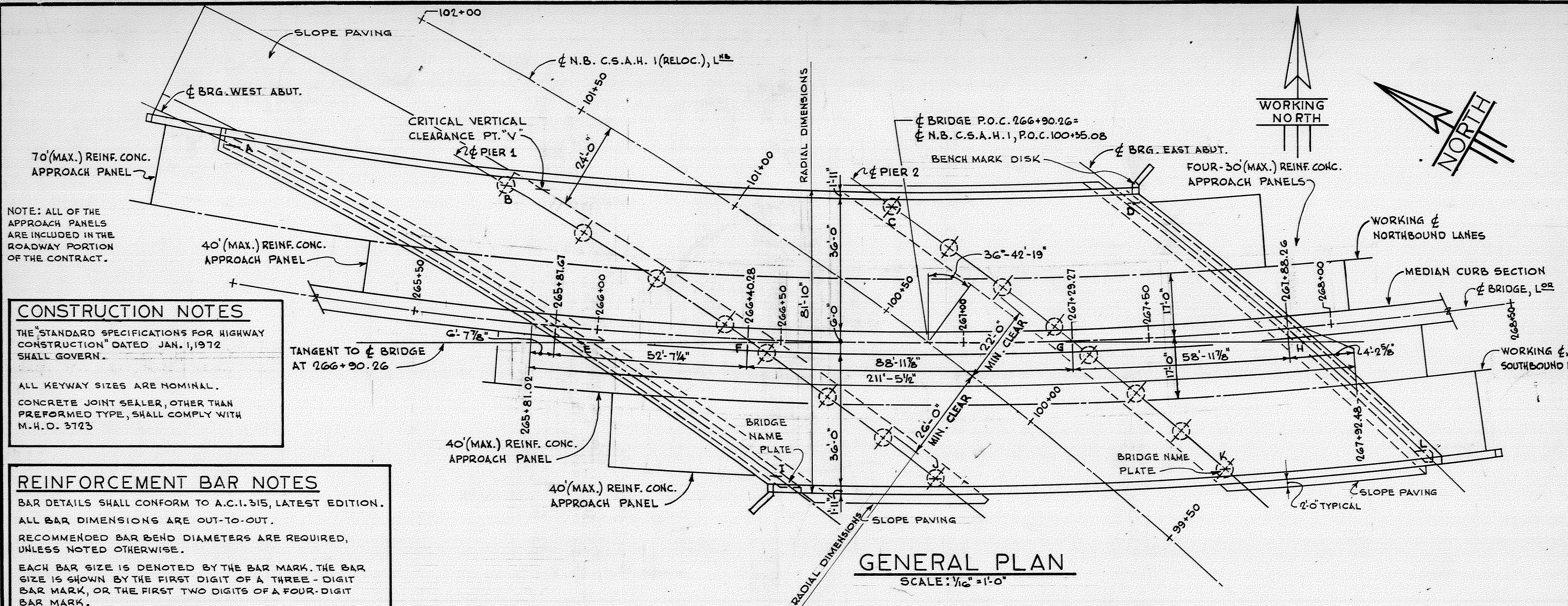


DESIGN DATA
 1969 A.A.S.H.O. DESIGN SPECIFICATIONS
 DESIGN LOADING: HS-20
 $f_c = 1600$ P.S.I. $n = 8$
 $f_s = 24000$ P.S.I. REINFORCING STEEL,
 ASTM-A615, GRADE 60
 $f_s = 20,000$ P.S.I. STRUCT. STEEL, M.H.D. 3306
DECK AREA: 17,621 SQ. FT.

LIST OF SHEETS

NO.	DESCRIPTION
1	GENERAL PLAN & ELEVATION
2	BRIDGE LAYOUT
3	PART WEST ABUT. PLAN AND LAYOUT
4	WEST ABUT. - ELEVATION & FOOTING PLAN
5	WEST ABUT. - PART PLAN & DETAILS
6	WEST ABUT. - DETAILS
7	EAST ABUT. - PLAN & LAYOUT
8	EAST ABUT. - ELEV. & FOOTING PLAN
9	EAST ABUT. - DETAILS
10	PIER 1
11	PIER 2
12	PIER DETAILS
13	PREST'D. CONC. GIRDER TYPE 60-106
14	PREST'D. CONC. GIRDER TYPE 60-100
15	PREST'D. CONC. GIRDER TYPE 60-95
16	PREST'D. CONC. GIRDER TYPE 60-86
17	PREST'D. CONC. GIRDER TYPE 60-76
18	PREST'D. CONC. GIRDER TYPE 60-64
19	PREST'D. CONC. GIRDER TYPE 60-59
20	PREST'D. CONC. GIRDER TYPE 60-51
21	PART FRAMING PLAN - WEST
22	PART FRAMING PLAN - EAST
23	DIAPHRAGMS AND FRAMING DETAILS
24	PART DECK PLAN - WEST
25	PART DECK PLAN - EAST
26	DECK SECTION AND RAILING ELEVATIONS
27	SUPERSTRUCTURE BAR LIST & EST. QUANT.
28	RAILING
29	SLOPE PAVING
30	DETAILS
31	DETAILS
32	DETAILS
33	DETAILS
34	BRIDGE SURVEY
35	SURVEY PLAN AND PROFILE



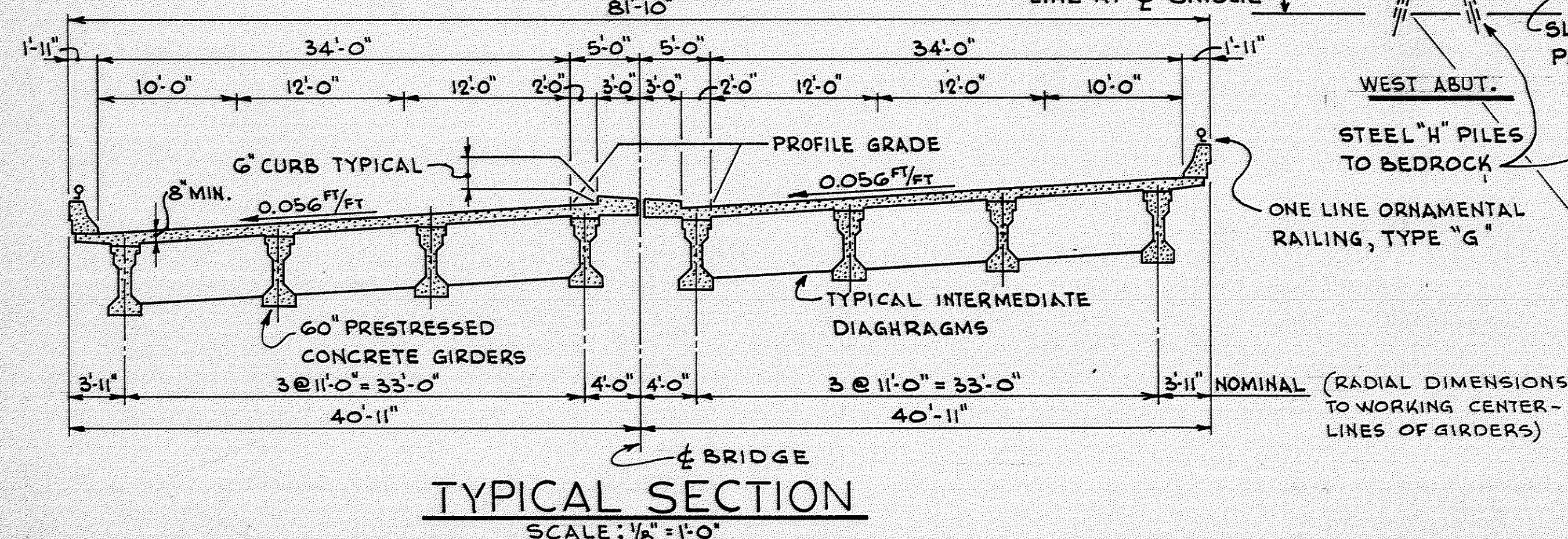
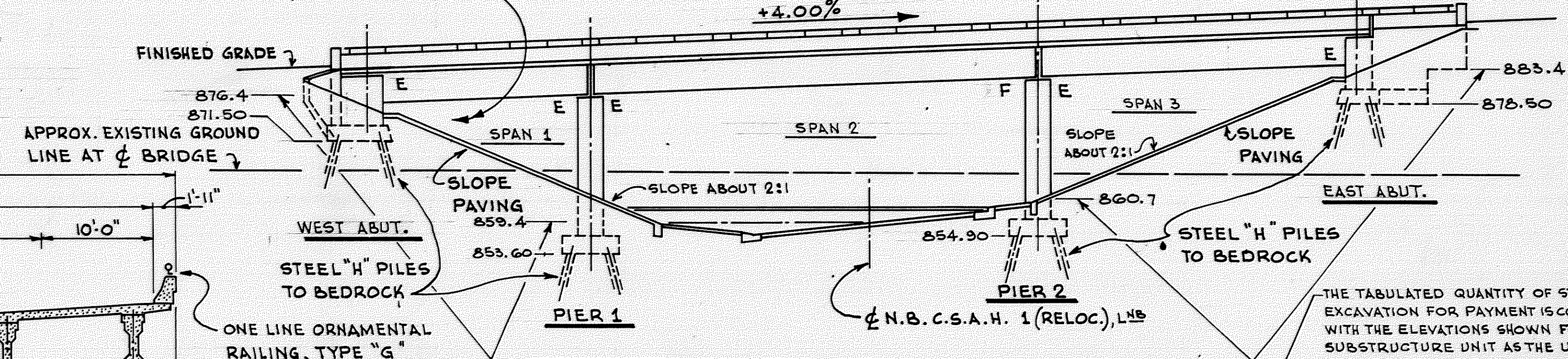
CONSTRUCTION NOTES
 THE "STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION" DATED JAN. 1, 1972 SHALL GOVERN.
 ALL KEYWAY SIZES ARE NOMINAL.
 CONCRETE JOINT SEALER, OTHER THAN PREFORMED TYPE, SHALL COMPLY WITH M.H.O. 3723

REINFORCEMENT BAR NOTES
 BAR DETAILS SHALL CONFORM TO A.C.I. 315, LATEST EDITION.
 ALL BAR DIMENSIONS ARE OUT-TO-OUT.
 RECOMMENDED BAR BEND DIAMETERS ARE REQUIRED, UNLESS NOTED OTHERWISE.
 EACH BAR SIZE IS DENOTED BY THE BAR MARK. THE BAR SIZE IS SHOWN BY THE FIRST DIGIT OF A THREE-DIGIT BAR MARK, OR THE FIRST TWO DIGITS OF A FOUR-DIGIT BAR MARK.
 REINFORCEMENT BARS OTHER THAN SPIRAL ROD STOCK SHALL BE DEFORMED BILLET STEEL BARS CONFORMING TO ASTM-A615, GRADE 60

PIILING NOTE
 PILES, IN GENERAL, ARE BATTERED AT 3:12 PERPENDICULAR TO ϕ OF PIER OR ϕ OF ABUTMENT BEARING. BECAUSE OF THIS BATTER COMBINED WITH VERY GREAT LENGTH OF PILES, IT WOULD BE POSSIBLE FOR PILE TIPS TO INTERFERE WITH PILES IN THE NEXT ABUTMENT OR PIER. CONTRACTOR SHALL TAKE SUITABLE PRECAUTIONS TO ASSURE THAT PILES DO NOT STRIKE ONE ANOTHER DURING DRIVING. CONTRACTOR MAY BATTER ANY PILE NOT MORE THAN 1:12 PARALLEL TO A ϕ PIER OR A ϕ BEARING, FOR THIS PURPOSE.

AT POINT "V" (HIDDEN) 15'-0" MINIMUM VERTICAL CLEARANCE REQUIRED, 15'-0/8" PROVIDED

CONSTRUCTION AT EACH ABUTMENT SHALL NOT BE STARTED UNTIL THE APPROACH FILL AT THE ABUTMENT HAS BEEN CONSTRUCTED TO THE BOTTOM OF THE SPECIAL GRANULAR APPROACH TREATMENT AS SHOWN OR NOTED IN THE GRADING PORTION OF THE CONTRACT.



BENCH MARK ELEV. 874.34 (M.S.L. DATUM UNKNOWN)
 RAILROAD SPIKE IN 18" OAK TREE 90'-FT. RT. OF 263+96 ON L28

BATHER RINGROSE WOLSFELD INC.
 ROSEVILLE, MINN.
BAKKE & KOPP INC.
 MINNEAPOLIS, MINN.

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA
 SIGNED: Robert J. McJannet
 DATE: 11/3/71 REG NO. 6452

THE TABULATED QUANTITY OF STRUCTURE EXCAVATION FOR PAYMENT IS COMPUTED WITH THE ELEVATIONS SHOWN FOR EACH SUBSTRUCTURE UNIT AS THE UPPER LIMIT. EXCAVATION ABOVE THESE ELEVATIONS WILL BE PAID FOR UNDER GRADING PORTION OF CONTRACT.

ANOKA COUNTY STATE AID HIGHWAY NO. 1
 STATE OF MINNESOTA
 DEPARTMENT OF HIGHWAYS

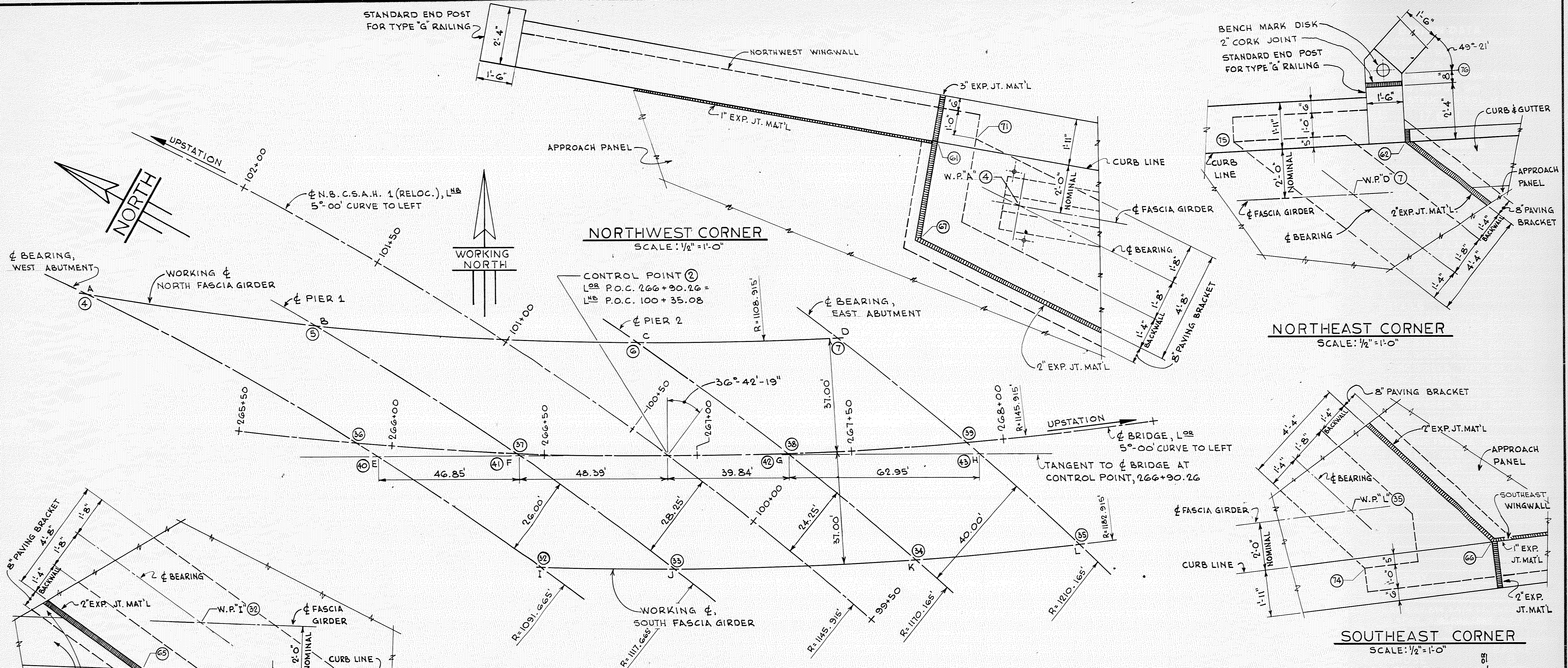
Bridge No. 02522
 COON RAPIDS BOULEVARD BY-PASS OVER EAST RIVER ROAD NORTHBOUND (C.S.A.H. 1) IN COON RAPIDS
 53'-89'-59" PRESTRESSED GIRDER SPANS 72'-FT. ROADWAY, 53'-17'-41" SKEW, 6'-FT. MEDIAN
GENERAL PLAN AND ELEVATION

	2452.511	2452.510	2452.520	2452.520	2452.520
STEEL H-PIILING DELIVERED					
STEEL H-PIILING DRIVEN					
LIN. FT.	9340	9372	2	2	4

SCHEDULE OF QUANTITIES FOR ENTIRE BRIDGE

ITEM NO.	2401.501	2401.501	2401.501	2401.501	2401.541	2401.543	2402.521	2402.583	2402.593	2402.594	2402.594	2405.501	2405.501	2405.501	2405.501	2405.501	2405.501	2405.501	2401.521	401.601	
ITEM	CONCRETE, MIX NO. 1A43	CONCRETE, MIX NO. 3Y43	CONCRETE, MIX NO. 3Y43 A	CONCRETE, MIX NO. 3Y43 A SPECIAL	REINFORCEMENT BARS	SPIRAL REINFORCEMENT	STRUCTURAL STEEL, (M.H.D. 3306)	ORNAMENTAL METAL RAILING	FIXED BEARING ASSEMBLIES TYPE 1	EXPANSION BRG. ASS'YS TYPE 1 (WITHOUT LUGS)	EXPANSION BRG. ASS'YS TYPE 1 (WITH LUGS)	PRESTRESSED CONCRETE GIRDER, TYPE 60-106	PRESTRESSED CONCRETE GIRDER, TYPE 60-100	PRESTRESSED CONCRETE GIRDER, TYPE 60-95	PRESTRESSED CONCRETE GIRDER, TYPE 60-86	PRESTRESSED CONCRETE GIRDER, TYPE 60-76	PRESTRESSED CONCRETE GIRDER, TYPE 60-64	PRESTRESSED CONCRETE GIRDER, TYPE 60-59	STRUCTURE EXCAVATION CLASS E	SLOPE PAVING	
UNIT	CU. YD.	CU. YD.	CU. YD.	CU. YD.	POUND	POUND	POUND	LIN. FT.	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	CU. YD.	SQ. YD.	
QUANTITY	732 (P)	621 (P)	669 (P)	57 (P)	274290 (P)	12450 (P)	2040	466	8	24	16	1	1	1	4	2	4	5	6	2070	1520 (P)

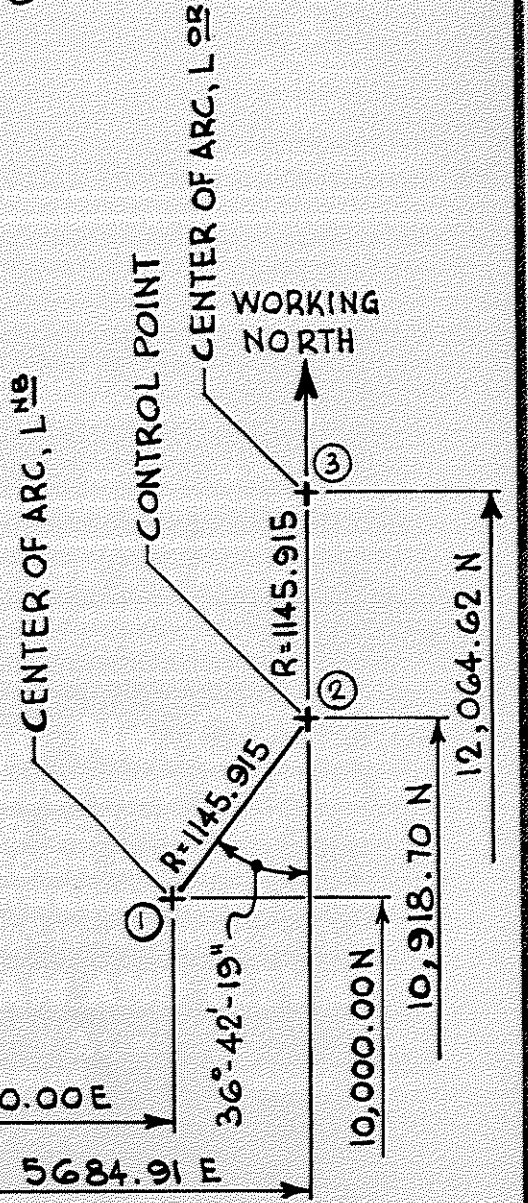
AS BUILT
 10-16-73
 B. J. J.



LAYOUT SHOWING WORKING POINTS
SCALE: 1/16" = 1'-0"

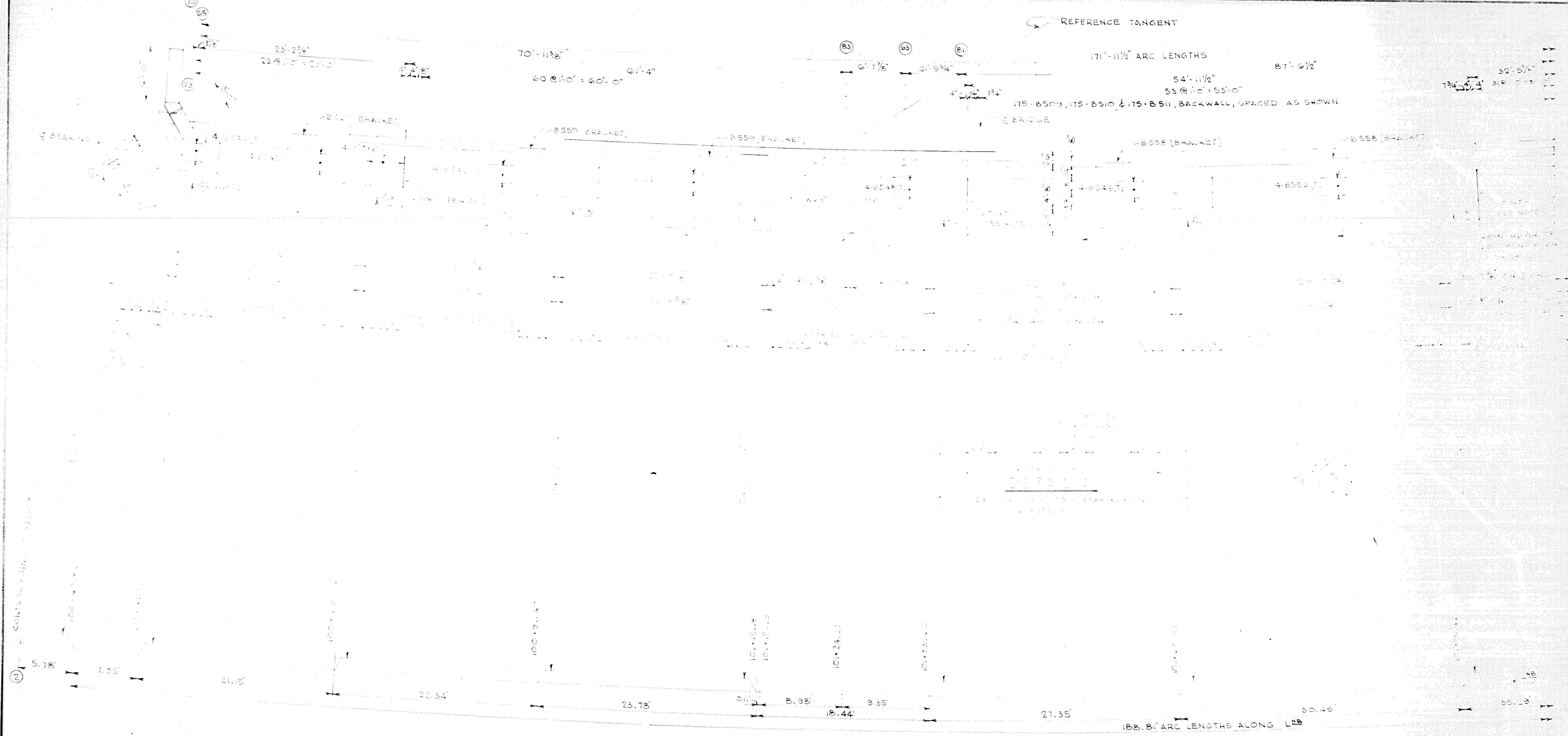
REFERENCE NOTE
ALL WORKING POINTS INCLUDED IN THE COMPUTER NETWORK ARE NUMBERED, AND ARE DENOTED THUS (5) ON THE DRAWINGS. THE TWELVE STANDARD WORKING POINTS ALL ARE DENOTED BY LETTERS, AND THE CORRESPONDING POINT NUMBERS ARE ALSO SHOWN FOR EASE OF REFERENCE TO THE COMPUTER NETWORK.

COORDINATE NOTE
COORDINATES OF MOST OF THE IMPORTANT POINTS ARE AVAILABLE, REFERENCED TO THE SYSTEM SHOWN ON THE SKETCH AT THE RIGHT. COORDINATE INFORMATION, IN THE FORM OF COMPUTER OUTPUT, MAY BE MADE AVAILABLE TO THE CONTRACTOR UPON REQUEST. SUCH INFORMATION IS NOT A PART OF THE CONTRACT. IT IS INTENDED THAT THE BASIC LAYOUT STAKING BE DONE FROM DIMENSIONS AND OTHER INFORMATION GIVEN ON THE DRAWINGS. THEN, WHEREVER POSSIBLE, IT IS INTENDED THAT THE COORDINATES BE USED TO CHECK THE BASIC LAYOUT STAKING.



POINT	STATION	DIMENSIONS BETWEEN WORKING POINTS												ELEVATIONS					
		A④	B⑤	C⑥	D⑦	E⑩	F⑪	G⑫	H⑬	I⑯	J⑳	K㉑	L㉒	TOP OF SLAB EL.	SLAB TO BR. SEAT	BRIDGE SEAT EL.			
A④	264 + 95.84																877.94	6.07	871.87
B⑤	265 + 70.70	72.43															880.93	6.10	874.83
C⑥	266 + 80.18		105.90														885.31	6.10	879.21
D⑦	267 + 47.81			65.44													883.02	6.07	881.95
E⑩	265 + 95.24	106.14																	
F⑪	266 + 41.90	148.59	79.71			46.85													
G⑫	267 + 30.09		161.18	61.91			88.23												
H⑬	267 + 92.78			118.49	60.79			62.95											
I⑯	266 + 49.31	170.21	107.92	80.17		64.19											887.66	6.07	881.59
J⑳	266 + 92.14	209.47	142.11	74.96	92.58	103.99	62.47			44.21							889.37	6.10	883.27
K㉑	267 + 69.00	282.25	211.33	115.56	76.97	134.05	53.69				79.32						892.45	6.10	886.35
L㉒	268 + 21.93		261.30	159.76	104.70			100.13	43.94								894.57	6.07	888.50

AS BUILT
10-16-73
B. Jahn



PART ABUTMENT PLAN AND LAYOUT
SCALE: 3/16" = 1'-0"

SUMMARY OF QUANTITIES FOR WEST ABUTMENT	
STRUCTURE EXCAVATION, CLASS E	840 CU. YD.
CONCRETE, MIX NO. 1A43	197 CU. YD.
CONCRETE, MIX NO. 3Y43	265 CU. YD.
CONCRETE, MIX NO. 3Y46A, SPECIAL	4 CU. YD.
REINFORCEMENT BARS	27,820 LBS.
TWO STEEL TEST PILES IN PLACE, 130-FT. LONG	
STEEL PILING DELIVERED	2,760 LIN. FT.
STEEL PILING DRIVEN	2,714 LIN. FT.
ORNAMENTAL METAL RAILING (TYPE G)	18 LIN. FT.

- QUANTITY NOTES:**
- THIS SUMMARY INCLUDES RAILING CONCRETE, FOR THE PORTION OF RAILING ON THE NORTHWEST WINGWALL.
 - THE TABULATED QUANTITIES FOR STEEL PILING, DELIVERED AND FOR STEEL PILING, DRIVEN, DO NOT INCLUDE TEST PILES.
 - NO SPLICES IN TEST PILES OR MEASURED PILES WILL BE ELEGIBLE FOR EXTRA COMPENSATION, EXCEPT STRICTLY UNDER THE CONDITIONS OF M.H.D. 2452.5B

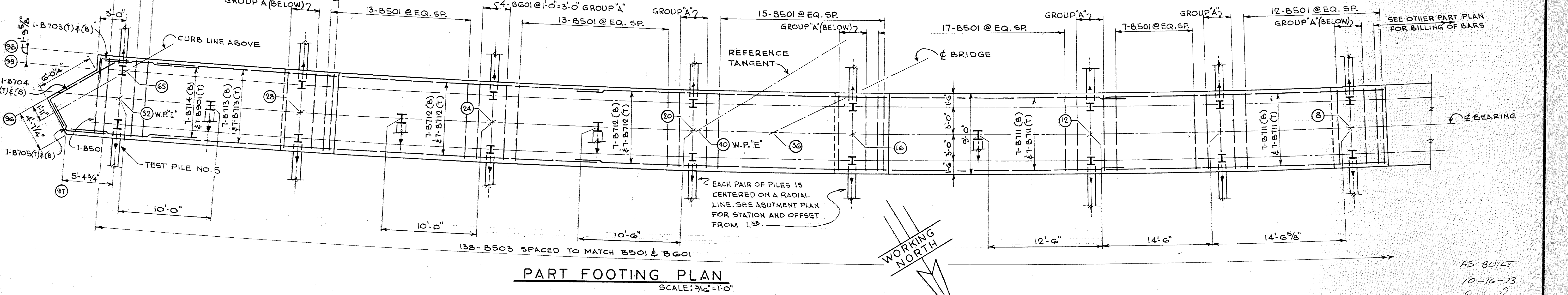
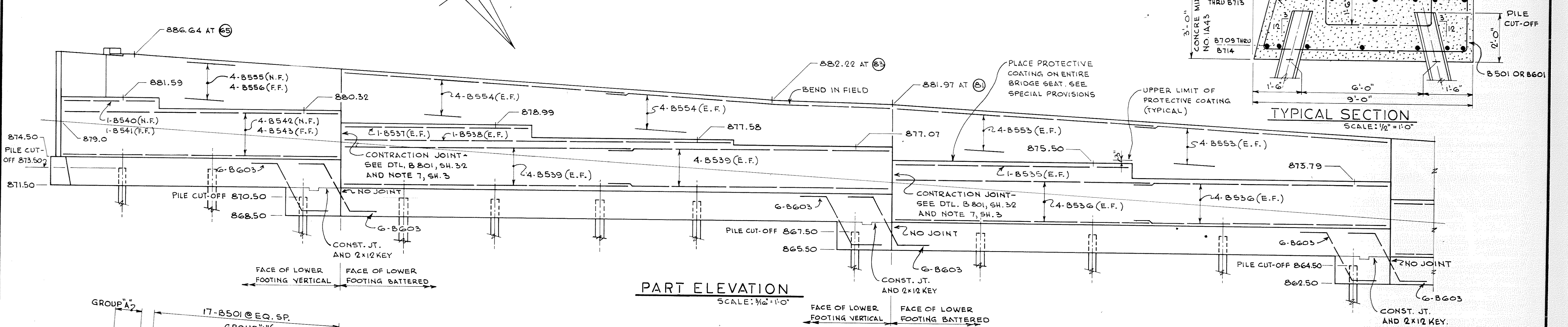
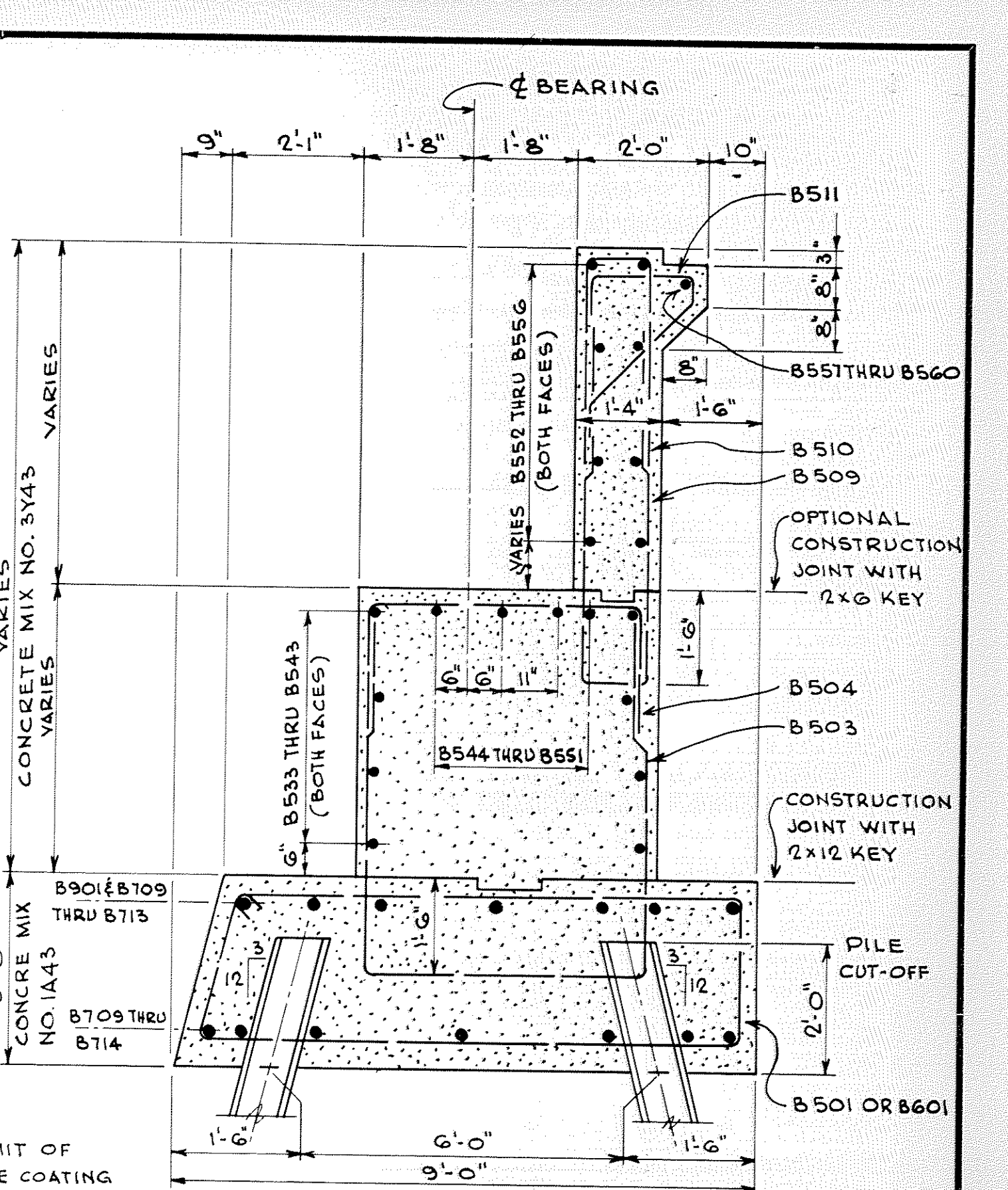
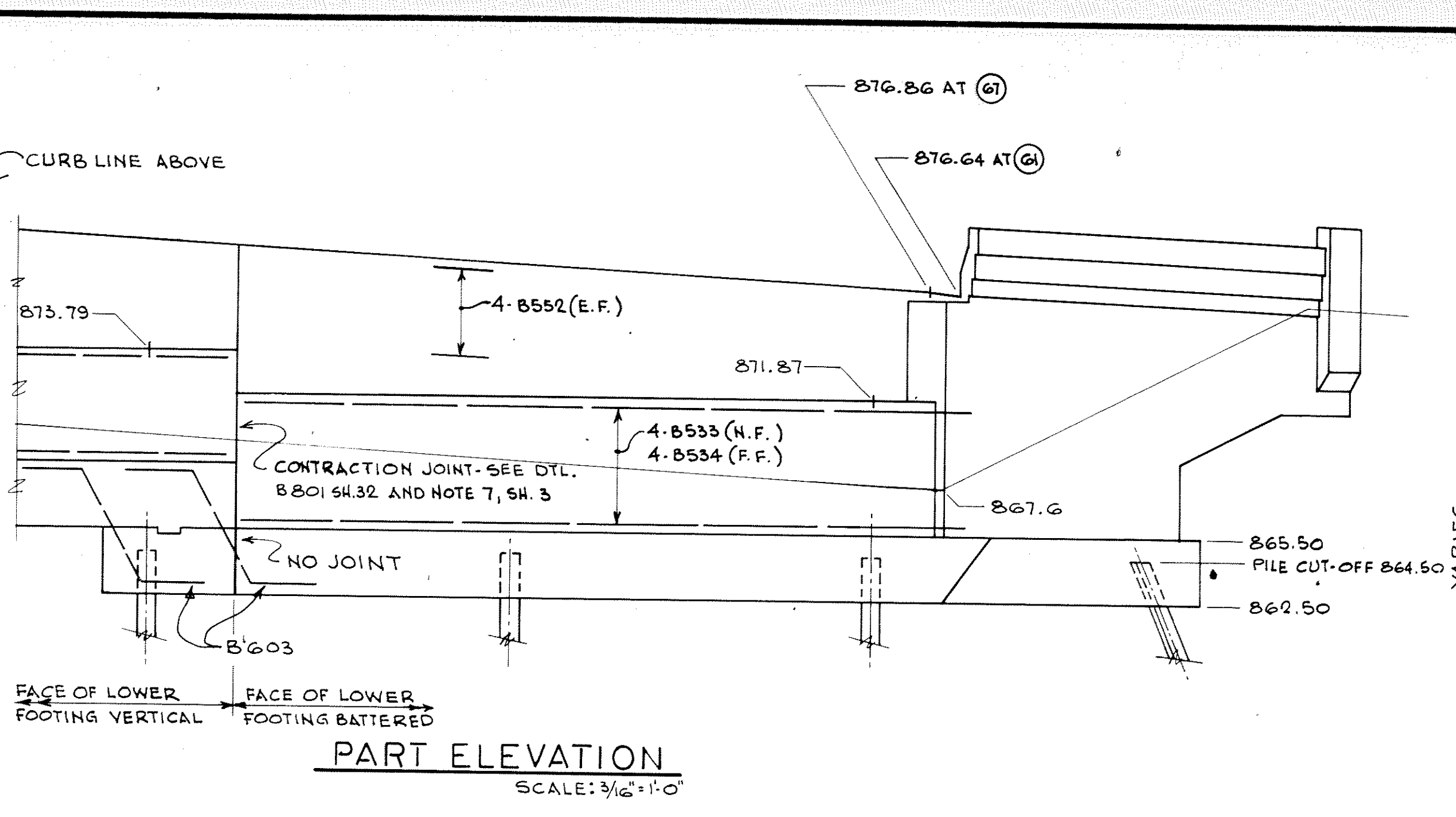
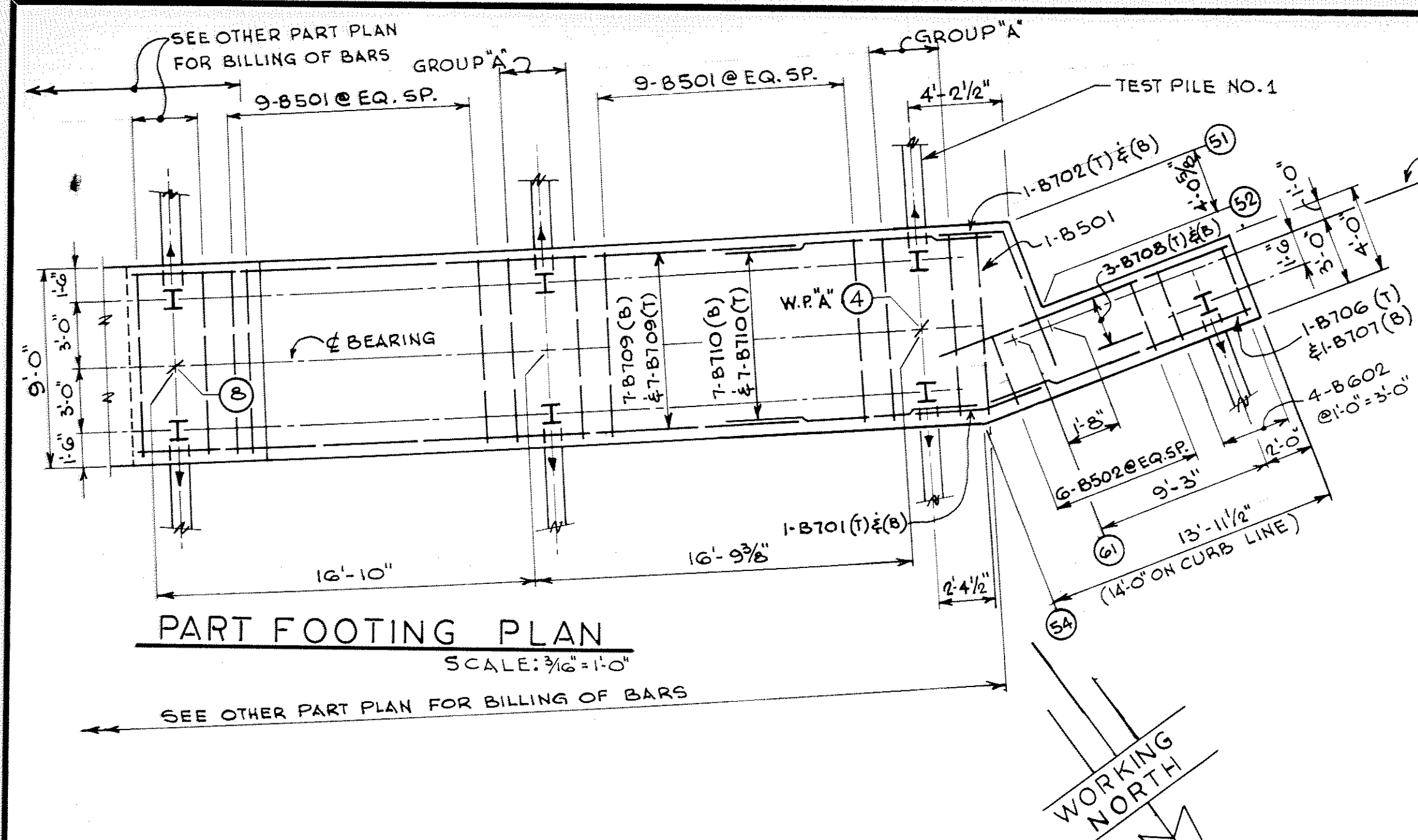
- NOTES**
- WORK THIS SHEET WITH SHEETS 4, 5 & 6.
 - SEE SHEET 31 FOR DETAIL OF 1/4" ANCHOR BOLT.
 - SEE SHEET 7 FOR ANCHOR BOLT LAYOUT.
 - BRIDGE SEAT REINFORCEMENT SHALL BE CAREFULLY PLACED TO AVOID INTERFERENCE WITH THE DRILLING OF HOLES FOR ANCHOR BOLTS.
 - THE SUPERSTRUCTURE GIRDERS SHALL BE ERECTED IN FINAL POSITION PRIOR TO DRILLING ANCHOR BOLT HOLES AND PLACING ANCHOR BOLTS.
 - REFER TO SHEET 28 FOR DIMENSIONS OF RAILING, DIMENSIONS OF END POST, AND DETAIL OF GUARD RAIL ANCHOR. ANCHOR IS STRUCTURAL STEEL, INCLUDED WITH SUPERSTRUCTURE QUANTITIES.
 - ANY, OR ALL, OF THE THREE CONTRACTION JOINTS MAY BE A CONSTRUCTION JOINT. USE 2x4 VERTICAL KEY FULL HEIGHT FROM TOP OF FOOTING TO TOP OF BACKWALL.

- PILE NOTES**
- ALL PILES SHALL BE BATTERED 3" PER FOOT IN THE DIRECTION SHOWN THUS: \rightarrow
 - ESTIMATED PENETRATION IS TWO FEET LESS THAN LENGTH GIVEN BELOW.
 - ALL PILES ARE STEEL "H", 10BP 57, CONFORMING TO M.H.D. 3372.
 - PILE SPACING SHOWN IS AT BOTTOM OF FOOTING.
 - TWO STEEL TEST PILES 130-FT. LONG. TWENTY-THREE STEEL PILES 120-FT. LONG. TWENTY-FIVE STEEL PILES, TOTAL FOR WEST ABUTMENT.
 - ALL PILES SHALL BE DRIVEN TO REFUSAL ON BEDROCK.
 - FOR PILE SPLICES AND TIP REINFORCEMENT, SEE DETAIL B202, SHEET 30.
 - SEE PILE NOTE, SHEET 1, FOR DEEP INTERFERENCE.

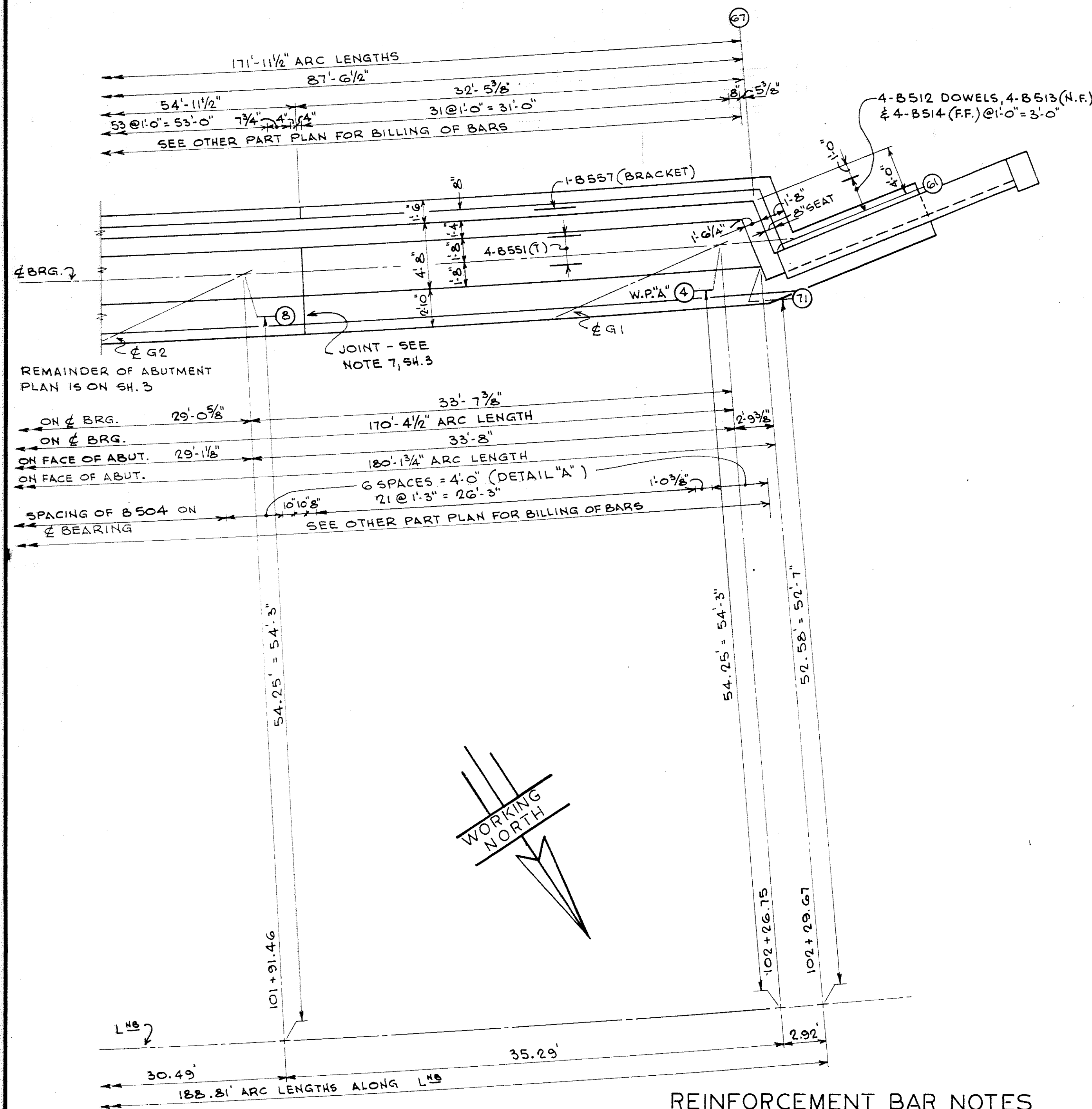
COMPUTED PILE LOADS TONS PER PILE		
ITEM	FRONT ROW	BACK ROW
DEAD LOAD	45.5	74.0
LIVE LOAD	14.8	14.8
OVERTURNING	14.6	-14.6
TOTAL	74.9	74.2

AS BUILT.
10-16-73
B. Jahr

TITLE: PART WEST ABUTMENT PLAN AND LAYOUT	DES: <i>Q/mcs</i>	DR: W.K.	APPROVED:	Bridge No. 02522
	CHK: MODY	CHK: <i>Q/mcs</i>	12/21/71	
Sheet No. 3 of 35 Sheets				



TITLE: WEST ABUTMENT ELEVATION AND FOOTING PLAN		DES: <i>R/M</i>	DR: W.K.	APPROVED:	AS BUILT 10-16-73 <i>B. Jahn</i> Bridge No. 02522
Sheet No. 4 of 35 Sheets		CHK: <i>MODY</i>	CHK: <i>R/M</i>	13 21 71	

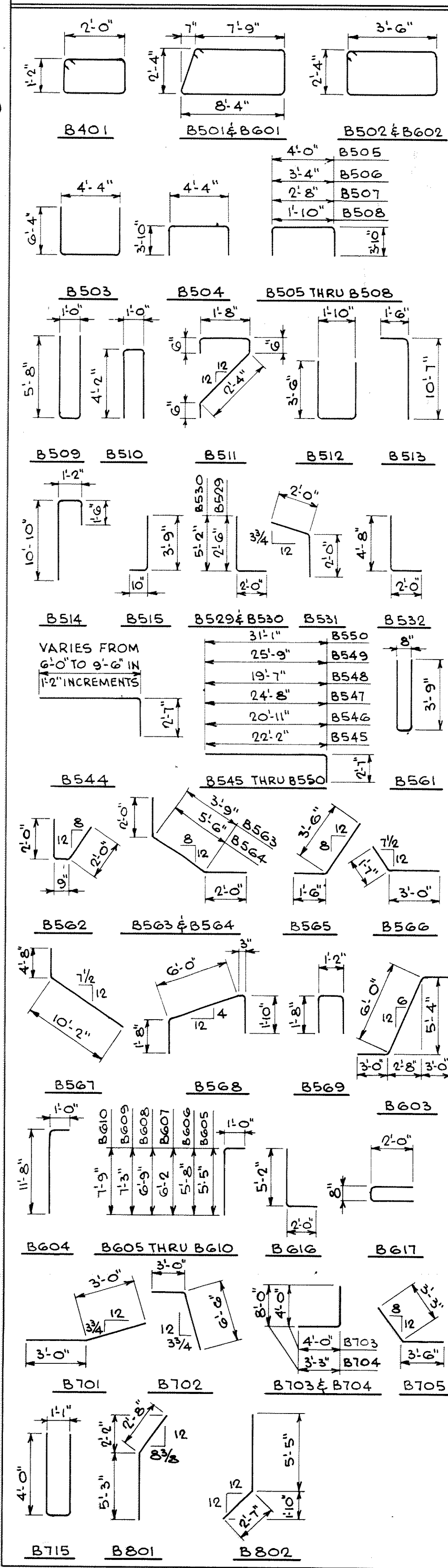


PART ABUTMENT PLAN AND LAYOUT
SCALE: 3/16" = 1'-0"

REINFORCEMENT BAR NOTES

- FOR B544, NUMBER IS ONE SERIES OF FOUR BARS; LENGTH VARIES FROM 8'-6" TO 12'-0" IN 1'-2" INCREMENTS.
- FOR B573, NUMBER IS TWO SERIES OF EIGHT BARS; LENGTH VARIES FROM 2'-9" TO 5'-8" IN 5" INCREMENTS.
- BAR LOCATION ABBREVIATIONS:
E. F. EACH FACE
N. F. NEAR FACE
F. F. FAR FACE
T. TOP
B. BOTTOM

REINFORCEMENT BAR BENDING DIAGRAMS



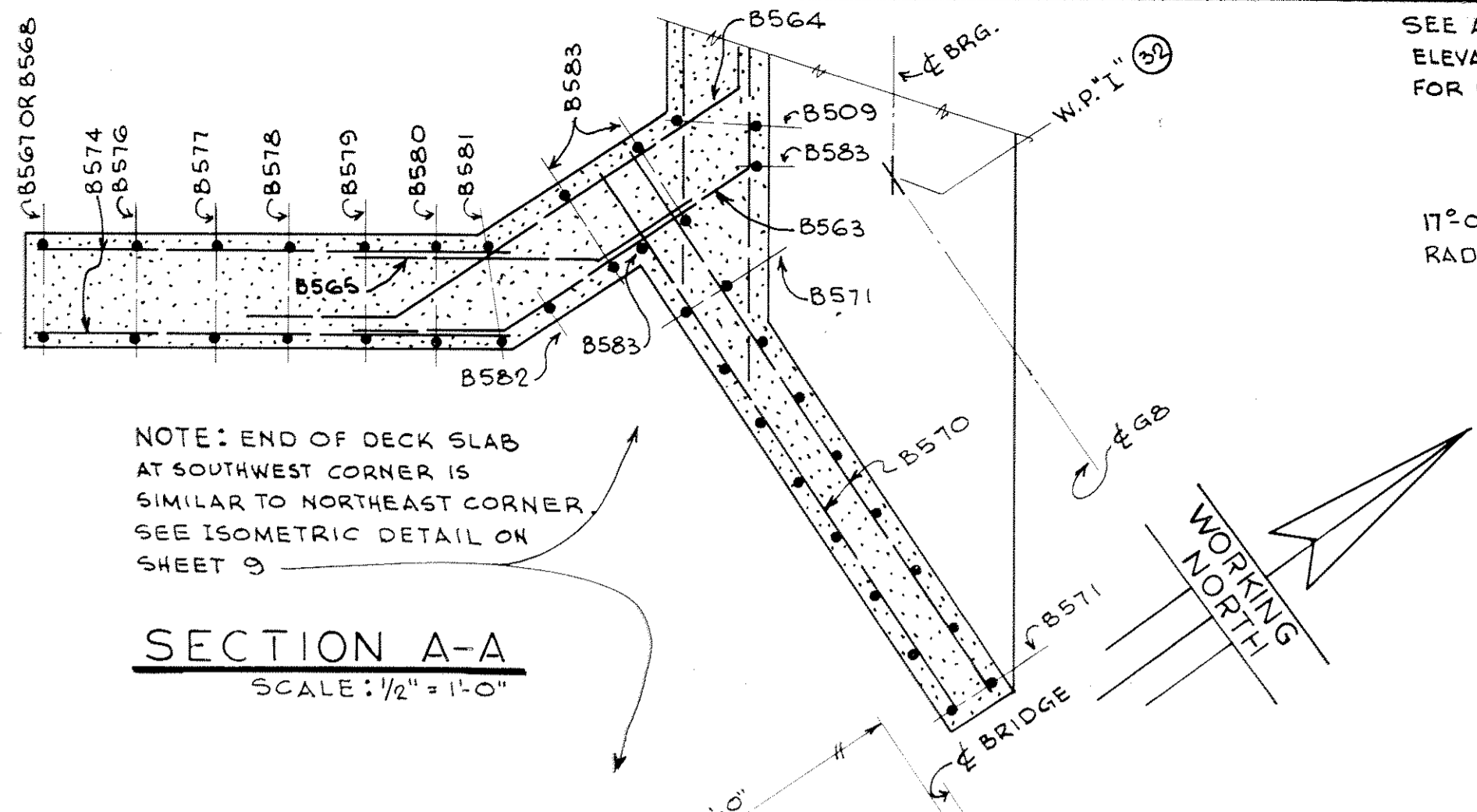
BILL OF REINFORCEMENT FOR WEST ABUTMENT

MARK	NUMBER	LENGTH	SHAPE	LOCATION	MARK	NUMBER	LENGTH	SHAPE	LOCATION
B401	5	6'-11"	[Diagram]	END POST TIES	B516	2	11'-0"	[Diagram]	WINGWALL VERT.
B501	114	2'-7"	[Diagram]	FOOTING, TRANS.	B517	11	13'-0"	[Diagram]	WINGWALL VERT.
B502	6	12'-5"	[Diagram]	WING FTG. TRANS.	B518	2	6'-9"	[Diagram]	WINGWALL VERT.
B503	138	16'-10"	[Diagram]	ABUT. VERT.	B519	1	7'-0"	[Diagram]	WINGWALL VERT.
B504	170	11'-10"	[Diagram]	SEAT TRANS.	B520	1	7'-6"	[Diagram]	WINGWALL VERT.
B505	1	11'-6"	[Diagram]	SEAT TRANS.	B521	1	8'-1"	[Diagram]	WINGWALL VERT.
B506	1	10'-10"	[Diagram]	SEAT TRANS.	B522	1	8'-7"	[Diagram]	WINGWALL VERT.
B507	1	10'-2"	[Diagram]	SEAT TRANS.	B523	1	9'-1"	[Diagram]	WINGWALL VERT.
B508	1	9'-4"	[Diagram]	SEAT TRANS.	B524	2	9'-0"	[Diagram]	WINGWALL FILLET
B509	175	12'-2"	[Diagram]	BACKWALL VERT.	B525	4	11'-10"	[Diagram]	WINGWALL HORIZ.
B510	175	9'-2"	[Diagram]	TOP BACKWALL	B526	1	13'-10"	[Diagram]	WINGWALL HORIZ.
B511	175	5'-3"	[Diagram]	BRACKET	B527	1	15'-10"	[Diagram]	WINGWALL HORIZ.
B512	4	8'-8"	[Diagram]	DOWEL	B528	10	20'-4"	[Diagram]	WINGWALL HORIZ.
B513	4	12'-0"	[Diagram]	BACKWALL VERT.	B533	4	34'-0"	[Diagram]	ABUT. HORIZ.
B514	4	13'-4"	[Diagram]	BACKWALL VERT.	B534	4	32'-1"	[Diagram]	ABUT. HORIZ.
B515	2	4'-6"	[Diagram]	WINGWALL DOWEL	B535	2	25'-9"	[Diagram]	ABUT. HORIZ.
B529	7	4'-5"	[Diagram]	WINGWALL CORNER	B536	16	28'-3"	[Diagram]	ABUT. HORIZ.
B530	4	7'-1"	[Diagram]	WINGWALL CORNER	B537	2	20'-11"	[Diagram]	ABUT. HORIZ.
B531	12	4'-0"	[Diagram]	WINGWALL CORNER	B538	2	43'-8"	[Diagram]	ABUT. HORIZ.
B532	12	6'-7"	[Diagram]	WINGWALL CORNER	B539	16	31'-7"	[Diagram]	ABUT. HORIZ.
B544	(NOTE 1)	(NOTE 1)	[Diagram]	TOP OF SEAT	B540	1	10'-4"	[Diagram]	ABUT. HORIZ.
B545	4	24'-8"	[Diagram]	TOP OF SEAT	B541	1	5'-0"	[Diagram]	ABUT. HORIZ.
B546	4	23'-5"	[Diagram]	TOP OF SEAT	B542	4	30'-6"	[Diagram]	ABUT. HORIZ.
B547	4	27'-2"	[Diagram]	TOP OF SEAT	B543	4	25'-2"	[Diagram]	ABUT. HORIZ.
B548	4	22'-1"	[Diagram]	TOP OF SEAT	B551	4	33'-0"	[Diagram]	TOP OF SEAT
B549	4	28'-3"	[Diagram]	TOP OF SEAT	B552	8	32'-9"	[Diagram]	BACKWALL HORIZ.
B550	4	33'-7"	[Diagram]	TOP OF SEAT	B553	16	28'-2"	[Diagram]	BACKWALL HORIZ.
B561	8	8'-0"	[Diagram]	WINGWALL DOWEL	B554	16	31'-6"	[Diagram]	BACKWALL HORIZ.
B562	8	4'-7"	[Diagram]	CORNER OF WING	B555	4	26'-8"	[Diagram]	BACKWALL HORIZ.
B563	13	7'-5"	[Diagram]	CORNER OF WING	B556	4	25'-0"	[Diagram]	BACKWALL HORIZ.
B564	13	9'-5"	[Diagram]	CORNER OF WING	B557	1	32'-7"	[Diagram]	BRACKET
B565	13	5'-0"	[Diagram]	CORNER OF WING	B558	2	28'-1"	[Diagram]	BRACKET
B566	2	4'-7"	[Diagram]	WING DOWEL	B559	2	31'-3"	[Diagram]	BRACKET
B567	2	14'-10"	[Diagram]	WING EDGE	B560	1	24'-6"	[Diagram]	BRACKET
B568	2	9'-7"	[Diagram]	WING EDGE	B570	24	8'-6"	[Diagram]	WING, HORIZ.
B569	2	4'-4"	[Diagram]	TOP OF WING	B571	16	11'-10"	[Diagram]	WING, VERT.
B601	40	21'-6"	[Diagram]	FOOTING TRANS.	B572	2	2'-6"	[Diagram]	WING, HORIZ.
B602	4	12'-4"	[Diagram]	WING FTG. TRANS.	B573	(NOTE 2)	(NOTE 2)	[Diagram]	WING, HORIZ.
B603	36	12'-0"	[Diagram]	FOOTING STEPS	B574	12	6'-1"	[Diagram]	WING, HORIZ.
B604	11	12'-6"	[Diagram]	WINGWALL VERT.	B575	2	3'-1"	[Diagram]	WING, HORIZ.
B605	2	6'-3"	[Diagram]	WINGWALL VERT.	B576	2	7'-5"	[Diagram]	WING, VERT.
B606	1	6'-6"	[Diagram]	WINGWALL VERT.	B577	2	9'-4"	[Diagram]	WING, VERT.
B607	1	7'-0"	[Diagram]	WINGWALL VERT.	B578	2	11'-3"	[Diagram]	WING, VERT.
B608	1	7'-7"	[Diagram]	WINGWALL VERT.	B579	2	13'-3"	[Diagram]	WING, VERT.
B609	1	8'-1"	[Diagram]	WINGWALL VERT.	B580	2	15'-2"	[Diagram]	WING, VERT.
B610	1	8'-7"	[Diagram]	WINGWALL VERT.	B581	2	15'-4"	[Diagram]	WING, VERT.
B616	1	7'-0"	[Diagram]	WINGWALL CORNER	B582	1	12'-6"	[Diagram]	WING, VERT.
B617	1	4'-6"	[Diagram]	TOP WINGWALL	B583	6	11'-11"	[Diagram]	WING, VERT.
B701	2	6'-0"	[Diagram]	FOOTING CORNER	B611	4	11'-10"	[Diagram]	WINGWALL HORIZ.
B702	2	9'-6"	[Diagram]	FOOTING CORNER	B612	1	13'-10"	[Diagram]	WINGWALL HORIZ.
B703	2	7'-10"	[Diagram]	FOOTING CORNER	B613	1	15'-10"	[Diagram]	WINGWALL HORIZ.
B704	2	11'-1"	[Diagram]	FOOTING CORNER	B614	2	20'-4"	[Diagram]	WINGWALL HORIZ.
B705	2	6'-9"	[Diagram]	FOOTING CORNER	B615	2	18'-8"	[Diagram]	WINGWALL HORIZ.
B715	11	8'-9"	[Diagram]	WINGWALL DOWEL	B618	2	8'-6"	[Diagram]	WINGWALL HORIZ.
B801	2	7'-11"	[Diagram]	END POST DOWEL	B706	1	11'-4"	[Diagram]	WING FOOTING
B802	2	8'-0"	[Diagram]	END POST DOWEL	B707	1	13'-9"	[Diagram]	WING FOOTING
B901	7	14'-10"	[Diagram]	FTG. LONG. TOP	B708	6	15'-6"	[Diagram]	WING FOOTING

AS BUILT
10-16-73
B. Jahn

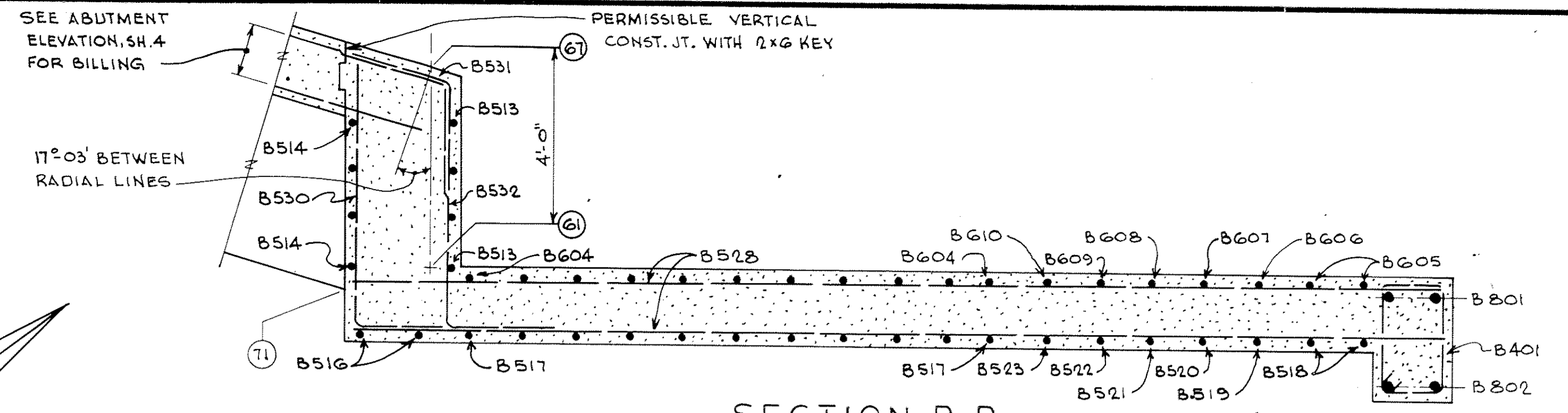
TITLE:
**WEST ABUTMENT
PART PLAN AND DETAILS**

DES: RMM-3 DR: W.K.
CHK: MODY CHK: RMM-3
APPROVED: 10-21-73
Sheet No. 5 of 35 Sheets Bridge No. 02522

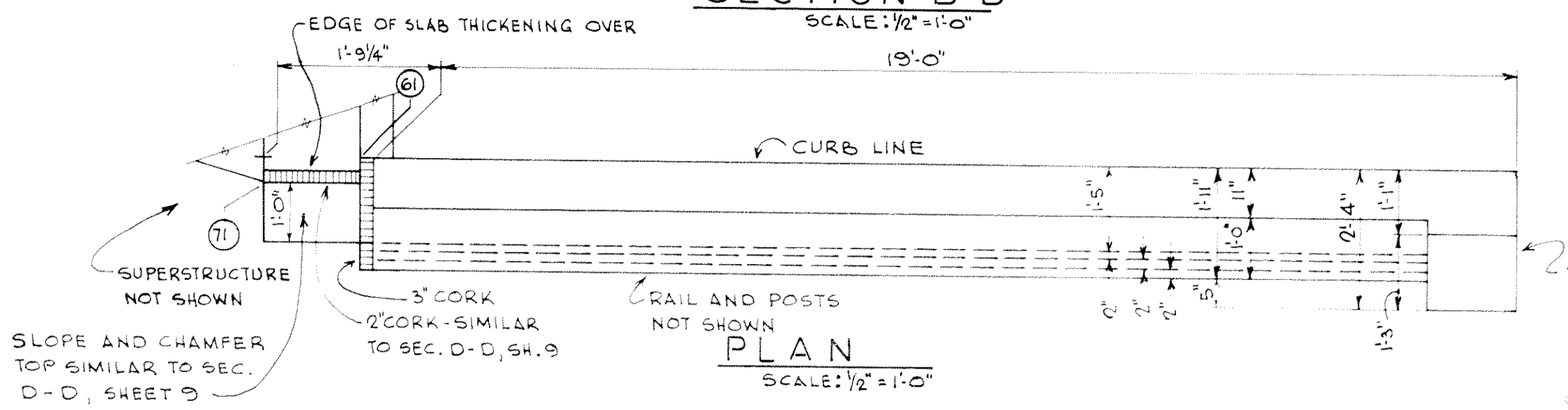


NOTE: END OF DECK SLAB AT SOUTHWEST CORNER IS SIMILAR TO NORTHEAST CORNER. SEE ISOMETRIC DETAIL ON SHEET 9.

