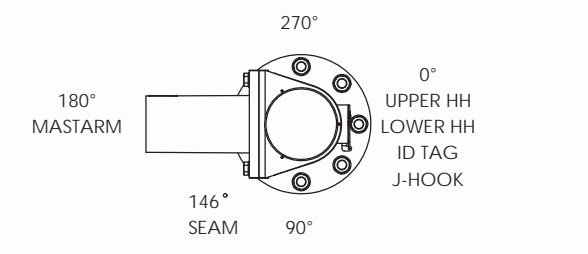
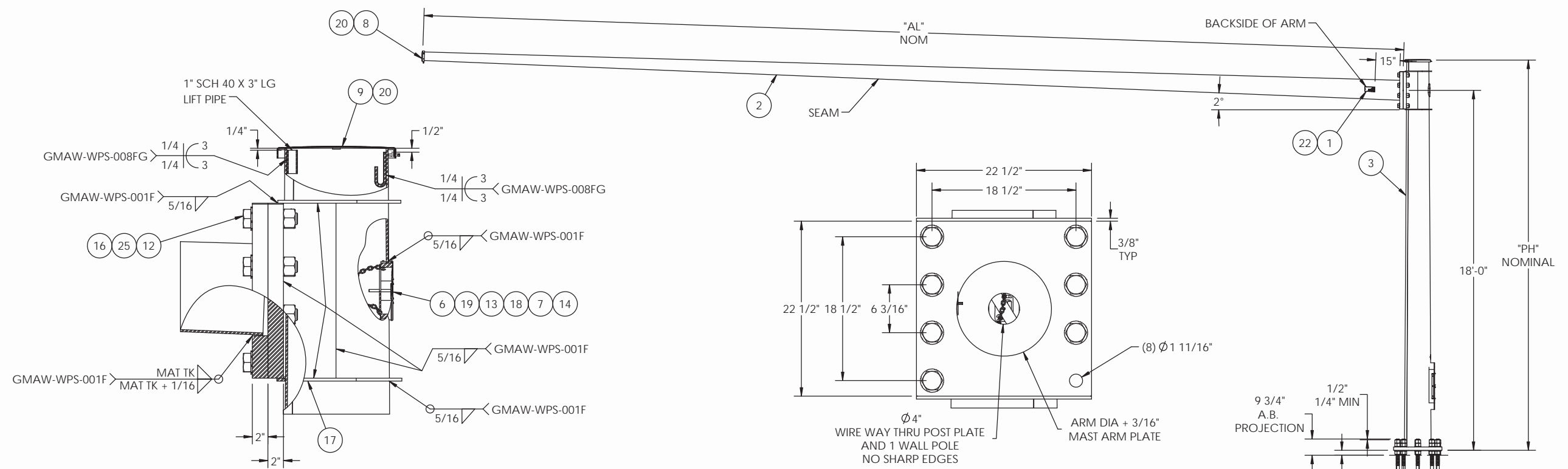


REVISIONS			
REV.	DESCRIPTION	DATE	DRFT
A	UPDATED PER VDOT MARKUPS PROJECTION NOTE HH DIM BP NOTE ADDED TORQUE SPEC	10/12/2020	TK



MATERIAL SPECIFICATIONS	
POST: ASTM A572 GR 55	
BASE PLATE: ASTM A709 GR 36	
MAST ARM: ASTM A572 GR55	
MOUNTING PLATE: ASTM A572 GR36	
LUMINAIRE ARM:	
HARDWARE FINISH: ASTM A153	SIZE: 2"
ANCHOR BOLTS: F1554 GR 55	

DESIGN CRITERIA	
2013 W/2015 INTERIM REVISIONS AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS ON HIGHWAY SIGNS, LUMINAIRES & TRAFFIC SIGNALS.	
WINDS: 90 MPH 1.3	APPENDIX C: YES
FATIGUE CAT: N/A	VORTEX SHED: N/A
NATURAL WIND GUST: N/A	GALLOPING: N/A
	TRUCK GUST: N/A

WELD SPECIFICATION	
THE POST AND MAST ARM TO BE A TAPERED TUBE FABRICATION WITH ONE SUBMERGED ARC LONGITUDINAL SEAM WELD WITH 100% PENETRATION 6" FROM BASE PLATE 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).	

FINISH SPECIFICATION	
GALV. OR PRIME COAT: HOT DIP GALV PER ASTM A123	
FINISH COAT:	
COLOR:	
FEDERAL OR RAL SPEC.:	
WEIGHT W/GALV.:	
WEIGHT W/GALV.&PAINT:	
SURFACE AREA:	
GAL. OF PAINT:	

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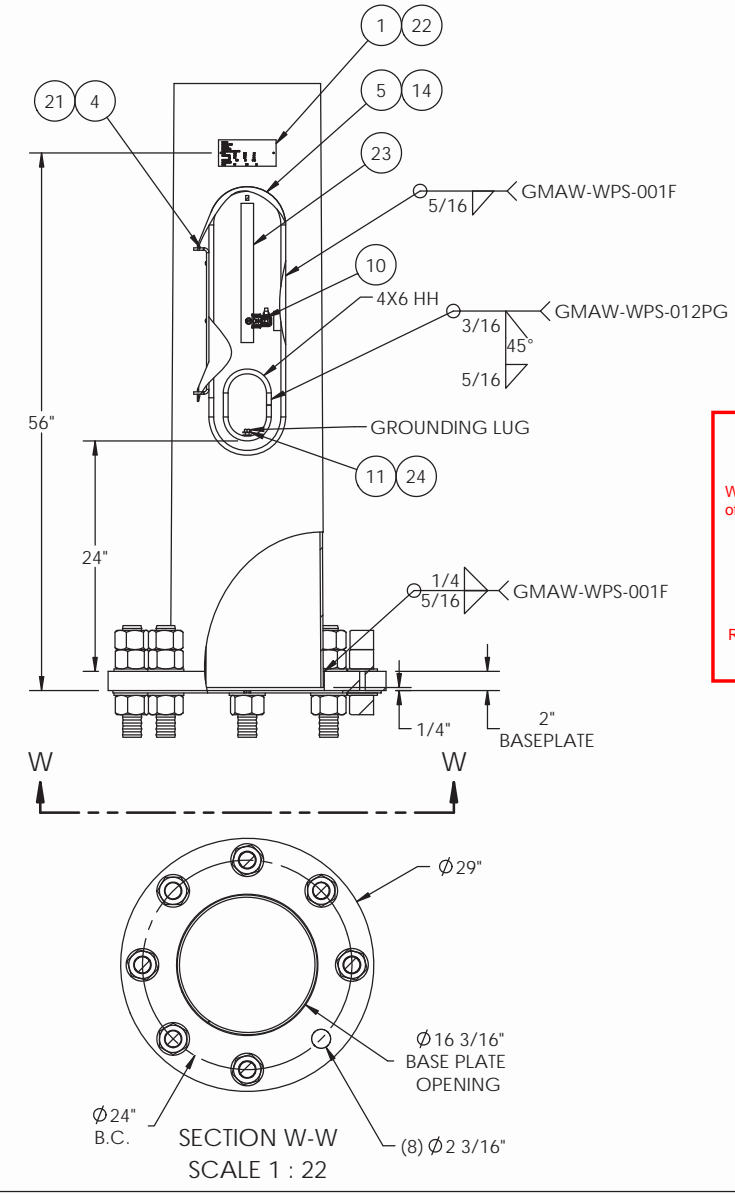
SALES ORDER NO.:	QTY:	STATE:	SHEET
		VA	1 OF 1

DESCRIPTION: MP3 POLE TYPE A & D
30' THRU 49' MASTARMS 90 MPH
STANDARD QPL DESIGN

EST. WEIGHT:	DRAWING NO:
	VA9SA-49A(D)

PROJECT NAME:	
PROJECT LOCATION:	
DWN BY: REBEKAH	DATE: 04-29-2020
CHK BY:	DATE:

ITEM NO.	DESCRIPTION	QTY PER	ASSY	FINISH
1	ID TAG VA DOT - STAINLESS TAG	2	X	
2	WLDMT ARM SIG RD	1		X
3	WLDMT POLE SIG RD	1		X
4	HINGE HH	1	X	X
5	WELDMNT COVER 8X28 HANDHOLE	1	X	X
6	COVER HH M16 4X6	1	X	X
7	LATCH HH M16 4X6	1	X	
8	STAMPED POLE CAP WELDMENT	1		X
9	STAMPED POLE CAP WELDMENT	1		X
10	LIFT AND TURN TIGHT HOLD PADDLE HANDLE CAM LATCH	1	X	
11	BOLT HX HD 3/8-16NC X 1" F593C SS	1	X	
12	BOLT HVYHXD 1-1-2-6 X 6 A325GV	8		
13	CHAIN 1/8"PROOF COIL CHAIN GV 12"LG	1	X	
14	STICKER-TITE SPONGE GASKET 1/2X1/8	7.14'	X	
15	1"ID,1-3/4OD,5/8TKw/GRV 1/4/1.38GVD	5		NOT SHOWN
16	NUT HVY HX 1-1-2-6NC A563 DH GV	8		
17	PLUG NON THREADED K-8 CAPLUG	8	X	
18	RIVET POP 3/16X1-1/8X5/8 HD ALUM	1	X	
19	SCRWA HX SK FL HD 5-16-18NC X 3 SS	1	X	
20	SCRW ST SQ HD 1-4-20NC X 1 1-4 SS	6		
21	SCRW HX SK BT HD 10-24NC X 5-8 SS	3	X	
22	U-DRIVE SCRW 3/16(DRIVE IN TYPE)F1941M ZC	4	X	
23	TERMINAL STRIP PROVIDED BY OTHERS	1		OPTIONAL REF ONLY
24	WASHFLAT3-8BRASS-001	2	X	
25	WASHER DTI 1 1/2" ASTM F2437 T2 Gr55 GV	8		
26	460B1044 - ANCHOR BOLT CLUSTER (8) 2" X 66" BOLTS ON 24" BC	1		



PROJECT:			
MFG: MMC SO#			
MFG DATE:			
POLE NUMBER:			
MAST ARM SIGNAL POLE TYPE			
POST:	GA/	DIA/	FT/
MASTARM: S1:	GA/	DIA/	FT/
S2:	GA/	DIA/	FT/
MIN YIELD: (A)	55 (BP)	36 (P)	55 (ARM)
ANCHOR BOLTS			
ASTM	F1554	GRV	55 DIA 2" LG 66"

