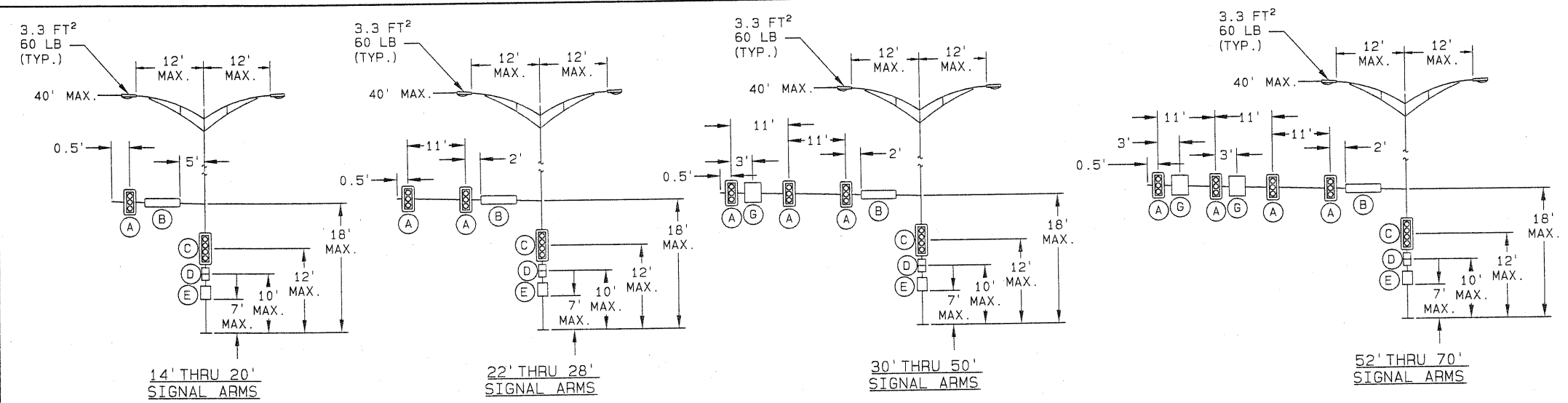


OP POLE SERIES



DEVICE	DESCRIPTION	PROJ. AREA (FT²)	WEIGHT (LBS)
(A)	12"-3 SEC. SIGNAL WITH BACK PLATES	8.67	30
(B)	18" X 72" STREET NAME SIGN	9.00	20
(C)	12"-4 SEC. SIGNAL WITH NO BACK PLATES	5.44	40
(D)	DUAL-2 SEC. PEDESTRIAN SIGNAL	8.00	40
(E)	30" X 30" POLE MOUNTED SIGN	6.25	13
(F)	12"-4 SEC. SIGNAL WITH BACKPLATES	11.00	40
(G)	24" X 30" SIGNAL ARM MOUNTED SIGN	5.00	10

DESIGN CRITERIA:  
1994 AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRE, AND TRAFFIC SIGNALS.

WIND VELOCITY:  
80 MPH ISOTACH.

MAXIMUM LOADING INFORMATION

TABLE 1: POLE AND SIGNAL ARM DATA

POLE SERIES	SIGNAL ARM SPAN (FT)	DESIGNATION KEY				POLE DATA		BASE PLATE DATA			ANCHOR BOLT DATA				SIGNAL ARM DATA				SIGNAL ARM ATTACHMENT DATA				
		LUMINAIRE ARM (IF ANY)				BASE DIA. (IN)	LENGTH	WALL GAUGE THK.	SQUAR E "S" (IN)	BOLT CIRCLE "F" (IN)	THK. "G" (IN)	DIA. "K" (IN)	LENGTH "J" (IN)	HOOK "H" (IN)	THREAD LENGTH "U" (IN)	FIXED END DIA (IN)	FREE END DIA (IN)	GAUGE OR THK (IN)	SIGNAL ARM SPAN (FT)	SQUARE "A" (IN)	THK "D" (IN)	BOLT SIZE "E" (IN)	BOLT PATTERN "B" (IN)
		TYPE	STYLE	SPAN (FT)	STYLE																		
OP	14	NL,LR,MR,HR	A OR B	6-12	A OR B	6-12	10.00	7	14.00	13.50	1.50	1.50	54.00	6.00	8.00	7.00	5.04	7	14	12.75	1.25	0.75-10 UNC X 4.25	10.50
OP	16	NL,LR,MR,HR	A OR B	6-12	A OR B	6-12	10.00	7	14.00	13.50	1.50	1.50	54.00	6.00	8.00	7.00	4.76	7	16	12.75	1.25	0.75-10 UNC X 4.25	10.50
OP	18	NL,LR,MR,HR	A OR B	6-12	A OR B	6-12	10.00	7	14.00	13.50	1.50	1.50	54.00	6.00	8.00	7.00	4.48	7	18	12.75	1.25	0.75-10 UNC X 4.25	10.50
OP	20	NL,LR,MR,HR	A OR B	6-12	A OR B	6-12	10.00	7	14.00	13.50	1.50	1.50	54.00	6.00	8.00	7.00	4.20	7	20	12.75	1.25	0.75-10 UNC X 4.25	10.50
OP	22	NL,LR,MR,HR	A OR B	6-12	A OR B	6-12	11.00	7	16.50	15.00	1.50	1.50	54.00	6.00	8.00	8.00	4.92	7	22	14.25	1.50	1.00-8 UNC X 5.00	11.50
OP	24	NL,LR,MR,HR	A OR B	6-12	A OR B	6-12	11.00	7	16.50	15.00	1.50	1.50	54.00	6.00	8.00	8.00	4.64	7	24	14.25	1.50	1.00-8 UNC X 5.00	11.50
OP	26	NL,LR,MR,HR	A OR B	6-12	A OR B	6-12	11.00	7	16.50	15.00	1.50	1.50	54.00	6.00	8.00	8.00	4.36	7	26	14.25	1.50	1.00-8 UNC X 5.00	11.50
OP	28	NL,LR,MR,HR	A OR B	6-12	A OR B	6-12	11.00	7	16.50	15.00	1.50	1.50	54.00	6.00	8.00	8.00	4.08	7	28	14.25	1.50	1.00-8 UNC X 5.00	11.50
OP	30	NL,LR,MR,HR	A OR B	6-12	A OR B	6-12	13.00	7	18.00	17.00	1.50	1.50	54.00	6.00	8.00	9.00	4.80	7	30	16.25	1.50	1.00-8 UNC X 5.00	13.50
OP	32	NL,LR,MR,HR	A OR B	6-12	A OR B	6-12	13.00	7	18.00	17.00	1.50	1.50	54.00	6.00	8.00	9.00	4.52	7	32	16.25	1.50	1.00-8 UNC X 5.00	13.50
OP	34	NL,LR,MR,HR	A OR B	6-12	A OR B	6-12	13.00	7	18.00	17.00	1.50	1.50	54.00	6.00	8.00	9.00	4.24	7	34	16.25	1.50	1.00-8 UNC X 5.00	13.50
OP	36	NL,LR,MR,HR	A OR B	6-12	A OR B	6-12	13.00	7	18.00	17.00	1.50	1.50	54.00	6.00	8.00	9.00	3.96	7	36	16.25	1.50	1.00-8 UNC X 5.00	13.50
OP	38	NL,LR,MR,HR	A OR B	6-12	A OR B	6-12	12.50	3	18.00	17.00	1.75	1.75	84.00	6.00	8.00	10.00	4.68	7	38	16.75	1.50	1.00-8 UNC X 5.00	14.00
OP	40	NL,LR,MR,HR	A OR B	6-12	A OR B	6-12	12.50	3	18.00	17.00	1.75	1.75	84.00	6.00	8.00	10.00	4.40	7	40	16.75	1.50	1.00-8 UNC X 5.00	14.00
OP	42	NL,LR,MR,HR	A OR B	6-12	A OR B	6-12	12.50	3	18.00	17.00	1.75	1.75	84.00	6.00	8.00	10.00	4.12	7	42	16.75	1.50	1.00-8 UNC X 5.00	14.00
OP	44	NL,LR,MR,HR	A OR B	6-12	A OR B	6-12	12.50	3	18.00	17.00	1.75	1.75	84.00	6.00	8.00	10.00	3.84	7	44	16.75	1.50	1.00-8 UNC X 5.00	14.00
OP	46	NL,LR,MR,HR	A OR B	6-12	A OR B	6-12	13.00	3	18.00	17.50	1.75	1.75	84.00	6.00	8.00	11.00	4.56	7	46	17.75	1.75	1.00-8 UNC X 5.50	15.00
OP	48	NL,LR,MR,HR	A OR B	6-12	A OR B	6-12	13.00	3	18.00	17.50	1.75	1.75	84.00	6.00	8.00	11.00	4.28	7	48	17.75	1.75	1.00-8 UNC X 5.50	15.00
OP	50	NL,LR,MR,HR	A OR B	6-12	A OR B	6-12	13.00	3	18.00	17.50	1.75	1.75	84.00	6.00	8.00	11.00	4.00	7	50	17.75	1.75	1.00-8 UNC X 5.50	15.00
OP	52	NL,LR,MR,HR	A OR B	6-12	A OR B	6-12	14.00	0.250	19.00	19.00	1.75	1.75	84.00	6.00	8.00	12.00	4.60	SEE DET.3	52	18.25	1.75	1.00-8 UNC X 5.50	15.50
OP	54	NL,LR,MR,HR	A OR B	6-12	A OR B	6-12	14.00	0.250	19.00	19.00	1.75	1.75	84.00	6.00	8.00	12.00	4.18	SEE DET.3	54	18.25	1.75	1.00-8 UNC X 5.50	15.50
OP	56	NL,LR,MR,HR	A OR B	6-12	A OR B	6-12	14.50	0.250	19.50	19.50	1.75	1.75	84.00	6.00	8.00	12.50	5.02	SEE DET.4	56	19.75	1.75	1.25-7 UNC X 5.75	16.50
OP	58	NL,LR,MR,HR	A OR B	6-12	A OR B	6-12	14.50	0.250	19.50	19.50	1.75	1.75	84.00	6.00	8.00	12.50	4.74	SEE DET.4	58	19.75	1.75	1.25-7 UNC X 5.75	16.50
OP	60	NL,LR,MR,HR	A OR B	6-12	A OR B	6-12	14.50	0.250	19.50	19.50	1.75	1.75	84.00	6.00	8.00	12.50	4.46	SEE DET.4	60	19.75	1.75	1.25-7 UNC X 5.75	16.50
OP	62	NL,LR,MR,HR	A OR B	6-12	A OR B	6-12	15.50	0.250	20.50	20.50	1.75	1.75	84.00	6.00	8.00	12.50	4.18	SEE DET.4	62	19.75	2.00	1.25-7 UNC X 6.25	16.50
OP	64	NL,LR,MR,HR	A OR B	6-12	A OR B	6-12	15.50	0.250	20.50	20.50	1.75	1.75	84.00	6.00	8.00	12.50	3.90	SEE DET.4	64	19.75	2.00	1.25-7 UNC X 6.25	16.50
OP	66	NL,LR,MR,HR	A OR B	6-12	A OR B	6-12	16.00	0.250	22.00	21.00	2.00	2.00	84.00	6.00	10.00	13.00	4.11	SEE DET.4	66	20.25	2.00	1.25-7 UNC X 6.25	17.00
OP	68	NL,LR,MR,HR	A OR B	6-12	A OR B	6-12	16.00	0.250	22.00	21.00	2.00	2.00	84.00	6.00	10.00	13.00	3.83	SEE DET.4	68	20.25	2.00	1.25-7 UNC X 6.25	17.00
OP	70	NL,LR,MR,HR	A OR B	6-12	A OR B	6-12	16.00	0.250	22.00	21.00	2.00	2.00	84.00	6.00	10.00	13.00	3.56	SEE DET.4	70	20.25	2.00	1.25-7 UNC X 6.25	17.00

TABLE 2: ELEVATIONS

ELEVATIONS	TYPE			
	NO LUM (NL)	LOW RISE (LR)	MEDIUM RISE (MR)	HIGH RISE (HR)
LUMINAIRE MOUNTING HEIGHT	N/A	30'-0"	35'-0"	40'-0"
POLE LENGTH	19'-0"	27'-0"	32'-0"	37'-0"

TABLE 3: MATERIAL DATA

COMPONENT	ASTM DESIGNATION	MIN. YIELD (KSI)
ALL TAPERED SHAFTS	A595 GR. A OR A572	55
POLE BASE - 3 & 7 GA. SHAFTS	A36	36
POLE BASE - 0.250" SHAFTS	A572 GR. 50	50
SIMPLEX PLATES	A36	36
LUMINAIRE ARM-2" SCH. 40 PIPE	ASTM A501, A513, A618 OR A500 Gr. B	36
ANCHOR BOLTS	F1554 GR.55	55
GALVANIZING STRUCTURES	A123	
GALVANIZING HARDWARE	A153	

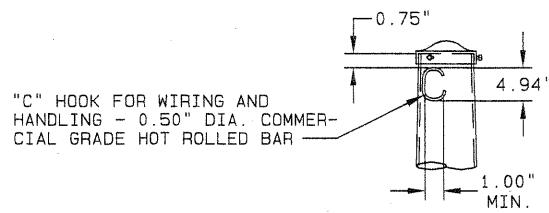
E	HAT1 01/25/12	RBC2 01/26/12	UPDATED MA 56-70, MAT. DATA FOR MIDSIZE, BRAVO TO AUTOCAD
D	CLB 12/04/02	CLB 12/04/02	ADDED HH GROUNDING BAR
C	BKM 08/20/99	BKM 08/20/99	REVISED DRAWING
	KDS 03/25/88	BNS 03/25/88	
REV	DRAWN BY-DATE	CHECK BY-DATE	DESCRIPTION

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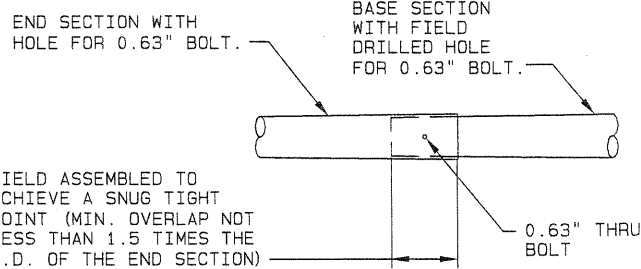
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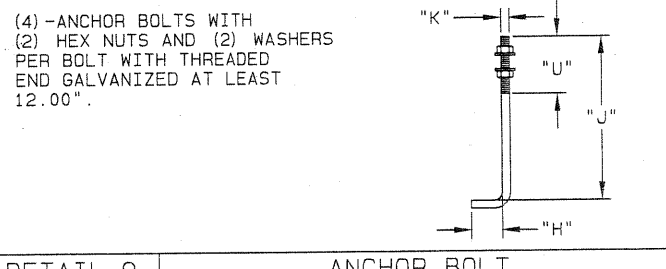


DETAIL 1 POLE TOP

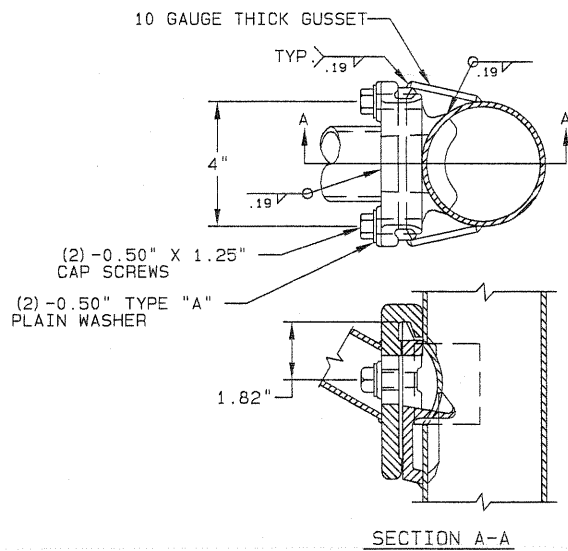


SPAN	BASE SECTION		END SECTION	
	LENGTH	GAUGE	LENGTH	GAUGE
56.00'	50.00'	5	7.83'	7
58.00'	50.00'	5	9.83'	7
60.00'	50.00'	5	11.83'	7
62.00'	50.00'	3	13.83'	7
64.00'	50.00'	3	15.83'	7
66.00'	50.00'	3	17.90'	7
68.00'	50.00'	3	19.90'	7
70.00'	50.00'	3	21.90'	7

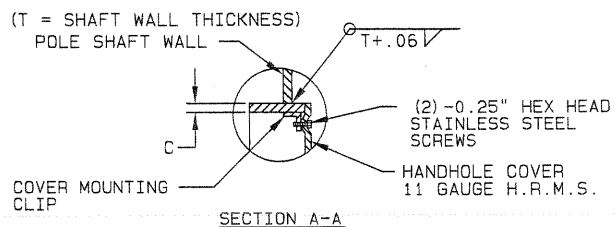
DETAIL 5 56'-70' SIGNAL ARM SLIP JOINT



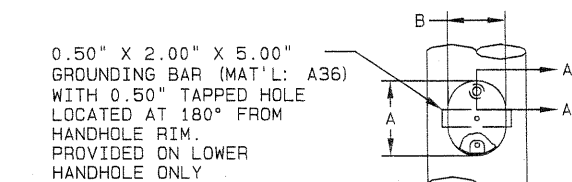
DETAIL 9 ANCHOR BOLT



DETAIL 2 LUMINAIRE ARM ATTACHMENT

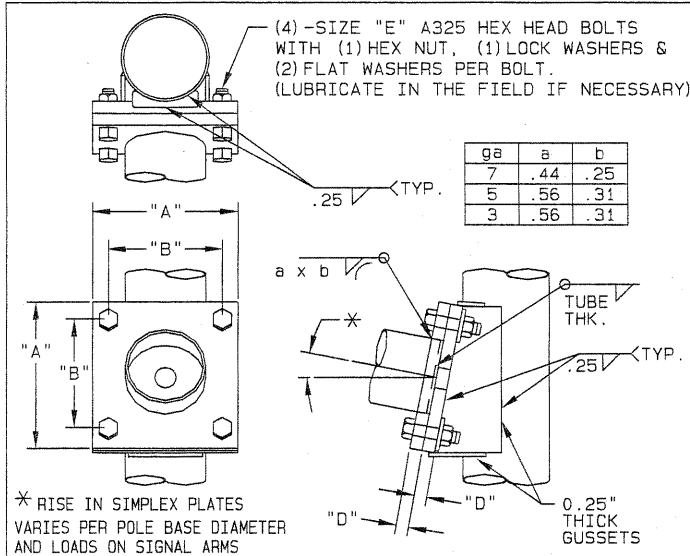


SECTION A-A

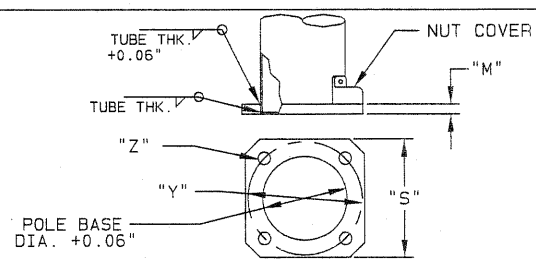


POLE WALL	A	B	C
7 & 3 GA.	7.56"	5.19"	0.280"
0.250" THK.	7.31"	5.63"	0.432"

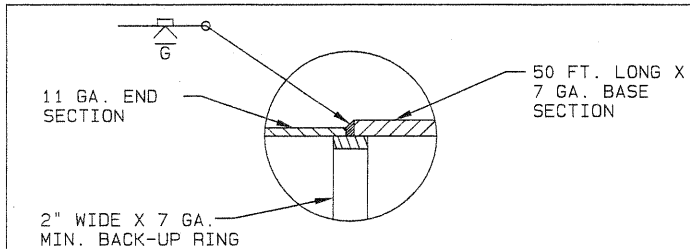
DETAIL 6 HANDHOLE



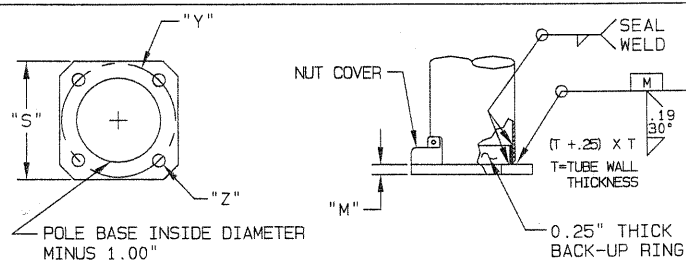
DETAIL 3 SIGNAL ARM ATTACHMENT



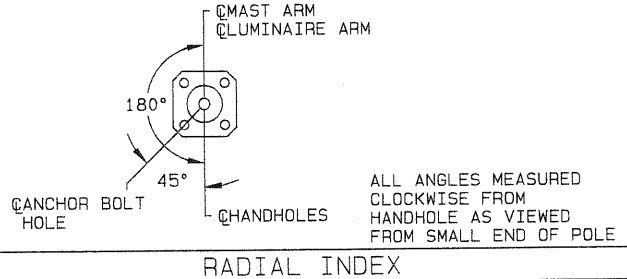
DETAIL 7 POLE BASE FOR 3 & 7 GA. SHAFTS



DETAIL 4 52'-55' WELDED SIGNAL ARM SPLICE



DETAIL 8 POLE BASE 0.250" THK. SHAFTS



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