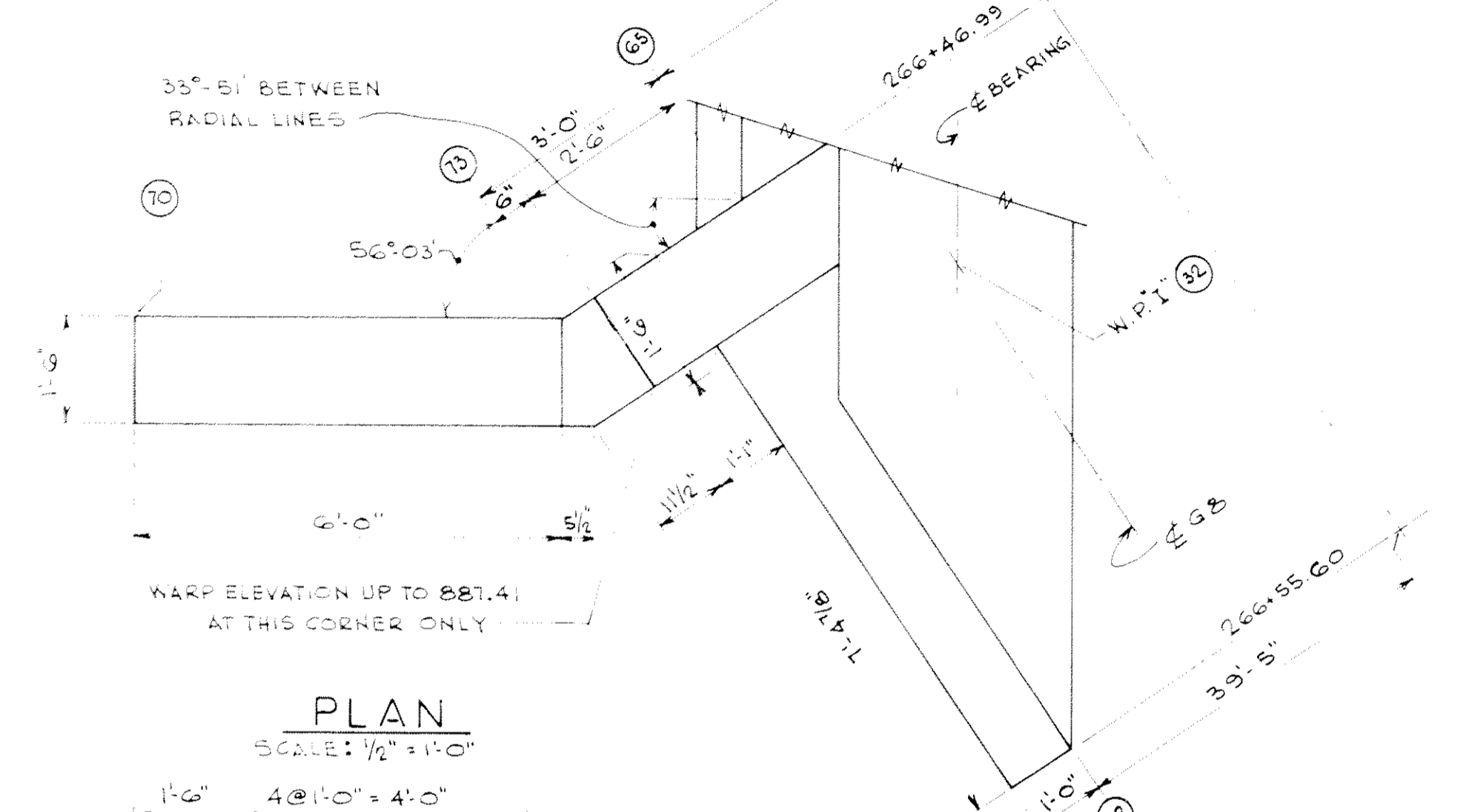
SECTION A-A
SCALE: 1/2" = 1'-0"



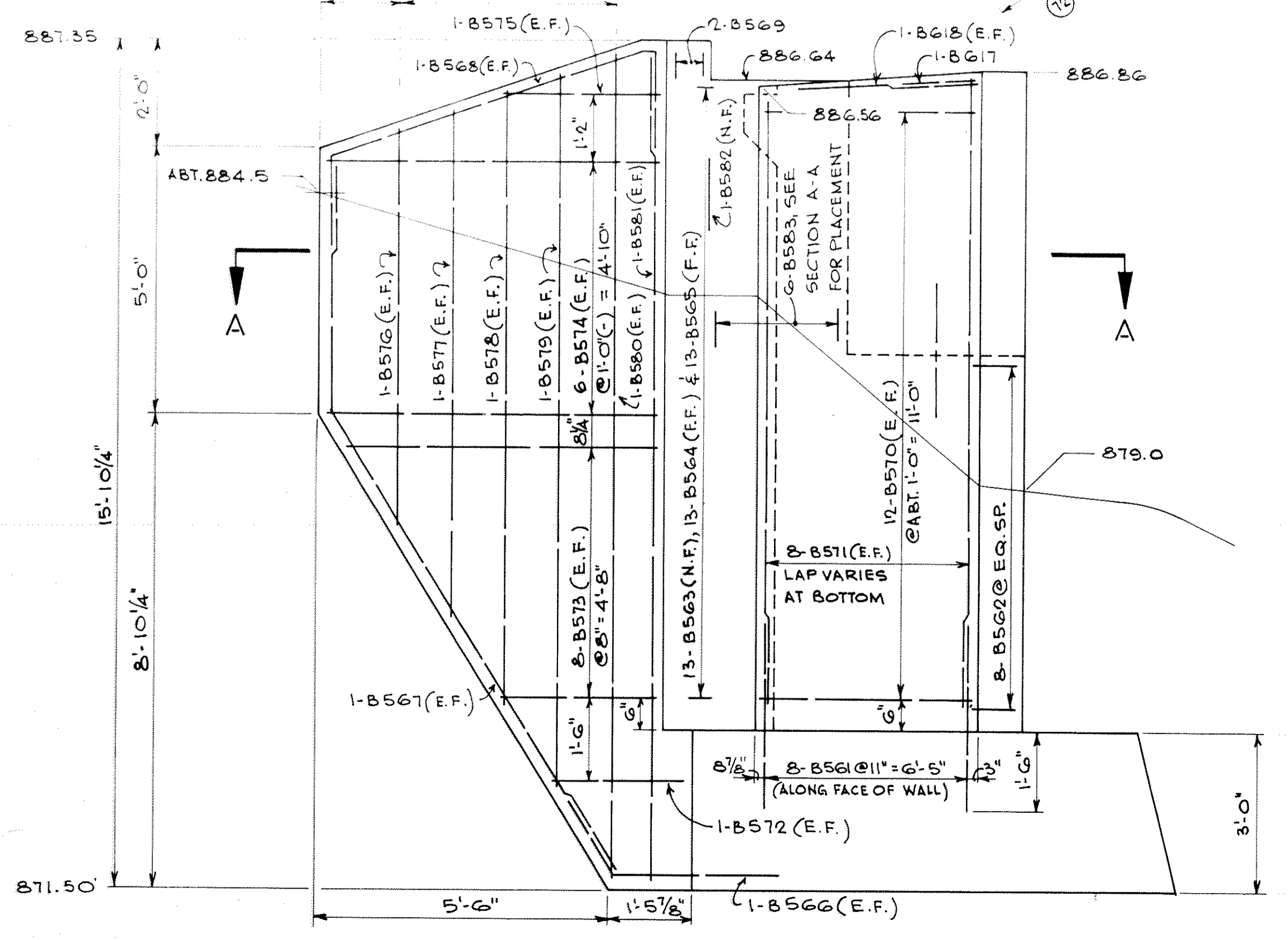
SECTION B-B
SCALE: 1/2" = 1'-0"



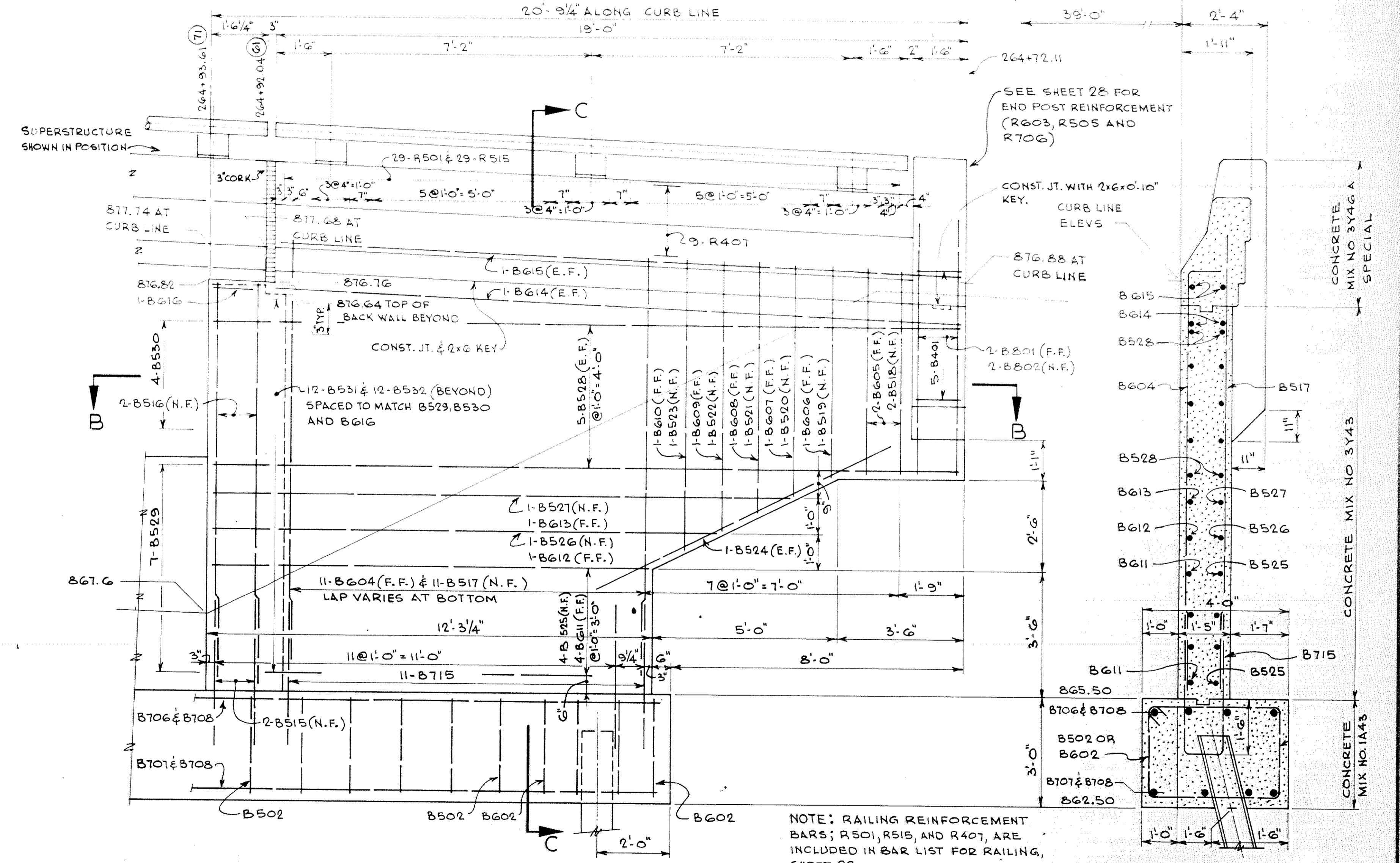
PLAN
SCALE: 1/2" = 1'-0"



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



SOUTHWEST WINGWALL ELEVATION
SCALE: 1/2" = 1'-0"



NORTHWEST WINGWALL ELEVATION
SCALE: 1/2" = 1'-0"

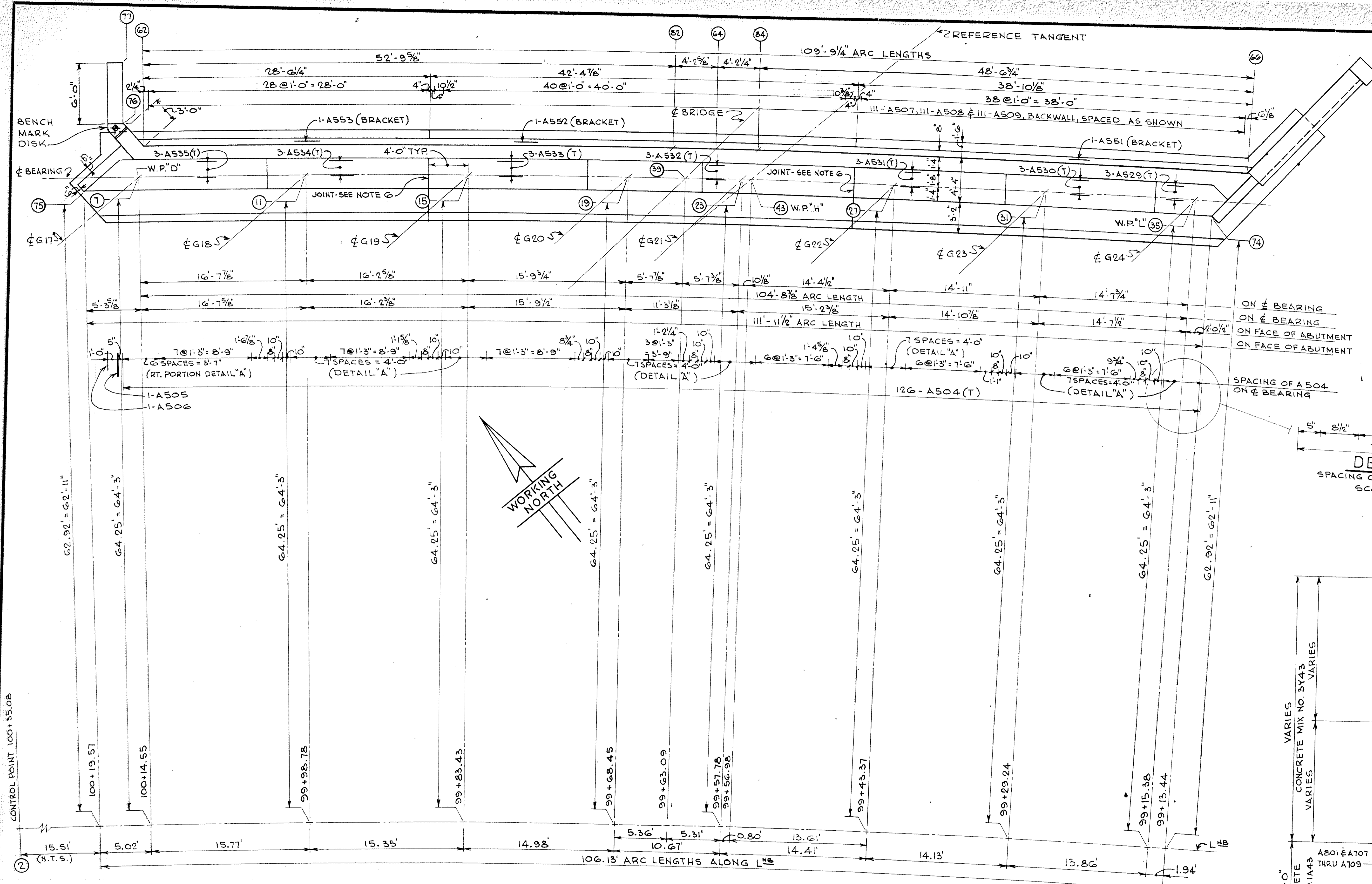
SECTION C-C
SCALE: 1/2" = 1'-0"

NOTE: RAILING REINFORCEMENT BARS; R501, R515, AND R407, ARE INCLUDED IN BAR LIST FOR RAILING, SHEET 28

AS BUILT
10-16-73
B. Jehu

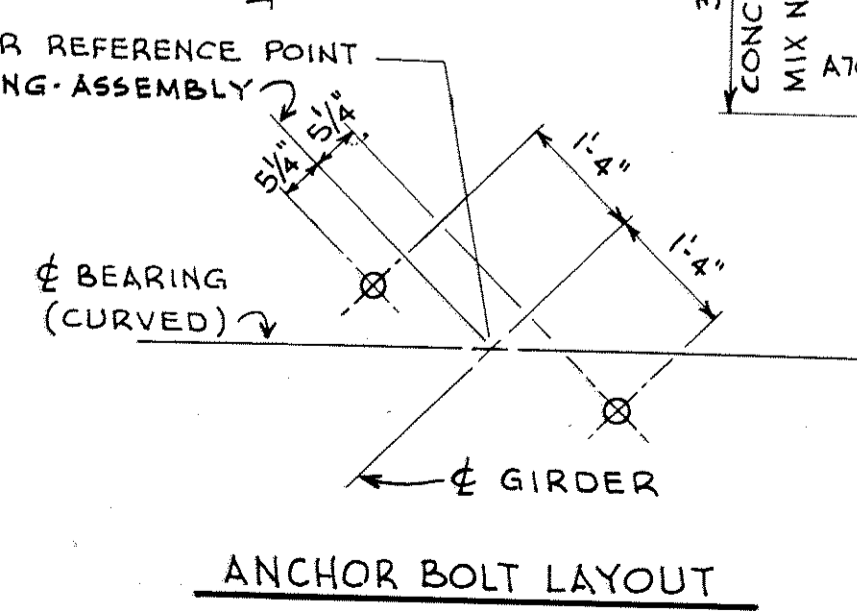
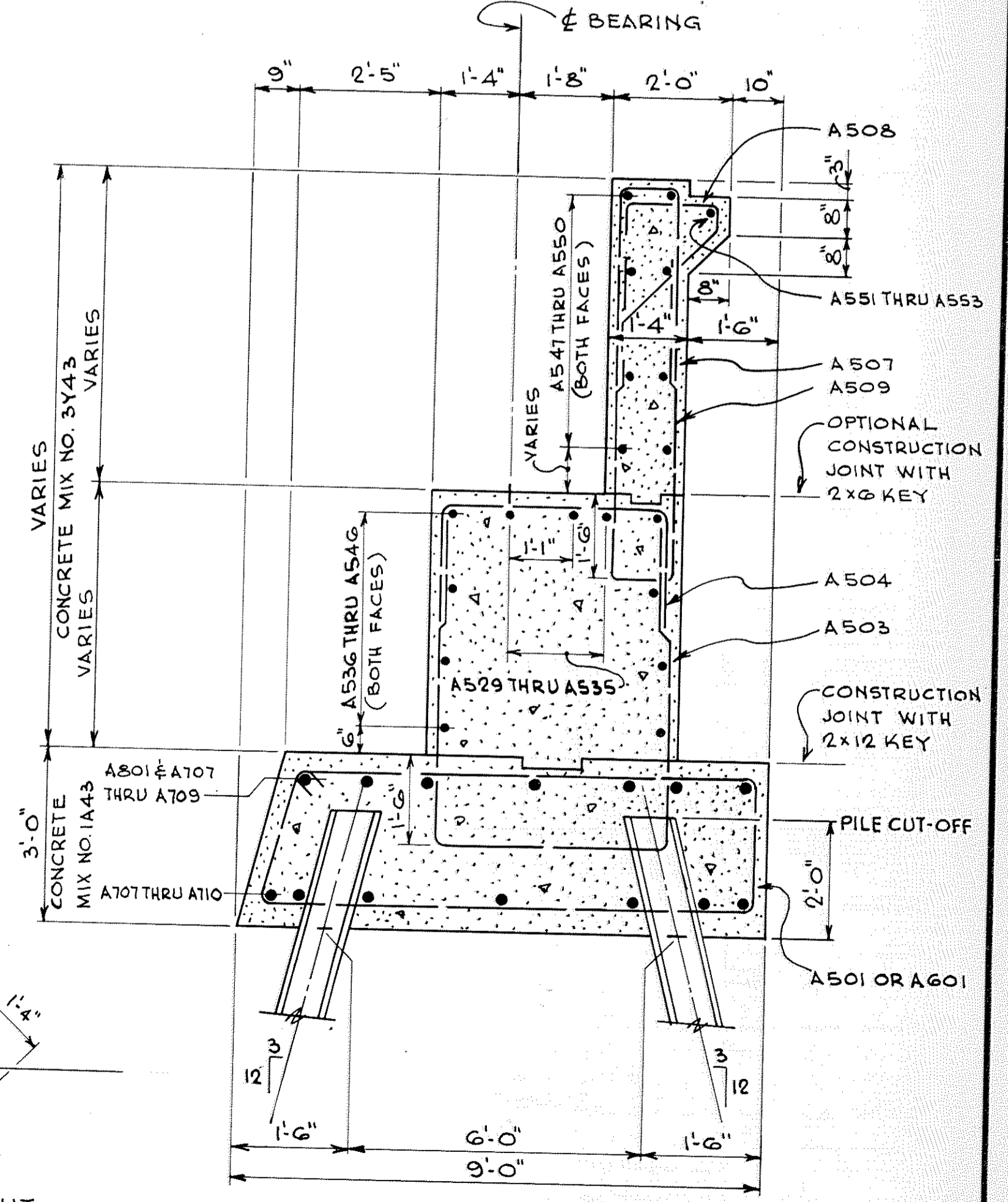
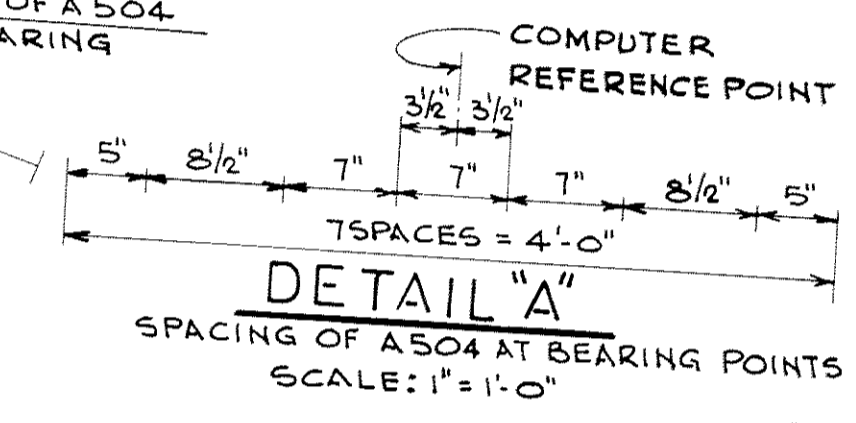
TITLE:
WEST ABUTMENT-DETAILS

DES: <i>RMJ</i>	DR: W.K.	APPROVED:	Bridge No. 02522
CHK: <i>MODY</i>	CHK: <i>RMJ</i>	12-21-71	
Sheet No. 6 of 35 Sheets			



COMPUTED PILE LOADS TONS PER PILE		
ITEM	FRONT ROW	BACK ROW
DEAD LOAD	49.4	69.8
LIVE LOAD	15.7	15.7
OVERTURNING	10.4	-10.4
TOTAL	75.5	75.1

- PILE NOTES:**
- ALL PILES SHALL BE BATTERED 3" PER FOOT IN THE DIRECTION SHOWN THUS = H →
 - ESTIMATED PENETRATION IS TWO FEET LESS THAN LENGTH GIVEN BELOW.
 - ALL PILES ARE STEEL "H", 10BPS7, CONFORMING TO M.H.D. 3372
 - PILE SPACING SHOWN IS AT BOTTOM OF FOOTING.
 - TWO STEEL TEST PILES 140-FT. LONG, FIFTEEN STEEL PILES 130-FT. LONG, SEVENTEEN STEEL PILES, TOTAL FOR EAST ABUTMENT.
 - ALL PILES SHALL BE DRIVEN TO REFUSAL ON BEDROCK.
 - FOR PILE SPLICES, AND TIP REINFORCEMENT, SEE DETAIL B 202, SHEET 30.
 - SEE PILE NOTE, SHEET 1, FOR DEEP INTERFERENCE.



ABUTMENT PLAN AND LAYOUT
SCALE: 3/16" = 1'-0"

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

SUMMARY OF QUANTITIES FOR EAST ABUTMENT	
STRUCTURE EXCAVATION, CLASS E	440 CU.YD.
CONCRETE, MIX NO. 1A43	126 CU.YD.
CONCRETE, MIX NO. 3Y43	164 CU.YD.
CONCRETE, MIX NO. 3Y46A, SPECIAL	3 CU.YD.
REINFORCEMENT BARS	18,550 LBS.
TWO STEEL TEST PILES IN PLACE 140-FT. LONG	
STEEL PILING DELIVERED	1,950 LIN.FT.
STEEL PILING DRIVEN	1,920 LIN.FT.
ORNAMENTAL METAL RAILING (TYPE G)	15 LIN.FT.
BENCH MARK DISK	ONE UNIT

- QUANTITY NOTES:**
- THIS SUMMARY INCLUDES RAILING CONCRETE, FOR THE PORTION OF RAILING ON THE SOUTHEAST WINGWALL.
 - THE TABULATED QUANTITIES FOR STEEL PILING, DELIVERED, AND FOR STEEL PILING, DRIVEN, DO NOT INCLUDE TEST PILES.
 - NO SPLICES IN TEST PILES OR MEASURED TEST PILES WILL BE ELIGIBLE FOR EXTRA COMPENSATION, EXCEPT STRICTLY UNDER THE CONDITIONS OF M.H.D. 2452.5B.
 - THE OWNER WILL FURNISH THE BENCH MARK DISK. PAYMENT FOR PLACING WILL BE INCLUDED IN PRICE BID FOR OTHER ITEMS. SEE STANDARD PLATE NO. 9301 (NOT INCLUDED IN THESE DRAWINGS) FOR PLACING.

- NOTES:**
- WORK THIS SHEET WITH SHEETS 8 AND 9
 - SEE SHEET 31 FOR DETAIL OF 1/4" ANCHOR BOLT.
 - BRIDGE SEAT REINFORCEMENT SHALL BE CAREFULLY PLACED TO AVOID INTERFERENCE WITH THE DRILLING OF HOLES FOR ANCHOR BOLTS.
 - THE SUPERSTRUCTURE GIRDERS SHALL BE ERECTED IN FINAL POSITION PRIOR TO DRILLING ANCHOR BOLT HOLES AND PLACING ANCHOR BOLTS.
 - REFER TO SHEET 28 FOR DIMENSIONS OF RAILING, DIMENSIONS OF END POST, AND DETAIL OF GUARD RAIL ANCHOR. ANCHOR IS STRUCTURAL STEEL, INCLUDED WITH SUPERSTRUCTURE QUANTITIES.
 - EITHER, OR BOTH, OF THE TWO CONTRACTION JOINTS MAY BE A CONSTRUCTION JOINT. USE 2x4 VERTICAL KEY FULL HEIGHT FROM TOP OF FOOTING TO TOP OF BACKWALL.

TITLE: **EAST ABUTMENT PLAN AND LAYOUT**

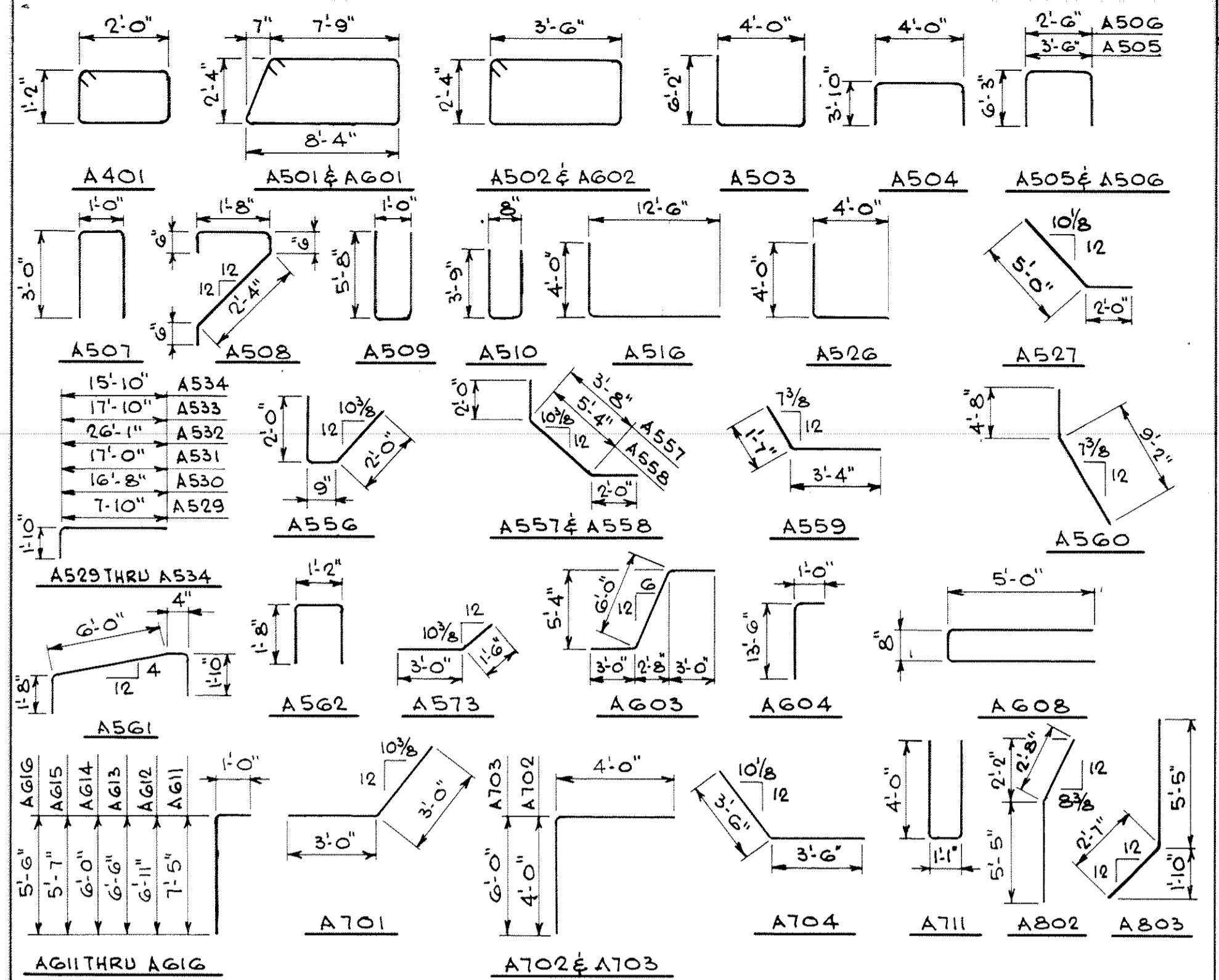
DES: *R/M/S* DR: W.K.
CHK: *MODY* CHK: *R/M/S*
APPROVED: *[Signature]*

AS BUILT
10-16-73
B. Jahn
Bridge No. **02522**
Sheet No. **7** of 35 Sheets

REINFORCEMENT BAR NOTES

- FOR A 708, NUMBER IS TWO SERIES OF SEVEN BARS; LENGTH VARIES FROM 9'-0" TO 17'-0" IN 1'-4" INCREMENTS.
- FOR A5G3, NUMBER IS TWO SERIES OF SEVEN BARS; LENGTH VARIES FROM 5'-3" TO 3'-3" IN 5" INCREMENTS.
- BAR LOCATION ABBREVIATIONS:
E. F. EACH FACE
N. F. NEAR FACE
F. F. FAR FACE
T. TOP
B. BOTTOM

REINFORCEMENT BAR BENDING DIAGRAMS

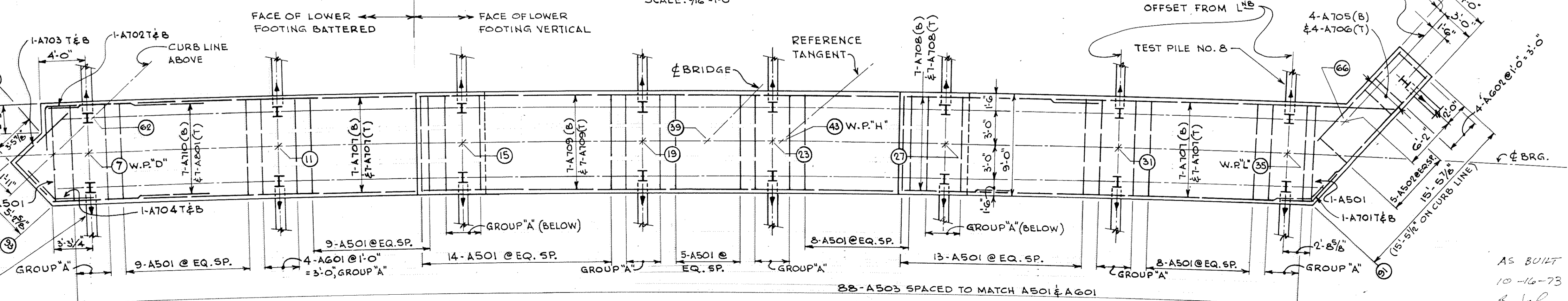
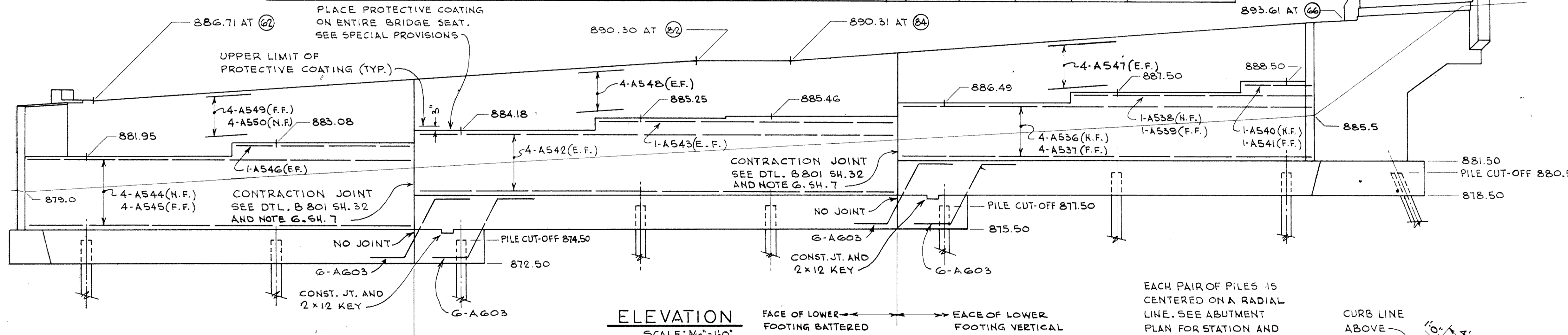


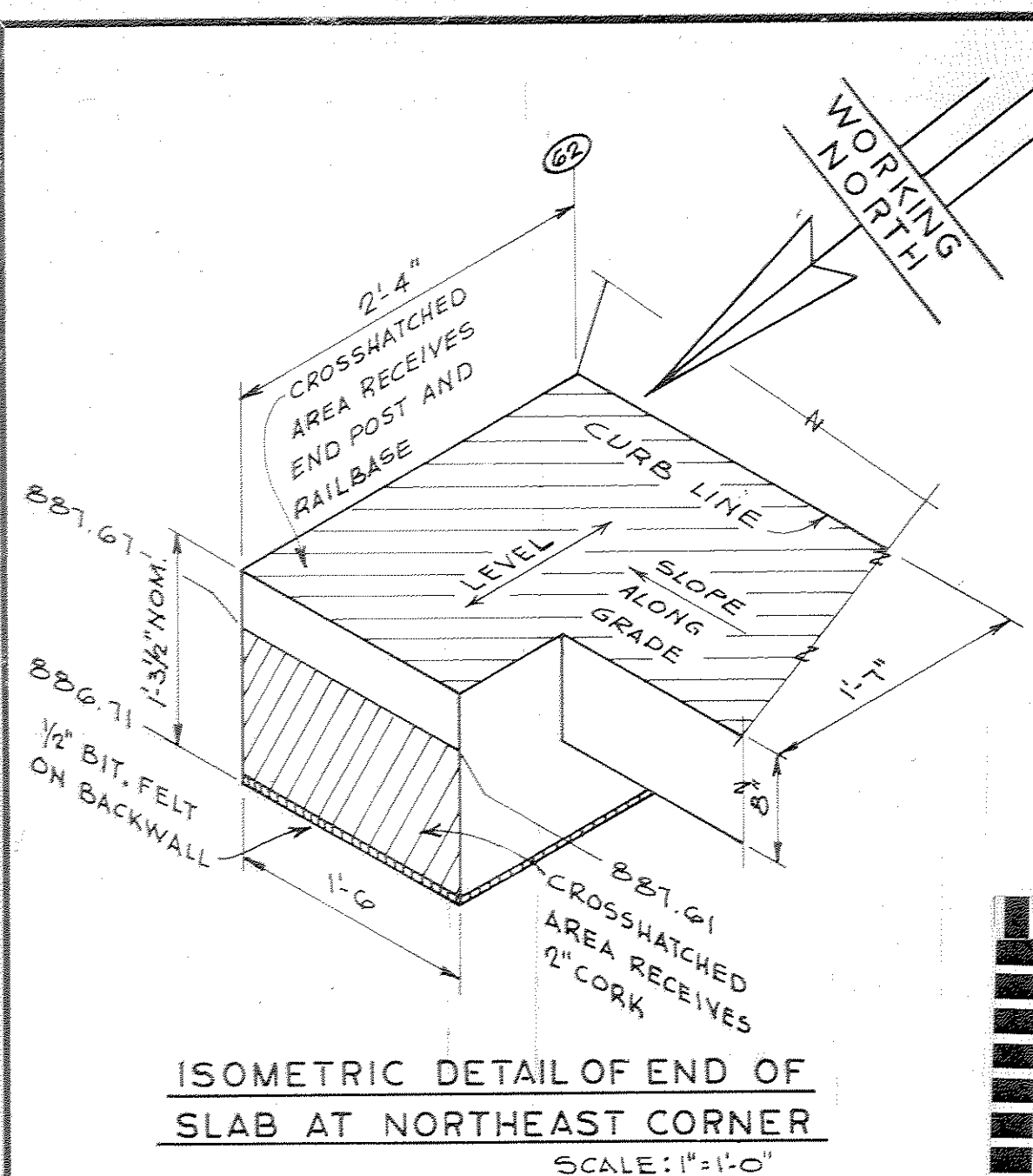
BILL OF REINFORCEMENT FOR EAST ABUTMENT

MARK	NUMBER	LENGTH	SHAPE	LOCATION
A501	68	2'-7"	[hook]	FOOTING, TRANS.
A502	5	12'-5"	[hook]	WING FTG. TRANS.
A503	88	16'-2"	[hook]	ABUT. VERT.
A504	126	11'-6"	[hook]	SEAT TRANS.
A505	1	15'-10"	[hook]	SEAT TRANS.
A506	1	14'-10"	[hook]	SEAT TRANS.
A507	111	6'-10"	[hook]	TOP BACKWALL
A508	111	5'-3"	[hook]	BRACKET
A509	111	12'-2"	[hook]	BACKWALL VERT.
A510	11	8'-0"	[hook]	WINGWALL DOWELS
A516	7	16'-5"	[hook]	WINGWALL HORIZ.
A526	6	7'-11"	[hook]	WINGWALL CORNER
A527	13	7'-0"	[hook]	WINGWALL CORNER
A529	3	9'-7"	[hook]	TOP OF SEAT
A530	3	18'-5"	[hook]	TOP OF SEAT
A531	3	18'-9"	[hook]	TOP OF SEAT
A532	3	21'-10"	[hook]	TOP OF SEAT
A533	3	19'-7"	[hook]	TOP OF SEAT
A534	3	17'-7"	[hook]	TOP OF SEAT
A556	7	4'-7"	[hook]	CORNER OF WING
A557	12	7'-8"	[hook]	CORNER OF WING
A558	12	9'-4"	[hook]	CORNER OF WING
A559	2	4'-11"	[hook]	WING DOWEL
A560	2	13'-10"	[hook]	WING EDGE
A561	2	9'-8"	[hook]	WING EDGE
A562	2	4'-4"	[hook]	TOP OF WING
A573	12	4'-6"	[hook]	CORNER OF WING

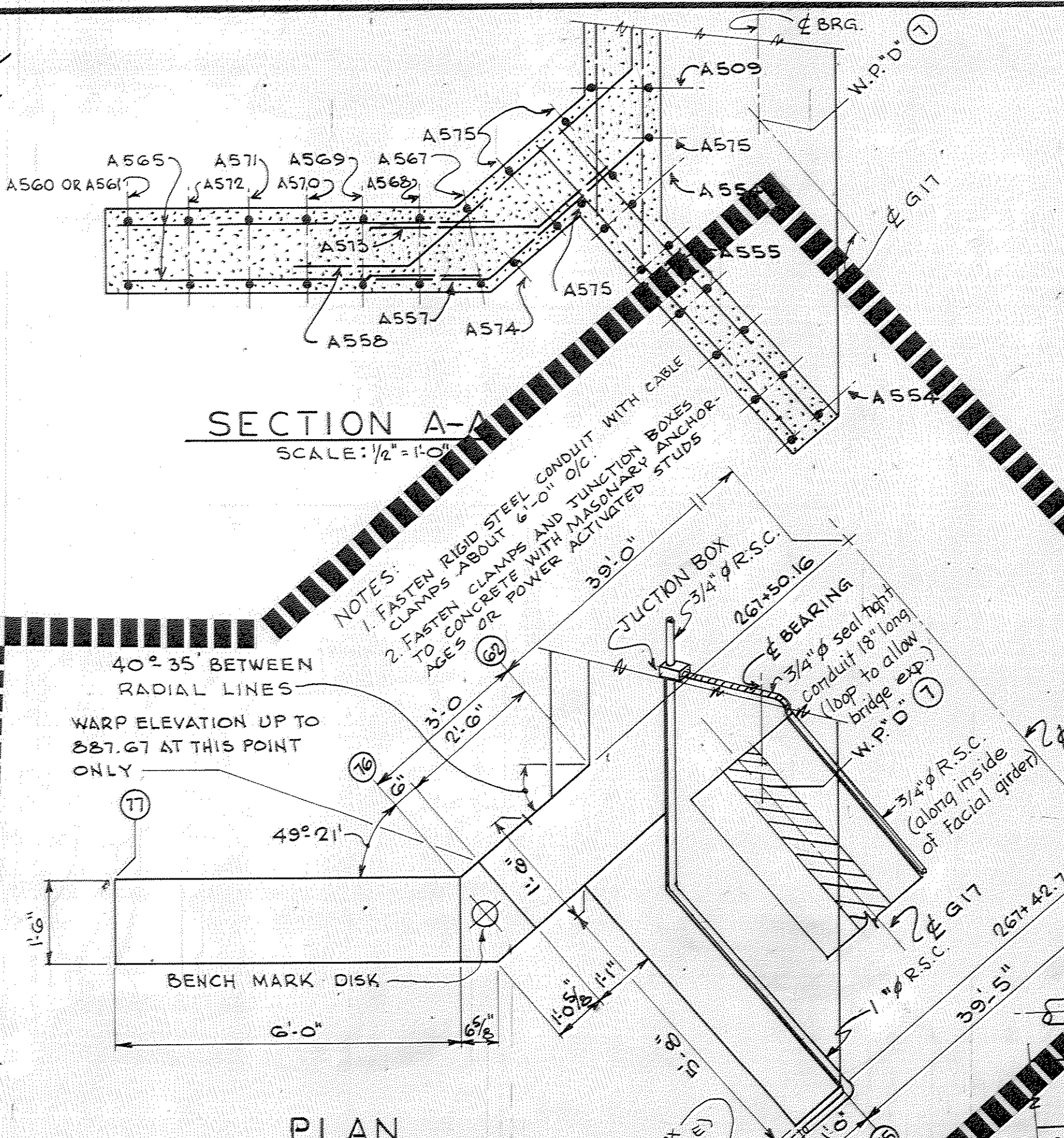
MARK	NUMBER	LENGTH	SHAPE	LOCATION
A401	5	6'-11"	[hook]	END POST TIES
A601	32	2'-6"	[hook]	FOOTING, TRANS.
A602	4	12'-4"	[hook]	WING FTG. TRANS.
A603	24	12'-0"	[hook]	FOOTING STEPS
A604	8	14'-4"	[hook]	WINGWALL VERT.
A608	2	10'-6"	[hook]	TOP WINGWALL
A611	1	8'-3"	[hook]	WINGWALL VERT.
A612	1	7'-9"	[hook]	WINGWALL VERT.
A613	1	7'-4"	[hook]	WINGWALL VERT.
A614	1	6'-10"	[hook]	WINGWALL VERT.
A615	1	6'-5"	[hook]	WINGWALL VERT.
A616	2	6'-4"	[hook]	WINGWALL VERT.
A701	2	6'-0"	[hook]	FTG. CORNER
A702	2	7'-10"	[hook]	FTG. CORNER
A703	2	9'-10"	[hook]	FTG. CORNER
A704	2	7'-0"	[hook]	FTG. CORNER
A711	8	8'-9"	[hook]	WINGWALL DOWEL
A802	2	8'-1"	[hook]	END POST DOWEL
A803	2	8'-0"	[hook]	END POST DOWEL

MARK	NUMBER	LENGTH	SHAPE	LOCATION
A511	8	14'-10"	[hook]	WINGWALL VERT.
A512	10	12'-1"	[hook]	WINGWALL VERT.
A513	4	2'-2"	[hook]	WINGWALL HORIZ.
A514	4	18'-8"	[hook]	WINGWALL HORIZ.
A515	6	5'-0"	[hook]	WINGWALL HORIZ.
A517	1	14'-6"	[hook]	WINGWALL HORIZ.
A518	1	16'-6"	[hook]	WINGWALL HORIZ.
A519	2	9'-0"	[hook]	WINGWALL FILLET
A520	1	8'-8"	[hook]	WINGWALL VERT.
A521	1	8'-2"	[hook]	WINGWALL VERT.
A522	1	7'-9"	[hook]	WINGWALL VERT.
A523	1	7'-3"	[hook]	WINGWALL VERT.
A524	1	6'-10"	[hook]	WINGWALL VERT.
A525	2	6'-9"	[hook]	WINGWALL VERT.
A528	2	4'-10"	[hook]	FILLET VERT.
A535	3	2'-0"	[hook]	TOP OF SEAT
A536	4	36'-5"	[hook]	ABUT. HORIZ.
A537	4	39'-5"	[hook]	ABUT. HORIZ.
A538	1	2'-6"	[hook]	ABUT. HORIZ.
A539	1	24'-6"	[hook]	ABUT. HORIZ.
A540	1	6'-10"	[hook]	ABUT. HORIZ.
A541	1	9'-10"	[hook]	ABUT. HORIZ.
A542	8	4'-11"	[hook]	ABUT. HORIZ.
A543	2	26'-1"	[hook]	ABUT. HORIZ.
A544	4	33'-10"	[hook]	ABUT. HORIZ.
A545	4	30'-0"	[hook]	ABUT. HORIZ.
A546	2	15'-10"	[hook]	ABUT. HORIZ.
A547	8	38'-4"	[hook]	BACKWALL HORIZ.
A548	8	42'-0"	[hook]	BACKWALL HORIZ.
A549	4	29'-10"	[hook]	BACKWALL HORIZ.
A550	4	31'-0"	[hook]	BACKWALL HORIZ.
A551	1	40'-0"	[hook]	BRACKET
A552	1	42'-1"	[hook]	BRACKET
A553	1	30'-0"	[hook]	BRACKET
A554	12	10'-8"	[hook]	WING VERT.
A555	16	6'-10"	[hook]	WING HORIZ.
A563	(NOTE 2)	(NOTE 2)	[hook]	WING HORIZ.
A564	2	2'-6"	[hook]	WING HORIZ.
A565	12	6'-2"	[hook]	WING HORIZ.
A566	2	3'-2"	[hook]	WING HORIZ.
A567	2	14'-9"	[hook]	WING VERT.
A568	2	14'-6"	[hook]	WING VERT.
A569	2	13'-1"	[hook]	WING VERT.
A570	2	11'-2"	[hook]	WING VERT.
A571	2	9'-2"	[hook]	WING VERT.
A572	2	7'-3"	[hook]	WING VERT.
A574	1	11'-11"	[hook]	WING VERT.
A575	6	11'-0"	[hook]	WING VERT.
A605	7	12'-6"	[hook]	WINGWALL HORIZ.
A606	1	12'-0"	[hook]	WINGWALL HORIZ.
A607	1	14'-0"	[hook]	WINGWALL HORIZ.
A609	2	18'-8"	[hook]	WINGWALL HORIZ.
A610	2	15'-8"	[hook]	WINGWALL HORIZ.
A617	2	6'-10"	[hook]	WING HORIZ.
A705	4	15'-1"	[hook]	WING FOOTING
A706	4	14'-1"	[hook]	WING FOOTING
A707	28	30'-0"	[hook]	FOOTING LONG
A708	(NOTE 1)	(NOTE 1)	[hook]	FOOTING LONG
A709	14	47'-9"	[hook]	FOOTING LONG
A710	7	14'-3"	[hook]	FOOTING LONG, BOT.
A801	7	14'-3"	[hook]	FOOTING LONG, TOP



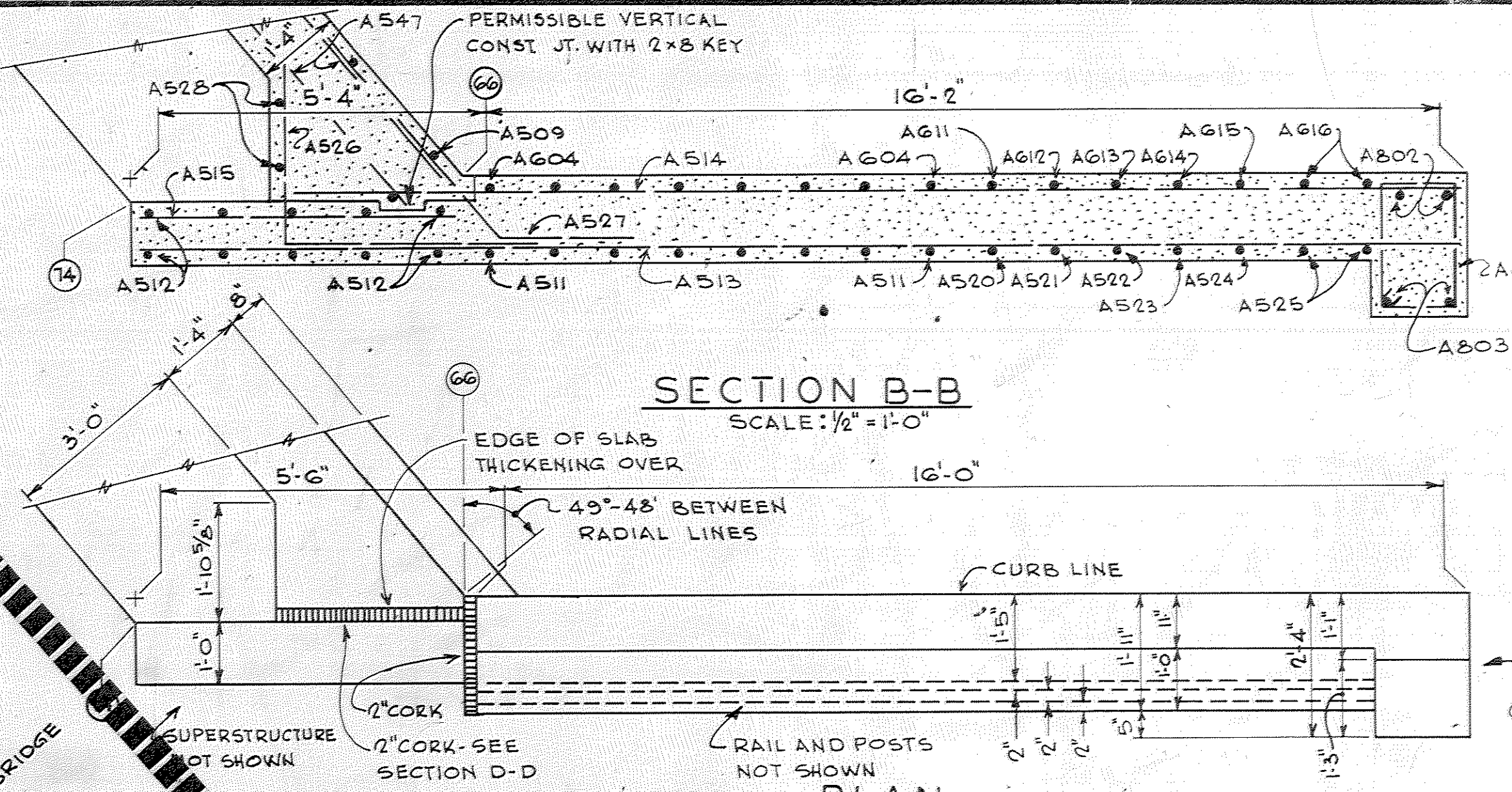


ISOMETRIC DETAIL OF END OF SLAB AT NORTHEAST CORNER
SCALE: 1"=1'-0"

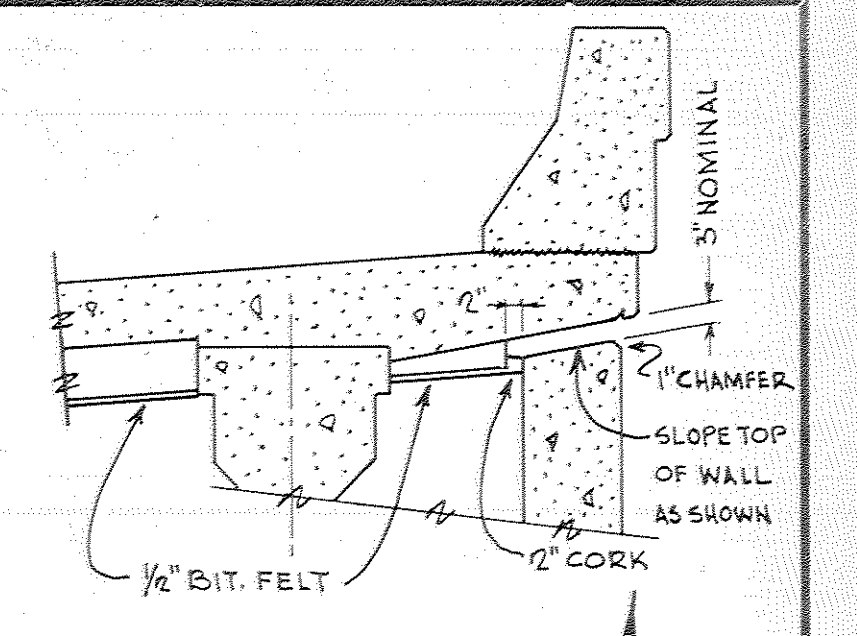


SECTION A-A
SCALE: 1/2"=1'-0"

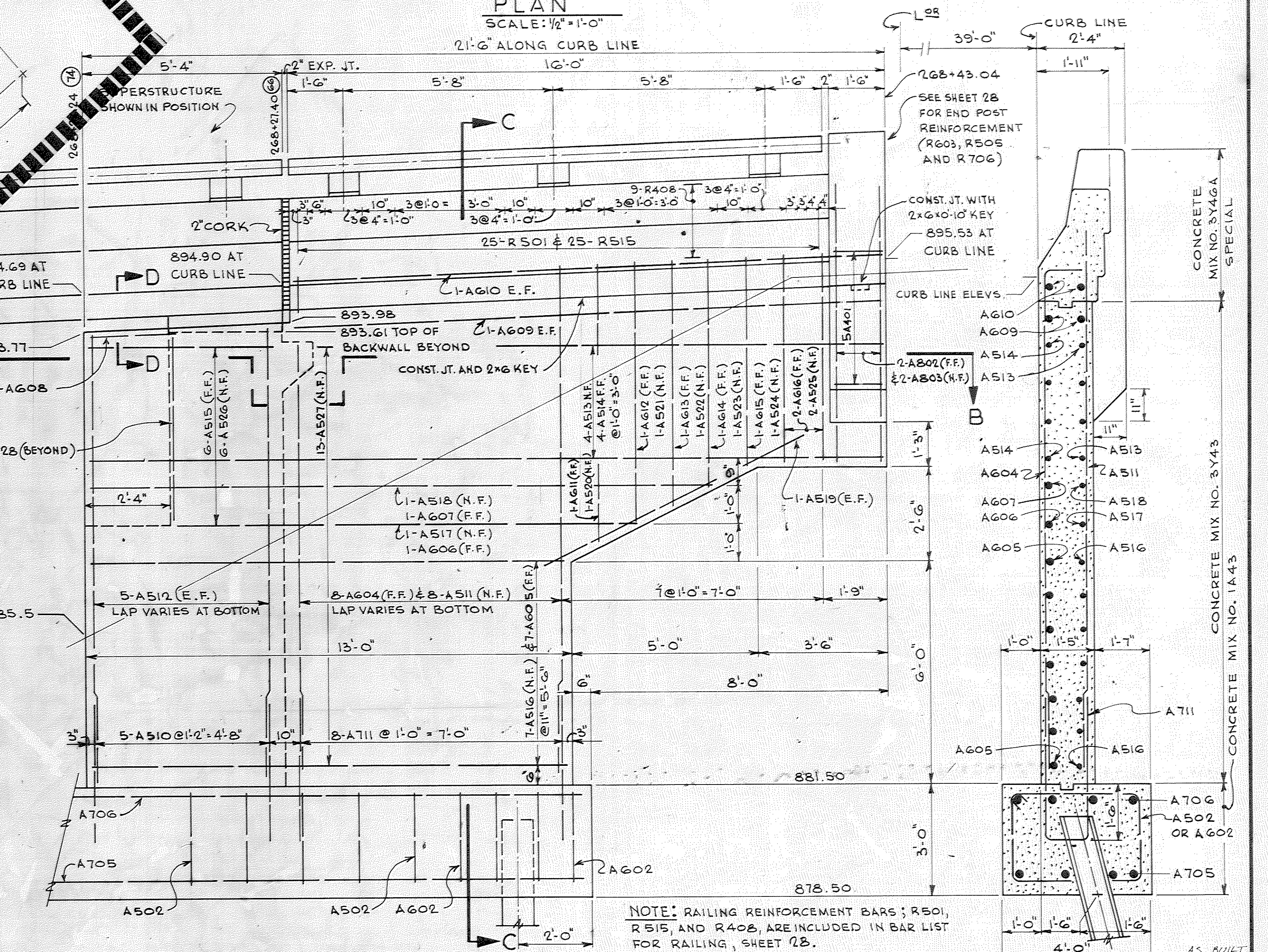
PLAN
SCALE: 1/2"=1'-0"



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

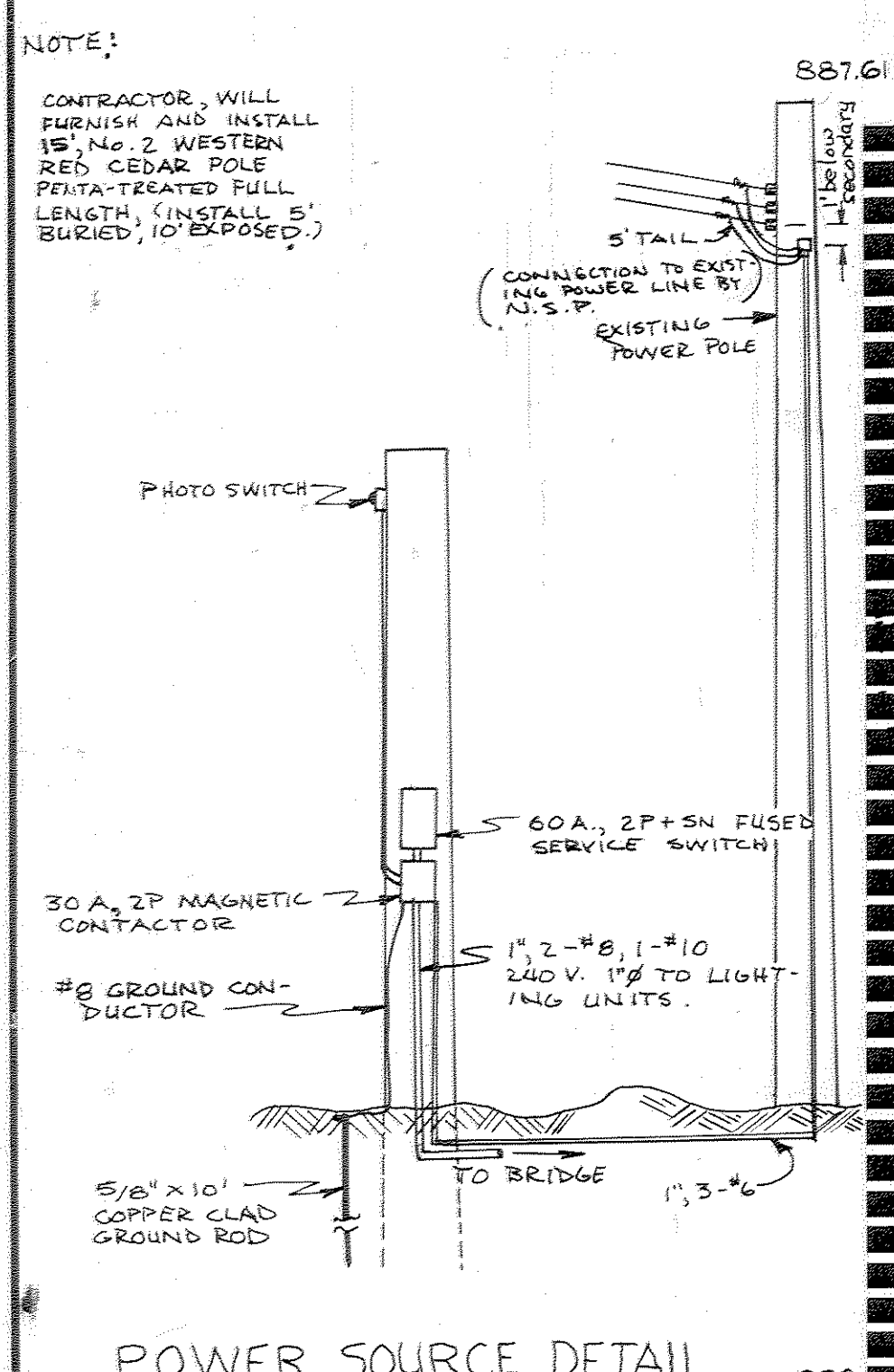


SECTION D-D
SCALE: 1/2"=1'-0"

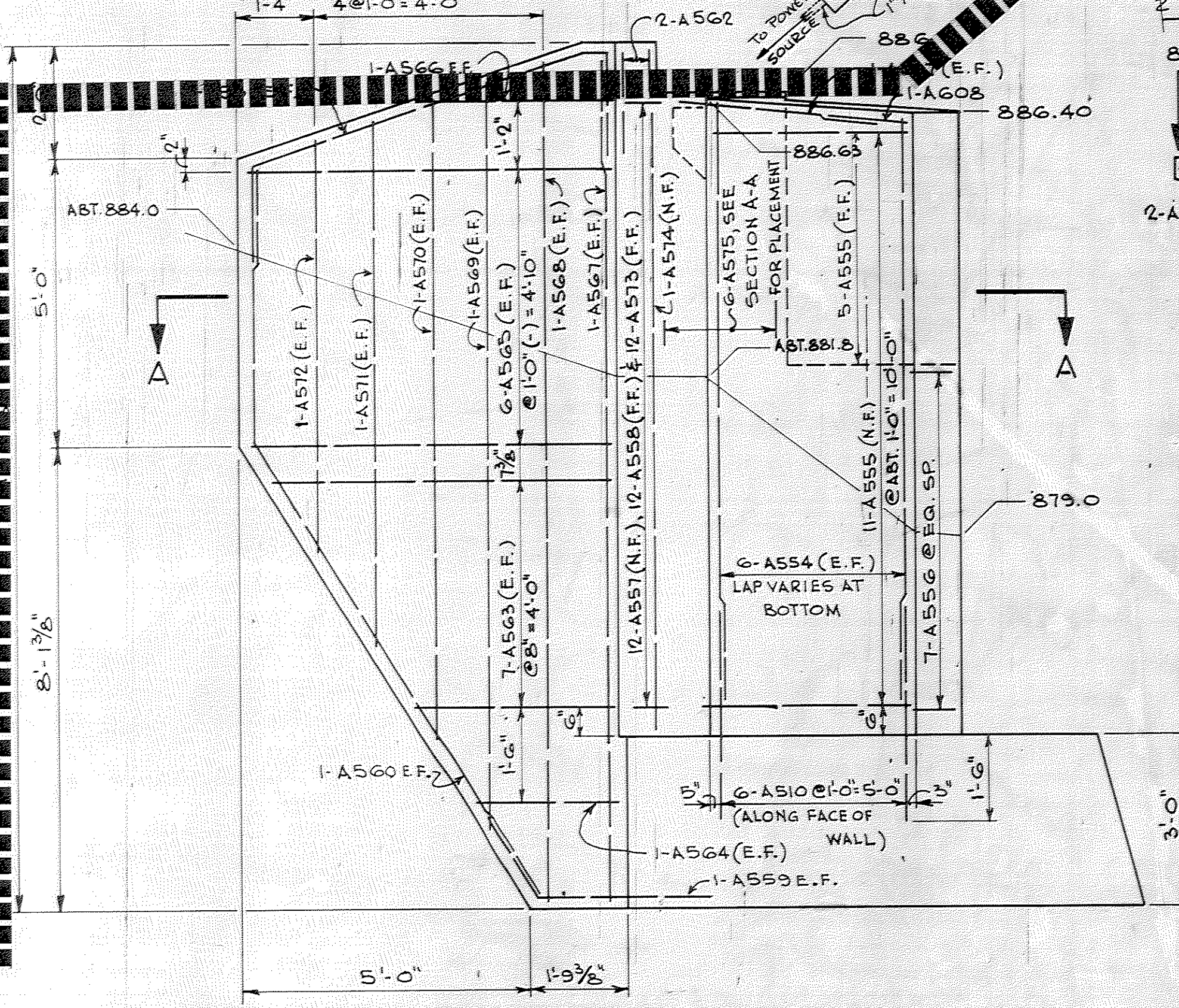


SOUTHEAST WINGWALL ELEVATION
SCALE: 1/2"=1'-0"

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

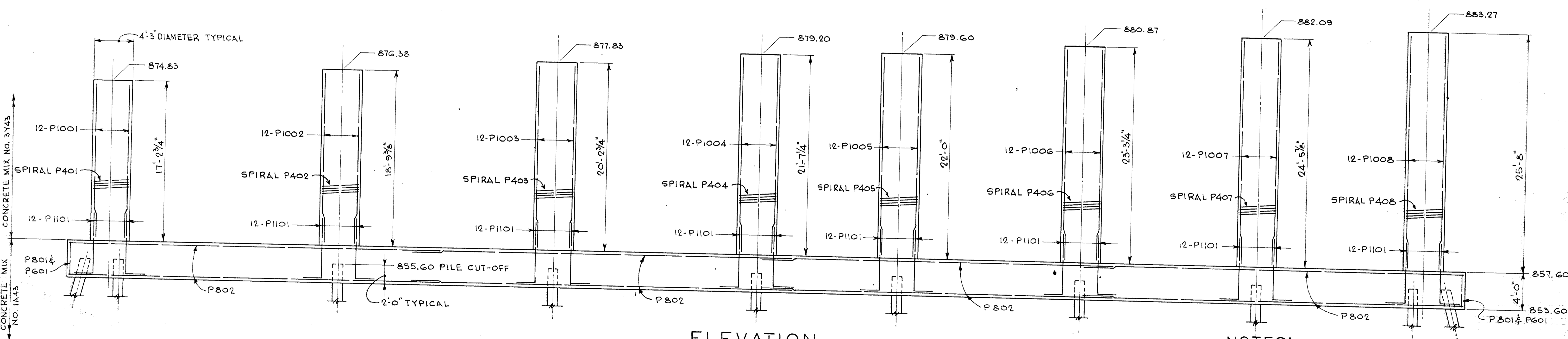
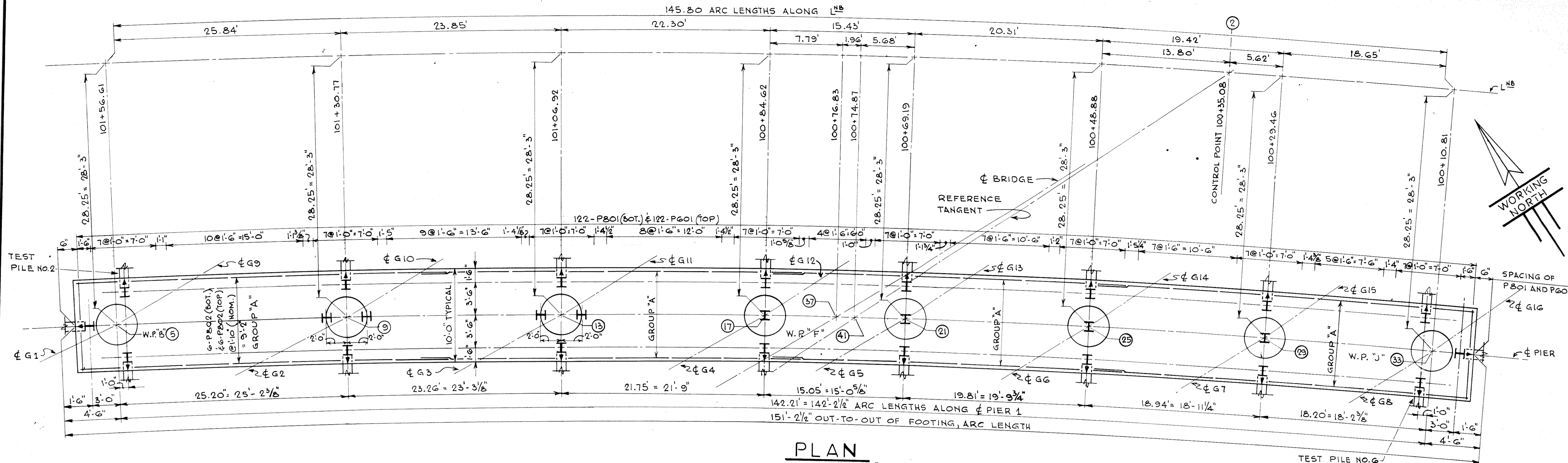


POWER SOURCE DETAIL



NORTHEAST WINGWALL ELEVATION
SCALE: 1/2"=1'-0"

DESIGNED BY: <i>W.K.</i>		DR: W.K.	APPROVED:	BRIDGE NO. 02522
CHECKED BY: <i>MODY</i>		CHK: <i>W.K.</i>		
REVISED: 11/7/73		SHEET 3		SHEET NO. 2 OF 35 SHEETS



- NOTES:**
1. WORK THIS SHEET WITH SHEETS 11 AND 12
 2. P801, P802 AND P601 MAY BE SHIFTED SLIGHTLY TO CLEAR PILE HEADS
 3. P1101 DOWELS MAY BE ROTATED AS NECESSARY TO CLEAR PILE HEADS

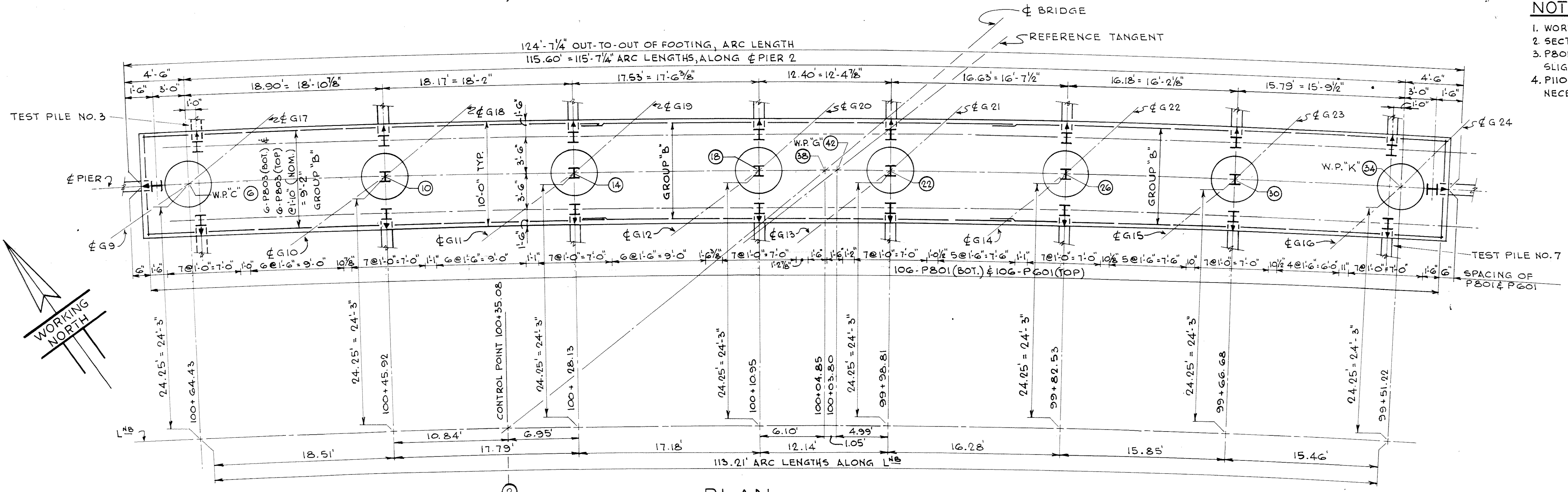


TITLE:		DES: <i>[Signature]</i>		DR: W.K.	APPROVED:
PIER 1		CHK: <i>[Signature]</i>	CHK: <i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>
Sheet No. 10 of 35 Sheets		Bridge No. 02522			

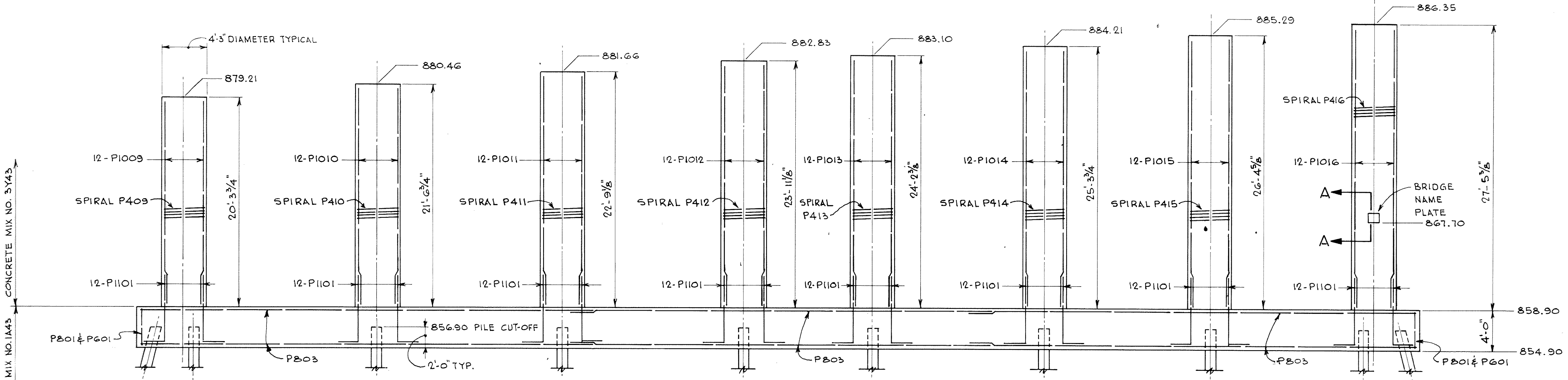
AS BUILT
10-16-73
B. Jahn

NOTES:

1. WORK THIS SHEET WITH SHEETS 10 AND 12
2. SECTION A-A IS ON SHEET 12
3. P801, P803 AND P601 MAY BE SHIFTED SLIGHTLY TO CLEAR PILE HEADS.
4. P1101 DOWELS MAY BE ROTATED AS NECESSARY TO CLEAR PILE HEADS.



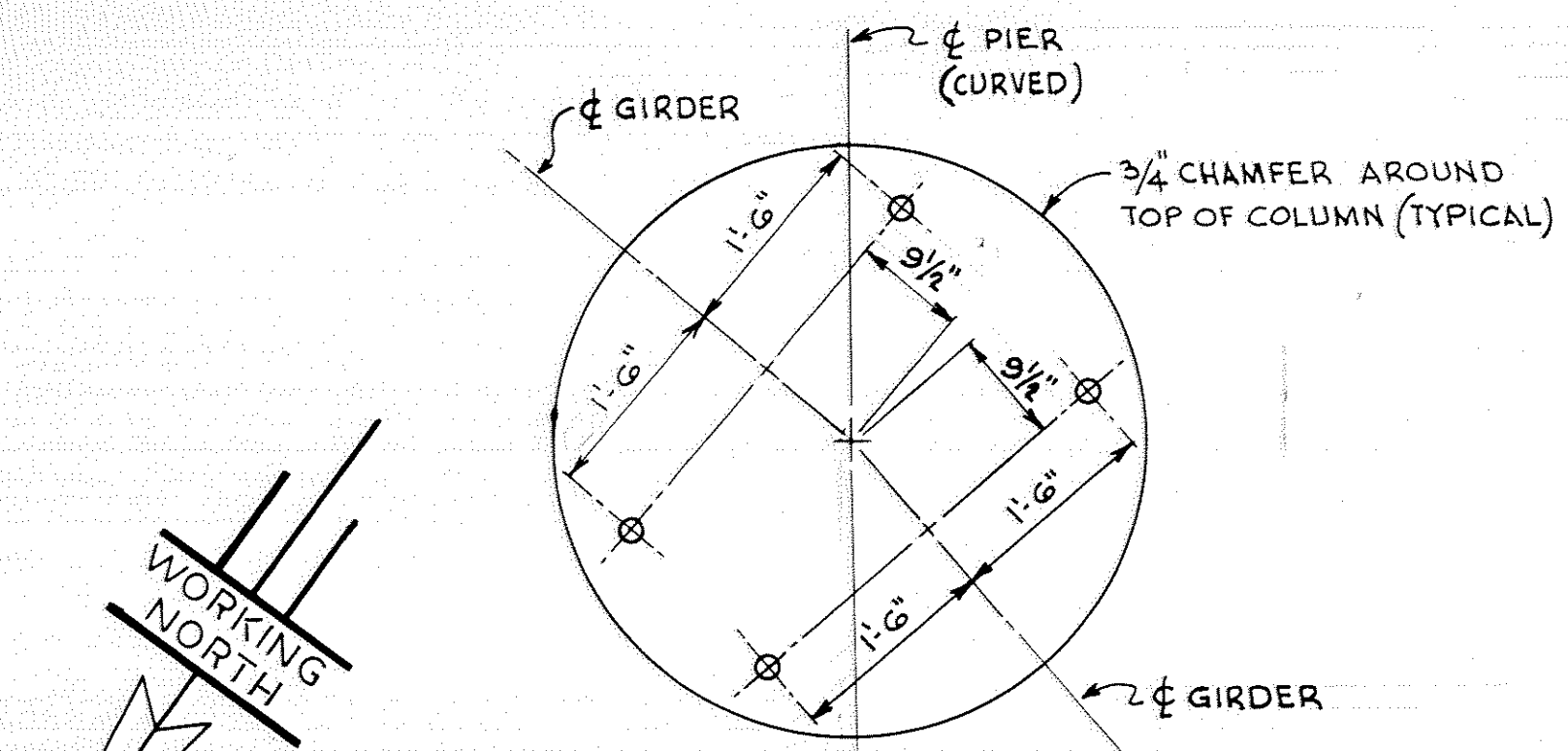
PLAN
SCALE: 3/16" = 1'-0"



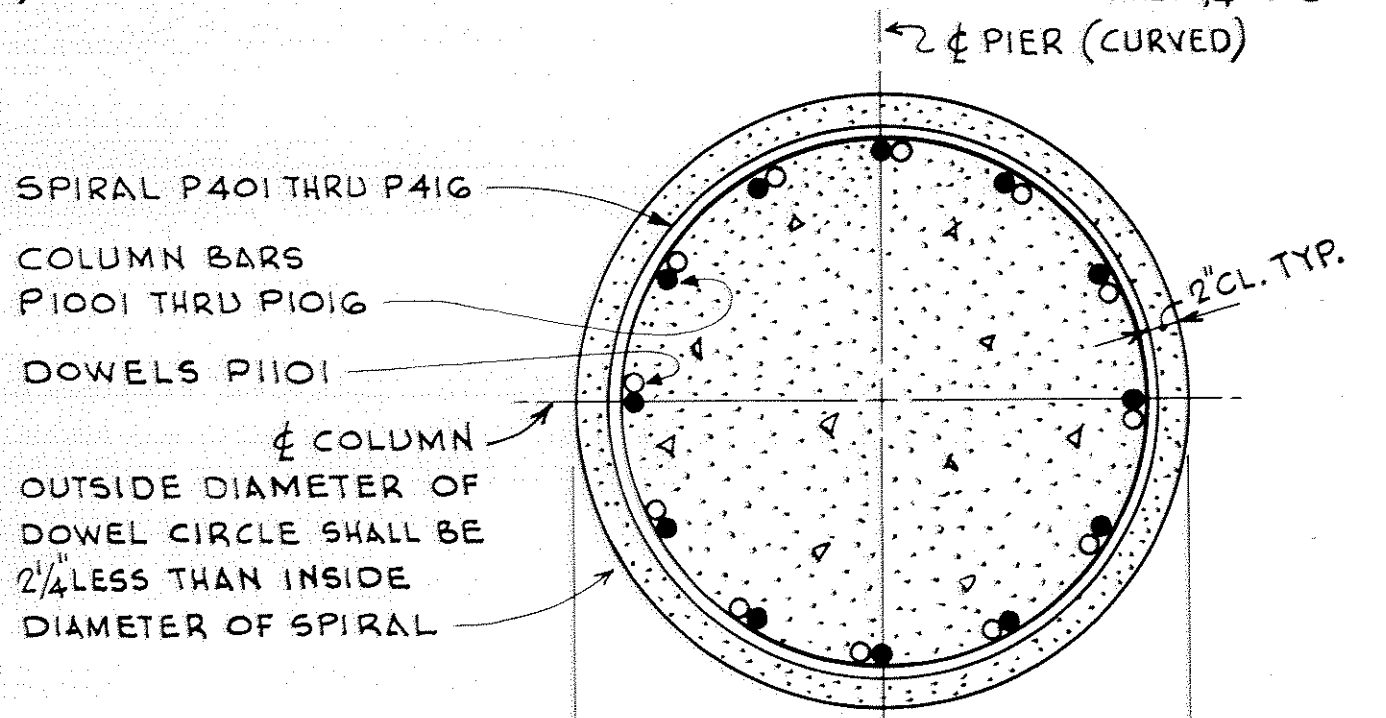
ELEVATION
SCALE: 3/16" = 1'-0"

AS BUILT
10-16-73
B. Jahn

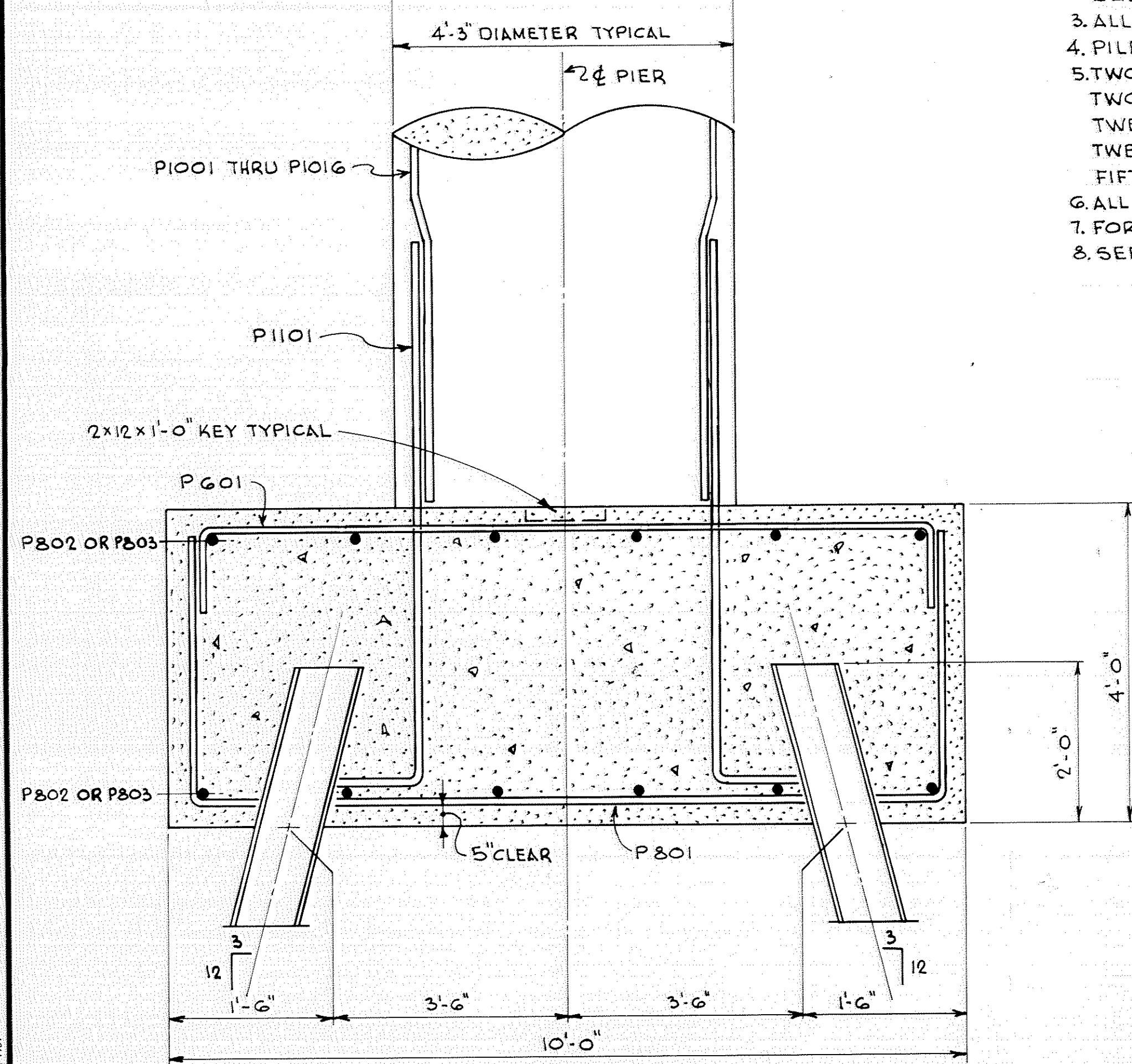
TITLE:	PIER 2			DES: R.M.F.	DR: W.K.	APPROVED:	Bridge No.
CHK: MODY				CHK: W.M.S.	12-31-71		02522
Sheet No. 11 of 35 Sheets							



ANCHOR BOLT LAYOUT FOR PIERS
SCALE: 3/4" = 1'-0"



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



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

SUMMARY OF QUANTITIES FOR PIERS 1 AND 2

EXCAVATION, CLASS E	790 CU. YD.
CONCRETE, MIX NO 1A43	409 CU. YD.
CONCRETE, MIX NO 3Y43	192 CU. YD.
REINFORCEMENT BARS	51,640 LBS.
SPIRAL REINFORCEMENT	12,450 LBS.
FOUR STEEL TEST PILES 120 FT. LONG	
STEEL PILING DELIVERED	4,830 LIN. FT.
STEEL PILING DRIVEN	4,138 LIN. FT.
BRIDGE NAME PLATE	ONE

QUANTITY NOTES

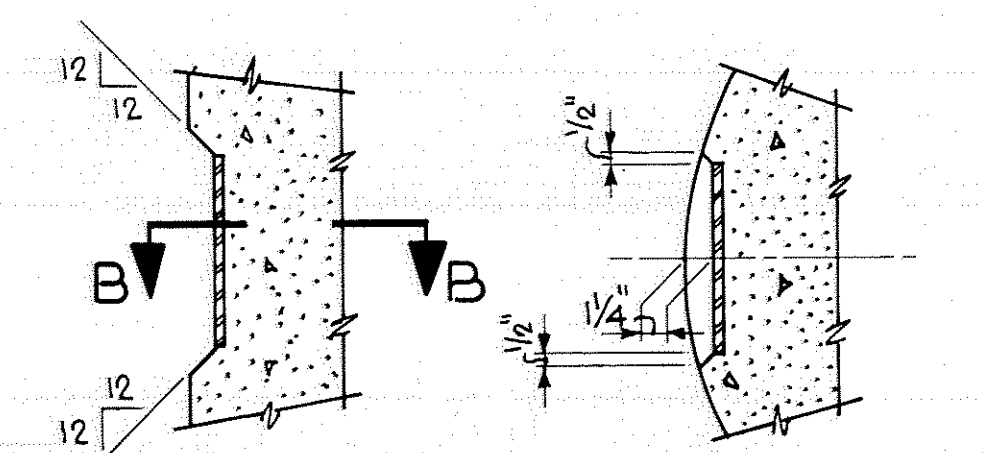
1. THE TABULATED QUANTITIES FOR STEEL PILING, DELIVERED, AND FOR STEEL PILING, DRIVEN, DO NOT INCLUDE TEST PILES.
2. NO SPLICES IN TEST PILES OR MEASURED PILES WILL BE ELIGIBLE FOR EXTRA COMPENSATION, EXCEPT STRICTLY UNDER THE CONDITIONS OF M.H.D. 2452.5B
3. BRIDGE NAME PLATE IS INCLUDED FOR PAYMENT WITH OTHER ITEMS. NAME PLATE LETTERING:
CITY OF
COON RAPIDS
MINNESOTA
BRIDGE NO. 02522
1972

PILE NOTES

1. PILES SHALL BE BATTERED 3" PER FOOT IN THE DIRECTION SHOWN THUS: \rightarrow
2. ESTIMATED PENETRATION IS TWO FEET LESS THAN LENGTH GIVEN BELOW.
3. ALL PILES ARE STEEL "H", 10BP 57, CONFORMING TO M.H.D. 3372
4. PILE SPACING SHOWN IS AT BOTTOM OF FOOTING.
5. TWO STEEL TEST PILES 120-FT. LONG FOR PIER 1. TWO STEEL TEST PILES 120-FT. LONG FOR PIER 2. TWENTY-FOUR STEEL PILES 105-FT. LONG FOR PIER 1. TWENTY-TWO STEEL PILES 105-FT. LONG FOR PIER 2. FIFTY STEEL PILES, TOTAL FOR TWO PIERS.
6. ALL PILES SHALL BE DRIVEN TO REFUSAL ON BEDROCK.
7. FOR PILE SPLICES AND TIP REINFORCEMENT, SEE DETAIL B202, SHEET 30
8. SEE PILE NOTE, SHEET 1, FOR DEEP INTERFERENCE.