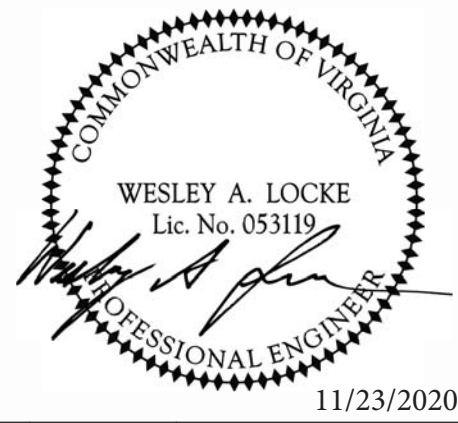
ID TAGS LOCATED ON BACKSIDE OF ARMS

VIRGINIA DEPARTMENT OF TRANSPORTATION
REVIEW OF WORKING DRAWINGS

Working drawings have been reviewed in accordance with Section 105.10 of the VDOT Road and Bridge Specifications with the following comments:

- Reviewed
- Reviewed as Noted
- Revise and Resubmit
- Rejected - See Remarks

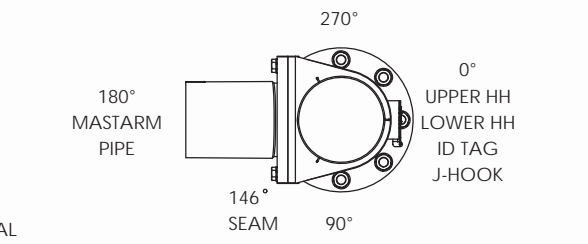
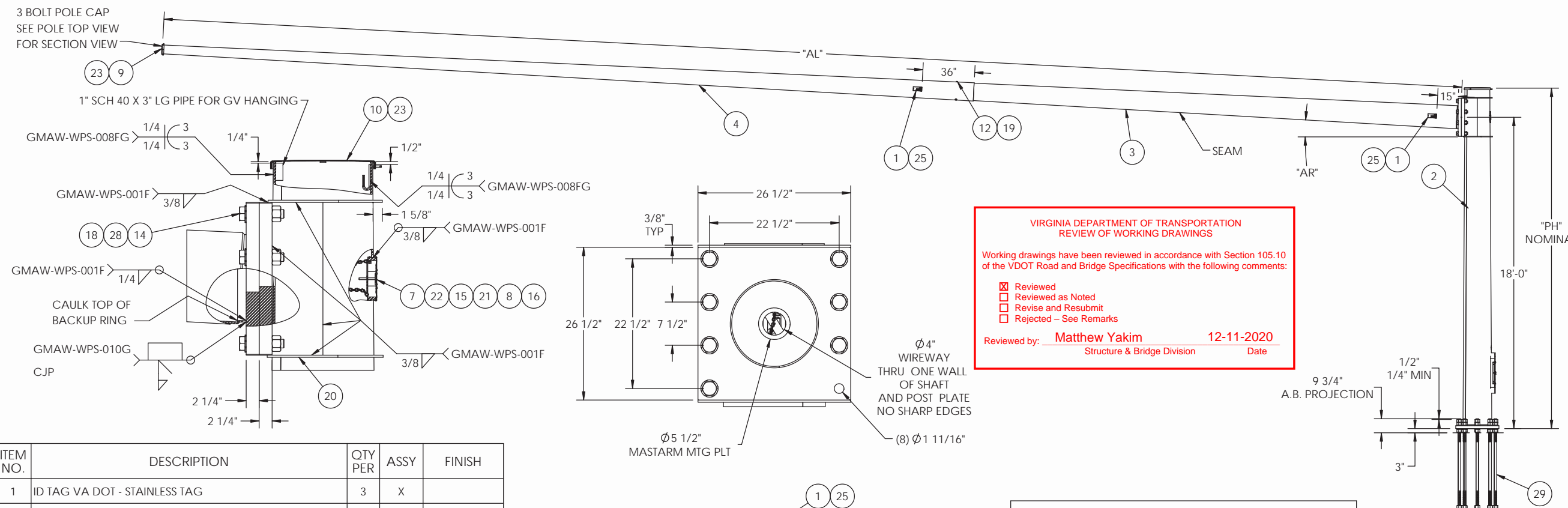
Reviewed by: **Matthew Yakim** 12-11-2020
Structure & Bridge Division Date



POLE DATA			
QTY	POLE TYPE	"PH" POLE HEIGHT	POLE SIZE
	A	19'-6"	1/4 X 16.0 X 13.27 X 19'-6"
	D	25'-0"	1/4 X 16.0 X 12.50 X 25'-0"

MAST ARM DATA			
QTY	"AL" ARM LENGTH	ARM SIZE	POLE TYPE (A OR D)
	30'-0"	3/16 X 10.0 X 5.80 X 30'-0"	
	40'-0"	1/4 X 10.0 X 4.40 X 40'-0"	
	49'-0"	1/4 X 12.0 X 5.14 X 49'-0"	

REVISIONS			
REV.	DESCRIPTION	DATE	DRFT
A	ADDED MIN HH HGT, GUSSET DEPTH AND ARM CAP NOTE	7/23/2020	TK
B	ADDED A.B. PROJ AND TORQUE NOTE	9/14/2020	TK



**VIRGINIA DEPARTMENT OF TRANSPORTATION
REVIEW OF WORKING DRAWINGS**

Working drawings have been reviewed in accordance with Section 105.10 of the VDOT Road and Bridge Specifications with the following comments:

- Reviewed
- Reviewed as Noted
- Revise and Resubmit
- Rejected - See Remarks

Reviewed by: **Matthew Yakim** 12-11-2020
Structure & Bridge Division Date

MATERIAL SPECIFICATIONS	
POST: ASTM A572 GR 55	SIZE: 2"
BASE PLATE: ASTM A709 GR 36	
MAST ARM: ASTM A572 GR55	
MOUNTING PLATE: ASTM A572 GR36	
LUMINAIRE ARM:	
HARDWARE FINISH: ASTM A153	
ANCHOR BOLTS: F1554 GR 55	

DESIGN CRITERIA	
2013 W/2015 INTERIM REVISIONS AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS ON HIGHWAY SIGNS, LUMINAIRES & TRAFFIC SIGNALS.	
WINDS: 90 MPH 1.3	APPENDIX C: YES
FATIGUE CAT: 2	VORTEX SHED: N/A
NATURAL WIND GUST: YES	GALLOPING: N/A
	TRUCK GUST: N/A

WELD SPECIFICATION	
THE POST AND MAST ARM TO BE A TAPERED TUBE FABRICATION WITH ONE SUBMERGED ARC LONGITUDINAL SEAM WELD WITH 100% PENETRATION 6" FROM BASE PLATE 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).	

FINISH SPECIFICATION	
GALV. OR PRIME COAT: HOT DIP GALV PER ASTM A123	
FINISH COAT:	
COLOR:	
FEDERAL OR RAL SPEC.:	
WEIGHT W/GALV.:	
WEIGHT W/GALV.&PAINT:	
WEIGHT W/PAINT:	
SURFACE AREA:	
GAL. OF PAINT:	

SALES ORDER NO.:				QTY:		STATE:		SHEET	
						VA		1 OF 1	

DESCRIPTION: MP3 POLE TYPE B1 & E1
60' THRU 75' ARM 90 MPH
STANDARD OPL DESIGN

EST. WEIGHT: DRAWING NO:
VA9SA-75B1(E1)

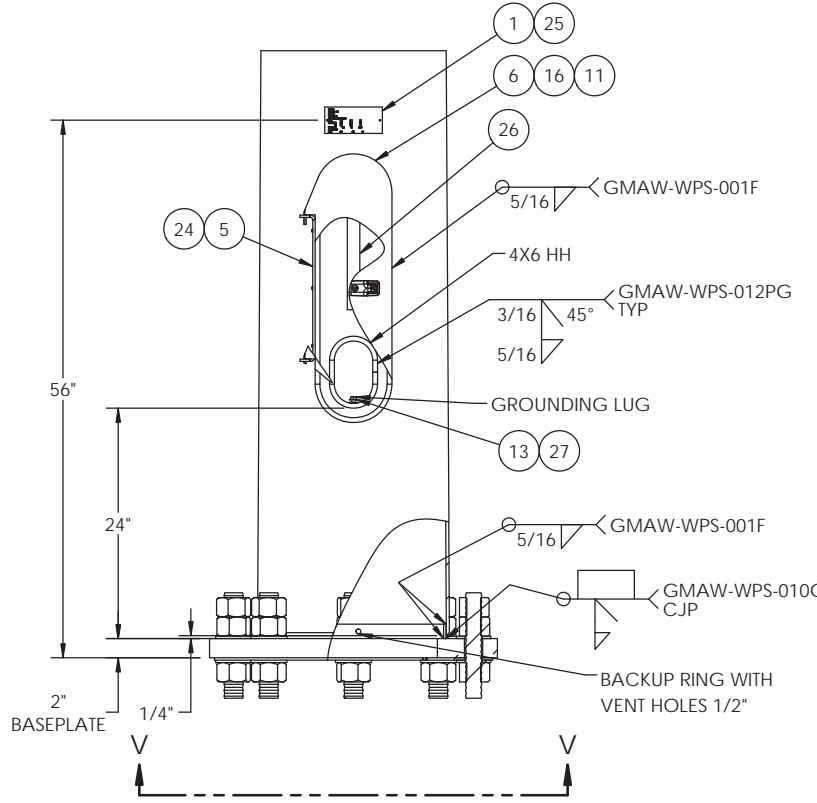
PROJECT NAME:

PROJECT LOCATION:

DWN BY: REBEKAH DATE: 04-30-2020

CHK BY: DATE:

ITEM NO.	DESCRIPTION	QTY PER	ASSY	FINISH
1	ID TAG VA DOT - STAINLESS TAG	3	X	
2	WLDMT POLE SIG RD	1		X
3	WLDMT ARM SIG RD S1	1		X
4	WLDMT ARM SIG RD S2	1		X
5	HINGE HH	1	X	X
6	WELDMNT COVER 8X28 HANDHOLE	1	X	X
7	COVER HH M16 4X6	1	X	X
8	LATCH HH M16 4X6	1	X	
9	STAMPED POLE CAP WELDMENT	1		X
10	STAMPED POLE CAP WELDMENT	1		X
11	LIFT AND TURN TIGHT HOLD PADDLE HANDLE CAM LATCH	1	X	
12	BOLT HX HD 3-4-10NC X 13-1-2 A307GV	1		
13	BOLT HX HD 3/8-16NC X 1" F593C SS	1	X	
14	BOLT HVYHXHD 1-1-2-6 X 6-3-4 A325GV	8		
15	CHAIN 1/8"PROOF COIL CHAIN GV 12"LG	1	X	
16	STICKER-TITE SPONGE GASKET 1/2X1/8	7.14'	X	
17	1"ID,1-3/4OD,5/8TKw/GRV 1/4/1.38GVD	4		NOT SHOWN
18	NUT HVY HX 1-1-2-6NC A563 DH GV	8		
19	NUT HX 3-4-10NC G5 GV	1		
20	PLUG NON THREADED K-8 CAPLUG	8	X	
21	RIVET POP 3/16X1-1/8X5/8 HD ALUM	1	X	
22	SCRWA HX SK FL HD 5-16-18NC X 3 SS	1	X	
23	SCRW ST SQ HD 1-4-20NC X 1 1-4 SS	6		
24	SCRW HX SK BT HD 10-24NC X 5-8 SS	3	X	
25	U-DRIVE SCRW 3/16(DRIVE IN TYPE)F1941M ZC	6	X	
26	TERMINAL STRIP PROVIDED BY OTHERS	1		OPTIONAL REF ONLY
27	WASHFLAT3-8BRASS-001	2	X	
28	WASHER DTI 1 1/2" ASTM F2437 T2 Gr55 GV	8		
29	460B1276 - ANCHOR BOLT CLUSTER (8) 2" X 66" BOLTS ON 25" BC	1		REF



