

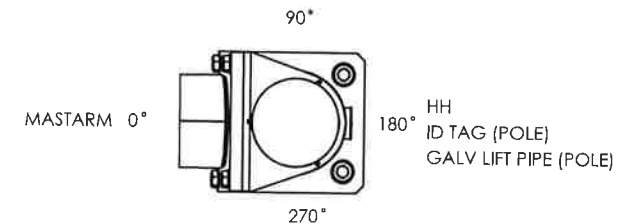
I.D. TAG DETAIL

ALUMINUM ID TAG
 TEXT TO BE STAMPED AS SHOWN
 IN 5/16" TALL LETTERS
 SECURED TO POST WITH (4) 3/16" DIA RIVETS

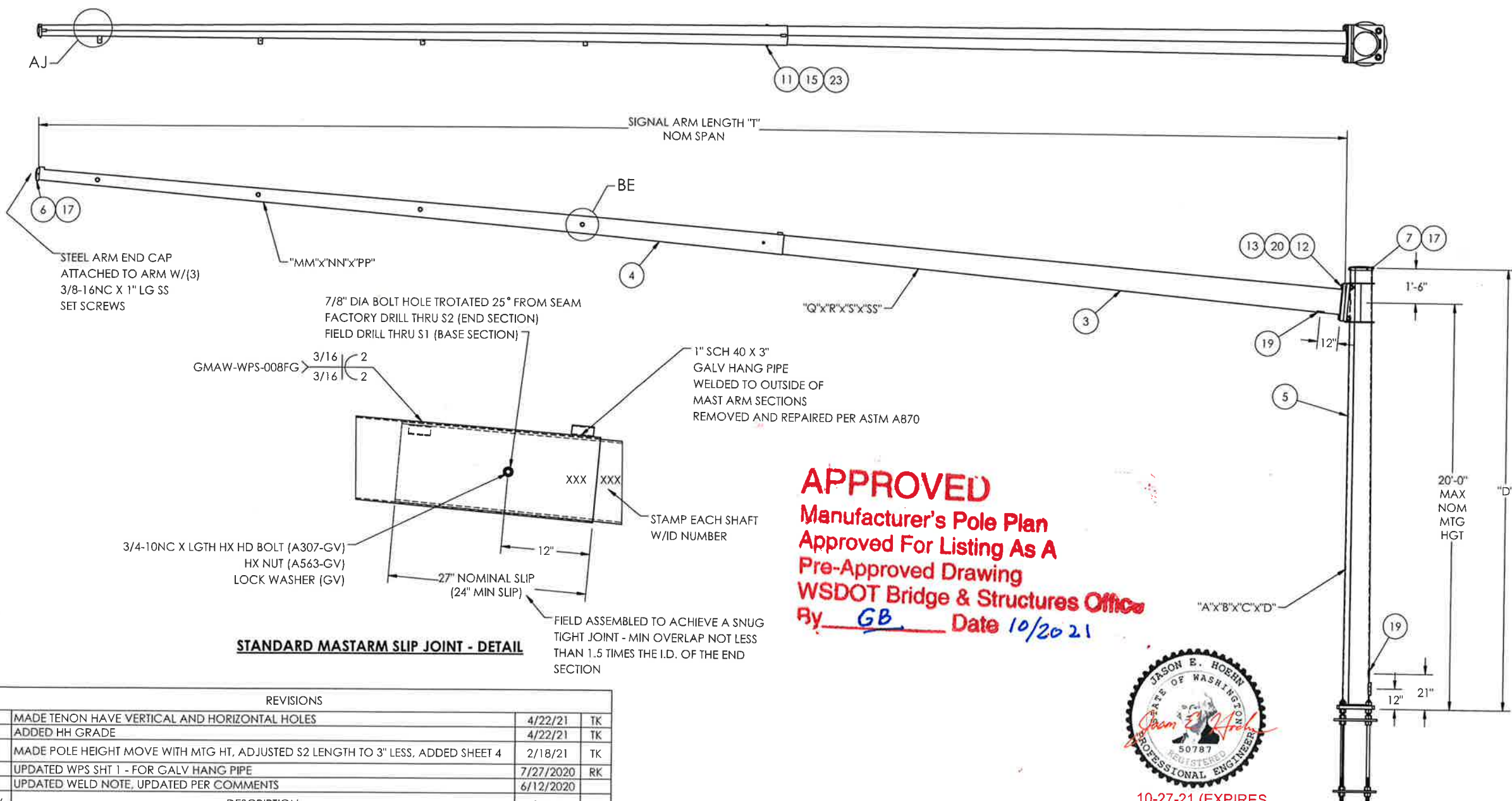
2015 AASHTO DEVIATION NOTES:

- SECTION 5.6.6 FOR HANDHOLE CLEAR DISTANCE AND 40% OF POLE WIDTH REQUIREMENT. STRESSES ARE REVIEWED AT EACH HANDHOLE FOR STRUCTURE ADEQUACY.
- PER AASHTO 2013 SECTION 5.17.4.3 - BENDING STRESSES IN INDIVIDUAL BOLT CAN BE IGNORED IF THE STANDOFF DISTANCE BETWEEN THE TOP OF THE FOUNDATION AND THE BOTTOM OF THE LEVELING NUT IS LESS THAN ONE BOLT DIAMETER.

