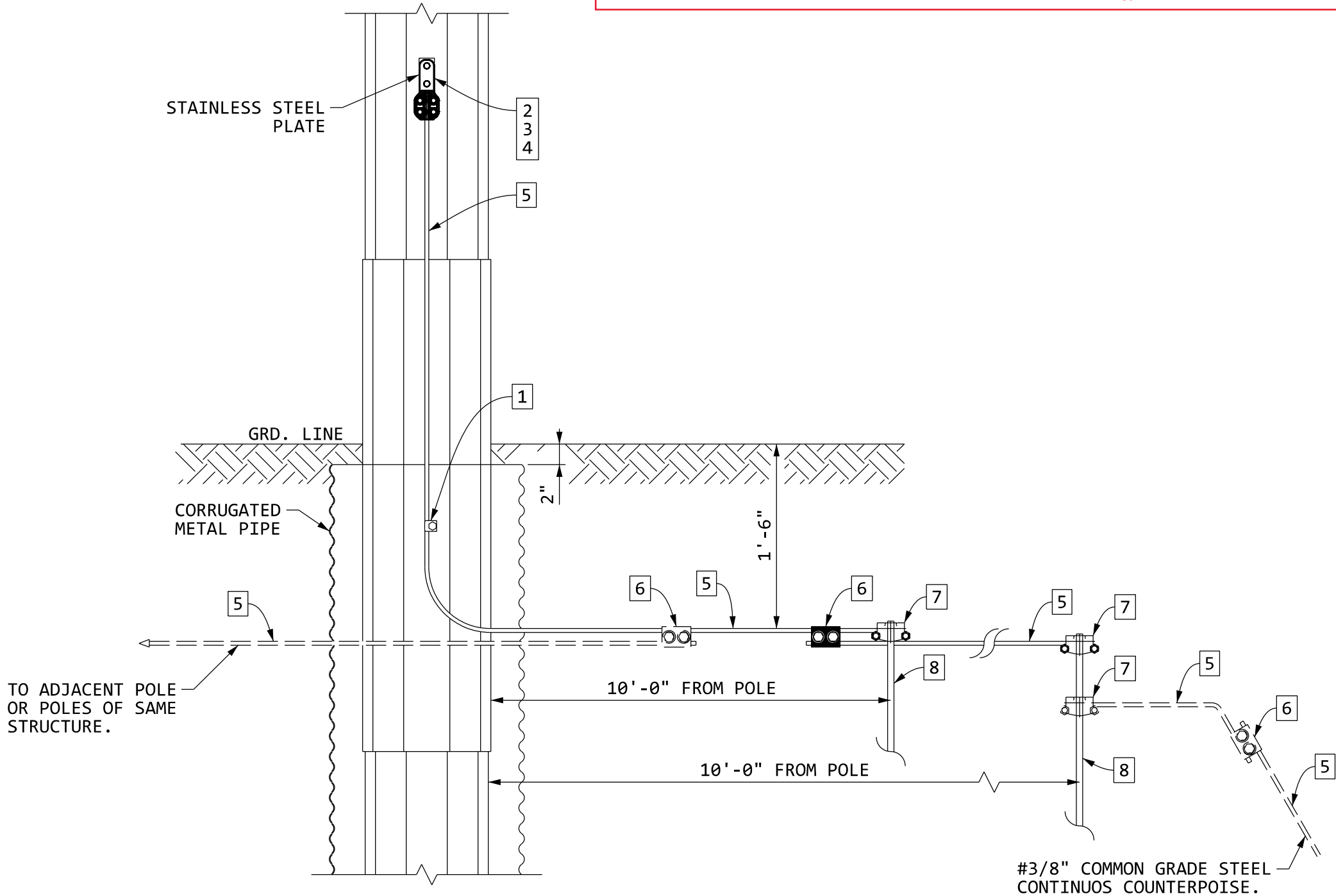




**Lockport – Batavia #112
Rebuild Project**

**Appendix AB
Transmission Hardware Drawings**

This document has been reviewed and does not contain Critical Energy/Electric Infrastructure Information (CEII). 06/05/2025

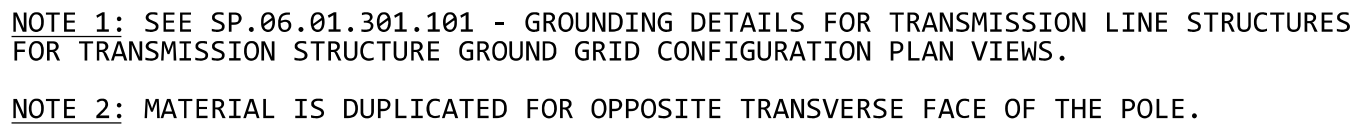


NOTE 1: SEE SP.06.01.301.101 - GROUNDING DETAILS FOR TRANSMISSION LINE STRUCTURES FOR TRANSMISSION STRUCTURE GROUND GRID CONFIGURATION PLAN VIEWS.

NOTE 2: MATERIAL IS DUPLICATED FOR OPPOSITE TRANSVERSE FACE OF THE POLE.

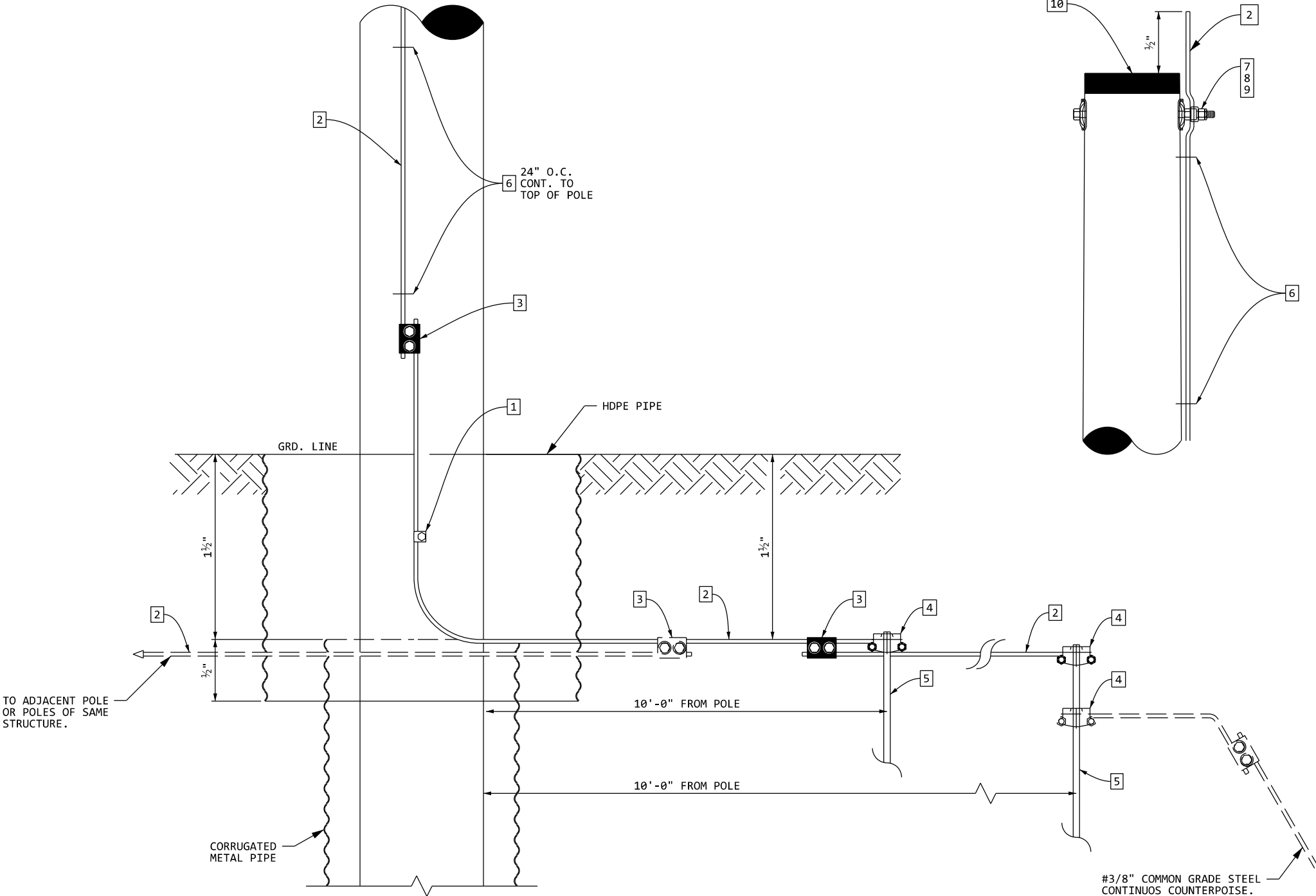
MATERIAL LIST						
Tag	Qty	UBS (lbs)	Description	Preferred Manufacturer	Preferred Manufacturer Part #	PS ID SAP ID
1	2	N/A	Grounding Clamp	HPS	GC141G112	5105146 9309820
2	2	N/A	Terminal, Bronze Bolted 2-Hole	HPS	NAH202N	5965885 9320350
3	4	N/A	Washer, S Belleville 1/2"x1.06"	Galaxy	55801	7006022 9319830
4	4	N/A	Bolt, Hex Head 1/2" Dia. x 1" L13 UNC SS	Victory Bolt	12131 18-8	5624913 9304788
5	60'	N/A	3/8" Common Grade Steel Wire	National Strand	38GACG7475C0250	5998530 9306353
6	2	N/A	Parallel Groove Clamp, Bronze	Burndy	UC4W28	5962562 9320554
7	4	N/A	Clamp, Ground Rd, 5/8"	Burndy	GAR6426	5106194 9305808
8	4	N/A	Ground Rod, Copperweld 5/8" x 8'-0" LG.	ERICO	615880	3503013 9313616

