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QTY	LUM ARM	UMC DESIGN NUMBER	SPAN	MAST ARM TUBE SIZE	JOINT LENGTH (in)		MAST ARM RISE Z	MAST ARM ORIENTATION	NO LUMINAIRE POLE TUBE SIZE	LOW RISE POLE		MEDIUM RISE POLE		HIGH RISE POLE	
					NOM	MIIN				LUM MTG HT	TUBE SIZE	LUM MTG HT	TUBE SIZE	LUM MTG HT	TUBE SIZE
		50915-B19-Y1	20'-0"	7E-8.00x5.20x20'-0"	-	-	2'		7E-12.00x9.34x19'-0"		7E-12.00x8.22x27'-0"		7E-12.00x7.52x32'-0"		7E-12.00x6.82x37'-0"
		50915-B19-Y2	22'-0"	7E-9.00x5.92x22'-0"	-	-	2'								
		50915-B19-Y3	24'-0"	7E-9.00x5.64x24'-0"	-	-	2'								
		50915-B19-Y4	26'-0"	7E-9.00x5.36x26'-0"	-	-	2'		3E-12.50x9.84x19'-0"		3E-12.50x8.72x27'-0"		3E-12.50x8.02x32'-0"		3E-12.50x7.32x37'-0"
		50915-B19-Y5	28'-0"	7E-9.00x5.08x28'-0"	-	-	2'								
		50915-B19-Y6	30'-0"	7E-10.00x5.80x30'-0"	-	-	3'								
		50915-B19-Y7	32'-0"	7E-10.50x6.02x32'-0"	-	-	3'		3E-13.00x10.34x19'-0"		3E-13.00x9.22x27'-0"		3E-13.00x8.52x32'-0"		3E-13.00x7.82x37'-0"
		50915-B19-Y8	34'-0"	7E-11.00x6.24x34'-0"	-	-	3'								
		50915-B19-Y9	36'-0"	7E-11.00x5.96x36'-0"	-	-	3'								
		50915-B19-Y10	38'-0"	3E-13.00x7.68x38'-0"	-	-	3'								
		50915-B19-Y11	40'-0"	3E-13.50x7.90x40'-0"	-	-	3'								
		50915-B19-Y12	42'-0"	0E-14.50x11.70x20'-0" 7E-12.38x9.02x24'-0"	24	18.03	3'								
		50915-B19-Y13	44'-0"	0E-14.50x11.70x20'-0" 7E-12.38x8.74x26'-0"	24	18.03	3'		3E-16.00x13.34x19'-0"		3E-16.00x12.22x27'-0"		3E-16.00x11.52x32'-0"		3E-16.00x10.82x37'-0"
		50915-B19-Y14	46'-0"	0E-14.50x11.70x20'-0" 7E-12.38x8.46x28'-0"	24	18.03	3'								
		50915-B19-Y15	48'-0"	0E-14.50x11.70x20'-0" 7E-12.38x8.18x30'-0"	24	18.03	3'								
		50915-B19-Y16	50'-0"	0E-14.50x11.70x20'-0" 7E-12.38x7.90x32'-0"	24	18.03	3'	180°		30'-0"	35'-0"		40'-0"		
		50915-B19-Y17	52'-0"	0E-15.50x12.42x22'-0" 7E-13.13x8.62x32'-3"	27	19.16	3'								
		50915-B19-Y18	54'-0"	0E-15.50x12.42x22'-0" 7E-13.13x8.34x34'-3"	27	19.16	3'		3E-17.00x14.34x19'-0"		3E-17.00x13.22x27'-0"		3E-17.00x12.52x32'-0"		3E-17.50x12.32x37'-0"
		50915-B19-Y19	56'-0"	0E-15.50x12.42x22'-0" 7E-13.13x8.06x36'-3"	27	19.16	3'								
		50915-B19-Y20	58'-0"	0E-15.50x12.42x22'-0" 7E-13.13x7.78x38'-3"	27	19.16	3'								
		50915-B19-Y21	60'-0"	0E-18.50x13.46x36'-0" 7E-14.17x10.50x26'-3"	27	20.72	3'								
		50915-B19-Y22	62'-0"	0E-18.50x13.46x36'-0" 7E-14.17x10.22x28'-3"	27	20.72	3'								
		50915-B19-Y23	64'-0"	0E-18.50x13.46x36'-0" 7E-14.17x9.94x30'-3"	27	20.72	3'		3E-20.00x17.34x19'-0"		3E-20.00x16.22x27'-0"		3E-20.00x15.52x32'-0"		3E-20.50x15.32x37'-0"
		50915-B19-Y24	66'-0"	0E-18.50x13.46x36'-0" 7E-14.17x9.66x32'-3"	27	20.72	3'								
		50915-B19-Y25	68'-0"	0E-18.50x13.46x36'-0" 7E-14.17x9.38x34'-3"	27	20.72	3'								
		50915-B19-Y26	70'-0"	0E-18.50x13.46x36'-0" 7E-14.17x9.10x36'-3"	27	20.72	3'								

DESIGN CRITERIA:

- DESIGNED IN ACCORDANCE WITH THE 2013 AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRE AND TRAFFIC SIGNALS" FOR 90 M.P.H. WIND ZONE. THE DESIGN PARAMETERS INCLUDE:
25 YEAR STRUCTURE DESIGN LIFE
FATIGUE CATEGORY II CONSIDERATION FOR:
NO GALLOPING
NATURAL WIND GUST
NO TRUCK-INDUCED GUST
- THE EXPOSED LENGTH OF THE ANCHOR BOLT BETWEEN THE TOP OF THE FOUNDATION AND THE BOTTOM OF THE LEVELING NUT SHOULD NOT EXCEED ONE BOLT DIAMETER.
- PER AASHTO THE MINIMUM LENGTH OF ANY TELESCOPIC FIELD JOINT SHALL BE 1.5 TIMES THE INSIDE DIAMETER OF THE END OF THE FEMALE SECTION.
- VIBRATION IS MORE LIKELY TO OCCUR WHEN STRUCTURES ARE INSTALLED WITHOUT ATTACHING THE SIGNALS AND OR SIGNS. THEREFORE, THE INTENDED EQUIPMENT OR DAMPENING DEVICES MUST BE INSTALLED AT THE TIME OF ERECTION. BECAUSE VIBRATION IS GENERALLY UNPREDICTABLE, A MAINTENANCE PROGRAM SHOULD INCLUDE INSPECTION FOR INDICATIONS OF EXCESSIVE VIBRATION OR FATIGUE AND EXAMINATION FOR ANY STRUCTURAL DAMAGE OR BOLT LOOSENING.
- ALL COMPLETE PENETRATION WELDS SHALL RECEIVE VISUAL AND UT INSPECTION IN ACCORDANCE WITH AWS D1.1. ALL OTHER WELDS SHALL RECEIVE VISUAL INSPECTION ON 100% OF WELDS, AND MT INSPECTION ON MIN. 30% OF WELDS.
- CUSTOMER TO CONFIRM ALL DIMENSIONS & ORIENTATIONS BEFORE RELEASING ORDER FOR MANUFACTURING.