NOTE: FOR NOTE AT WELD SYMBOL TAIL, SEE WELDING PROCEDURE SPECIFICATION



TOP VIEW ORIENTATION



STANDARD MASTARM SLIP JOINT - DETAIL

REV.	DESCRIPTION	DATE	DRFT
L	MADE TENON HAVE VERTICAL AND HORIZONTAL HOLES	4/22/21	TK
K	ADDED HH GRADE	4/22/21	TK
J	MADE POLE HEIGHT MOVE WITH MTG HT, ADJUSTED S2 LENGTH TO 3" LESS. ADDED SHEET 4	2/18/21	TK
H	UPDATED WPS SHT 1 - FOR GALV HANG PIPE	7/27/2020	RK
G	UPDATED WELD NOTE, UPDATED PER COMMENTS	6/12/2020	

MATERIAL SPECIFICATIONS			
POST: ASTM A572 GR55 BASE PLATE: ASTM A709 GR50 MAST ARM: ASTM A572 GR55 MOUNTING PLATE: ASTM A709 GR50 HARDWARE FINISH: ASTM F2329 ANCHOR BOLTS: ASTM F1554 GR105 ANCHOR BOLT NUTS: ASTM A563 GR DH ANCHOR BOLT WASHER: ASTM F436 SIGNAL ARM CONNECTION BOLT: ASTM F3125 GR A325 TYPE 1 PIPE: ASTM A53 GR B OR ASTM A500 GR B HH FRAME: ASTM A36			
DESIGN CRITERIA			
2015 AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS ON HIGHWAY SIGNS, LUMINAIRES & TRAFFIC SIGNALS INCLUDING LATEST INTERIMS. WINDS: 115 MPH WITH A MEAN RECURRENCE INTERVAL OF 1700 YEARS VORTEX SHED: Y FATIGUE CAT: III NATURAL WIND GUST: Y LUMINAIRE: N/A LUMINAIRE WEIGHT: N/A SIGN: N/A SIGN WEIGHT: N/A GALLOPING: N/A TRUCK GUST: Y			
WELD SPECIFICATION			
THE POST AND MAST ARM TO BE ROUND TAPERED TUBE FABRICATION WITH ONE SUBMERGED ARC LONGITUDINAL SEAM WELD WITH 100% PENETRATION 6" FROM BASE PLATE, FLANGE AND BUTT WELDED SHAFTS. EXCEPT FOR TUBES LESS THAN 5 IN DIAMETERS; FOR FEMALE SECTION OF SLIP JOINTED TUBES 10" AND GREATER: 1.5 X FEMALE SECTION INSIDE DIAMETER + 6 INCHES. FOR FEMALE SECTION OF SLIP JOINTED TUBES LESS THAN 10" FEMALE SECTION NOMINAL DIAMETER AND 60% FOR REMAINDER. GAS METAL ARC WELDING PROCESS WITH 60% PENETRATION MAY BE USED FOR REMAINDER OF WELDED FABRICATION. WELD TESTING: 100% OF ALL WELDS VISUAL TESTED (VT)(MT), 100% OF ALL COMPLETE JOINT PENETRATION (CJP) WELDS ULTRASONIC TESTED (UT) BASED ON THE THINNEST MATING MATERIAL: (PER AASHTO 2013 5.15.5-WELD INSP) THICKNESS. < 6MM (0.25 IN) MT ≥ 6MM (0.25 IN) UT			
WELDING INSPECTION OF STRUCTURE SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF WASHINGTON STATE DEPARTMENT OF TRANSPORTATIONS STANDARD SPECIFICATION SECTION 6-03.3(25) AND ASHTO 2015 WELD INSPECTION SECTION 14.4.4.8			
STRUCTURE FINISH SPECIFICATION			
GALV. OR PRIME COAT: HOT DIPPED GALV. PER ASTM A123 FINISH COAT: - COLOR: - FEDERAL OR RAL SPEC.: - WEIGHT W/GALV.: - WEIGHT W/GALV. & PAINT: - SURFACE AREA: - GAL. OF PAINT: -			
MILLERBERND 622 6TH ST. SO. WINSTED, MN 55395			
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SALES ORDER NO.: 74516	QTY: -	STATE: WA	SHEET 1 OF 4
DESCRIPTION: SUB TRAFFIC POLES TYPE II			
EST. WEIGHT:	DRAWING NO: 74516-WA-TS-II		
PROJECT NAME: STATE OF WASHINGTON SUB TRAFFIC POLES TYPE II			
PROJECT LOCATION: WA			
DWN BY: REBEKAH	DATE: 2/14/17		
CHK BY:	DATE:		