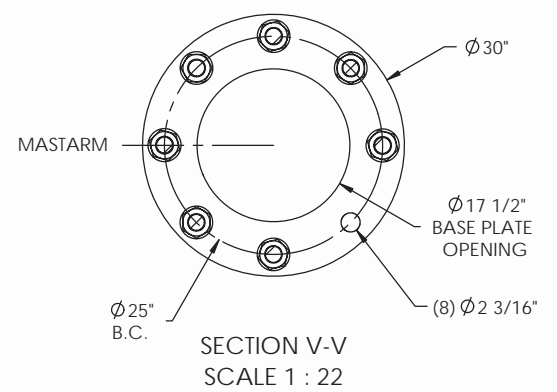
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MFG: MMC SC#					
MFG DATE:					
POLE NUMBER:					
MAST ARM SIGNAL POLE TYPE					
POST:	GA/	DIA/	FT/		
MASTARM: S1:	GA/	DIA/	FT/		
S2:	GA/	DIA/	FT/		
MIN YIELD: (A)	55 (BP)	36 (P)	55 (ARM)	55	
ANCHOR BOLTS	ASTM/ F1554	GR/ 55	DIA/ 2"	LG 66"	

ID TAGS LOCATED ON BACKSIDE OF ARMS



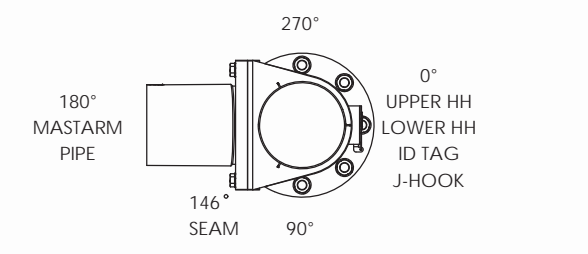
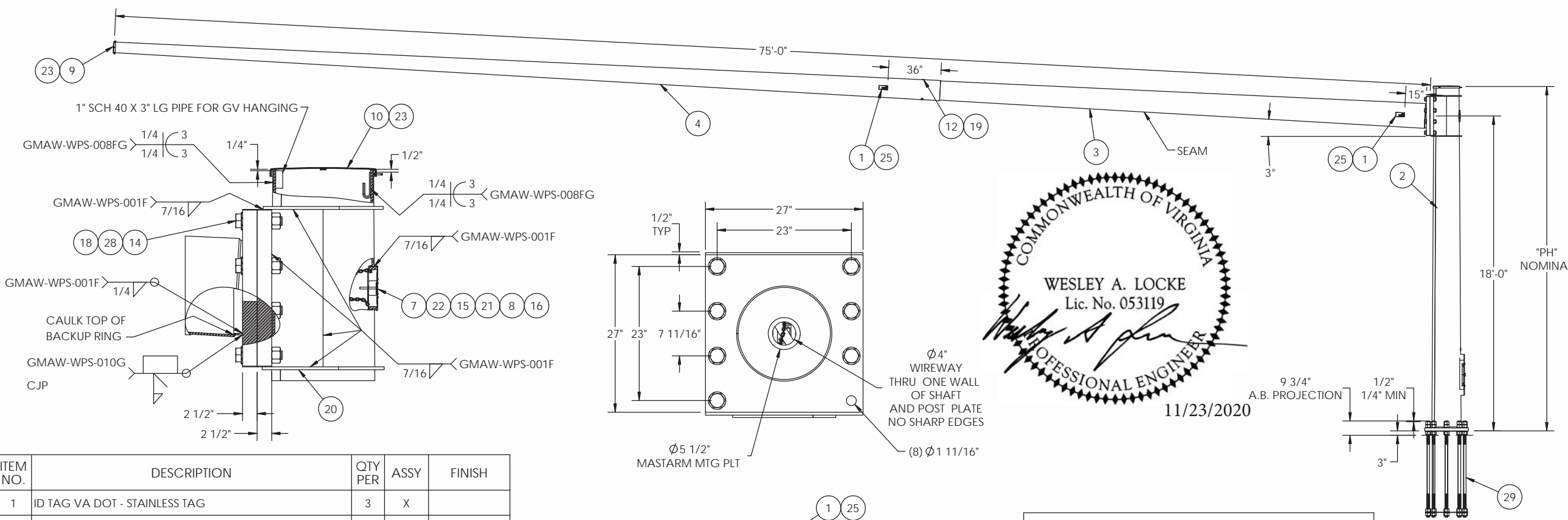
POLE DATA			
QTY	POLE TYPE	"PH" POLE HEIGHT	POLE SIZE
	B1	19'-6"	5/16 X 20.0 X 17.27 X 19'-6"
	E1	25'-0"	5/16 X 20.0 X 16.50 X 25'-0"

MAST ARM DATA					
QTY	"AL" ARM LENGTH	S1 ARM SIZE	S2 ARM SIZE	"AR" ARM RISE	POLE TYPE (B1 OR E1)
	60'-0"	1/4 X 15.0 X 12.20 X 20'-0"	3/16 X 13.11 X 7.23 X 42'-0"	2°	
	65'-0"	1/4 X 16.0 X 13.20 X 20'-0"	3/16 X 14.11 X 7.53 X 47'-0"	2°	
	70'-0"	5/16 X 15.0 X 10.80 X 30'-0"	3/16 X 11.71 X 5.83 X 42'-0"	3°	
	75'-0"	5/16 X 16.0 X 11.80 X 30'-0"	3/16 X 12.71 X 6.13 X 47'-0"	3°	



MASTARMS 50' THRU 59' WILL BE A 60' DESIGN CUT S2 CUT TO LENGTH AS REQUIRED

REVISIONS			
REV.	DESCRIPTION	DATE	DRFT
A	UPDATED PER VDOT MARKUPS PROJECTION NOTE HH DIM BP NOTE ADDED TORQUE SPEC	10/12/2020	TK



MATERIAL SPECIFICATIONS	
POST: ASTM A572 GR 55	
BASE PLATE: ASTM A709 GR 36	
MAST ARM: ASTM A572 GR55	
MOUNTING PLATE: ASTM A572 GR36	
LUMINAIRE ARM:	
HARDWARE FINISH: ASTM A153	
ANCHOR BOLTS: F1554 GR 55	SIZE: 2"

DESIGN CRITERIA	
2013 W/2015 INTERIM REVISIONS AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS ON HIGHWAY SIGNS, LUMINAIRES & TRAFFIC SIGNALS.	
WINDS: 90 MPH 1.3	APPENDIX C: YES
FATIGUE CAT: 2	VORTEX SHED: N/A
NATURAL WIND GUST: YES	GALLOPING: N/A
	TRUCK GUST: N/A

WELD SPECIFICATION	
THE POST AND MAST ARM TO BE A TAPERED TUBE FABRICATION WITH ONE SUBMERGED ARC LONGITUDINAL SEAM WELD WITH 100% PENETRATION 6" FROM BASE PLATE 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).	

FINISH SPECIFICATION	
GALV. OR PRIME COAT: HOT DIP GALV PER ASTM A123	
FINISH COAT:	
COLOR:	
FEDERAL OR RAL SPEC.:	
WEIGHT W/GALV.:	
WEIGHT W/GALV.&PAINT:	
WEIGHT W/PAINT:	
SURFACE AREA:	
GAL. OF PAINT:	

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

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SALES ORDER NO.:	QTY:	STATE:	SHEET
		VA	1 OF 1

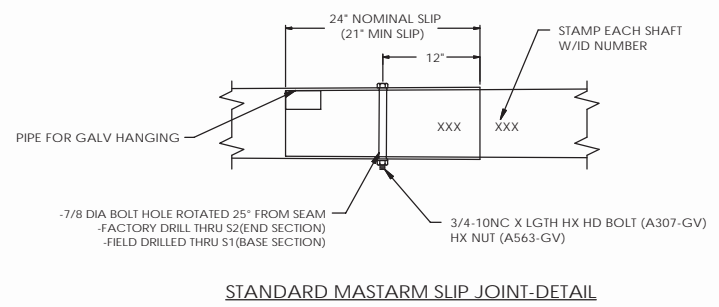
DESCRIPTION:	MP3 POLE TYPE B2 & E2 75' ARM 90 MPH STANDARD OPL DESIGN
EST. WEIGHT:	DRAWING NO: VA9SA-75B2(E2)

PROJECT NAME:	
PROJECT LOCATION:	
DWN BY: REBEKAH	DATE: 04-30-2020
CHK BY:	DATE:



PROJECT:		
MFG: MMC SCH		
MFG DATE:		
POLE NUMBER:		
MAST ARM SIGNAL POLE TYPE		
POST:	GA/	FT/
MASTARM: S1:	GA/	DIA/
S2:	GA/	DIA/
MIN YIELD: (A)	55 (BP) 36 (P) 55 (ARM) 55	
ANCHOR BOLTS	ASTM/ F1554 GR/ 55	DIA/ 2" LG 66"

ID TAGS LOCATED ON BACKSIDE OF ARMS



POLE DATA			
QTY	POLE TYPE	"PH" POLE HEIGHT	POLE SIZE
	B2	19'-6"	3/8 X 20.0 X 17.27 X 19'-6"
	E2	25'-0"	3/8 X 20.0 X 16.50 X 25'-0"

