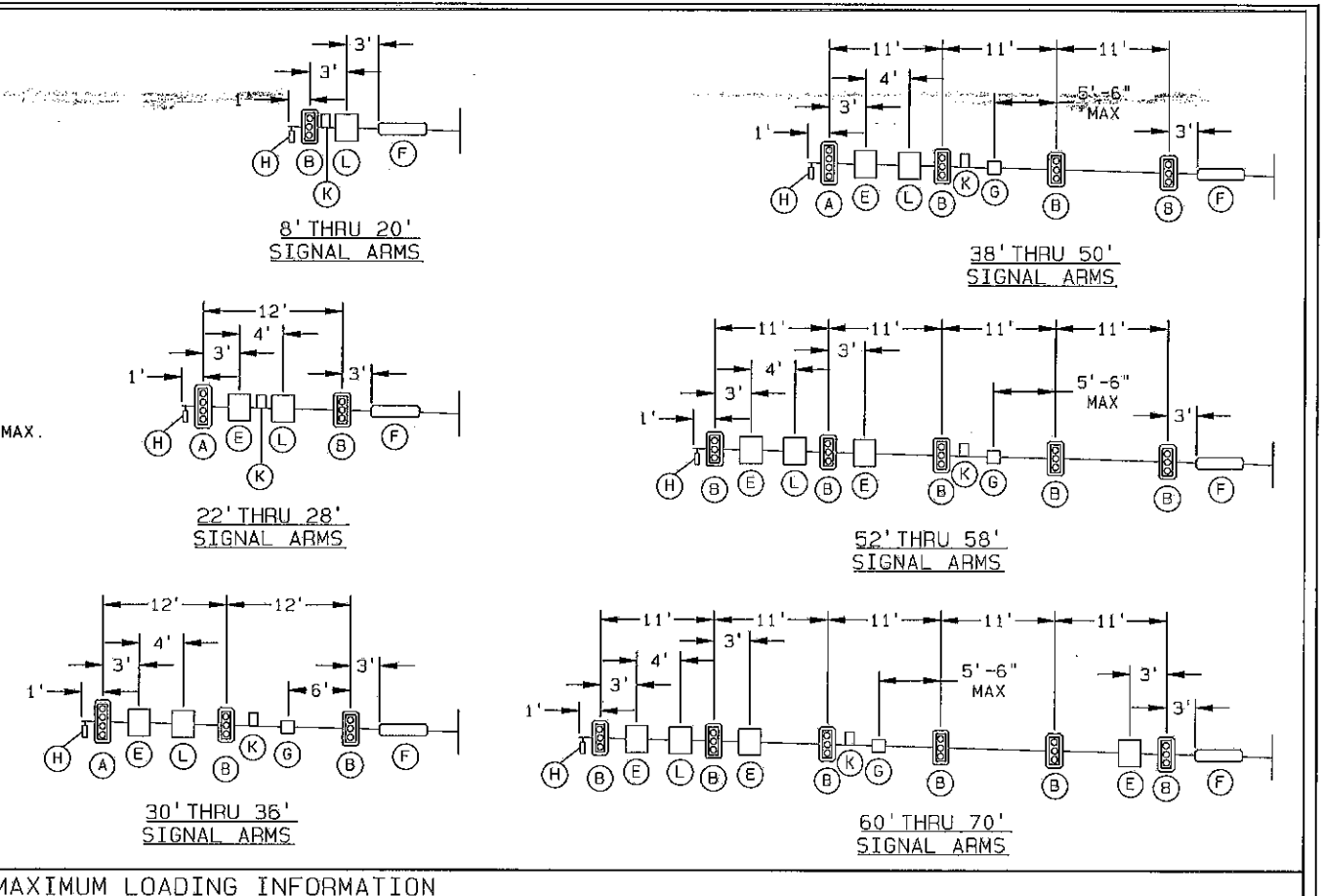


DEVICE	DESCRIPTION	PROJ. AREA (FT ²)	WEIGHT (LBS)
A	12"-4 SEC. SIGNAL HEAD W/ BACK PLATES	12.00	54
B	12"-3 SEC. SIGNAL HEAD W/ BACK PLATES	10.00	42
C	12"-4 SEC. SIGNAL HEAD W/ NO BACK PLATES	6.00	40
D	16"x18"-1 SEC. PEDESTRIAN SIGNAL	3.00	20
E	36"x36" FLATSHEET ALUMINUM SIGN (MAX)	9.00	20
F	24"x96" ILLUMINATED STREET NAME SIGN (MAX)	16.00	120
G	ADVANCE RADAR DETECTOR	1.00	15
H	PRESENCE RADAR DETECTOR	1.00	15
I	CCTV CAMERA	1.00	15
J	LUMINAIRE	1.00	30
K	EMERGENCY VEHICLE PRE-EMPTION DETECTOR	0.50	5
L	36"x36" FLATSHEET ALUMINUM SIGN (MAX)	9.00	20

THE MAST ARM TRAFFIC STRUCTURES SHOWN ON THIS DRAWING HAVE BEEN DESIGNED IN ACCORDANCE WITH THE LOADING AND THE ALLOWABLE STRESS REQUIREMENTS OF THE 2013 AASHTO "STANDARDS SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS", SIXTH EDITION, LTS-6. THE WIND LOADS WERE CALCULATED FROM A BASIC WIND VELOCITY OF 90 MPH WITH A RECURRENCE INTERVAL OF 25 YEARS, AND A FATIGUE CATEGORY OF 2. THE FATIGUE LOADS WERE CALCULATED ON THE REQUIREMENTS OF SECTION 11 OF THE CODE, AND THE FOLLOWING DESIGN CONDITIONS.

- STRUCTURES ARE DESIGNED TO RESIST NATURAL WIND GUSTS BASED ON THE YEARLY MEAN WIND VELOCITY OF 11.2 MPH.
- STRUCTURES ARE NOT DESIGNED TO RESIST GALLOPING-INDUCED CYCLIC LOADS.
- TRUCK-INDUCED GUST LOADS ARE EXCLUDED PER THE REQUIREMENTS OF THE CODE