NOTES:

- SEE SHEET 3 FOR BASE AND MAST ARM CONNECTION DATA & DETAILS
- SEE SHEET 3 FOR HANDHOLE DETAILS

7 GA = 0.179" WALL THICKNESS
3 GA = 0.250" WALL THICKNESS
0 GA = 0.313" WALL THICKNESS
E = ROUND TAPERED STEEL TUBE @ 0.14 in/ft TAPER

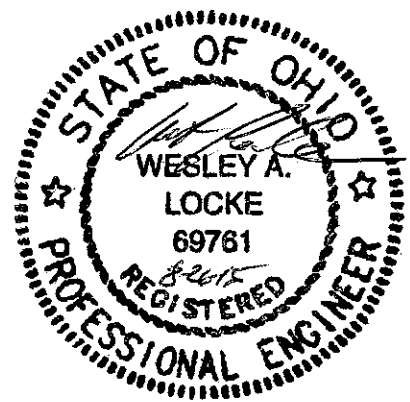
MATERIAL SPECIFICATIONS		MIN YIELD STRENGTH
TAPERED TUBE	ASTM A595 GR A	55KSI
PLATE	ASTM A36	36 KSI
BASE PLATE	ASTM A572 GR 50	50 KSI
HANDHOLE FRAME	ASTM A572 GR 50	50 KSI
HANDHOLE COVER	ASTM A36	36 KSI
ANCHOR BOLTS	ASTM F1554 GR 55	55 KSI
ANCHOR BOLT NUTS	ASTM A563 GR A	55 KSI
FLAT WASHERS	ASTM F436	40 KSI
SIMPLEX	ASTM A576 FORGED STEEL	60 KSI
BOLT/NUT COVERS	ASTM B26 (356.0F)	-
ARM CONNECTION BOLTS	ASTM A325	92 KSI
ARM CONNECTION NUTS	ASTM A563 GR DH	105 KSI
ARM JOINT STUD	ASTM A36	36 KSI
"ANCO" LOCK NUTS	ASTM A563 GR DH	105 KSI
POLE TOP/ARM END CAP	ASTM A1011	-
PIPE	A53 GR B or A500 GR B	35 KSI
S.S. HARDWARE	AISI-300 SERIES (18-8)	-
STRUCTURE FINISH	HD GALV TO ASTM A123	-
HARDWARE FINISH	HD GALV TO ASTM A153	-

ORDERING NOTES:
50915-B19-Y1-6A-S-30

POLE DESIGN NUMBER →
LUMINAIRE TYPE (TYPE A, TYPE B OR NONE) →
LUMINAIRE MOUNTING HEIGHT →

TYPE A:
6'-0" = 6A
8'-0" = 8A
TYPE B:
10'-0" = 10B
12'-0" = 12B

"S" FOR SINGLE LUM ARM,
"T" FOR TWIN LUM ARM
(MUST SPECIFY ORIENTATION)

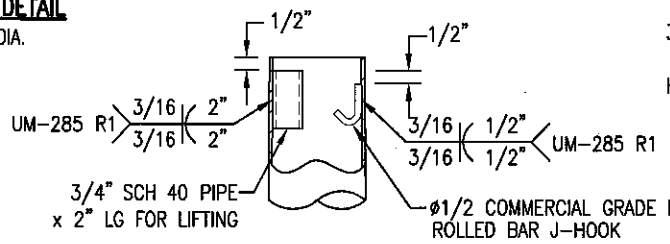
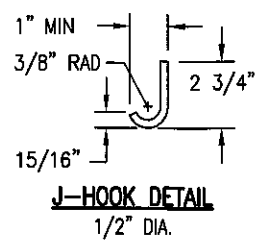


REV	DESCRIPTION	DATE	REV BY	CHK BY
R3	ADDED ID TAG FORMAT FOR ARMS AND POLES	8/21/15	JEF	SAD
R2	LOWER HHF WAS 4"x6 1/2" & MOVED GROUND RETAINER FROM FRAME TO OPP. INSIDE POLE; UPPER HHF WAS 4"x6 1/2", REMOVED GRD & ADDED "J" HOOK. REVISED LOADING DIMENSION FOR "G", WAS 6'-0". ADDED "TYPE B" TO ORDER NOTES; ADDED DIMENSION TO 2 BOLT SIMPLEX SIDE GUSSET.	7/15/15	DAB	SAD
R1	ADDED MIN. YIELD TO MAT'L; ADDED 1/2" J-HOOK DETAIL, ARM CONNECT WAS INT. & UPDATED WASHERS REQ'D, CHANGED "J" ON LOADING DIAGRAM	4/27/15	KMS	SAD