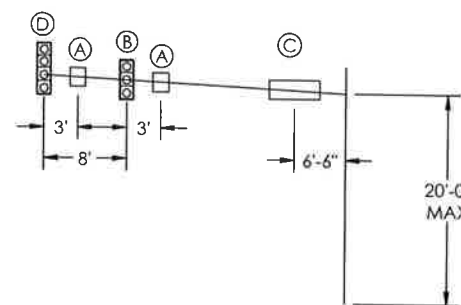


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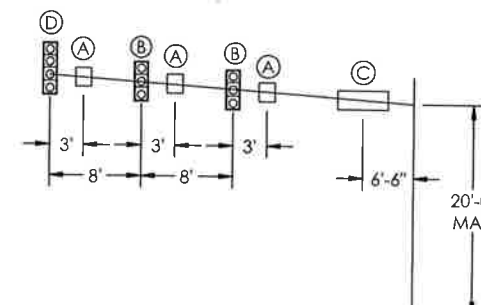
POLE DATA - TRAFFIC SIGNAL - TYPE II

MMC # WA-TS-II-MA MA = MAST ARM LENGTH	QTY	POLE TUBE				BASE DETAIL						ANCHOR BOLT			SIGNAL ARM DATA				SIGNAL ARM ATTACHMENT DATA						MAXIMUM SIGNAL MAST ARM X Y Z (FT3)	LUMINAIRE ARM X Y Z (FT3)	TOTAL STRUCTURE X Y Z (FT3)		
		THICK (IN) "A"	BASE O.D. (IN) "B"	TOP O.D. (IN) "C"	LENGTH (FT) "D"	SQUARE "E" (IN)	BOLT CIRCLE "F" (IN)	BOLT CENTERS "G" (IN)	THICKNESS "H" (IN)	BASE OPENING "J" (IN)	HOLE/SLOT "K" (IN)	DIA "L" (IN)	LENGTH "M" (IN)	ANCHOR PLATE O.D. "N" (IN)	THREAD LENGTH "P" (IN)	THICK (IN) "Q"	BASE O.D. (IN) "R"	TOP O.D. (IN) "S"	LENGTH (FT) "T"	"U" (IN)	"V" (IN)	"W" (IN)	"AA" (IN)	"BB" (IN)				ARM OPENING (IN) "CC"	"DD" (IN)
WA-TS-II-MA		5/16	13.5	10.49 MAX	21'-6" MAX	18 1/2	18	12 3/4	2"	11	1 3/4	1 1/2	60	18"	1/4	9	6.9 THRU 5.5	15' THRU 25'	19 1/2	19 1/2	15 1/2	15 1/2	2	5"	1 1/2-6NC X 6 1/2	807	N/A	807	
WA-TS-II-MA	1/4														10	6.36 THRU 5.1	26' - 35'	1460								1460			
WA-TS-II-MA	1/4														11.5	6.46 THRU 5.2	36' - 45'	1985								1985			
WA-TS-II-MA	3/8	16	12.99 MAX	22 1/2		22	15 9/16	13 1/2		2 1/4	2	26			1/4	13.5	7.06 THRU 6.5	46' - 50'	22 1/2	22 1/2	18 1/2	18 1/2				4 1/2"		2659	2659
WA-TS-II-MA															SEE SLIP TABLE	13.5	SEE SLIP TABLE	51' - 55'	3005	3005									
WA-TS-II-MA															SEE SLIP TABLE	15	SEE SLIP TABLE	56' - 65'	3697	3697									

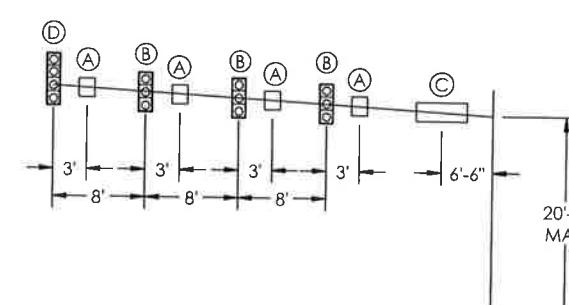
MUST SPECIFY MAST ARM LENGTH AT TIME OF ORDER
 REPLACE "MA" IN PART NUMBER WITH MAST ARM LENGTH AS REQUIRED
 MUST SPECIFY TENON LOCATIONS AT TIME OF ORDER