COMPUTED PILE LOADS TONS PER PILE

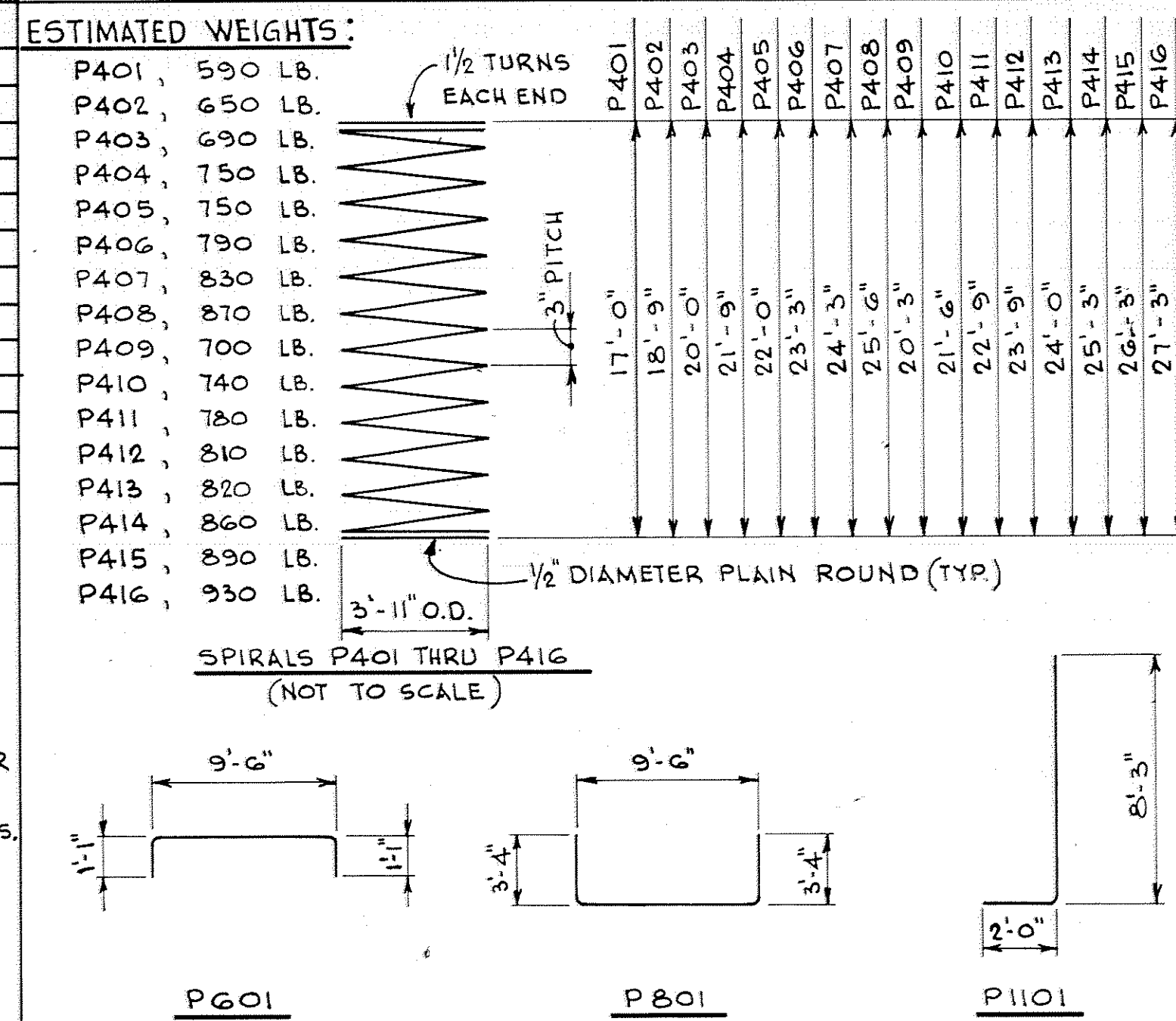
DEAD LOAD	68.7
LIVE LOAD	8.1
OVERTURNING	(NONE FOR GROUP I)
TOTAL *	76.8/100% = 76.8
* GROUP I - NO REDUCTION - SEE A.A.S.H.O. 1.2.22	



SECTION A-A
SCALE: 1 1/2" = 1'-0"
(FROM SH. 11)

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

REINFORCEMENT BAR BENDING DIAGRAMS



SPIRALS P401 THRU P416 (NOT TO SCALE)

BILL OF REINFORCEMENT FOR PIERS

MARK	NUMBER	LENGTH	SHAPE	LOCATION
P401	1			COLUMN SPIRAL
P402	1			" "
P403	1			" "
P404	1			" "
P405	1			" "
P406	1			" "
P407	1			" "
P408	1			" "
P409	1			" "
P410	1			" "
P411	1			" "
P412	1			" "
P413	1			" "
P414	1			" "
P415	1			" "
P416	1			COLUMN SPIRAL
P601	228	11'-4"		FOOTING, TRANS.
P801	228	15'-10"		FOOTING, TRANS.
P1101	192	9'-11"		COLUMN DOWEL
P802	48	40'-0"		LONG. PIER 1
P803	36	43'-6"		LONG. PIER 2
P1001	12	17'-0"		COLUMN VERT.
P1002	12	18'-7"		" "
P1003	12	20'-0"		" "
P1004	12	21'-5"		" "
P1005	12	21'-10"		" "
P1006	12	23'-1"		" "
P1007	12	24'-3"		" "
P1008	12	25'-6"		" "
P1009	12	20'-1"		" "
P1010	12	21'-4"		" "
P1011	12	22'-7"		" "
P1012	12	23'-9"		" "
P1013	12	24'-0"		" "
P1014	12	25'-1"		" "
P1015	12	26'-2"		" "
P1016	12	21'-3"		COLUMN VERT.

NOTES:

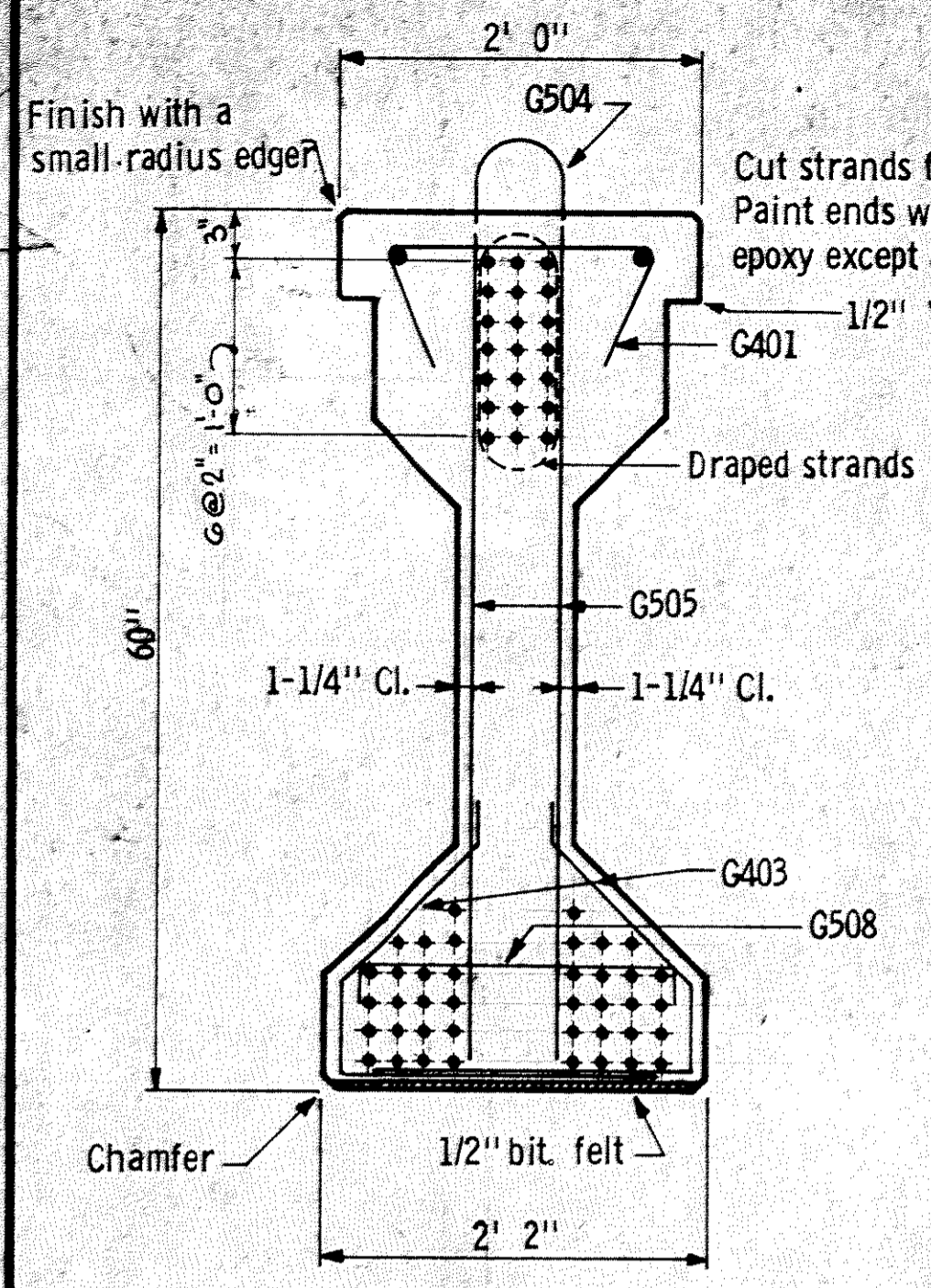
1. WORK THIS SHEET WITH SHEETS 10 AND 11
2. SEE SHEET 31 FOR DETAIL OF 1/4" ANCHOR BOLT
3. COLUMN REINFORCEMENT SHALL BE CAREFULLY PLACED TO AVOID INTERFERENCE WITH THE DRILLING OF HOLES FOR ANCHOR BOLTS.
4. THE SUPERSTRUCTURE GIRDERS SHALL BE ERECTED IN FINAL POSITION PRIOR TO DRILLING ANCHOR BOLT HOLES AND PLACING ANCHOR BOLTS.

AS BUILT
10-16-73
B. Jahn

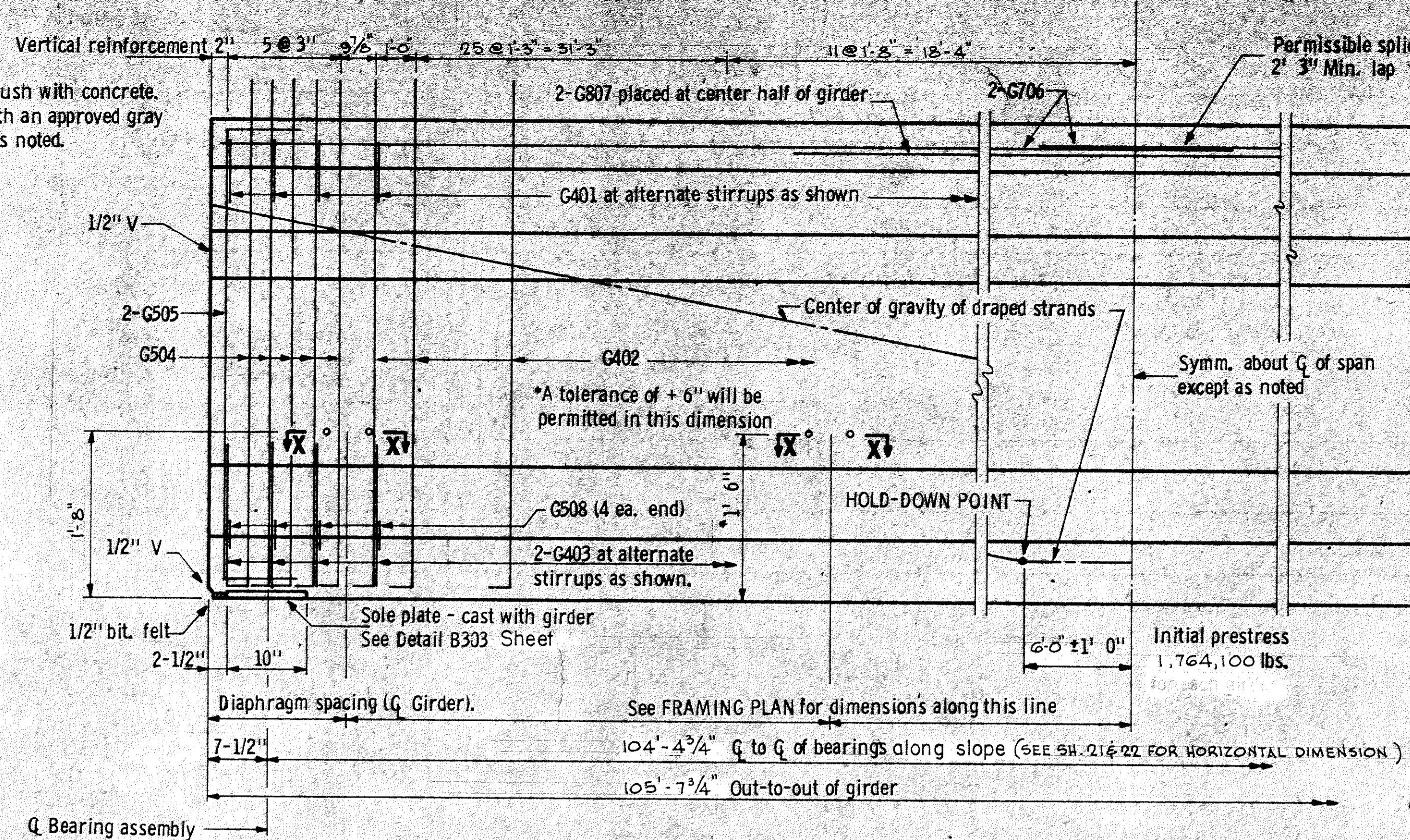
TITLE: PIER DETAILS

DES: R/mj
CHK: MODY
DR: W.K.
CHK: R/mj
APPROVED: 12-21-71

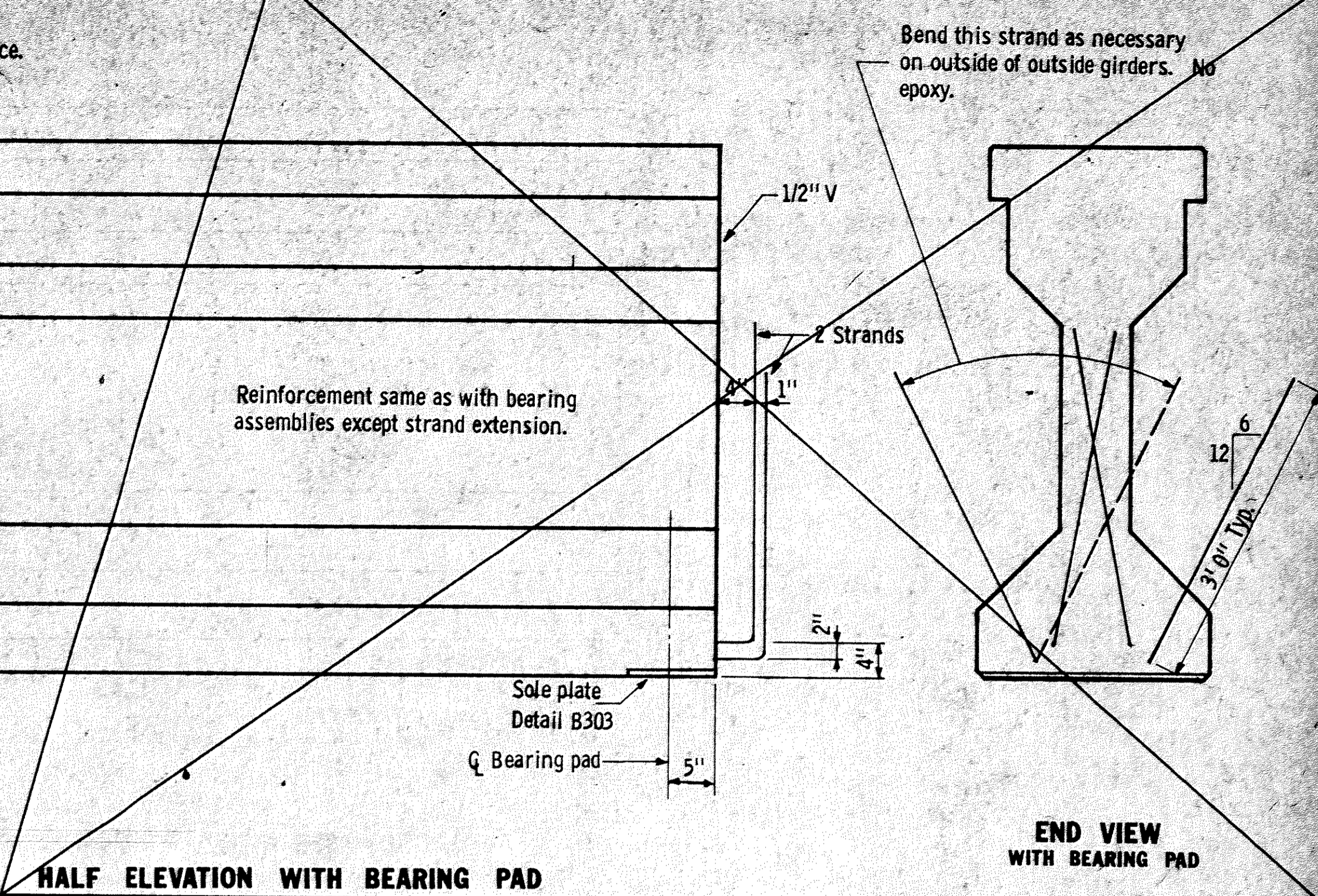
Bridge No. 02522
Sheet No. 12 of 35 Sheets



Details not shown are the same as the SECTION AT Q GIRDER
END VIEW WITH BEARING ASSEMBLY

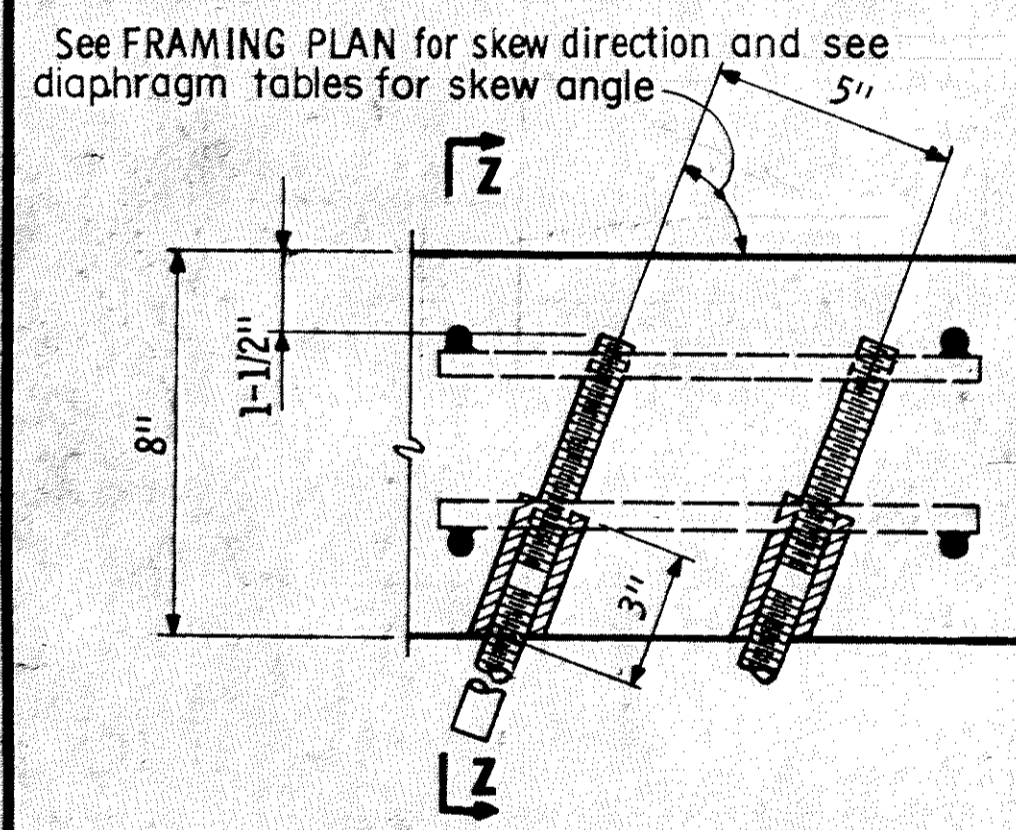


Q Bearing assembly

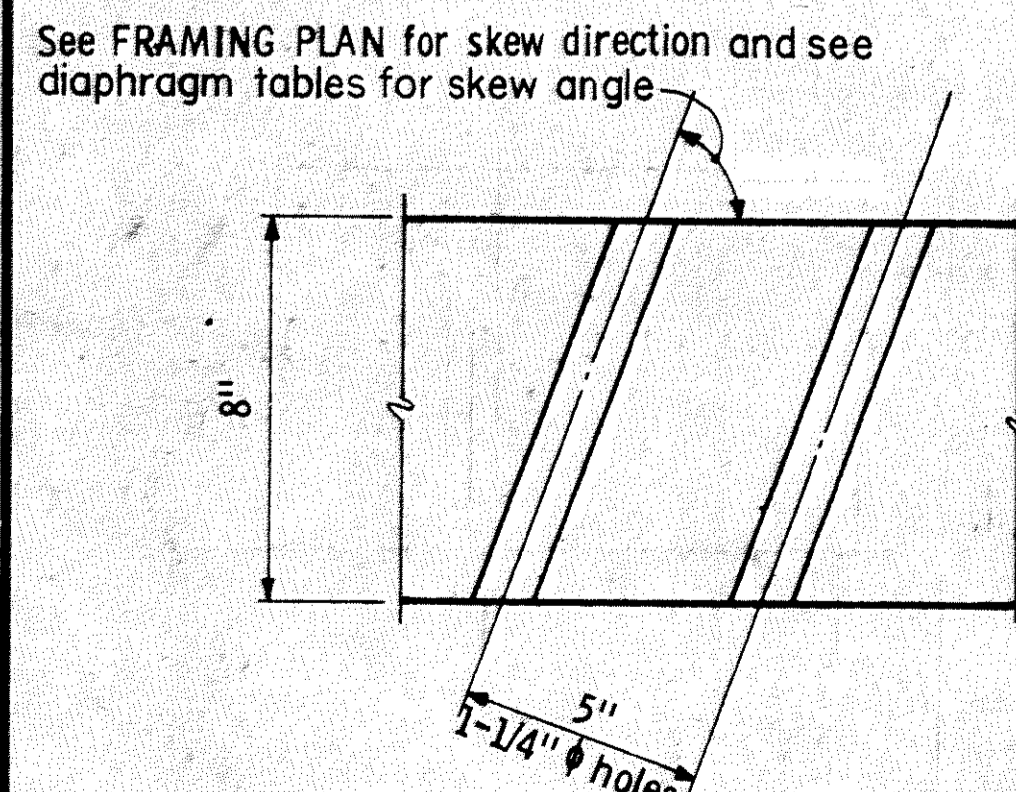


HALF ELEVATION WITH BEARING PAD

END VIEW WITH BEARING PAD

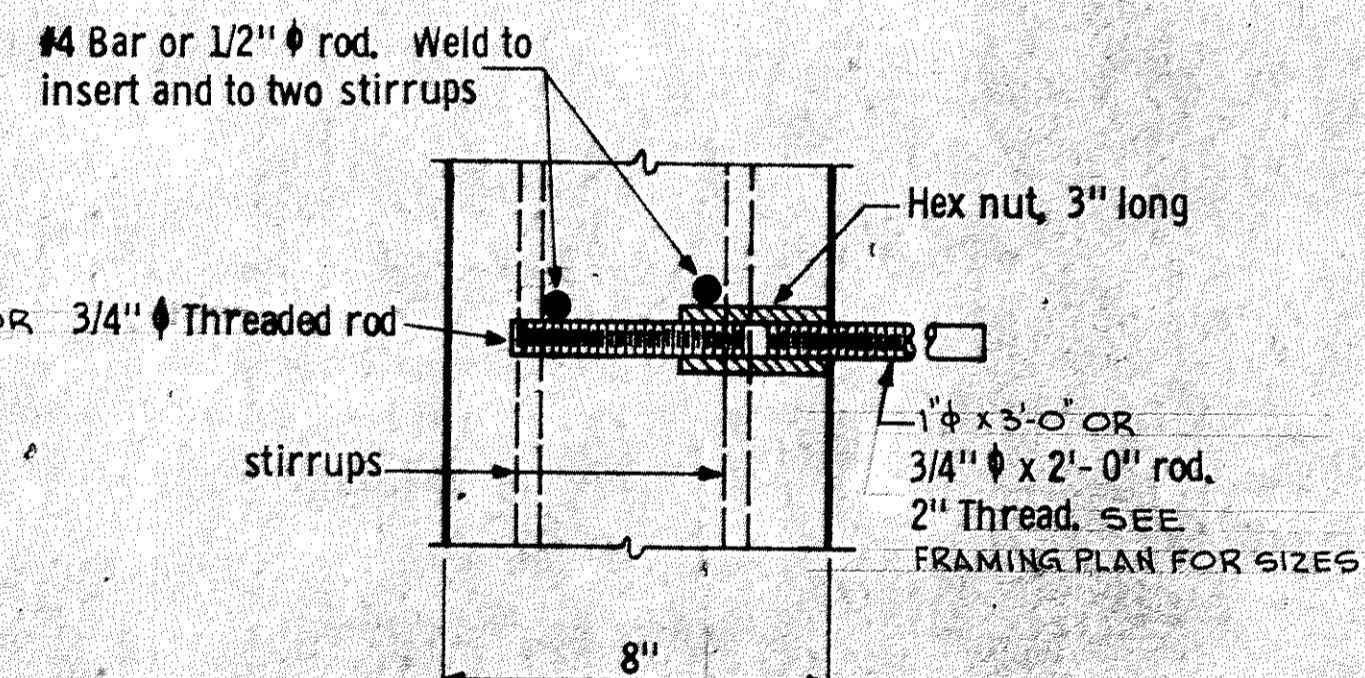


SECTION X - X USE AT FACIA GIRDER AND INTERIOR GIRDER WITH STAGGERED DIAPHRAGMS



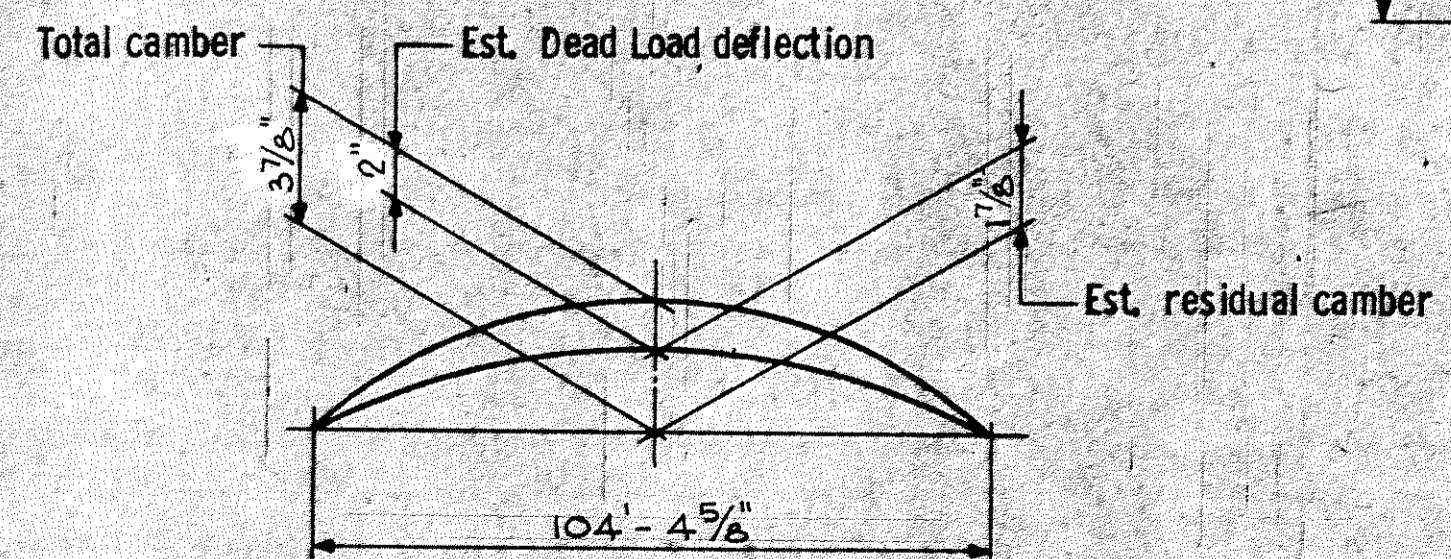
Intermediate stirrups may be shifted the minimum distance required to clear holes or inserts for intermediate diaphragms.

SECTION X - X USE AT INTERIOR GIRDER WITH CONTINUOUS DIAPHRAGMS



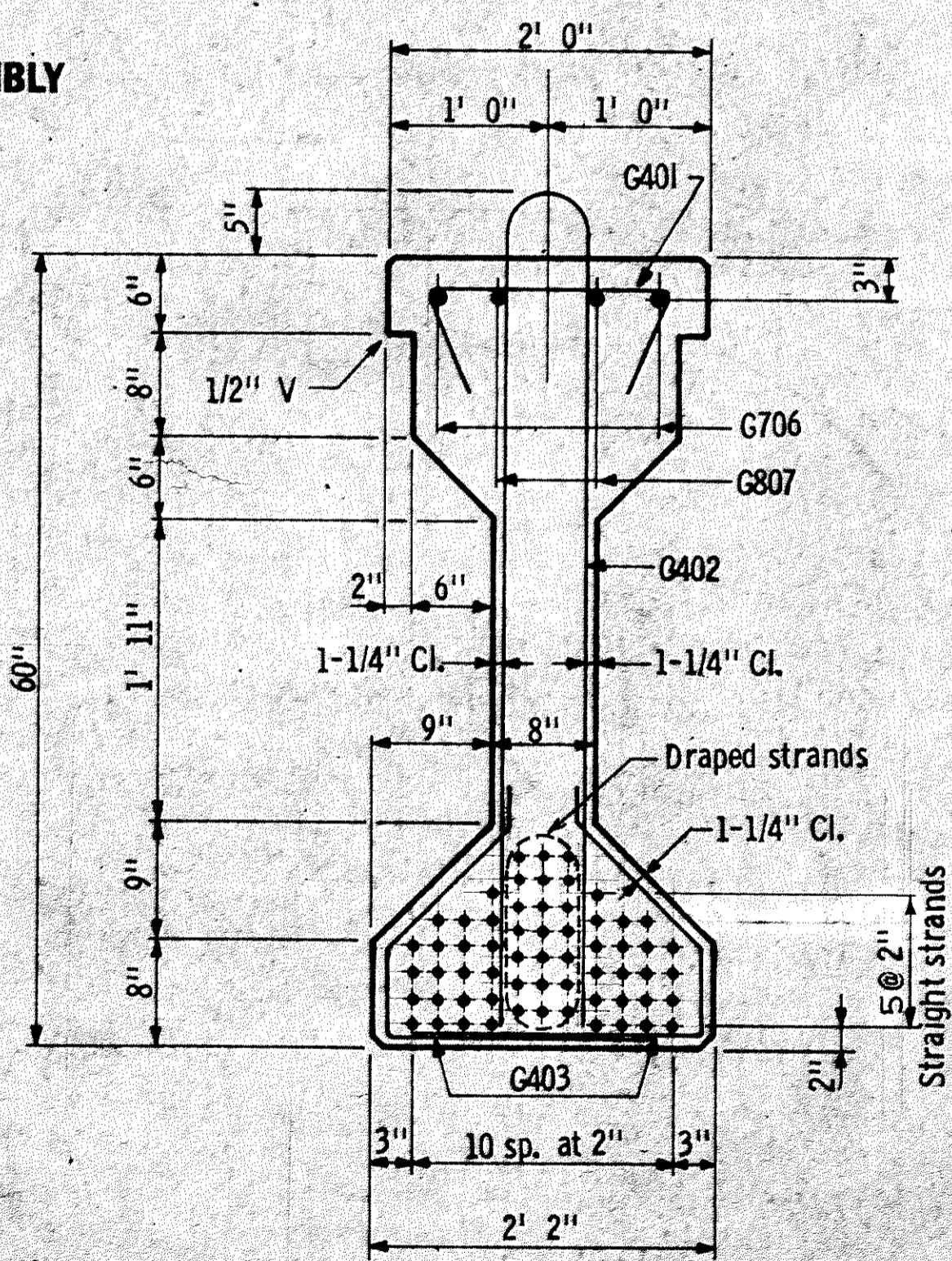
Nuts and rods per M. H. D. 3306. No paint

SECTION Z - Z



Deflections shown are for weight of slab, curb, railing, sidewalk, median and diaphragms only. Engineer will take elevations at top of girders after erection and will allow for deflections shown to enable contractor to build forms to correct grade and specified slab thickness.

CAMBER DIAGRAM



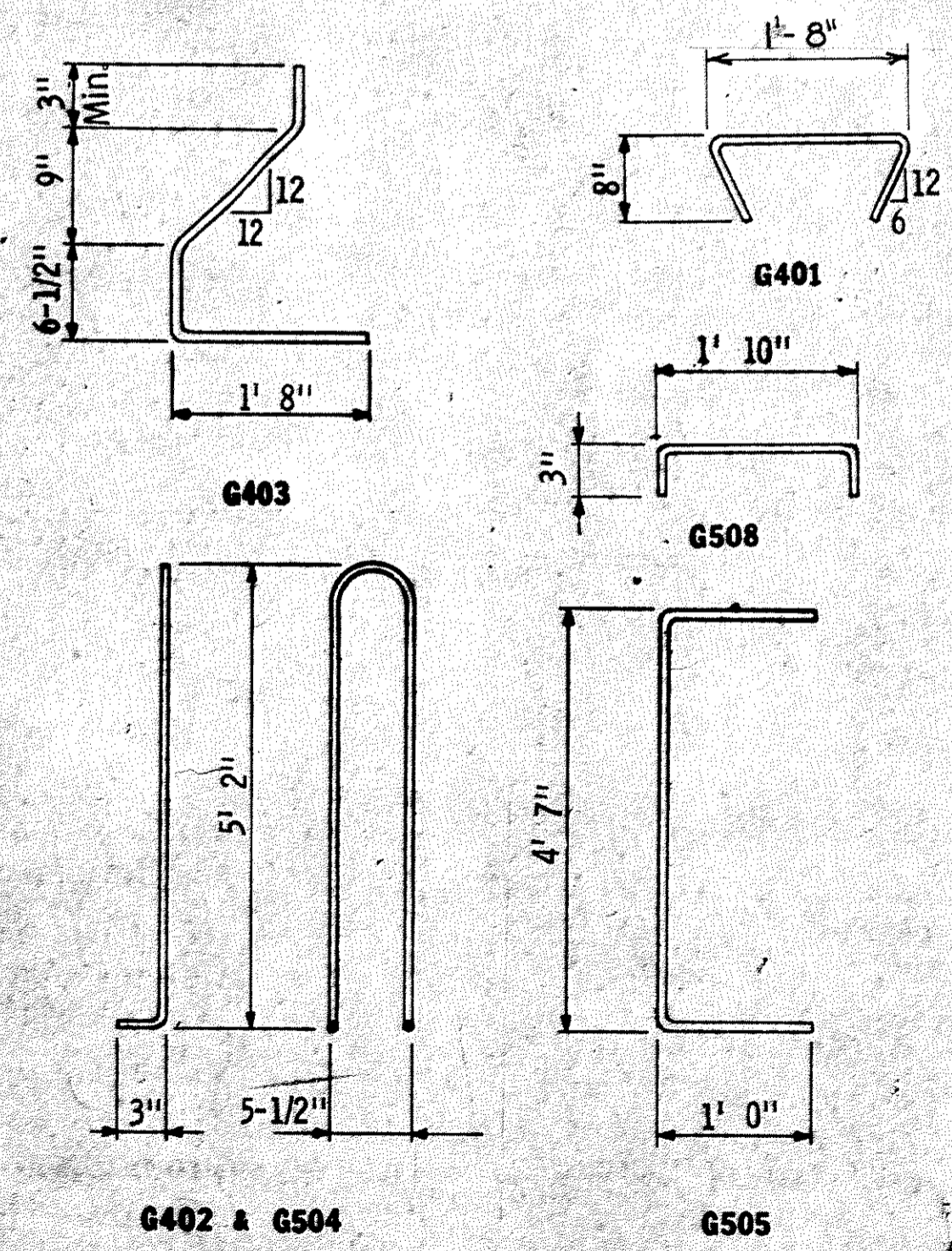
SECTION AT Q GIRDER

Y DISTANCES (IN INCHES)		
	NO.	Q SPAN
Straight strands	40	6.10"
Draped strands	21	9.00"
Total strands	61	7.10"

Y - distance of Center of Gravity of strands from bottom of girder. All strands spaced 2" c-c, horizontally and vertically.

All strands 1/2" φ 270 kip, ultimate strength.

A tolerance of ± 2" will be permitted in this dimension.



G402 & G504

G505

First digit of bar mark indicates bar size. All bar dimensions are out-to-out.

GIRDER G 9

TITLE:	60" PRESTRESSED CONCRETE GIRDER (PRETENSIONED) TYPE 60-106.		
DES:	DR: M.H.D./W.K.	APPROVED:	
CHK: MODY	CHK: P.M.P.	12-21-71	

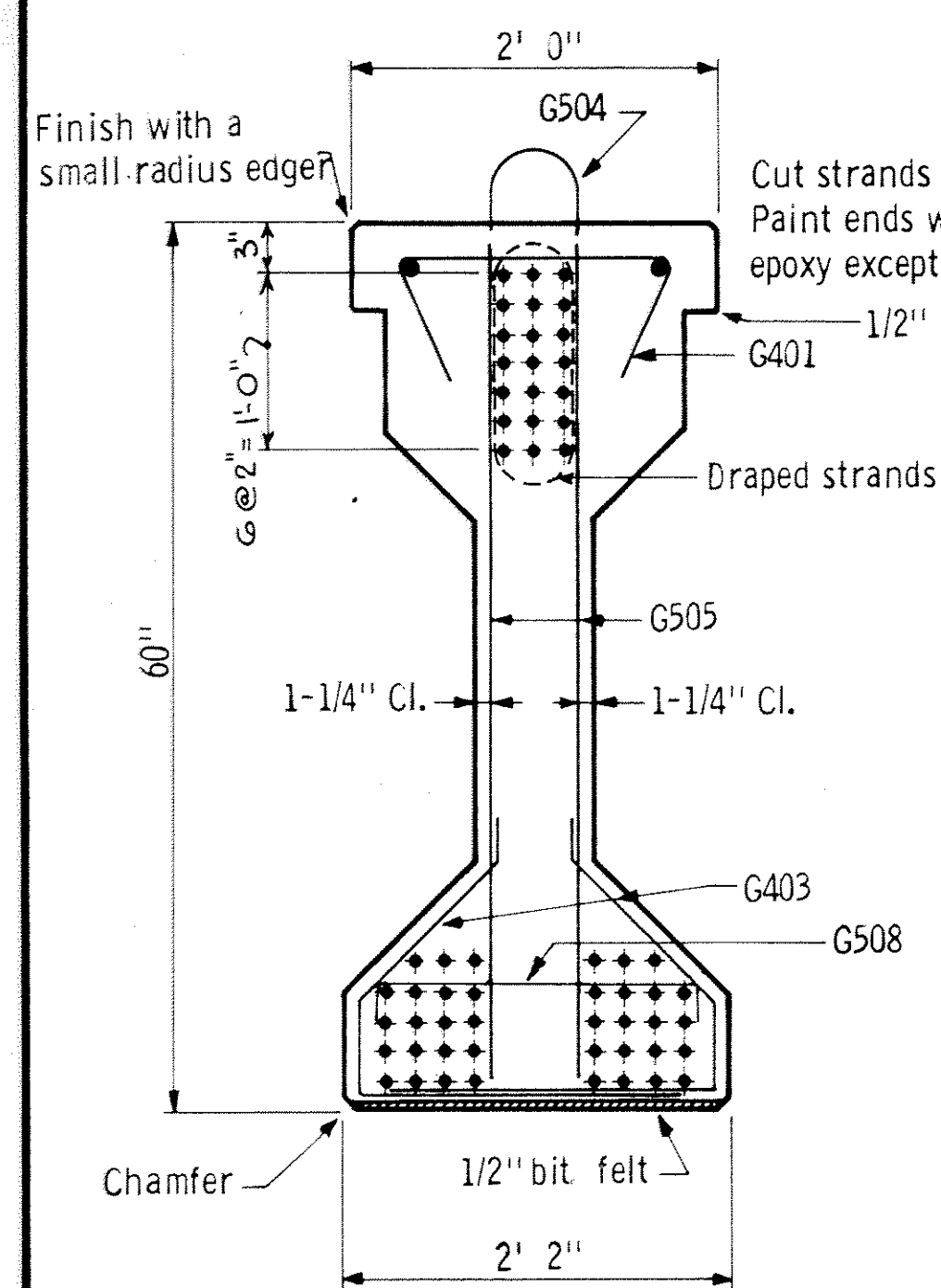
GENERAL NOTES:
 Tops of girders shall be rough floated and broomed transversely for bond. Provide handling hooks or devices as required by Contractor. Hooks or devices provided will be subject to approval of Engineer and shall be installed within 4' 0" of the end of girder.
 A modified strand pattern which does not change center of gravity of strands may be submitted to the Engineer for approval.
 A post-tensioned girder may be used as an alternate for the pretensioned design shown. M. H. D. will have plans available for the post-tensioned alternate.
 Each girder shall be marked, showing bridge number, casting date, and individual identification letters and numbers. Markings shall be made on the face of the girder, near the end, so located that they will be exposed after the end diaphragms have been cast. Facia girders shall be marked on an inside face. All markings shall be stencilled and be clearly legible. For location of girders, see framing plan.
 All material and work shown or noted on this sheet shall be included in unit price bid for prestressed concrete girders. See M. H. D. 2405.
 See framing plan for girder ends marked "X".
 Approximate weight of girder 51.4 tons.

MINIMUM CONCRETE STRENGTH - P.S.I.		
	① ③ f'ci	② ③ f'c
Computed Min. Concrete Strength	5880	6000
Required Min. Concrete Strength	5880	6000

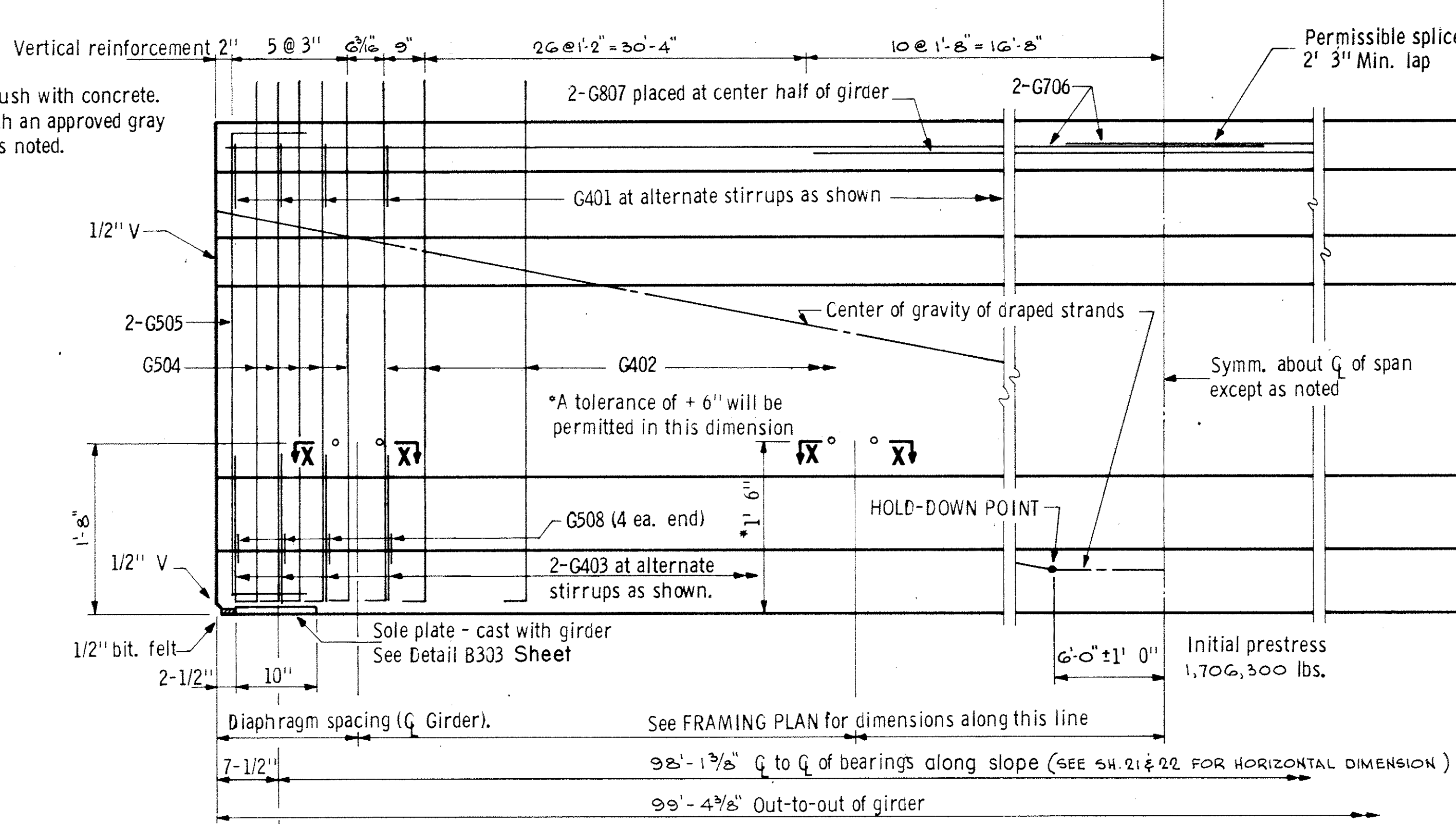
- Minimum concrete strength at time of prestress transfer.
- Minimum concrete strength when curing can be discontinued and girder transported and installed.
- Required minimum concrete strength shall be used. Computed minimum concrete strength is for information only.

Fig. 5-397.506
Oct. 15, 1969

DES: [Signature]	DR: M.H.D./W.K.	APPROVED: [Signature]	Bridge No. 02522
CHK: MODY	CHK: P.M.P.	12-21-71	Sheet No. 13 of 35 Sheets

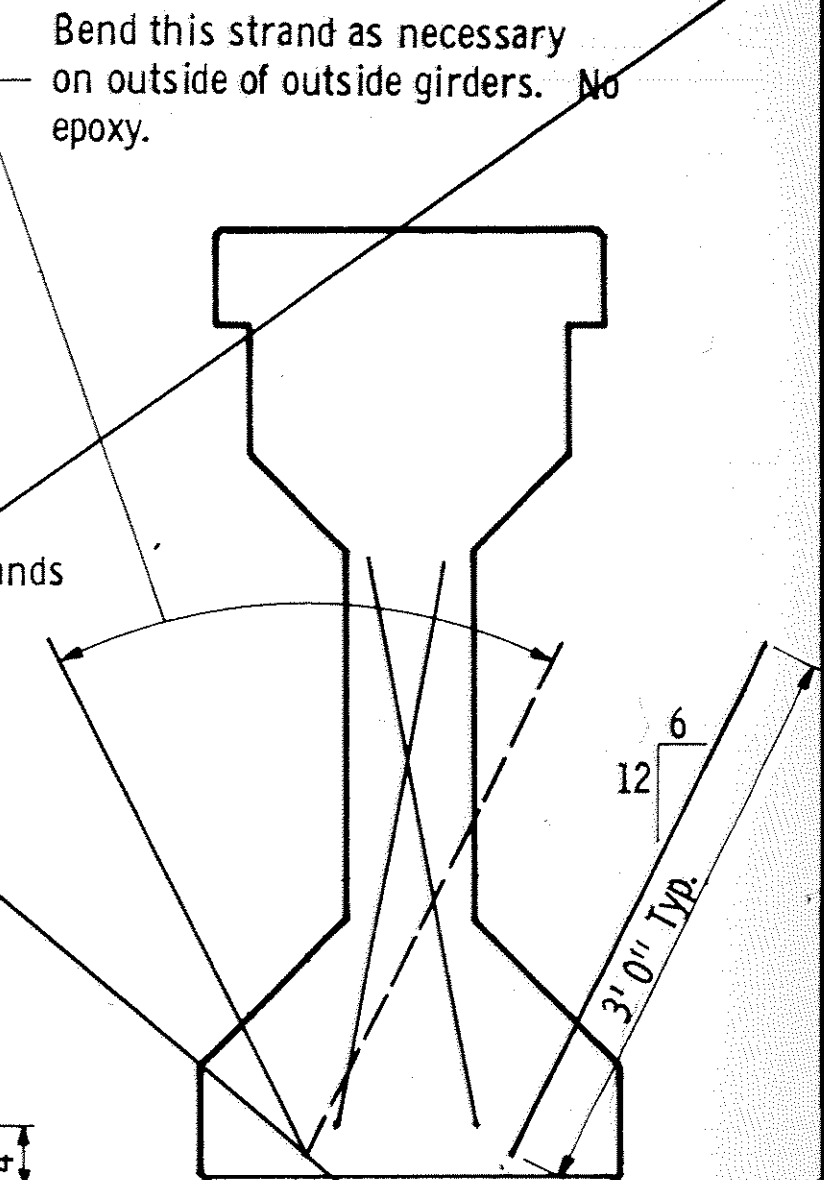


Details not shown are the same as the SECTION AT Q GIRDER
END VIEW WITH BEARING ASSEMBLY

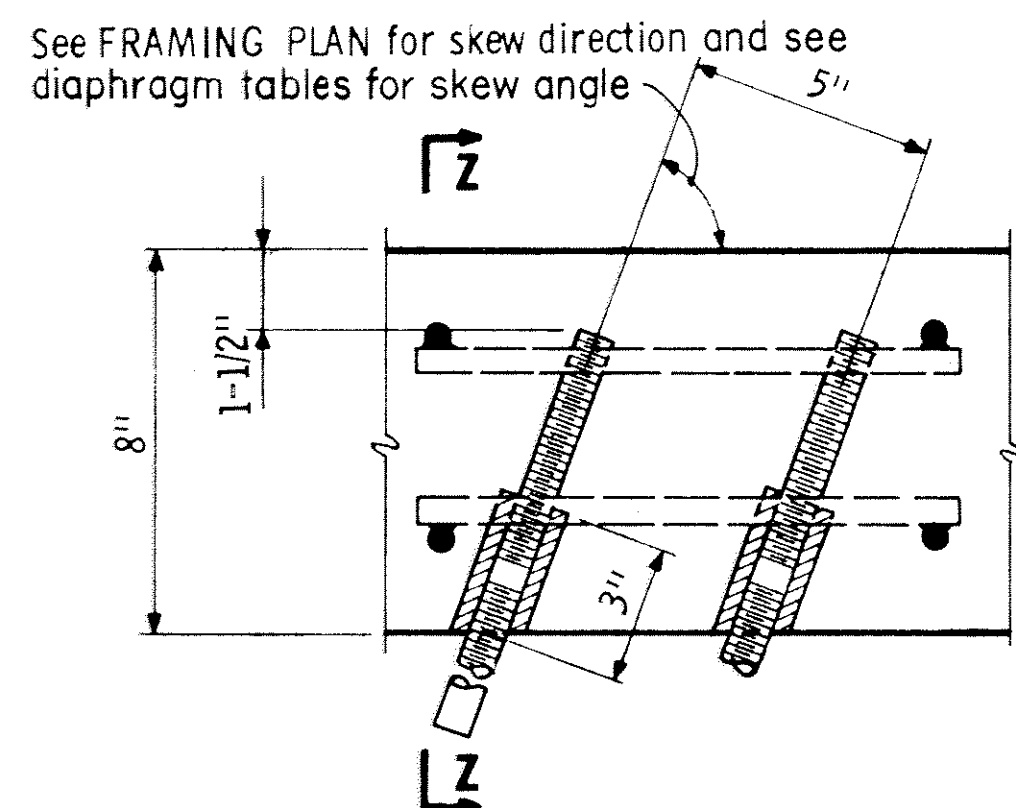


Q Bearing assembly

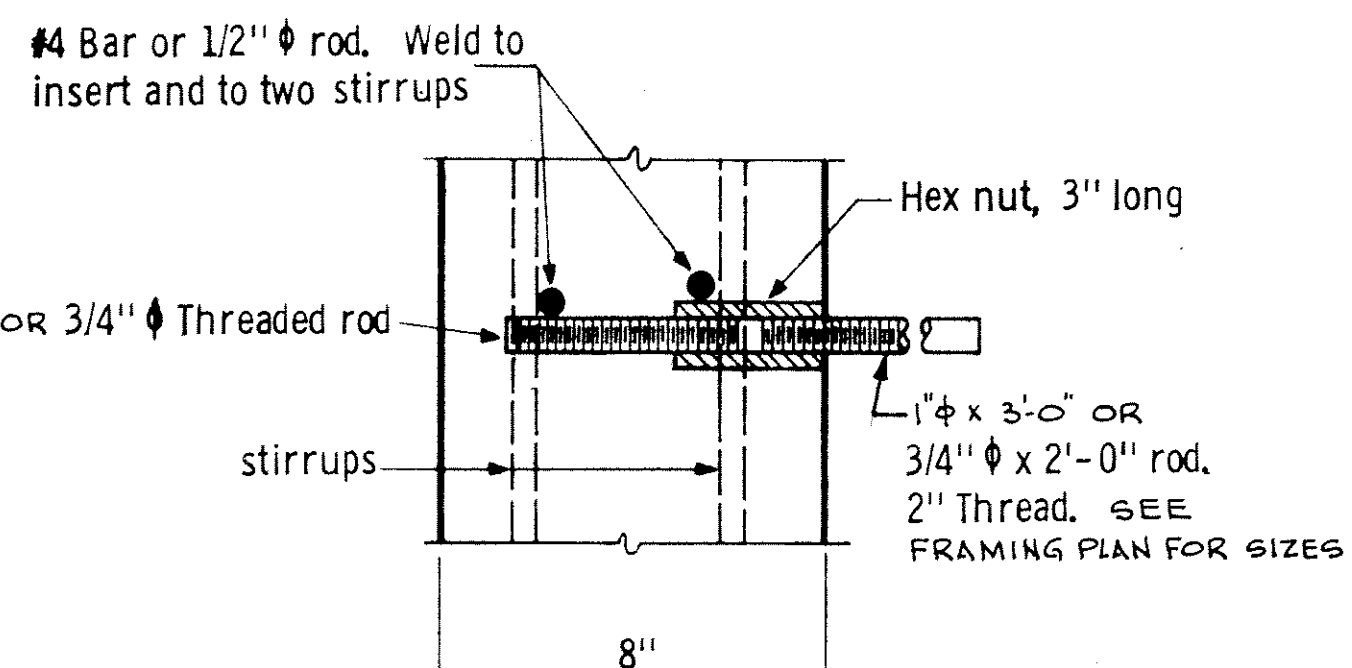
HALF ELEVATION WITH BEARING PAD



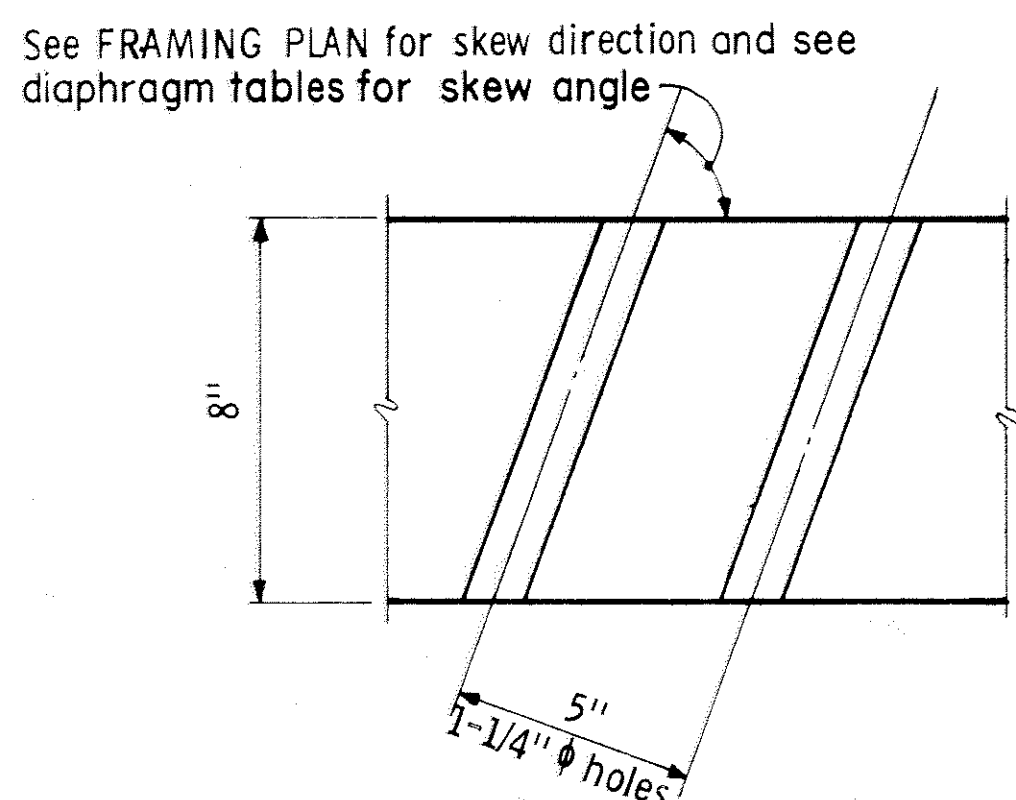
END VIEW WITH BEARING PAD



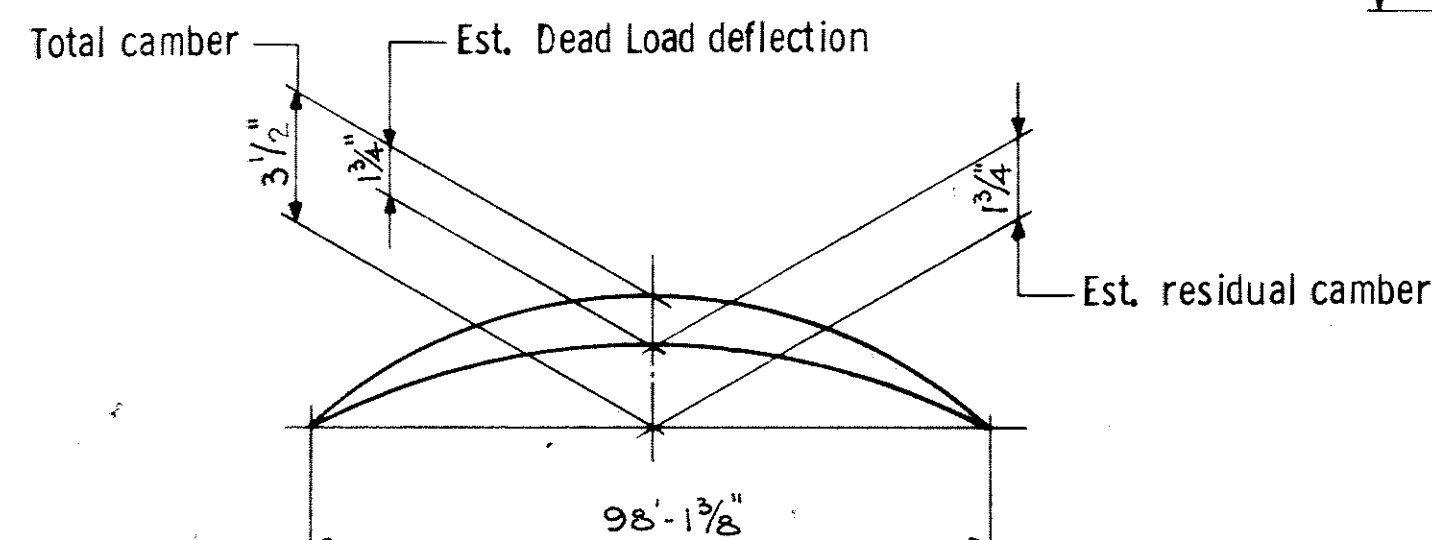
SECTION X - X
 USE AT FACIA GIRDER AND INTERIOR GIRDER WITH STAGGERED DIAPHRAGMS



SECTION Z - Z

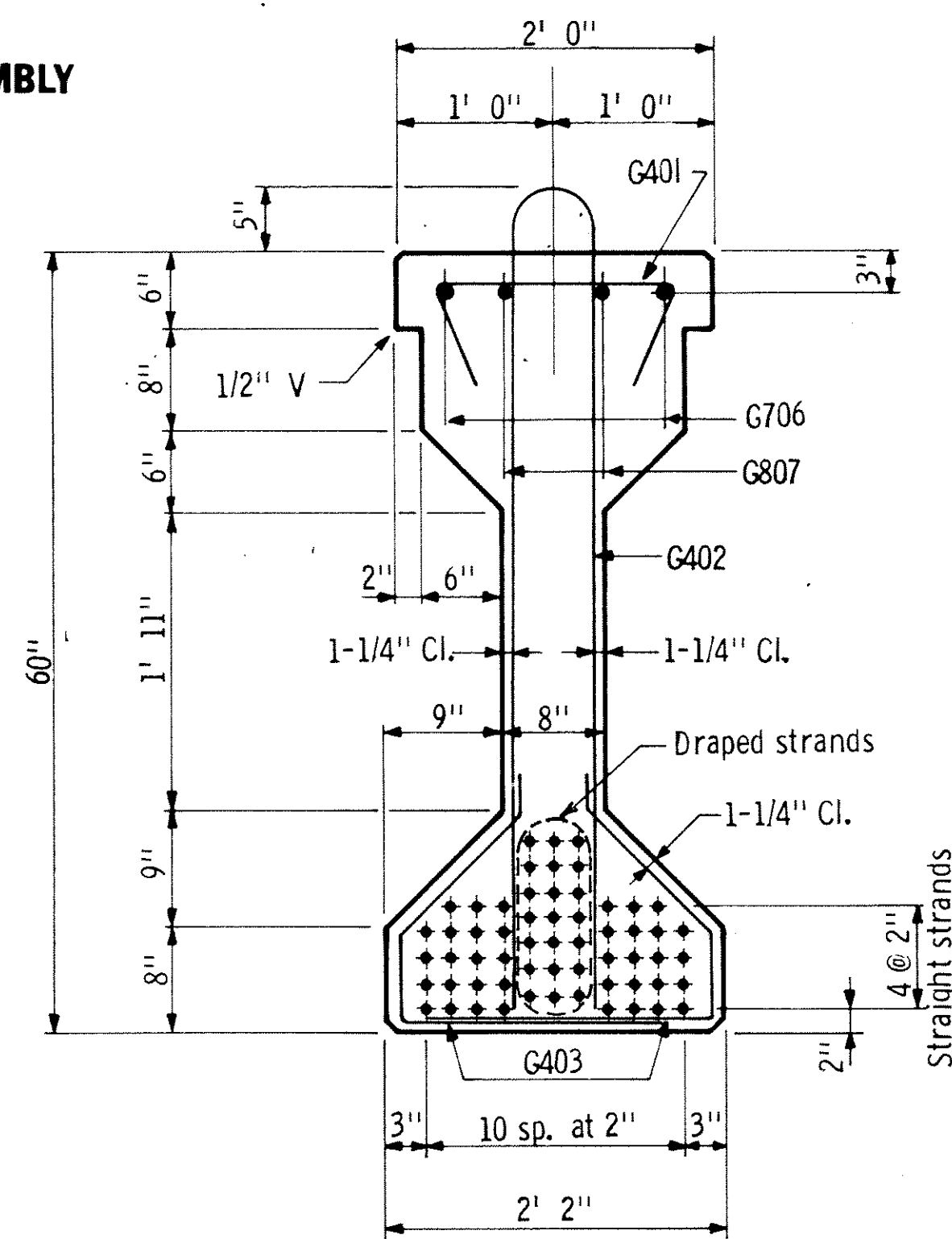


SECTION X - X
 USE AT INTERIOR GIRDER WITH CONTINUOUS DIAPHRAGMS



Deflections shown are for weight of slab, curb, railing, sidewalk, median and diaphragms only. Engineer will take elevations at top of girders after erection and will allow for deflections shown to enable contractor to build forms to correct grade and specified slab thickness.

CAMBER DIAGRAM



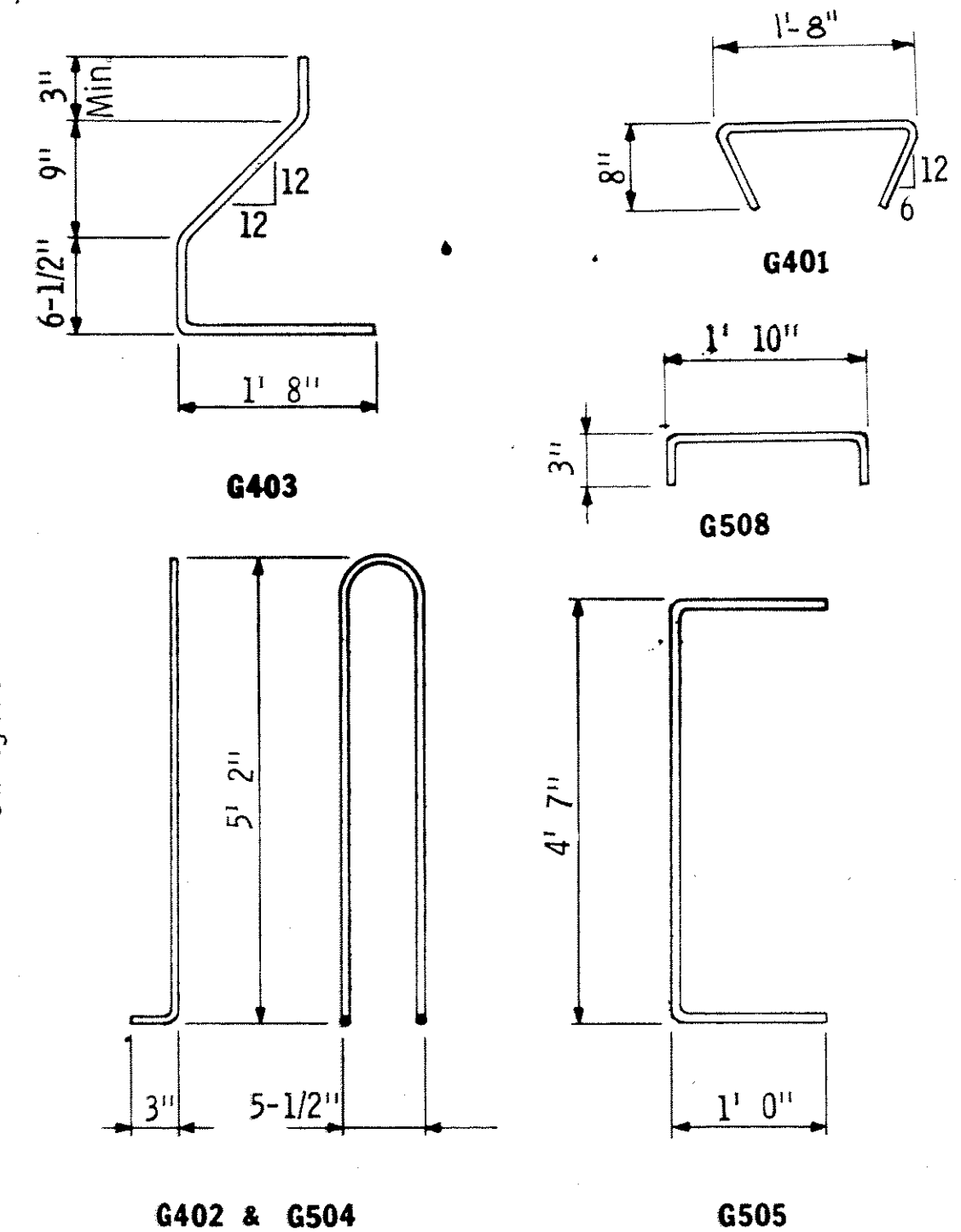
SECTION AT Q GIRDER

Y DISTANCES (IN INCHES)			
	NO.	Q SPAN	END
Straight strands	38	5.79"	
Draped strands	21	9.00"	51.00"
Total strands	59	6.93"	

Y = distance of Center of Gravity of strands from bottom of girder. All strands spaced 2" c-c, horizontally and vertically.

All strands 1/2" φ 270 kip, ultimate strength.

A tolerance of ± 2" will be permitted in this dimension.



G402 & G504

G505

First digit of bar mark indicates bar size. All bar dimensions are out-to-out.

AS BUILT
 10-16-73
 B. Juel

GIRDER G 10

60" PRESTRESSED CONCRETE GIRDER (PRETENSIONED) TYPE 60-100

GENERAL NOTES:

Tops of girders shall be rough floated and broomed transversely for bond. Provide handling hooks or devices as required by Contractor. Hooks or devices provided will be subject to approval of Engineer and shall be installed within 4' 0" of the end of girder.

A modified strand pattern which does not change center of gravity of strands may be submitted to the Engineer for approval.

A post-tensioned girder may be used as an alternate for the pretensioned design shown. M. H. D. will have plans available for the post-tensioned alternate.

Each girder shall be marked, showing bridge number, casting date, and individual identification letters and numbers. Markings shall be made on the face of the girder, near the end, so located that they will be exposed after the end diaphragms have been cast. Facia girders shall be marked on an inside face. All markings shall be stencilled and be clearly legible. For location of girders, see framing plan.

All material and work shown or noted on this sheet shall be included in unit price bid for prestressed concrete girders. See M. H. D. 2405.

See framing plan for girder ends marked "X".

Approximate weight of girder 48.3 tons.