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MATERIAL LIST							
Tag	Qty	UBS (lbs)	Description	Preferred Manufacturer	Preferred Manufacturer Part #	PS ID	SAP ID
1	2	N/A	Grounding Clamp	HPS	GC141G112	5105146	9309820
2	2	N/A	Terminal, Bronze Bolted 2-Hole	HPS	NAH292N	5965885	9320350
3	4	N/A	Washer, S Belleville 1/2"x1.06"	Galaxy	55801	7006022	9319830
4	4	N/A	Bolt, Hex Head 1/2" Dia. x 1" L13 UNC SS	Victory Bolt	12311 18-8	5624913	9304788
5	60'	N/A	3/8" Common Grade Steel Wire	National Strand	38GACG7475C0250	5998530	9306353
6	2	N/A	Parallel Groove Clamp, Bronze	Burndy	UC4VW28	5962562	9320554
7	4	N/A	Clamp, Ground Rd., 5/8"	Burndy	GAR6426	5106194	9305898
8	4	N/A	Ground Rod, Copperweld 5/8" x 8'-0" LG.	ERICO	615880	3503013	9313616
9	1	N/A	Clamp, Ground, Bronze, Conduit, 1-1/4" to 2"	Burndy	GAR3903BU	3503073	9313608
10	1	N/A	Clamp, Ground, Bronze, Conduit, 2-1/2" to 3-1/2"	Burndy	GAR3904-BU	3503075	9313606

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NOTE 1: SEE SP.06.01.301.101 - GROUNDING DETAILS FOR TRANSMISSION LINE STRUCTURES
FOR TRANSMISSION STRUCTURE GROUND GRID CONFIGURATION PLAN VIEWS.

NOTE 2: MATERIAL IS DUPLICATED FOR OPPOSITE TRANSVERSE FACE OF THE POLE.

MATERIAL LIST								
Tag	Qty	UBS (lbs)	Description	Preferred Manufacturer	Preferred Manufacturer Part #	PS ID	SAP ID	CU
1	2	N/A	Grounding Clamp	HPS	GC141G112	5105146	9309820	GN.CP.WD.00-04
2	60'	N/A	3/8" Common Grade Steel Wire	National Strand	38GACG7475C0250	5998530	9306353	
3	2	N/A	Parallel Groove Clamp, Bronze	Burndy	UC4W28	5962562	9320554	
4	4	N/A	Clamp, Ground Rd, 5/8"	Burndy	GAR6426	5106194	9305898	
5	4	N/A	Ground Rod, Copperweld 5/8" x 8'-0" LG.	Erico	615880	3503013	9313616	
6	1	N/A	Staple, Galvanized, 2" (Box of 100)	HPS	C2050217	0811201	9314525	
7	1	N/A	Bolt, Machine, 0.625in w/ Nut, ASTM A153 Hot Dip Galv. 12,400# Tensile	HPS	PS887938	*	*	
8	2	N/A	Washer, Curved, for 0.625in Bolt	Powerline Hardware	P113	5997820	9306399	PO.WD.00.00-01
9	1	N/A	Bonding Clip, for 0.625in Bolt w/ Nut and Locknut	Hughes Bros	2727.6NMP	N/A	9391627	
10	1	N/A	Pole Topper 16"	Osmose	70-110-020-016	9202222	9307970	

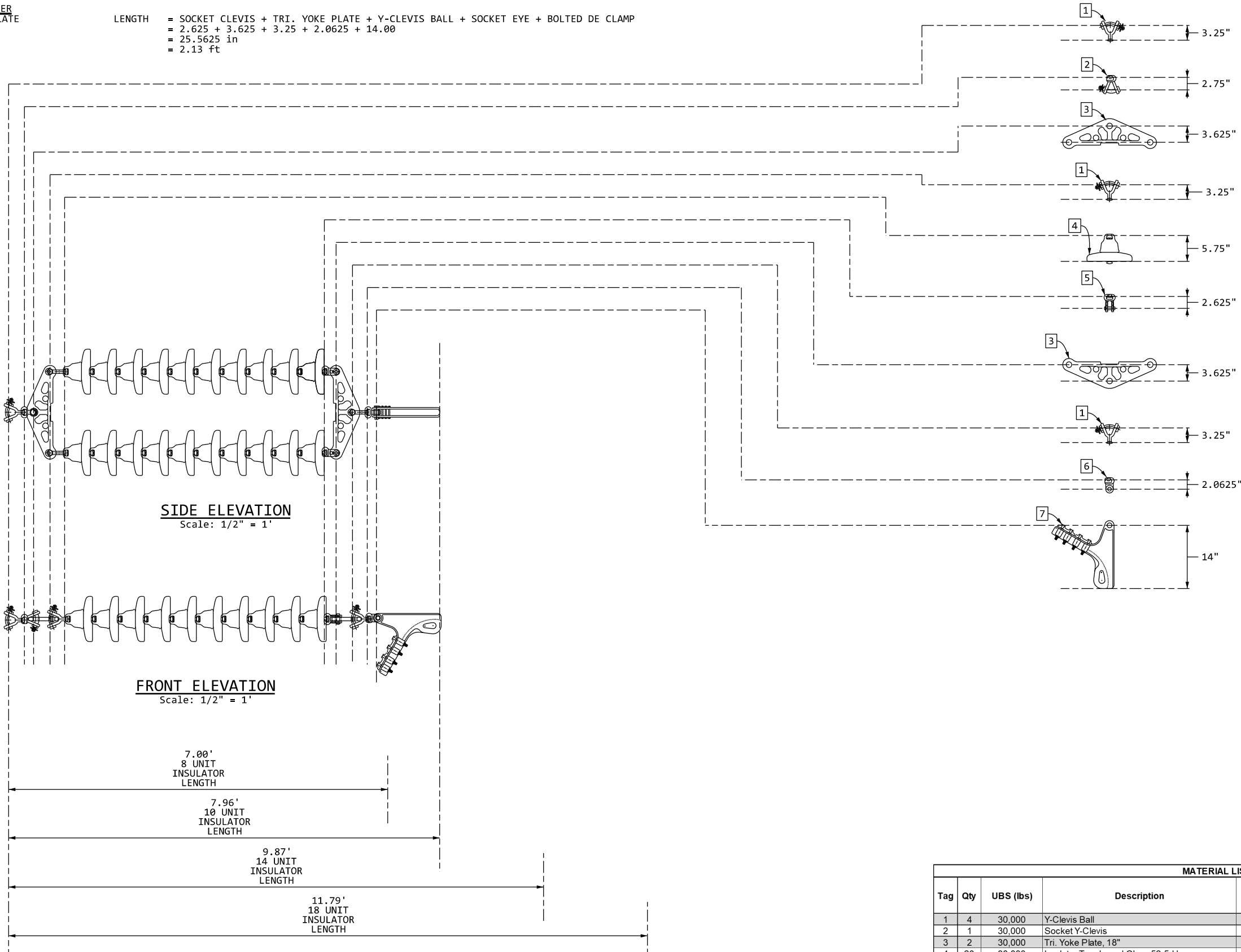
						DIRECT EMBEDDED WITH CMP					
						ONE WOOD POLE					
001	06/24	EJH		REVISED BOM	EJH	RMS	DES. EJH	DR. EJH	CK. RMS	DATE 05/23	SCALE
000	05/23	EJH		INITIAL ISSUE	RMS	SS	APPROVED STANCZEWSKI			APPROVED	INDEX 6.0 - 4.6 - E32
MK	DATE	BY	MF	DESCRIPTION OF REVISION	CK.	APP.	APPROVED			APPROVED	NO. 00022

PREPARED BY				
nationalgrid				
TRANSMISSION SYSTEM				
ASSEMBLY FIT CHECK DETAILS - GROUNDING				
DIRECT EMBEDDED WITH CMP				
ONE WOOD POLE				
DES. E3H	DR. E3H	CK. RMS	DATE 05/23	SCALE
APPROVED STANCZEWSKI		APPROVED		INDEX 6.0- 4.6 - E32
APPROVED		APPROVED		NO. 00022
FOR CONSTRUCTION ONLY			SHEET NUMBER 001	