THRU 25' SIGNAL ARMS



26' THRU 45' SIGNAL ARMS



46' THRU 65' SIGNAL ARMS

ITEM NO.	DESCRIPTION	QTY PER	ASSY	FINISH
1	BASE RD 1 x "N"	2		X
2	GROUND MTG PLATE	1	X	X
3	WLDMT ARM SIG RD - 1ST SECT	1		X
4	WLDMT ARM SIG RD - 2ND SECT (51' - 65')	1		X
5	WLDMT POLE SIG RD "A"x"B"x"C"x"D"	1		X
6	WLDMT CAP VENT 7"ID(6.25-6.75) 3 SET SCREW	1		X
7	WLDMT CAP VENT 14"ID(13.25-13.75) 3 SET SCREW	1		X
8	COVER HH M16C 4 1/4X6 3/4 2 BOLT	1		X
9	BOLT HX HD 1-2-13NC X 1" F593C SS	2	X	
10	BOLT HX HD 1/4-20NC X 1/2 F593C SS	2	X	
11	BOLT HX HD 3-4-10NC X 12-1-2 A307GV	1		
12	BOLT HVYHXHD 1-1-2-6 X 6-1-2 A325GV	4		
13	NUT HVY HX 1-1-2-6NC ASTM A563 BR(.03)(DH)	4		
14	NUT HVY HX "L" A563 GR 1 DH GV	24		
15	NUT HX 3-4-10NC G5 GV	1		
16	NUT SQ 1-2-13 SS	1		
17	SCRW ST SQ HD 3/8-16NC X 1" SS	6		
18	SCRW HX SK BT HD 1-4-20NC X 1 SS	2		
19	WA ID TAG W/RIVETS	2	X	
20	WASHER FLAT 1-1/2 SAE ASTM F436 GV	8		
21	WASH F.56 IDX1.375ODX.091 THK BRASS COMM. BRASS	4	X	
22	WASHER FLAT "L" ASTM F436 GV	24		
23	WASHER LOCK 3/4 ANSI B18.21.1 GV	1		
24	ANCHOR BOLT Ø "L" X "M" LG	4		
25	GASKET HH M16	1	X	

APPROVED
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 By GB Date 10/2021

PROJ. AREA FT2; WEIGHT (LBS) DEVICE DESCRIPTION			
Ⓧ	SIGNAL	12" - 4 SECTION SIGNAL W/BACKPLATE	11.6 86
Ⓞ	SIGN	24" x 48" STREET NAME SIGN	14 70
Ⓑ	SIGNAL	12" - 3 SECTION SIGNAL WITH BACKPLATES	9.2 60
Ⓐ	SIGN	30" x 24" DIRECTIONAL SIGN	5.0 60

MAXIMUM MAST ARM XYZ VALUES INCLUDE SIGNS AND SIGNALS.
 LUMINAIRE ARM XYZ IS BASED ON A 16'-0" SPAN.
 TOTAL STRUCTURE XYZ VALUE & LUMINAIRE ARM XYZ VALUE TOGETHER.

ARM SPAN "T"	MASTARM SLIP TABLE (ARMS OVER 50'-0")					
	BASE SECTION			END SECTION		
	THICK (IN) "Q"	TOP O.D. (IN) "TT"	SHAFT LENGTH "SS"	THICK (IN) "MM"	BASE O.D. (IN) "NN"	SHAFT LENGTH "PP"
51' THRU 55'	1/4	10.7	20'	3/16	11.64	33'-3" THRU 37'-3"
56' THRU 65'	1/4	10.8	30'	3/16	11.74	28'-3" THRU 37'-3"