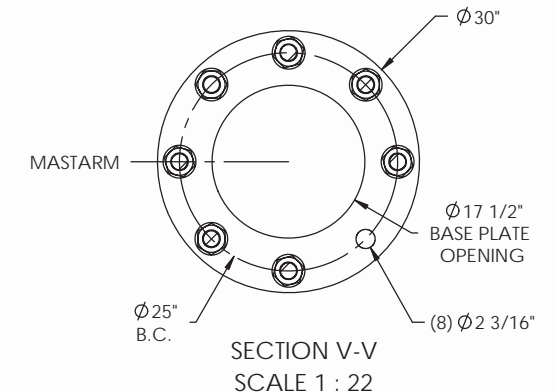
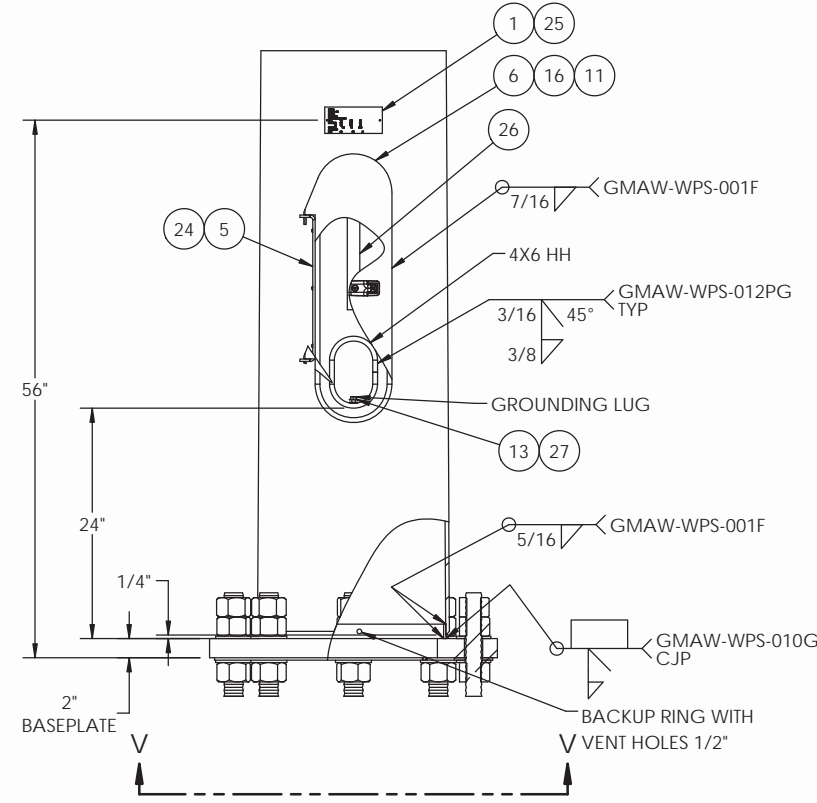
VIRGINIA DEPARTMENT OF TRANSPORTATION
REVIEW OF WORKING DRAWINGS

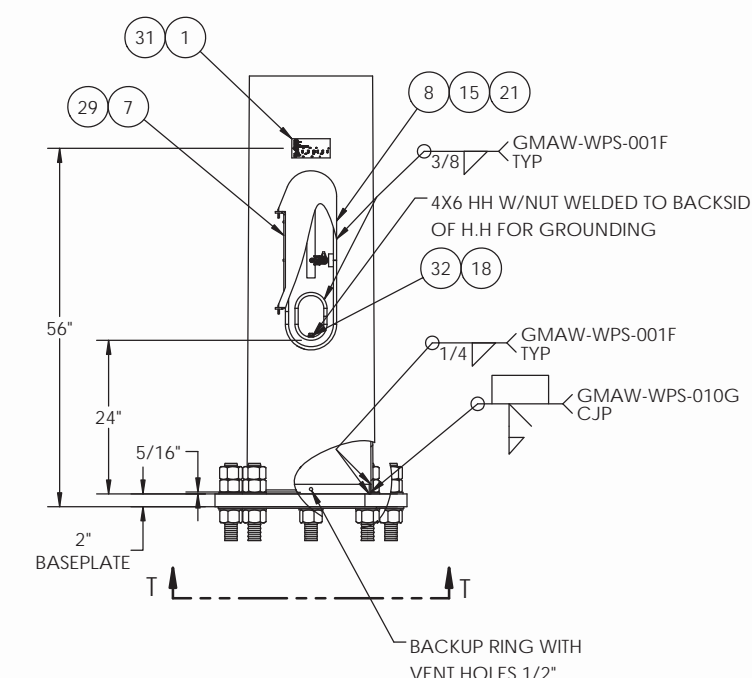
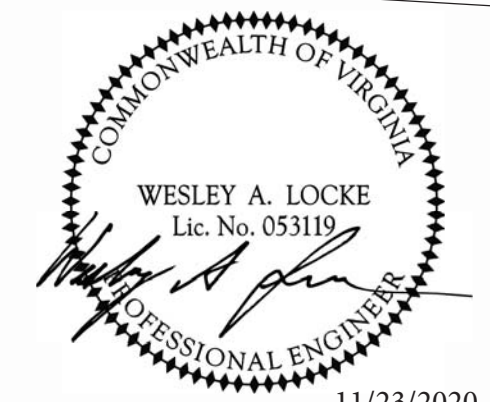
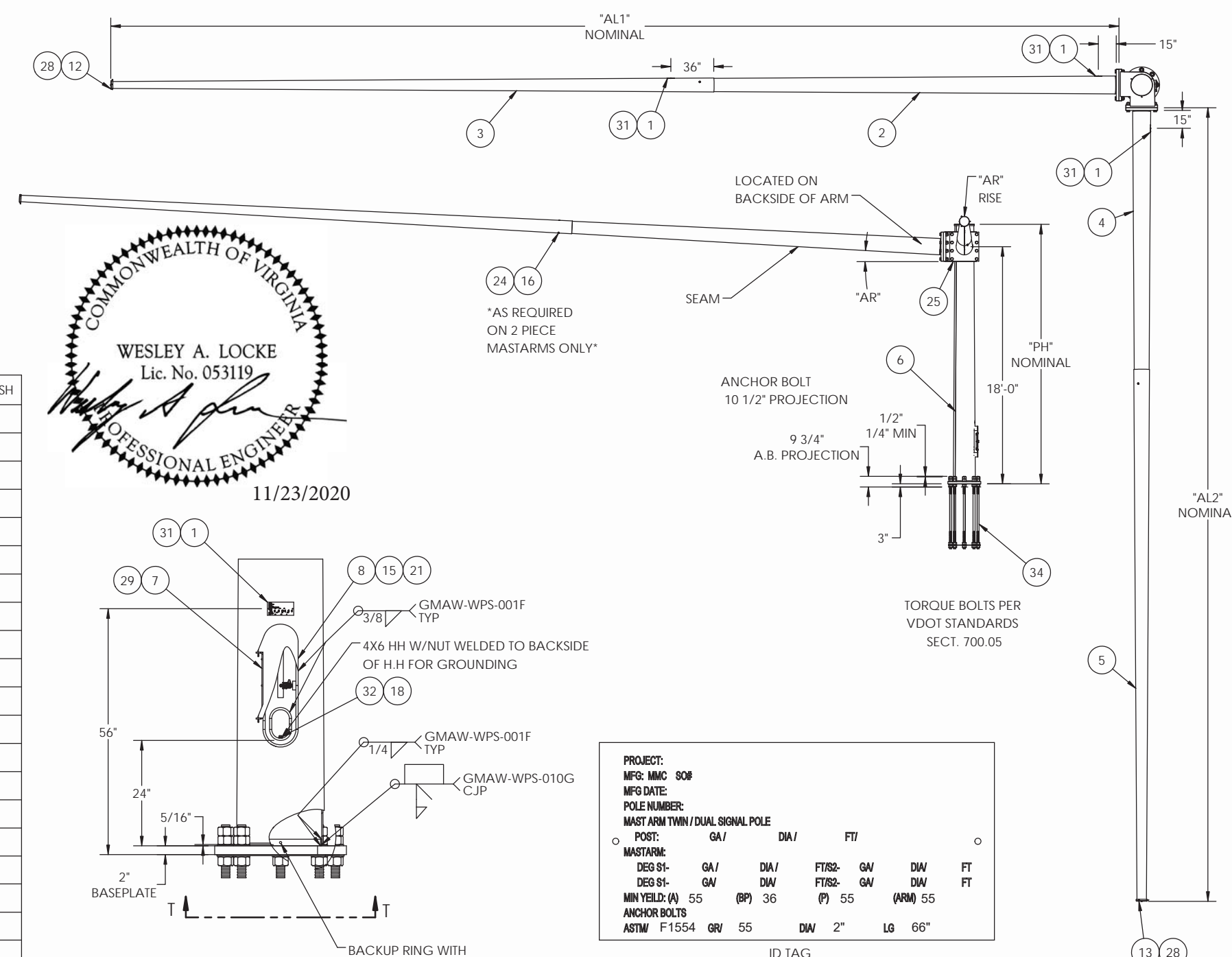
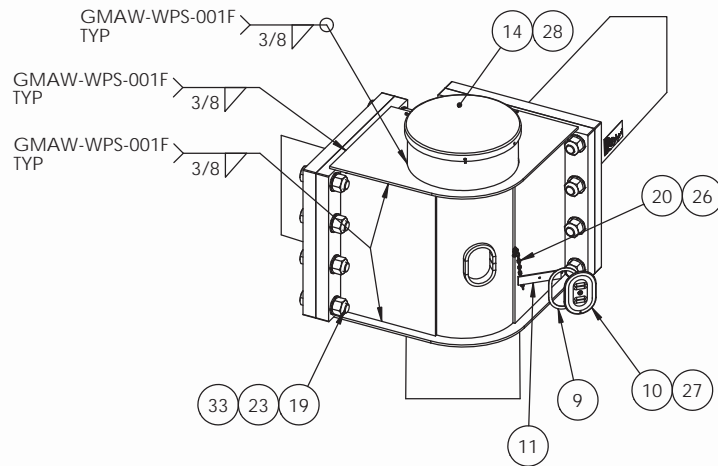
Working drawings have been reviewed in accordance with Section 105.10 of the VDOT Road and Bridge Specifications with the following comments:

- Reviewed
- Reviewed as Noted
- Revise and Resubmit
- Rejected - See Remarks

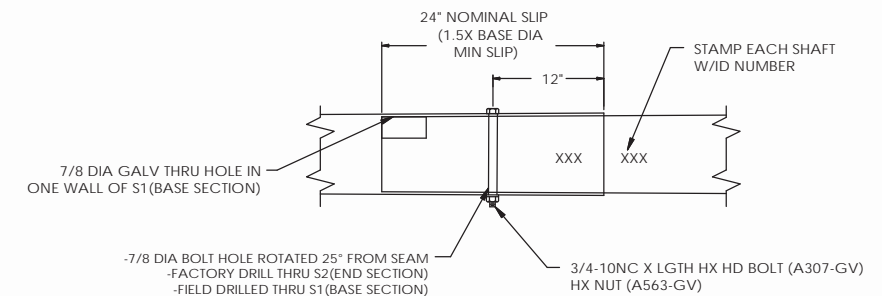
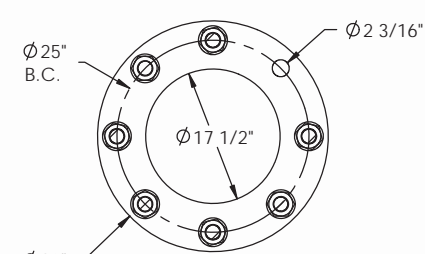
Reviewed by: Matthew Yakim 12-11-2020
Structure & Bridge Division Date

