

POLE DATA - STRAIN POLE - TYPE V

MMC #	SPAN WIRE HGT	"Z" MTG HT	QTY	POLE CLASS	POLE TUBE				BASE DETAIL			ANCHOR BOLT			
					THICK (IN) "A"	BASE O.D. (IN) "B"	TOP O.D. (IN) "C"	LENGTH (FT) "D"	SQUARE "S" (IN)	BOLT CIRCLE "F" (IN)	BOLT CENTERS "M" (IN)	THICKNESS "G" (IN)	HOLE/SLOT "H" (IN)	DIA "J" (IN)	LENGTH "K" (IN)
WA-SP-V-1900				1900#	1/4	11	6.8	30	15	15	10 5/8"	1 1/2	1 1/2	1 1/4	19
WA-SP-V-2700			2700#	12.5		8.3	17		17	12"	21				
WA-SP-V-3700			3700#	14	9.8	19	19		13 7/16"	23					
WA-SP-V-4800			4800#	14	9.8	20	20		14 1/8"	24					
WA-SP-V-5600			5600#	15	10.8										
WA-SP-V-6300			6300#	16	11.8	22	22		15 9/16"	26					
WA-SP-V-7200			7200#	17	12.8										

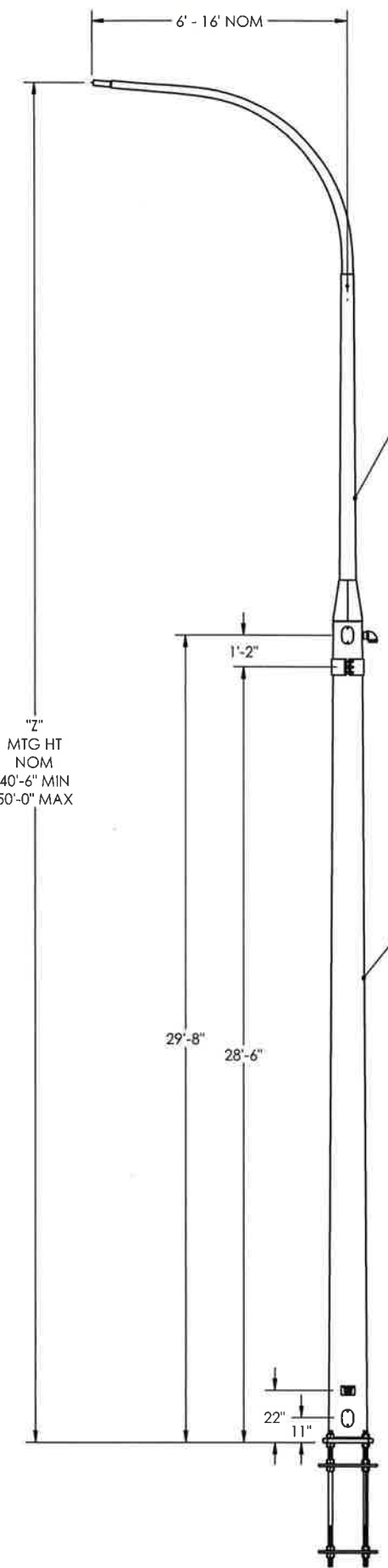
MATERIAL SPECIFICATIONS
POST: ASTM A572 GR50 BASE PLATE: ASTM A709 GR 50 MAST ARM: N/A MOUNTING PLATE: N/A HARDWARE FINISH: ASTM F2329 CABLE CLAMP CONNECTION BOLTS: ASTM F3125 GR A325 CABLE CLAMP CONNECTION NUTS: ASTM F563 GR DH CABLE CLAMP CONNECTION LOCKWASHERS: ASTM F436 ANCHOR BOLTS: ASTM F1554 GR105 ANCHOR BOLT NUTS: ASTM A563 GR DH ANCHOR BOLT WASHER: ASTM F436 WELDING ELBOW: PIPE: ASTM A53 GR B OR ASTM A500 GR B

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: N/A FATIGUE CAT: N/A NATURAL WIND GUST: N/A LUMINAIRE: N/A LUMINAIRE WEIGHT: N/A SIGN: N/A SIGN WEIGHT: N/A

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), 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 A RANDOM 30% OF ALL FILLET WELDS AND PARTIAL JOINT PENETRATION (PJP) LONGITUDINAL SEAM WELDS MAGNETIC PARTICLE TESTED (MT).  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 2015 AASHTO WELD INSPECTION SECTION 14.4.4.8