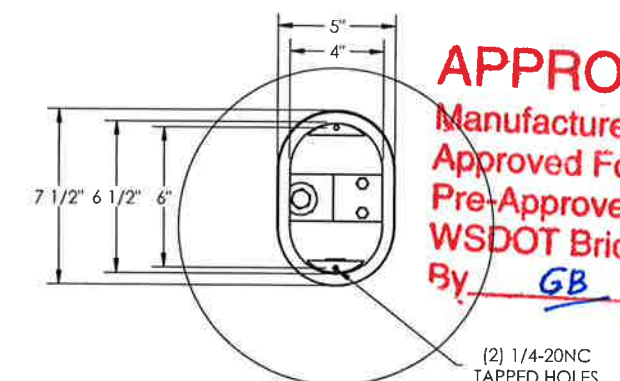
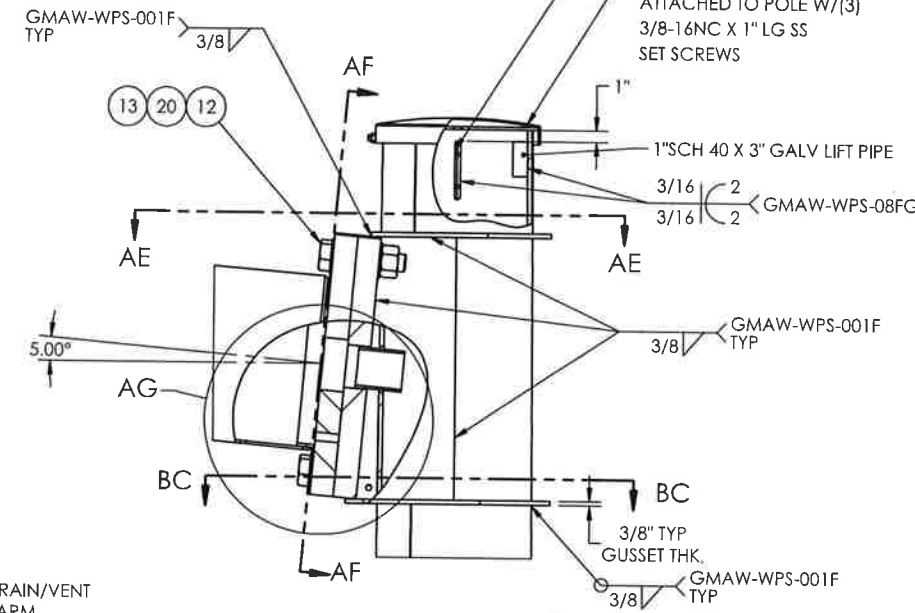
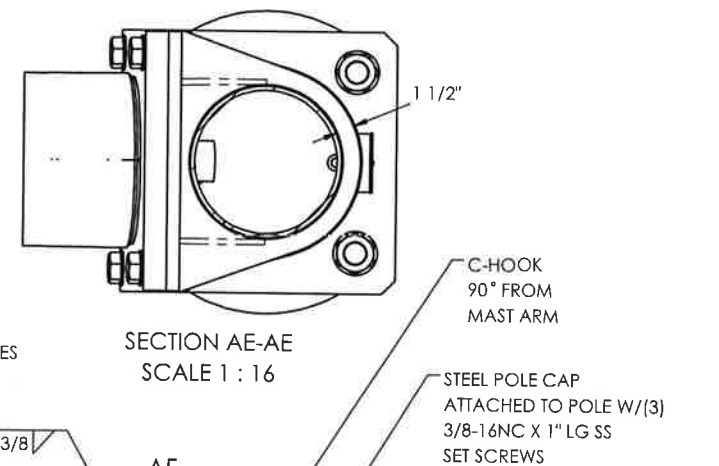
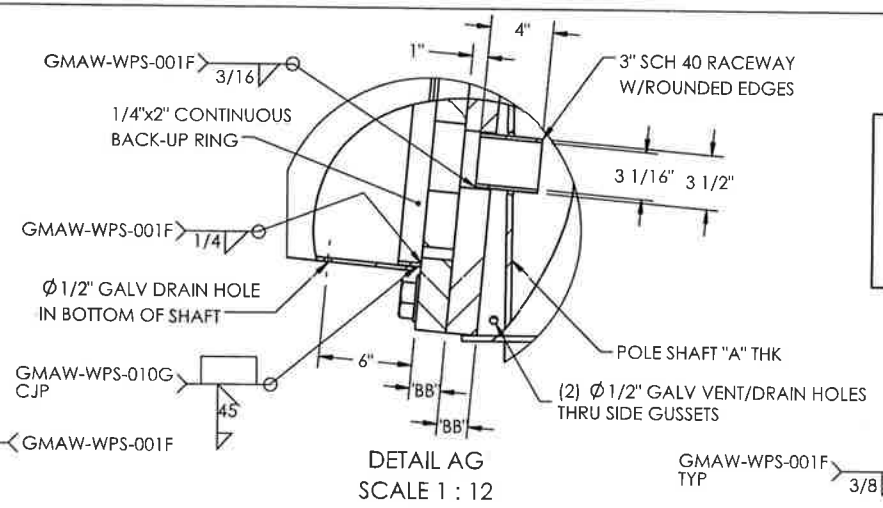
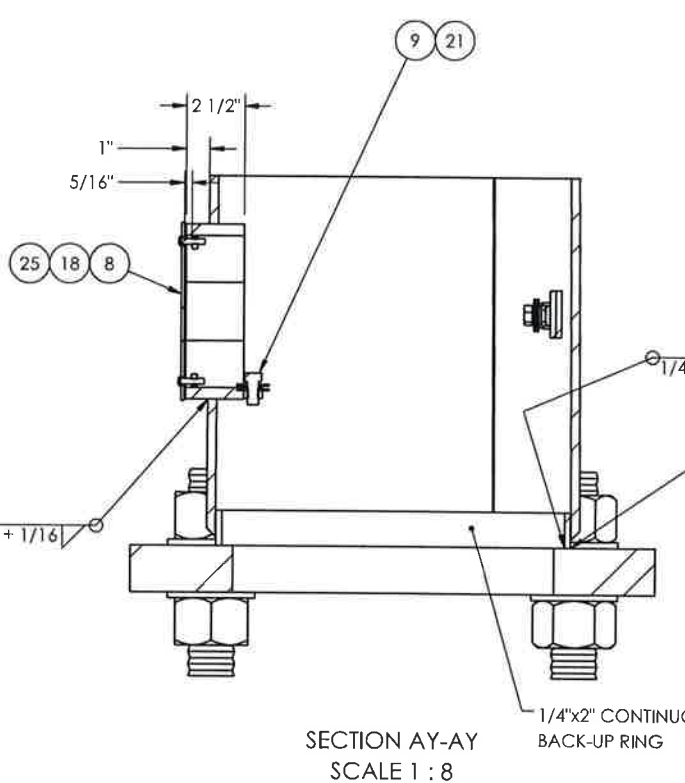
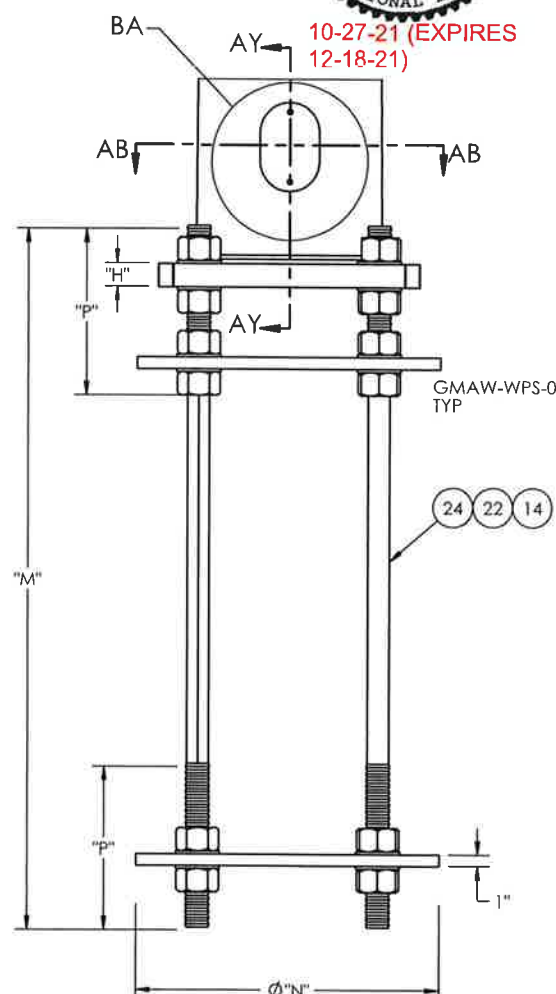