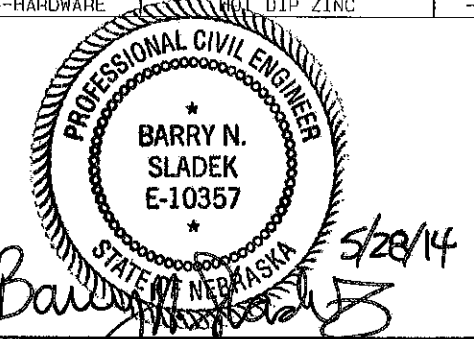
TYPICAL POST LOADING

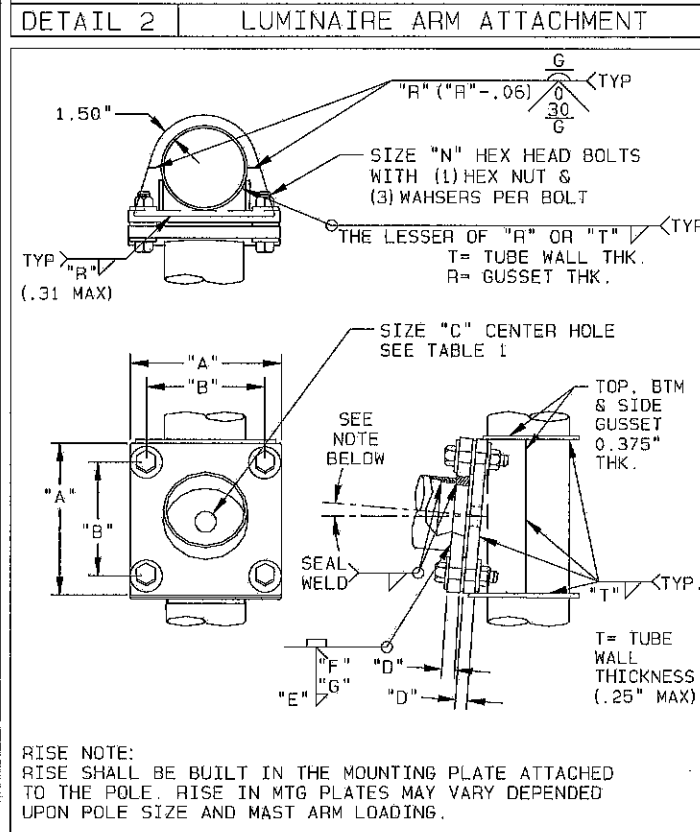
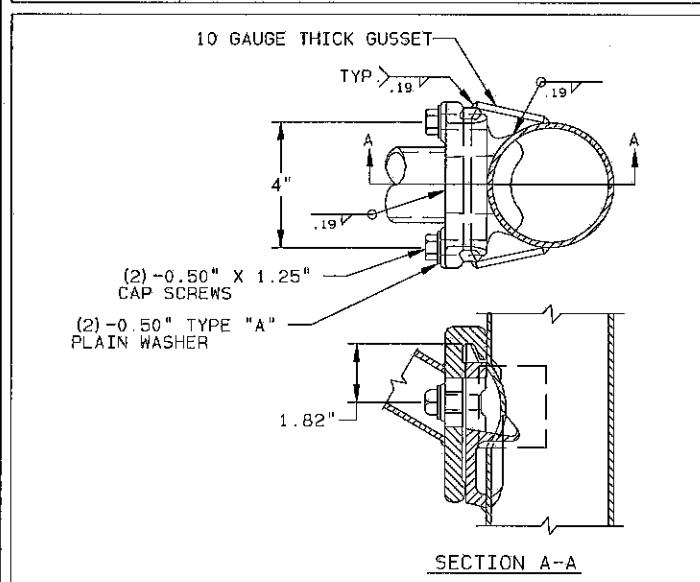
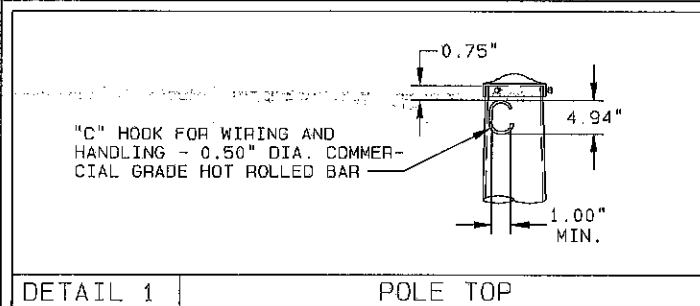


POLE SERIES	SIGNAL ARM SPAN (FT)	DESIGNATION KEY				POLE DATA		BASE PLATE DATA					ANCHOR BOLT DATA				SIGNAL ARM DATA				SIGNAL ARM ATTACHMENT DATA						
		TYPE	LUMINAIRE ARM		BASE DIA. (IN)	LENGTH	WALL GAUGE OR THK.	SQUARE "S" (IN)	BOLT CIRCLE "F" (IN)	THK. "M" (IN)	CENTER HOLE "P" (IN)	BOLT HOLE "Z" (IN)	DIA. "K" (IN)	LENGTH "J" (IN)	HOOK "H" (IN)	THREAD LENGTH "U" (IN)	BOLT QTY.	FIXED END DIA (IN)	FREE END DIA (IN)	GAUGE OF THK (IN)	SIGNAL ARM SPAN (FT)	SQUARE "A" (IN)	THK. "O" (IN)	BOLT SIZE "N" (IN)	BOLT PATTERN "B" (IN)	CENTER HOLE "C" (IN)	
			ARM 1 STYLE	ARM 1 SPAN (FT)																							ARM 2 STYLE
OP	20	NL, LR, MR, HR	A OR B	6-12	A OR B	6-12	12.00	7	17.00	16.00	2.00	10.50	1.75	1.50	54.00	6.00	8.00	4	8.00	5.20	7	20.00	17.25	2.00	1.25 X 6.25	14.00	7.00
OP	22	NL, LR, MR, HR	A OR B	6-12	A OR B	6-12	12.50	5	17.50	16.50	2.00	11.00	1.75	1.50	54.00	6.00	8.00	4	9.00	5.92	7	22.00	17.75	2.00	1.25 X 6.25	14.50	7.64
24	9.00																		5.64	7	24.00	17.75	2.00	1.25 X 6.25	14.50	7.64	
26	9.00																		5.36	7	26.00	17.75	2.00	1.25 X 6.25	14.50	7.50	
28	9.00																		5.08	7	28.00	17.75	2.00	1.25 X 6.25	14.50	7.50	
OP	30	NL, LR, MR, HR	A OR B	6-12	A OR B	6-12	13.00	3	18.50	17.50	2.00	11.50	2.00	1.75	84.00	6.00	8.00	4	10.00	5.80	7	30.00	18.25	2.00	1.25 X 6.25	15.00	8.50
32	10.50																		6.02	7	32.00	18.25	2.00	1.25 X 6.25	15.00	8.75	
34	11.00																		6.24	7	34.00	18.25	2.00	1.25 X 6.25	15.00	9.00	
36	11.00																		5.96	7	36.00	18.25	2.00	1.25 X 6.25	15.00	9.00	
OP	38	NL, LR, MR, HR	A OR B	6-12	A OR B	6-12	16.00	0.250	22.00	21.00	2.25	14.00	2.00	1.75	84.00	6.00	8.00	4	13.00	7.68	3	38.00	21.25	2.00	1.25 X 6.25	18.00	11.50
40	13.00																		7.76	DET. 4	40.00	21.25	2.00	1.25 X 6.25	18.00	10.50	
42	13.00																		7.48	DET. 4	42.00	21.25	2.00	1.25 X 6.25	18.00	10.50	
44	13.00																		7.20	DET. 4	44.00	21.25	2.00	1.25 X 6.25	18.00	10.50	
46	14.00																		7.92	DET. 4	46.00	21.25	2.00	1.25 X 6.25	18.00	11.25	
48	14.00																		7.64	DET. 4	48.00	21.25	2.00	1.25 X 6.25	18.00	11.25	
50	14.50																		7.86	DET. 4	50.00	21.25	2.00	1.25 X 6.25	18.00	11.75	
52	14.00																		7.08	DET. 4	52.00	23.25	2.50	1.50 X 7.50	19.50	11.75	
OP	54	NL, LR, MR, HR	A OR B	6-12	A OR B	6-12	17.00	0.250	23.00	22.00	2.25	14.75	2.25	2.00	84.00	6.00	10.00	4	15.00	7.80	DET. 4	54.00	23.25	2.50	1.50 X 7.50	19.50	12.50
56	15.00																		7.52	DET. 4	56.00	23.25	2.50	1.50 X 7.50	19.50	12.50	
58	15.50																		7.74	DET. 4	58.00	23.25	2.50	1.50 X 7.50	19.50	13.00	
60	16.00																		7.98	DET. 4	60.00	26.75	2.50	1.50 X 7.50	23.00	8.75	
OP	62	NL, LR, MR, HR	A OR B	6-12	A OR B	6-12	20.00	0.250	28.00	27.00	2.25	14.25	2.25	2.00	84.00	6.00	10.00	4	16.50	8.20	DET. 4	62.00	26.75	2.50	1.50 X 7.50	23.00	9.25
64	17.00																		8.42	DET. 4	64.00	26.75	2.50	1.50 X 7.50	23.00	9.50	
66	17.50																		8.64	DET. 4	66.00	26.75	2.50	1.50 X 7.50	23.00	9.75	
68	18.50																		9.36	DET. 4	68.00	26.75	2.50	1.50 X 7.50	23.00	10.50	
70	18.50																		9.08	DET. 4	70.00	26.75	2.50	1.50 X 7.50	23.00	10.50	

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"

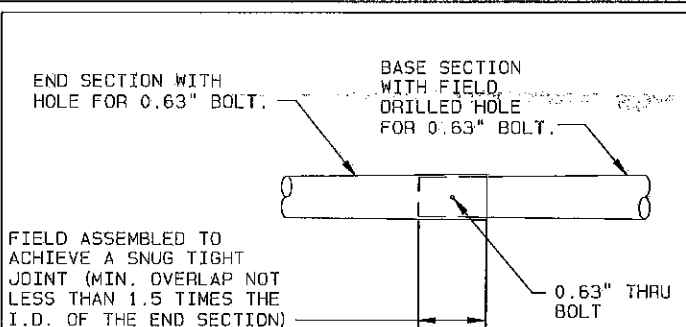
COMPONENT	ASTM DESIGNATION	MIN. YIELD (KSI)
ALL TAPERED SHAFTS	A595 GR. A OR A572	55
BASE PLATE	A572 GR. 50	50
SIMPLEX PLATE	A572 GR. 50	50
LUM ARM ATTACHMENT	A27 GR. 65-35 OR A36	35
LUMINAIRE ARM	ASTM A501, A513, A618	36
2" SCHEDULE 40 PIPE	OR A500 GR. B	
LUMINAIRE CONN. BOLTS	SAE GR. 5	--
ANCHOR BOLTS	F1554 GR. 55	55
GALVANIZING-STRUCTURES	A123	--
GALVANIZING-HARDWARE	HOT DIP ZINC	--





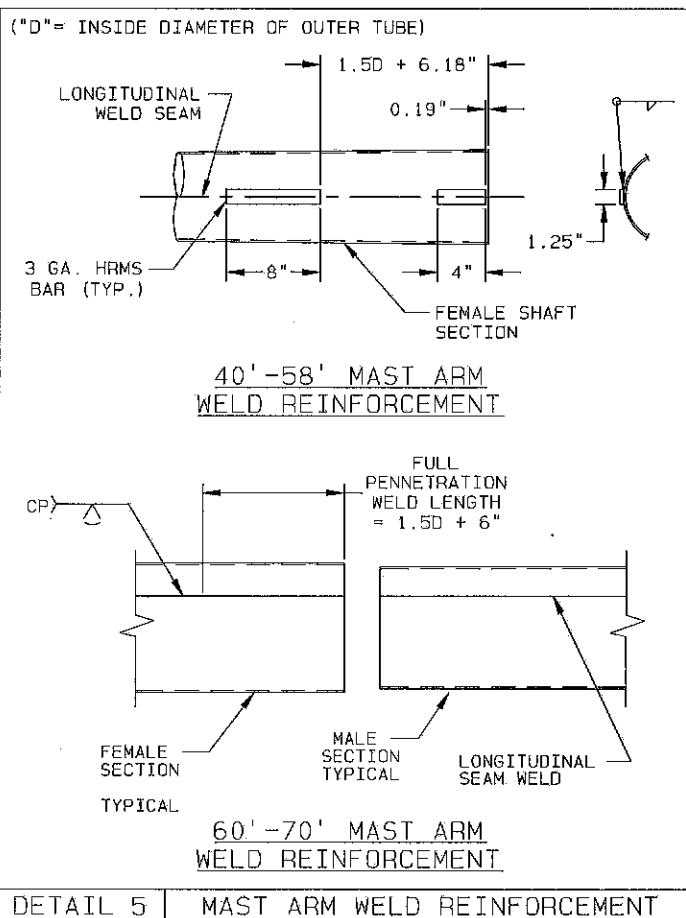
ARM SHAFT WALL THK.	ARM-TO-PLATE WELD "E"	BEVEL "F" X "G"
ALL	(ARM THK. + .25") X ARM THK.	.19" X 30"

DETAIL 3 SIGNAL ARM ATTACHMENT

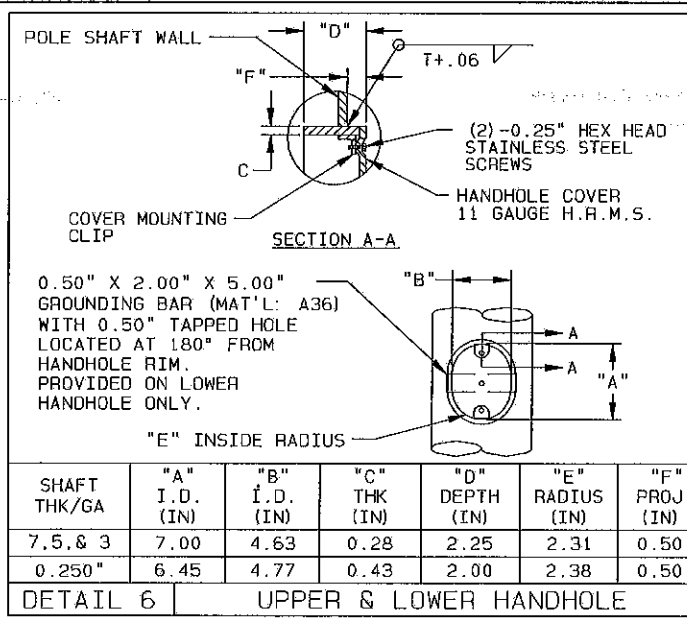


SPAN (FT)	BASE SECTION			END SECTION	
	LENGTH (FT)	GAUGE/THK. (IN)	BASE DIA. (IN)	LENGTH (FT)	GAUGE/THK. (IN)
40.00	19.29	0.313	11.00	23.15	7
42.00	19.29	0.313	11.00	25.15	7
44.00	19.29	0.313	11.00	27.15	7
46.00	26.43	0.313	11.00	22.01	7
48.00	26.43	0.313	11.00	24.01	7
50.00	15.97	0.313	13.00	36.72	7
52.00	19.42	0.375	12.00	35.15	7
54.00	19.54	0.375	13.00	37.15	7
56.00	19.54	0.375	13.00	39.15	7
58.00	23.11	0.375	13.00	37.58	7
60.00	19.75	0.375	14.00	43.07	0.188
62.00	19.83	0.375	14.50	45.05	0.188
64.00	19.92	0.375	15.00	47.02	0.188
66.00	27.00	0.375	14.50	41.88	0.188
68.00	27.08	0.375	15.50	43.93	0.188
70.00	27.08	0.375	15.50	45.93	0.188

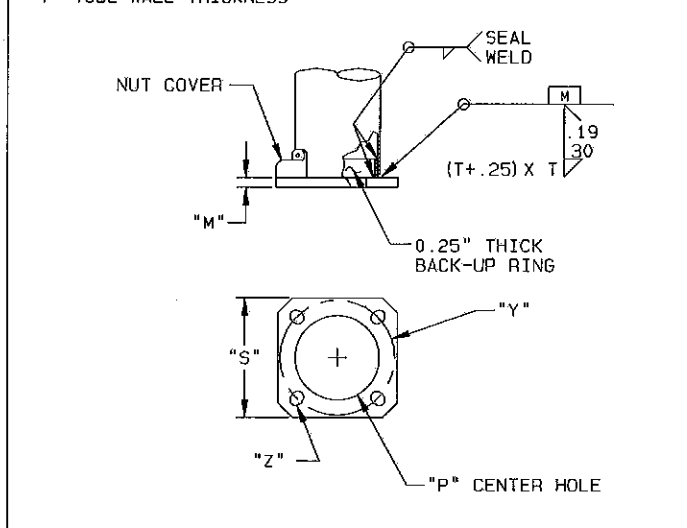
DETAIL 4 40'-70' SIGNAL ARM SLIP JOINT



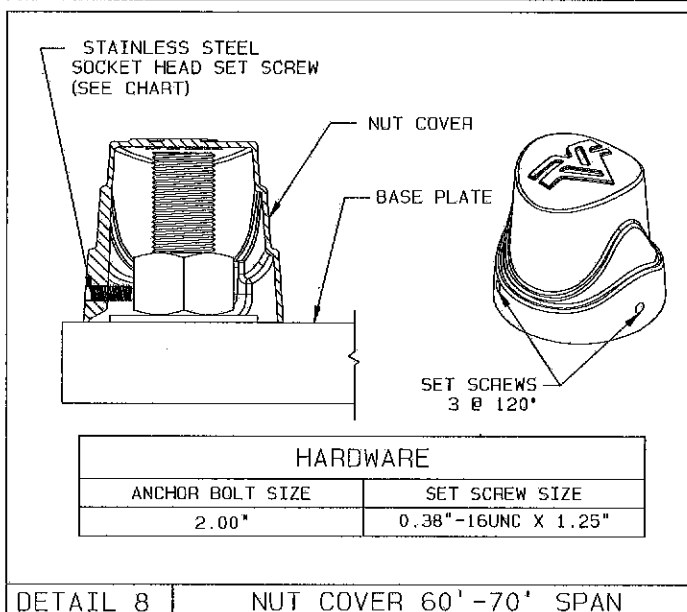
DETAIL 5 MAST ARM WELD REINFORCEMENT



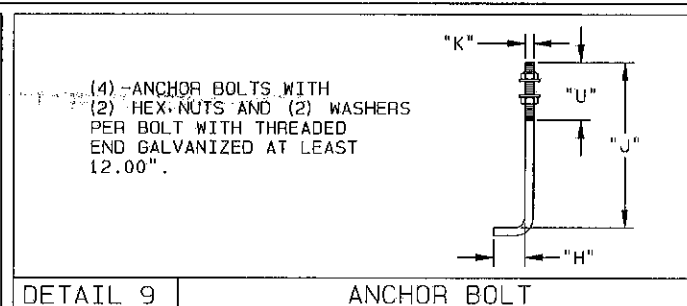
DETAIL 6 UPPER & LOWER HANDHOLE



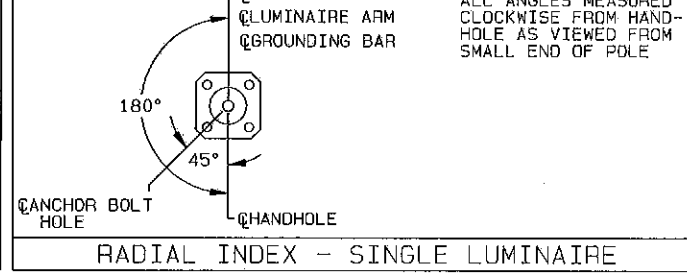
DETAIL 7 POLE BASE



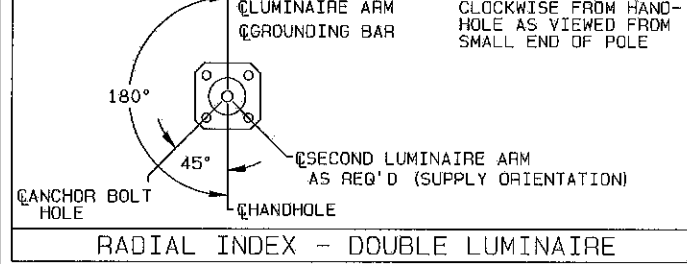
DETAIL 8 NUT COVER 60'-70' SPAN



DETAIL 9 ANCHOR BOLT



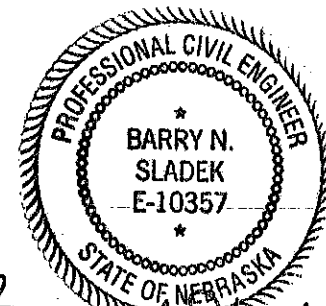
RADIAL INDEX - SINGLE LUMINAIRE



RADIAL INDEX - DOUBLE LUMINAIRE

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Barry N. Sladek 5/28/14

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