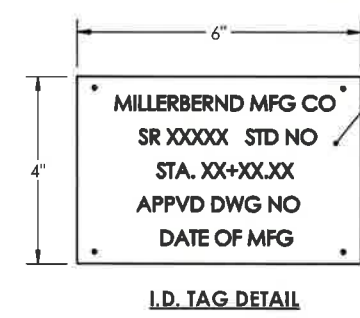
STRUCTURE FINISH SPECIFICATION
GALV. OR PRIME COAT: HOT DIPPED GALV. PER ASTM A123 FINISH COAT: - COLOR: - FEDERAL OR RAL SPEC.: - WEIGHT W/GALV.: - WEIGHT W/GALV. & PAINT: - SURFACE AREA: - GAL. OF PAINT: -   622 6TH ST. SO. WINSTED, MN 55395

SALES ORDER NO.:	QTY:	STATE:	SHEET
74554	-	WA	1 OF 3
DESCRIPTION: SUB STRAIN POLES TYPE V			
EST. WEIGHT:	DRAWING NO: 74554-WA-SP-V		
PROJECT NAME: STATE OF WASHINGTON STRAIN POLES - TYPE V			
PROJECT LOCATION: WA			
DWN BY: REBEKAH	DATE: 2/3/17		
CHK BY:	DATE:		



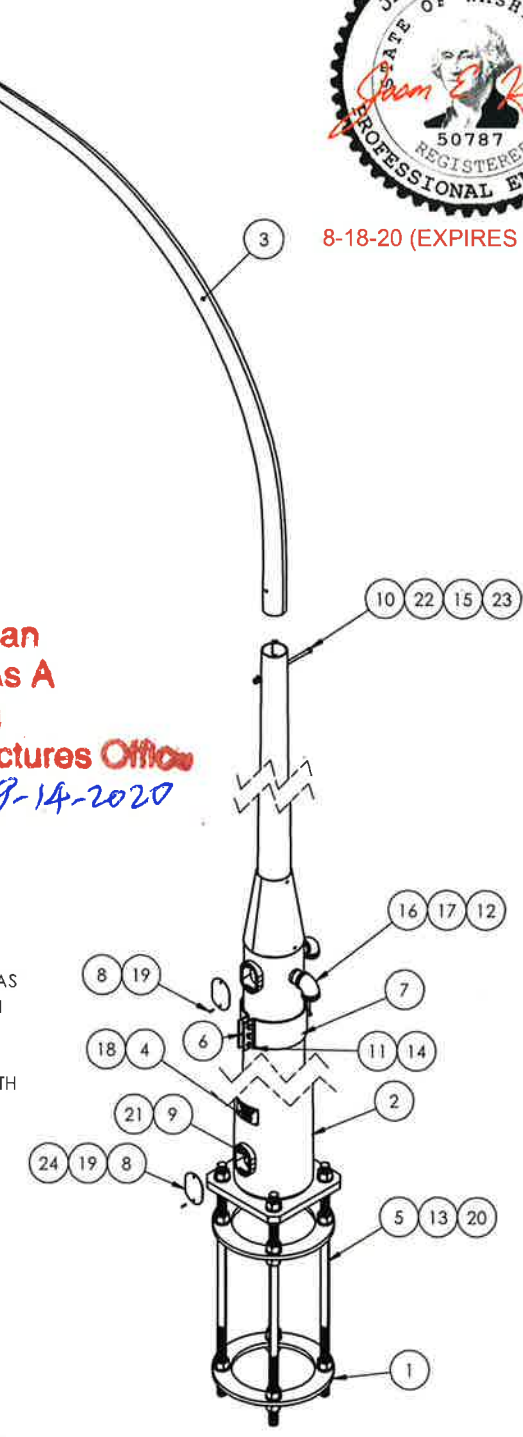
3/16 WALL EXTENSION SHAFT  
 LENGTH VARIES TO ACCOMMODATE FINAL LUM MTG HGT "N" TO BE SPECIFIED BY CUSTOMER  
 EXTENSION TO BE ROUND TAPERED SHAFT  
 TAPER = .14 IN / FT

