

167 203

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6-13-74				6	ARK.	777	9	42

Notes:
Remove the existing 304' bridge after the new bridge has been completed and opened to traffic. The bridge superstructure consists of 2 steel truss spans (120' each) and steel I beam stringer approach spans all with timber decks. See section 213 of the Standard Specifications.
All material from the existing bridge shall remain the property of the contractor except the 12" 15" and 15" steel beams which shall be salvaged and returned by the state.

GENERAL NOTES

BENCH MARK - N.I.S. 30" RED OAK, 50' LT. STA. 67+45, ELEV. 987.53.

FOOTINGS SHALL BE SET A MINIMUM OF 1'-6" INTO LIMESTONE OR SANDSTONE. ROCK EXCAVATIONS SHALL BE MADE TO NEAT LINES OF CONCRETE FOOTINGS. CARE SHALL BE EXERCISED TO AVOID SHATTERING OF ROCK FACES BY EXCESSIVE BLASTING. CONCRETE IN FOOTINGS SHALL BE POURED DIRECTLY AGAINST EXCAVATED SURFACES OF ROCK.

ALL CONCRETE SHALL BE POURED IN THE DRY.

ALL PILING SHALL BE HP10X42 AND SHALL BE DRIVEN WITH AN APPROVED AIR, STEAM, OR DIESEL HAMMER WITH A MINIMUM ENERGY OF 10,000 FOOT POUNDS PER BLOW TO A MINIMUM CAPACITY OF 55 TONS PER PILE AND INTO THE MATERIAL DESIGNATED AS LIMESTONE 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 BENTS TO BE DRIVEN AFTER EMBANKMENT TO SUBGRADE IS IN PLACE.

FOR DETAILS OF END BENTS, SEE DWG. NOS. 18588 AND 18589

FOR DETAILS OF INTERMEDIATE BENTS, SEE DWG. NO. 18590

FOR DETAILS OF COMPOSITE I-BEAM SPANS, SEE DWG. NO. 18591

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

DESIGN SPECIFICATIONS: AASHTO 1973

LIVE LOADING: H20

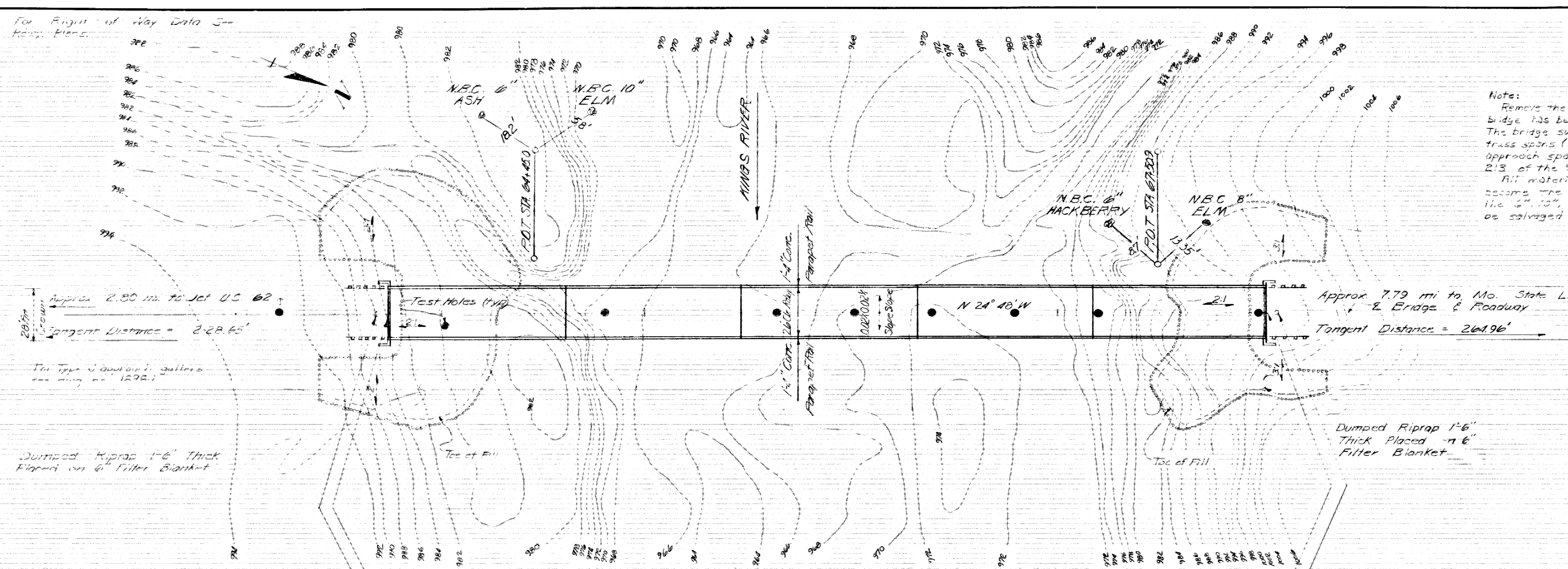
UNIT STRESSES: CLASS S OR SAE CONCRETE (N=40) 1,200 PSI
REINFORCING STEEL 20,000 PSI
STRUCTURAL STEEL (A36) 20,000 PSI
STRUCTURAL STEEL (A572) 27,000 PSI

FOUNDATION PRESSURES: MAX. MIN.
FR 3.52 KSF 2.4 KSF
FH 3.78 KSF 2.4 KSF
FV 3.52 KSF 2.4 KSF

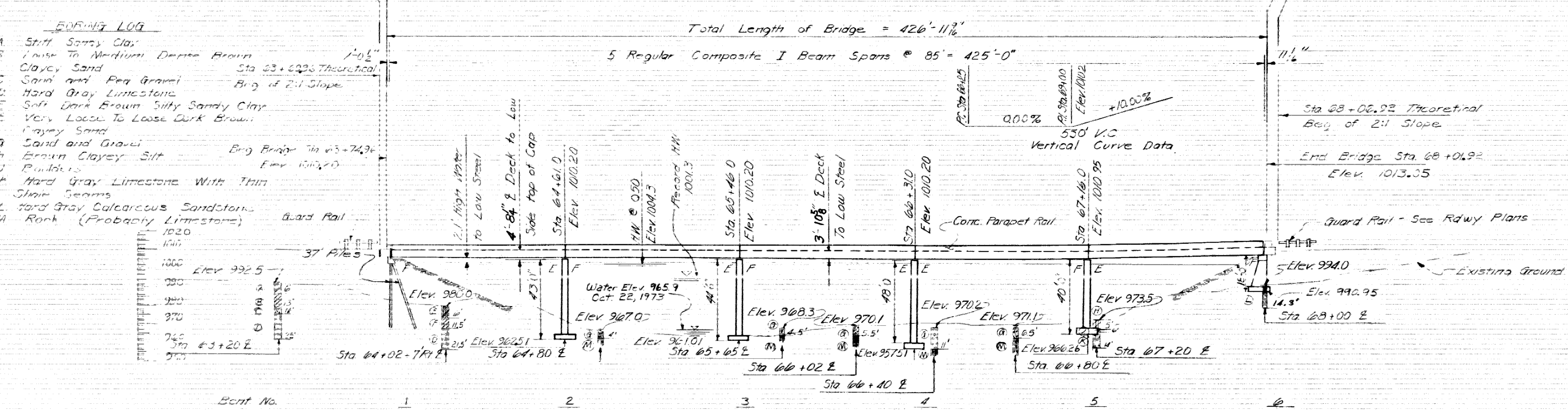
LAYOUT OF BRIDGE
OVER KINGS RIVER
KINGS RIVER BRIDGE & APPROACHES
CARROLL COUNTY
ROUTE 143 SEC.1
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: JEB DATE: 3/4/74
CHECKED BY: JEB DATE: 5/5/74
DESIGNED BY: JEB DATE: 5-1-74
SCALE: 1" = 30'-0"