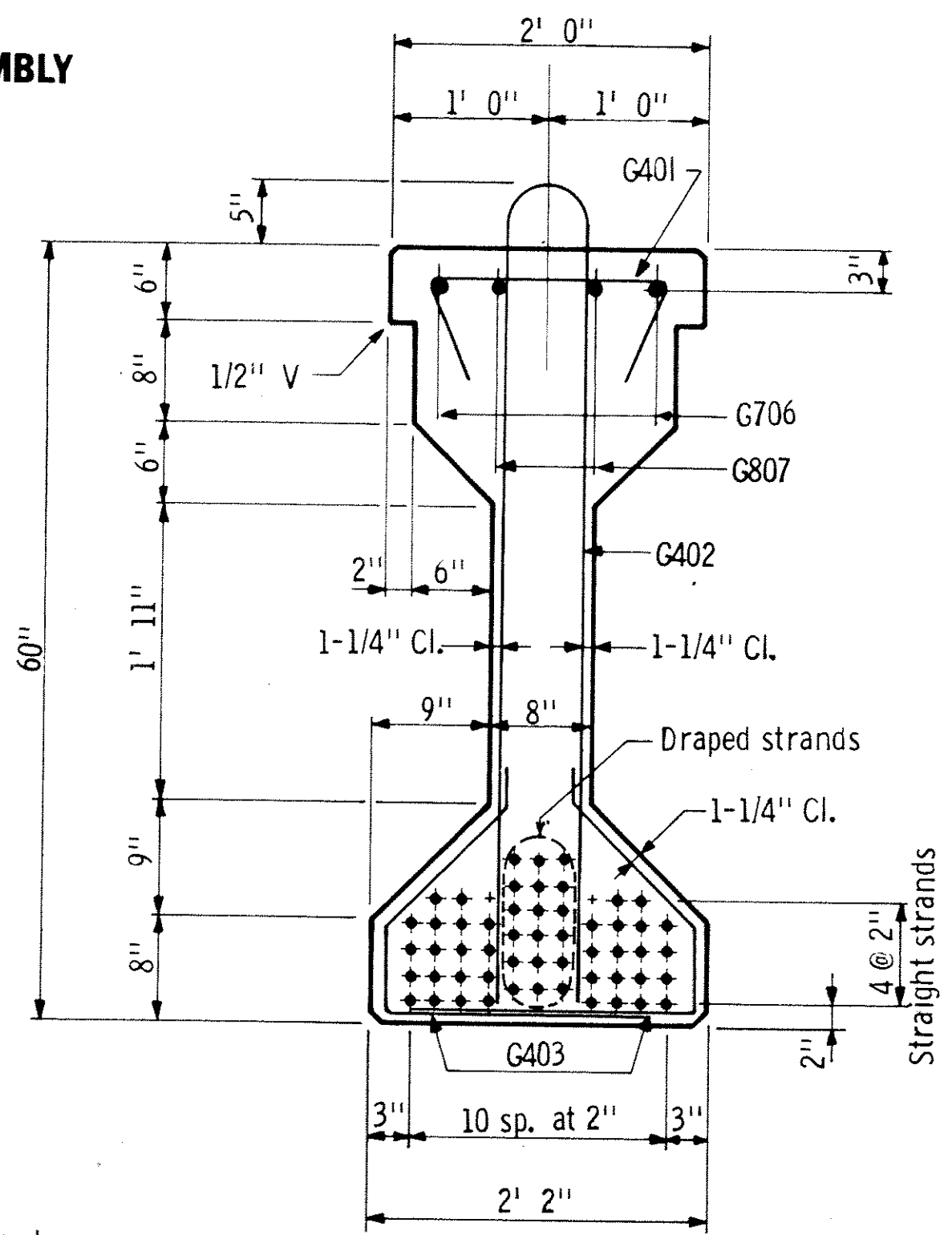
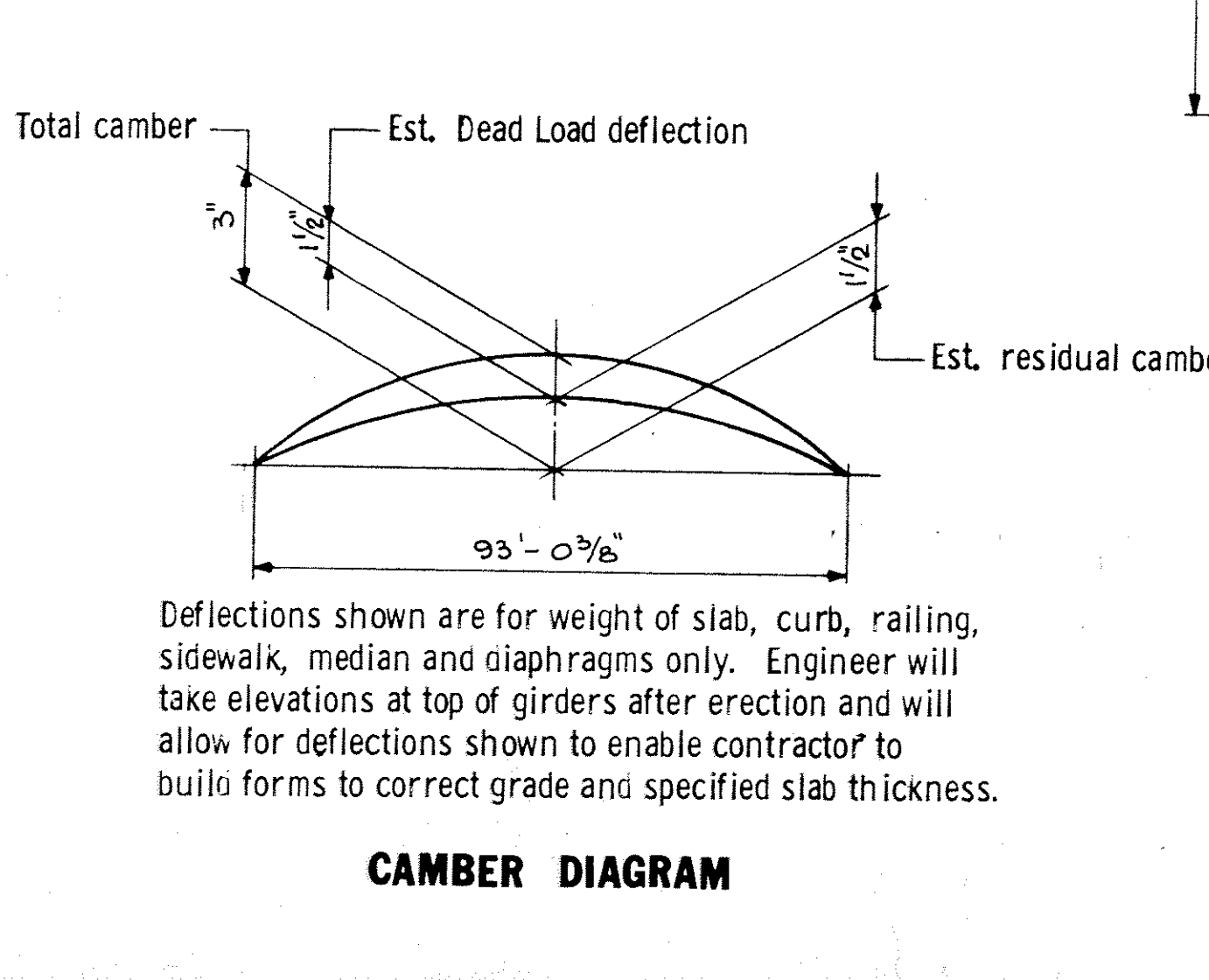
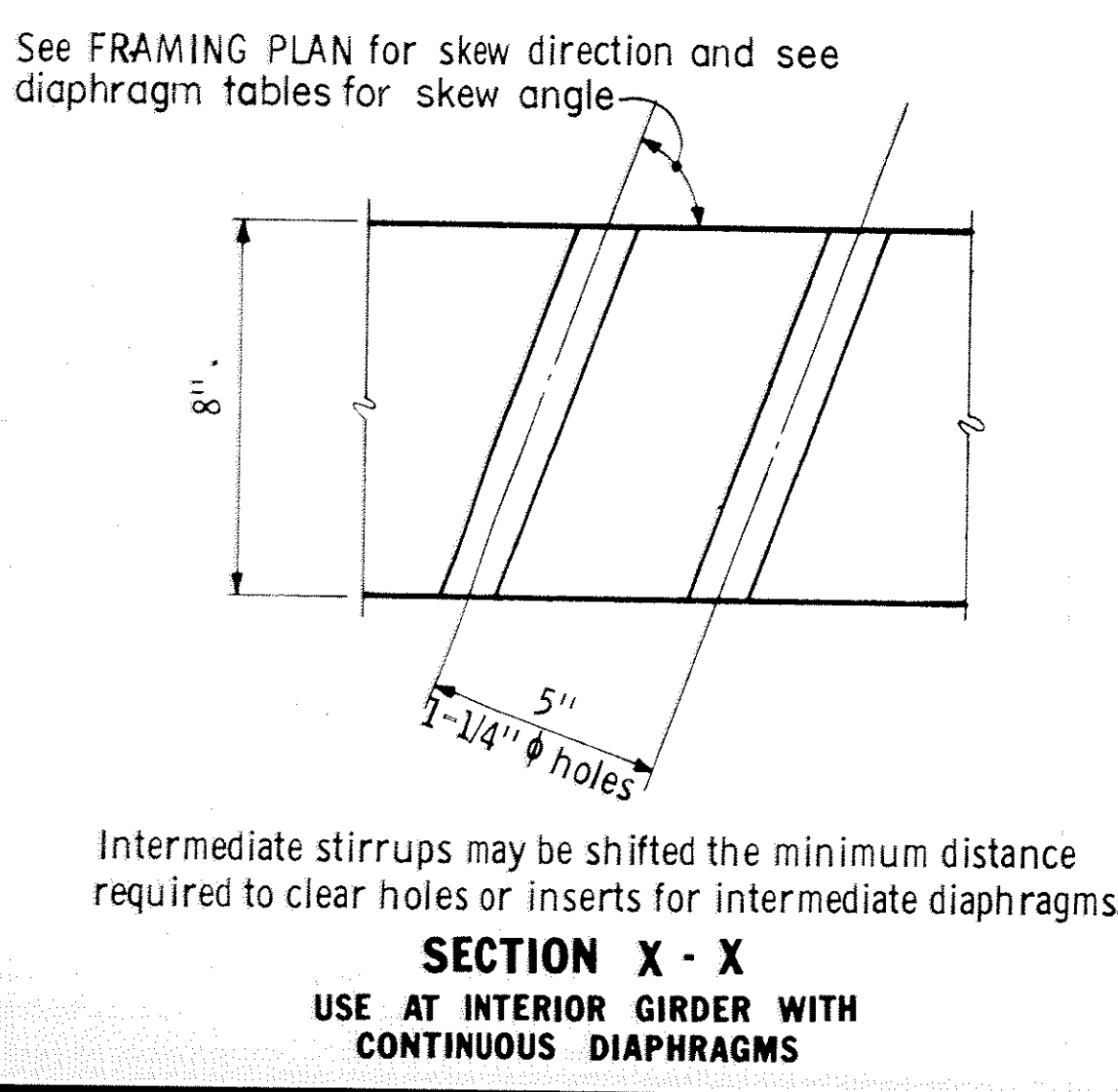
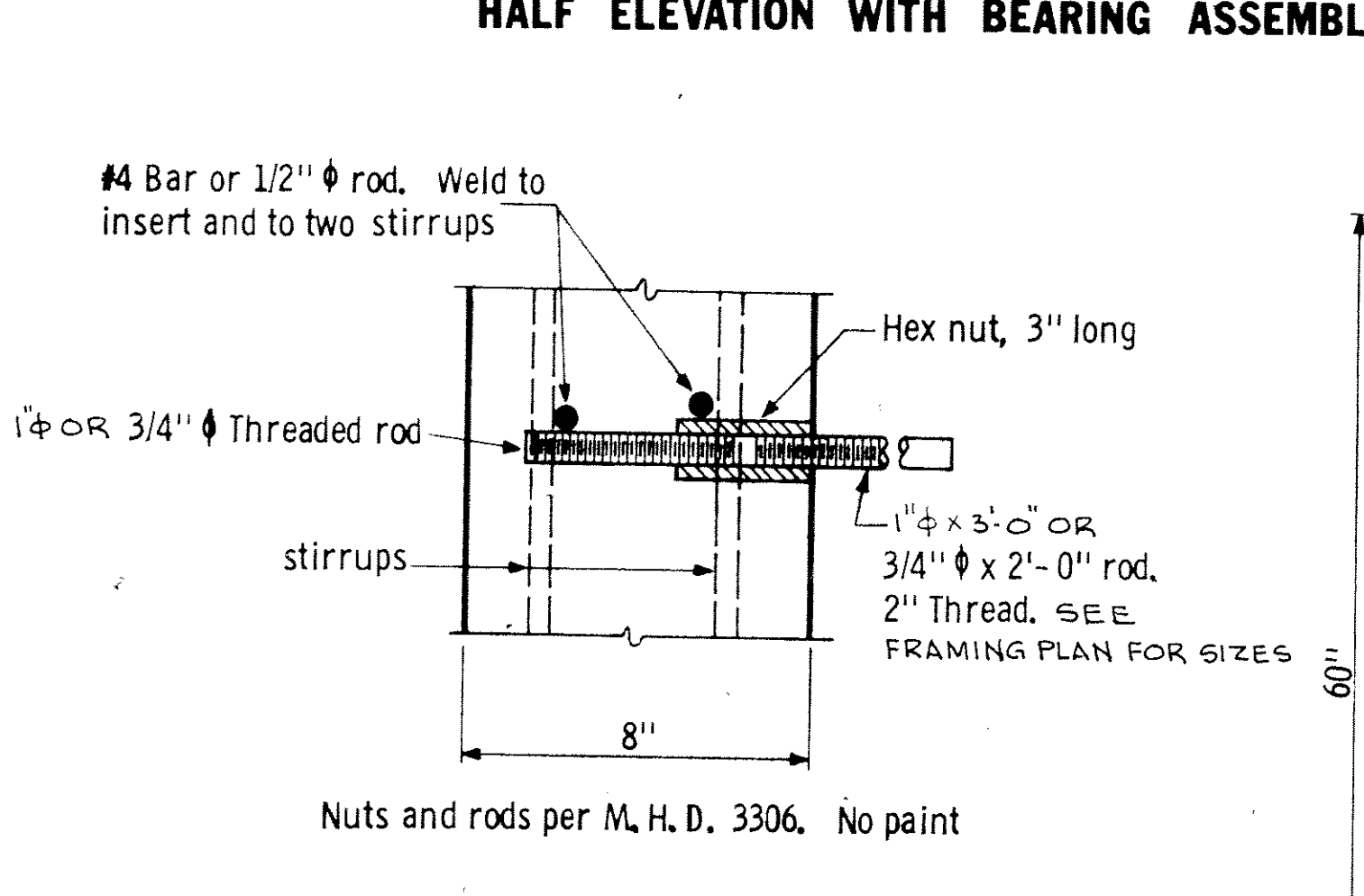
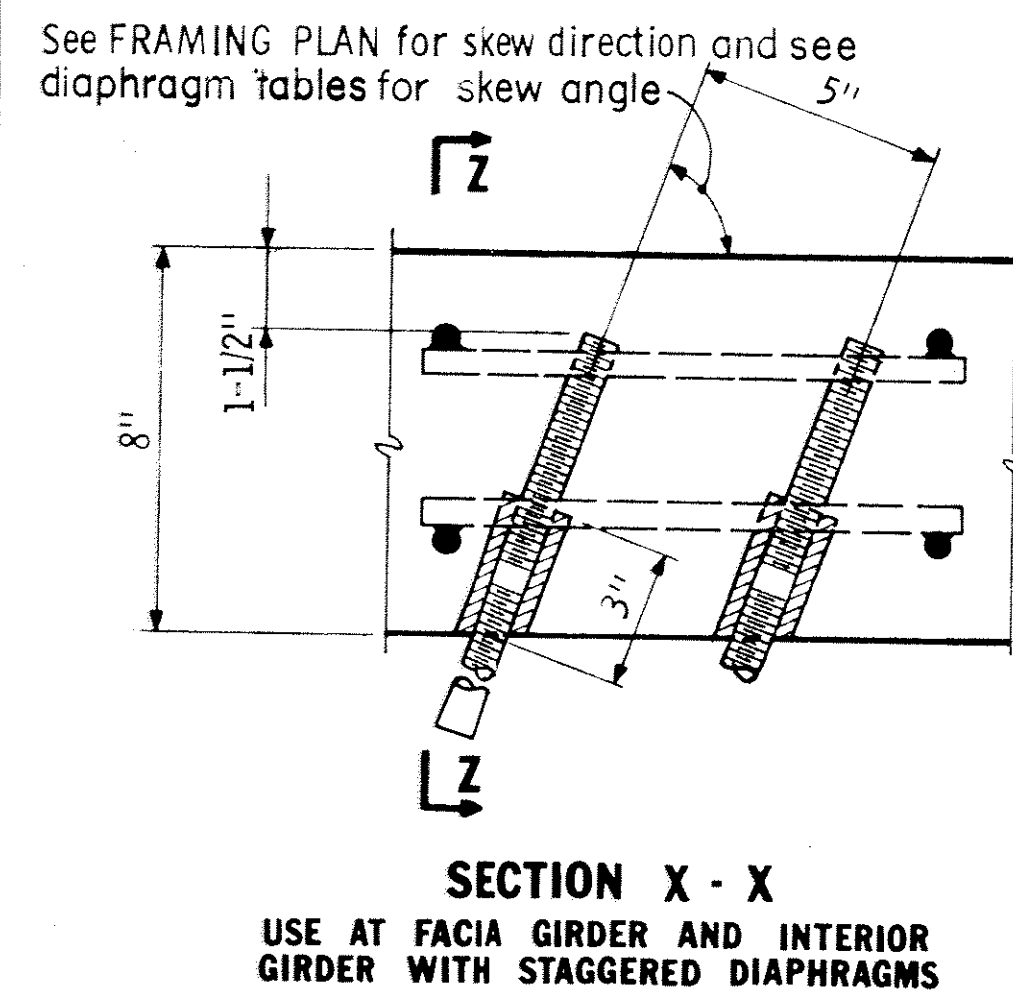
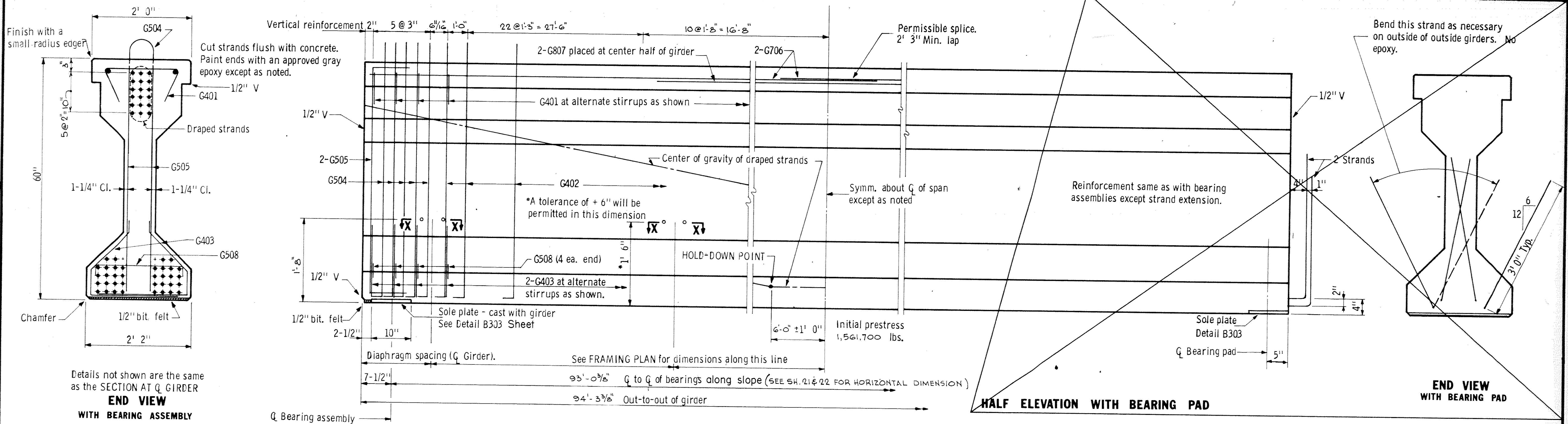
	MINIMUM CONCRETE STRENGTH - P.S.I.	
	① ③ f'ci	② ③ f'c
Computed Min. Concrete Strength	5880	6000
Required Min. Concrete Strength	5880	6000

- Minimum-concrete strength at time of prestress transfer.
- Minimum concrete strength when curing can be discontinued and girder transported and installed.
- Required minimum concrete strength shall be used. Computed minimum concrete strength is for information only.

Fig. 5-397.506

Oct 15, 1969

DES: <i>[Signature]</i>	DR: M.H.D./W.K.	APPROVED: <i>[Signature]</i>	Bridge No. 02522
CHK: MODY	CHK: <i>[Signature]</i>	12-21-71	
Sheet No. 14 of 35 Sheets			

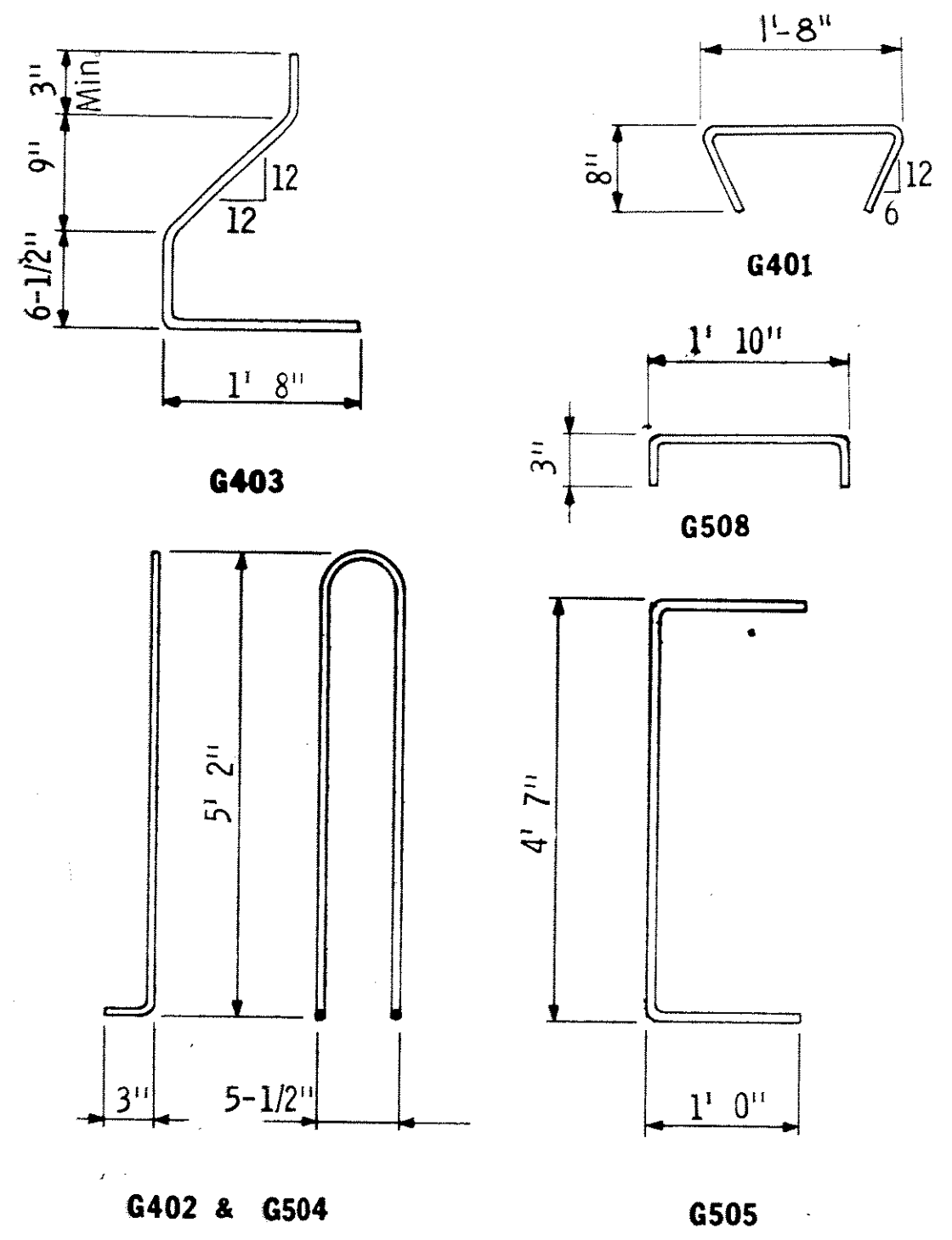


Y DISTANCES (IN INCHES)			
	NO.	Q SPAN	END
Straight strands	36	5.56"	
Draped strands	18	8.00"	52.00"
Total strands	54	6.37"	

Y = distance of Center of Gravity of strands from bottom of girder. All strands spaced 2" c-c, horizontally and vertically.

All strands 1/2" φ 270 kip, ultimate strength.

A tolerance of ± 2" will be permitted in this dimension.



First digit of bar mark indicates bar size. All bar dimensions are out-to-out.

AS BUILT 10-16-73 B. Jahn

GIRDER G11

TITLE: 60" PRESTRESSED CONCRETE GIRDER (PRETENSIONED) TYPE 60-95

GENERAL NOTES:

Tops of girders shall be rough floated and broomed transversely for bond. Provide handling hooks or devices as required by Contractor. Hooks or devices provided will be subject to approval of Engineer and shall be installed within 4' 0" of the end of girder.

A modified strand pattern which does not change center of gravity of strands may be submitted to the Engineer for approval.

A post-tensioned girder may be used as an alternate for the pretensioned design shown. M. H. D. will have plans available for the post-tensioned alternate.

Each girder shall be marked, showing bridge number, casting date, and individual identification letters and numbers. Markings shall be made on the face of the girder, near the end, so located that they will be exposed after the end diaphragms have been cast. Facia girders shall be marked on an inside face. All markings shall be stenciled and be clearly legible. For location of girders, see framing plan.

All material and work shown or noted on this sheet shall be included in unit price bid for prestressed concrete girders. See M. H. D. 2405.

See framing plan for girder ends marked "X".

Approximate weight of girder 45.9 tons.

MINIMUM CONCRETE STRENGTH - P.S.I.		
	① ③ f'ci	② ③ f'c
Computed Min. Concrete Strength	5530	5560
Required Min. Concrete Strength	5530	5560

- Minimum concrete strength at time of prestress transfer.
- Minimum concrete strength when curing can be discontinued and girder transported and installed.
- Required minimum concrete strength shall be used. Computed minimum concrete strength is for information only.

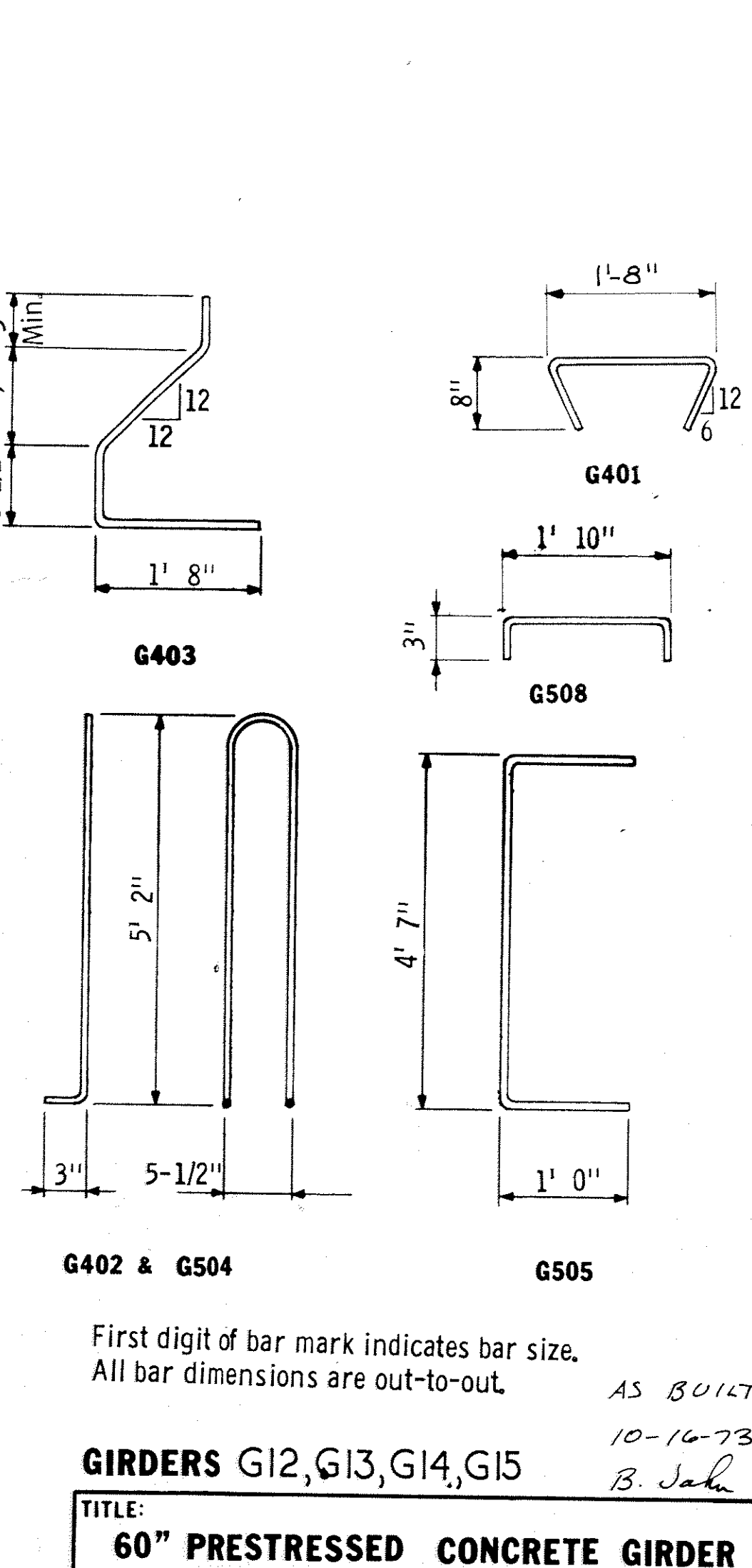
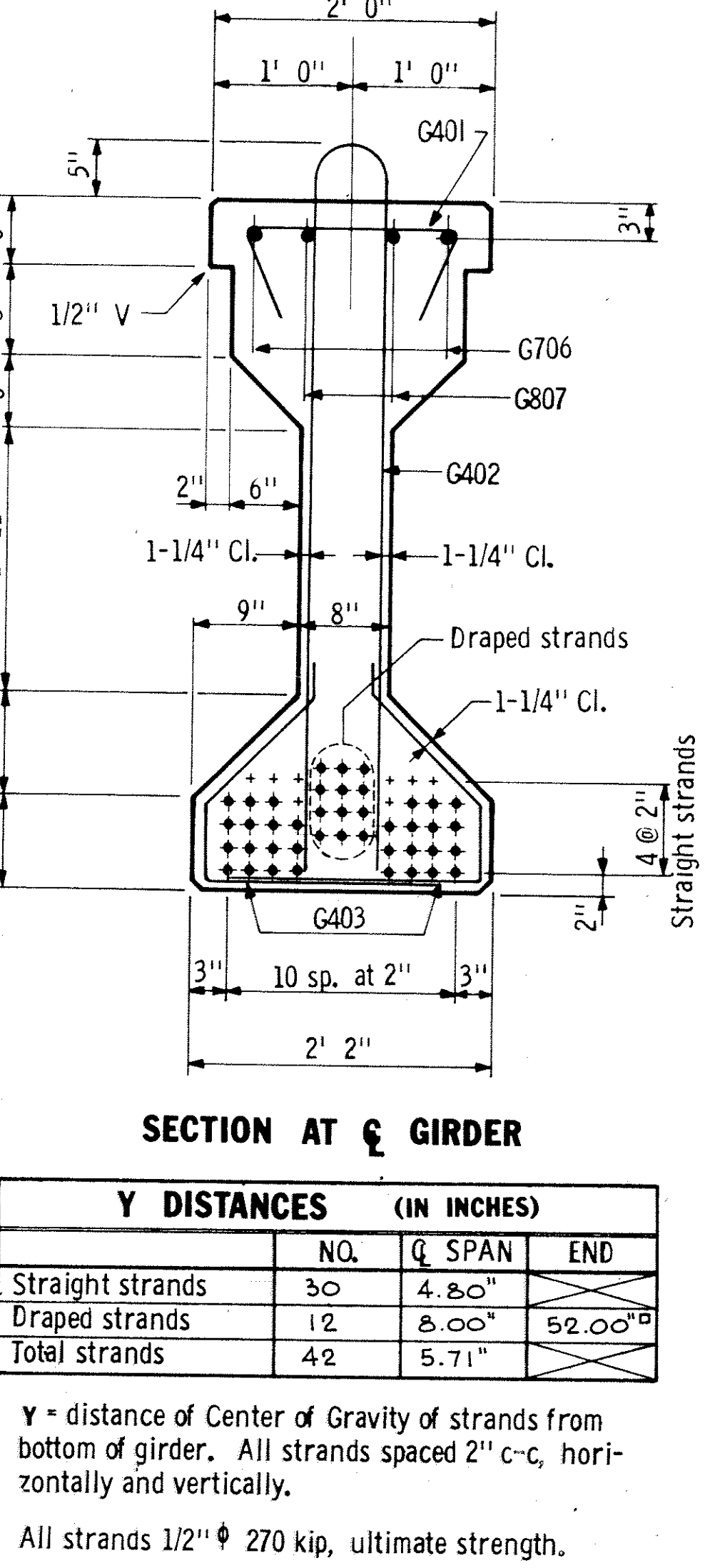
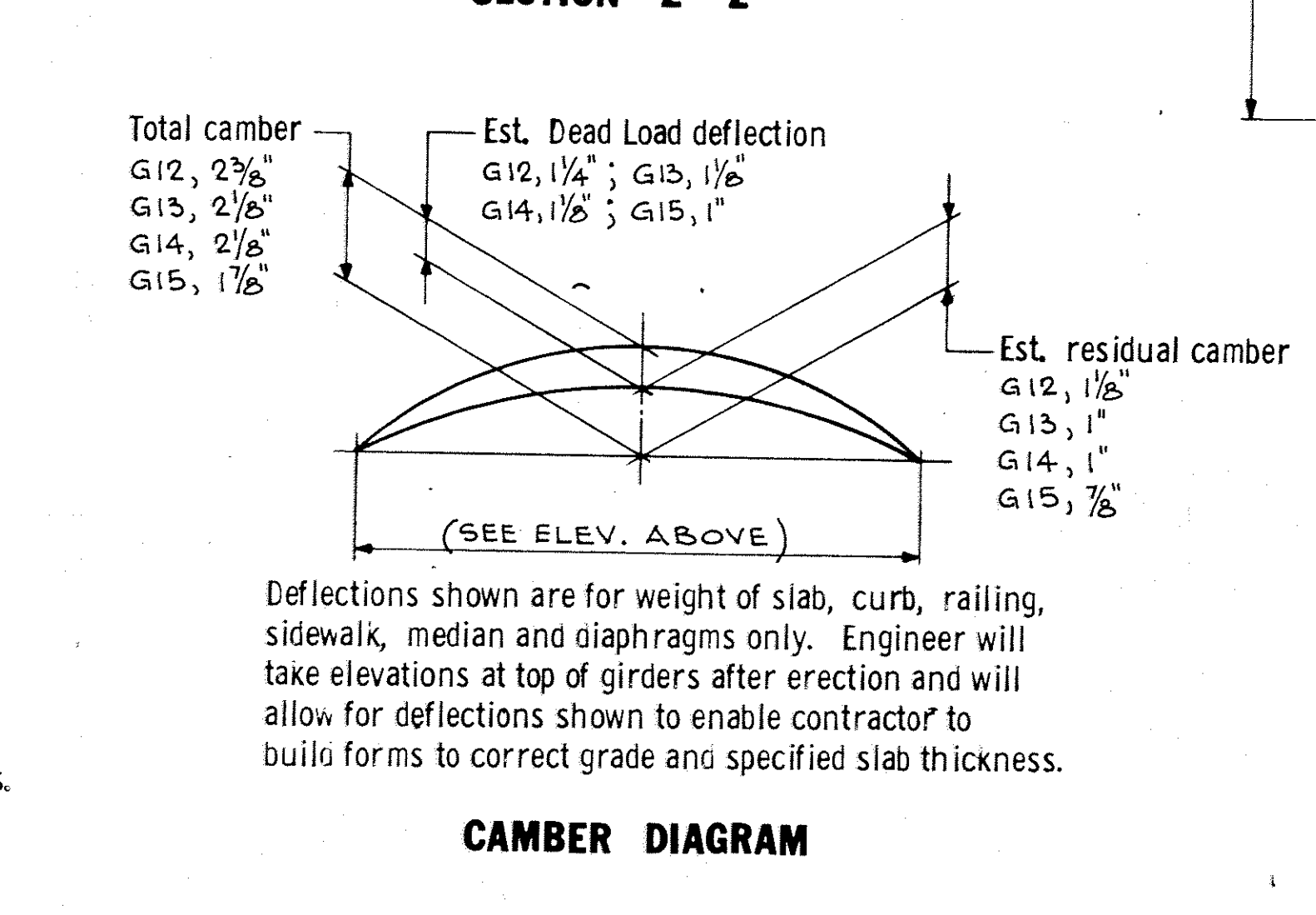
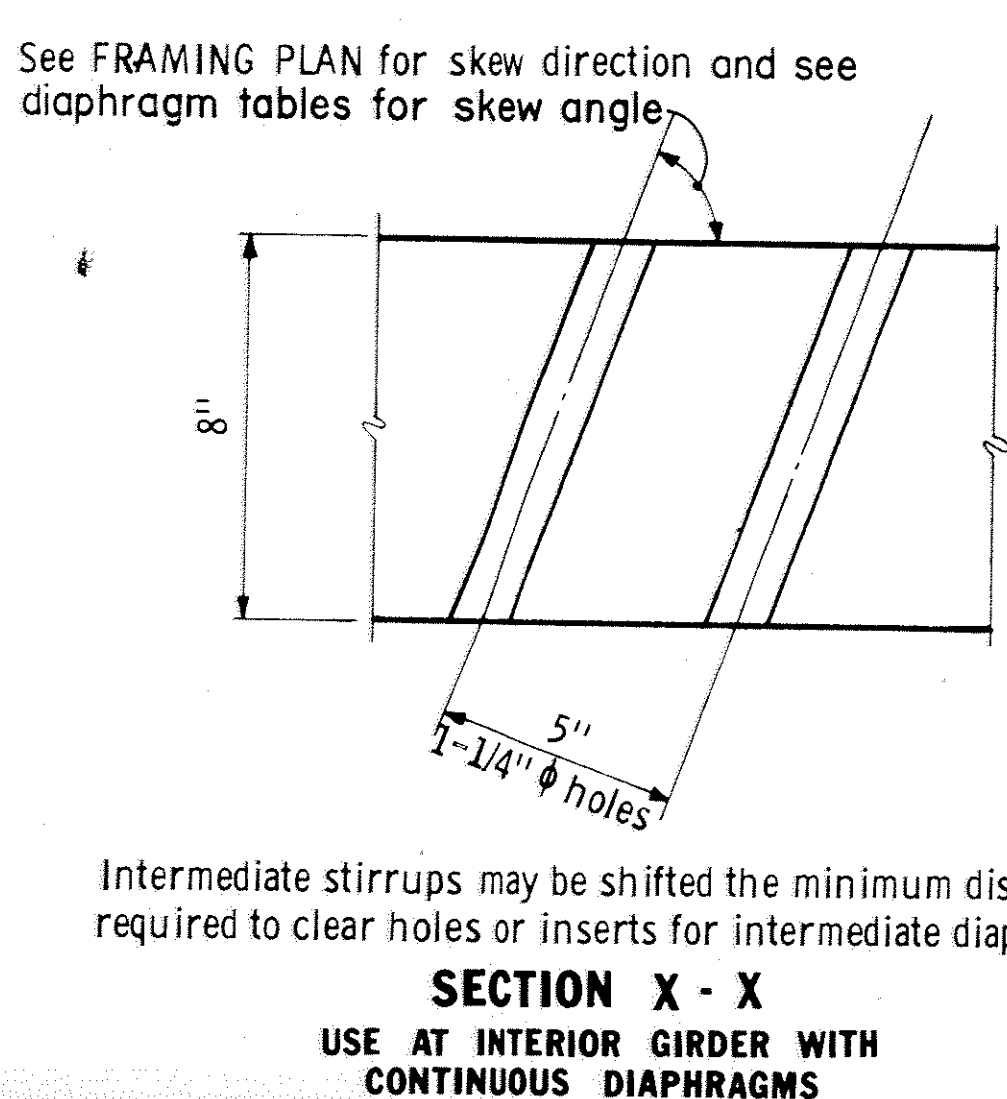
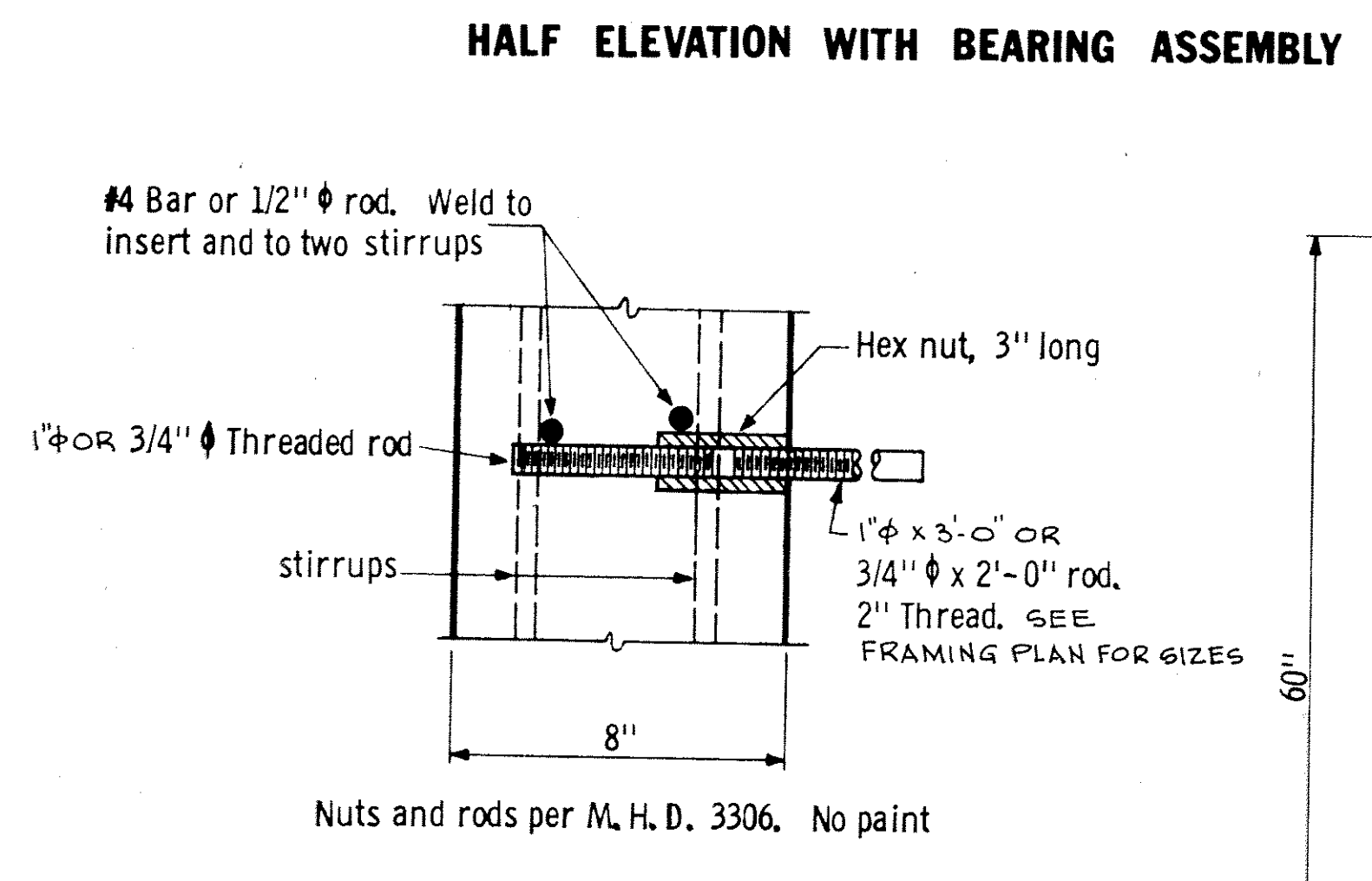
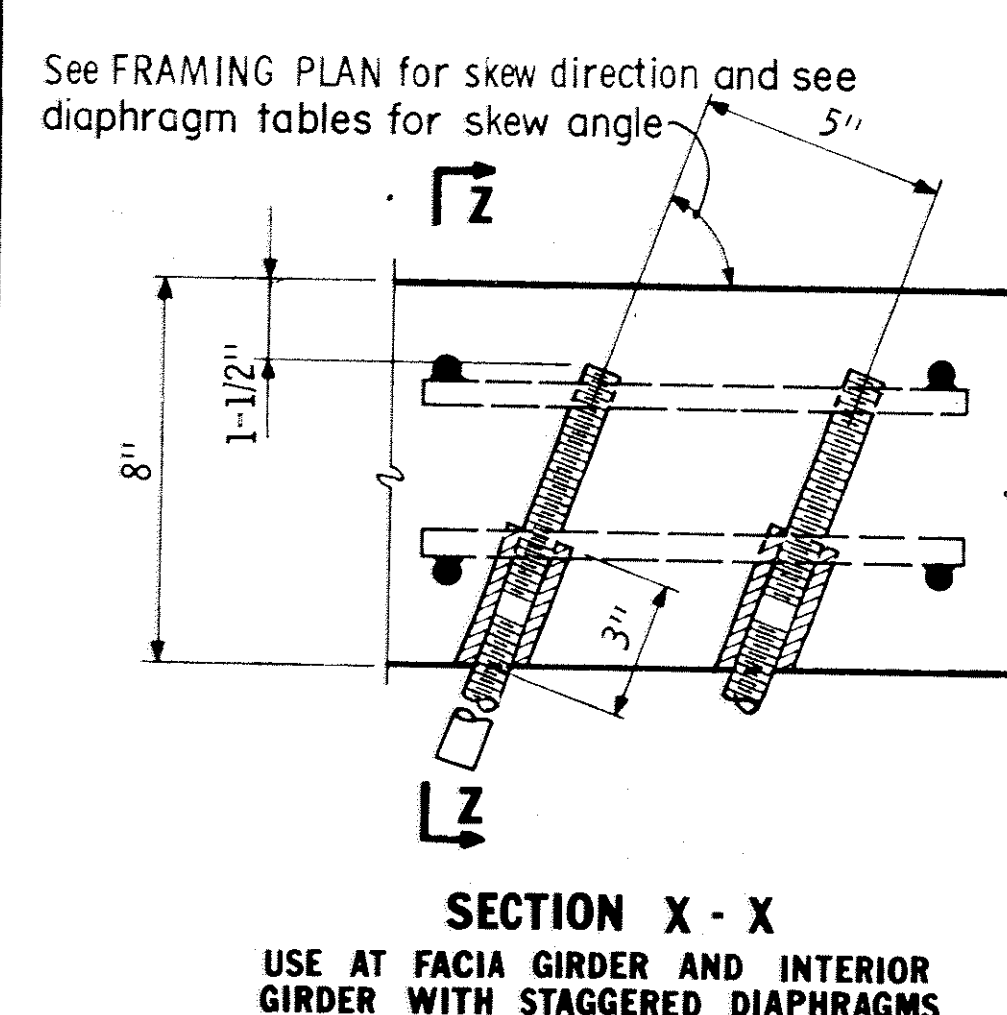
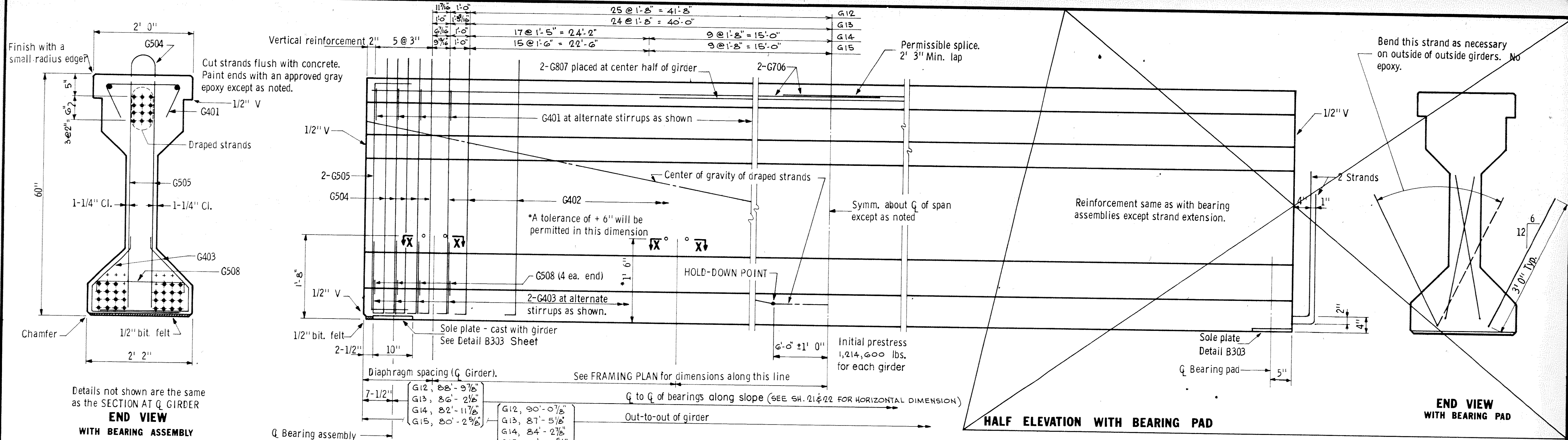
DES: M. H. D. DR: M. H. D. / W. K. APPROVED: 12-21-71

CHK: MODY CHK: M. H. D.

Fig. 5-397.506 Oct. 15, 1969

Bridge No. 02522

Sheet No. 15 of 35 Sheets



GENERAL NOTES:

Tops of girders shall be rough floated and broomed transversely for bond. Provide handling hooks or devices as required by Contractor. Hooks or devices provided will be subject to approval of Engineer and shall be installed within 4' 0" of the end of girder.

A modified strand pattern which does not change center of gravity of strands may be submitted to the Engineer for approval.

A post-tensioned girder may be used as an alternate for the pretensioned design shown. M. H. D. will have plans available for the post-tensioned alternate.

Each girder shall be marked, showing bridge number, casting date, and individual identification letters and numbers. Markings shall be made on the face of the girder, near the end, so located that they will be exposed after the end diaphragms have been cast. Facia girders shall be marked on an inside face. All markings shall be stenciled and be clearly legible. For location of girders, see framing plan.

All material and work shown or noted on this sheet shall be included in unit price bid for prestressed concrete girders. See M. H. D. 2405.

See framing plan for girder ends marked 'X'.

Approximate weight of girder G12, 43.8 TONS; G13, 42.5 TONS; G14, 41.0 TONS; G15, 39.6 TONS

MINIMUM CONCRETE STRENGTH - P.S.I.						
	①	③	f'ci	②	③	f'c
Computed Min. Concrete Strength			4160			4850
Required Min. Concrete Strength			4500			5000

- ① Minimum concrete strength at time of prestress transfer.
- ② Minimum concrete strength when curing can be discontinued and girder transported and installed.
- ③ Required minimum concrete strength shall be used. Computed minimum concrete strength is for information only.

GIRDERS G12, G13, G14, G15

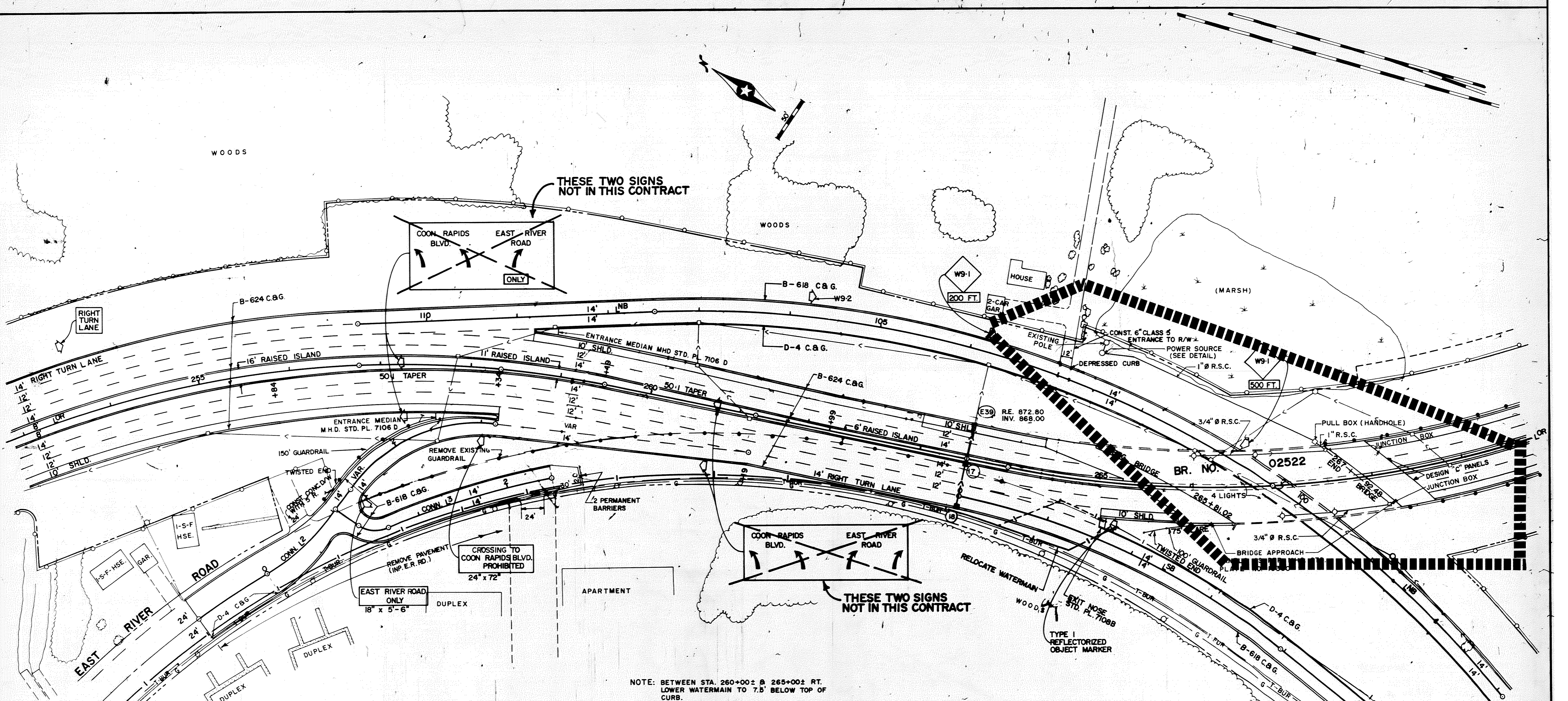
60" PRESTRESSED CONCRETE GIRDER (PRETENSIONED) TYPE 60-86

DES: [Signature] DR: M.H.D./W.K. APPROVED: [Signature]
 CHK: [Signature] CHK: [Signature] 12-21-71

Sheet No. 16 of 35 Sheets

Bridge No. 02522

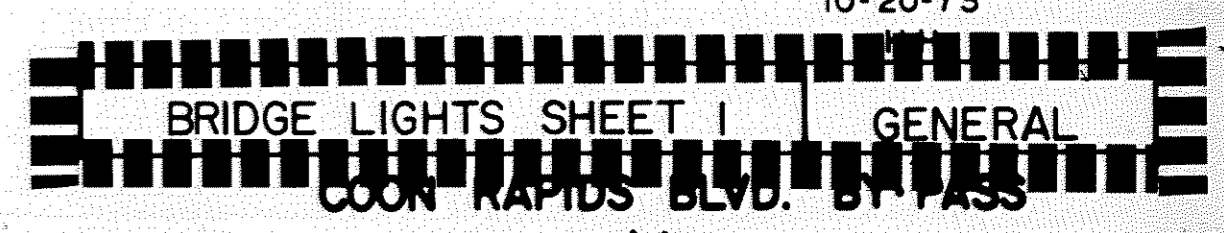
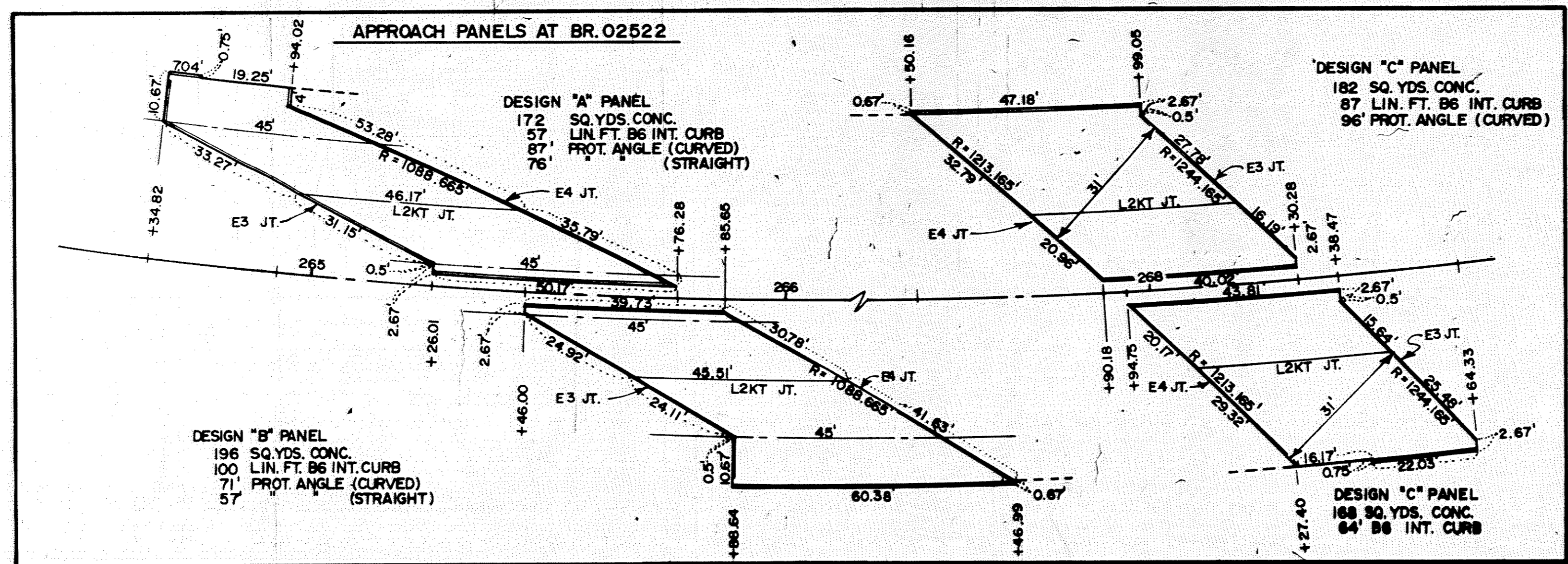
Fig. 5-397.506
 Oct. 15, 1969



THESE TWO SIGNS NOT IN THIS CONTRACT

THESE TWO SIGNS NOT IN THIS CONTRACT

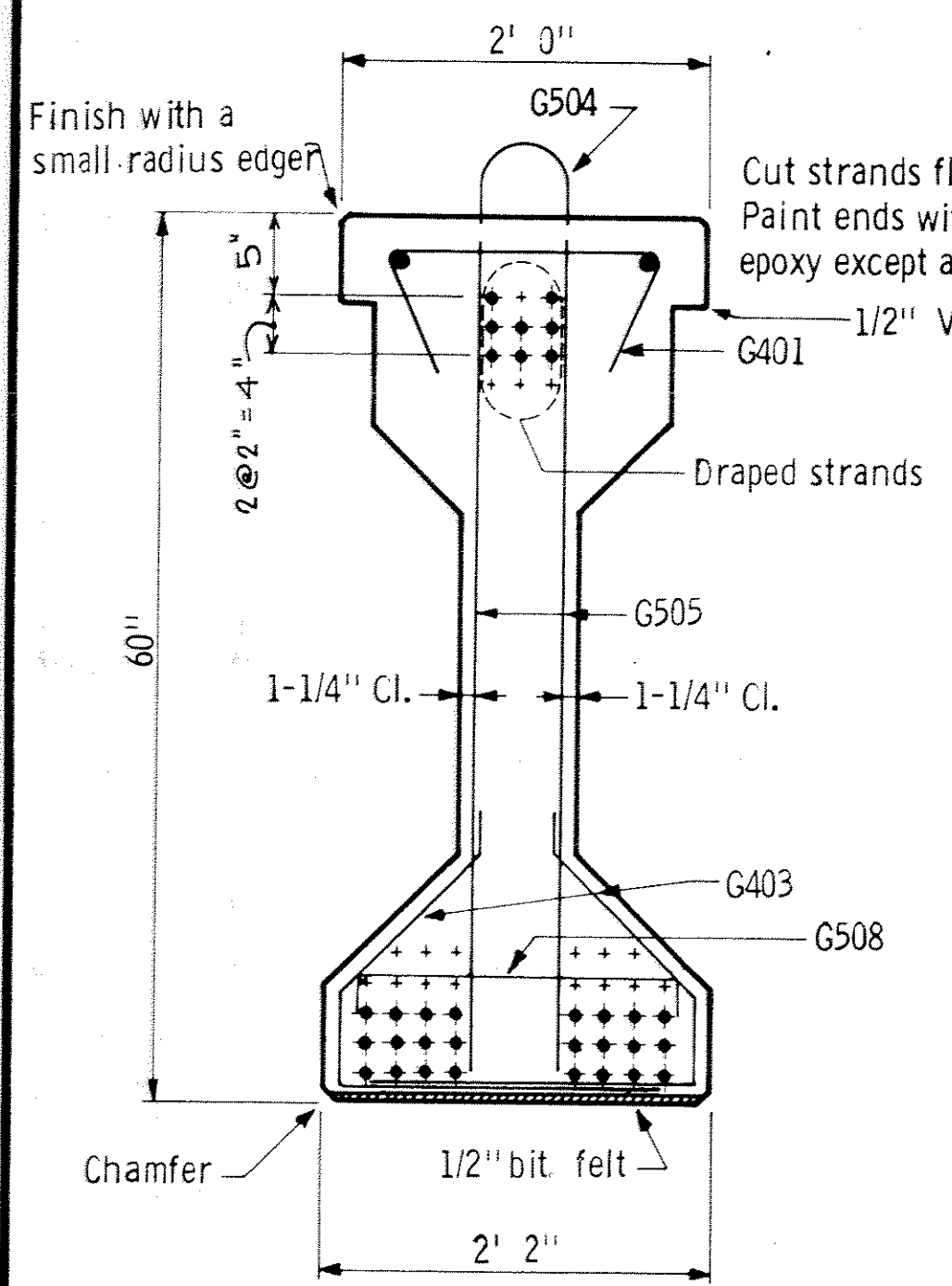
NOTE: BETWEEN STA. 260+00 ± & 265+00 ± RT. LOWER WATERMAIN TO 7.5' BELOW TOP OF CURB.



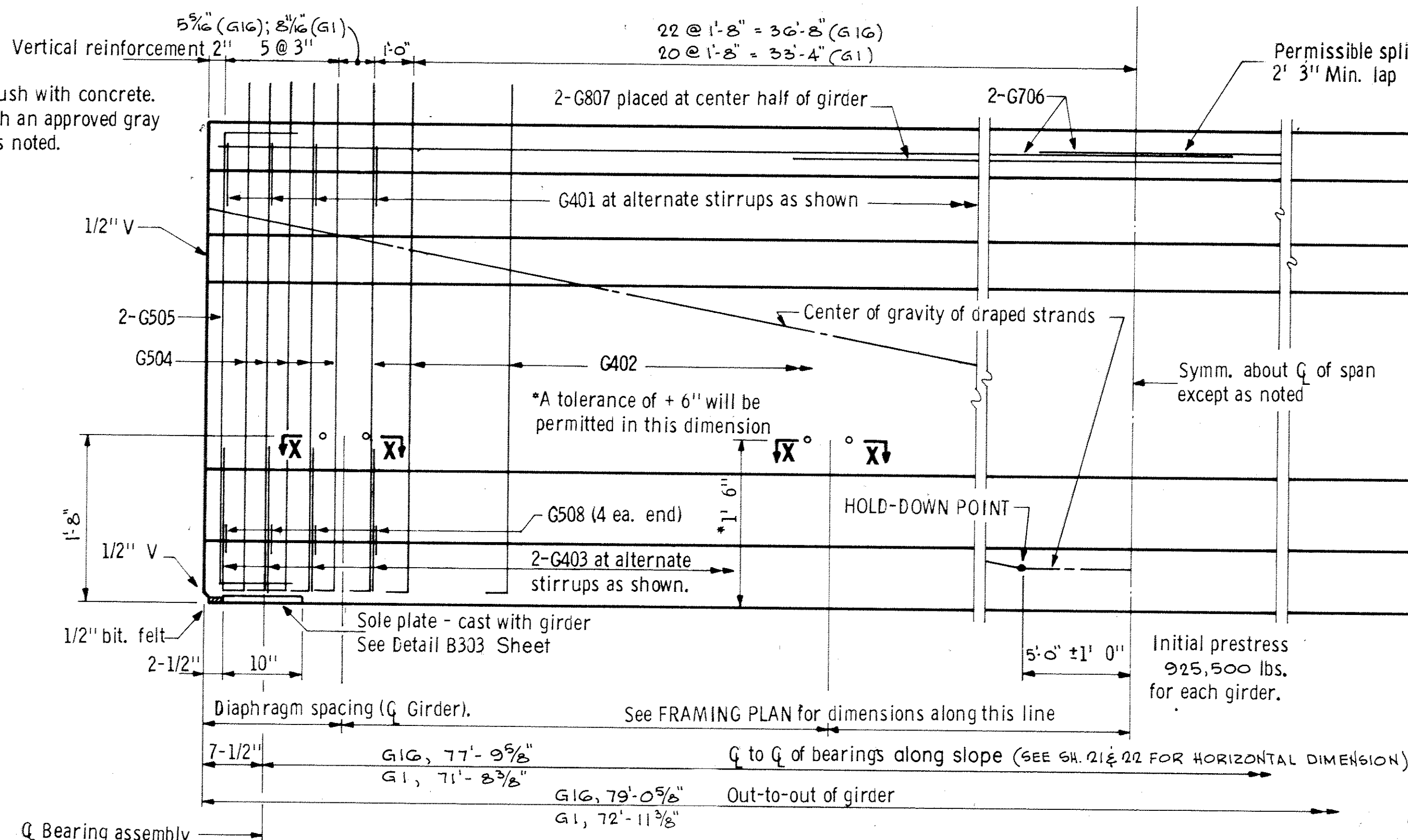
NOTE: SEE SHEETS 17 & 18 FOR PROFILES L² & L³.

with L¹B, L²B & L² EAST RIVER RD. INTERCHANGE

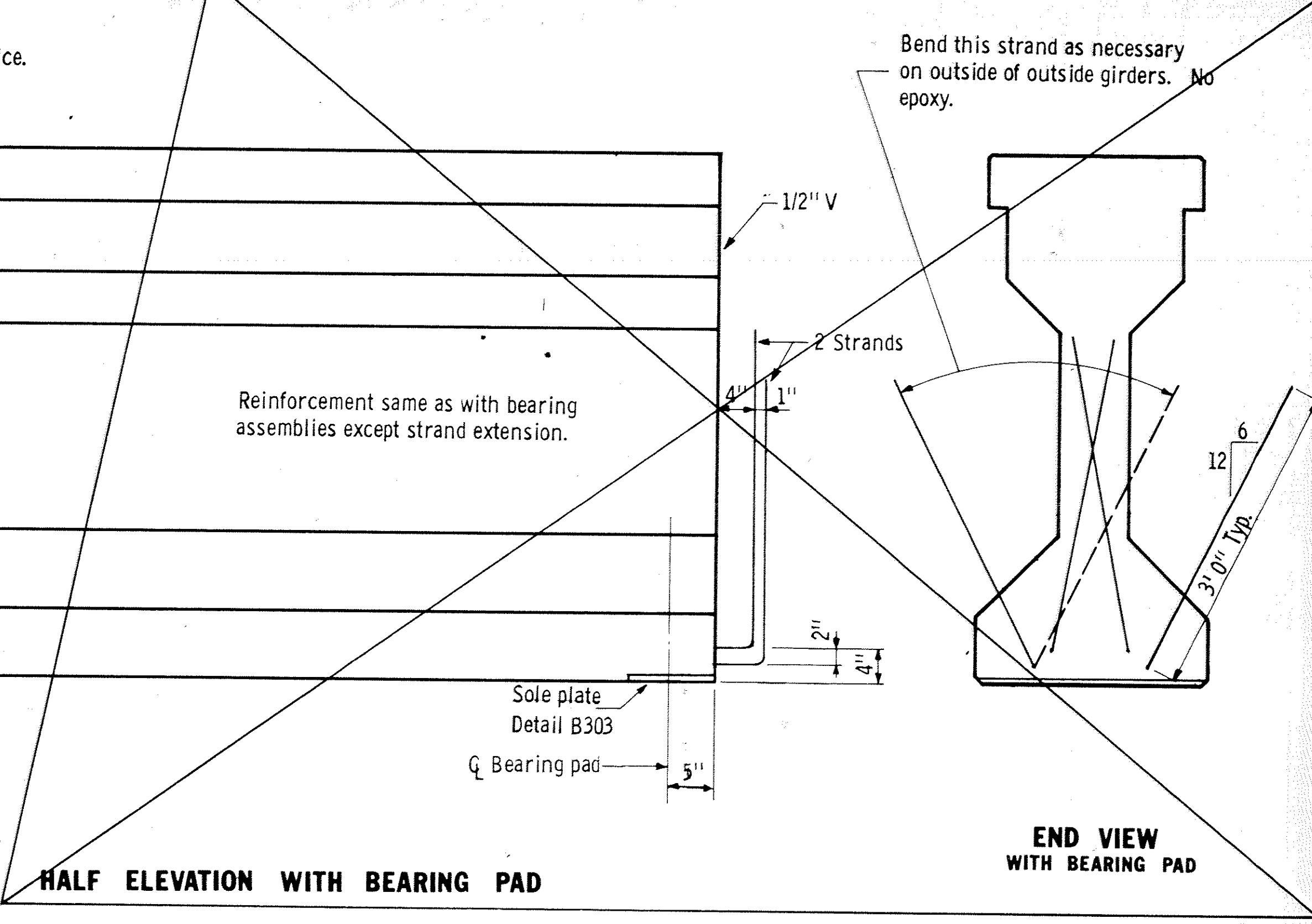
AS BUILT 10-20-73



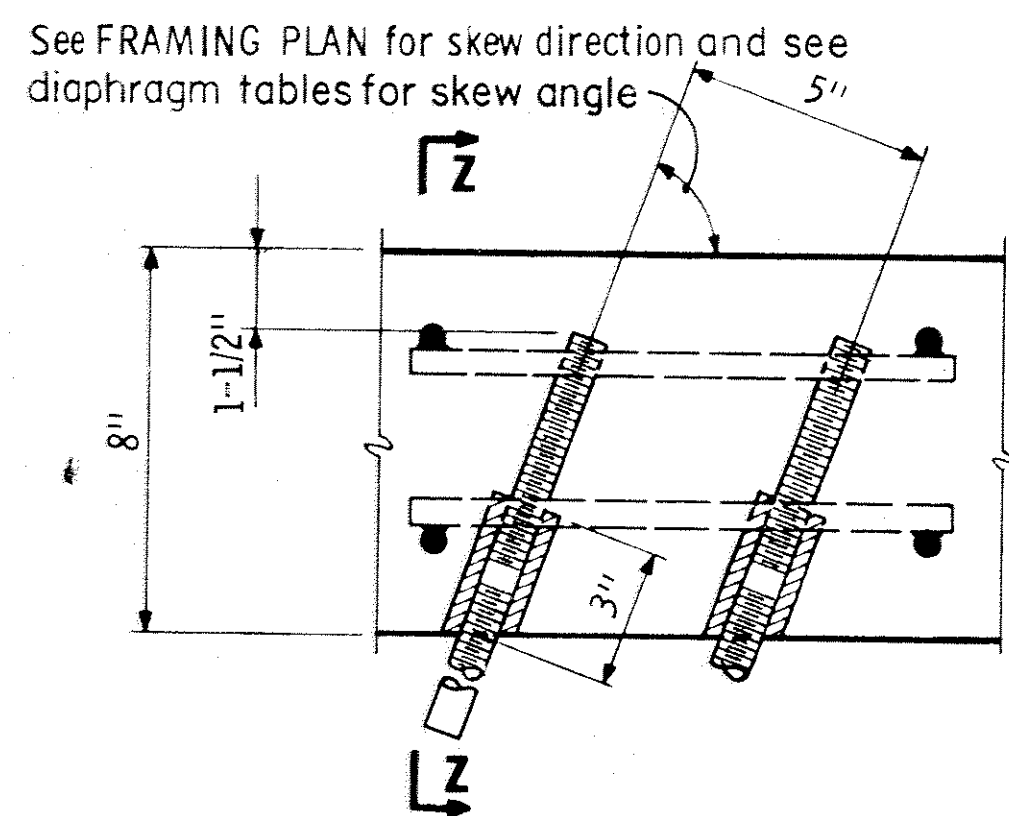
Details not shown are the same as the SECTION AT Q GIRDER
END VIEW WITH BEARING ASSEMBLY



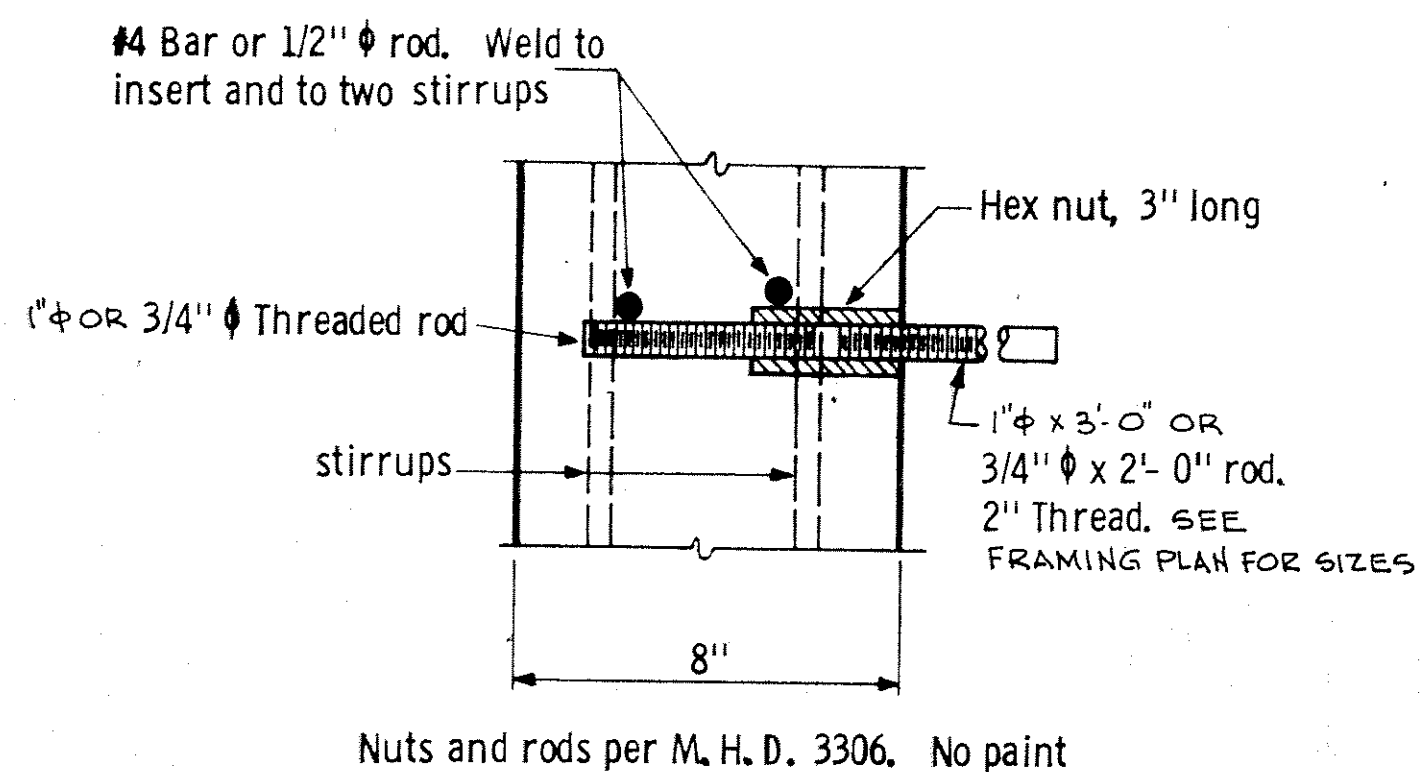
HALF ELEVATION WITH BEARING ASSEMBLY



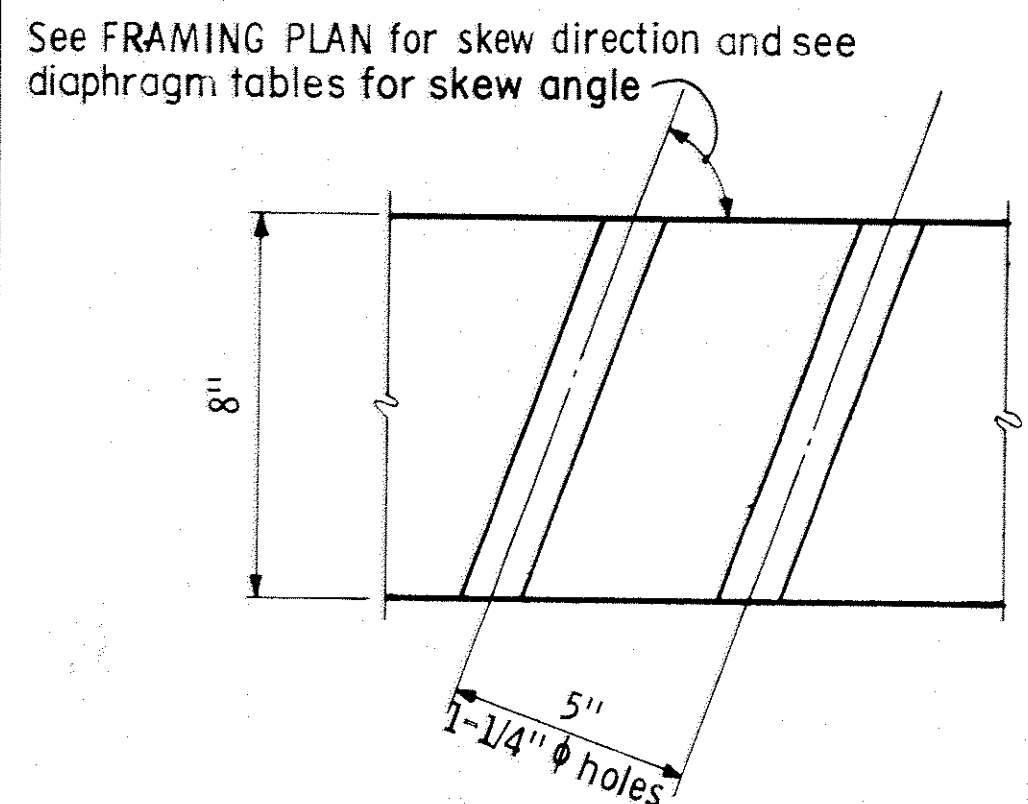
END VIEW WITH BEARING PAD



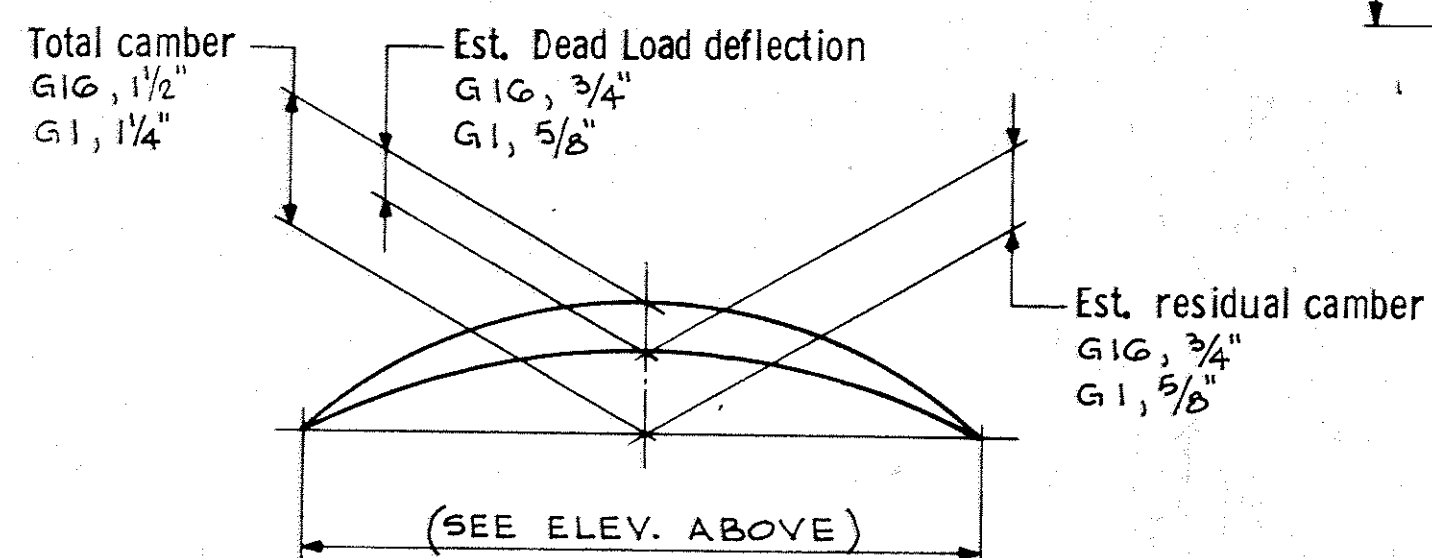
SECTION X - X USE AT FACIA GIRDER AND INTERIOR GIRDER WITH STAGGERED DIAPHRAGMS



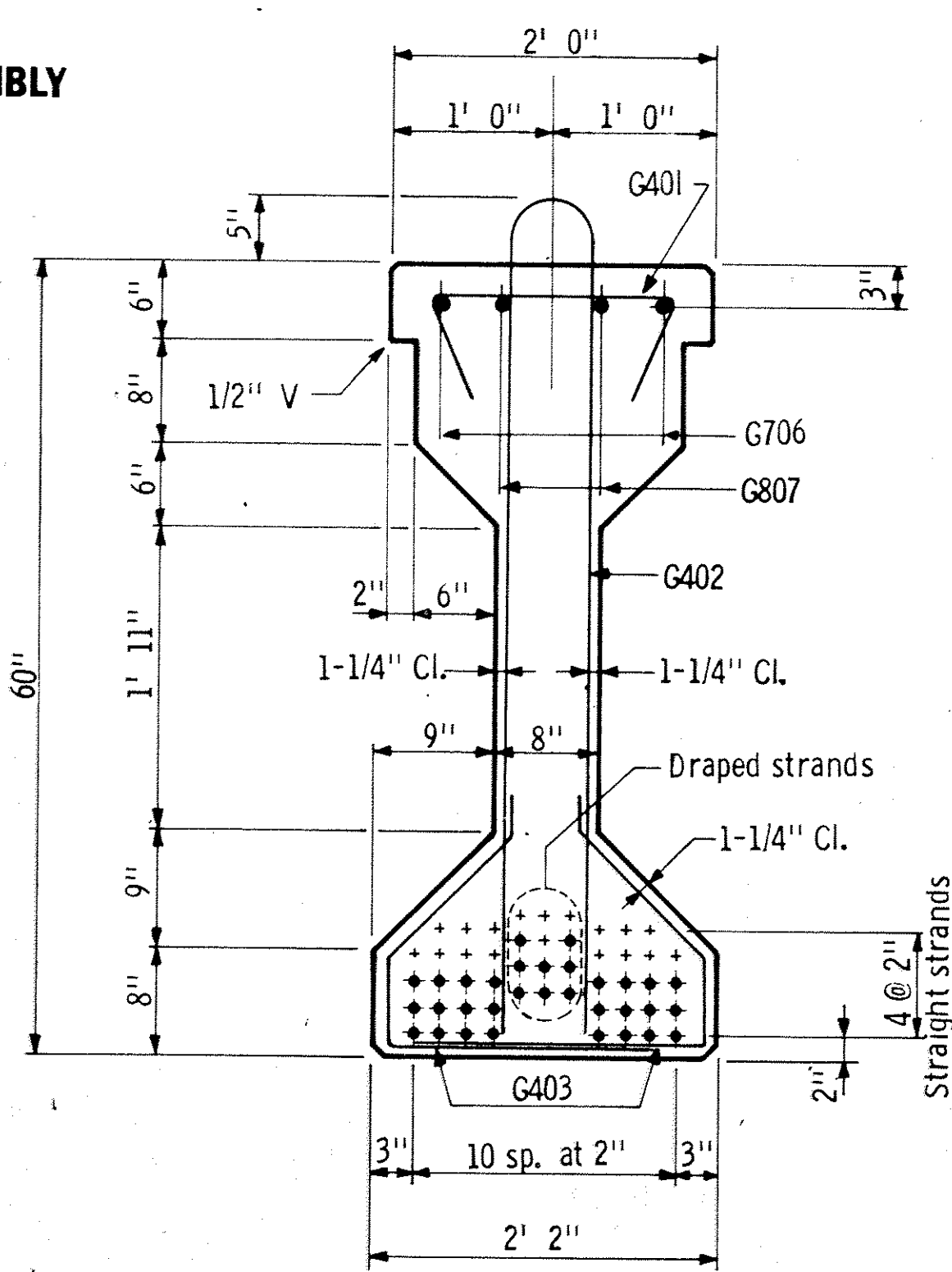
SECTION Z - Z



SECTION X - X USE AT INTERIOR GIRDER WITH CONTINUOUS DIAPHRAGMS



CAMBER DIAGRAM



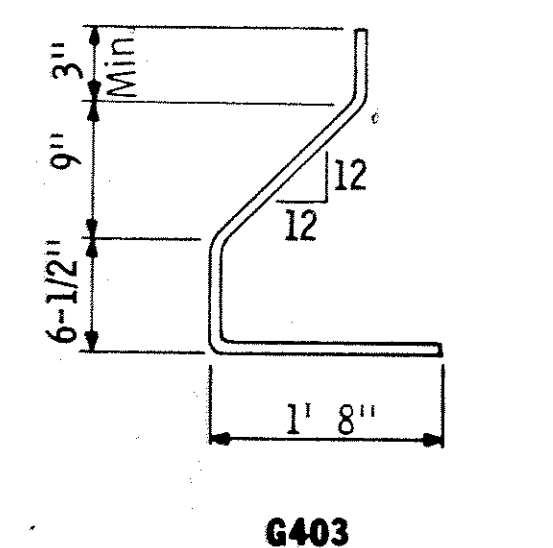
SECTION AT Q GIRDER

Y DISTANCES (IN INCHES)			
	NO.	Q SPAN	END
Straight strands	24	4.00"	
Draped strands	8	6.75"	52.75"
Total strands	32	4.69"	

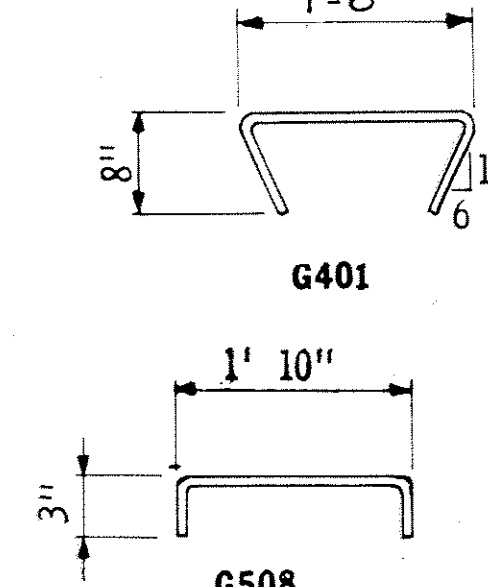
Y = distance of Center of Gravity of strands from bottom of girder. All strands spaced 2" c-c, horizontally and vertically.

All strands 1/2" φ 270 kip, ultimate strength.

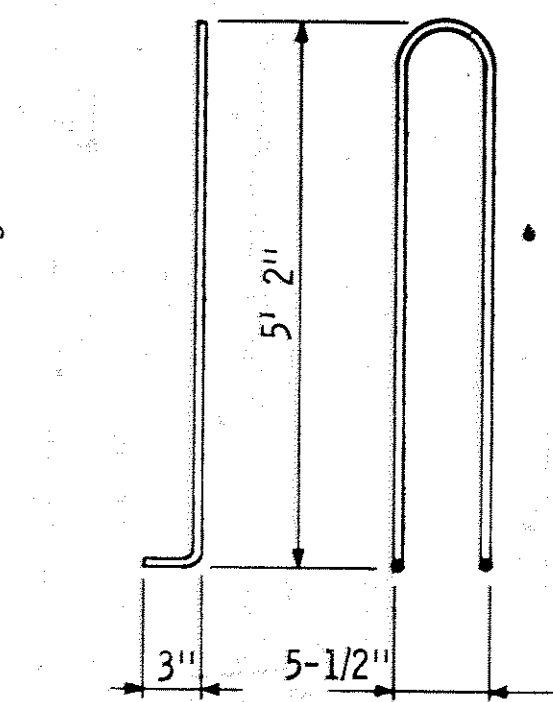
*A tolerance of ± 2" will be permitted in this dimension.



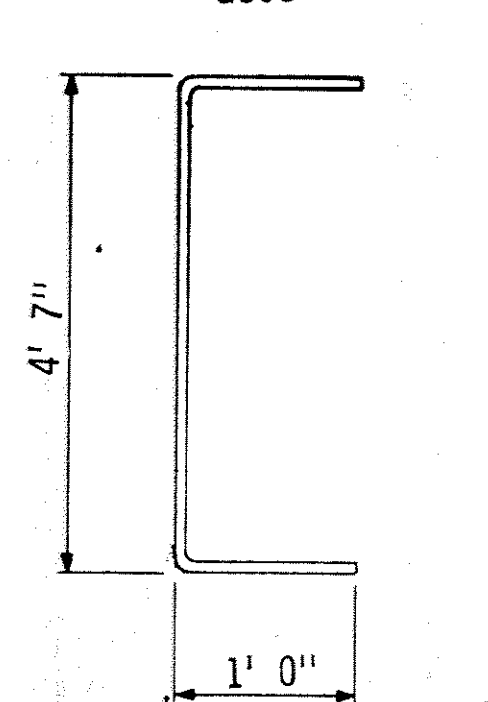
G403



G508



G402 & G504



G505

First digit of bar mark indicates bar size. All bar dimensions are out-to-out.

GIRDERS G1G, G1

TITLE: **60" PRESTRESSED CONCRETE GIRDER (PRETENSIONED) TYPE 60-76**

GENERAL NOTES:

Tops of girders shall be rough floated and broomed transversely for bond.

Provide handling hooks or devices as required by Contractor. Hooks or devices provided will be subject to approval of Engineer and shall be installed within 4' 0" of the end of girder.

A modified strand pattern which does not change center of gravity of strands may be submitted to the Engineer for approval.

A post-tensioned girder may be used as an alternate for the pretensioned design shown. M. H. D. will have plans available for the post-tensioned alternate.

Each girder shall be marked, showing bridge number, casting date, and individual identification letters and numbers. Markings shall be made on the face of the girder, near the end, so located that they will be exposed after the end diaphragms have been cast. Facia girders shall be marked on an inside face. All markings shall be stencilled and be clearly legible. For location of girders, see framing plan.

All material and work shown or noted on this sheet shall be included in unit price bid for prestressed concrete girders. See M. H. D. 2405.

See framing plan for girder ends marked 'X'.

Approximate weight of girder G1G, 38.5 TONS; G1, 35.5 TONS

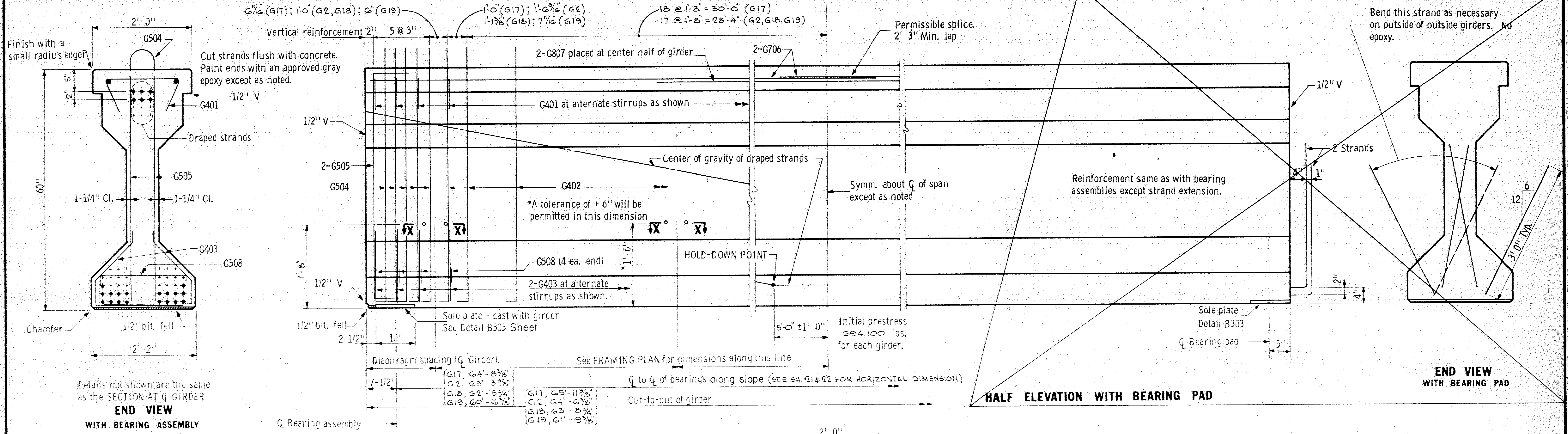
MINIMUM CONCRETE STRENGTH - P.S.I.		
	① ③ f'ci	② ③ f'c
Computed Min. Concrete Strength	3240	4000
Required Min. Concrete Strength	4500	5000

- ① Minimum concrete strength at time of prestress transfer.
- ② Minimum concrete strength when curing can be discontinued and girder transported and installed.
- ③ Required minimum concrete strength shall be used. Computed minimum concrete strength is for information only.

Fig. 5-397.506

Oct. 15, 1969

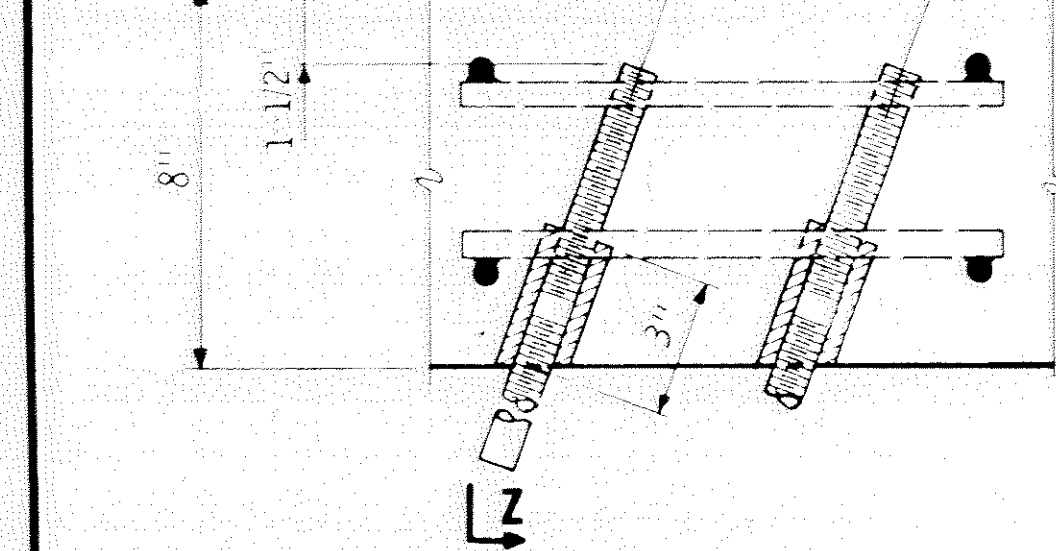
DES: *AM* DR: M.H.D./W.K. APPROVED: *AM*
 CHK: *MODY* CHK: *AM* 12-21-71
Sheet No. 17 of 35 Sheets **Bridge No. 02522**



Details not shown are the same as the SECTION AT Q GIRDER

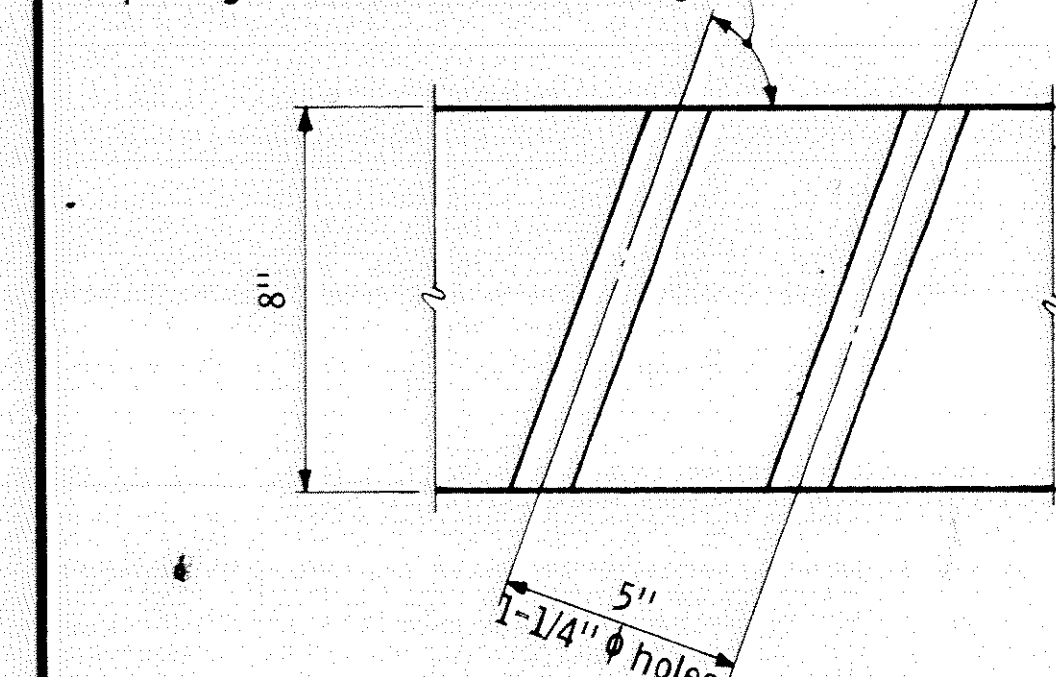
END VIEW WITH BEARING ASSEMBLY

See FRAMING PLAN for skew direction and see diaphragm tables for skew angle



SECTION X - X
USE AT FACIA GIRDER AND INTERIOR GIRDER WITH STAGGERED DIAPHRAGMS

See FRAMING PLAN for skew direction and see diaphragm tables for skew angle

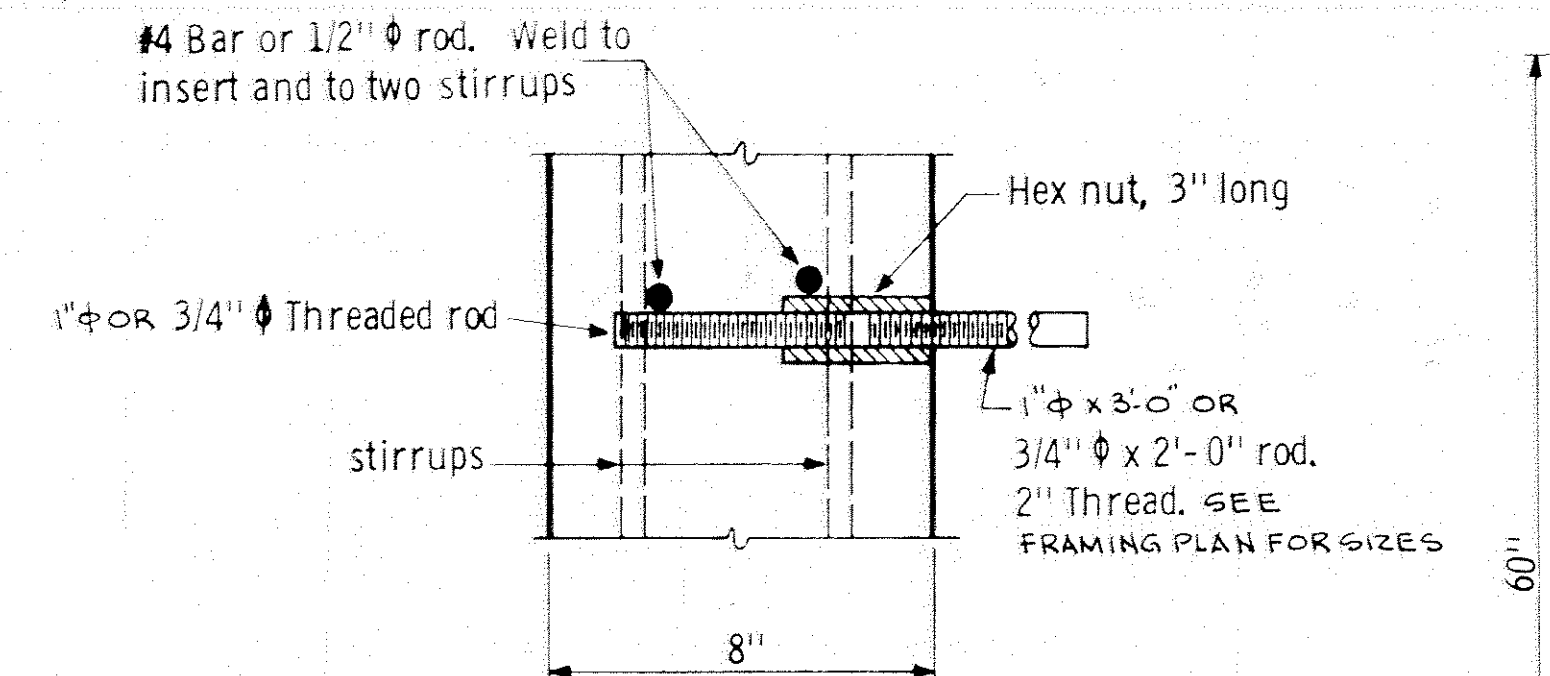


SECTION X - X
USE AT INTERIOR GIRDER WITH CONTINUOUS DIAPHRAGMS

Intermediate stirrups may be shifted the minimum distance required to clear holes or inserts for intermediate diaphragms.

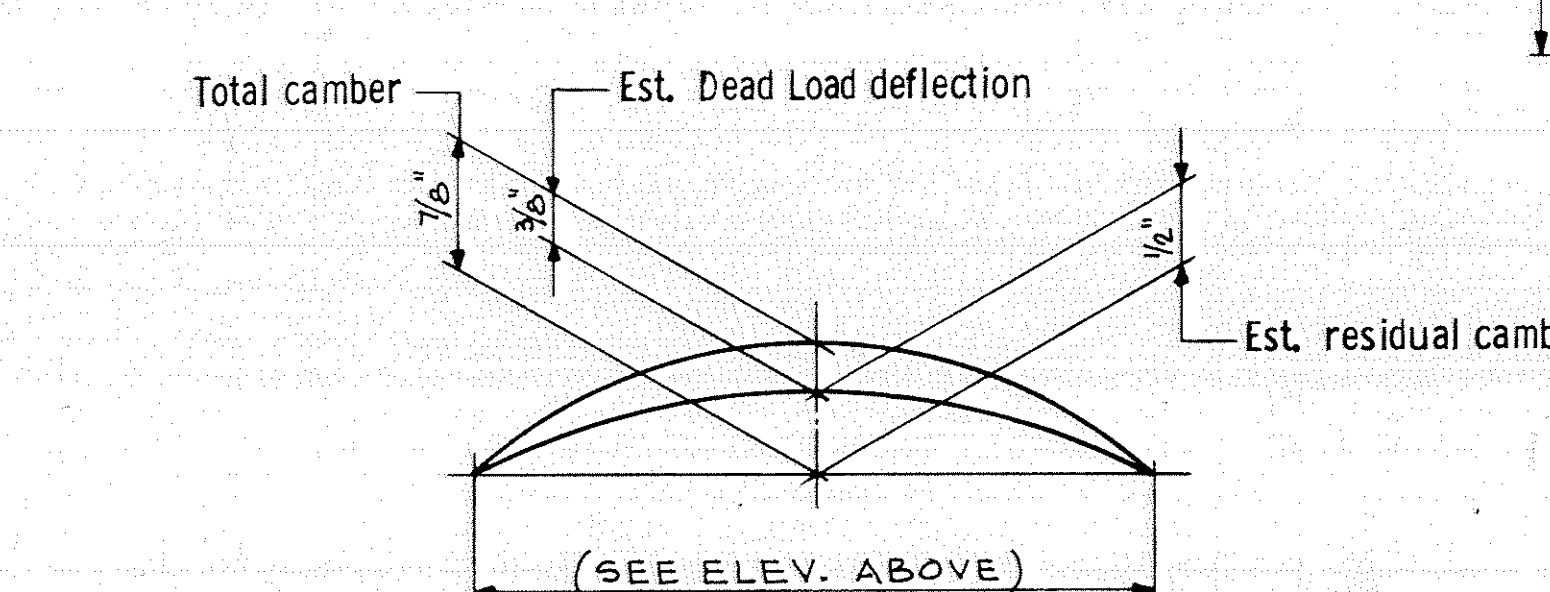
HALF ELEVATION WITH BEARING ASSEMBLY

Diaphragm spacing (Q Girder). See FRAMING PLAN for dimensions along this line



SECTION Z - Z

Deflections shown are for weight of slab, curb, railing, sidewalk, median and diaphragms only. Engineer will take elevations at top of girders after erection and will allow for deflections shown to enable contractor to build forms to correct grade and specified slab thickness.

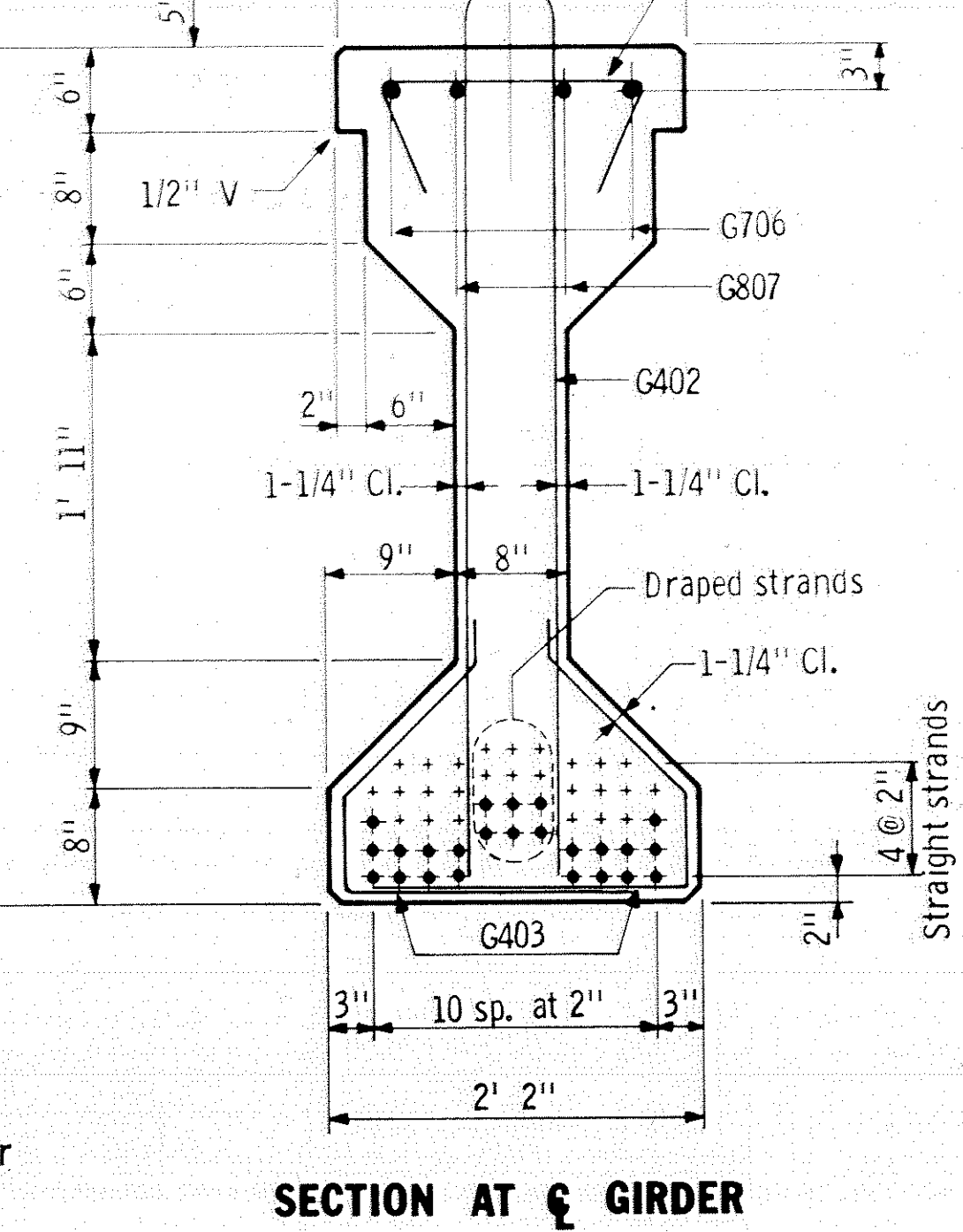


CAMBER DIAGRAM

Deflections shown are for weight of slab, curb, railing, sidewalk, median and diaphragms only. Engineer will take elevations at top of girders after erection and will allow for deflections shown to enable contractor to build forms to correct grade and specified slab thickness.

HALF ELEVATION WITH BEARING ASSEMBLY

Diaphragm spacing (Q Girder). See FRAMING PLAN for dimensions along this line



SECTION AT Q GIRDER

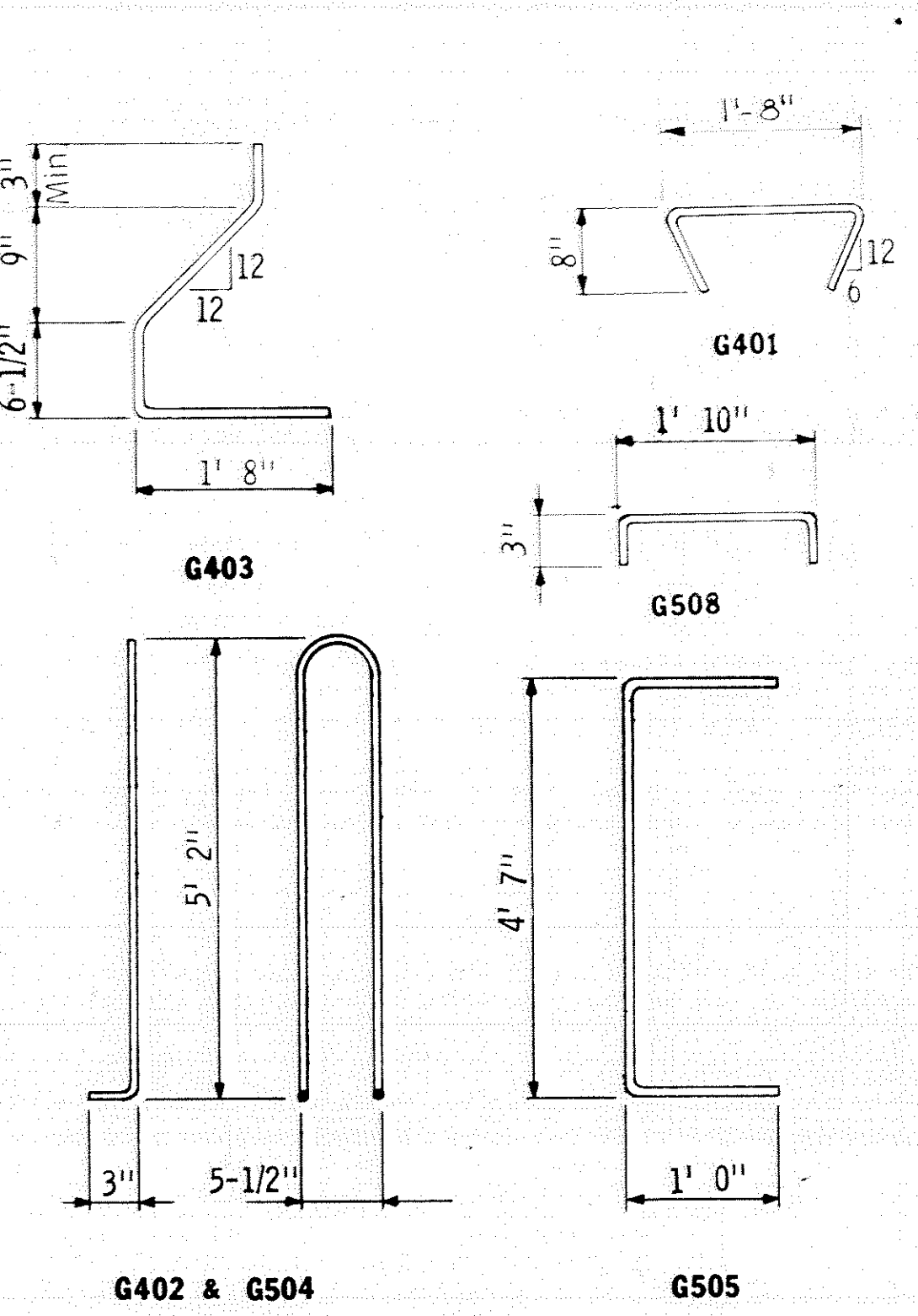
Y DISTANCES (IN INCHES)			
	NQ.	Q SPAN	END
Straight strands	18	3.33"	
Draped strands	6	6.00"	54.00"
Total strands	24	4.00"	

All strands 1/2" φ 270 kip, ultimate strength.

*A tolerance of ± 2" will be permitted in this dimension.

HALF ELEVATION WITH BEARING PAD

Initial prestress 694,100 lbs. for each girder.



GIRDERS G17, G2, G18, G19

First digit of bar mark indicates bar size. All bar dimensions are out-to-out.

GIRDERS G17, G2, G18, G19

GENERAL NOTES:

Tops of girders shall be rough floated and broomed transversely for bond.

Provide handling hooks or devices as required by Contractor. Hooks or devices provided will be subject to approval of Engineer and shall be installed within 4' 0" of the end of girder.

A modified strand pattern which does not change center of gravity of strands may be submitted to the Engineer for approval.

A post-tensioned girder may be used as an alternate for the pretensioned design shown. M. H. D. will have plans available for the post-tensioned alternate.

Each girder shall be marked, showing bridge number, casting date, and individual identification letters and numbers. Markings shall be made on the face of the girder, near the end, so located that they will be exposed after the end diaphragms have been cast. Facia girders shall be marked on an inside face. All markings shall be stencilled and be clearly legible. For location of girders, see framing plan.

All material and work shown or noted on this sheet shall be included in unit price bid for prestressed concrete girders. See M. H. D. 2405.

See framing plan for girder ends marked "X".

Approximate weight of girder G17, 32.1 TONS; G2, 31.4 TONS; G18, 31.0 TONS; G19, 30.1 TONS

See framing plan for girder ends marked "X".

Approximate weight of girder G17, 32.1 TONS; G2, 31.4 TONS; G18, 31.0 TONS; G19, 30.1 TONS

MINIMUM CONCRETE STRENGTH - P.S.I.						
	①	③	f'c	②	③	f'c
Computed Min. Concrete Strength			2460			3270
Required Min. Concrete Strength			4500			5000

① Minimum concrete strength at time of prestress transfer.

② Minimum concrete strength when curing can be discontinued and girder transported and installed.

③ Required minimum concrete strength shall be used. Computed minimum concrete strength is for information only.

AS BUILT 10-16-73 B. J. J.

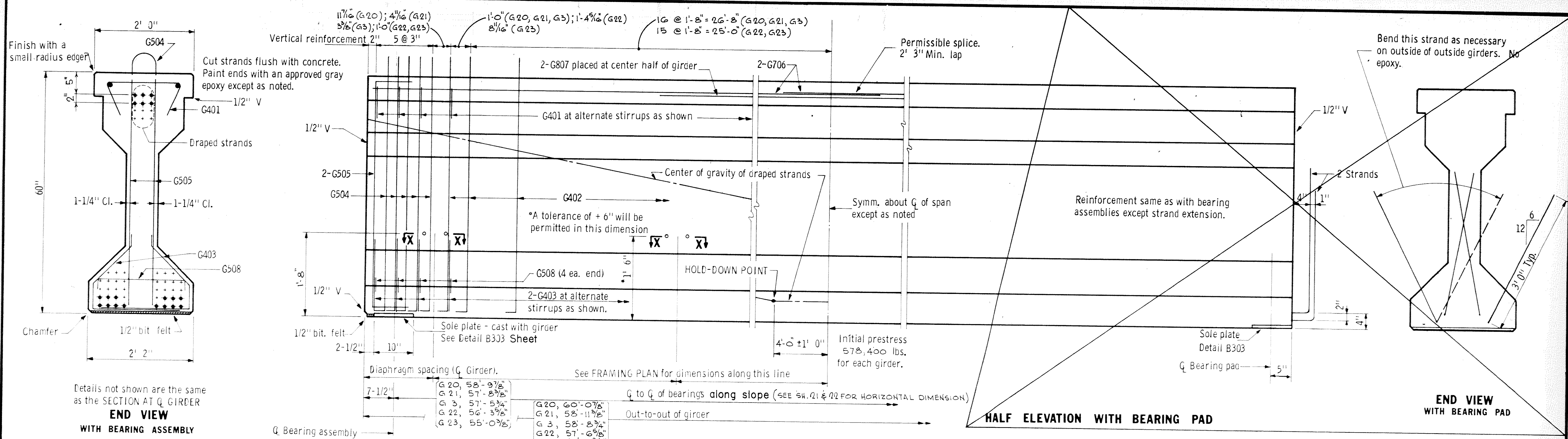
Fig. 5-397.506
Oct. 15, 1969

Bridge No. 02522

Sheet No. 18 of 35 Sheets

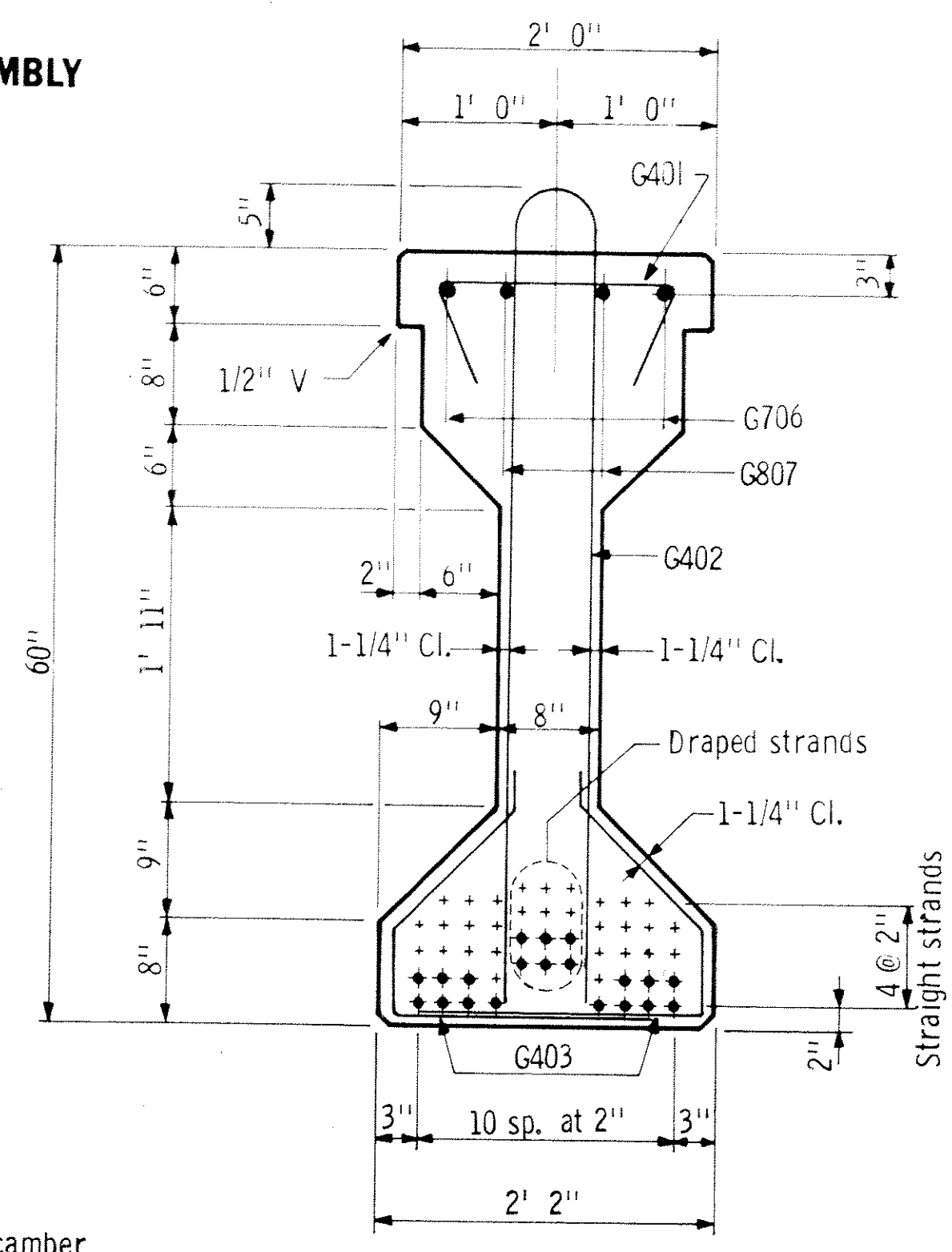
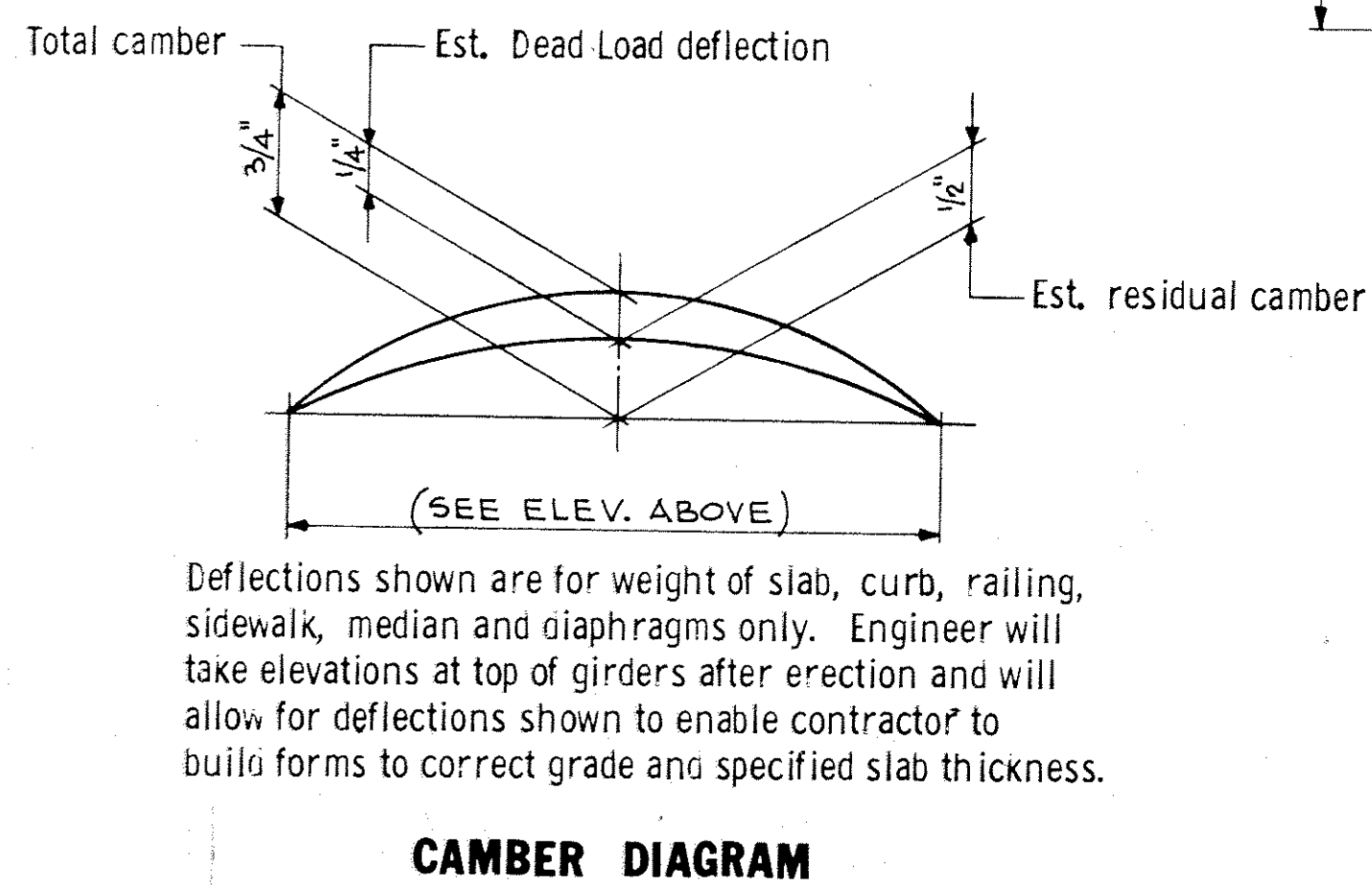
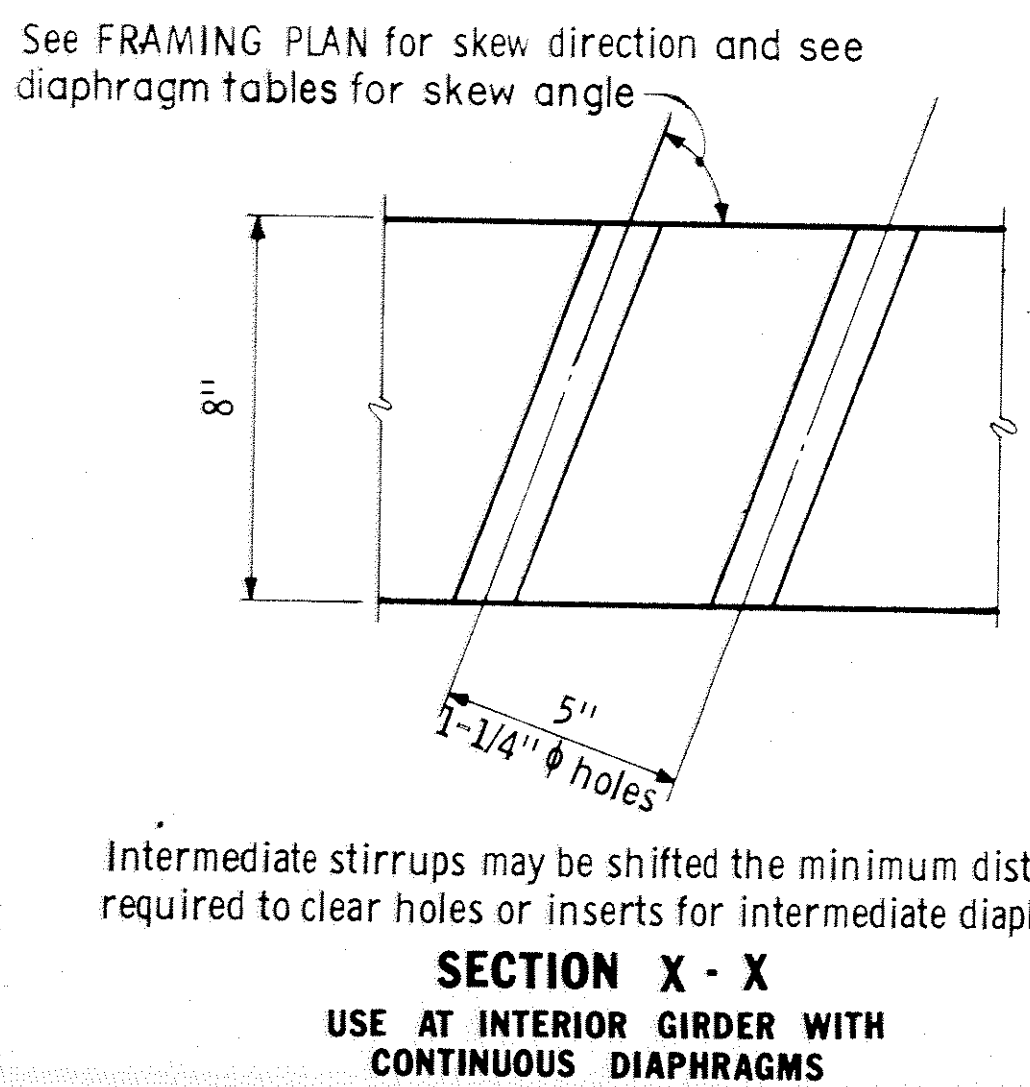
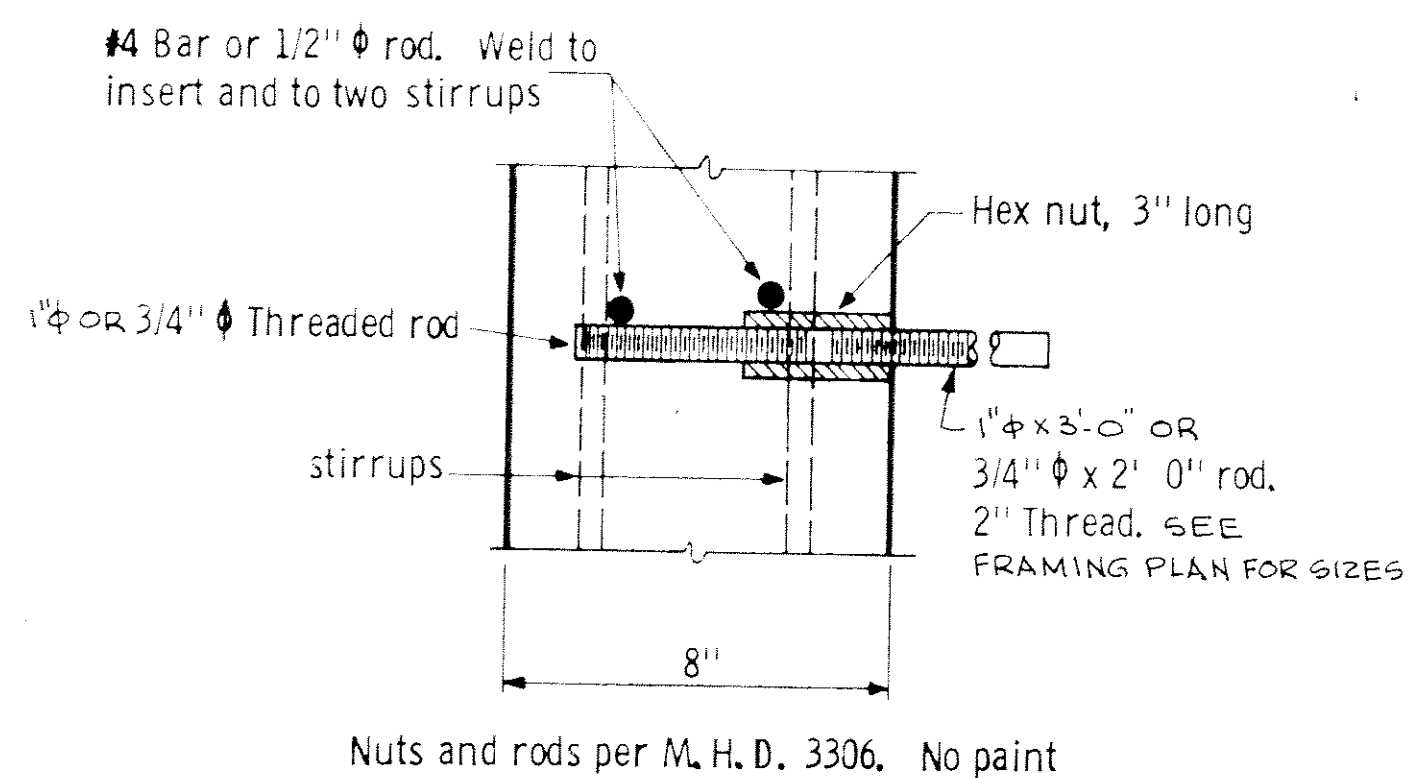
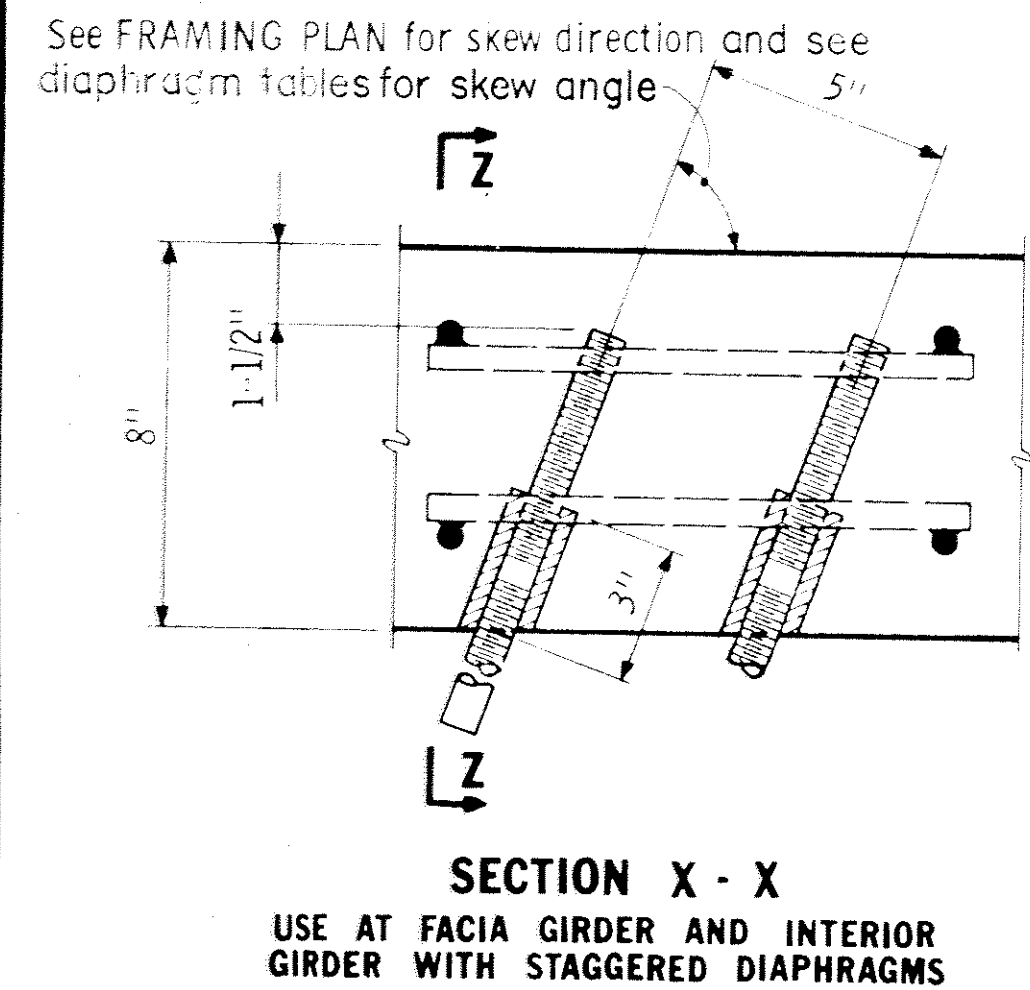
60" PRESTRESSED CONCRETE GIRDER (PRETENSIONED) TYPE 60-64

DES: RMM:J DR: M.H.D./W.K. APPROVED: 12-21-71
CHK: MOPY CHK: RMM:J



Details not shown are the same as the SECTION AT Q GIRDER

END VIEW WITH BEARING ASSEMBLY

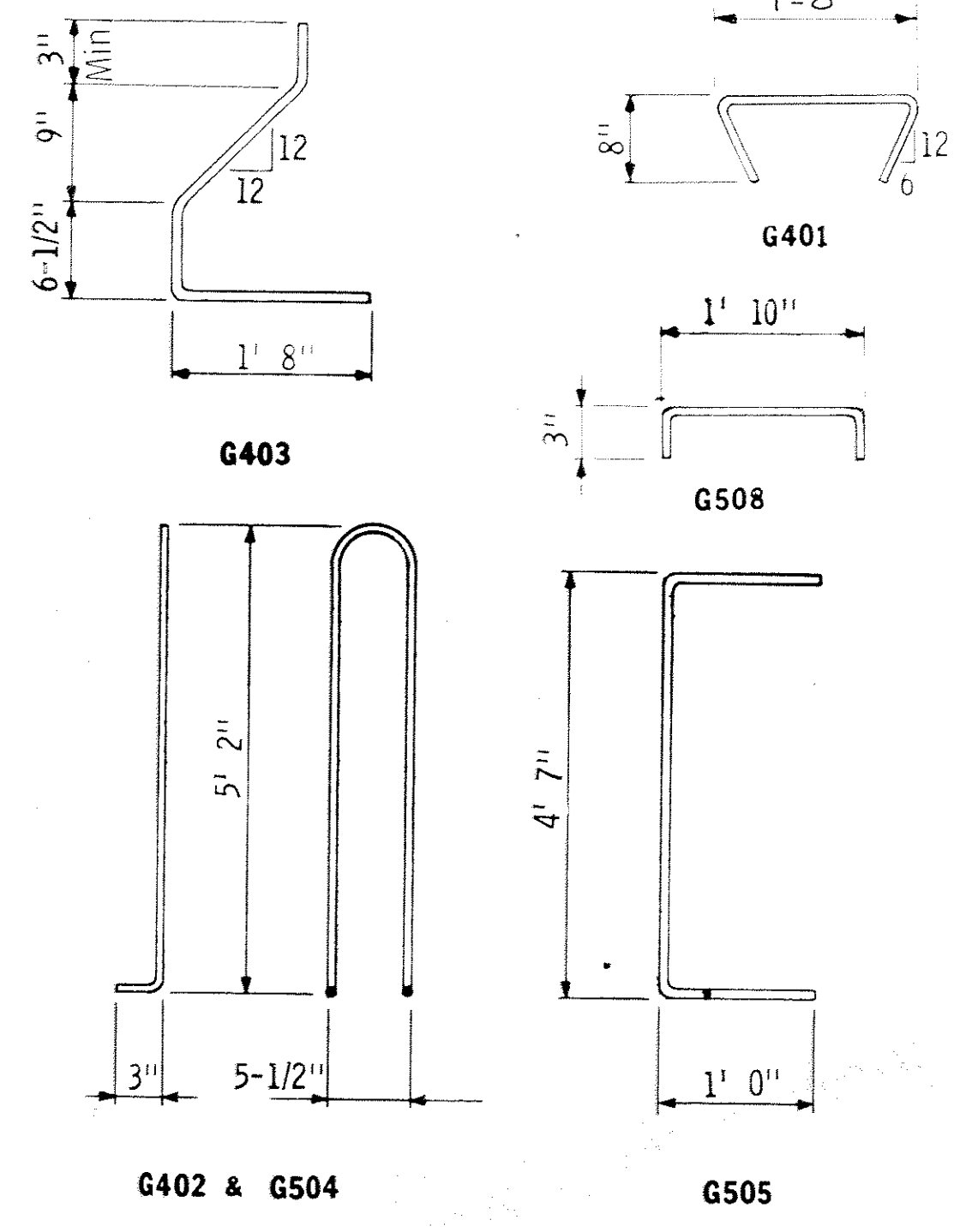


Y DISTANCES (IN INCHES)			
	NO.	Q SPAN	END
Straight strands	14	2.86"	
Draped strands	6	6.00"	54.00"
Total strands	20	3.80"	

Y = distance of Center of Gravity of strands from bottom of girder. All strands spaced 2" c-c, horizontally and vertically.

All strands 1/2" φ 270 kip, ultimate strength.

*A tolerance of ± 2" will be permitted in this dimension.



First digit of bar mark indicates bar size. AS BUILT 10-16-73 B. Saha

All bar dimensions are out-to-out.

GIRDERS G20, G21, G3, G22, G23

TITLE: **60" PRESTRESSED CONCRETE GIRDER (PRETENSIONED) TYPE 60-59**

GENERAL NOTES:

Tops of girders shall be rough floated and broomed transversely for bond. Provide handling hooks or devices as required by Contractor. Hooks or devices provided will be subject to approval of Engineer and shall be installed within 4' 0" of the end of girder.

A modified strand pattern which does not change center of gravity of strands may be submitted to the Engineer for approval.

A post-tensioned girder may be used as an alternate for the pretensioned design shown. M. H. D. will have plans available for the post-tensioned alternate.

Each girder shall be marked, showing bridge number, casting date, and individual identification letters and numbers. Markings shall be made on the face of the girder, near the end, so located that they will be exposed after the end diaphragms have been cast. Facia girders shall be marked on an inside face. All markings shall be stencilled and be clearly legible. For location of girders, see framing plan.

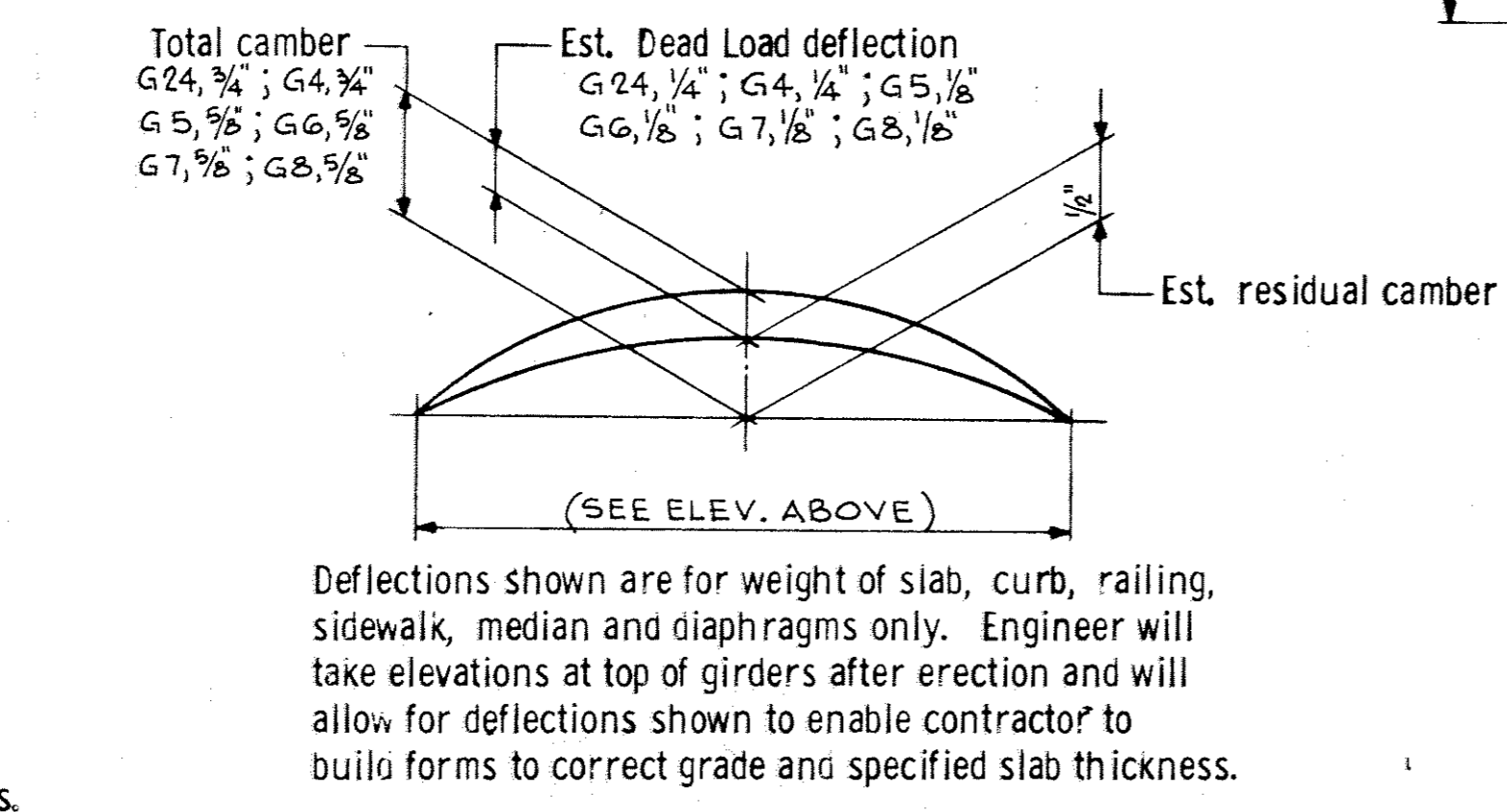
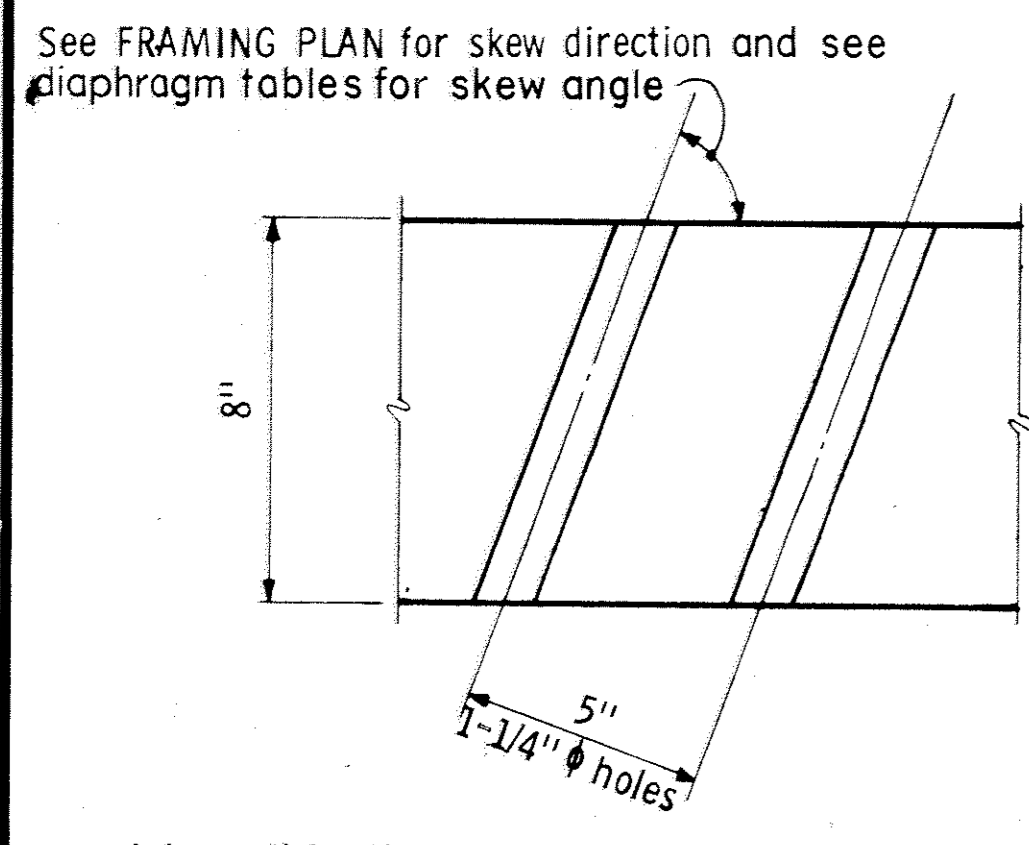
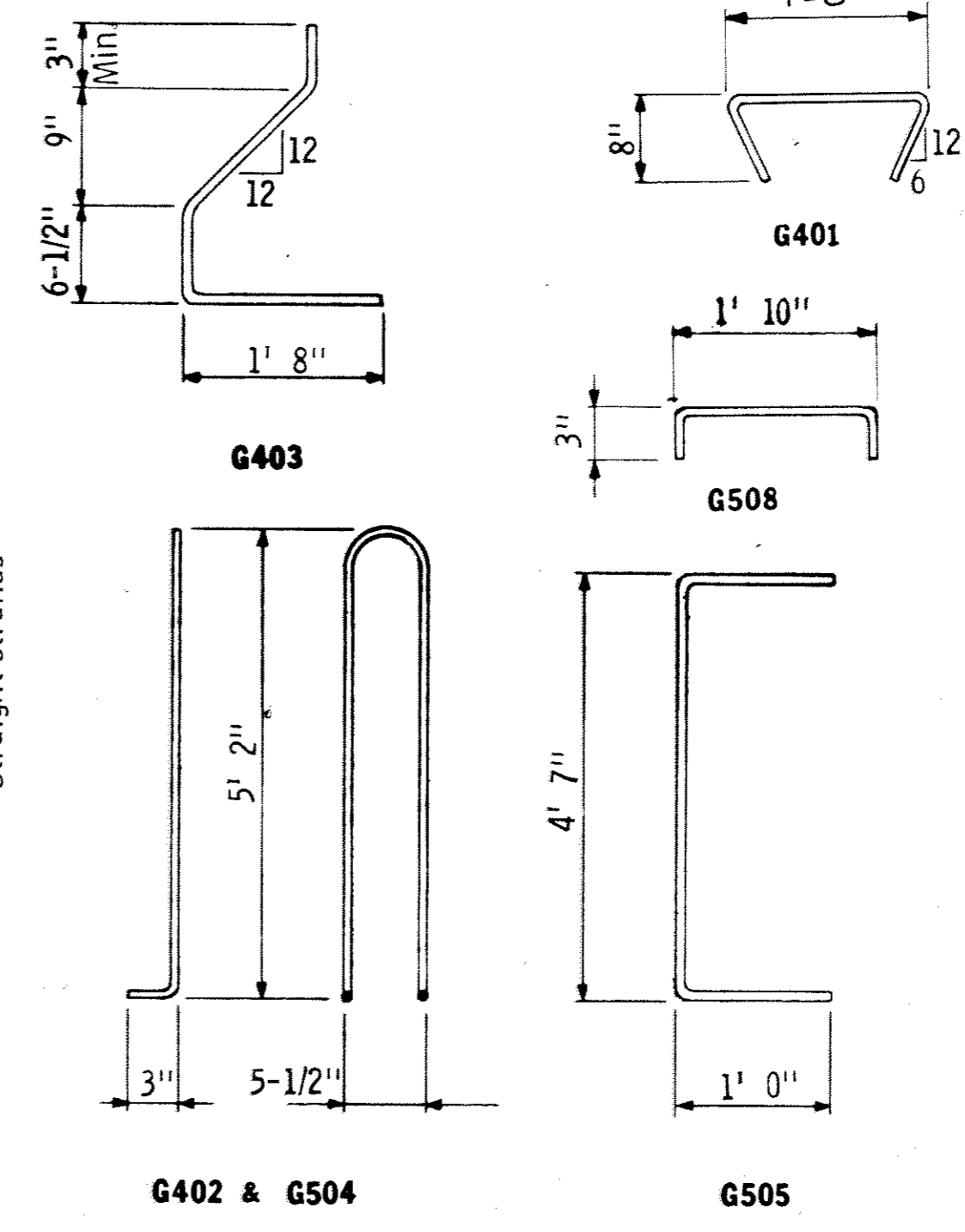
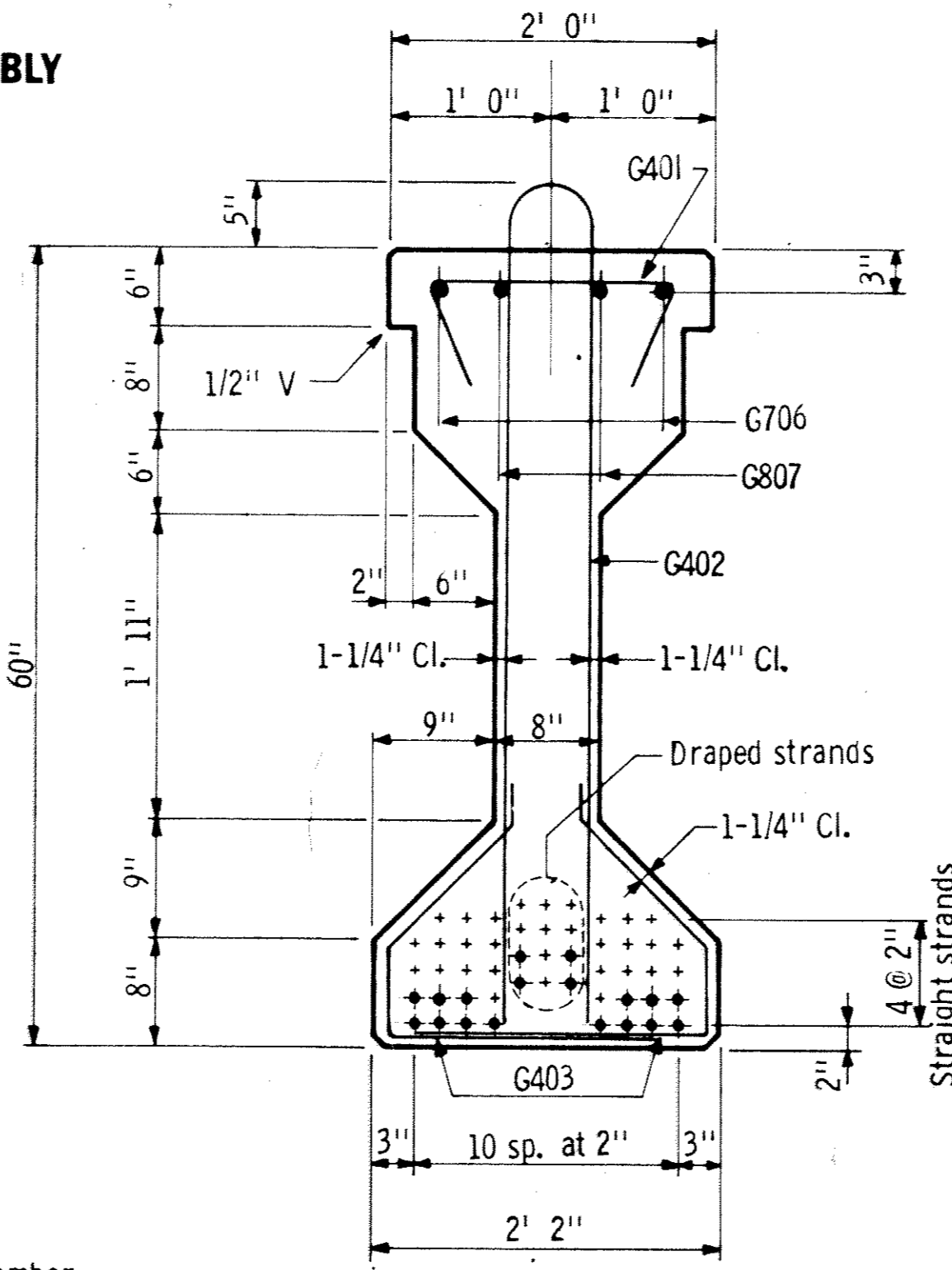
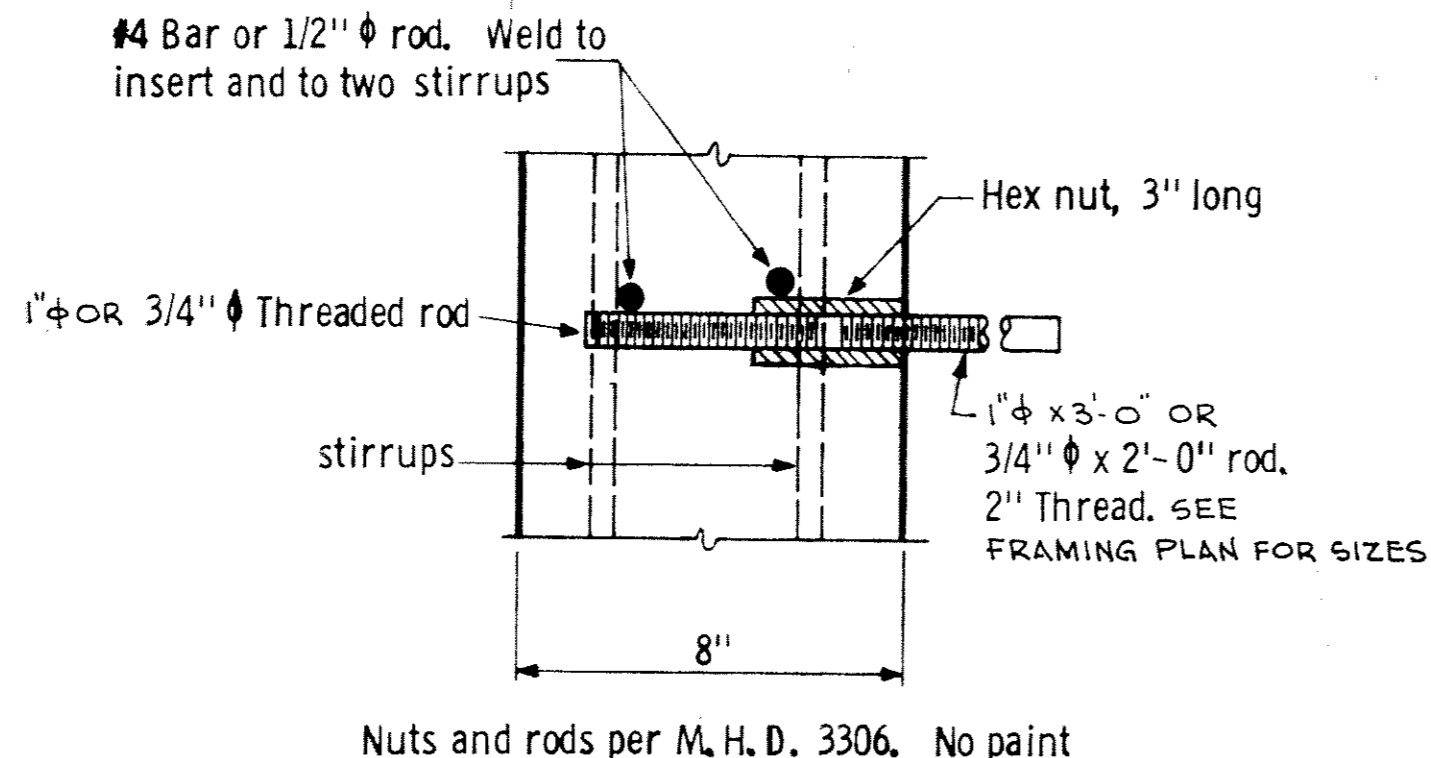
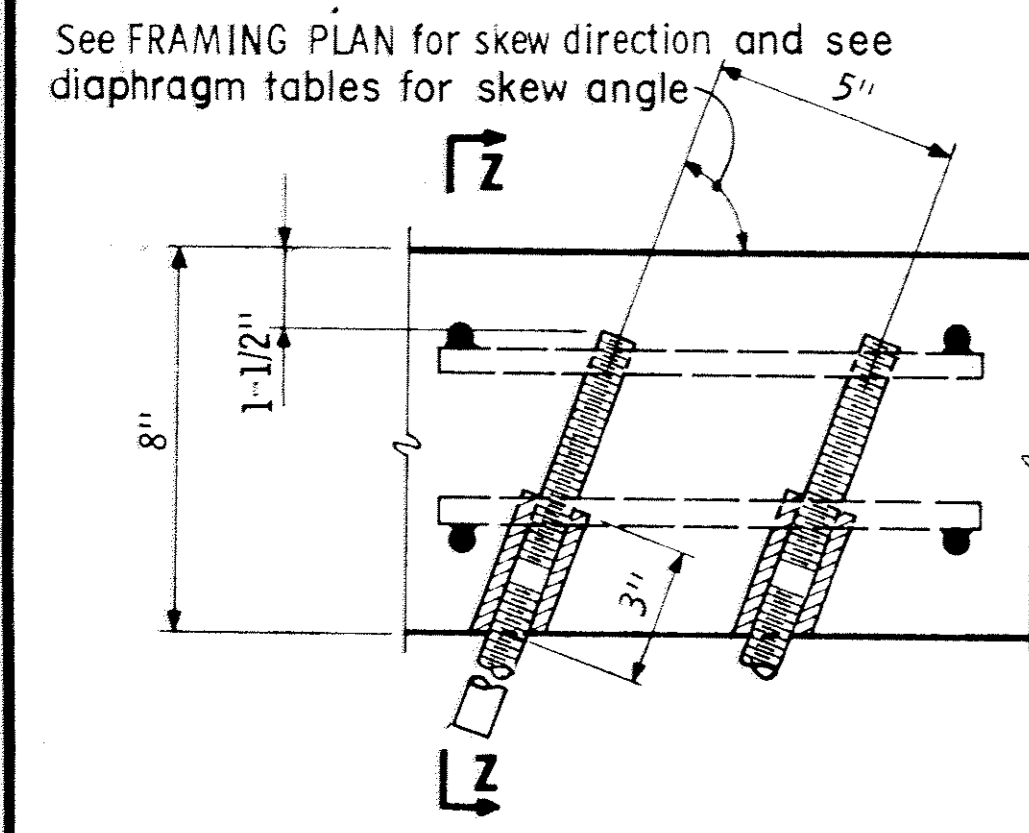
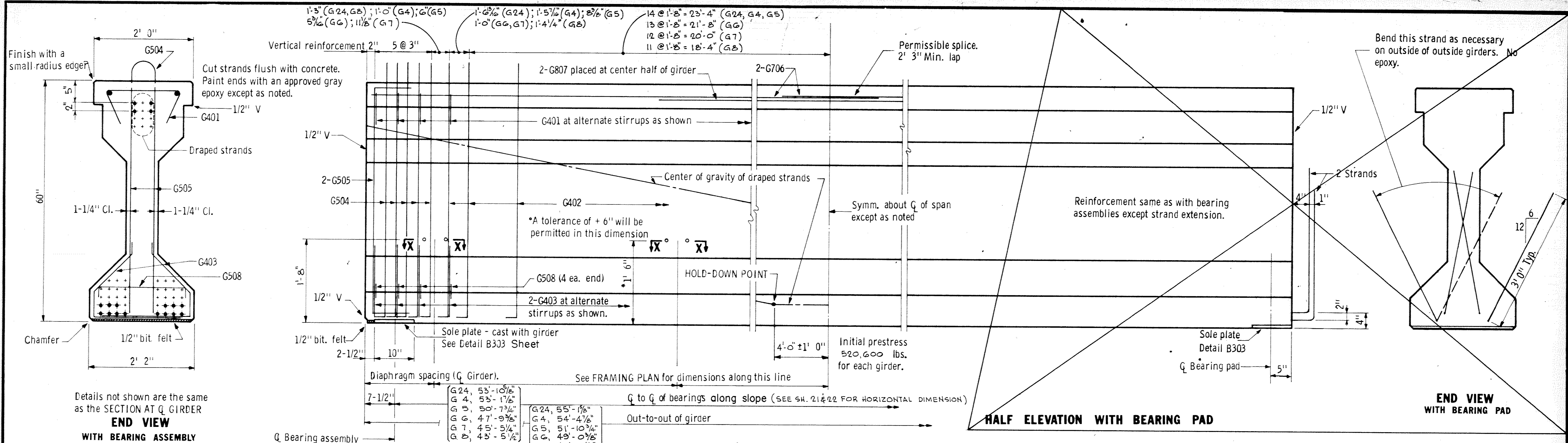
All material and work shown or noted on this sheet shall be included in unit price bid for prestressed concrete girders. See M. H. D. 2405.