"A" x "B" x "C" x "D"  
 POLE SHAFT

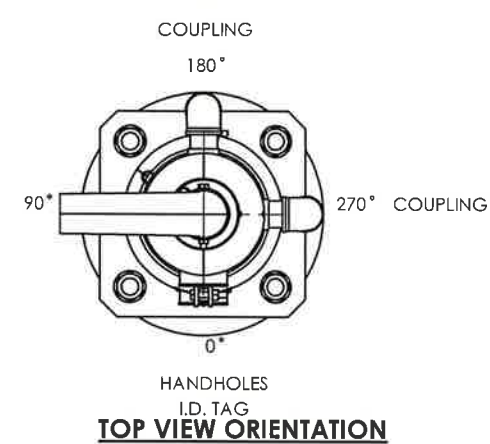


ALUMINUM ID TAG  
 TEXT TO BE STAMPED AS SHOWN IN 5/16" HIGH LETTERS  
 SECURED TO POST WITH (4) 3/16" DIA RIVETS

**APPROVED**  
 Manufacturer's Pole Plan  
 Approved For Listing As A  
 Pre-Approved Drawing  
 WSDOT Bridge & Structures Office  
 By SB Date 9-14-2020



8-18-20 (EXPIRES 12-18-21)



NOTE: GALV HANG PIPES WILL BE WELDED EXTERNALLY AS REQUIRED BASED ON ORDER REQUIREMENTS, REMOVED AND REPAIRED PER ASTM A870 AS REQUIRED

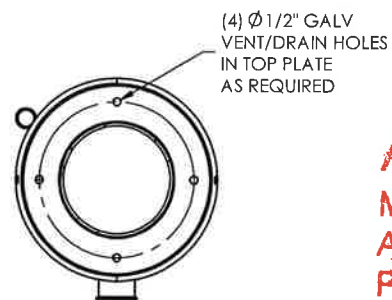
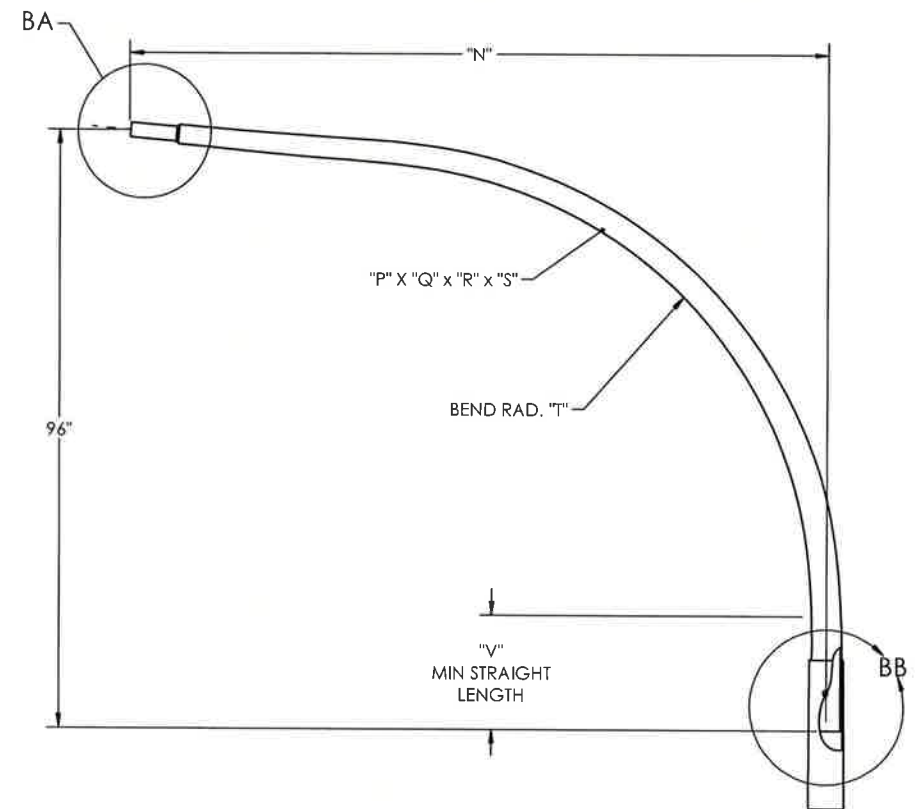
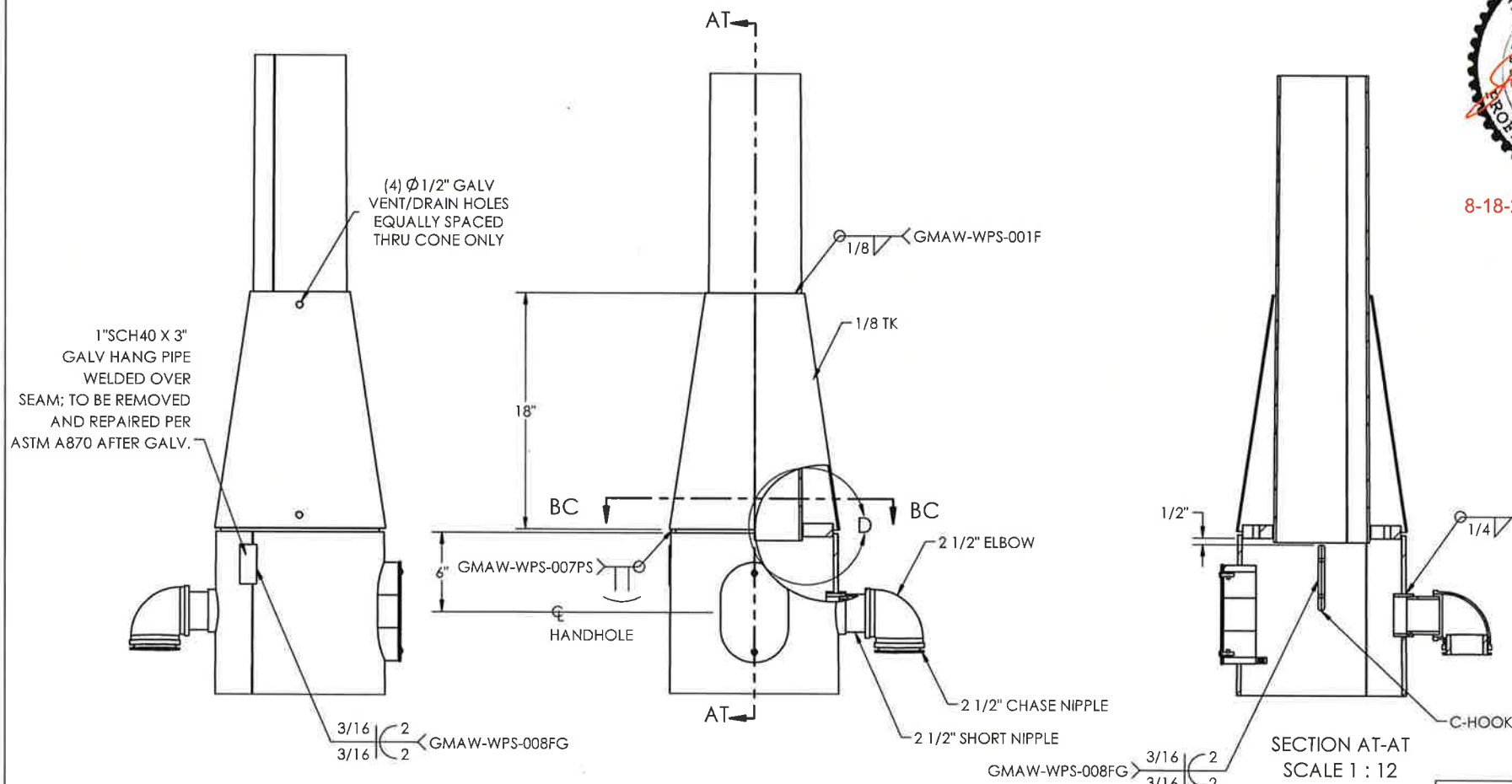
NOTE: FOR NOTE AT WELD SYMBOL TAIL, SEE WELDING PROCEDURE SPECIFICATION

