

For R/W Data - See R/Wy. Plans

DATE	BY	DATE	BY	PER. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
12-16-83	754-1-26-84			6	ARK.		11974	21A
5855 LAYOUT								23343A

Use Concrete Spillways  
of both bridge ends  
See Sheet No. 4

#### GENERAL NOTES

BENCH MARK: A STANDARD TABLE STAMPED "32 RWM 1965" ON S.W. CORNER WATERS BAYOU BRIDGE 12' LT. CENTERLINE STA. 996+88.0, ELEV. 164.08.

ALL CONCRETE SHALL BE POURED IN THE DRY.  
PILES IN BENTS 1, 2, 3, 4, 5 SHALL BE 14" SQUARE OR 16" OCTAGONAL PRECAST CONCRETE AND SHALL BE DRIVEN WITH AN APPROVED AIR, STEAM, OR DIESEL HAMMER TO A MINIMUM BEARING CAPACITY OF 44 TONS PER PILE. PILE SHAPES SHALL NOT BE MIXED ON ANY BRIDGE.  
PILES IN INT. BT. 2 SHALL BE DRIVEN A MINIMUM PENETRATION OF 20 FT. BELOW THE BOTTOM OF FOOTING. LENGTHS OF PILING SHOWN ARE FOR ESTIMATING QUANTITIES ONLY. ACTUAL LENGTHS TO BE DETERMINED IN THE FIELD. DRIVE ONE 50 FT. TEST PILE IN BENT NO. 1.  
PILES IN END BENTS TO BE DRIVEN AFTER EMBANKMENT TO BOTTOM OF CAP IS IN PLACE. PILES IN END BENTS SHALL BE DRIVEN A MINIMUM OF 10 FT. BELOW THE NATURAL GROUND LINE.  
FOR DETAILS OF END BENTS, SEE DWG. NO. 23344.  
FOR DETAILS OF INTERMEDIATE BENTS, SEE DWG. NO. 23345, 23345A, 23346 & 23346A.  
FOR DETAILS OF CONTINUOUS UNIT, SEE DWG. NO. 23347 - 23351.  
FOR DETAILS OF PRECAST CONCRETE PILING, SEE DWG. NO. 2383.

SPECIFICATIONS: ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 1978, AND APPLICABLE SPECIAL PROVISIONS.

DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 1977, WITH 1978 THRU 1979 INTERIM SPECIFICATIONS.

LIVE LOADING: HS20  
METHOD OF DESIGN: LOAD FACTOR

REMOVE THE EXISTING 304 FT. BRIDGE AT STA. 996+88.0 WHICH CONSISTS OF A CONCRETE DECK SUPPORTED BY CONCRETE CAPS AND TIMBER PILING. SEE SECTION 205 OF THE STANDARD SPECIFICATIONS. ALL MATERIAL FROM THE EXISTING SUPERSTRUCTURE SHALL BE SALVAGED AND REMAIN THE PROPERTY OF THE STATE. ALL REMAINING MATERIAL SHALL BECOME PROPERTY OF THE CONTRACTOR.

CONSTRUCT A 250 FT. TEMPORARY BRIDGE 150 FT. RT. OF CENTERLINE NEW CONSTRUCTION BEGINNING AT STA. 997+20 ENDING AT STA. 999+70. THE TEMPORARY BRIDGE SHALL HAVE A MINIMUM ROADWAY WIDTH OF 20 FT., A MINIMUM LIVE LOAD DESIGN CAPACITY OF HS AND A MINIMUM DECK ELEVATION OF 157.0. SEE SECTION 603 OF THE STANDARD SPECIFICATIONS AND SP JOB 11974. CONSTRUCTION IN THE VICINITY OF ARKANSAS POWER AND LIGHT CO. POWER TRANSMISSION LINE.

\* Conc. Deck consists of Precast Concrete Slabs.

Piles in Bent 4 shall be driven a minimum penetration of 20' below the bottom of seal. In Bent 4 a minimum of two long piles per bent (one each footing) shall be driven without a follower and these long piles may be used to meet the requirements of section 805.04 (f) of the Standard Specifications.

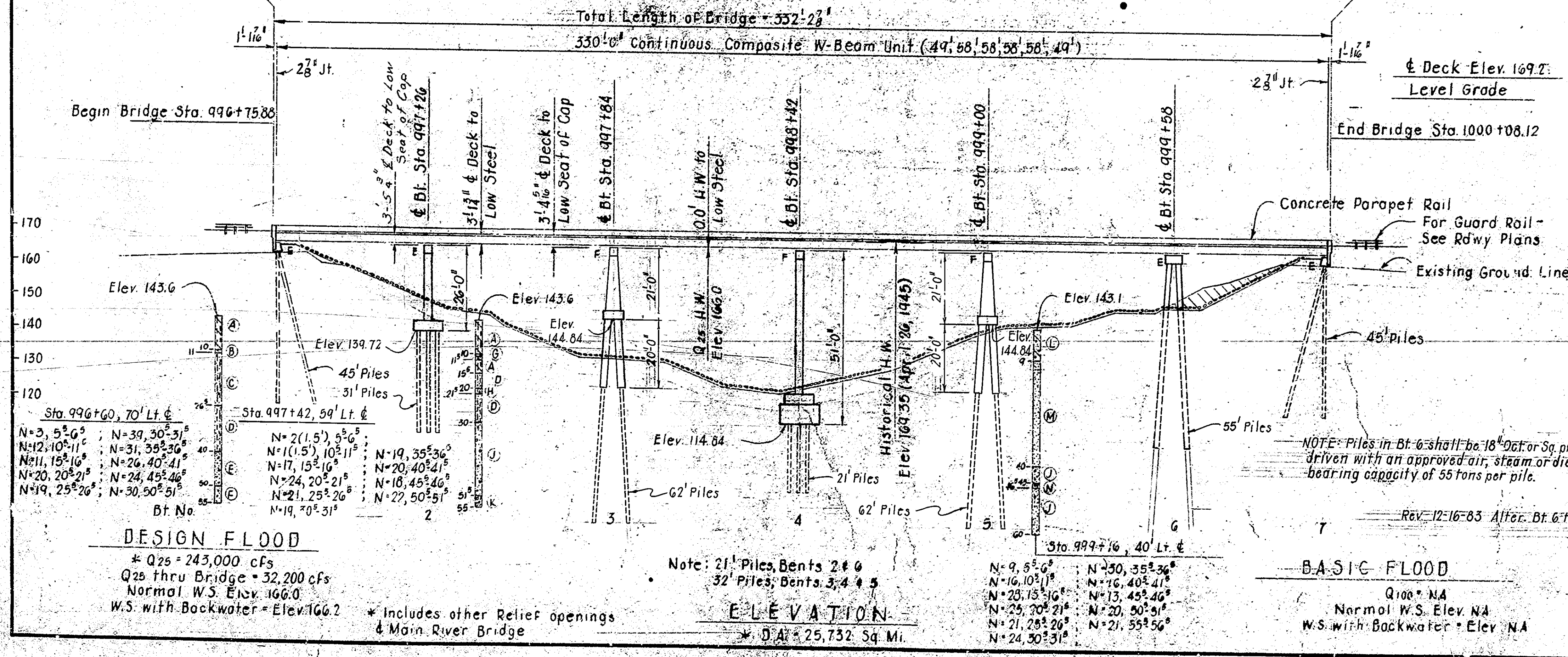
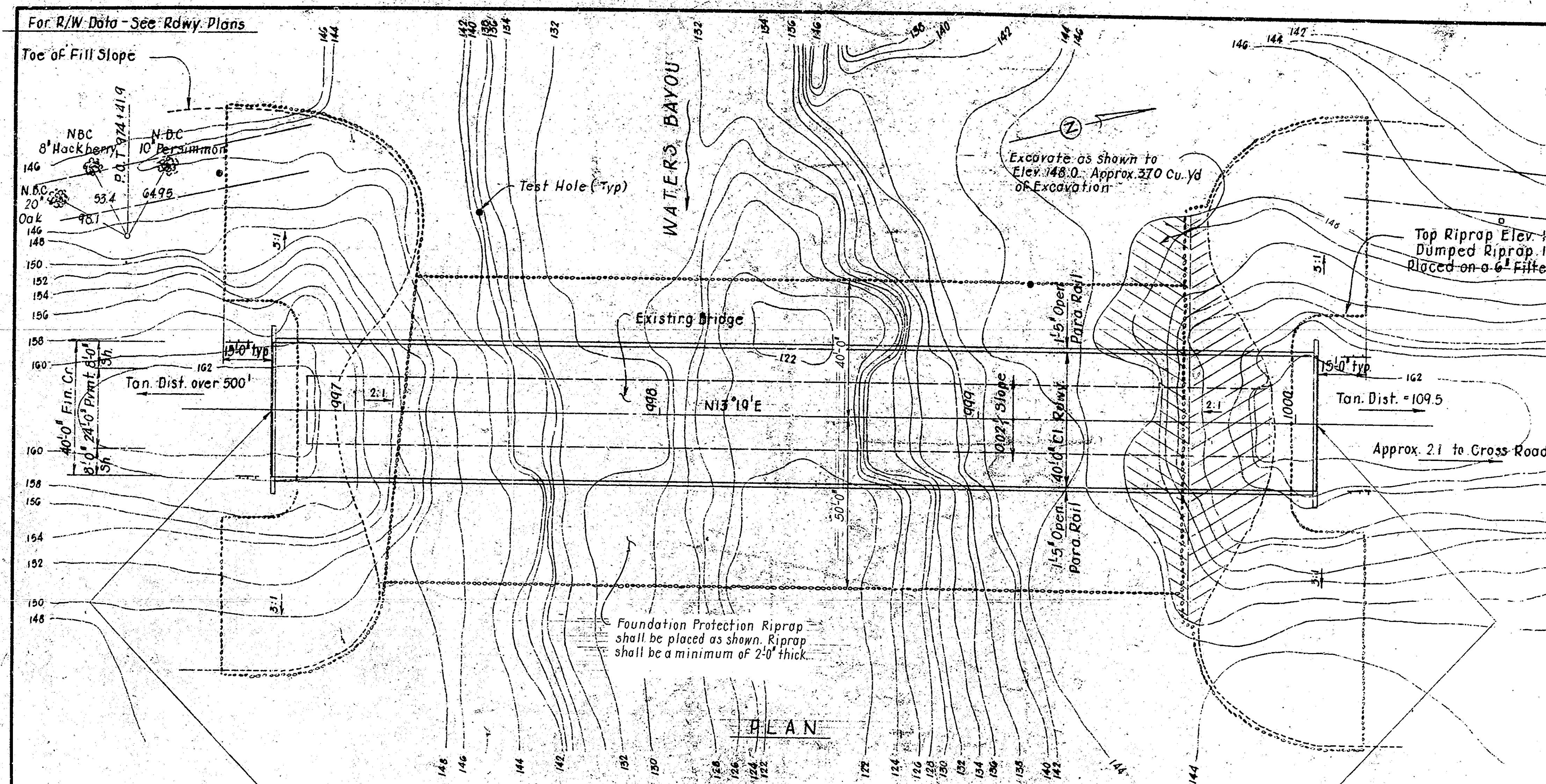
PILING FOR BENTS 3 & 5 SHALL BE HPI4X73 STEEL BEARING PILES AND SHALL BE DRIVEN WITH AN APPROVED AIR, STEAM, OR DIESEL HAMMER TO A MINIMUM BEARING CAPACITY OF 55 TONS PER PILE AND TO A MINIMUM TIP ELEVATION OF 84.84. LENGTHS OF PILING SHOWN ARE ASSUMED FOR ESTIMATING QUANTITIES ONLY. ACTUAL LENGTHS TO BE DETERMINED IN THE FIELD. DRIVE ONE 67 TEST PILE IN BENT 3.

