

GENERAL NOTES

DESIGN SPECIFICATIONS:
AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINARS AND TRAFFIC SIGNALS DATED 1975

LOADING:
WIND LOAD 80 M.P.H. NORMAL TO SIGN FACE IN COMBINATION WITH OTHER LOADS OUTLINED IN THE DESIGN SPECIFICATIONS.

UNIT STRESSES:
STRUCTURAL STEEL-----Fs = 20,000 PSI
HIGH STRENGTH BOLTS-----Fs = 36,000 PSI
CONCRETE-----Fc = 1,600 PSI
REINFORCEMENT STEEL-----Fs = 24,000 PSI
FOOTING SOIL PRESSURE-----1/4 TONS PER SQ. FT.

MATERIALS:
STRUCTURAL STEEL-----MN/DOT 3306 (ASTM A36)
HIGH STRENGTH BOLTS-----MN/DOT 3391, TYPE B (ASTM A325)
ANCHOR RODS-----MN/DOT 3385
CASTINGS-----MN/DOT 3322 (ASTM A27, GRADE 70-36)
REINFORCEMENT
BARS-----MN/DOT 3301, TYPE I (GRADE 60, DEFORMED BILLET)
SPIRAL-----MN/DOT 3305 (ASTM A82) NO SPLICES
WALKWAY GRATING-----FEDERAL SPECIFICATION RR-G-661b, TYPE I, STEEL
CONCRETE-----MN/DOT 2461 (MIX 3Y43)
GROUT-----MN/DOT 2564.2F

FINISH:
ALL COMPONENTS SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION EXCEPT REINFORCEMENT BARS, LOWER PORTION OF ANCHOR RODS, ALUMINUM, AND OTHER NON FERROUS INCIDENTALS. GALVANIZING SHALL CONFORM TO MN/DOT 3392 (ASTM A153) OR MN/DOT 3394 (ASTM A123) AS APPLICABLE. BEARING SURFACES MUST BE SMOOTH.

FABRICATION
FABRICATION OF STRUCTURAL METALS SHALL BE IN ACCORDANCE WITH MN/DOT 2471, MN/DOT 2564 AND THE APPLICABLE SPECIAL PROVISIONS. ALL WELDING TO BE CONTINUOUS AND IN ACCORDANCE WITH MN/DOT 2471.3J. WELDING MATERIALS AND PROCESSES AS PER MN/DOT 3339. ALL CONTACT SURFACES MUST BE COMPLETELY SEALED.

INSPECTION:
INSPECTION BEFORE AND AFTER GALVANIZING PER MN/DOT 1511 AND MN/DOT 2471.3M.

NUTS PER ASTM A194 GRADE 2H OR ASTM A563 GRADE DH

INDEX OF SIGN DRAWINGS

DRAWING	TITLE	DRAWING	TITLE
ST-1	GENERAL ELEVATIONS AND NOTES	ST-7	SIGN TRUSS DETAILS-TYPE B
ST-2	CAMBER AND ESTIMATED QUANTITIES	ST-8	SIGN TRUSS DETAILS-TYPE C
ST-3	FOUNDATIONS AND ANCHOR RODS	ST-9	WALKWAY DETAILS
ST-4	POST DETAILS	ST-10	SIGN PANEL AND PANEL MOUNTING POST DETAILS
ST-5	TRUSS CONNECTIONS TO POSTS	ST-11	ELECTRICAL DETAILS
ST-6	SIGN TRUSS DETAILS-TYPE A	ST-12	ELECTRICAL DETAILS
		ST-13	WELD DETAILS

NOTE
MINIMUM CLEARANCE WILL BE MEASURED FROM THE HIGHEST ELEVATION OF PAVEMENT, SHOULDERS, AND MOUNTABLE CURBS, OR IF INSURMOUNTABLE CURBS ARE USED, THE HIGHEST ELEVATION BETWEEN CURB LINES.

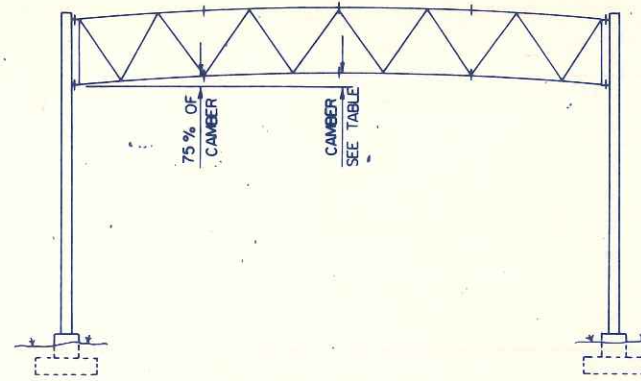
HOWARD, NEEL, ES., L.L.C. BERGENCOFF & ASSOCIATES, INC. IHNTB

SIMPLE SPAN TRUSS TYPE-A CAMBER								
SPAN	40'	50'	60'	70'	80'	90'	100'	110'
CAMBER	1/4"	3/8"	1/2"	5/8"	3/4"	7/8"	1 1/8"	1 1/4"
D.L. DEFLECTION	0"	1/16"	1/8"	3/16"	1/4"	5/16"	3/8"	7/16"
RESIDUAL CAMBER	1/4"	3/8"	1/2"	5/8"	3/4"	7/8"	1 1/8"	1 1/4"

SIMPLE SPAN TRUSS TYPE-B CAMBER										
SPAN	40'	50'	60'	70'	80'	90'	100'	110'	120'	130'
CAMBER	1/4"	3/8"	1/2"	5/8"	3/4"	7/8"	1 1/8"	1 1/4"	1 5/8"	2 1/8"
D.L. DEFLECTION	0"	1/16"	1/8"	3/16"	1/4"	5/16"	3/8"	7/16"	1/2"	5/8"
RESIDUAL CAMBER	1/4"	3/8"	1/2"	5/8"	3/4"	7/8"	1 1/8"	1 1/4"	1 5/8"	2 1/8"

SIMPLE SPAN TRUSS TYPE-C CAMBER														
SPAN	40'	50'	60'	70'	80'	90'	100'	110'	120'	130'	140'	150'		
CAMBER	1/4"	3/8"	1/2"	5/8"	3/4"	7/8"	1 1/8"	1 1/4"	1 5/8"	2 1/8"	2 3/4"	3 1/4"		
D.L. DEFLECTION	0"	1/16"	1/8"	3/16"	1/4"	5/16"	3/8"	7/16"	1/2"	5/8"	1 1/16"	1 1/2"		
RESIDUAL CAMBER	1/4"	3/8"	1/2"	5/8"	3/4"	7/8"	1 1/8"	1 1/4"	1 5/8"	2 1/8"	2 3/4"	3 1/4"		

NOTE:
CAMBER AND DEFLECTIONS SHOWN ARE AT $\frac{1}{2}$ SPAN.
THE DEFLECTIONS AND CAMBER AT THE QUARTER POINTS
SHALL BE APPROXIMATELY 75% OF THESE VALUES.



SIMPLE SPAN
NOT TO SCALE

TRUSS QUANTITIES ①		
TRUSS TYPE A	TRUSS TYPE B	TRUSS TYPE C
123 LBS./FT.	168 LBS./FT.	196 LBS./FT.

NOTE ①
USE LENGTH FROM $\frac{1}{2}$ POST WHEN CALCULATING
TOTAL WEIGHTS.

PANEL MOUNTING POST QUANTITIES ④	
PANEL HEIGHT	WEIGHT/POST
7'-0"	74
7'-6"	78
8'-0"	82
8'-6"	86
9'-0"	90
9'-6"	93
10'-0"	97
10'-6"	101
11'-0"	105

④ INCLUDES MOUNTING CLIP ANGLES
AND CAST STEEL CLAMPS.

WALKWAY SUPPORT QUANTITIES			
PANEL HEIGHT ②	TRUSS TYPE (WEIGHT/SUPPORT)		
	A	B	C
7'-0"	96	101	110
7'-6"	98	103	112
8'-0"	100	105	114
8'-6"	102	107	116
9'-0"	104	109	118
9'-6"	106	111	120
10'-0"	108	113	122
10'-6"	110	115	124
11'-0"	112	117	126

NOTE ②
USE MAXIMUM PANEL HEIGHT ON STRUCTURE
TO CALCULATE QUANTITIES.

POST QUANTITIES ③			
POST TYPE	QUANTITY	POST TYPE	QUANTITY
1	1934+118 LBS./FT.	11	2929+217 LBS./FT.
2	1936+137 LBS./FT.	12	3371+224 LBS./FT.
3	2137+149 LBS./FT.	13	3658+278 LBS./FT.
4	2464+172 LBS./FT.	14	1716+123 LBS./FT.
5	2764+194 LBS./FT.	15	1907+161 LBS./FT.
6	2810+229 LBS./FT.	16	2014+176 LBS./FT.
7	3282+279 LBS./FT.	17	2375+232 LBS./FT.
8	2222+157 LBS./FT.	18	2760+239 LBS./FT.
9	2490+176 LBS./FT.	19	3179+293 LBS./FT.
10	2601+188 LBS./FT.		

NOTE ③
INCLUDES ANCHORAGE ASSEMBLY.

WALKWAY GRATING-30LBS./FT.
INCLUDES HANDRAIL (8LBS./FT.) AND
FIXTURE MOUNTING CHANNELS (4LBS./FT.)

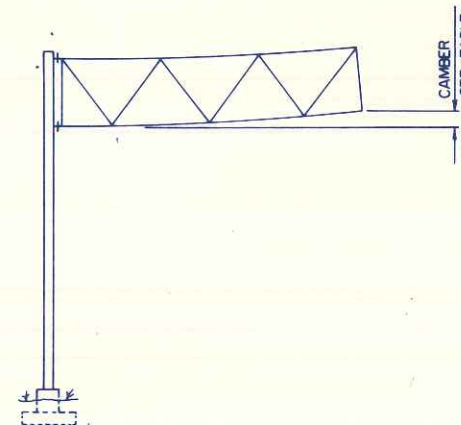
NOTE:
FOR FOUNDATION QUANTITIES SEE DRAWING ST.3.

CANTILEVER SPAN TRUSS TYPE-A CAMBER				
SPAN	15'	20'	30'	45'
CAMBER	1/8"	1/4"	3/8"	1 1/4"
D.L. DEFLECTION	0"	0"	1/16"	1/4"
RESIDUAL CAMBER	1/8"	1/4"	3/8"	1 1/4"

CANTILEVER SPAN TRUSS TYPE-B CAMBER						
SPAN	15'	20'	30'	40'	50'	70'
CAMBER	3/16"	1/4"	5/16"	1"	1 5/8"	3 1/8"
D.L. DEFLECTION	0"	0"	1/16"	1/8"	5/16"	1 5/16"
RESIDUAL CAMBER	3/16"	1/4"	5/16"	1"	1 5/8"	3 1/8"

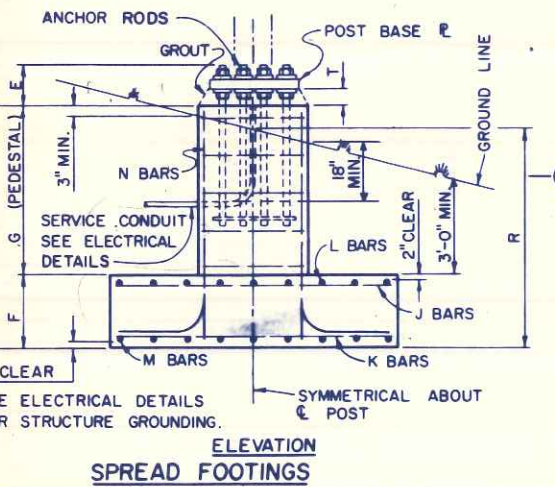
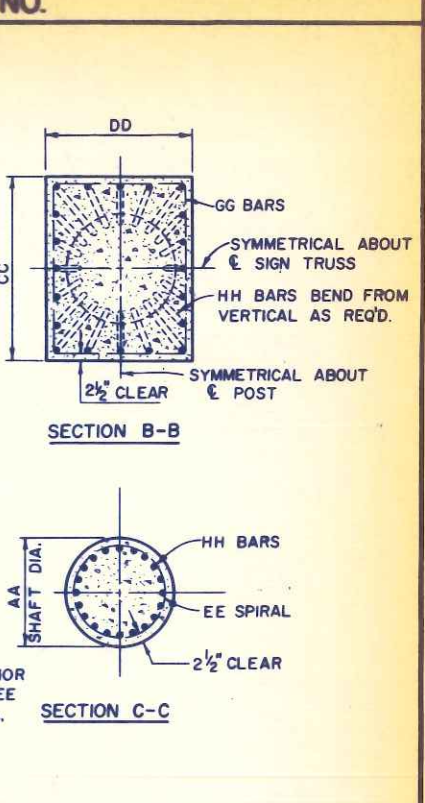
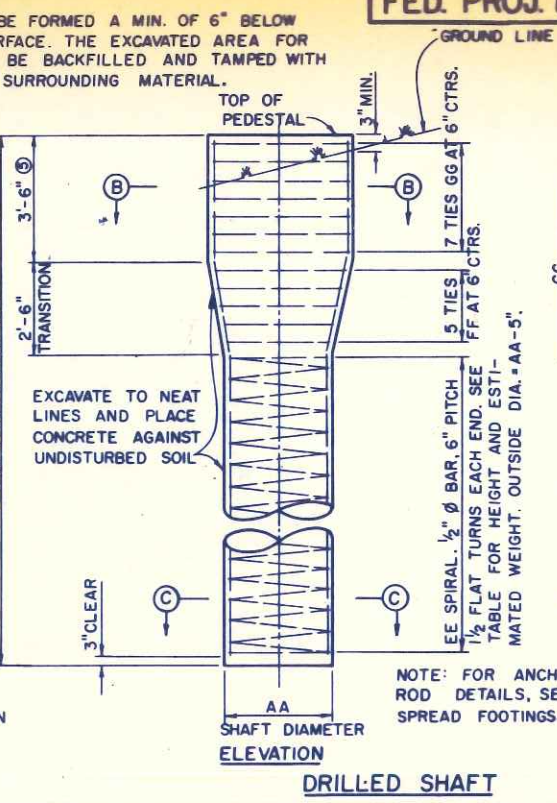
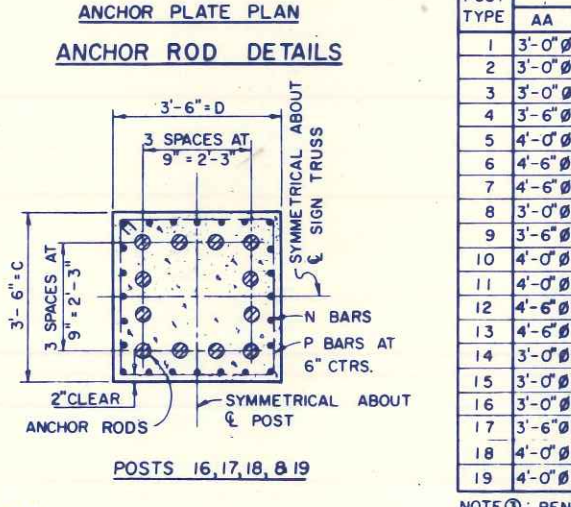
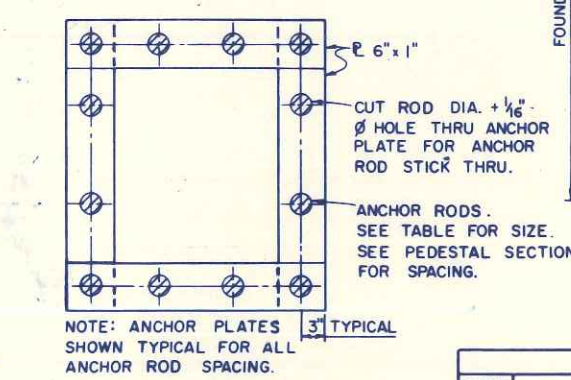
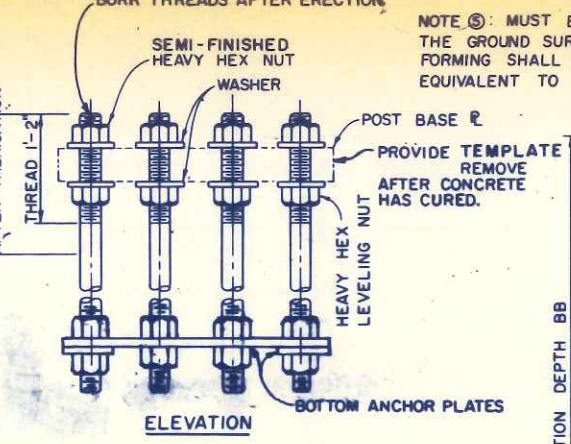
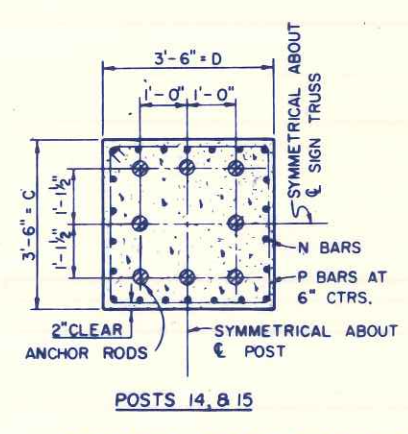
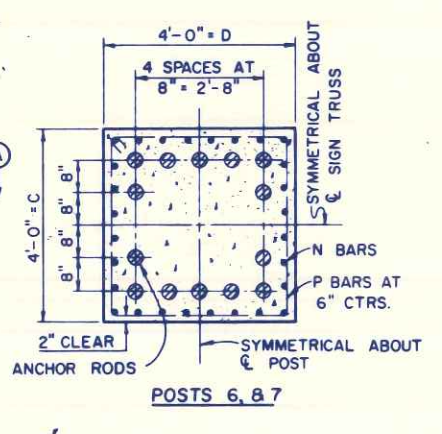
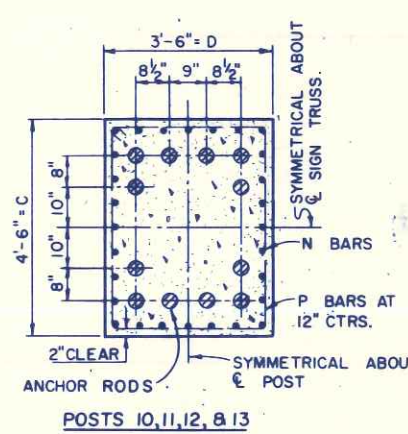
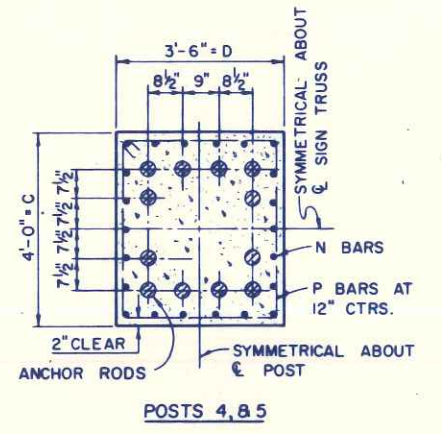
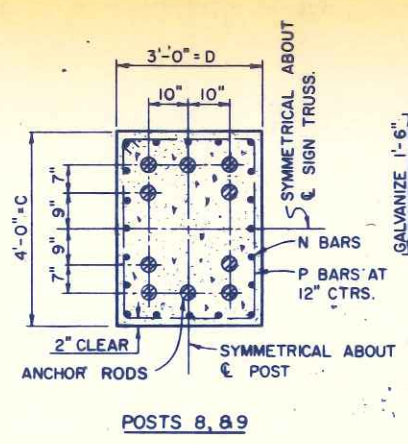
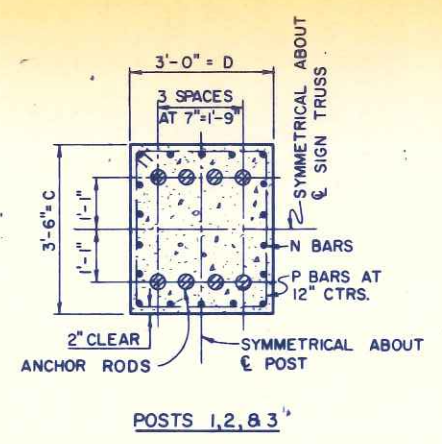
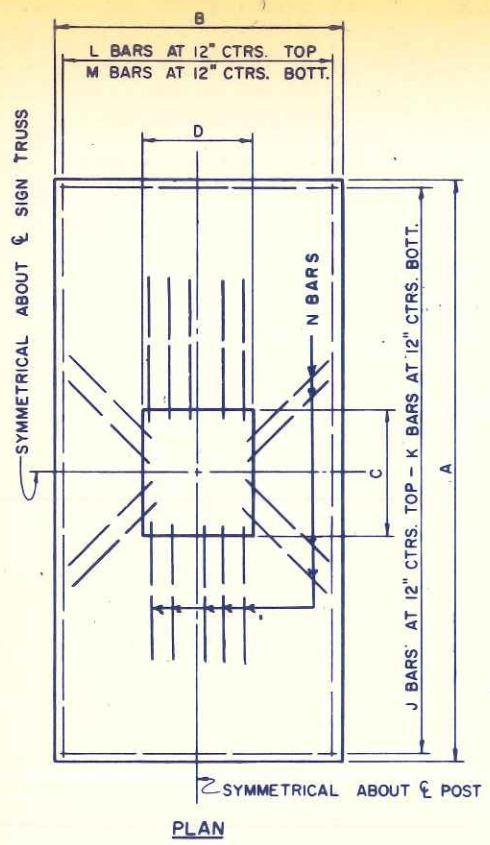
CANTILEVER SPAN TRUSS TYPE-C CAMBER						
SPAN	15'	20'	30'	40'	50'	70'
CAMBER	1/8"	1/4"	5/8"	1 1/16"	2 3/8"	3 3/4"
D.L. DEFLECTION	0"	0"	1/16"	1/8"	5/16"	1 1/4"
RESIDUAL CAMBER	1/8"	1/4"	5/8"	1 1/16"	2 3/8"	3 3/4"

NOTE:
CAMBER AND DEFLECTIONS ARE
SHOWN AT END OF CANTILEVER.
WHEN ERECTING CANTILEVER
TRUSSES, THE POSTS SHALL BE SET
1/8 PER FOOT OUT OF PLUMB TO
COMPENSATE FOR THE BENDING OF
THE POST.