ITEM NO.	DESCRIPTION	QTY PER	ASSY	FINISH
1	BASE RD 1 x "L"	2		X
2	WLDMT POLE STRAIN "A" x "B" x "C" x "D"	1		X
3	WLDMT ARM DAVIT RD	1		X
4	I.D. TAG - WA	1	X	
5	Ø"J" x "K" LG ANCHOR BOLT	4		
6	PIPE A500-B-001-NV (1" SCH 80) 1" LONG	1		X
7	SPAN WIRE HALF CLAMP	2		X
8	COVER HH M16C 4 1/4X6 3/4 2 BOLT	2		X
9	BOLT HX HD 1-2-13NC X 1" F593C SS	1	X	
10	BOLT HX HD 5-8-11NC X 6-1-2 A307 GV	1		
11	BOLT HVYHXHD 5-8-11X3-1-2L F3125 A325 TYPE 1 GV	5		
12	2 1/2" CHASE NIPPLE	2		X
13	NUT HVY HX "J" A194 GV(2H)	24		
14	NUT HVY HX 5-8-11NC A563 GV(DH)	5		
15	NUT HX 5-8-11NC SS	1		
16	ELBOW 90 DEG 2 1/2"	2		X
17	PIPE NIPPLE THRD BOTH ENDS	2		X
18	RIVET POP 3/16X1/2X3/8 HD SS	4	X	
19	SCRW HX SK BT HD 1-4-20NC X 1 SS	4		
20	WASHER FLAT "J" GV	24		
21	WASH F.56 IDX1.375ODX.091 THK BRASS COMM. BRASS	2	X	
22	WASHER FLAT 5/8 ASTM F436	2		
23	WASHLOCK5-8 ASTM A563 GR DH	1		
24	GASKET HH M16	2	X	

REV.	DESCRIPTION	DATE	DRFT
J	SHT 2 -WPS UPDATED FOR CONE TO POLE WELD	7/27/2020	RK
H	3700# WAS 1/4 X 1.5 X 10.8, UPDATED WELD NOTE, UPDATED PER COMMENTS	6/12/2020	RK
G	UPDATED NOTES PER COMMENTS; UPDATED WPS TO MMC STANDARDS	5/12/2020	RK



8-18-20 (EXPIRES 12-18-21)

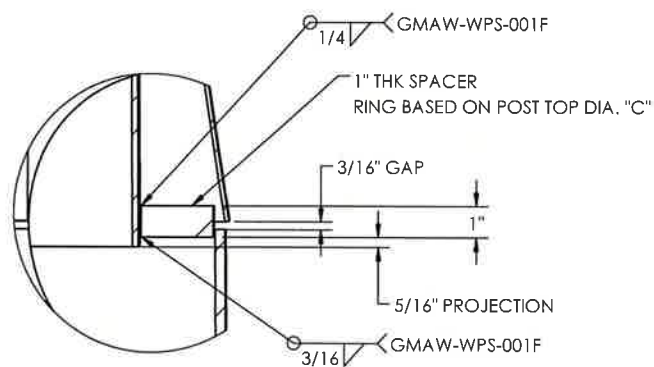


SECTION BC-BC SCALE 1 : 12

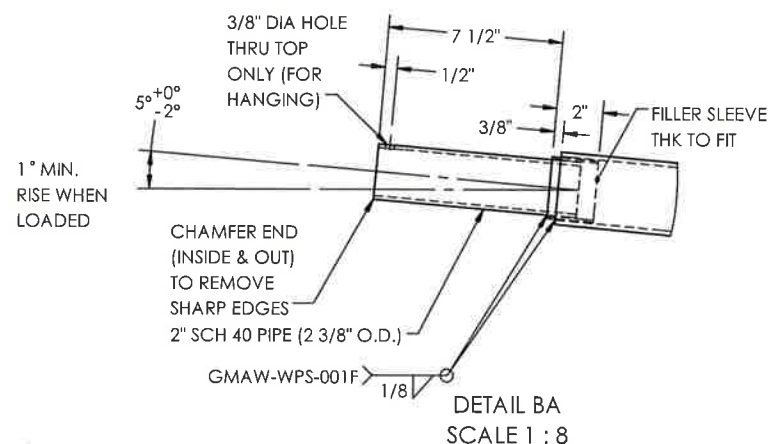
**APPROVED**  
 Manufacturer's Pole Plan  
 Approved For Listing As A  
 Pre-Approved Drawing  
 WSDOT Bridge & Structures Office  
 By GB Date 9-14-2020

DAVIT LUMINAIRE DATA								
MMC #	QTY	SPAN (FT) "N"	TK (IN) "P"	BASE OD (IN) "Q"	END OD (IN) "R"	LENGTH (FT) "S"	BEND RAD (FT) "T"	MIN STRAIGHT (IN) "V"
		6'	11 GA	6.0	4.41	11'-4"	6'-0"	21.38"
		8'	11 GA	6.0	4.23	12'-8"		21.31"
		10'	11 GA	6.0	3.95	14'-6"		19.19"
		12'	11 GA	6.0	3.66	16'-9"		22.25"
		14'	11 GA	6.0	4.69	18'-2"		14.93"
		16'	11 GA	6.0	3.2	20'-0"		12.87"