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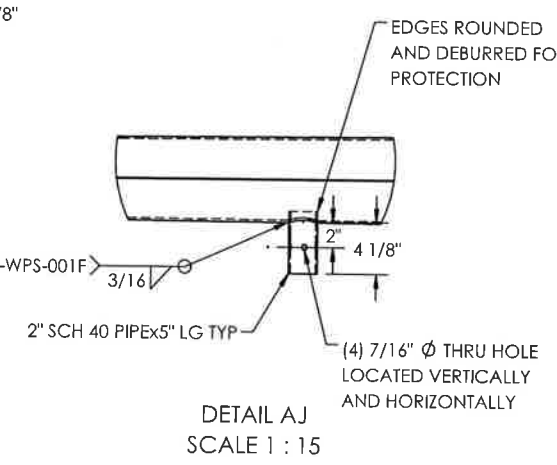
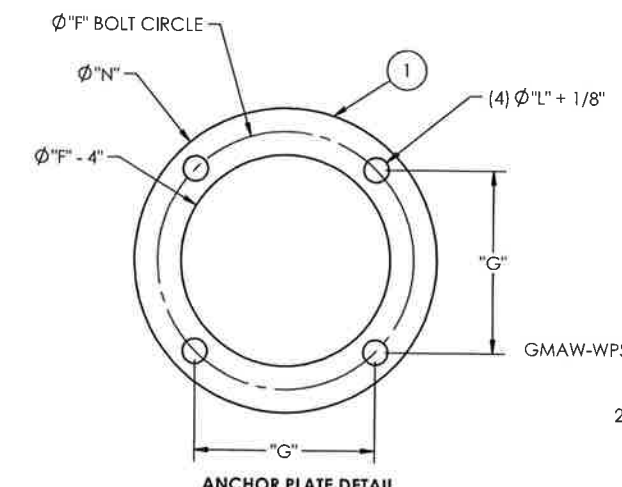
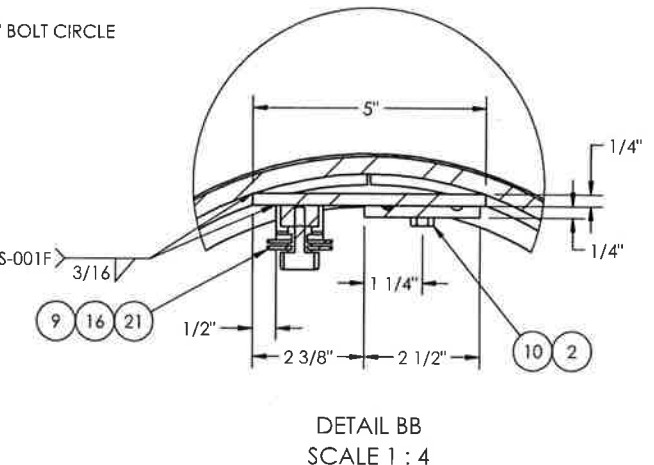
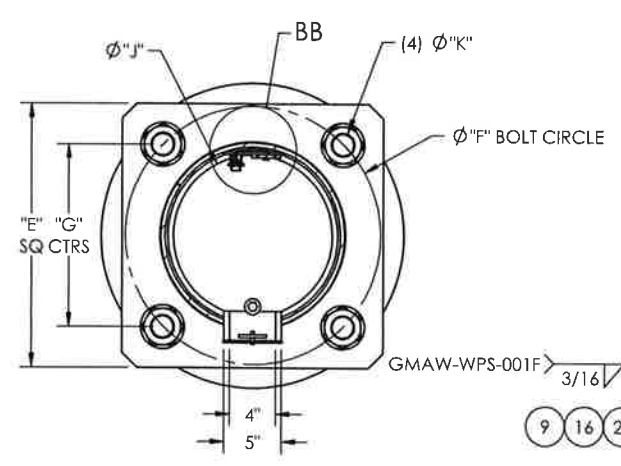
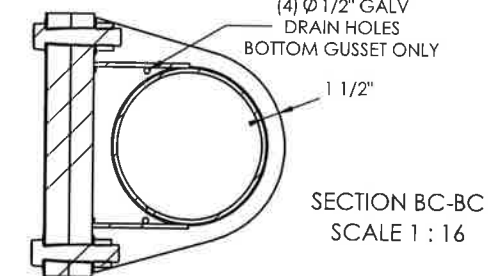
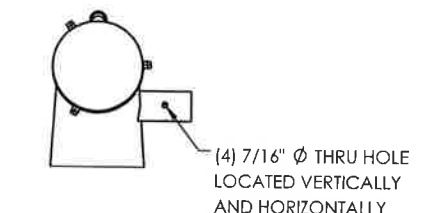
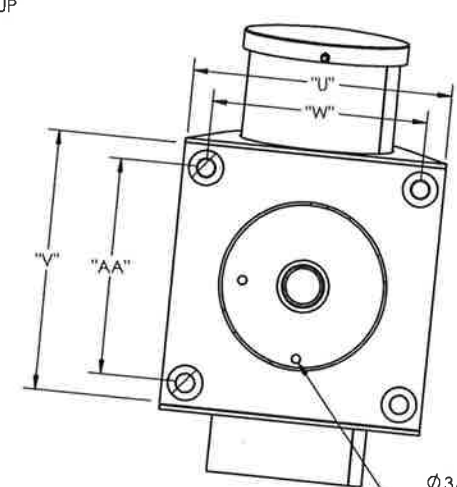
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SALES ORDER NO.:	QTY:	STATE:	SHEET
		WA	2 OF 4
DESCRIPTION: SUB TRAFFIC POLES TYPE II			
EST. WEIGHT:	DRAWING NO: 74516-WA-TS-II		
PROJECT NAME: STATE OF WASHINGTON SUB TRAFFIC POLES TYPE II			
PROJECT LOCATION: WA			
DWN BY: REBEKAH	DATE: 2/14/17		
CHK BY:	DATE:		