CALCULATIONS:
ASSEMBLY WEIGHT = Y-CLEVIS BALL + SOCKET Y-CLEVIS + TRI. YOKE PLATE + Y-CLEVIS BALL (2) + INSULATOR (20) + SOCKET CLEVIS (2) + TRI. YOKE PLATE + Y-CLEVIS BALL + SOCKET EYE + BOLTED DE CLAMP
= 2.20 + 3.2 + 12.63 + 2.20 (2) + 10.1 (20) + 2.10 (2) + 12.63 + 2.20 + 1.50 + 15.3
= 260.26 lbs
ASSEMBLY LENGTH = Y-CLEVIS BALL + SOCKET Y-CLEVIS + TRI. YOKE PLATE + Y-CLEVIS BALL + INSULATOR (10) + SOCKET CLEVIS + TRI. YOKE PLATE + Y-CLEVIS BALL + SOCKET EYE + BOLTED DE CLAMP
= 3.25 + 2.75 + 3.625 + 3.25 + 5.75 (10) + 2.625 + 3.625 + 3.25 + 2.0625 + 14.00
= 95.9375 in
= 7.995 ft

ASSEMBLY STRENGTH: TENSION CAPACITY OF 30K lbs

ENERGIZED LENGTH AND DIAMETER
DIAMETER = WIDTH OF YOKE PLATE = 20.749" = 1.729 ft
LENGTH = SOCKET CLEVIS + TRI. YOKE PLATE + Y-CLEVIS BALL + SOCKET EYE + BOLTED DE CLAMP
= 2.625 + 3.625 + 3.25 + 2.0625 + 14.00
= 25.5625 in
= 2.13 ft



MATERIAL LIST							
Tag	Qty	UBS (lbs)	Description	Preferred Manufacturer	Preferred Manufacturer Part #	PS ID	SAP ID
1	4	30,000	Y-Clevis Ball	PLP	BYC-30	3504441	9312426
2	1	30,000	Socket Y-Clevis	PLP	SYC-30	5987616	9307402
3	2	30,000	Tri. Yoke Plate, 18"	PLP	YPD30184373	9201444	9308342
4	20	30,000	Insulator Toughened Glass S2-5-H	SEDIVER	N14/146DC	N/A	9389305
5	2	30,000	Socket Clevis	PLP	SC-5194	5987610	9307403
6	1	30,000	Socket Eye	HPS	SA-1013	-	-
7	1	35,000	Clamp, Strain, Alum. w/ SE	HPS	SD-130-S	5985660	9320354

TRANSMISSION SYSTEM				10/24
ASSEMBLY FIT CHECK DETAILS				6.0 - 4.6- E32
INSULATOR, DE, DBL STRING, 1-BUNDLE, SAFETY				00051
VANG, 0.70IN-1.39IN, 30K, NO HOTLINE				001 FINAL
nationalgrid				
PREPARED BY				
HALE				
APPROVED				
EJH				
DES.				
EJH				
DR.				
RMS				
CK				
TDH				
APP.				
INITIAL ISSUE				
DESCRIPTION OF ISSUE OR REVISION				
10/24				
DATE				
NO.				

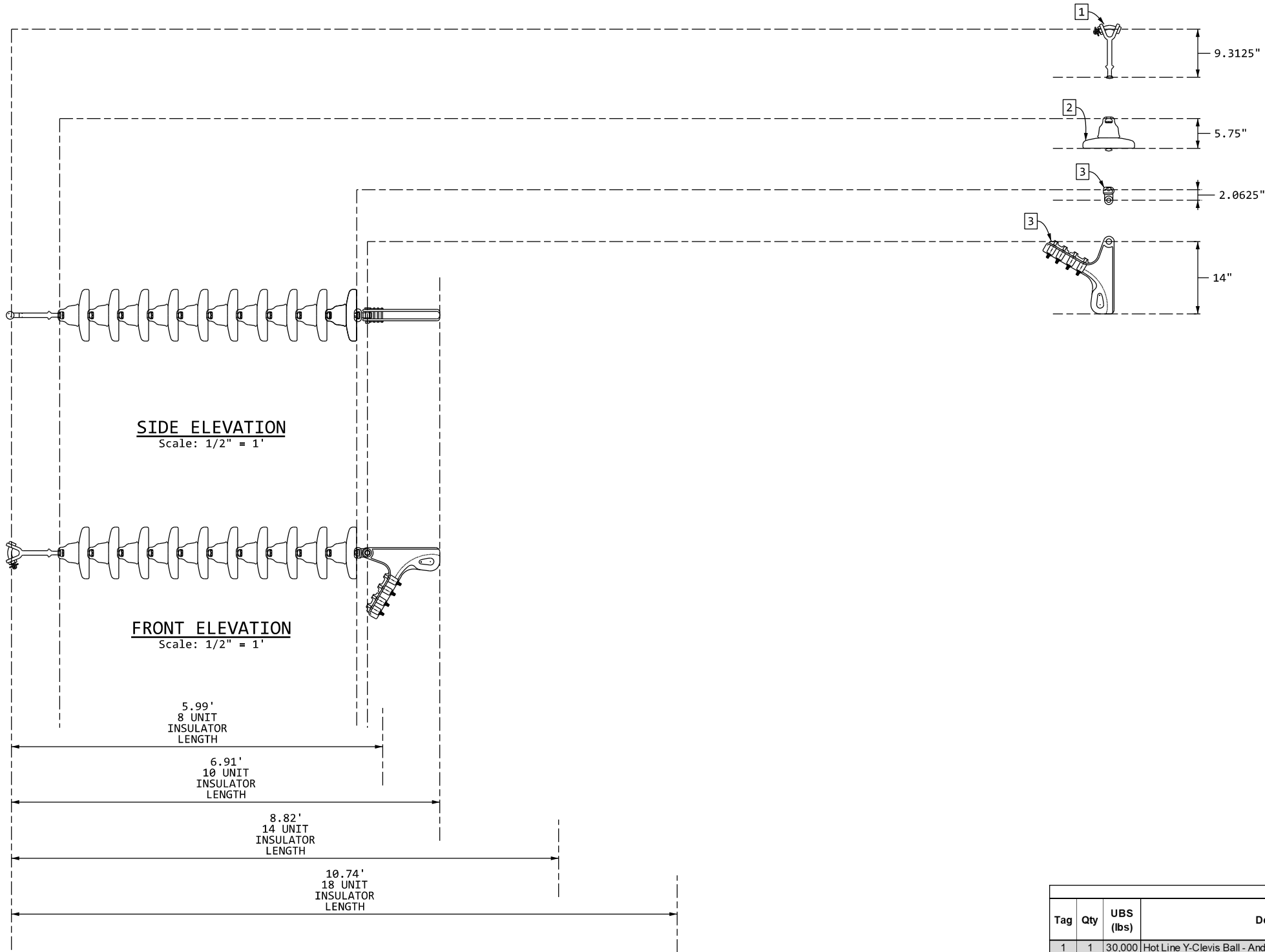
CALCULATIONS:
ASSEMBLY WEIGHT = HOT LINE Y-CLEVIS BALL + INSULATOR (10) + SOCKET EYE + BOLTED DE CLAMP
= 2.8 + 10.1 (10) + 1.5 + 15.3
= 120.6 lbs

ASSEMBLY LENGTH = HOT LINE Y-CLEVIS BALL + INSULATOR (10) + SOCKET EYE + BOLTED DE CLAMP
= 9.3125 + 5.75 (10) + 2.0625 + 14
= 82.875 in
= 6.90625 ft

ASSEMBLY STRENGTH: TENSION CAPACITY OF 30K lbs

ENERGIZED LENGTH AND DIAMETER
DIAMETER = WIDTH OF DE CLAMP
= 13.12 in
= 1.09 ft

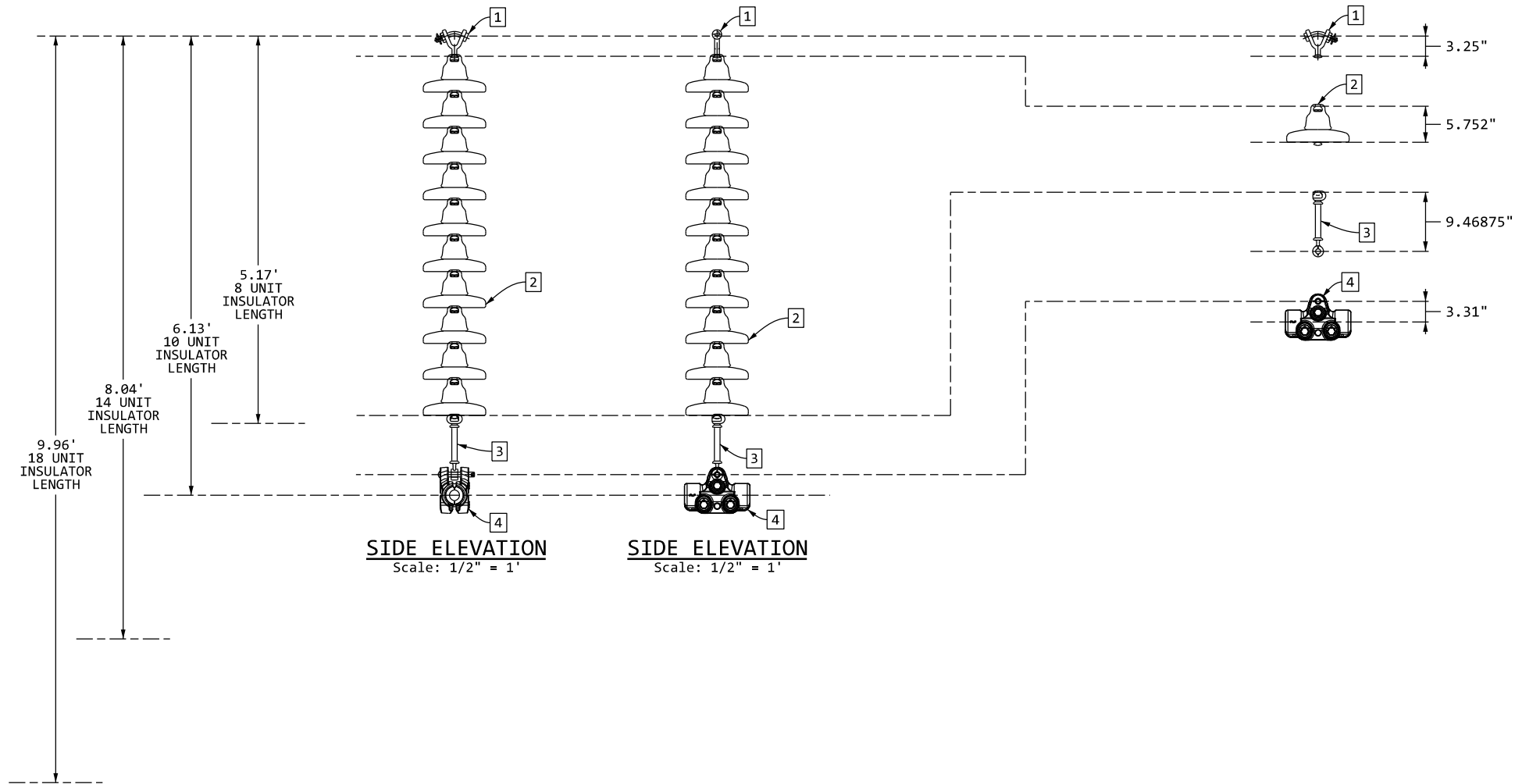
LENGTH = SOCKET EYE + BOLTED DE CLAMP
= 2.0625 + 14
= 16.0625 in
= 1.339 ft



MATERIAL LIST						
Tag	Qty	UBS (lbs)	Description	Preferred Manufacturer	Preferred Manufacturer Part #	SAP ID
1	1	30,000	Hot Line Y-Clevis Ball - Anderson Cat. No. HYBC30	Anderson	HYBC30	3506909 9312243
2	10	30,000	Insulator Toughened Glass 52-5-H	Sediver	N100/146DC	N/A 9389305
3	1	30,000	Clamp, Strain, Alum. w/ SE, 0.70"-1.42"	HPS	SD-130-S	5985660 9320354

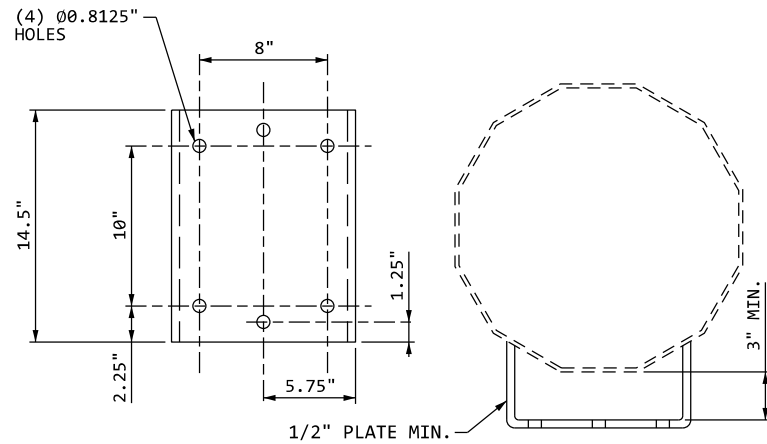
04/23	TRANSMISSION SYSTEM	
	ASSEMBLY FIT CHECK DETAILS - INSULATOR, DE	
	BOLTED, SGL STRING, 1-BUNDLE	
	VANG, 0.70IN-1.39IN, 35K CAP.	
00030	DRAWING NUMBER	
	001 FINAL	
	SHEET NUMBER	
	001 FINAL	
nationalgrid	PREPARED BY	
	STANCIENSKI	
	APPROVED	
	APPROVED	
001	INITIAL ISSUE	
	DESCRIPTION OF ISSUE OR REVISION	
	DATE	
	NO.	

LENGTH = HOT LINE SOCKET EYE + CGS CLAMP
= 9.46875 + 3.31
= 12.77875 in
= 1.0649 ft

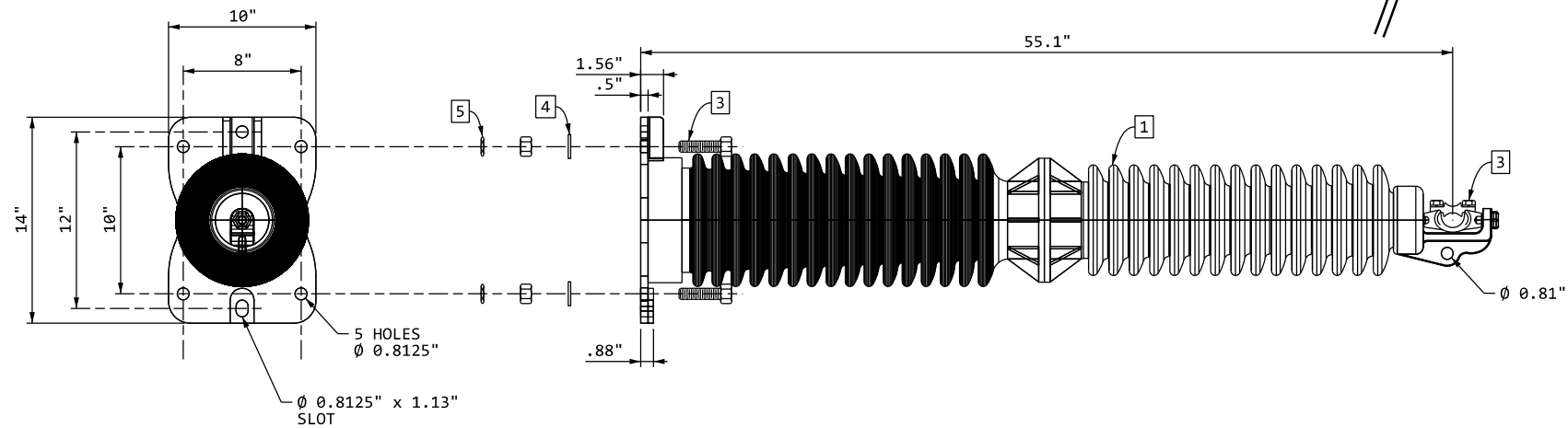
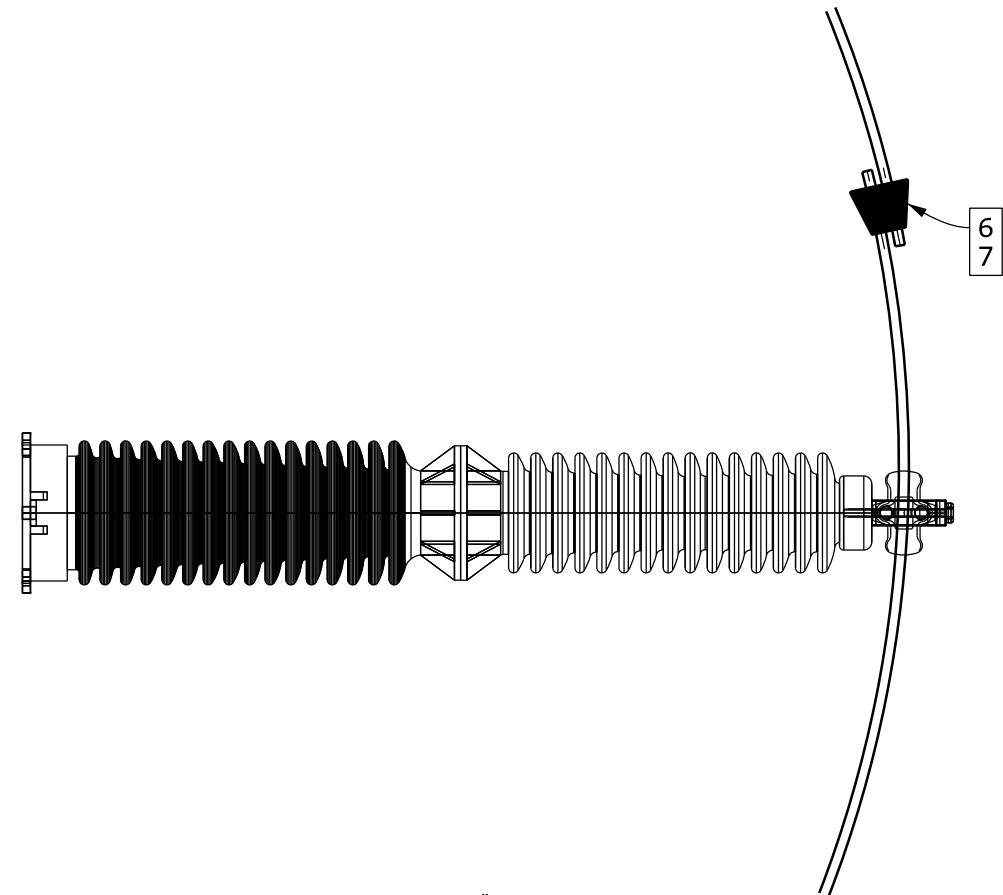