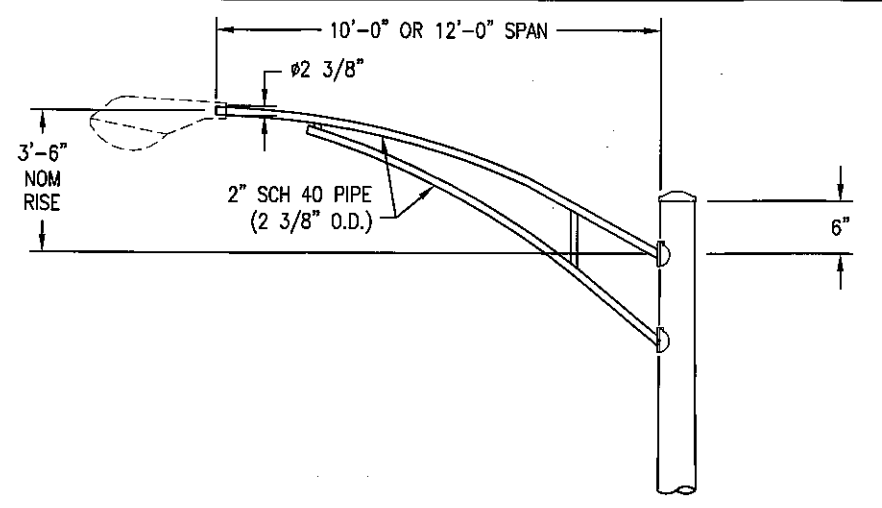
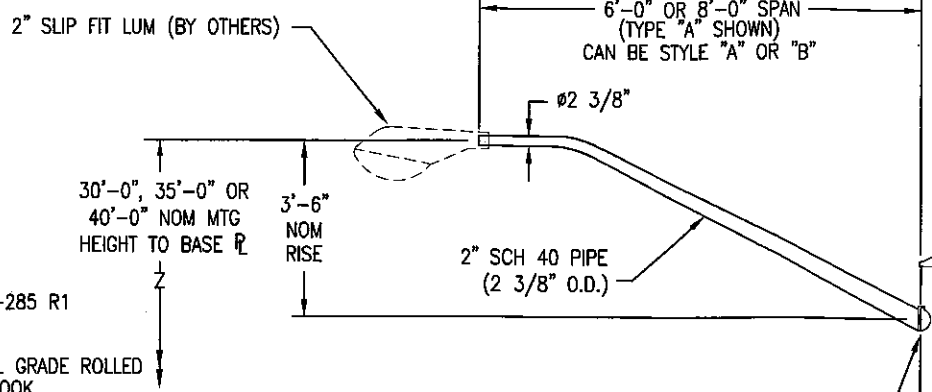
STATE: KS	REQ# / SO#: KS-54977-1	REV	DESCRIPTION	DATE	REV BY	CHK BY
PROJECT NAME: TRAFFIC POLE STANDARDS						
TAPERED STEEL TRAFFIC CONTROL STRUCTURES OVERLANDPARK, KANSAS						
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	JEF	SAD	8/8/14	SCALE	NTS	ENG REF
	50915-B19			REVISION	R3	SHEET
						1 OF 5

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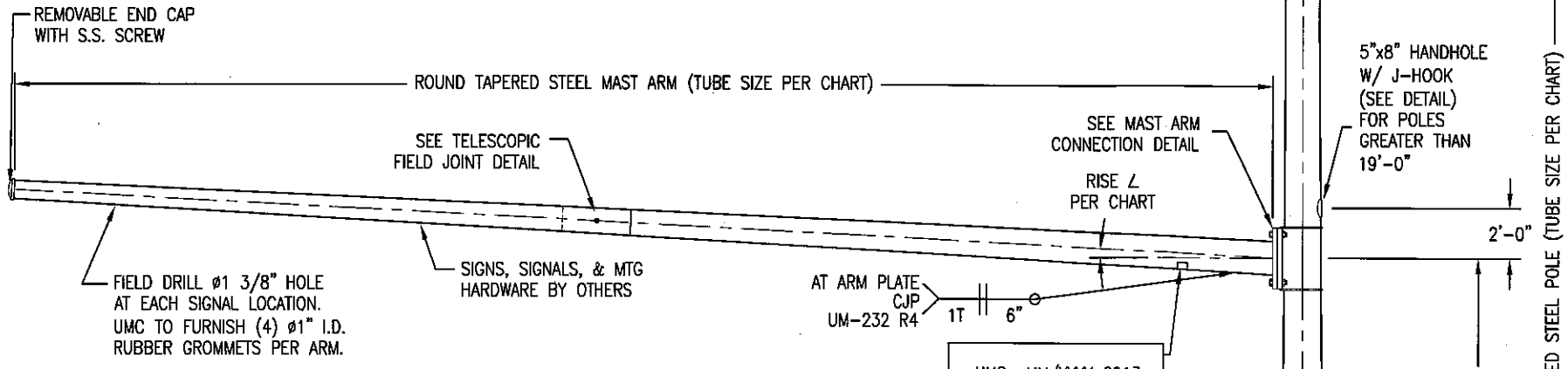
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TOP OF POLE DETAIL
ORIENTATION OF PIPE & J-HOOK AS REQUIRED



TYPE "B" LUM ARM

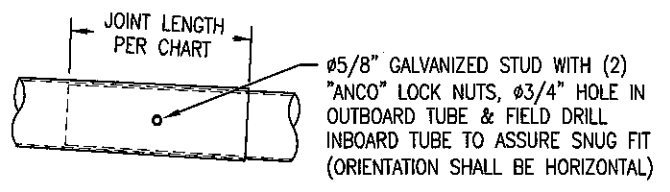
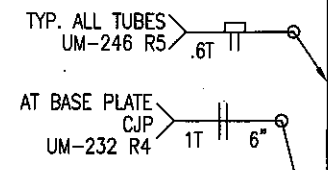


FIELD DRILL $\phi 1 \frac{3}{8}$ HOLE AT EACH SIGNAL LOCATION. UMC TO FURNISH (4) $\phi 1$ I.D. RUBBER GROMMETS PER ARM.

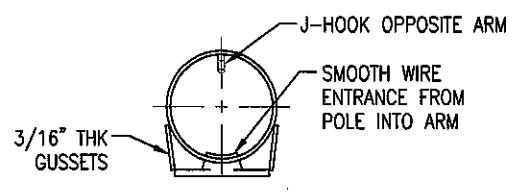
SIGNS, SIGNALS, & MTG HARDWARE BY OTHERS

UMC MM/YYYY 2013 DESIGN NUMBER OP ACTUAL ARM

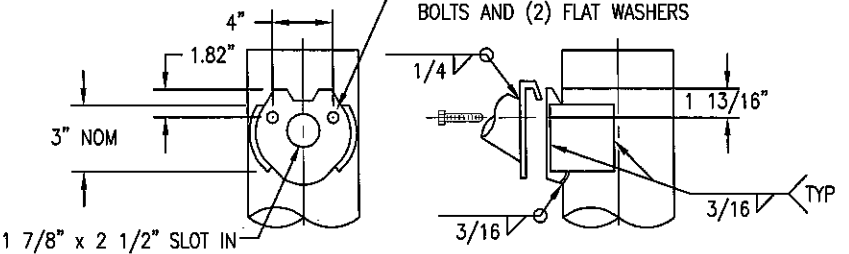
ARM TAG DETAIL



TELESCOPIC FIELD JOINT DETAIL
(FOR ARMS OVER 40'-0")