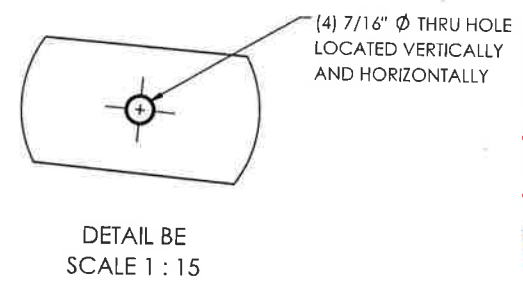
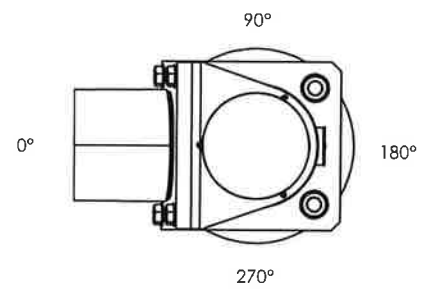
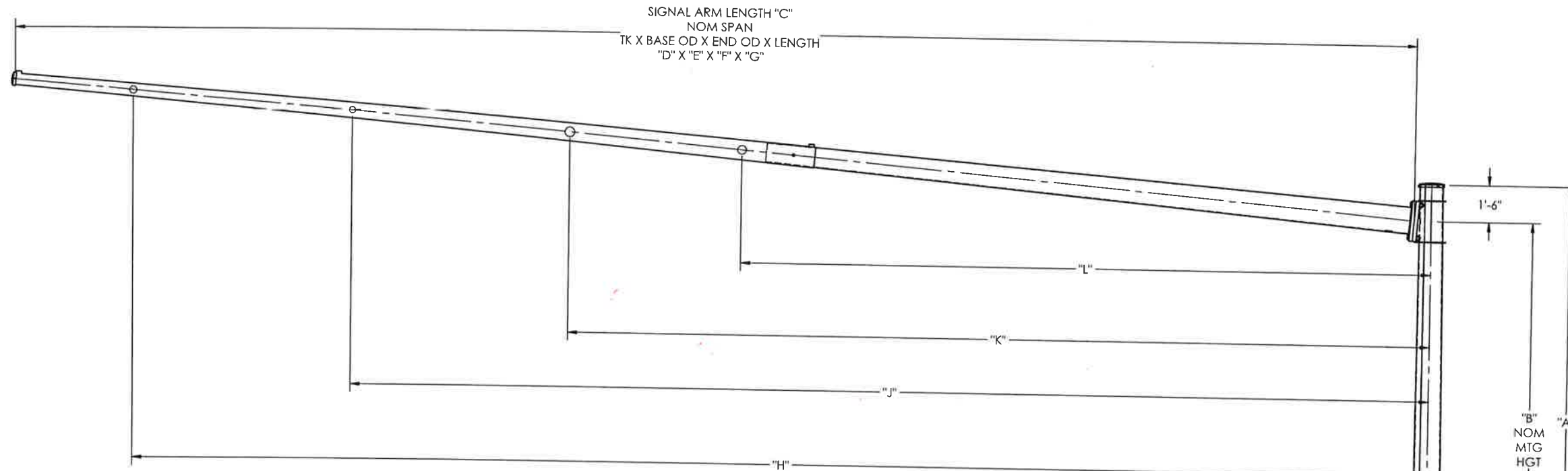
10-27-21 (EXPIRES 12-18-21)