#### BORING LOG

- ① Wet, Very Soft, Reddish Brown or Gray Silty Clay.
- ② Wet, Medium Stiff, Brown Clay.
- ③ Wet, Medium Dense, Brown and Gray Silty Sand with Some Organic Matter.
- ④ Wet, Medium Dense, Brown and Gray Silty Sand.
- ⑤ Wet, Medium Dense, Brown and Gray Sand with Some Gravel.
- ⑥ Wet, Dense, Brown and Gray Sandy Gravel with Organic Matter.
- ⑦ Wet, Very Soft, Gray Silty Clay with Organic Matter.
- ⑧ Wet, Medium Dense, Brown and Gray Silty Sand with a small amount of Gravel and Clay.
- ⑨ Wet, Medium Dense, Brown and Gray Gravelly Sand.
- ⑩ Wet, Medium Dense, Gray and Brown Sandy Gravel.
- ⑪ Moist, Stiff, Gray Clay with Some Organic Matter.
- ⑫ Moist to Wet Medium Dense, Gray Sand.
- ⑬ Wet, Medium Dense, Gray Gravelly Sand with Organic Matter.

LAYOUT OF BRIDGE OVER  
WATERS BAYOU  
ST. CHARLES BRIDGE - NORTH  
MONROE CO.  
ROUTE 1 SEC. 6  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

ALTERED BY: L.M. DATE: 4-27-83  
CHECKED BY: J.M.C. DATE: 4-27-83  
DESIGNED BY: J.M.C. DATE: 2-7-78  
BRIDGE NO. 5855 DRAWING NO. 23343A



#### DESIGN FLOOD

\* Q25 = 243,000 cfs  
Q25 thru Bridge = 32,200 cfs  
Normal W.S. Elev. 166.0  
W.S. with Backwater = Elev. 166.2  
\* Includes other Relief openings  
& Main River Bridge

#### ELEVATION

\* D.A. = 25,732 Sq. Mi.

#### BASIC FLOOD

Q100 = NA  
Normal W.S. Elev. NA  
W.S. with Backwater = Elev. NA







Diagram illustrating the plan view of a rectangular pile cap. The overall dimensions are 9'-0" by 6'-0". The spacing between piles is 3'-0" horizontally and 1'-6" vertically. The piles are labeled as 16" Oct. or 14" Sq. Concrete Piles. The diagram shows six piles arranged in a 2x3 grid, with one pile highlighted in a different color to indicate its position relative to the cap edges.

Elev. 165.72  
 3'-6"  
 14'-0"  
 3'-6"  
 3"  
 7@9"  
 6'-1 1/2"  
 2'-0"  
 12'-B801 (Each column)  
 12'-B802  
 F501  
 3' cl. typ.  
 1'-6"  
 6"  
 11-F602 @ 6"  
 6'-0"  
 6"  
 4-B901  
 2-B902  
 2-B903  
 2-B904  
 5@12"  
 16@6"  
 21'-3"  
 2'-0"  
 6'-1 1/2"  
 3'-B401 Tie Spacing  
 3'-B402 sp @ 12" (Over each column)  
 Note: Typical Dimensions & Reinforcing For Footing  
 Elev. 139.72 (typ.) Δ

18'-0" sp @ 15" oc

3'-1 1/2"

2'-0"

3'-1 1/2"

3 #12

3 #12

17'-0"

17 #501 @ 6"

3 #12

Req'd Constr. Jt.

FG02

1 1/2"

1 1/2"

SECTION D-D  
1" = 1'-0"

SECTION C-C

### GENERAL NOTES

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

**f'c = COMPRESSIVE STRENGTH OF CLASS S CONCRETE = 3500 PSI.**

REINFORCING STEEL SHALL BE ASTM A615 OR A617, GRADE 60. YIELD STRENGTH ( $f_y$ ) = 60,000 PSI.

FOR FILING DETAILS, SEE L-1007

**SPECIFICATIONS: ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 1978 AND APPLICABLE SPECIAL PROVISIONS.**

LIVE LOAD: HS20

DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 1977 EDITION, WITH INTERIMS.

**METHOD OF DESIGN: LOAD FACTOR**

DETAILS OF INT. BENTS 2 & 6  
WATER'S BAYOU  
ST. CHARLES BRIDGE - NORTH  
MONROE CO.

ROUTE 1 SEC. 6

**ARKANSAS STATE HIGHWAY COMMISSION**

**LITTLE ROCK, ARK**

L.M. 11-79

DRAWN BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
CHECKED BY: MEW DATE: 11-20-74

PREPARED BY: GYA DATE: 10-10-75

**BRIDGE NO. 5855**

**DRAWING NO. 23345**

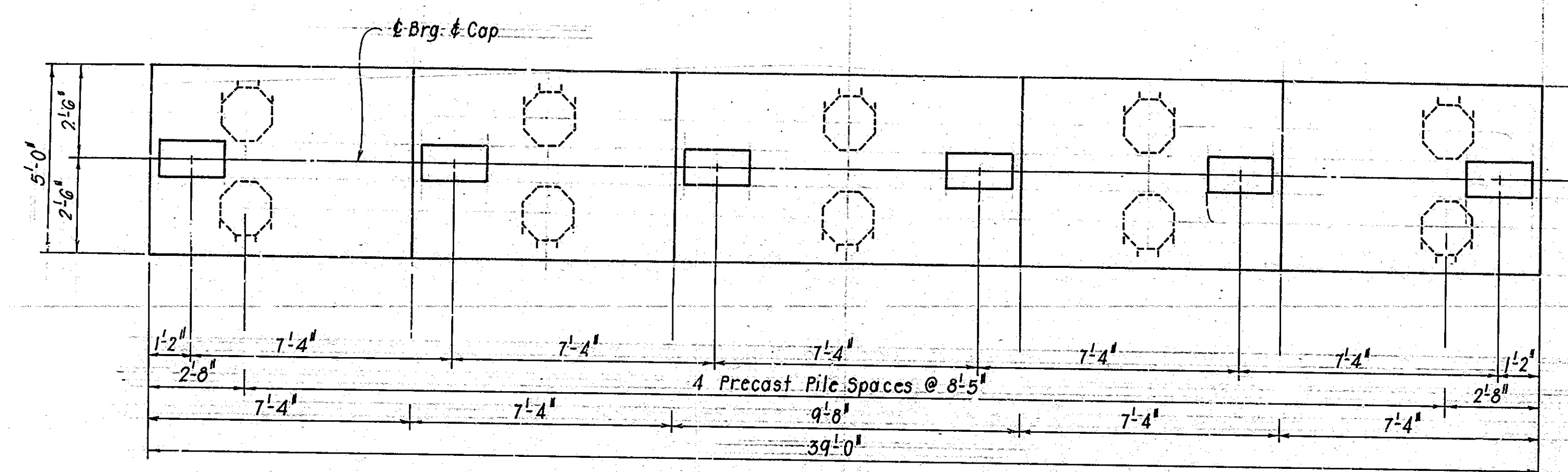
Revised: Title, 12-10-80 L.M

△ Revised Elevations, 7:7-81 L.M.

Verla Pinkerton  
BRIDGE ENGINEER

**BRIDGE NO. 5855**

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
1-25-84	7-5-12-84			6	ARK.			
				JOB NO.	11974	23A		
				5855	INT. BENT	233454		



PLAN

BAR LIST

Mark	No. Req'd	Length	Pin Dia.
B601	8	40'-0"	4 1/2"
B602	8	38'-8"	3 1/2"
B401	52	14'-6"	2"
B402	15	8'-10"	2"
B403	4	38'-8"	3 1/2"

Bonding Diagram  
(Dimensions are out to out of bars)

## QUANTITIES

Concrete	18.45 yd <sup>3</sup>
Reinforcing	1641 lb.

### GENERAL NOTES

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

REINFORCING STEEL SHALL BE ASTM A617 OR A615, GRADE 60.

PILING SHALL BE 18" OCT. OR SQ. PRECAST CONCRETE AND SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 55 TONS PER PILE AND TO A MINIMUM TIP ELEVATION 109.16.

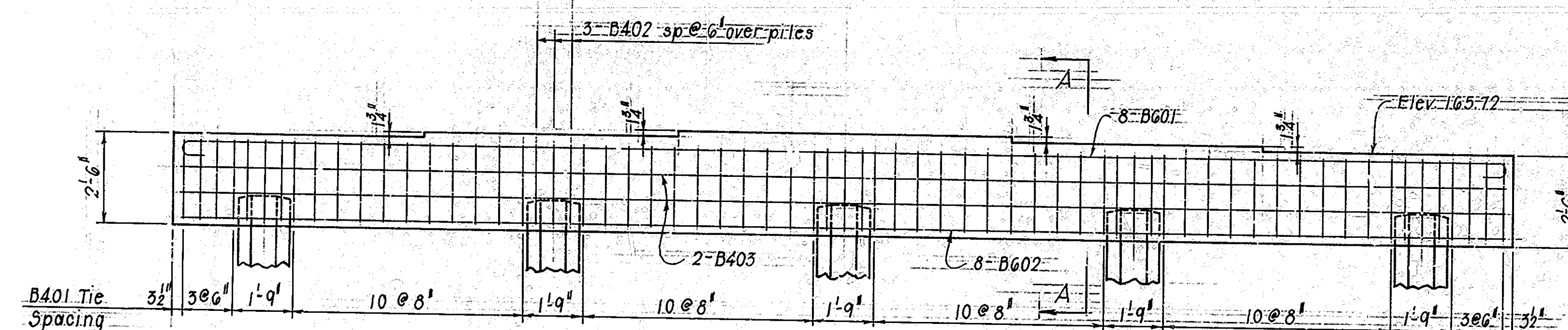
SPECIFICATIONS: ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 1978 AND APPLICABLE SPECIAL PROVISIONS.

LIVE LOAD: HS20

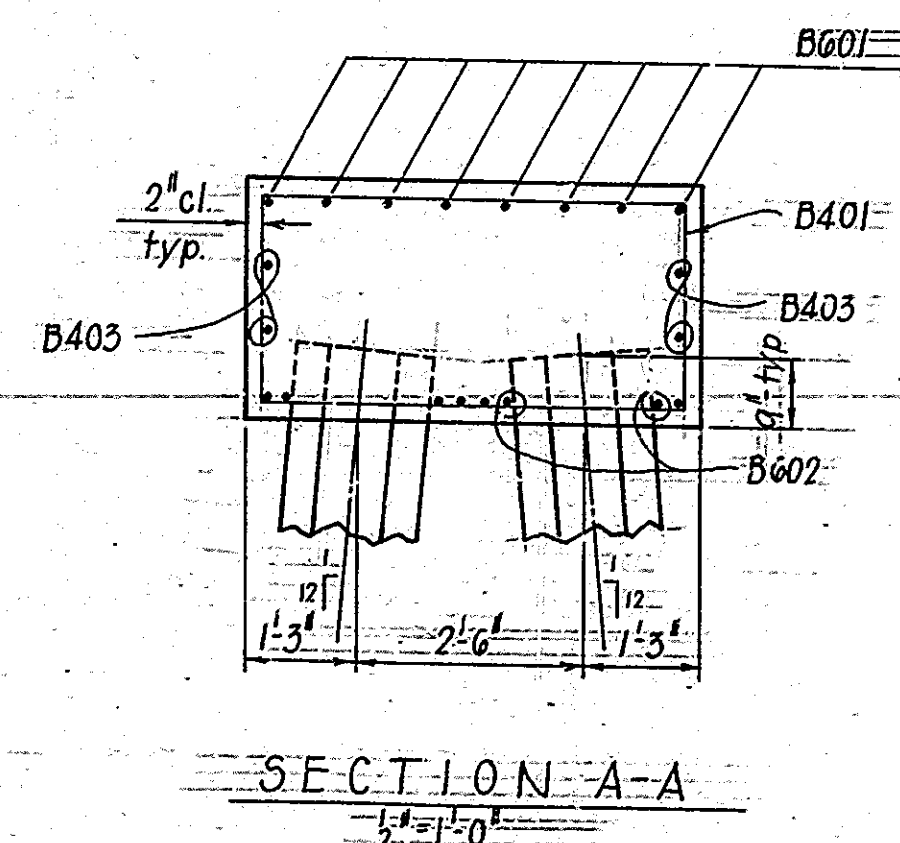
METHOD OF DESIGN: LOAD FACTOR

DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 1977 WITH CURRENT INTERIM SPECIFICATIONS.

UNIT STRESSES:  $f'_c$  = COMPRESSIVE STRENGTH OF CLASS S CONCRETE = 3500 PSI  
 $f_y$  = YIELD STRENGTH OF REINFORCING STEEL = 60,000 PSI



ELEVATION



SECTION A-A

DETAILS OF INT. BENT 6  
WATERS BAYOU  
ST. CHARLES BRIDGE- NORTH  
MONROE COUNTY  
ROUTE 1 SEC. 6

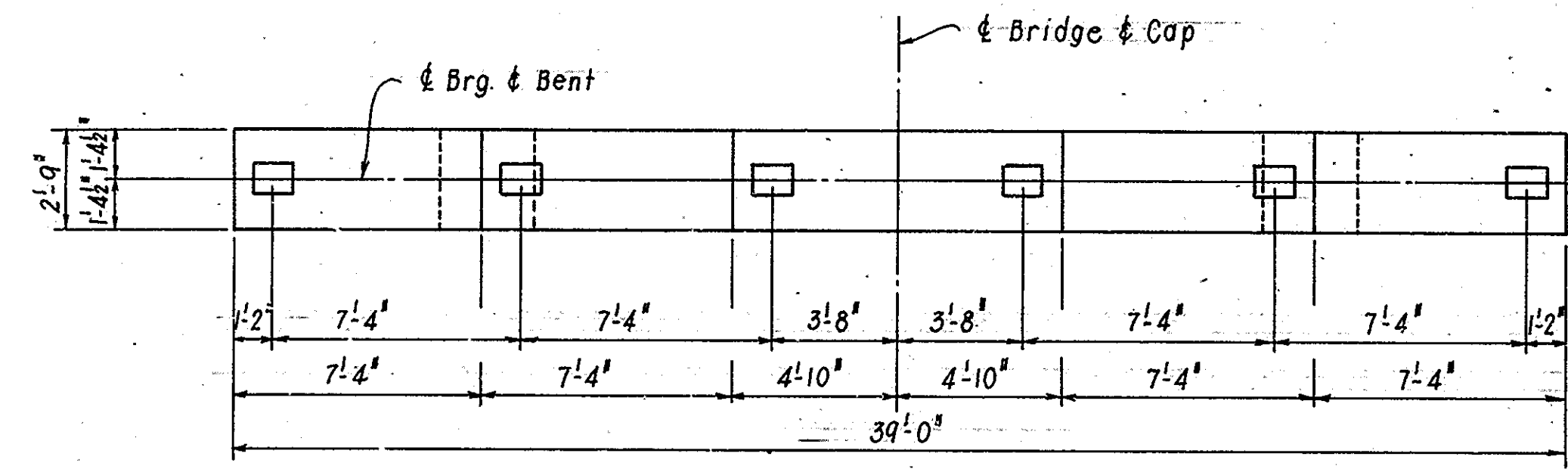
**ARKANSAS STATE HIGHWAY COMMISSION**

LITTLE ROCK, ARK.  
DRAWN BY: L.M. DATE: 12-14-83  
CHECKED BY: GYA DATE: 12-14-83  
DESIGNED BY: DATE: SCALE: 3/4" = 1'-0" or as shown

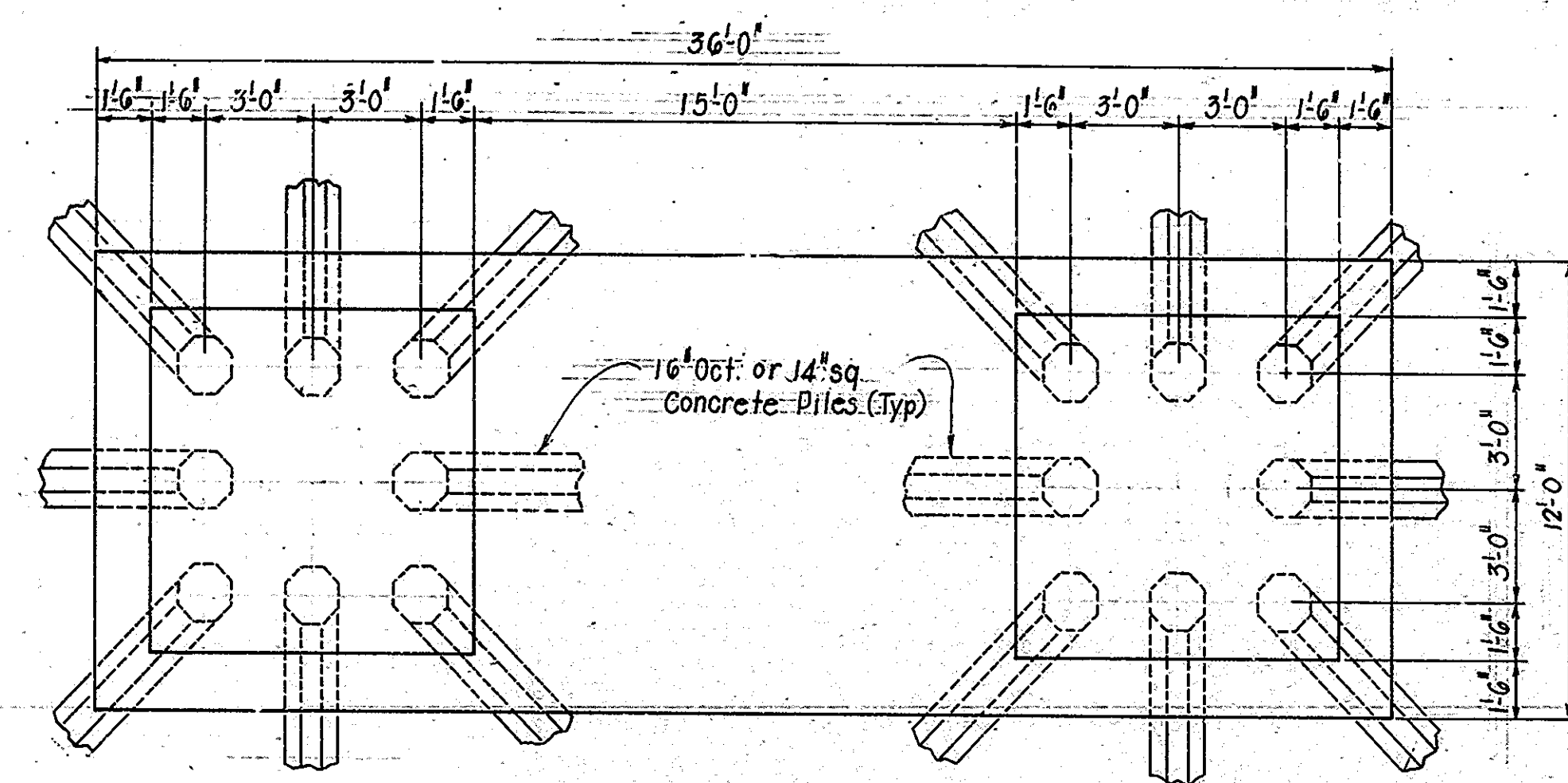
BRIDGE NO. 5855      DRAWING NO. 23345 A



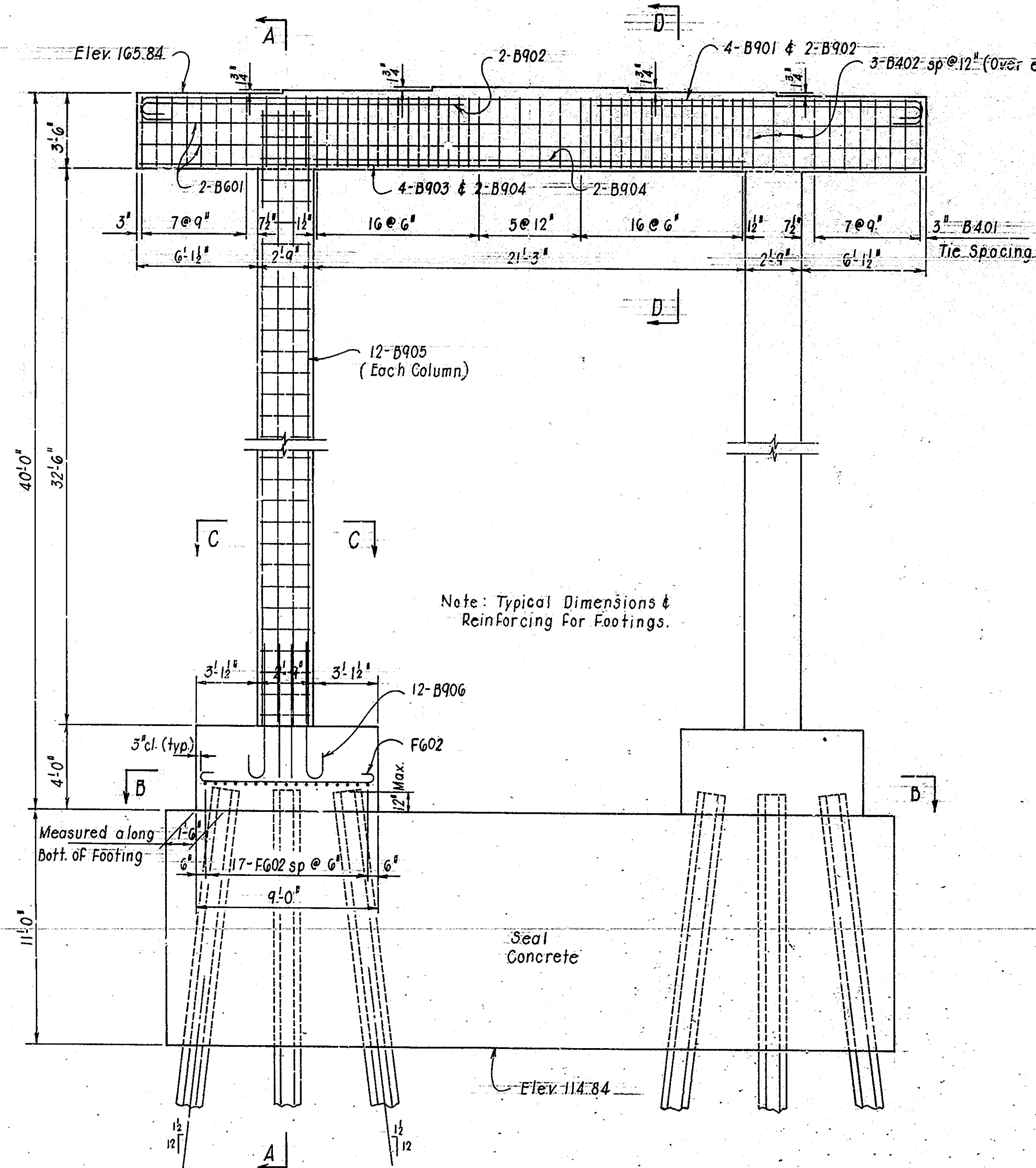
DATE	REVISED	DATE	REVISED	DATE	REVISED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
12-10-80	10-22-79					6	ARK.	GR-031-1(23)	24	72
					JOB NO.		11974		24	
					5855		BENT		23346	



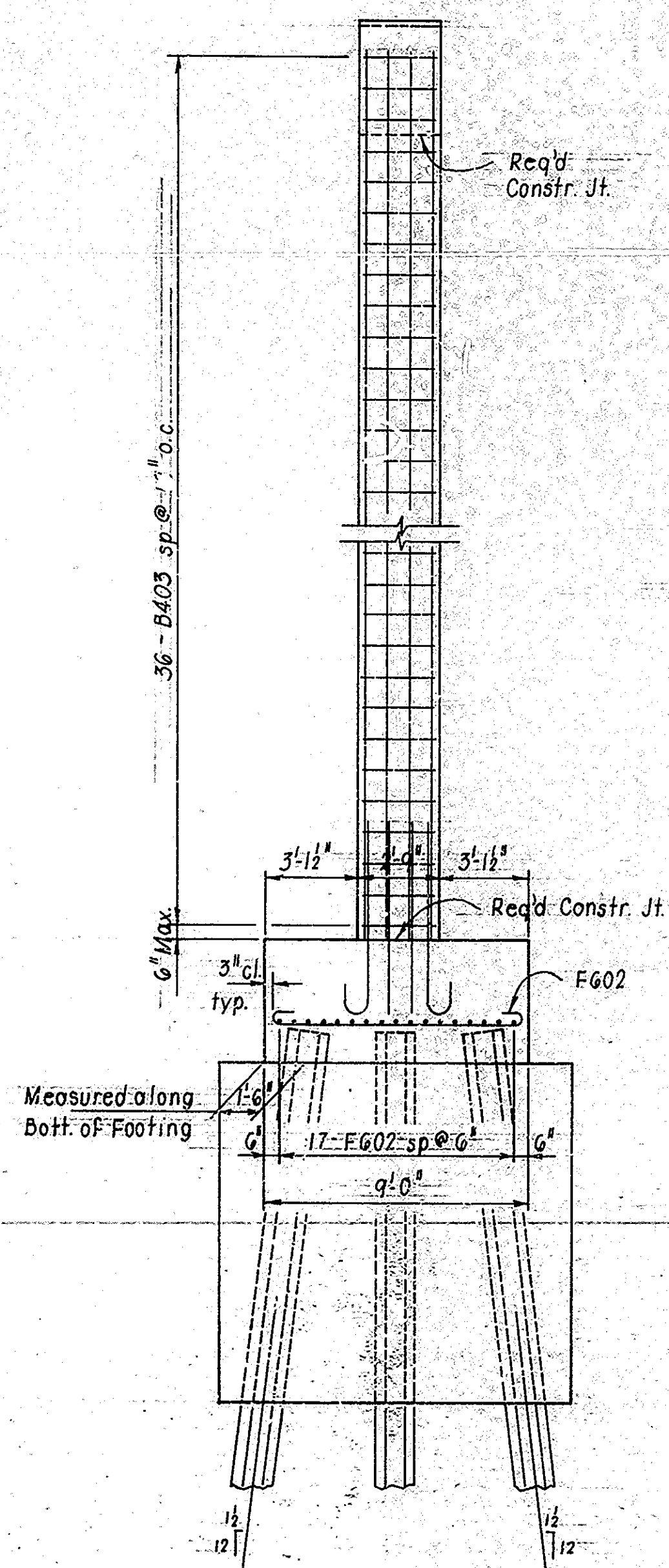
PLAN



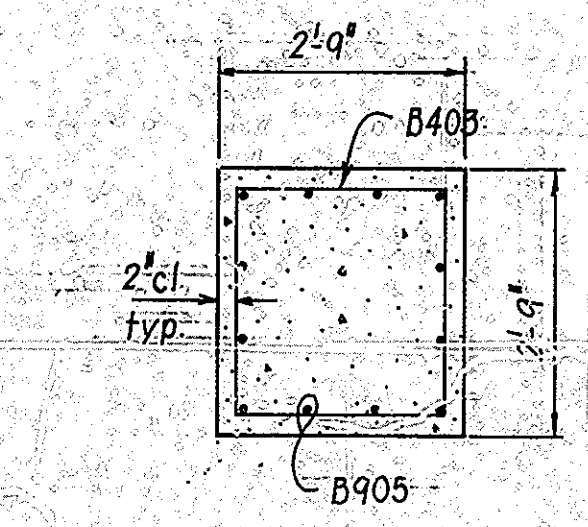
SECTION B-B



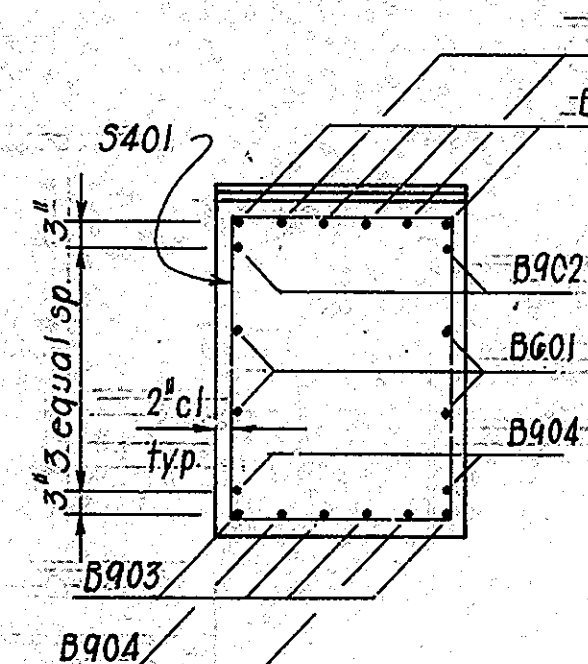
ELEVATION



SECTION A-A



SECTION C-C



SECTION D-D

BAR LIST (ONE BENT)

Mark	No. Req'd	Length	A	B	Pin Dia.	Bending Diagram (Dimens. are out to out of bars)
B901	4	41'-2"	38'-8"	10"	9"	A
B902	8	17'-3"	16'-0"	10"	9"	B
B903	4	38'-8"				A
B904	4	21'-3"				B
B905	24	35'-6"				A
B906	24	7'-11"	6'-8"	10"	9"	B
B401	4	38'-8"				A
FG02	68	11'-0"	8'-6"	6"	4 1/2"	B
B401	54	12'-0"	2'-5"	3'-2"	2"	A
B402	6	8'-7"	2'-5"	3'-2"	2"	B
B403	72	10'-6"	2'-5"	2'-5"	2"	A

GENERAL NOTES

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

$f'_c$  = COMPRESSIVE STRENGTH OF CLASS S CONCRETE = 3500 PSI.

REINFORCING STEEL SHALL BE ASTM A615 OR A617, GRADE 60. YIELD STRENGTH ( $f_y$ ) = 60,000 PSI. FOR FILING DETAILS, SEE LAYOUT.

SPECIFICATIONS: ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 1978 AND APPLICABLE SPECIAL PROVISIONS.

LIVE LOAD: HS20

DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 1977 EDITION WITH INTERIMS.

METHOD OF DESIGN: LOAD FACTOR

SEAL THICKNESS IS BASED ON A WATER ELEVATION OF 145.0

$f'_c$  = COMPRESSIVE STRENGTH OF SEAL CONCRETE = 2100 PSI.

DETAILS OF INT. BENTS 3, 4 & 5  
WATERS BAYOU  
ST. CHARLES BRIDGE - NORTH  
MONROE CO.

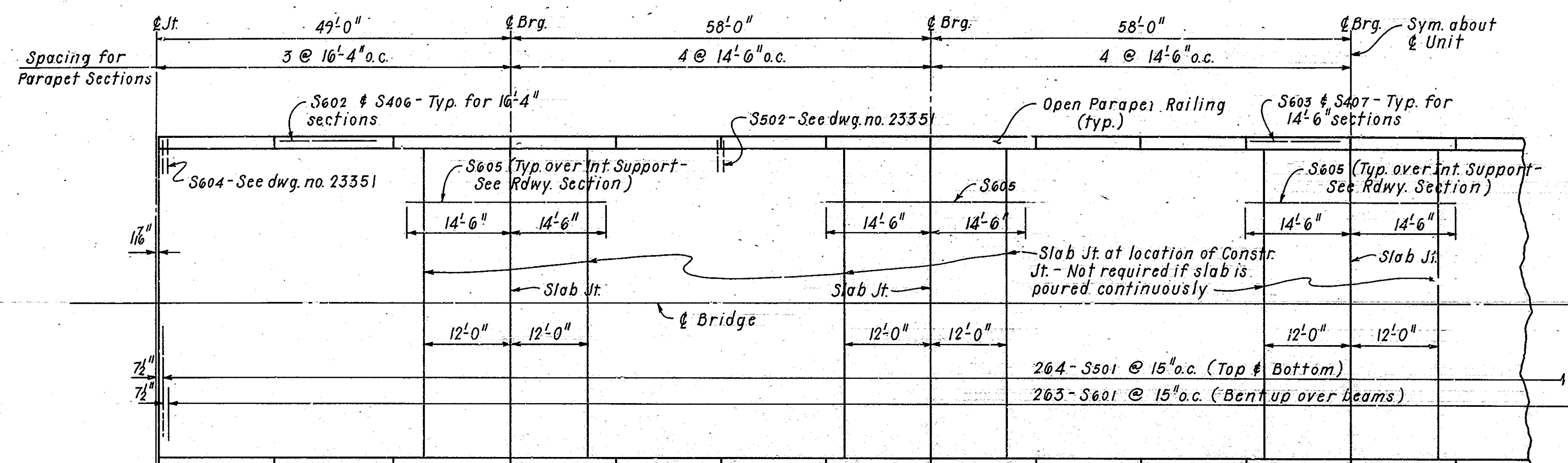
ROUTE 1 SEC. 6  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

DRAWN BY: L.M. DATE: 10-30-79  
CHECKED BY: MEW DATE: 11-20-79  
DESIGNED BY: GVA DATE: 10-10-79  
BRIDGE NO. 5855 DRAWING NO. 23346

*Russell Pinkerton*  
BRIDGE ENGINEER



REVISED	DATE	REVISED	DATE	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
12-10-80	03-12-240			6	ARK.	GR-031-1(23)		
						JOB NO.	11974	25
						5855	CONT. UNIT	23347



# BAR LIST (FOR UNIT)

NO.	Length	Pin Dia.	Bending Diagram
S601	263	43'-7"	3/2"
S602	60	16'-0"	Str.
S603	160	14'-2"	Str.
S604	24	5'-5"	Str.
S605	240	29'-0"	Str.
S501	528	42'-6"	Str.
S502	294	5'-0"	Str.
S401	855	38'-2"	Str.
S402	352	6'-10"	2"
S403	352	6'-0"	2"
S404	464	3'-2"	2"
S405	464	6'-4"	2"
S406	48	16'-0"	Str.
S407	128	14'-2"	Str.

\* No Undertolerance; 1/2" Overtolerance

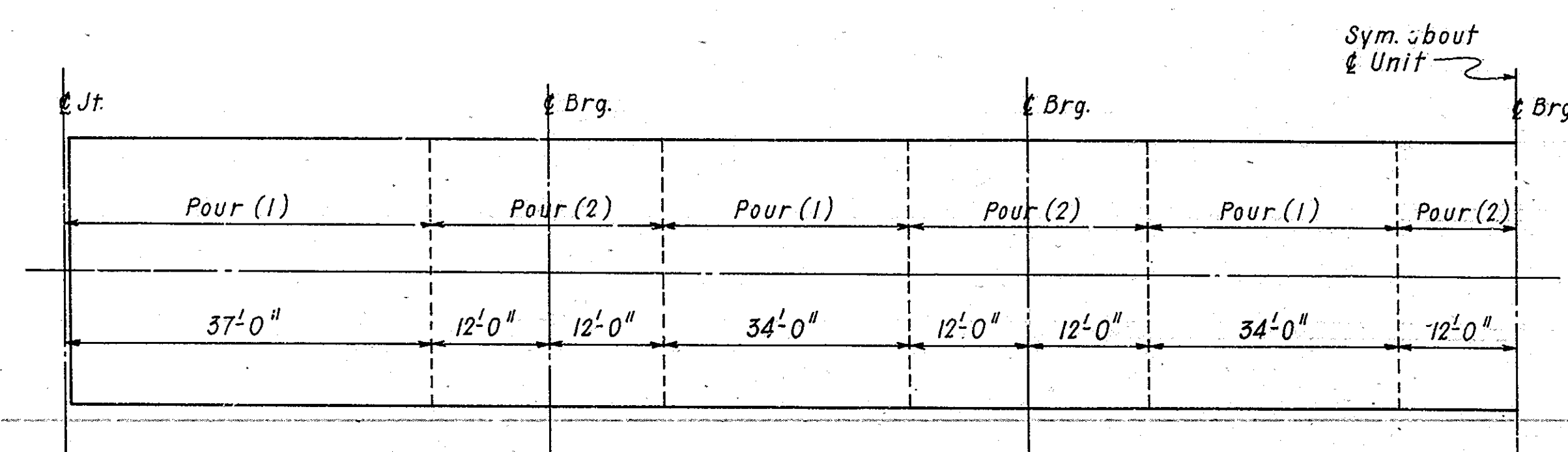
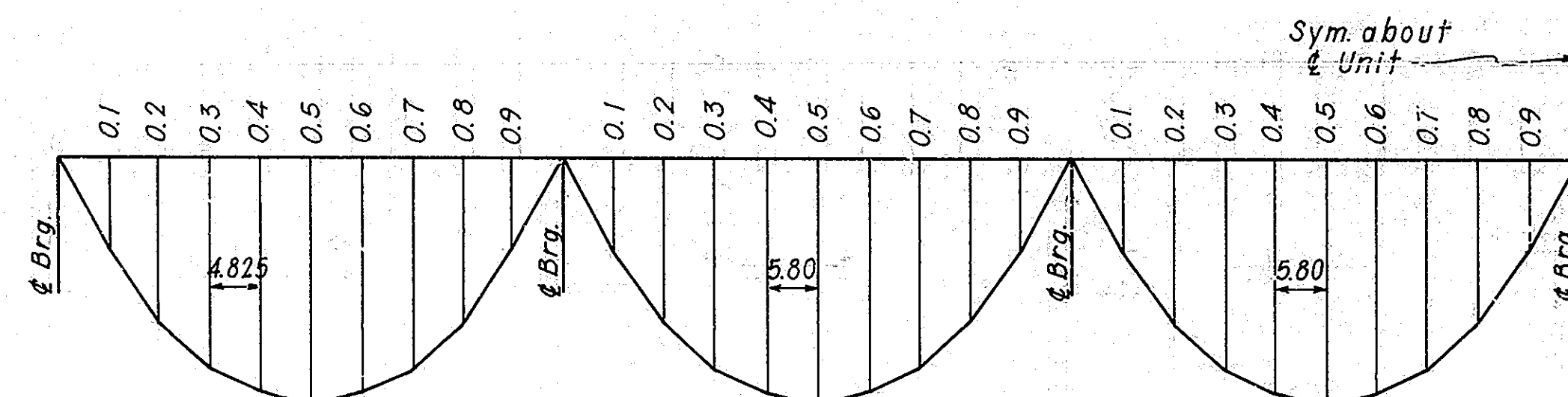
For Bending Diagrams not shown, see dwg. no. 23351.

Dimens. are out to out of bars.

For General Notes & Supplementary Details not shown see dwg. no. 23349.  
For Elastomeric Bearings see dwg. no. 23350.  
For Details of Concrete Parapet Rail see dwg. no. 23351.

# TABLE OF DEFLECTIONS (IN.)

Point of Deflection	Weight of Structural Steel		Weight of Structural Steel & Slab		Weight of Struc. Steel, Slab & Conc. Para. Rail	
	Int.	Ext.	Int.	Ext.	Int.	Ext.
0	0	0	0	0	0	0
0.1	0.020	0.020	0.178	0.164	0.189	0.186
0.2	0.037	0.037	0.328	0.303	0.348	0.343
0.3	0.048	0.048	0.432	0.398	0.458	0.451
0.4	0.053	0.053	0.477	0.439	0.506	0.498
0.5	0.052	0.052	0.462	0.425	0.490	0.483
0.6	0.044	0.044	0.392	0.361	0.417	0.411
0.7	0.032	0.032	0.283	0.261	0.302	0.298
0.8	0.018	0.018	0.159	0.147	0.169	0.167
0.9	0.006	0.006	0.051	0.047	0.054	0.053
0	0	0	0	0	0	0
0.1	0.006	0.006	0.054	0.050	0.059	0.059
0.2	0.020	0.020	0.181	0.167	0.195	0.195
0.3	0.035	0.035	0.318	0.293	0.341	0.339
0.4	0.047	0.047	0.418	0.386	0.448	0.445
0.5	0.051	0.051	0.456	0.421	0.488	0.485
0.6	0.047	0.047	0.421	0.388	0.451	0.448
0.7	0.036	0.036	0.323	0.298	0.346	0.344
0.8	0.021	0.021	0.187	0.172	0.201	0.200
0.9	0.007	0.007	0.058	0.054	0.063	0.063
0	0	0	0	0	0	0
0.1	0.007	0.007	0.062	0.058	0.067	0.066
0.2	0.022	0.022	0.195	0.179	0.208	0.207
0.3	0.037	0.037	0.334	0.308	0.357	0.354
0.4	0.049	0.049	0.435	0.401	0.465	0.460
0.5	0.053	0.053	0.471	0.434	0.503	0.499
0.6	0.048	0.048	0.434	0.400	0.464	0.459
0.7	0.037	0.037	0.332	0.306	0.355	0.352
0.8	0.022	0.022	0.193	0.178	0.206	0.205
0.9	0.007	0.007	0.061	0.058	0.065	0.065
0	0	0	0	0	0	0



Note: 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 and 72 hours shall elapse between adjacent pours.

(SHEET 1 OF 2)

DETAILS OF 330'-0" CONT. W-BEAM UNIT  
ST. CHARLES BRIDGE- NORTH  
MONROE COUNTY  
ROUTE 1 SEC. 6

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: *W. May* DATE: 10-25-79  
CHECKED BY: *GVA* DATE: 11-16-79  
DESIGNED BY: *GVA* DATE: 10-15-79

SCALE: As Shown

BRIDGE NO. 5855

DRAWING NO. 23347

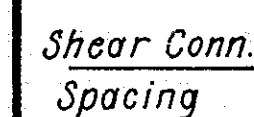
*W. Pinkerton*  
BRIDGE ENGINEER

Revised: 12-10-80 L.M.

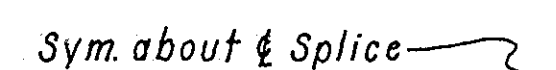
121



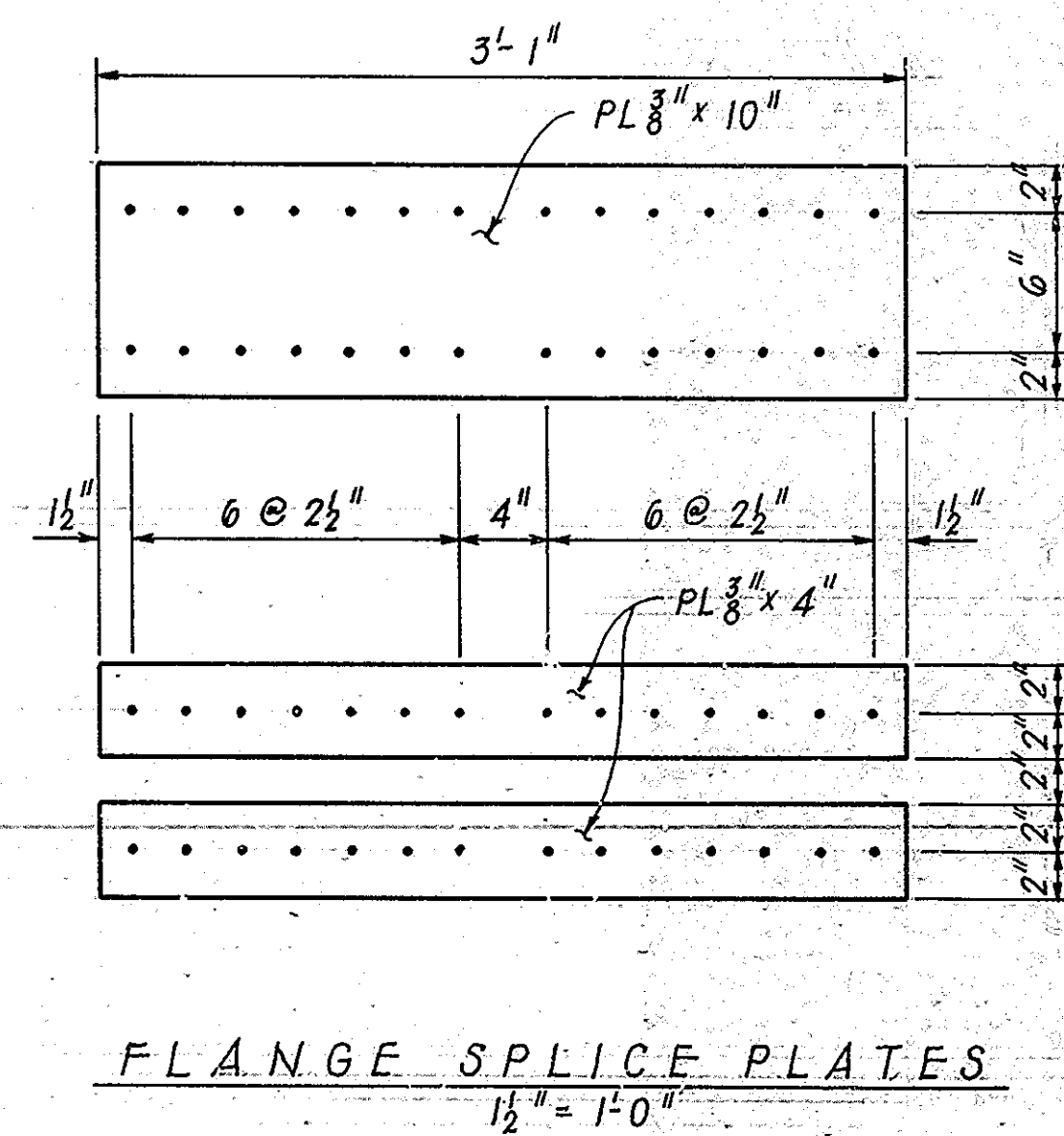
HALF-FRAMING PLAN  
N.T.S.



BEAM ELEVATION  
N.T.S.



FIELD SPLICE (TYP)  
1 1/2" = 1'-0"



FLANGE SPLICE PLATES  
1'2" = 1'0"

Revised: Title, 12-10-80 L.M

(SHEET 2 OF 2)

DETAILS OF 330'-0" CONT. W-BEAM UNIT  
ST. CHARLES BRIDGE- NORTH  
MONROE COUNTY  
ROUTE 1 SEC. 6  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

DRAWN BY: *H. J. J.* DATE: *10-29-79*  
CHECKED BY: *GVA* DATE: *11-16-79* SCALE: *As Shown*  
DESIGNED BY: *GVA* DATE: *11-15-79*

BRIDGE NO. 5855 DRAWING NO. 23348

*W. A. Pinkerton*  
SENIOR ENGINEER



DATE	DATE	DATE	DATE	FED. ROAD	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
12-10-80	12-12-80			6	ARK.	GR-031-1(23)		
							27	72

5855 CONT. UNIT 23349

GENERAL NOTES

**DESIGN:** AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 1978 EDITION WITH CURRENT INTERIMS.  
**CONSTRUCTION:** ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 1978 EDITION, AND DESIGN SPECIAL PROVISIONS.

**LIVE LOADING:** HS20

**METHOD OF DESIGN:** LOAD FACTOR

**MATERIALS:**

ALL CONCRETE SHALL BE CLASS (A) WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH  $f'_c = 3500$  PSI.  
 REINFORCING STEEL SHALL CONFORM TO ASTM A615 OR A617, GRADE 60 (YIELD STRENGTH = 60,000 PSI).  
 STRUCTURAL STEEL SHALL CONFORM TO ASTM DESIGNATION (A36). ( $f_y = 36,000$  PSI) OR ASTM DESIGNATION A588 ( $f_y = 50,000$  PSI).

**STRUCTURAL STEEL:**

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  $13/16"$  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 BEAMS AND ON BOTTOM OF BEAM FLANGES.

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.

ALL STRUCTURAL STEEL SHALL BE ASTM DESIGNATION A588 UNLESS OTHERWISE NOTED. STEEL FLANGE PLATES FOR FIELD SPLICES SHALL BE CUT AND FABRICATED SO THAT THE PRIMARY DIRECTION OF ROLLING IS PARALLEL TO THE DIRECTION OF THE MAIN TENSILE AND/OR COMPRESSIVE STRESSES.

ALL BEAMS 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 OPENINGS 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 BEAM DIMENSIONS ARE BASED ON A TEMPERATURE OF 60°F. A TOLERANCE OF  $\pm 1/4"$  IS ALLOWED FOR CAMBER.

DIAPHRAGMS SHALL BE INSTALLED AS BEAMS ARE ERECTED. DIAPHRAGMS SHALL BE INSTALLED AND COMPLETELY BOLTED PRIOR TO POURING OF FLOOR SLABS.

ALL W-BEAMS ARE CONSIDERED MAIN LOAD CARRYING MEMBERS AND SHALL MEET THE LONGITUDINAL CHARPY V-NOTCH TEST SPECIFIED IN SUBSECTION 807.35.

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.

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 FORMAL REQUEST TO THE BRIDGE DESIGN ENGINEER OF THE ARKANSAS STATE HIGHWAY DEPARTMENT FOR APPROVAL. ALL WELDING SHALL CONFORM TO SP807-5.

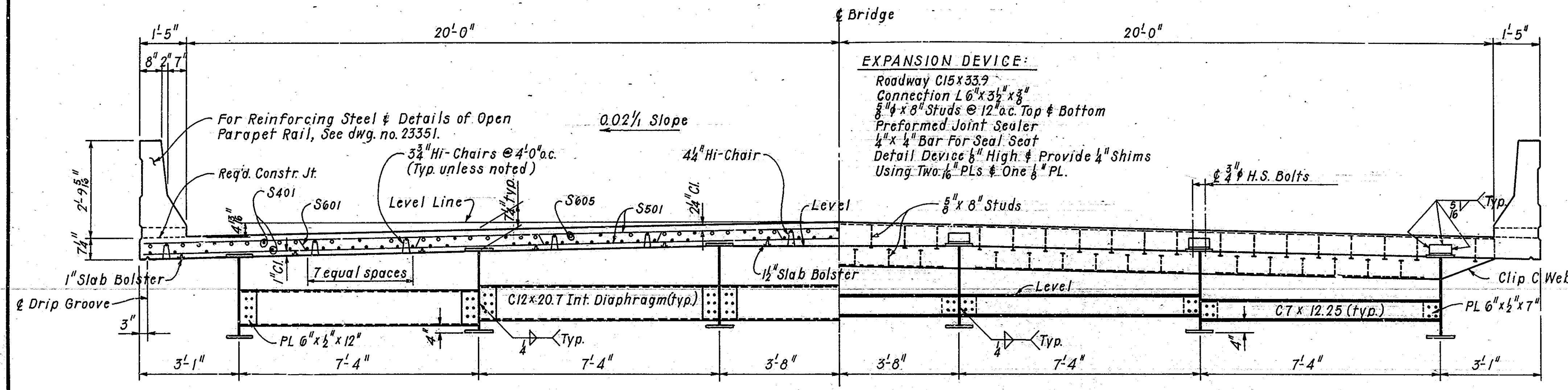
**REINFORCING STEEL:** THE REINFORCING STEEL IS TO BE ACCURATELY LOCATED IN THE FORMS AND FIRMLY HELD IN PLACE BY STEEL WIRE SUPPORTS SUFFICIENT IN NUMBER AND SIZE TO PREVENT DISPLACEMENT DURING THE COURSE OF CONSTRUCTION. THE WIRE SUPPORTS WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED SUBSIDIARY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

**CONCRETE:** 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. SUFFICIENT CONCRETE MUST BE PLACED AHEAD OF THE STRIKE-OFF TO FULLY LOAD THE BEAM. IF A LONGITUDINAL STRIKE-OFF IS USED, A VERTICAL CAMBER ADJUSTMENT MUST BE MADE IN THE STRIKE-OFF TO ACCOUNT FOR THE FUTURE DEAD LOAD DEFLECTION DUE TO THE RAILING.

**DESIGN LOAD TO W-BEAMS:**

	INTERIOR BEAM	EXTERIOR BEAM
DEAD LOAD:		
a. TO W-BEAM	671 PLF + 1.3 (WT/FT. OF WF)	612 PLF + 1.3 (WT/FT. OF WF)
b. TO COMPOSITE BEAM *	221 PLF	309 PLF
LIVE LOAD: TO EACH COMPOSITE BEAM	1,333 WHEELS + IMPACT	1,257 WHEELS + IMPACT

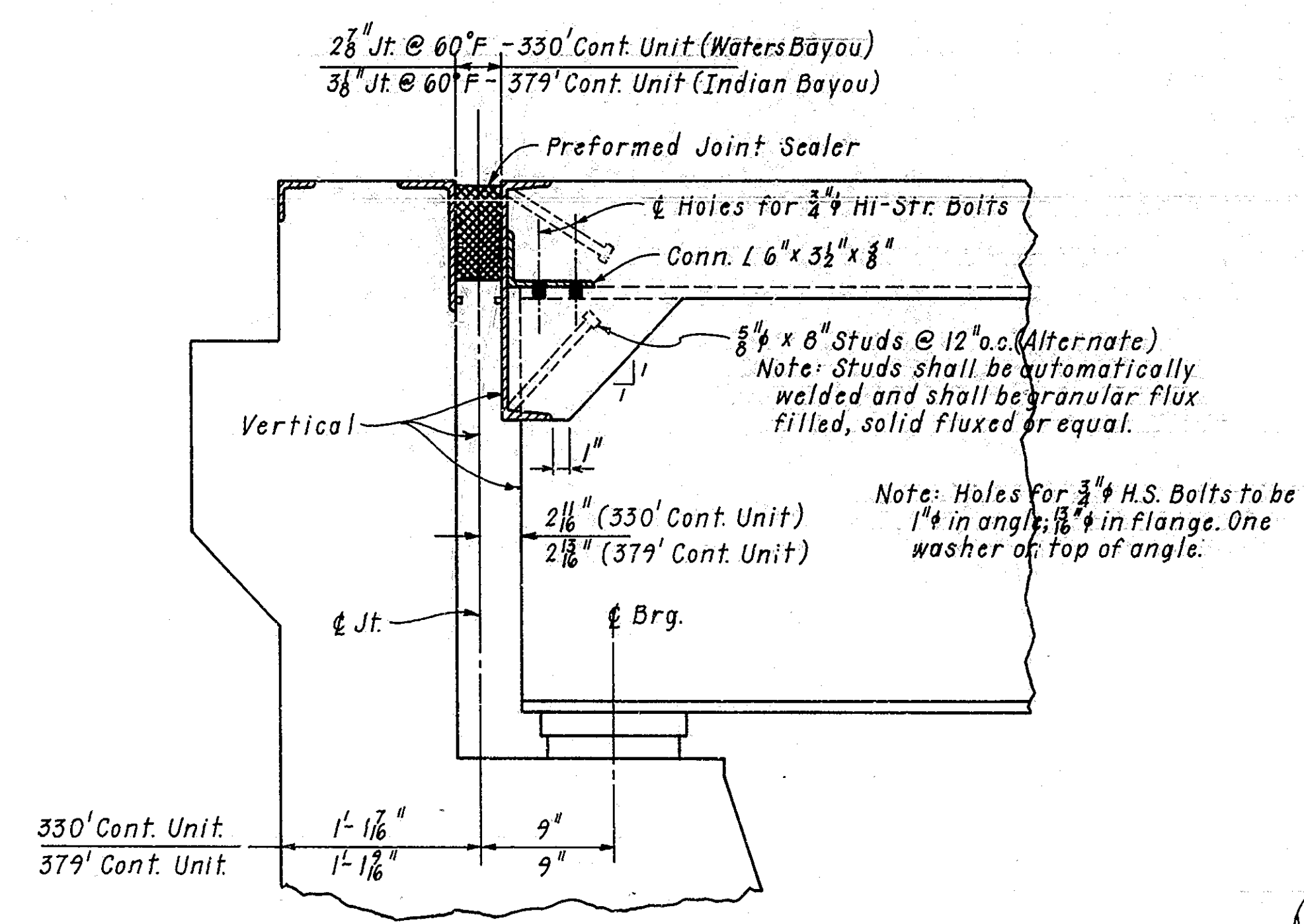
\* INCLUDES 20 PSF FUTURE WEARING SURFACE.