See framing plan for girder ends marked "X".

Approximate weight of girder G20, 29.2 TONS; G21, 28.7 TONS; G3, 28.6 TONS; G22, 28.0 TONS; G23, 27.4 TONS.

MINIMUM CONCRETE STRENGTH - P.S.I.			
	①	③	② ③
Computed Min. Concrete Strength	2120	2320	
Required Min. Concrete Strength	4500	5000	

- ① Minimum concrete strength at time of prestress transfer.
- ② Minimum concrete strength when curing can be discontinued and girder transported and installed.
- ③ Required minimum concrete strength shall be used. Computed minimum concrete strength is for information only.



Y DISTANCES (IN INCHES)

	NO.	Q SPAN	END
Straight strands	14	2.86"	
Draped strands	4	6.00"	54.00"
Total strands	18	3.56"	

Y = distance of Center of Gravity of strands from bottom of girder. All strands spaced 2" c-c, horizontally and vertically.

All strands 1/2" φ 270 kip, ultimate strength.

*A tolerance of ± 2" will be permitted in this dimension.

GENERAL NOTES:

Tops of girders shall be rough floated and broomed transversely for bond.

Provide handling hooks or devices as required by Contractor. Hooks or devices provided will be subject to approval of Engineer and shall be installed within 4' 0" of the end of girder.

A modified strand pattern which does not change center of gravity of strands may be submitted to the Engineer for approval.

A post-tensioned girder may be used as an alternate for the pretensioned design shown. M. H. D. will have plans available for the post-tensioned alternate.

Each girder shall be marked, showing bridge number, casting date, and individual identification letters and numbers. Markings shall be made on the face of the girder, near the end, so located that they will be exposed after the end diaphragms have been cast. Facia girders shall be marked on an inside face. All markings shall be stencilled and be clearly legible. For location of girders, see framing plan.

All material and work shown or noted on this sheet shall be included in unit price bid for prestressed concrete girders. See M. H. D. 2405.

See framing plan for girder ends marked 'X'.

Approximate weight of girder G24, 26.8 TONS; G4, 26.5 TONS; G5, 25.3 TONS; G6, 23.9 TONS; G7, 22.7 TONS; G8, 21.8 TONS.

MINIMUM CONCRETE STRENGTH - P.S.I.

	① ③ f'ci	② ③ f'c
Computed Min. Concrete Strength	2080	2300
Required Min. Concrete Strength	4500	5000

- ① Minimum concrete strength at time of prestress transfer.
- ② Minimum concrete strength when curing can be discontinued and girder transported and installed.
- ③ Required minimum concrete strength shall be used. Computed minimum concrete strength is for information only.

First digit of bar mark indicates bar size. All bar dimensions are out-to-out.

AS BUILT 10-16-73 B. Jahn

GIRDERS G24, G4, G5, G6, G7, G8

TITLE: **60" PRESTRESSED CONCRETE GIRDER (PRETENSIONED) TYPE 60-51**

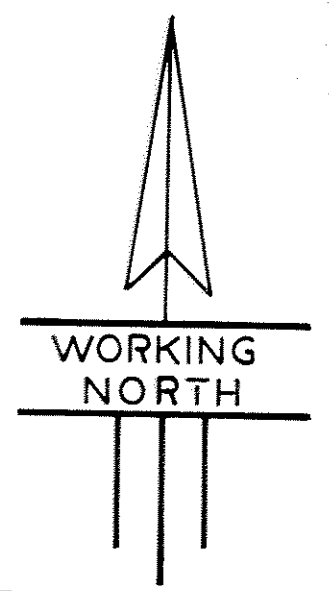
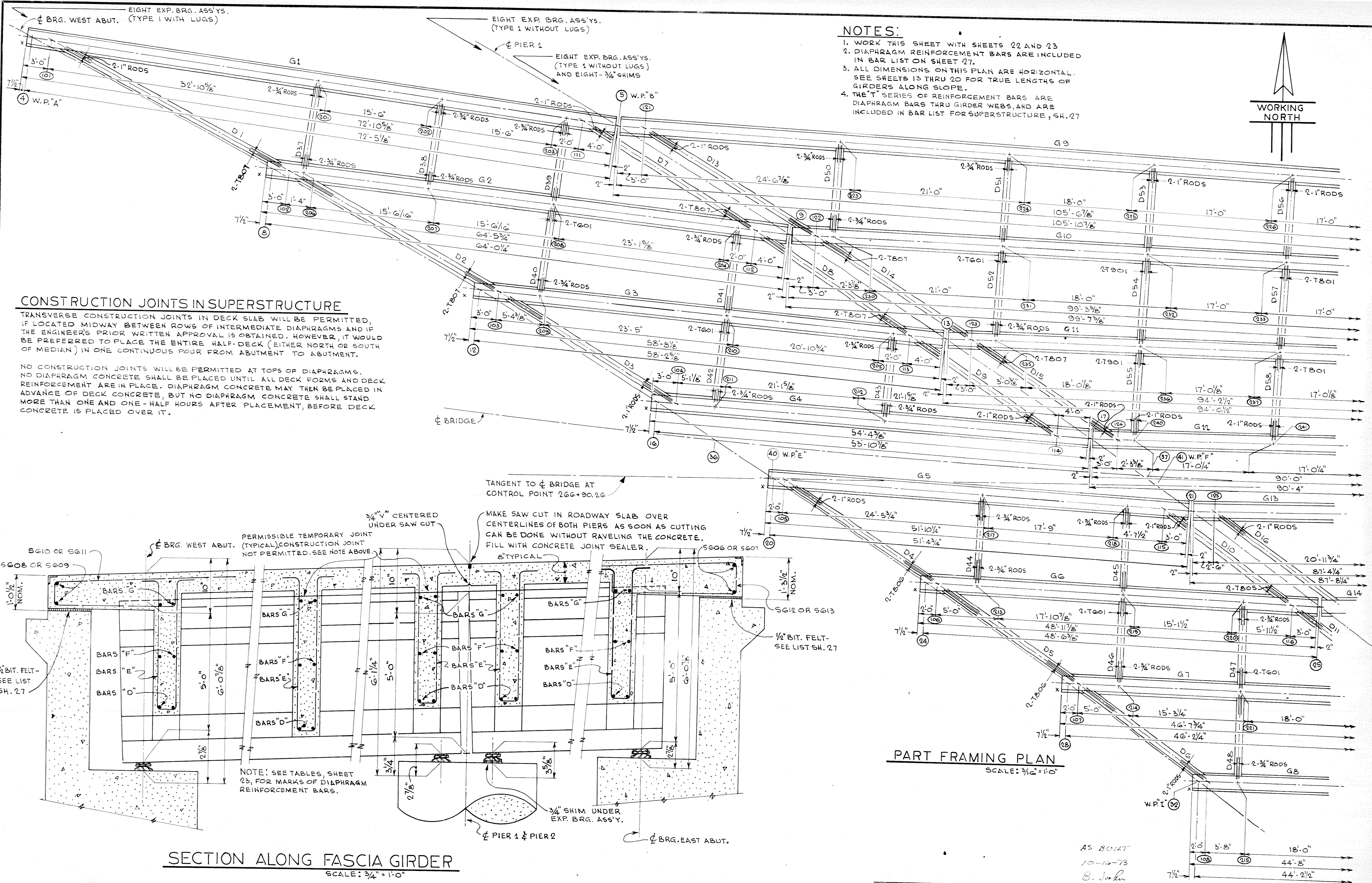
DES: *[Signature]* DR: M.H.D./W.K. APPROVED: *[Signature]*

CHK: *[Signature]* CHK: *[Signature]* 12-21-71

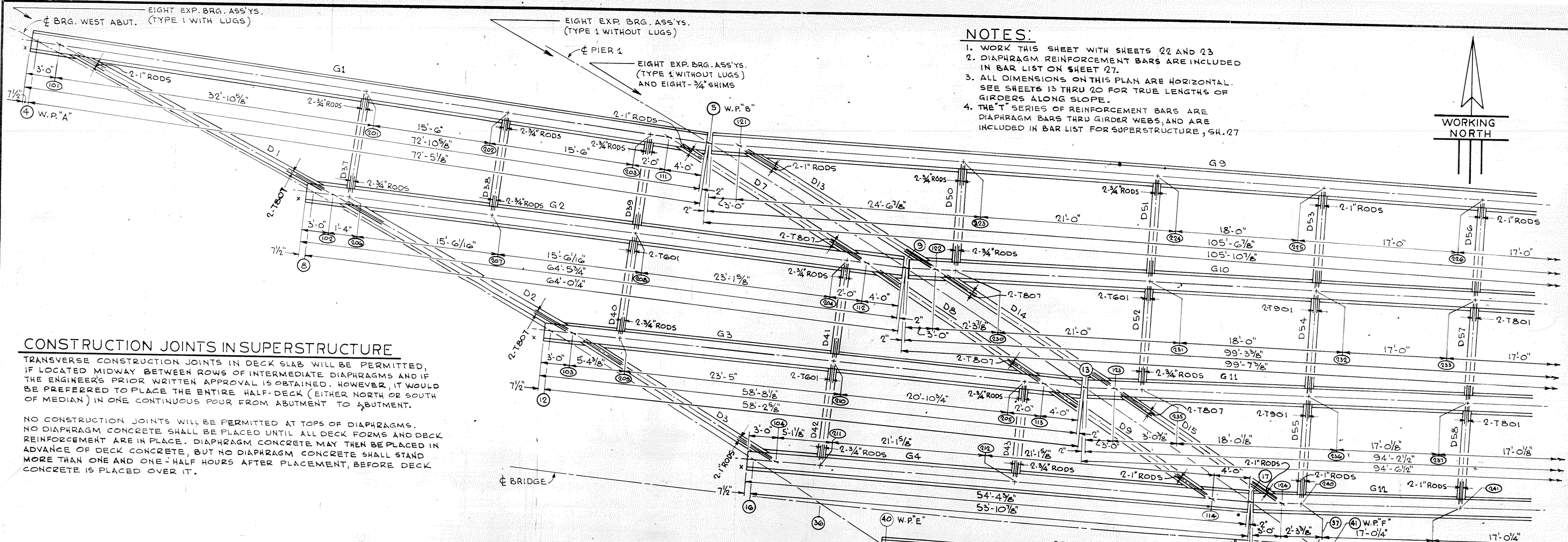
Sheet No. 20 of 35 Sheets

Bridge No. 02522

Fig. 5-397.506
Oct. 15, 1969



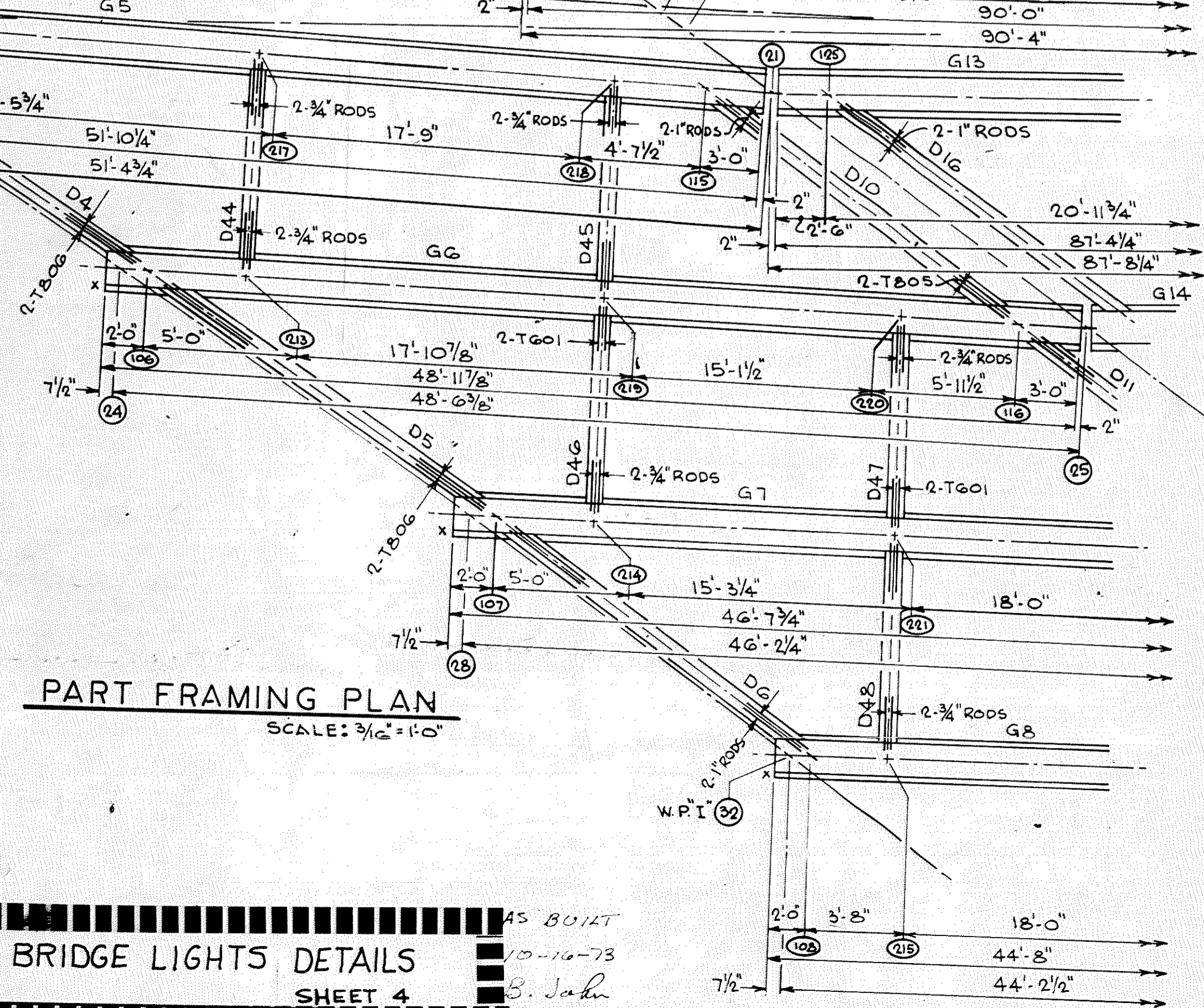
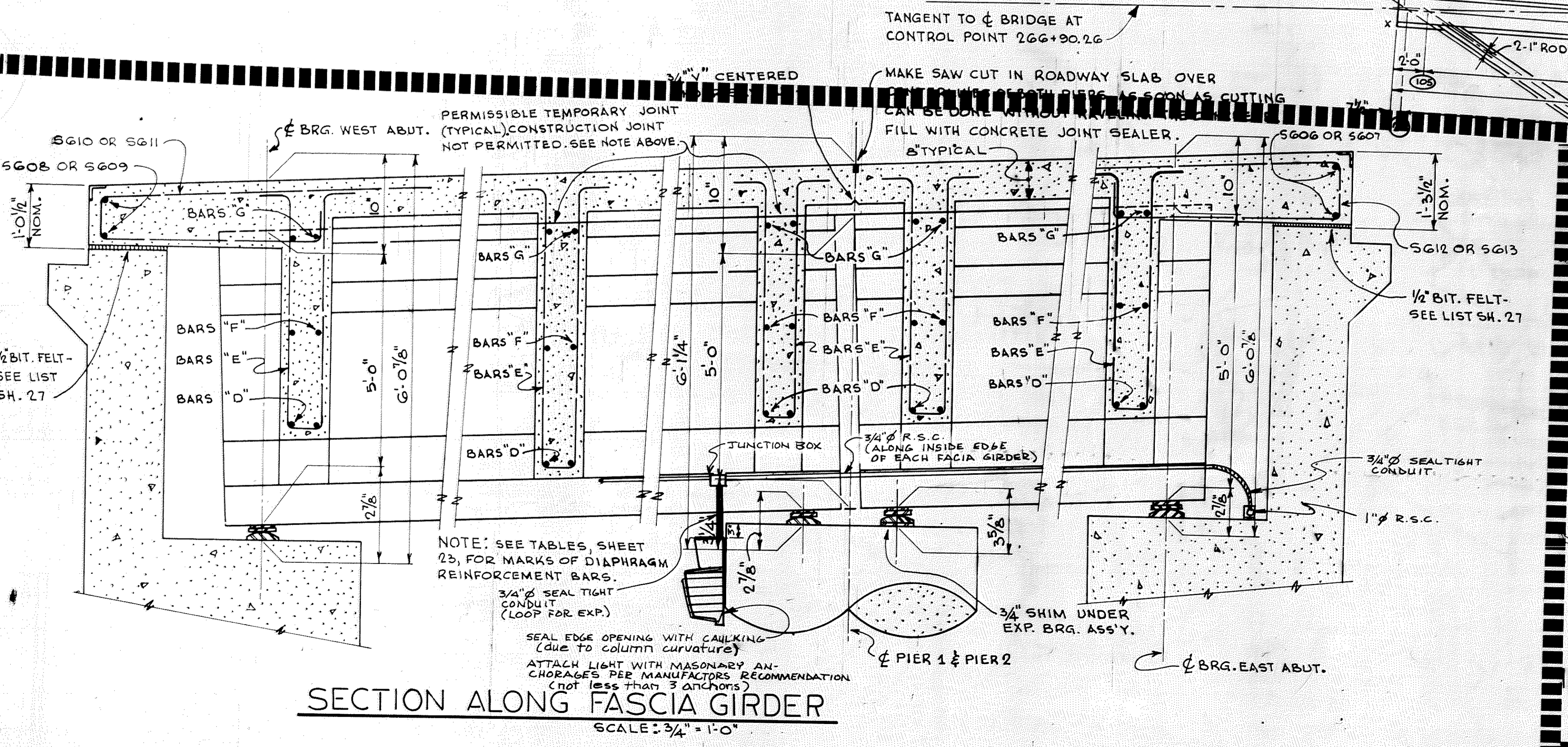
TITLE:	DES: RYM	DR: W.K.	APPROVED:	Bridge No.
PART FRAMING PLAN - W.	CHK: MODY	CHK: RYM		02522
Sheet No. 21 of 35 Sheets				

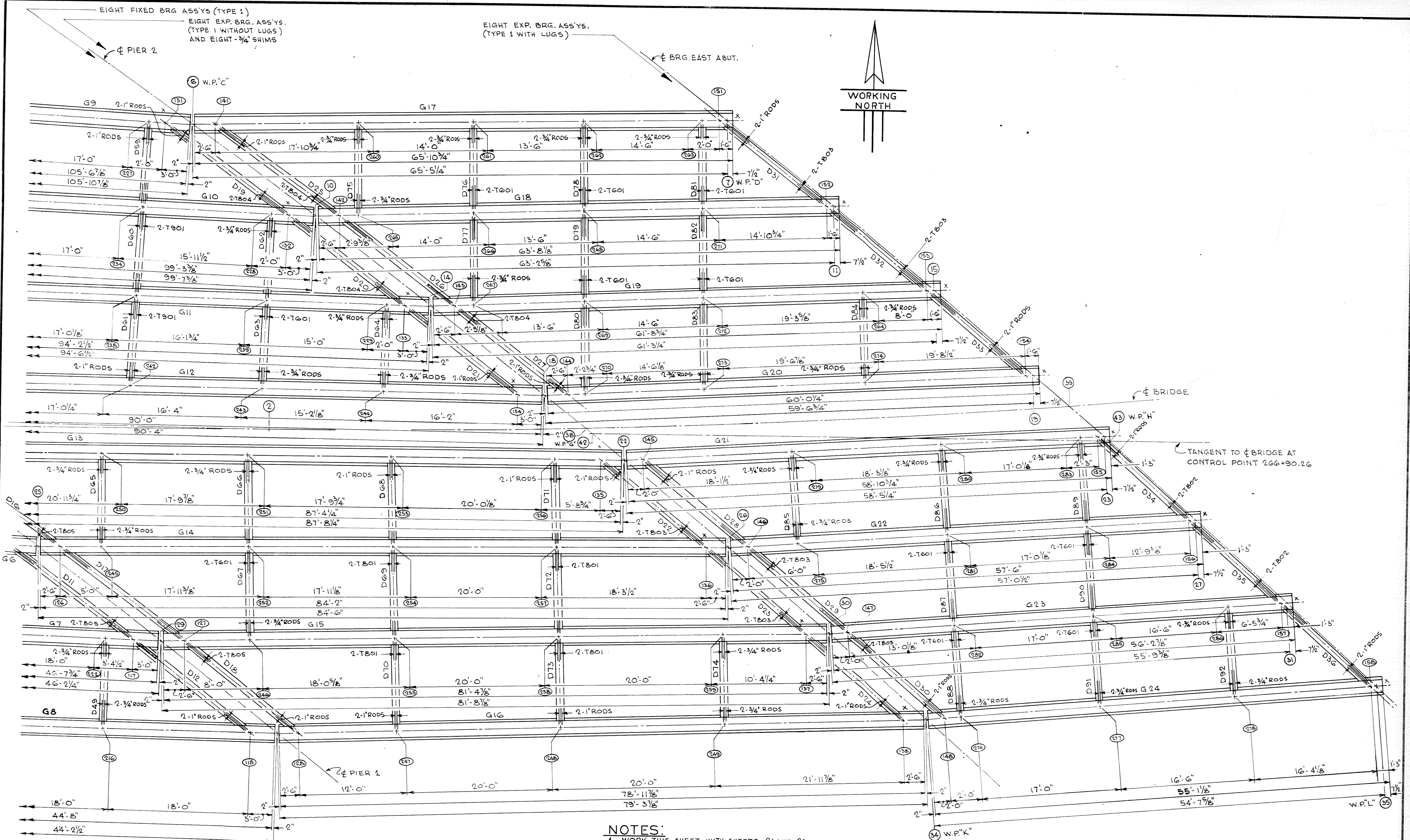


CONSTRUCTION JOINTS IN SUPERSTRUCTURE

TRANSVERSE CONSTRUCTION JOINTS IN DECK SLAB WILL BE PERMITTED, IF LOCATED MIDWAY BETWEEN ROWS OF INTERMEDIATE DIAPHRAGMS AND IF THE ENGINEER'S PRIOR WRITTEN APPROVAL IS OBTAINED. HOWEVER, IT WOULD BE PREFERRED TO PLACE THE ENTIRE HALF-DECK (EITHER NORTH OR SOUTH OF MEDIAN) IN ONE CONTINUOUS POUR FROM ABUTMENT TO ABUTMENT.

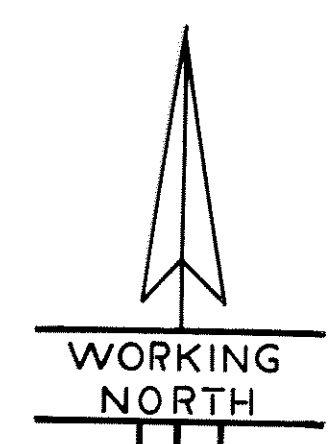
NO CONSTRUCTION JOINTS WILL BE PERMITTED AT TOPS OF DIAPHRAGMS. NO DIAPHRAGM CONCRETE SHALL BE PLACED UNTIL ALL DECK FORMS AND DECK REINFORCEMENT ARE IN PLACE. DIAPHRAGM CONCRETE MAY THEN BE PLACED IN ADVANCE OF DECK CONCRETE, BUT NO DIAPHRAGM CONCRETE SHALL STAND MORE THAN ONE AND ONE-HALF HOURS AFTER PLACEMENT, BEFORE DECK CONCRETE IS PLACED OVER IT.





EIGHT FIXED BRG ASS'YS (TYPE 1)
 EIGHT EXP. BRG. ASS'YS.
 (TYPE 1 WITHOUT LUGS)
 AND EIGHT 3/4" SHIMS

EIGHT EXP. BRG. ASS'YS.
 (TYPE 1 WITH LUGS)

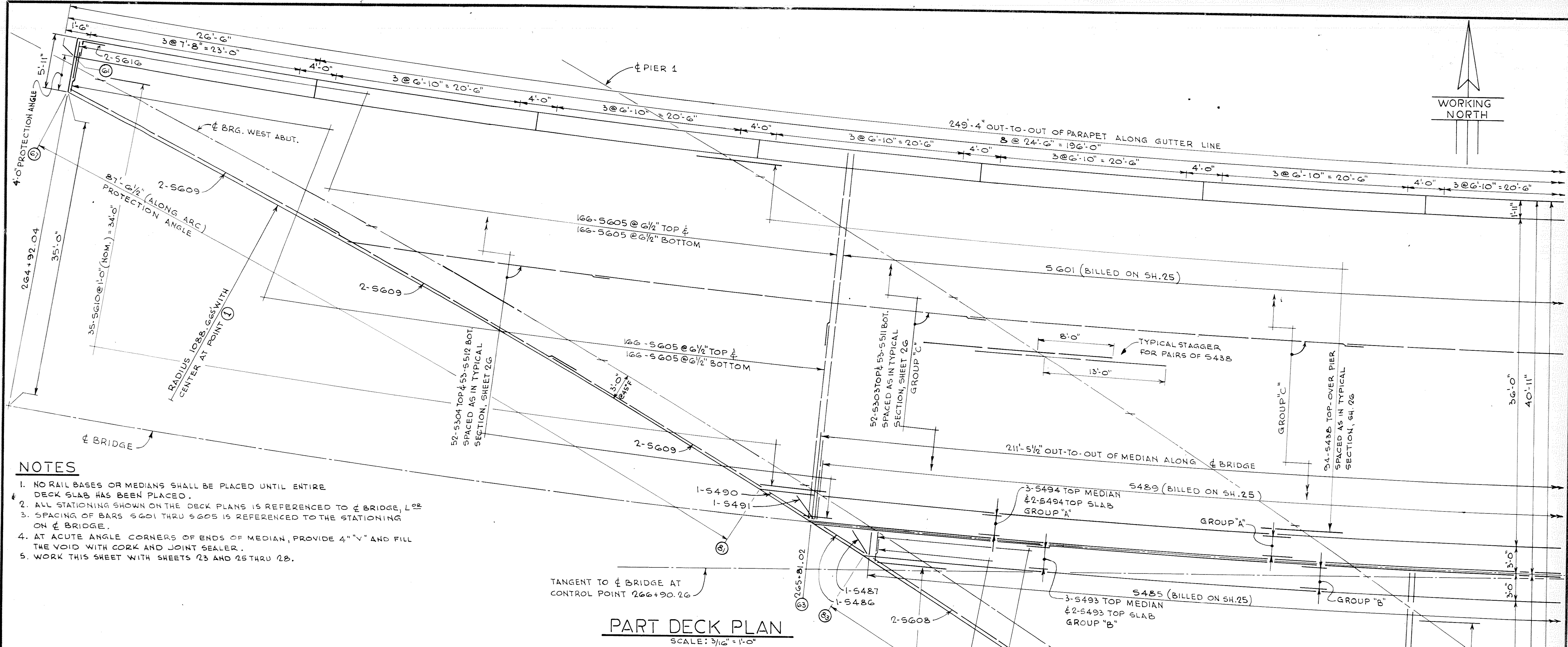
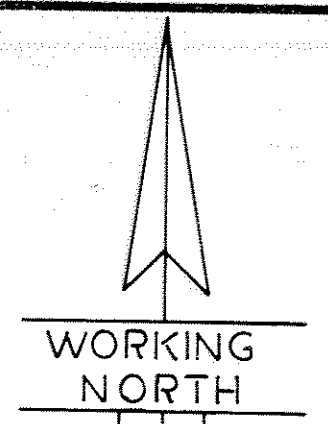


PART FRAMING PLAN
 SCALE: 3/16" = 1'-0"

- NOTES:**
1. WORK THIS SHEET WITH SHEETS 21 AND 23.
 2. DIAPHRAGM REINFORCEMENT BARS ARE INCLUDED IN BAR LIST ON SHEET 27.
 3. ALL DIMENSIONS ON THIS PLAN ARE HORIZONTAL. SEE SHEETS 13 THRU 20 FOR TRUE LENGTHS OF GIRDERS ALONG SLOPE.
 4. THE "T" SERIES OF REINFORCEMENT BARS ARE DIAPHRAGM BARS THRU GIRDER WEBS, AND ARE INCLUDED IN BAR LIST FOR SUPERSTRUCTURE, SH. 27

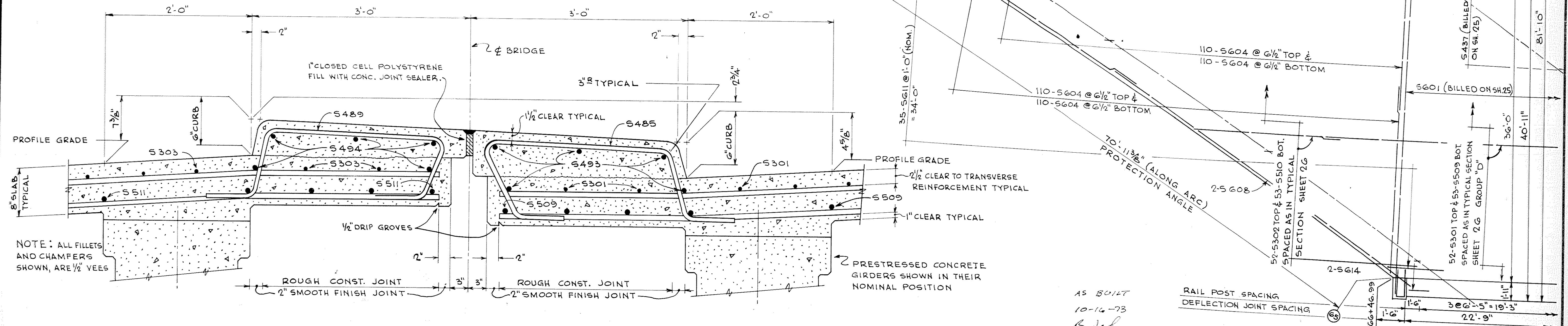
TITLE: **PART FRAMING PLAN-E.**

DES: <i>W.M.C.</i>	DR: <i>W.K.</i>	APPROVED:	AS BUILT
CHK: <i>MODY</i>	CHK: <i>W.M.C.</i>		10-16-73
Sheet No. 22 of 35 Sheets			8. <i>J.S.</i>
			Bridge No. 02522



- NOTES**
1. NO RAIL BASES OR MEDIANS SHALL BE PLACED UNTIL ENTIRE DECK SLAB HAS BEEN PLACED.
 2. ALL STATIONING SHOWN ON THE DECK PLANS IS REFERENCED TO ϕ BRIDGE, L²⁸
 3. SPACING OF BARS S601 THRU S605 IS REFERENCED TO THE STATIONING ON ϕ BRIDGE.
 4. AT ACUTE ANGLE CORNERS OF ENDS OF MEDIAN, PROVIDE 4" "V" AND FILL THE VOID WITH CORK AND JOINT SEALER.
 5. WORK THIS SHEET WITH SHEETS 23 AND 25 THRU 28.

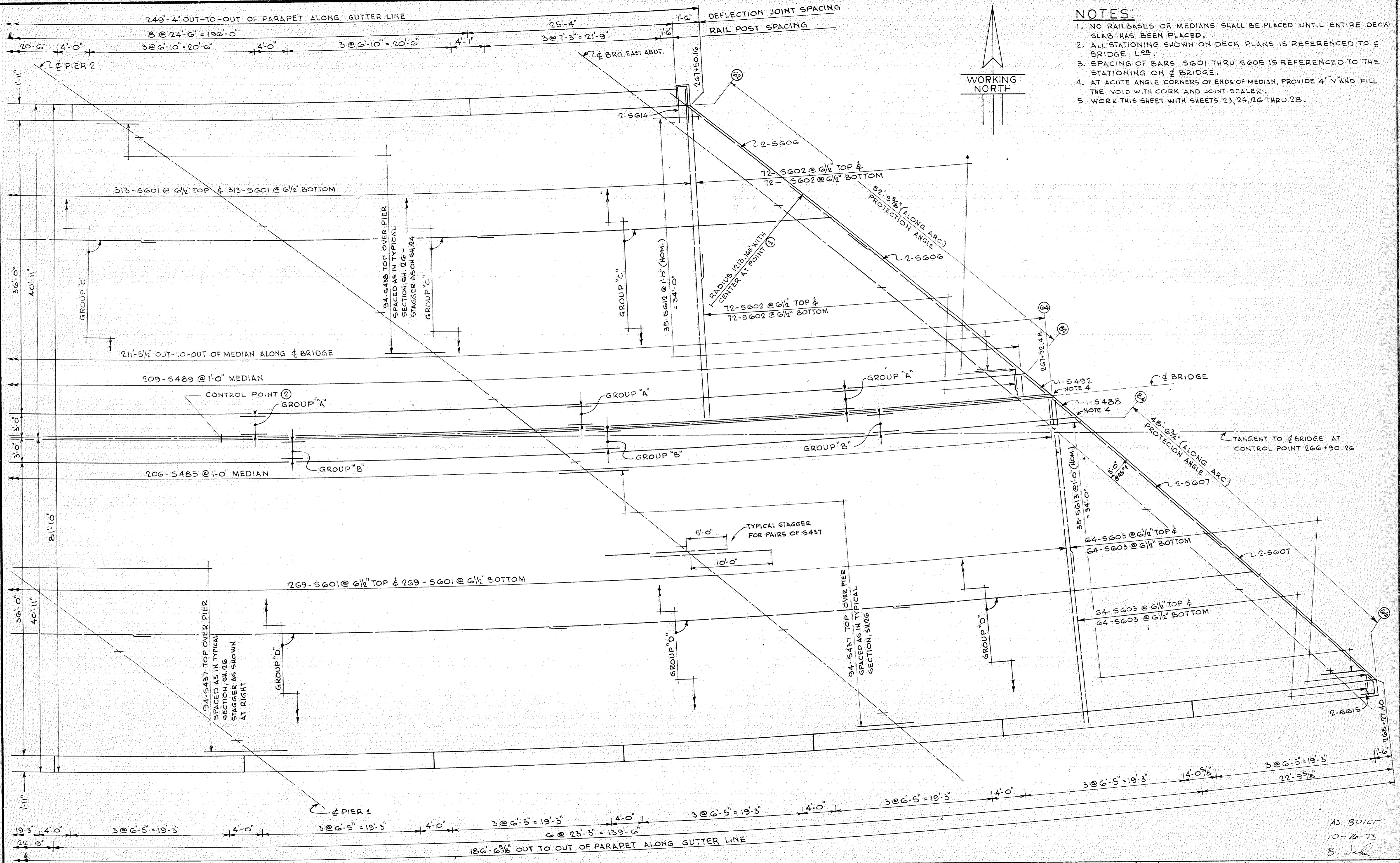
PART DECK PLAN
SCALE: 3/16" = 1'-0"



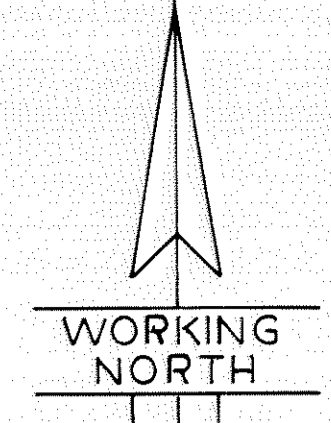
TYPICAL SECTION OF MEDIAN
SCALE: 1 1/2" = 1'-0"

AS BUILT
10-16-73
B. Jahn

TITLE:	DES: R.M.F.	DR: W.K.	APPROVED:	Bridge No.
PART DECK PLAN - W.	CHK: MODY	CHK: R.M.F.		02522
	Sheet No. 24 of 35 Sheets			



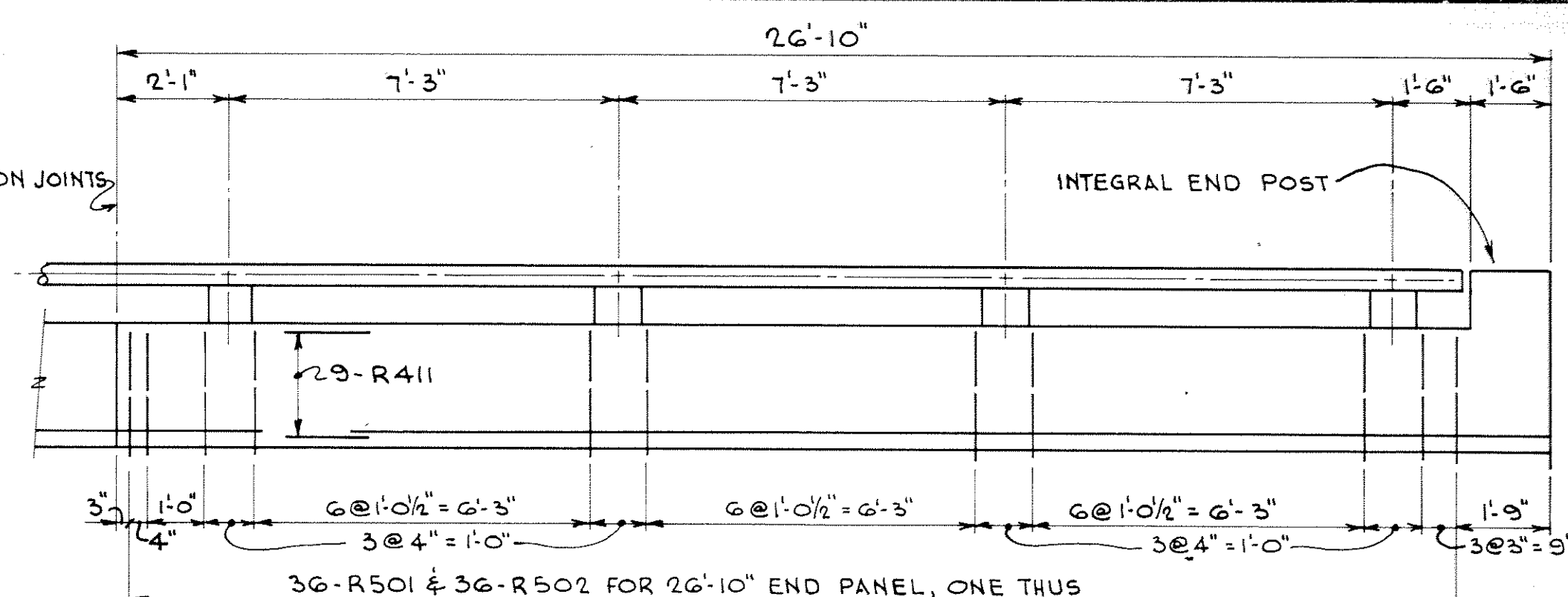
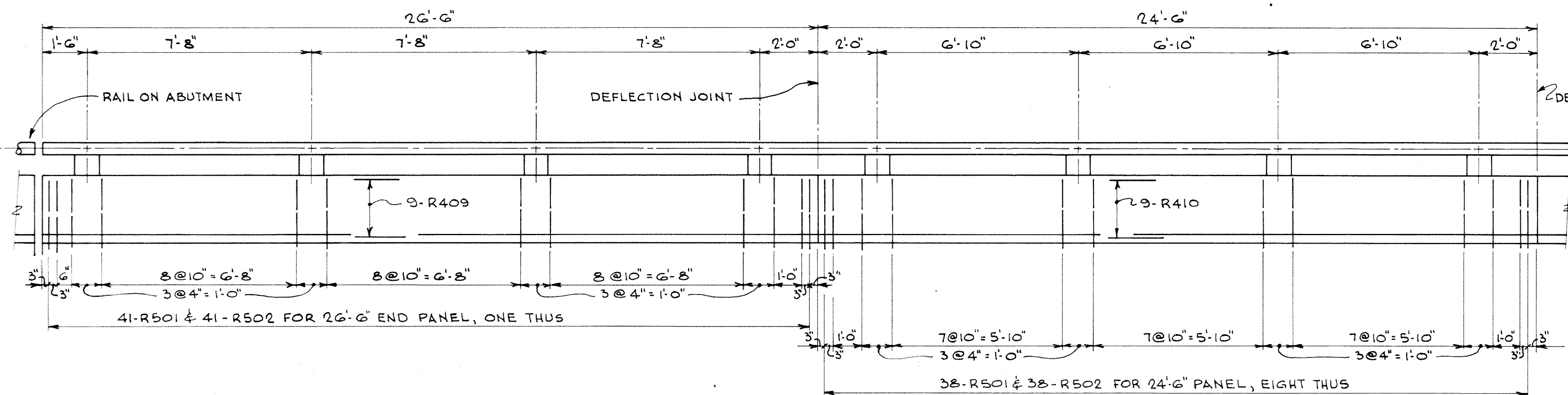
- NOTES:**
1. NO RAILBASES OR MEDIANS SHALL BE PLACED UNTIL ENTIRE DECK SLAB HAS BEEN PLACED.
 2. ALL STATIONING SHOWN ON DECK PLANS IS REFERENCED TO ϕ BRIDGE, L²⁵.
 3. SPACING OF BARS S601 THRU S605 IS REFERENCED TO THE STATIONING ON ϕ BRIDGE.
 4. AT ACUTE ANGLE CORNERS OF ENDS OF MEDIAN, PROVIDE 4" V AND FILL THE VOID WITH CORK AND JOINT SEALER.
 5. WORK THIS SHEET WITH SHEETS 23, 24, 26 THRU 28.



PART DECK PLAN
SCALE: 3/16" = 1'-0"

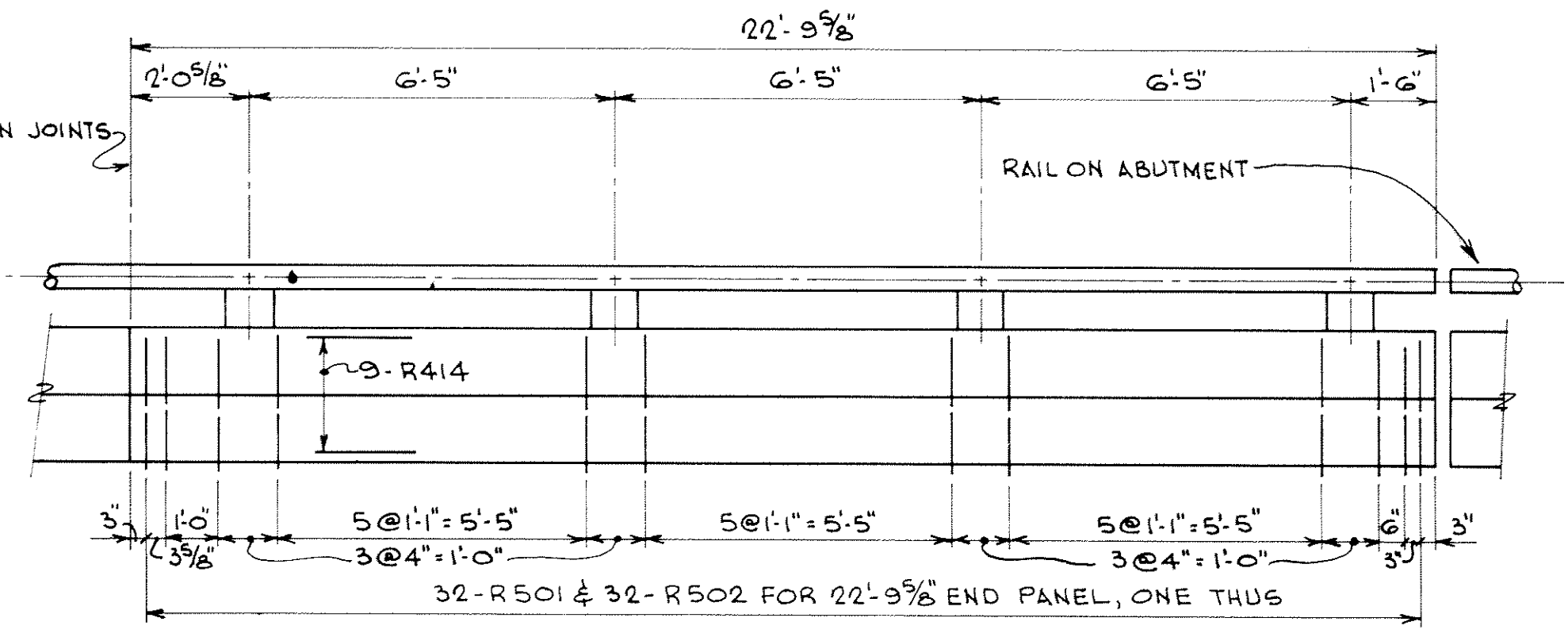
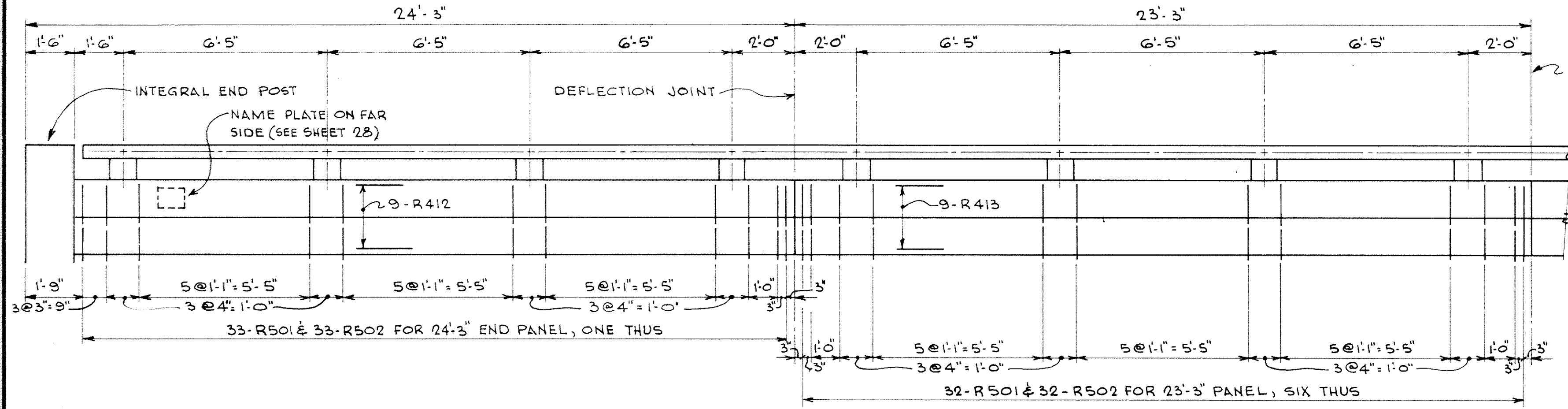
TITLE:	PART DECK PLAN-E.			DES:	MMD	DR: W.V.	APPROVED:	AS BUILT 10-10-73 B. Jahn
CHK:	MODY	CHK:	MMD	Sheet No. 25 of 35 Sheets				
					Bridge No. 02522			

ROBERT FORM 17, REV. 1985

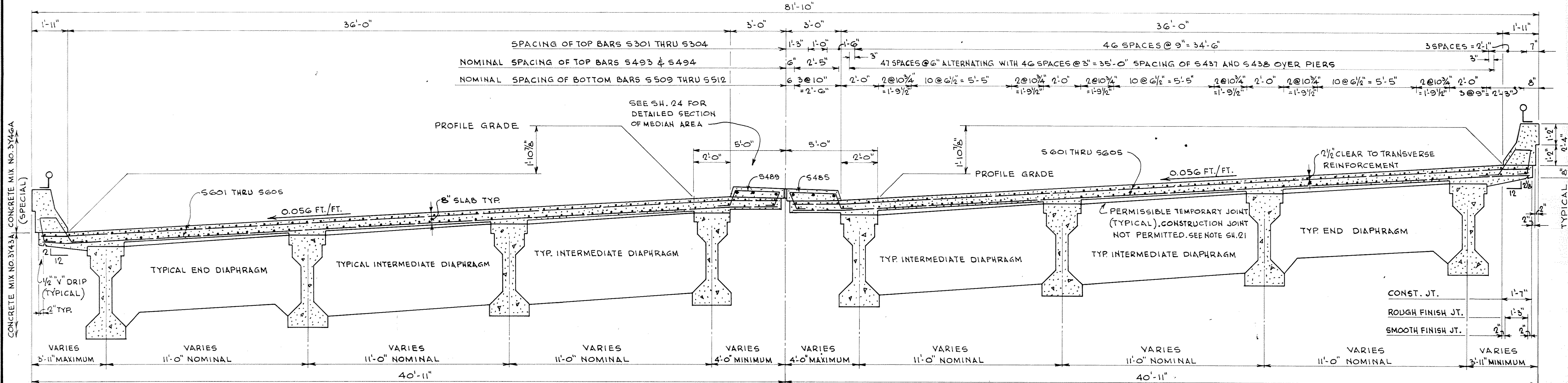


PARTIAL ELEVATION OF NORTH RAILING
(VIEWED TOWARD THE NORTH) SCALE: 3/8"=1'-0"

- NOTES**
1. R501, R502, R409 THRU R414, ARE ALL INCLUDED IN BAR LIST FOR RAILING, SHEET 28
 2. SEE SECTION A-A, SHEET 28, FOR PLACEMENT OF BARS R501, R502, R409 THRU R414
 3. BARS FOR INTEGRAL END POSTS ARE BILLED ON ELEVATION VIEW AND END VIEW, SHEET 28, AND ARE INCLUDED IN BAR LIST FOR RAILING, SHEET 28.
 4. RAILBASES SHALL NOT BE PLACED UNTIL ENTIRE DECK SLAB HAS BEEN PLACED.



PARTIAL ELEVATION OF SOUTH RAILING
(VIEWED TOWARD THE NORTH) SCALE: 3/8"=1'-0"



TYPICAL SECTION
SCALE: 3/8"=1'-0"

- NOTES**
1. SEE SECTION ALONG FASCIA GIRDER, SHEET 21, AND TABULATION, SHEET 23, FOR DIAPHRAGM BARS.
 2. ON TYPICAL SECTION, BAR SPACINGS ARE SYMMETRICAL ABOUT ϕ BRIDGE.
 3. WORK THIS SHEET WITH SHEETS 21 THRU 25, 27 AND 28.

AS BUILT
10-16-73
B. Jan

TITLE: DECK SECTION AND RAILING ELEVATIONS

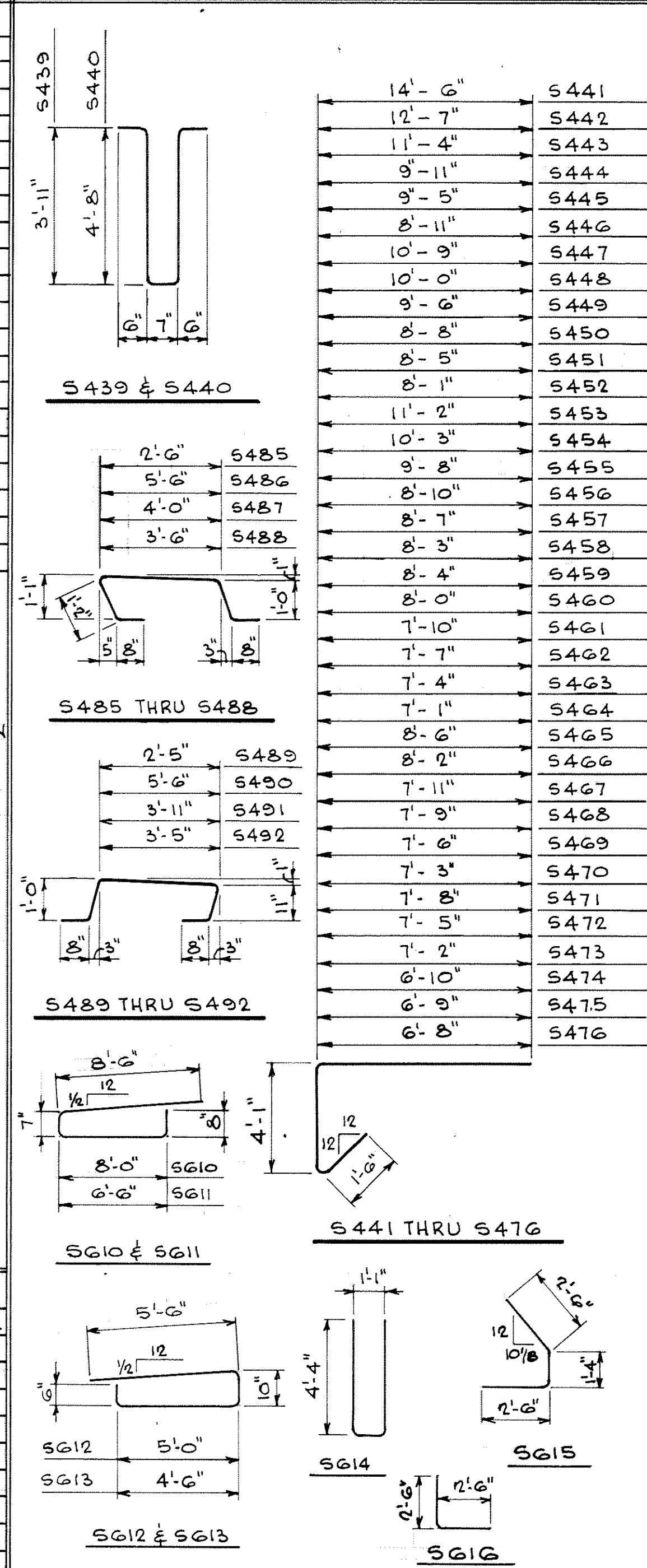
DES: *amf* DR: W.K. APPROVED: *amf*
CHK: MODY CHK: *amf*

Bridge No. 02522
Sheet No. 26 of 35 Sheets

SUMMARY OF QUANTITIES FOR SUPERSTRUCTURE

Table with 2 columns: Item Description and Quantity. Includes concrete mix (669 CU. YD.), reinforcement bars (176,280 LBS.), structural steel (2040 LBS.), ornamental metal railing (433 LIN. FT.), fixed bearing assemblies (24 UNITS), exp. bearing assemblies (28 UNITS), prestressed concrete girders (TYPE 60-100: 1, TYPE 60-95: 1, TYPE 60-86: 4, TYPE 60-76: 2, TYPE 60-64: 4, TYPE 60-59: 5, TYPE 60-51: 6), preformed joint filler (SEE LIST), and bridge name plate (ONE PLATE).

BENDING DIAGRAMS



QUANTITY NOTES

- 1. THE ABOVE SUMMARY INCLUDES RAILING QUANTITIES, FOR THE PORTION OF RAILING ON THE SUPERSTRUCTURE.
- 2. STRUCTURAL STEEL, AS TABULATED ABOVE, INCLUDES PROTECTION ANGLES AND GUARDRAIL CONNECTIONS.
- 3. THE VOLUME OF CONCRETE MIX NO. 3Y43A, FOR PAYMENT, WILL BE COMPUTED USING AN AVERAGE STOOD HEIGHT OF 2'.
- 4. PREFORMED JOINT FILLER IS INCLUDED FOR PAYMENT WITH OTHER ITEMS.
- 5. BRIDGE NAME PLATE IS INCLUDED FOR PAYMENT WITH OTHER ITEMS. NAME PLATE LETTERING: CITY OF COON RAPIDS MINNESOTA BRIDGE 02522 1972
- 6. SIXTEEN SHIMS 3/4 x 1/2 x 3'-4", DRILLED FOR ANCHOR RODS, SHALL BE PROVIDED AND INCLUDED FOR PAYMENT WITH EXP. BEARING ASSEMBLIES (TYPE 1 WITHOUT LUGS)
- 7. CONCRETE MIX NO. 3Y46A (SPECIAL) INCLUDES RAILBASES AND END POSTS. CONCRETE MIX NO. 3Y43A INCLUDES SLAB, MEDIAN, AND DIAPHRAGMS.

PREFORMED JOINT FILLER LIST

Table with 5 columns: TYPE, NO., SIZE, LOCATION, SEE SH. NO. Lists materials like polystyrene, felt, and cork used as joint fillers.

JOINT FILLER NOTES

- 1. CORK SHALL COMPLY WITH M.H.D. 3702 AND A.A.S.H.O. M-153, TYPE 2
- 2. SECURE CORK JOINT FILLER WITH 11 GAGE COPPER NAILS, OF SUITABLE LENGTH, AT ABOUT 18" CENTERS. CORK AND NAILS SHALL BE INCLUDED IN PRICE BID FOR OTHER ITEMS. TRIM CORK TO BOTTOM OF 'Y' AND SEAL WITH CONCRETE JOINT SEALER.
- 3. POLYSTYRENE SHALL BE TYPE A OR B. SEE SPECIAL PROVISIONS.
- 4. BITUMINOUS FELT SHALL COMPLY WITH M.H.D. 3702
- 5. THE JOINT FILLER LIST IS FOR THE CONTRACTOR'S CONVENIENCE. ONLY ANY ADDITIONAL JOINT FILLER REQUIRED AS SHOWN ON THE PLANS, SHALL BE FURNISHED BY THE CONTRACTOR WITH NO ADDITIONAL COMPENSATION.

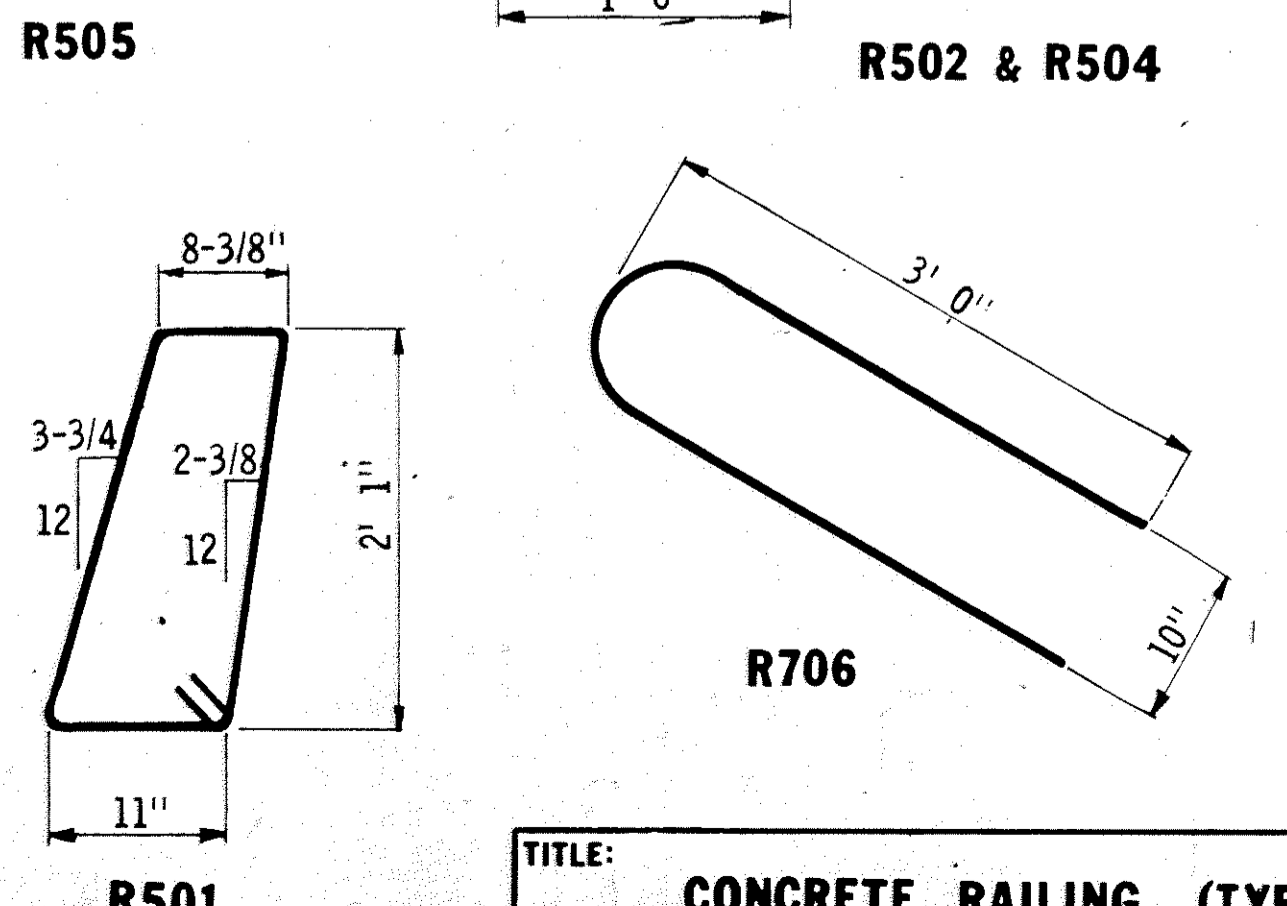
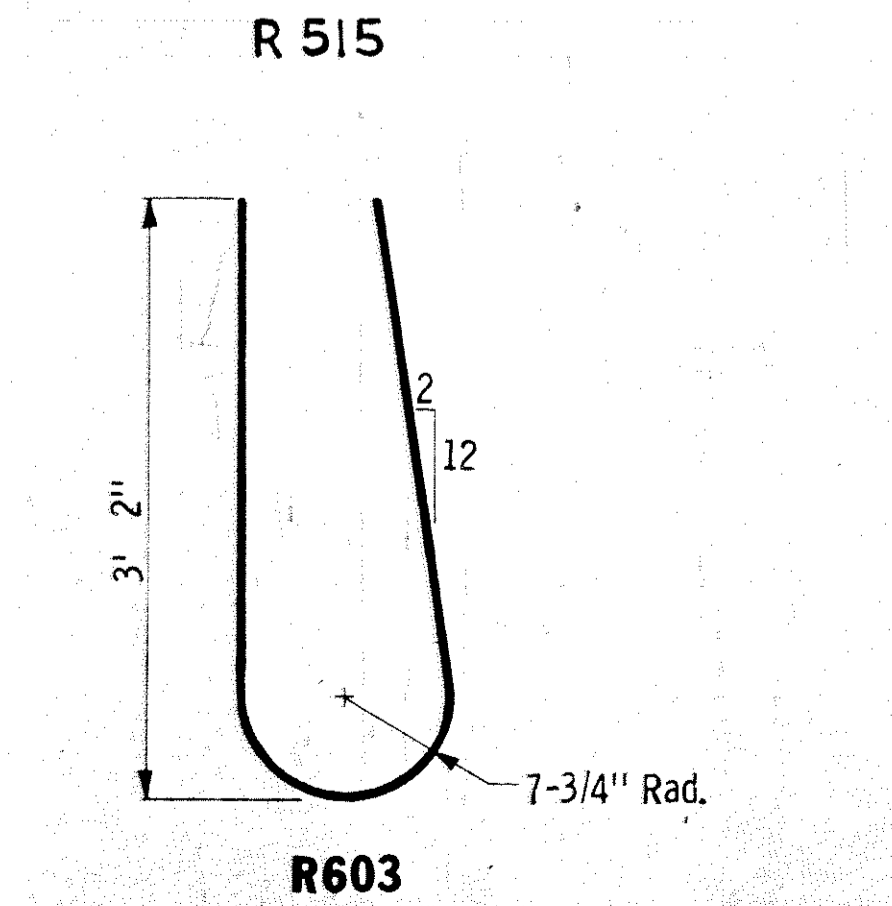
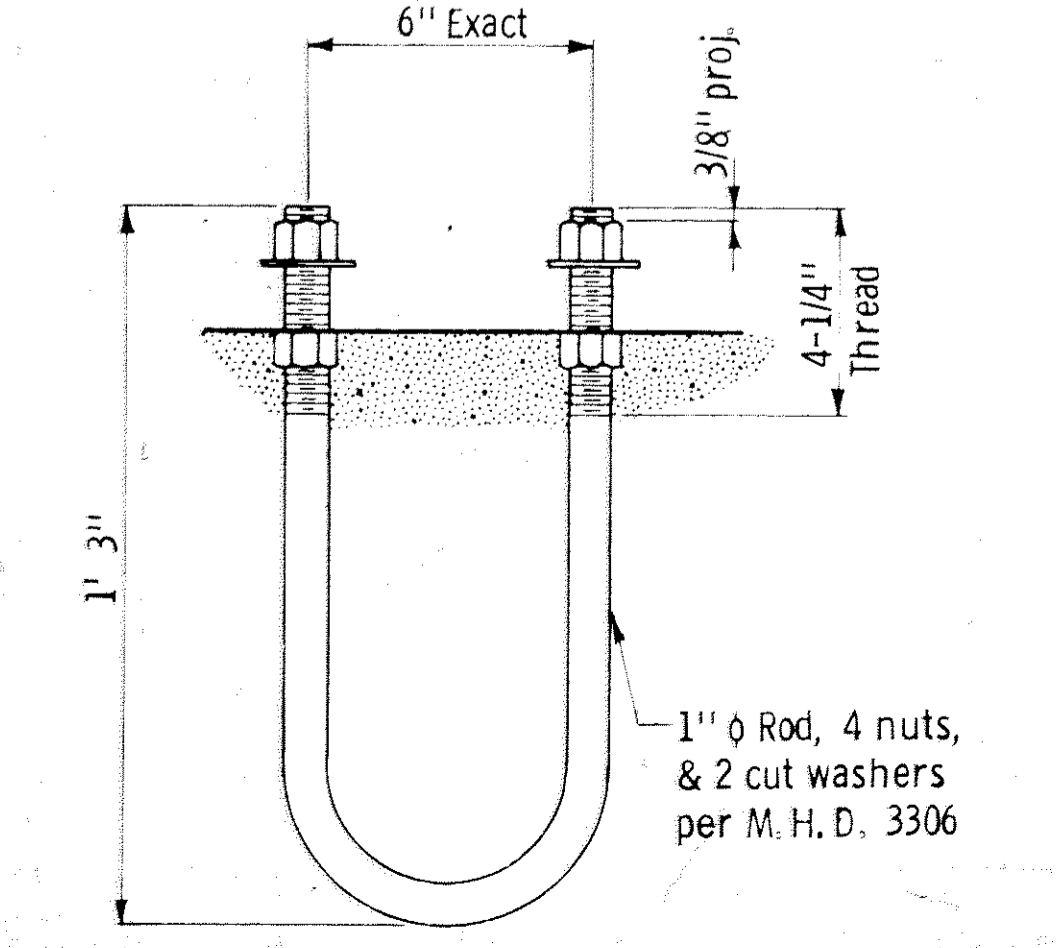
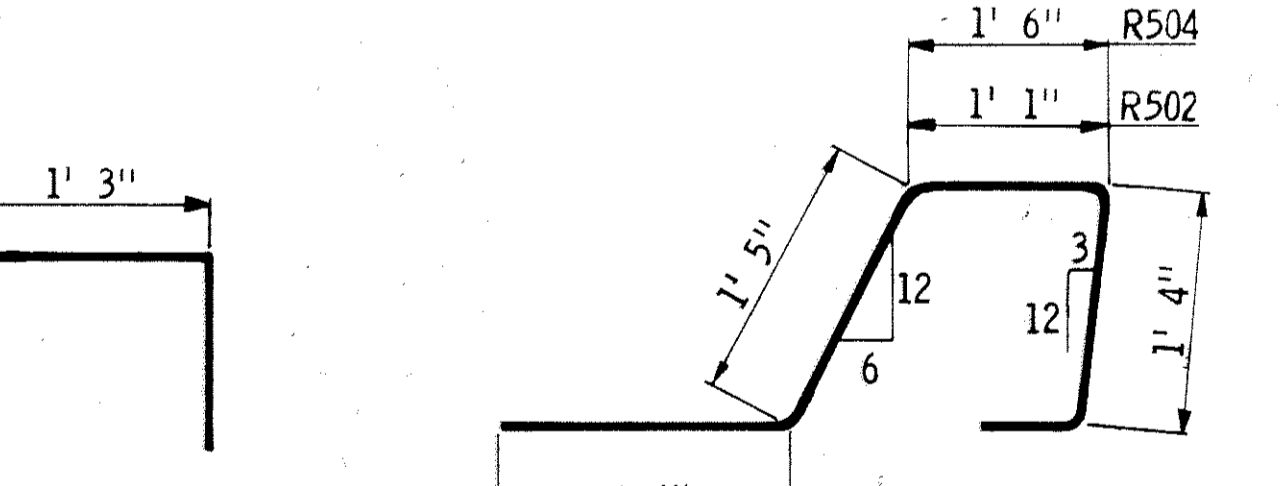
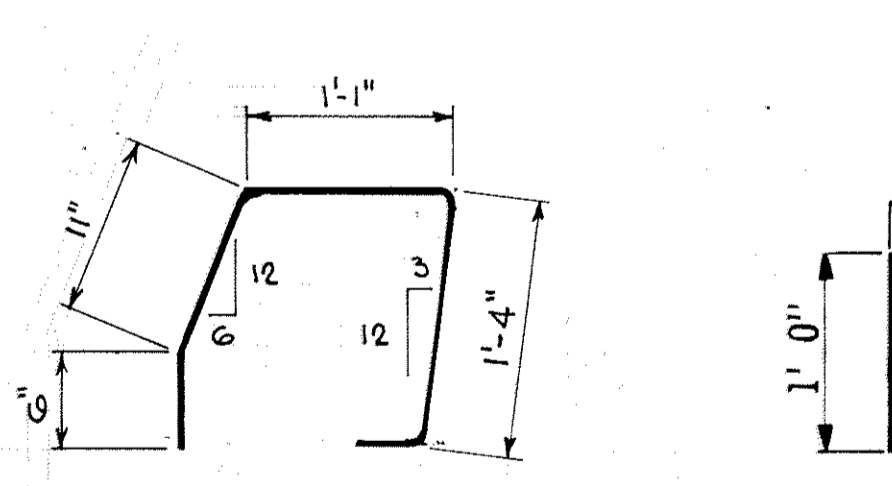
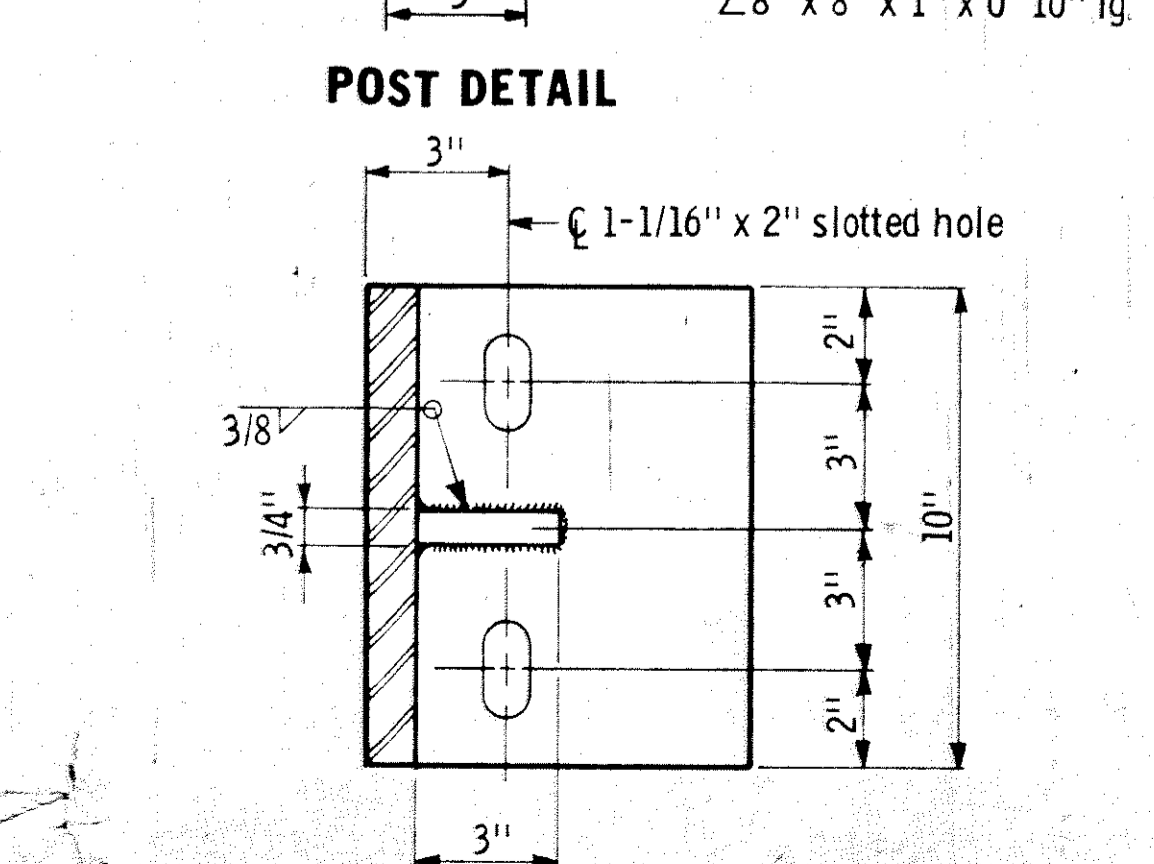
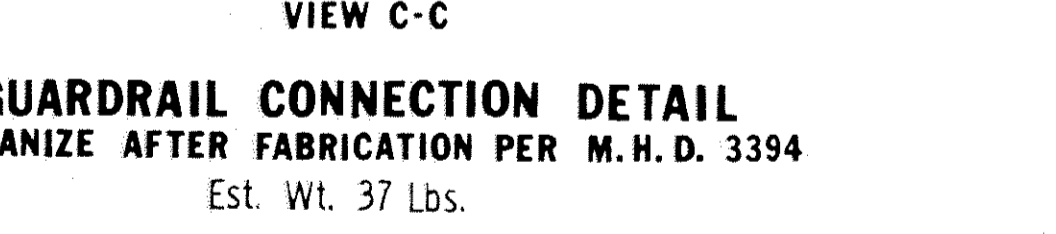
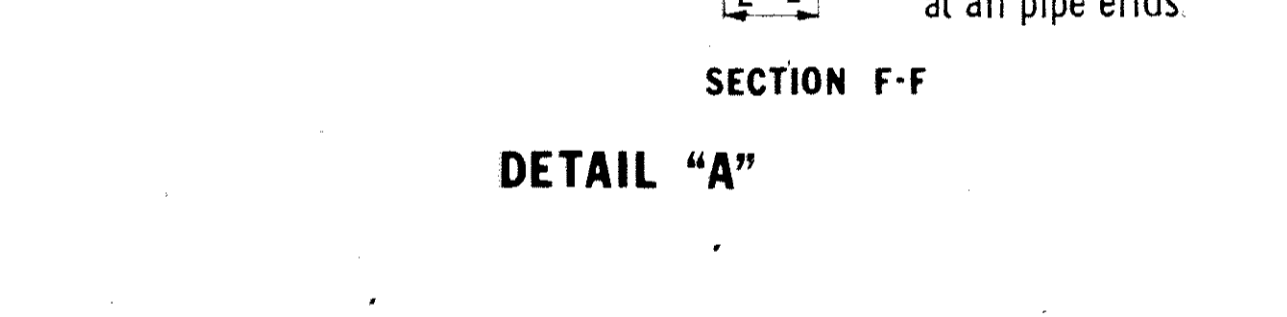
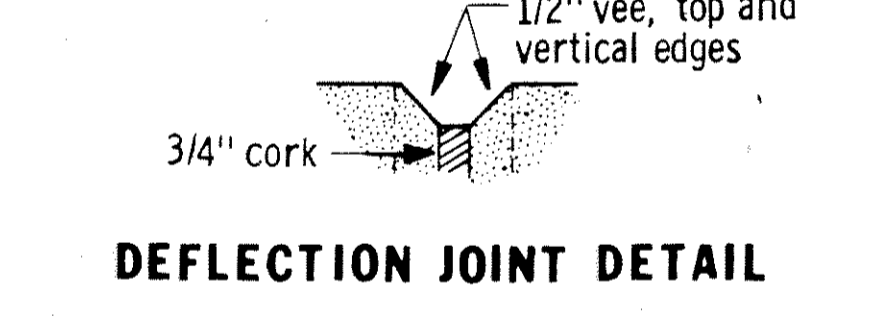
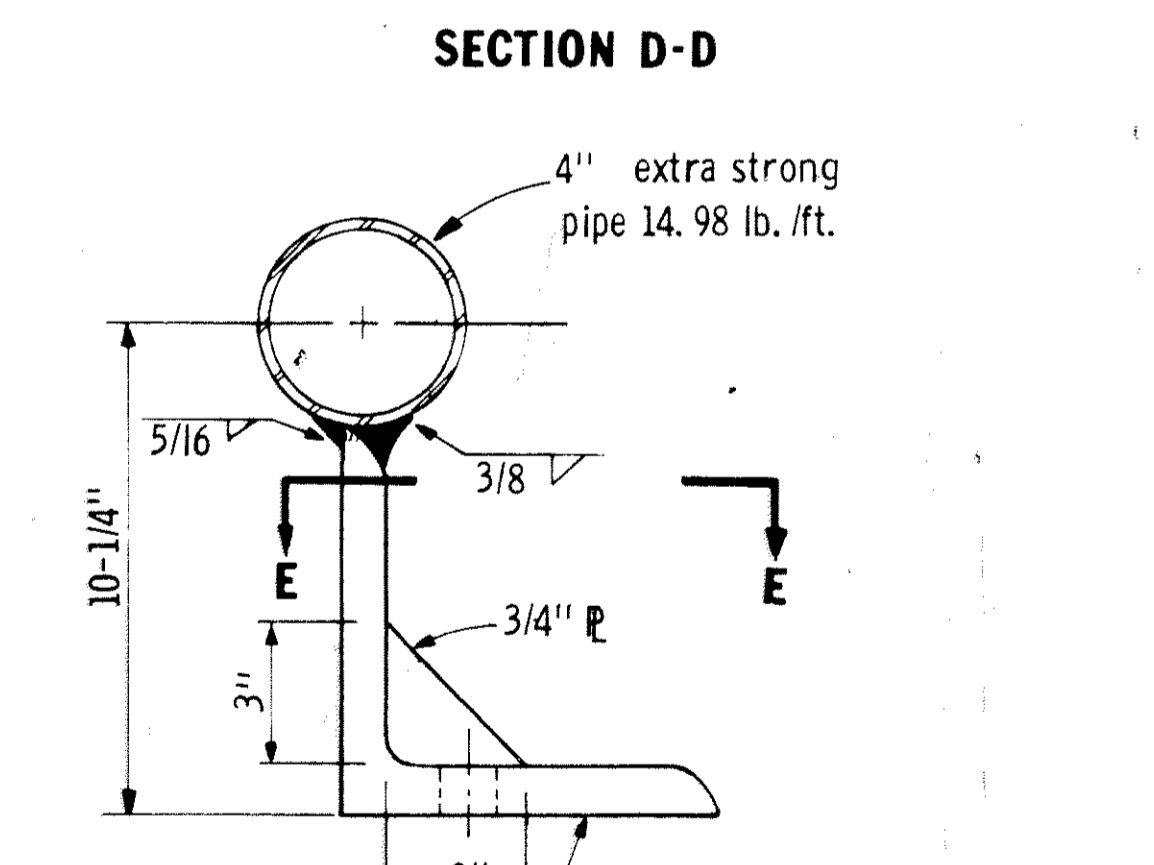
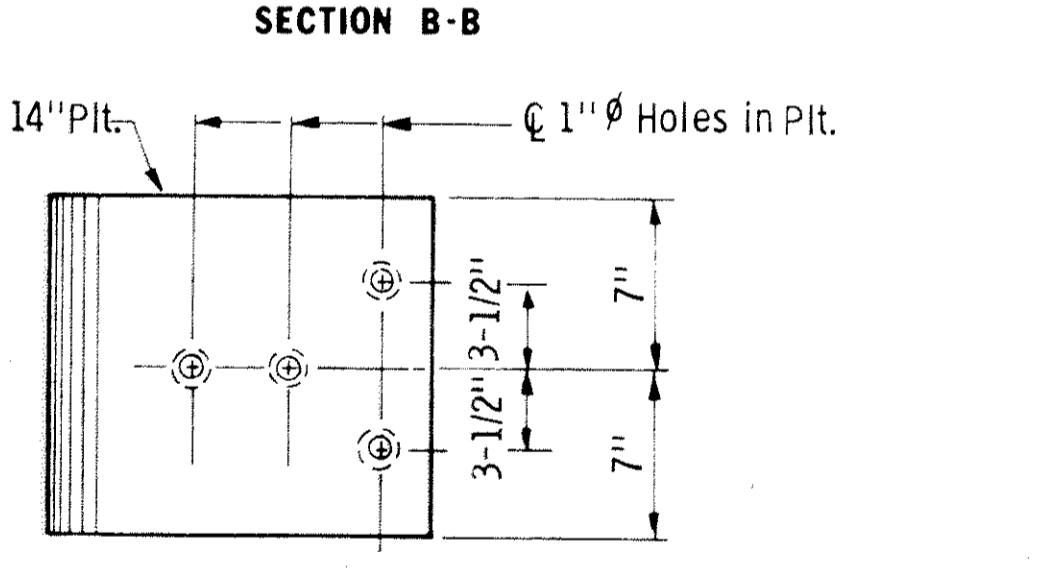
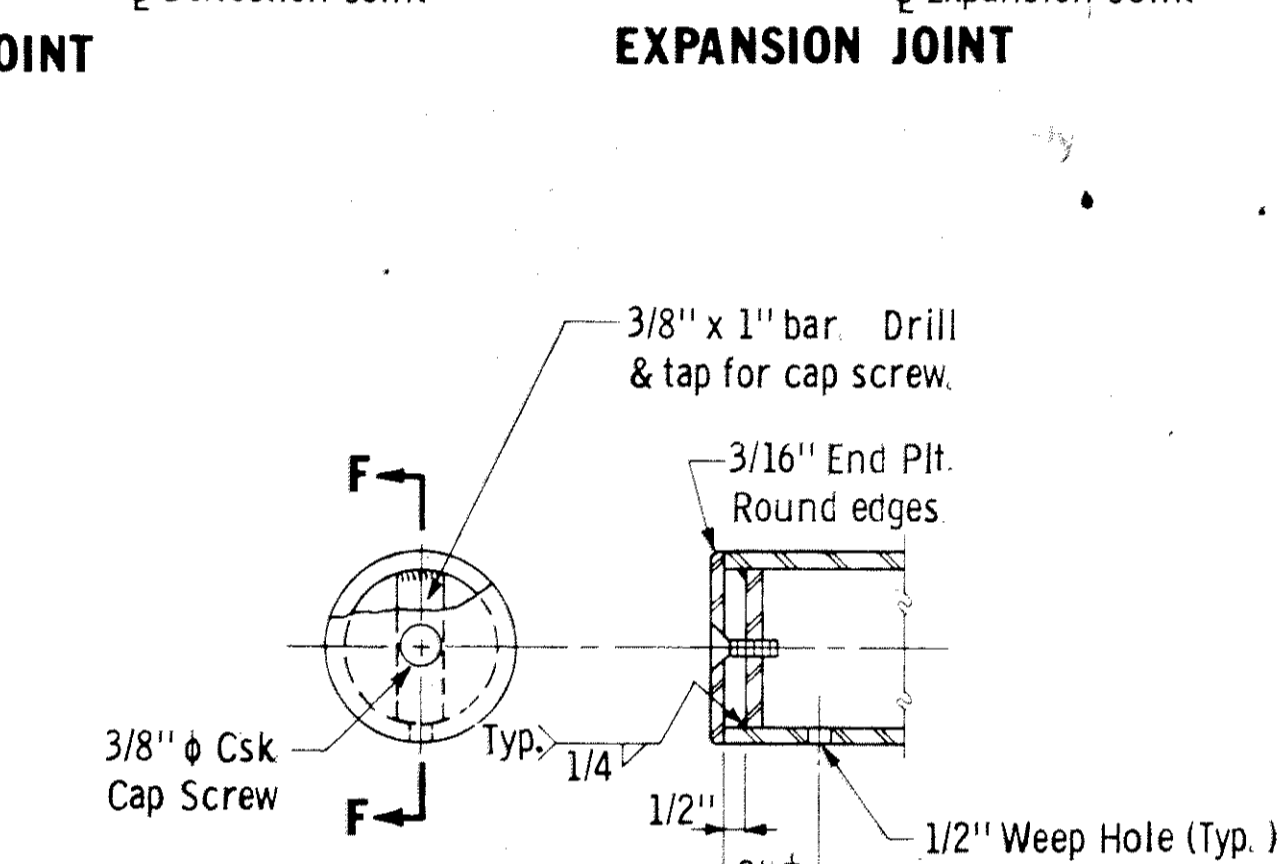
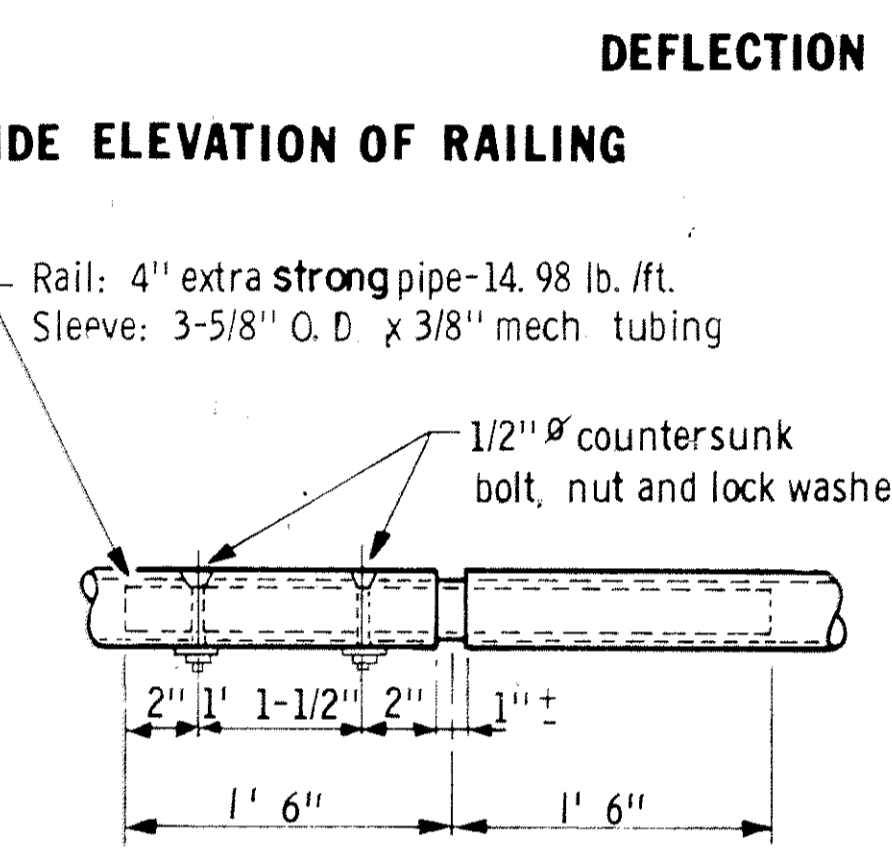
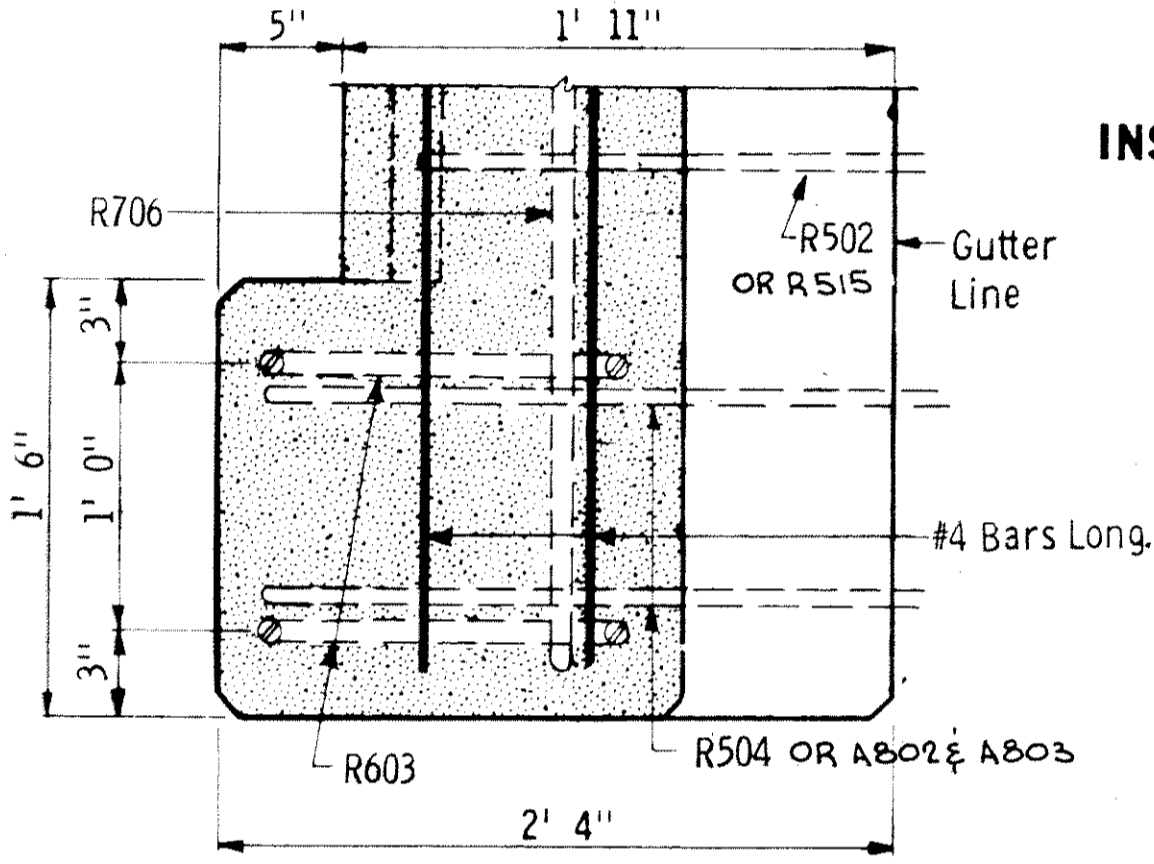
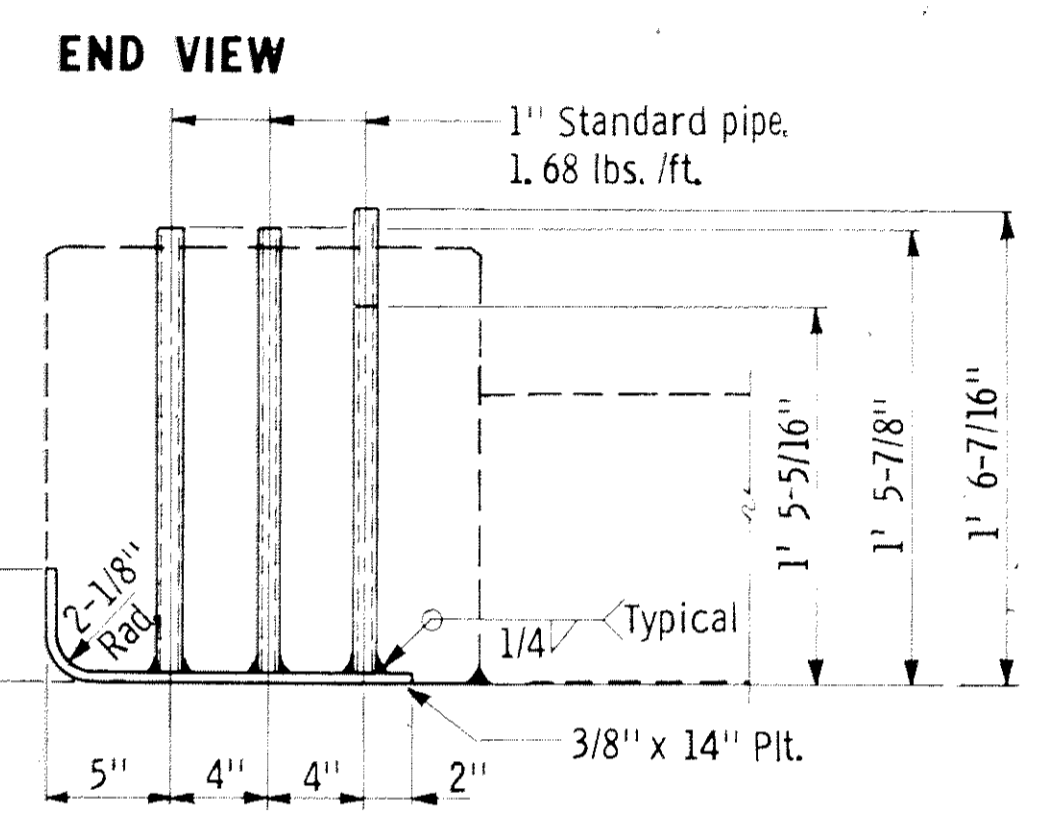
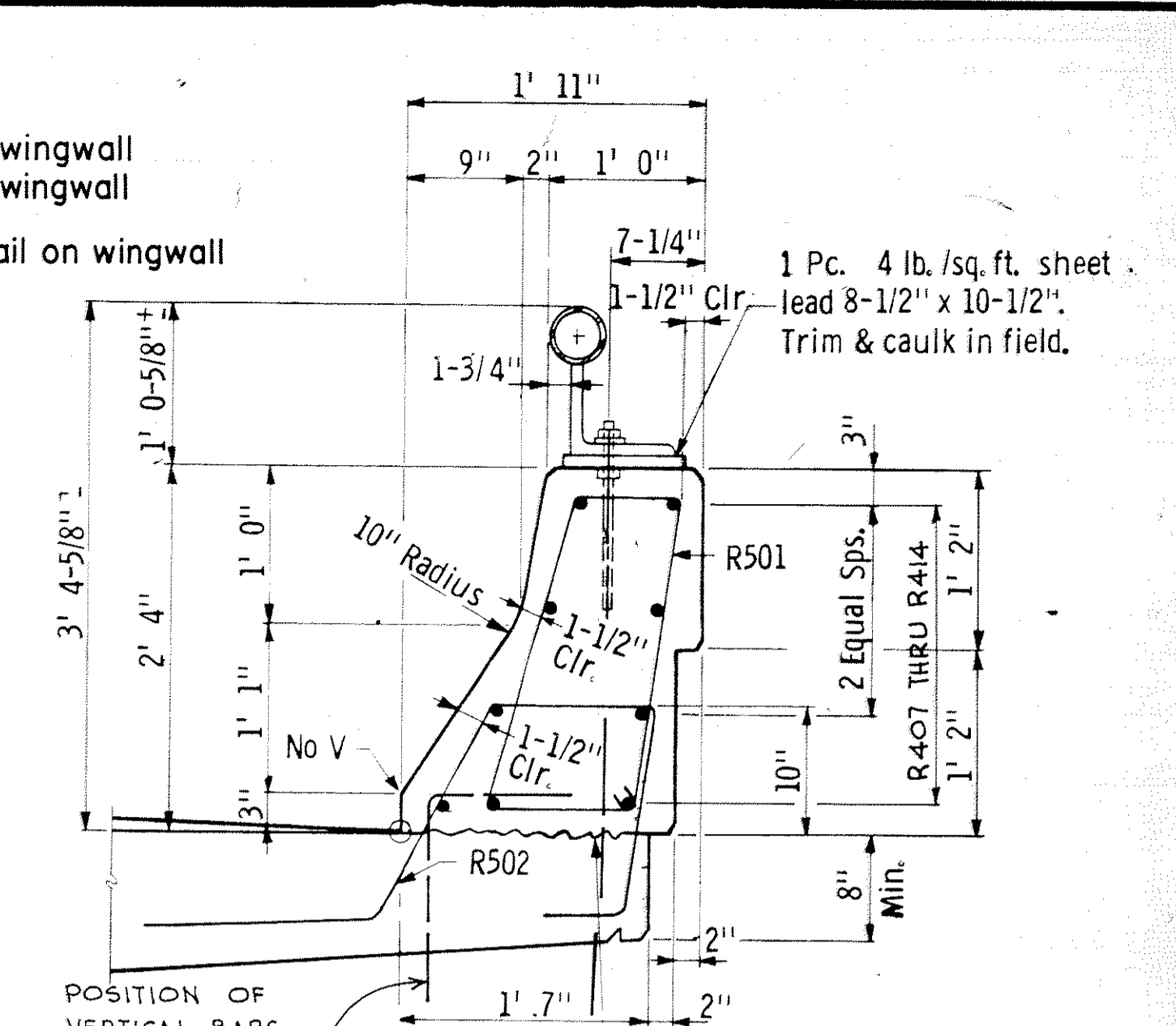
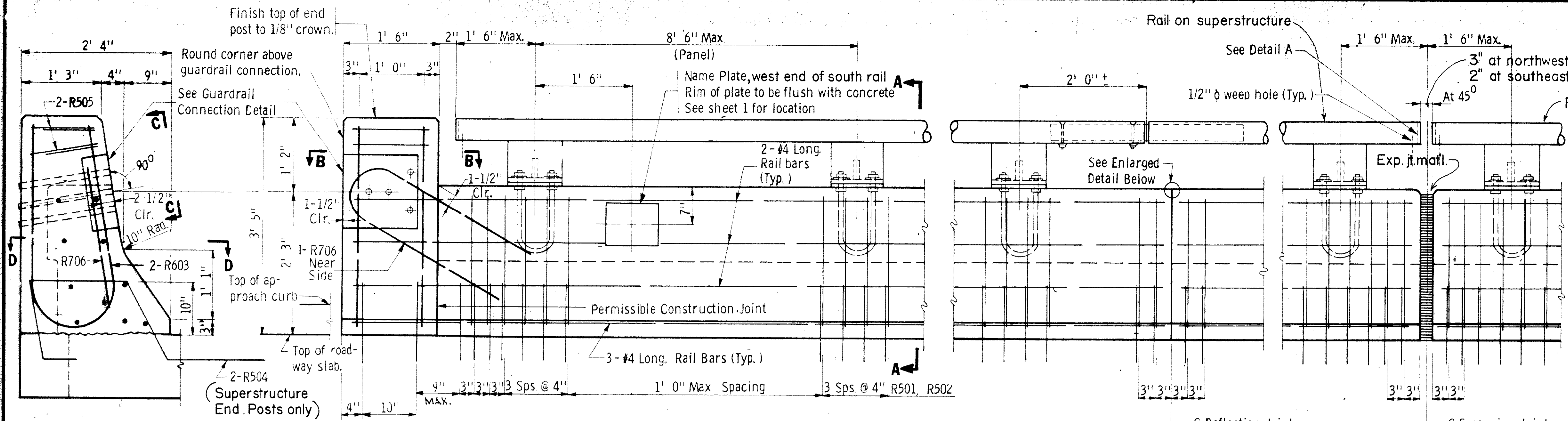
BILL OF REINFORCEMENT FOR SUPERSTRUCTURE

Main reinforcement bar list table with columns: MARK, NUMBER, LENGTH, SHAPE, LOCATION. Includes bars for diaphragms, slabs, and ends, ranging from S439 to S616 and S301 to S609.

NOTES

- 1 FOR S302, NUMBER IS ONE SERIES OF 52 BARS; LENGTH VARIES FROM 18'-6" TO 44'-0" IN 6" INCREMENTS.
- 2 FOR S304, NUMBER IS ONE SERIES OF 52 BARS; LENGTH VARIES FROM 9'-3" TO 43'-3" IN 8" INCREMENTS.
- 3 FOR S510, NUMBER IS ONE SERIES OF 53 BARS; LENGTH VARIES FROM 18'-9" TO 44'-9" IN 6" INCREMENTS.
- 4 FOR S512, NUMBER IS ONE SERIES OF 53 BARS; LENGTH VARIES FROM 9'-6" TO 44'-2" IN 8" INCREMENTS.
- 5 FOR S602, NUMBER IS FOUR SERIES OF 72 BARS; LENGTH VARIES FROM 2'-8" TO 20'-5" IN 3" INCREMENTS.
- 6 FOR S603, NUMBER IS FOUR SERIES OF 64 BARS; LENGTH VARIES FROM 2'-1 7/8" TO 21'-2" IN 3 3/8" INCREMENTS.
- 7 FOR S604, NUMBER IS FOUR SERIES OF 110 BARS; LENGTH VARIES FROM 2'-6" TO 20'-8" IN 2" INCREMENTS.
- 8 FOR S605, NUMBER IS FOUR SERIES OF 166 BARS; LENGTH VARIES FROM 3'-1 1/4" TO 21'-2" IN 1 1/4" INCREMENTS.

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BILL OF REINFORCEMENT FOR RAILING				
BAR	NO.	LENGTH	SHAPE	LOCATION
R501	632	6' 11"	Bent	Rail Vertical
R502	638	5' 10"	Bent	Rail Vertical
R603	8	7' 1"	Bent	End Vertical
R504	4	6' 3"	Bent	End Vertical
R505	16	3' 1"	Bent	End Long.
R706	4	6' 6"	Bent	End at C. R. Conn.
R407	9	18'-7"	STR.	RAIL, LONG, ABUT.
R408	9	15'-7"	STR.	RAIL, LONG, ABUT.
R409	9	26'-1"	STR.	RAIL, LONG.
R410	72	24'-1"	STR.	RAIL, LONG.
R411	9	26'-5"	STR.	RAIL, LONG.
R412	9	23'-10"	STR.	RAIL, LONG.
R413	54	22'-10"	STR.	RAIL, LONG.
R414	9	22'-5"	STR.	RAIL, LONG.
R515	54	4'-4"	BENT	WINGWALL RAIL

GENERAL NOTES

Railbase to be Concrete Mix No. 3Y46A; special.

Pipe shall comply with M. H. D. 3362. The 4" φ pipe shall have a minimum yield point of 35000 P. S. I.

Structural steel shall comply with M. H. D. 3306.

Finish all edges of railbase and end post with 1/2" vee, except where otherwise noted.

Anchorage shall be accurately placed to provide correct alignment of railing. Set normal to grade.

Galvanize pipe and structural steel per M. H. D. 3394 after fabrication. Galvanize bolts and anchorages per M. H. D. 3392.

See superstructure sheet for joint spacing.

Maximum spacing of concrete deflection joints shall be 30' 0". Railpipe deflection joints shall be placed in same panel as concrete deflection joints.

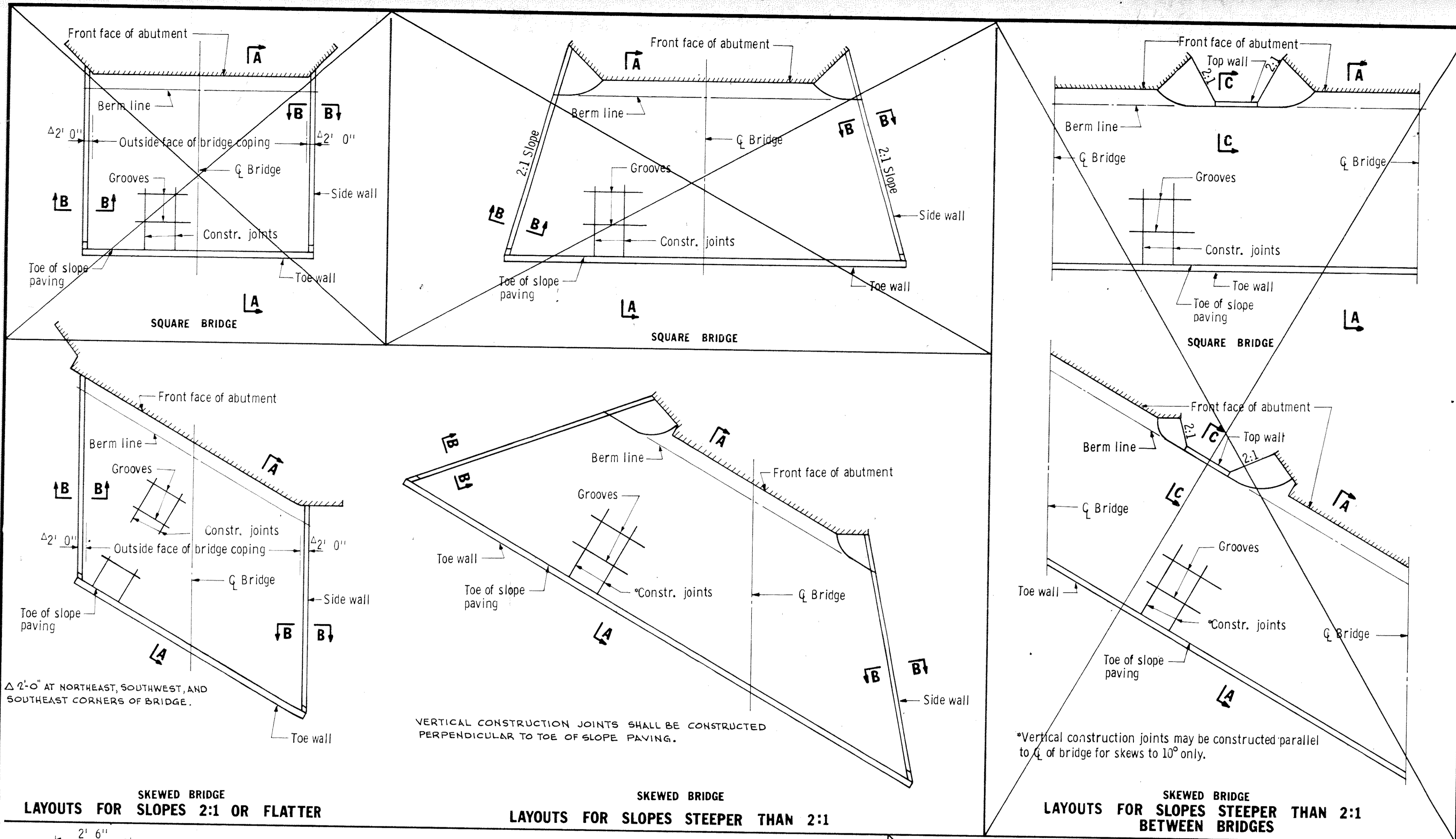
Price bid for ornamental metal railing includes the post anchorages and all material above railbase. Guardrail connection to be included in weight of structural steel M. H. D. 3306.

Length of ornamental metal railing for payment is measured end to end of pipe.

Railing quantities are included in summary of quantities for superstructure, or in summary of quantities for abutments

AS BUILT
10-16-73
B. J. J.

Fig. 5-397.109
June 2, 1971



CONSTRUCTION NOTES

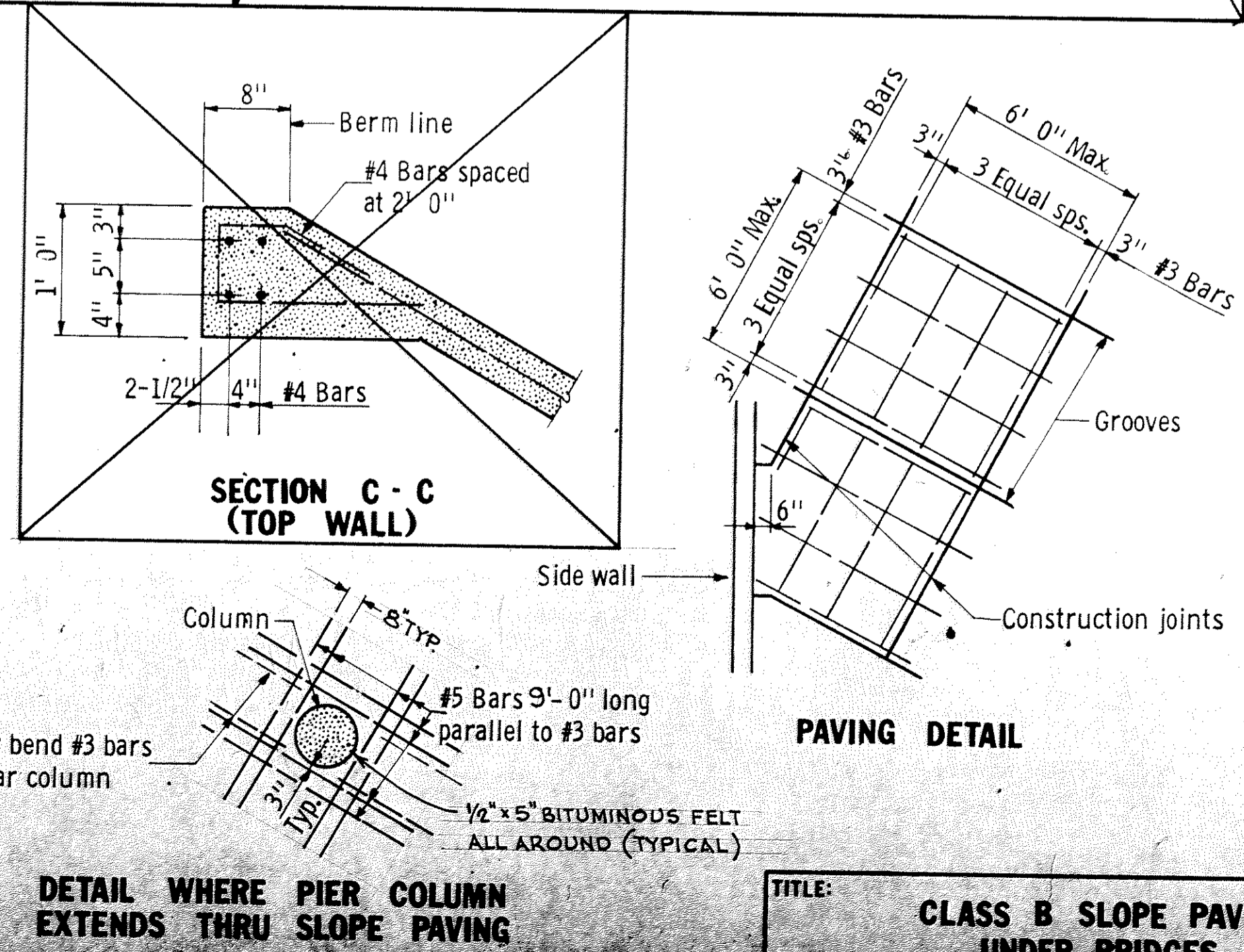
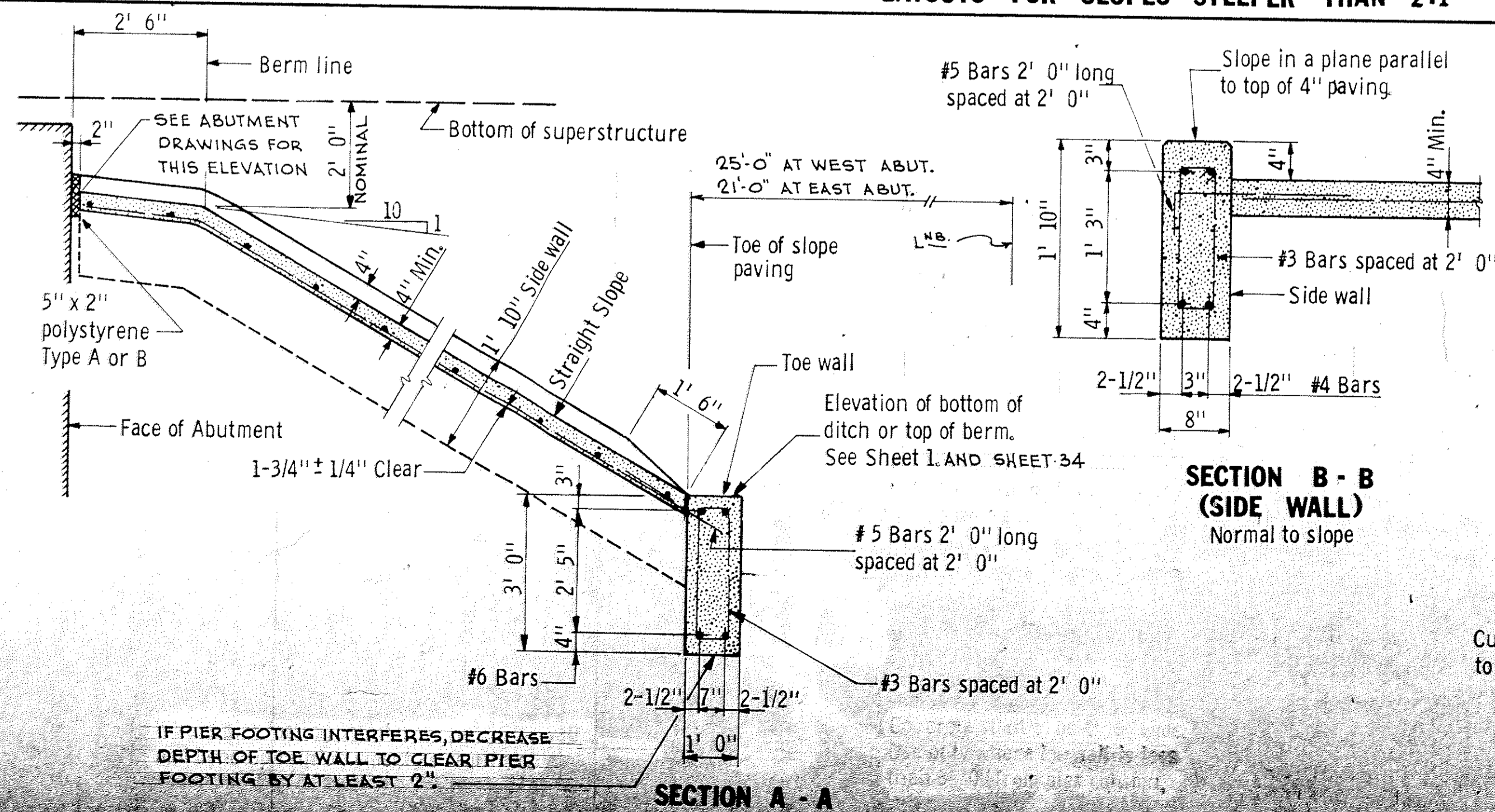
The slope paving shall be constructed of cast-in-place concrete, in accordance with the applicable sections of MHD 2401, and the following:

- The concrete shall be Mix 3A34. The concrete slump may be adjusted, subject to approval of the Engineer, as may be necessary to obtain the desired results.
- Metal reinforcement shall conform to ASTM A615 grade 60. Lap 36 diameters at splices.
- The slopes shall conform to the section shown on the General Plan and Elevation sheet in these Plans, except as otherwise provided for below: In the event the Engineer determines that a deficiency in material exists on the approach embankments constructed by others, he may order that the dimensions shown for the berm (see upper left of Section A-A) be revised to the extent necessary to construct the slope without hauling additional material. Such revision should, however, be limited to a decrease of not more than three inches, as applied to the height and/or width of the berm. In the event additional fill is required in order to conform to the slope lines staked by the Engineer, on approach embankments completed by others, the cost of furnishing, hauling, placing and compacting additional material ordered by the Engineer will be paid for as Extra Work. In the event the Engineer determines that an excess of material is present on approach embankments completed by others, he may order that the width of the berm be increased to the extent necessary to utilize such material, but not by more than 1' - 6". Excess material, beyond that which is required to dress the slope to true lines and to the grades staked by the Engineer, shall be used as directed by the Engineer for purposes such as widening the shoulders adjacent to the sidewalks, flaring out these shoulders, and shaping up adjacent side slopes. The disposal of excess material, except material deposited by the Contractor during excavation for substructure units or related work, which can not be incorporated into the slopes as hereinbefore defined, and which the Engineer directs to be hauled from the site, will be paid for as Extra Work. Any revision in berm grades and dimensions should be applied uniformly for the full length of the berm. Compaction will be required.
- Toe and side walls shall be in place before casting remainder of slope paving.
- Slope paving shall, in general, be poured in equal alternate vertical strips with a maximum width of 6 ft. The strips shall be cut into sections by grooves spaced at equal distances not exceeding 6 ft, and shall be at right angles to the strips. Other patterns for strips and grooves will be considered if requested by the contractor. Subgrade shall be moist when concrete is placed.
- The forms shall be set to accurate grade and alignment, and shall be rigidly supported. Deviations of greater than 1/4" from a ten-foot straight edge shall be corrected.
- Care shall be taken in placement of concrete so as not to disturb the grade on which it is placed, or to contaminate the concrete.
- Sufficient hand spading and/or tamping shall be done to secure a dense paving relatively free of voids and honeycomb.
- The top surface shall be struck off immediately after placing the concrete. When the concrete has set sufficiently to hold its shape, it shall be struck off again, after which it shall be given a final finish by hand floating with a cork or wooden float. The finished appearance shall be reasonably smooth and uniform. The finished concrete shall not vary more than 3/8" from a ten-foot straight edge.
- All edges shall be finished with an edger or 1/2" V strip. Grooves shall be cut using a sidewalk grooving tool. The trails left by the flanges of these tools shall be removed by floating.
- The concrete shall be cured for at least 72 hours after casting by any of the methods outlined in MHD 2401. 3G, including membrane curing compound.
- Reinforcement shall be supported on concrete bricks or mortar blocks, or other support satisfactory to the Engineer.
- For correct position of abutment wings and piers, see bridge plans.
- Where piers extend thru slope paving, provide 1/2" x 5" bit felt around piers.
- Slope paving will be measured by area of the top surface bounded by the outside edges of the toe wall and sidewalks and the front face of the abutment.
- Payment for furnishing and placing the slope paving will be made as Item No. 401.601 at the Contract price per square yard, which price shall be compensation in full for all costs of furnishing all materials, equipment, tools, and labor necessary for the satisfactory completion of work, except as otherwise provided for in Item 3.
- THE SLOPE OF THE SLOPE PAVING VARIES. USE "LAYOUTS FOR SLOPES 2:1 OR FLATTER," IN GENERAL FOR NORTHEAST, SOUTHWEST, AND SOUTHWEST CORNERS. USE "LAYOUTS FOR SLOPES STEEPER THAN 2:1," IN GENERAL FOR NORTHWEST CORNER. LIMITS OF SLOPE PAVING AS SHOWN ON SHEET 1 WILL GOVERN.

SKEWED BRIDGE LAYOUTS FOR SLOPES 2:1 OR FLATTER

SKEWED BRIDGE LAYOUTS FOR SLOPES STEEPER THAN 2:1

SKEWED BRIDGE LAYOUTS FOR SLOPES STEEPER THAN 2:1 BETWEEN BRIDGES

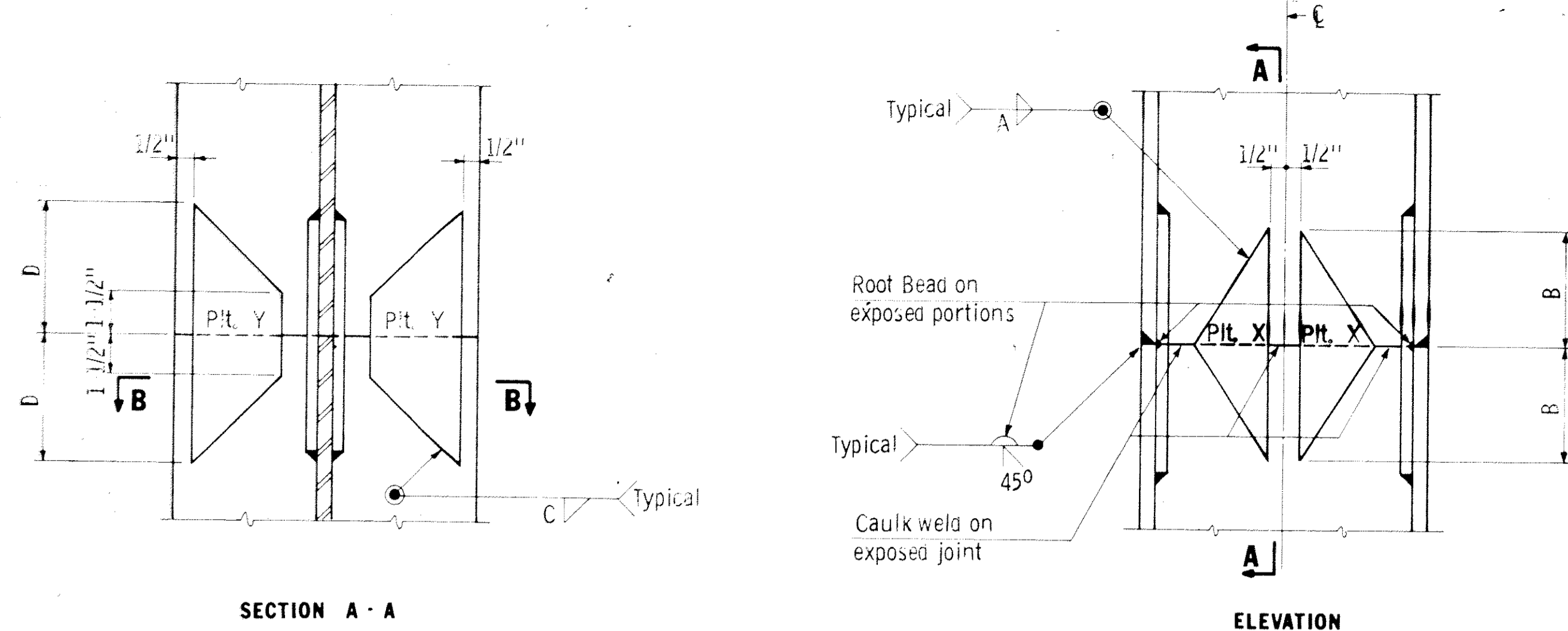


AS BUILT
10-16-73
B. Jahn

Fig. 5-397.301
Jan. 11, 1971

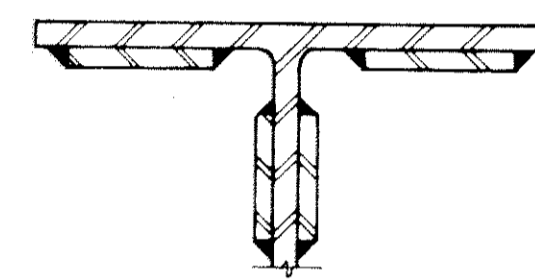
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Sheet No. 29 of 35 Sheets		CHK: R. Jahn	CHK: R. Jahn		

IF PIER FOOTING INTERFERES, DECREASE DEPTH OF TOE WALL TO CLEAR PIER FOOTING BY AT LEAST 2"



SECTION A - A

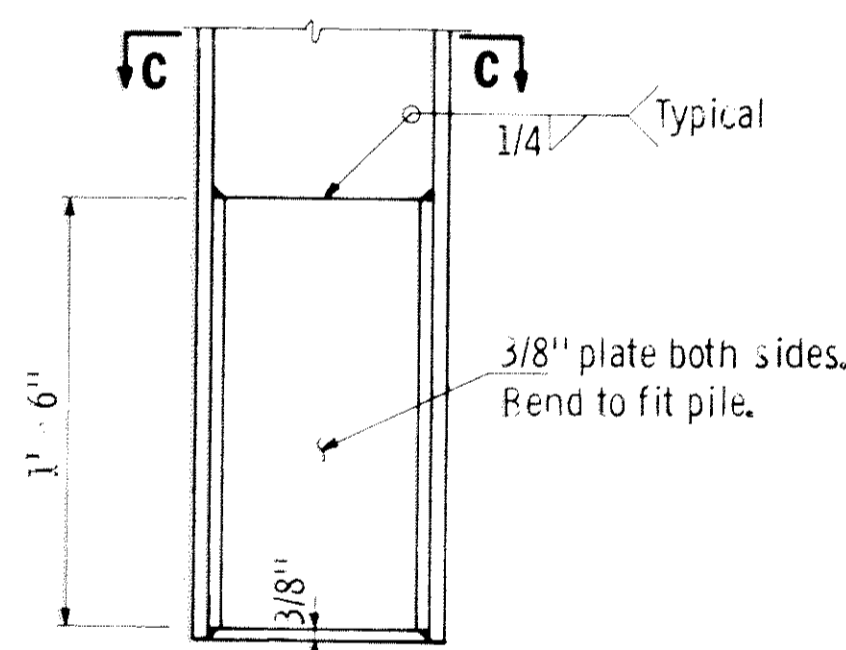
ELEVATION



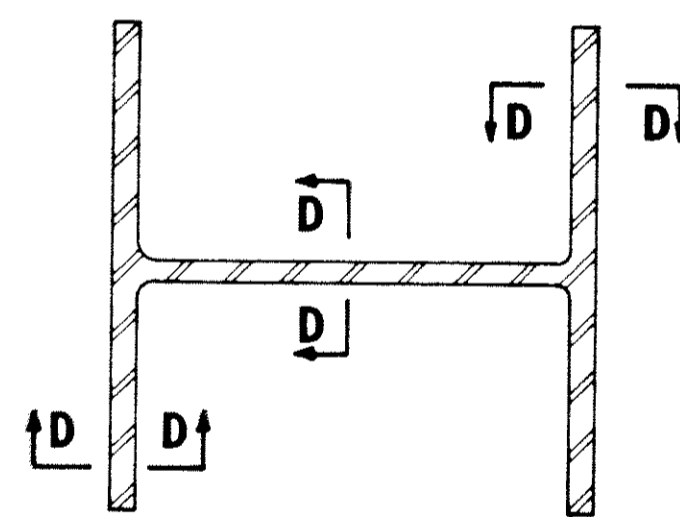
SECTION B - B

PILE SECTION	PLATE X		PLATE Y			
	Size	A	B	Size	C	D
10 BP 42	2 1/2 x 3/8	1/4	4	3 x 3/8	5/16	4
10 BP 57	2 1/2 x 1/2	5/16	4	3 x 1/2	5/16	5
12 BP 53	3 1/2 x 3/8	1/4	5	4 x 3/8	5/16	5
12 BP 74	3 1/2 x 1/2	5/16	6	4 x 1/2	5/16	6
14 BP 73	4 1/2 x 3/8	1/4	7	5 x 3/8	5/16	6
14 BP 89	4 1/2 x 7/16	5/16	7	5 x 1/2	5/16	7
14 BP 102	4 1/2 x 1/2	5/16	7	5 x 9/16	3/8	7
14 BP 117	4 1/2 x 9/16	3/8	7	5 x 5/8	3/8	8

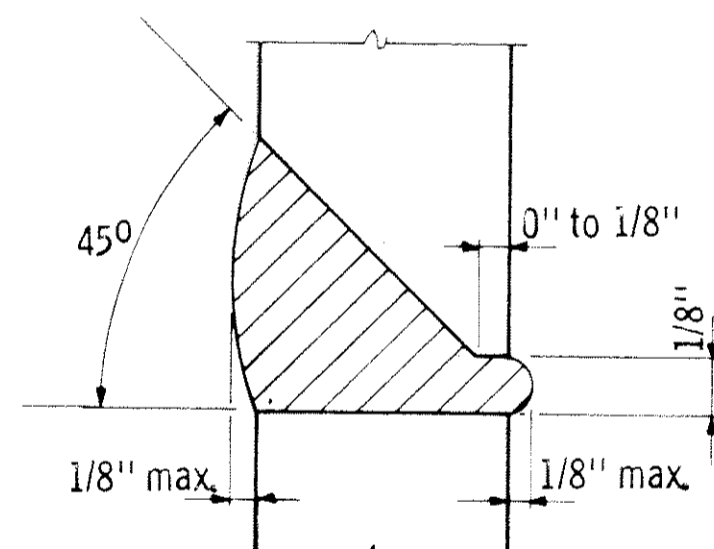
PILE SPLICE



ELEVATION



SECTION AT JOINT

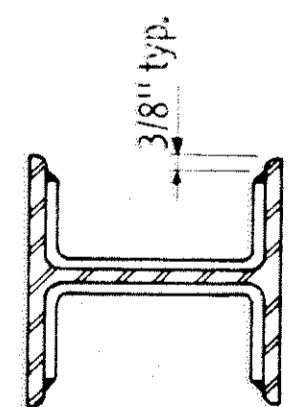


SECTION D - D

ALTERNATE 100% BUTT WELDED PILE SPLICE

NOTES: Pile ends at splice to be square. Welding electrodes per M. H. D. 3339. With E.C. reverse polarity (electrode positive) only use A. S. T. M. classification E6010. With E.C. reverse polarity or AC use A. S. T. M. classification E6011. Where moisture control is properly enforced A. S. T. M. classification E6016 or E7016 may be used. Recommended moisture content, per cent of coating:
 E6010 3.0 to 5.0% D. C. R. only
 E6011 2.0 to 4.0% AC or D. C. R.
 E6016 Less than 0.4% AC or D. C. R.
 E7016 Less than 0.4% AC or D. C. R.
 All welding per M. H. D. 2471.3J.
 Steel plates per M. H. D. 3306.

DETAIL OF PILE TIP REINFORCEMENT



SECTION C - C

APPROVED July 1, 1969
 Design Standards Engineer
 ENGINEERING STANDARDS DIVISION

STATE OF MINNESOTA
 DEPARTMENT OF HIGHWAYS

PILE SPLICE and TIP REINFORCEMENT
 STEEL H BEARING PILES 10" TO 14"

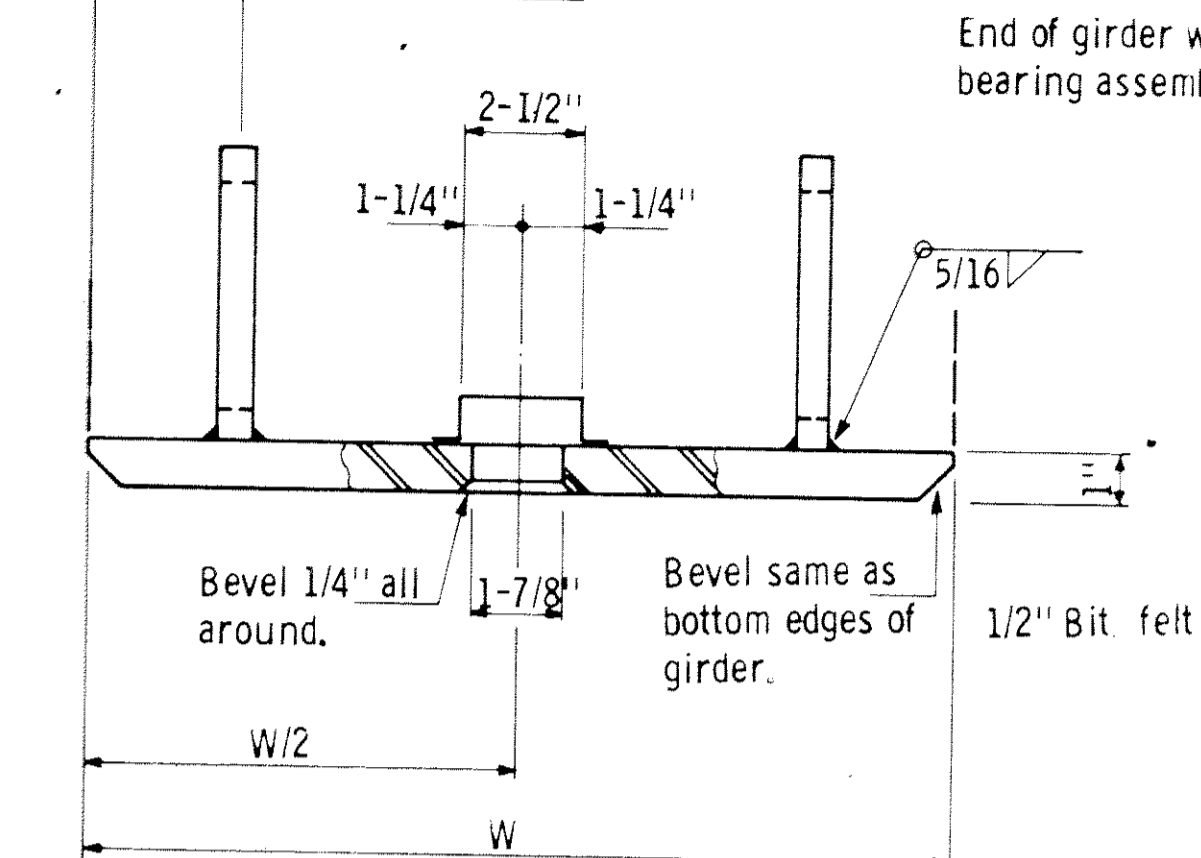
REVISION

DETAIL NO.

B202

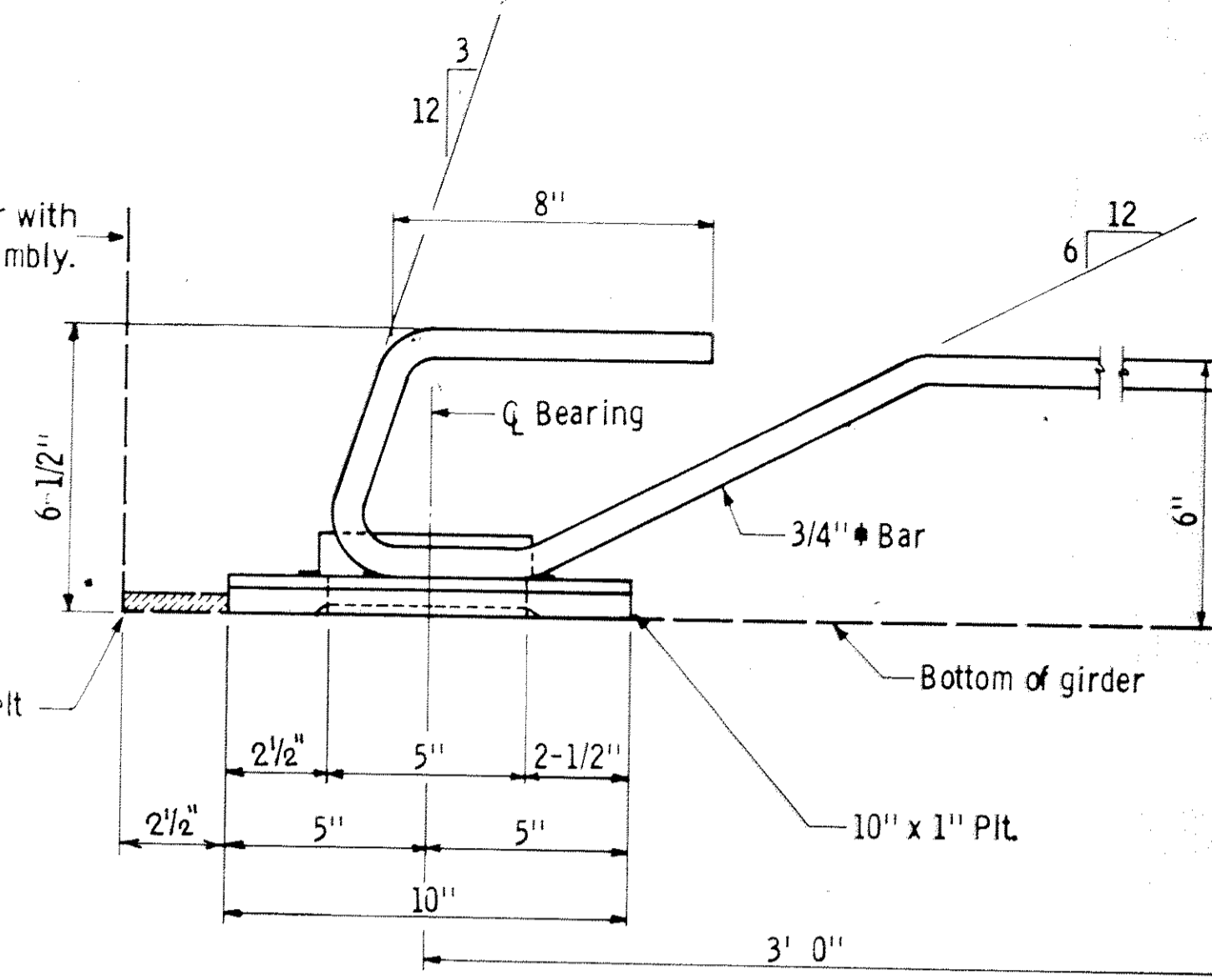
These dimensions may be modified to clear post tensioning tubes. Changes must be approved by the Engineer.

- 4" 28", 54", 60" Girders
- 3" 36", 40", 45" Girders



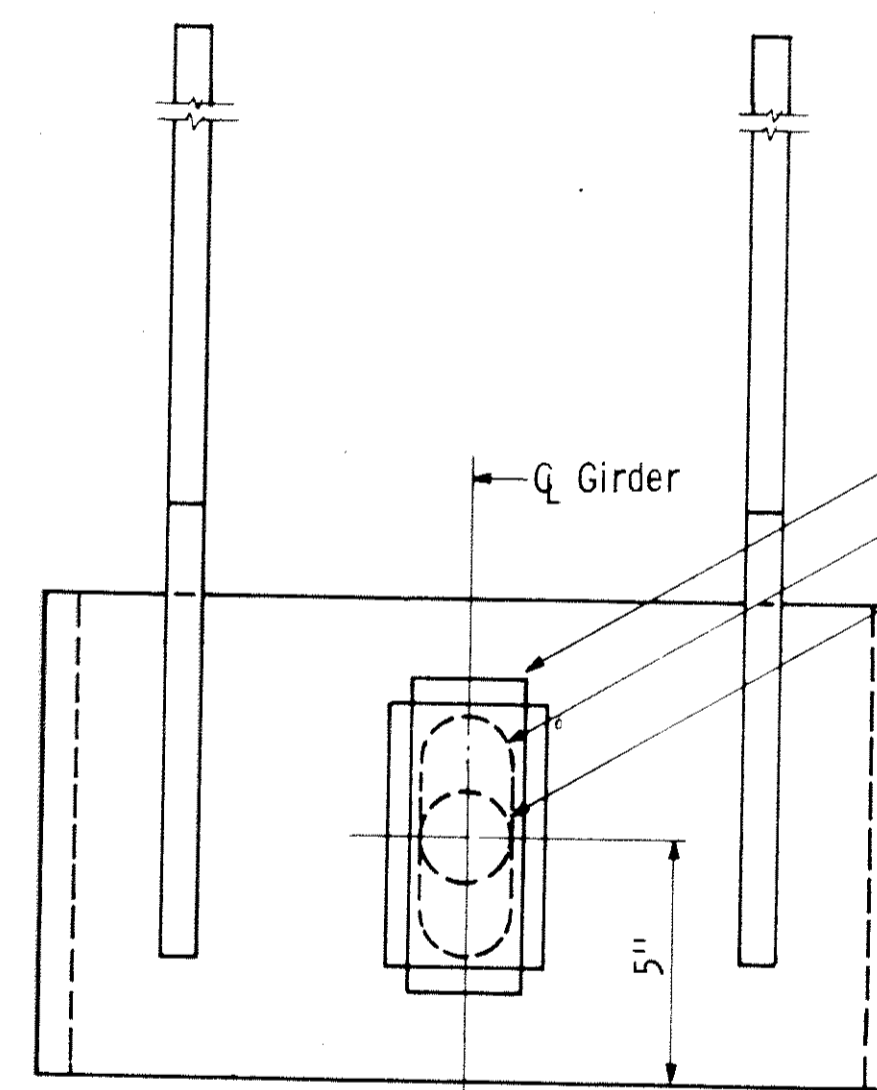
FRONT VIEW

(Area at hole shown as a section). Dimension "W" to be the width at the bottom flange of the girder.



SIDE VIEW

Showing placement in girder.



PLAN VIEW

Box - 2-1/2" x 1" x 5-1/2" 16 ga. sheet metal. Fasten to plate after plate is galvanized. All joints must be waterproof to prevent seepage into pindle recess. Approved alternate methods of covering pindle recess may be used.

Hole and box not required for Expansion bearings - Type 2 or bearing pads.

NOTES:

Material to be Structural Steel per M. H. D. 3306. Sole plate to be hot dipped galvanized as per M. H. D. 3394 after fabrication. Payment for sole plates to be included in price bid for Prestressed Concrete Girders.

APPROVED Feb. 9, 1970

Bridge Design Standards Engineer
 RESEARCH AND STANDARDS DIVISION

STATE OF MINNESOTA
 DEPARTMENT OF HIGHWAYS

SOLE PLATE
 PRESTRESSED CONCRETE GIRDS

REVISION

DETAIL NO.

B303

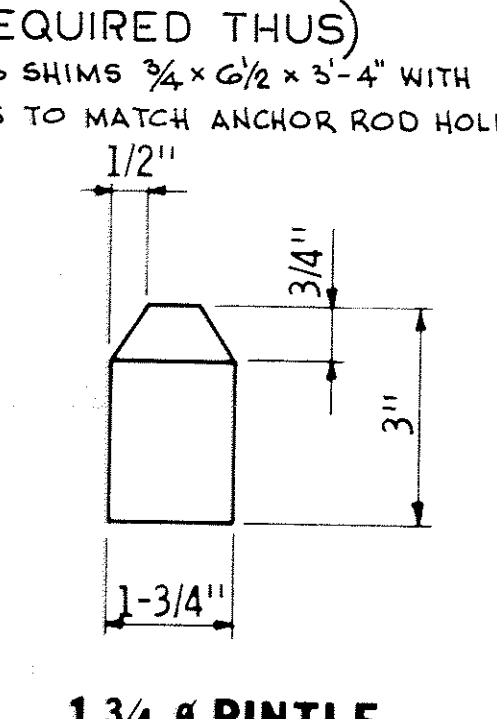
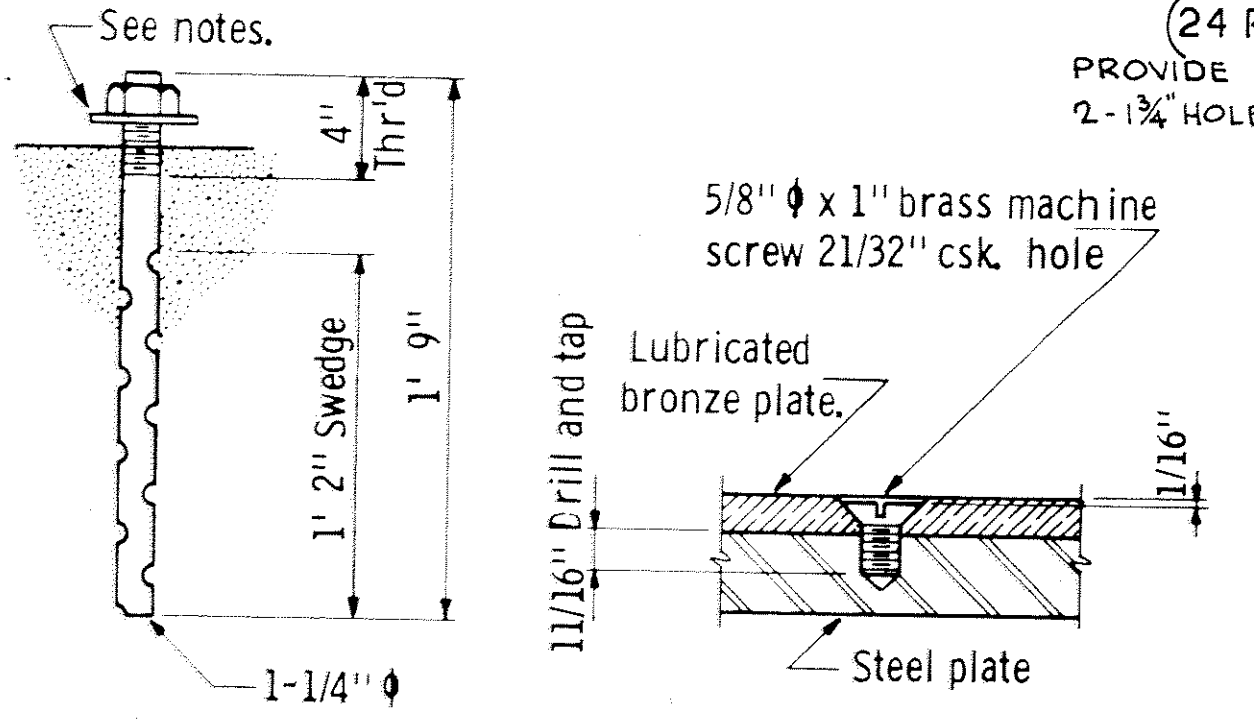
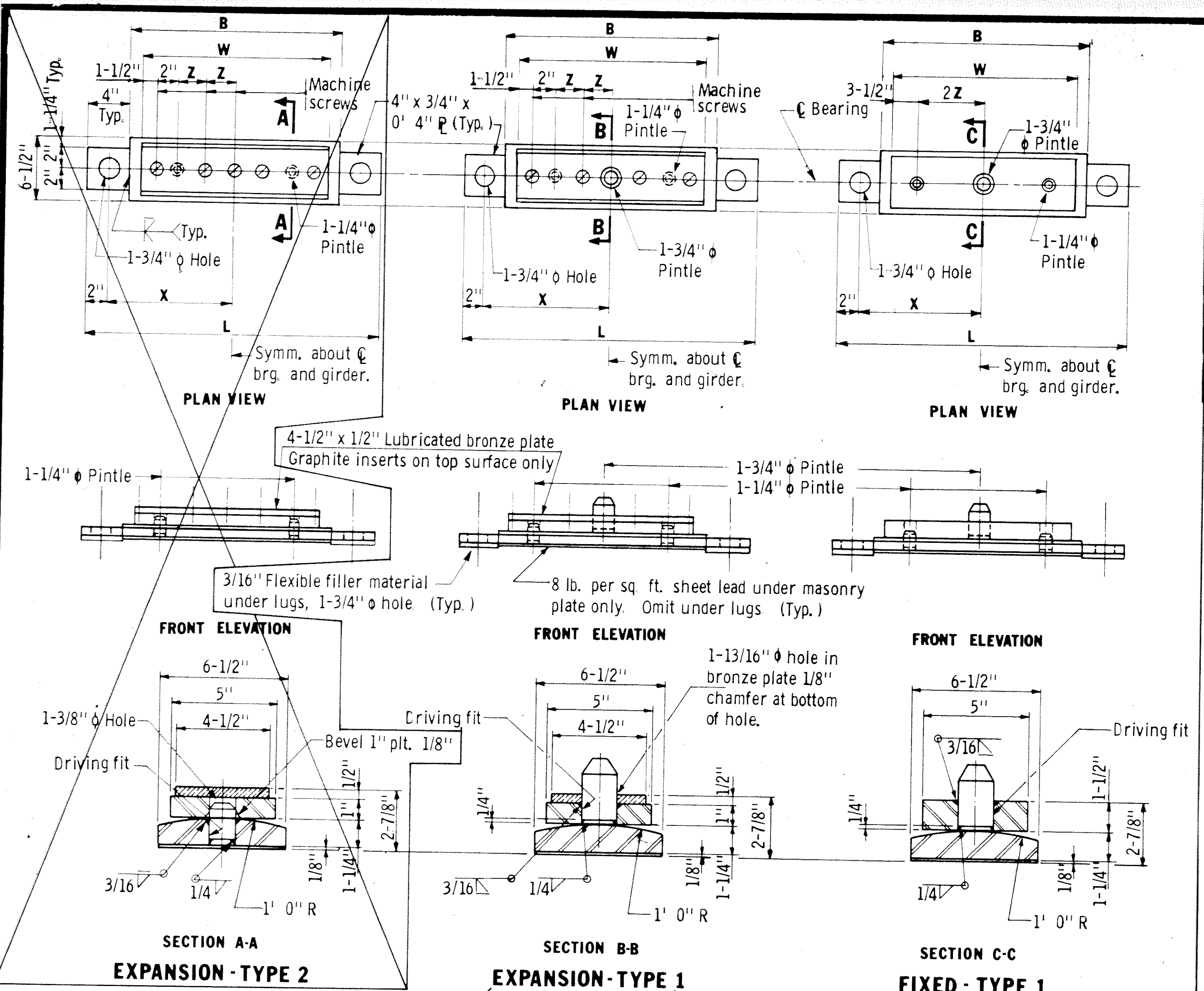
AS BUILT
 10-16-73
 B. Jahn

TITLE:

DETAILS

DES: M. H. D. DR: M. H. D. APPROVED: 12-21-71
 CHK: R. J. M. CHK: R. J. M.

Bridge No. 02522
 Sheet No. 30 of 35 Sheets



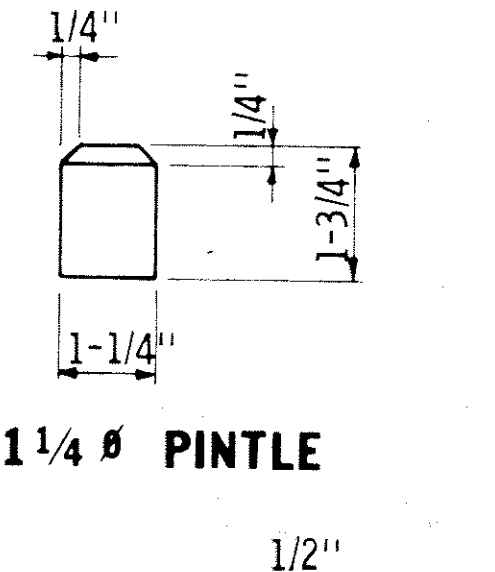
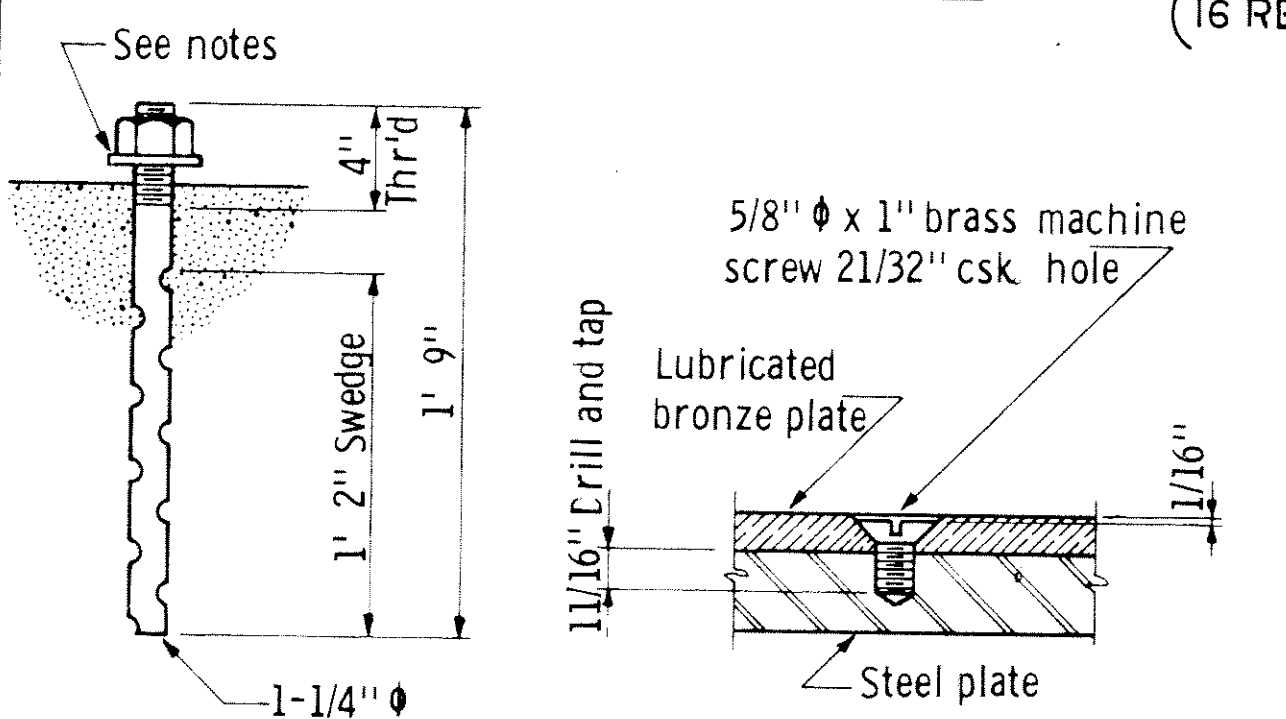
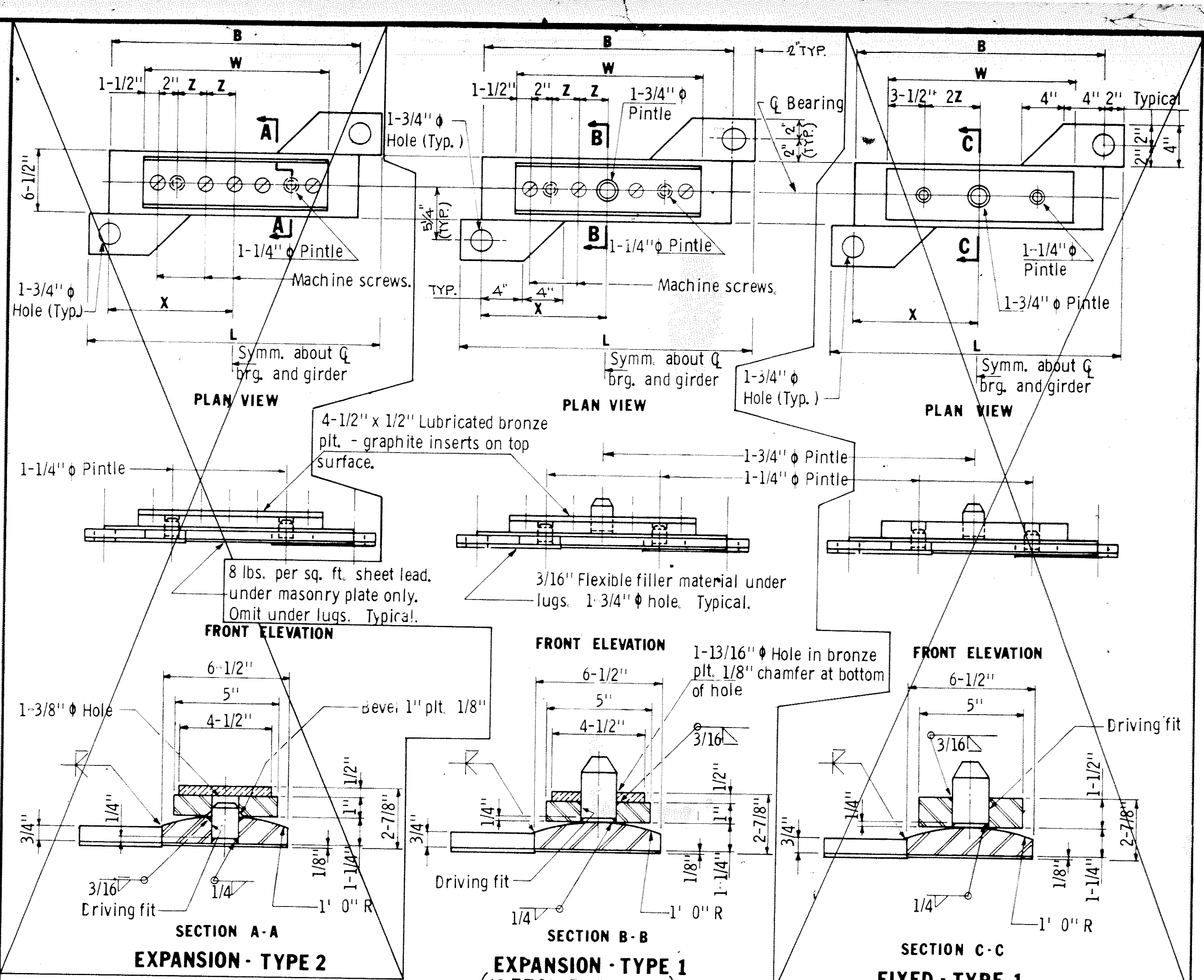
NOTES:
 Lubricated bronze plates shall comply with M. H. D. 3329.
 All plates except lubricated bronze shall comply with M. H. D. 3306.
 Pintles shall comply with M. H. D. 3314, Type II.
 Steel plates and pintles shall be galvanized per M. H. D. 3394. No paint. SHIMS SHALL ALSO BE GALVANIZED.
 Anchor rods shall be galvanized per M. H. D. 3392. No paint, with one cut washer and nut. Anchor rods shall project 3/8" above nuts.
 Finish center 3" on top of base plate to 250 Micro. A 1/16" tolerance in thickness will be permitted.
 Scale weights shall be furnished in accordance with the requirements of M. H. D. 2471, 3 MI and shall be listed on the shipping statements for the individual items.
 Payment for bearing assembly shall include all material on this detail.

GIRDER TYPE	L	B	W	X	Z	LOAD (KIPS)	TOTAL MAX. DESIGN MOVEMENT
28"	2' 4"	1' 8"	1' 4"	1' 0"	2-1/4"	125	2-1/2"
36"	2' 6"	1' 10"	1' 6"	1' 1"	2-3/4"	140	2-1/2"
40" & 45"	2' 10"	2' 2"	1' 10"	1' 3"	3-3/4"	165	2-1/2"
54" & 60"	3' 4"	2' 8"	2' 2"	1' 6"	4-3/4"	205	2-1/2"

APPROVED April 23, 1971
D. V. Barton
 Bridge Design Standards Engineer
 RESEARCH AND STANDARDS DIVISION

STATE OF MINNESOTA
 DEPARTMENT OF HIGHWAYS
BEARING ASSEMBLIES
PRESTRESSED CONCRETE GIRDERS

DETAIL NO.
B302



NOTES:
 Lubricated bronze plates shall comply with M. H. D. 3329.
 All plates except lubricated bronze shall comply with M. H. D. 3306.
 Pintles shall comply with M. H. D. 3314, Type II.
 Steel plates and pintles shall be galvanized per M. H. D. 3394. No paint.
 Anchor rods shall be galvanized per M. H. D. 3392. No paint, with one cut washer and nut. Anchor rods shall project 3/8" above nuts.
 Position of anchor rod lugs shown is for left skewers; for right skewers, lugs are to be reversed.
 Finish center 3" of top of base plate to 250 Micro. A 1/16" tolerance in thickness will be permitted.
 Scale weights shall be furnished in accordance with the requirements of M. H. D. 2471, 3 MI and shall be listed on the shipping statements for the individual items.
 Payment for bearing assembly shall include all material on this detail.

GIRDER TYPE	L	B	W	X	Z	LOAD (KIPS)	TOTAL MAX. DESIGN MOVEMENT
28"	2' 0"	1' 8"	1' 4"	10"	2-1/4"	125	2-1/2"
36"	2' 2"	1' 10"	1' 6"	11"	2-3/4"	140	2-1/2"
40" & 45"	2' 6"	2' 2"	1' 10"	1' 1"	3-3/4"	165	2-1/2"
54" & 60"	3' 0"	2' 8"	2' 2"	1' 4"	4-3/4"	205	2-1/2"

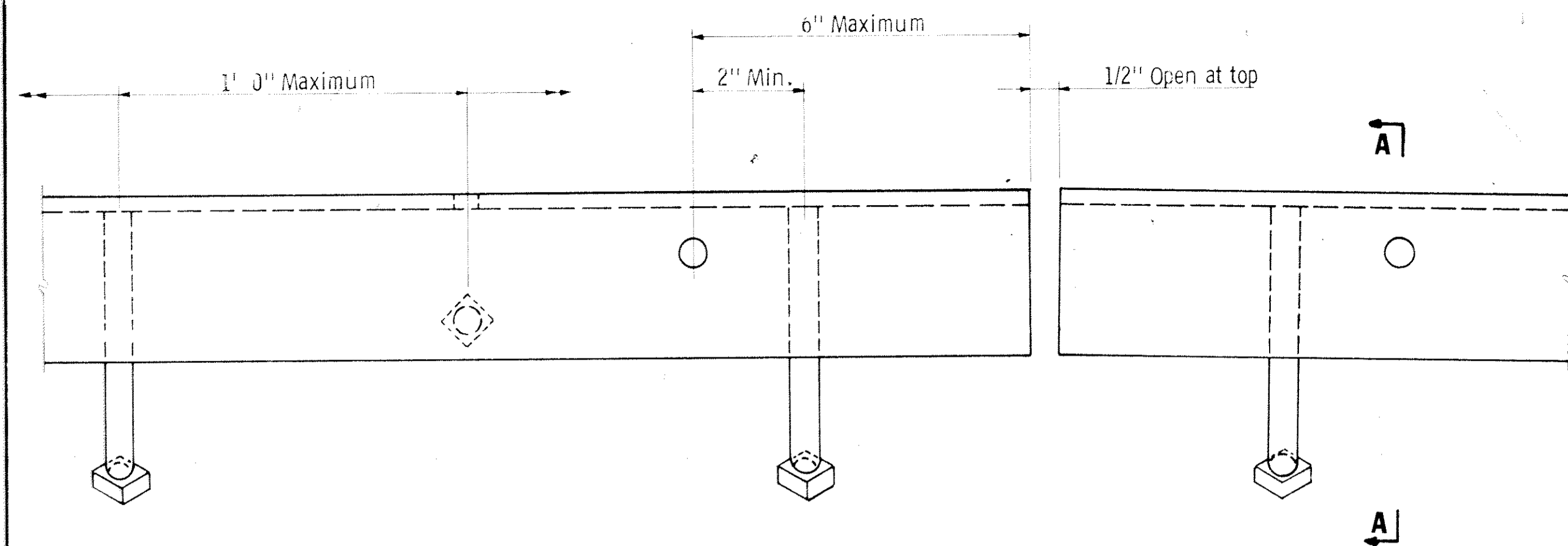
APPROVED April 23, 1971
D. V. Barton
 Bridge Design Standards Engineer
 RESEARCH AND STANDARDS DIVISION

STATE OF MINNESOTA
 DEPARTMENT OF HIGHWAYS
BEARING ASSEMBLIES
PRESTRESSED CONCRETE GIRDERS

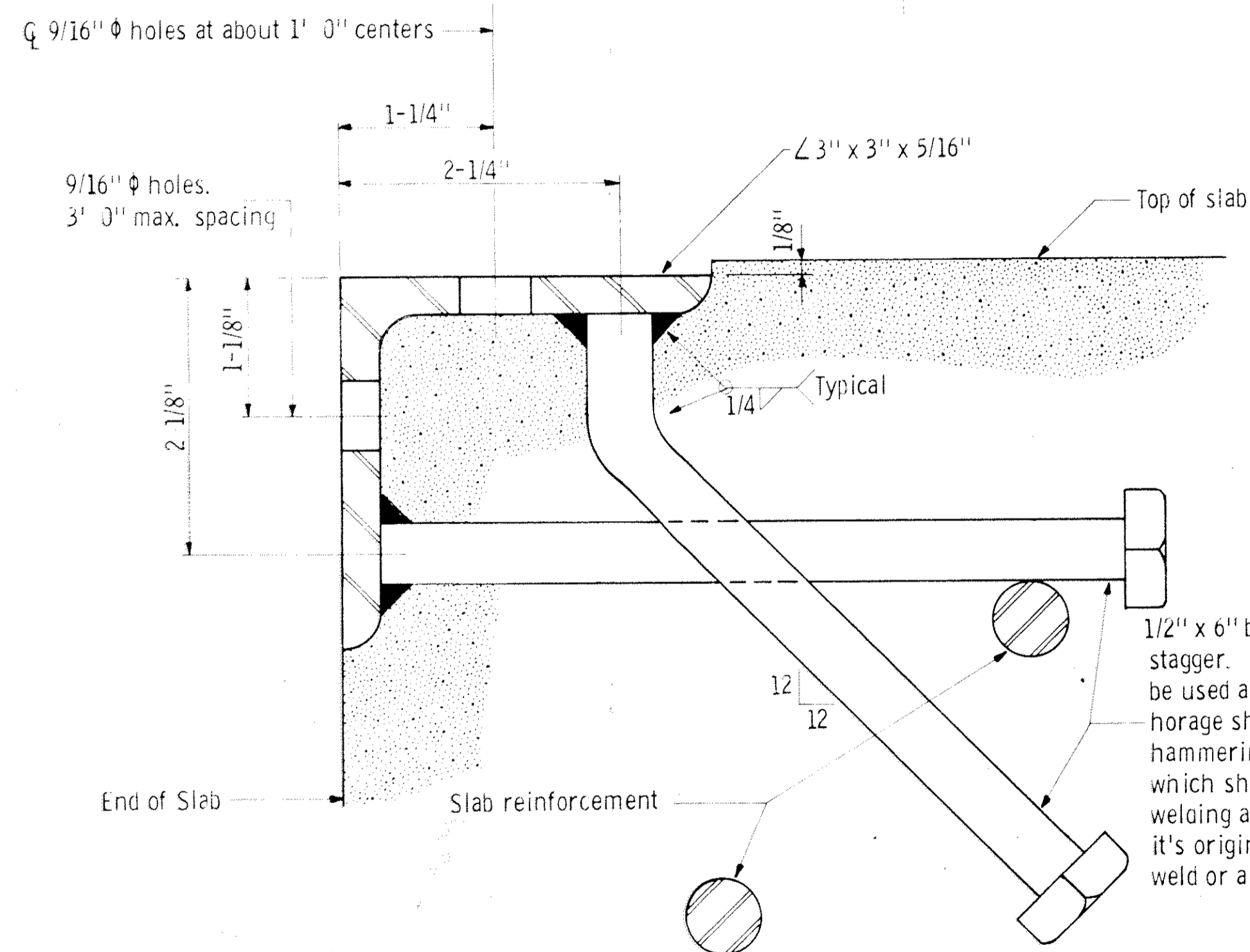
DETAIL NO.
B301

AS BUILT
 10-16-73
 B. Jahn
 DES. M. H. D.
 CHK. R. M. S.
 DR. M. H. D. / W. K.
 CHK. R. M. S.
 STATE OF MINNESOTA
 DEPARTMENT OF HIGHWAYS

Bridge No.
 02522
 DETAILS
 APPROVED 12-21-71
 02522
 Sheet No. 31 of
 35 Sheets



ELEVATION
(Concrete not shown)



SECTION A - A

NOTE:

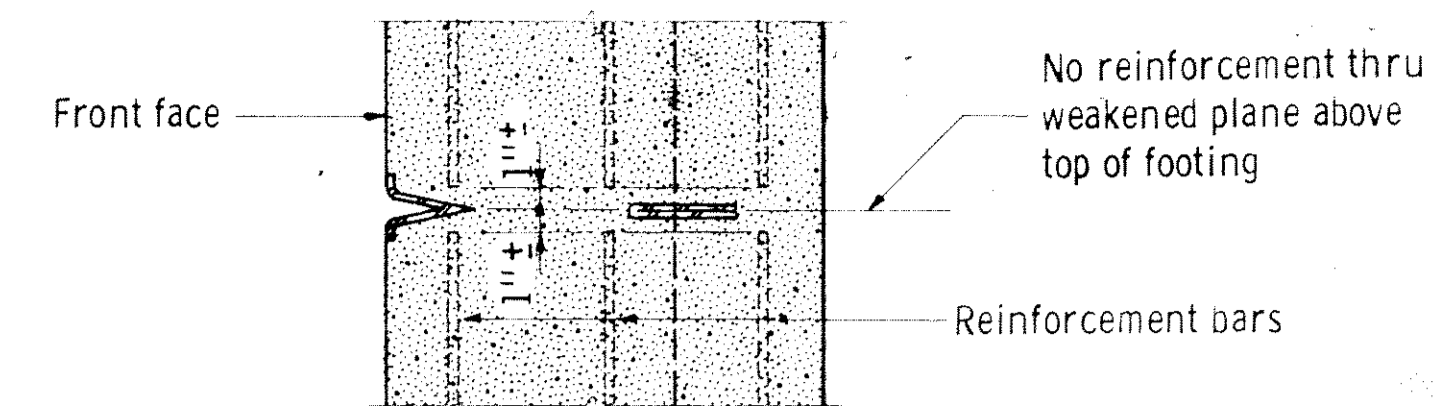
SEE DECK PLANS FOR LENGTHS AND RADII OF CURVATURE OF PROTECTION ANGLES. LENGTHS GIVEN ON DECK PLANS ARE HORIZONTAL DIMENSIONS, NOT SLOPE DIMENSIONS.

NOTES:

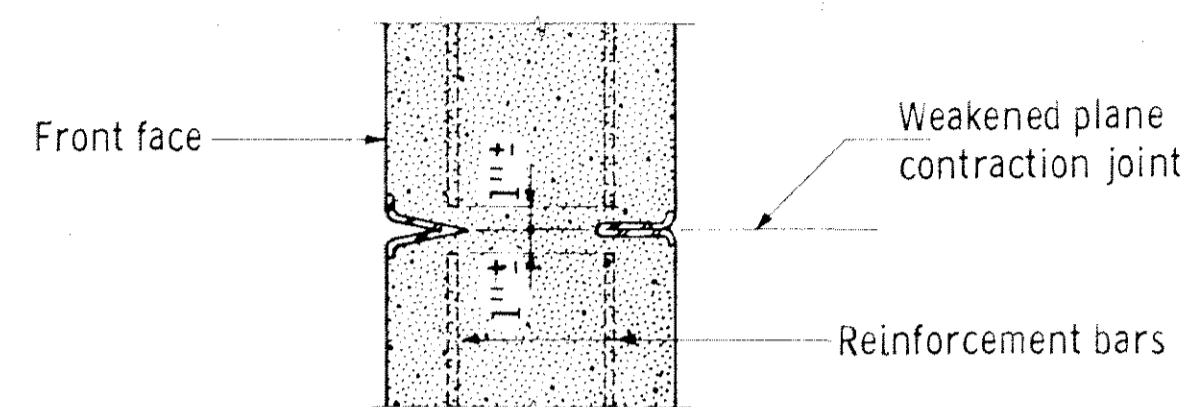
Angles shall extend full width of roadway between curbs with a 1/2" open joint at each break in crown profile. Maximum length 22 feet.

Material: Structural steel per M. H. D. 3306. Galvanize after fabrication per M. H. D. 3394

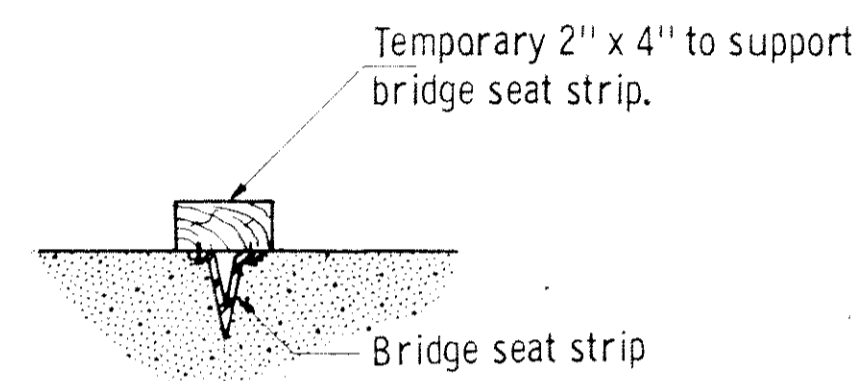
Set angle to proper grade and crown.



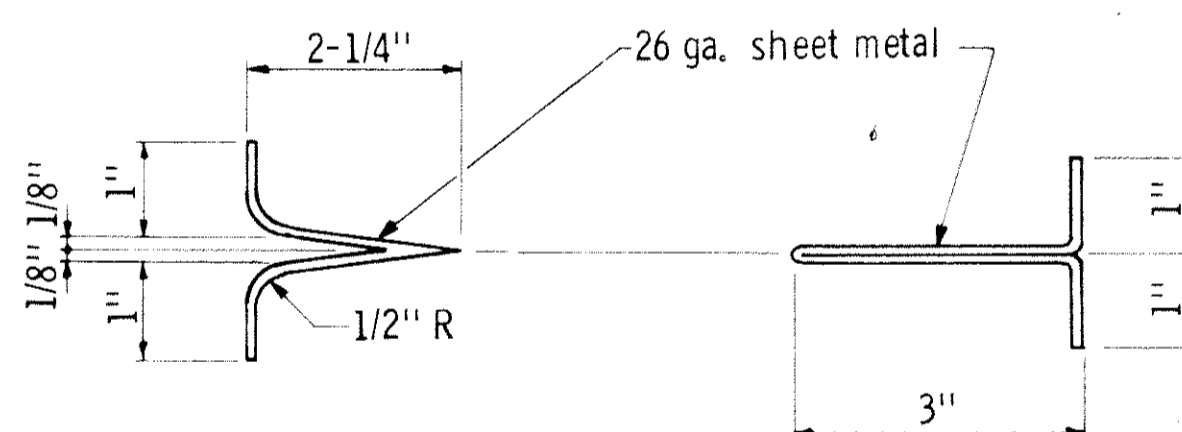
SECTION A - A



SECTION B - B

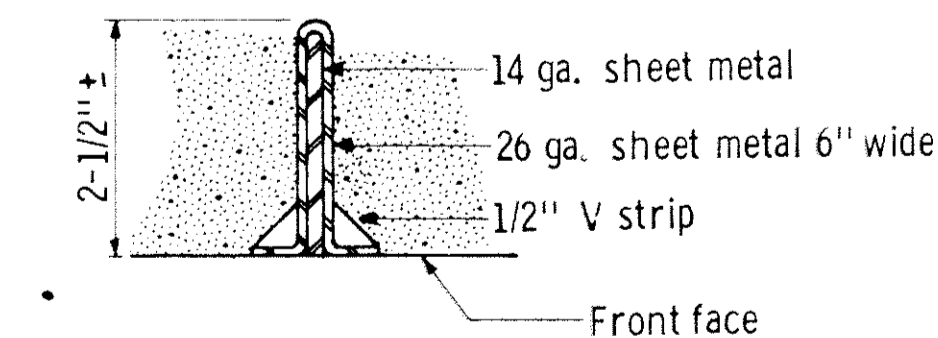


SECTION C - C

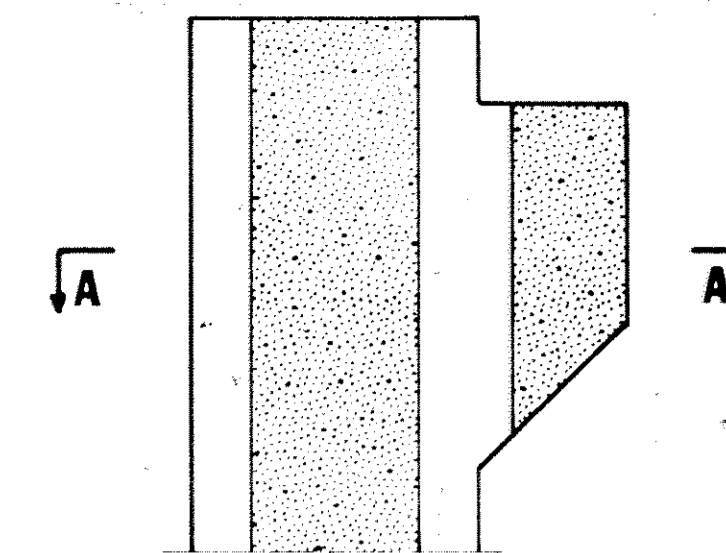


BRIDGE SEAT and FRONT STRIP
6" wide

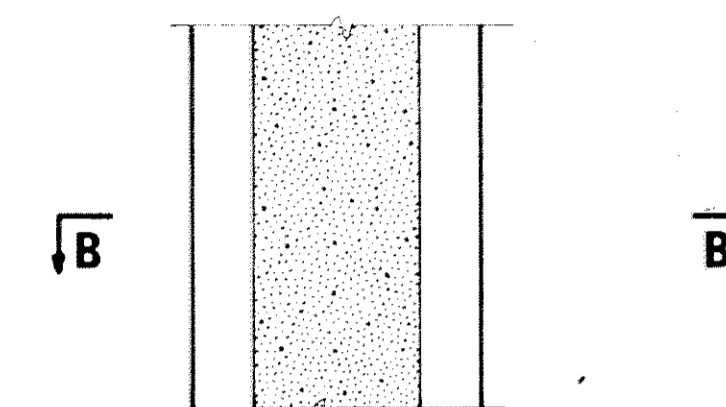
BACK STRIP
8" wide



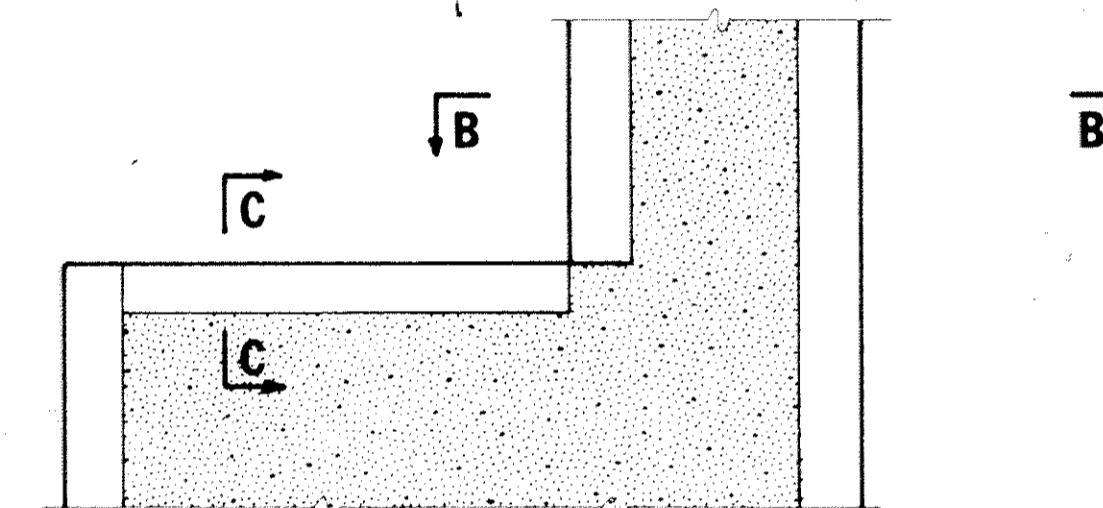
ALTERNATE BRIDGE SEAT and FRONT STRIP



SECTION THRU PAVING BRACKET



SECTION THRU WALL



SECTION THRU BRIDGE SEAT

PART SECTION THRU ABUTMENT AT JOINT

NOTES:

The methods and materials indicated hereon shall be considered as suggested only. Variations will be permitted, subject to approval by the Engineer, but must provide dummy joints of a depth not less than the depth shown, and a width at the front face of the abutment of not greater than 5/16". The separation of the horizontal reinforcement bars shall be not less than 1-1/2" nor more than 3", centered as shown, regardless of the procedure used for forming the dummy joint.

Front and bridge seat strips shall be removed with forms, except if a suitable plastic or other durable material satisfactory to the Engineer, is used the material may be left in place. Back strip to remain in place.

Strips to be removed shall be oiled or greased as necessary to permit removal without spalling the concrete.

Metal strips to be galvanized sheet metal. Fasten to forms with 7/8" roofing nails about 6" centers.

All metal in front face to be oiled for easy removal.

Cost of forming joint to be included in price bid for other items.

APPROVED July 1, 1969
Design Standards Engineer
ENGINEERING STANDARDS DIVISION

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS
**PROTECTION ANGLE
FOR END OF SLAB**

REVISION
DETAIL NO.

B551

APPROVED July 1, 1969
Design Standards Engineer
ENGINEERING STANDARDS DIVISION

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS
CONTRACTION JOINT

REVISION
DETAIL NO.

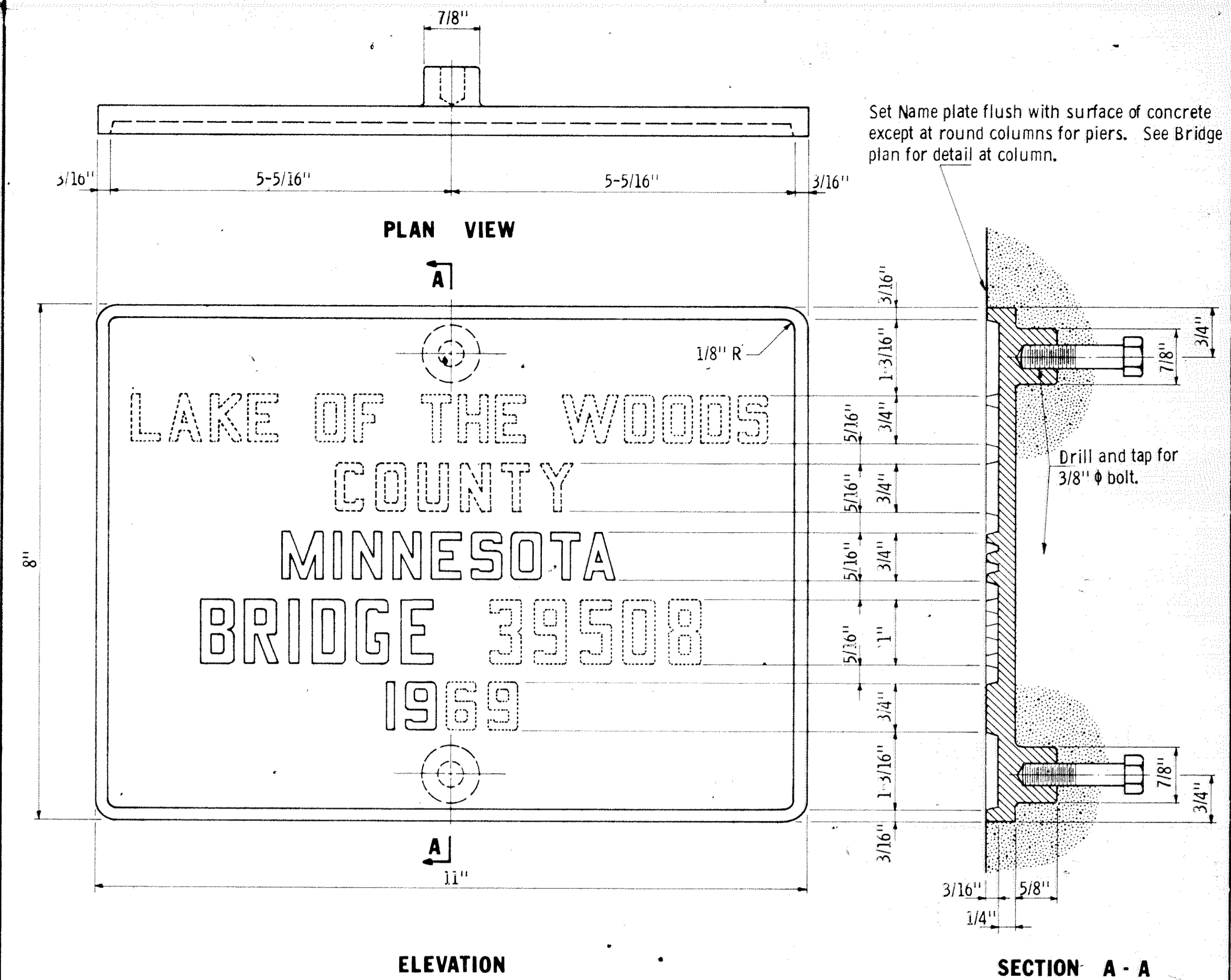
B801

AS BUILT
10-16-73
B. Jahn

TITLE:
DETAILS

DES: M.H.D. DR: M.H.D. APPROVED: 12-21-71
CHK: Rym CHK: Rym
Sheet No. 32 of 35 Sheets

Bridge No.
02522



A B C D E F G H I J K L M N
 O P Q R S T U V W X Y Z
 1 2 3 4 5 6 7 8 9 0

NOTES:

Numbers and letters shall conform to those shown.

Draft on letters shall not be more than 3" in 12"

Horizontal spacing of letters shall produce a balanced layout in proportion to spacing shown.

Top surface of letters and frames shall be burnished.

Background of plate shall have a deep brown oxidized finish.

Furnish 2 steel bolts 3/8" ϕ x 3" long with each plate.

Plates ordered in pairs shall be cast from the same heat.

Numbers and letters shown dotted are to be obtained from Bridge plans.

All dimensions for 3/4" high letters and numbers shall be in direct proportion to those shown for the 1" high letters and numbers.

LETTERS FOR NAME PLATES

Specification reference:
2471 3H, 3327 (Bronze castings)

APPROVED <u>July 1, 1969</u> <i>[Signature]</i> Design Standards Engineer ENGINEERING STANDARDS DIVISION	STATE OF MINNESOTA DEPARTMENT OF HIGHWAYS BRIDGE NAME PLATE COUNTY BRIDGES (STATE AID)	REVISION	DETAIL NO. B103
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AS BUILT
10-16-73
B. John

TITLE:
DETAILS

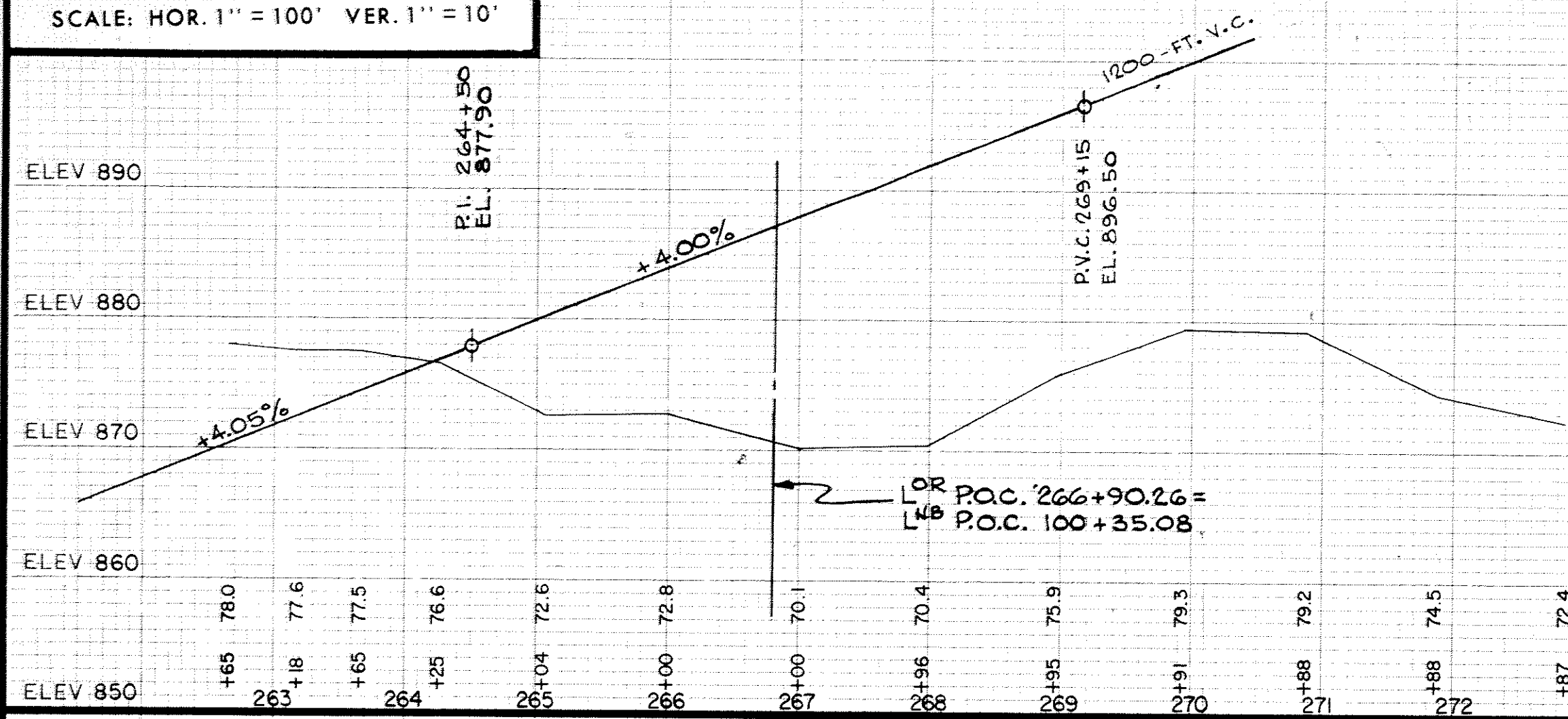
DES: M.H.D. DR: M.H.D. APPROVED: 12-21-71
 CHK: R.M.E. CHK: R.M.E.
Sheet No. 33 of 35 Sheets

Bridge No.
02522

CONTRACTED PROFILE

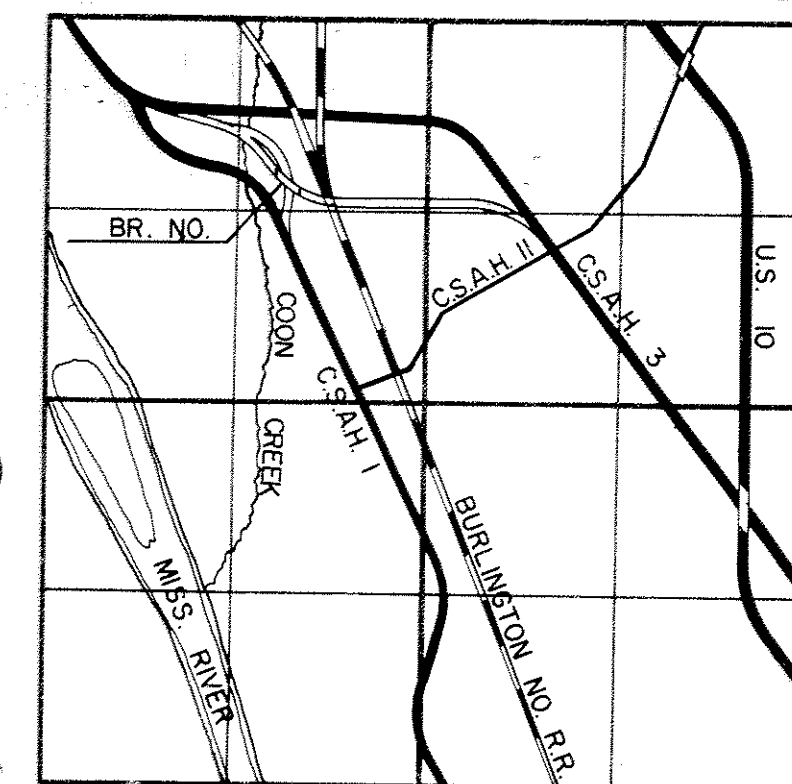
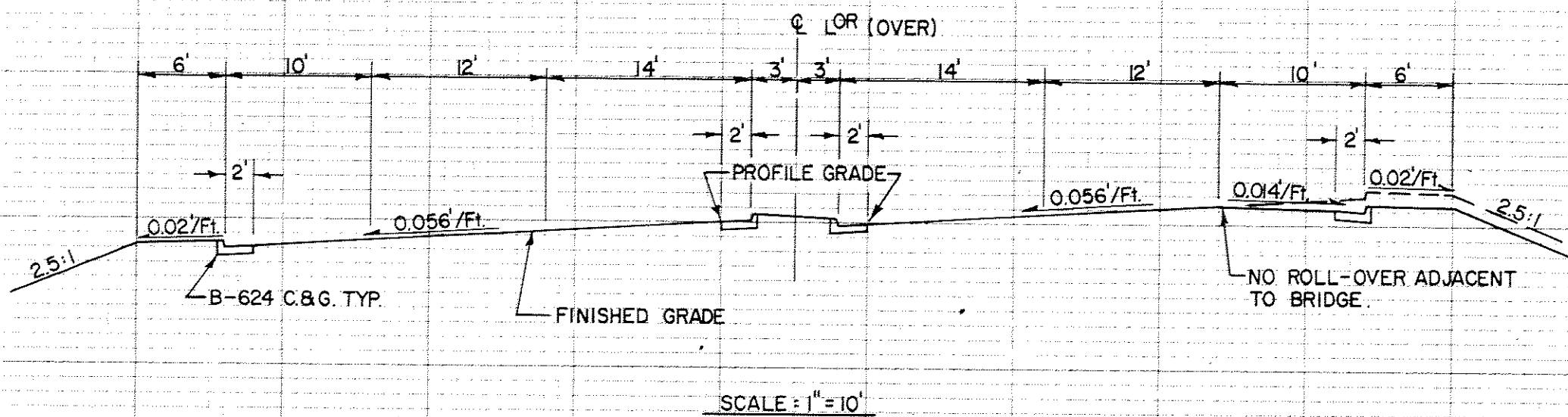
SCALE: HOR. 1" = 100' VER. 1" = 10'

PROFILE - LOR (OVER)



TYPICAL SECTIONS & PERTINENT DATA

SCALES AS SHOWN



FOLLOW SEPARATE "INSTRUCTIONS FOR PREPARATION OF BRIDGE SURVEYS" WHEN MAKING BRIDGE SURVEYS.

DATA

- Preliminary recommendations of Engineer in charge of Bridge Survey:
 - Net span length and type of bridge... 53'-8 1/2" PRESTRESSED CONCRETE GIRDER SPANS
 - Width of roadway on bridge... TWO-36 FT. ROADWAYS AND ONE-6 FT. MEDIAN
 - Number and width of sidewalks, if any... NONE
 - Locate center of bridge at station... 266+90.26
 - If a skew bridge is recommended, the angle of skew should be... 53°-17'-41"
 - Is piling required?... YES
- Special features: Waterfalls, dams, exceptional floods, ice, driftwood, sliding banks, logging, etc.
- Changes: In height or length from that of old bridge, and reasons why
- Other bridges in vicinity:
 - Over same stream (particularly structures which carry high water without overflow of roadway); give location, length, height above water, net cross-sectional area at high water stage and estimated age
 - Over or under same highway or railroad; give location, length, horizontal and vertical clearances and estimated age
 - Reasons why these bridges are, or are not, fair indications of what length the proposed bridge should be
- If structure is over a drainage ditch, is ditch gradient liable to be altered?
- Navigation clearances required, if any
- Information and evidence in regard to high water stages was obtained as follows
- Must contractor provide for traffic during construction of proposed bridge? NO
If so, by what means?

HYDRAULIC ENGINEERS RECOMMENDATION

.....

HIGH AND LOW WATER ELEVATIONS

Data obtained from.....
 reflects highest water elevation in the area of this construction to be..... and the lowest water elevation to be.....
 The above figures are for informational purposes only. The state neither warrants nor represents that these figures for high water or low water are in any way indicative of the high water or low water to be expected or encountered during this construction.

SHIPPING POINT

Proposed Bridge is IN THE CITY of
 * COON RAPIDS which is the nearest Railroad shipping point.
 *(Give name of town, station or siding)

STATE OF MINNESOTA
 DEPARTMENT OF HIGHWAYS

BRIDGE SURVEY

FOR
 PROPOSED BRIDGE LOCATED IN THE CITY OF OF
 COON RAPIDS ON C.S.A.H. NO. 1 (TOWN OR CITY) (T.H., C.S.A.H. OR C.A.R. NUMBER)
 SEC. 26 TWP. 31 N. R. 24 W
 CITY OF COON RAPIDS - ANOKA COUNTY
 SURVEY MADE DURING MONTH OF DECEMBER 19 70
 SURVEY MADE BY J. MALONEY
 BRIDGE NO. 02522

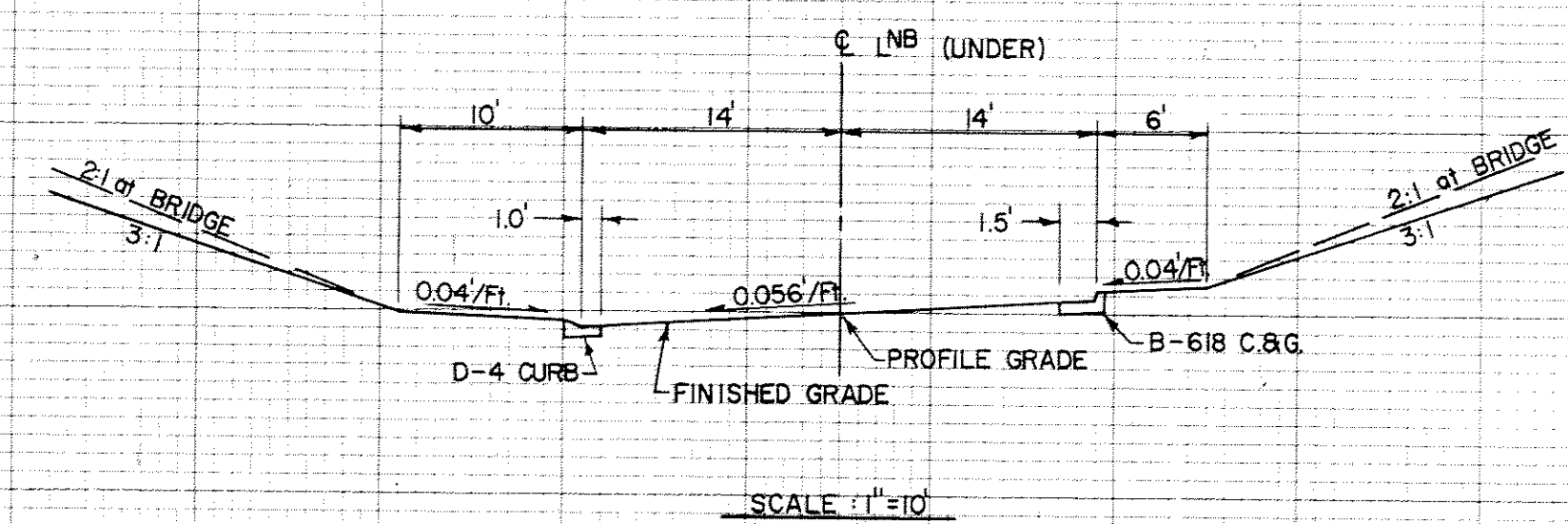
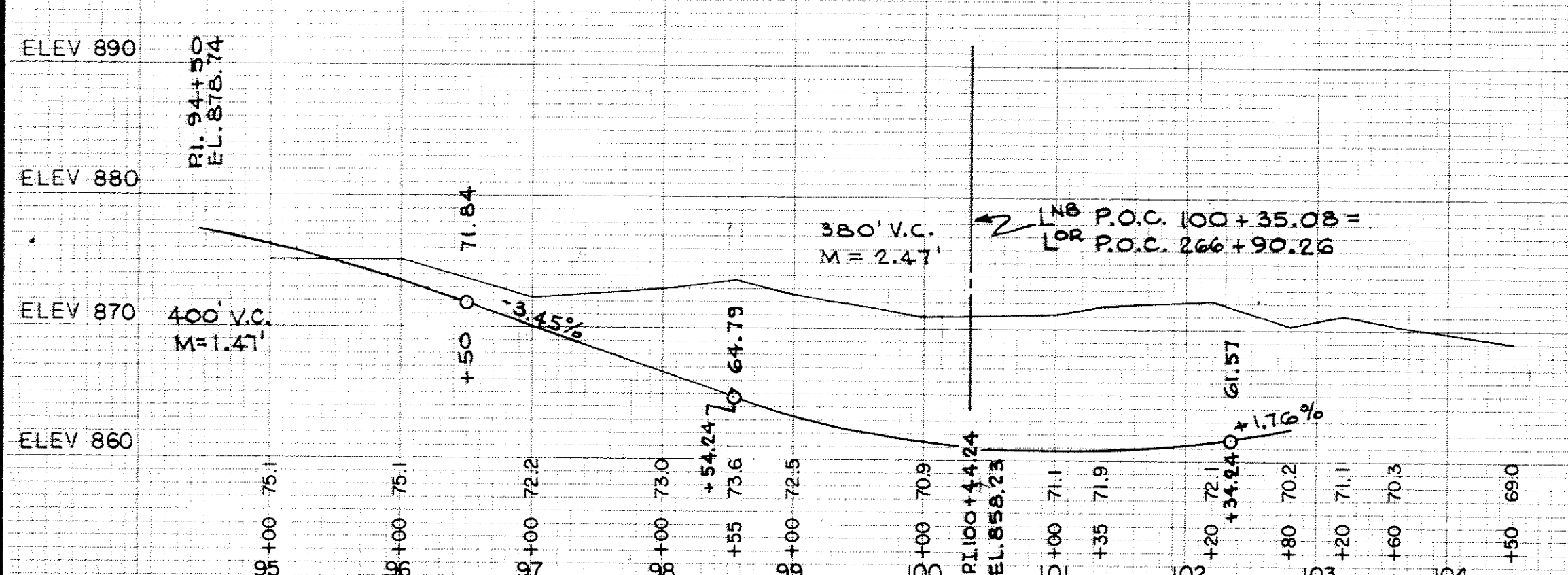
Date Project or County Engineer
 Date District Engineer

AS BUILT
 10-16-73
 B. J. J.

B.M. ELEV 874.34 (M.S.L. 19 ADJ.)
 R.R. SPK 18' OAK, (DATUM UNKNOWN)
 90 RT. LOR 263+96

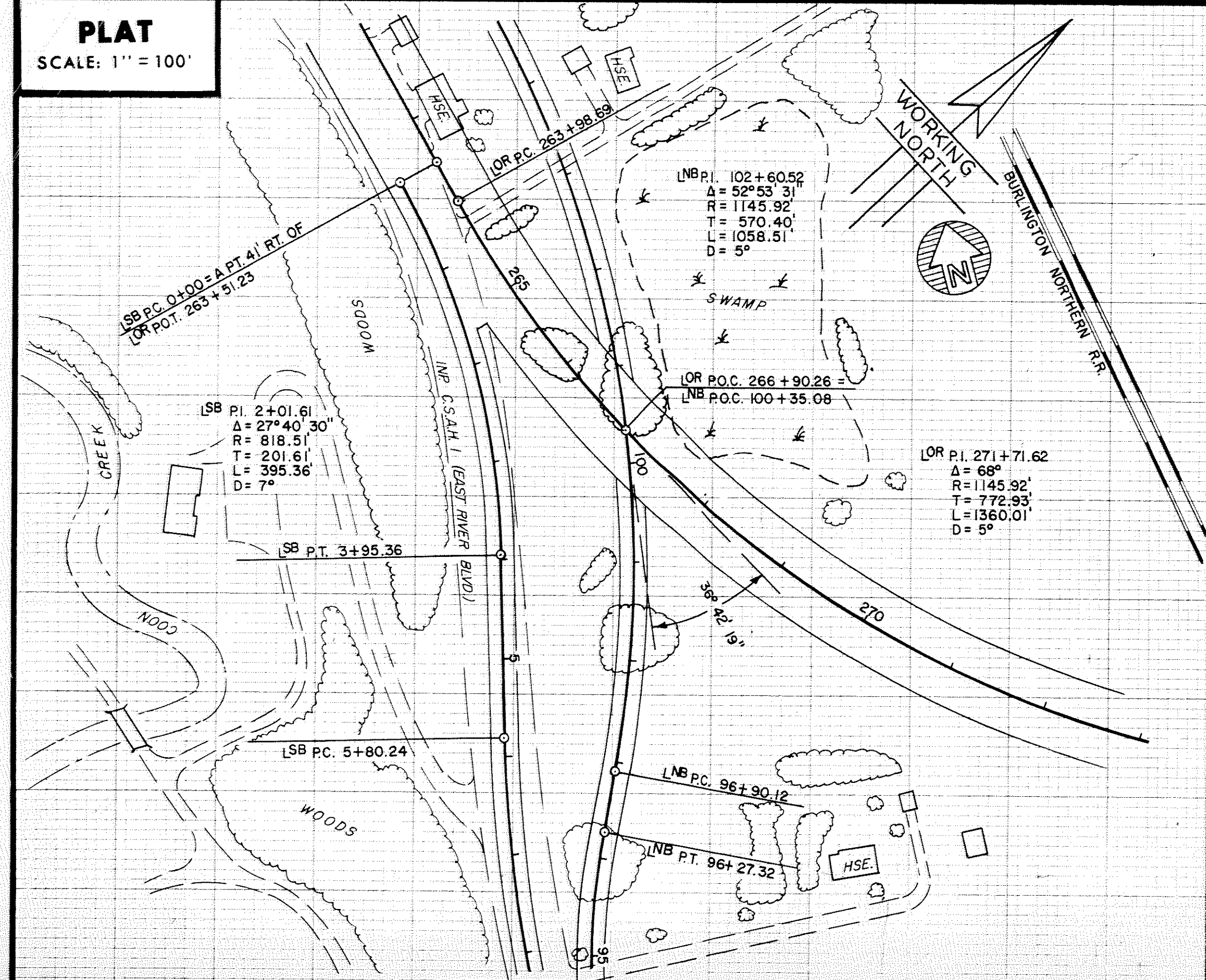
SEE SHEET 35 OF 35 SHEETS FOR PLAN AND PROFILE

PROFILE - LNB (UNDER)



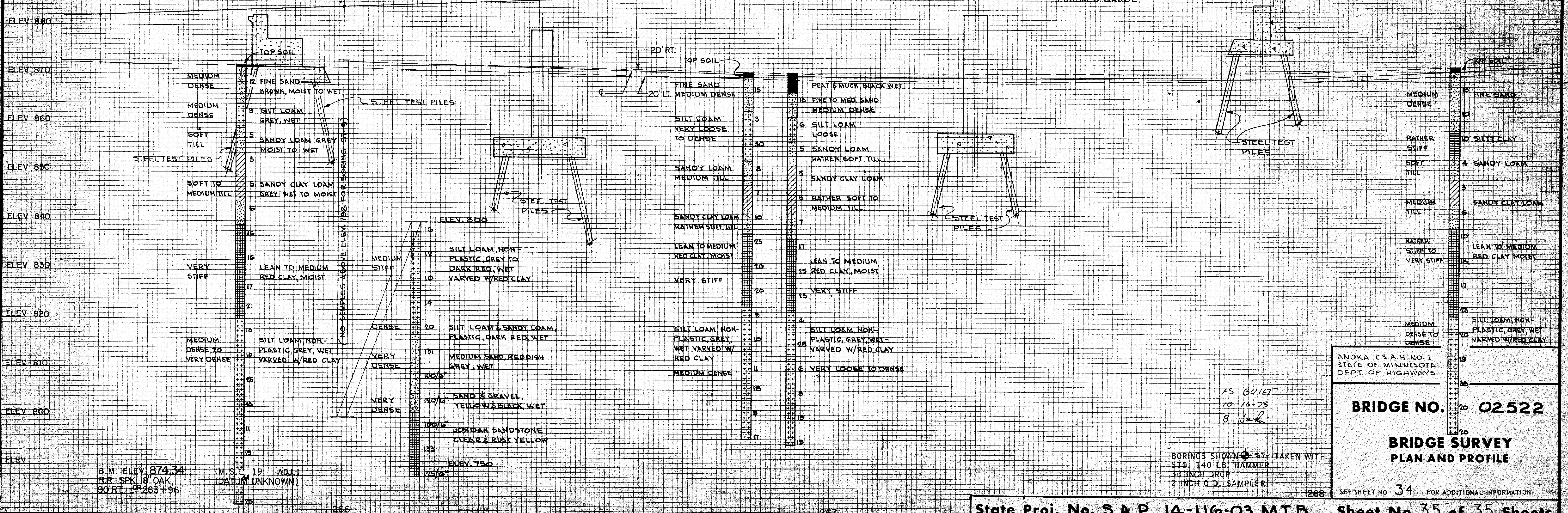
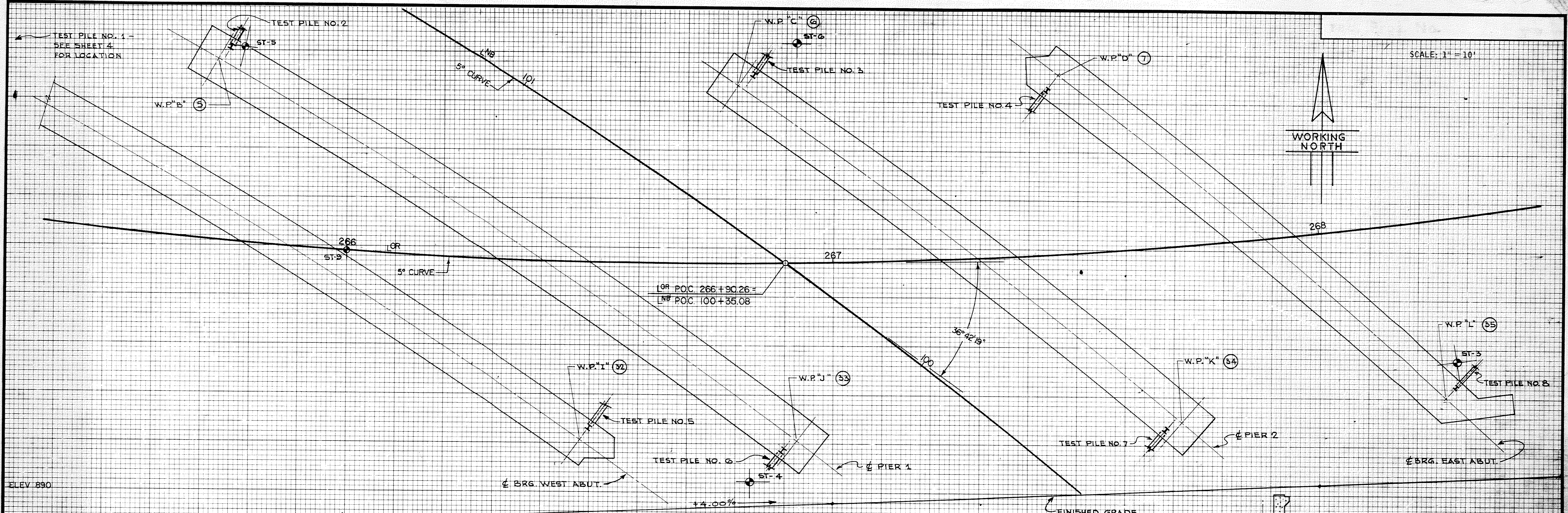
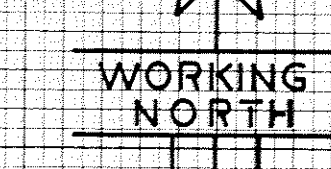
PLAT

SCALE: 1" = 100'



Bridge Survey Sheet (Sheet 1 of 2)

SCALE: 1" = 10'



Bridge Survey Sheet (Sheet 2 of 2)

B.M. ELEV 874.34
R.R. SPK 18' OAK
90' RT. L^{OR} 263+96
(M.S. 19 ADJ.)
(DATUM UNKNOWN)

BORINGS SHOWN ST- TAKEN WITH
STD. 140 LB. HAMMER
30 INCH DROP
2 INCH O.D. SAMPLER

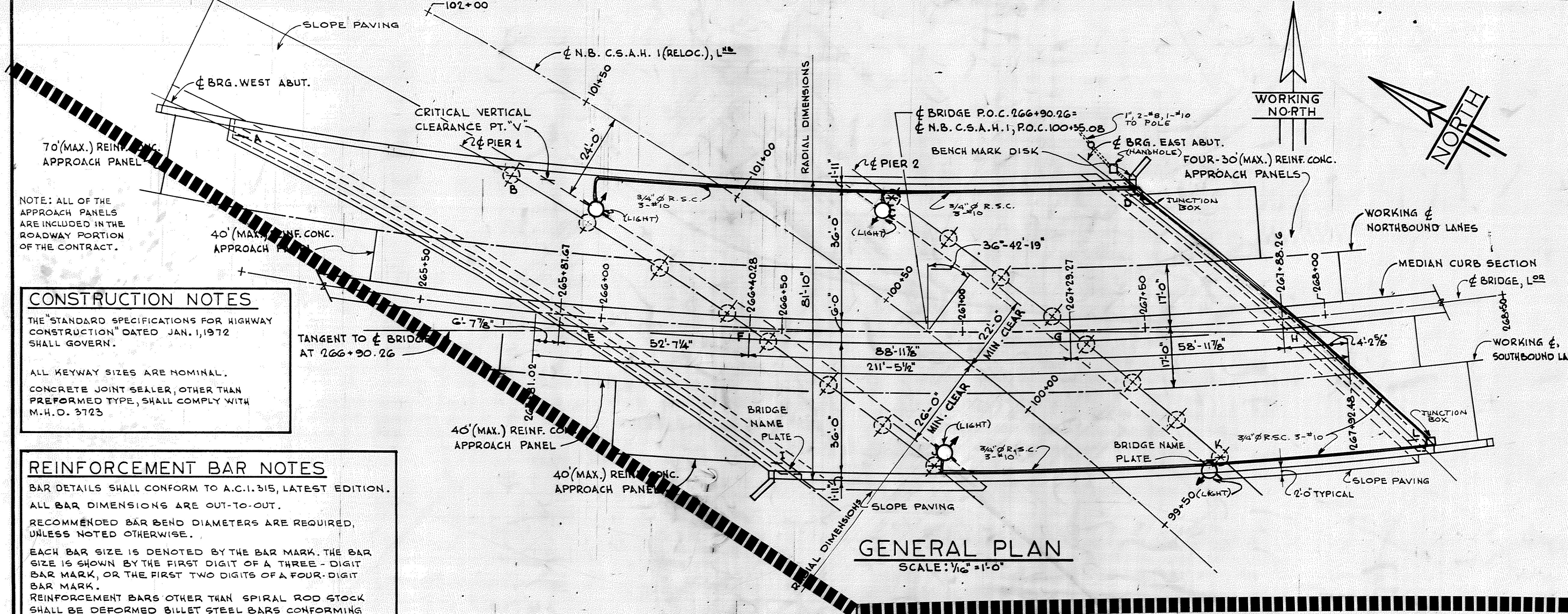
AS QU'ET
10-16-75
B. Jahn

ANOKA C.S.A.H. NO. 1
STATE OF MINNESOTA
DEPT. OF HIGHWAYS

BRIDGE NO. 02522

BRIDGE SURVEY
PLAN AND PROFILE

SEE SHEET NO 34 FOR ADDITIONAL INFORMATION



CONSTRUCTION NOTES

THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION DATED JAN. 1, 1972 SHALL GOVERN.

ALL KEYWAY SIZES ARE NOMINAL.

CONCRETE JOINT SEALER, OTHER THAN PREFORMED TYPE, SHALL COMPLY WITH M.H.D. 3723

REINFORCEMENT BAR NOTES

BAR DETAILS SHALL CONFORM TO A.C.I. 315, LATEST EDITION.

ALL BAR DIMENSIONS ARE OUT-TO-OUT.

RECOMMENDED BAR BEND DIAMETERS ARE REQUIRED, UNLESS NOTED OTHERWISE.

EACH BAR SIZE IS DENOTED BY THE BAR MARK. THE BAR SIZE IS SHOWN BY THE FIRST DIGIT OF A THREE-DIGIT BAR MARK, OR THE FIRST TWO DIGITS OF A FOUR-DIGIT BAR MARK.

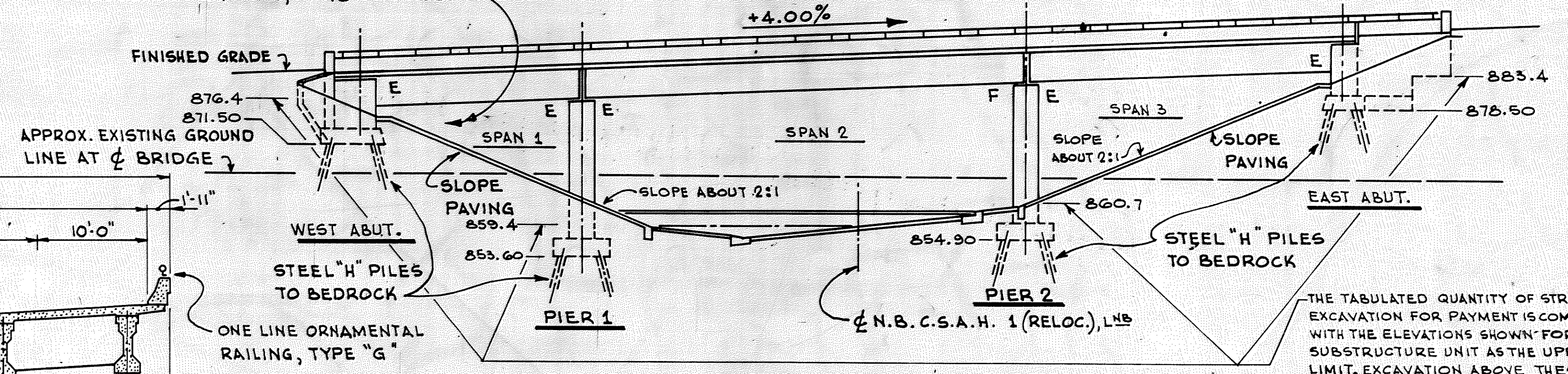
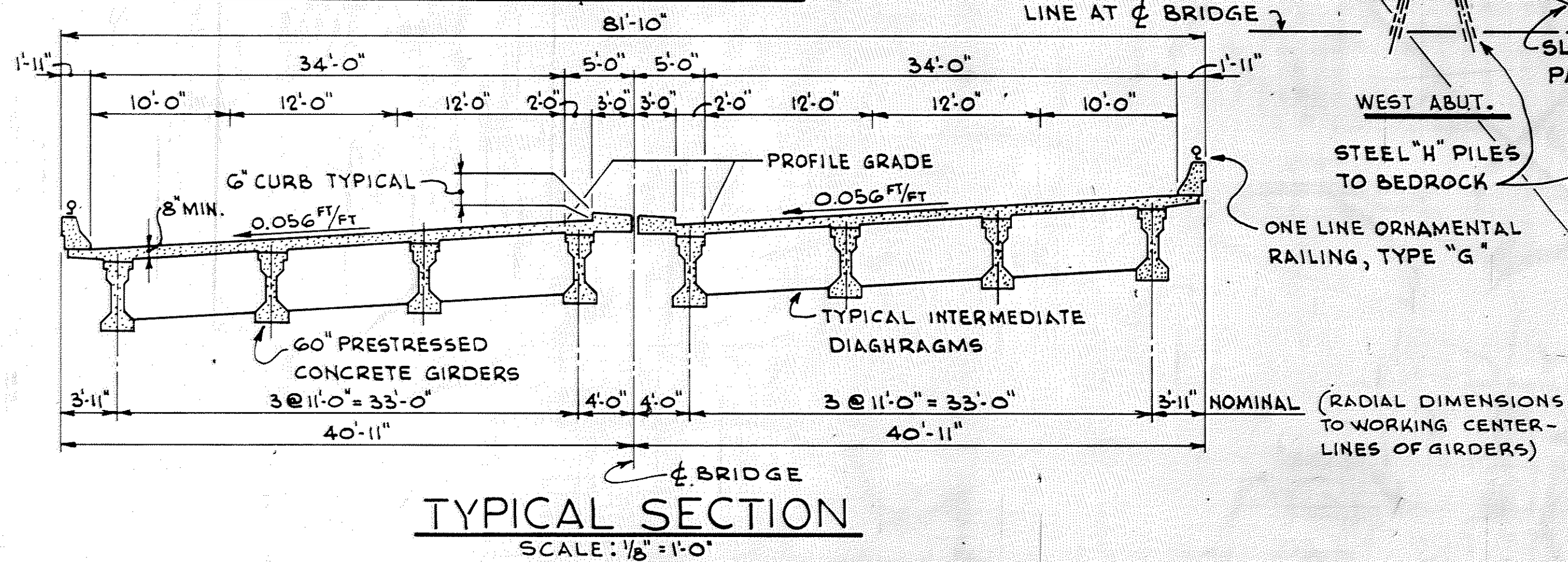
REINFORCEMENT BARS OTHER THAN SPIRAL ROD STOCK SHALL BE DEFORMED BILLET STEEL BARS CONFORMING TO ASTM - A615, GRADE 60

PILING NOTE

PILES, IN GENERAL, ARE BATTERED AT 3:12 PERPENDICULAR TO ϕ OF PIER OR ϕ OF ABUTMENT BEARING. BECAUSE OF THIS BATTER COMBINED WITH VERY GREAT LENGTH OF PILES, IT WOULD BE POSSIBLE FOR PILE TIPS TO INTERFERE WITH PILES IN THE NEXT ABUTMENT OR PIER. CONTRACTOR SHALL TAKE SUITABLE PRECAUTIONS TO ASSURE THAT PILES DO NOT STRIKE ONE ANOTHER DURING DRIVING. CONTRACTOR MAY BATTER ANY PILE NOT MORE THAN 1:12 PARALLEL TO A ϕ PIER OR A ϕ BEARING, FOR THIS PURPOSE.

AT POINT "V" (HIDDEN) 15'-0" MINIMUM VERTICAL CLEARANCE REQUIRED, 15'-0" PROVIDED

CONSTRUCTION AT EACH ABUTMENT SHALL NOT BE STARTED UNTIL THE APPROACH FILL AT THE ABUTMENT HAS BEEN CONSTRUCTED TO THE BOTTOM OF THE SPECIAL GRANULAR APPROACH TREATMENT AS SHOWN OR NOTED IN THE GRADING PORTION OF THE CONTRACT.



BRIDGE LIGHTS SHEET 2 - LIGHT LOCATION

2452.511	2452.510	2452.520	2452.520	2452.520
STEEL H-PILE, DELIVERED	STEEL H-PILE, DRIVEN	STEEL H-TEST PILES IN PLACE 140'-FT. LONG	STEEL H-TEST PILES IN PLACE 130'-FT. LONG	STEEL H-TEST PILES IN PLACE 120'-FT. LONG
LIN. FT. 9540	LIN. FT. 9372	EACH 2	EACH 2	EACH 4

SCHEDULE OF QUANTITIES FOR ENTIRE BRIDGE

ITEM NO.	2401.501	2401.501	2401.501	2401.501	2401.541	2401.543	2402.521	2402.583	2402.593	2402.594	2402.594	2405.501	2405.501	2405.501	2405.501	2405.501	2405.501	2405.501	2401.521	401.601	
ITEM	CONCRETE, MIX NO. 1A43	CONCRETE, MIX NO. 3Y43	CONCRETE, MIX NO. 3Y43 A	CONCRETE, MIX NO. 3Y43 A SPECIAL	REINFORCEMENT BARS	SPIRAL REINFORCEMENT	STRUCTURAL STEEL, (M.H.D. 3306)	ORNAMENTAL METAL RAILING	FIXED BEARING ASSEMBLIES TYPE 1	EXPANSION BRG. ASS'YS TYPE 1 (WITHOUT LUGS)	EXPANSION BRG. ASS'YS TYPE 1 (WITH LUGS)	PRESTRESSED CONCRETE GIRDER, TYPE 60-106	PRESTRESSED CONCRETE GIRDER, TYPE 60-100	PRESTRESSED CONCRETE GIRDER, TYPE 60-95	PRESTRESSED CONCRETE GIRDER, TYPE 60-86	PRESTRESSED CONCRETE GIRDER, TYPE 60-76	PRESTRESSED CONCRETE GIRDER, TYPE 60-64	PRESTRESSED CONCRETE GIRDER, TYPE 60-59	STRUCTURE EXCAVATION CLASS E	SLOPE PAVING	
UNIT	CU. YD.	CU. YD.	CU. YD.	CU. YD.	POUND	POUND	POUND	LIN. FT.	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	CU. YD.	SQ. YD.	
QUANTITY	732 (P)	621 (P)	669 (P)	57 (P)	274290 (P)	12450 (P)	2040	466	8	24	16	1	1	1	4	2	4	5	6	2070	1520 (P)

DESIGN DATA

1969 A.A.S.H.O. DESIGN SPECIFICATIONS
DESIGN LOADING: HS-20
 $f_c = 1600$ P.S.I. $n = 8$
 $f_s = 24000$ P.S.I. REINFORCING STEEL, ASTM - A615, GRADE 60
 $f_s = 20,000$ P.S.I. STRUCT. STEEL, M.H.D. 3306

DECK AREA: 17,621 SQ. FT.

LIST OF SHEETS

NO.	DESCRIPTION
1	GENERAL PLAN & ELEVATION
2	BRIDGE LAYOUT
3	PART WEST ABUT. PLAN AND LAYOUT
4	WEST ABUT. - ELEVATION & FOOTING PLAN
5	WEST ABUT. - PART PLAN & DETAILS
6	WEST ABUT. - DETAILS
7	EAST ABUT. - PLAN & LAYOUT
8	EAST ABUT. - ELEV. & FOOTING PLAN
9	EAST ABUT. - DETAILS
10	PIER 1
11	PIER 2
12	PIER DETAILS
13	PREST'D. CONC. GIRDER TYPE 60-106
14	PREST'D. CONC. GIRDER TYPE 60-100
15	PREST'D. CONC. GIRDER TYPE 60-95
16	PREST'D. CONC. GIRDER TYPE 60-86
17	PREST'D. CONC. GIRDER TYPE 60-76
18	PREST'D. CONC. GIRDER TYPE 60-64
19	PREST'D. CONC. GIRDER TYPE 60-59
20	PREST'D. CONC. GIRDER TYPE 60-51
21	PART FRAMING PLAN - WEST
22	PART FRAMING PLAN - EAST
23	DIAPHRAGMS AND FRAMING DETAILS
24	PART DECK PLAN - WEST
25	PART DECK PLAN - EAST
26	DECK SECTION AND RAILING ELEVATIONS
27	SUPERSTRUCTURE BAR LIST & EST. QUANT.
28	RAILING
29	SLOPE PAVING
30	DETAILS
31	DETAILS
32	DETAILS
33	DETAILS
34	BRIDGE SURVEY
35	SURVEY PLAN AND PROFILE

BENCH MARK ELEV. 874.34 (M.S.L. DATUM UNKNOWN)
RAILROAD SPIKE IN 18" OAK TREE 90'-FT. RT. OF 263+96 ON L28

BATHER RINGROSE WOLFSFELD INC.
ROSELVILLE, MINN.

BAKKE & KOPP INC.
MINNEAPOLIS, MINN.

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

SIGNED: *Robert J. McFarlin*

DATE 11/3/71 REG NO. 6452

ANOKA COUNTY STATE AID HIGHWAY NO. 1
STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

Bridge No. 02522

COON RAPIDS BOULEVARD BY-PASS OVER EAST RIVER ROAD NORTHBOUND (C.S.A.H. 1) IN COON RAPIDS

53'-89'-59" PRESTRESSED GIRDER SPANS
72'-FT. ROADWAY, 53'-17'-41" SKEW, 6'-FT. MEDIAN

GENERAL PLAN AND ELEVATION

SEC. 26 R. 31. N. P. 24 W.
CITY OF COON RAPIDS ANOKA COUNTY

APPROVED 12-21-71

Robert J. McFarlin
BRIDGE DESIGN AND PLANNING ENGINEER

DES. *RM* DR. W.K. **02522**
CHK. *MODY* CHK. *RM*