ITEM NO.	DESCRIPTION	QTY PER	ASSY	FINISH
1	ID TAG VA DOT - STAINLESS TAG	3	X	
2	WLDMT POLE SIG RD	1		X
3	WLDMT ARM SIG RD S1 3/8X30' (3/8X17.0X12.8X30'-0")	1		X
4	WLDMT ARM SIG RD S2 1/4X47'-3 (1/4X13.87X7.25X47'-3)	1		X
5	HINGE HH	1	X	X
6	WELDMNT COVER 8X28 HANDHOLE	1	X	X
7	COVER HH M16 4X6	1	X	X
8	LATCH HH M16 4X6	1	X	
9	STAMPED POLE CAP WELDMENT	1		X
10	STAMPED POLE CAP WELDMENT	1		X
11	LIFT AND TURN TIGHT HOLD PADDLE HANDLE CAM LATCH	1	X	
12	BOLT HX HD 3/4-10NC X 14-1/2" A307 GV	1		
13	BOLT HX HD 3/8-16NC X 1" F593C SS	1	X	
14	BOLT HVYHXHD 1-1-2-6 X 7 A325GV	8		
15	CHAIN 1/8"PROOF COIL CHAIN GV 12"LG	1	X	
16	STICKER-TITE SPONGE GASKET 1/2X1/8	7.14'	X	
17	1"ID,1-3/4OD,5/8TKw/GRV 1/4/1.38GVD	8		NOT SHOWN
18	NUT HVY HX 1-1-2-6NC A563 DH GV	8		
19	NUT HX 3-4-10NC G5 GV	1		
20	PLUG NON THREADED K-8 CAPLUG	8	X	
21	RIVET POP 3/16X1-1/8X5/8 HD ALUM	1	X	
22	SCRWA HX SK FL HD 5-16-18NC X 3 SS	1	X	
23	SCRW ST SQ HD 1-4-20NC X 1 1-4 SS	6		
24	SCRW HX SK BT HD 10-24NC X 5-8 SS	3	X	
25	U-DRIVE SCRW 3/16(DRIVE IN TYPE)F1941M ZC	6	X	
26	TERMINAL STRIP PROVIDED BY OTHERS	1		OPTIONAL REF ONLY
27	WASHFLAT3-8BRASS-001	2	X	
28	WASHER DTI 1 1/2" ASTM F2437 T2 Gr55 GV	8		
29	460B1276 - ANCHOR BOLT CLUSTER (8) 2" X 66" BOLTS ON 25" BC	1		





PROJECT:						
MFG: MMC SO#						
MFG DATE:						
POLE NUMBER:						
MAST ARM TWIN / DUAL SIGNAL POLE						
POST:	GA/	DIA/	FT/			
MASTARM:						
DEG S1-	GA/	DIA/	FT/S2-	GN/	DIW/	FT
DEG S1-	GA/	DIW/	FT/S2-	GA/	DIW/	FT
MIN YIELD: (A)	55	(BP) 36	(P) 55	(ARM) 55		
ANCHOR BOLTS						
ASTM	F1554	GRV	55	DIW	2"	LG 66"



**VIRGINIA DEPARTMENT OF TRANSPORTATION
REVIEW OF WORKING DRAWINGS**

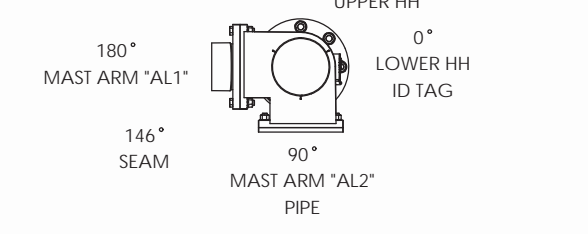
Working drawings have been reviewed in accordance with Section 105.10 of the VDOT Road and Bridge Specifications with the following comments:

- Reviewed
- Reviewed as Noted
- Revise and Resubmit
- Rejected - See Remarks

Reviewed by: Matthew Yakim 12-11-2020
Structure & Bridge Division Date

REVISIONS			
REV.	DESCRIPTION	DATE	DRFT

A	UPDATED PER VDOT MARKUPS PROJECTION NOTE HH DIM BP NOTE ADDED TORQUE SPEC	10/12/2020	TK
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MATERIAL SPECIFICATIONS

POST: ASTM A572 GR55
 BASE PLATE: ASTM A709 GR36
 MAST ARM: ASTM A572 GR55
 MOUNTING PLATE: ASTM A709 GR36
 HARDWARE FINISH: ASTM A153
 ANCHOR BOLTS: F1554 GR55

DESIGN CRITERIA

2013W/2015 INTERIM REVISIONS AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS ON HIGHWAY SIGNS, LUMINAIRES & TRAFFIC SIGNALS. APPENDIX C: YES

WINDS: 90 MPH 1.3 VORTEX SHED: N/A
 FATIGUE CAT: 2 GALLOPING: N/A
 NATURAL WIND GUST: YES TRUCK GUST: 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 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).

FINISH SPECIFICATION

GALV. OR PRIME COAT: HOT DIP GALV PER ASTM A123
 FINISH COAT: N/A
 COLOR: N/A
 FEDERAL OR RAL SPEC.: -
 WEIGHT W/GALV.: -
 WEIGHT W/GALV.&PAINT:
 SURFACE AREA:
 GAL. OF PAINT:



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SALES ORDER NO.:	QTY:	STATE:	SHEET
		VA	1 OF 2

DESCRIPTION:
 MP3 POLE TYPE C & F DUAL MASTARMS (MAX 130')
 90 MPH STANDARD QPL DESIGN

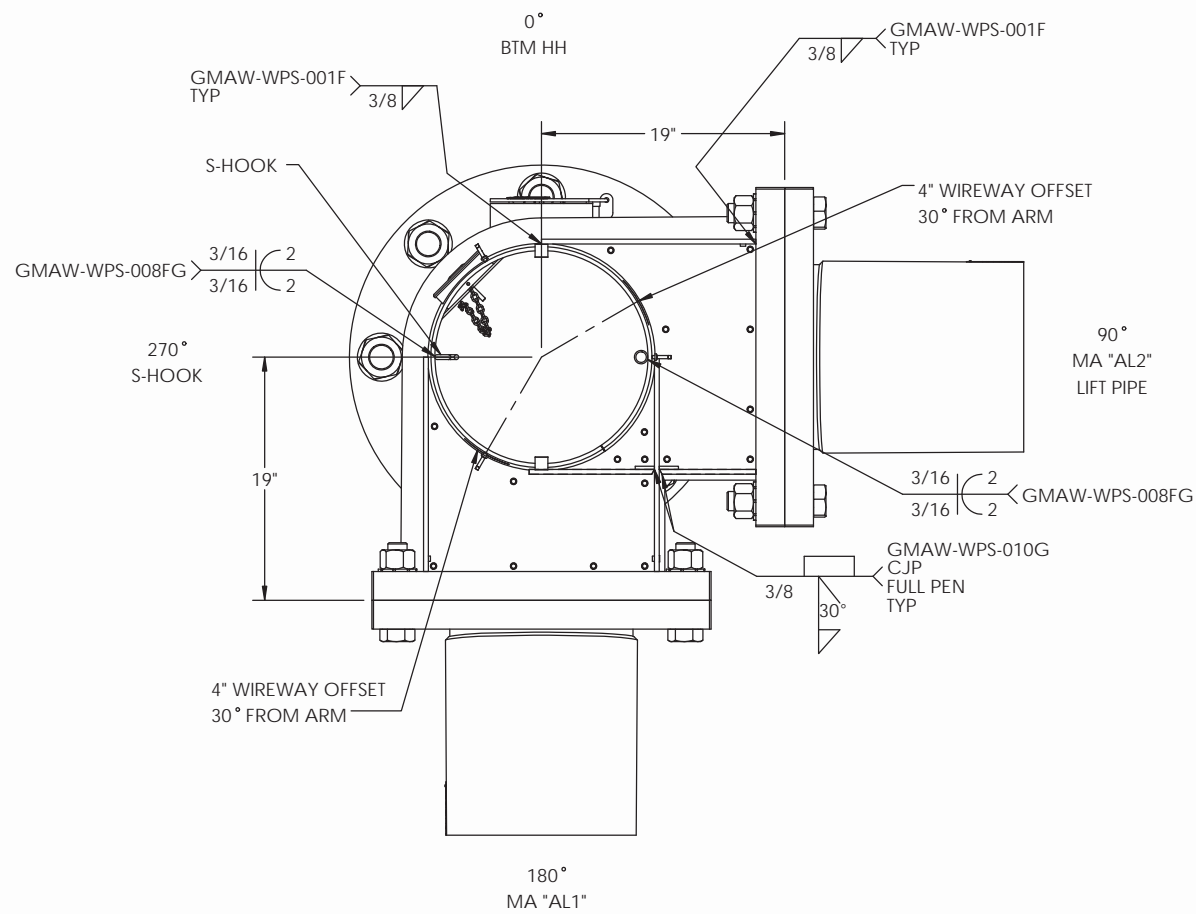
EST. WEIGHT:	DRAWING NO:
	VA9DA-70-60C(F)

PROJECT NAME:
 VA

PROJECT LOCATION:
 VA

DWN BY: REBEKAH	DATE: 04-30-2020
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CHK BY:	DATE:
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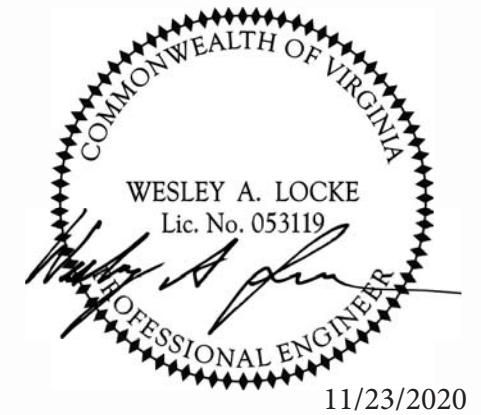
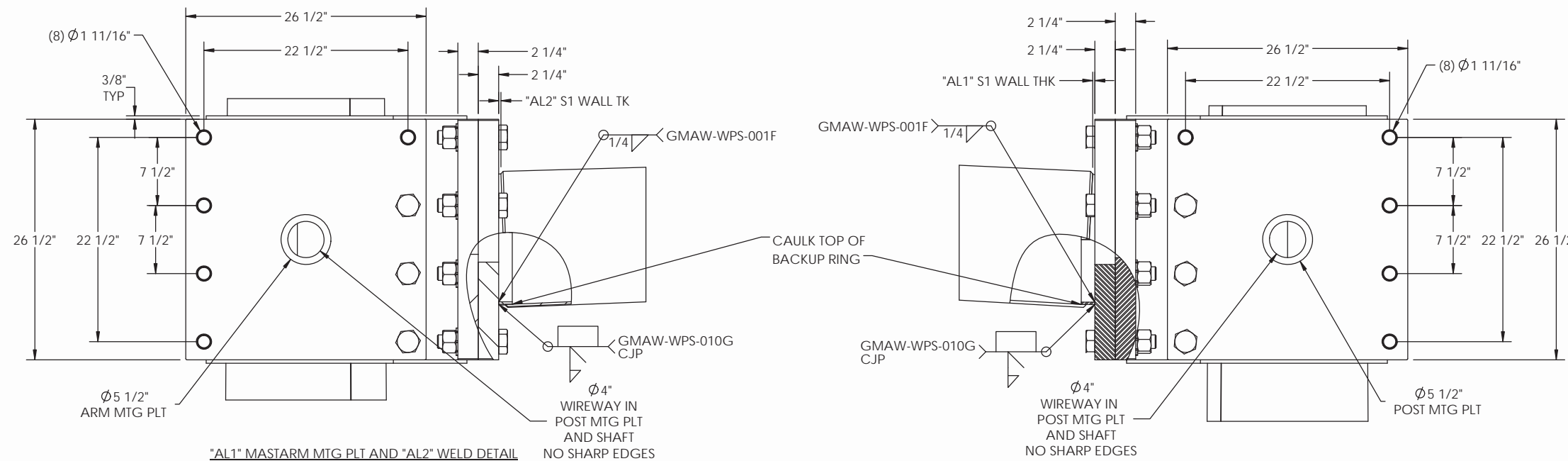


POLE DATA		
POLE TYPE	"PH" POLE HEIGHT	POLE SIZE
C	19'-6"	5/16 X 20.0 X 17.27 X 19'-6"
F	25'-0"	5/16 X 20.0 X 16.50 X 25'-0"

MAST ARM DATA			
"AL" ARM LENGTH	S1 ARM SIZE	S2 ARM SIZE	"AR" ARM RISE
30'-0"	3/16 X 10.0 X 5.80 X 30'-0"	---	2°
40'-0"	3/16 X 10.0 X 4.40 X 40'-0"	---	2°
49'-0"	3/16 X 10.0 X 5.14 X 49'-0"	---	2°
60'-0"	1/4 X 15.0 X 12.20 X 20'-0"	3/16 X 13.11 X 7.23 X 42'-0"	2°
65'-0"	1/4 X 16.0 X 13.20 X 20'-0"	3/16 X 14.11 X 7.53 X 47'-0"	2°
70'-0"	5/16 X 15.0 X 10.80 X 30'-0"	3/16 X 11.71 X 5.83 X 42'-0"	3°

POLES ARE DESIGNED TO SUPPORT A MAXIMUM ARM LENGTH COMBINATON OF 130' PER V.DOT STANDARDS

ORDER CONFIGURATION		
POLE TYPE	AL1 ARM LENGTH	AL2 ARM LENGTH



		622 6TH ST. SO. WINSTED, MN 55395	
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SALES ORDER NO.:	QTY:	STATE:	SHEET
		VA	2 OF 2
DESCRIPTION: MP3 POLE TYPE C & F DUAL MASTARMS (MAX 130') 90 MPH STANDARD QPL DESIGN			
EST. WEIGHT:		DRAWING NO:	
		VA9DA-70-60C(F)	
PROJECT NAME:			
PROJECT LOCATION:			
VA			
DWN BY: REBEKAH		DATE: 04-30-2020	
CHK BY:		DATE:	

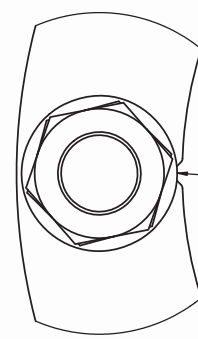
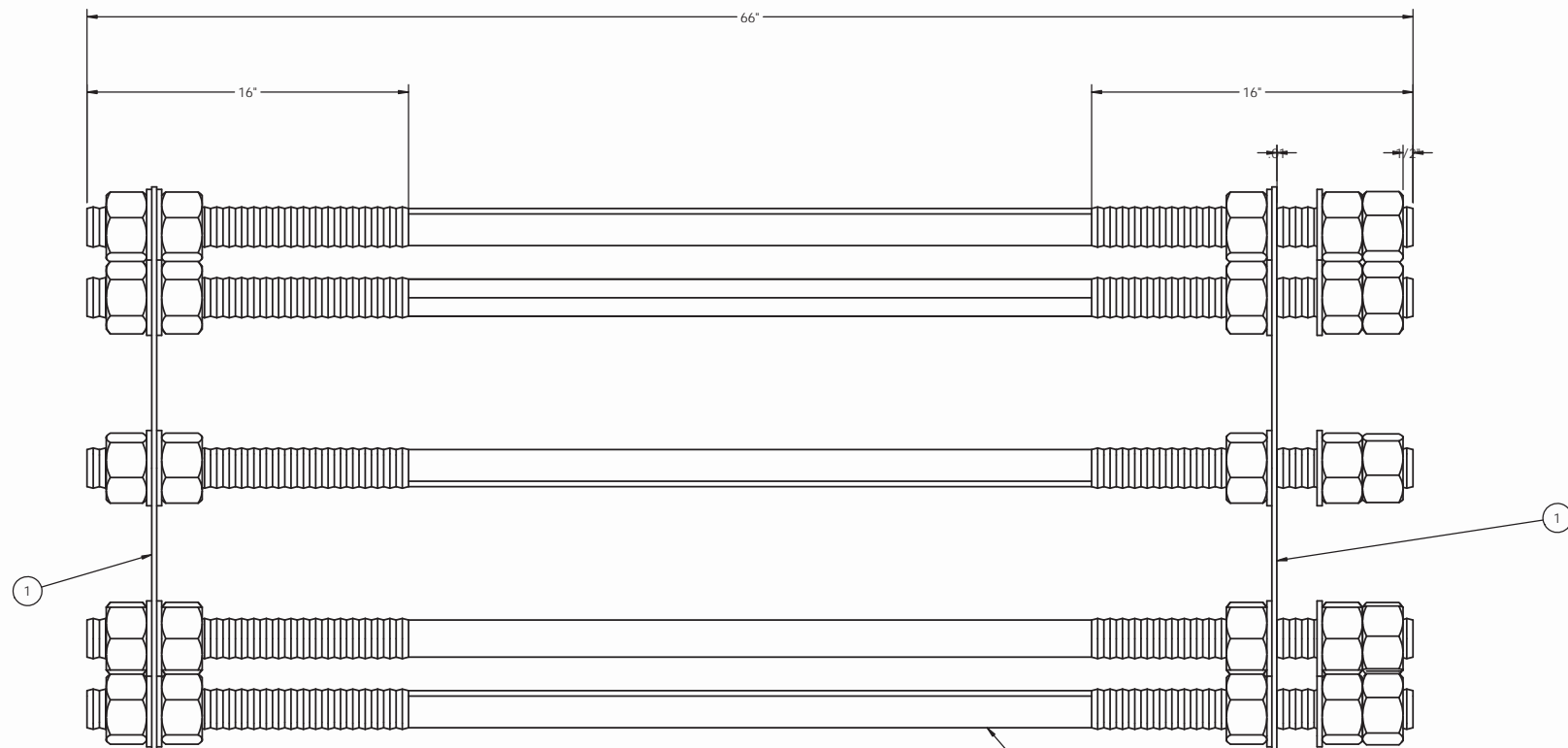
**VIRGINIA DEPARTMENT OF TRANSPORTATION
REVIEW OF WORKING DRAWINGS**

Working drawings have been reviewed in accordance with Section 105.10 of the VDOT Road and Bridge Specifications with the following comments:

- Reviewed
- Reviewed as Noted
- Revise and Resubmit
- Rejected - See Remarks

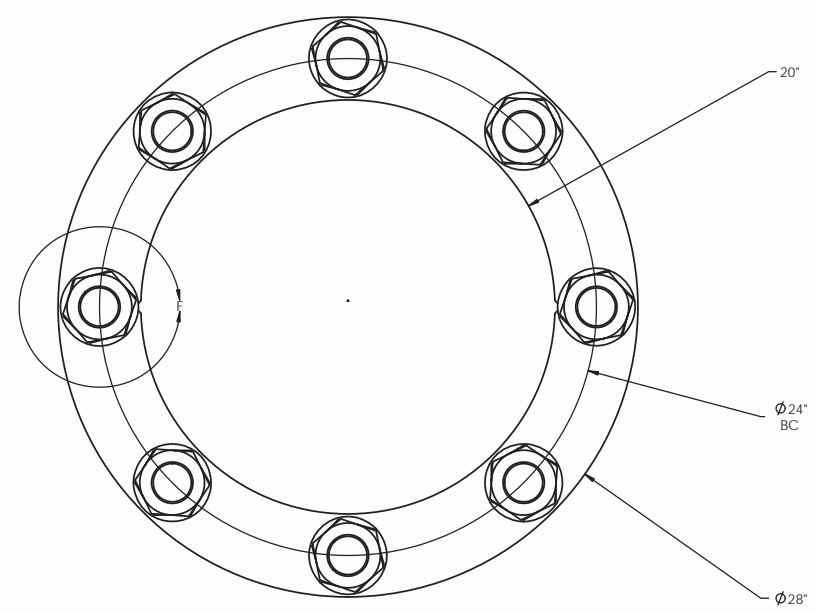
Reviewed by: Matthew Yakim 12-11-2020
Date

REVISIONS			
REV.	DESCRIPTION	DATE	DRFT
A	REMOVED LOCK WASHER	4/28/2020	TK



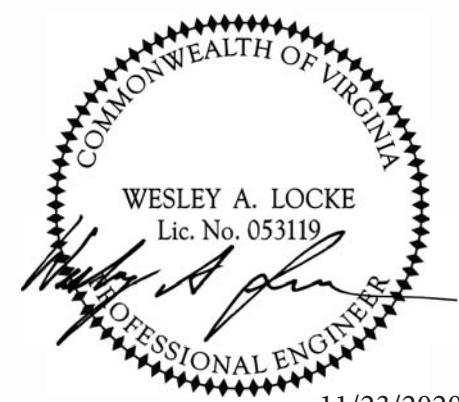
1/4" NOTCH FOR MASTARM
ORIENTATION 0° AND 180°

DETAIL F
SCALE 1 : 3



NOTE:

1. ANCHOR BOLT MATERIAL- HIGH STRENGTH STEEL ROD 55,000 PSI MIN YIELD PER AASHTO M314/F1554 GRADE 55
2. ANCHOR BOLTS FULLY HOT DIP GALVANIZED PER ASTM A153.
3. THREAD TO BE CLASS 2A PER AMERICAN STD. B 1.1 .030 OVER SIZE AFTER GALVANIZING
4. ALL BOLTS ROLLED THREAD
5. GALVANIZED HEAVY HEX NUTS .030 OVER SIZE (A194GV) PER ASTM A194 GR 2H
6. NO WELDING IS ALLOWED ON ANCHOR BOLTS
7. GALVANIZED FLAT WASHERS PER ASTM F436
8. THE END OF ANCHOR BOLT TO PROJECT FROM CONCRETE PAINTED YELLOW
9. TEMPLATE MATERIAL- LOW CARBON STEEL 36,000 PSI MIN YIELD PER ASTM A36
10. FOLLOW DOUBLE NUT INSTALLATION PROCEDURE PER VDOT ROAD AND BRIDGE SPECIFICATIONS SECTION 700.05(K)