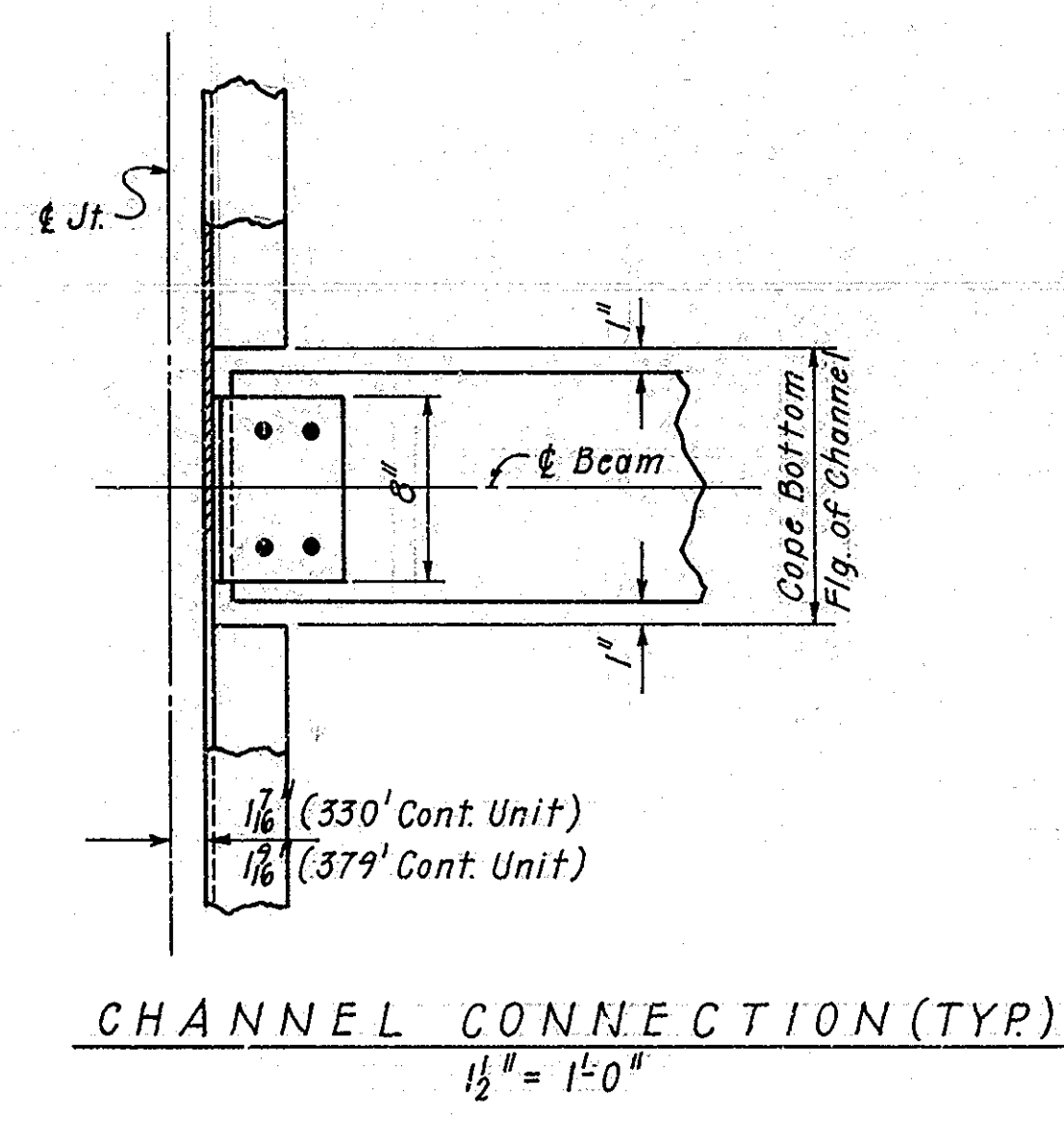
HALF SECTION AT MIDSPAN

ROADWAY SECTION

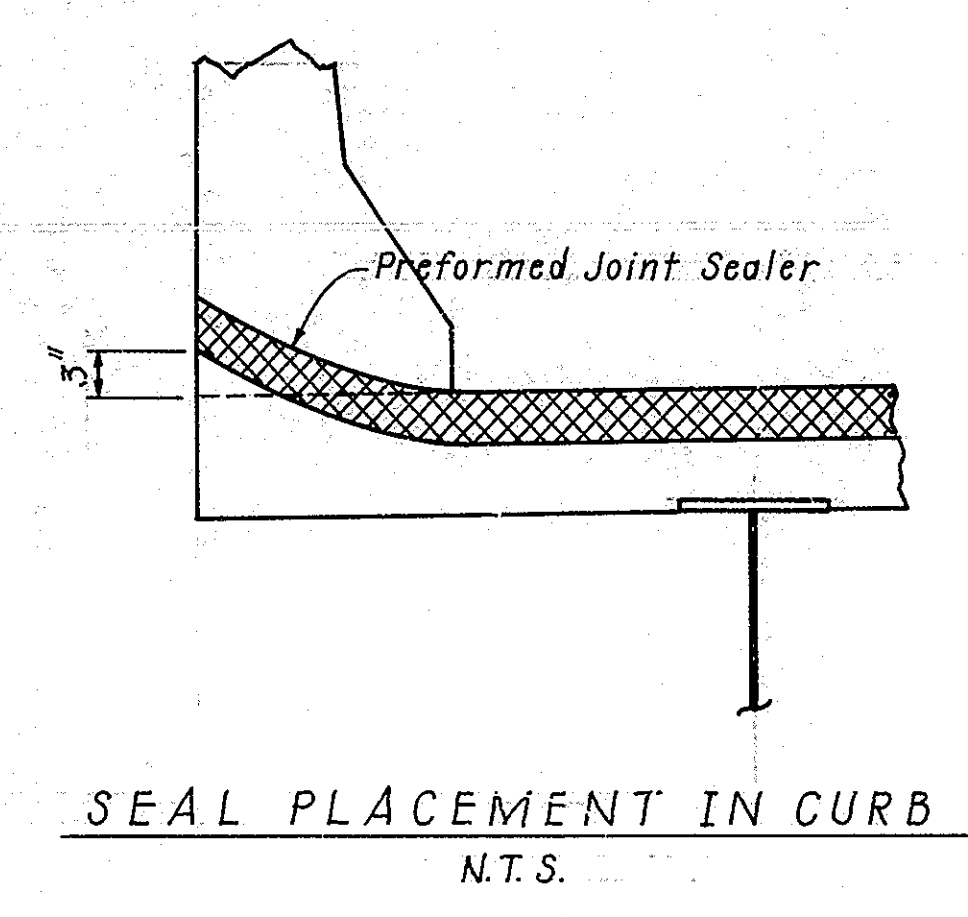
HALF SECTION AT END OF SPAN



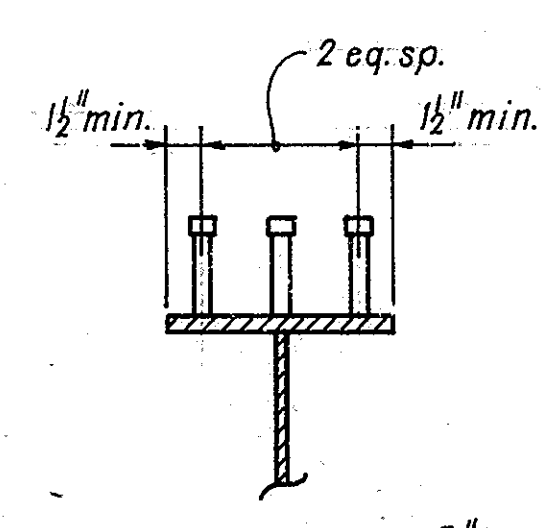
TYPICAL JOINT DETAIL



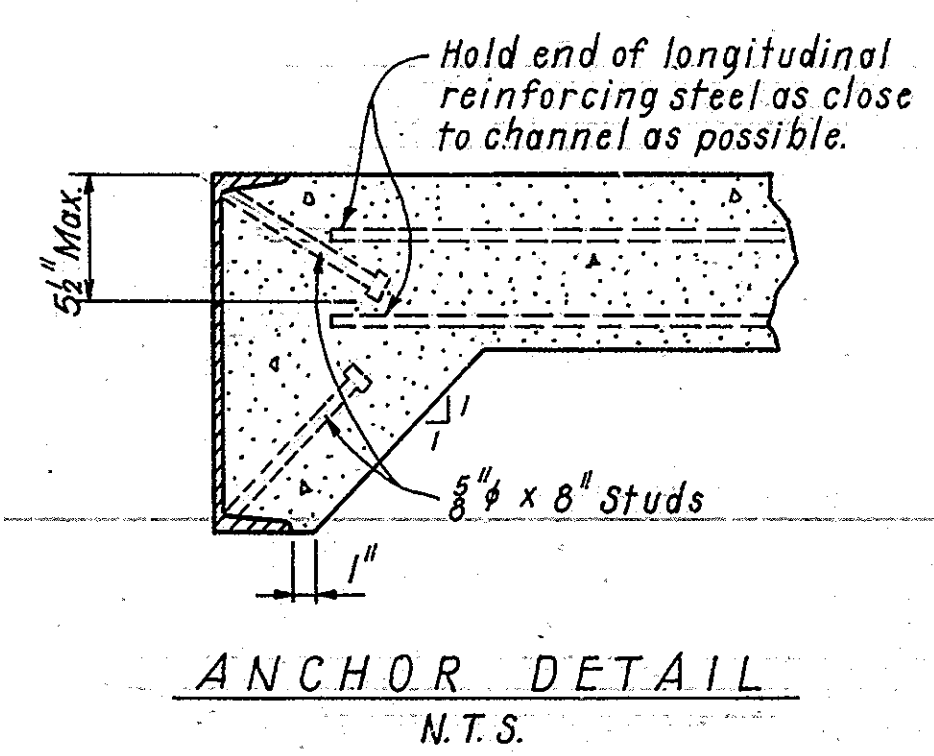
CHANNEL CONNECTION (TYP)



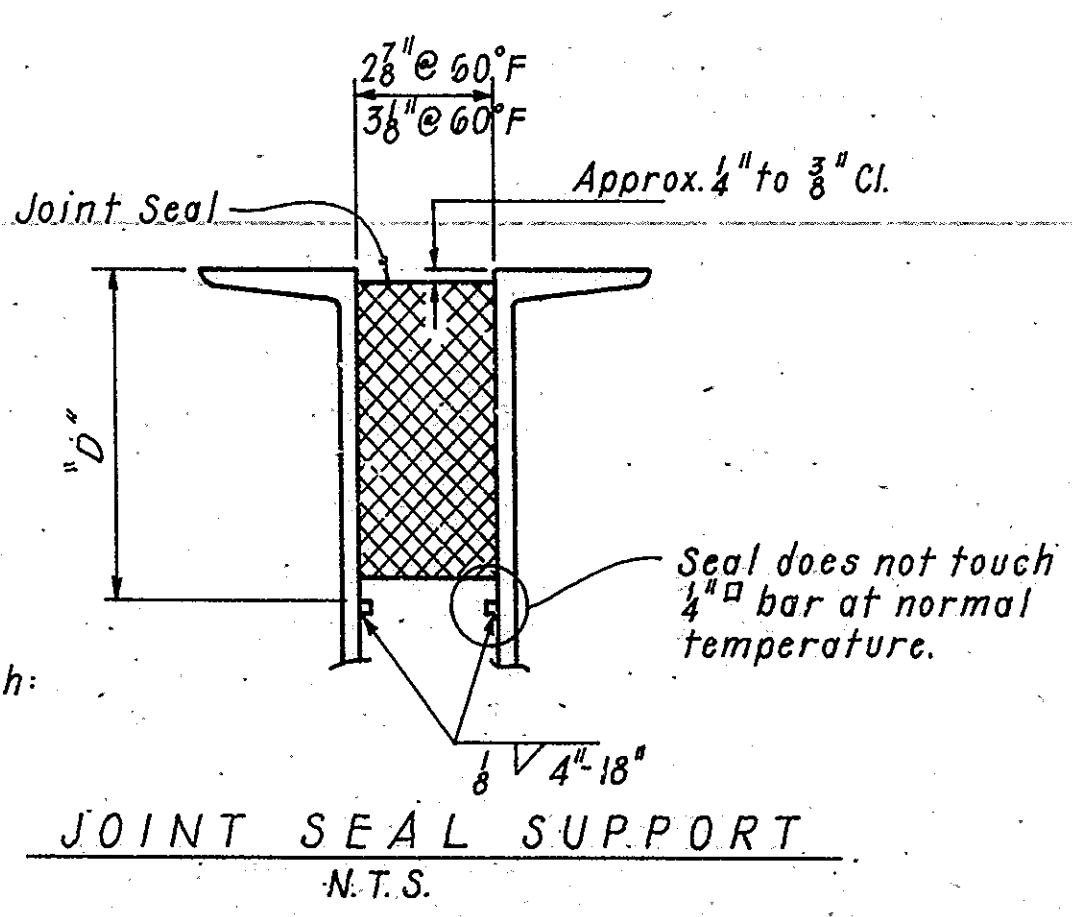
SEAL PLACEMENT IN CURB



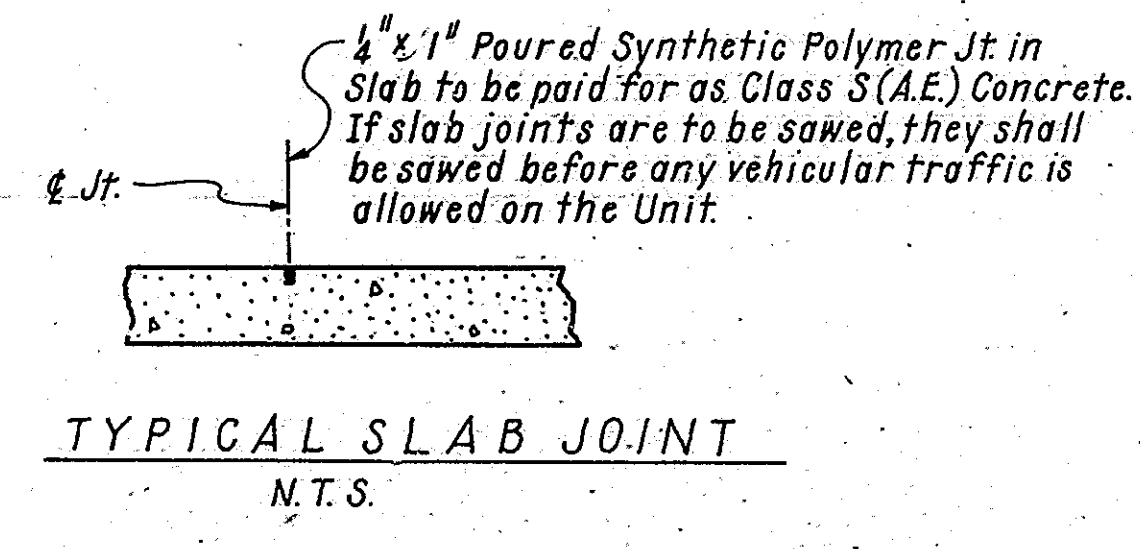
SHEAR CONNECTOR DETAIL



ANCHOR DETAIL



JOINT SEAL SUPPORT



TYPICAL SLAB JOINT

Note: 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.

Note: Stud Shear Connector shall be  $3/4" \times 4"$  long, granular fluxed filled, solid fluxed or equal and automatically end welded to beam flange in accordance with recommendations of the manufacturer. The  $3/4"$  studs are estimated at 61.5 lb. per 100 as a basis of payment.  $5/8"$  studs may be substituted for the  $3/4"$  studs shown at the ratio of 0.73- $5/8"$  studs in place of 1- $3/4"$  studs.

SUPPLEMENTARY DETAILS FOR  
 CONT. W-BEAM UNITS  
 ST. CHARLES BRIDGE- NORTH  
 MONROE COUNTY  
 ROUTE 1 SEC. 6  
 ARKANSAS STATE HIGHWAY COMMISSION  
 LITTLE ROCK, ARK.

Revised: Title & Bridge No., 12-10-80 L.M.

BRIDGE ENGINEER

BRIDGE NO. 5855  
 DRAWING NO. 23349



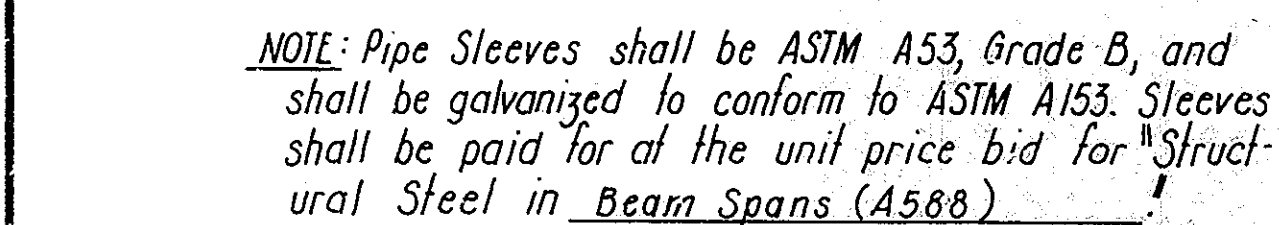


Diagram illustrating the Anchor Bolt Detail. The components shown are:

- 3"  $\phi$  x 4" Washer
- 3"  $\phi$  x 6" Sheet Metal Sleeve
- 4" Thread
- Pipe Sleeve
- Top of Cap

The diagram shows a cross-section of the anchor bolt assembly. The 3"  $\phi$  x 6" Sheet Metal Sleeve is shown with a dashed line indicating its internal structure. The 3"  $\phi$  x 4" Washer is positioned above the sleeve. The 4" Thread is shown extending from the sleeve. The Pipe Sleeve is shown below the sleeve. The Top of Cap is indicated by a dashed line.

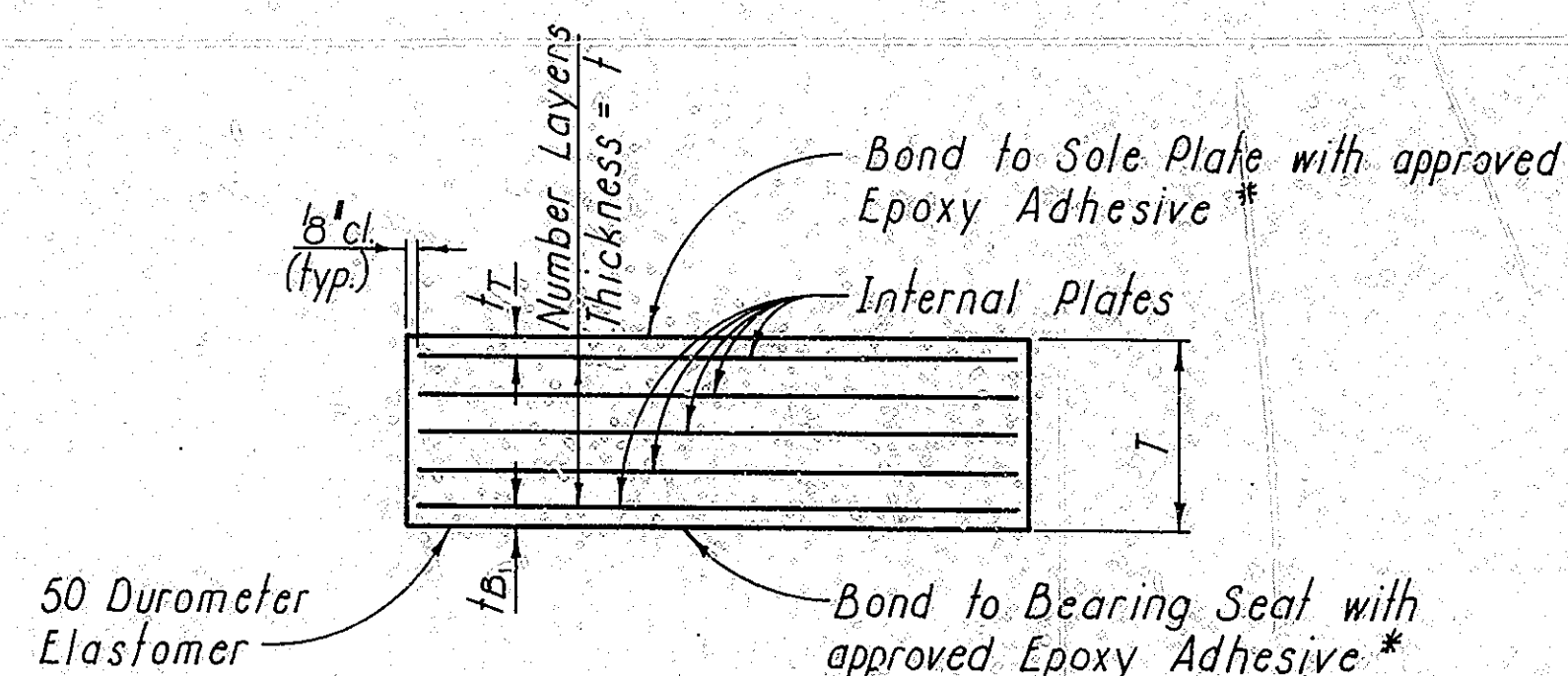
NOTE: Anchor Bolts may be cast in place or drilled and grouted into place. If Anchor Bolts are to be drilled and grouted into place, the 3"x6" Galvanized Sheet Metal Sleeve shall be cast in place as shown: It shall be dry packed with Styrofoam or Urethane foam or approved equal prior to pouring concrete. After pouring of the Cap and prior to erection of Structural Steel, the dry pack shall be removed and holes for the Anchor Bolts shall be accurately drilled into the masonry. The Bolts shall then be set and fixed with Portland Cement grout or an approved non-shrink grout, completely filling the holes.

If Anchor Bolts are to be cast in place, the 3"x6" Galvanized Sheet Metal Sleeve will not be required. Galvanized Sheet Metal Sleeves to be considered subsidiary to the item "Structural Steel in Beam Spans (A588)"

Anchor Bolts, Nuts and Washers shall be ASTM A36 Steel galvanized to conform to ASTM A153 and shall be paid for at the unit price bid for 'Structural Steel in Beam Spans (A588) '.

Sole Plates shall be ASTM A588 Steel and shall be paid for at the unit price bid for "Structural Steel in Beam Spans (A588)"

*Pads shall be paid for in accordance with Section 808 of the Standard Specifications.*



\* *Epoxy Adhesive: The Epoxy Adhesive used shall be either A103 manufactured by Industrial Coatings Specialties Co. or equal, as approved by the Bridge Engineer.*

## TABLE OF VARIABLES

[illegible]

ROUTE 1 SEC. 6  
ARKANSAS STATE HIGHWAY COMMISSION

Revised: Title & Drawg. No., 12-10-80-L.M.

DRAWN BY: K.M.G. DATE: 8 AUG 78  
CHECKED BY: CES DATE: 8-10-78 SCALE: NONE  
DESIGNED BY: GVA DATE: 10-15-79

BRIDGE NO. 5855 DRAWING NO. 23350