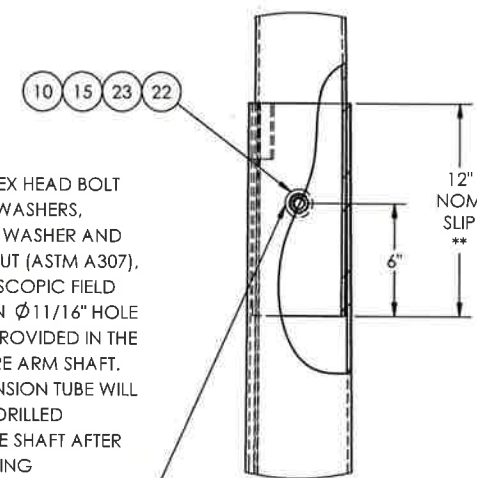
NOTE: 11GA = .1196"



DETAIL D SCALE 1 : 6



DETAIL BA SCALE 1 : 8

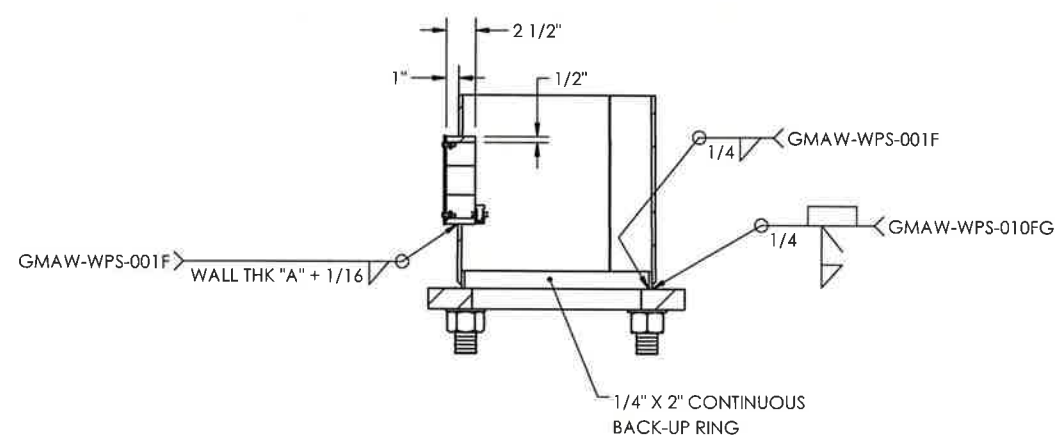
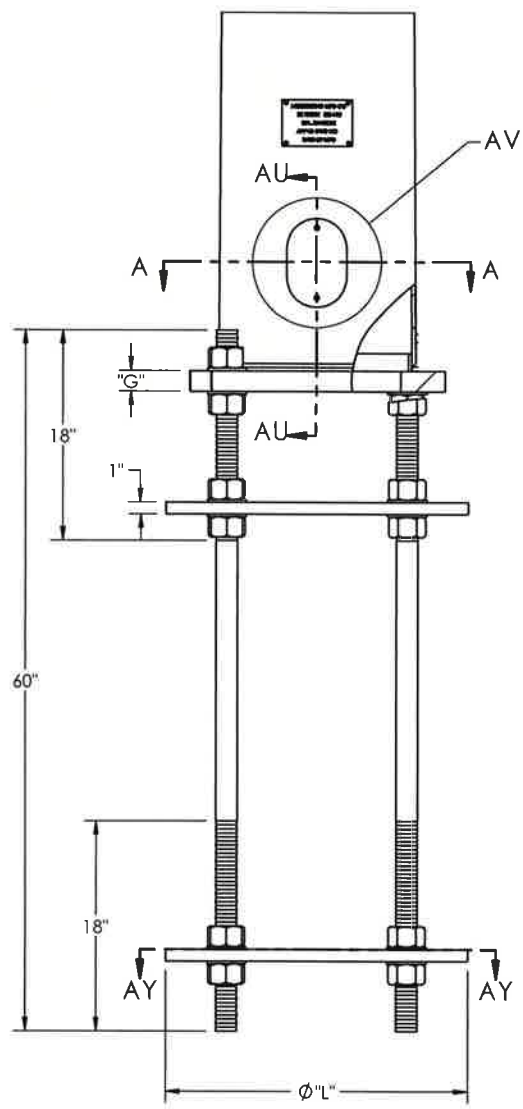


DETAIL BB SCALE 1 : 10

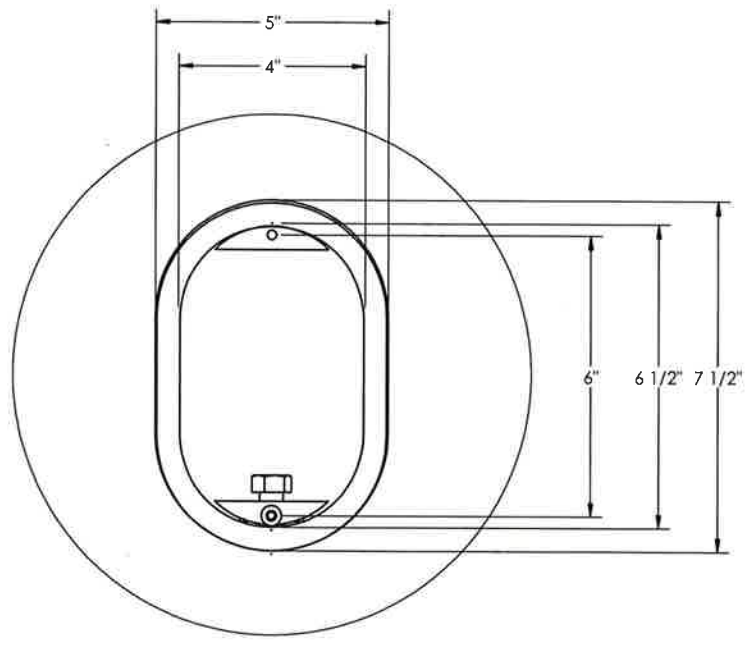
5/8"  $\phi$  HEX HEAD BOLT WITH (2) WASHERS, (1) LOCK WASHER AND (1) HEX NUT (ASTM A307), FOR TELESCOPIC FIELD JOINT. AN  $\phi 11/16$ " HOLE WILL BE PROVIDED IN THE LUMINAIRE ARM SHAFT. THE EXTENSION TUBE WILL BE FIELD DRILLED IN FEMALE SHAFT AFTER POSITIONING OF THE ARM

\*\* THE TOP DAVIT ATM SECTION WILL SLIP FIT OVER BOTTOM POLE SECTION. OVERLAP MATING SURFACE SHALL BE SMOOTH AND FREE OF BURS, DENTS OR LUMPS OF ZINC

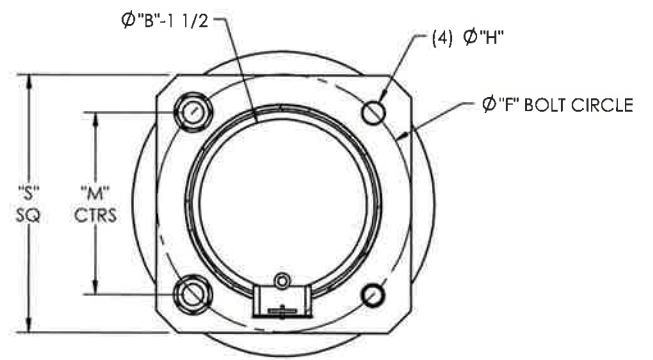
<b>MILLERBERND</b>		622 6TH ST. SO. WINSTED, MN 55395	
THIS DOCUMENT CONTAINS CONFIDENTIAL INFORMATION AND IS THE PROPERTY OF MILLERBERND MFG AND MAY NOT BE COPIED, REPRODUCED OR DISCLOSED IN ANY MANNER WITHOUT THE EXPRESS WRITTEN CONSENT FROM MILLERBERND MFG			
SALES ORDER NO.:	QTY:	STATE:	SHEET
74554	-	WA	2 OF 3
DESCRIPTION: SUB STRAIN POLES TYPE V			
EST. WEIGHT:		DRAWING NO.:	
		74554-WA-SP-V	
PROJECT NAME: STATE OF WASHINGTON STRAIN POLES - TYPE V			
PROJECT LOCATION: WA			
DWN BY: REBEKAH		DATE: 2/3/17	
CHK BY:		DATE:	



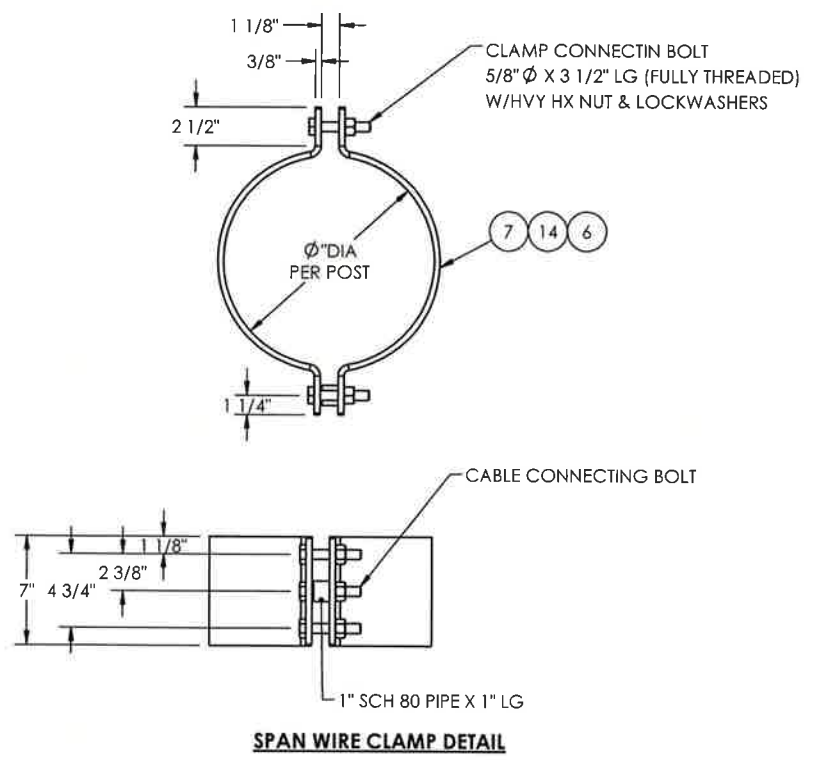
SECTION AU-AU  
SCALE 1 : 16



DETAIL AV  
SCALE 1 : 4

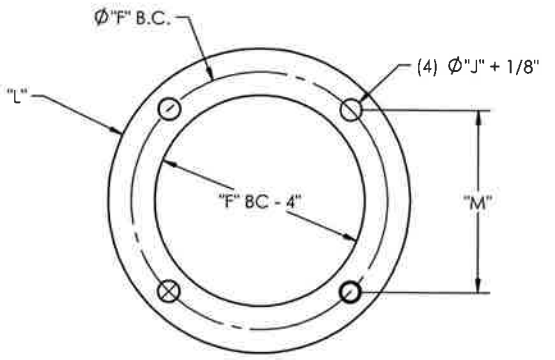


SECTION A-A  
SCALE 1 : 16



SPAN WIRE CLAMP DETAIL

**APPROVED**  
 Manufacturer's Pole Plan  
 Approved For Listing As A  
 Pre-Approved Drawing  
 WSDOT Bridge & Structures Office  
 By GB Date 9-14-2020



SECTION AY-AY  
SCALE 1 : 16

ANCHOR PLATE DETAIL



8-18-20 (EXPIRES 12-18-21)

<b>MILLERBERND</b>		622 6TH ST. SO. WINSTED, MN 55395	
THIS DOCUMENT CONTAINS CONFIDENTIAL INFORMATION AND IS THE PROPERTY OF MILLERBERND MFG AND MAY NOT BE COPIED, REPRODUCED OR DISCLOSED IN ANY MANNER WITHOUT THE EXPRESS WRITTEN CONSENT FROM MILLERBERND MFG			
SALES ORDER NO.:	QTY:	STATE:	SHEET
74554	-	WA	3 OF 3
DESCRIPTION: SUB STRAIN POLES TYPE V			
EST. WEIGHT:	DRAWING NO: 74554-WA-SP-V		
PROJECT NAME: STATE OF WASHINGTON STRAIN POLES - TYPE V			
PROJECT LOCATION: WA			
PROJECT NO.:	CONTROL/CONTRACT NO.:		
DWN BY: REBEKAH	DATE: 2/3/17		
CHK BY:	DATE:		