BRIDGE NO. 5571 DRAWING NO. 18537



PLAN

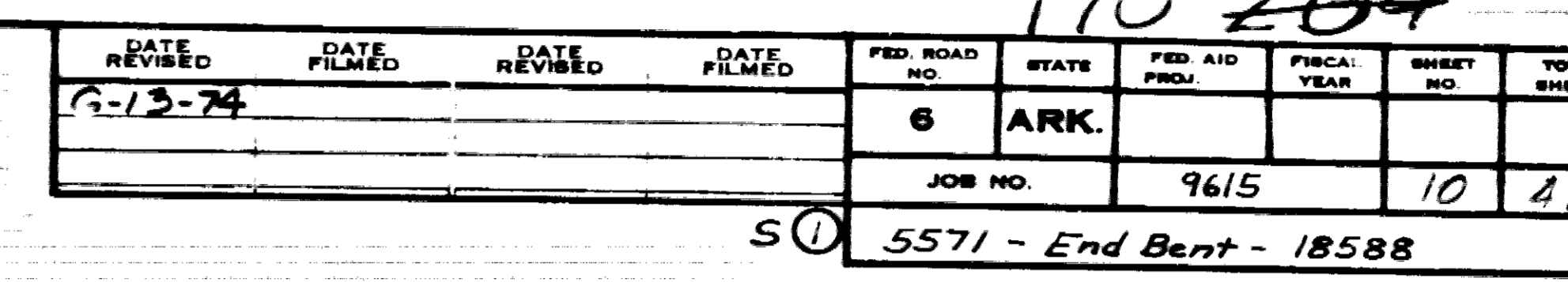


ELEVATION

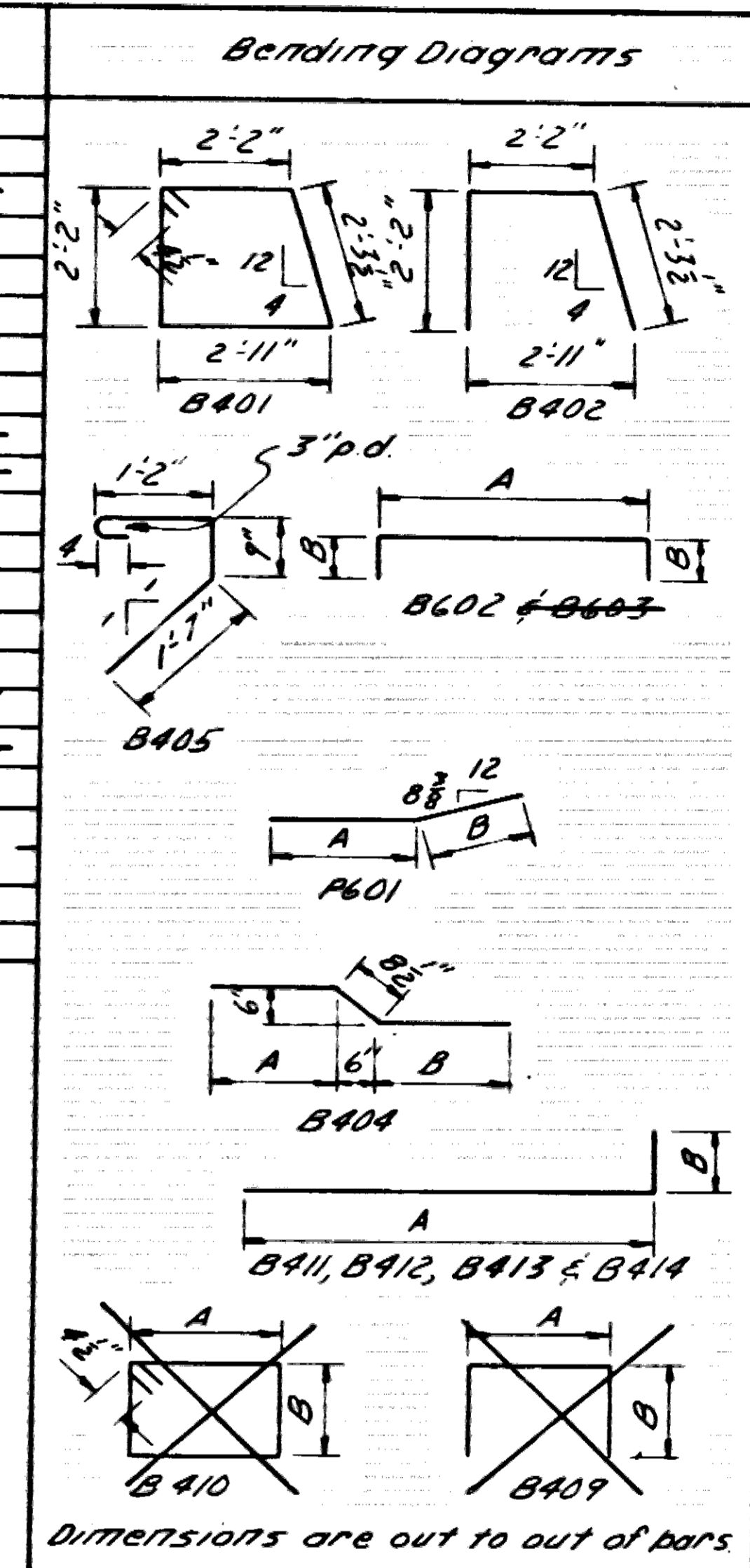
21A-532 39 m
Q50 Frequency Discharge = 73200 CFS
Backwater 1.5

BORING LOG

1. Shift Silty Clay	1-10'
2. Loose to Medium Dense Brown Clayey Sand	Sta 63+22.5 Theoretical
3. Sand and Peg Gravel	Top of 2:1 Slope
4. Hard Gray Limestone	
5. Soft Dark Brown Silty Sandy Clay	
6. Very Loose to Loose Dark Brown Clayey Sand	
7. Sand and Gravel	
8. Brown Clayey Silt	Top of Bridge to 63+74.3
9. Boulder	End of 100'0
10. Hard Gray Limestone with Thin Shale Seams	
11. Hard Gray Calcareous Sandstone	
12. Rock (Probably Limestone)	



MK	No Reg'd		Length	A	B	Pitt Dia
	End	Int				
B401	28		10'-0"	see diagram		2"
B402	15		6'-6"	see diagram		2"
B403	52		8'-14"	-	-	5 1/2"
B404	8		4'-10"	2'-8"	1'-7"	2"
B405	26		3'-11"	see diagram		2"
B406	8		34'-4"	-	-	5 1/2"
B407	8		5'-7"	-	-	5 1/2"
B408	2		2'-5 1/2"	-	-	5 1/2"
B409		26	6'-2"	2'-0"	2'-2 1/2"	2"
B410			8'-10"	2'-0"	2'-2 1/2"	2 1/2"
B411	2		7'-9"	4'-7"	3'-3"	2"
B412	4		6'-2"	4'-7"	1'-8"	2"
B413	6		6'-9"	5'-1"	1'-8"	2"
B414	12		7'-2"	5'-7"	1'-8"	2"
B415	4		2'-9"	-	-	5 1/2"
B416	6		30'-8"	2'-8"	2'-8"	3 1/2"
B417			1'-3"	2'-6"	2'-6"	3 1/2"
P401	12		1'-3"	-	-	5 1/2"
P402	6		5'-0"	2'-6"	2'-6"	5 1/2"
P403	6		5'-0"	-	-	5 1/2"
P415	32		4'-8"	-	-	5 1/2"



Quantities:
Reinforcing Steel: 1537 lbs.
Class "S" Concrete: 14.48 cu. yds.

GENERAL NOTES

ALL CONCRETE SHALL BE CLASS "S" AND SHALL BE POURED IN THE DRY. EXPOSED CORNERS TO BE CHAMFERED 3/4" UNLESS OTHERWISE NOTED.

REINFORCING STEEL TO BE ASTM A 615, GRADE 40. SHOP LISTS AND BENDING DIAGRAMS TO BE SUBMITTED AND APPROVAL SECURED BEFORE FABRICATION IS BEGUN.

BACKWALL SHALL NOT BE POURED BEFORE BEAMS ARE IN PLACE.

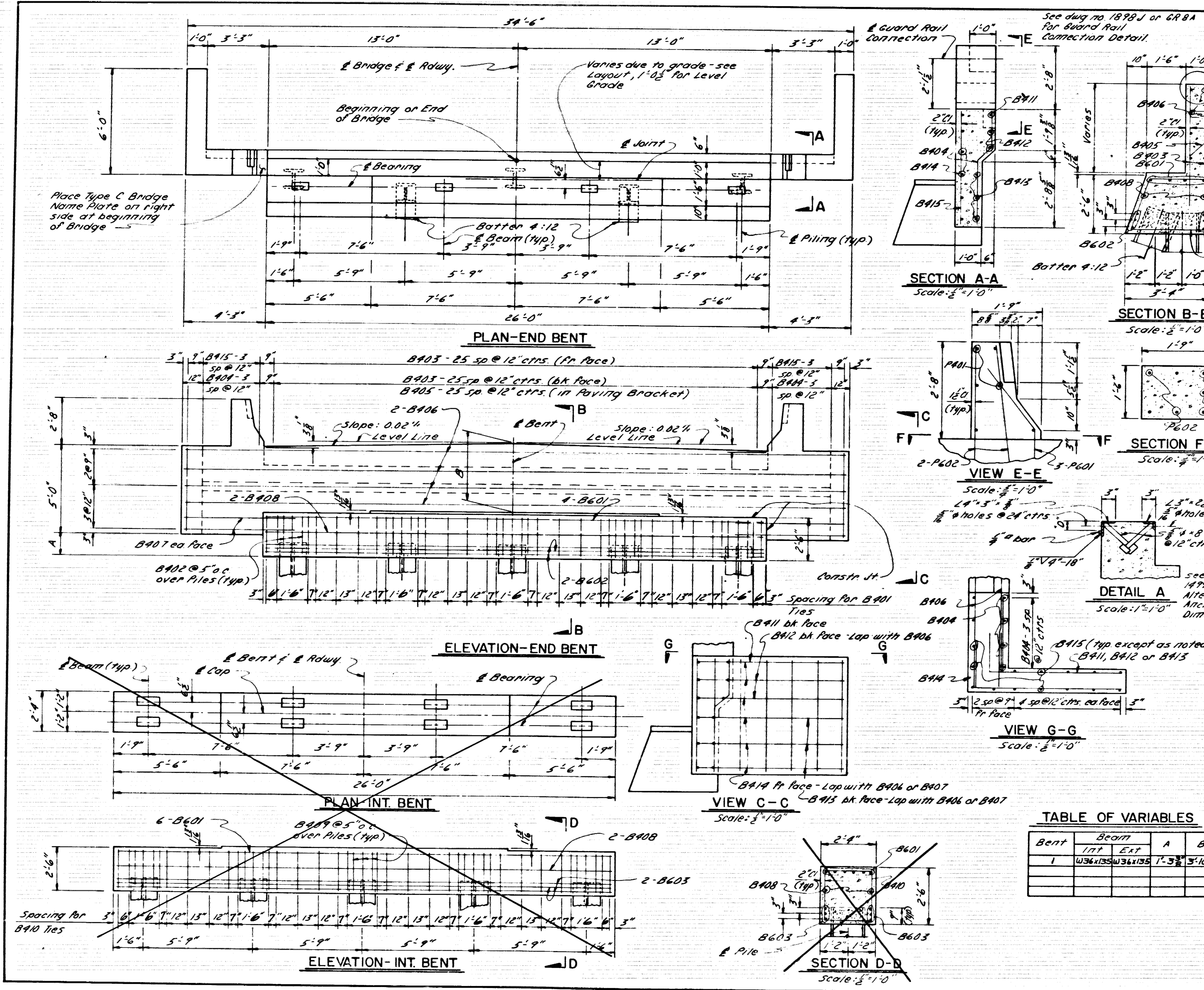
STRUCTURAL STEEL IN END BENTS SHALL BE ASTM A 36 AND SHALL BE PAID FOR AS "STRUCTURAL STEEL IN BEAM SPANS (A572, GRADE 50)".

PIILING SHALL BE
HP10X42 STEEL BEARING PILES DRIVEN TO A MINIMUM CAPACITY OF 55 TONS PER PILE.

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

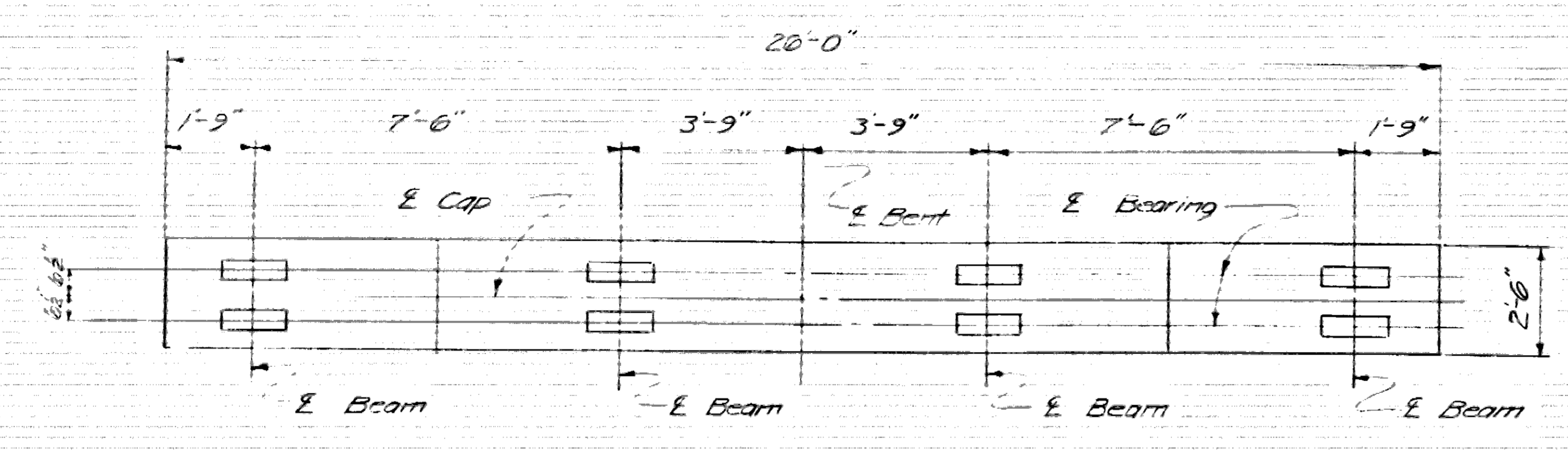
TABLE OF VARIABLES				
Bent	Beam		A	B
	Int	Ext		
1	W36x135	W36x135	1'-3" ₂	3'-10" ₁₁

DETAILS OF STD. PILE BENTS
FOR COMPOSITE W-BEAM SPANS
26'-0" CLEAR ROADWAY
5'-0" TURNBACK SPANS
0.02% PEAKED CROWN
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.
DRAWN BY: TJB DATE: 2-5-74
TRACED BY: JCK DATE: 2-5-74 SCALE: 1" = 10' or as noted
CHECKED BY: JCK DATE: 2-5-74
BRIDGE NO. 5571 DRAWING NO. 18588

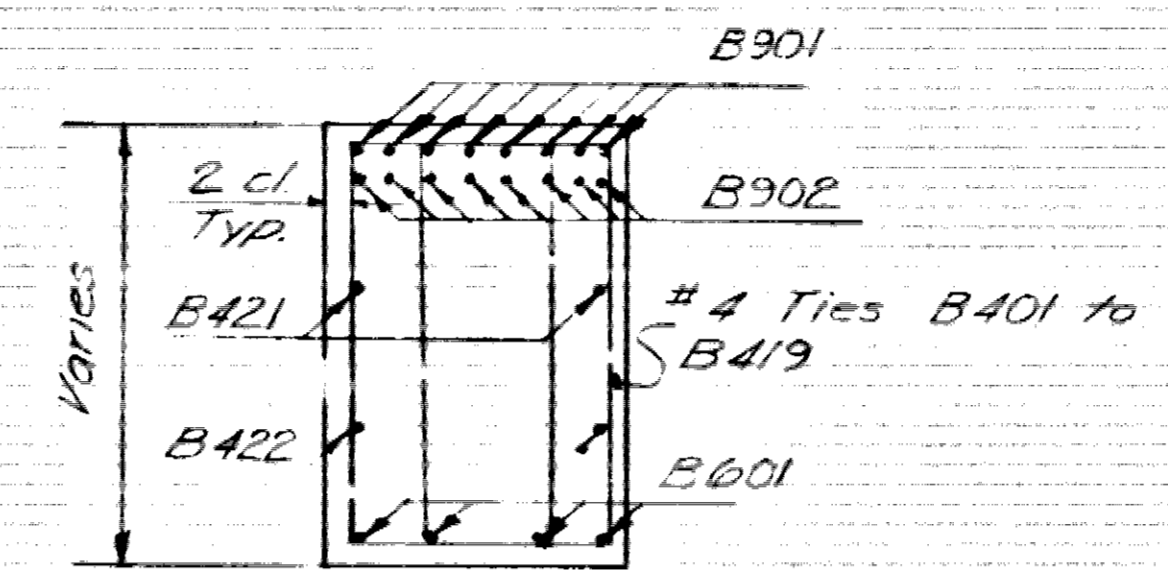


172 206

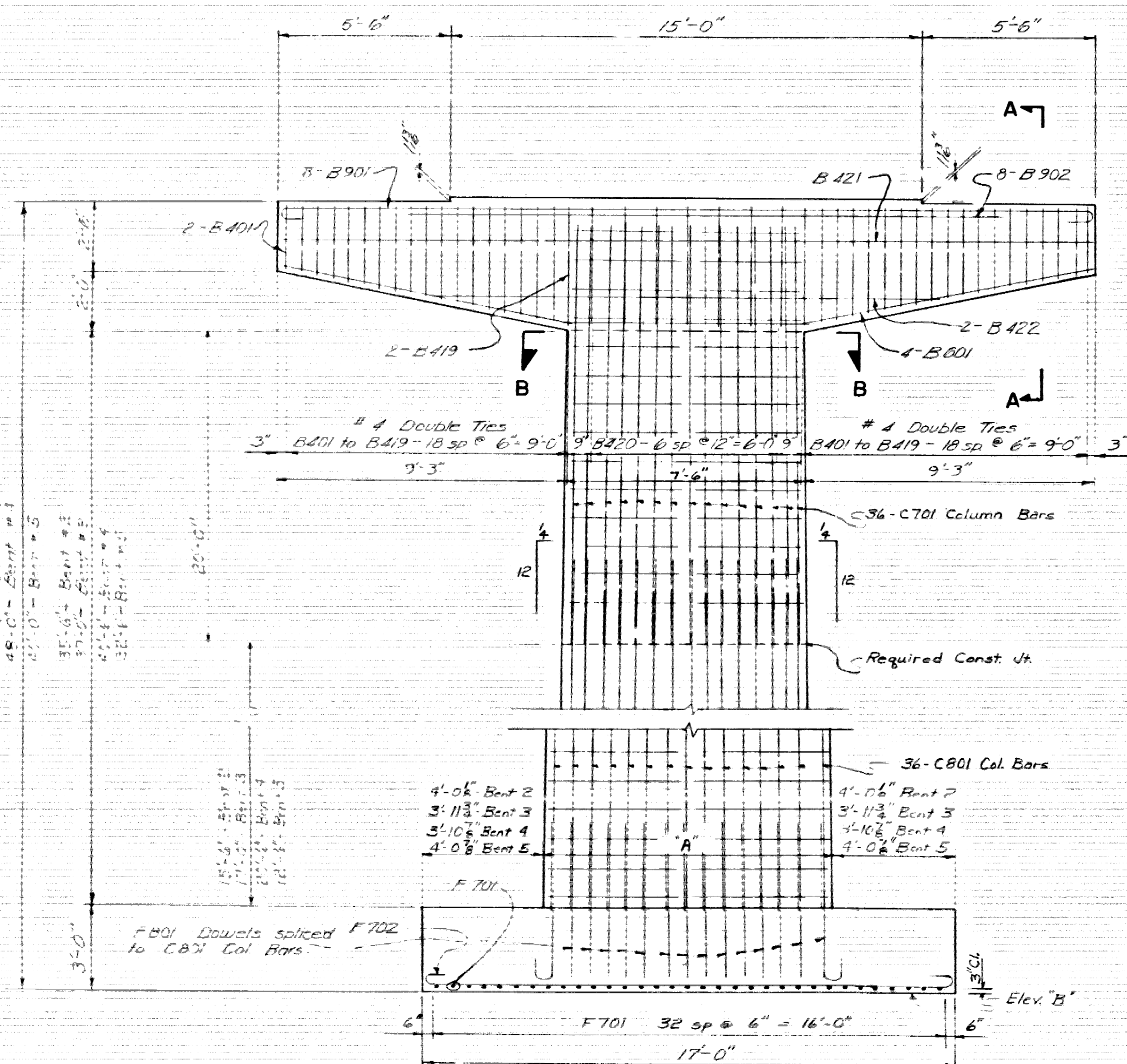
DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6-13-74				6	ARK.		12	42



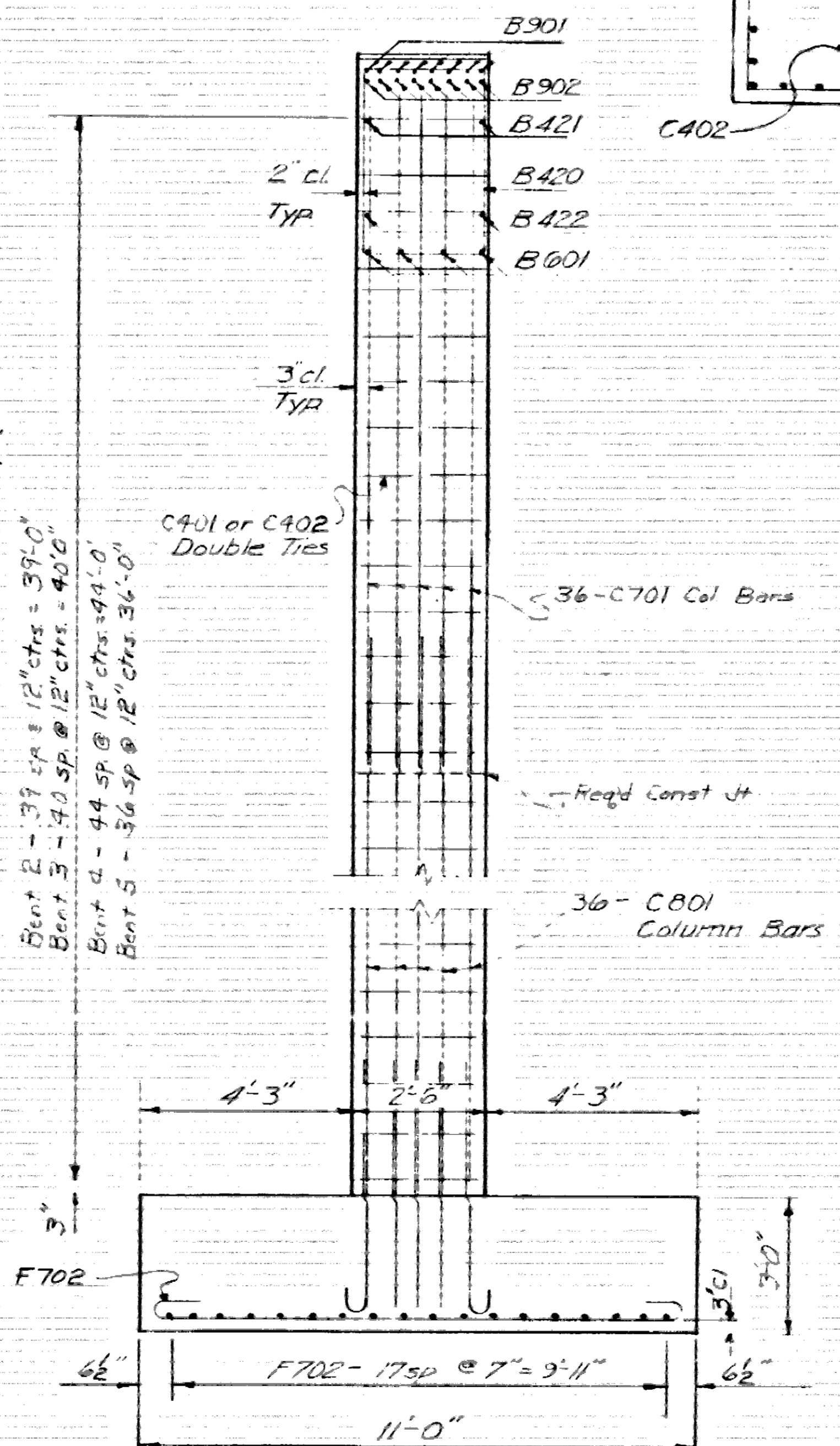
PLAN
Scale: 3/8" = 1'-0"



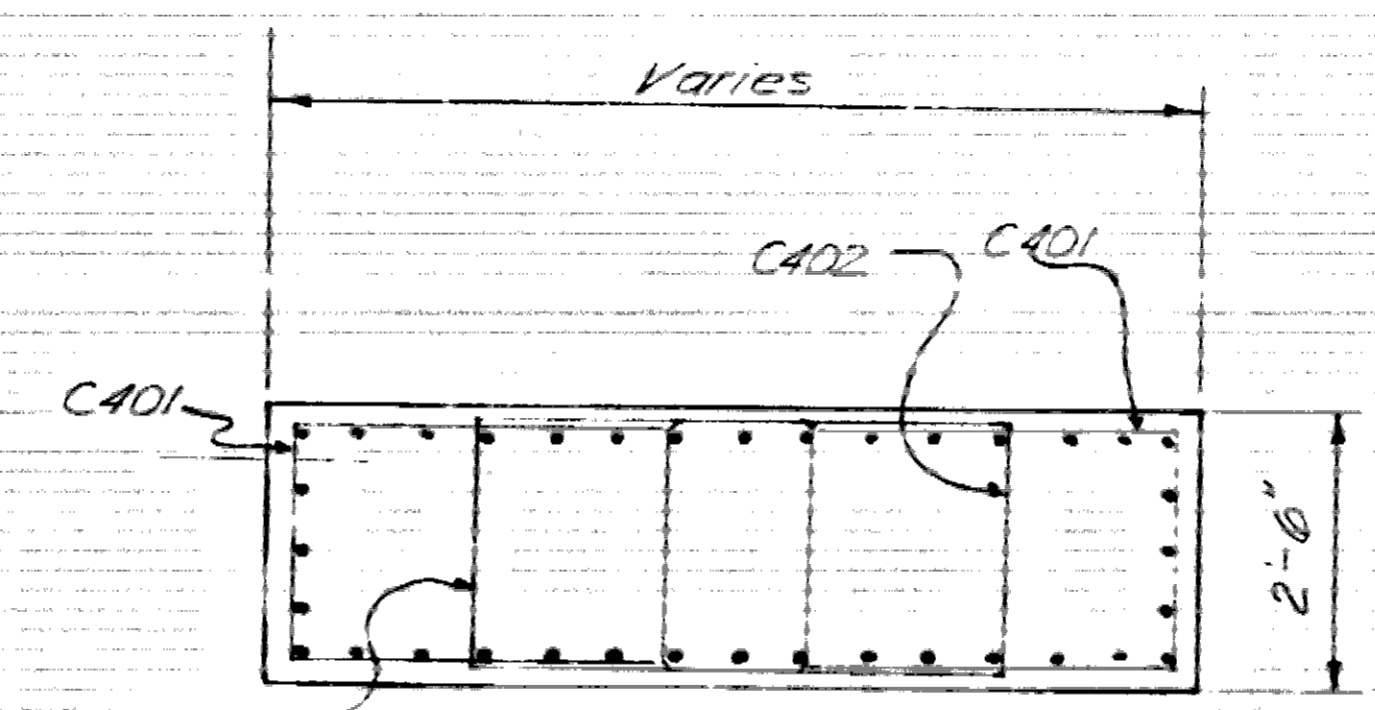
SECTION A-A
Scale: 1/2" = 1'-0"



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



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



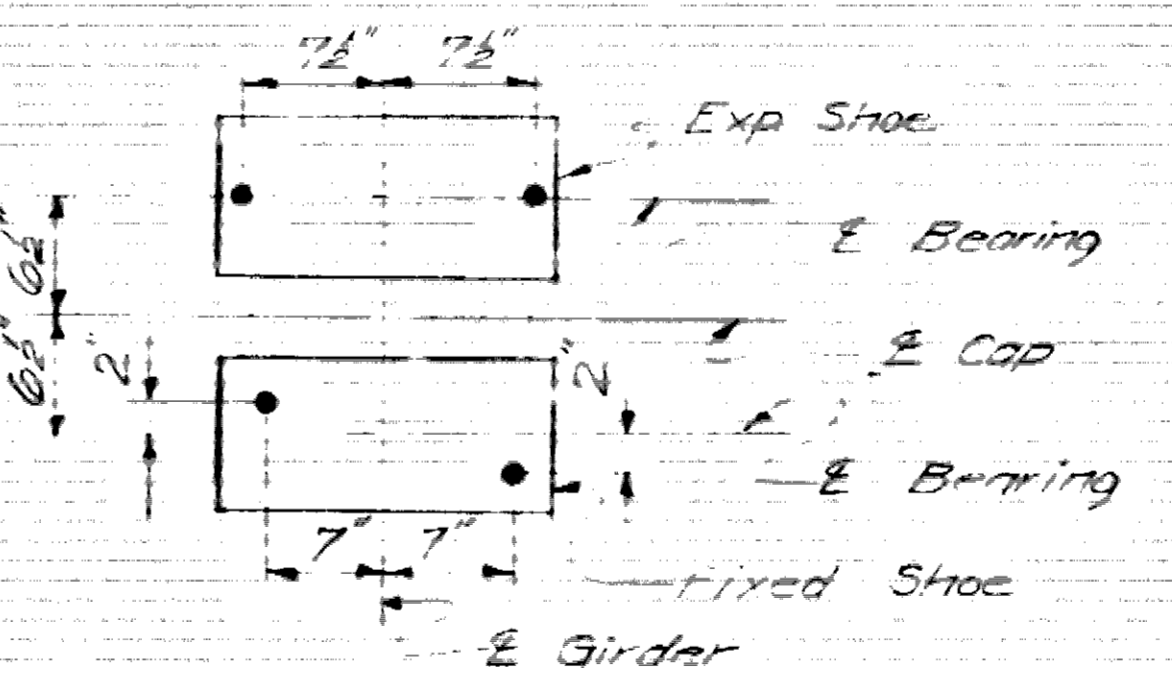
SECTION B-B
Scale: 1/2" = 1'-0"

MARK	NO. REQ'D	LENGTH	PIV. DIA.	BENDING DIAGRAMS
B401 to B419	4 of each	8'-2" to 12'-0"	2"	
B420	7	10'-4"	2"	
B421	2	25'-8"	5/8"	
B422	2	19'-0"	5/8"	
C401	*	9'-2"	2"	
C402	*	11'-5"	2"	
B601	4	26'-0"	3/8"	
F701	33	12'-2"	5/8"	
F702	18	18'-2"	5/8"	
C701	36	23'-9"	5/8"	
FAN	20	**	**	
F801	36	8'-9"	6"	
B901	8	29'-2"	3"	
B902	8	22'-0"	5/8"	

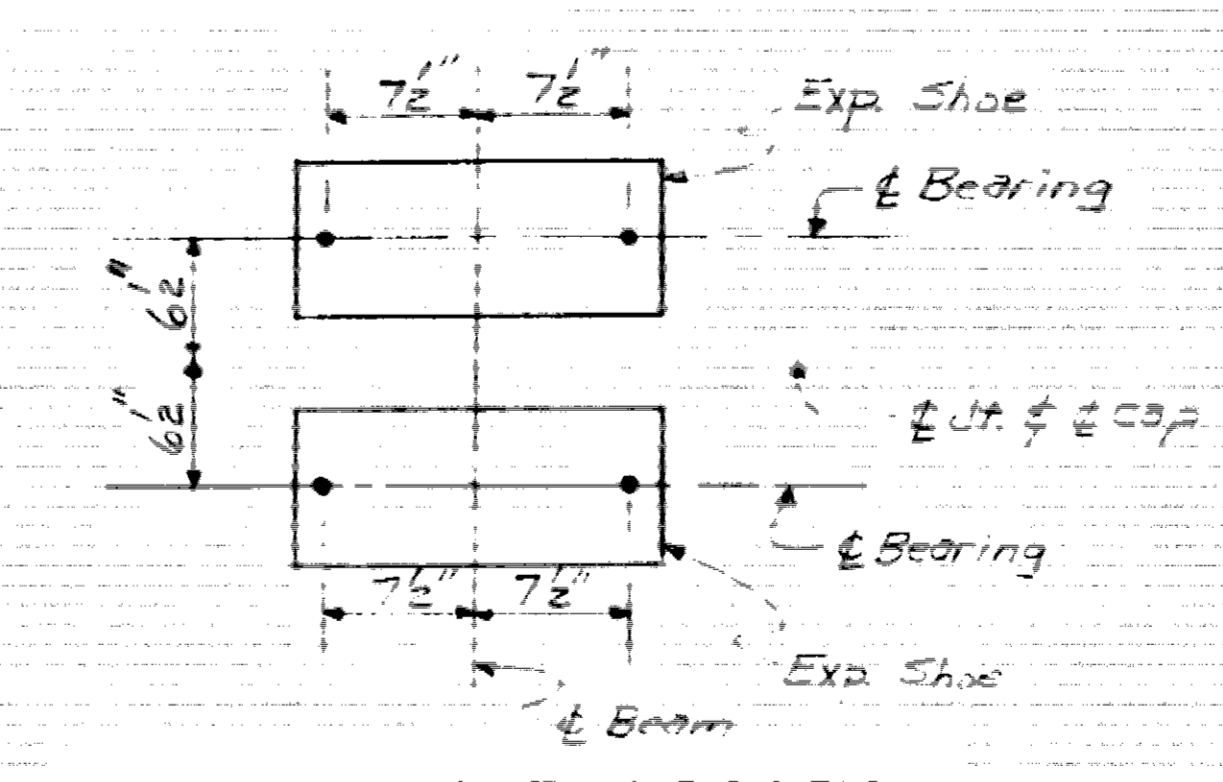
* 50 No. Req'd Bent 2
22 " Bent 3
90 " Bent 4
74 " Bent 5

** 18'6" = Length Bent 2
17'11" " Bent 3
22'5" " Bent 4
15'5" " Bent 5

General Notes:
All concrete shall be poured in the dry.
All concrete shall be Class 5. An exposed corner to be chamfered 3/4".
All reinforcing steel shall be ASTM A615, Grade 60.
Bending Diagrams shall be submitted and approved secured before fabrication is begun.



ANCHOR BOLT LOCATION
BENTS 2,3,4,5



ANCHOR BOLT LOCATION
BENT 4

Bent No.	1	2	3	4	5	6
Joint Size	1"	1 1/4"	1 1/4"	2"	1 1/4"	1"
Shoe Type	FX	DI, DI	DI, DI	DI, DI	DI, DI	FX
Masonry Plate Thickness	-	-	-	-	-	3/8"

SCHEDULE SHOWING JOINT SIZE, SHOE TYPE, AND PLATE THICKENING

DETAILS OF INT. BENTS
KINGS RIVER
KINGS RIVER BRIDGE & APPROACHES
CARROLL COUNTY

ROUTE 143 SEC. 1
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

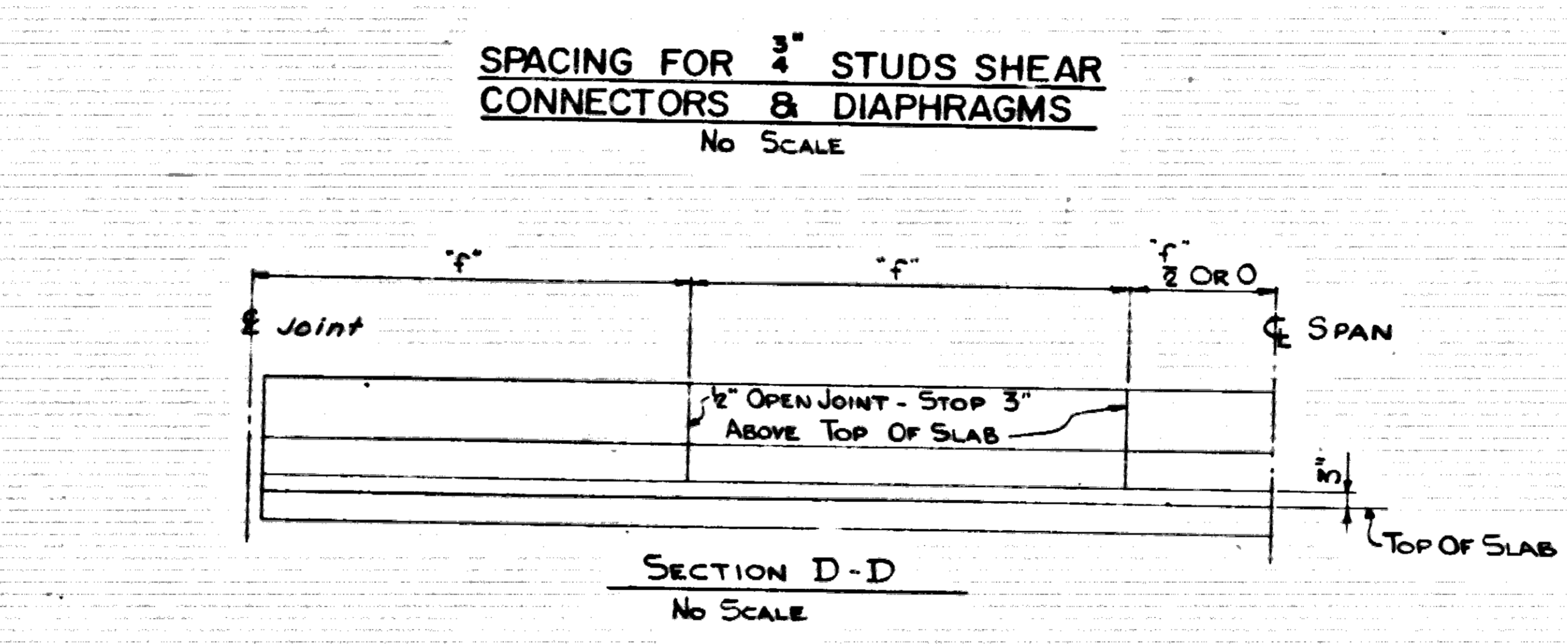
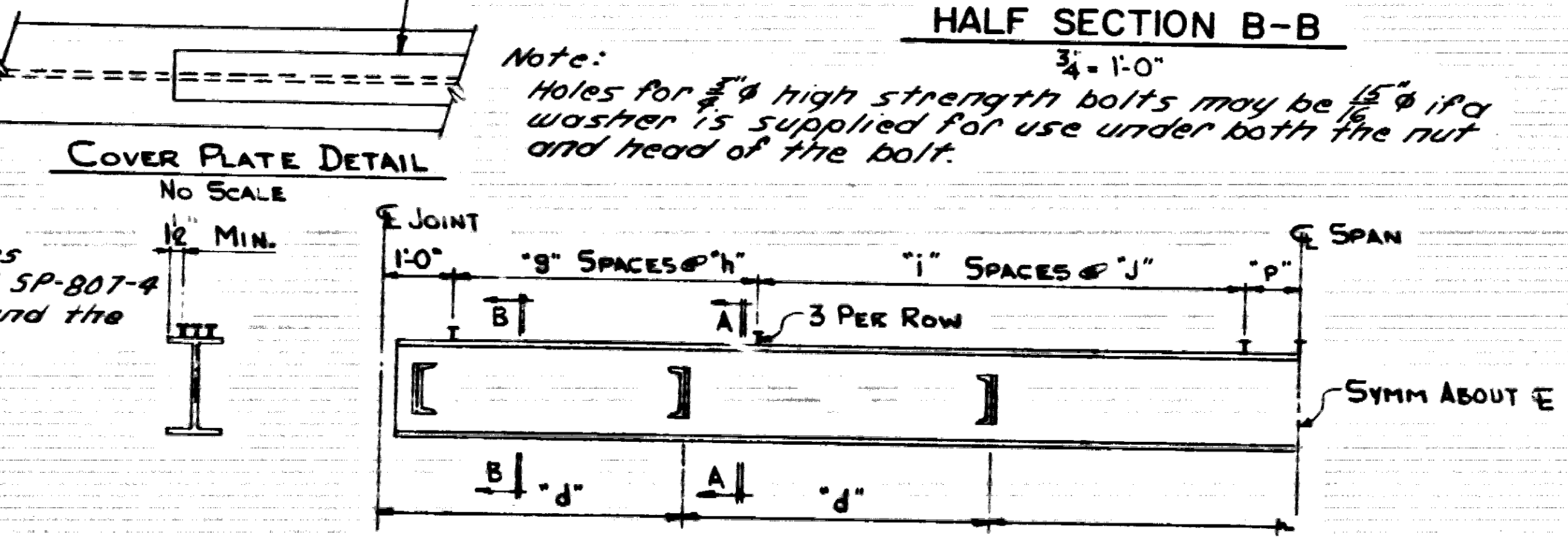
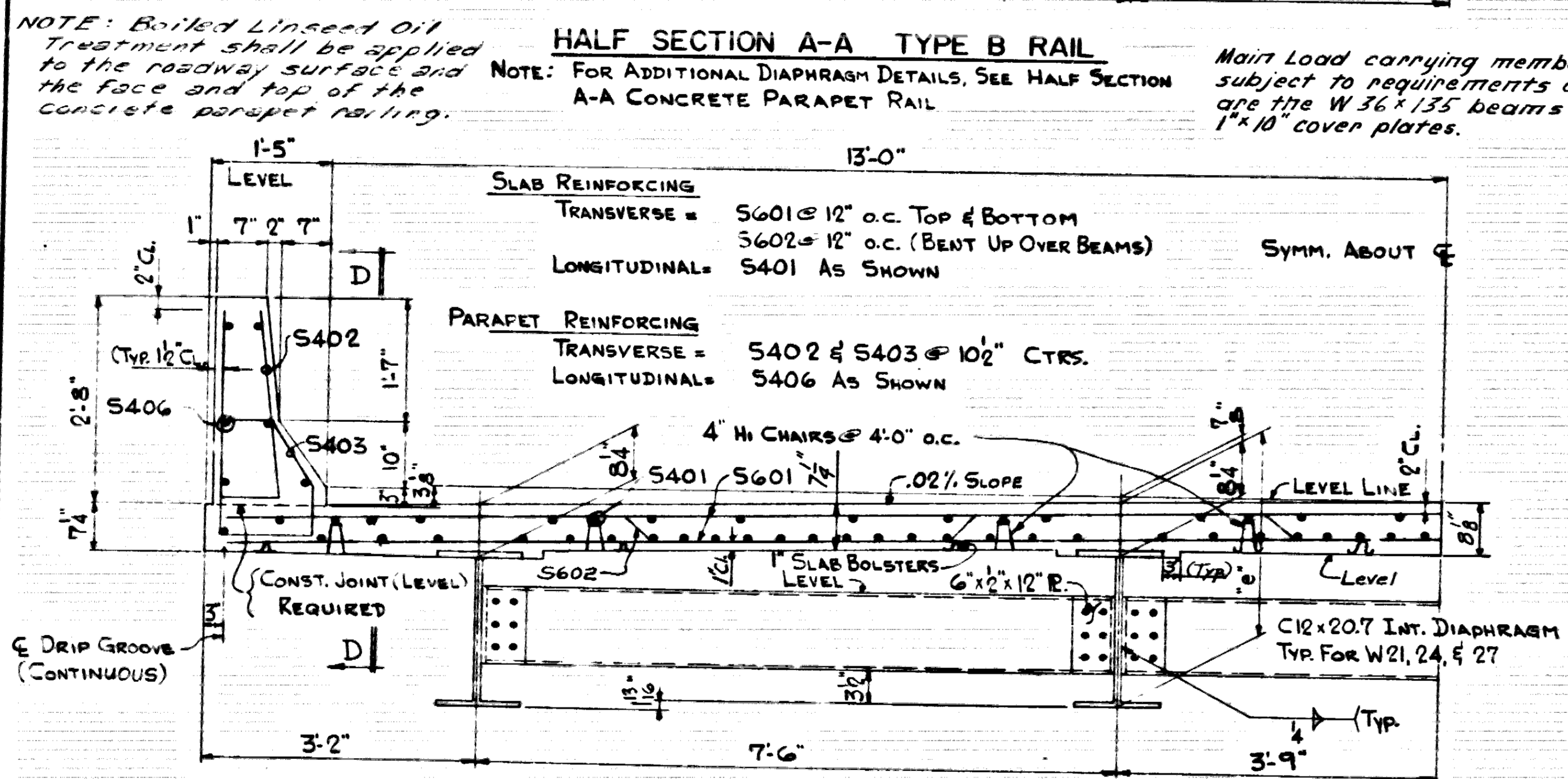
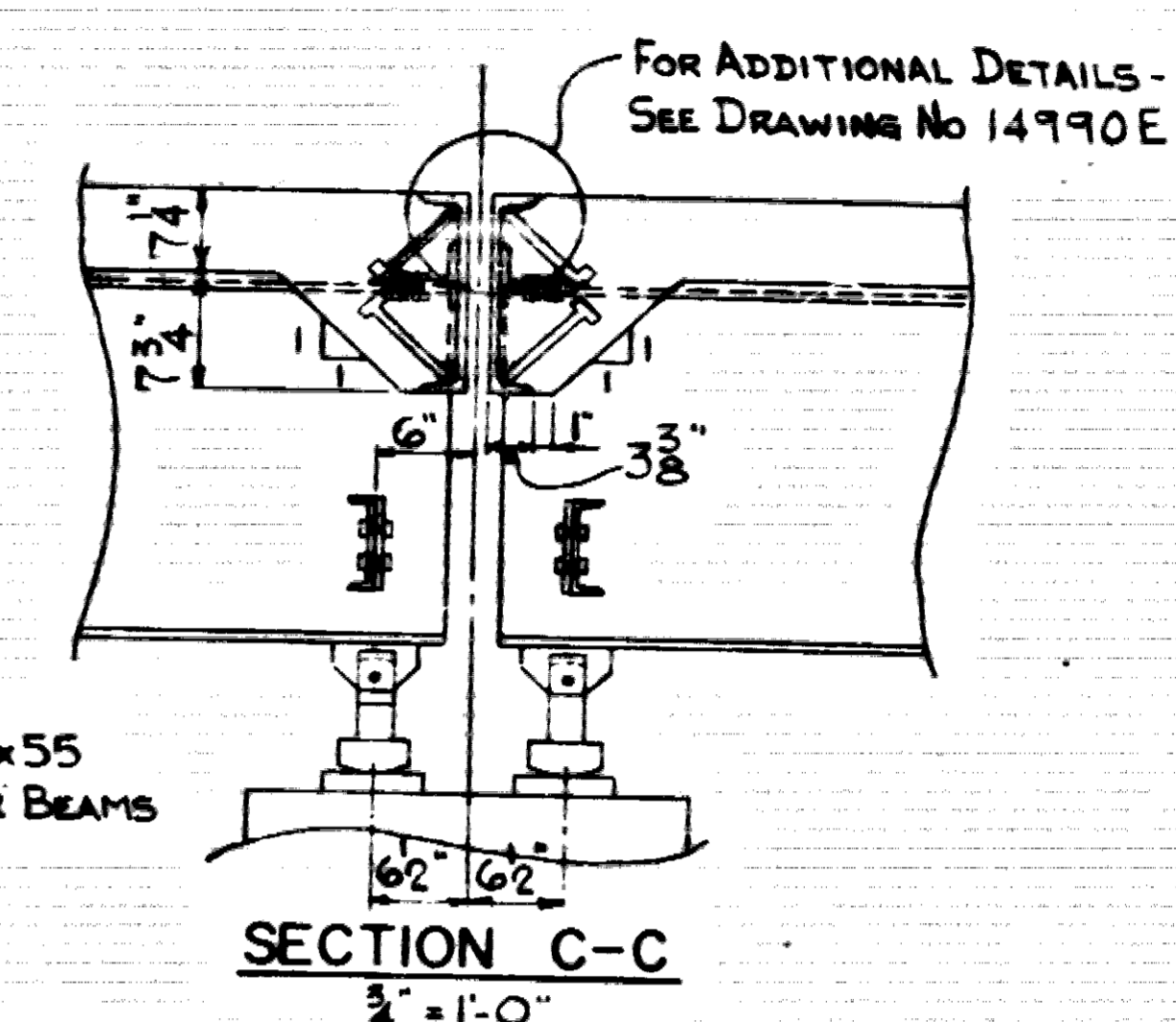
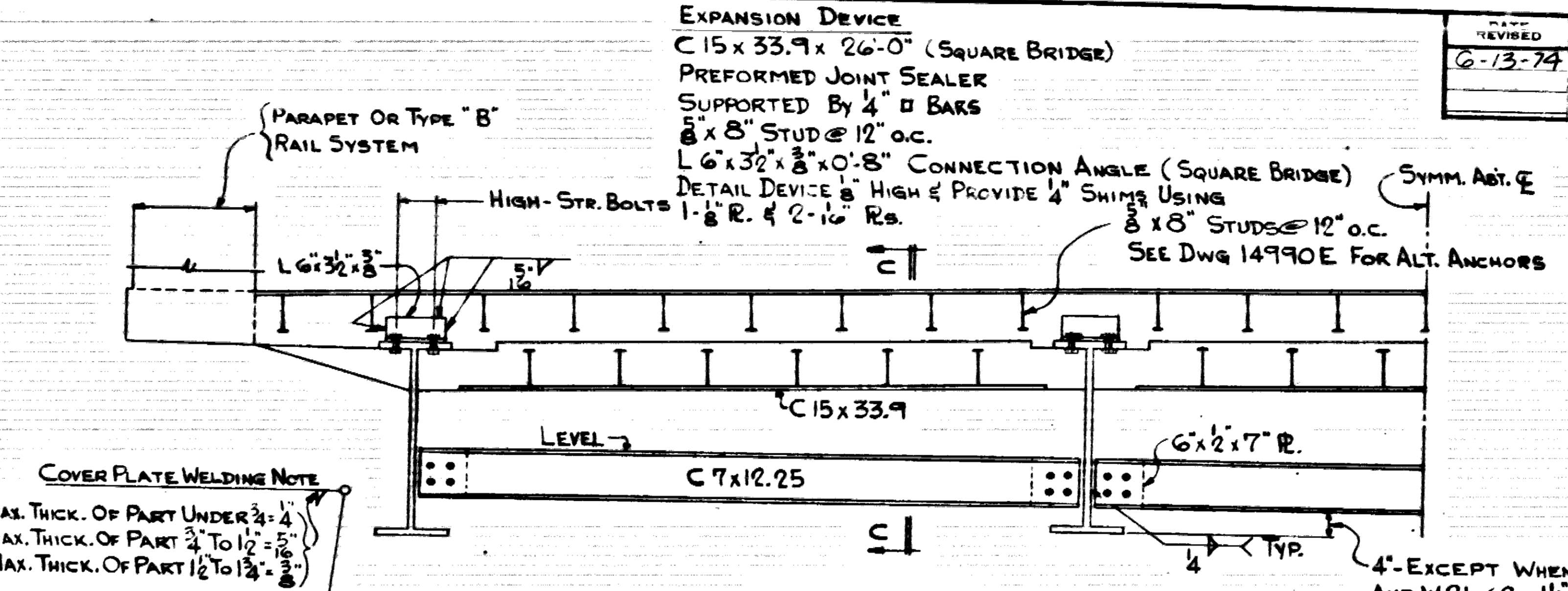
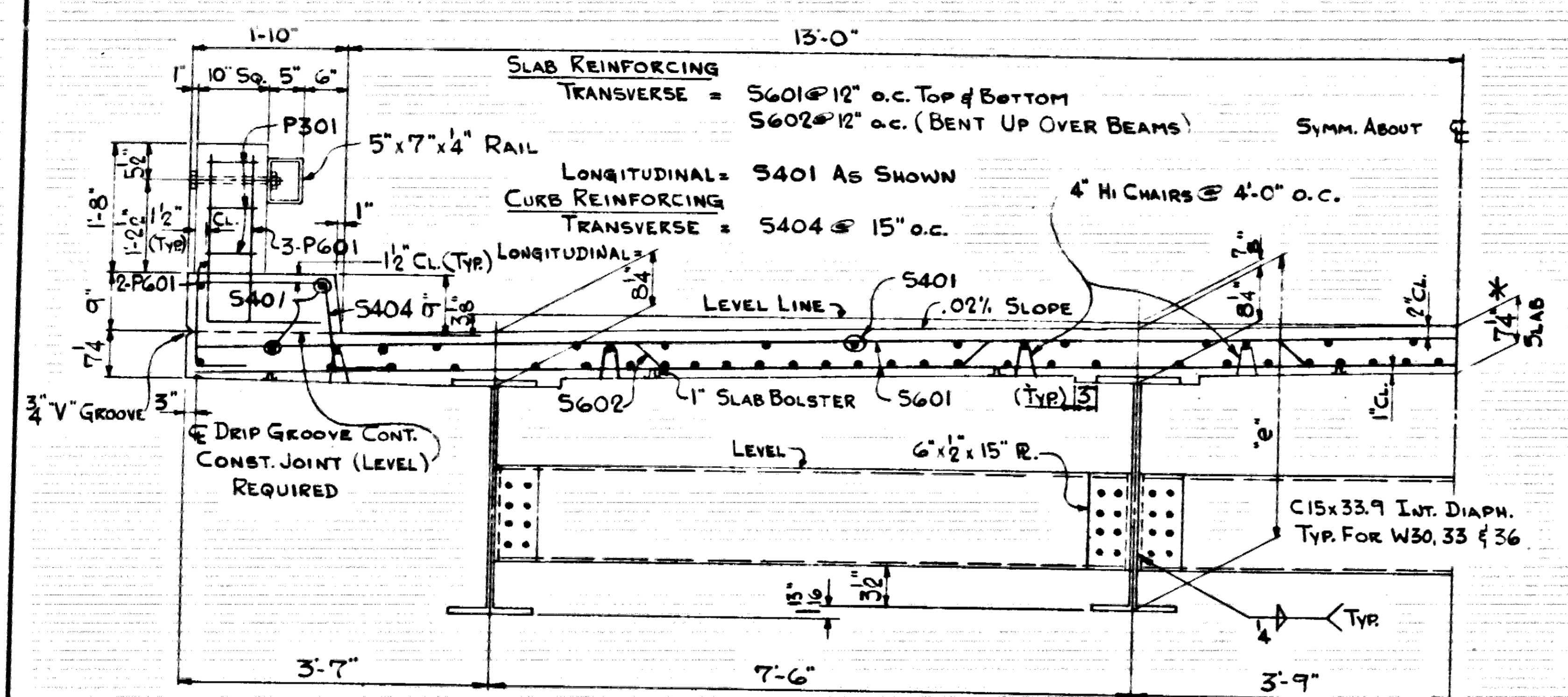
DESIGNED BY: JEB **DATE: 3/11/74**
CHECKED BY: DV **DATE: 3-20-74**
BRIDGE NO. 5571 **DRAWING NO. 18590**

Table of Variations

Bent	2	3	4	5
Reinforcing Steel (lbs)	2898	9067	4615	3525
Class 5 Concrete (cu. yds)	57.18	58.43	61.40	64.71

173 207

REVISED	FILED	REVISED	FILED	REVISED	FILED	REVISED	FILED	REVISED	FILED
6-13-74									
JOB NO. 5571 - Span Details - 18591				STATE ARK.		FISCAL YEAR 96/5		SHEET NO. 13	
								TOTAL SHEETS 42	



LOADING: H20 OR HS20 SEE LAYOUT

	INTERIOR BEAM	EXTERIOR BEAM
TYPE B RAIL DEAD LOAD:		
a. TO WF BEAM	690#/ft + 1.15(WT/FT OF WF)	684#/ft + 1.15(WT/FT OF WF)
b. TO COMPOSITE BEAM	255#/ft	255#/ft
LIVE LOAD:		
TO EACH COMPOSITE BEAM	1.364 WHEELS + IMPACT	1.277 WHEELS + IMPACT
CONCRETE PARAPET RAIL DEAD LOAD:		
a. TO WF BEAM	690#/ft + 1.15(WT/FT OF WF)	646#/ft + 1.15(WT/FT OF WF)
b. TO COMPOSITE BEAM	299#/ft	299#/ft
LIVE LOAD:		
TO EACH COMPOSITE BEAM	1.364 WHEELS + IMPACT	1.277 WHEELS + IMPACT

UNIT STRESSES:
CLASS 5 (OR SAE) CONCRETE (N=10) 1,200 PSI
STRUCTURAL STEEL (A572 GRADE 50) 27,000 PSI (BEAM AND COVER PLATES)
REINFORCING STEEL 20,000 PSI
STRUCTURAL STEEL (A36) 20,000 PSI

BEAM AND COVER PLATES SHALL BE A572 GRADE 50, ALL OTHER STRUCTURAL STEEL SHALL BE A36.

TABLE OF VARIABLES

BR. NO.	SPAN	INTERIOR BEAM				EXTERIOR BEAM				DIAPHRAGM SPACING	POST SPACING TYPE "B" RAIL	JT. SPACE	VARIABLE OF SHEAR CONNECTION SPACING
		BEAM SIZE	COVER R SIZE	"e"	DEAD LOAD DEF.	BEAM SIZE	COVER R SIZE	"e"	DEAD LOAD DEF.				
5377	1-5' 0" CM Rwy	W36x135	1"x10"x55"	3/8"	3/8"	W36x135	1"x10"x55"	3/8"	3/8"	17'-0"	14'-10"	20	12 23 22

REINFORCING STEEL PER SPAN

MARK	SIZE	LENGTH	CONCRETE PARAPET	TYPE B RAIL	PIN DIA.	SPAN LENGTH	
						NUMBER	REQUIRED
S601	6	28'-6"	29'-4"	STR.	170		
S602	6	29'-4"	30'-0"	STR.	84		
S401	4	5'-6"	5'-6"	STR.	-		
S401	4	5'-8"	5'-8"	STR.	-		
S401	4	5'-10"	5'-10"	STR.	264		
S402	4	5'-5"	5'-5"	STR.	192		
S403	4	5'-4"	5'-4"	STR.	192		
S404	4	5'-4"	5'-4"	STR.	-		
S406	4	5'-6"	5'-6"	STR.	72		
P301	3	2'-5"	2'-5"	STR.	-		
P601	6	2'-10"	2'-10"	STR.	-		

* SPAN (S) VARIES 35' - 40' ** SPAN (S) VARIES 40' - 50'
*** SPAN (S) VARIES 50' - 90' S = SPAN LENGTH

BENDING DIAGRAM
DIMENSIONS ARE OUT TO OUT OF BARS
5'-2" 3'-6" 3'-6" 3'-5 1/2" 3'-4" 1'-9" TYPE B
4'-9" CONC. PAR.
SEE NOTE (1) S602
2'-1" P601
S402
S403
S404
P301
S401

① NO UNDERTOLERANCE, 1/2" OVERTOLERANCE
BRIDGE ENGINEER

DETAILS OF STANDARD
35'-90' COMPOSITE I-BEAM SPANS
26'-0" CLEAR RDWY.
0.02% PEAKED CROWN
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.
DRAWN BY: D.S. DATE: 4-2-71
CHECKED BY: E.T.F. DATE: 4-6-71
BRIDGE NO. 5571
DRAWING NO. 18591