**VIRGINIA DEPARTMENT OF TRANSPORTATION
REVIEW OF WORKING DRAWINGS**

Working drawings have been reviewed in accordance with Section 105.10 of the VDOT Road and Bridge Specifications with the following comments:

Reviewed
 Reviewed as Noted
 Revise and Resubmit
 Rejected - See Remarks

Reviewed by: Matthew Yakim 12-11-2020
Structure & Bridge Division Date

ITEM NO.	PART NUMBER	DESCRIPTION	QTY PER
1	460B1045	ANCHOR BOLT TEMPLATE FOR (8) 2" BOLTS	2
2	460B1044	2" X 66" LG W/ 5 NUTS & 4 FLATWASHERS	8

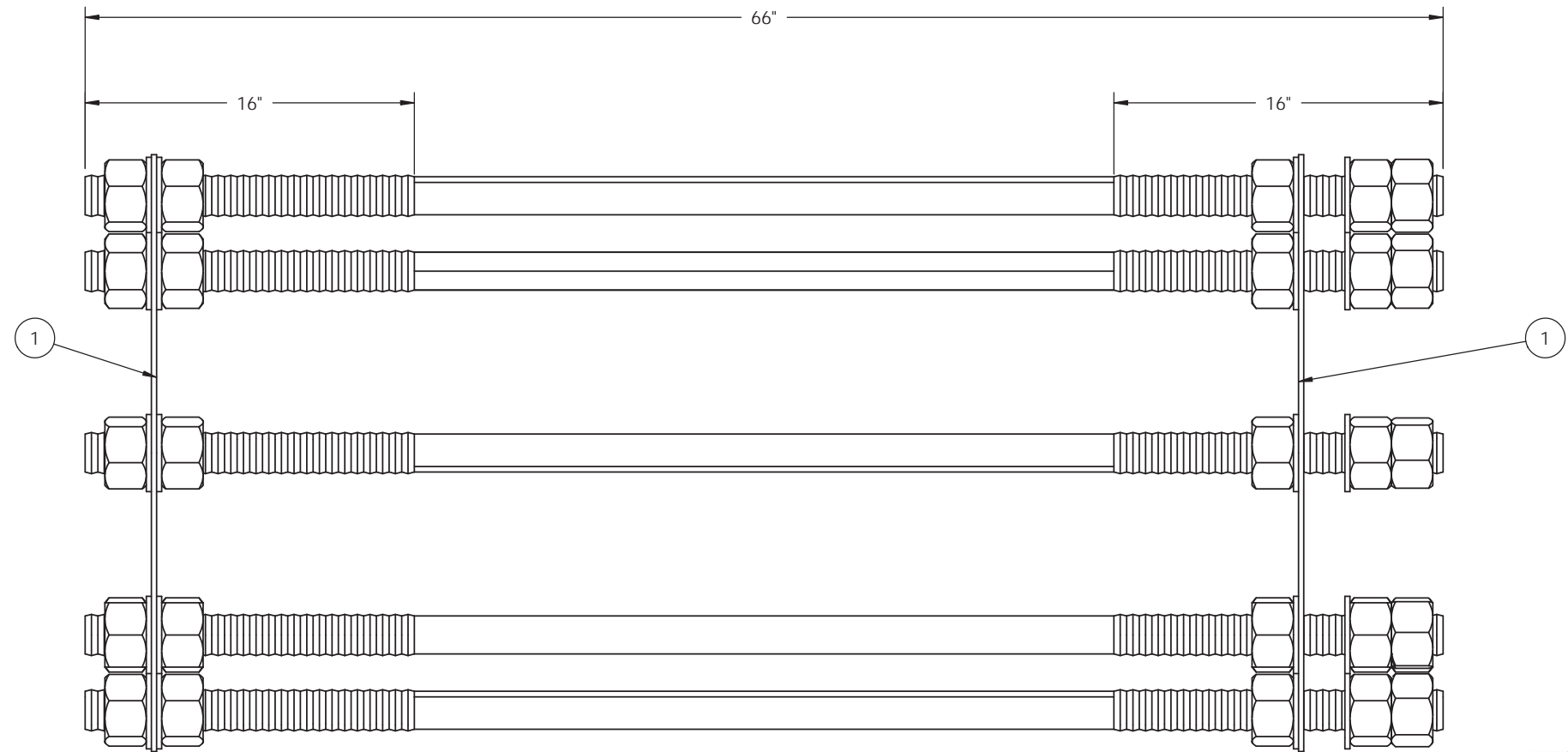
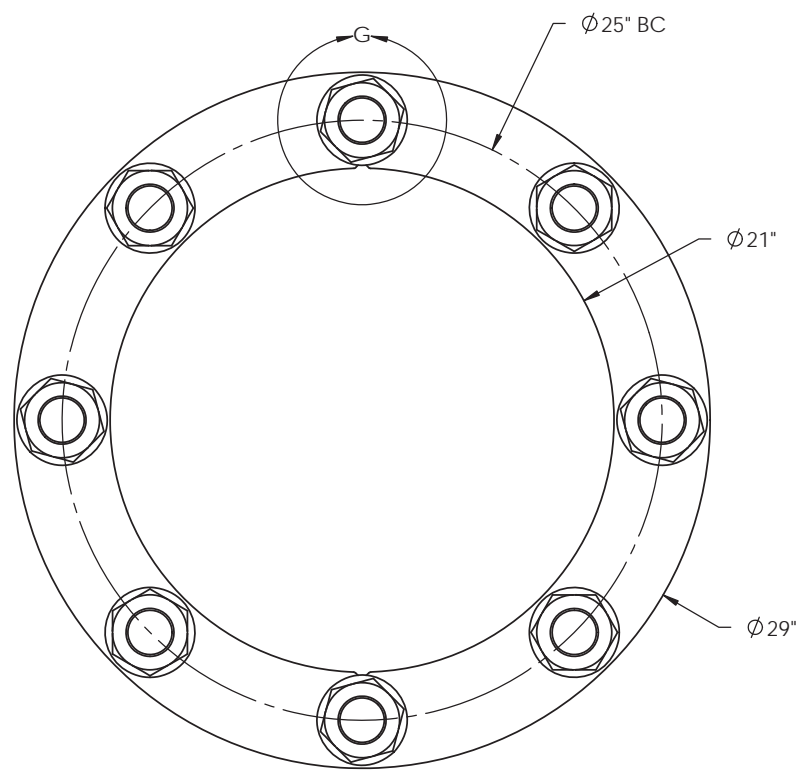
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MILLERBERND 622 6TH ST. SO. WINSTED, MN 55395

DWN: TRAVIS K. DATE: 12-02-2016
CHK BY: DATE:
MATERIAL: SEE BOM
WEIGHT: 608.0 LBS. SURFACE AREA: 6787.1 SQ IN. SCALE: 1:12
DRWG NO: 460B1043 SHEET 1 OF 1 **C**

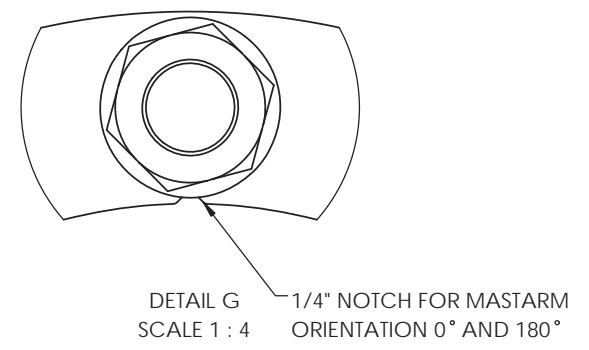
DESCRIPTION: ANCHOR BOLT CLUSTER (8) 2" X 66" BOLTS ON 24" BC

REVISIONS			
REV.	DESCRIPTION	DATE	DRFT
A	REMOVED LOCKWASHER	4/23/2020	TK



NOTE:

- ANCHOR BOLT MATERIAL- HIGH STRENGTH STEEL ROD
55,000 PSI MIN YIELD PER AASHTO M314/F1554 GRADE 55
- ANCHOR BOLTS FULLY HOT DIP GALVANIZED PER ASTM A153.
- THREAD TO BE CLASS 2A PER AMERICAN STD. B 1.1 .030 OVER SIZE AFTER GALVANIZING
- ALL BOLTS ROLLED THREAD
- GALVANIZED HEAVY HEX NUTS .030 OVER SIZE (A194GV)
PER ASTM A194 GR 2H
- NO WELDING IS ALLOWED ON ANCHOR BOLTS
- GALVANIZED FLAT WASHERS PER ASTM F436
- THE END OF ANCHOR BOLT TO PROJECT FROM CONCRETE PAINTED YELLOW
- TEMPLATE MATERIAL- LOW CARBON STEEL 36,000 PSI MIN YIELD PER ASTM A36
- FOLLOW DOUBLE NUT INSTALLATION PROCEDURE PER VODT ROAD AND BRIDGE SPECIFICATIONS SECTION 700.05(K)



VIRGINIA DEPARTMENT OF TRANSPORTATION
REVIEW OF WORKING DRAWINGS

Working drawings have been reviewed in accordance with Section 105.10 of the VDOT Road and Bridge Specifications with the following comments:

- Reviewed
- Reviewed as Noted
- Revise and Resubmit
- Rejected - See Remarks

Reviewed by: Matthew Yakim 12-11-2020
Structure & Bridge Division Date

COMMONWEALTH OF VIRGINIA
WESLEY A. LOCKE
Lic. No. 053119
PROFESSIONAL ENGINEER

11/23/2020

ITEM NO.	PART NUMBER	DESCRIPTION	QTY PER
1	460B1277	ANCHOR BOLT TEMPLATE FOR (8) 2" BOLTS	2
2	460B1044	2" X 66" LG W/ 5 NUTS & 4 FLATWASHERS	8

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

DWN: REBEKAH DATE: 11/21/17

CHK BY: DATE:

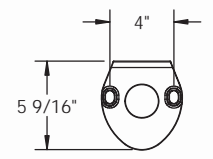
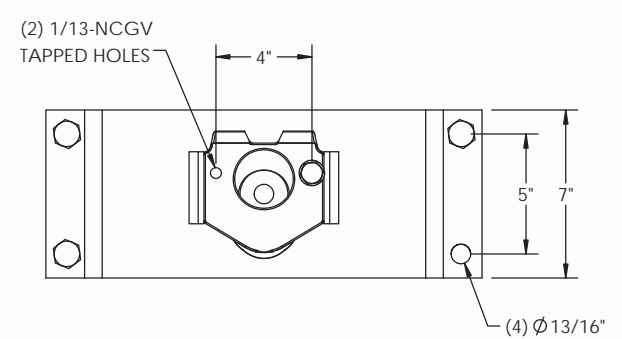
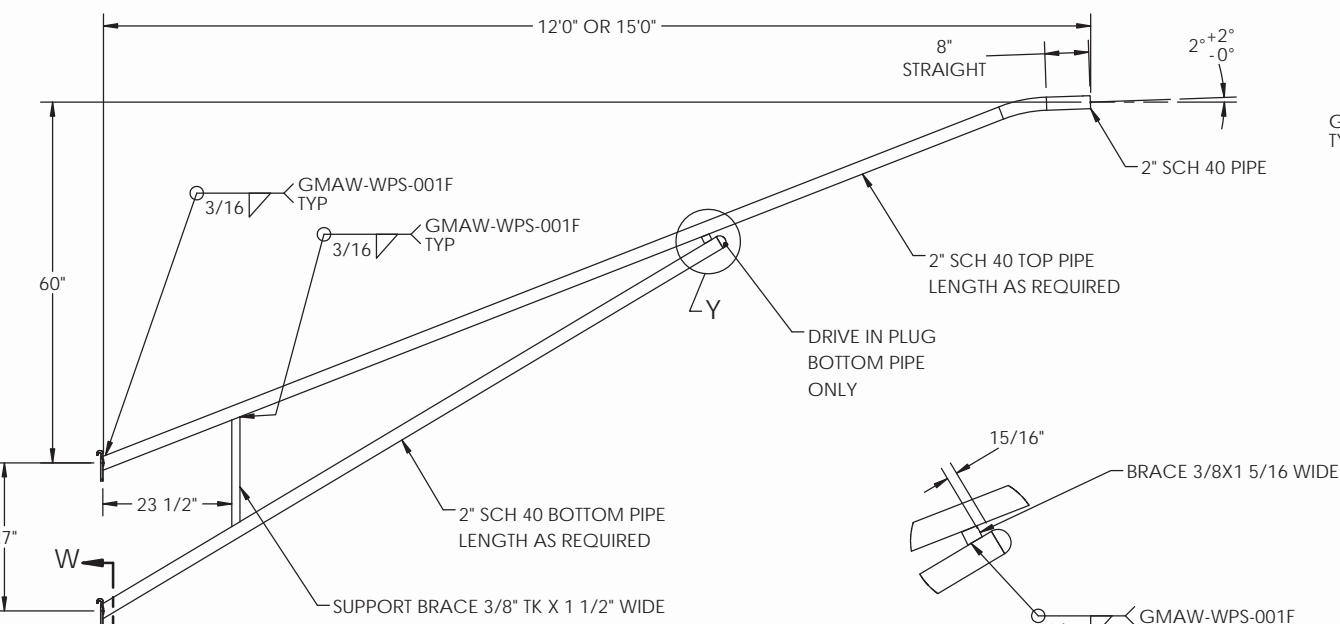
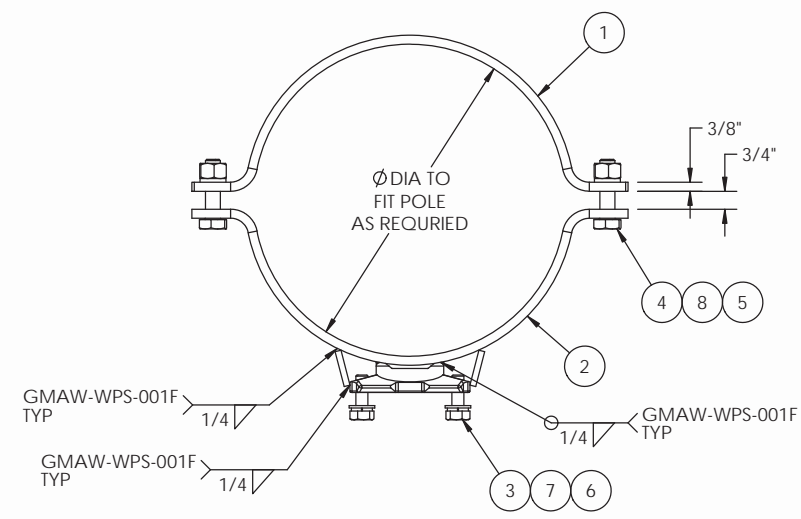
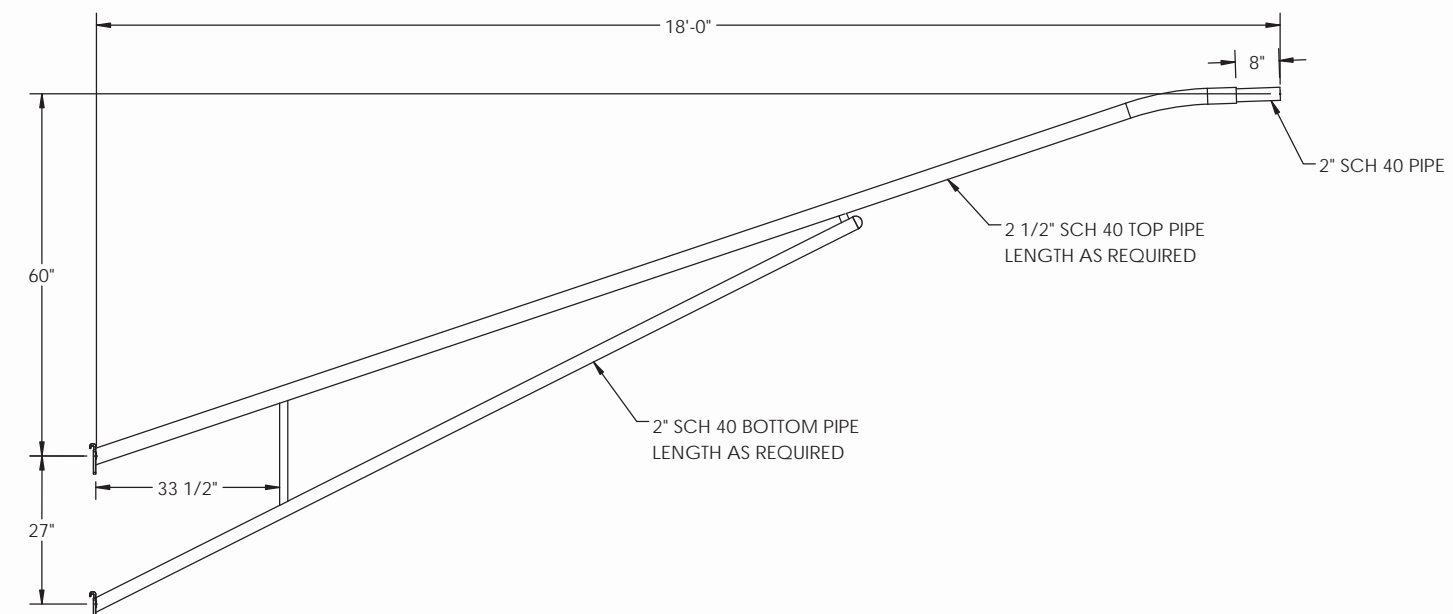
MATERIAL: SEE BOM

WEIGHT: 609.8 LBS. SURFACE AREA: 6840.5 SQ IN SCALE: 1:12

DESCRIPTION: ANCHOR BOLT CLUSTER (8) 2" X 66" BOLTS ON 25" BC

DRWG NO.: 460B1276 SHEET 1 OF 1 **B**

REVISIONS			
REV.	DESCRIPTION	DATE	DRFT



SECTION W-W
SCALE 1 : 12

DETAIL Y
SCALE 2 : 35

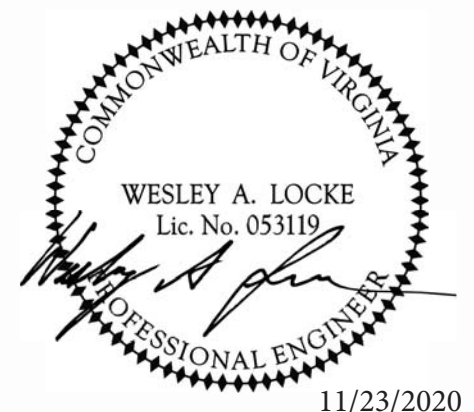
POLE DATA		
QTY	POLE TYPE	LUM ARM LENGTH 12'-0" / 15'-0" / 18'-0"
	D	
	E1	
	F	

VIRGINIA DEPARTMENT OF TRANSPORTATION
REVIEW OF WORKING DRAWINGS

Working drawings have been reviewed in accordance with Section 105.10 of the VDOT Road and Bridge Specifications with the following comments:

- Reviewed
- Reviewed as Noted
- Revise and Resubmit
- Rejected - See Remarks

Reviewed by: Matthew Yakim 12-11-2020
Structure & Bridge Division Date



ITEM NO.	DESCRIPTION	QTY PER	ASSY	FINISH
1	CLAMP BCK LUM 3/8X7"	1		X
2	WLDMT CLAMP FRT 2 BS 3/8 X 7"	1		X
3	BOLT HVYHXHD 1-2-13NC X 1-1-2 A325 GV	2		
4	BOLT HVYHXHD 5-8-11X2-1-2L A325GV	4		
5	NUT HVY HX 5-8-11NC A563 GV(DH)	4		
6	WASHER FLAT 1/2 GV	2		
7	WASHER LOCK 1/2 GV	2		
8	WASHER LOCK 5/8 ASTM F436 GV	4		

MATERIAL SPECIFICATIONS

POST:
BASE PLATE:
MAST ARM:
MOUNTING PLATE:
LUMINAIRE ARM: ASTM A500
HARDWARE FINISH: ASTM A153
ANCHOR BOLTS: SIZE:

DESIGN CRITERIA

2013 W/2015 INTERIM REVISIONS AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS ON HIGHWAY SIGNS, LUMINAIRES & TRAFFIC SIGNALS.

WINDS: MPH APPENDIX C: YES
FATIGUE CAT: N/A VORTEX SHED: N/A
NATURAL WIND GUST: N/A GALLOPING: N/A
TRUCK GUST: N/A

WELD SPECIFICATION

THE POST AND MAST ARM TO BE A TAPERED TUBE FABRICATION WITH ONE SUBMERGED ARC LONGITUDINAL SEAM WELD WITH 100% PENETRATION 6" FROM BASE PLATE 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).

FINISH SPECIFICATION

GALV. OR PRIME COAT: HOT DIP GALV PER ASTM A123
FINISH COAT:
COLOR:
FEDERAL OR RAL SPEC.:
WEIGHT W/GALV.:
WEIGHT W/GALV.&PAINT:
WEIGHT W/PAINT:
SURFACE AREA:
GAL. OF PAINT:



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SALES ORDER NO.:	QTY:	STATE:	SHEET
		VA	1 OF 1

DESCRIPTION: 2 BOLT SIMPLEX LUM ARM
STANDARD QPL DESIGN

EST. WEIGHT: DRAWING NO:
VA9SA-LUM

PROJECT NAME:
PROJECT LOCATION:

DWN BY: REBEKAH DATE: 5/7/2020
CHK BY: DATE: