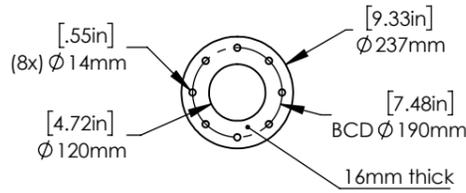


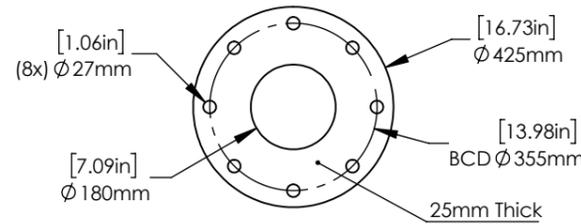
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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	initial release	4/7/21	MGC
B			

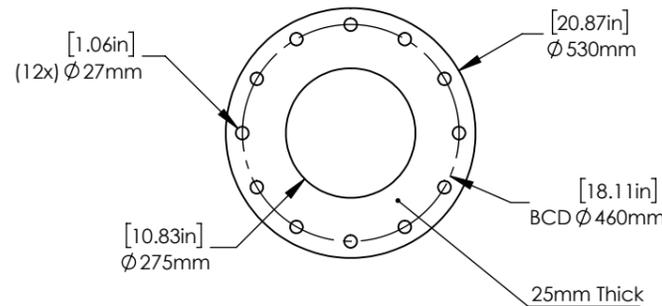
A. Flange



B. Flange



C. Flange



- Survival Wind Speed: Per Code
 - Structure Class - Per Code
 - Topographic - Per Code
 - Exposure - Per Code

- Design and Welding Codes:
 - TIA-222-G
 - AWS D1.1

- Material (or equivalent)
 - Pole: Q355 (ASTM A572 GR50)
 - Baseplate: Q355 (ASTM A572 GR50)
 - Splice Plates/ Flanges: Q355 (ASTM A572 GR50)

- (A) Flange/ Rod End Bracket Bolts: (16X) M16x3 x 60mm - GR 8.8
 - (1X) Nut (2X) Washer
 - Optional (5/8-11 x 2.375in GR A325)
 - Hot Dip Galv. per ASTM F2329

- (B-C) Flange Bolts: (20X) M36x4 x 100mm - GR 8.8
 - (1X) Nut (2X) Washer
 - Optional (1 1/2-6 x 4in GR A325)
 - Hot Dip Galv. per ASTM F2329

- Hing Flange Bolts: (12X) M36x4 x 125mm - GR 8.8
 - (3x) Nut (4x) Washer
 - Optional (1 1/2-6 x 5in) Grade ASTM F1554 G55)
 - Hot Dip Galv. per ASTM F2329

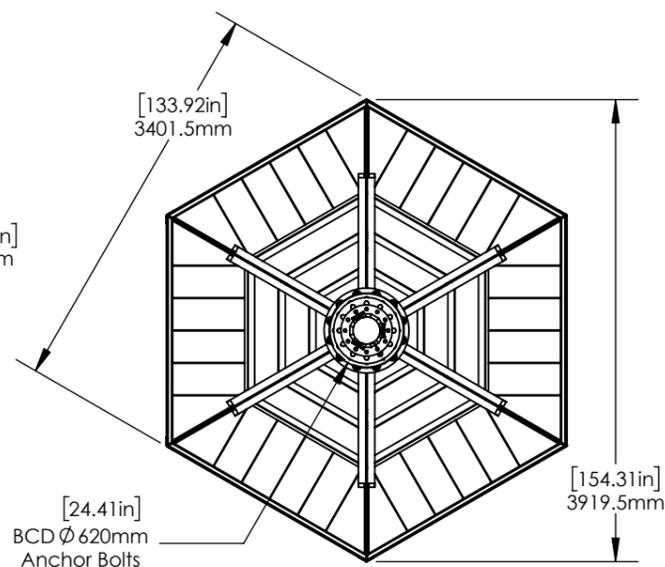
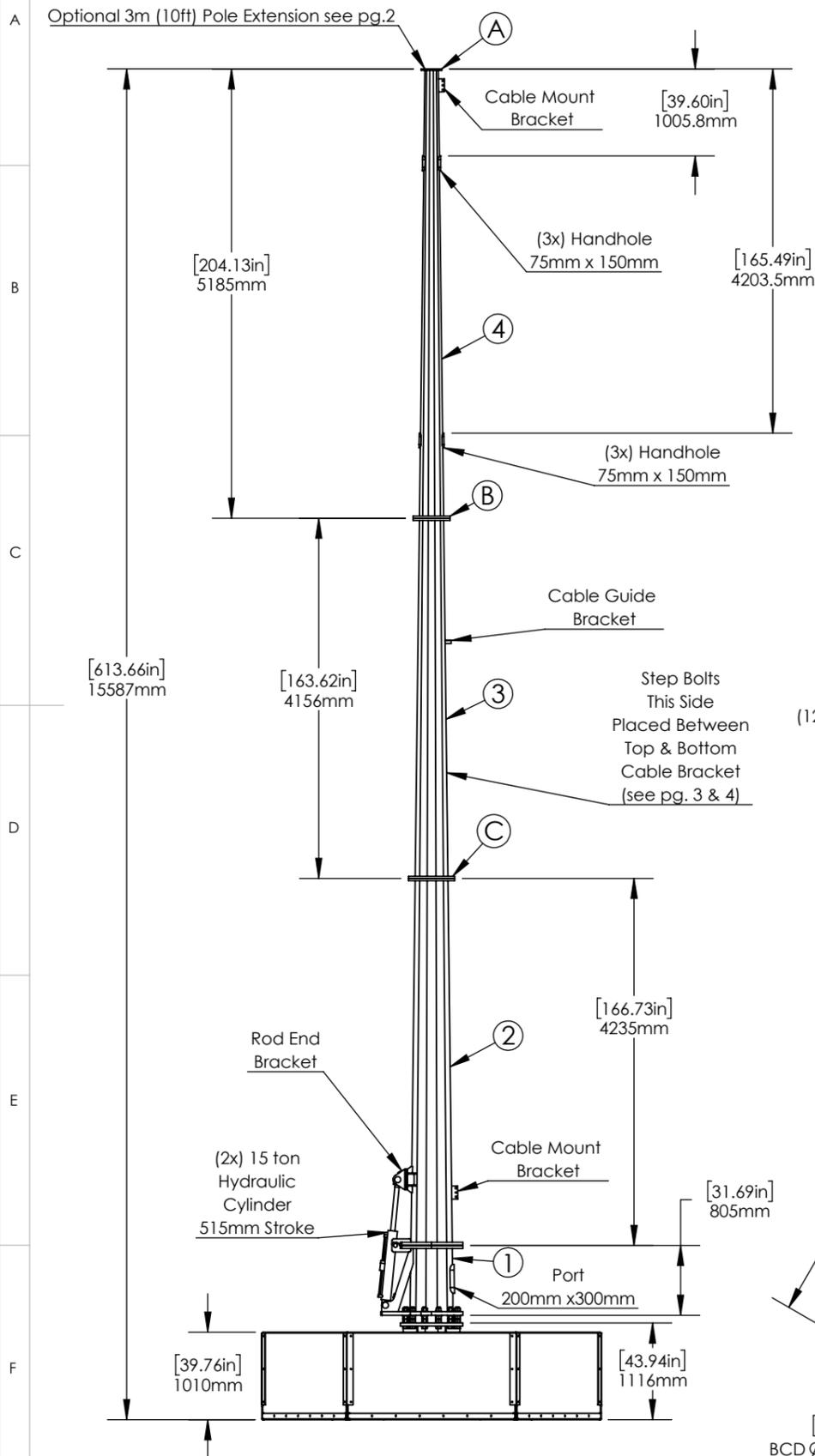
- Anchor Bolts: (12X) M36x4 x 225mm - GR 8.8
 - (3x) Nut (4x) Washer
 - Optional (1 1/2-6 x 9in) Grade ASTM F1554 G55)
 - Hot Dip Galv. per ASTM F2329

8. Pole has 12 sides

9. Finish: Hot dip Galvanizing per ASTM A123

10. Pole Section Details

Pole Section	#1	#2	#3	#4
Thickness - (mm)/ (in)	0.197/ 5	0.197/ 5	0.197/ 5	0.197/ 5
Length - (m)/ (ft)	0.805/ 2.64	4.235/ 13.9	4.156/ 13.64	5.185/ 17
Top Dia. - (mm)/ (in)	478/ 18.8	377/ 14.8	278/ 10.94	155/ 6.1
Bottom Dia. - (mm)/ (in)	495/ 19.5	476/ 18.74	376/ 14.8	277/ 10.9
Min Slip - (mm)/ (in)		NA	NA	NA
Section Weight (kg)/ (lb)	313/ 689	392/ 862	221/ 486	169/ 372



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15.6m 4SF Hyd AFS400

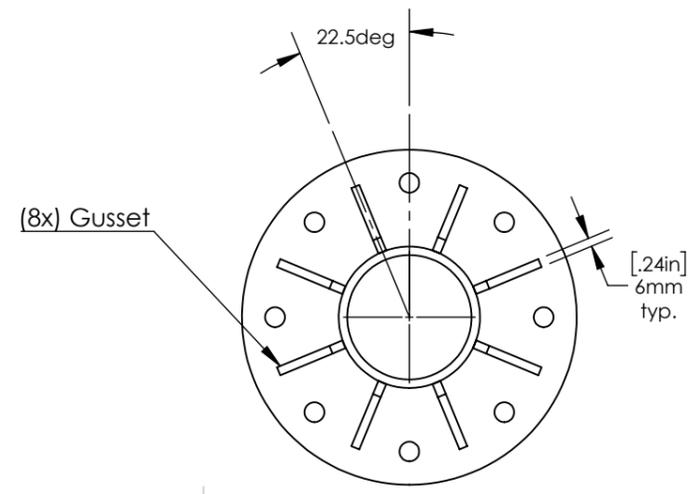
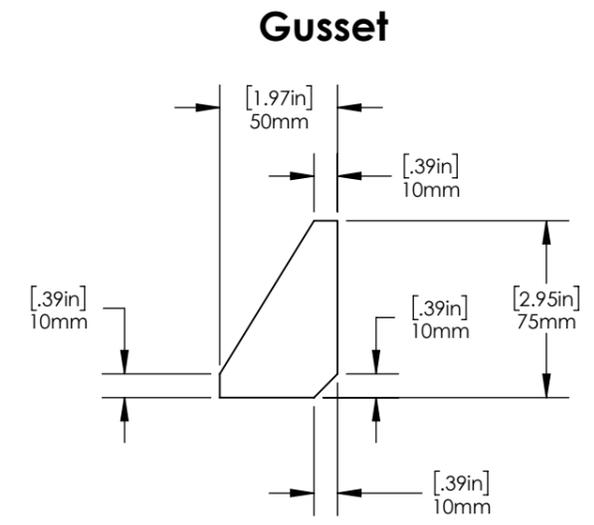
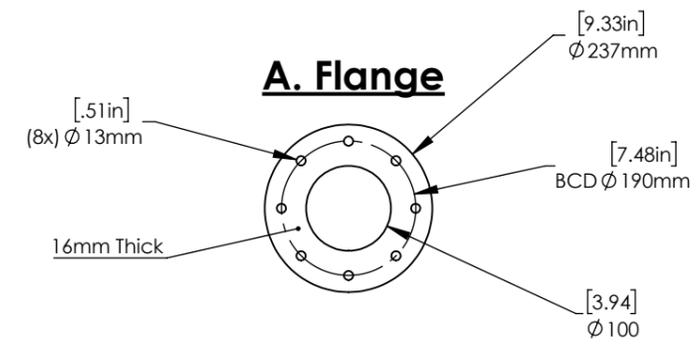
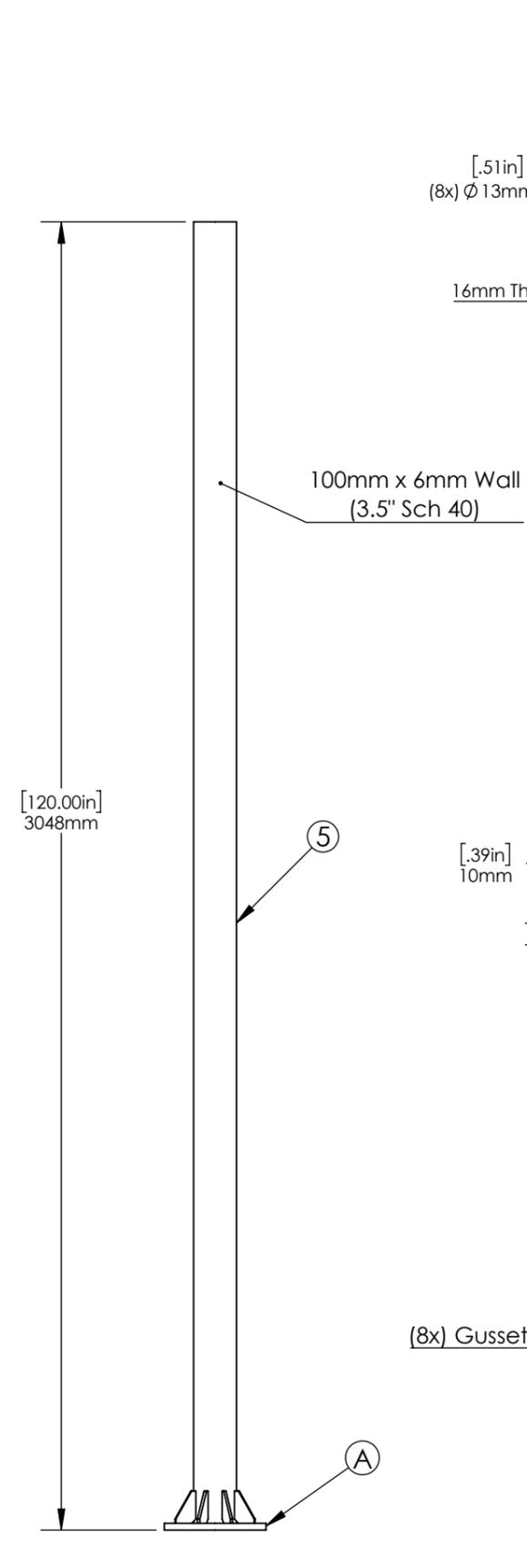
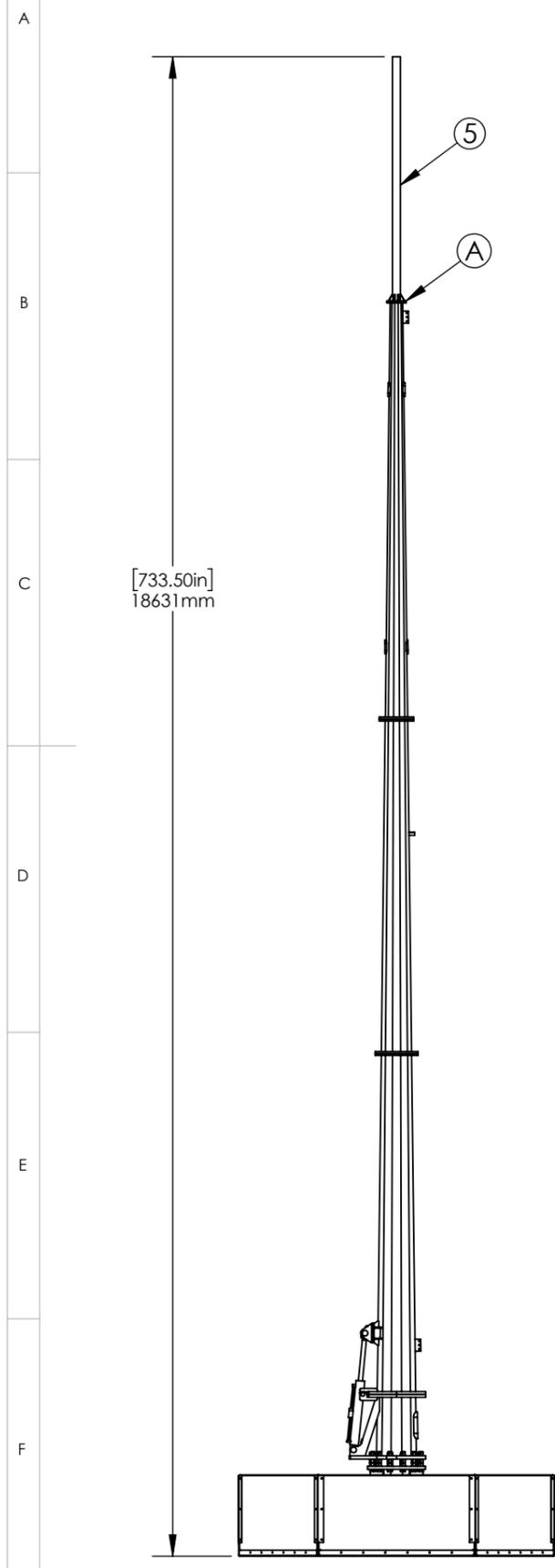
CAD file:
Details and dimensions not shown on this drawing can be found in CAD file.

scale NA rev. A size NA sheet 1 of 5

Total Weight Pole-1111 kg (2444 lb) AFS400-1883 lbs (4143 kg) Does not include fasteners	APPROVALS	DATE
MATERIAL See Notes	DRAWN MGC	4/7/21
FINISH See Notes	CHECKED	
DO NOT SCALE DRAWING	RESP ENG	
	MFG ENG	
	QUAL ENG	

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REVISIONS			
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A	initial release	4/7/21	MGC
B			



- Survival Wind Speed: Per Code
 - Structure Class - Per Code
 - Topographic - Per Code
 - Exposure - Per Code
- Design and Welding Codes:
 - TIA-222-G
 - AWS D1.1
- Material (or equivalent)
 - Tube: Q355 (ASTM A572 GR65)
 - Baseplate: Q355 (ASTM A572 GR50)
 - Gusset Plates: Q355 (ASTM A572 GR50)
- Flange Bolts: (8X) M12x1.75 x 60mm - GR 8.8
 - (1X) Nut (2X) Washer
 - Optional (1/2-13 x 2.5in GR A325)
 - Hot Dip Galv. per ASTM F2329
- Pole is Round
- Finish: Hot dip Galvanizing per ASTM A123
- Pole Section Details

Pole Section	#5
Thickness - (mm)/ (in)	0.197/ 6
Length - (m)/ (ft)	3/ 10
Top Dia. - (mm)/ (in)	100/ 4
Bottom Dia. - (mm)/ (in)	100/ 4
Min Slip - (mm)/ (in)	NA
Section Weight (kg)/ (lb)	48/ 106

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Total Weight	APPROVALS	DATE	3m (10ft) Optional Pole Section AFS400 CAD file: Details and dimensions not shown on this drawing can be found in CAD file.
Pole-48 kg (106 lb)	DRAWN MGC	4/7/21	
Does not include fasteners	CHECKED		
MATERIAL See Notes	RESP ENG		scale NA rev. A size NA sheet 2 of 5
FINISH See Notes	MFG ENG		
DO NOT SCALE DRAWING	QUAL ENG		

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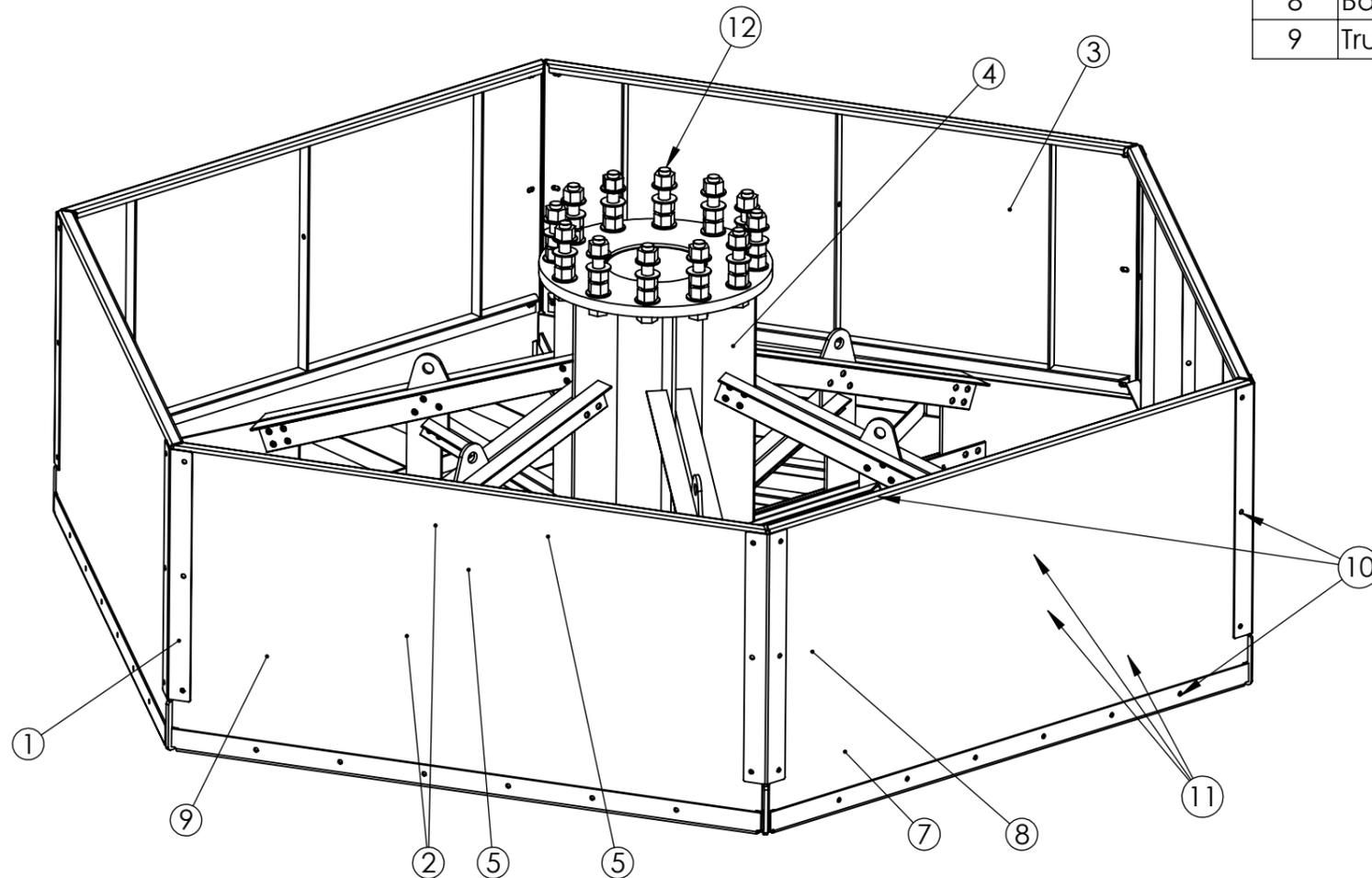
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	initial release	4/7/21	MGC
B			

AFS400 Bill of Materials

#	DESCRIPTION	QTY.	Weight (kg/ lbs)
1	Corner Bracket	6	3.83/ 8.43
2	Upper/ Lower Chord	24	8.44/ 18.57
3	Sidewall	6	77.52/ 170.54
4	Kingpost	1	272.53/ 599.57
5	Vertical Web	6	6.88/ 15.14
6	Diagonal Web	12	3.34/ 7.35
7	Ballast Tray	6	75.25/ 165.55
8	Ballast Plate	6	30.67/ 67.5
9	Truss Heel Plate	6	25.08/ 55.2

Notes:

- All plate material shall have a minimum yield strength of 355 MPa (50 ksi)
- All right angles shall be Q355 (ASTM A572 Gr 50) or equivalent
- All welding shall conform to the minimum requirements of AWS D1.1
- All welding shall be done by welders qualified under AWS specifications, using E70XX, low hydrogen electrodes
- All components shall Hot Dip Galvanized in accordance with ASTM A123
- Debur all sharp edges



Ballast Requirements:

- Ballast Volume = 10 cu-m (13 cu-yds, 351 cu-ft)
- Unit Weight
 - cu-ft = 45.45 kg (100 lbs)
 - cu-yd = 1227.3 kg (2700 lbs)
 - cu-m = 1605.5 kg (3532 lbs)

AFS350 Bolts, Nuts & Washers (other equivalent grades acceptable)

#	Unit	Bolt Size	Length	Width Across Flats	Thread Length	Grade	Coating	Nut Qty.	Washer Qty.	Bolt Qty.
10	Metric	M12x1.75	45mm	18mm	Full Thread	8.8	Hot Dip Galv.	96	192	96
10	Imperial	1/2-13	1 3/4"	7/8"	Full Thread	A325	Hot Dip Galv.	96	192	96
11	Metric	M16x2	60mm	24mm	Full Thread	8.8	Hot Dip Galv.	174	348	174
11	Imperial	5/8-11	2 3/8"	1"	Full Thread	A325	Hot Dip Galv.	174	348	174
12	Metric	M36x2.5	225mm	55mm	190mm	8.8	Hot Dip Galv.	36	48	12
12	Imperial	1 1/2-6	9"	2 3/16"	7.5"	A325	Hot Dip Galv.	36	48	12

Does not include anchor bolts, templates or flange bolts

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DRAWN	MGC			4/7/21
CHECKED				
MATERIAL	See Notes	RESP ENG		
FINISH	See Notes	MFG ENG		
DO NOT SCALE DRAWING		QUAL ENG		

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AFS400 BOM

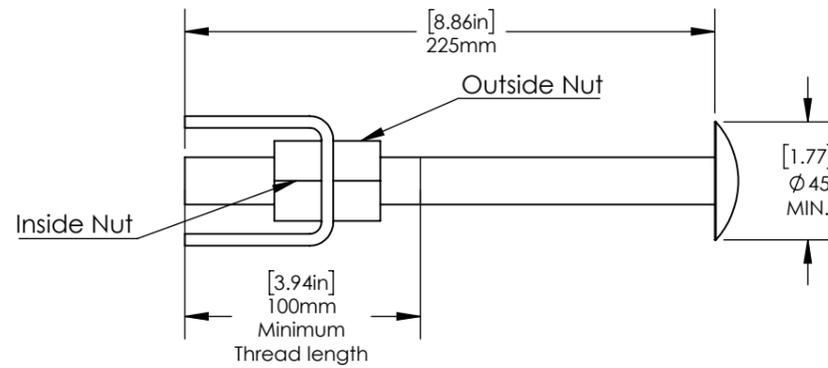
CAD file :
Details and dimensions not shown on this drawing can be found in CAD file
scale NA rev. A size NA 3 of 5

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#	DESCRIPTION (Optional Grade)	QTY	Weight (lb/ kg)
1	Clip - ASTM A572 GR 50 (Q345 or Q355)	*1	1.2/ 0.54
2	Step Bolt - M20x2.5 x 225mm - A449 (GR 8.8) HDG	*1	0.88/ 0.64
3	Heavy Hex Nut, M20x2.5 - A563 GR DH (GR 8.8) HDG	*2	0.224/ 0.11

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	initial release	10/12/20	MGC
B	Revised BOM bolt length to 225mm	11/2/20	MGC

CLIP-STEP BOLT

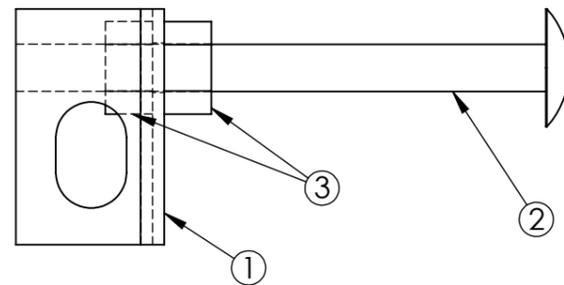


Fabrication Notes:

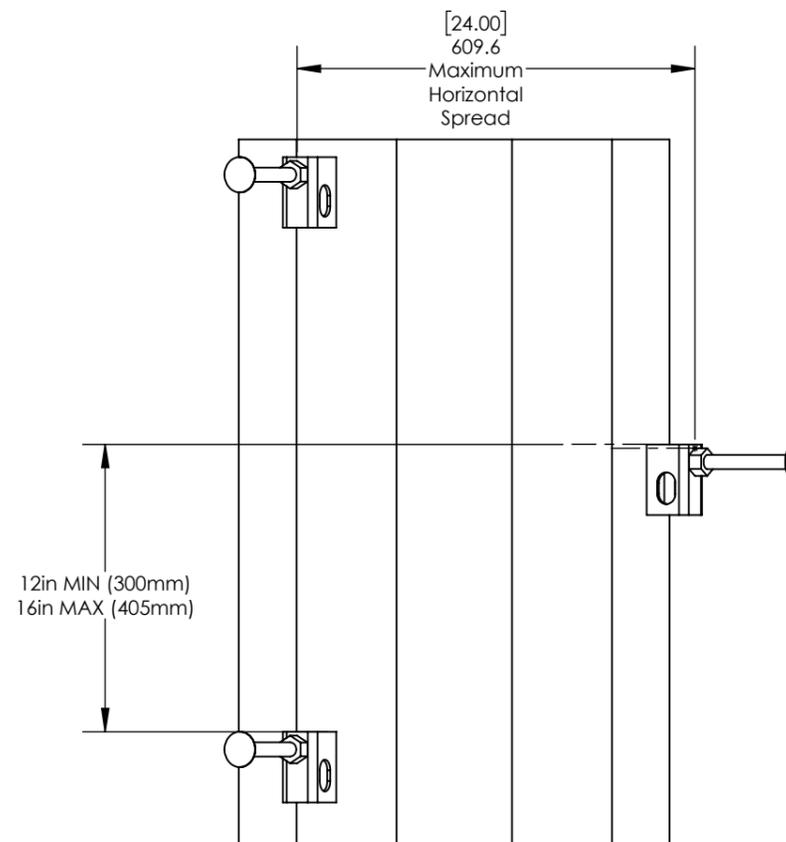
- *The number of Clips/ Step Bolts will vary based on height of pole and shall be equally spaced between the upper and lower cable mount brackets (see pg. 2).
- All plate material shall have a minimum yield strength of 345 MPa (50 ksi)
- All welding shall conform to the minimum requirements of AWS D1.1
- All welding shall be done by welders qualified under AWS specifications, using E70XX, low hydrogen electrodes
- Hot Dip Galvanized in accordance with ASTM A123
- Debur all sharp edges

Installation Steps:

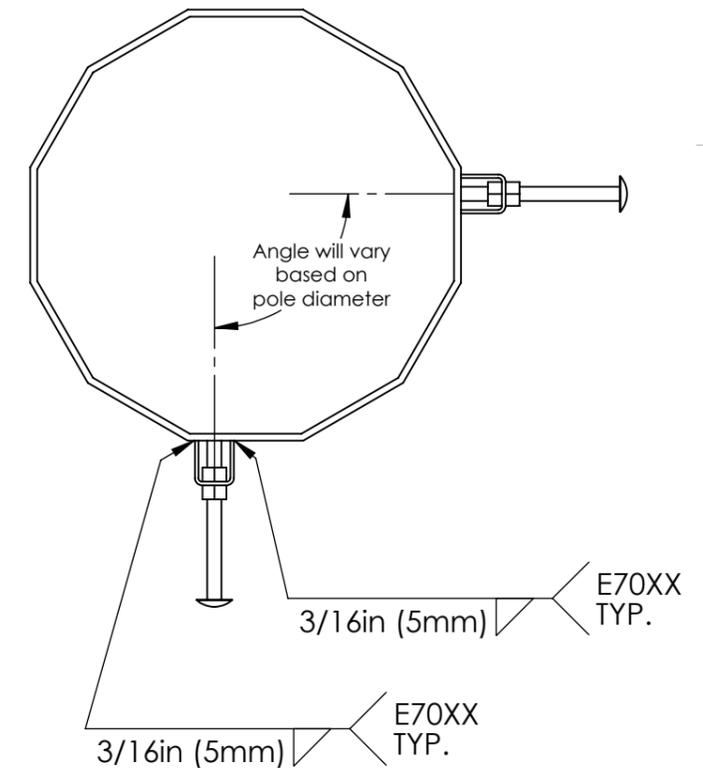
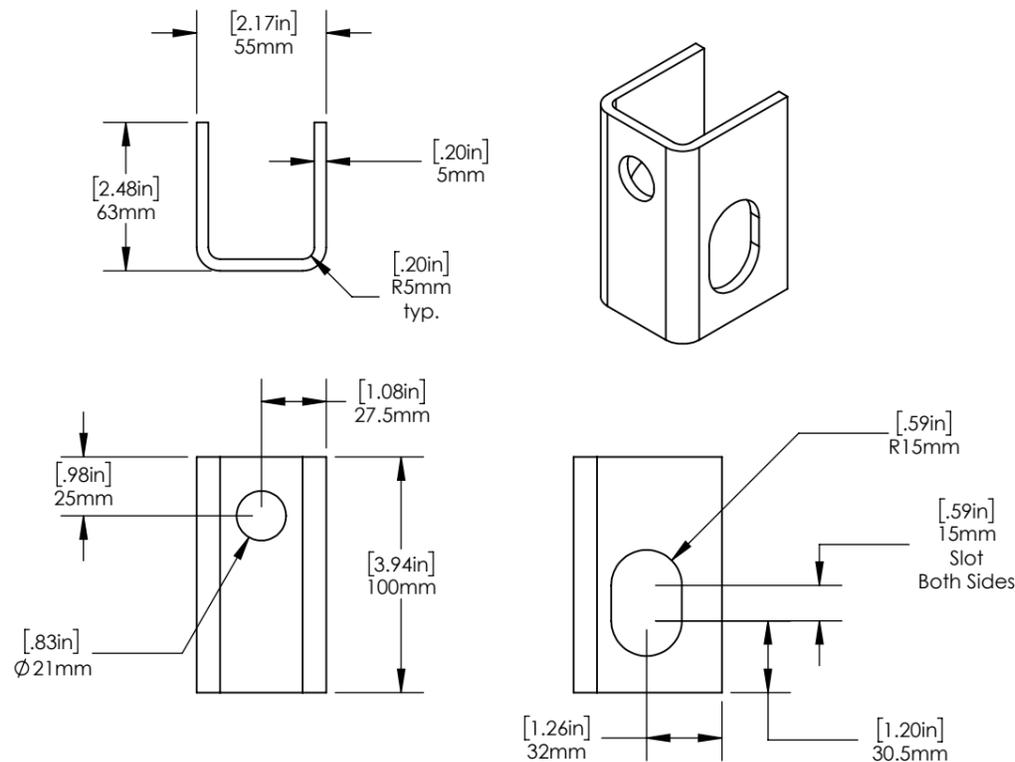
- Outside nut shall be turned to end of step bolt threads prior to installation.
- Step bolt shall be turned through inside nut until bolt makes snug contact with pole.
- Outside nut shall be snugged against clip then tightened 1/4 to 1/2 turn to achieve proper step bolt preload.



CLIP-STEP BOLT SPACING



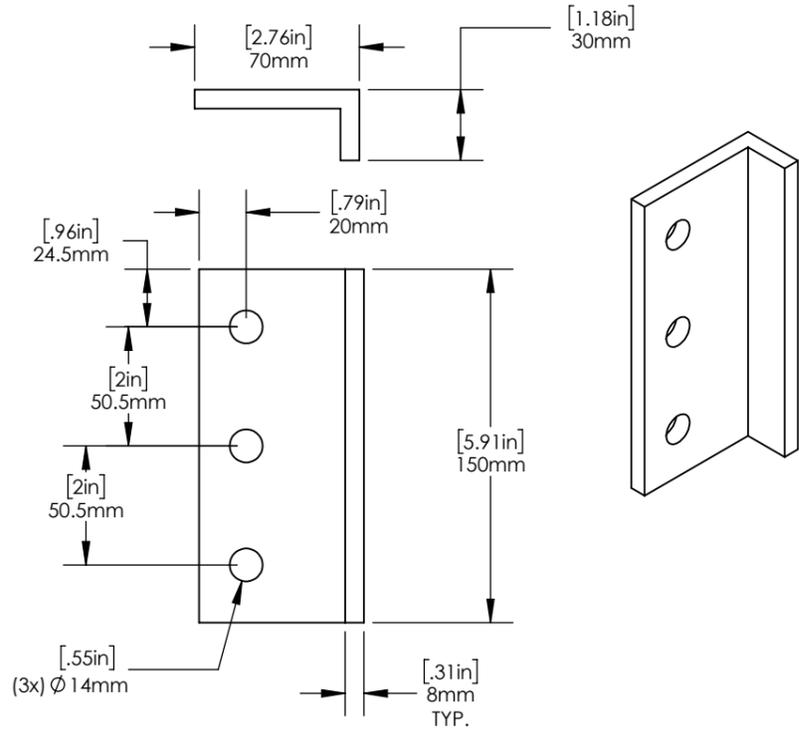
CLIP



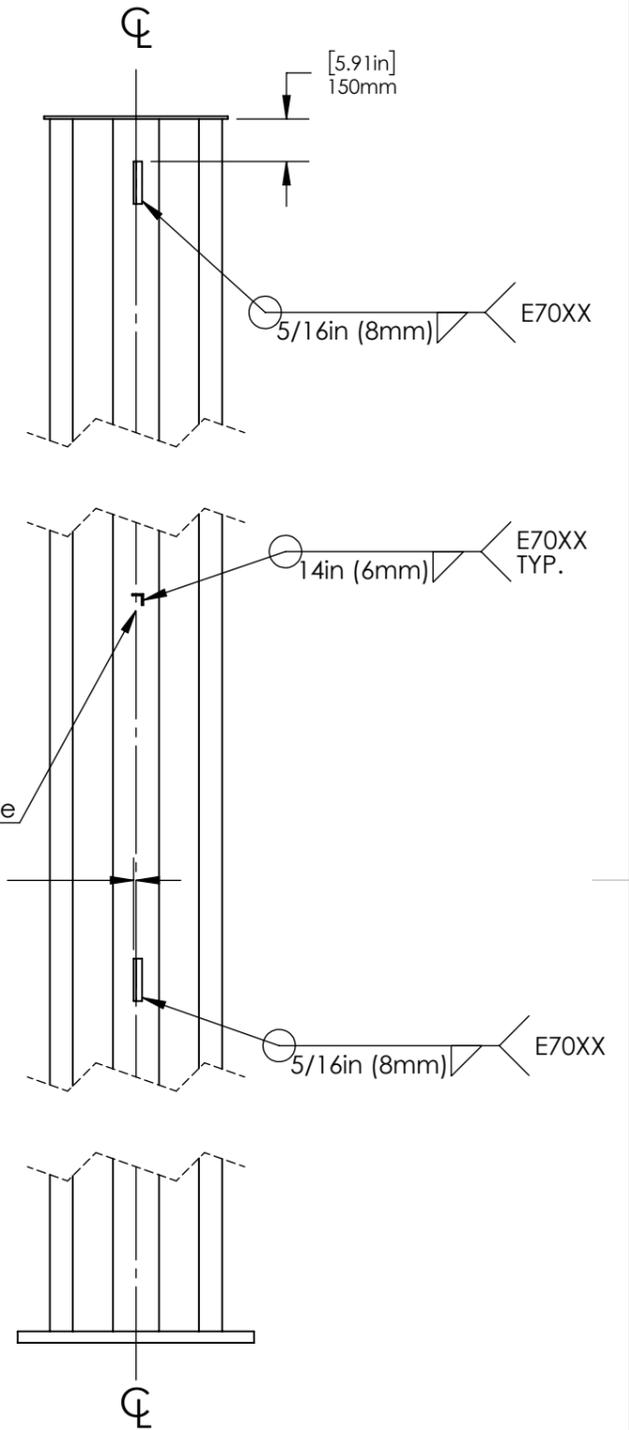
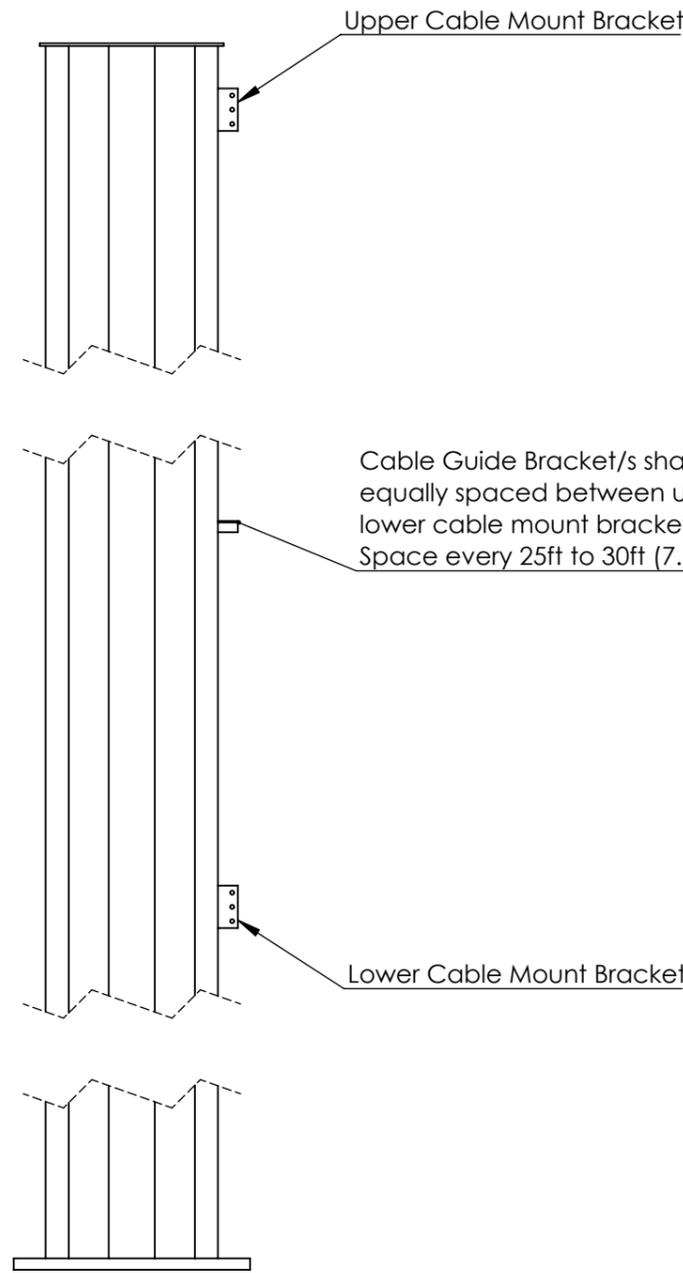
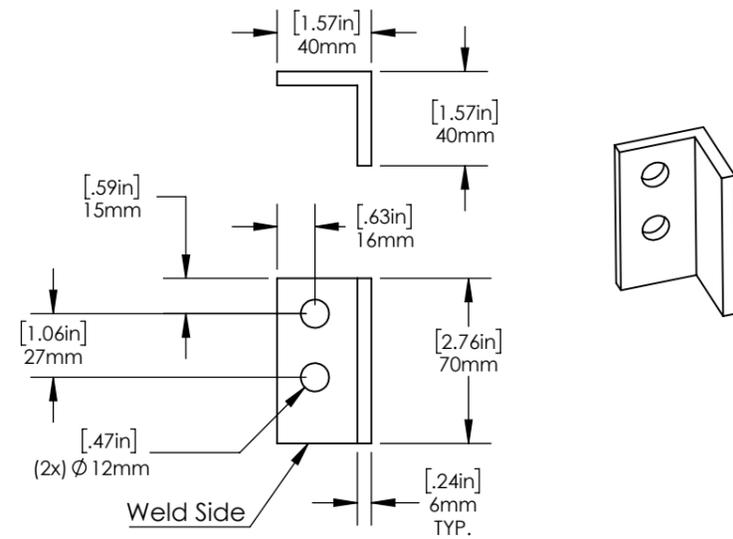
CAD-generated drawing do not manually update				1041 Grand Ave., #213 St. Paul, MN 55105 (651) 330-1263 www.aretelcom.com	
Total Weight 3.1 lbs (1.41 kg)		APPROVALS DRAWN MGC CHECKED RESP ENG MFG ENG QUAL ENG		DATE 10/12/20	
MATERIAL See Notes		Step Bolt/ Clip		CAD file : Details and dimensions not shown on this drawing can be found in CAD file.	
FINISH See Notes		scale NA rev. B size NA sheet 4 of 5			
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Cable Mount Bracket



Cable Guide Bracket



Fabrication Notes:

- *The number of cable guides will vary based on height of pole and shall be equally spaced between the upper and lower cable mount brackets.
- All plate material shall have a minimum yield strength of 345 MPa (50 ksi)
- All welding shall conform to the minimum requirements of AWS D1.1
- All welding shall be done by welders qualified under AWS specifications, using E70XX, low hydrogen electrodes
- Hot Dip Galvanized in accordance with ASTM A123
- Debur all sharp edges

#	DESCRIPTION (Optional Grade)	QTY	Weight lb/ kg
1	Cable Mount Bracket-ASTM A572 GR 50 (Q345 or Q355)	2	1.85/ 0.84
2	Cable Guide Bracket-ASTM A572 GR 50 (Q345 or Q355)	*1 or more	0.51/ 0.23

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Cable Mount/ Guide Brackets

Part #
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