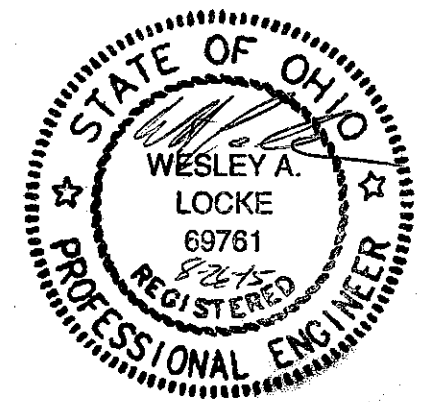
(2) 1/2 inch-13NC x 1 1/4 inch LG HEX BOLTS AND (2) FLAT WASHERS



2-BOLT SIMPLEX LUMINARE ARM CONNECTION DETAIL

UMC MM/YYYY 2013 DESIGN NUMBER OP MAX ARM

POLE TAG DETAIL



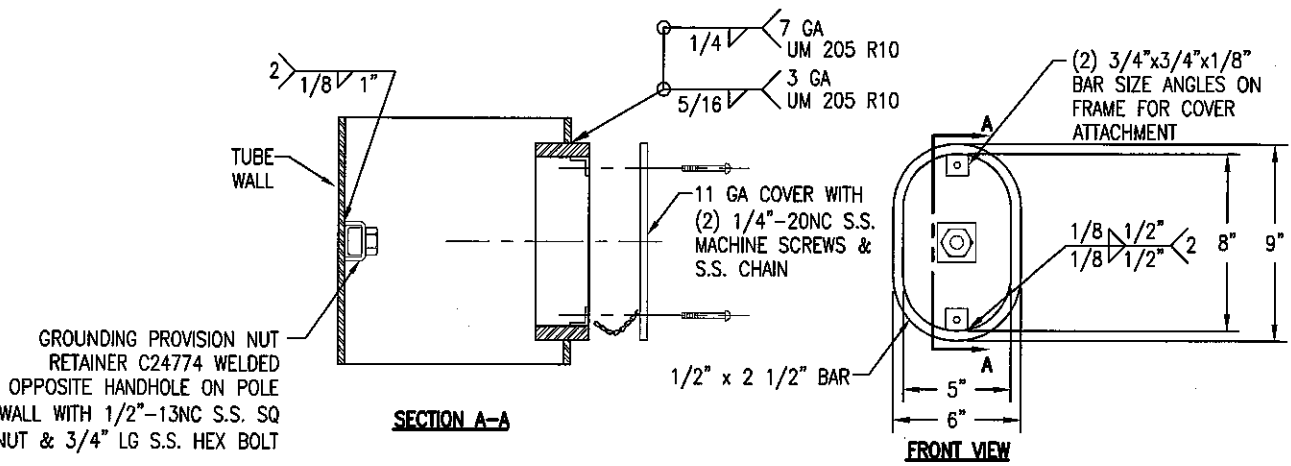
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				R3	2 OF 5

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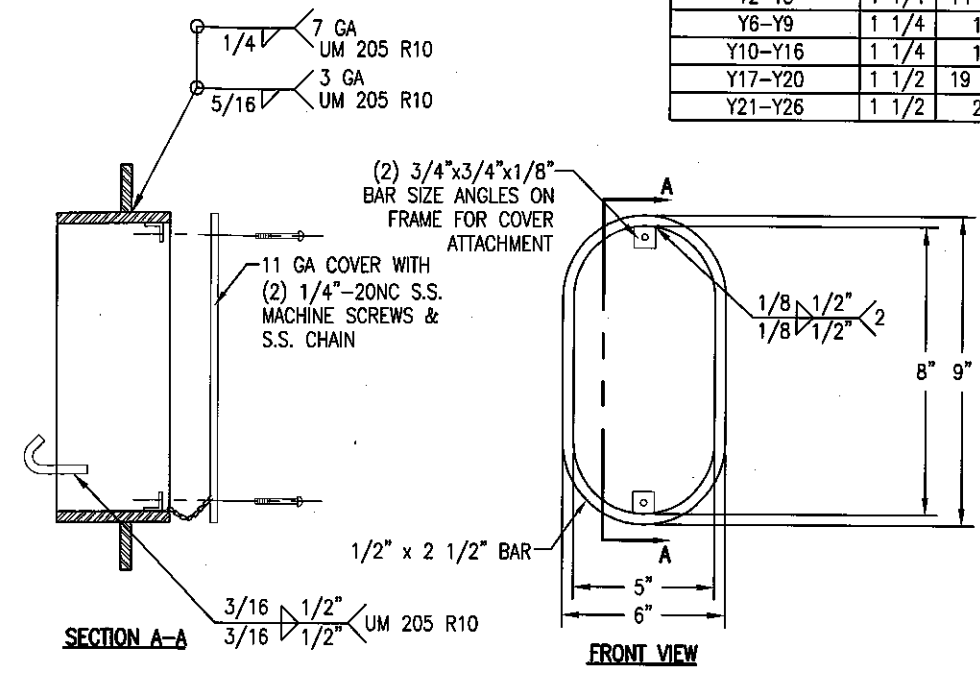
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UMC DESIGN NUMBER	POLE BASE CONNECTION DATA						
	B.C.	S	F	P	T	"CB"	ANCHOR BOLT SIZE
Y1	16	17	11 5/16	6 3/4	2	10 1/2"	(4) 1 1/2 x 54 x 6
Y2-Y5	16 1/2	17 1/2	11 5/8	6 3/4	2	11"	(4) 1 1/2 x 54 x 6
Y6-Y9	17 1/2	18 1/2	12 3/8	7 1/2	2	11 1/2"	(4) 1 3/4 x 84 x 6
Y10-Y16	21	22	14 7/8	7 3/4	2 1/4	14"	(4) 1 3/4 x 84 x 6
Y17-Y20	22	23	15 9/16	8 1/2	2 1/4	14 3/4"	(4) 2 x 84 x 6
Y21-Y26	27	28	19 1/8	8 1/2	2 1/4	14 1/4"	(4) 2 x 84 x 6