APPROVED
 Manufacturer's Pole Plan
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 Pre-Approved Drawing
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 By GB Date 10/2021



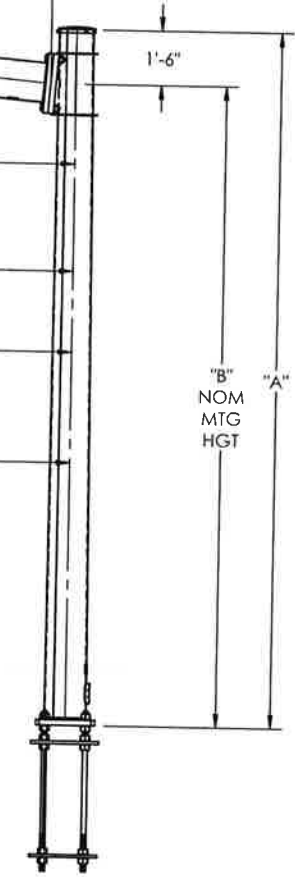
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SALES ORDER NO.:	QTY:	STATE:	SHEET
	-	WA	3 OF 4
DESCRIPTION: SUB TRAFFIC POLES TYPE II			
EST. WEIGHT:	DRAWING NO: 74516-WA-TS-II		
PROJECT NAME: STATE OF WASHINGTON SUB TRAFFIC POLES TYPE II			
PROJECT LOCATION: WA			
PROJECT NO.:	CONTROL/CONTRACT NO.:		
DWN BY: REBEKAH	DATE: 2/14/17		
CHK BY:	DATE:		



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* BACKSIDE TENONS

WA-TS-II-MA (REPLACE MA WITH ARM LENGTH)	LOCATION	POST DATA		MASTARM DATA		TENON LOCATIONS			
	STATION	POLE HEIGHT 21'-6" MAX "A"	MTG HGT "B"	ARM LENGTH "C"	MAST ARM DIM. "D"X"E"X"F"X"G"	"H"	"J"	"K"	"L"



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MILLERBERND 622 6TH ST. SO.
 WINSTED, MN 55395

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SALES ORDER NO.:	QTY:	STATE:	SHEET
		WA	4 OF 4

DESCRIPTION: SUB TRAFFIC POLES TYPE II

EST. WEIGHT: DRAWING NO: 74516-WA-TS-II

PROJECT NAME: STATE OF WASHINGTON SUB TRAFFIC POLES TYPE II

PROJECT LOCATION: WA

DWN BY: REBEKAH	DATE: 2/14/17
CHK BY:	DATE: