'-5 5/16"	2'-8"	3 3/4"
B613	2	20'-5"	6'-11 1/16"	2'-8"	3 3/4"
B614	2	21'-9"	7'-6 3/8"	2'-8"	3 3/4"
B615	2	23'-4"	8'-4 1/2"	2'-0"	3 3/4"
B616	2	25'-6"	9'-5 7/8"	2'-8"	3 3/4"
B617	2	28'-9"	11'-1 15/16"	2'-8"	3 3/4"
B618	5	29'-9"	13'-8"	2'-8"	3 3/4"
B619	8	15'-4"	10'-1"	5'-3"	9'-8 3/8" R.
B901	6	30'-1"	27'-8"	10"	9"
B902	6	27'-8"			Str.
C501-C541	4 of each	Var. 9'-9" to 19'-11"	Var. 2'-0" to 3'-3 3/4"	Var. 2'-4 1/2" to 6'-1 1/4"	2 1/2"
C542-C582	2 of each	Var. 18'-4" to 29'-7"	Var. 7'-4 1/4" to 11'-1 1/4"	Var. 13 3/4" to 3'-1 5/8"	2 1/2"
C901	48	31'-0"			Str.
C1001	48	30'-5"			Str.
F501	68	14'-6"			Str.
F502	15	22'-6"			Str.
F701	29	22'-6"			Str.
F1001	24	10'-2"	7'-11 1/2"	3'-0"	10"
F1002	24	15'-0"	12'-3 1/2"	3'-0"	10"

BENDING DIAGRAMS



NOTES

DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 1973 WITH 1974 INTERIM SPECIFICATIONS.

LIVE LOAD: HS20

CONCRETE: ALL CONCRETE SHALL BE CLASS S WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH f'c = 3500 PSI.

REINFORCING STEEL: REINFORCING STEEL SHALL CONFORM TO ASTM A615, OR A617, GRADE 60 (YIELD STRENGTH = 60,000 PSI)

CONSTRUCTION JOINTS: CONSTRUCTION JOINTS SHALL BE HORIZONTAL OR AS SHOWN AND SHALL BE PROVIDED WITH KEYS NOT LESS THAN 3 INCHES HIGH COVERING THE MIDDLE ONE-THIRD OF BOTH DIMENSIONS

SPLICING OF COLUMN BARS: BUTT SPLICES MAY BE USED INSTEAD OF LAPPED SPLICES. IF BUTT SPLICES ARE USED THEY SHALL CONFORM TO SP JOB NO. 1456 "BUTT SPLICING REINFORCING STEEL". BUTT SPLICES USING THERMIT WELDING SHALL BE USED WITH BARS CONFORMING TO ASTM A615 ONLY.

FOR ADDITIONAL NOTES SEE GENERAL NOTES DWG. NO. 18941

FOUNDATION PRESSURE.	MAXIMUM	MINIMUM
GROUP LOAD "I"	8.34 KSF	0.0 KSF

For Circular Footing Option - See Drwg 19238.

DETAILS OF INTERMEDIATE BENT 52
ARK. RIVER BR. & APPRS (CLARKSVILLE)
MAIN BRIDGE SUBSTRUCTURE
LOGAN & JOHNSON CO.
ROUTE 109 SEC. 38.4

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

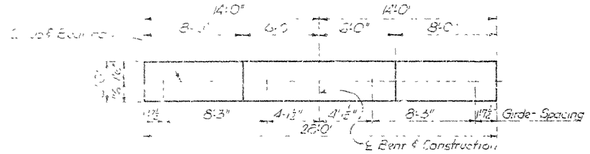
DRAWN BY: K.M.G. DATE: 16 APR. 75
CHECKED BY: DATE:
DESIGNED BY: DATE:
SCALE: AS NOTED

Vera Pinkerton
BRIDGE ENGINEER

BRIDGE NO. 5600 DRAWING NO. 19254

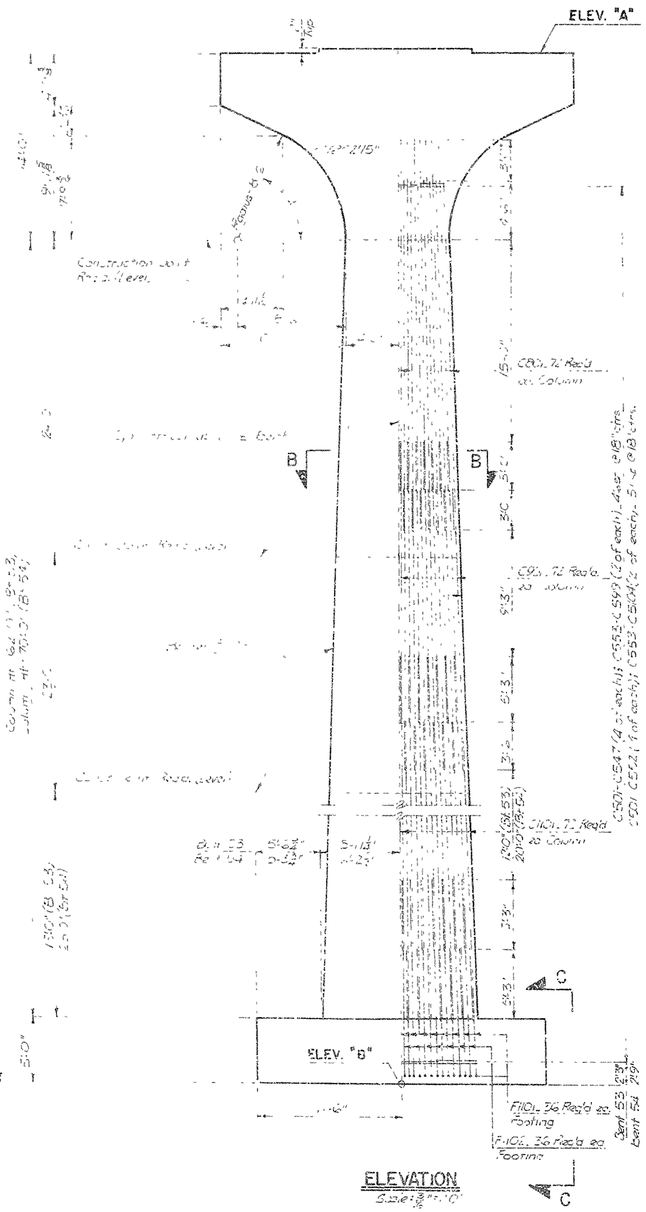
DATE REVISED	DATE PLANED	DATE REVISED	DATE PLANED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK	BRZ-393(3)		
				JOB NO.	1456			

S(1) 560C - BENT DTLS. - 19256



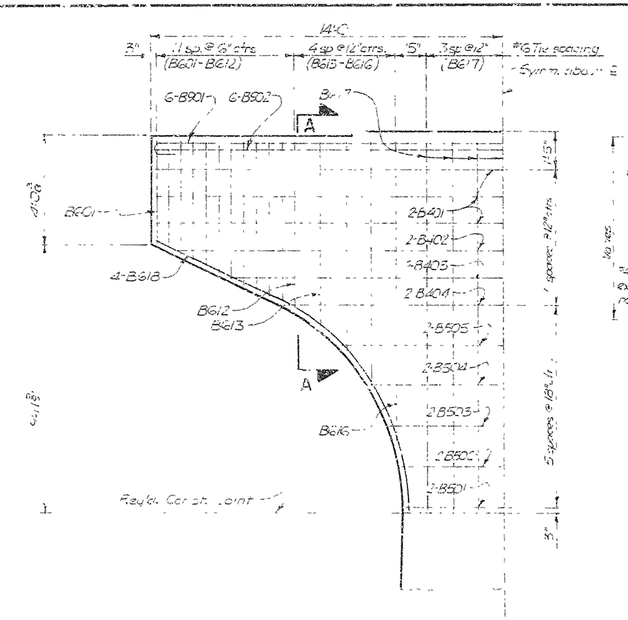
PLAN

Scale: 3/16" = 1'-0"



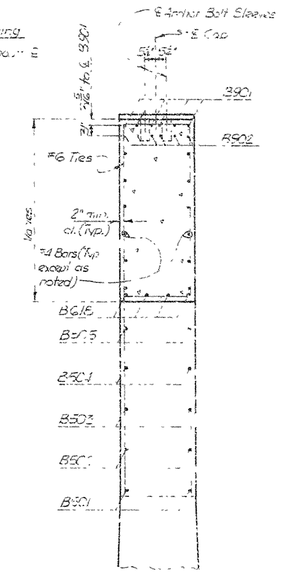
ELEVATION

Scale: 3/16" = 1'-0"



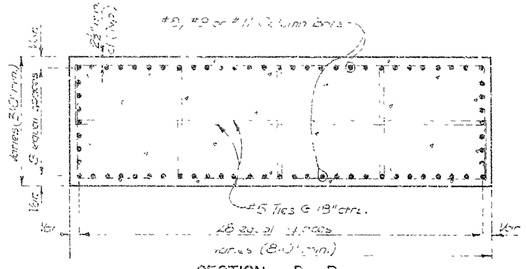
HALF - CAP ELEVATION

Scale: 3/16" = 1'-0"



SECTION A-A

Scale: 3/8" = 1'-0"



SECTION B-B

Scale: 1/2" = 1'-0"

	ELEV. "A"	ELEV. "B"
BENT No. 53	376.55	295.55
BENT NO. 54	384.73	295.73

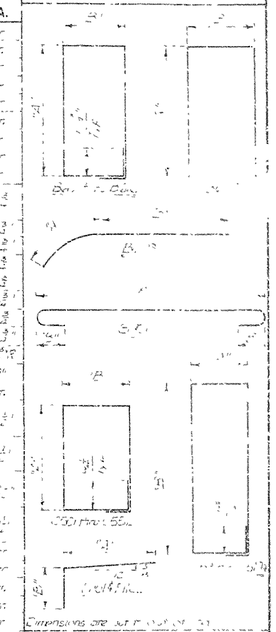
TABLE OF VARIABLES

BAR LIST - EA. BENT

MARK	NO. REQ'D. BT. 53	NO. REQ'D. BT. 54	LENGTH	"A"	"B"	FIN DIA.
B401	6	6	27'-8			Str.
B402	2	2	26'-0			Str.
B403	2	2	2[illegible]			Str.
B404	2	2	17'-8			Str.
B501	2	2	7'-8			Str.
B502	2	2	8'-0"			Str.
B503	2	2	8'-0"			Str.
B504	2	2	10'-0"			Str.
B505	2	2	10'-0"			Str.
B601	2 of each	2 of each	Var. [illegible]	Var. [illegible]		[illegible]
B610	each	each	to 19'-2"	to [illegible]		
B611	2	2	18'-[illegible]	Var. [illegible]	[illegible]	[illegible]
B612	2	2	19'-[illegible]	[illegible]	[illegible]	[illegible]
B613	2	2	20'-5"	[illegible]	[illegible]	[illegible]
B614	2	2	[illegible]	[illegible]	[illegible]	[illegible]
B615	2	2	24'-5"	9'-0[illegible]	[illegible]	[illegible]
B616	2	2	28'-5"	[illegible]	[illegible]	[illegible]
B617	7	7	29'-8"	12'-8"	0'-8"	[illegible]
B618	8	8	15'-4"	[illegible]	[illegible]	[illegible]
B901	6	6	30'-2"	27'-8	1'-0"	Str.
B902	6	6	27'-8"			Str.
C501	42 of each	42 of each	Var. 9'-7	Var. 1'-1[illegible]	Var. [illegible]	[illegible]
C547			to 20'-5"	to 3'-0[illegible]	to 0'-1[illegible]	[illegible]
C548			Var. 19'-8"	Var. 3'-1[illegible]	Var. [illegible]	[illegible]
C549			to 21'-7"	to 2'-2[illegible]	to [illegible]	[illegible]
C550	2 of	2 of	Var. 13'-2"	Var. 13'-6"	Var. 1'-3[illegible]	[illegible]
C569	each	each	to 4'-11"	to 3'-5[illegible]	to [illegible]	[illegible]
C570		2 of	Var. 31'-5"	Var. 31'-5[illegible]	Var. 11'-8[illegible]	[illegible]
C571		each	to 27'-7"	to 8'-7[illegible]	to 2'-1[illegible]	[illegible]
C601	2	2	26'-0"			Str.
C901	2	2	21'-0			Str.
C902	2	2	*			Str.
F501	22	22	21'-6"			Str.
F502	22	22	21'-6"			Str.
F601	44	44	22'-6"			Str.
F602	44	44	21'-6"			Str.
F101	56	56	12'-3	0'-0"	3'-0"	[illegible]
F102	36	36	[illegible]	15'-0"	6'-0"	[illegible]

* Length of C901 = Bt. 53 = 26'-0"
Length of C901 = Bt. 54 = 34'-0"

BENDING DIAGRAMS



NOTES

DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES 1973 WITH 1974 INTERIM SPECIFICATIONS

LIVE LOAD: HS20

CONCRETE: ALL CONCRETE SHALL BE CLASS S WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH f'c = 3500 PSI.

REINFORCING STEEL: REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60 (YIELD STRENGTH = 60,000 PSI).

CONSTRUCTION JOINTS: CONSTRUCTION JOINTS SHALL BE HORIZONTAL OR AS SHOWN AND SHALL BE PROVIDED WITH KEYS NOT LESS THAN 3 INCHES HIGH COVERING THE MIDDLE ONE-THIRD OF BOTH DIMENSIONS.

SPLICING: MECHANICAL BUTT SPLICES MAY BE USED INSTEAD OF LAPPED SPLICES IF BUTT SPLICES ARE USED, THEY SHALL CONFORM TO CP JOB NO. 1456 "BUTT SPLICING REINFORCING BARS CONTOUR" TO ASTM A615 ONLY. BUTT SPLICES USING THERMIT WELDING SHALL BE USED ONLY

FOR ADDITIONAL NOTES SEE GENERAL NOTES DWG. NO. 18941

FOUNDATION PRESSURE

	MAXIMUM	MINIMUM
GP OUT LOAD	[illegible]	[illegible]
"	9.58 KSF	0.0 KSF

For Circular Footing Option - See Dwg. 19838.

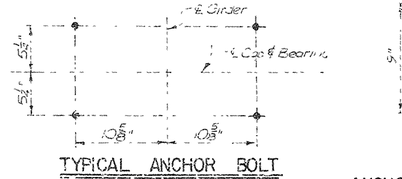
DETAILS OF INTERMEDIATE BTS. 53 & 54
ARK. RIVER BR. & APPRS. (CLARKSVILLE)
MAIN BRIDGE SUBSTRUCTURE
LOGAN & JOHNSON CO.
ROUTE 109 SEC. 3 & 4

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: A.M.G. DATE: 1 MAY 7[illegible] SCALE: AS NOTED
CHECKED BY: [illegible] DATE: [illegible]
DESIGNED BY: DATE:

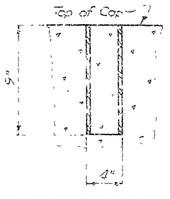
BRIDGE ENGINEER

BRIDGE NO. 5600 DRAWING NO. 19256



TYPICAL ANCHOR BOLT LAYOUT

No Scale



NOTE: Place 4" diameter sleeves 4" in diameter and set with templates securely fastened to the Cap forms at all Anchor Bolt Locations. The Sleeves shall be flush with the top of Cap and filled with Grout. They will not be paid for directly but will be subsidiary to the item "CLASS S CONCRETE".

ANCHOR BOLT SLEEVE DETAIL

No Scale

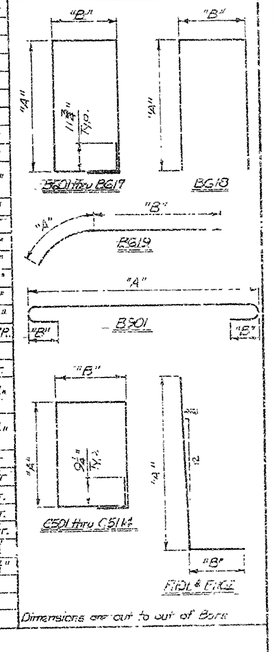
338

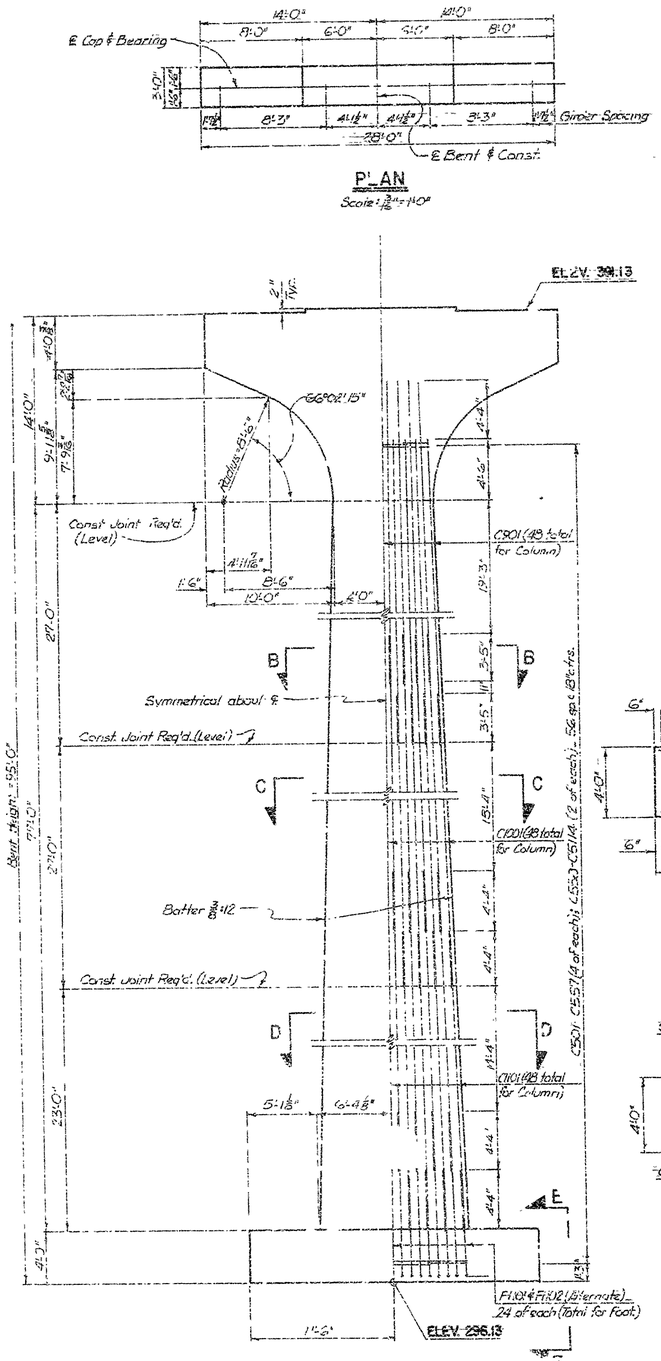
DATE REVISED	DATE FORMED	DATE REQ'D	DATE FILLED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
31 JAN 75	8/8-2-1-71			6	ARK.	FS-3889(6)		
				JOB NO.		1456	22	24

S① 5600 .. BENT DTLS.. 19256

BAR LIST

MARK	NO. REQ'D.	LENGTH	"A"	"B"	PIN DIA.	BENDING DIAGRAMS
B401	6	27'-8"			Str.	
B402	2	26'-0"			Str.	
B403	2	27'-6"			Str.	
B404	2	17'-6"			Str.	
B501	2	7'-8"			Str.	
B502	2	7'-11"			Str.	
B503	2	8'-9"			Str.	
B504	2	10'-4"			Str.	
B505	2	12'-10"			Str.	
B601-B611	2 of each	Var. 14'-2" to 18'-8"	Var. 3'-9 5/16" to 6'-0 5/16"	2'-8"	3 3/4"	
B612	2	19'-5"	6'-5 1/16"	2'-8"	3 3/4"	
B613	2	20'-5"	6'-11 3/16"	2'-8"	3 3/4"	
B614	2	21'-5"	7'-6 3/8"	2'-8"	3 3/4"	
B615	2	23'-4"	8'-4 1/2"	2'-8"	3 3/4"	
B616	2	25'-6"	9'-5 1/4"	2'-8"	3 3/4"	
B617	2	28'-9"	11'-1 9/16"	2'-8"	3 3/4"	
B618	5	29'-9"	13'-8"	2'-8"	3 3/4"	
B619	8	15'-4"	10'-1"	5'-3"	8-3/4" R.	
B901	6	30'-2"	27'-8"	10"	9"	
B902	6	27'-8"			Str.	
C501-C557	4 of each	Var. 9'-7" to 22'-9"	Var. 1'-11 9/16" to 3'-3 9/16"	Var. 2'-3 13/16" to 7'-6 13/16"	2 1/2"	
C558-C1114	2 of each	Var. 18'-2" to 33'-11"	Var. 7'-3 13/16" to 12'-6 13/16"	Var. 13'-3 13/16" to 31'-0 13/16"	2 1/2"	
C901	48	31'-6"			Str.	
C1001	48	30'-5"			Str.	
C1101	48	27'-4"			Str.	
F601	48	18'-6"			Str.	
F602	56	22'-6"			Str.	
F1101	24	9'-7"	7'-11"	2'-0"	1 1/2"	
F1102	24	13'-11"	12'-3"	2'-0"	1 1/2"	





NOTES

DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES 1973 WITH 1974 INTERIM SPECIFICATIONS

LIVE LOAD: HS20

CONCRETE: ALL CONCRETE SHALL BE CLASS S WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH fc = 3500 PSI.

REINFORCING STEEL: REINFORCING STEEL SHALL CONFORM TO ASTM A615, OR A 617, GRADE 60 (YIELD STRENGTH = 60,000 PSI).

CONSTRUCTION JOINTS: CONSTRUCTION JOINTS SHALL BE HORIZONTAL OR AS SHOWN AND SHALL BE PROVIDED WITH KEYS NOT LESS THAN 3 INCHES HIGH COVERING THE MIDDLE ONE-THIRD OF BOTH DIMENSIONS.

SPLICING OF COLUMN BARS: BUTT SPLICES MAY BE USED INSTEAD OF LAPPED SPLICES. IF BUTT SPLICES ARE USED THEY SHALL CONFORM TO SP JOB NO. 1456 "BUTT SPLICING REINFORCING STEEL". BUTT SPLICES USING THERMIT WELDING SHALL BE USED WITH BARS CONFORMING TO ASTM A615 ONLY.

FOR ADDITIONAL NOTES, SEE GENERAL NOTES DWG. NO. 18941

FOUNDATION PRESSURE:

GROUP	LOAD	MAXIMUM	MINIMUM
II		0.18 KSF	0.0 KSF

For Circular Footing Option - See Dwg. 19238

DETAILS OF INTERMEDIATE BENT 55
ARK. RIVER BR. & APPRS. (CLARKSVILLE)
MAIN BRIDGE SUBSTRUCTURE
LOGAN & JOHNSON CO.
ROUTE 109 SEC. 3 & 4

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

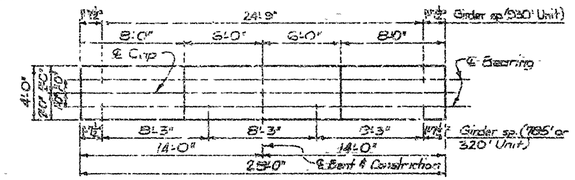
DRAWN BY: K.M.G. DATE: 5 MAY 75
CHECKED BY: D.A.R. DATE: 5-8-75
DESIGNED BY: [illegible] DATE: [illegible]
SCALE: AS NOTED

Final Inspection
BRIDGE ENGINEER

BRIDGE NO. 5600 DRAWING NO. 19256

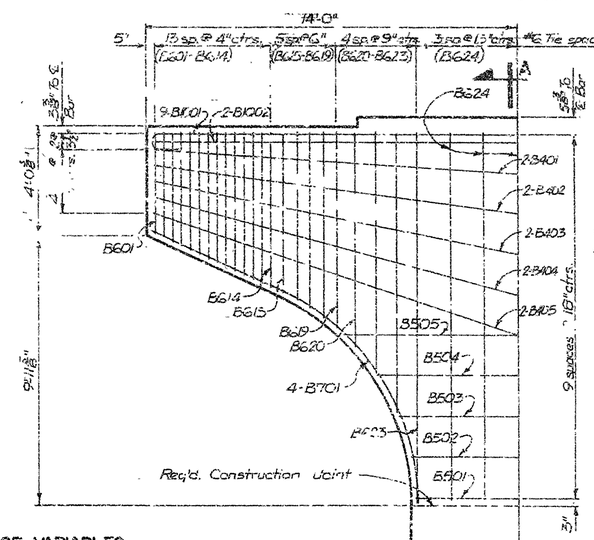
DATE REVISED	DATE PLOTTED	DATE REVISED	DATE PLOTTED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.
31 JAN 77	31 JAN 77			6	ARK.	BRS-5800(6)	
				JOB NO.	1456	23	32

S(1) 5800 BENT DTL S 19257



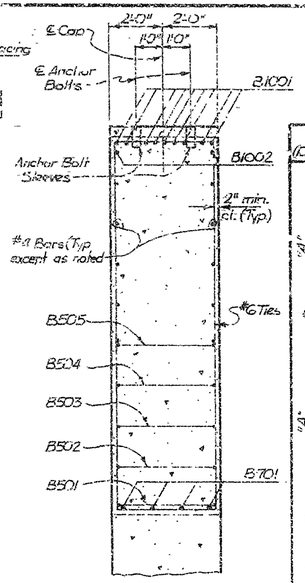
PLAN

Scale: 3/16" = 1'-0"



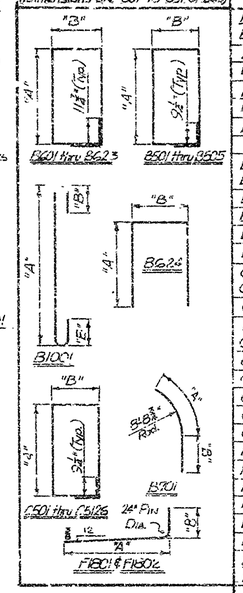
HALF-CAP ELEVATION

Scale: 3/16" = 1'-0"



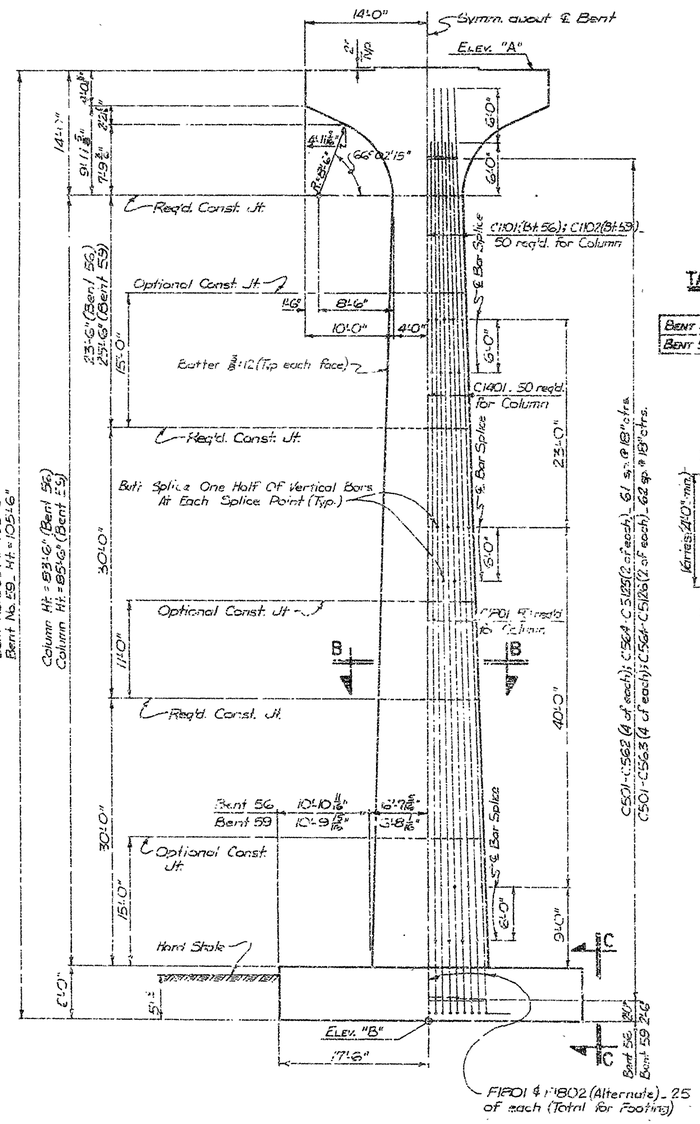
SECTION A-A

Scale: 3/16" = 1'-0"



BAR LIST

MARK	NO. REQ'D. BT. 56	NO. REQ'D. BT. 59	LENGTH	"A"	"B"	PIN DIA.
B401-B405	4 of each	4 of each	Var. 12'-8" to 14'-6"			Str.
B501	1	1	23'-5"	7'-8"	3'-6½"	2½"
B502	1	1	24'-1"	8'-0"	3'-6½"	2½"
B503	1	1	26'-11"	8'-11"	3'-6½"	2½"
B504	1	1	28'-11"	10'-5"	3'-6½"	2½"
B505	1	1	32'-11"	12'-1"	3'-6½"	2½"
B601-B614	2 of each	2 of each	Var. 16'-3" to 20'-2"	Var. 3'-10" to 5'-9½"	3'-4⅜"	3⅜"
B615	2	2	20'-7"	5'-0"	3'-8"	3⅜"
B701	8	8	15'-3"	10'-2"	5'-1"	See Dwg.
B1001	9	9	30'-0"	27'-8"	0'-11½"	10"
B1002	2	2	27'-8"			Str.
C501-C562	4 of each	4 of each	Var. 11'-9" to 26'-1"	Var. 3'-4⅜" to 9'-0½"	Var. 2'-0⅛" to 3'-6"	2½"
C563		4	26'-4"	9'-2"	3'-6"	2½"
C564 C5125	2 of each	2 of each	Var. 19'-7" to 31'-5"	Var. 7'-4⅝" to 13'-0½"	Var. 1'-11⅛" to 5'-2"	2½"
C5126		2	37'-9"	13'-2"	5'-2"	2½"
C1101	50		23'-6"			Str.
C1102		50	25'-			Str.
C1401	50	50	23'-0"			Str.
C1801	50	50	40'-0"			Str.
F701	69	69	24'-6"			Str.
F801	49	49	34'-6"			Str.
F901	55	55	24'-6"			Str.
F902	49	49	34'-6"			Str.
F1801	25	25	11'-2"	8'-4"	3'-6"	24"
F1802	25	25	17'-2"	14'-4"	3'-6"	24"
B616	2	2	21'-1"	6'-3"	3'-8"	3⅜"
B617	2	2	21'-9"	6'-7"	3'-8"	3⅜"
B618	2	2	22'-5"	6'-11"	3'-8"	3⅜"
B619	2	2	23'-3"	7'-4"	3'-8"	3⅜"
B620	2	2	24'-5"	8'-1"	3'-8"	3⅜"
B621	2	2	26'-0"	9'-1"	3'-8"	3⅜"
B622	2	2	29'-7"	10'-6"	3'-8"	3⅜"
B623	2	2	35'-11"	13'-8"	3'-8"	3⅜"
B624	5	5	30'-9"	13'-8"	3'-8"	2⅜"

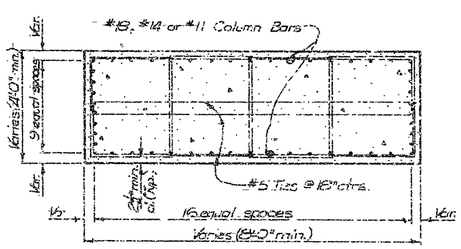


ELEVATION

Scale: 3/16" = 1'-0"

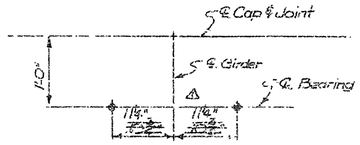
TABLE OF VARIABLES

	ELEV. "A"	ELEV. "B"
BENT 56	393.55	290.05
BENT 59	409.20	302.70



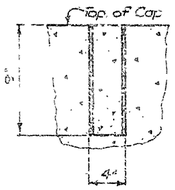
SECTION B-B

Scale: 3/16" = 1'-0"



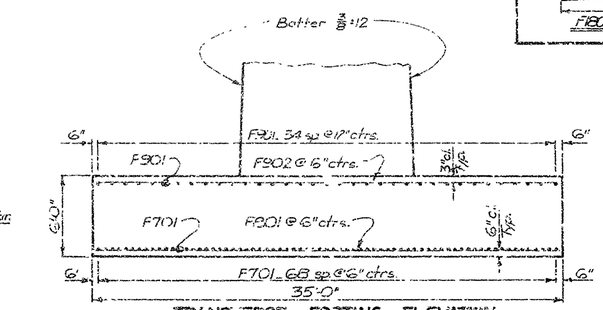
TYP. ANCHOR BOLT LAYOUT

Scale: 1" = 1'-0"



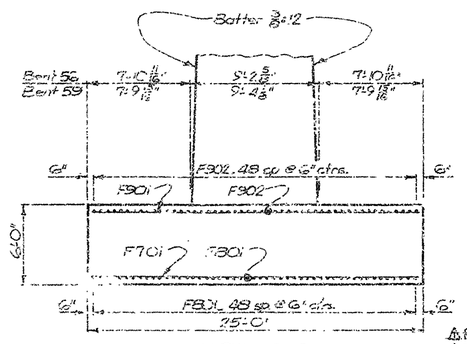
ANCHOR BOLT SLEEVE DETAIL

No Scale



TRANSVERSE FOOTING ELEVATION

Scale: 3/16" = 1'-0"



VIEW C-C

Scale: 3/16" = 1'-0"

NOTES:

AS AN ALTERNATE TO THE BUTT SPLICE SHOWN FOR #4 TO #18 BAR, A MINIMUM 9 FOOT LAP SPLICE MAY BE SUBSTITUTED AT THE CONTRACTOR'S OPTION.

DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 1973 WITH 1974 INTERIM SPECIFICATIONS.

LIVE LOAD: HS20

METHOD OF DESIGN: LOAD FACTOR

CONCRETE: ALL CONCRETE SHALL BE CLASS S WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH f'c = 3500 PSI

CONSTRUCTION JOINTS SHALL BE HORIZONTAL OR AS SHOWN AND SHALL BE PROVIDED WITH KEYS NOT LESS THAN THREE INCHES HIGH COVERING THE MIDDLE ONE-THIRD OF BOTH DIMENSIONS.

REINFORCING STEEL: REINFORCING STEEL SHALL CONFORM TO ASTM A615, OR A617, GRADE 60 (YIELD STRENGTH = 60,000 PSI)

FOR BUTT SPLICING OF REINFORCING STEEL, SEE SP JOB NO. 1456 "BUTT SPLICING REINFORCING STEEL". BUTT SPLICING USING THERMIT WELDING SHALL BE USED WITH BARS CONFORMING TO ASTM A615 ONLY.

FOUNDATION PRESSURE

GROUP LOAD	MAX.	MIN.
II	6.25 KSF	.41

For Circular Footing Option - See Drwg. 19238

△1 Revised Anchor Bolt Layout - K.M.G. 31 Jan 77

DETAILS OF INTERMEDIATE BENTS 56 & 59
ARK. RIVER BR. & APPRS. (CLARKSVILLE)
MAIN BRIDGE SUBSTRUCTURE
LOGAN & JOHNSON CO.
ROUTE 109 SEC. 3 & 4

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: K.M.G. DATE: 25 MAR. 75
CHECKED BY: JAL DATE: 17 MAR. 75
DESIGNED BY: E.T.F. DATE: 17 MAR. 75
SCALE: AS NOTED

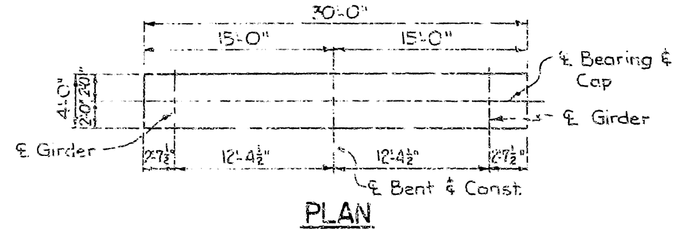
Earl T. Anderson
BRIDGE ENGINEER

BRIDGE NO. 5600 DRAWING NO. 19257

PIN

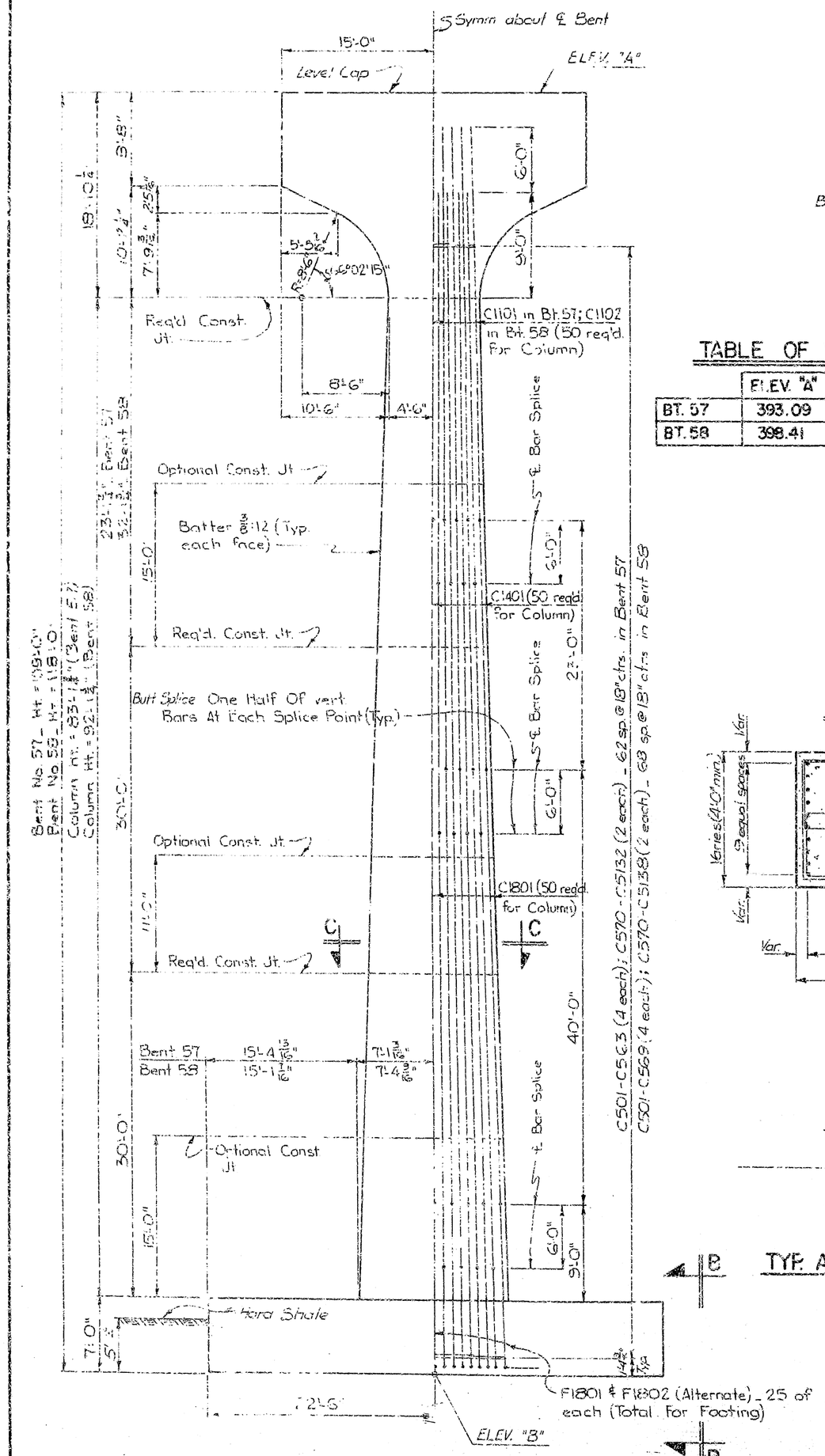
340

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.	RS-389(6)		
				JOB NO	1456		24	34
				S(1)	5600 BENT DTLS. 19258			



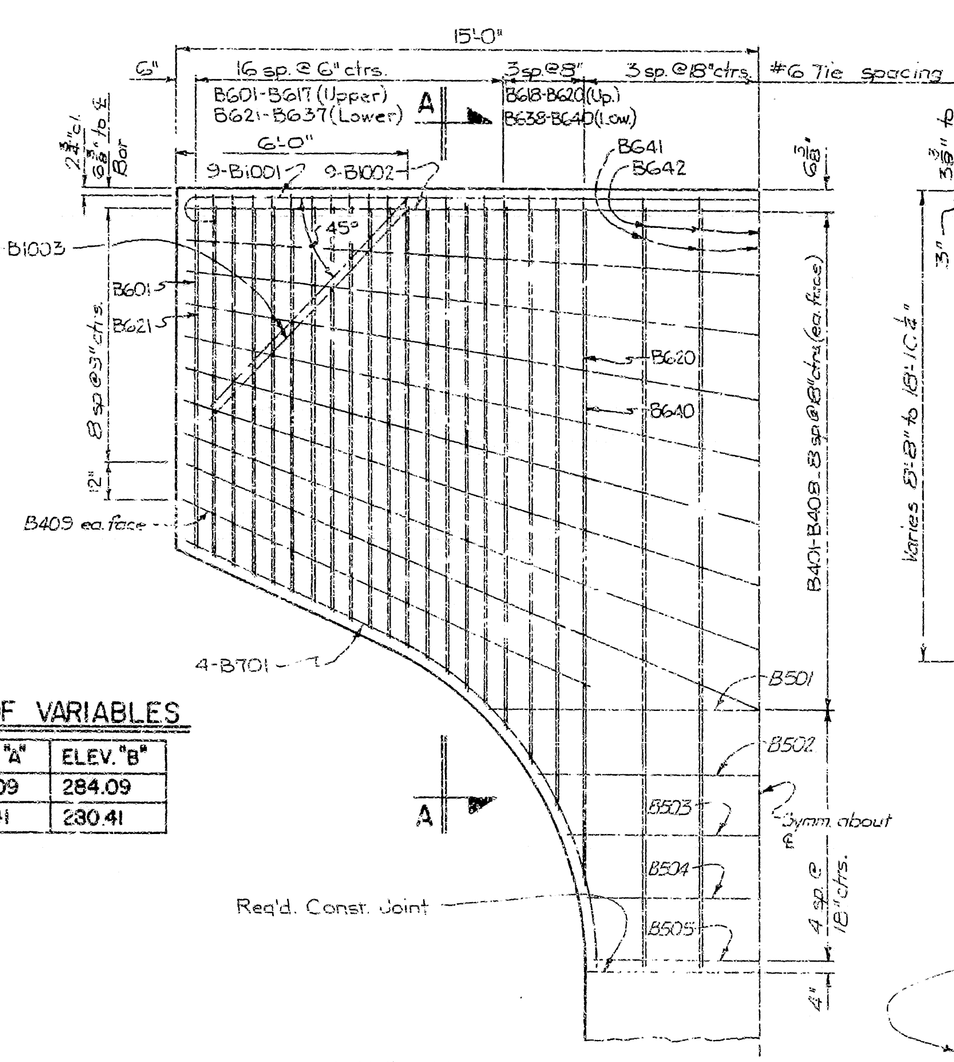
PLAN

Scale: 1/8" = 1'-0"



ELEVATION

Scale: 1/8" = 1'-0"

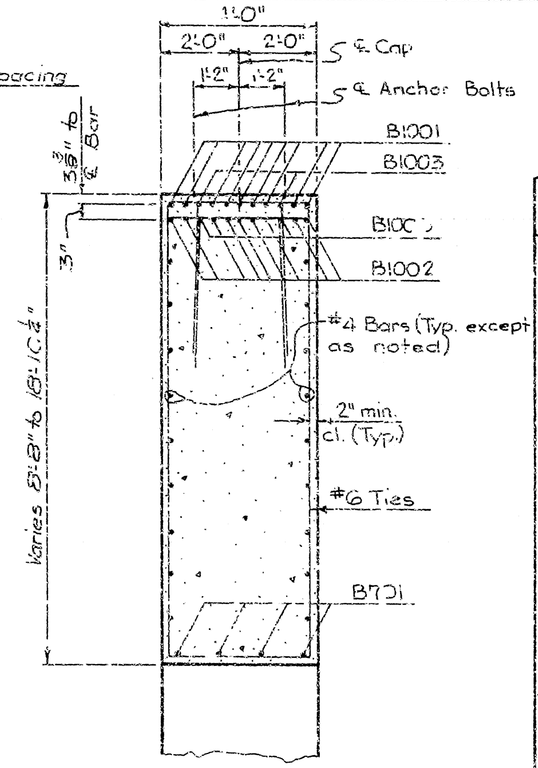


HALF - CAP ELEVATION

Scale: 3/8" = 1'-0"

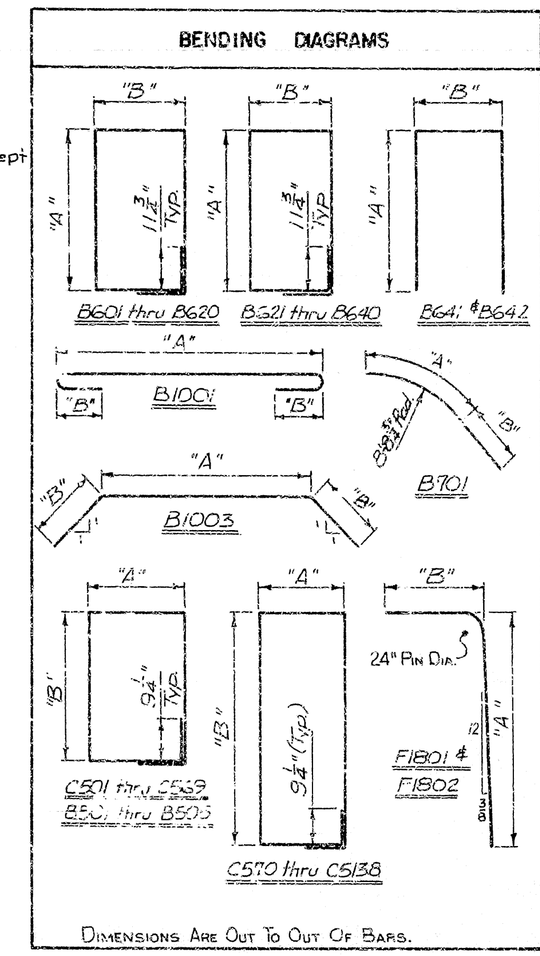
TABLE OF VARIABLES

	ELEV. "A"	ELEV. "B"
BT. 57	393.09	284.09
BT. 58	398.41	280.41



SECTION A-A

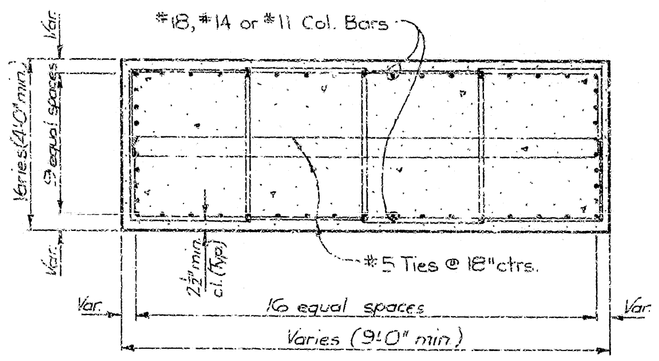
Scale: 3/8" = 1'-0"



DIMENSIONS ARE OUT TO OUT OF BARS.

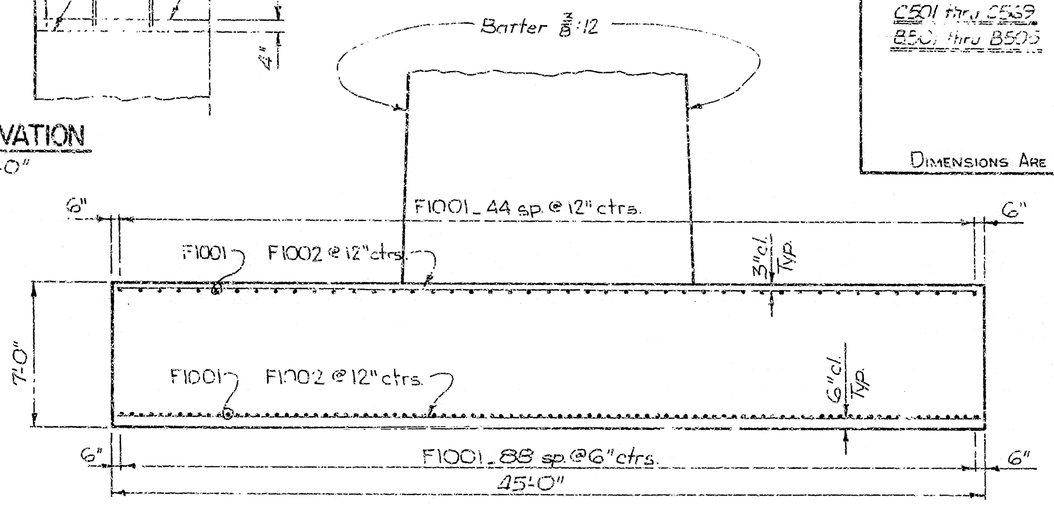
BAR LIST

MARK	NO. REQ'D. BT. 57	NO. REQ'D. BT. 58	LENGTH	"A"	"B"	PIN DIA.
B401-B408	4 of each	4 of each	Var. 14'-11" to 16'-0"			Str.
B409	4	4	11'-3"			Str.
B601-B611	2 of each	2 of each	Var. 25'-8" to 30'-1"	Var. 8'-7" to 10'-9"	3'-8"	3 3/4"
B612	2	2	30'-7"	11'-0"	3'-8"	3 3/4"
B613	2	2	31'-1"	11'-3"	3'-8"	3 3/4"
B614	2	2	31'-9"	11'-7"	3'-8"	3 3/4"
B615	2	2	32'-7"	12'-0"	3'-8"	3 3/4"
B616	2	2	33'-5"	12'-5"	3'-8"	3 3/4"
B617	2	2	34'-7"	13'-0"	3'-8"	3 3/4"
B618	2	2	36'-5"	13'-11"	3'-8"	3 3/4"
B619	2	2	38'-7"	15'-0"	3'-8"	3 3/4"
B620	2	2	42'-7"	17'-0"	3'-8"	3 3/4"
B621-B631	2 of each	2 of each	Var. 25'-2" to 29'-7"	Var. 8'-4" to 10'-6"	5'-8"	3 3/4"
B632	2	2	30'-7"	10'-9"	3'-8"	2 3/4"
B701	8	8	15'-11"	10'-1"	5'-10"	see Dwg.
B1001	9	9	32'-4"	28'-6"	0'-11 1/2"	10"
B1002	9	9	29'-6"			Str.
B1003	4	4	31'-11"	18'-0"	7'-0"	10"
C501-C563	4 of each	4 of each	Var. 12'-2" to 26'-8"	Var. 2'-2 1/2" to 3'-3 3/4"	Var. 3'-3 1/2" to 9'-1 1/2"	2 1/2"
C564-C569		4 of each	Var. 26'-11" to 28'-1"	Var. 3'-8 3/4" to 3'-10 1/2"	Var. 9'-2 1/2" to 9'-5 1/2"	2 1/2"
C570-C5132	2 of each	2 of each	Var. 21'-7" to 39'-0"	Var. 8'-3 1/2" to 14'-1 1/2"	Var. 1'-11 15/16" to 4'-10 1/2"	2 1/2"
C5133-C5138		2 of each	Var. 39'-3" to 40'-8"	Var. 14'-2 1/2" to 14'-8 1/2"	Var. 4'-10 1/2" to 5'-1 1/2"	2 1/2"
C1101	50		26'-2"			Str.
C1102		50	35'-2"			Str.
C1401	50	50	23'-0"			Str.
C1801	50	50	40'-0"			Str.
F1001	134	134	39'-6"			Str.
F1002	119	119	44'-6"			Str.
F1801	25	25	12'-0"	9'-2"	3'-6"	24"
F1802	25	25	18'-0"	15'-2"	3'-6"	24"
B633	2	2	30'-7"	11'-0"	3'-8"	3 3/4"
B634	2	2	31'-3"	11'-4"	3'-8"	3 3/4"
B635	2	2	32'-1"	11'-8"	3'-8"	3 3/4"
B636	2	2	33'-11"	12'-2"	3'-8"	3 3/4"
B637	2	2	34'-1"	12'-8"	3'-9"	3 3/4"
B638	2	2	35'-11"	13'-8"	3'-8"	3 3/4"
B639	2	2	38'-1"	14'-9"	3'-8"	3 3/4"
B640	2	2	42'-1"	16'-9"	3'-8"	3 3/4"
B641	5	5	40'-5"	18'-6"	3'-9"	3 3/4"
B642	5	5	39'-11"	18'-3"	3'-8"	3 3/4"
B501		1	30'-3"	14'-1"	3'-6 1/2"	2 1/2"
B502	1	1	31'-3"	11'-7"	3'-6 1/2"	2 1/2"
B503	1	1	27'-11"	9'-11"	3'-6 1/2"	2 1/2"
B504	1	1	26'-3"	9'-1"	3'-6 1/2"	2 1/2"
B505	1	1	25'-7"	8'-9"	3'-6 1/2"	2 1/2"



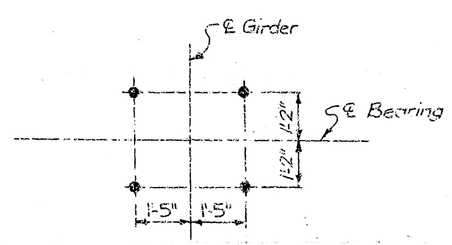
SECTION C-C

Scale: 3/8" = 1'-0"



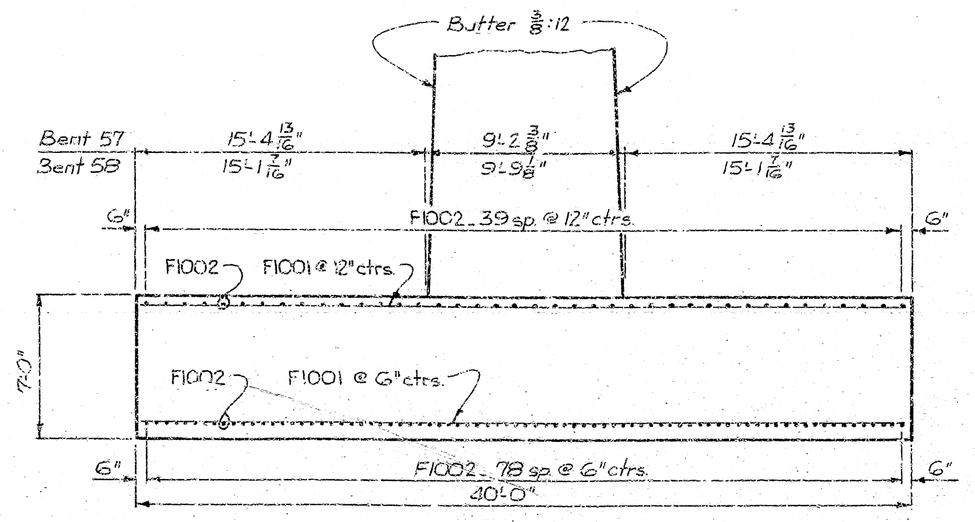
TRANSVERSE FOOTING ELEVATION

Scale: 3/16" = 1'-0"



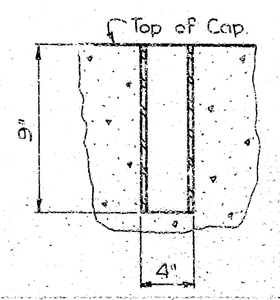
TYP. ANCHOR BOLT LAYOUT

Scale: 3/8" = 1'-0"



VIEW B-B

Scale: 3/16" = 1'-0"



ANCHOR BOLT SLEEVE DETAIL

Scale: 1 1/2" = 1'-0"

NOTE: Metal Sleeves 4" in diameter shall be set with templates securely fastened to the Cap forms at all Anchor Bolt Locations. The Sleeves shall be flush with the top of Cap and filled with Concrete. They will not be paid for directly but will be considered subsidiary to the item "CLASS S CONCRETE."

FOUNDATION PRESSURE

GROUP	LOAD	MAXIMUM	MINIMUM
	II	5.96 KSF	0.0 KSF

For Notes - See Drwg. 19257.
For Circular Footing Option - See Drwg. 19238.

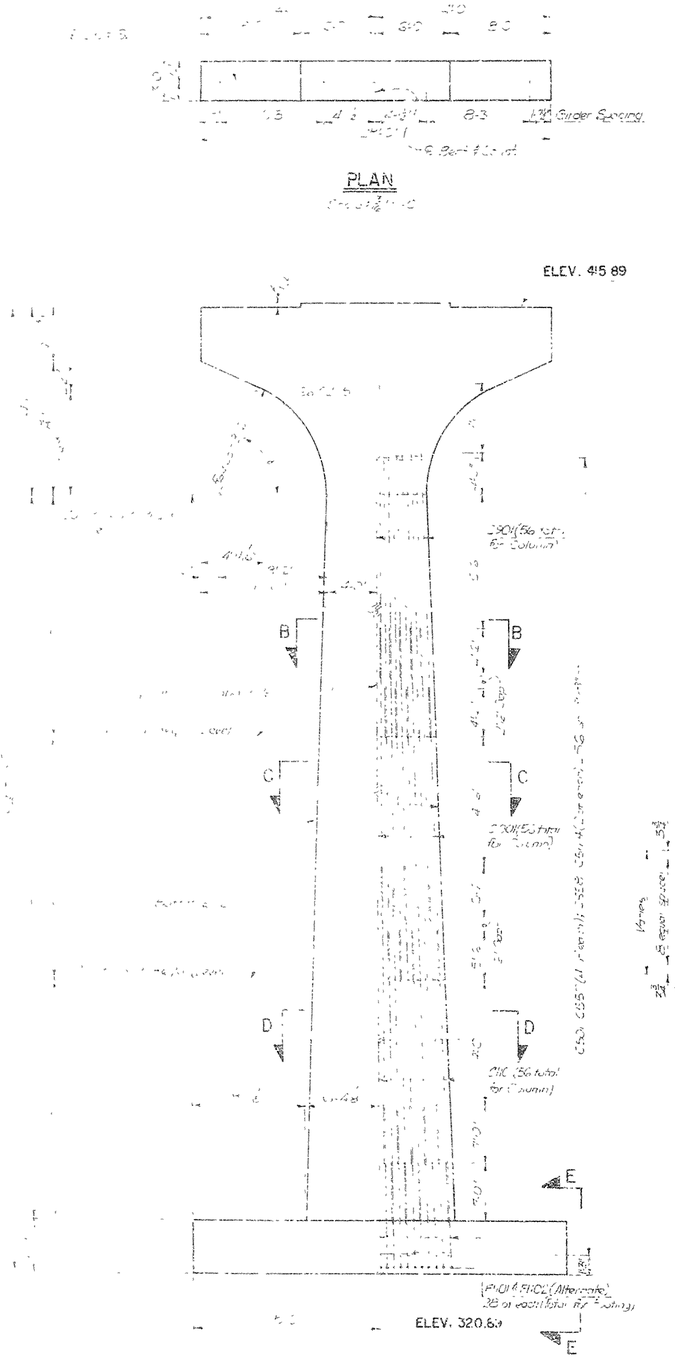
DETAILS OF INTERMEDIATE BENTS 57 & 58
ARK. RIVER BR. & APPRS. (CLARKSVILLE)
MAIN BRIDGE SUBSTRUCTURE
LOGAN & JOHNSON CO.
ROUTE 109 SEC. 3 & 4

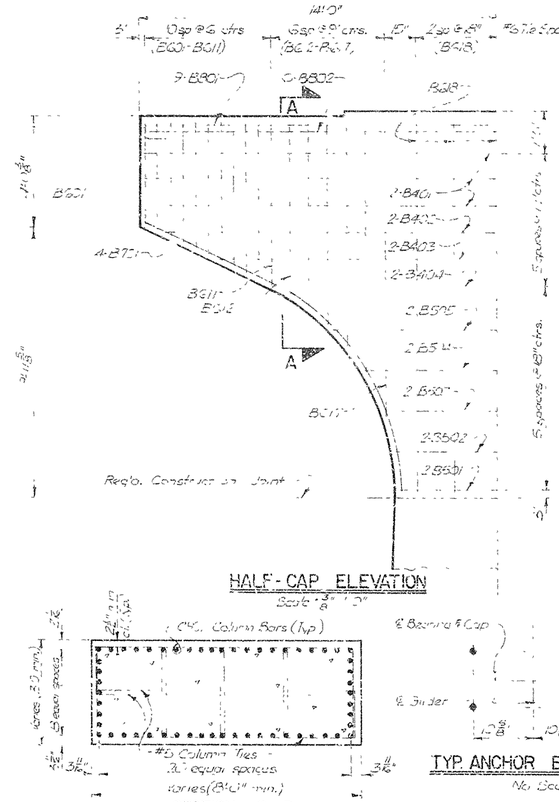
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

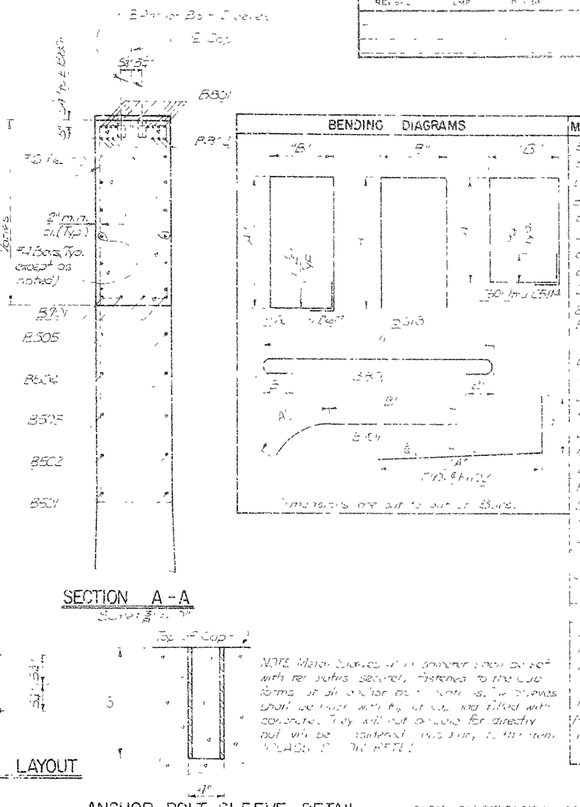
DRAWN BY: K.M.G. DATE: 20 MAR. '75
CHECKED BY: D.A.L. DATE: 4-8-75
DESIGNED BY: E.T.F. DATE: 10 FEB. 75
SCALE: As Noted

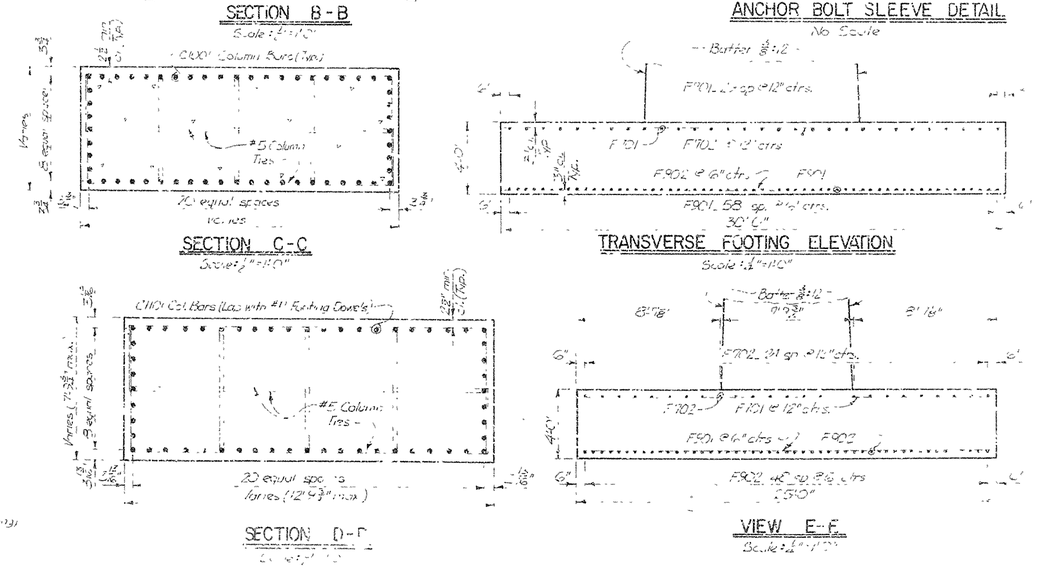
Neal Pinkerton
BRIDGE ENGINEER

BRIDGE NO. 5600 DRAWING NO. 19258









REVISE	DATE	BY

	ARK	
	1456	

S 1 5600 _ BENT DTLS _ 19259

BAR LIST

BENDING DIAGRAMS	MARK	NO. REQ'D	LENGTH	"A"	"B"	PIN DIA.

NOTE

DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES 1973 WITH INTERIMS SPECIFICATIONS

LOADING: HS20

CONCRETE: ALL CONCRETE SHALL BE CLASS [illegible] WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3500 PSI

REINFORCING STEEL: REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60 (FIELD SPEC NOTE - F60 [illegible])

CONSTRUCTION JOINTS: CONSTRUCTION JOINTS SHALL BE PERPENDICULAR TO THE SURFACE AND SHALL BE PROVIDED WITH KEYWAY [illegible] THE MIDDLE ONE THIRD OF BOTH DIMENSIONS

SPLICING OF COLUMN BARS: FOUR SPLICE KEYS PER COLUMN [illegible] OF BUTT SPLICES ARE USED ONLY SHALL BE PERMITTED FOR CONTROL OF REINFORCING STEEL. BUTT SPLICES USE [illegible] WELDING [illegible] BARS CONFORMING TO ASTM A706 ONLY

FOR ADDITIONAL NOTES, SEE GENERAL NOTES DWG. [illegible]

FOUNDATION PRESSURE GROUP LOAD II	MAXIMUM 4.7 TSF	MINIMUM 1.8 TSF

DETAILS OF INTERMEDIATE BENT 60
ARK. RIVER BR. & APPRS. (CLARKSVILLE)
MAIN BRIDGE SUBSTRUCTURE
LOGAN & JOHNSON
ROUTE 109 SEC. 3&4

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

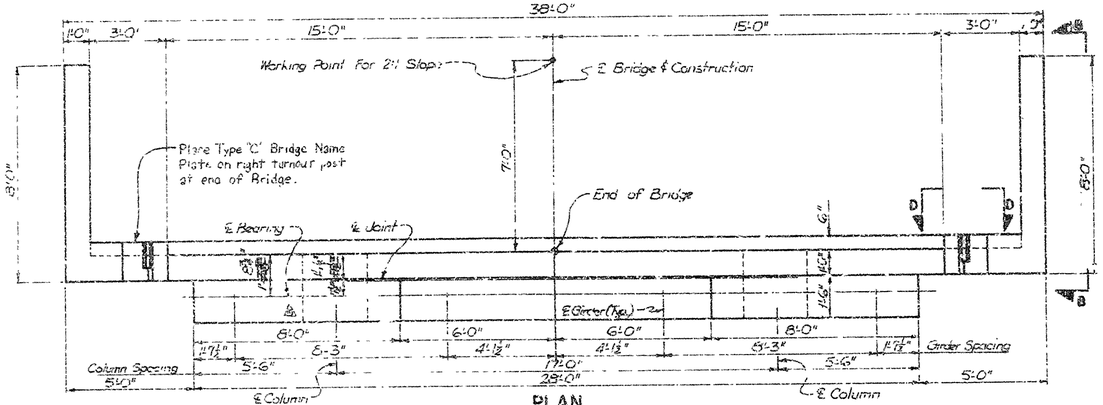
DRAWN BY A.M.G. DATE 7 MAY 75 SCALE AS NOTED
CHECKED BY DATE
DESIGNED BY DATE

BRIDGE NO. 5600 DRAWING NO. 19259

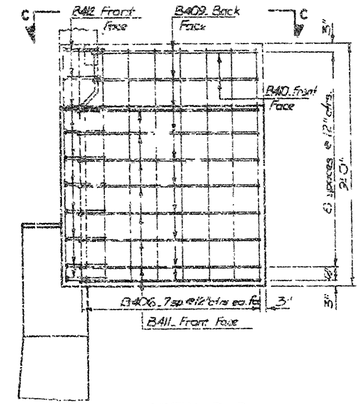
DATE REVISED	DATE PLANS	DATE REVISED	DATE PROJECT	FED. ROAD ADM.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
8-18-76		7-6-77	121-1-7-77	6	ARK.	TQS-A(28)(1)		
25 Sep 76	6-7-1-76	3-11-77	505-3-1-77					
10-4-76	82-10-6-76					1442	16	33

(1) 5600 _ BENT DTLS. _ 19260

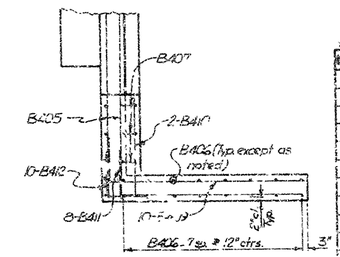
PLAN



VIEW B-B

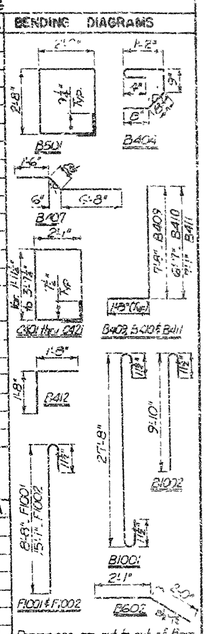


VIEW C-C



BAR LIST. SUBSTR. CONTRACT

MARK	NO. REQ'D.	LENGTH	PIN DIA.	BENDING DIAGRAMS
B501	42	10'-8"	2½"	
B412	1	27'-8"	Str.	
B403	60	9'-5"	Str.	
B405	12	37'-8"	Str.	
B406	42	8'-8"	Str.	
B407	6	8'-10"	2"	
B408	8	6'-6"	Str.	
B409	16	9'-3"	2"	
B411	16	8'-8"	2"	
B412	16	9'-3"	2"	
B801	5	37'-8"	Str.	
B1001	3	30'-6	10"	
B1002	8	11'-3"	10"	
C401 to C421	2 of each	Var 8'-11" to 12'-3"	2"	
C1001	20	21'-0"	Str.	
F401	14	12'-6"	Str.	
F402	26	6'-6"	Str.	
F601	26	6'-6"	Str.	
F801	26	12'-6"	Str.	
F1001	20	10'-7"	10"	
F1002	20	16'-6"	10"	



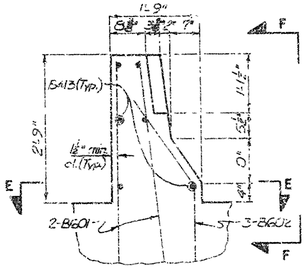
BAR LIST. SUPSTR. CONTRACT

MARK	NO. REQ'D	LENGTH	PIN DIA.
B405	4	37'-8"	Str.
B409	4	9'-3"	2"
B410	4	9'-2"	2"
B412	4	9'-3"	2"
B413	12	7'-2"	Str.
B601	8	4'-3"	Str.
B602	6	4'-1"	3½"
B404	30	3'-8"	2"

Dimensions are out to out of Bars.

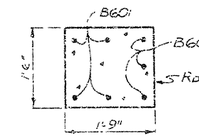
VIEW D-D

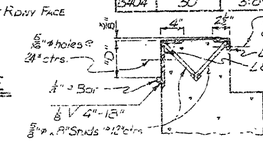
Scale: ¾" = 1'-0"



SECTION E-E

Scale: ¾" = 1'-0"





DETAIL "A"

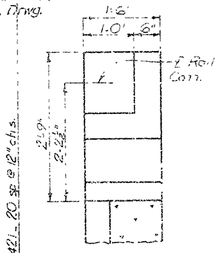
Scale: 1" = 1'-0"

NOTE: The Dimension 'D' Shall Conform To The Recommendations Of The Seal Manufacturer As Approved By The Bridge Engineer. The Depth Of The Seal Shall Be Approx. Equal To The Uncompressed Width Of The Seal.

Uncompressed Width of Seal = 4."

VIEW E-F

Scale: ¾" = 1'-0"



NOTE: For Details of Guard Rail Conn see Dwg. 1895J.

SECTION G-G

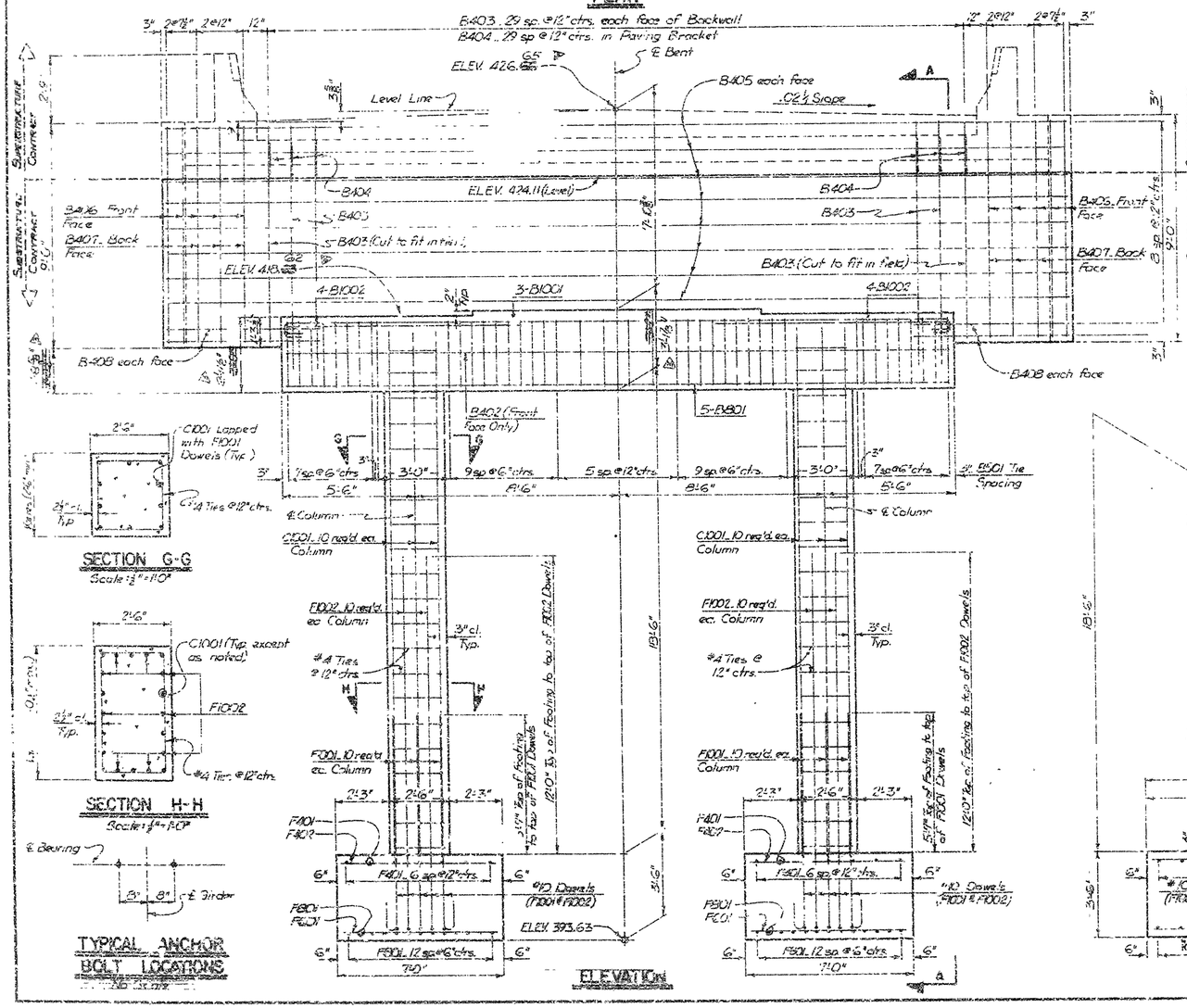
Scale: ½" = 1'-0"

SECTION H-H

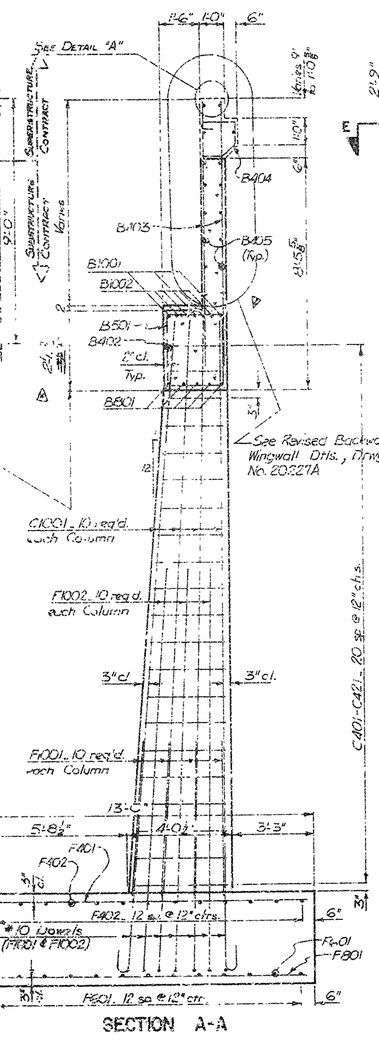
Scale: ½" = 1'-0"

TYPICAL ANCHOR BOLT LOCATIONS

ELEVATION



SECTION A-A



NOTES

DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 1973 AND INTERIM SPECIFICATIONS.

LIVE LOAD: HS20

CONCRETE: ALL CONCRETE SHALL BE CLASS S(AE) WITH MINIMUM 28 DAY COMPRESSIVE STRENGTH f'c = 3500 PSI.

REINFORCING STEEL: REINFORCING STEEL SHALL CONFORM TO ASTM A615, OR A617, GRADE 40 (YIELD STRENGTH = 60,000 PSI).

FOR ADDITIONAL NOTES, SEE GENERAL NOTES DWG. NO 18341

FOUNDATION PRESSURE:	MAXIMUM	MINIMUM
GROUP LOAD II	9.21 KSF	2.98 KSF

Structural Steel shall be ASTM A36 and shall be paint For as "Structural Steel in Plate Girder Spans (A36)."

▷ Revised 320'-0" Unit to adjust for Field Measurements; K.M.G. 3-10-77

▷ Added Bkwl. & Wingwall Revision Note 7-77 K.M.G.

▷ Updated for Job 1442 Contract II

DETAILS OF END BENT NO. 6
ARK. RIVER BR. & APPRS. (CLARKSVILLE)
MAIN BRIDGE SUBSTRUCTURE
LOGAN & JOHNSON CO.
ROUTE 109 SEC. 3 & 4

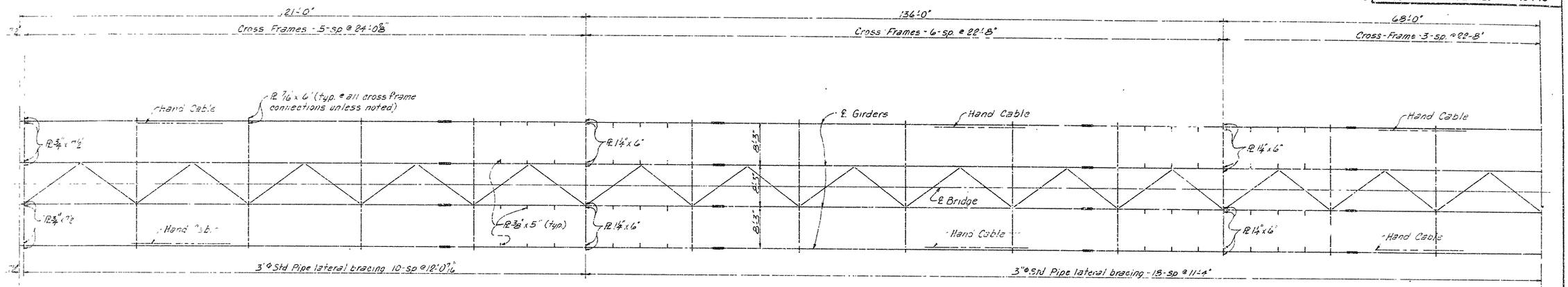
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: K.M.G. DATE: 11 APR. 75
CHECKED BY: [illegible] DATE: 4-12-75
DESIGNED BY: DAL DATE: 4-11-75
SCALE: ¾" = 1'-0" except as noted

BRIDGE ENGINEER: [illegible]

BRIDGE NO. 5600 DRAWING NO. 19260

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK	RS-389(7)		
				JOB NO.		1467	12	20
				1	5600	SPAN DETAILS		19445



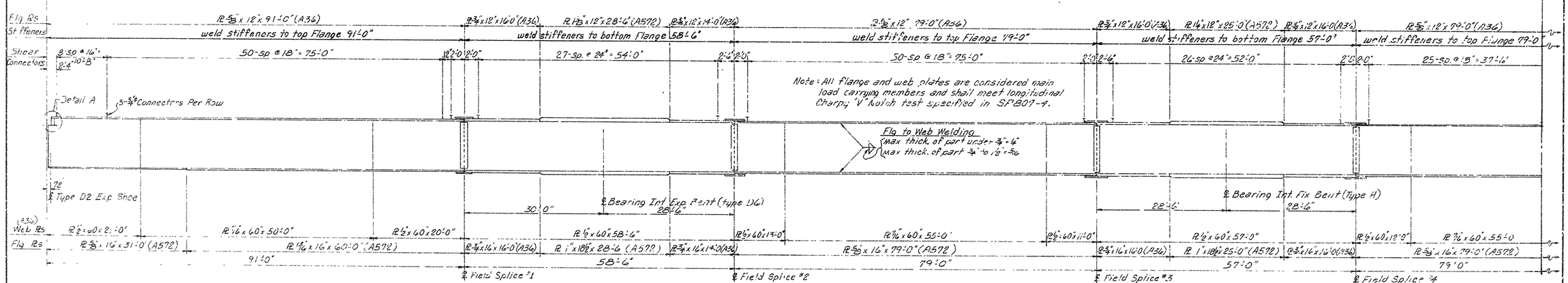
FRAMING PLAN
N.T.S.

℄ Joint @ Beg. or End of 650' Unit.

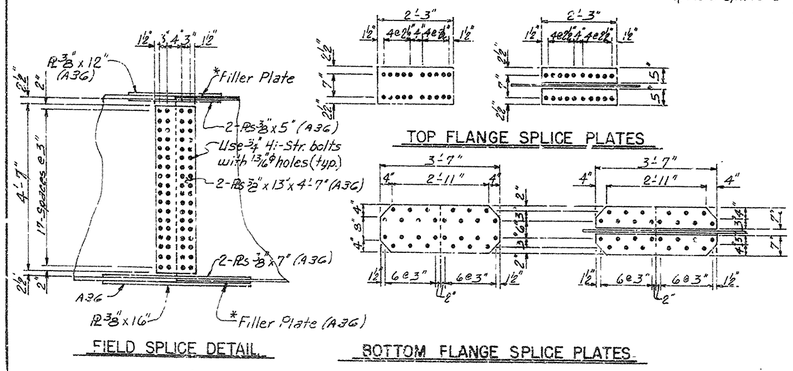
NOTE: Before Fabrication of superstructure steel is begun the Contractor shall verify the elevations and stations of caps and location of anchor bolt sleeves.
The details of the new work will be adjusted as necessary by the contractor.
No Contractor shall be compensated at the unit prices for any increase in quantities.

Unit Sym about ℄

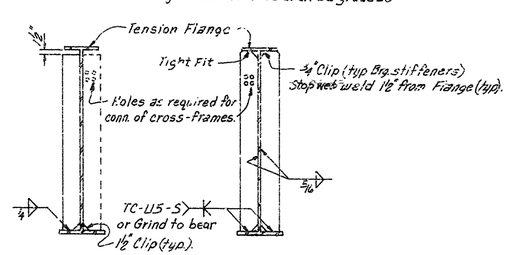
NOTE: All A572 Steel is Grade 50.



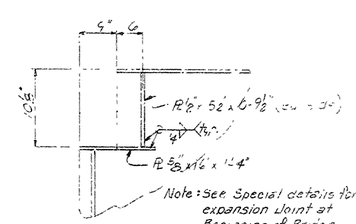
GIRDER ELEVATION
N.T.S.
Flange shown as A572 shall be grade 50



*Use Filler Rs as req'd to build up Flg thickness.



NOTE: See Framing Plan for Plate sizes.



DETAIL A
N.T.S.

650'-0" UNIT
SHEET 1 OF 6

DETAILS OF SUPERSTRUCTURE
ARK RIVER BR & APPRS. (CLARKSVILLE)
APPROACH BRIDGE SUPERSTRUCTURE
LOGAN & JOHNSON CO.
ROUTE 109 SEC. 384

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

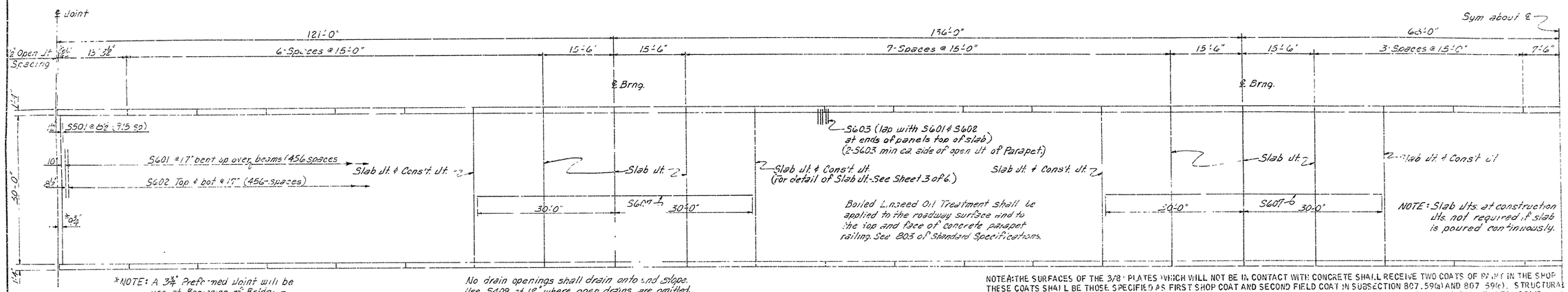
DRAWN BY: W.W.W. DATE: 6-23-75
CHECKED BY: D.K.R. DATE: 11-9-75 SCALE: None
DESIGNED BY: DATE: 6 MAR 75

Rene Rinkenberger
BRIDGE ENGINEER

BRIDGE NO. 5600 DRAWING NO. 19445

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED ROAD DIST.	STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.	RS-389(7)		
				JOB NO.		1467	13	20

① 5600 SPAN DETAILS 19446

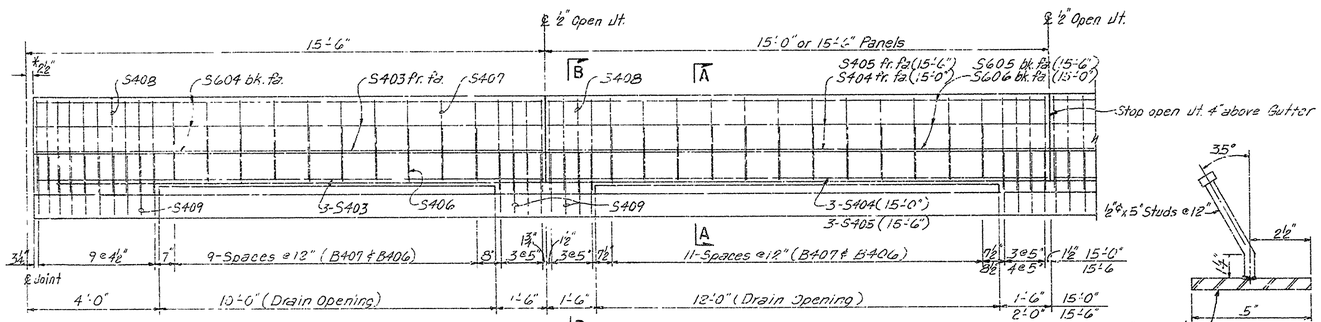


*NOTE: A 3¾" Preformed Joint will be use at Beginning of Bridge - See special details.

No drain openings shall drain onto end slope. Use S409 at 12', where open drains are omitted.

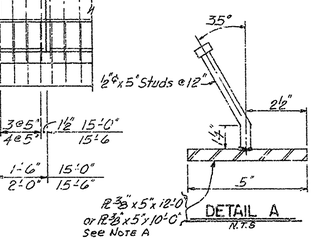
HALF SLAB PLAN
1" = 10'-0"

NOTE A: THE SURFACES OF THE 3/8" PLATES WHICH WILL NOT BE IN CONTACT WITH CONCRETE SHALL RECEIVE TWO COATS OF PAINT IN THE SHOP. THESE COATS SHALL BE THOSE SPECIFIED AS FIRST SHOP COAT AND SECOND FIELD COAT IN SUBSECTION 807.59(a) AND 807.59(c). STRUCTURAL STEEL SHALL MEET THE REQUIREMENTS OF SECTION 807, EXCEPT AS NOTED. STUDS SHALL BE 5" LONG, GRANULAR FLUX FILLED, SOLID FLUXED OR EQUAL AND AUTOMATICALLY WELDED TO PLATE. TO BE PAID FOR AS STRUCTURAL STEEL IN PLATE GIRDER SPANS (A36).



TYP. END OF UNIT PANELS
½" = 1'-0"

TYPICAL END OF SPAN PANELS
TYP. INT. PANELS
½" = 1'-0"

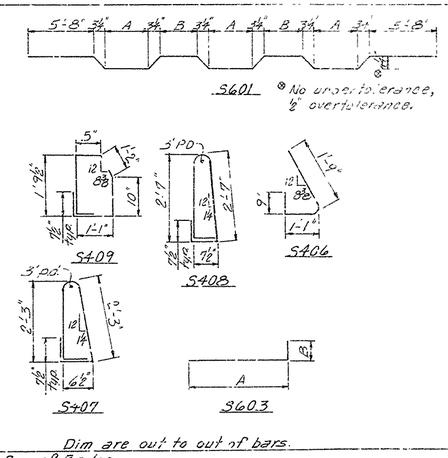


DETAIL A
N.T.S.

BAR LIST (ONE UNIT)

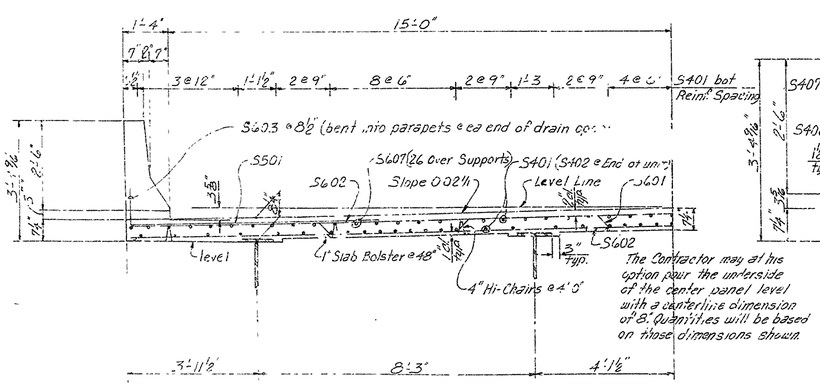
MARK	NO. REQ'D.	LENGTH	A	B	PIN DIA.
S601	457	33'-0"	3'-10"	3'-11½"	3¾"
‡S602	914	32'-4"	—	—	Str.
S603	408	3'-10"	3'-0"	0'-11¾"	3¾"
S604	12	15'-0"	—	—	Str.
S605	48	15'-1"	—	—	Str.
S606	198	14'-7"	—	—	Str.
S607	104	60'-0"	—	—	Str.
S501	1,832	5'-0"	—	—	Str.
S401	1,184	40'-0"	—	—	Str.
**S402	74	34'-9"	—	—	Str.
S403	20	15'-0"	—	—	Str.
S404	330	14'-7"	—	—	Str.
S405	80	15'-1"	—	—	Str.
S406	1,024	3'-6"	See Diagram		2"
S407	1,024	6'-2"	"	"	2"
S408	728	6'-11"	"	"	2"
‡S409	728	6'-2"	"	"	2"

BENDING DIAGRAMS

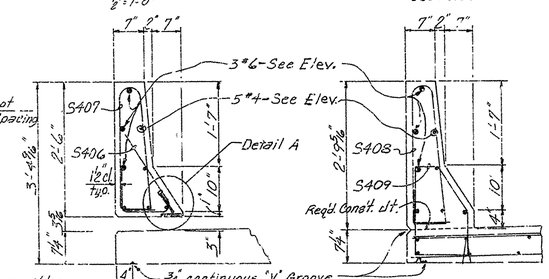


Dim are out to out of bars.

**Add 8" to length of bar used at Span 1 of Unit at Beg. of Bridge.
‡ Add 74-S409 & 74-S602 bars for Span 1 of Unit at Beg. of Bridge.

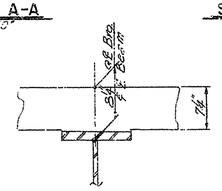


HALF ROADWAY SECTION
½" = 1'-0"

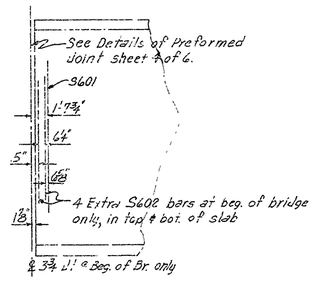


SECTION A-A
¾" = 1'-0"

SECTION B-B
¾" = 1'-0"



ALTERNATE HAUNCH DETAIL
N.T.S.



DETAIL FOR BEG. OF BRIDGE
N.T.S.

650'-0" UNIT

SHEET 2 OF 6

DETAILS OF SUPERSTRUCTURE
ARK. RIVER BR. 3 APPRS. (CLARKSVILLE)
APPROACH BRIDGE SUPERSTRUCTURE
LOGAN & JOHNSON CO.
ROUTE 109 SEC. 3 & 4

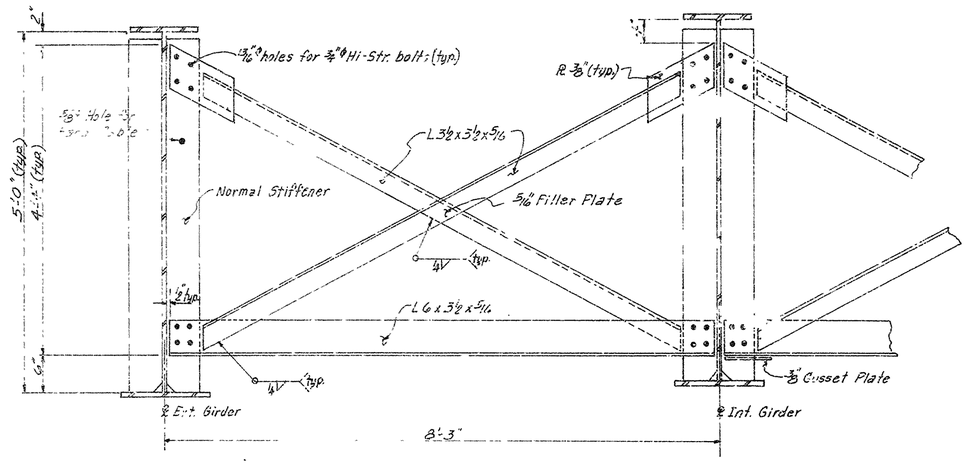
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: W.W.W. DATE: 6-13-75
CHECKED BY: D.Y.E. DATE: 11-5-75
DESIGNED BY: E.T.F. DATE: 25 APR 75
SCALE: As Noted

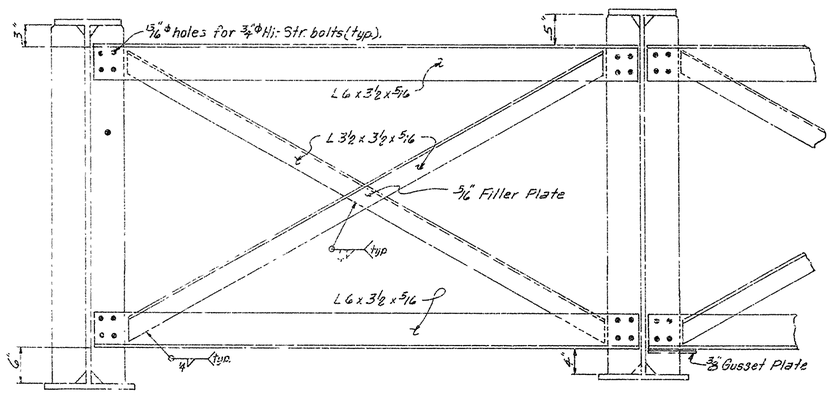
Frank Lindenberg
BRIDGE ENGINEER

BRIDGE NO. 5600 DRAWING NO. 19446

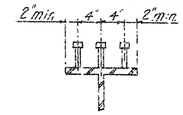
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.		FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK	RS-389(7)		
				JOB NO.		1467	14	20
				5600	SPAN DETAIL		19447	



PART INT CROSS-FRAME SECTION
AND AT BEGINNING OF BRIDGE
1"=1'-0"

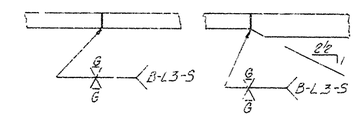


PART CROSS-FRAME SECTION
AT INTERIOR SUPPORT
1"=1'-0"

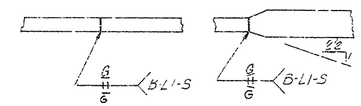


SHEAR CONNECTOR DETAIL

NOTE: WELDED STUDS 7/8" Ø MAY BE USED IN PLACE OF THE 3/4" Ø STUDS SHOWN AT THE RATIO OF 0.735 TO 1.000 RESPECTIVELY. CHANNELS C3X6 MAY BE USED IN PLACE OF THE 3/4" WELDED STUDS SHOWN AT THE RATIO OF 2.0 INCHES OF CHANNEL TO ONE 3/4" WELDED STUD. THE 3/4" Ø X 5" STUD CONNECTORS SHALL BE GRANULAR FLUX FILLED, SOLID FLUXED, OR EQUAL, AND SHALL BE AUTOMATICALLY END WELDED TO THE GIRDER FLANGES IN ACCORDANCE WITH RECOMMENDATIONS OF THE MANUFACTURER. QUANTITY OF STRUCTURAL STEEL IN BEAM SPANS SHALL BE BASED ON THE WEIGHT OF 3/4" WELDED STUDS. THIS WEIGHT IS 740 POUNDS PER HUNDRED STUDS.

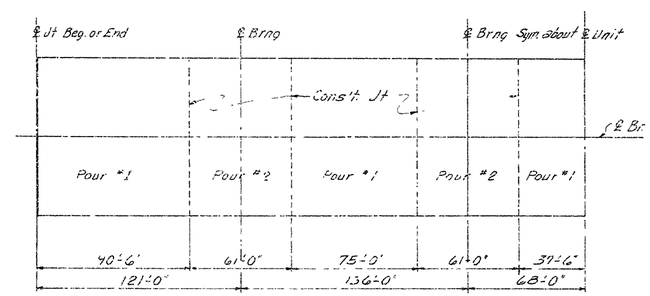


FLANGE SPLICES



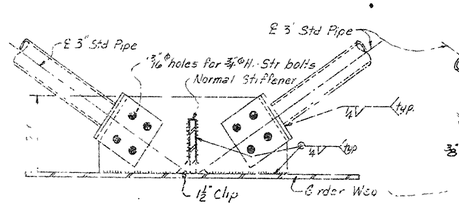
EQUAL THICKNESS UNEQUAL THICKNESS
WEB SPLICES

DETAILS OF WELDED SPLICES
N.T.S.

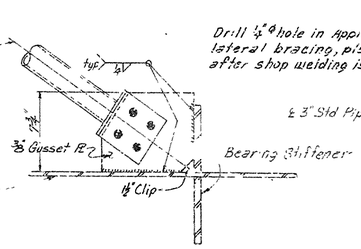


POURS WITH SAME NUMBER MAY BE PLACED SIMULTANEOUSLY OR SEPARATELY. ALL POURS (1) MUST BE PLACED BEFORE POURS (2) CAN BE PLACED. 48 HOURS SHALL ELAPSE BETWEEN POURS EXCEPT 72 HOURS SHALL ELAPSE BETWEEN ADJACENT POURS.

POURING SEQUENCE
N.T.S.

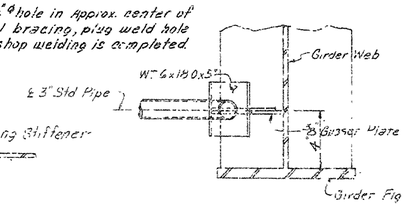


TYP LATERAL BRACING CONNECTION
1/2"=1'-0"

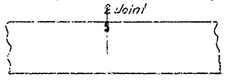


Drill 1/4" ϕ hole in approx. center of lateral bracing, plug weld hole after shop welding is completed.

CONNECTION AT BEG. OR END
OF SPAN 1/2"=1'-0"



ELEVATION OF LATERAL
BRACING CONNECTION
N.T.S.



SLAB JOINTS
N.T.S.

650'-0" UNIT
SHEET 3 OF 6

DETAILS OF SUPERSTRUCTURE
ARK. RIVER BR & APPRS. (CLARKSVILLE)
APPROACH BRIDGE SUPERSTRUCTURE
LOGAN & JOHNSON CO.
ROUTE 109 SEC. 3 & 4

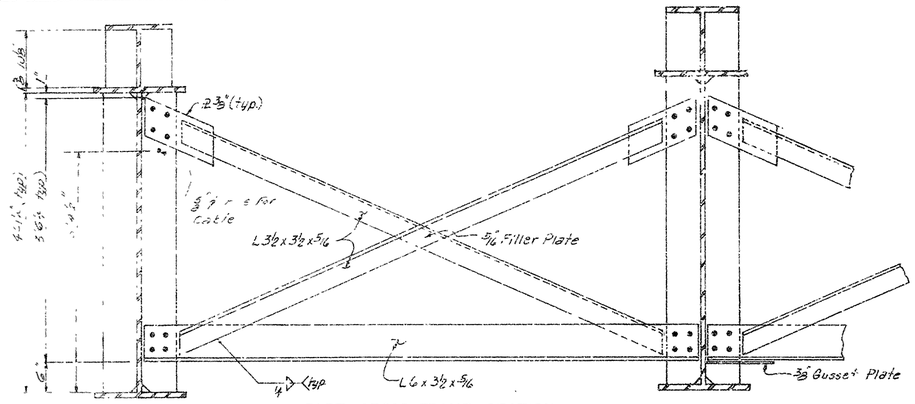
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: N.W.G. DATE: 1-17-75
CHECKED BY: W.V.E. DATE: 11-5-74
DESIGNED BY: E.T.F. DATE: 2 MAR 75
SCALE: As Noted

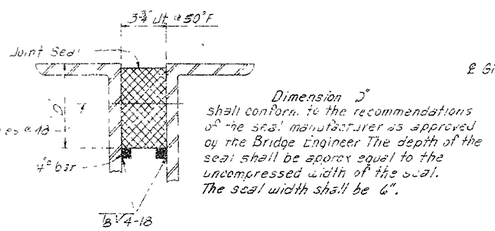
Frank Lindsey
BRIDGE ENGINEER

BRIDGE NO. 5600 DRAWING NO. 19447

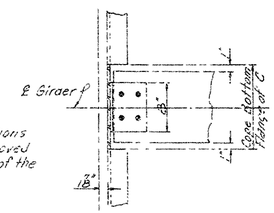
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
9-17-76	161-9-21-76			6	ARK.	RS-389(7)		
				JOB NO.		1467	15	20
				5 (1)	5600	SPAN DETAILS		19448



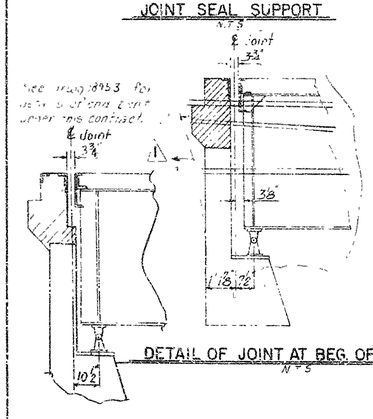
PART CROSS-FRAME SECTION
AT FINGER JOINTS



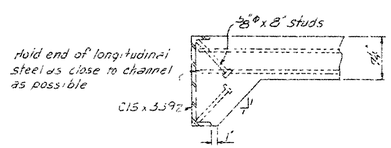
JOINT SEAL SUPPORT
N.T.S.



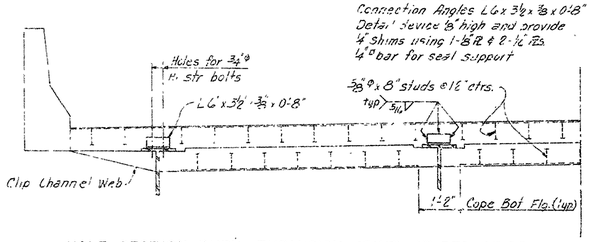
ANGLE CONNECTOR DETAIL
1"=1'-0"



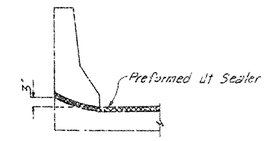
DETAIL OF JOINT AT BEG. OF BRIDGE
N.T.S.



CHANNEL ANCHOR DETAIL
1"=1'-0"



HALF SECTION THRU EXPANSION JOINT AT BEG. OF BR.
1"=1'-0"



SEAL PLACEMENT IN PARAPET
1"=1'-0"

⚠1 Revised-Changed Backwall & Wingwalls As Shown.
9-17-76 LDF

GENERAL NOTES

ALL CONCRETE TO BE CLASS S(AE). ALL EXPOSED CORNERS TO BE CHAMFERED 3/4" UNLESS OTHERWISE NOTED.

FIELD CONNECTIONS TO BE BOLTED WITH HIGH STRENGTH BOLTS. BOLTS 3/4 Ø, OPEN HOLES 13/16 Ø EXCEPT WHERE NOTED OTHERWISE. BOLT SPACING SHALL BE 2-1/2" UNLESS OTHERWISE NOTED. MINIMUM EDGE DISTANCE SHALL BE 1 1/4" UNLESS NOTED OTHERWISE. BOLTS SHALL BE PLACED WITH HEADS ON THE OUTSIDE FACE OF THE EXTERIOR GIRDERS AND ON BOTTOM OF GIRDER FLANGES.

STRUCTURAL SHAPES OF EQUAL OR GREATER STRENGTH MAY BE SUBSTITUTED FOR SHAPES SHOWN IF APPROVAL IS OBTAINED FROM THE BRIDGE ENGINEER. PAYMENT WILL BE MADE ON THE BASIS OF SHAPES SHOWN.

SHOP PAINT- ALL STRUCTURAL STEEL EXCEPT GALVANIZED MEMBERS, CONTACT SURFACES OF BOLTED CONNECTIONS, AND SURFACES WITHIN 3" OF HOLES AND FIELD WELDS, AND SURFACES IN CONTACT WITH CONCRETE SHALL BE GIVEN ONE PRIME COAT AS SPECIFIED IN SUBSECTION 807.59 OF THE STANDARD SPECIFICATIONS. *SEE SP JOB 1467 "ZINC RICH PAINT" FOR SPECIAL REQUIREMENTS AT EXPANSION DEVICE.*
FIELD PAINT- IN ADDITION TO THE PRIME COAT ALL STRUCTURAL STEEL EXCEPT GALVANIZED MEMBERS SHALL RECEIVE TWO COATS OF PAINT AFTER ERECTION. FIRST COAT - RED LEAD TINTED WITH LAMP BLACK; SECOND COAT - *SEE SP JOB 1467 "PAINTING OF STEEL STRUCTURES." SEE SP JOB 1467 "ZINC RICH PAINT" FOR SPECIAL REQUIREMENTS AT EXPANSION DEVICE.*
BEARINGS SHALL BE FINALLY SEATED IN ACCORDANCE WITH SUBSECTION 807.51 OF THE STANDARD SPECIFICATIONS. THIS WORK AND MATERIAL IS TO BE CONSIDERED AS SUBSIDIARY TO THE ITEM OF "STRUCTURAL STEEL" AND WILL NOT BE PAID FOR DIRECTLY. THESE DRAWINGS SHOW GENERAL FEATURES OF DESIGN ONLY. SHOP DRAWINGS SHALL BE MADE IN ACCORDANCE WITH THE SPECIFICATIONS, SUBMITTED AND APPROVAL SECURED BEFORE FABRICATION IS BEGUN.
ANCHOR BOLTS SHALL BE GALVANIZED TO CONFORM TO ASTM SPECIFICATIONS, DESIGNATION A153.

REINFORCING STEEL TO BE ASTM A615, GRADE 60. THE REINFORCING STEEL IS TO BE ACCURATELY LOCATED IN THE FORMS AND FIRMLY HELD IN PLACE BY STEEL WIRE SUPPORTS SUFFICIENT IN NUMBER AND SIZE TO PREVENT DISPLACEMENT DURING THE COURSE OF CONSTRUCTION. THE WIRE SUPPORTS WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED SUBSIDIARY TO THE ITEM OF "REINFORCING STEEL".

ALL WELDING THAT IS TO BE DONE DURING FABRICATION OF STRUCTURAL STEEL, INCLUDING TEMPORARY WELDS SHALL BE DETAILED ON THE SHOP DRAWINGS AND SUBMITTED FOR APPROVAL. IF THE CONTRACTOR OR ERECTOR SHOULD WANT TO MAKE ADDITIONAL WELDS, WHETHER TEMPORARY OR PERMANENT, HE SHALL SUBMIT DETAILED DRAWINGS WITH A FORMAL REQUEST TO THE BRIDGE DESIGN DIVISION OF THE ARKANSAS STATE HIGHWAY DEPARTMENT FOR APPROVAL. ALL WELDING SHALL CONFORM TO SP807-5.

ALL WELDING SHALL CONFORM TO THE AMERICAN WELDING SOCIETY STANDARD SPECIFICATIONS FOR WELDED HIGHWAY AND RAILWAY BRIDGES, CURRENT EDITION.

THE CONTRACTOR, AT HIS OPTION, MAY POUR BRIDGE SLAB CONTINUOUS OVER THE ENTIRE UNIT USING A RETARDING AGENT TO RETARD SET. NOT LESS THAN 72 HOURS SHALL ELAPSE BETWEEN POURING OF SLAB AND PARAPET.

ALL CONCRETE SHALL BE POURED AND SCREEDED OFF PRIOR TO INITIAL SET. THE CONCRETE DECK SHALL BE FINISHED IN ACCORDANCE WITH SUBSECTION 802.23 OF THE STANDARD SPECIFICATIONS. MOVEMENT OF THE FINISHING MACHINE ACROSS NEW CONCRETE SHALL BE ON PLANKS PLACED ON THE SURFACE AND SHALL BE PROHIBITED FOR 72 HOURS AFTER FINISHING THE POUR.

GIRDER WEBS MAY BE MADE BY SHOP SPLICING WITH MINIMUM LENGTH OF 25'-0" FOR SECTIONS. FLANGE PLATES LONGER THAN 50' MAY BE MADE BY SHOP SPLICING WITH MINIMUM LENGTH OF 25'-0" FOR SECTIONS. NO ADDITIONAL PAYMENT FOR WELDS FOR THESE SPLICES WILL BE MADE.

FLANGES NOTED ON GIRDER ELEVATION AS HIGH STRENGTH LOW ALLOY COLUMBIUM VANADIUM STEEL, ASTM DESIGNATION A572, GRADE 50 SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER POUND BID FOR "STRUCTURAL STEEL IN PLATE GIRDER SPANS A572 GRADE 50".

ALL OTHER STRUCTURAL STEEL SHALL BE ASTM DESIGNATION A36 AND SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER POUND BID FOR "STRUCTURAL STEEL IN PLATE GIRDER SPANS A36".

SPECIFICATIONS- ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 1972, AND APPLICABLE SPECIAL PROVISIONS.

ASTM A27 GRADE 70-40 STEEL SHOE CASTINGS SHALL BE PAID FOR AT THE UNIT PRICE PER POUND BID FOR "STRUCTURAL STEEL IN PLATE GIRDER SPANS A36".

HOLES FOR 3/4" Ø HIGH STRENGTH BOLTS IN DIAPHRAGMS AND EXPANSION DEVICES MAY BE 15/16" Ø IF A WASHER IS SUPPLIED FOR USE UNDER BOTH THE NUT AND HEAD OF THE BOLT.

650'-0" UNIT
SHEET 4 OF 6
DETAILS OF SUPERSTRUCTURE
ARK. RIVER BR. & APPRS. (CLARKSVILLE)
APPROACH BRIDGE SUPERSTRUCTURE
LOGAN & JOHNSON CO.
ROUTE 109 SEC. 3 & 4

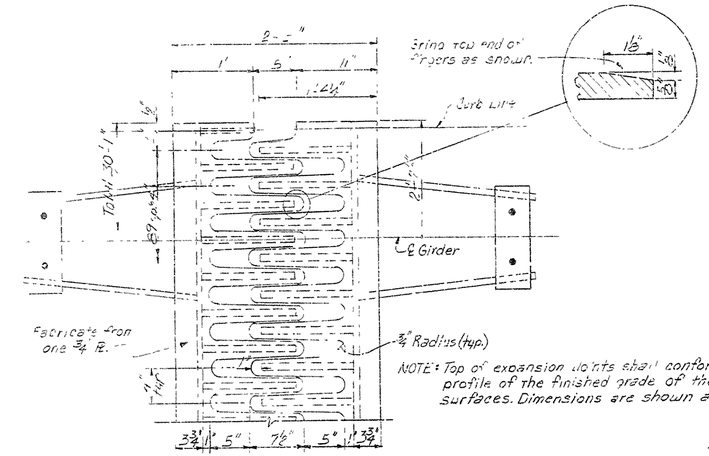
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: W.W.W. DATE 8-7-75
CHECKED BY: B.T.K. DATE 12-5-75 SCALE As Noted
DESIGNED BY: VAS DATE 8-16-75

Kent Dunkin
BRIDGE ENGINEER

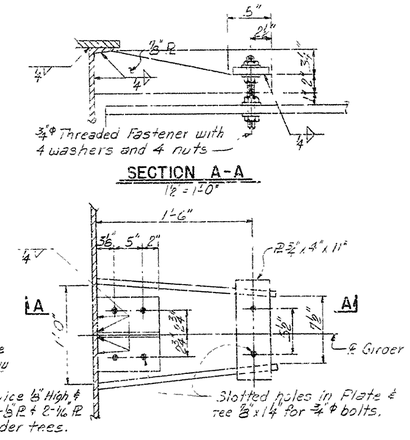
BRIDGE NO. 5600 DRAWING NO. 19448

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.	RS-389(7)		
				JOB NO		1467	10	20
				S①	5600	EXPANSION DEVICE	19449	



NOTE: Top of expansion joints shall conform to the profile of the finished grade of the roadway surfaces. Dimensions are shown at 60°F.

EXPANSION PLATE DETAIL
N.T.S.



DETAILS OF CONNECTION TO GIRDER
1½" = 1'-0"

NOTES:
ALL GIRDERS SHALL BE BLOCKED IN THEIR TRUE POSITION, WITH WEB PLATES HORIZONTAL, IN THE SHOP IN GROUPS OF A MINIMUM OF THREE SECTIONS. SEE SECTION 807.16(b) OF THE STANDARD SPECIFICATIONS.

THE CAMBER, LENGTH OF SECTIONS, DISTANCE BETWEEN BEARINGS AND OPENING OF JOINTS SHALL BE MEASURED WITH THE BEAMS IN THIS POSITION AND THIS INFORMATION SHALL BECOME A PART OF THE PERMANENT RECORDS OF THIS JOB. THE COMPONENT PARTS SHALL BE MATCH MARKED IN THIS ASSEMBLY AND THESE MARKS SHALL BE SHOWN ON THE ERECTION DIAGRAM. ALL GIRDER DIMENSIONS ARE BASED ON A TEMPERATURE OF 60°F. A TOLERANCE OF ± 1/4" IS ALLOWED FOR CAMBER.

DIAPHRAGMS AT BEARING STIFFENERS SHALL BE INSTALLED AS GIRDERS ARE ERECTED. ALL DIAPHRAGMS SHALL BE INSTALLED AND COMPLETELY BOLTED PRIOR TO POURING OF FLOOR SLABS.

UNIT STRESSES:

CLASS S(AE) CONCRETE	f'c	= 3,500 PSI
REINFORCING STEEL (GRADE 60)	fy	= 60,000 PSI
STRUCTURAL STEEL (A36)	fy	= 36,000 PSI
STRUCTURAL STEEL (A572, GRADE 50)	fy	= 50,000 PSI

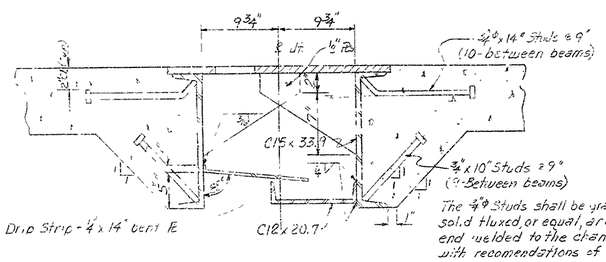
DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 1973 AND INTERIM SPECIFICATIONS.

LIVE LOAD: HS20
METHOD OF DESIGN: LOAD FACTOR

LOAD DISTRIBUTION:

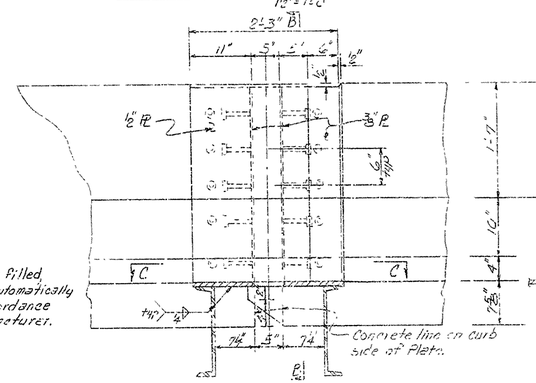
	DEAD LOAD TO GIRDER	DEAD LOAD TO COMP. GIRDER (INCLUDES 246/FT² PLF FOR WEIGHT OF FUTURE SURFACE)	LIVE LOAD TO COMP. GIRDER
EXT. GIRDER -	754 PLF + GIRDER	338 PLF	1.4242 WHEELS + IMPACT
INT. GIRDER -	754 PLF + GIRDER	338 PLF	1.5000 WHEELS + IMPACT

NOTE: THE COMPLETE EXPANSION DEVICE BETWEEN THE UNITS OVER BENT NO. 4 WILL BE CONSIDERED AS A PART OF THIS CONTRACT. THE CONTRACTOR FOR JOB NO. 1467 WILL BE RESPONSIBLE FOR THE PROPER FIT. AFTER THE ENGINEER HAS INSPECTED THE JOINT FOR PROPER FIT THE CONTRACTOR SHALL STORE THAT PART OF THE EXPANSION DEVICE THAT WILL BECOME A PART OF UNIT 9 AS DIRECTED BY THE ENGINEER.

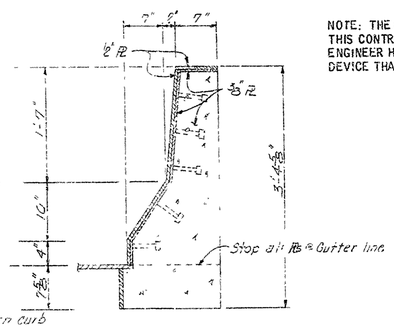


The ¾"ϕ Studs shall be granular Flux Filled, solid fluxed or equal, and shall be automatically end welded to the channel in accordance with recomendations of the manufacturer.

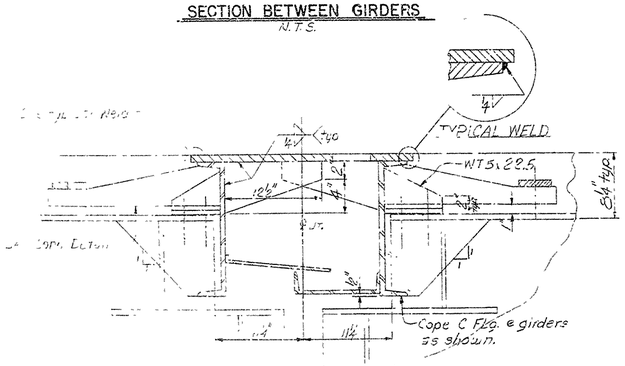
SECTION BETWEEN GIRDERS
N.T.S.



ELEVATION OF PARAPET AT EXPANSION JOINT
½" = 1'-0"



SECTION B-B
1" = 1'-0"



SECTION AT GIRDERS
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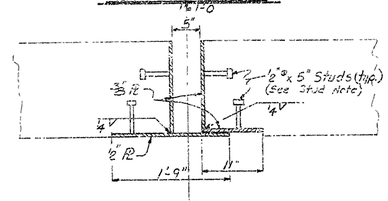
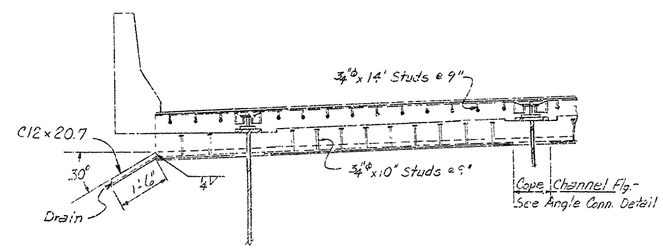


SECTION C-C
1" = 1'-0"



EXPANSION JOINT DETAIL
2" = 1'-0"

650 1" UNIT
SHEET 5 OF 6

DETAILS OF EXPANSION DEVICE
ARK. RIVER BR. & APPRS. (CLARKSVILLE)
APPROACH BRIDGE SUPERSTRUCTURE
LOGAN & JOHNSON CO.
ROUTE 109 SEC. 3 & 4

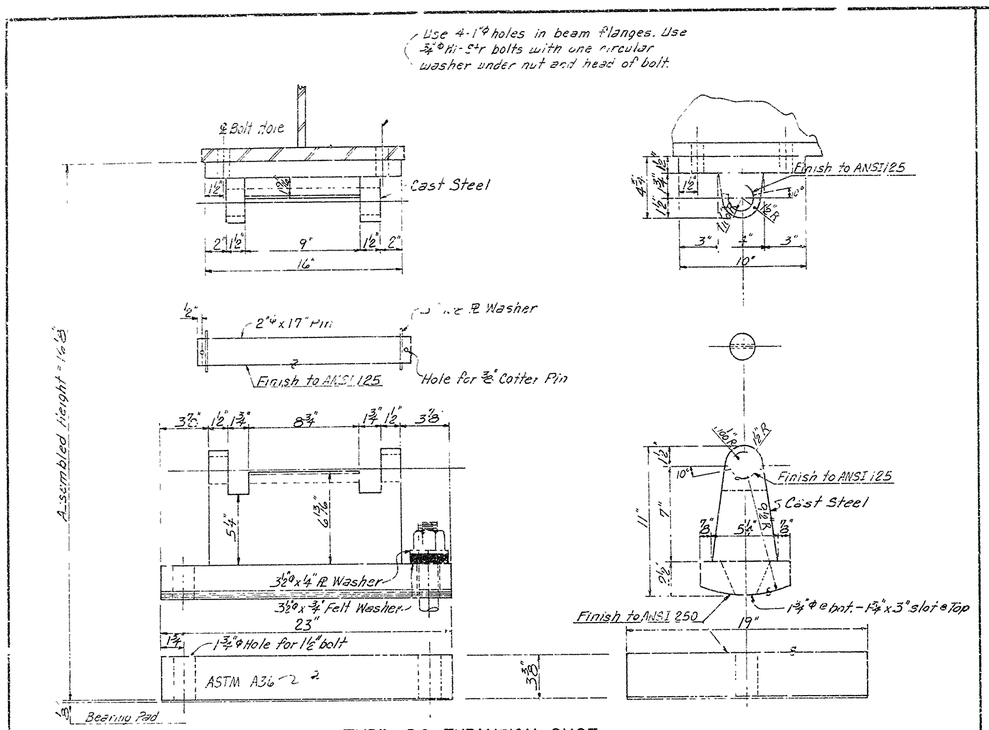
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: W.W.W. DATE: 6-26-74
CHECKED BY: R.T.R. DATE: 11-5-75
DESIGNED BY: W.S. DATE: 6-2-74
SCALE: As Noted

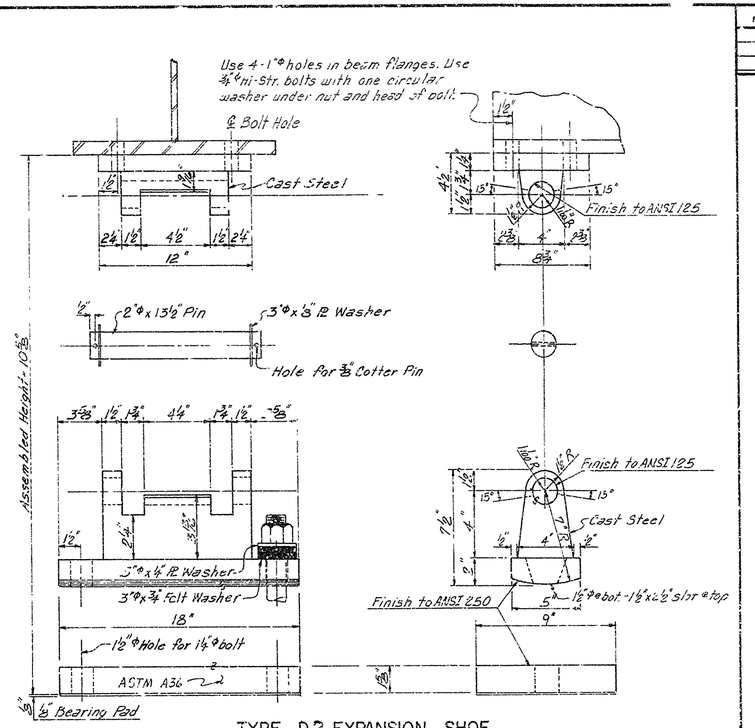
BRIDGE ENGINEER

BRIDGE NO. 5600 DRAWING NO. 19449

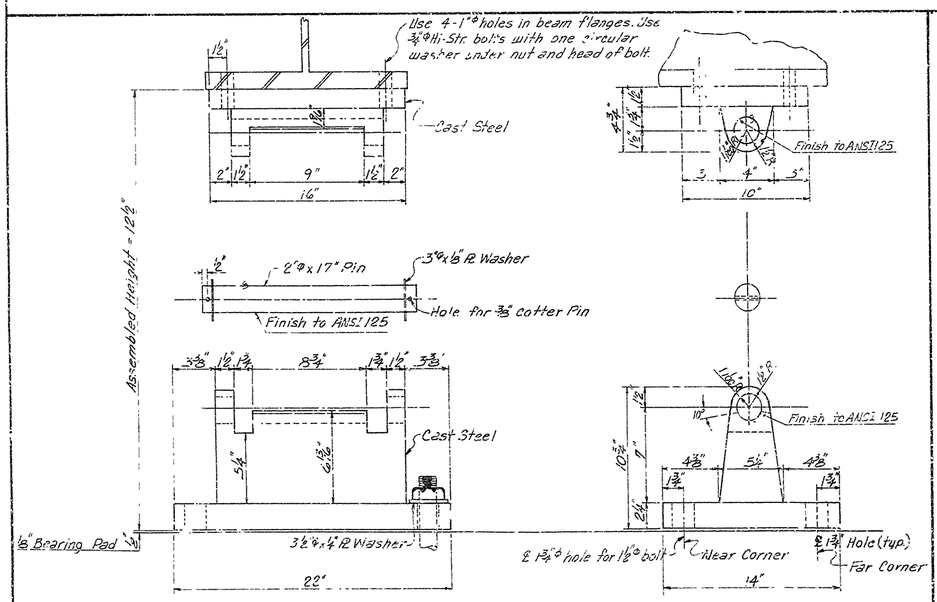
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.	RS-389(3)		
				JOB NO.		1467	17	20
				5 (1)	5600	SPAN DETAILS	19450	



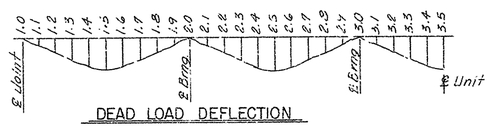
TYPE D6 EXPANSION SHOE



TYPE D2 EXPANSION SHOE



TYPE H FIXED SHOE

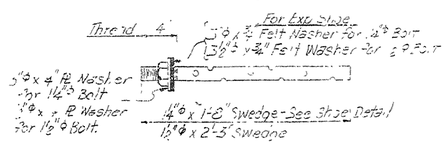


DEAD LOAD DEFLECTION

TABLE OF DEFLECTION - (INCHES)

POINT OF DEFLECTION	WEIGHT OF BEAM	WEIGHT OF BEAM & SLAB	WEIGHT OF BM., SLAB & PARAPET
1.0	0	0	0
1.1	.179	.916	1.007
1.2	.330	1.685	1.852
1.3	.431	2.197	2.416
1.4	.475	2.413	2.656
1.5	.461	2.328	2.563
1.6	.391	1.971	2.173
1.7	.284	1.429	1.577
1.8	.165	.818	.904
1.9	.061	.298	.328
2.0	0	0	0
2.1	.000	.020	.022
2.2	.055	.319	.376
2.3	.132	.738	.849
2.4	.198	1.089	1.240
2.5	.228	1.243	1.410
2.6	.211	1.151	1.306
2.7	.155	.845	.963
2.8	.079	.434	.499
2.9	.017	.095	.112
3.0	0	0	0
3.1	.046	.235	.261
3.2	.137	.708	.790
3.3	.238	1.236	1.376
3.4	.313	1.632	1.816
3.5	.341	1.778	1.977

Note: Concrete in the existing anchor bolt sleeves shall be removed in order to grout in the Anchor bolts.



ANCHOR BOLT DETAILS

N.T.S.

Fenel Pinkerton

BRIDGE ENGINEER

650'-0" UNIT

SHEET 6 OF 6

DETAILS OF SUPERSTRUCTURE
ARK. RIVER BR. & APPRS. (CLARKSVILLE)
APPROACH BRIDGE SUPERSTRUCTURE
LOGAN & JOHNSON CO.
ROUTE 109 SEC 3 & 4

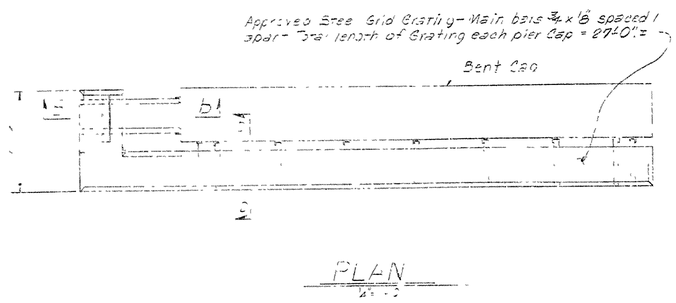
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

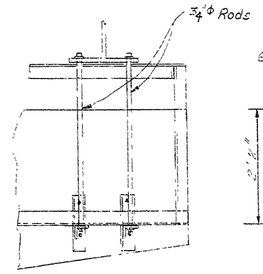
DRAWN BY: W.W.W. DATE: 6-19-75
CHECKED BY: D.T.E. DATE: 11-5-75
DESIGNED BY: T.F. DATE: 13 MAY 74
SCALE: 3/16" = 1"

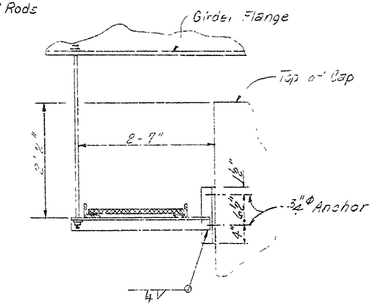
BRIDGE NO. 5600 DRAWING NO. 19450

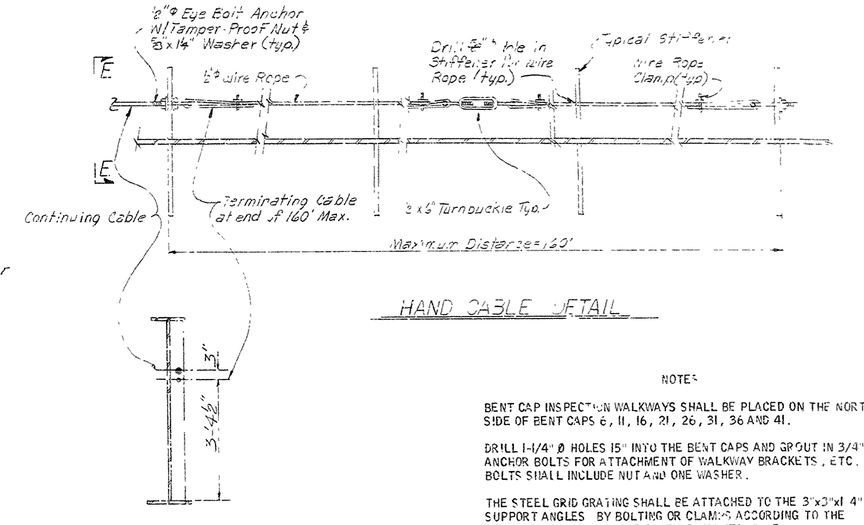
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.	RS-389 (7)		
				JOB NO.		1467	18	20

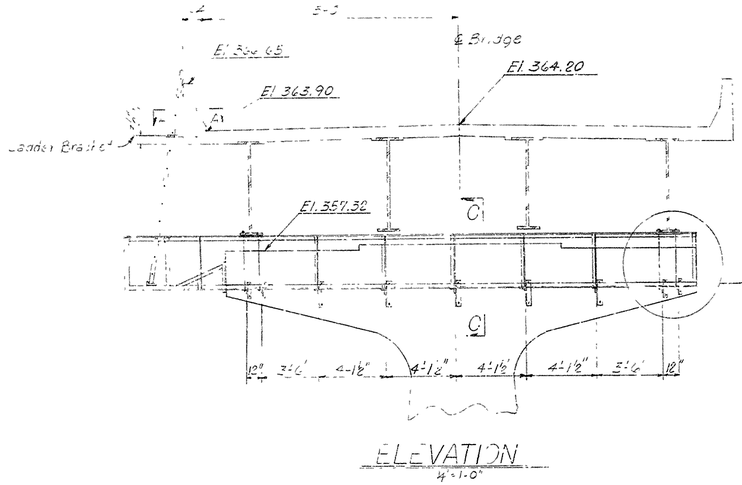
S (1) 5600 INSPECTION FACILITIES 19451

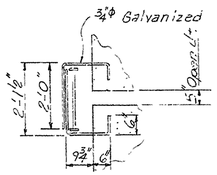


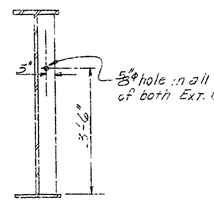


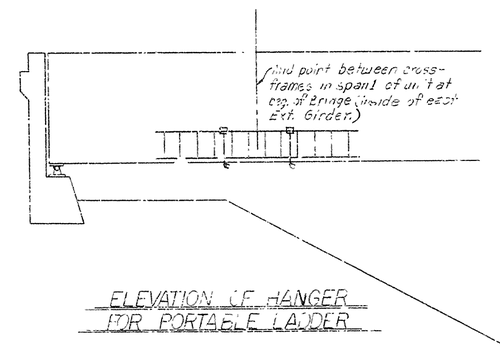












NOTES

BENT CAP INSPECTION WALKWAYS SHALL BE PLACED ON THE NORTH SIDE OF BENT CAPS 6, 11, 16, 21, 26, 31, 36 AND 41.

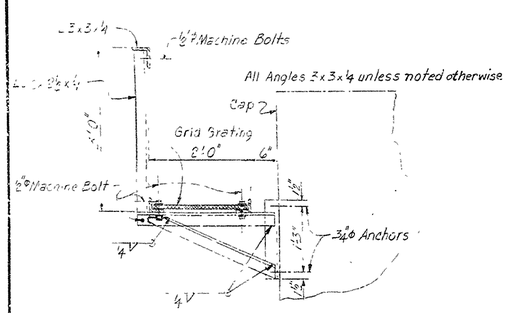
DRILL 1-1/4" Ø HOLES 15" INTO THE BENT CAPS AND GROUT IN 3/4"Φ ANCHOR BOLTS FOR ATTACHMENT OF WALKWAY BRACKETS, ETC. BOLTS SHALL INCLUDE NUT AND ONE WASHER.

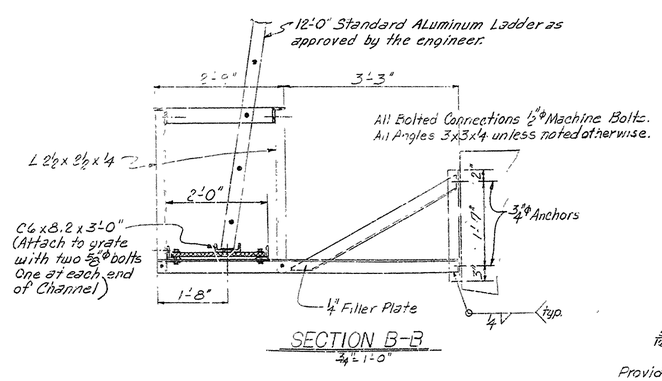
THE STEEL GRID GRATING SHALL BE ATTACHED TO THE 3"x3"x1/4" SUPPORT ANGLES BY BOLTING OR CLAMPS ACCORDING TO THE RECOMMENDATIONS OF THE GRATING MANUFACTURE.

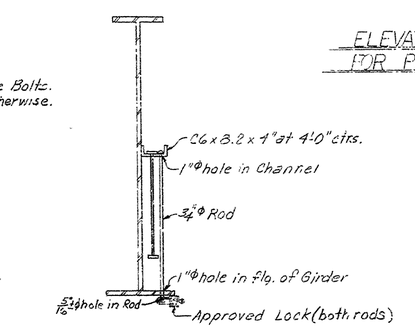
ALL STRUCTURAL STEEL IN WALKWAYS, BRACKETS, ANCHORS, ETC. SHALL CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION A36, AND SECTION 807 OF THE STANDARD SPECIFICATIONS.

PAYMENT FOR THE INSPECTION FACILITIES WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE BID FOR "INSPECTION FACILITIES", WHICH PRICE SHALL BE FULL COMPENSATION FOR FURNISHING MATERIALS; AND FOR EQUIPMENT, TOOLS, LABOR, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

See SP JOB 1467, "INSPECTION FACILITIES"







Provide 12'-0" Standard ladder or fabricated ladder with uniform dimensions for securing in ladder bracket. Provisions for storage of ladder under span one at beg. of Bridge shall be made as shown above or as directed by the Engineer.

HANGER FOR PORTABLE LADDER

DETAILS OF INSPECTION FACILITIES
ARK. RIVER BR. & APPRS. (CLARKSVILLE)
APPROACH BRIDGE SUPERSTRUCTURE
LOGAN & JOHNSON CO.
ROUTE 109 SEC. 3 & 4

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: W.N.N. DATE: 11-2-75
CHECKED BY: WAS DATE: 11-7-75
DESIGNED BY: — DATE: —
SCALE: [illegible]

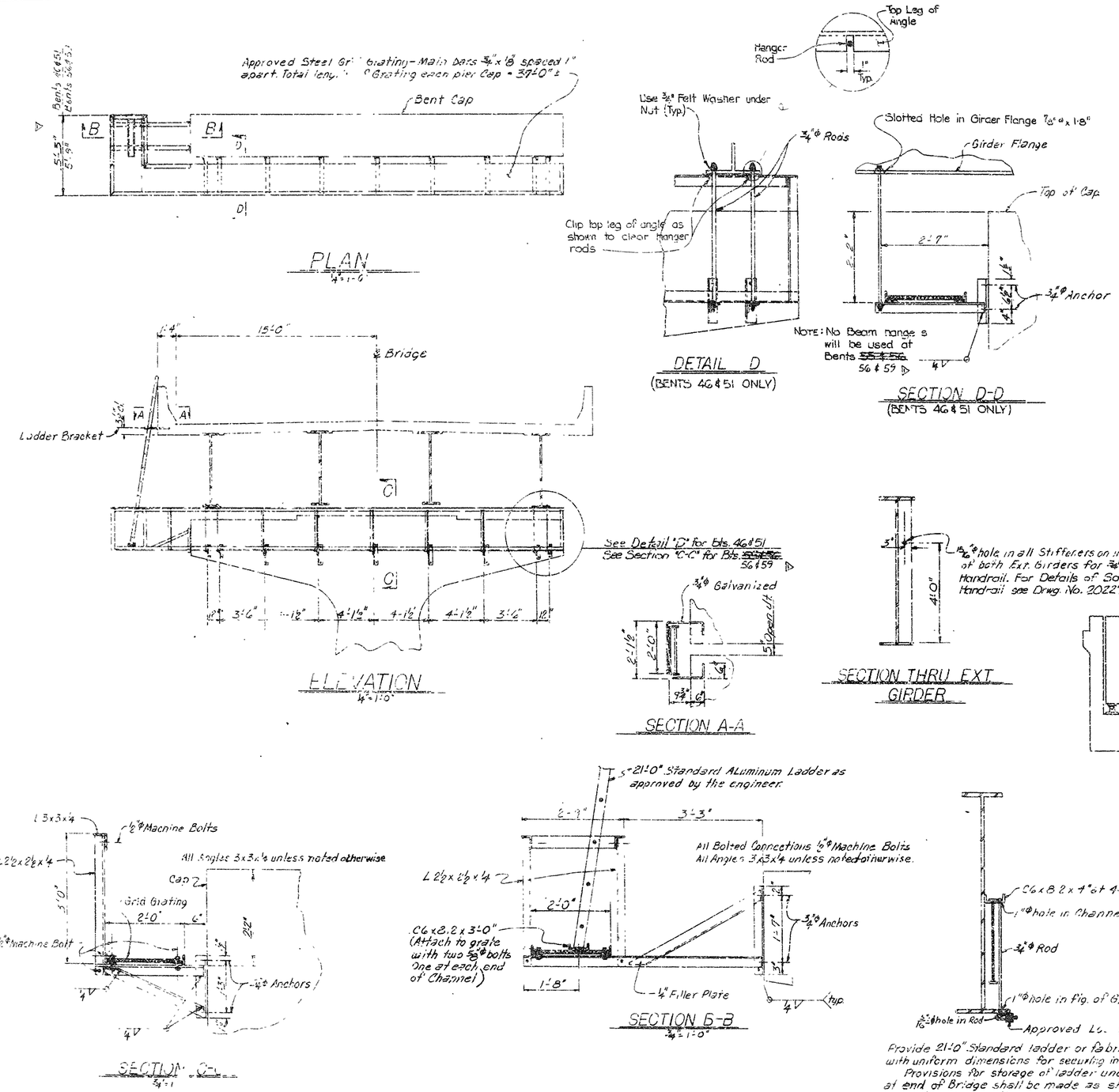
Paul Pinkerton
BRIDGE ENGINEER

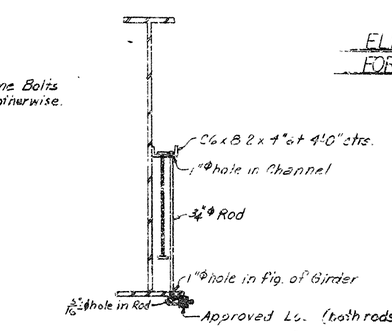
BRIDGE NO. 5600 DRAWING NO. 19451

146

DATE REVISED	DATE REVISED	DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
8 Sep 76	6 Jan - 7-7-71			6	ARK.	TQS-A128-1		
10-21-76	28-10-6-76			JOB NO.	1442		25	63
28 Mar. 78	5-19-4-5-78							

(1) 5600 INSPECTION FACILITIES 20222





NOTES

BENT CAP INSPECTION WALKWAYS SHALL BE PLACED ON THE NORTH SIDE OF BENT CAPS 46, 51, ~~55 & 56~~ 56 & 59 ▷.

DRILL 1-1/4" Ø HOLES 15" INTO THE BENT CAPS AND GROUT IN 3/4"Ø ANCHOR BOLTS FOR ATTACHMENT OF WALKWAY BRACKETS, ETC. BOLTS SHALL INCLUDE NUT AND ONE WASHER.

THE STEEL GRID GRATING SHALL BE ATTACHED TO THE 3"x3"x1-4" SUPPORT ANGLES BY BOLTING OR CLAMPS ACCORDING TO THE RECOMMENDATIONS OF THE GRATING MANUFACTURE.

ALL STRUCTURAL STEEL IN WALKWAYS, BRACKETS, ANCHORS, ETC. SHALL CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION A36, AND SECTION 807 OF THE STANDARD SPECIFICATIONS.

PAYMENT FOR THE INSPECTION FACILITIES WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE BID FOR "INSPECTION FACILITIES", WHICH PRICE SHALL BE FULL COMPENSATION FOR FURNISHING MATERIALS; AND FOR EQUIPMENT, TOOLS, LABOR, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

See S.P. JOB 1442, "INSPECTION FACILITIES"

▷ Revised details of Inspection Facilities 28 Mar. 78 K.M.G.

DETAILS OF INSPECTION FACILITIES
ARK. RIVER BR. & APPRS. (CLARKSVILLE)
APPROACH BRIDGE SUPERSTRUCTURE
LOGAN & JOHNSON CO.
ROUTE 109 SEC. 3 & 4

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: W.A.N.W. DATE: 11-2-75
CHECKED BY: WAS DATE: 11-7-75
DESIGNED BY: — DATE: —
SCALE: None unless Noted

Wesley Pinkston
BRIDGE ENGINEER

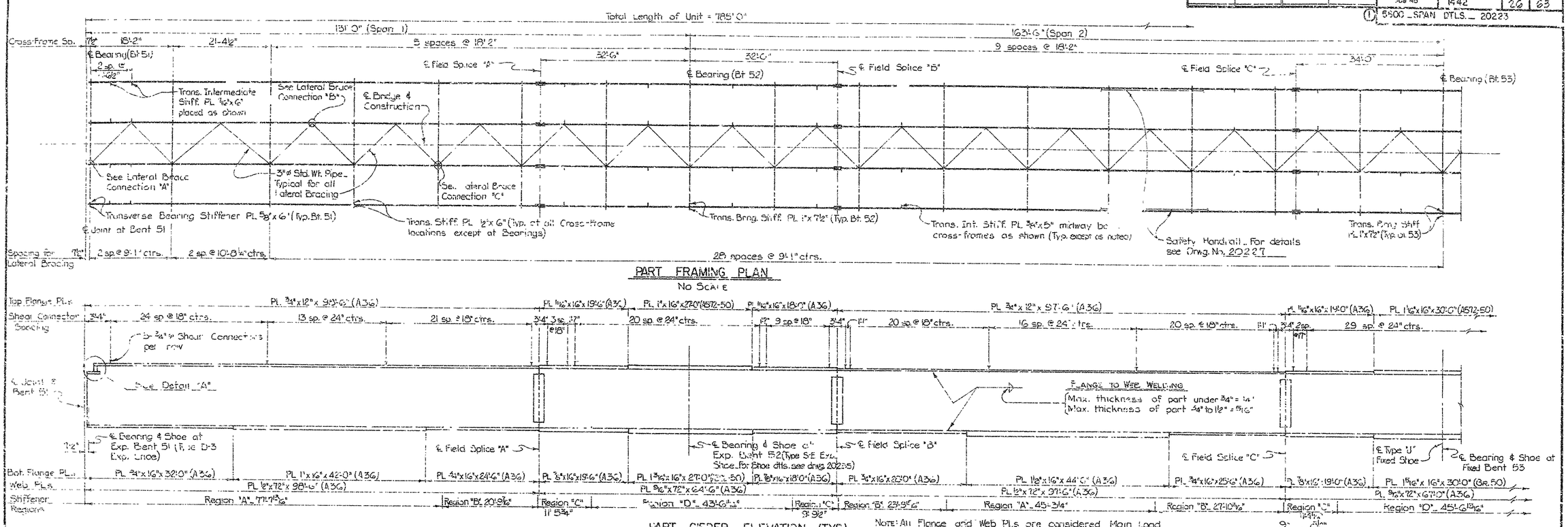
BRIDGE NO. 5600 DRAWING NO. 20222

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
5-22-76	6-17-76		
10-4-76	10-12-76		

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.	TQS-A123-1		
JOB NO. 1442			26	63

147

(1) 5600 - SPAN DTLS. - 20223



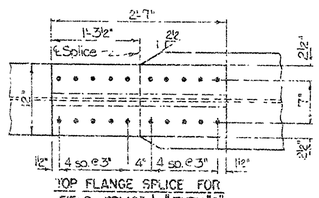
PART FRAMING PLAN

No Scale

PART GIRDER ELEVATION (TYP.)

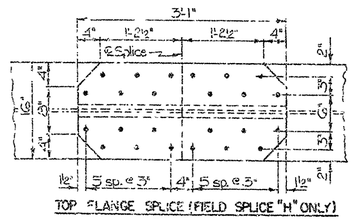
No Scale

NOTE: All Flange and Web PLs are considered Main Load Carrying Members and shall meet the requirements of the Charpy V-Notch Test as specified in SP-80-74.



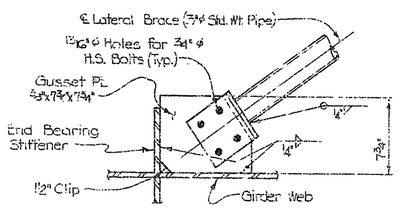
TOP FLANGE SPLICE FOR FIELD SPLICE "A" THRU "G"

Scale: 1" = 1'-0"

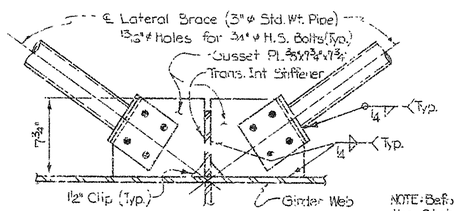


TOP FLANGE SPLICE (FIELD SPLICE "H" ONLY)

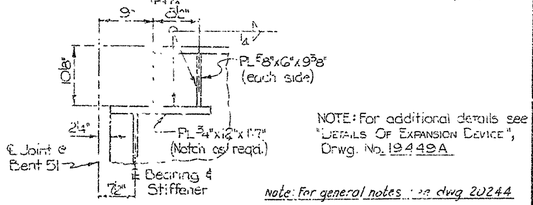
Scale: 1" = 1'-0"



CONNECTION "A"



CONNECTION "C"



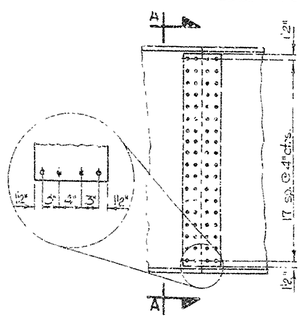
NOTE: For additional details see "DETAILS OF EXPANSION DEVICE", Drwg. No. 19449A

Note: For general notes see dwg 20244

DETAIL "A"

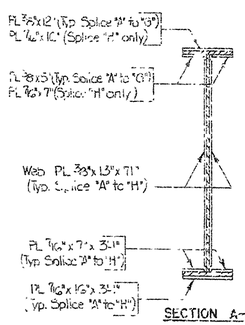
No Scale

NOTE: Before fabrication of Superstructure Steel is begun the Engineer shall verify the Stations and Elevations of Bent Caps and locations of Anchor Bolt Sleeves. The details of the new work will be adjusted as necessary by the Contractor and compensation shall be made at the unit price for any increase in Quantities.



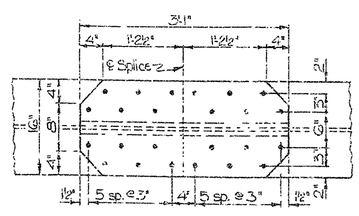
TYPICAL WEB SPLICE

Scale: 1/2" = 1'-0"



SECTION A-A

No Scale



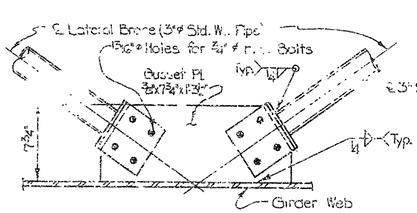
TYPICAL BOTTOM FLANGE SPLICE

Scale: 1" = 1'-0"

NOTE: All Bolts in Field Splices shall be 3/4"ø H.S. Bolts with 13/16" ø open holes

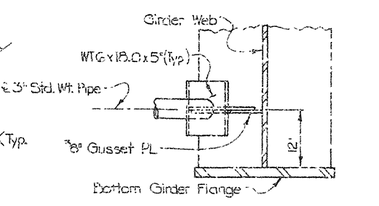
DETAILS OF FIELD SPLICES

NOTE: Use Filler PLs as req'd. in Field Splices



CONNECTION "B"

Note: Drill 1/4"ø hole at approx. center of each lateral brace. Plug hole with weld after shop welding is completed.



TYP. ELEVATION OF CONNECTION

DETAILS OF LATERAL BRACE CONNECTIONS

No Scale

Note: All Pipe Sections shall be ASTM A53 Type E, Grade B.

SHEET 1 OF 5
DETAILS OF
785' CONT. WELDED PLATE GIRDER UNIT
ARK. RIVER BR. & APPRS. (CLARKSVILLE)
MAIN BRIDGE SUPERSTRUCTURE
LOGAN & JOHNSON CO.

ROUTE 109 SEC. 3 & 4

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: K.M.G. DATE: 21 JULY 76
CHECKED BY: [illegible] DATE: 8-3-76
DESIGNED BY: [illegible] DATE: 9-26-75
SCALE: AS SHOWN

BRIDGE ENGINEER

BRIDGE NO. 5600 DRAWING NO. 20223

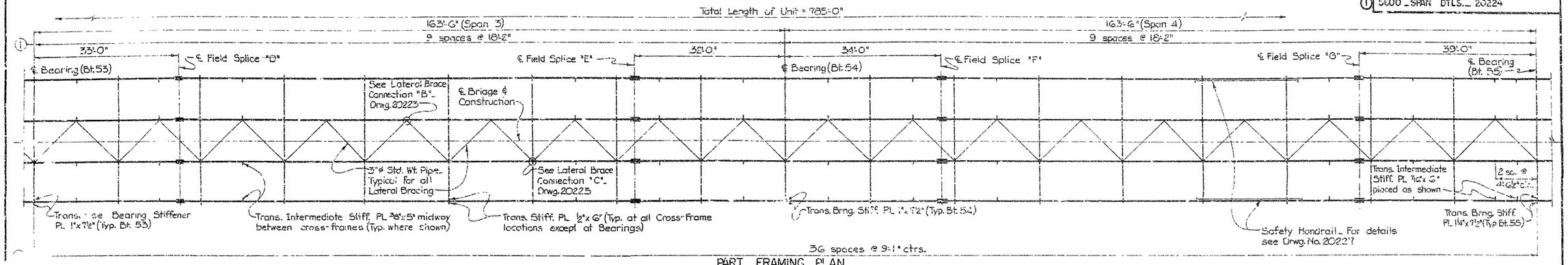
143

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
8 SEP 76	688-9-9-76			6	ARK.	TOS-5123-1		
10-4-76	930-10-6-76			JOB NO.		1242	27	63

(1) 5600 _ SPAN DTLS. _ 20224

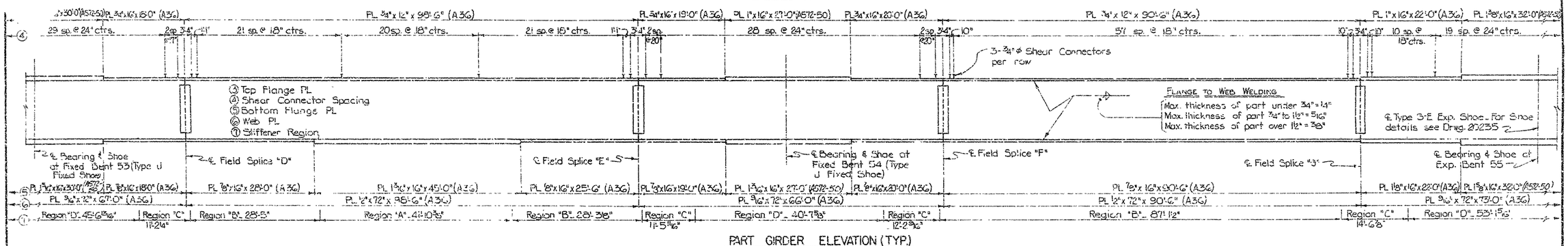
(1) Cross-Frame Spacing

(2) Spacing for Lateral Bracing



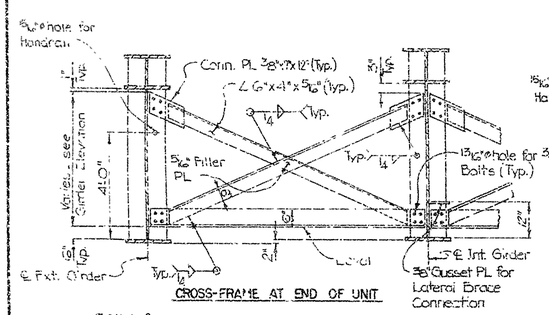
PART FRAMING PLAN

No Scale

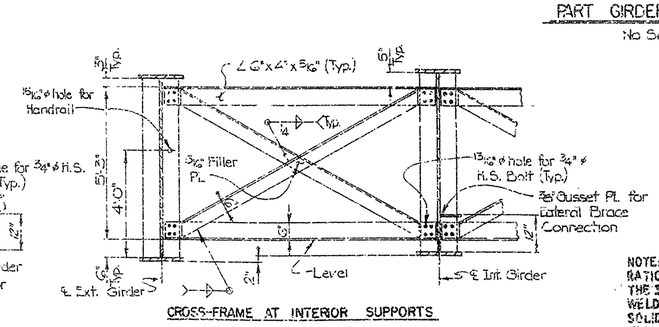


PART GIRDER ELEVATION (TYP.)

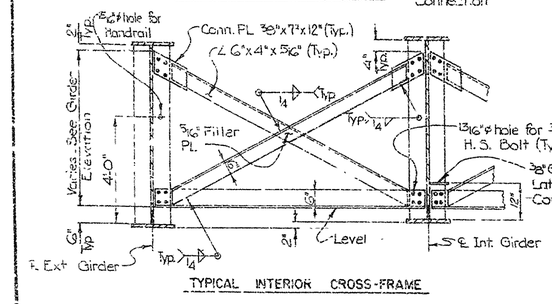
No Scale



CROSS-FRAME AT END OF UNIT



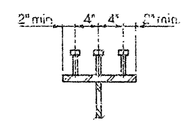
CROSS-FRAME AT INTERIOR SUPPORTS



TYPICAL INTERIOR CROSS-FRAME

DETAILS OF CROSS-FRAMES

No Scale

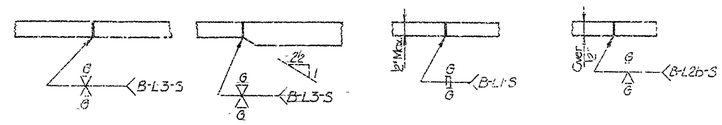


SHEAR CONNECTOR DETAIL

NOTE: WELDED STUDS 7/8" Ø MAY BE USED IN PLACE OF THE 3/4" Ø STUDS SHOWN AT THE RATIO OF 0.735 TO 1.000 RESPECTIVELY. CHANNELS C3X6 MAY BE USED IN PLACE OF THE 3/4" WELDED STUDS SHOWN AT THE RATIO OF 3.0 INCHES OF CHANNEL TO ONE 3/4" WELDED STUD. THE 3/4" Ø X 5" STUD CONNECTORS SHALL BE GRANULAR FLUX FILLED, SOLID FLUXED, OR EQUAL, AND SHALL BE AUTOMATICALLY END WELDED TO THE *GIRDER* FLANGES IN ACCORDANCE WITH RECOMMENDATIONS OF THE MANUFACTURER. QUANTITY OF STRUCTURAL STEEL IN BEAM SPANS SHALL BE BASED ON THE WEIGHT OF 3/4" WELDED STUDS. THIS WEIGHT IS 740 POUNDS PER HUNDRED STUDS.

NOTE All Diagonal Members and top and bottom Chord Members shall be ∠'s 6"x 4"x 5/16".

All bolts in connections shall be 3/4"ø High-Strength Bolts. Open holes for bolts may be 15/16"ø if washers are supplied for use under both the Nut and the Head of each Bolt.



FLANGE SPLICES

WEB SPLICES

DETAILS OF WELDED SPLICES

No Scale

SHEET 2 OF 5
DETAILS OF
785' CONT. WELDED PLATE GIRDER UNIT
ARK RIVER BR. & APPRS. (CLARKSVILLE)
MAIN BRIDGE SUPERSTRUCTURE
LOGAN & JOHNSON CO.

ROUTE 109 SEC. 3 & 4

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

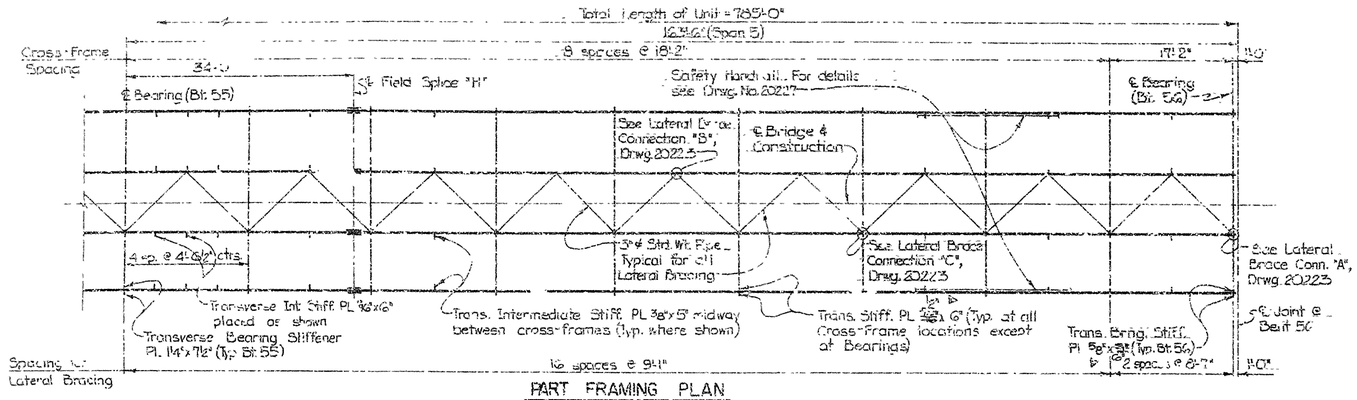
DRAWN BY: K.M.G. DATE: 22 JULY 76
CHECKED BY: R.T.P. DATE: 8-3-76
DESIGNED BY: B.T.P. DATE: 2-26-76
SCALE: AS SHOWN

BRIDGE ENGINEER

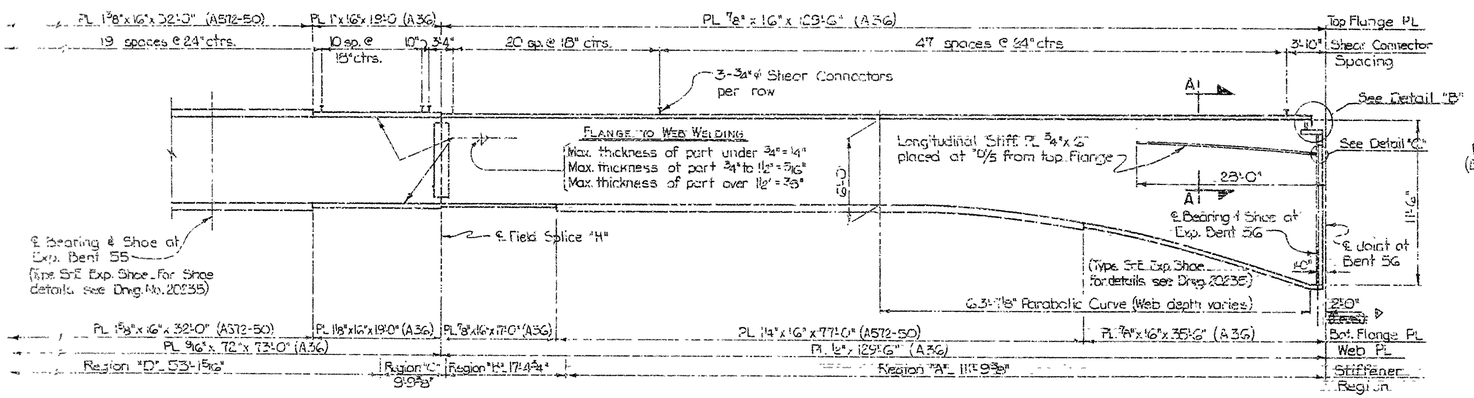
BRIDGE NO. 5600 DRAWING NO. 20224

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
8 Sep 76	6 Jul 7-77			6	ARK.	TQS-A(38)1		
10-4-76	121-10-6-76			JOB NO.		1442	28	83
1-6-77	202-1-7-77							

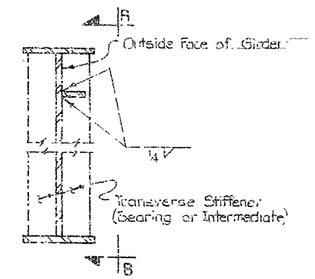
(1) 5600 _ SPAN DWG. _ 20225



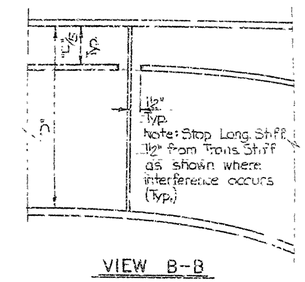
PART FRAMING PLAN



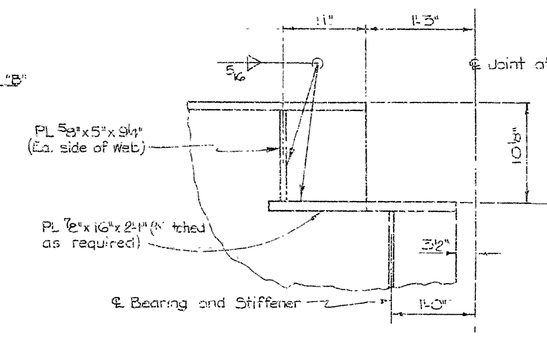
PART GIRDER ELEVATION (TYP)



SECTION A-A
No Scale

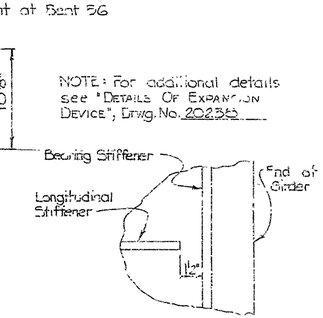


VIEW B-B
No Scale



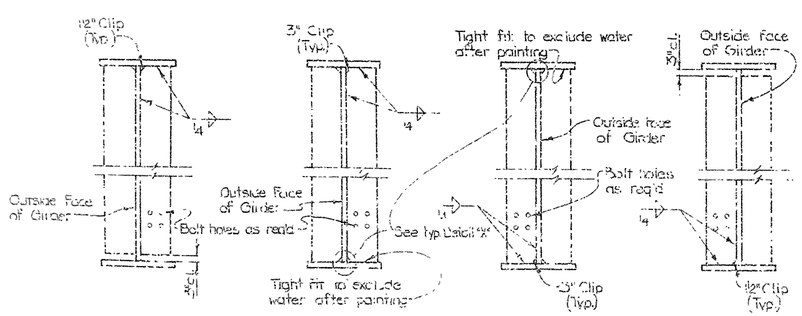
NOTE: For additional details see "DETAILS OF EXPANSION DEVICE", Drwg. No. 20235

DETAIL "B"
No Scale



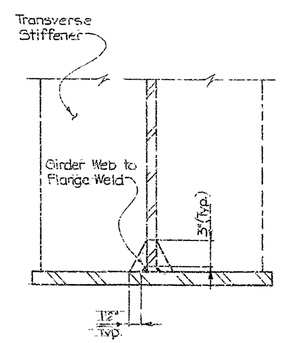
DETAIL "C"
No Scale

LOAD DISTRIBUTION:	DEAD LOAD TO GIRDER	DEAD LOAD TO COMP. GIRDER (INCLUDES 24#/FT² PLF FOR WEIGHT OF FUTURE SURFACE)	LIVE LOAD TO COMP. GIRDER
EXT. GIRDER	754 PLF + GIRDER	338 PLF	1.4242 WHEELS + IMPACT
INT. GIRDER	754 PLF + GIRDER	338 PLF	1.5000 WHEELS + IMPACT

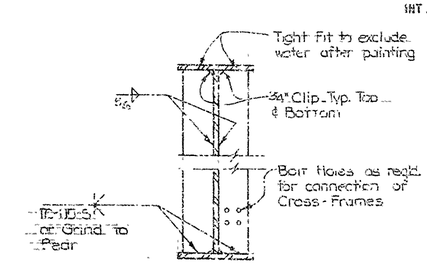


DETAILS OF TRANSVERSE INTERMEDIATE STIFFENERS
No Scale

NOTE: For Location of Stiff. Region "A"- "D" see "GIRDER ELEVATION", Drwg. No. 20223 thru 20225.



TYPICAL DETAIL "X"
No Scale



DETAILS OF TRANSVERSE BEARING STIFFENERS
No Scale

Revised Stiff PL & Bot. Flange PL; K.M.G. 5 Jan 77

SHEET 3 OF 5
DETAILS OF
785' CONT. WELDED PLATE GIRDER UNIT
ARK. RIVER BR. & APPRS. (CLARKSVILLE)
MAIN BRIDGE SUPERSTRUCTURE
LOGAN & JOHNSON CO.

ROUTE 109 SEC. 3 & 4

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: K.M.G. DATE: 23 JULY 76
CHECKED BY: [illegible] DATE: 8-3-76 SCALE: AS SHOWN
DESIGNED BY: [illegible] DATE: 2-25-76

SPECIAL ENGINEER

BRIDGE NO. 5600 DRAWING NO. 20225

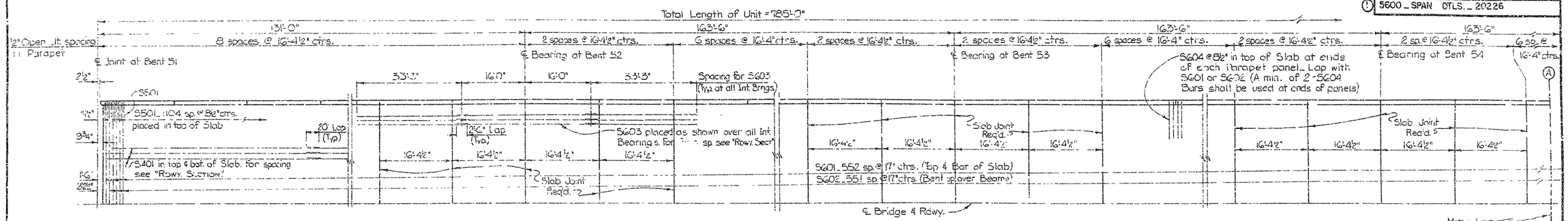
150

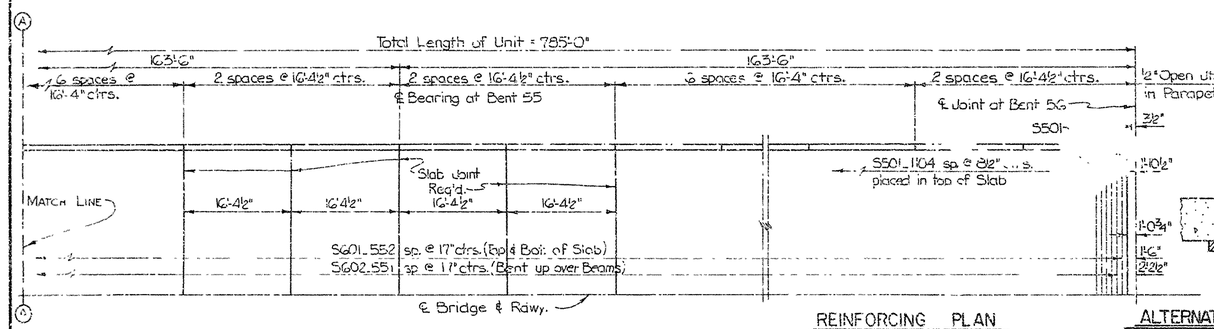
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
8-SEP-76	90-9-9-76		
10-4-76	82-10-6-76		

FED. ROAD DIV.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.	TQS-A128-1	20	63
JOB NO		1442		

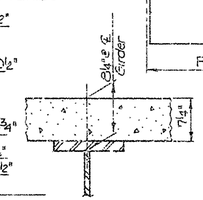
5600 _ SPAN DTLS. _ 20226

NOTE: Details shown on "REINF. PLAN" are typical for both sides of Rdwy.

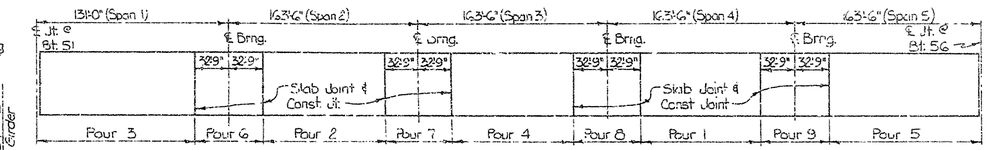




REINFORCING PLAN
No Scale



ALTERNATE HAUNCH DETAIL
No Scale

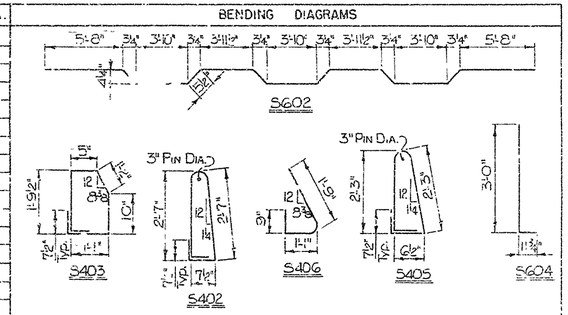


POURING SEQUENCE
No Scale

BAR LIST

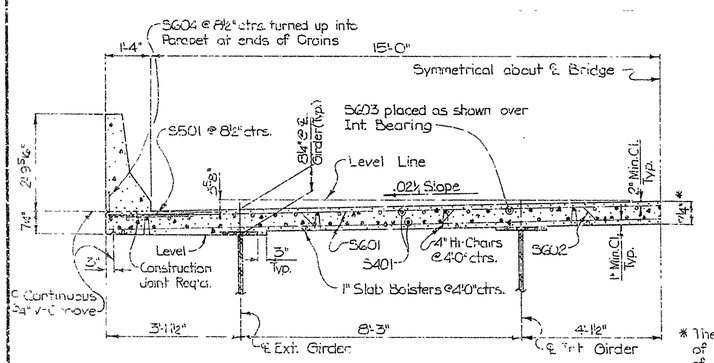
MARK	NO. REQ'D.	LENGTH	PIN DIA.
S401	1054	38'-11"	Str.
S402	980	6'-11"	2"
S403	980	6'-2"	2"
S404	20	15'-9"	Str.
S405	1144	6'-2"	2"
S406	1144	3'-6	2"
S407	400	16'-0"	Str.
S501	2210	5'-0"	Str.
S601	1106	32'-3"	Str.
S602	552	33'-0"	3¾"
S603	312	34'-6"	Str.
S604	584	3'-0"	3¾"
S605	12	15'-9"	Str.
S606	276	16'-0"	Str.

BENDING DIAGRAMS

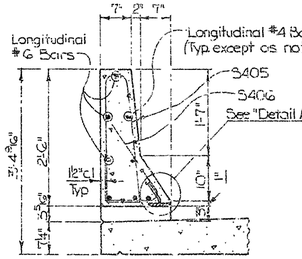


DIMENSIONS SHOWN ARE TO OUTSIDE OF BARS.

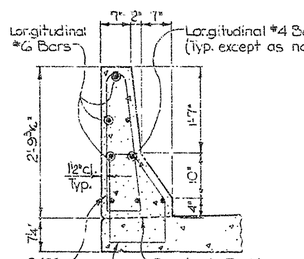
NOTE: Boiled Linseed Oil Treatment shall be applied to the Rdwy. Surface and the top and face of the Concrete Parapet Railing.



HALF RDWY. SECTION
Scale: 1/2" = 1'-0"

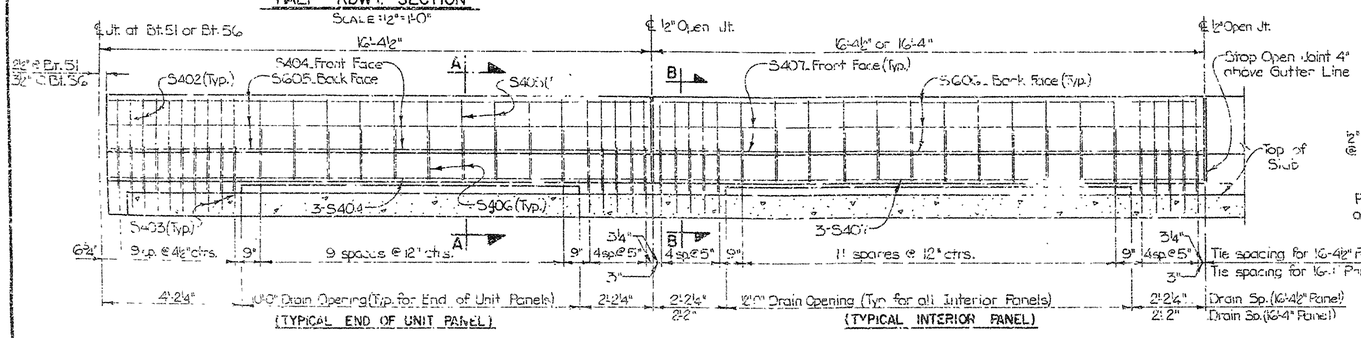


TYPICAL SECTION A-A
Scale: 3/4" = 1'-0"

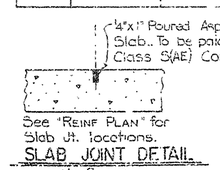


TYPICAL SECTION B-B
Scale: 3/4" = 1'-0"

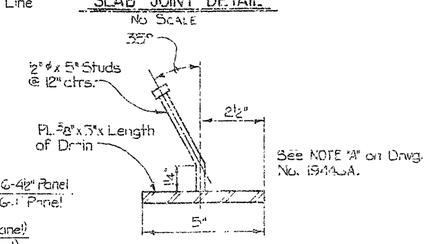
* The Contractor may, at his option, pour the underside of the center panel level with a centerline dimension of 8¼". Quantities will be based on those dimen. shown.



DETAILS OF PARAPET
Scale: 1/2" = 1'-0"



SLAB JOINT DETAIL
No Scale



DETAIL "A"
No Scale

SHEET 4 OF 5
DETAILS OF
785' CONT. WELDED PLATE GIRDER UNIT
ARK. RIVER BR. & APPRS. (CLARKSVILLE)
MAIN BRIDGE SUPERSTRUCTURE
LOGAN & JOHNSON CO.

ROUTE 109 SEC. 3 & 4

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

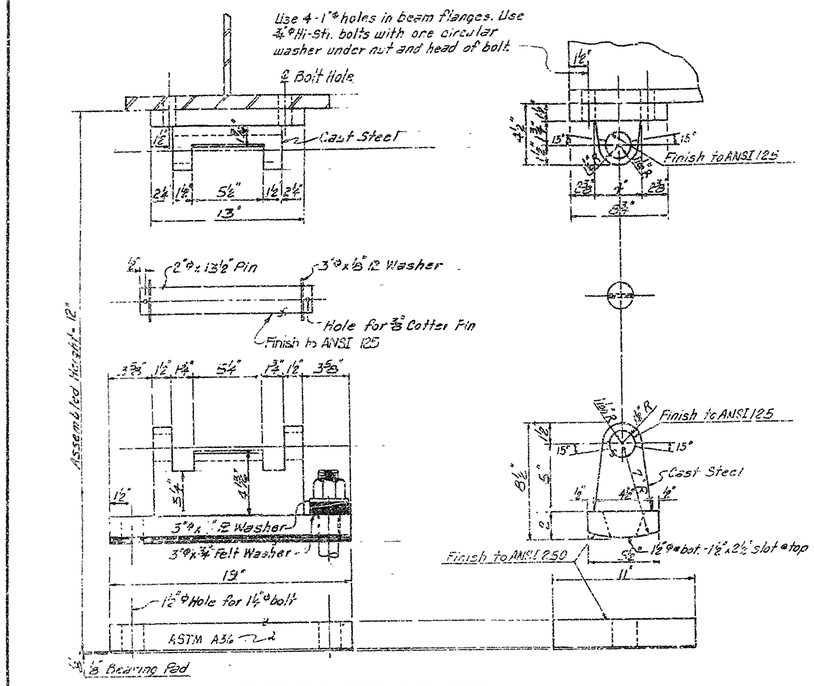
DRAWN BY K.M.G DATE 27 JULY 76
CHECKED BY 8-2-76 DATE 8-2-76
DESIGNED BY 8-2-76 DATE 9-26-75
SCALE AS SHOWN

BRIDGE ENGINEER

BRIDGE NO. 5600 DRAWING NO. 20226

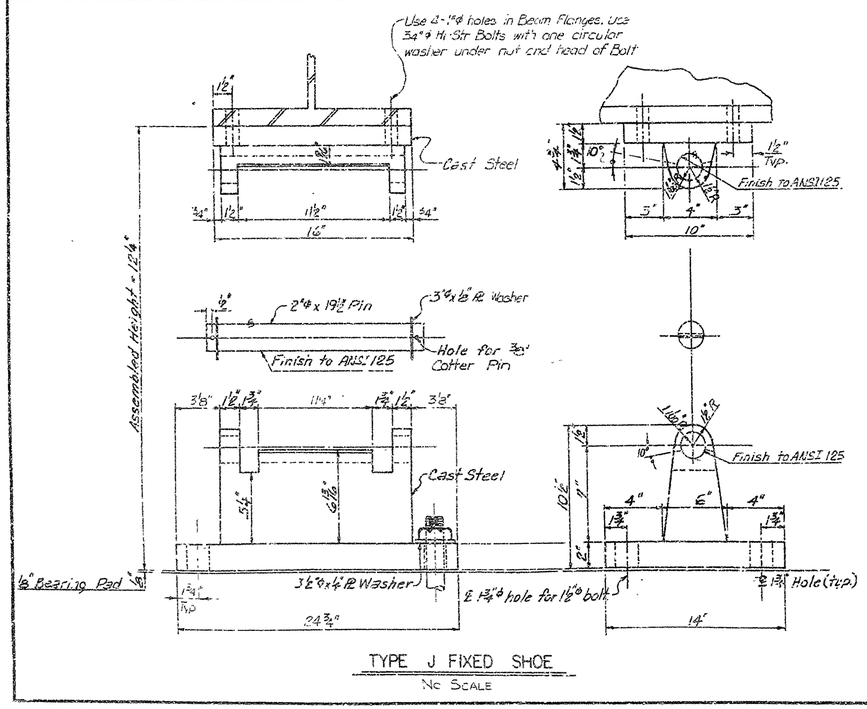
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
8 SEP 76	933-9-9-76			6	ARK.	TQ3-A128-1		
19-6-76	933-10-6-76			JOB NO		1442	90	93

(1) 5600 _ SPAN DTLS. _ 20227



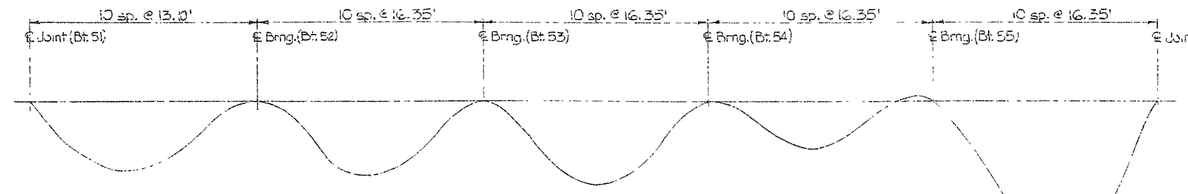
TYPE D-3 EXPANSION SHOE

No Scale



TYPE J FIXED SHOE

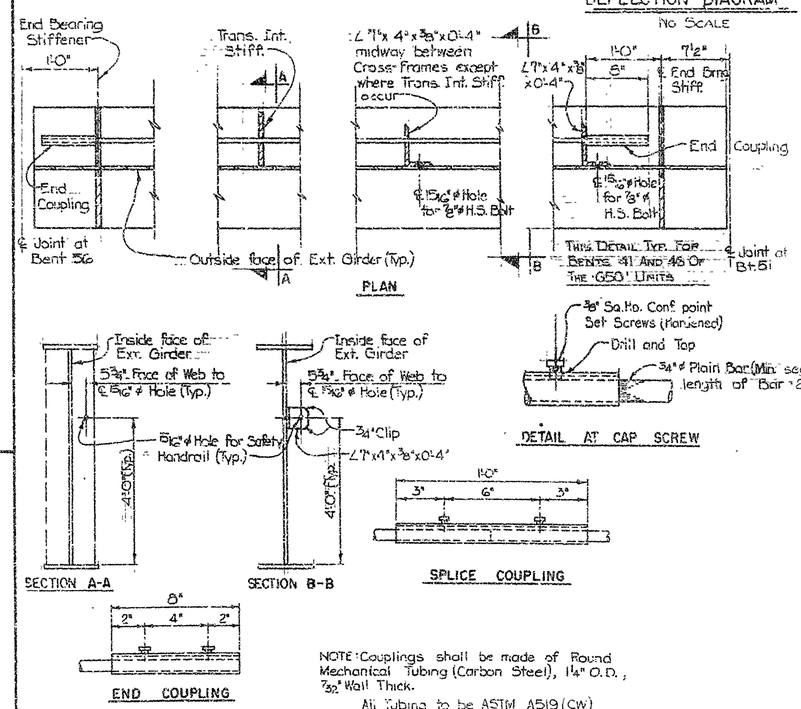
No Scale



DEAD LOAD DEFLECTION DIAGRAM

No Scale

NOTE: Diagram for Dead Load Deflection plus Vertical Curve ± 1/4" tolerance. Vertical Curve corrections not included in Table.



NOTE: Couplings shall be made of Round Mechanical Tubing (Carbon Steel), 1 1/4" O.D., 7/32" Wall Thick.

All Tubing to be ASTM A519 (CW)

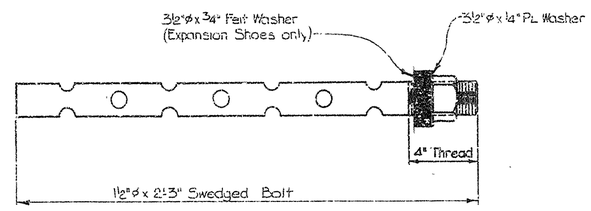
DETAILS OF FIELD ERECTED SAFETY HANDRAIL

No Scale

DEAD LOAD DEFLECTION ORDINATES (UNIT - INCHES)

SPAN 1/10th POINTS	*STRUCTURAL STEEL	STRUCTURAL STEEL + SLAB CONCRETE	TOTAL ERECTION DEAD LOAD
1.0	0.0	0.0	0.0
1.1	-0.162	-0.793	-0.774
1.2	-0.298	-1.285	-1.417
1.3	-0.385	-1.665	-1.837
1.4	-0.421	-1.818	-2.007
1.5	-0.402	-1.737	-1.919
1.6	-0.336	-1.452	-1.607
1.7	-0.235	-1.018	-1.128
1.8	-0.125	-0.541	-0.600
1.9	-0.036	-0.157	-0.173
2.0	0.0	0.0	0.0
2.1	-0.052	-0.221	-0.254
2.2	-0.177	-0.754	-0.855
2.3	-0.313	-1.340	-1.511
2.4	-0.409	-1.757	-1.975
2.5	-0.440	-1.895	-2.128
2.6	-0.398	-1.724	-1.938
2.7	-0.293	-1.284	-1.443
2.8	-0.155	-0.695	-0.789
2.9	-0.059	-0.186	-0.214
3.0	0.0	0.0	0.0
3.1	-0.072	-0.272	-0.302
3.2	-0.218	-0.835	-0.953
3.3	-0.278	-1.504	-1.673
3.4	-0.500	-1.992	-2.212
3.5	-0.552	-2.193	-2.434
3.6	-0.521	-2.062	-2.288
3.7	-0.415	-1.628	-1.803
3.8	-0.257	-0.990	-1.130
3.9	-0.099	-0.363	-0.402
4.0	0.0	0.0	0.0
4.1	-0.031	-0.067	-0.078
4.2	-0.057	-0.409	-0.476
4.3	-0.146	-0.810	-0.930
4.4	-0.198	-1.076	-1.231
4.5	-0.196	-1.104	-1.265
4.6	-0.142	-0.878	-1.014
4.7	-0.053	-0.475	-0.563
4.8	+0.032	-0.065	-0.097
4.9	+0.064	-0.158	+0.165
5.0	0.0	0.0	0.0
5.1	-0.187	-0.647	-0.716
5.2	-0.456	-1.628	-1.807
5.3	-0.740	-2.680	-2.972
5.4	-0.968	-3.540	-3.922
5.5	-1.097	-4.032	-4.454
5.6	-1.097	-4.038	-4.469
5.7	-0.955	-3.522	-3.897
5.8	-0.696	-2.566	-2.839
5.9	-0.363	-1.338	-1.480
6.0	0.0	0.0	0.0

*Structural Steel Includes Girder, Cross Frames & Lateral Bracing.



ANCHOR BOLT DETAILS

NOTE: For details of Type S-E Exp. Shoe see Drwg. No. 20235.

SHEET 5 OF 5
DETAILS OF
785' CONT. WELDED PLATE GIRDER UNIT
ARK. RIVER BR. & APPRS. (CLARKSVILLE)
MAIN BRIDGE SUPERSTRUCTURE
LOGAN & JOHNSON CO.

ROUTE 109 SEC. 3 & 4

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: K.M.G. DATE: 28 JULY 76
CHECKED BY: DATE: 8-3-76
DESIGNED BY: DATE: 3-26-75
SCALE: AS SHOWN

Paul Pinkerton
BRIDGE ENGINEER

BRIDGE NO. 5600 DRAWING NO. 20227

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
8 Sep 76	194-9-9-76			6	ARK.	TQS-A-28-1		
10-4-76	194-10-6-76			JOB NO.		1442	31	33
3 Jan 77	199-1-7-77							

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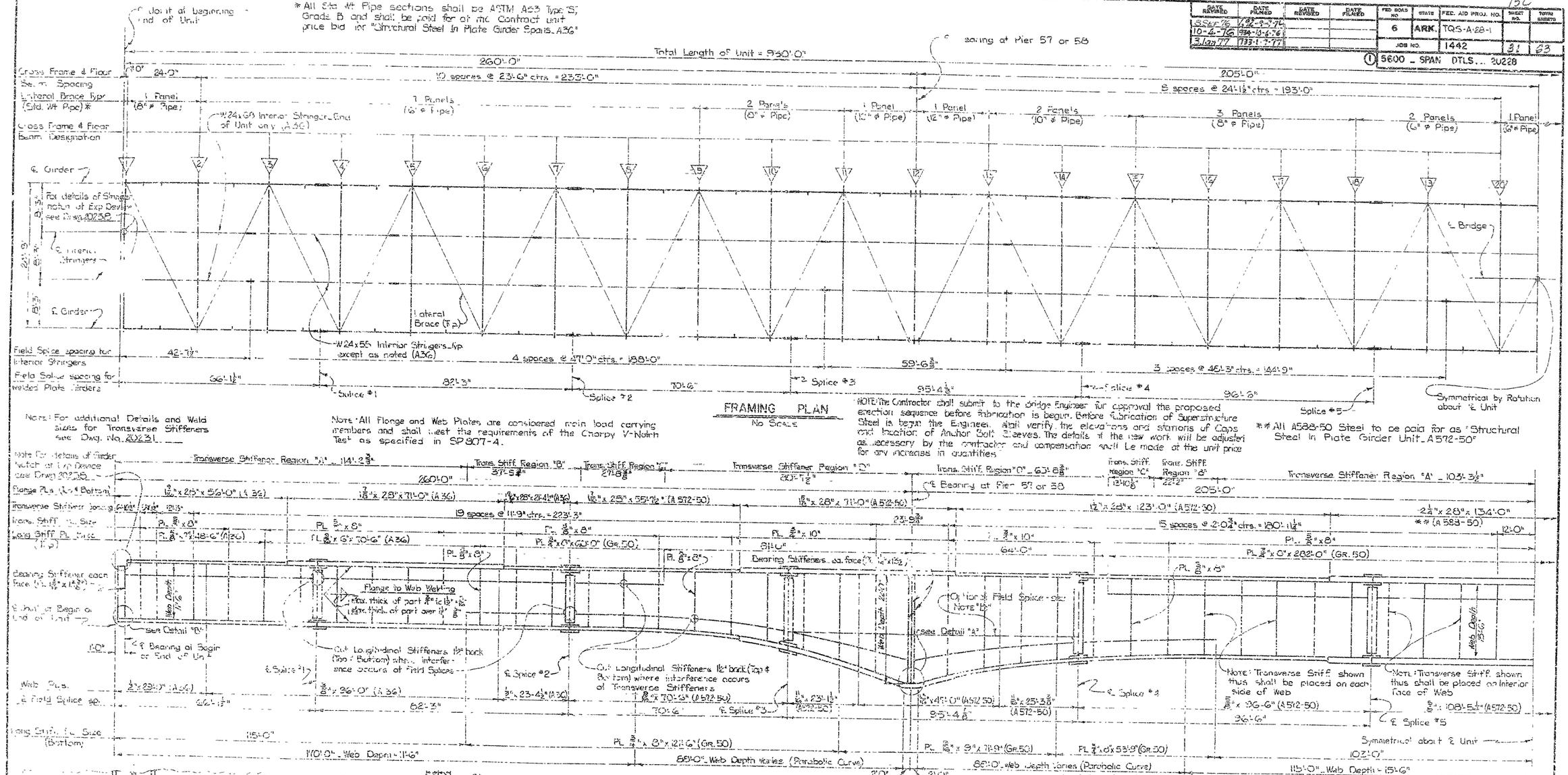
① 5600 _ SPAN DTLS... 20228



FRAMING PLAN
No Scale

Note: For additional Details and Weld sizes for Transverse Stiffeners see Dwg. No. 20231

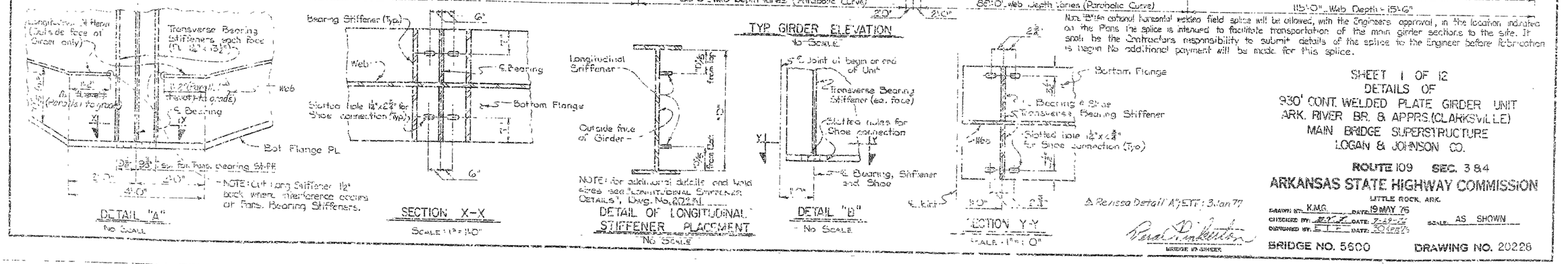
Note: All Flange and Web Plates are considered main load carrying members and shall meet the requirements of the Charpy V-Notch Test as specified in SP 807-4.

NOTE: The Contractor shall submit to the Bridge Engineer for approval the proposed erection sequence before fabrication is begun. Before fabrication of Superstructure Steel is begun the Engineer shall verify the elevations and stations of Caps and location of Anchor Bolt Sleeves. The details of the new work will be adjusted as necessary by the contractor and compensation shall be made at the unit price for any increase in quantities.

** All A588-50 Steel to be paid for as "Structural Steel In Plate Girder Unit_A572-50"

TYP GIRDER ELEVATION
No Scale

Note "B" An optional horizontal welded field splice will be allowed, with the Engineers approval, in the location indicated on the Plans. The splice is intended to facilitate transportation of the main girder sections to the site. It shall be the Contractors responsibility to submit details of the splice to the Engineer before fabrication is begun. No additional payment will be made for this splice.



NOTE: Cut Long Stiffener 1½" back where interference occurs at Trans. Bearing Stiffeners.

DETAIL "A"
No Scale

SECTION X-X
Scale: 1" = 1'-0"

NOTE: For additional details and weld sizes see "LONGITUDINAL STIFFENER DETAILS", Dwg. No. 20231

DETAIL OF LONGITUDINAL STIFFENER PLACEMENT
No Scale

DETAIL "B"
No Scale

SECTION Y-Y
Scale: 1" = 1'-0"

Revised Detail A & ETT: 3 Jan 77

BRIDGE ENGINEER

SHEET 1 OF 12
DETAILS OF
930' CONT. WELDED PLATE GIRDER UNIT
ARK. RIVER BR. & APPRS. (CLARKSVILLE)
MAIN BRIDGE SUPERSTRUCTURE
LOGAN & JOHNSON CO.

ROUTE 109 SEC. 3 & 4

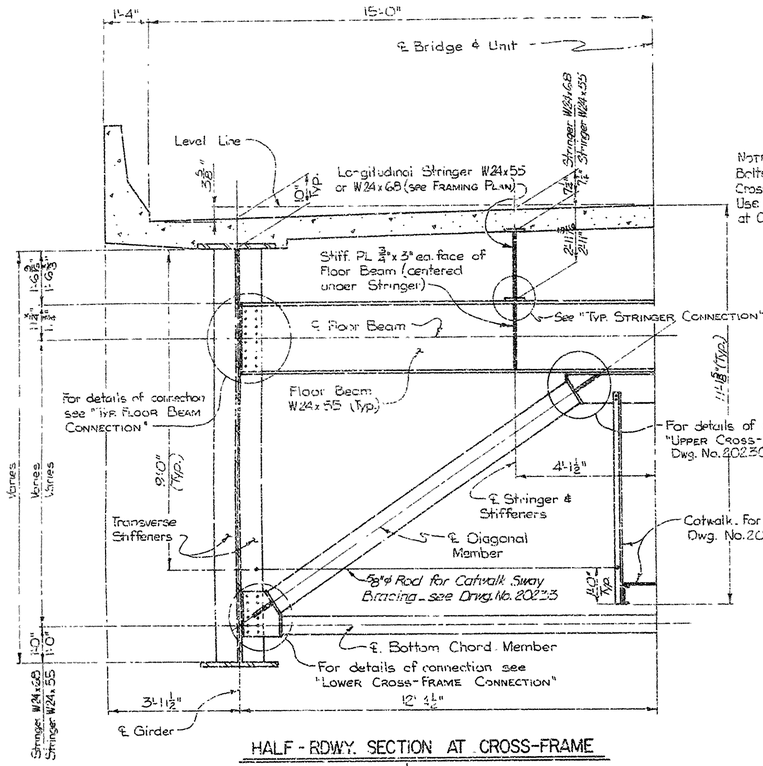
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: K.M.G. DATE: 19 MAY 76
CHECKED BY: DATE:
DESIGNED BY: DATE:
SCALE: AS SHOWN

BRIDGE NO. 5600 DRAWING NO. 20228

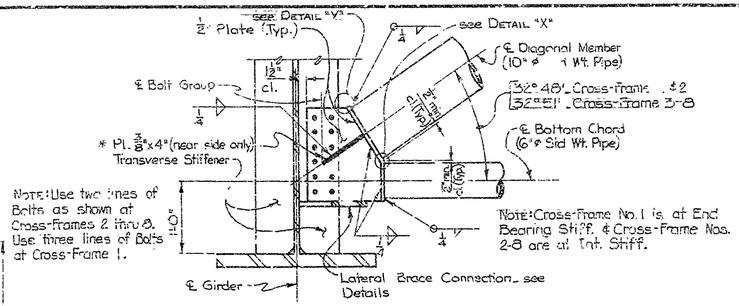
DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
5 Sep 76	1643-1-7 ½			6	ARK.	TQS-A128-1		
10-4-76	1656-10-6-76			JOB NO.		1442	32	63

① 5600 - SPAN DTLS. - 20229



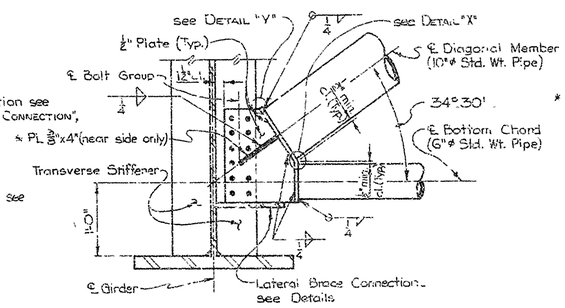
HALF-RDWY. SECTION AT CROSS-FRAME

Scale: ½" = 1'-0"



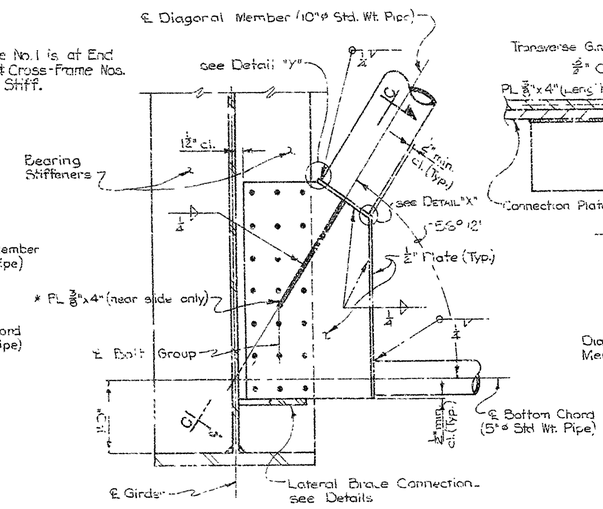
CROSS FRAME NO. 1-8

Scale: 1" = 1'-0"



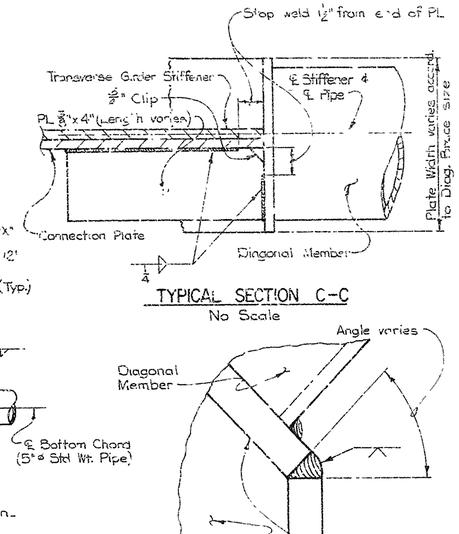
CROSS FRAME NO. 9

Scale: 1" = 1'-0"



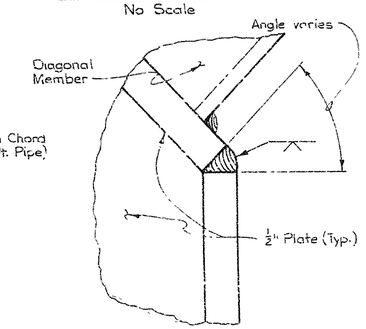
CROSS FRAME NO. 12

Scale: 1" = 1'-0"



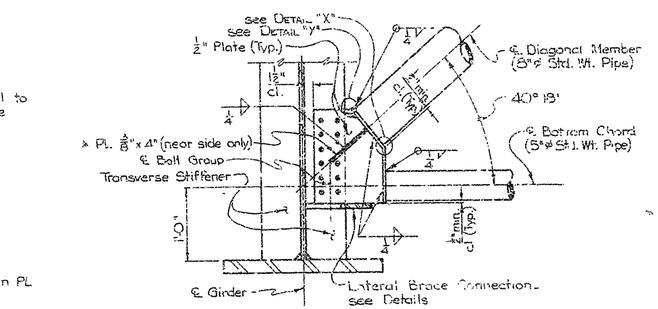
TYPICAL SECTION C-C

No Scale



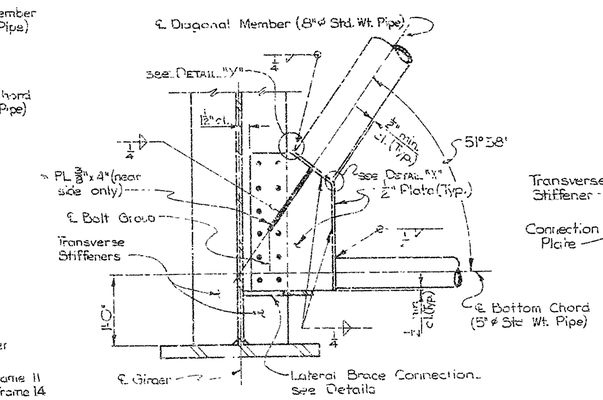
TYPICAL DETAIL "X"

No Scale



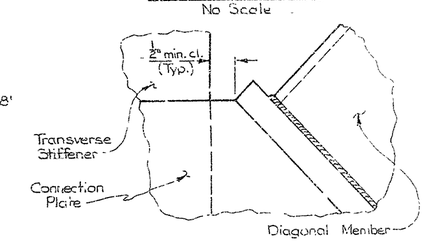
CROSS FRAME NO. 10

Scale: 1" = 1'-0"



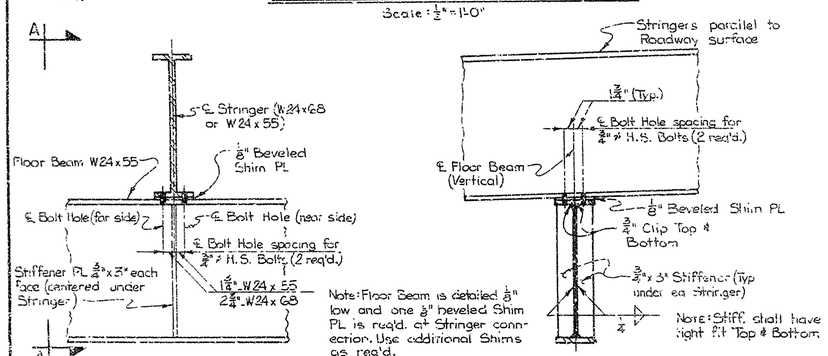
CROSS FRAME NO. 13

Scale: 1" = 1'-0"



TYPICAL DETAIL "Y"

No Scale

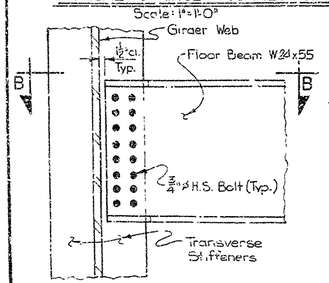


TYPICAL STRINGER CONNECTION

Scale: 1" = 1'-0"

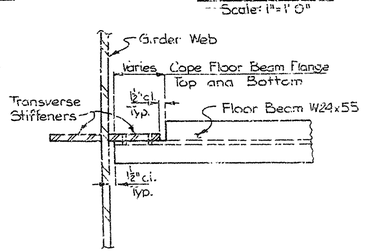
SECTION A-A

Scale: 1" = 1'-0"



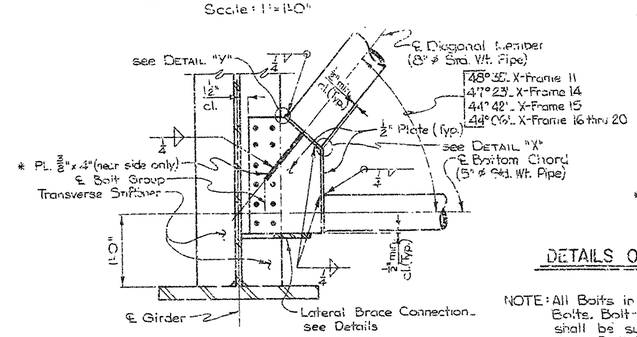
TYPICAL FLOOR BEAM CONNECTION

Scale: 1" = 1'-0"



SECTION B-B

Scale: 1" = 1'-0"



CROSS FRAME NO. 11, 14, 15 & 16-20

Scale: 1" = 1'-0"

* Omit bolt in area of ⅜"x4" stiff. if required.

DETAILS OF LOWER CROSS-FRAME CONNECTION

Scale: As Shown

NOTE: All Bolts in Cross-Frame Connections shall be ¾"ø H.S. Bolts. Bolt-holes shall be 1 1/16"ø and two 1¾"ø Washers shall be supplied for use under the nut and head of each Bolt. Use 1½" edge clearance and space bolts accordingly to achieve bolt patterns shown on Plans. Min. Bolt spacing 3"; Max. Bolt spacing 6".

Vessel Fulkerson
BRIDGE ENGINEER

SHEET 2 OF 12
DETAILS OF
930' CONT. WELDED PLATE GIRDER UNIT
ARK. RIVER BR. & APPRS. (CLARKSVILLE)
MAIN BRIDGE SUPERSTRUCTURE
LOGAN & JOHNSON CO.

ROUTE 109 SEC. 3 & 4

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

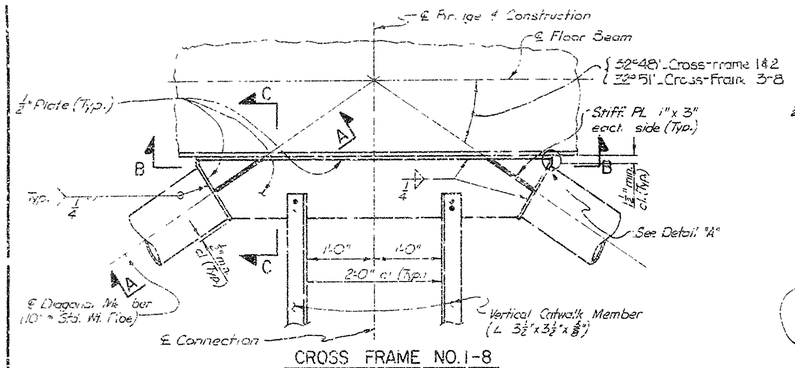
DRAWN BY: K.M.G. DATE: 20 MAY 76
CHECKED BY: [illegible] DATE: 11-29-76 SCALE: AS SHOWN
DESIGNED BY: [illegible] DATE: 30 APR 75

BRIDGE NO. 5600 DRAWING NO. 20229

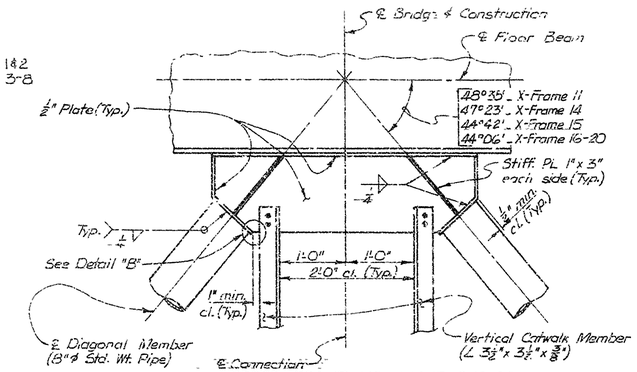
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
8-Sep-76	1-14-77			6	ARK.	TQS-A(28-1		
10-4-76	936-10-6-76							

ROB NO. 1442 — 33 — 63

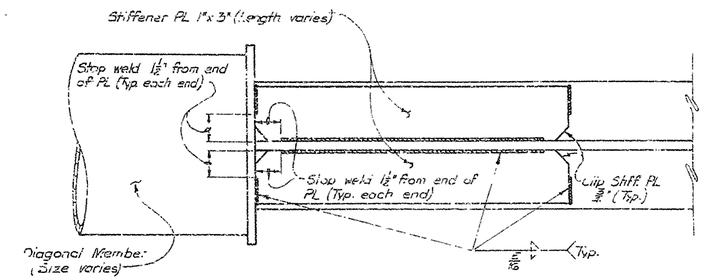
(1) 5600 _ SPAN DTLS._ 20230



CROSS FRAME NO. 1-8

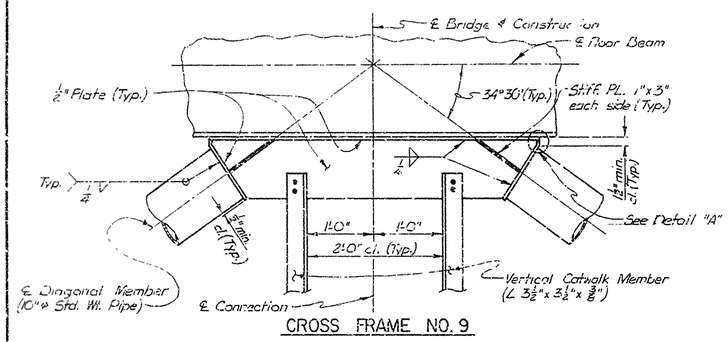


CROSS FRAME NO. 11, 14, 15, & 16-20

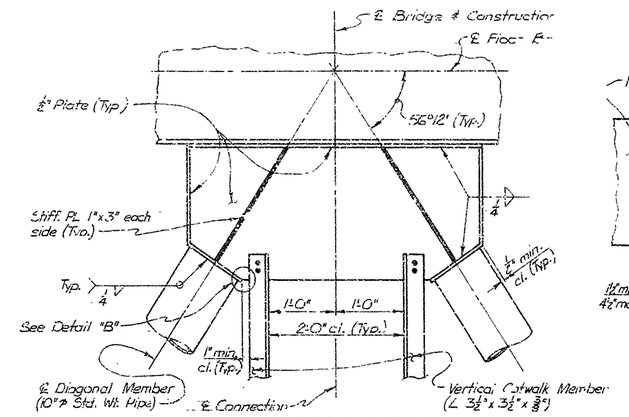


SECTION A-A (TYP. FOR ALL CONNECTIONS)

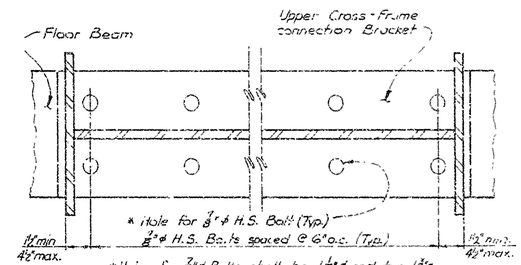
Scale: 3" = 1'-0"



CROSS FRAME NO. 9



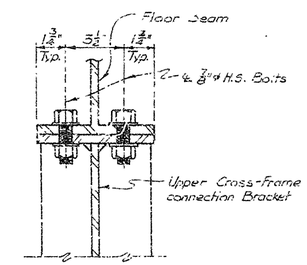
CROSS FRAME NO. 12



* Holes for ⅞" ø Bolts shall be 1 1/16" ø and two 1⅜" ø Washers shall be supplied for use under both the nut and the head of the Bolts.

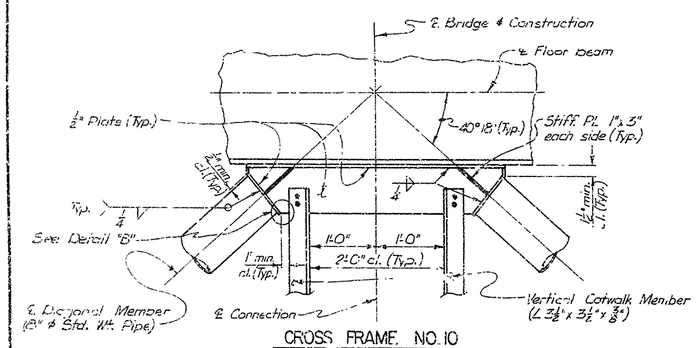
SECTION B-B (TYP. FOR ALL CONN.)

Scale: 3" = 1'-0"

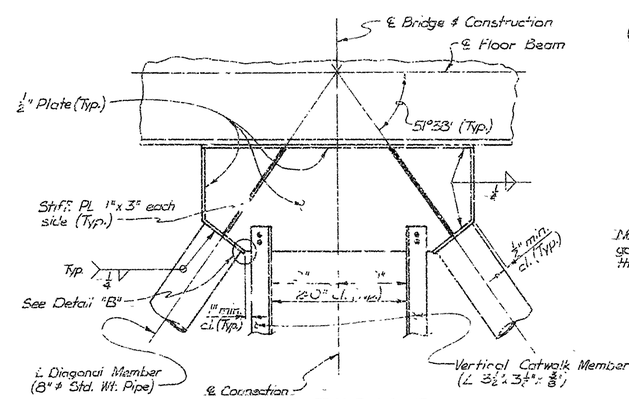


SECTION C-C (TYP. FOR ALL CONN.)

Scale: 3" = 1'-0"



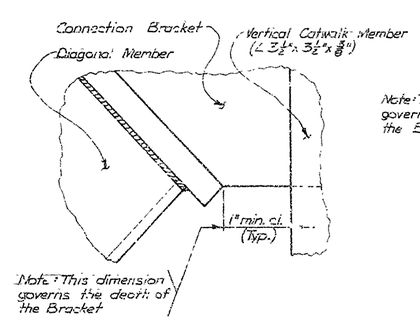
CROSS FRAME NO. 10



CROSS FRAME NO. 13

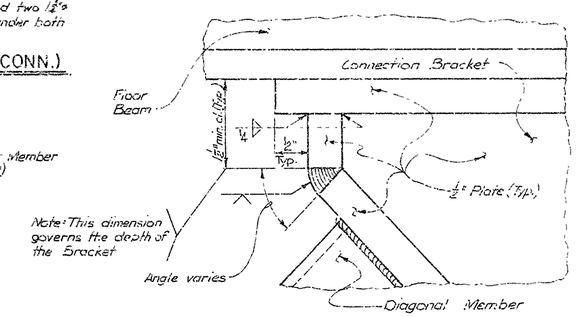
DETAILS OF UPPER CROSS FRAME CONNECTIONS

Scale: 1" = 1'-0"



DETAIL "B"

No Scale



DETAIL "A"

No Scale

SHEET 3 OF 12
DETAILS OF
930' CONT. WELDED PLATE GIRDER UNIT
ARK. RIVER BR. & APPRS. (CLARKSVILLE)
MAIN BRIDGE SUPERSTRUCTURE
LOGAN & JOHNSON CO.

ROUTE 109 SEC. 3 & 4

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: K.N.G. DATE: 21 MAY 76
CHECKED BY: [illegible] DATE: 7-22-76
DESIGNED BY: [illegible] DATE: 5-26-76
SCALE: AS SHOWN

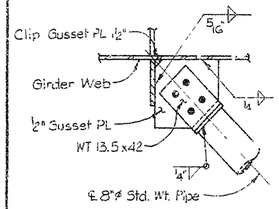
Paul Pinkerton
BRIDGE ENGINEER

BRIDGE NO. 5600 DRAWING NO. 20230

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	PROJ. NO.	TOTAL SHEETS
5-20-76	6-29-76			6	ARK.	TCS-A128-1	32	62
10-4-76	11-10-76			JOB NO		1442		

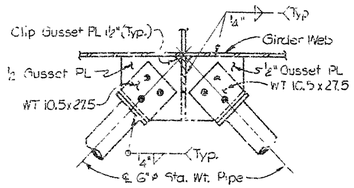
155

(1) 5600 - SPAN DTLS. - 20231



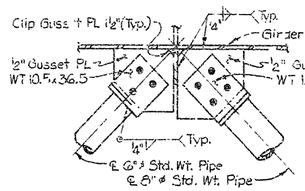
CROSS FRAME NO. 1

SCALE: 1/2" = 1'-0"



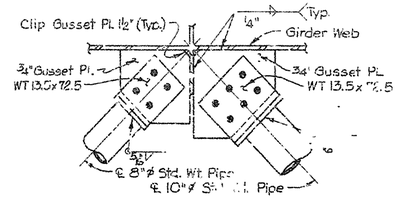
CROSS FRAME NO. 3-7, 19 & 20

SCALE: 1/2" = 1'-0"



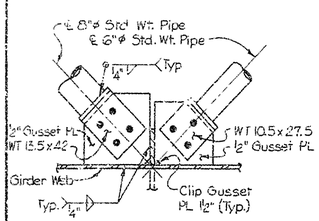
CROSS FRAME NO. 9

SCALE: 1/2" = 1'-0"



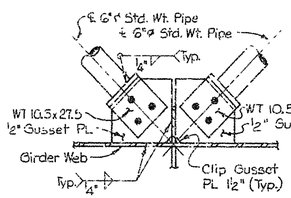
CROSS FRAME NO. 11

SCALE: 1/2" = 1'-0"



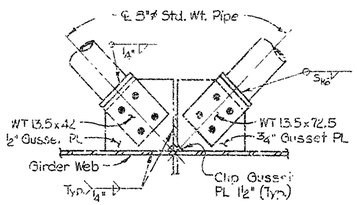
CROSS FRAME NO. 2 & 18

SCALE: 1/2" = 1'-0"



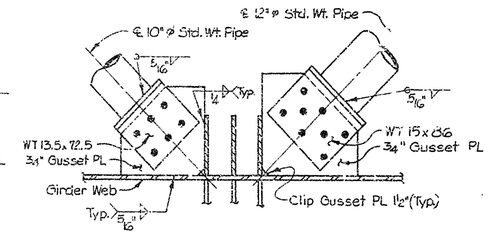
CROSS FRAME NO. 8

SCALE: 1/2" = 1'-0"



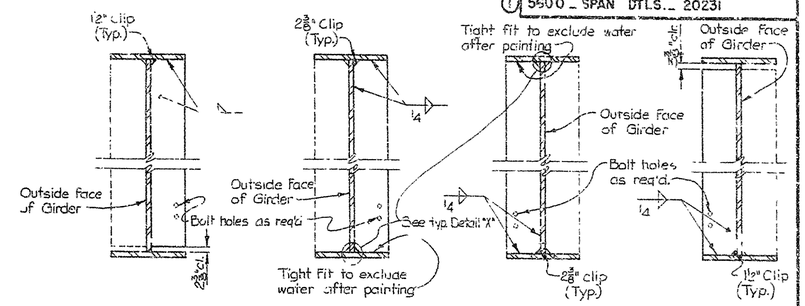
CROSS FRAME NO. 10 & 17

SCALE: 1/2" = 1'-0"



CROSS FRAME NO. 12

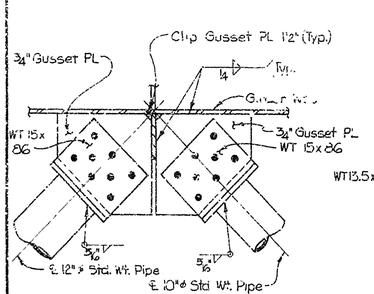
SCALE: 1/2" = 1'-0"



DETAILS OF TRANSVERSE INTERMEDIATE STIFFENERS

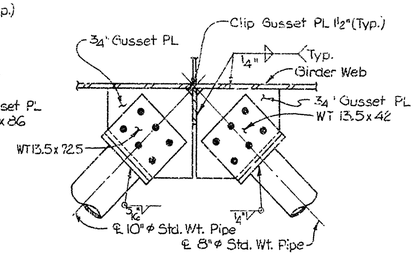
No Scale

NOTE: For Location of Stiff. Region "A"-"D" see "GIRDER ELEVATION", Drwg. No. 20228



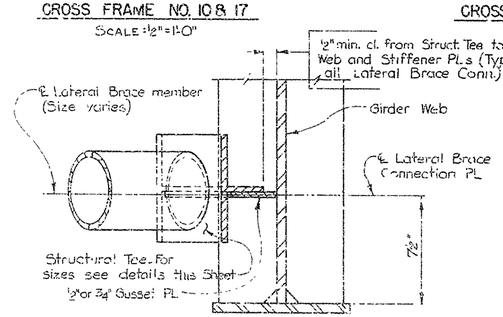
CROSS FRAME NO. 13

SCALE: 1/2" = 1'-0"



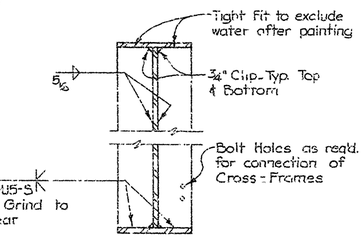
CROSS FRAME NO. 15

SCALE: 1/2" = 1'-0"



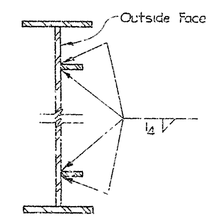
TYPICAL ELEVATION OF LATERAL BRACE CONNECTION

No Scale



DETAILS OF TRANSVERSE BEARING STIFFENERS

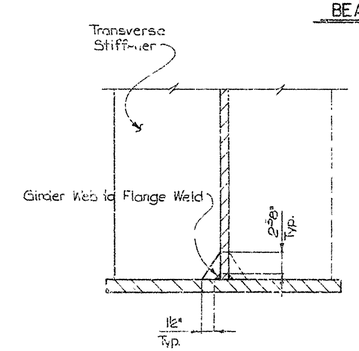
No Scale



NOTE: For additional details of Long. Stiffeners see Drwg. No. 20228

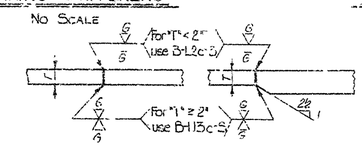
DETAILS OF LONGITUDINAL STIFFENERS

No Scale

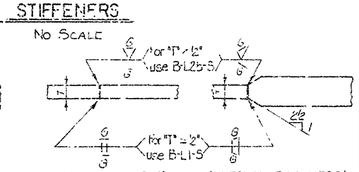


TYPICAL DETAIL "X"

SCALE: 1 1/2" = 1'-0"



FLANGE SPLICES

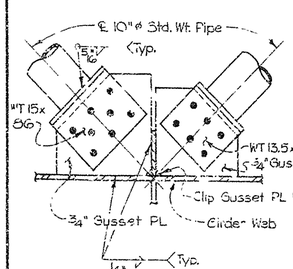


(EQUAL THICKNESS) (UNEQUAL THICKNESS)

WEB SPLICES

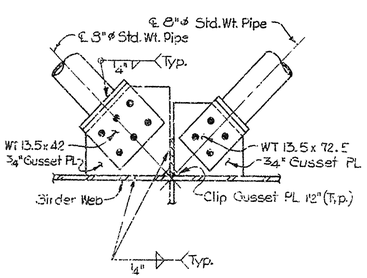
DETAILS OF WELDED SPLICES

No Scale



CROSS FRAME NO. 14

SCALE: 1/2" = 1'-0"



CROSS FRAME NO. 16

SCALE: 1/2" = 1'-0"

DETAILS OF LATERAL BRACE CONNECTIONS

AT CROSS FRAME NO. 1 THRU 20

NOTE: All of the Pipe Sections shall have a 3/8"ø Drain Hole approx. midway between ends. After fabrication of Brace is completed, the hole shall be plug welded & made airtight.

NOTE: All Bolts in Lateral Brace Connections shall be 1 1/2"ø High Strength Bolts. Min. spacing shall be 4 1/2". Min. edge distance shall be 2 1/4". Bolt heads shall be 1 9/16"ø with one 3"ø PL Washer. Holes may be 1 9/16"ø if 3"ø washers are supplied for use under both the nut and the head of each Bolt.

NOTE: For additional details of Lateral Bracing see "FRAMING PLAN", Drwg. No. 20228

NOTE: All Transverse Intermediate and Bearing Stiffeners shall be A36. All Girder Webs, Flanges and Long. Stiffeners shall be of the type steel as shown on the Plans. All Pipe Sections shall be ASTM A53 Type S, Grade B. All other structural steel shall be A36.

All Web plates must be placed so that the direction in which the plates are rolled is along the longitudinal axis of the Girder. Longitudinal butt welds may be used to make up the Web as long as the plates are of approx. the same depth.

SHEET 4 OF 12

DETAILS OF

930' CONT. WELDED PLATE GIRDER UNIT

ARK. RIVER BR. & APPRS. (CLARKSVILLE)

MAIN BRIDGE SUPERSTRUCTURE

LOGAN & JOHNSON CO.

ROUTE 109 SEC. 3 & 4

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: K.M.G. DATE: 24 MAY 76

CHECKED BY: [illegible] DATE: 7-29-76 SCALE: AS SHOWN

DESIGNED BY: [illegible] DATE: [illegible]

BRIDGE ENGINEER

BRIDGE NO. 5600 DRAWING NO. 20231

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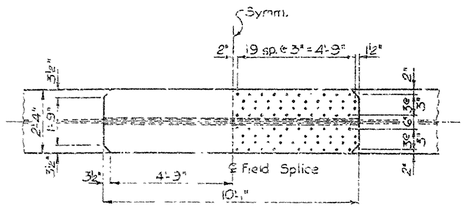
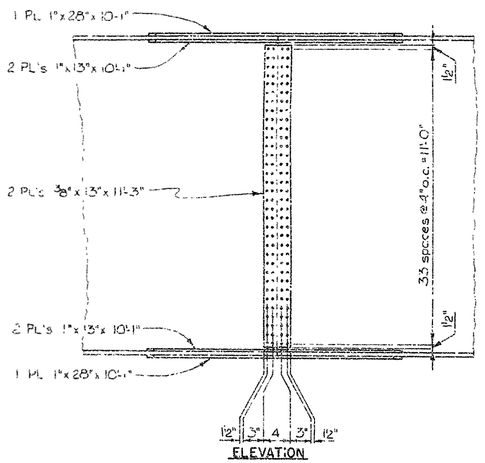
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD P.O.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
SSFE 76 1696-1-76				6	ARK.	TQS-A128-1		
10-L-76 1978-10-6-76				JOB NO		1442	35	63

(1) 5600 _ SPAN DTLS. _ 20232

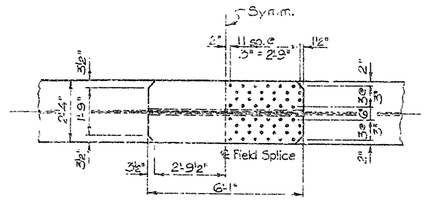


PLAN

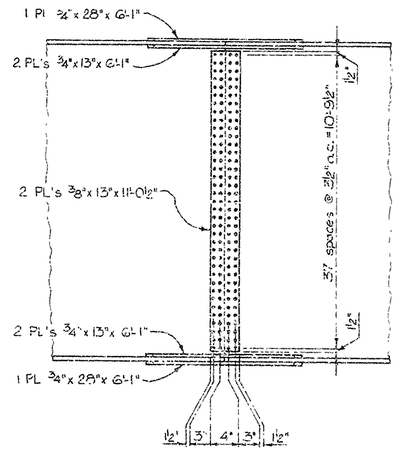


ELEVATION

DETAILS OF FIELD SPLICE NO. 1

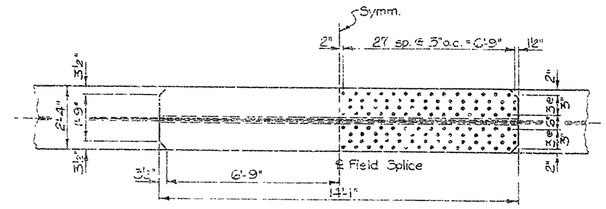


PLAN

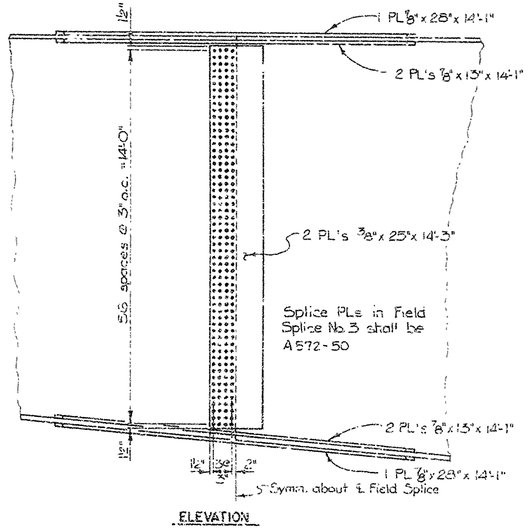


ELEVATION

DETAILS OF FIELD SPLICE NO. 2

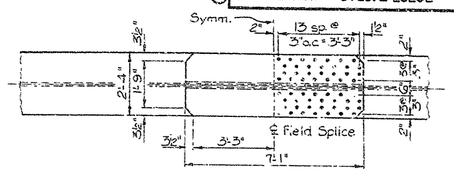


PLAN

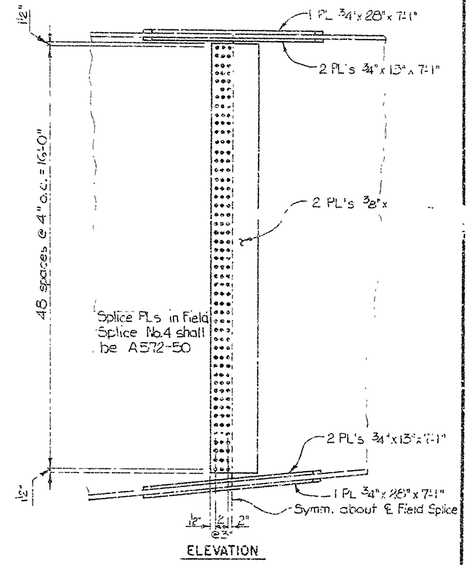


ELEVATION

DETAILS OF FIELD SPLICE NO. 3

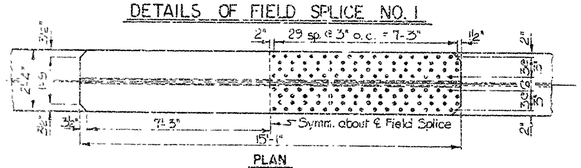


PLAN

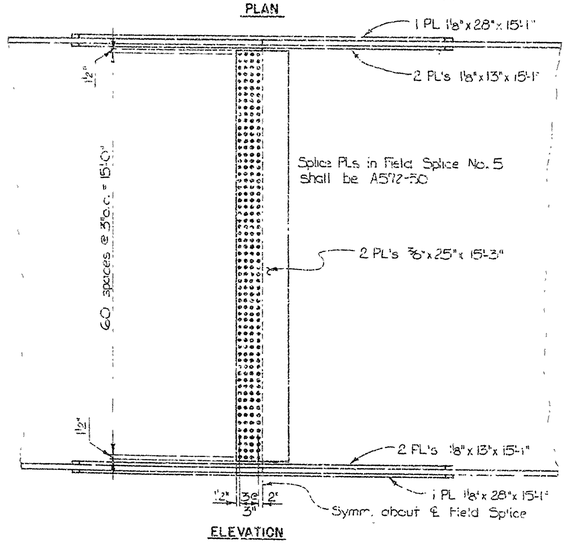


ELEVATION

DETAILS OF FIELD SPLICE NO. 4

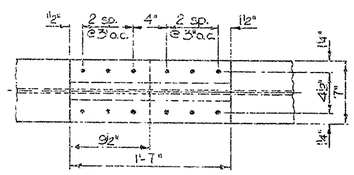


PLAN

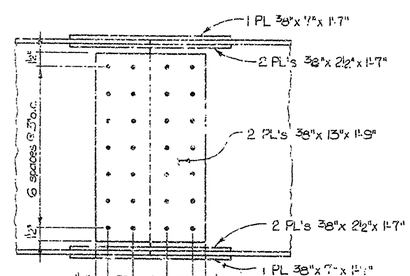


ELEVATION

DETAILS OF FIELD SPLICE NO. 5



PLAN



ELEVATION

DETAILS OF TYPICAL STRINGER SPLICE

SCALE: 1½" = 1'-0"

NOTE: Use ¾"φ High Strength Bolts at all Girder and Stringer splices. Bolt holes shall be 13/16"φ open holes.

Use Filler Plates as req'd. in all Field Splices

NOTE: All Splice PLs shall be A36 Steel unless otherwise noted.

SHEET 5 OF 12
DETAILS OF
930' CONT. WELDED PLATE GIRDER UNIT
ARK. RIVER BR. & APPRS. (CLARKSVILLE)
MAIN BRIDGE SUPERSTRUCTURE
LOGAN & JOHNSON CO.

ROUTE 109 SEC. 3 & 4

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

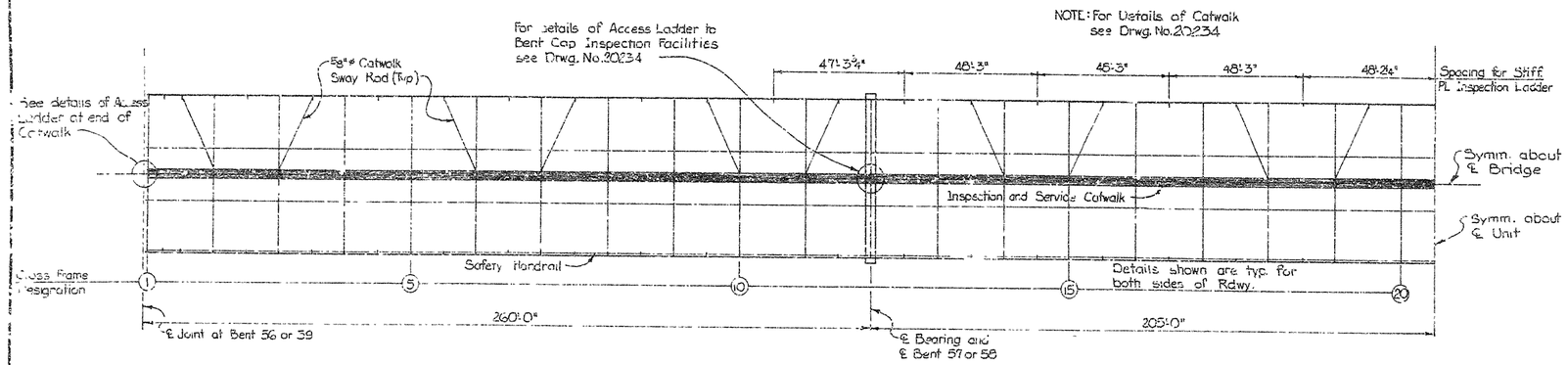
DRAWN BY: K.M.C. DATE 4 JUNE 76
CHECKED BY: [illegible] DATE [illegible]-27-76
DESIGNED BY: [illegible] DATE 10-23-75
SCALE: 3/8" = 1'-0" EXCEPT AS NOTED

BRIDGE ENGINEER

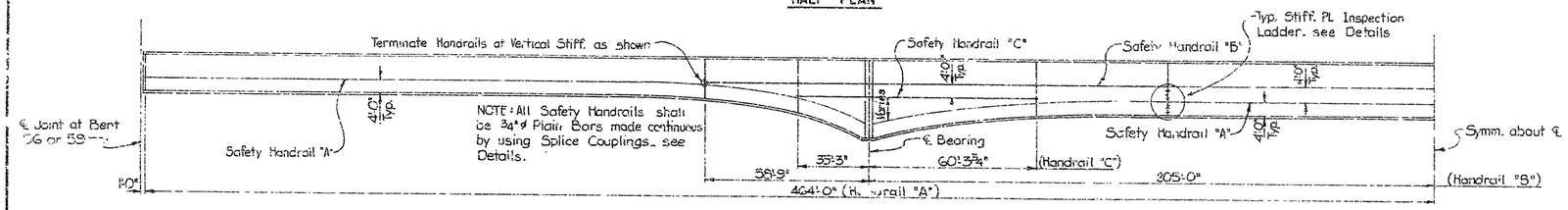
BRIDGE NO. 5600 DRAWING NO. 20232

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
8Sep76	197-9-1-76			6	ARK.	TQS-A128-1		
10-4-76	1339-10-6-76			JOB NO		1442	36	63

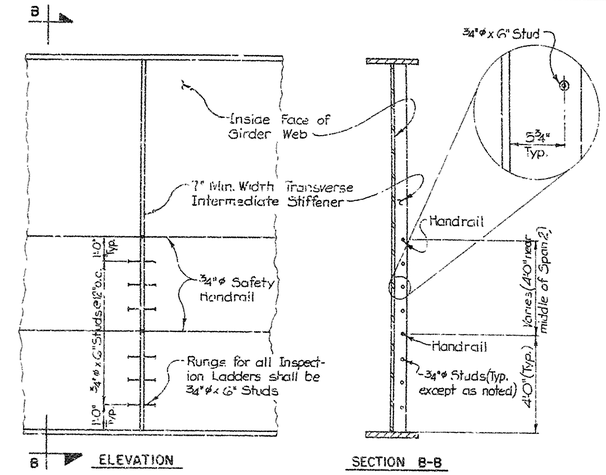
(1) 5600 _ SPAN DTLS._ 20233



HALF - PLAN



HALF-GIRDER ELEVATION (INSIDE FACE)



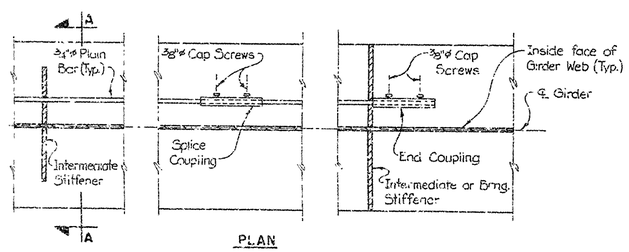
DETAILS OF INSPECTION LADDER AT INTERMEDIATE STIFF.

No Scale

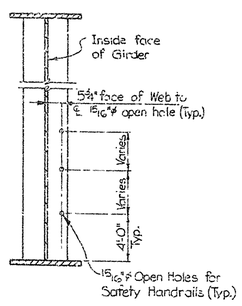
NOTE: The 3/4"ø x 6" Studs in the Inspection Ladders shall be granular flux filled, solid fluxed, or equal and shall be automatically end welded to the Stiff. Pls in accordance with the recommendations of the manufacturer.

DETAILS FOR LOCATION OF INSPECTION FACILITIES

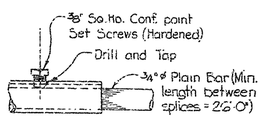
No Scale



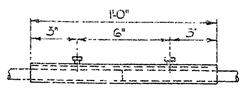
PLAN



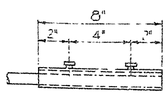
SECTION A-A



DETAIL AT CAP SCREW



SPLICE COUPLING

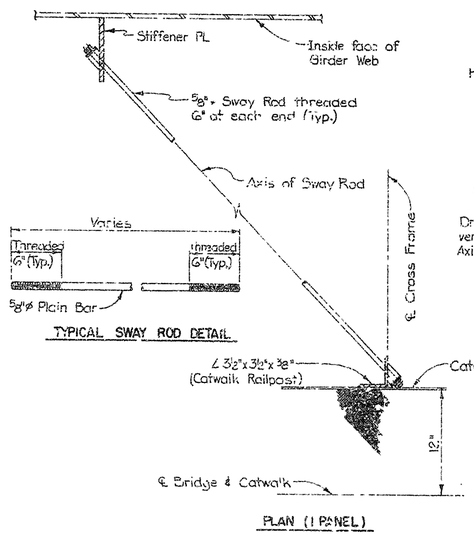


END COUPLING

NOTE: Couplings shall be made of Round Mechanical Tubing (Carbon Steel), 1 1/4" O.D., 3/32" Wall Thick. All Tubing shall be ASTM A519 (CW).

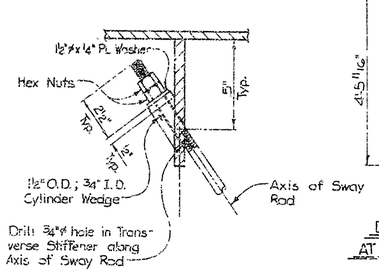
DETAILS OF FIELD ERECTED SAFETY HANDRAIL

No Scale

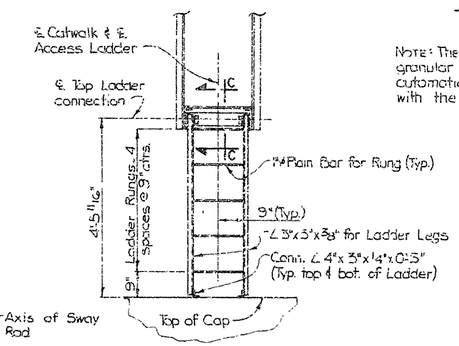


TYPICAL SWAY ROD DETAIL

PLAN (1 PANEL)

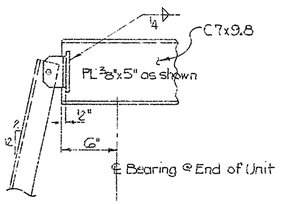


DETAIL OF CONNECTION AT STIFF. PLATE



DETAILS OF ACCESS LADDER AT ENDS OF CATWALK

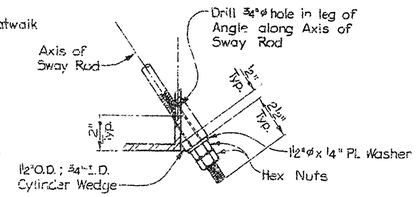
SCALE: 1/2" = 1'-0"



SECTION C-C

No Scale

NOTE: For additional Access Ladder details see Drwg. No. 20234



DETAIL OF CONNECTION AT CATWALK RAILPOST

DETAILS OF CATWALK SWAY BRACING

No Scale

SHEET 6 OF 12
DETAILS OF
930' CONT. WELDED PLATE GIRDER UNIT
ARK. RIVER BR. & APPRS. (CLARKSVILLE)
MAIN BRIDGE SUPERSTRUCTURE
LOGAN & JOHNSON CO.

ROUTE 109 SEC. 3 & 4

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: K.M.G. DATE: 10 JUNE 76
CHECKED BY: [illegible] DATE: 7-29-76
DESIGNED BY: [illegible] DATE: [illegible]
SCALE: AS SHOWN

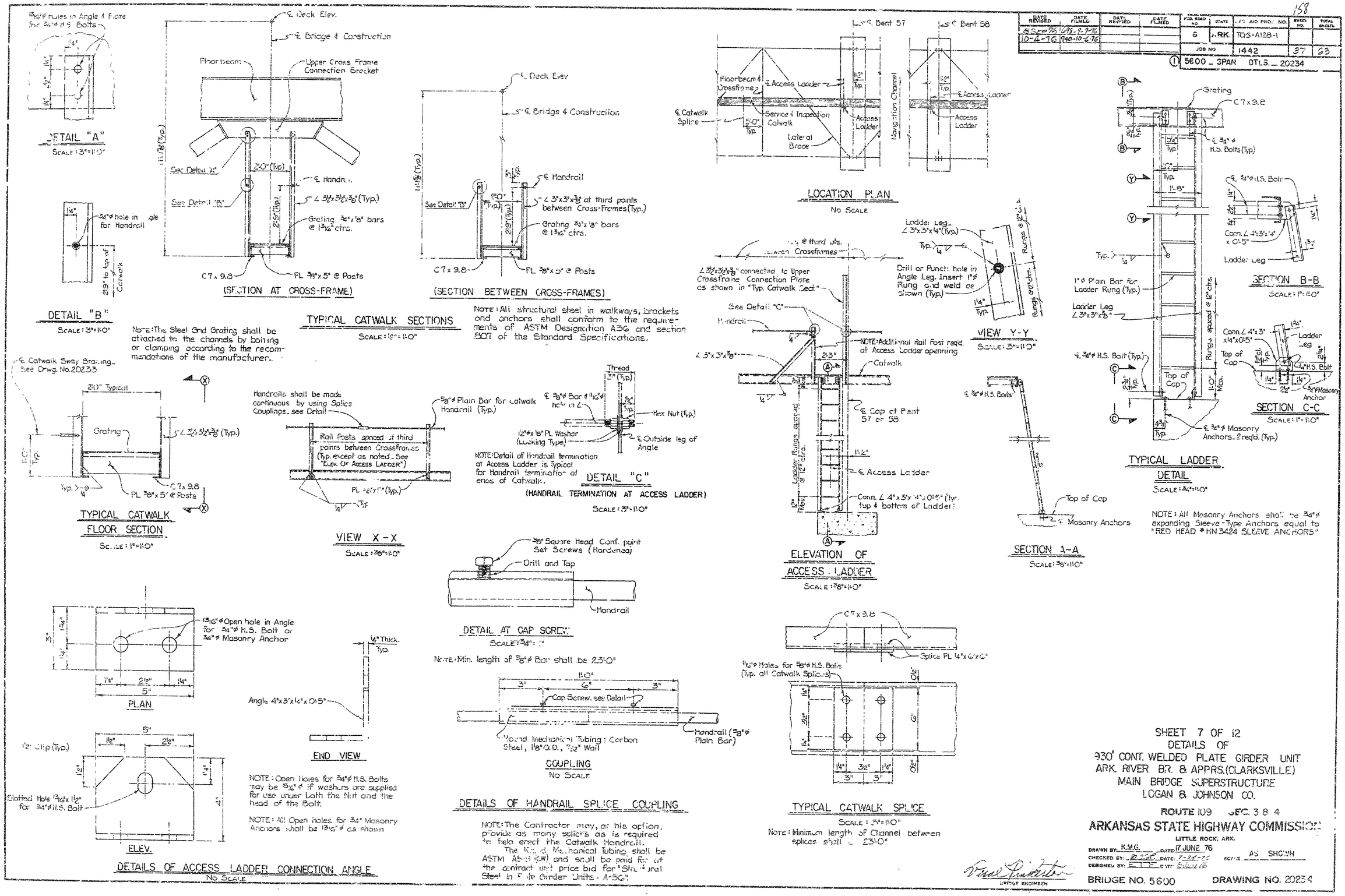
Earl Pinkerton
BRIDGE ENGINEER

BRIDGE NO. 5600 DRAWING NO. 20233

158

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6-Sept-76	6-28-76			8	ARK.	TOS-A128-1		
10-6-76	10-10-76			JOB NO. 1442			37	23

(1) 5600 _ SPAN DTLS. _ 20234



SHEET 7 OF 12
DETAILS OF
930' CONT. WELDED PLATE GIRDER UNIT
ARK. RIVER BR. & APPRS. (CLARKSVILLE)
MAIN BRIDGE SUPERSTRUCTURE
LOGAN & JOHNSON CO.

ROUTE 109 SEC. 3 & 4

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

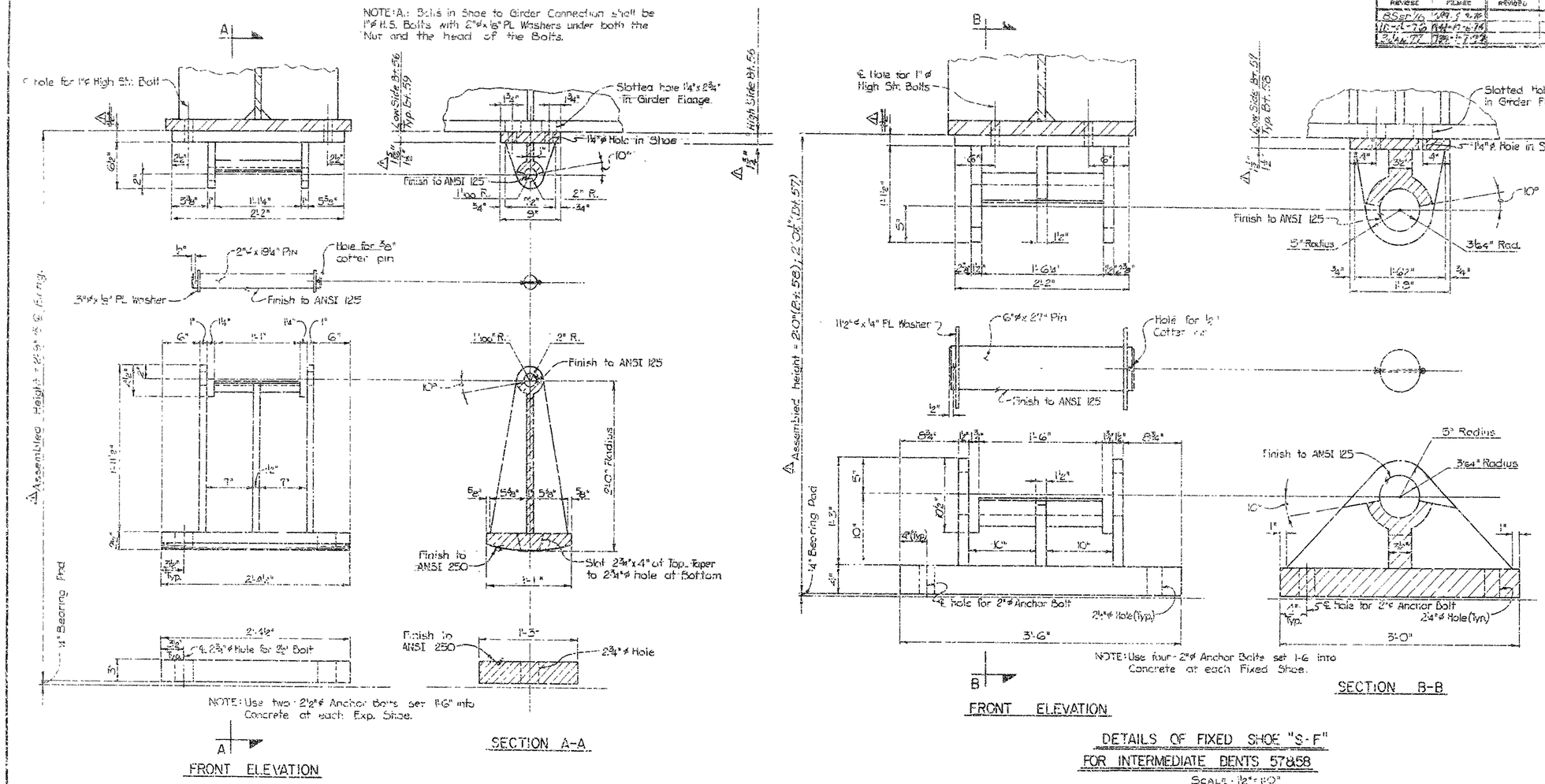
DRAWN BY: K.M.G. DATE: 17 JUNE 76
CHECKED BY: R.C.B. DATE: 7-28-76 SCALE: AS SHOWN
DESIGNED BY: [illegible] DATE: [illegible]

Vernal Pinkerton
BRIDGE ENGINEER

BRIDGE NO. 5600 DRAWING NO. 20234

DATE REVISED	DATE REVISED	DATE REVISED	DATE REVISED	FED. RDS. PROJ. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
8 Sep 76				S	ARK.	RDS-A128-1		
10 Dec 76				JOB NO.		1442	38	68
3 Jan 77								

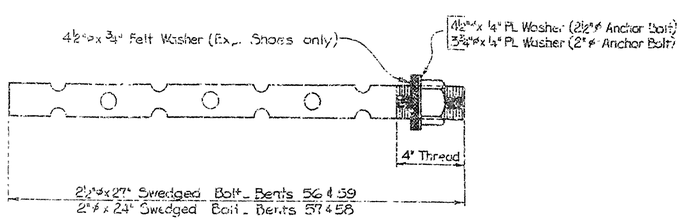
3600 _ SPAN DTL S. _ 20235



⚠ Revised Bt. 56 & 57 Beveled scale (2" thickness) ETF; 3 Jan 77

NOTE: Alternate Welded Shoes may be requested by the Steel Fabricator.

All castings for Shoes shall be ASTM A27.
All Pins shall be ASTM A-108 Grades 1015 to 1030 inc. or A-668 Class C.
All Anchor Bolts to be A36.



ANCHOR BOLT DETAIL
NO SCALE

SHEET 8 OF 12
DETAILS OF
930' CONT. WELDED PLATE GIRDER UNIT
ARK. RIVER BR. & APPRS. (CLARKSVILLE)
MAIN BRIDGE SUPERSTRUCTURE
LOGAN & JOHNSON CO.

ROUTE 109 SEC. 3 & 4

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

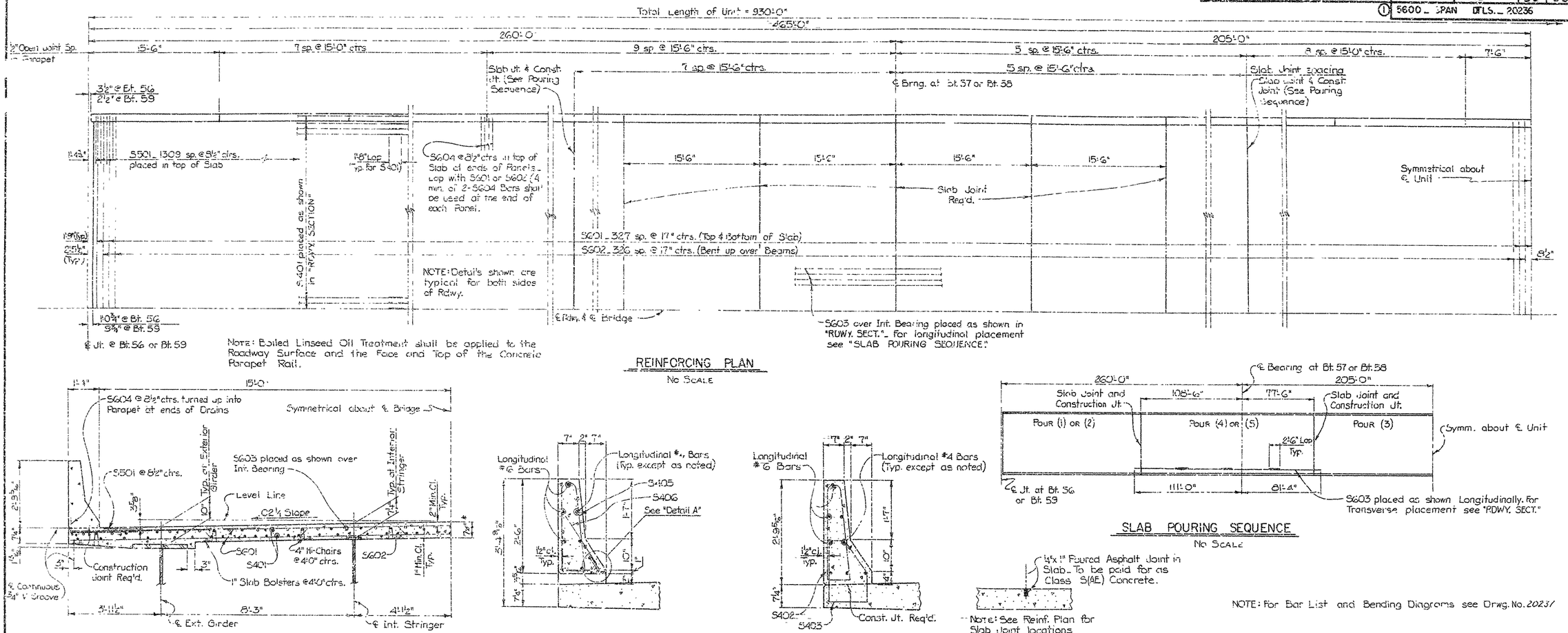
DRAWN BY K.M.G. DATE 2 JUNE 76
CHECKED BY R.V.H. DATE 7-22-76
DESIGNED BY E.T.F. DATE 4-26-76
SCALE AS SHOWN

BRIDGE ENGINEER

BRIDGE NO. 5600 DRAWING NO. 20235

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
5 Sept 76	7-10-76			6	ARK	TQS-A128-1		
10-4-76	942-10-6-76					1442	39	63

① 5600 - SPAN DTLS. - 20236



Note: Boiled Linseed Oil Treatment shall be applied to the Roadway Surface and the Face and Top of the Concrete Parapet Rail.

REINFORCING PLAN

No Scale

HALF RDWY. SECTION

Scale: ½" = 1'-0"

*The Contractor may at his option pour the underside of the center panel level with a centerline dimen. of 8½". Quantities will be based on those dimensions shown.

SECTION A-A

Scale: ¾" = 1'-0"

SECTION B-B

Scale: ¾" = 1'-0"

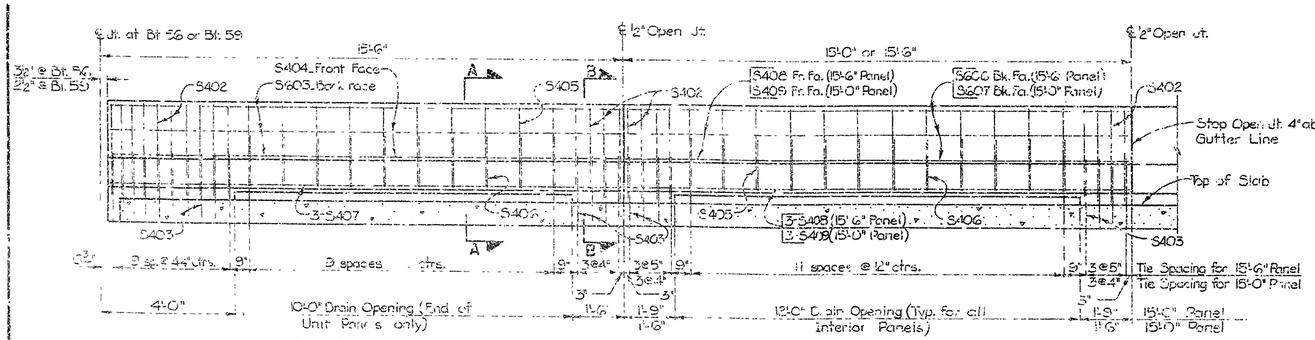
SLAB POURING SEQUENCE

No Scale

SLAB JOINT DETAILS

No Scale

NOTE: For Bar List and Bending Diagrams see Drwg. No. 20237

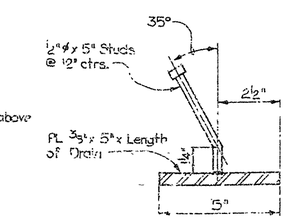


(TYPICAL END OF UNIT PANEL)

(TYPICAL INTERIOR PANEL)

DETAILS OF PARAPET

Scale: ½" = 1'-0"



DETAIL "A"

No Scale

Note: See Note "A" on Sht. 2 of 6 of the 650' Unit details, Drwg. No. 19446 A.

SHEET 9 OF 12
DETAILS OF
930' CONT. WELDED PLATE GIRDER UNIT
ARK. RIVER BR. & APPRS. (CLARKSVILLE)
MAIN BRIDGE SUPERSTRUCTURE
LOGAN & JOHNSON CO.

ROUTE 109 SEC. 3 & 4

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: K.M.G. DATE: 17 MAY 76
CHECKED BY: [illegible] DATE: 5-22-76
DESIGNED BY: [illegible] DATE: [illegible]
SCALE: AS SHOWN

BRIDGE ENGINEER

BRIDGE NO. 5600

DRAWING NO. 20236

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
8 Sep 76	76-9-7-76			6	ARK.	TQS-A28-1		
10-4-76	243-10-6-76			JOB NO.		1442	40	63
1-5-77	77-1-5-77							

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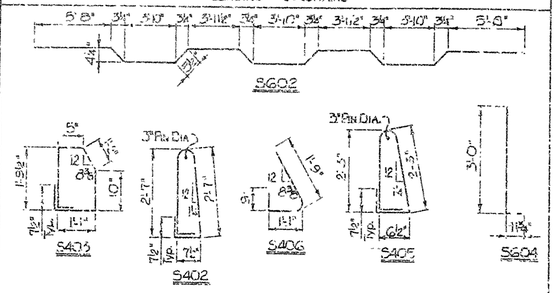
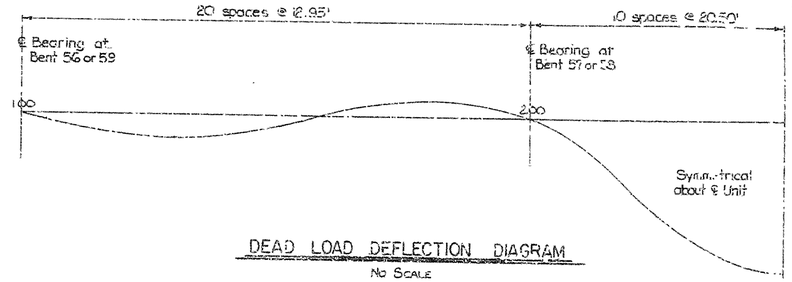
BAR LIST

MARK	NO. REQ'D.	LENGTH	PIN DIA.
S401	1776	40'-0"	Str.
S402	1000	6'-11"	2"
S403	1000	6'-2"	2"
S404	8	15'-0"	Str.
S405	1456	6'-2"	2"
S406	456	3'-6"	2"
S407	12	15'-0"	Str.
S408	280	15'-2"	Str.
S409	310	14'-8"	Str.
S501	2620	5'-0"	Str.
S601	1310	32'-3"	Str.
S602	654	33'-0"	3¾"
S603	208	23'-6"	Str.
S604	616	3'-10"	3¾"
S605	12	15'-0"	Str.
S606	168	15'-2"	Str.
S607	186	14'-8"	Str.

BENDING DIAGRAMS



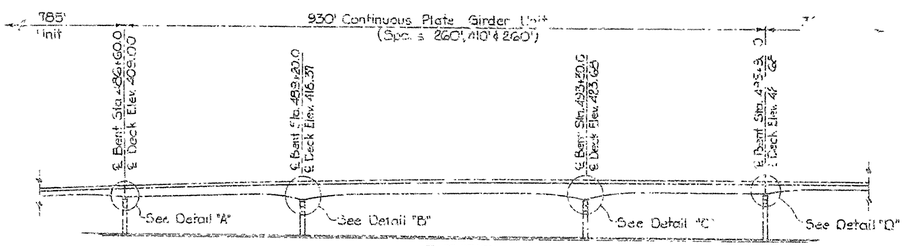
DIMENSIONS SHOWN ARE TO OUTSIDE OF BARS.



DEAD LOAD DEFLECTION DIAGRAM

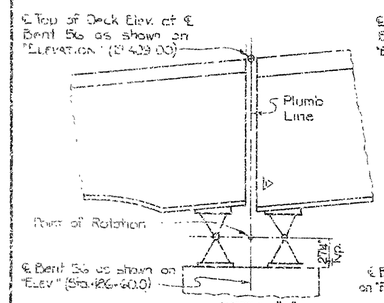
No Scale

NOTE: Diagram for Dead Load Deflection plus vertical curve ± ¼" tolerance. Vertical curve corrections not included in Table.



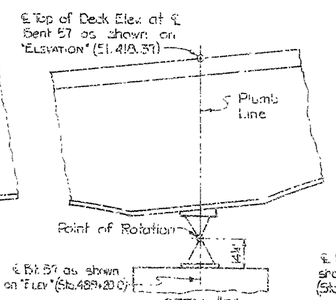
ELEVATION

No Scale



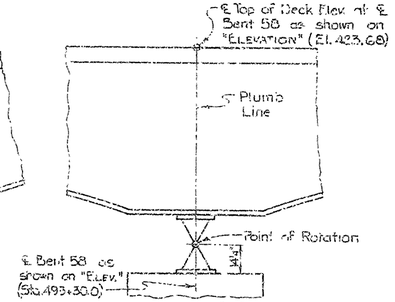
DETAIL "A"

No Scale



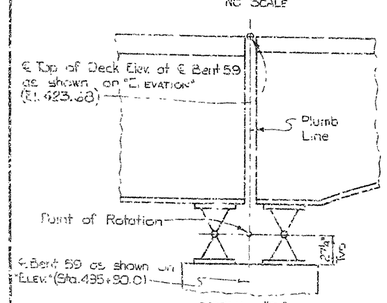
DETAIL "B"

No Scale



DETAIL "C"

No Scale



DETAIL "D"

No Scale

Note: Details "A" thru "D" show method used for calculation of ℄ Top of Deck Elev. and Station at ℄ Bents 56 thru 59.

Note: The Bearing Assemblies shall be set in a vertical position under full dead loads at 60° F.

LOCATION OF STATIONS & ELEVATIONS SHOWN ON LAYOUT

DEAD LOAD DEFLECTION ORDINATES (INCHES)

SPAN 1/20th POINTS	* STRUCTURAL STEEL	STRUCTURAL STEEL + SLAB CONCRETE	** TOTAL ERECTION DEAD LOAD
1.00	-	-	-
1.05	-0.09	-0.52	-0.61
1.10	-0.14	-0.98	-1.12
1.15	-0.16	-1.34	-1.57
1.20	-0.18	-1.64	-1.92
1.25	-0.17	-1.82	-2.13
1.30	-0.13	-1.89	-2.21
1.35	-0.19	-1.87	-2.18
1.40	+0.02	-1.72	-2.05
1.45	+0.11	-1.47	-1.74
1.50	+0.27	-1.15	-1.35
1.55	+0.45	-0.79	-0.91
1.60	+0.56	-0.39	-0.40
1.65	+0.62	+0.09	+0.04
1.70	+0.69	+0.44	+0.44
1.75	+0.71	+0.71	+0.76
1.80	+0.68	+0.84	+0.92
1.85	+0.58	+0.83	+0.91
1.90	+0.43	+0.67	+0.74
1.95	+0.23	+0.37	+0.41
2.00	-	-	-
2.05	-0.30	-0.95	-1.07
2.10	-1.07	-2.33	-2.39
2.15	-1.74	-3.49	-3.91
2.20	-2.32	-5.06	5.68
2.25	-3.00	-6.51	-7.42
2.30	-3.56	-7.68	-8.34
2.35	-4.01	-9.02	-10.15
2.40	-4.39	-9.84	-11.06
2.45	-4.61	-10.38	-11.66
2.50	-4.64	-10.58	-11.88

*Structural Steel Includes Girder, Cross Frames, Lateral Bracing, Stringers, Inspection Catwalk, and all Related Attachments.

**Total Erected Dead Load Includes all Structural Steel, Slab Concrete, and Open Concrete Parapet.

LOAD DISTRIBUTION:	DEAD LOAD TO STRINGER OR GIRDER	DEAD LOAD TO STRINGER OR GIRDER, INCLUDES 240#/FT FOR WEIGHT OF FUTURE SURFACE	LIVE LOAD TO COMP. GIRDER
GIRDER	2,303 PLF + GIRDER		2,404 WHEELS + IMPACT
STRINGER	1,911 PLF + GIRDER		1,500 WHEELS + IMPACT

▷ Revised Detail "D", K.M.G. June '77

Fred Pinkerton
BRIDGE ENGINEER

SHEET 10 OF 12
DETAILS OF
930' CONT. WELDED PLATE GIRDER UNIT
ARK. RIVER BR. & APPRS. (CLARKSVILLE)
MAIN BRIDGE SUPERSTRUCTURE
LOGAN & JOHNSON CO.

ROUTE 109 SECTION 4

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK

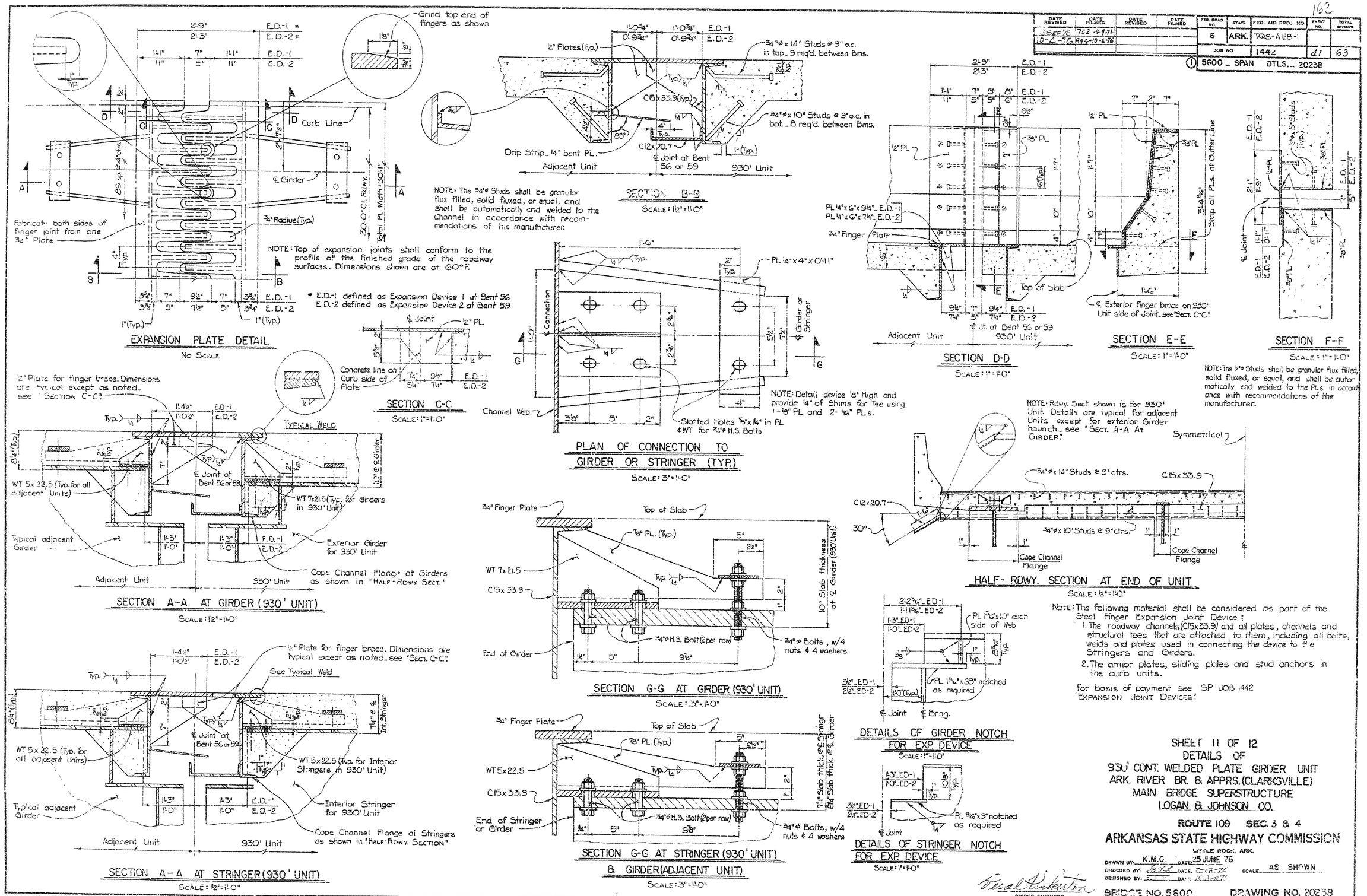
DRAWN BY: K.M.G. DATE: 8 JULY 76
CHECKED BY: [illegible] DATE: 2-28-76
DESIGNED BY: [illegible] DATE: [illegible]
SCALE: AS SHOWN

BRIDGE NO. 5500 DRAWING NO. 20237

162

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3 SEP 76	7-22-76			6	ARK.	TQS-A128-1		
10-6-76	8-4-10-6-76			JOB NO. 1442			41	63

(1) 5600 - SPAN DTLS. - 20238



NOTE: The following material shall be considered as part of the Steel Finger Expansion Joint Device:

1. The roadway channels (C15x33.9) and all plates, channels and structural tees that are attached to them, including all bolts, welds and plates used in connecting the device to the Stringers and Girders.
2. The armor plates, sliding plates and stud anchors in the curb units.

For basis of payment see SP JOB 1442 "EXPANSION JOINT DEVICES."

SHEET 11 OF 12
DETAILS OF
930' CONT. WELDED PLATE GIRDER UNIT
ARK. RIVER BR. & APPRS. (CLARKSVILLE)
MAIN BRIDGE SUPERSTRUCTURE
LOGAN & JOHNSON CO.

ROUTE 109 SEC. 3 & 4

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: K.M.C. DATE: 25 JUNE 76
CHECKED BY: [illegible] DATE: 7-12-76
DESIGNED BY: [illegible] DATE: [illegible]
SCALE: AS SHOWN

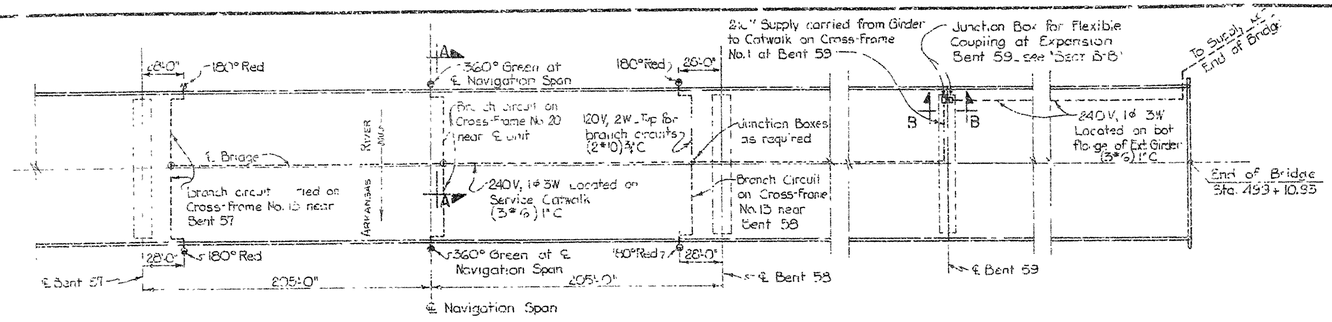
[illegible] BRIDGE ENGINEER

BRIDGE NO. 5600 DRAWING NO. 20238

163

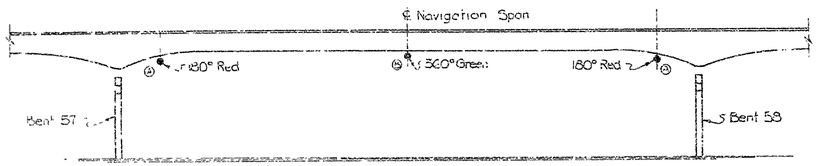
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
8 SEP 76	7-03-9-9-76			6	ARK.	TQS-A128-1		
10-1-76	1985-10-6-76			JOB NO.		1442	12	13

(1) 5600 _ SPAN DTLS._ 20239



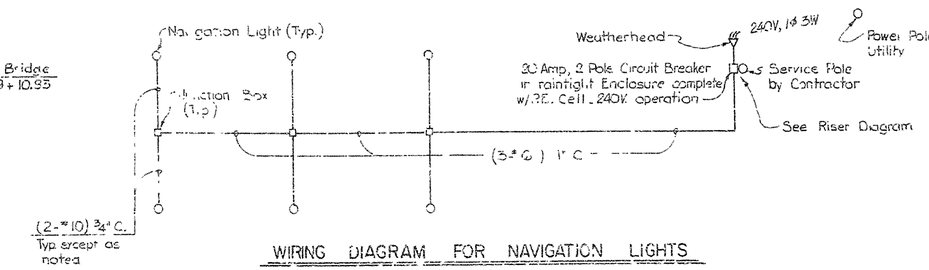
PLAN

No Scale



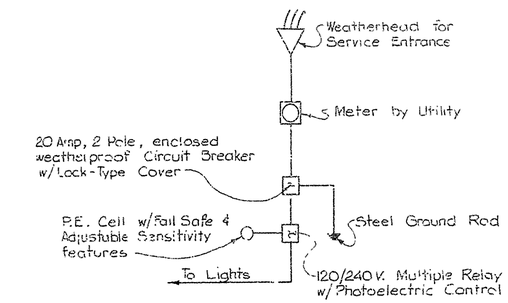
ELEVATION

No Scale



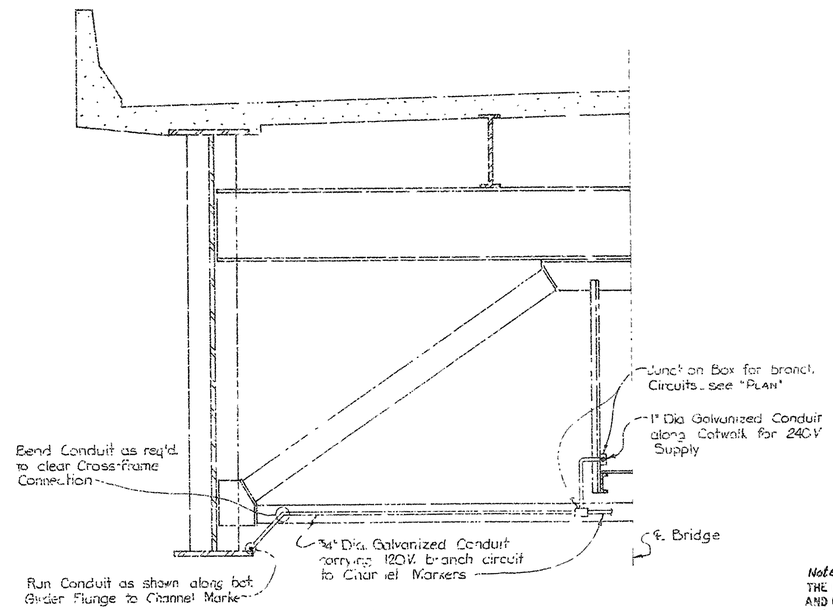
WIRING DIAGRAM FOR NAVIGATION LIGHTS

No Scale



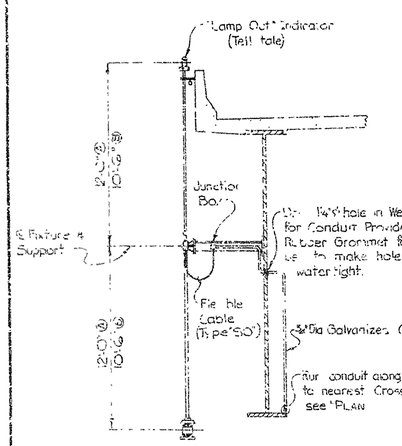
RISER DIAGRAM

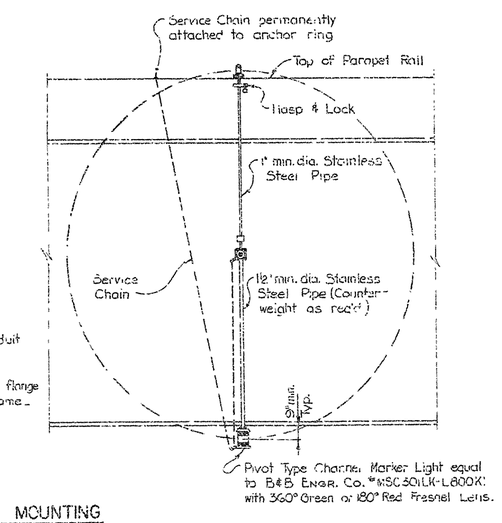
No Scale



TYPICAL SECTION A-A

No Scale

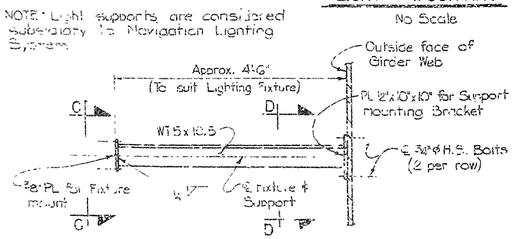




LIGHT MOUNTING

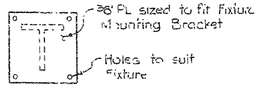
No Scale

NOTE: Light supports are considered subsidiary to Navigation Lighting System.



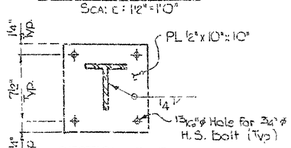
DETAIL OF LIGHT SUPPORT

Scale: ¾"=1'-0"



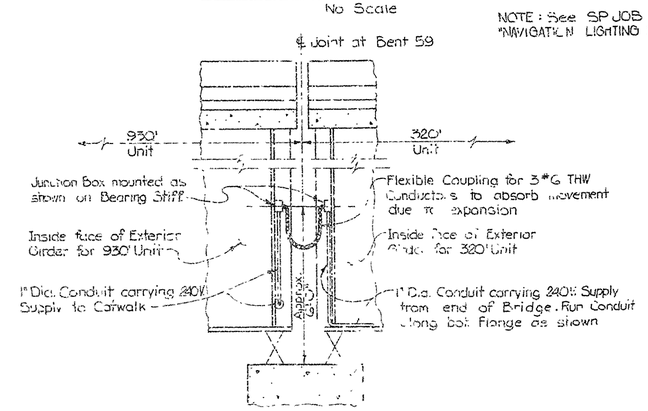
VIEW C-C

Scale: 12"=1'-0"



SECTION D-D

Scale: 12"=1'-0"



SECTION B-B

No Scale

NOTE: See SP JOB 1442 "NAVIGATION LIGHTING SYSTEM"

Note:
THE USE OF A MANUFACTURER'S NAME IS INTENDED TO INDICATE ONLY THE TYPE AND QUALITY OF PRODUCT TO BE FURNISHED. OTHER MANUFACTURER'S PRODUCTS PROVIDING EQUAL STANDARDS OF PERFORMANCE AND QUALITY WILL BE CONSIDERED AS ACCEPTABLE SUBJECT TO THE APPROVAL OF THE ENGINEER.

SHEET 12 OF 12
DETAILS OF
930' CONT. WELDED PLATE GIRDER UNIT
ARK. RIVER BR. & APPRS. (CLARKSVILLE)
MAIN BRIDGE SUPERSTRUCTURE
LOGAN & JOHNSON CO.

ROUTE 109 SEC. 3 & 4

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

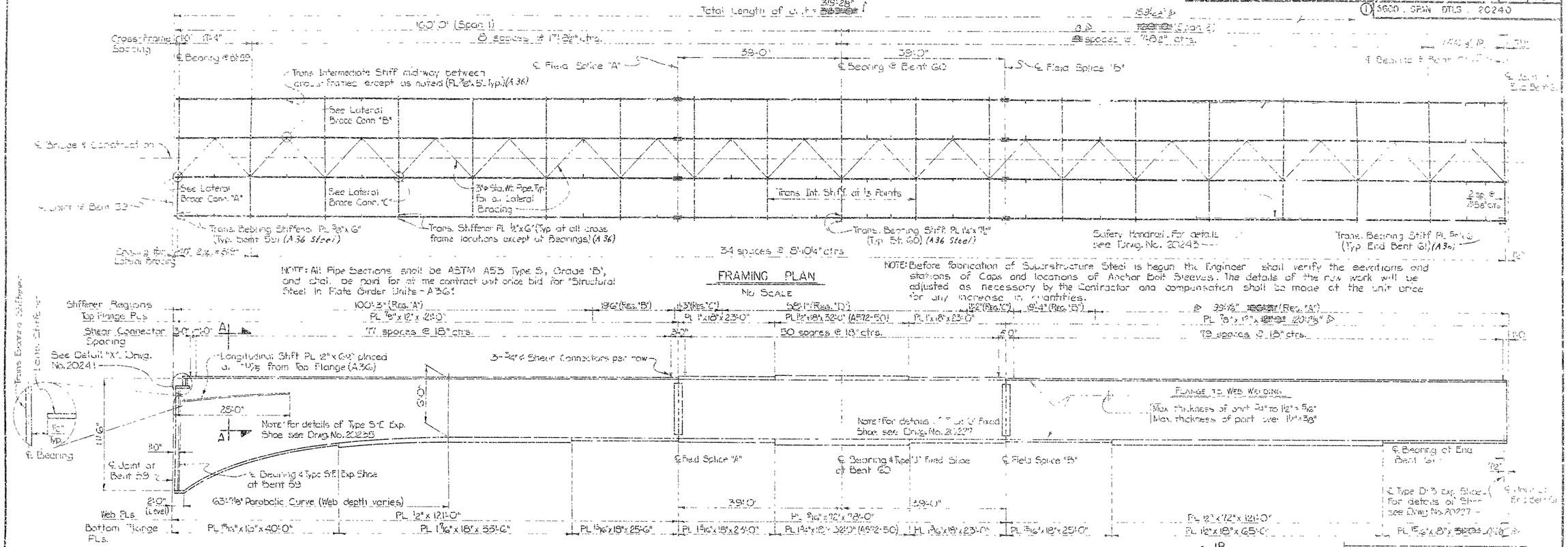
DRAWN BY: K.M.G. DATE: 6 JULY 76
CHECKED BY: DATE: 2-28-76
DESIGNED BY: DATE: 2-28-76
SCALE: AS SHOWN

BRIDGE ENGINEER

BRIDGE NO. 5600 DRAWING NO. 20239

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	REG. ROUTE NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6-20-76	7-6-76			6	ARK	TWS-A126-1		
12-2-76	12-16-76							
3-11-77	3-25-77					1947	43	43

(1) 5600 SPAN DTLS. 20240



NOTE: All Pipe Sections shall be ASTM A53 Type S, Grade 'B', and shall be paid for at the contract unit price bid for "Structural Steel in Plate Girder Units - A36".

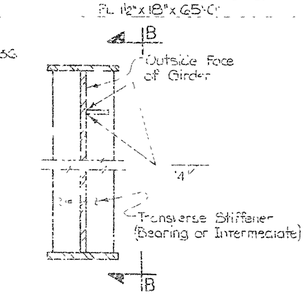
NOTE: Before fabrication of Substructure Steel is begun the Engineer shall verify the elevations and stations of Caps and locations of Anchor Bolt Sleeves. The details of the run work will be adjusted as necessary by the Contractor and compensation shall be made at the unit price for any increase in quantities.

FRAMING PLAN
No Scale

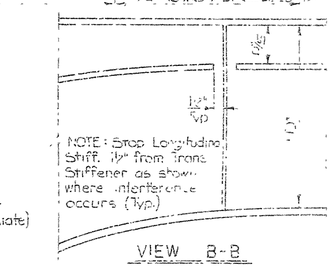
NOTE: All Flange and Web Pls are considered main load carrying members and shall meet the requirements of the Charpy V-Notch Test as specified in SP 207-4.

TYPICAL GIRDER ELEVATION
No Scale

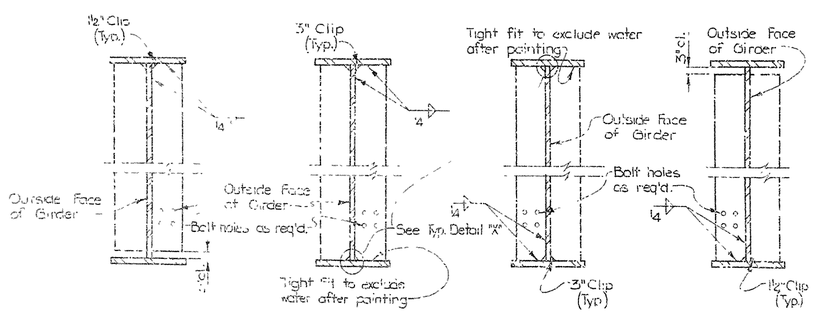
Note: All Flange and Web Pls shall be A36 unless otherwise noted.



SECTION A-A
No Scale



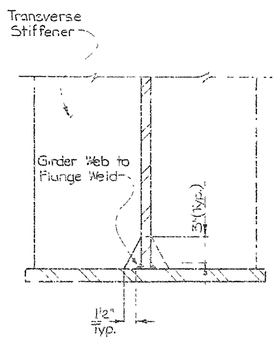
VIEW B-B
No Scale



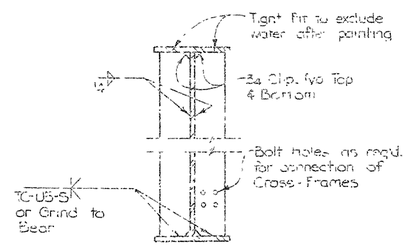
STIFF. REGION "A" | STIFF. REGION "B" | STIFF. REGION "C" | STIFF. REGION "D"

DETAILS OF TRANSVERSE INTERMEDIATE STIFFENERS
No Scale

NOTE: For Location of Stiff. Region "A"-"D" see "Girder Elevation"



TYPICAL DETAIL "X"
No Scale



DETAILS OF TRANSVERSE BEARING STIFFENERS
No Scale

Revised 320' Unit to adjust for Field Measurements; K.M.G. 3-8-77

SHEET 1 OF 4
DETAILS OF
320' CONT. WELDED PLATE GIRDER UNIT
ARK. RIVER BR. & APPRS. (CLARKSVILLE)
MAIN BRIDGE SUPERSTRUCTURE
LOGAN & JOHNSON CO.

ROUTE 109 SEC 3 & 4

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

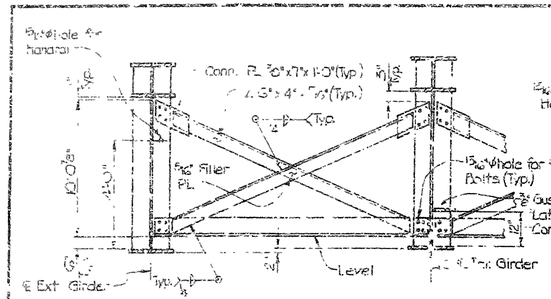
DRAWN BY K.M.G. DATE 2 AUG. 76
CHECKED BY [illegible] DATE 8-2-76
DESIGNED BY [illegible] DATE [illegible]
SCALE: 1" = SHOWN

BRIDGE ENGINEER

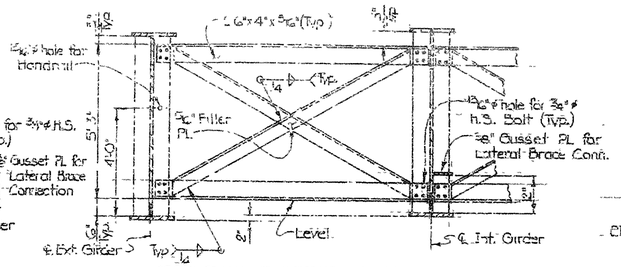
BRIDGE NO. 5600 DRAWING NO. 20240

DATE REVISED	DATE REVISED	DATE REVISED	DATE REVISED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
8SEP76				8	ARK.	TQS-ACS-1	1	
1-4-77	12-19-77	1-6-78		JOB NO.		1442	42	83
1-5-77	12-6-77							

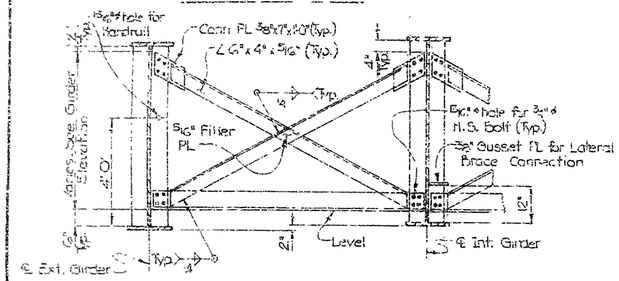
① 5600 _SPAN DTLS._20241



CROSS-FRAME AT POINT 59



CROSS-FRAME AT INTERIOR SUPPORT



CROSS-FRAME AT END BENT 61
& TYPICAL INTERIOR CROSS-FRAME

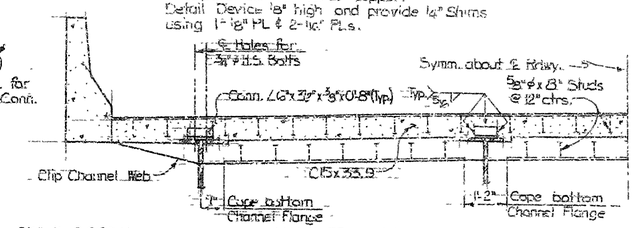
Note: All Diagonal Members and top and bottom Chord Members shall be Angles 6"x 4"x 5/16".

All Bolts in connections shall be 3/4"ø High-Strength Bolts. Open holes for Bolts may be 15/16"ø if washers are supplied for use under both the Nut and the Head of each Bolt.

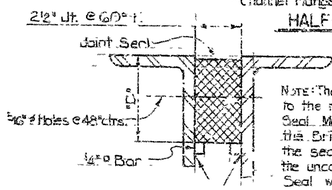
DETAILS OF CROSS-FRAMES
No Scale

EXPANSION DEVICE (END BENT 61)

Roadway Channel C15x33.9 x 30'-0"
Preformed Joint Sealer
Connection Angles ∠ 6"x 3½"x 3/8" x 0'-8"
1¼" Square Bar for Seal support
Detail Device 8" high and provide 1/4" Shims using 1"x 8" PL & 2-1/4" PLs.

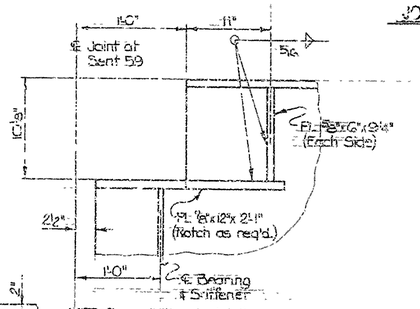


HALF-ROWY. SECTION AT END OF UNIT
(NEAR END BT. 61)
SCALE: 12" = 1'-0"



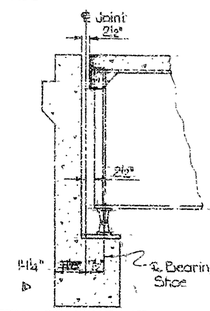
Note: The dimension 'D' shall conform to the recommendations of the Seal Manufacturer as approved by the Bridge Engineer. The depth of the seal shall be approx. equal to the uncompressed width of the seal. Seal width approx. 4".

JOINT REPORT

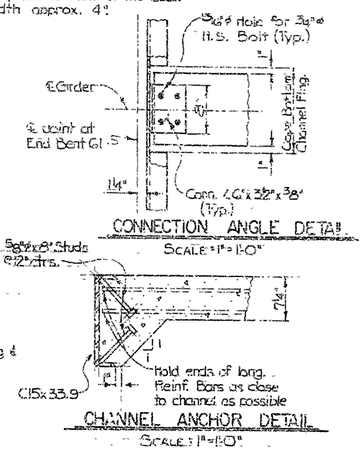


NOTE: For additional details Of Exp. Device at Bt. 59 see Dwg. Of Exp. Device Drwg. 20238

DETAIL X
No Scale

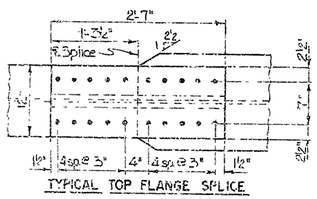


DETAIL OF JOINT AT
END BENT NO. 61
No Scale

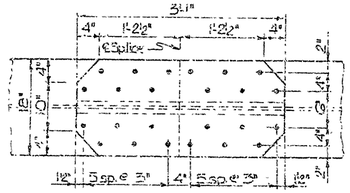


CONNECTION ANGLE DETAIL
SCALE: 1" = 1'-0"

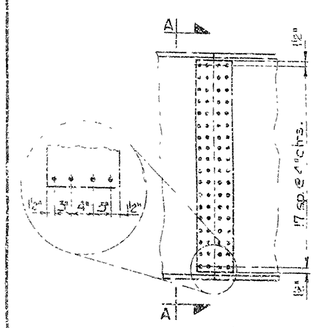
CHANNEL ANCHOR DETAIL
SCALE: 1" = 1'-0"



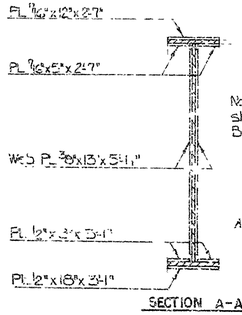
TYPICAL TOP FLANGE SPLICE



TYPICAL BOTTOM FLANGE SPLICE



TYPICAL ½" SPLICE



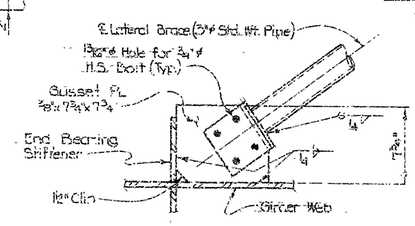
SECTION A-A

Note: All Bolts in Field Splices shall be 3/4"ø High Strength Bolts with 13/16"ø open holes.

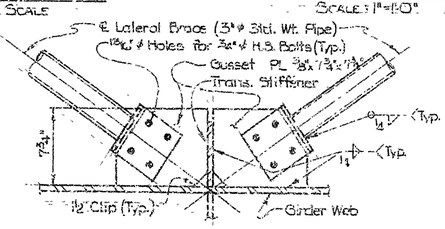
All splice plates shall be A36 Steel.

Note: Use Filler PLs as req'd in Field Splices.

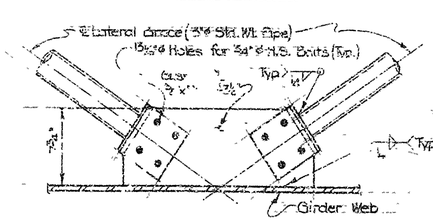
DETAILS OF FIELD SPLICE "A" & "B"
No Scale



CONNECTION "A"

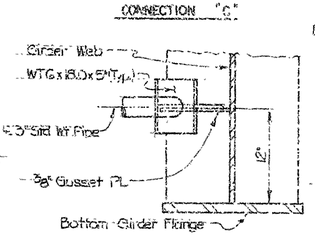


CONNECTION "C"



CONNECTION "B"

Note: Drill 13/16"ø hole at approx. center of each lateral brace. Plug Weld the hole after shop welding is completed.



TYP. ELEVATION OF CONNECTION

Revised Layout Dimen. ; K.M.G. Sept. '77

DETAILS OF LATERAL BRACE CONNECTIONS
No Scale

SHEET 2 OF 4
DETAILS OF
320' CONT. WELDED PLATE GIRDER UNIT
ARK. RIVER BR. & APPRS. (CLARKSVILLE)
MAIN BRIDGE SUPERSTRUCTURE
LOGAN & JOHNSON CO.

ROUTE 109 SEC. 3 & 4

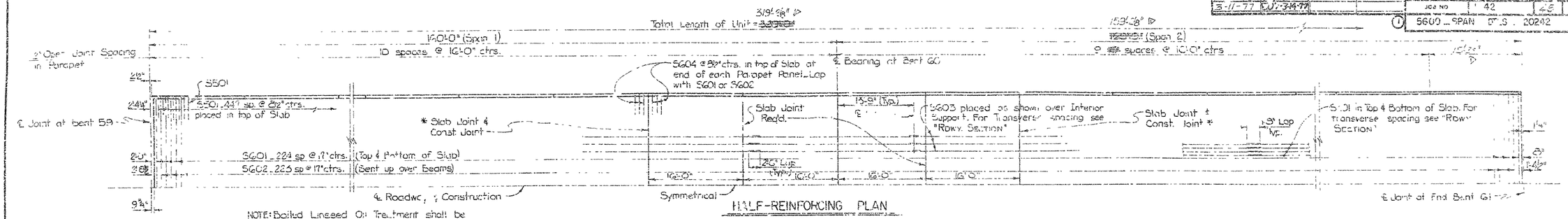
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: K.M.G. DATE: 6 AUG 76
CHECKED BY: [illegible] DATE: [illegible]
DESIGNED BY: [illegible] DATE: [illegible]
SCALE: AS SHOWN

Brad Pridmore
BRIDGE ENGINEER

BRIDGE NO. 5600 DRAWING NO. 20241

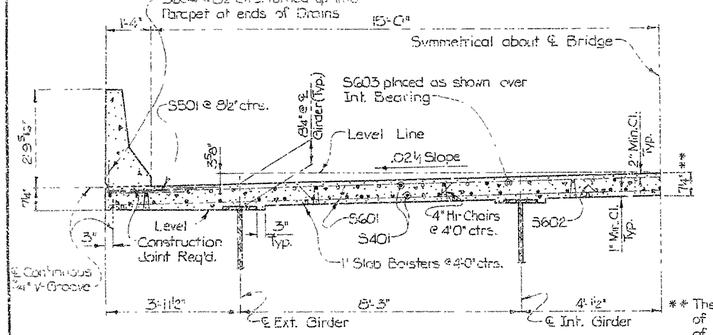
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
5-5-76	10-9-76			6	ARK.	I05-4(29)		
10-7-76	10-14-76							
3-11-77	3-14-77			JOB NO.	I 42		25	30
				5600 — SPAN	0" S	20242		



HALF-REINFORCING PLAN

No Scale

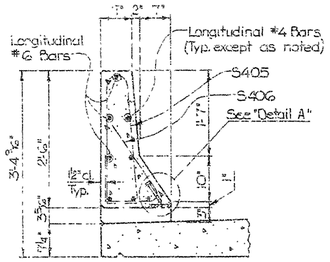
NOTE: Boiled Linseed Oil Treatment shall be applied to the Rdwy. surface and the top and face of the Concrete Parapet Railing.



HALF RDWY. SECTION

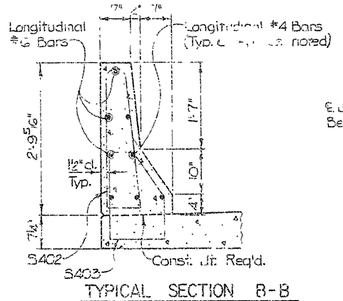
Scale: ½" = 1'-0"

** The Contractor may at his option pour the underside of the center panel level with a centerline dimension of 8½". Quantities will be based on the dimensions shown.



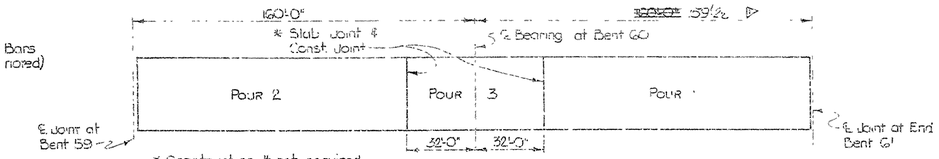
TYPICAL SECTION A-A

Scale: ¾" = 1'-0"



TYPICAL SECTION B-B

Scale: ¾" = 1'-0"



* Construction Jt. not required when Slab is poured continuously

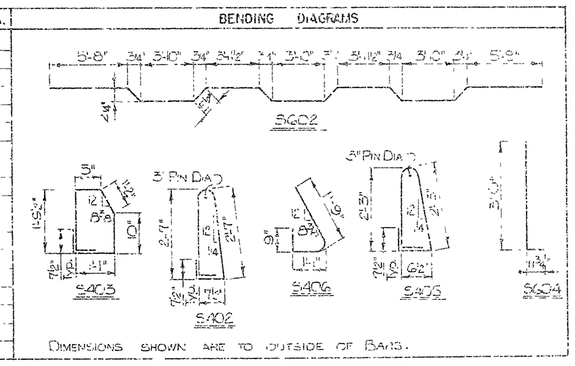
POURING SEQUENCE

No Scale

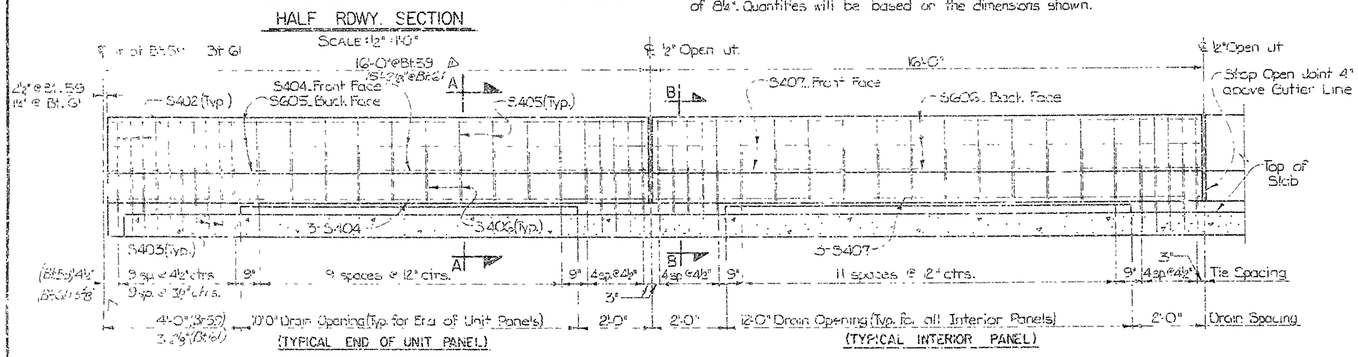
BAR LIST

MARK	NO. REQ'D.	LENGTH	FIN. DIA.
S401	636	3'-0"	Str.
S402	420	6'-11"	2"
S403	420	6'-2"	2"
S404	20	15'-6"	Str.
S405	472	6'-2"	2"
S406	472	3'-6"	2"
S407	180	15'-8"	Str.
S501	896	5'-0"	Str.
S601	450	32'-3"	Str.
S602	224	33'-0"	3¾"
S603	78	30'-0"	Str.
S604	250	3'-10"	3¾"
S605	12	15'-6"	Str.
S606	108	15'-8"	Str.

BENDING DIAGRAMS

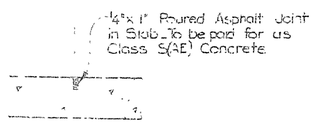


▷ Revised 320' Unit to adjust for field measurements; K.M.G. 11 Mar 77



DETAILS OF PARAPET

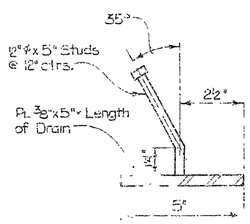
Scale: ½" = 1'-0"



NOTE: See "Rdwy. Plan" for Slab Joint locations.

SLAP JOINT DETAIL

No Scale



DETAIL "A"

No Scale

NOTE: See "Note A" on Dwg. No. 19440A for painting notes.

SHEET 3 OF 4
DETAILS OF
320' CONT. WELDED PLATE GIRDER UNIT
ARK. RIVER BR. & APPRS. (CLARKSVILLE)
MAIN BRIDGE SUPERSTRUCTURE
LOGAN & JOHNSON CO.

ROUTE 109 SEC. 3 & 4

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

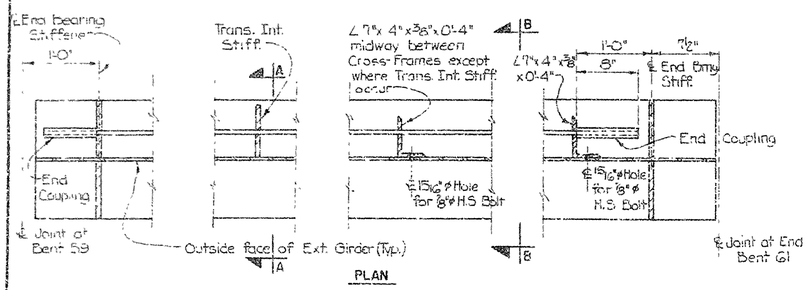
DRAWN BY K.M.G. DATE 4 AUG 75
CHECKED BY [illegible] DATE [illegible]
DESIGNED BY [illegible] DATE [illegible]
SCALE AS SHOWN

BRIDGE ENGINEER

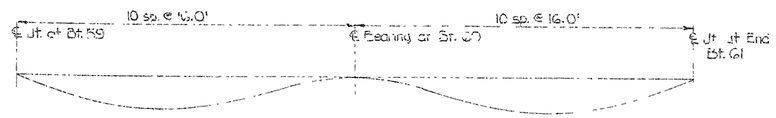
BRIDGE NO. 5600 DRAWING NO. 20242

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO	TOTAL SHEETS
6-SEP-76	707-9-776			6	ARK.	TQS-A128-1		
12-4-76	949-10-676			JOB NO		1442	46	63

(1) 5600 _ SPAN DTLS. _ 20243



PLAN



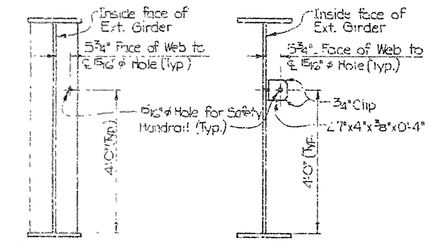
CAMBER DIAGRAM

NOTE: Diagram for Dead Load Deflection plus Vertical Curve ±¼" tolerance. Vertical Curve corrections not included in table.

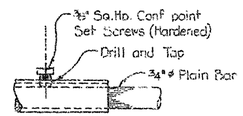
DEAD LOAD DEFLECTION ORDINATES (IN.)

SPAN 1/10 POINTS	*STRUCTURAL STEEL	STRUCTURAL STEEL + CONCRETE SLAB	TOTAL DEFLECTION
1.0	0.0	0.0	0.0
1.1	-0.268	-0.995	-1.100
1.2	-0.509	-1.897	-2.097
1.3	-0.687	-2.562	2.853
1.4	0.759	-2.872	-3.178
1.5	-0.741	-2.767	-3.068
1.6	-0.616	-2.303	-2.560
1.7	-0.425	-1.585	-1.769
1.8	-0.220	-0.812	-0.910
1.9	-0.062	-0.222	-0.250
2.0	0.000	0.000	0.000
2.1	-0.067	-0.262	-0.294
2.2	0.230	-0.894	-1.000
2.3	-0.452	-1.708	-1.904
2.4	-0.640	-2.469	-2.747
2.5	-0.775	-2.981	-3.302
2.6	-0.832	-3.141	-3.474
2.7	-0.752	-2.892	-3.194
2.8	-0.582	-2.240	-2.473
2.9	-0.322	-1.235	-1.365
3.0	0.0	0.0	0.000

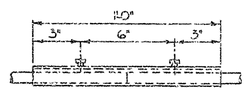
*Structural Steel includes Girder, Cross Frames, & Lateral Bracing.



SECTION A-A SECTION B-B

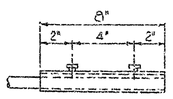


DETAIL AT CAP SCREW



SPLICE COUPLING

NOTE: Min. length between splices shall be 23'-0"

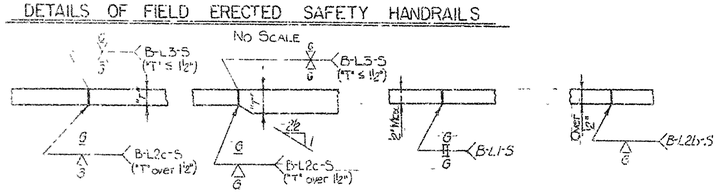


END COUPLING

NOTE: Couplings shall be made of Round Mechanical Tubing (Carbon Steel), 1¼" O.D., 7/32" Wall Thick. All Tubing shall be ASTM A519 (CW).

DETAILS OF FIELD ERECTED SAFETY HANDRAILS

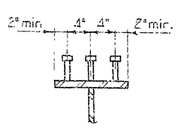
No Scale



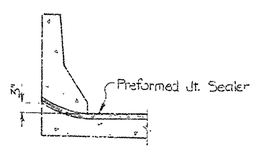
FLANGE SPLICES WEB SPLICES

DETAILS OF WELDED SPLICES

No Scale



SHEAR CONNECTOR DETAIL



SEAL PLACEMENT IN PARAPET

No Scale

LOAD DISTRIBUTION:	DEAD LOAD TO GIRDER	DEAD LOAD TO COMP. GIRDER (INCLUDES 24#/FT² PLF FOR WEIGHT OF FUTURE SURFACE)	LIVE LOAD TO COMP GIRDER
EXT. GIRDER	754 PLF + GIRDER	336 PLF	1.4242 WHEELS + IMPACT
INT. GIRDER	754 PLF + GIRDER	338 PLF	1.5000 WHEELS + IMPACT

NOTE: WELDED STUDS 7/8" Ø MAY BE USED IN PLACE OF THE 3/4" Ø STUDS SHOWN AT THE RATIO OF 0.735 TO 1.000 RESPECTIVELY. CHANNELS C3X6 MAY BE USED IN PLACE OF THE 3/4" WELDED STUDS SHOWN AT THE RATIO OF 2.0 INCHES OF CHANNEL TO ONE 3/4" WELDED STUD. THE 3/4" Ø X 5" STUD CONNECTORS SHALL BE GRANULAR FLUX FILLED, SOLID FLUXED, OR EQUAL, AND SHALL BE AUTOMATICALLY END WELDED TO THE GIRDER FLANGES IN ACCORDANCE WITH RECOMMENDATIONS OF THE MANUFACTURER. QUANTITY OF STRUCTURAL STEEL IN BEAM SPANS SHALL BE BASED ON THE WEIGHT OF 3/4" WELDED STUDS. THIS WEIGHT IS 740 POUNDS PER HUNDRED STUDS.

SHEET 4 OF 4
DETAILS OF
320' CONT. WELDED PLATE GIRDER
ARK. RIVER BR. & APPRS. (CLARKSVILLE)
MAIN BRIDGE SUPERSTRUCTURE
LOGAN & JOHNSON CO.

ROUTE 109 SEC. 3 & 4

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY K.M.G. DATE 6 AUG.76
CHECKED BY [illegible] DATE 8-12-76
DESIGNED BY [illegible] DATE 8-1-25
SCALE AS SHOWN

BRIDGE ENGINEER

BRIDGE NO. 5600 DRAWING NO. 20243

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
5-5-76	105-9-9-76			6	ARK.	TQS-A(23)-1		
10-4-76	150-10-6-76							
3-11-77	508-3-14-77			JOB NO.		1442	27	63

(1) 5600 _ MISC. _ 20244

GENERAL NOTES

GOVERNING SPECIFICATIONS

DESIGN: AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 1973 EDITION, AND THE 1974, 1975 AND 1976 INTERIM SPECIFICATIONS.

CONSTRUCTION: ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 1972 EDITION AND DESIGNATED SPECIAL PROVISIONS.

LIVE LOADING: HS20

METHOD OF DESIGN: LOAD FACTOR

MATERIALS:

CONCRETE. ALL CONCRETE SHALL BE CLASS S(AE) WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH f'c = 3500 PSI.

REINFORCING STEEL. REINFORCING STEEL SHALL CONFORM TO ASTM A615 OR A617 GRADE 60 (YIELD STRENGTH = 60,000 PSI)

STRUCTURAL STEEL. STRUCTURAL STEEL SHALL CONFORM TO ONE OF THE FOLLOWING ASTM DESIGNATIONS.

ASTM (A36)	fy = 36,000 PSI
ASTM (A53, TYPE S, GRADE B)	fy = 35,000 PSI
ASTM (A519)	fy = 60,000 PSI
ASTM (A572, GRADE 50)	fy = 50,000 PSI
ASTM (A588, GRADE 50)	fy = 50,000 PSI

CASTINGS. CAST STEEL SHALL CONFORM TO ASTM DESIGNATION A27 GRADE 70 (YIELD STRENGTH = 40,000 PSI).

STRUCTURAL STEEL:

STRUCTURAL STEEL FOR FLANGE PLATES SHALL BE ASTM A36, ASTM A572 GRADE 50 OR ASTM A588 GRADE 50 AS NOTED ON THE GIRDER ELEVATION.

STRUCTURAL STEEL FOR WEB PLATES, LONGITUDINAL STIFFENERS AND FIELD SPLICE PLATES SHALL BE ASTM A36 OR ASTM A572 GRADE 50 AS NOTED ON THE GIRDER ELEVATION OR FIELD SPLICE DETAILS.

STRUCTURAL STEEL IN PIPE SECTIONS SHALL BE ASTM A53 TYPE S, GRADE B

STRUCTURAL STEEL IN SAFETY HANDRAIL COUPLINGS SHALL BE ASTM A519.

ALL A36, A53 TYPE S GRADE B, A519 STRUCTURAL STEEL, AND ALL CAST STEEL SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER POUND BID FOR "STRUCTURAL STEEL IN PLATE GIRDER SPANS A36."

ALL ASTM A572 GRADE 50 AND A588 STRUCTURAL STEEL SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER POUND BID FOR "STRUCTURAL STEEL IN PLATE GIRDER SPANS A572 GRADE 50."

STRUCTURAL SHAPES OF EQUAL OR GREATER STRENGTH MAY BE SUBSTITUTED FOR SHAPES SHOWN IF APPROVAL IS OBTAINED FROM THE BRIDGE ENGINEER. PAYMENT WILL BE MADE ON THE BASIS OF SHAPES SHOWN.

FIELD CONNECTIONS TO BE BOLTED WITH HIGH STRENGTH BOLTS. BOLTS: 3/4" Ø, OPEN HOLES 13/16" Ø EXCEPT WHERE NOTED OTHERWISE. BOLT SPACING SHALL BE 3-1/2" UNLESS OTHERWISE NOTED. MINIMUM EDGE DISTANCE SHALL BE 1-1/4" UNLESS NOTED OTHERWISE. BOLTS SHALL BE PLACED WITH HEADS ON THE OUTSIDE FACE OF THE EXTERIOR GIRDERS AND ON BOTTOM OF GIRDER FLANGES.

HOLES FOR 3/4" Ø HIGH STRENGTH BOLTS IN CROSS FRAMES AND EXPANSION DEVICES MAY BE 15/16" Ø IF A WASHER IS SUPPLIED FOR USE UNDER BOTH THE NUT AND HEAD OF THE BOLT

BEARINGS SHALL BE FINALLY SEATED IN ACCORDANCE WITH SUBSECTION 807.51 OF THE STANDARD SPECIFICATIONS. THIS WORK AND MATERIAL IS TO BE CONSIDERED AS SUBSIDIARY TO THE ITEM OF "STRUCTURAL STEEL" AND WILL NOT BE PAID FOR DIRECTLY. THESE DRAWINGS SHOW GENERAL FEATURES OF DESIGN ONLY. SHOP DRAWINGS SHALL BE MADE IN ACCORDANCE WITH THE SPECIFICATIONS, SUBMITTED AND APPROVAL SECURED BEFORE FABRICATION IS BEGUN. ANCHOR BOLTS SHALL BE GALVANIZED TO CONFORM TO ASTM SPECIFICATIONS, DESIGNATION A153.

GIRDER WEBS MAY BE MADE BY SHOP SPLICING WITH MINIMUM LENGTH OF 25'-0" FOR SECTIONS. FLANGE PLATES LONGER THAN 50' MAY BE MADE BY SHOP SPLICING WITH MINIMUM LENGTH OF 25'-0" FOR SECTIONS. NO ADDITIONAL PAYMENT FOR WELDS FOR THESE SPLICES WILL BE MADE.

ALL WEB PLATES MUST BE PLACED SO THAT THE DIRECTION IN WHICH THE PLATES ARE ROLLED IS ALONG THE LONGITUDINAL AXIS OF THE GIRDER. LONGITUDINAL BUTT WELDS MAY BE USED TO MAKE UP THE WEB AS LONG AS THE PLATES ARE OF APPROX. THE SAME DEPTH.

AN OPTIONAL HORIZONTAL WELDED FIELD SPLICE WILL BE ALLOWED. WITH THE ENGINEER'S APPROVAL, IN THE LOCATION INDICATED ON THE PLANS THE SPLICE IS INTENDED TO FACILITATE TRANSPORTATION OF THE MAIN GIRDER SECTIONS TO THE SITE. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO SUBMIT DETAILS OF THE SPLICE TO THE ENGINEER BEFORE FABRICATION IS BEGUN. NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS SPLICE.

ALL WELDING THAT IS TO BE DONE DURING FABRICATION OF STRUCTURAL STEEL, INCLUDING TEMPORARY WELDS SHALL BE DETAILED ON THE SHOP DRAWINGS AND SUBMITTED FOR APPROVAL. IF THE CONTRACTOR OR ERECTOR SHOULD WANT TO MAKE ADDITIONAL WELDS, WHETHER TEMPORARY OR PERMANENT, HE SHALL SUBMIT DETAILED DRAWINGS WITH A FORMAL REQUEST TO THE BRIDGE DESIGN DIVISION OF THE ARKANSAS STATE HIGHWAY DEPARTMENT FOR APPROVAL. ALL WELDING SHALL CONFORM TO SP 807-5.

PAINTING:

SHOP PAINT. ALL STRUCTURAL STEEL EXCEPT GALVANIZED MEMBERS, CONTACT SURFACES OF BOLTED CONNECTIONS, AND SURFACES WITHIN 3" OF HOLES AND FIELD WELDS, AND SURFACES IN CONTACT WITH CONCRETE SHALL BE GIVEN ONE PRIME COAT AS SPECIFIED IN SUBSECTION 807.59 OF THE STANDARD SPECIFICATIONS. SEE SP JOB 1442 "ZING-RICH PAINT" FOR SPECIAL REQUIREMENTS AT EXPANSION DEVICE.

FIELD PAINT: IN ADDITION TO THE PRIME COAT ALL STRUCTURAL STEEL EXCEPT GALVANIZED MEMBERS SHALL RECEIVE TWO COATS OF PAINT AFTER ERECTION. FIRST COAT - RED LEAD TINTED WITH LAMP BLACK; SECOND COAT - SEE SP JOB 1442 "PAINTING OF STEEL STRUCTURES."

SEE SP JOB 1442 "ZINC-RICH PAINT" FOR SPECIAL REQUIREMENTS AT EXPANSION DEVICE.

REINFORCING STEEL:

THE REINFORCING STEEL IS TO BE ACCURATELY LOCATED IN THE FORMS AND FIRMLY HELD IN PLACE BY STEEL WIRE SUPPORTS SUFFICIENT IN NUMBER AND SIZE TO PREVENT DISPLACEMENT DURING THE COURSE OF CONSTRUCTION. THE WIRE SUPPORTS WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED SUBSIDIARY TO THE ITEM OF "REINFORCING STEEL."

POURING SEQUENCE:

THE BRIDGE SLAB SHALL BE MADE IN THE SEQUENCE SHOWN - WITH PARTICULAR EMPHASIS ON THE REQUIREMENT THAT THE LOWER NUMBERED POURS SHALL BE MADE PRIOR TO ANY ADJACENT HIGHER NUMBERED POUR. THE CONTRACTOR MUST OBTAIN APPROVAL FROM THE ENGINEER IF HE ELECTS TO MAKE POURS OTHER THAN AS SHOWN.

FORTY-EIGHT HOURS SHALL ELAPSE BETWEEN POURS WHICH ARE NOT ADJACENT. SEVENTY-TWO HOURS SHALL ELAPSE BETWEEN ADJACENT POURS. SEVENTY-TWO HOURS SHALL ELAPSE BETWEEN POURING OF THE SLAB AND PARAPET.

ALL CONCRETE SHALL BE POURED AND SCREEDED OFF PRIOR TO INITIAL SET. THE CONCRETE DECK SHALL BE FINISHED IN ACCORDANCE WITH SUBSECTION 802.23 OF THE STANDARD SPECIFICATIONS. MOVEMENT OF THE FINISHING MACHINE ACROSS NEW CONCRETE SHALL BE ON PLANKS PLACED ON THE SURFACE AND SHALL BE PROHIBITED FOR 72 HOURS AFTER FINISHING THE POUR.

MISC. NOTES

ALL GIRDERS SHALL BE BLOCKED IN THEIR TRUE POSITION, WITH WEB PLATES HORIZONTAL, IN THE SHOP IN GROUPS OF A MINIMUM OF THREE SECTIONS. SEE SECTION 807.16(a) OF THE STANDARD SPECIFICATIONS. THE CAMBER, LENGTH OF SECTIONS, DISTANCE BETWEEN BEARINGS AND OPENING OF JOINTS SHALL BE MEASURED WITH THE BEAMS IN THIS POSITION AND THIS INFORMATION SHALL BECOME A PART OF THE PERMANENT RECORDS OF THIS JOB. THE COMPONENT PARTS SHALL BE MATCH MARKED IN THIS ASSEMBLY AND THESE MARKS SHALL BE SHOWN ON THE ERECTION DIAGRAM. ALL GIRDER DIMENSIONS ARE BASED ON A TEMPERATURE OF 60°F. A TOLERANCE OF ± 1/4" IS ALLOWED FOR CAMBER.

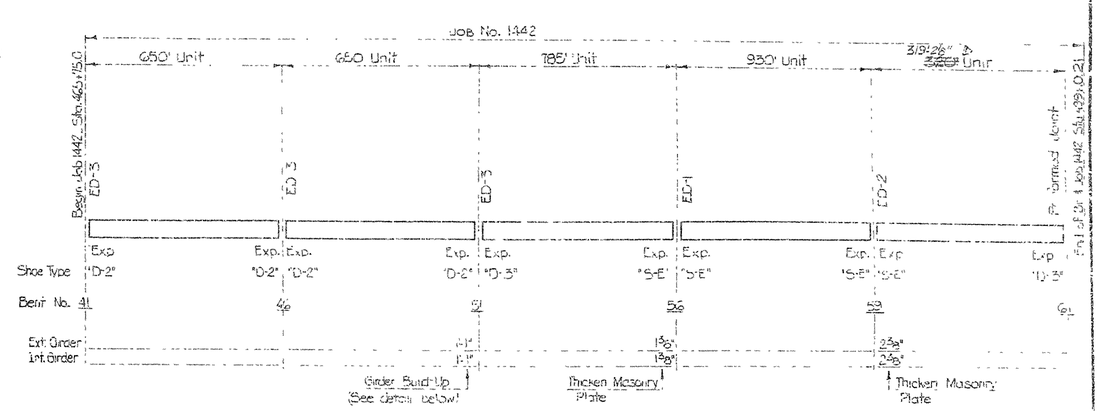
CROSS FRAMES AND LATERAL BRACING SHALL BE INSTALLED AS GIRDERS ARE ERECTED. ALL CROSS FRAMES AND LATERAL BRACING SHALL BE INSTALLED AND COMPLETELY BOLTED PRIOR TO POURING OF FLOOR SLABS.

THE COMPLETE EXPANSION DEVICE BETWEEN THE UNITS OVER BENT NO. 41 WAS INCLUDED IN JOB 1467 (CONTRACT 18). THE CONTRACTOR FOR JOB NO. 1467 IS RESPONSIBLE FOR THE PROPER FIT. THE CONTRACTOR FOR JOB 1442 SHALL BE RESPONSIBLE FOR CHECKING WITH THE RESIDENT ENGINEER TO SEE IF HE HAS INSPECTED THE JOINT FOR PROPER FIT AND WHERE THE REMAINDER OF THE JOINT IS STORED.

PINS SHALL BE ASTM A668 CLASS C OR ASTM A108 GRADE 1016-1030 INCLUSIVE AND SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE BID FOR "STRUCTURAL STEEL IN PLATE GIRDER SPANS A36."

THE BEARING ASSEMBLIES SHALL BE SET IN A VERTICAL POSITION UNDER FULL DEAD LOAD AT 60°F.

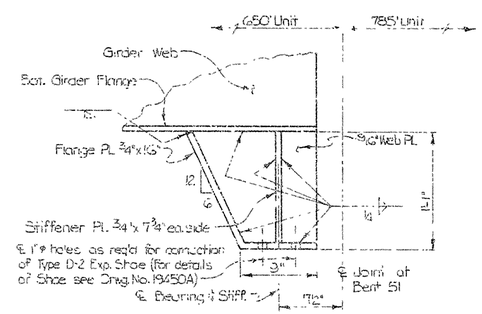
STRUCTURAL STEEL, UNLESS OTHERWISE SHOWN, SHALL CONFORM TO ASTM A36.



SKETCH SHOWING LOCATION OF REQUIRED GIRDER BUILD-UPS AND PLATE THICKENINGS

No Scale

NOTE: Shoe Types shown in sketch above are at end bearings only. For Shoe Types at intermediate bearings see detail drawings of Units.



DETAILS OF GIRDER BUILD-UP

Scale: 1/2" = 1'-0"

▷ Revised 320' Unit to adjust for Field Measurements; K.M.G. 18 Mar 77

GENERAL NOTES AND GIRDER BUILD-UPS
ARK. RIVER BR. & APPRS. (CLARKSVILLE)
MAIN BRIDGE SUPERSTRUCTURE
LOGAN & JOHNSON CO.
ROUTE 109 SEC. 3 & 4

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY K.M.G. DATE 19 AUG. 76
CHECKED BY [illegible] DATE 8-23-76
DESIGNED BY U.A.S. DATE 8-24-76
SCALE NONE

BRIDGE ENGINEER

BRIDGE NO. 5600 DRAWING NO. 20244