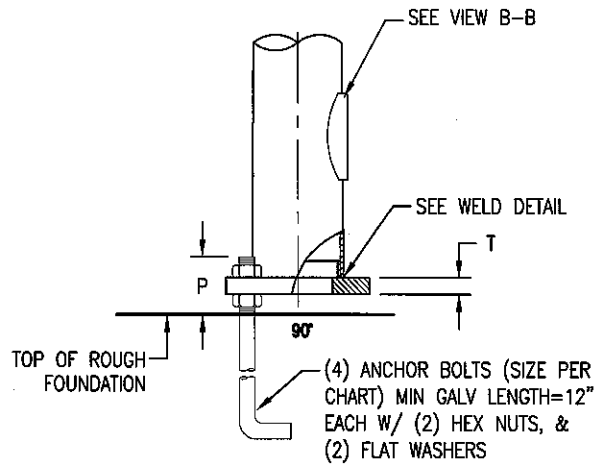
UMC DESIGN NUMBER	MAST ARM FLANGE CONNECTION DATA								
	BOLT Ø	X	Y	W	H	APL	PPL	"CA"	G
Y1	1 1/4	14	14	17 1/4	17 1/4	2	2	7	3/8
Y2-Y5	1 1/4	14 1/2	14 1/2	17 3/4	17 3/4	2	2	7 1/2	3/8
Y6-Y9	1 1/4	15	15	18 1/4	18 1/4	2	2	8 1/2	3/8
Y10-Y16	1 1/4	18	18	21 1/4	21 1/4	2	2	11 3/4	3/8
Y17-Y20	1 1/2	19 1/2	19 1/2	23 1/4	23 1/4	2 1/2	2 1/2	13	3/8
Y21-Y26	1 1/2	23	23	26 3/4	26 3/4	2 1/2	2 1/2	10 1/2	3/8



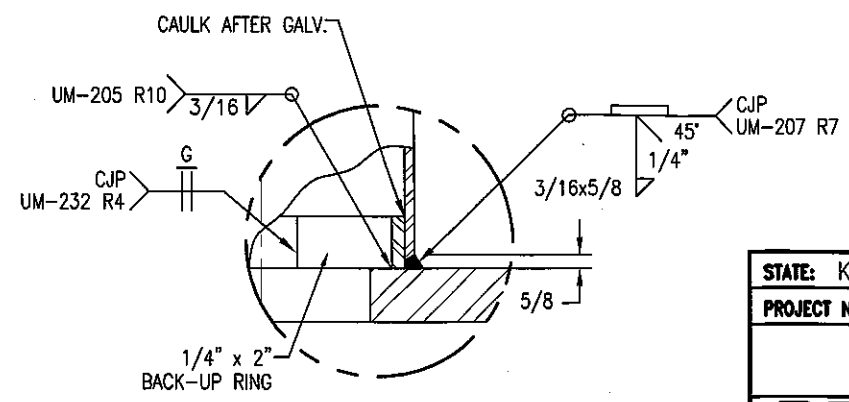
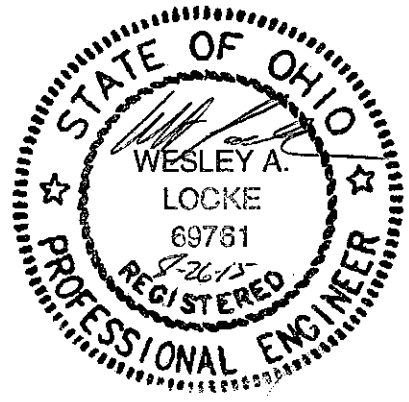
LOWER 5" x 8" HANDHOLE FRAME DETAIL



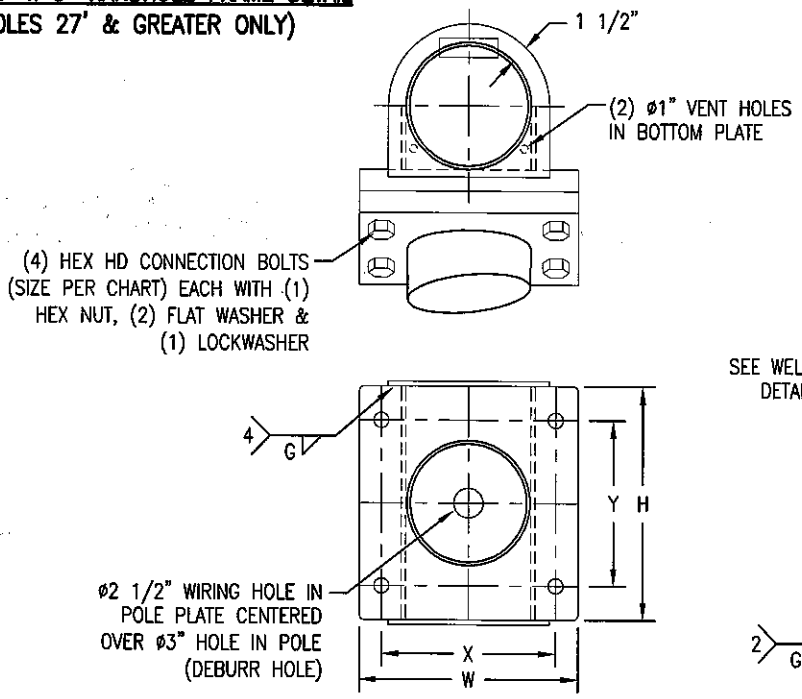
UPPER 5" x 8" HANDHOLE FRAME DETAIL (POLES 27' & GREATER ONLY)



BASE CONNECTION DETAIL

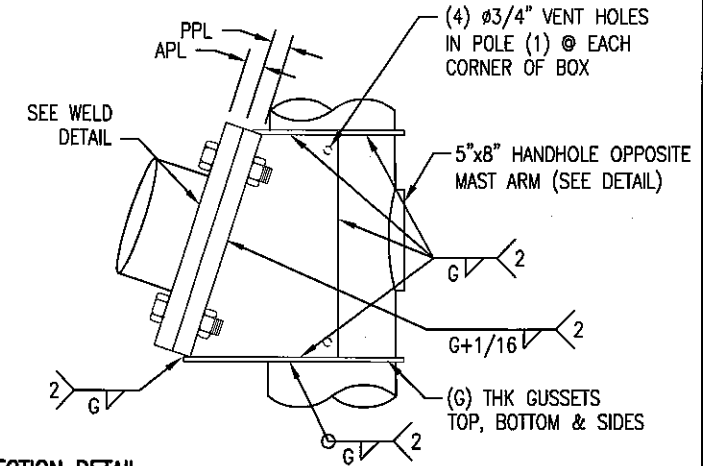


POLE BASE & ARM FLANGE WELD DETAIL

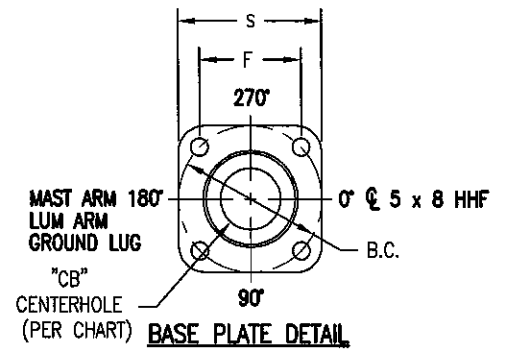


MAST ARM CONNECTION DETAIL

* ARM RISE SHALL BE BUILT INTO THE POLE PLATE. ARM RISE PER CHART ON SHT 1.



* ARM RISE SHALL BE BUILT INTO THE POLE PLATE. ARM RISE PER CHART ON SHT 1.

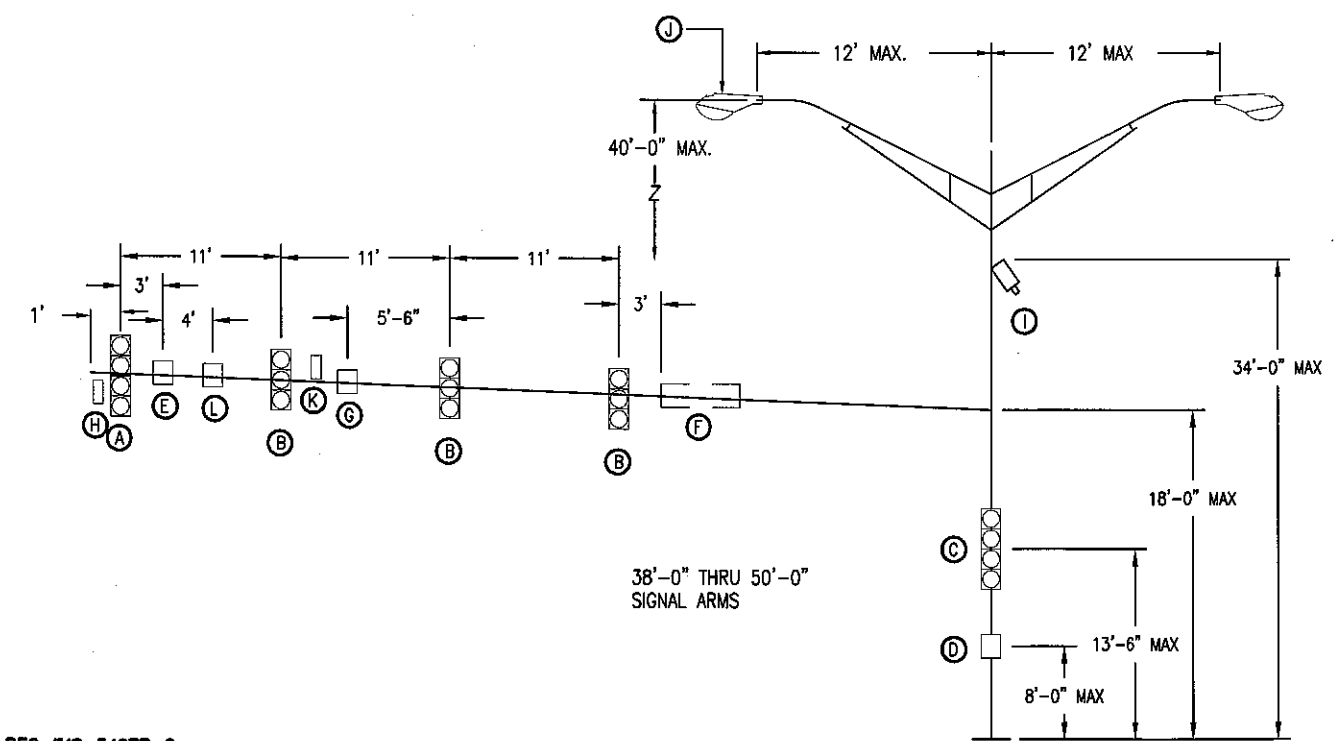
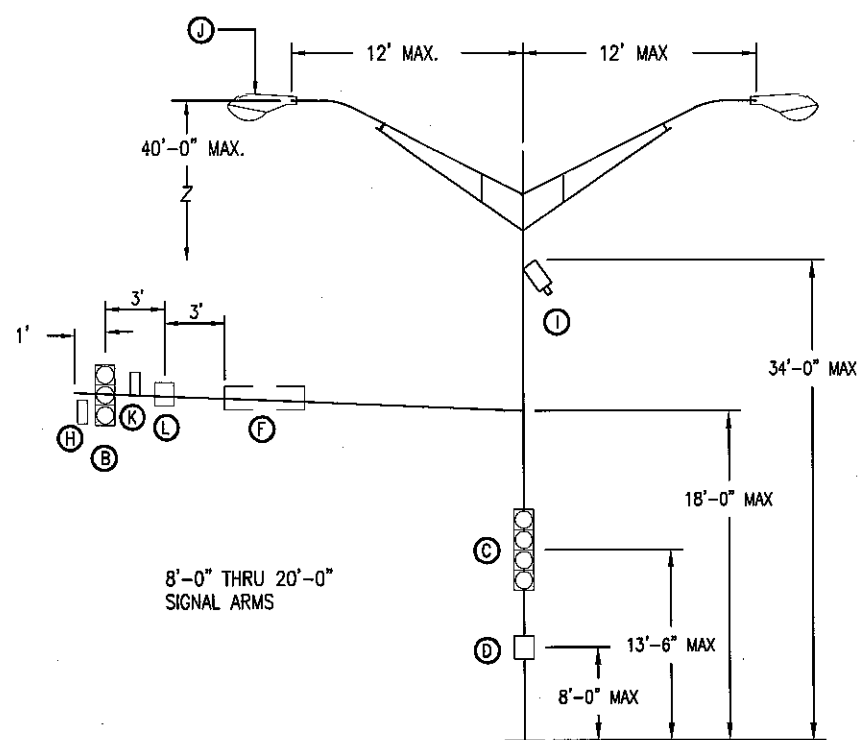
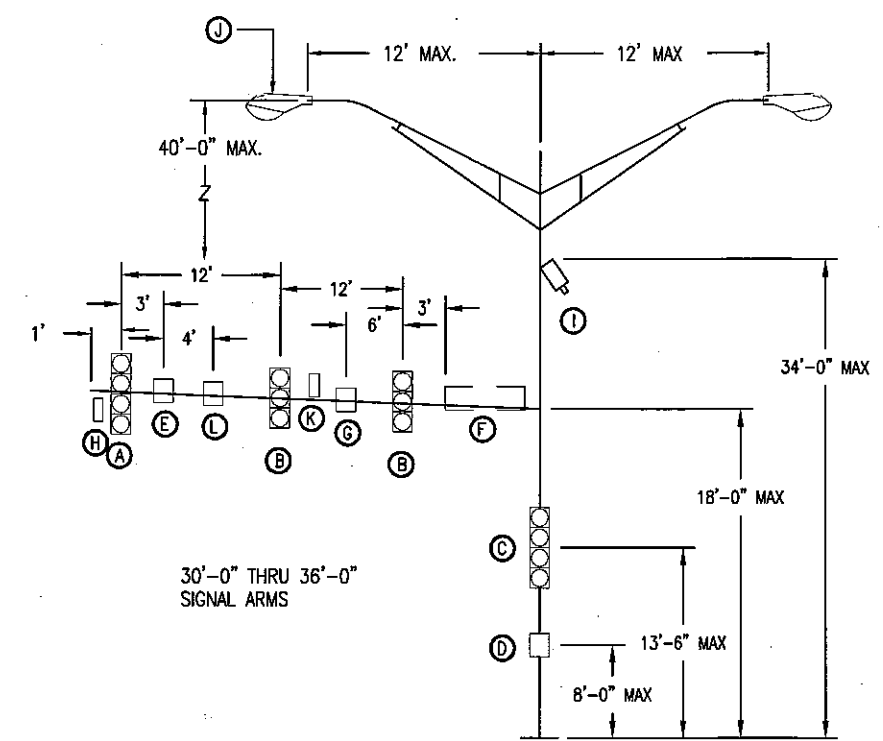
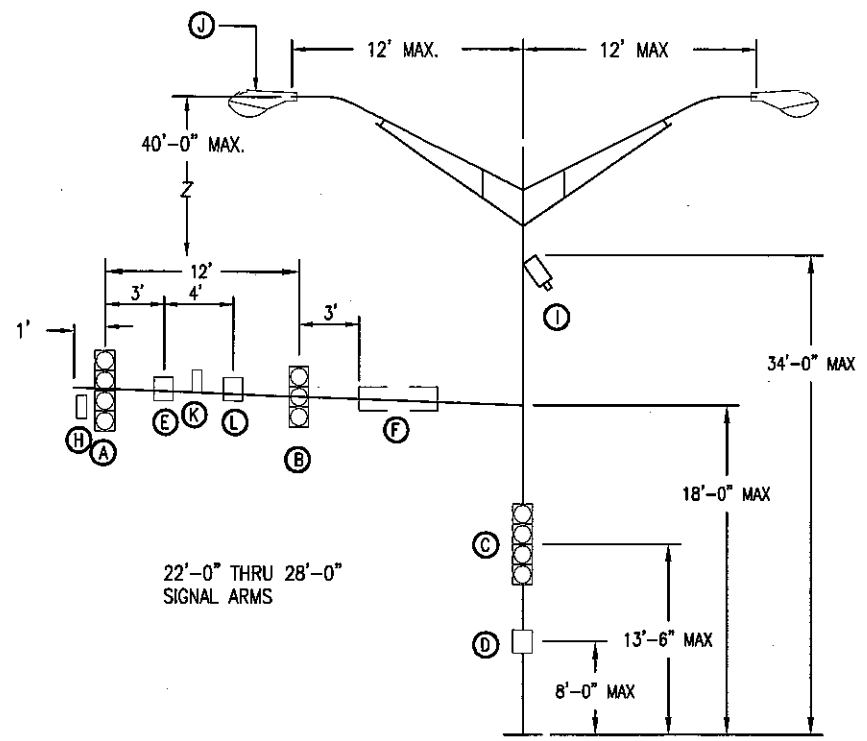


BASE PLATE DETAIL

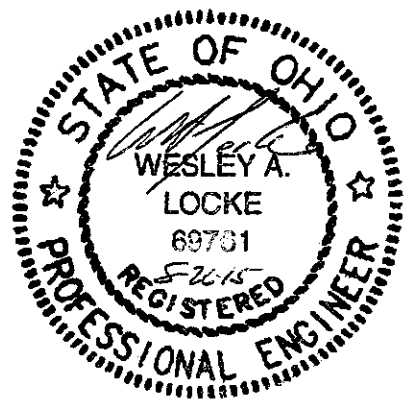
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50915-B19				REVISION R3	ENG REF 50915-B1 SHEET 3 OF 5

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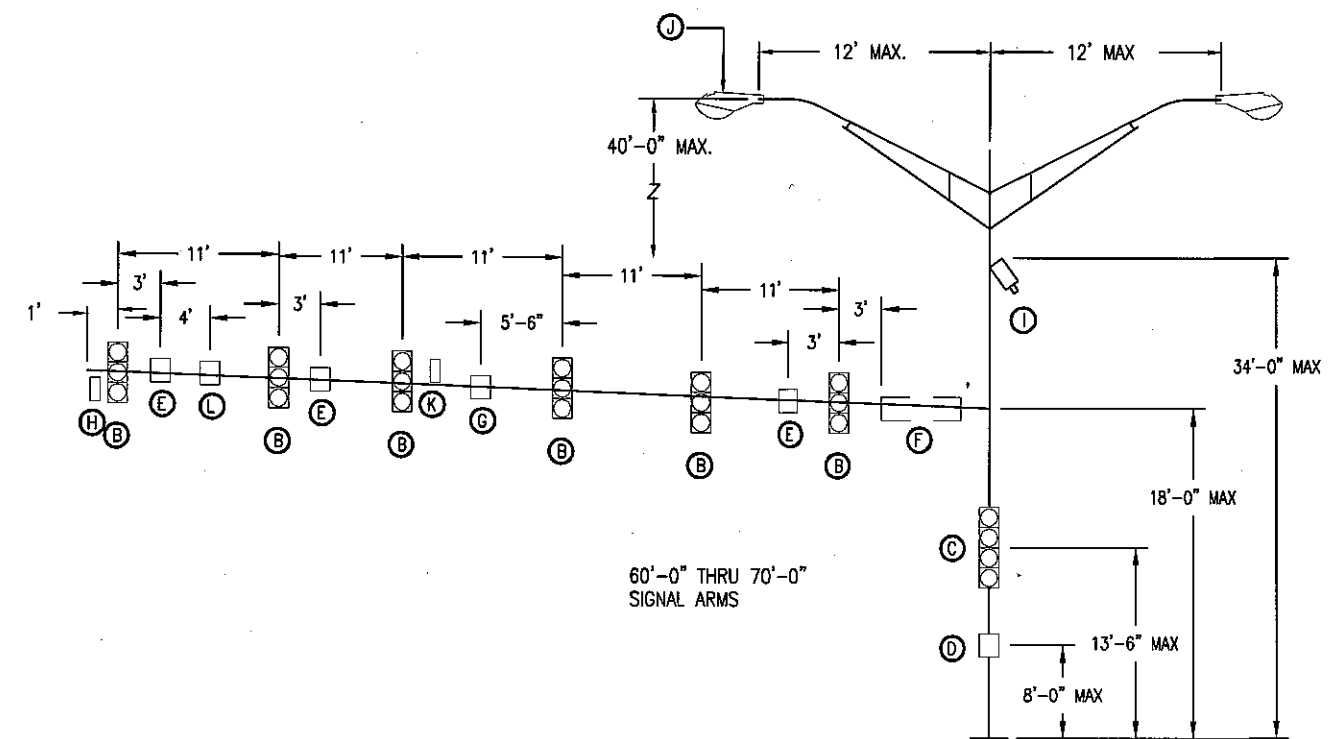
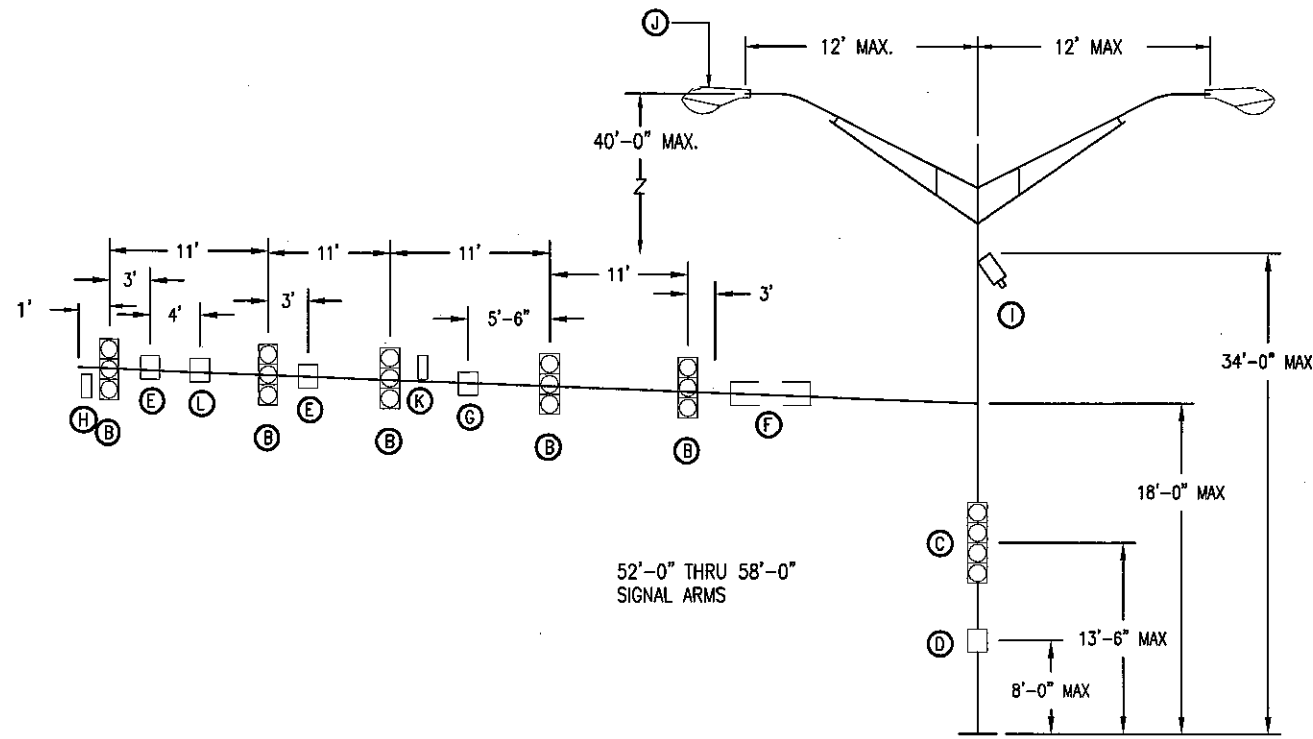
REQ #KS-54977-2

LOAD INFORMATION

DEVICE	DESCRIPTION	PROJ AREA (sq ft)	WEIGHT (lbs)
A	12"-4 SECTION SIGNAL WITH BACKPLATE	12.00	54
B	12"-3 SECTION SIGNAL WITH BACKPLATE	10.00	42
C	12"-4 SECTION SIGNAL WITH NO BACKPLATE	6.00	40
D	16"x18"-1 SECTION PEDESTRIAN SIGNAL	3.00	20
E	36"x36" FLATSHEET SIGN	9.00	20
F	24"x96" ILLUMINATED STREET NAME SIGN	16.00	120
G	ADVANCED 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 SIGN	9.00	20

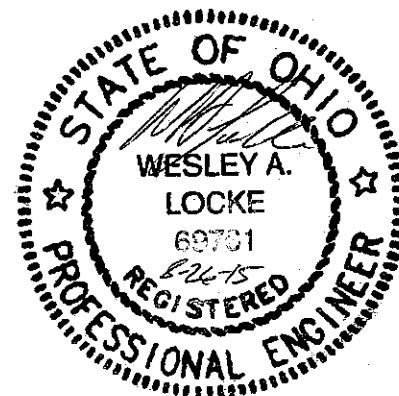
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50915-B19				REVISION R3	SHEET 4 OF 5

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I	CCTV CAMERA	1.00	15
J	LUMINAIRE	1.00	30
K	EMERGENCY VEHICLE PRE-EMPTION DETECTOR	0.50	5
L	36"x36" FLATSHEET SIGN	9.00	20



REQ #KS-54977-2

STATE: KS	REQ# / SO#: KS-54977-1	REV	DESCRIPTION	DATE	REV BY	CHK BY
PROJECT NAME: TRAFFIC POLE STANDARDS			REVISIONS			
TAPERED STEEL TRAFFIC CONTROL STRUCTURES OVERLANDPARK, KANSAS						
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	DESIGNED BY JEF	CHECKED BY JAD	DATE 8/8/14	SCALE NTS	ENG REF 50915-B1	
50915-B19				REVISION R3	SHEET 5 OF 5	

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