CANTILEVER SPAN
NOT TO SCALE

NOTE ⑤: MUST BE FORMED A MIN. OF 6" BELOW THE GROUND SURFACE. THE EXCAVATED AREA FOR FORMING SHALL BE BACKFILLED AND TAMPED WITH EQUIVALENT TO SURROUNDING MATERIAL.



PEDESTAL CROSS SECTIONS A-A

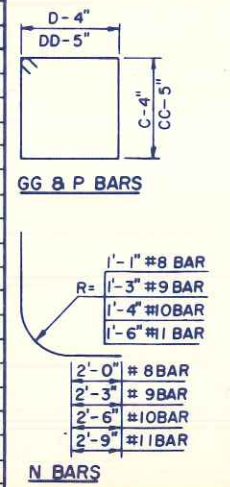
POST TYPE	DIMENSIONS				REINFORCING BARS				ESTIMATED QUANTITIES ④	
	AA	BB	CC	DD	EE	FF ③	GG	HH	CONCRETE CY.	REIN. STEEL LBS.
1	3'-0"	23'-0"	3'-6"	3'-0"	16'-6" x 197 LBS.	5#4 x 12'-11"	7#4 x 12'-11"	18#9 x 22'-7"	6.6	1690
2	3'-0"	25'-0"	3'-6"	3'-0"	18'-6" x 229 LBS.	5#4 x 12'-11"	7#4 x 12'-11"	18#10 x 24'-7"	7.2	2240
3	3'-0"	29'-0"	3'-6"	3'-0"	22'-6" x 261 LBS.	5#4 x 12'-11"	7#4 x 12'-11"	20#10 x 28'-7"	8.2	2830
4	3'-6"	30'-0"	4'-0"	3'-6"	23'-6" x 324 LBS.	5#4 x 14'-11"	7#4 x 14'-11"	22#10 x 29'-7"	11.5	3150
5	4'-0"	29'-0"	4'-0"	4'-0"	22'-6" x 362 LBS.	5#4 x 15'-11"	7#4 x 15'-11"	24#10 x 28'-7"	14.1	3470
6	4'-6"	30'-0"	4'-6"	4'-6"	23'-6" x 431 LBS.	5#4 x 17'-11"	7#4 x 17'-11"	24#11 x 29'-7"	18.5	4350
7	4'-6"	34'-0"	4'-6"	4'-6"	27'-6" x 498 LBS.	5#4 x 17'-11"	7#4 x 17'-11"	28#11 x 33'-7"	20.8	5650
8	3'-0"	29'-0"	4'-0"	3'-0"	22'-6" x 261 LBS.	5#4 x 13'-11"	7#4 x 13'-11"	20#11 x 28'-7"	8.5	3400
9	3'-6"	29'-0"	4'-0"	3'-6"	22'-6" x 311 LBS.	5#4 x 14'-11"	7#4 x 14'-11"	20#11 x 28'-7"	11.1	3770
10	4'-0"	28'-0"	4'-6"	4'-0"	21'-6" x 348 LBS.	5#4 x 16'-11"	7#4 x 16'-11"	22#10 x 27'-7"	13.9	3120
11	4'-0"	31'-0"	4'-6"	4'-0"	24'-6" x 392 LBS.	5#4 x 16'-11"	7#4 x 16'-11"	26#10 x 30'-7"	15.4	4070
12	4'-6"	33'-0"	4'-6"	4'-6"	26'-6" x 482 LBS.	5#4 x 17'-11"	7#4 x 17'-11"	28#11 x 32'-7"	20.2	5491
13	4'-6"	38'-0"	4'-6"	4'-6"	31'-6" x 567 LBS.	5#4 x 17'-11"	7#4 x 17'-11"	32#11 x 37'-7"	23.2	7110
14	3'-0"	21'-0"	3'-6"	3'-6"	14'-6" x 176 LBS.	5#5 x 14'-1"	7#5 x 14'-1"	20#9 x 20'-7"	6.4	1750
15	3'-0"	23'-0"	3'-6"	3'-6"	16'-6" x 197 LBS.	5#5 x 14'-1"	7#5 x 14'-1"	20#9 x 22'-7"	6.9	1910
16	3'-0"	27'-0"	3'-6"	3'-6"	20'-6" x 240 LBS.	5#5 x 14'-1"	7#5 x 14'-1"	20#11 x 26'-7"	8.0	3240
17	3'-6"	29'-0"	3'-6"	3'-6"	22'-6" x 311 LBS.	5#5 x 14'-1"	7#5 x 14'-1"	20#11 x 28'-7"	10.8	3520
18	4'-0"	29'-0"	4'-0"	4'-0"	22'-6" x 362 LBS.	5#5 x 16'-1"	7#5 x 16'-1"	24#10 x 28'-7"	14.1	3490
19	4'-0"	32'-0"	4'-0"	4'-0"	25'-6" x 407 LBS.	5#5 x 16'-1"	7#5 x 16'-1"	24#11 x 31'-7"	15.5	4630

NOTE ③: BEND AS REQ'D TO FORM A CLOSED HOOP.
NOTE ④: FOR STRUCTURE STEEL, SEE SPREAD FOOTINGS.

NOTES:
SEE THE FORMAT SHEET FOR FOOTING LOCATIONS, POST DESIGNATIONS, TOP OF PEDESTAL ELEVATIONS AND BOTTOM OF FOOTING ELEVATIONS.
ALL CONCRETE SHALL CONFORM TO CONCRETE MIX 3Y43. (MIN/DOT 2461)
ALL BAR DIMENSION ARE OUT TO OUT OF BARS.
ALL SPREAD FOOTINGS HAVE AN ALLOWABLE DESIGN BEARING PRESSURE OF 1 1/4 T. PER SQ. FT.
DRILLED SHAFTS WILL BE USED ONLY WHEN SPECIFIED IN THE CONTRACT PLANS.
THE DRILLED SHAFTS HAVE AN ALLOWABLE DESIGN LATERAL BEARING PRESSURE OF 250 LBS. PER SQ. FT. PER FOOT OF DEPTH.

POST TYPE	DIMENSIONS							ANCHOR RODS														J REIN. BARS														K REIN. BARS														L REIN. BARS														M REIN. BARS														N REIN. BARS														P REIN. BARS														SUMMARY OF ESTIMATED QUANTITIES			
	A	B	C	D	E	F	T	NO. REQ'D	DIA.	LENGTH	NO.	SIZE	LENGTH	NO.	SIZE	LENGTH	NO.	SIZE	LENGTH	NO.	SIZE	LENGTH	NO.	SIZE	LENGTH	NO.	SIZE	LENGTH	NO.	SIZE	LENGTH	NO.	SIZE	LENGTH	NO.	SIZE	LENGTH	NO.	SIZE	LENGTH	NO.	SIZE	LENGTH	NO.	SIZE	LENGTH	NO.	SIZE	LENGTH	CONCRETE CY. ②	REIN. STEEL LBS. ②	ANCH. ASS. LBS.	ST. EXC. CY. ②																																																								
1	16'-0"	7'-6"	3'-6"	3'-0"	10 1/4"	2'-0"	3"	8	2 1/2"	3'-11 1/4"	17	#4	7'-0"	17	#4	7'-0"	8	#5	15'-6"	8	#8	15'-6"	18	#9	H+2'-6"	G	#4	13'-1"	8.9+0.396	904+70G	774	7.4R																																																																													
2	17'-0"	8'-0"	3'-6"	3'-0"	10 1/2"	2'-0"	3"	8	2 1/2"	3'-11 1/2"	18	#4	7'-6"	18	#4	7'-6"	9	#5	16'-6"	9	#9	16'-6"	18	#9	H+2'-6"	G	#4	13'-1"	10.1+0.396	1127+70G	776	8.2R																																																																													
3	18'-6"	8'-6"	3'-6"	3'-0"	11"	2'-0"	3"	8	2 1/2"	4'-0"	19	#4	8'-0"	19	#4	8'-0"	9	#6	18'-0"	9	#9	18'-0"	18	#10	H+2'-9"	G	#4	13'-1"	11.6+0.396	1378+87G	931	9.2R																																																																													
4	19'-6"	9'-0"	4'-0"	3'-6"	10"	2'-6"	3 1/2"	12	2 1/2"	3'-11"	20	#4	8'-6"	20	#4	8'-6"	10	#6	19'-0"	10	#8	19'-0"	22	#9	H+2'-6"	G	#4	15'-1"	16.3+0.526	1406+85G	1088	10.0R																																																																													
5	21'-0"	10'-0"	4'-0"	3'-6"	10 1/2"	2'-6"	3"	12	2 1/2"	3'-11 1/2"	22	#4	9'-6"	22	#4	9'-6"	11	#6	20'-6"	11	#9	20'-6"	22	#10	H+2'-9"	G	#4	15'-1"	19.5+0.526	1898+105G	1318	11.6R																																																																													
6	22'-6"	10'-6"	4'-0"	4'-0"	9 1/2"	2'-6"	3"	14	2 1/2"	3'-10 1/2"	23	#4	10'-0"	23	#4	10'-0"	11	#7	22'-0"	11	#10	22'-0"	28	#10	H+2'-9"	G	#4	16'-1"	21.9+0.596	2505+132G	1250	12.8R																																																																													
7	23'-6"	11'-6"	4'-0"	4'-0"	10 1/2"	2'-6"	3 1/2"	14	2 1/2"	3'-11 1/2"	24	#4	11'-0"	24	#4	11'-0"	12	#7	23'-0"	12	#11	H+3'-1"	G	#4	16'-1"	30.0+0.596	2789+160G	1526	14.3R																																																																																
8	18'-6"	8'-6"	4'-0"	3'-0"	10 1/4"	2'-0"	3"	10	2 1/2"	3'-11 1/4"	19	#4	8'-0"	19	#4	8'-0"	9	#6	18'-0"	9	#9	18'-0"	20	#9	H+2'-6"	G	#4	14'-1"	11.6+0.456	1314+77G	935	9.2R																																																																													
9	19'-6"	9'-0"	4'-0"	3'-0"	11"	2'-6"	3 1/2"	10	2 1/2"	4'-0"	20	#4	8'-6"	20	#4	8'-6"	10	#6	19'-0"	10	#8	19'-0"	20	#10	H+2'-9"	G	#4	14'-1"	16.3+0.456	1486+95G	1130	10.0R																																																																													
10	20'-0"	10'-0"	4'-6"	3'-6"	9 3/4"	2'-6"	3"	12	2 1/2"	3'-10 3/4"	21	#4	9'-6"	21	#4	9'-6"	11	#6	19'-6"	11	#8	19'-6"	28	#8	H+2'-1"	G	#4	16'-1"	18.5+0.596	1515+86G	1105	11.1R																																																																													
11	21'-0"	10'-6"	4'-6"	3'-6"	10 1/2"	2'-6"	3 1/2"	12	2 1/2"	3'-11 1/2"	22	#4	10'-0"	22	#4	10'-0"	11	#6	20'-6"	11	#9	20'-6"	28	#9	H+2'-6"	G	#4	16'-1"	20.4+0.596	1901+106G	1338	12.0R																																																																													
12	23'-0"	11'-6"	4'-6"	3'-6"	11 1/4"	3'-0"	3 1/2"	12	2 1/2"	4'-0 1/4"	24	#4	11'-0"	24	#4	11'-0"	12	#6	22'-6"	12	#9	22'-6"	28	#10	H+2'-9"	G	#4	16'-1"	29.4+0.596	2390+132G	1607	14.0R																																																																													
13	24'-6"	12'-0"	4'-6"	3'-6"	1'-0"	3'-0"	3 1/2"	12	3"	4'-1"	25	#4	11'-6"	25	#4	11'-6"	13	#7	24'-0"	13	#10	24'-0"	28	#11	H+3'-1"	G	#4	16'-1"	32.7+0.596	3300+160G	1917	15.3R																																																																													
14	12'-6"	9'-0"	3'-6"	3'-6"	9"	2'-0"	2 3/4"	8	2"	3'-10"	15	#4	8'-6"	13	#6	8'-6"	10	#4	12'-0"	10	#6	12'-0"	20	#9	H+2'-6"	2G	#5	14'-3"	8.3+0.466	818+96G	648	6.9R																																																																													
15	14'-0"	9'-0"	3'-6"	3'-6"	9 1/2"	2'-0"	3"	8	2 1/2"	3'-10 1/2"	14	#4	8'-6"	14	#6	8'-6"	10	#4	13'-6"	10	#7	13'-6"	20	#9	H+2'-6"	2G	#5	14'-3"	9.3+0.466	945+98G	781	7.4R																																																																													
16	15'-6"	10'-0"	3'-6"	3'-6"	9"	2'-0"	2 3/4"	12	2"	3'-10"	16	#4	9'-6"	16	#6	9'-6"	11	#5	15'-0"	11	#8	15'-0"	24	#8	H+2'-1"	2G	#5	14'-3"	11.5+0.466	1205+98G	875	8.7R																																																																													
17	17'-0"	11'-6"	3'-6"	3'-6"	10"	2'-0"	3"	12	2 1/2"	3'-11"	18	#4	11'-0"	18	#6	11'-0"	12	#5	16'-6"	12	#9	16'-6"	24	#9	H+2'-6"	2G	#5	14'-3"	14.5+0.466	1665+112G	1081	10.4R																																																																													
18	18'-0"	12'-6"	3'-6"	3'-6"	11"	2'-6"	3 1/2"	12	2 1/2"	4'-0"	19	#4	12'-0"	19	#6	12'-0"	13	#10	17'-6"	13	#10	17'-6"	24	#10	H+2'-9"	2G	#5	14'-3"	16.7+0.466	2333+133G	1320	12.1R																																																																													
19	19'-0"	13'-6"	3'-6"	3'-6"	1'-0"	2'-0"	3 1/2"	12	2 1/2"	4'-1"	20	#4	13'-0"	20	#6	13'-0"	14	#6	18'-6"	14	#11	18'-6"	24	#11	H+3'-1"	2G	#5	14'-3"	19.0+0.466	3017+158G	1595	13.5R																																																																													

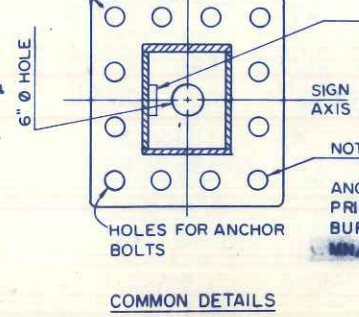
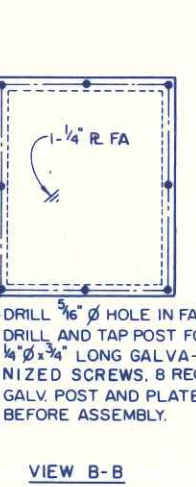
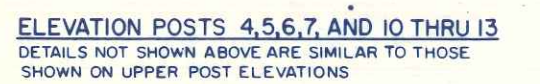
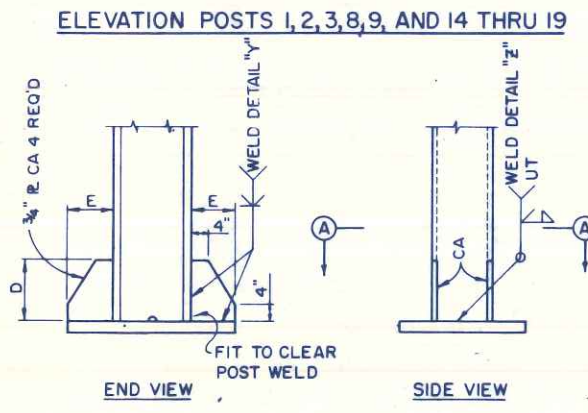
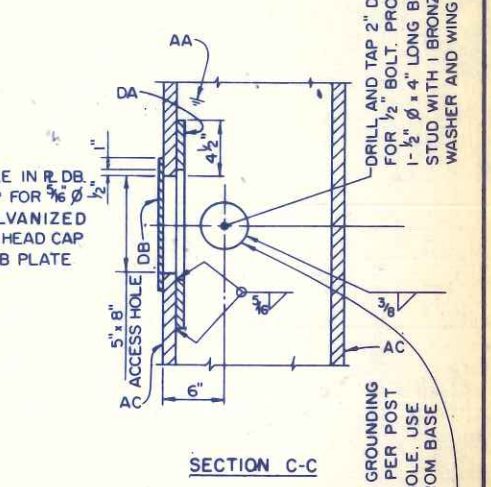
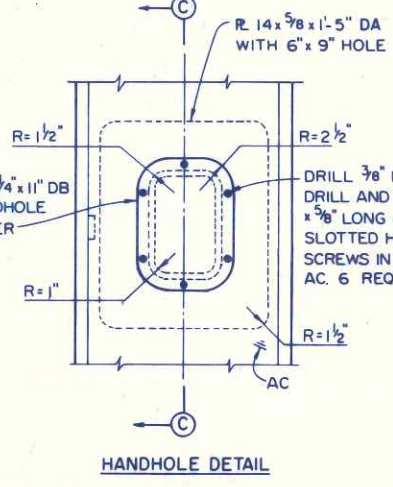
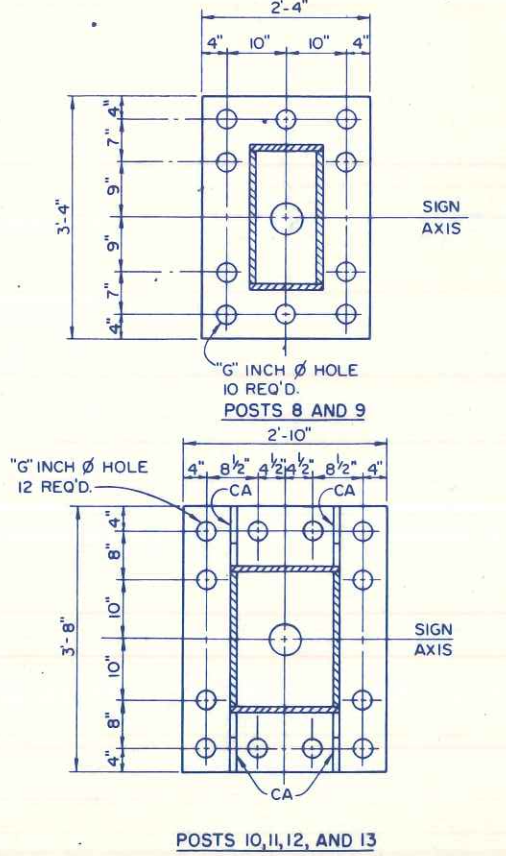
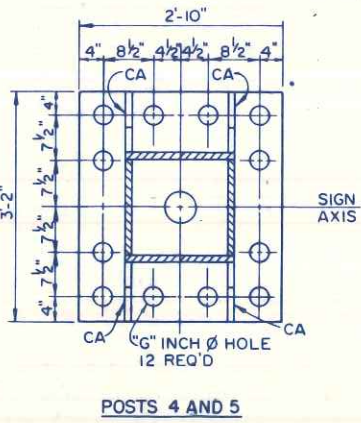
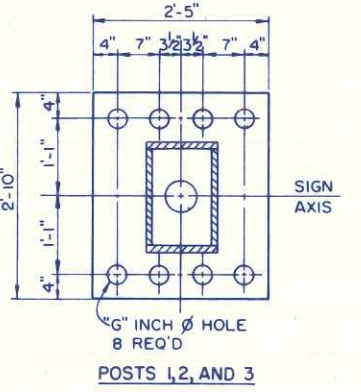
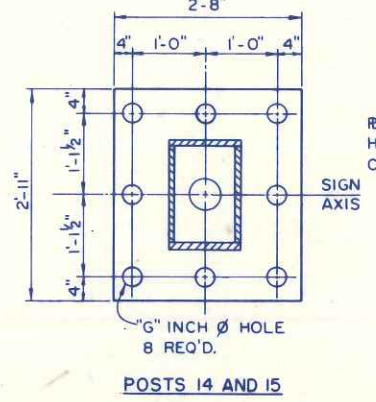
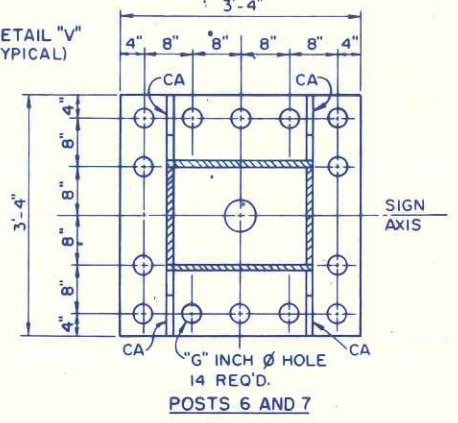
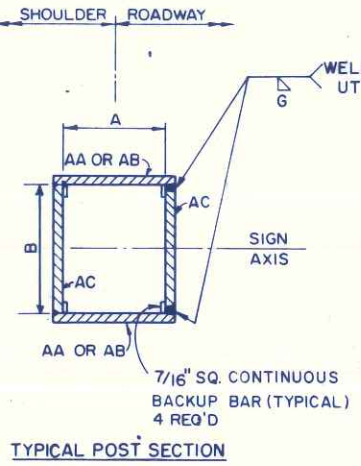
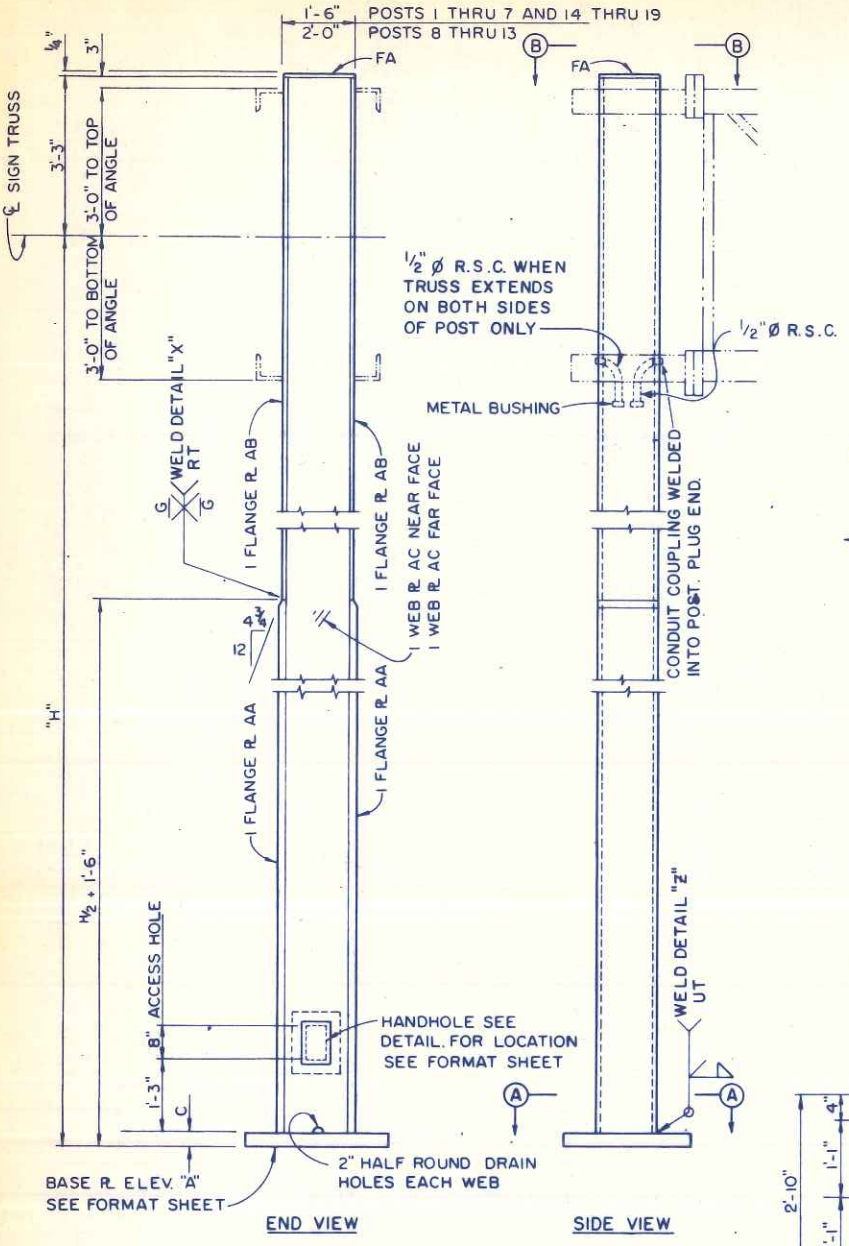
NOTE ①: G IS IN FEET. ROUND OFF TO HIGHER WHOLE NUMBER. I.E., G=4.10; NO.=5 OR 9
NOTE ②: G AND R ARE IN FEET.
NOTE ③: SPECIAL LARGE RADIUS BENDS ARE REQ'D. SEE "BAR BENDING DIAGRAMS" FOR SIZES OF RADII.



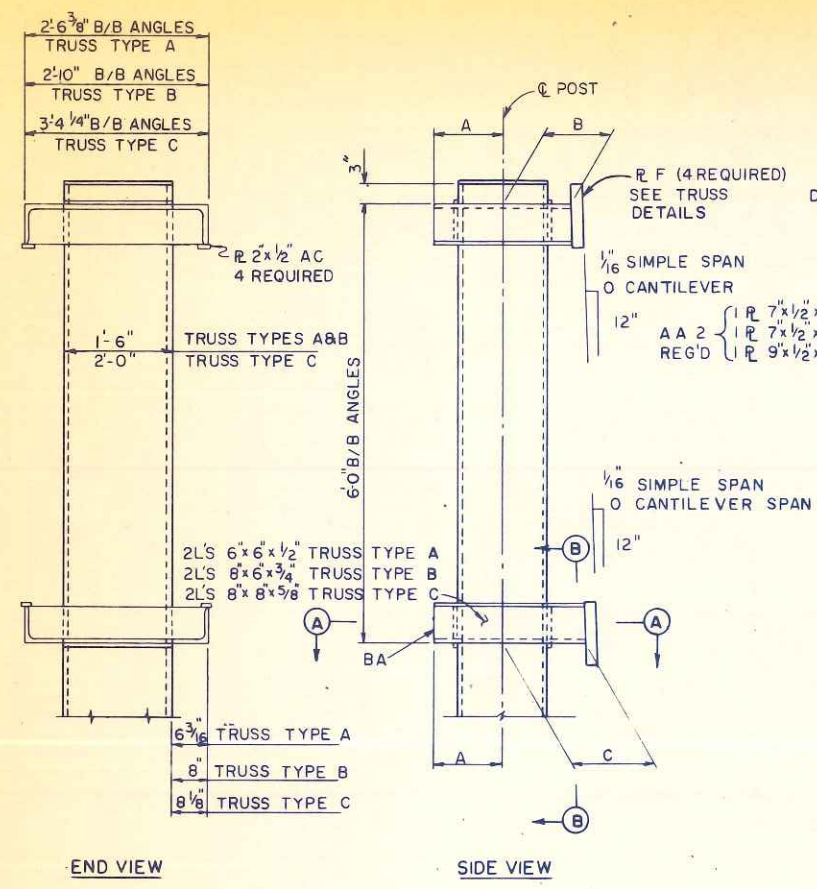
J, K, L, M, FF AND HH ARE STRAIGHT BARS
BAR BENDING DIAGRAMS

POST TYPE	DIMENSIONS						FLANGE PLATES		WEB PLATES		REIN. PLATES	CAP PLATE
	A	B	C	D	E	G	AA	AB	AC ①	CA	FA	
1	11"	1'-4 1/2"	3 3/4"			2 3/4"	2 R.s. 12 x 3/4 x H + 2'-11"	NONE	2 R. 1/2 x H + 2'-11"		1 R. 12 x 1/4 x 1'-6"	
2	11"	1'-4"	3 3/4"			2 3/4"	2 R.s. 12 x 1 x H + 2'-11"	NONE	2 R. 1/2 x H + 2'-11"		1 R. 12 x 1/4 x 1'-6"	
3	11"	1'-4 1/2"	4"			3"	2 R.s. 12 x 1 1/2 x H + 1'-3 3/4"	2 R.s. 12 x 3/4 x H + 1'-9"	2 R. 1/2 x H + 2'-10 3/4"		1 R. 12 x 1/4 x 1'-6"	
4	1'-5"	1'-4 1/2"	3 3/4"	1'-3 1/8"	9 5/8"	2 3/4"	2 R.s. 18 x 1/8 x H + 1'-2 1/2"	2 R.s. 18 x 3/4 x H + 1'-9"	2 R. 1/2 x H + 2'-11 1/2"	4 R.s. 9 1/2 x 3/4 x 1'-3"	1 R. 18 x 1/4 x 1'-6"	
5	1'-5"	1'-4 1/2"	3 1/2"	1'-3 1/8"	9 1/4"	3"	2 R.s. 18 x 1/2 x H + 1'-2 1/4"	2 R.s. 18 x 3/4 x H + 1'-9"	2 R. 1/2 x H + 2'-11 1/4"	4 R.s. 9 1/8 x 3/4 x 1'-3"	1 R. 18 x 1/4 x 1'-6"	
6	1'-11"	1'-4"	3"	1'-3 1/8"	10 5/8"	2 3/4"	2 R.s. 24 x 3/8 x H + 1'-2 3/4"	2 R.s. 24 x 1 x H + 1'-9"	2 R. 1/2 x H + 2'-11 3/4"	4 R.s. 10 1/2 x 3/4 x 1'-3"	1 R. 18 x 1/4 x 2'-0"	
7	1'-11"	1'-4"	3 1/2"	1'-3 1/8"	10 1/4"	3"	2 R.s. 24 x 3/4 x H + 1'-2 3/4"	2 R.s. 24 x 1 x H + 1'-9"	2 R. 1/2 x H + 2'-11 3/4"	4 R.s. 10 1/8 x 3/4 x 1'-3"	1 R. 18 x 1/4 x 2'-0"	
8	10 3/4"	1'-10 1/2"	3 3/4"			2 3/4"	2 R.s. 12 x 3/4 x H + 2'-11"	NONE	2 R. 5/8 x H + 2'-11"		1 R. 12 x 1/4 x 2'-0"	
9	10 3/4"	1'-10"	4"			3"	2 R.s. 12 x 1 x H + 2'-10 3/4"	NONE	2 R. 5/8 x H + 2'-10 3/4"		1 R. 12 x 1/4 x 2'-0"	
10	1'-4 3/4"	1'-10 1/2"	3"	1'-3 1/8"	10"	2 3/4"	2 R.s. 18 x 3/4 x H + 2'-11 3/4"	NONE	2 R. 5/8 x H + 2'-11 3/4"	4 R.s. 9 5/8 x 3/4 x 1'-3"	1 R. 18 x 1/4 x 2'-0"	
11	1'-4 3/4"	1'-10"	3 1/2"	1'-3 1/8"	10"	3"	2 R.s. 18 x 1 x H + 2'-11 1/2"	NONE	2 R. 5/8 x H + 2'-11 1/2"	4 R.s. 9 5/8 x 3/4 x 1'-3"	1 R. 18 x 1/4 x 2'-0"	
12	1'-4 3/4"	1'-10"	3 3/4"	1'-3 1/8"	9 1/2"	3 1/4"	2 R.s. 18 x 1 1/2 x H + 1'-2"	2 R.s. 18 x 1 x H + 1'-9"	2 R. 5/8 x H + 2'-11"	4 R.s. 9 3/8 x 3/4 x 1'-3"	1 R. 18 x 1/4 x 2'-0"	
13	1'-4 3/4"	1'-10"	4"	1'-3 1/8"	9"	3 1/2"	2 R.s. 18 x 2 x H + 1'-1 3/4"	2 R.s. 18 x 1 1/2 x H + 1'-9"	2 R. 5/8 x H + 2'-10 3/4"	4 R.s. 8 5/8 x 3/4 x 1'-3"	1 R. 18 x 1/4 x 2'-0"	
14	1'-1 1/8"	1'-4 1/8"	3"			2 1/2"	2 R.s. 15 x 3/16 x H + 2'-11 3/4"	NONE	2 R. 3/4 x H + 2'-11 3/4"		1 R. 15 x 1/4 x 1'-6"	
15	1'-1 1/2"	1'-4 1/2"	3 1/4"			2 3/4"	2 R.s. 15 x 3/4 x H + 2'-11 1/2"	NONE	2 R. 3/4 x H + 2'-11 1/2"		1 R. 15 x 1/4 x 1'-6"	
16	1'-4 1/2"	1'-4 1/2"	3"			2 1/2"	2 R.s. 18 x 3/4 x H + 2'-11 3/4"	NONE	2 R. 3/4 x H + 2'-11 3/4"		1 R. 18 x 1/4 x 1'-6"	
17	1'-4"	1'-4"	3 1/2"			2 3/4"	2 R.s. 18 x 1 x H + 2'-11 1/4"	NONE	2 R. 1 x H + 2'-11 1/4"		1 R. 18 x 1/4 x 1'-6"	
18	1'-4"	1'-4"	4"			3"	2 R.s. 18 x 1 1/2 x H + 1'-1 3/4"	2 R.s. 18 x 1 x H + 1'-9"	2 R. 1 x H + 2'-10 3/4"		1 R. 18 x 1/4 x 1'-6"	
19	1'-4"	1'-4"	4 1/2"			3 1/4"	2 R.s. 18 x 2 x H + 1'-1 1/4"	2 R.s. 18 x 1 1/2 x H + 1'-9"	2 R. 1 x H + 2'-10 1/4"		1 R. 18 x 1/4 x 1'-6"	

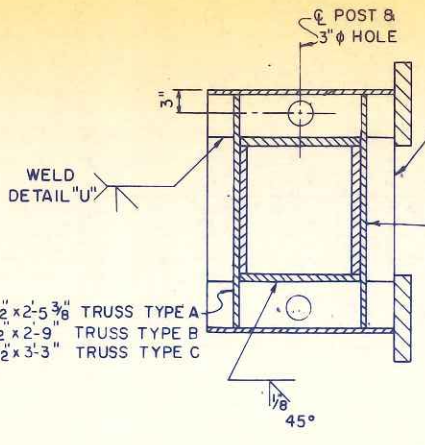
① WIDTH OF PLATE DEPENDS UPON WELD DETAIL USED



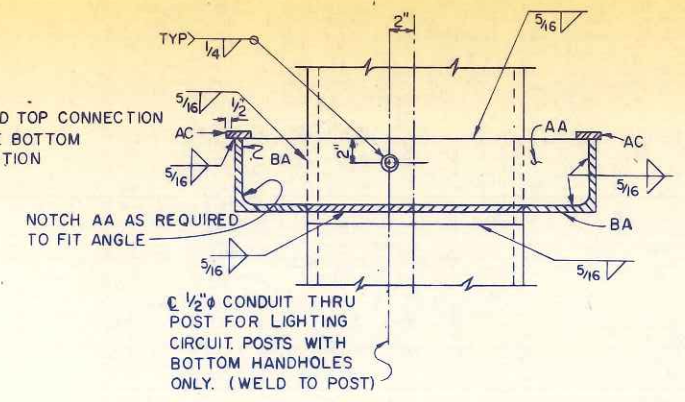
NOTES
CAP PLATE AND HANDHOLE COVER SHALL BE GALVANIZED SEPARATELY.
SEE DRAWING ST-5 FOR DETAILS AT TOP OF POST.
BACKUP BARS TO BE CONTINUOUS.
BUTT WELD BEFORE FITTING IF NEEDED.



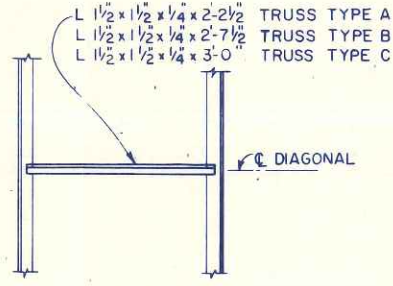
ELEVATION OF POSTS



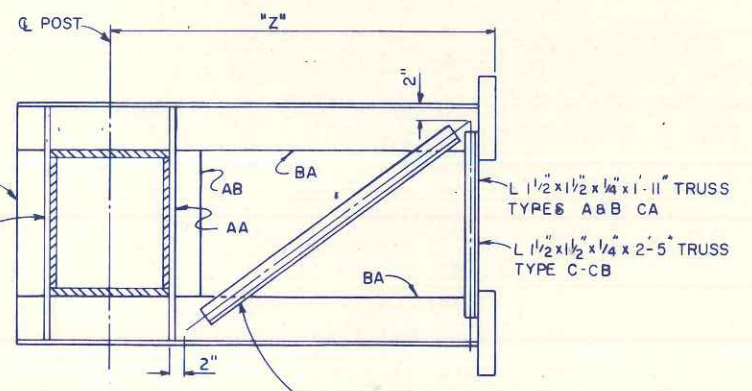
SECTION A-A



SECTION B-B



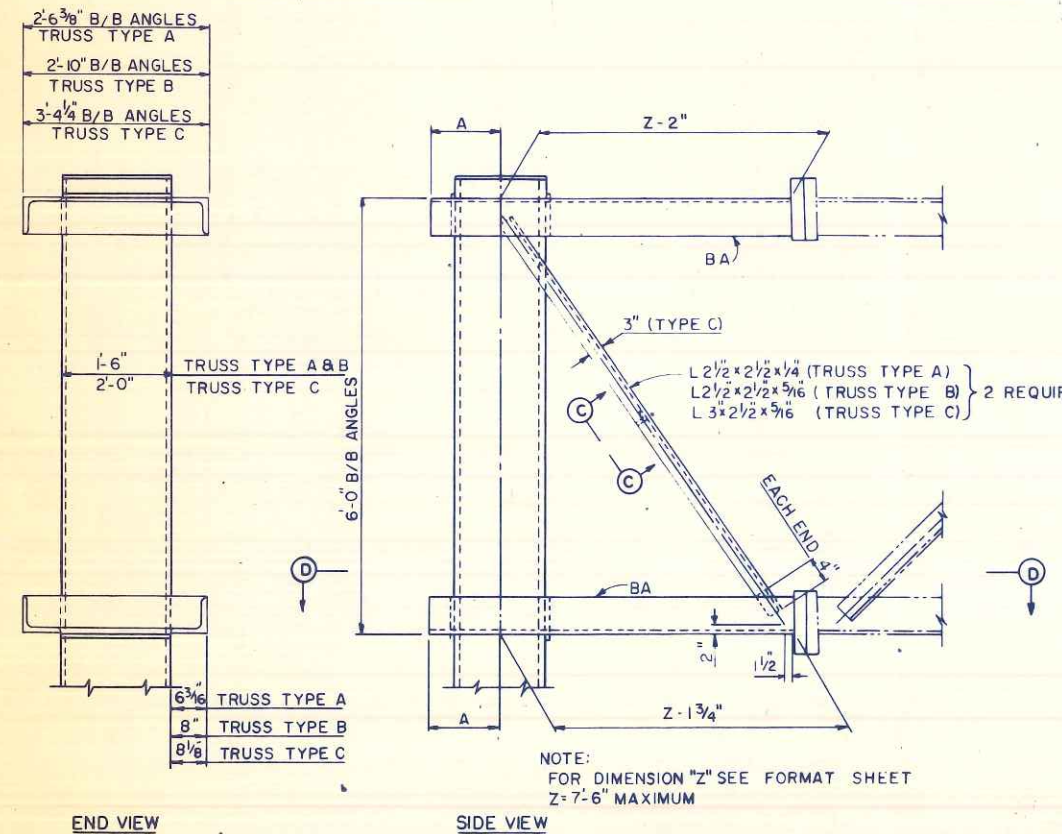
SECTION C-C



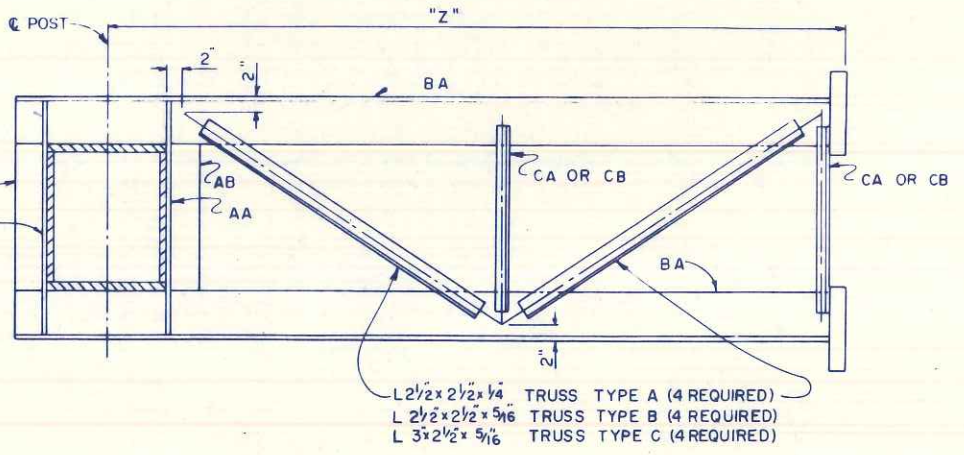
SECTION D-D Z=4'-0" OR LESS

POST TYPE	DIMENSIONS			PLATES		
	A	B ①	C ①	AB	AD ①	AE ①
1	10"	9 7/8"	10 1/8"	3 1/2" x 1/2" x 1'-6"	3 3/8" x 1/2" x 1'-6"	3 5/8" x 1/2" x 1'-6"
2	10"	9 7/8"	10 1/8"	3 1/2" x 1/2" x 1'-6"	3 3/8" x 1/2" x 1'-6"	3 5/8" x 1/2" x 1'-6"
3	10"	9 7/8"	10 1/8"	3 1/2" x 1/2" x 1'-6"	3 3/8" x 1/2" x 1'-6"	3 5/8" x 1/2" x 1'-6"
4	1'-1"	1'-0 7/8"	1'-1 1/8"	3 1/2" x 1/2" x 1'-6"	3 3/8" x 1/2" x 1'-6"	3 5/8" x 1/2" x 1'-6"
5	1'-1"	1'-0 7/8"	1'-1 1/8"	3 1/2" x 1/2" x 1'-6"	3 3/8" x 1/2" x 1'-6"	3 5/8" x 1/2" x 1'-6"
6	1'-4"	1'-3 3/8"	1'-4 1/8"	3 1/2" x 1/2" x 1'-6"	3 3/8" x 1/2" x 1'-6"	3 5/8" x 1/2" x 1'-6"
7	1'-4"	1'-3 3/8"	1'-4 1/8"	3 1/2" x 1/2" x 1'-6"	3 3/8" x 1/2" x 1'-6"	3 5/8" x 1/2" x 1'-6"
8	10"	9 7/8"	10 1/8"	3 1/2" x 1/2" x 2'-0"	3 3/8" x 1/2" x 2'-0"	3 5/8" x 1/2" x 2'-0"
9	10"	9 7/8"	10 1/8"	3 1/2" x 1/2" x 2'-0"	3 3/8" x 1/2" x 2'-0"	3 5/8" x 1/2" x 2'-0"
10	1'-1"	1'-0 7/8"	1'-1 1/8"	3 1/2" x 1/2" x 2'-0"	3 3/8" x 1/2" x 2'-0"	3 5/8" x 1/2" x 2'-0"
11	1'-1"	1'-0 7/8"	1'-1 1/8"	3 1/2" x 1/2" x 2'-0"	3 3/8" x 1/2" x 2'-0"	3 5/8" x 1/2" x 2'-0"
12	1'-1"	1'-0 7/8"	1'-1 1/8"	3 1/2" x 1/2" x 2'-0"	3 3/8" x 1/2" x 2'-0"	3 5/8" x 1/2" x 2'-0"
13	1'-1"	1'-0 7/8"	1'-1 1/8"	3 1/2" x 1/2" x 2'-0"	3 3/8" x 1/2" x 2'-0"	3 5/8" x 1/2" x 2'-0"
14	11 1/2"	1'-1"	1'-1"	3 1/2" x 1/2" x 1'-6"	5" x 1/2" x 1'-6"	5" x 1/2" x 1'-6"
15	11 1/2"	1'-1"	1'-1"	3 1/2" x 1/2" x 1'-6"	5" x 1/2" x 1'-6"	5" x 1/2" x 1'-6"
16	1'-1"	1'-1"	1'-1"	3 1/2" x 1/2" x 1'-6"	3 1/2" x 1/2" x 1'-6"	3 1/2" x 1/2" x 1'-6"
17	1'-1"	1'-1"	1'-1"	3 1/2" x 1/2" x 1'-6"	3 1/2" x 1/2" x 1'-6"	3 1/2" x 1/2" x 1'-6"
18	1'-1"	1'-1"	1'-1"	3 1/2" x 1/2" x 1'-6"	3 1/2" x 1/2" x 1'-6"	3 1/2" x 1/2" x 1'-6"
19	1'-1"	1'-1"	1'-1"	3 1/2" x 1/2" x 1'-6"	3 1/2" x 1/2" x 1'-6"	3 1/2" x 1/2" x 1'-6"

① DIMENSIONS AND PLATES SHOWN ARE FOR SIMPLE SPANS ONLY. FOR CANTILEVER SPANS USE DIMENSION A AND PLATE AB FOR POST 1 THRU 13



ELEVATION OF SPECIAL TRUSS CONNECTION

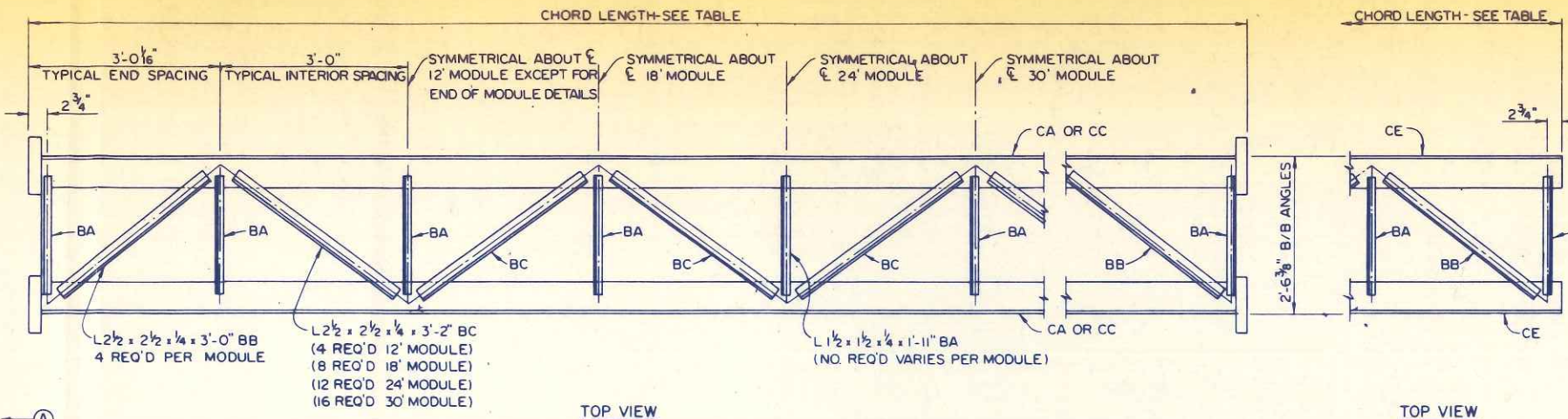
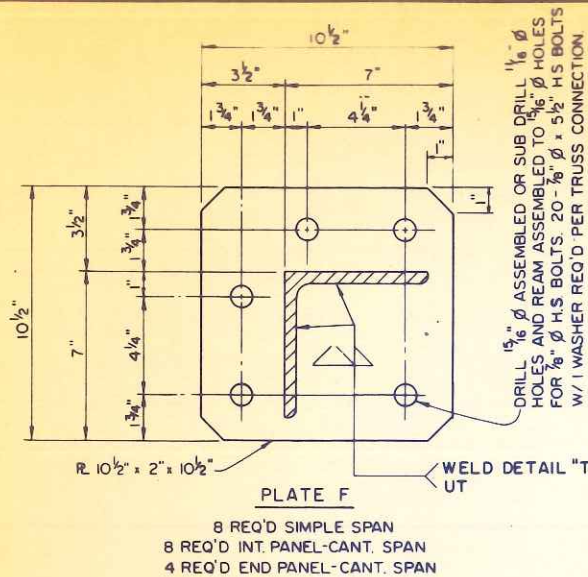


SECTION D-D Z GREATER THAN 4'-0"

NOTE: FOR DETAILS OF PLATES AA AND AB SEE SECTIONS A-A AND B-B. DETAILS OF UPPER CONNECTION SIMILAR.

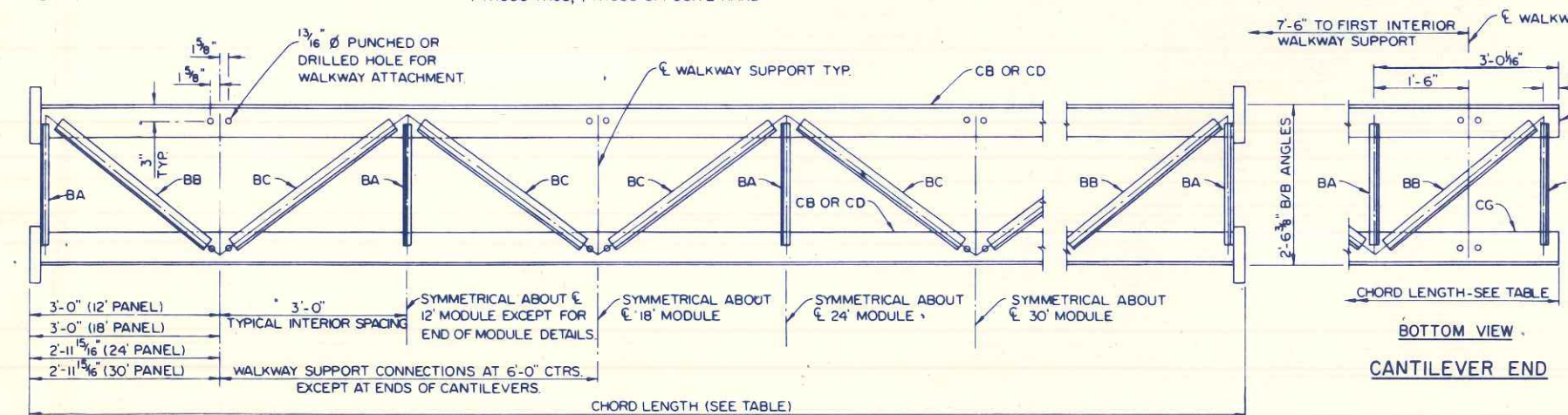
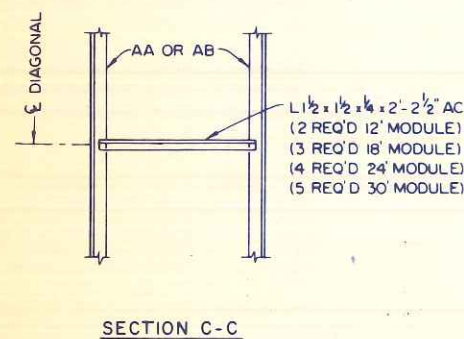
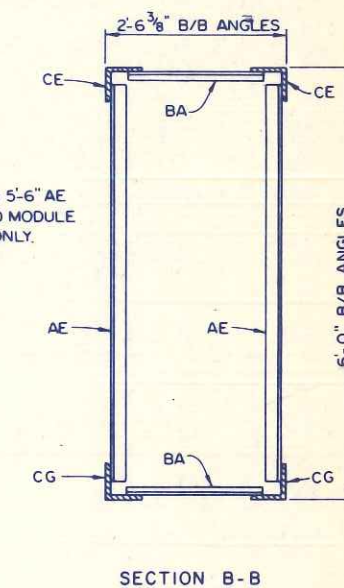
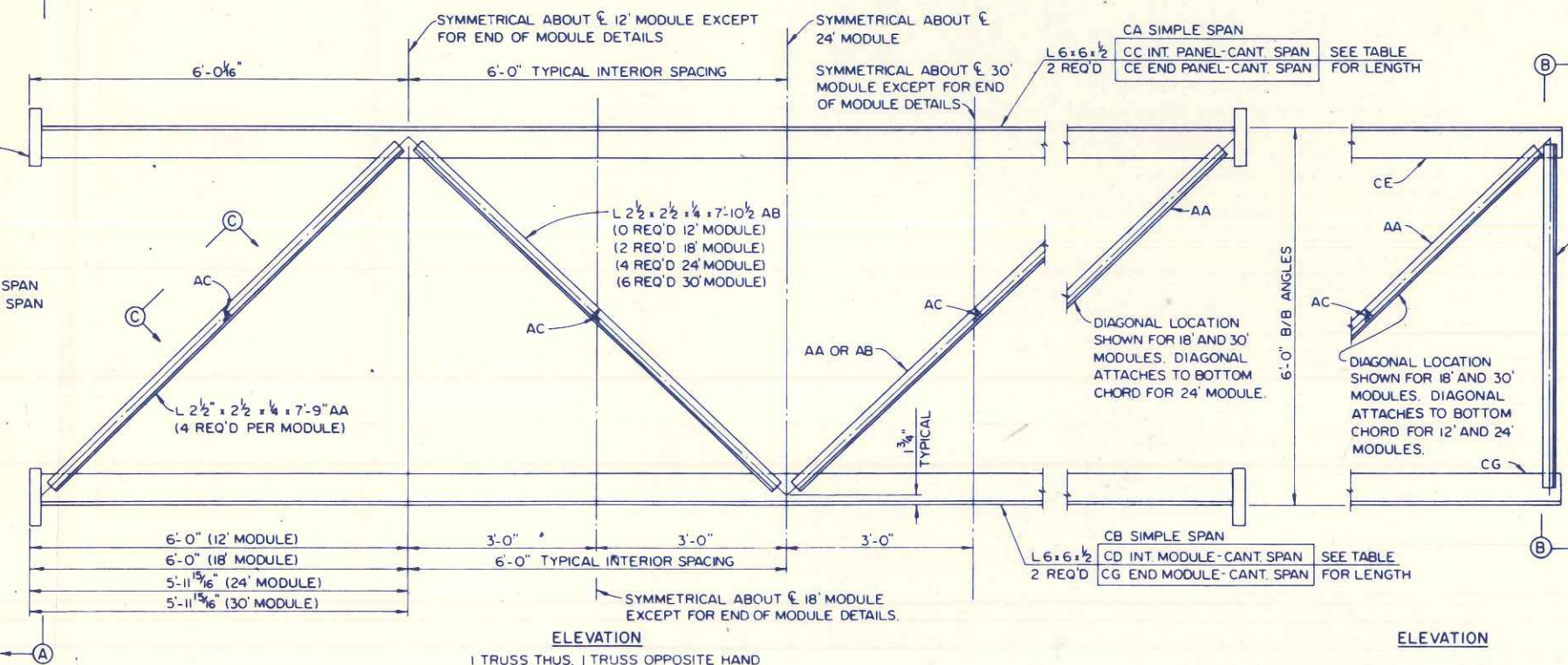
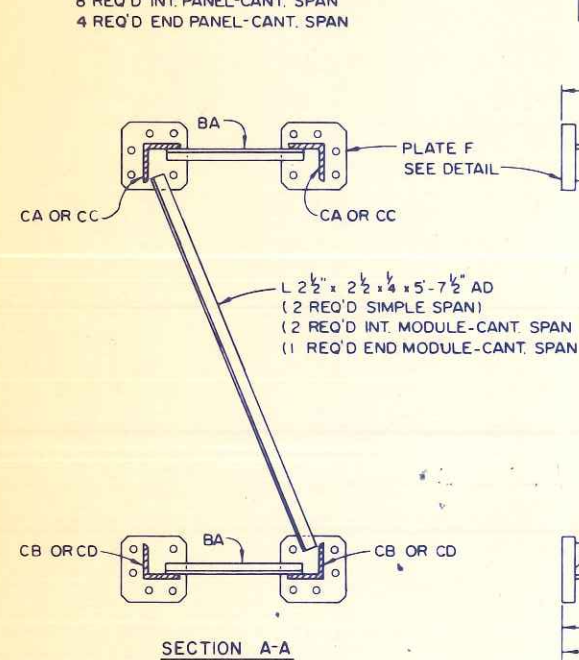
NOTES:
 DETAILS SHOWN ARE FOR SIMPLE SPANS AND CANTILEVER SPANS. FOR CONTINUOUS AND BUTTERFLY POSTS CONNECTION DETAILS WILL BE SYMMETRICAL ABOUT C POST.
 UNLESS OTHERWISE SHOWN ALL CONNECTIONS SHALL BE MADE WITH 1/4" FILLET WELDS ALL AROUND.
 THE L 8x6x3/4 BA CALLED FOR ON TRUSS TYPE B MAY BE FABRICATED FROM 2-3/4" PLATES FULL STRENGTH BUTT WELDED TOGETHER AT THE CONTRACTORS OPTION.

NOTE:
 THIS DETAIL IS TO BE USED ON ONE POST OF A SIMPLE SPAN ONLY AND WILL BE USED ONLY WHERE SPECIFICALLY INDICATED ON THE FORMAT SHEET.



SIMPLE SPAN LENGTHS				
	12' MODULE	18' MODULE	24' MODULE	30' MODULE
TOP CHORD	18'-0 $\frac{1}{8}"$	24'-0 $\frac{1}{8}"$	30'-0 $\frac{1}{8}"$	
ANGLE CA	17'-8 $\frac{1}{8}"$	23'-8 $\frac{1}{8}"$	29'-8 $\frac{1}{8}"$	
BOTTOM CHORD	18'-0"	23'-11 $\frac{1}{8}"$	29'-11 $\frac{1}{8}"$	
ANGLE CB	17'-8"	23'-7 $\frac{7}{8}"$	29'-7 $\frac{7}{8}"$	

CANTILEVER SPAN LENGTHS				
	12' MODULE	18' MODULE	24' MODULE	30' MODULE
TOP CHORD	12'-0"	18'-0"	23'-11 $\frac{1}{8}"$	29'-11 $\frac{1}{8}"$
ANGLE CC		17'-8"	23'-7 $\frac{7}{8}"$	29'-7 $\frac{7}{8}"$
ANGLE CE	11'-10"	17'-10"	23'-9 $\frac{7}{8}"$	29'-9 $\frac{7}{8}"$
BOTTOM CHORD	12'-0 $\frac{1}{8}"$	18'-0 $\frac{1}{8}"$	24'-0 $\frac{1}{8}"$	30'-0 $\frac{1}{8}"$
ANGLE CD		17'-8 $\frac{1}{8}"$	23'-8 $\frac{1}{8}"$	29'-8 $\frac{1}{8}"$
ANGLE CG	11'-10 $\frac{1}{8}"$	17'-10 $\frac{1}{8}"$	23'-10 $\frac{1}{8}"$	29'-10 $\frac{1}{8}"$



NOTE:
MODULES FOR CANTILEVER SPANS SHALL BE IDENTICAL TO THE SIMPLE SPAN MODULES EXCEPT DIMENSIONS SHOWN FOR THE TOP AND BOTTOM CHORDS SHALL BE REVERSED FOR THE CANTILEVER SPANS AND FOR CANTILEVER END DETAILS.

NOTE:
THE BOTTOM VIEW IS DETAILED TO PROVIDE FOR WALKWAY ATTACHMENT. WHERE THE WALKWAY IS OMITTED, PROVIDE HOLES AND STRUTS BA AS INDICATED IN THE TOP VIEW.

DETAILS SHOWN ARE FOR THE FREE ENDS OF THE CANTILEVER SPANS. ALL OTHER DETAILS FOR CANTILEVER MODULES SHALL BE AS SHOWN FOR THE SIMPLE SPANS.

NOTES:
12' MODULES WILL BE PERMITTED ON THE END OF CANTILEVER SPANS ONLY. 18', 24', AND 30' MODULES MAY BE FABRICATED AT THE CONTRACTORS OPTION.
UNLESS OTHERWISE SHOWN, ALL CONNECTIONS SHALL BE MADE WITH $\frac{1}{4}"$ FILLET WELDS ALL AROUND. PROVIDE 2- $\frac{1}{16}"$ BRASS OR STAINLESS STEEL SHIMS AT EACH FLANGE TO BRING THE TRUSS INTO CORRECT CAMBER AND ALIGNMENT.
TRUSSES SHALL BE ASSEMBLED AND MODULES MATCH MARKED IN THE SHOP.
ALL VIEWS OF THE TRUSSES ARE DRAWN FROM THE INSIDE OF THE TRUSS LOOKING OUT.

STANDARD OVERHEAD SIGN SUPPORTS
SIGN TRUSS DETAILS-TYPE A
DESIGN B

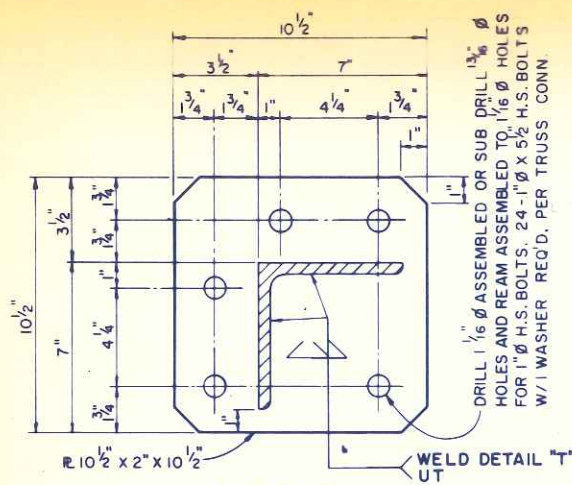
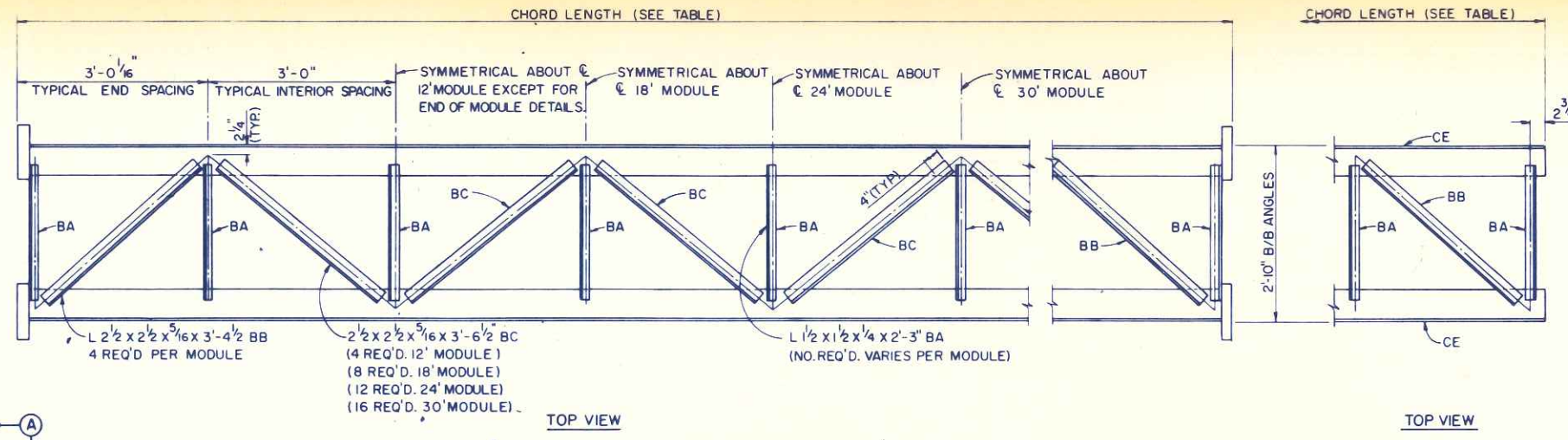


PLATE F
8 REQ'D. SIMPLE SPAN
8 REQ'D. INT. MODULE-CANT. SPAN
4 REQ'D. END MODULE-CANT. SPAN

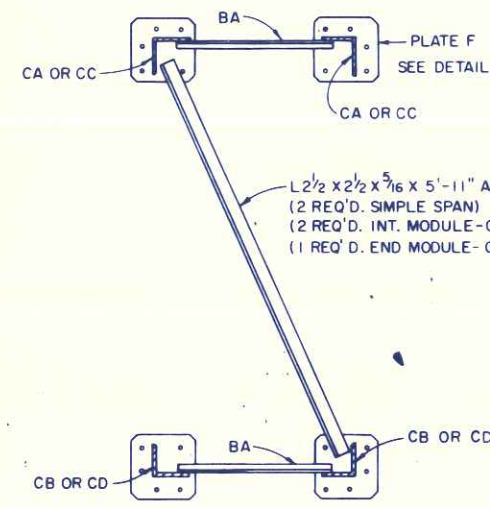


TOP VIEW

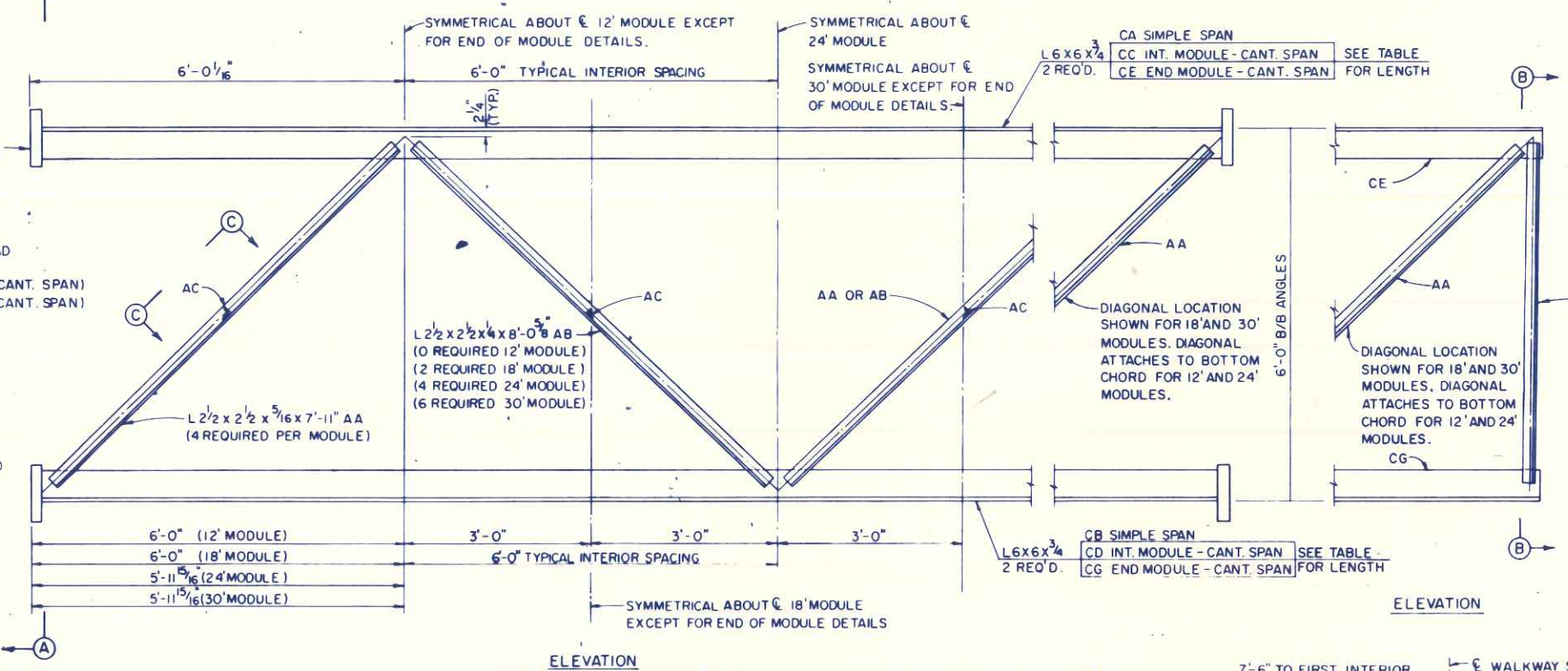
TOP VIEW

SIMPLE SPAN LENGTHS				
	18' MODULE	24' MODULE	30' MODULE	
TOP CHORD	18'-0 1/8"	24'-0 1/8"	30'-0 1/8"	
ANGLE CA	17'-8 1/8"	23'-8 1/8"	29'-8 1/8"	
BOTTOM CHORD	18'-0"	23'-11 1/8"	29'-11 1/8"	
ANGLE CB	17'-8"	23'-7 7/8"	29'-7 7/8"	

CANTILEVER SPAN LENGTHS				
	12' MODULE	18' MODULE	24' MODULE	30' MODULE
TOP CHORD	12'-0"	18'-0"	23'-11 1/8"	29'-11 1/8"
ANGLE CC	—	17'-8"	23'-7 7/8"	29'-7 7/8"
ANGLE CE	11'-10"	17'-10"	23'-9 7/8"	29'-9 7/8"
BOTTOM CHORD	12'-0 1/8"	18'-0 1/8"	24'-0 1/8"	30'-0 1/8"
ANGLE CD	—	17'-8 1/8"	23'-8 1/8"	29'-8 1/8"
ANGLE CG	11'-10 1/8"	17'-10 1/8"	23'-10 1/8"	29'-10 1/8"

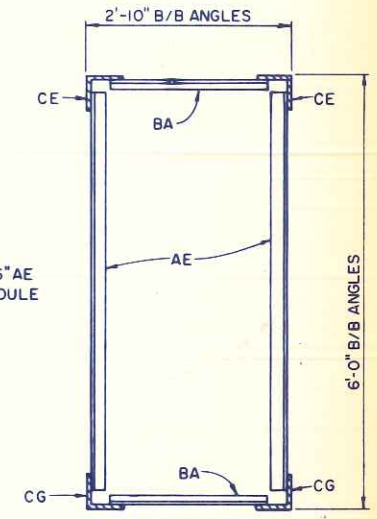


SECTION A-A

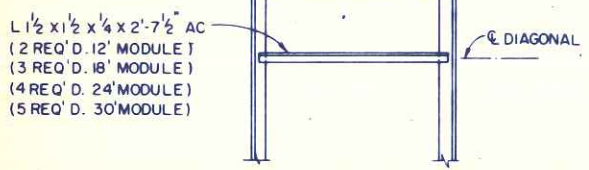


ELEVATION

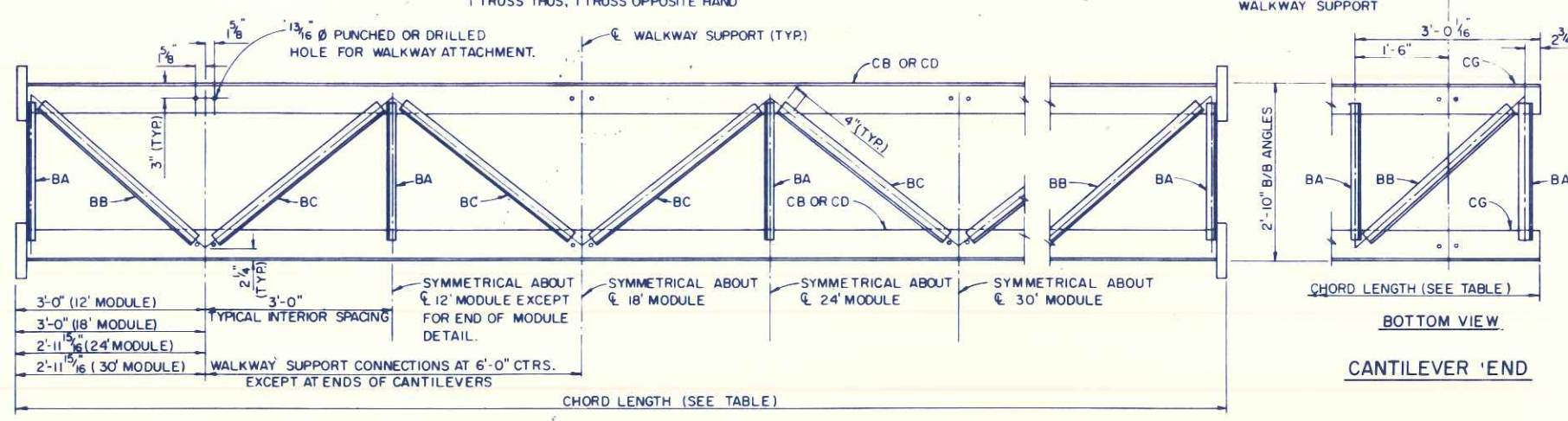
ELEVATION



SECTION B-B



SECTION C-C



BOTTOM VIEW

SIMPLE SPAN

BOTTOM VIEW

CANTILEVER 'END

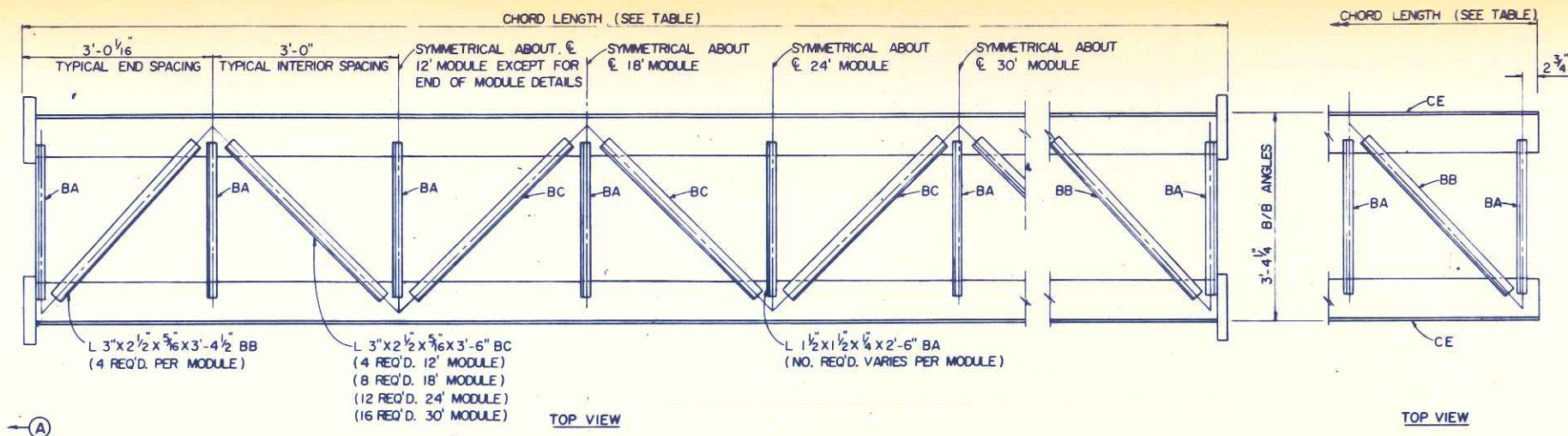
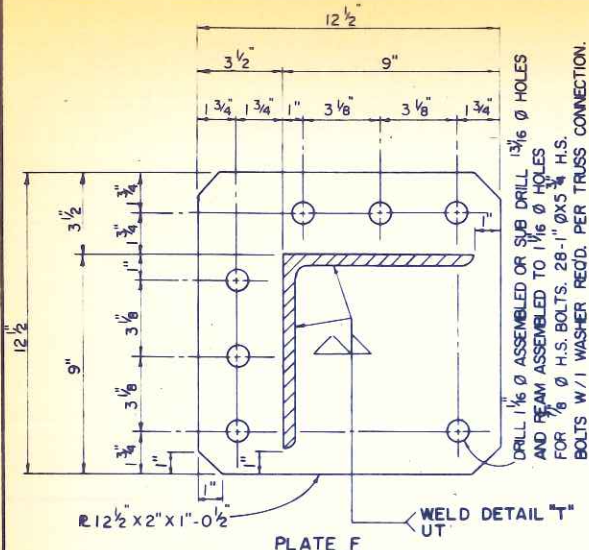
NOTE: MODULES FOR CANTILEVER SPANS SHALL BE IDENTICAL TO THE SIMPLE SPAN MODULES EXCEPT DIMENSIONS SHOWN FOR THE TOP AND BOTTOM CHORDS SHALL BE REVERSED FOR THE CANTILEVER SPANS AND FOR CANTILEVER END DETAILS.

NOTE: THE BOTTOM VIEW IS DETAILED TO PROVIDE FOR WALKWAY ATTACHMENT. WHERE THE WALKWAY IS OMITTED, PROVIDE HOLES AND STRUTS BA AS INDICATED IN THE TOP VIEW.

DETAILS SHOWN ARE FOR THE FREE ENDS OF THE CANTILEVER SPANS. ALL OTHER DETAILS FOR CANTILEVER MODULES SHALL BE AS SHOWN FOR THE SIMPLE SPANS.

NOTES:
12' MODULES WILL BE PERMITTED ON THE END OF CANTILEVER SPANS ONLY. 18', 24' AND 30' MODULES MAY BE FABRICATED AT THE CONTRACTOR'S OPTION.
UNLESS OTHERWISE SHOWN, ALL CONNECTIONS SHALL BE MADE WITH 1/4" FILLET WELDS ALL AROUND. PROVIDE 2-1/8" BRASS OR STAINLESS STEEL SHIMS AT EACH FLANGE TO BRING THE TRUSS INTO CORRECT CAMBER AND ALIGNMENT.
TRUSSES SHALL BE ASSEMBLED AND PANELS MATCH MARKED IN THE SHOP.
ALL VIEWS OF THE TRUSSES ARE DRAWN FROM THE INSIDE OF THE TRUSS LOOKING OUT.

STANDARD OVERHEAD SIGN SUPPORTS
SIGN TRUSS DETAILS-TYPE B
DESIGN B

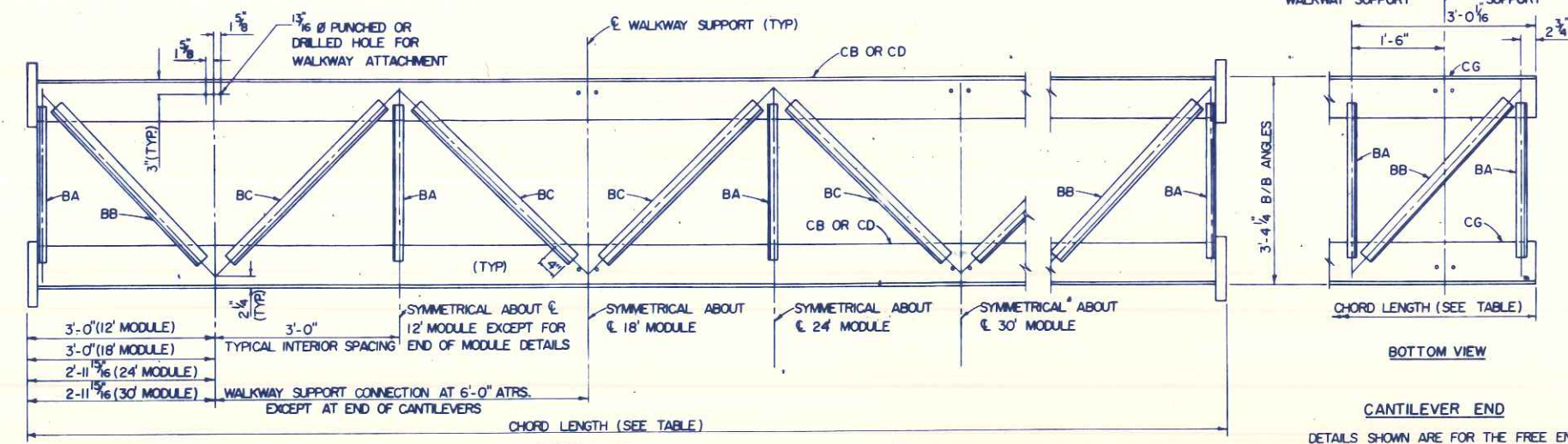
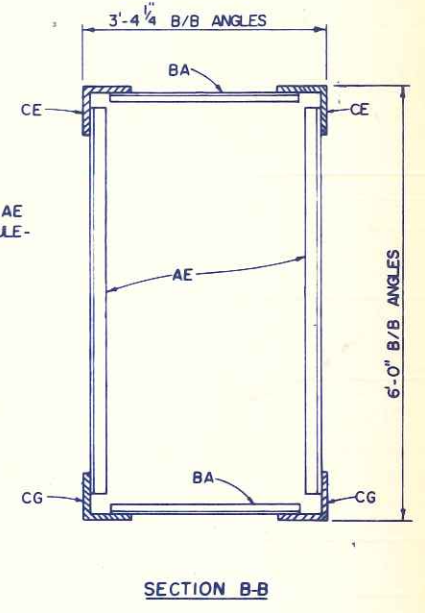
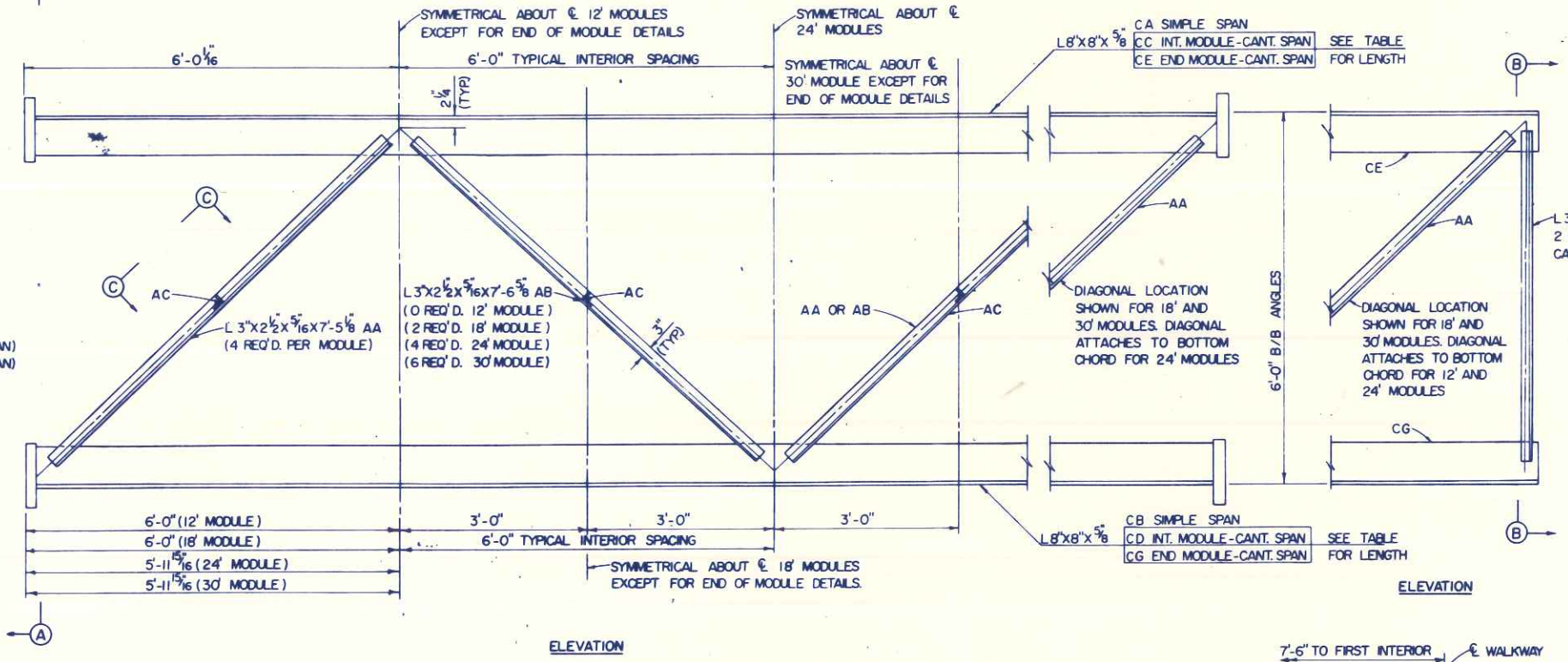
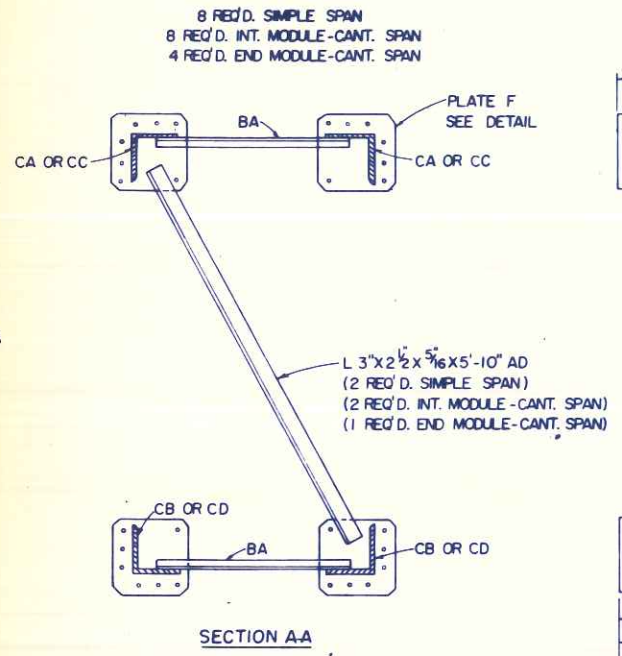


SIMPLE SPAN LENGTHS

	18' MODULE	24' MODULE	30' MODULE
TOP CHORD	18'-0 1/8"	24'-0 1/8"	30'-0 1/8"
ANGLE CA	17'-8 1/8"	23'-8 1/8"	29'-8 1/8"
BOTTOM CHORD	18'-0"	23'-11 1/8"	29'-11 1/8"
ANGLE CB	17'-8"	23'-7 7/8"	29'-7 7/8"

CANTILEVER SPAN LENGTHS

	12' MODULE	18' MODULE	24' MODULE	30' MODULE
TOP CHORD	12'-0"	18'-0"	23'-11 1/8"	29'-11 1/8"
ANGLE CC	11'-10"	17'-8"	23'-7 7/8"	29'-7 7/8"
ANGLE CE	11'-10"	17'-10"	23'-9 7/8"	29'-9 7/8"
BOTTOM CHORD	12'-0 1/8"	18'-0 1/8"	24'-0 1/8"	30'-0 1/8"
ANGLE CD	11'-10 1/8"	17'-8 1/8"	23'-8 1/8"	29'-8 1/8"
ANGLE CG	11'-10 1/8"	17'-10 1/8"	23'-10 1/8"	29'-10 1/8"



NOTES:

12' MODULES WILL BE PERMITTED ON THE END OF CANTILEVER SPANS ONLY. 18', 24', AND 30' MODULES MAY BE FABRICATED AT THE CONTRACTOR'S OPTION. UNLESS OTHERWISE SHOWN ALL CONNECTIONS SHALL BE MADE WITH 1/4" FILLET WELDS ALL AROUND PROVIDE 2-1/8" BRASS OR STAINLESS STEEL SHIMS AT EACH FLANGE TO BRING THE TRUSS INTO CORRECT CAMBER AND ALIGNMENT.

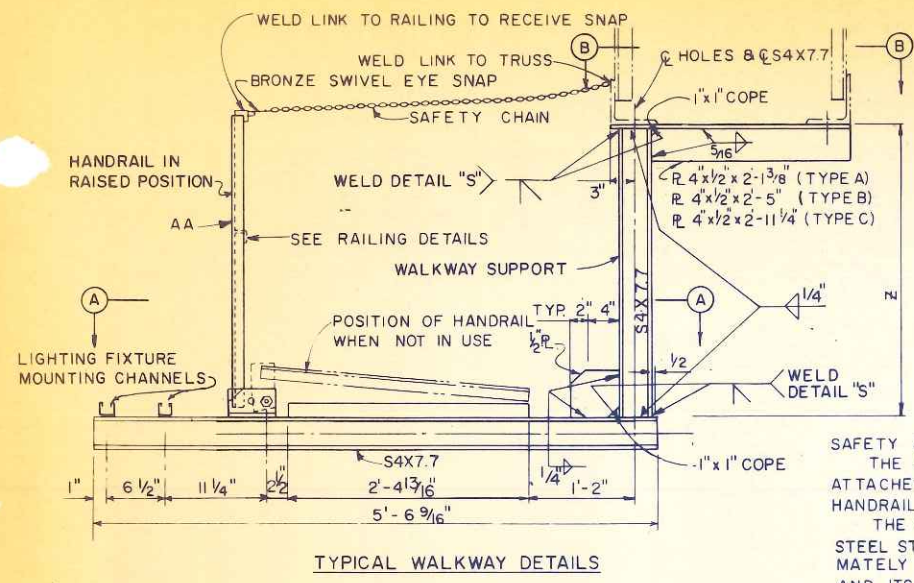
TRUSSES SHALL BE ASSEMBLED AND MODULES MATCH MARKED IN THE SHOP.

ALL VIEWS OF THE TRUSSES ARE DRAWN FROM THE INSIDE OF THE TRUSS LOOKING OUT.

NOTE: MODULES FOR CANTILEVER SPANS SHALL BE IDENTICAL TO THE SIMPLE SPAN MODULES EXCEPT DIMENSIONS SHOWN FOR THE TOP AND BOTTOM CHORDS SHALL BE REVERSED FOR THE CANTILEVER SPANS AND FOR CANTILEVER END DETAILS.

NOTE: THE BOTTOM VIEW IS DETAILED TO PROVIDE FOR WALKWAY ATTACHMENT. WHERE THE WALKWAY IS OMITTED, PROVIDE HOLES AND STRUTS BA AS INDICATED IN THE TOP VIEW.

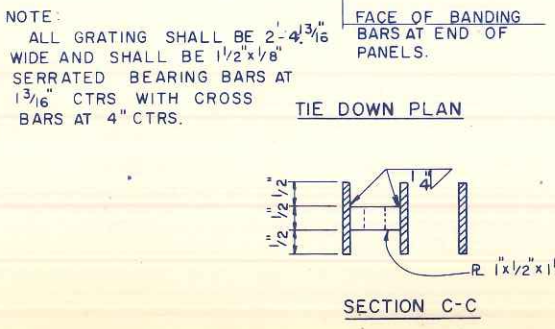
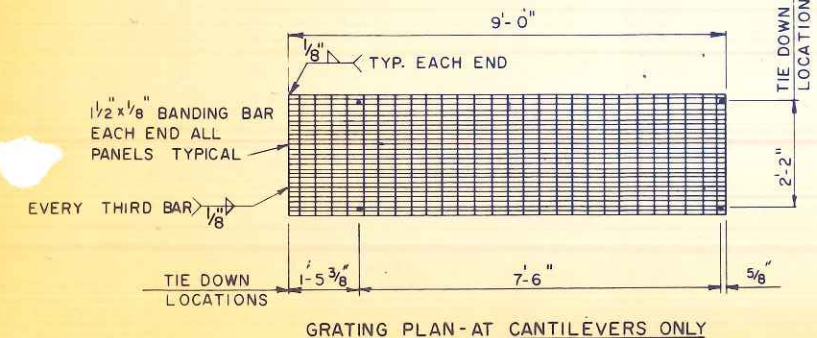
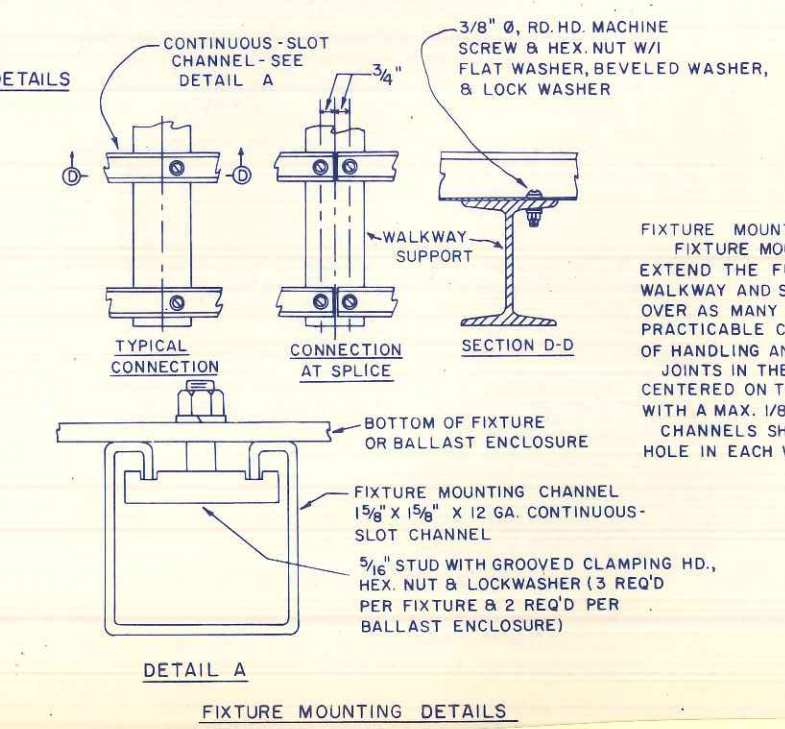
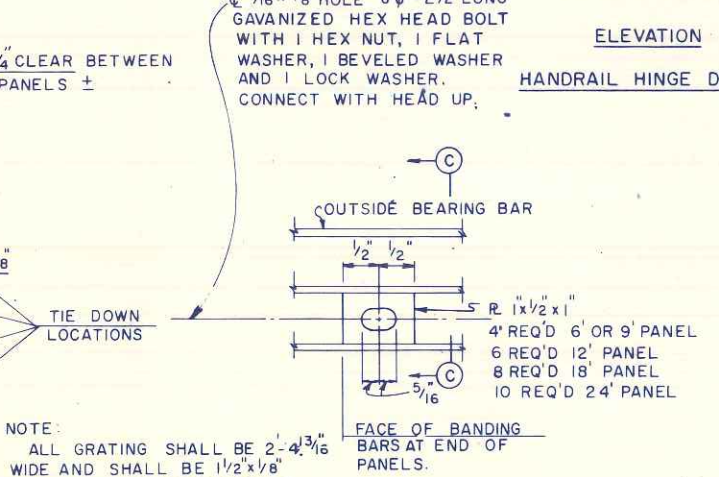
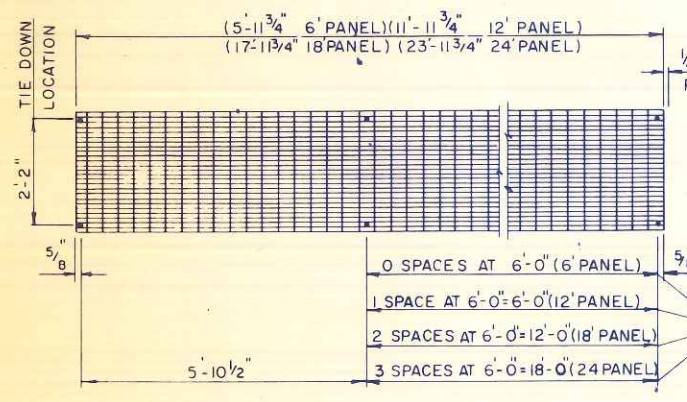
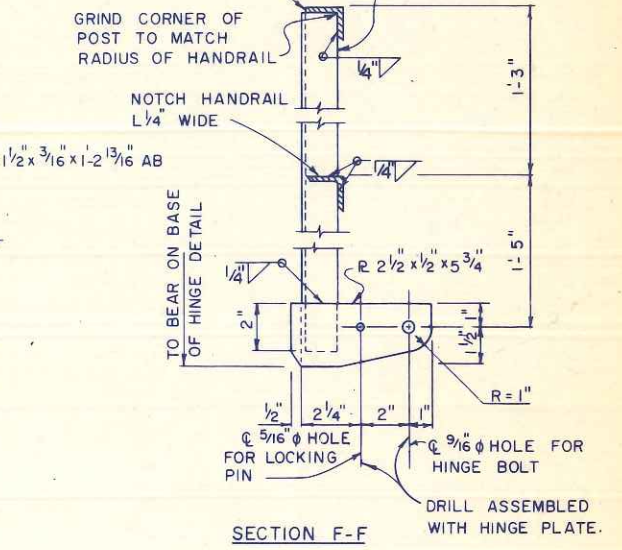
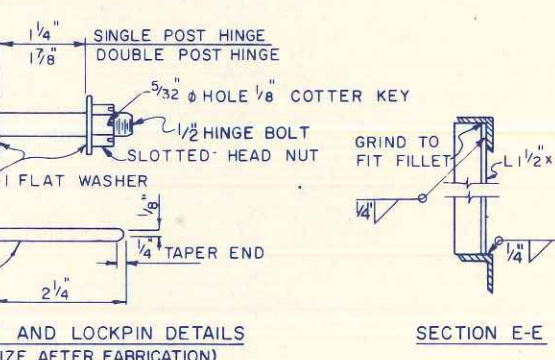
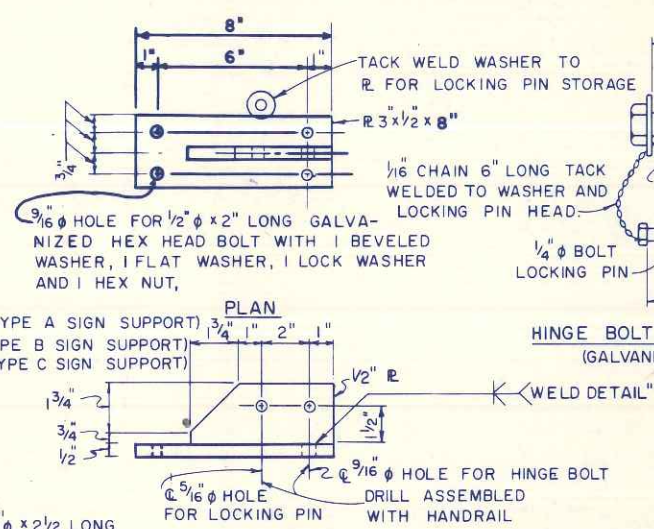
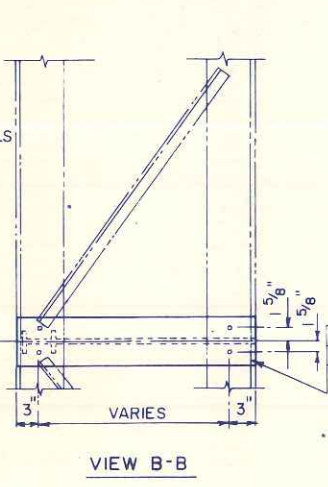
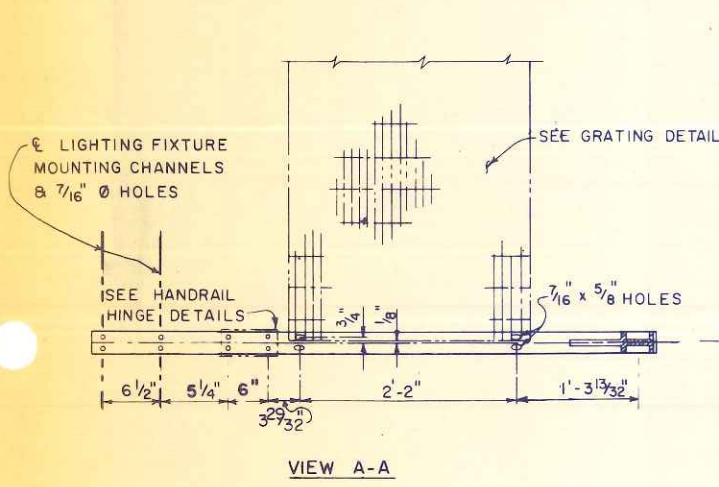
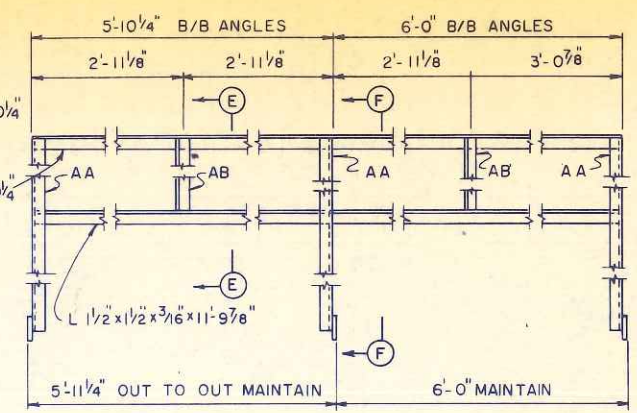
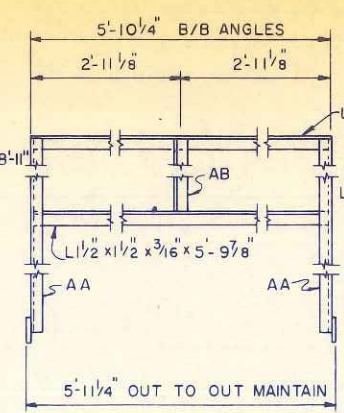
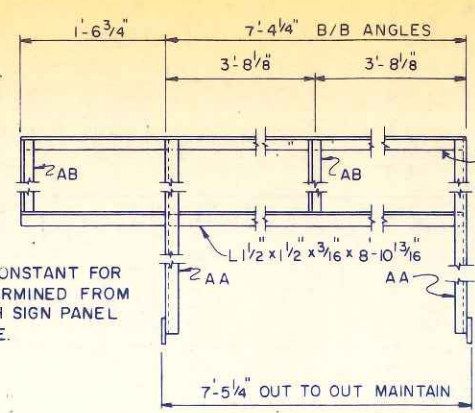
DETAILS SHOWN ARE FOR THE FREE ENDS OF THE CANTILEVER SPANS. ALL OTHER DETAILS FOR CANTILEVER MODULES SHALL BE AS SHOWN FOR THE SIMPLE SPANS.



SIGN HEIGHT	Z Ⓛ
7'-0"	1'-3"
7'-6"	1'-6"
8'-0"	1'-9"
8'-6"	2'-0"
9'-0"	2'-3"
9'-6"	2'-6"
10'-0"	2'-9"
10'-6"	3'-0"
11'-0"	3'-3"

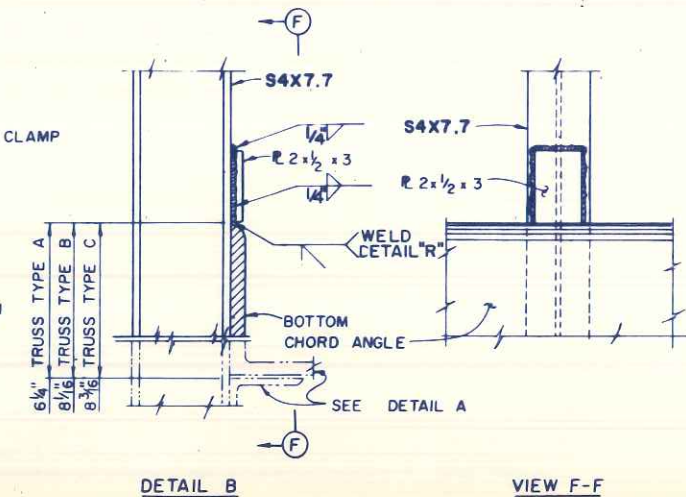
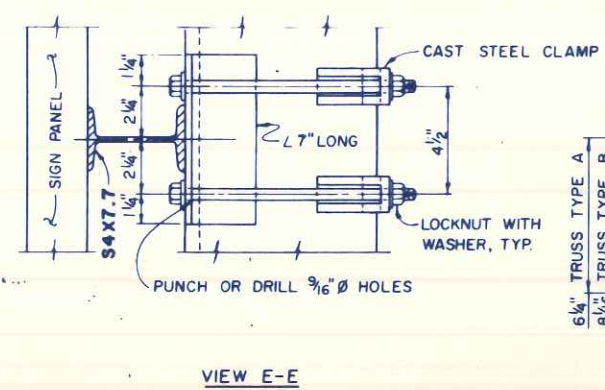
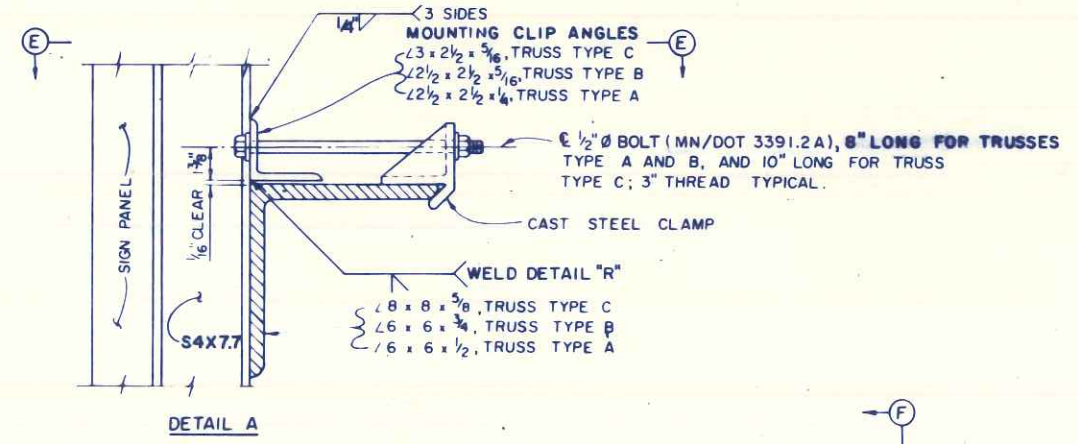
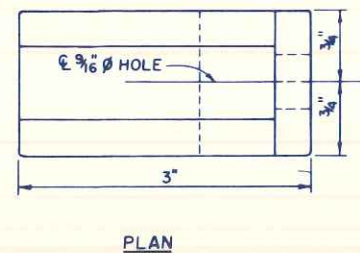
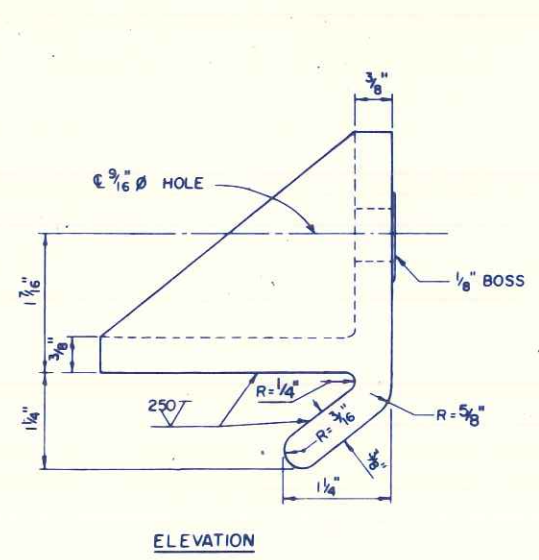
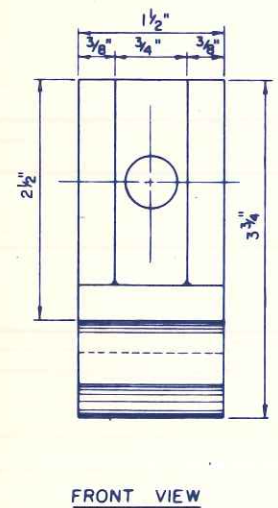
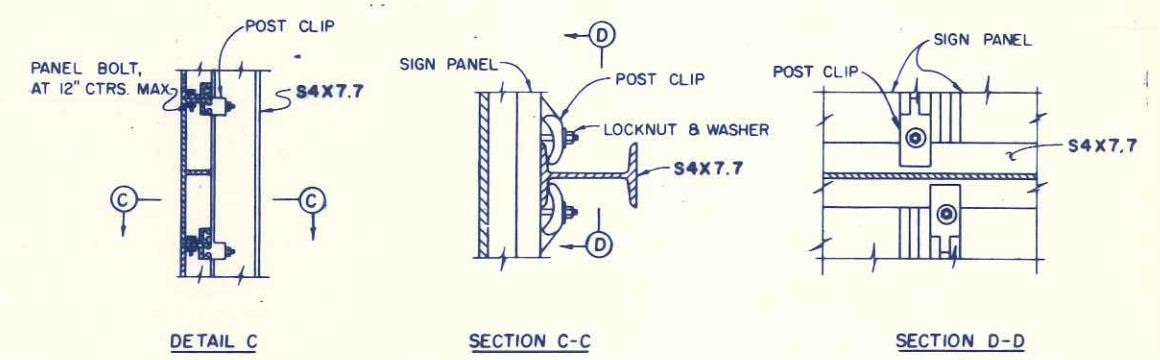
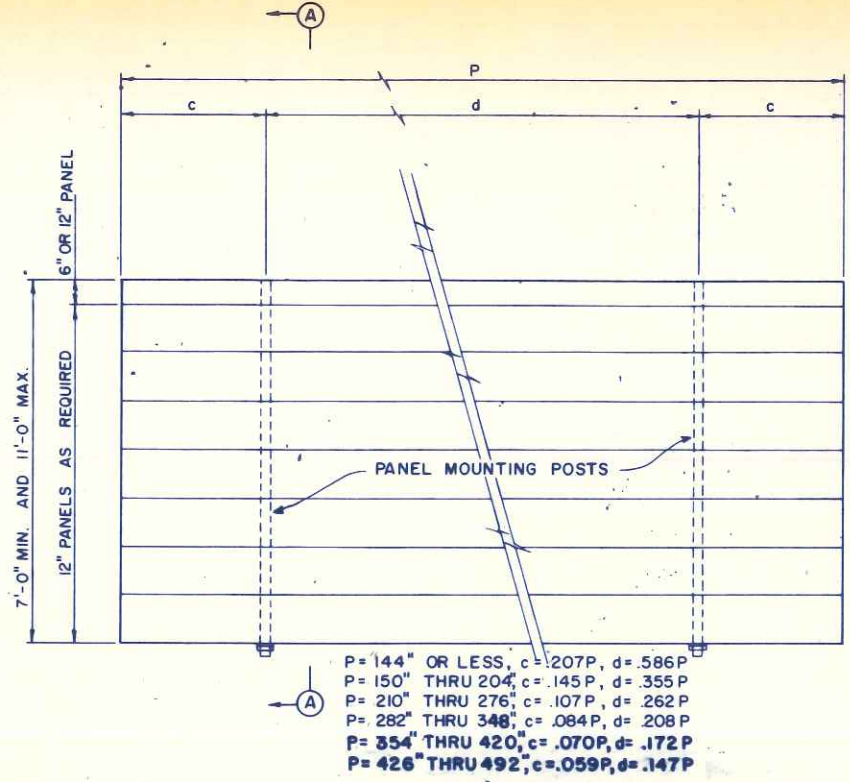
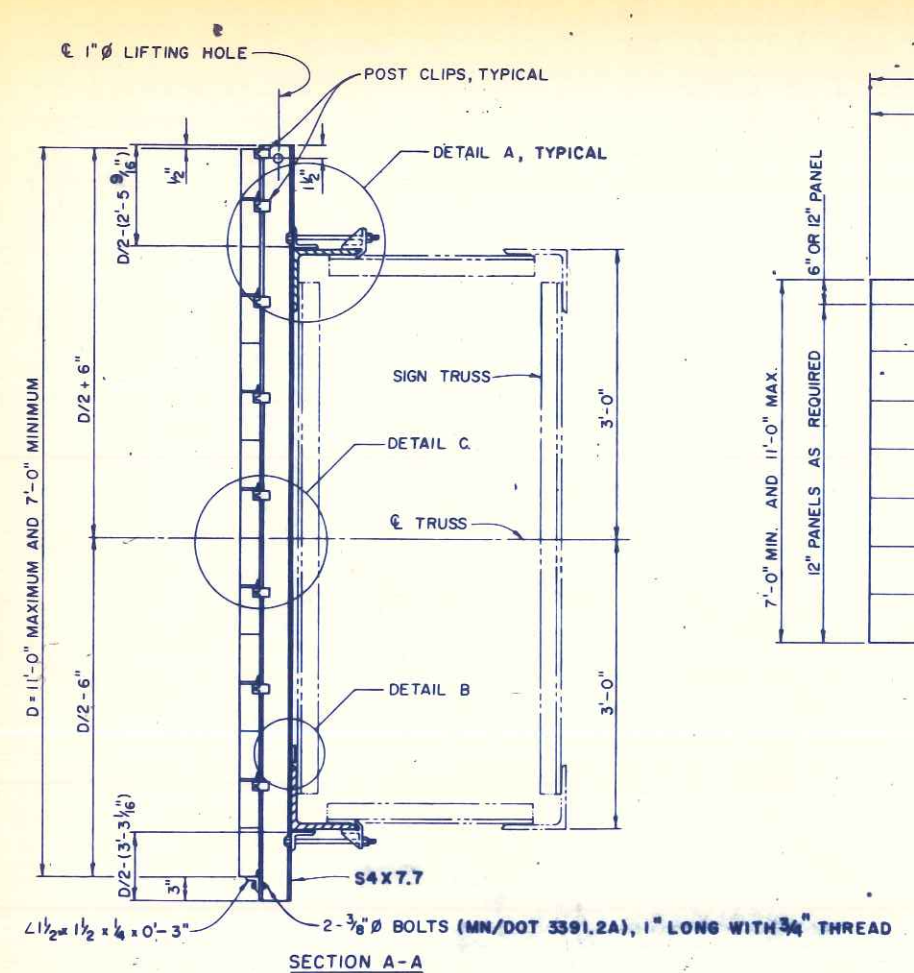
NOTE Ⓛ DIMENSION Z IS CONSTANT FOR A SIGN AND IS DETERMINED FROM THE MAXIMUM DEPTH SIGN PANEL ON THAT STRUCTURE.

SAFETY CHAIN NOTES:
 THE SAFETY CHAIN SHALL BE ATTACHED AT EACH END OF THE HANDRAIL.
 THE CHAIN SHALL BE 3/16" GALVANIZED STEEL STRAIGHT LENGTH CHAIN WITH APPROXIMATELY 12 LINKS PER FOOT. THE CHAIN AND ITS CONNECTIONS SHALL HAVE A MINIMUM RATED WORK LOAD OF 700 LBS.



FIXTURE MOUNTING CHANNEL NOTES:
 FIXTURE MOUNTING CHANNELS SHALL EXTEND THE FULL LENGTH OF THE WALKWAY AND SHALL BE CONTINUOUS OVER AS MANY WALKWAY SUPPORT SPANS AS PRACTICABLE CONSISTENT WITH EASE OF HANDLING AND ASSEMBLING.
 JOINTS IN THE CHANNELS SHALL BE CENTERED ON THE WALKWAY SUPPORTS WITH A MAX. 1/8" GAP BETWEEN SECTIONS.
 CHANNELS SHALL HAVE A 1/4" DRAIN HOLE IN EACH WALKWAY SUPPORT SPAN.

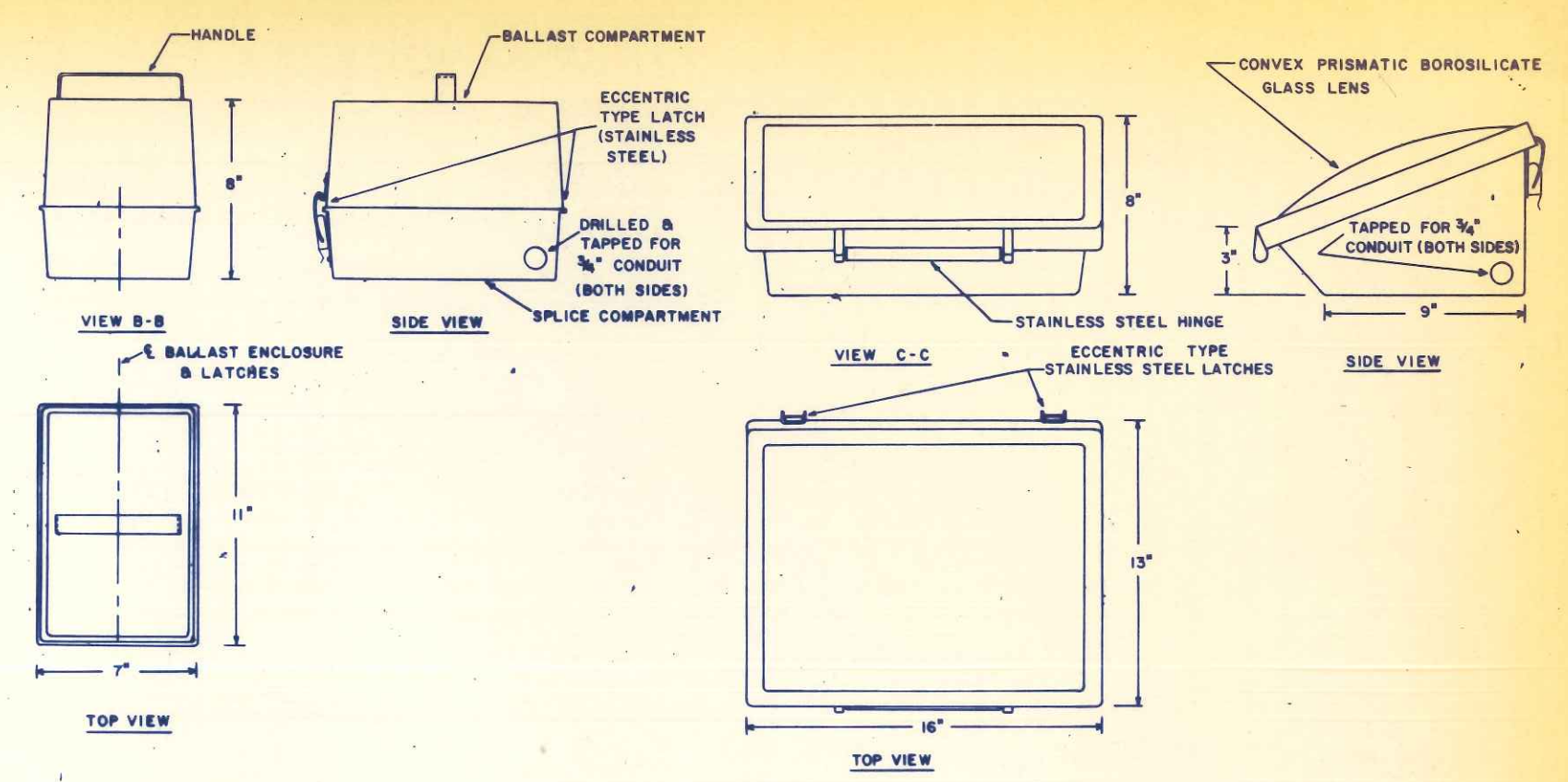
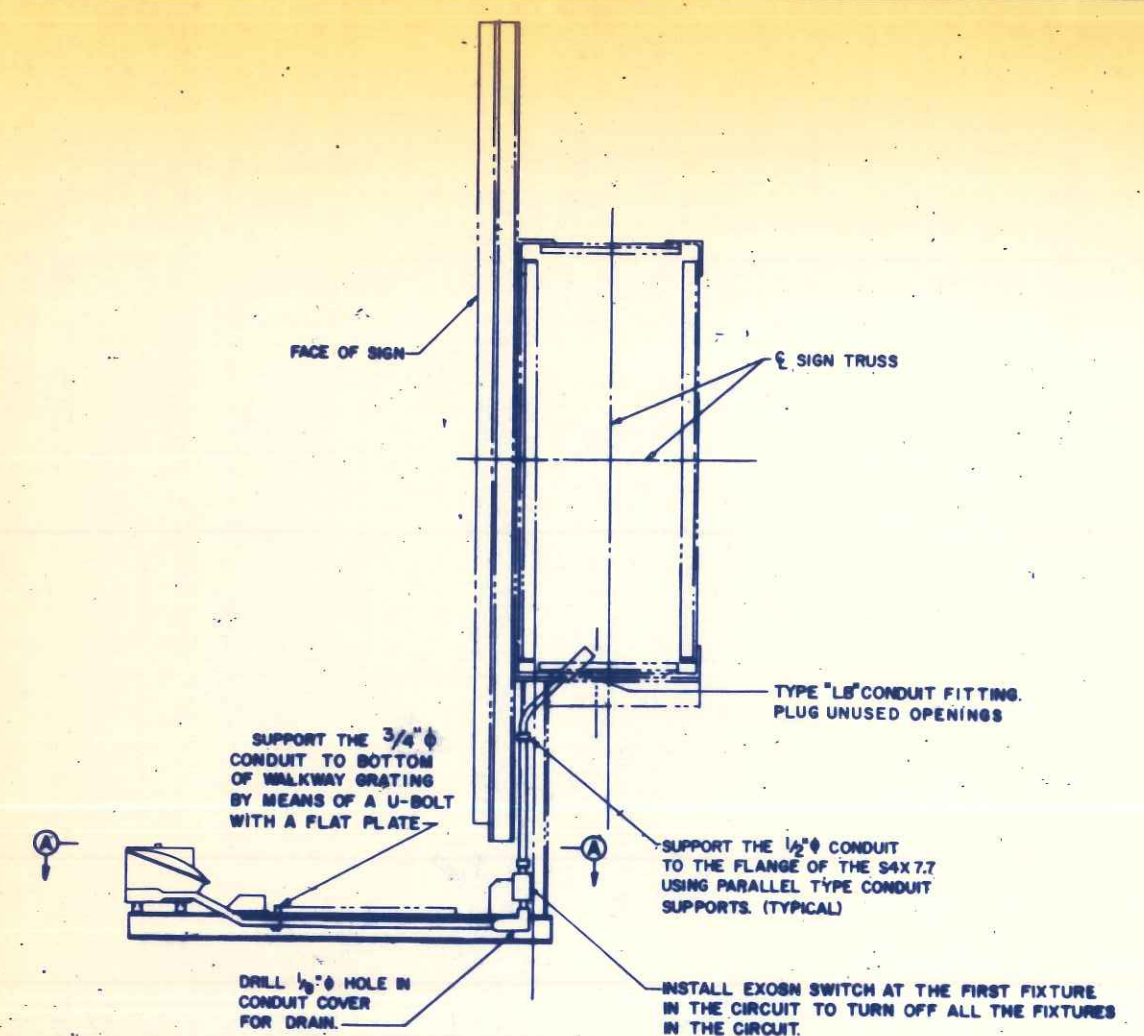
NOTES:
 WALKWAY DETAILS SHOWN ARE TYPICAL FOR DETAILS ON CANTILEVERS AND SPANS BETWEEN POSTS.
 WHEN THE FORMAT SHEET INDICATES THAT THE WALKWAY IS CONTINUOUS FROM ONE SPAN TO ANOTHER, THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE SPECIAL LENGTH GRATING AND HANDRAIL PANELS REQUIRED.
 HANDRAIL PANELS TO BE CONTINUOUS OVER A MAX. OF TWO WALKWAY SUPPORT SPANS.
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE LENGTH OF GRATING AND HANDRAIL PANELS REQUIRED FOR BRIDGE MOUNTED SIGNS AND CANTILEVERS WHERE THE SPECIFIED LENGTH DOES NOT AGREE WITH THE DETAILS.



NOTE: CAST STEEL CLAMP SHALL CONFORM TO MN/DOT 3322 (A.S.T.M. A27 GRADE 70-36)

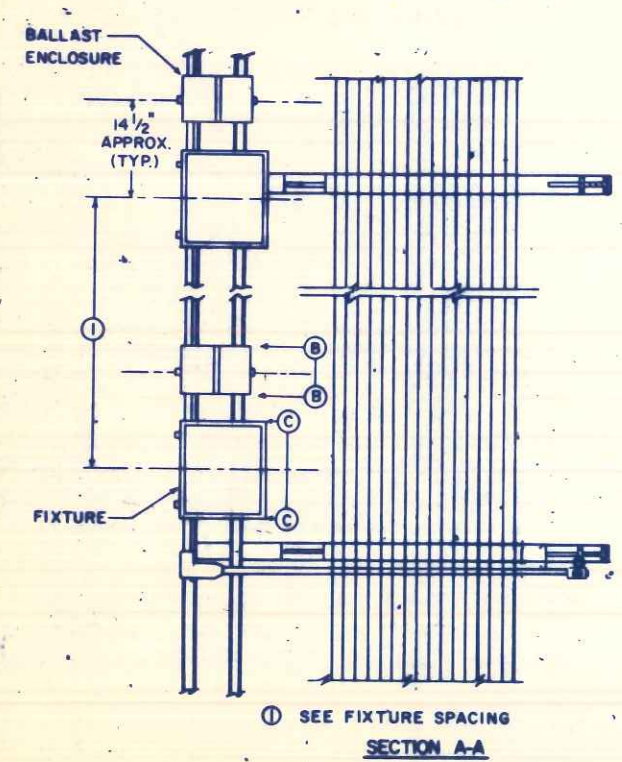
CAST STEEL CLAMP
Rev. 5-1-72, 8-12-75, 10-15-76, 2-9-78, 2-11-80

STANDARD OVERHEAD SIGN SUPPORTS
SIGN PANEL AND PANEL MOUNTING
POST DETAILS
DESIGN B



BALLAST ENCLOSURE

FIXTURE

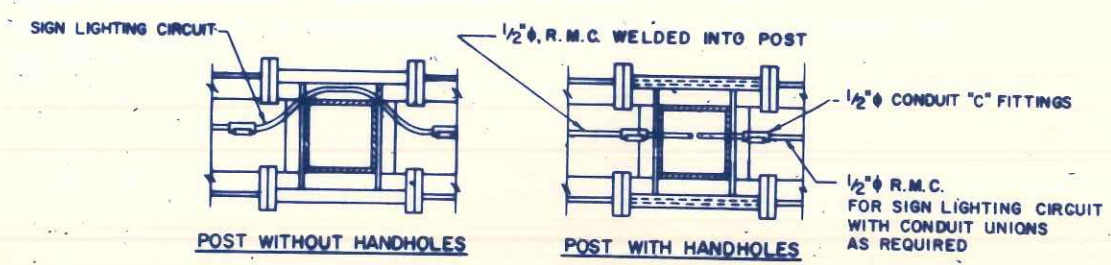


W (PANEL WIDTH)	NO. OF FIXTURES	FIXTURE SPACING
9.5' OR LESS	1	
10.0' TO 16.5'	2	W/2
17.0' TO 24.5'	3	W/3
25.0' TO 32.5'	4	W/4
33.0' TO 40.5'	5	W/5
41.0' TO 48.5'	6	W/6
49.0' TO 56.5'	7	W/7
57.0' TO 64.5'	8	W/8

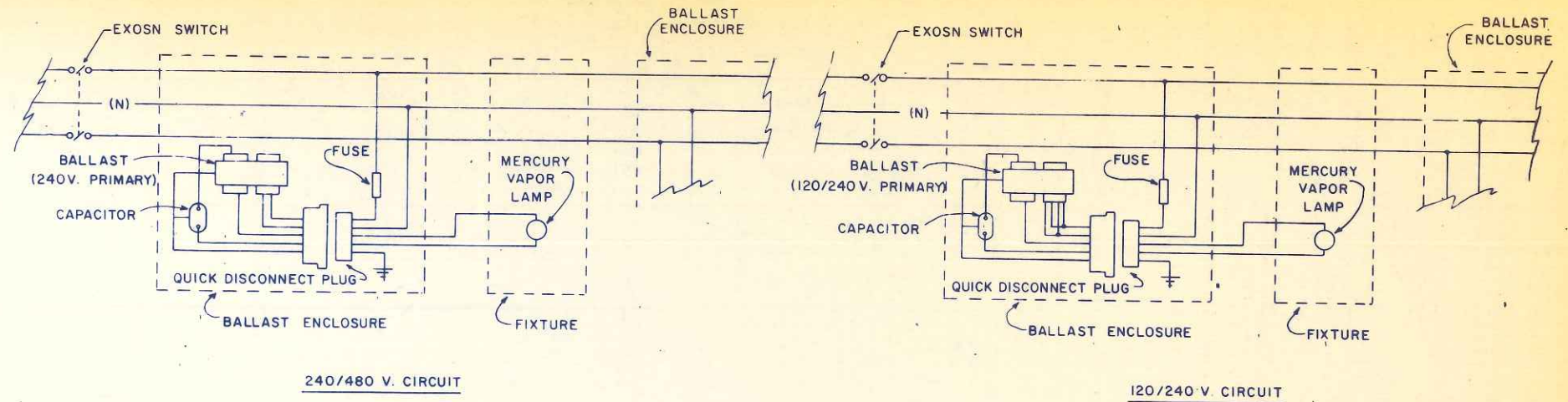
FIXTURES SHALL BE SYMMETRICALLY PLACED WITH RESPECT TO THE PANEL. PANELS WHICH ABUT EACH OTHER SHALL BE TREATED AS A SINGLE PANEL FOR FIXTURE SPACING.

FIXTURE SPACING

- NOTES:
1. DIMENSIONS SHOWN ARE APPROX.
 2. PROVIDE SAFETY CHAIN WITH BALLAST ENCLOSURE (SEE SPECIAL PROVISIONS)



REV. 2-22-77
REV. 12-20-77
REV. 2-9-78
REV. 12-5-78



240/480 V. CIRCUIT

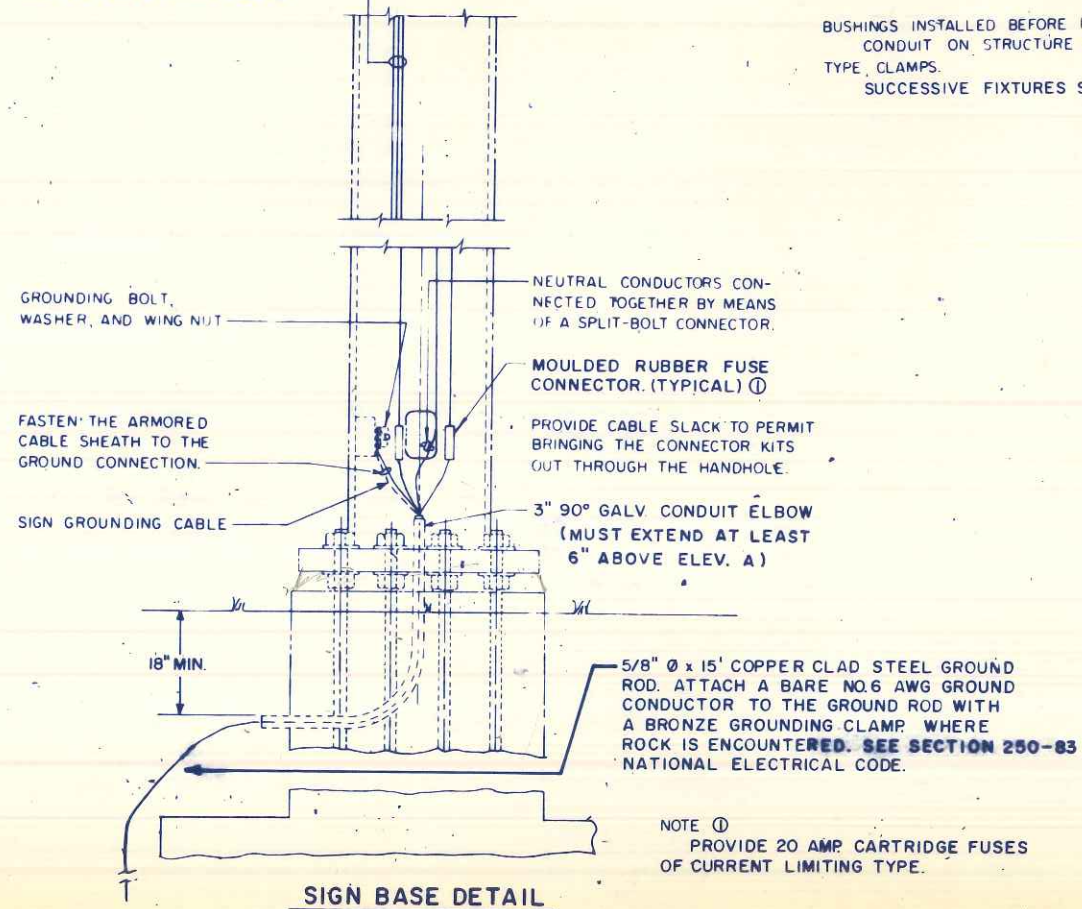
120/240 V. CIRCUIT

TYPICAL CIRCUIT DIAGRAMS

ELECTRICAL NOTES

WHEN SIGN LIGHTING SYSTEMS HAVE BEEN COMPLETED, THE CONTRACTOR SHALL, WITHOUT FURTHER COMPENSATION, CONDUCT BURNING AND RESISTANCE TESTS FOR FINAL ACCEPTANCE. THE RESISTANCE TO GROUND OF EACH UNGROUNDED CONDUCTOR SHALL BE NOT LESS THAN 8 MEGOHMS. ALL FITTINGS, HUBS, UNIONS, BUSHINGS, ETC., SHALL BE SUPPLIED AS PART OF CONDUIT. CONDUIT ENTERING SIGN POSTS SHALL HAVE INSULATED GROUNDING BUSHINGS INSTALLED BEFORE PULLING WIRE. CONDUIT ON STRUCTURE SHALL BE SURFACE MOUNTED, STRAPPED AT EVERY ANGLE BRACE WITH U-BOLT TYPE CLAMPS. SUCCESSIVE FIXTURES SHALL BE CONNECTED ON ALTERNATE SIDES OF THE 3-WIRE CIRCUIT.

3-1/2" NO. 12AWG, 600 VAC, TYPE THW, RHW, OR RHH 90°C. CONDUCTORS FOR SIGN LIGHTING FEEDERS.



18" MIN.

5/8" Ø x 15' COPPER CLAD STEEL GROUND ROD. ATTACH A BARE NO. 6 AWG GROUND CONDUCTOR TO THE GROUND ROD WITH A BRONZE GROUNDING CLAMP WHERE ROCK IS ENCOUNTERED. SEE SECTION 250-83 NATIONAL ELECTRICAL CODE.

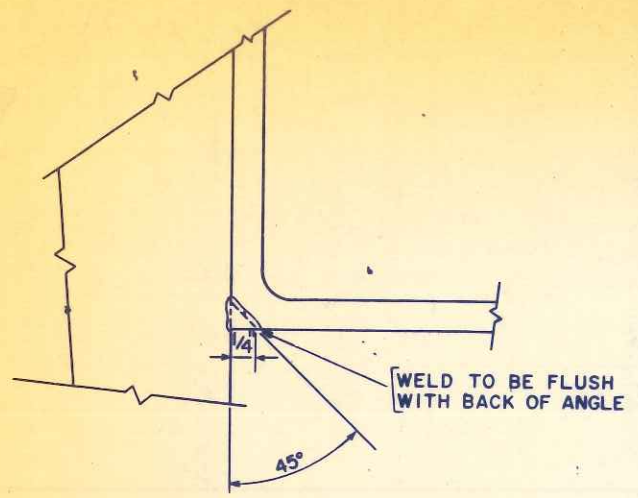
NOTE ① PROVIDE 20 AMP CARTRIDGE FUSES OF CURRENT LIMITING TYPE.

Rev. 2-22-77
REV. 12-20-77

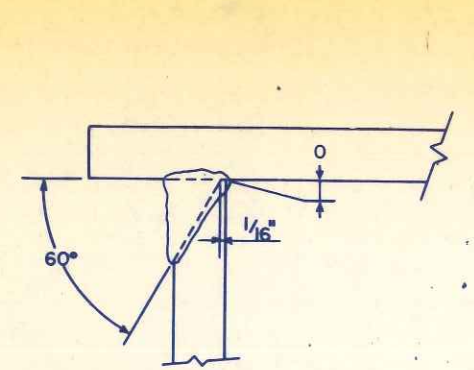
STANDARD OVERHEAD SIGN SUPPORTS

ELECTRICAL DETAILS
DESIGN B

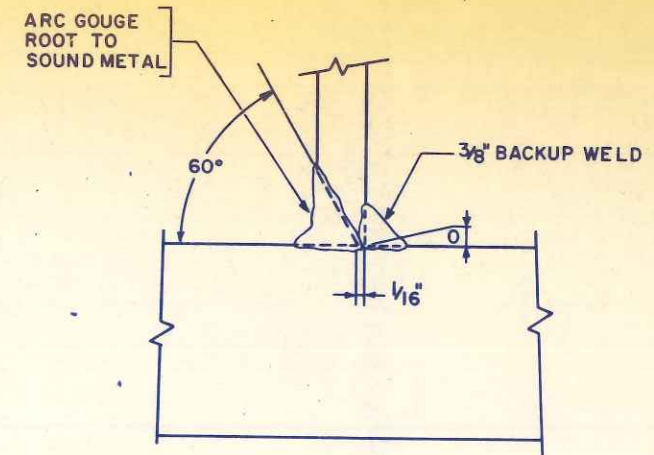
DRAWING ST-12



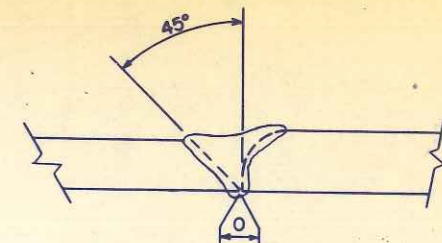
WELD DETAIL R
DRAWING ST 10



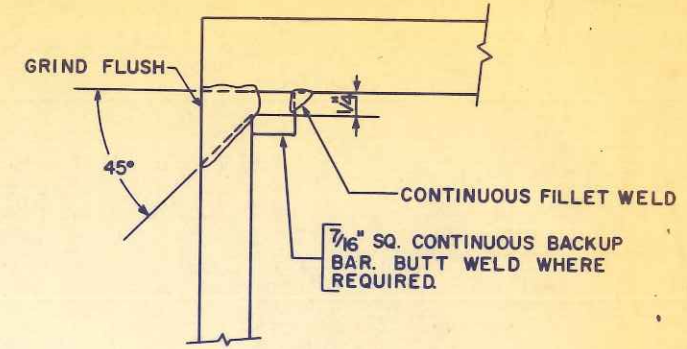
WELD DETAIL S
DRAWING ST 9



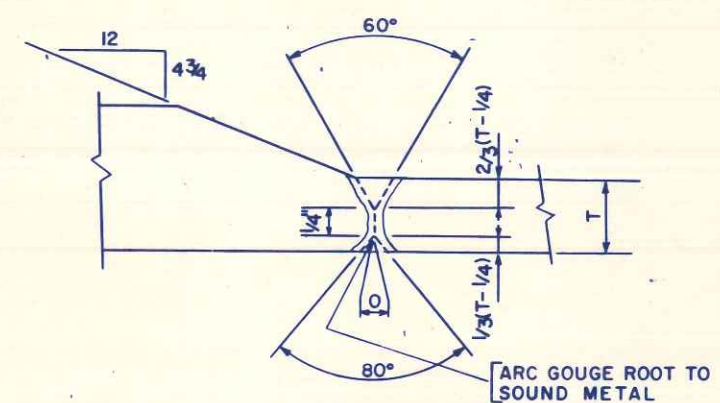
WELD DETAIL T
DRAWING ST 6,7 & 8



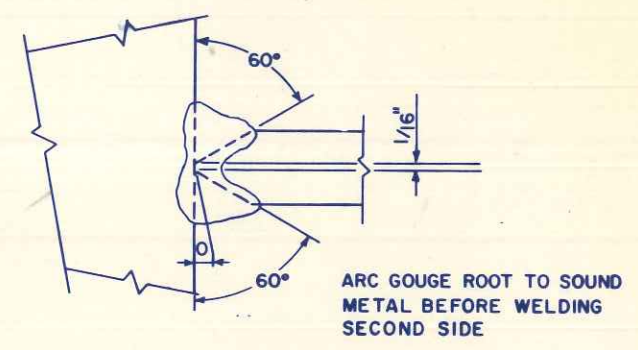
WELD DETAIL U
DRAWING ST 5



WELD DETAIL V
DRAWING ST 4

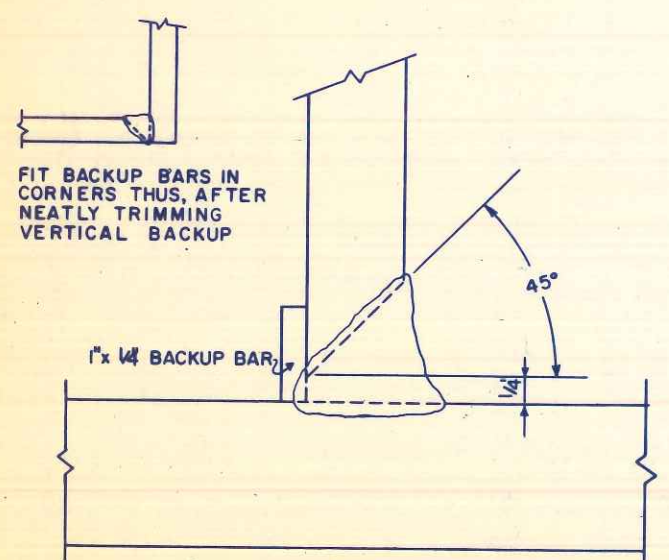


WELD DETAIL X
DRAWING ST 4

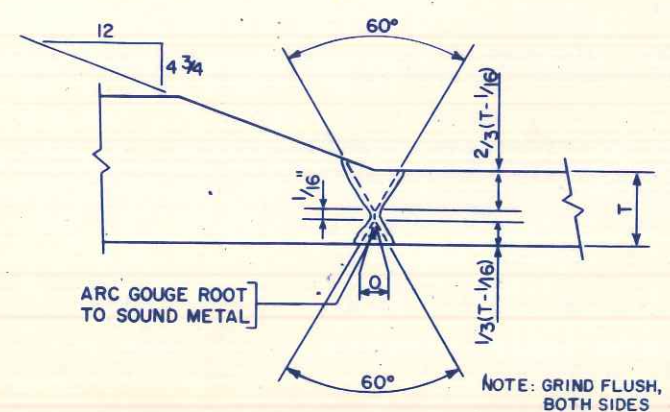


WELD DETAIL Y
DRAWING ST 4 & 9

NOTES:
POST PLATE BUTT WELDS TO BE GROUND, RADIOGRAPHED (RT) AND ACCEPTED UNDER MN/DOT 2471.3J444 BEFORE FITTING OF POST.
ULTRASONIC TESTING (UT) PER MN/DOT 2471.3J444 WHERE INDICATED. VERTICAL POST WELDS TO BE TESTED 15% PER WELD PLUS CUMULATIVE LENGTHS OF UNACCEPTABLE DEFECTS. INCLUDE 12" AT ENDS OF WELD. TESTING TO BE WITNESSED BY MHD INSPECTOR. ONE REPORT PER POST OR TRUSS SECTION PER AWS D2.0-68, FIG C-6.



WELD DETAIL Z
DRAWING ST 4



WELD DETAIL XM
DRAWING ST 4
ALTERNATE FOR SHIELDED METAL-ARC