MATERIAL LIST							
Tag	Qty	UBS (lbs)	Description	Preferred Manufacturer	Preferred Manufacturer Part #	PS ID	SAP ID
1	1	30.000	Y-Clevis Ball	PLP	BYC-30	3504441	9312426
2	10	22.000	Insulator Toughened Glass 52-3-H	SEDIVER	N100/146DC	N/A	9392059
3	1	30.000	Hotline Socket Eye	PLP	SEL-30	N/A	TBD
4	1	25.000	CGS Clamp HT 0.884"-1.196"	PLP	CGS-1097HT250	N/A	TBD

[illegible]



HORIZONTAL LINE POST INSULATOR ATTACHEMENT PLATE
Scale: 1" = 1'



MATERIAL LIST						
Tag	Qty	UBS (lbs)	Description	Preferred Manufacturer	Preferred Manufacturer Part No.	PS ID SAP ID
1	1	PLS	Insulator, Horz. Line Post, Porc., Gray Two Piece	LAPP	074338-70	N/A 9394542
2	1	2,800	Clamp, Trunnion, Alum. 1.00"-1.50"	HPS	TSC-150-S	3504636 9312462
3	4	-	Bolt, Hex, 3"x0.75in w/ Nut, ASTM A325 Galv.	Fastenal Company	56346	7009549 9321448
4	4	N/A	Washer, Flat Round, for 0.75" Bolt	Cooper Power Systems	DF1W4	7006006 9321675
5	4	N/A	Palnut, for 0.75in Bolt	Line Hardware	SLN-34	7024155 9322023
6	1	N/A	Ampact, 795 to 795 Yellow	Tyco	602121	0801956 9314714
7	1	N/A	Cartridge, Yellow for Ampact	Tyco	AMPS-0-0069338-4	3507243 9312049

0	2-25-25	EJH		INITIAL ISSUE			RMS	MCF TDH	
MK	DATE	BY	MF	DESCRIPTION OF REVISION			CK.	APP.	

PREPARED BY

nationalgrid

TRANSMISSION SYSTEM

ASSEMBLY FIT CHECK DETAILS - INSULATOR, SUSP. JUMPER, LINE POST, 1-BUNDLE, GRAY, TWO-PIECE

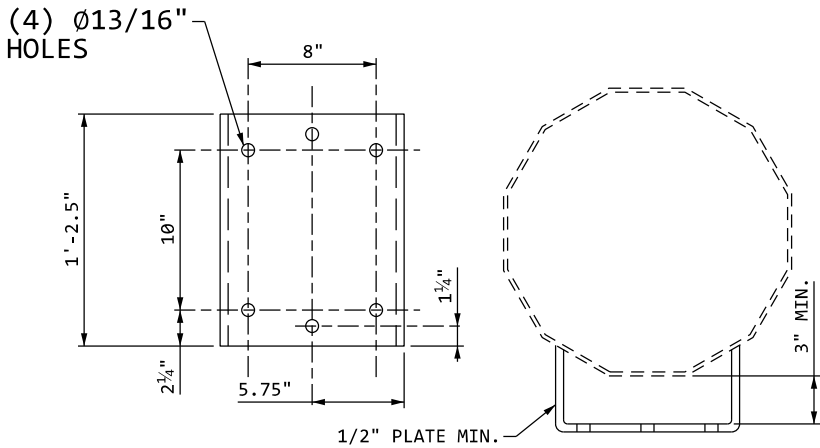
STEEL POLE, TRUNNION, 0.50"-1.069"

DES. EJH	DR. EJH	CK. RMS	DATE 04/23	SCALE AS SHOWN
APPROVED FEENEY		APPROVED		INDEX 6.0- 4.6 - E32
APPROVED HALE		APPROVED		NO. 00053

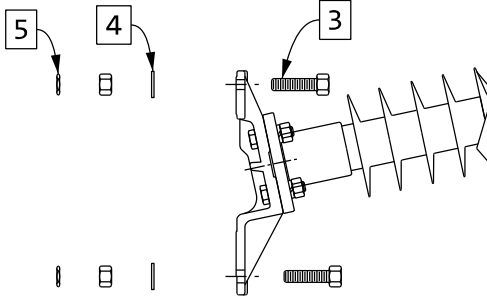
FOR CONSTRUCTION ONLY

SHEET NUMBER 001 FINAL

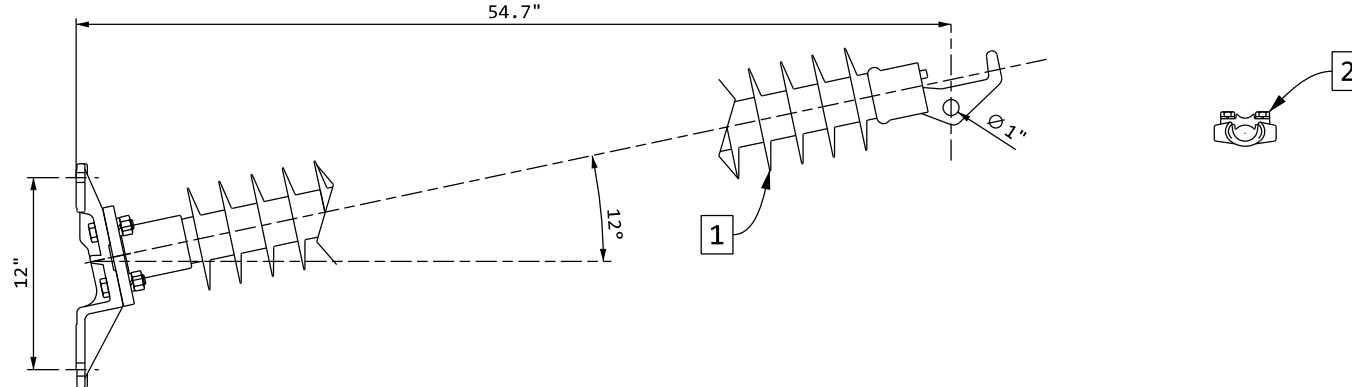
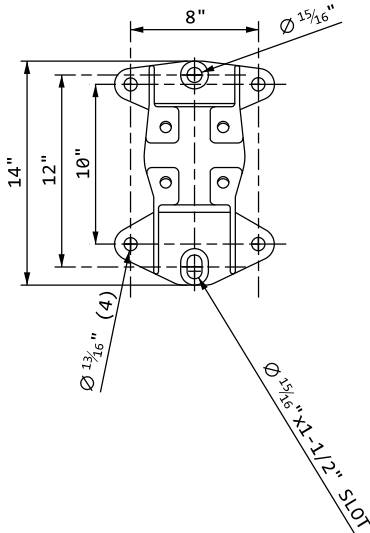
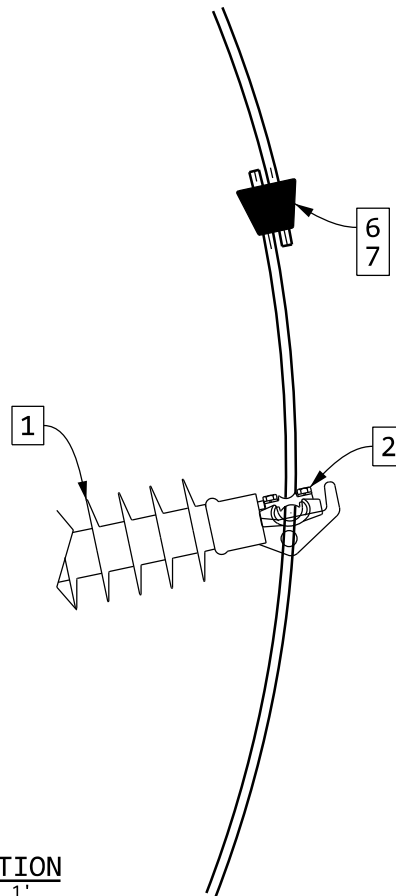
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HORIZONTAL LINE POST INSULATOR ATTACHEMENT PLATE
Scale: 1-1/2" = 1'



FRONT ELEVATION
Scale: 1-1/2" = 1'



MATERIAL LIST							
Tag	Qty	UBS (lbs)	Description	Preferred Manufacturer	Preferred Manufacturer Part No.	PS ID	SAP ID
1	1	PLS	Line Post Insulator - 115kV - 54.7IN - Poly. - Trunnion - Flat	Maclean	H21C20043MKS022	N/A	9392455
2	1	2,800	Clamp, Trunnion, Alum. 1.00"-1.50"	Maclean	ACTS-150-SL-1	3504636	9312462
3	4	N/A	Bolt, Galv., H.S., 3/4"x3", Hex Head, w/Nut A325 Type 1	Fastenal Company	56346	7009549	9321448
4	4	N/A	Washer, Flat Round, for 3/4" Bolt	Cooper Power Systems	DF1W4	7006006	9321675
5	4	N/A	Locknut, for 3/4" Bolt	Line Hardware	SLN-34	7024155	9322023
6	1	N/A	Ampact, 795-795, Yellow	Tyco	602121	0801956	9314714
7	1	N/A	Cartridge, Yellow for Ampact	Tyco	AMPS-0-0069338-4	3507243	9312049

0	2-25-25	EJH		INITIAL ISSUE	RMS	MCF TDH
MK	DATE	BY	MF	DESCRIPTION OF REVISION	CK.	APP.

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TRANSMISSION SYSTEM

ASSEMBLY FIT CHECK DETAILS - INSULATOR, SUSP.

JUMPER, LINE POST, 1-BUNDLE, POLY

DES. E J H	DR. E J H	CK. RMS	DATE	SCALE AS SHOWN
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APPROVED FEENEY	APPROVED	INDEX 6.0- 4.6 - E32
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APPROVED HALE	APPROVED	NO.	00055
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FOR
CONSTRUCTION ONLY

SHEET
NUMBER 001 FINAL

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CALCULATIONS:

ASSEMBLY WEIGHT OF BRACED ASSEMBLY = ANCHOR SHACKLE + TURNBUCKLE + POLY. SUSP. INSULATOR + SOCKET Y-CLEVIS + HLP INSULATOR + Y-CLEVIS BALL + HOTLINE SOCKET EYE + CGS CLAMP
= 1.15 + 8.72 + 9.8 + 2.67 + 57.9 + 2.20 + 3.00 + 4.00
= 89.44 lbs

ASSEMBLY LENGTH OF CLAMP ASSEMBLY = Y-CLEVIS BALL + HOTLINE SOCKET EYE + CGS CLAMP
= 3.25 + 9.46875 + 3.31
= 16.03 in
= 1.34 ft

BRACED POST VERTICAL PROJECTION = 53.3/COT(12)
= 11.3 in

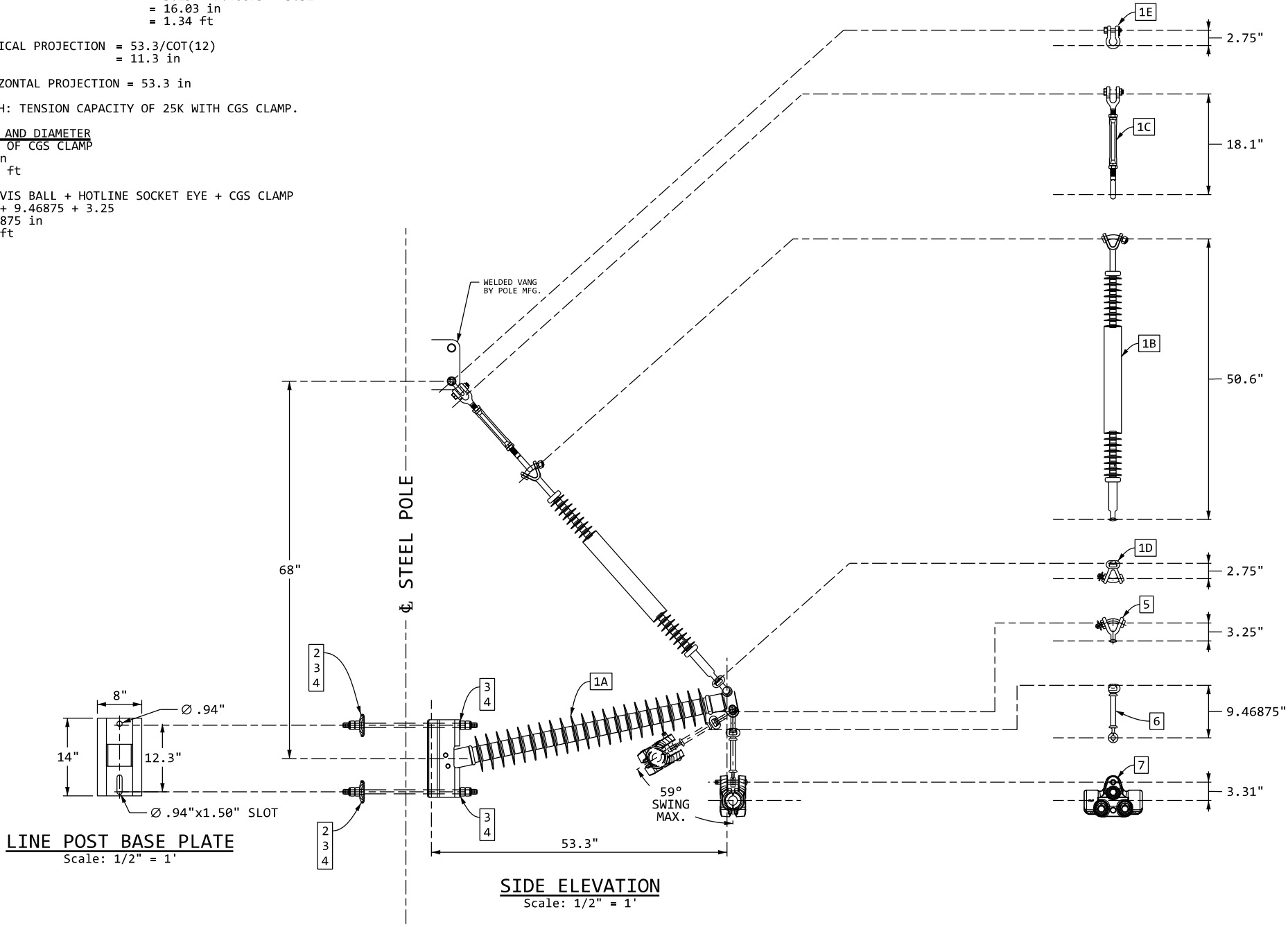
BRACED POST HORIZONTAL PROJECTION = 53.3 in

ASSEMBLY STRENGTH: TENSION CAPACITY OF 25K WITH CGS CLAMP.

ENERGIZED LENGTH AND DIAMETER

DIAMETER = WIDTH OF CGS CLAMP
= 7.5 in
= 0.625 ft

LENGTH = Y-CLEVIS BALL + HOTLINE SOCKET EYE + CGS CLAMP
= 3.25 + 9.46875 + 3.25
= 15.96875 in
= 1.33 ft



MATERIAL LIST						
Tag	Qty	UBS (lbs)	Description	Preferred Manufacturer	Preferred Manufacturer Part No.	PS ID SAP ID
1	1	SEE BELOW	Insulator, Braced Post	Maclean	B2901053T12068MX	SEE BELOW
2	2	N/A	Rod, Threaded, 0.875in w/ Nut ASTM A36 Galv. 25,400# Tensile	HPS	PSDA783600	* *
3	4	N/A	Washer, Flat, Round, for 0.875in Bolt	Hughes Brothers	RW2-80	5997500 9319580
4	4	N/A	Locknut, for 0.875in Bolt	Line Hardware	SLN-78	7024156 9322022
5	1	30,000	Y-Clevis Ball	PLP	BYC-30	3504441 9312426
6	1	30,000	Socket Eye 0.75in Width x 0.6875in Dia.	PLP	SEL-30	5988732 9307201
7	1	25,000	Cushion Grip Suspension Clamp 0.884IN to 1.196IN	PLP	CGS-1097HT250	9202079 9306305

Tag	Qty		Description			PS ID	SAP ID
1	1	PLS	Insulator, Braced Post - 115KV - 53.3IN Horz. - 68IN Vert. - Poly.	Maclean	B2901053T12068MX	N/A	9394890
Packaged with the Braced Post Insulator from Maclean Part No. B2901053T12068MX							
1A	1	PLS	Line Post Insulator - 115KV - 53.3IN - Poly. - Vang - Flat	Maclean	H29010043MXS022		
1B	1	25,000	Insulator, Suspension - 115KV - 50.6IN - Poly - Ball - Clevis	Maclean	S14080039VXS016		
1E	1	30,000	Anchor Shackle	Maclean	ASH-55-BC		
1C	1	26,000	Turnbuckle, 0.75in x 6in Takeup	Maclean	G-227-NBC-3/4x6C		
1D	1	30,000	Socket Y-Clevis	Maclean	SYC-56		

* REFER TO THE "PROJECT DESIGN PACKAGE" DOCUMENTS OR THE TLE STANDARDS MATERIALS "ML.06.01.002" FOR MATERIAL ID NUMBERS AFTER DETERMINING EXACT LENGTH, RATING, KIND, ETC.

NOTES:

1) BRACE INSULATOR ASSEMBLY IS DESIGNED BASED ON MACLEAN'S INTERACTION DIAGRAM AND SHOULD NOT BE MODIFIED IN ANY WAY WITHOUT THE VENDORS APPROVAL.

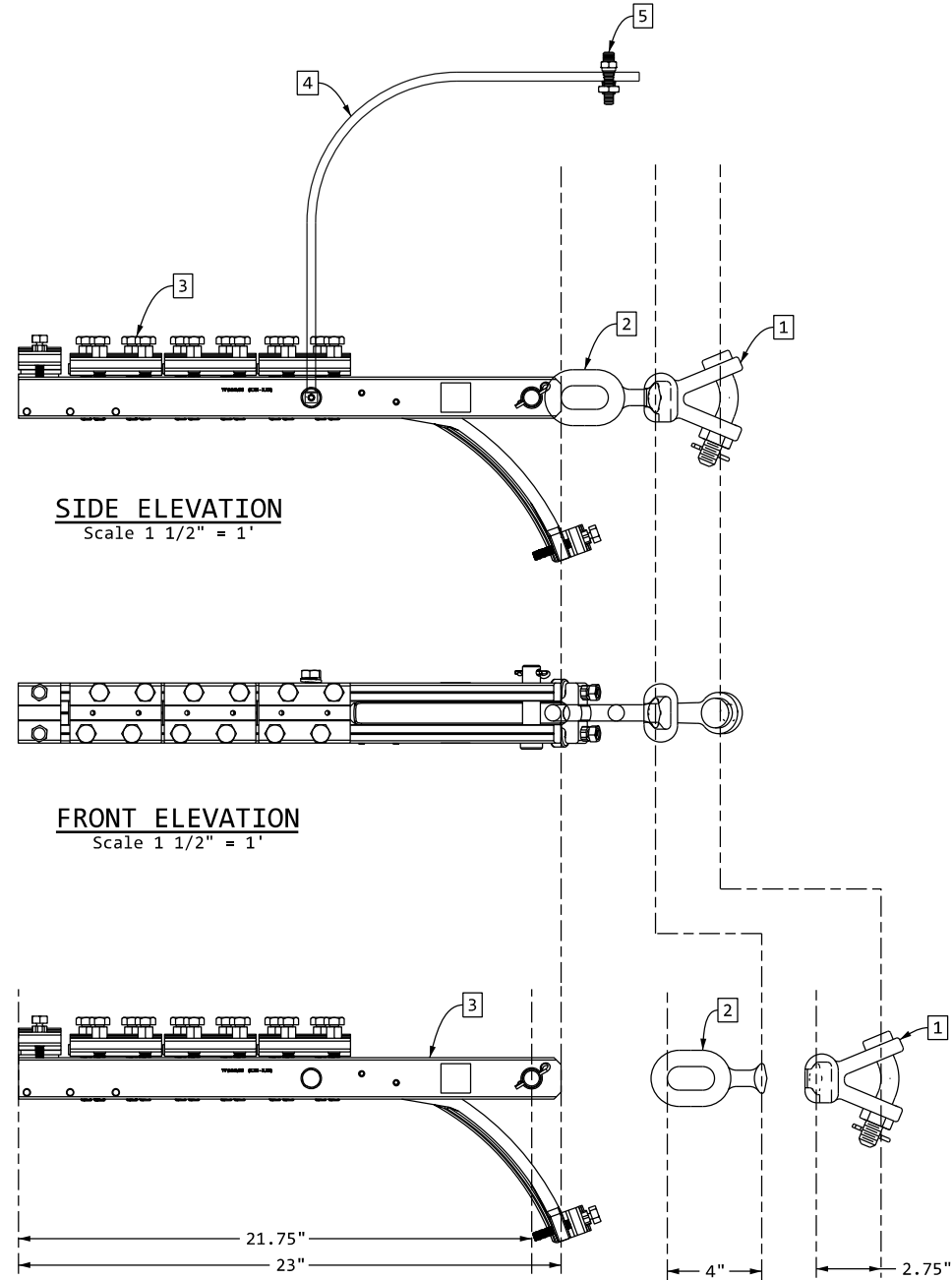
0	2-25-25	EJH		INITIAL ISSUE		RMS	MCF TDH
MK	DATE	BY	MF	DESCRIPTION OF REVISION		CK.	APP.

PREPARED BY							
nationalgrid							
TRANSMISSION SYSTEM							
ASSEMBLY FIT CHECK DETAILS - INSULATOR, SUSP.							
CGS-HT, MACLEAN BRACED POST, SGL STRING,							
1-BUNDLE, 0.884"-1.196", 25K CAP.							
DES.	EJH	DR.	EJH	CK.	RMS	DATE	SCALE AS SHOWN
APPROVED FEENEY				APPROVED		INDEX 6.0- 4.6 - E32	
APPROVED HALE				APPROVED		NO. 00054	

FOR CONSTRUCTION ONLY

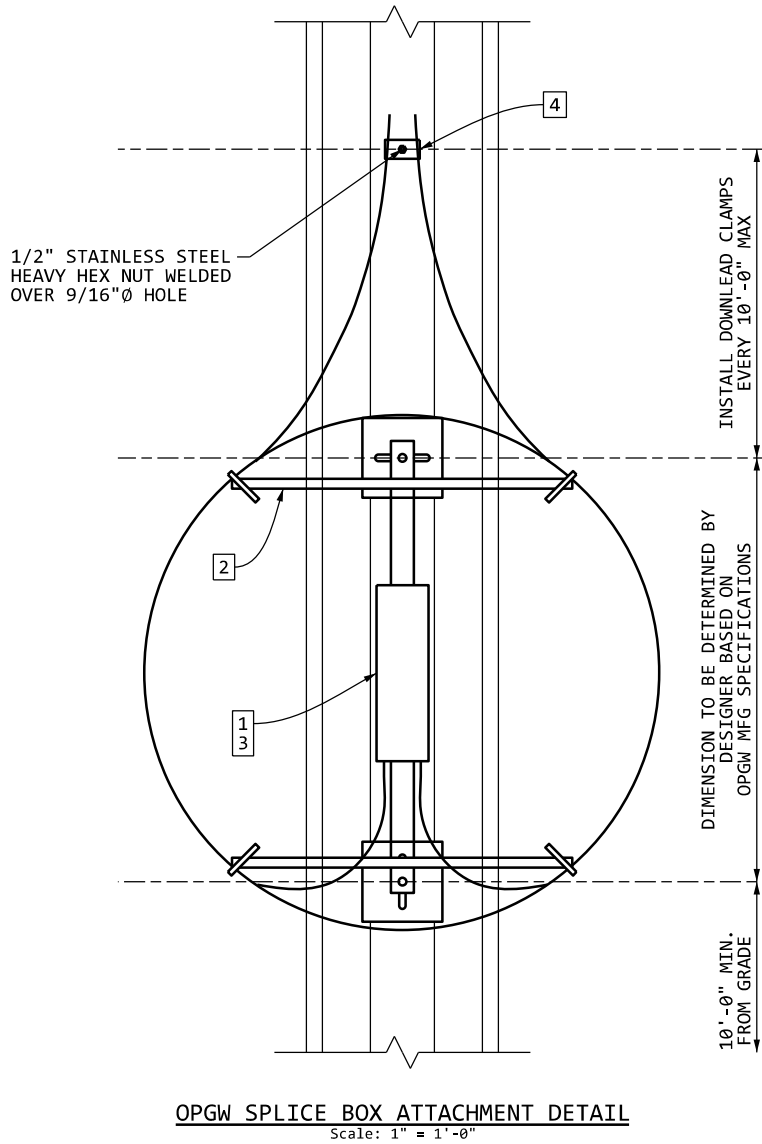
SHEET NUMBER 001 FINAL

ASSEMBLY STRENGTH = LIMITING TENSION CAPACITY = 25K

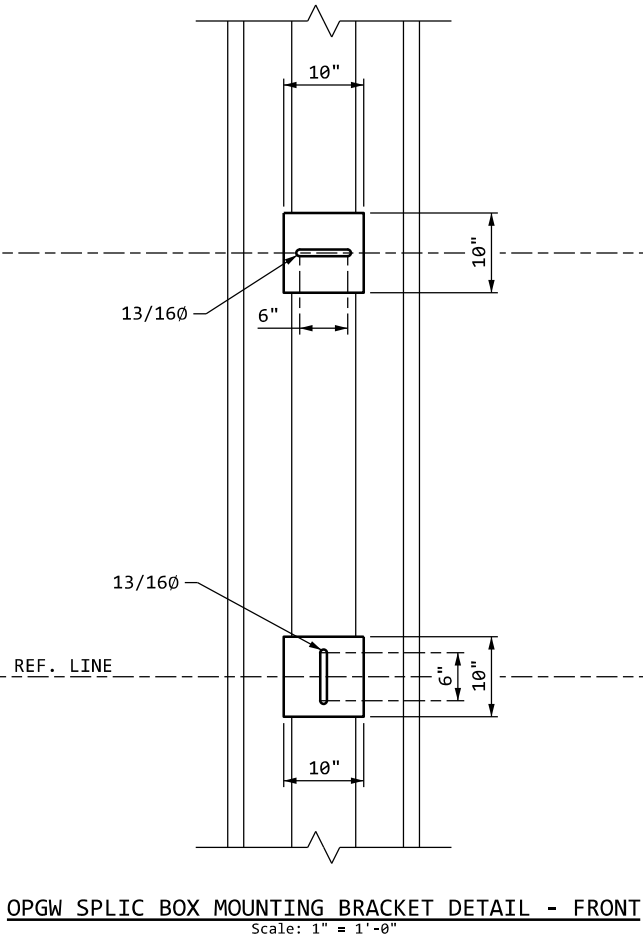


MATERIAL LIST							
Tag	Qty	UBS (lbs)	Description	Preferred Manufacturer	Preferred Manufacturer Part #	PS ID	SAP ID
1	1	30,000	Ball Eye	PLP	BE-30	N/A	TBD
2	1	30,000	Socket Y-Clevis	PLP	SYC-30	5987616	9307402
3	1	25,000	OPGW Bolted Deadend 0.500IN-0.540IN	PLP	2900005DG	N/A	9392526
4	1	-	"G" OPGW Susp/#4 Copper Grounding Asmy	PLP	710010015	N/A	TBD
5	1	-	Bronze Gounding Lug	Burndy	K2C25	5961547	9313780

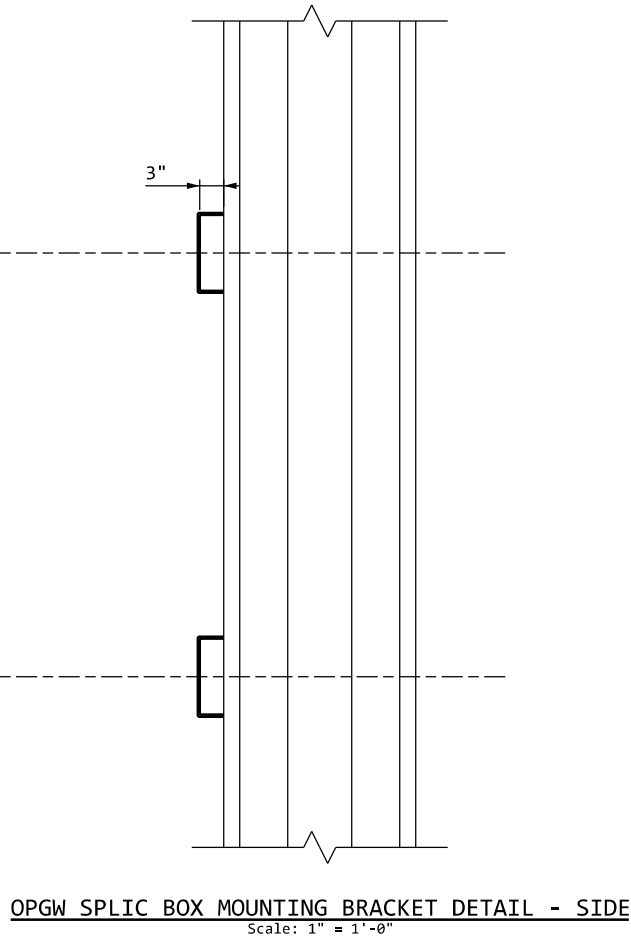
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OPGW SPLICE BOX ATTACHMENT DETAIL
Scale: 1" = 1'-0"



OPGW SPLIC BOX MOUNTING BRACKET DETAIL - FRONT
Scale: 1" = 1'-0"



OPGW SPLIC BOX MOUNTING BRACKET DETAIL - SIDE
Scale: 1" = 1'-0"

GENERAL NOTES:

1) SEE MANUFACTURER CATALOG INFORMATION FOR MATERIAL SUB-COMPONENTS.

MATERIAL LIST						
Tag	Qty	UBS (lbs)	Description	Preferred Manufacturer	Preferred Manufacturer Part No.	PS ID SAP ID
1	1	N/A	Splice Box Assembly for 1/2" 48 Fiber OPGW	PLP	COYW17S001	N/A TBD
2	1	N/A	60" Fixed Crossarm Vertical SLACKLOOP® System	PLP	80061195	N/A TBD
3	1	N/A	COYOTE® Defender 2 for 6.5" COYOTE® Dome Closure	PLP	80061194	N/A TBD
4	10	N/A	Downlead Cushion for 1/2" 48 Fiber OPGW w/ Hardware	PLP	8003266H3	N/A TBD

TRANSMISSION SYSTEM				REVISION	
ASSEMBLY FIT CHECK DETAILS - OPGW, SPLICE BOX				FILE INDEX	DATE
PLP ASSEMBLY DETAILS FOR PART NO. SFSJ-J-13040				DRAWING NUMBER	00027
STEEL POLE MOUNT				SHEET NUMBER	001 FINAL

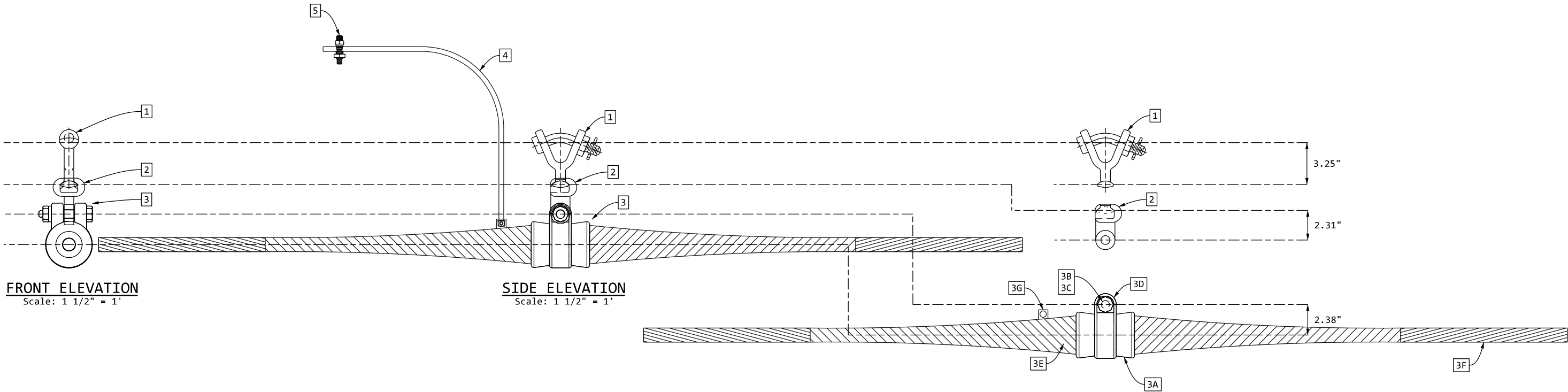
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CALCULATIONS:
ASSEMBLY WEIGHT = Y-CLEVIS BALL + SOCKET EYE + AGS CLAMP W/ ARMOR ROD
= 2.15 + 1.30 + 16.0
= 19.45 lbs

ASSEMBLY LENGTH = Y-CLEVIS BALL + SOCKET EYE + AGS CLAMP W/ ARMOR ROD
= 3.25 + 2.06 + 2.38
= 7.69 in
= 0.641 ft

ASSEMBLY STRENGTH = LIMITING TENSION CAPACITY OF OPGW AGS CLAMP = 20K

SLIP STRENGTH 10% TO 20% OF WIRE RBS



MATERIAL LIST						
Tag	Qty	UBS (lbs)	Description	Preferred Manufacturer	Preferred Manufacturer Part #	PS ID SAP ID
1	1	30,000	Y-Clevis Ball	PLP	BYC-30	3504441 9312426
2	1	25,000	Socket Eye	PLP	SE-5152	N/A TBD
3	1	20,000	AGS Clamp w/ Armor Rod for 1/2"	PLP	4300108	N/A TBD
4	1	-	"G" OPGW Susp/#4 Copper Grounding Asmy	PLP	710010015	N/A TBD
5	1	-	Bronze Gounding Lug	Burndy	K2C25	5961547 9313780

1	xxx	EJH		REVISED GROUNDING & BOM	RMS	MCF TDH
0	05/23	EJH		INITIAL ISSUE	RMS	RMS
MK	DATE	BY	MF	DESCRIPTION OF REVISION	CK.	APP.

PREPARED BY

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TRANSMISSION SYSTEM

ASSEMBLY FIT CHECK DETAILS - OPGW, SUSP.

AGS, BOLTED

VANG, DNO-12258 A.C. 48 SM FIBER, 20K CAP.

DES.	EJH	DR.	EJH	CK.	RMS	DATE	05/23	SCALE	AS SHOWN
APPROVED STANCZEWSKI				APPROVED				INDEX 6.0- 4.6 - E32	
APPROVED				APPROVED				NO. 00007	

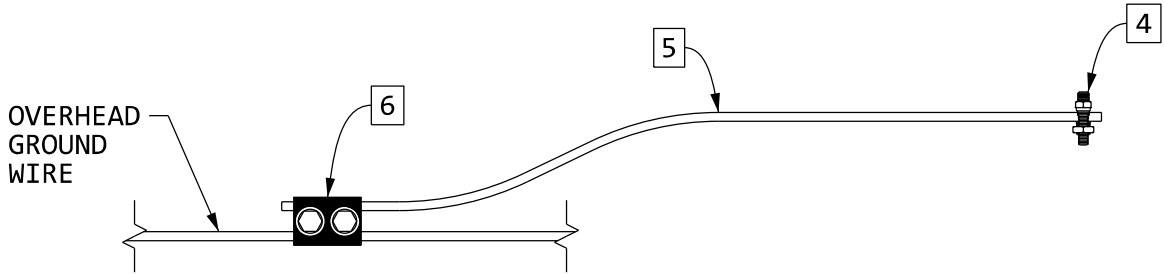
FOR CONSTRUCTION ONLY

SHEET NUMBER 001 FINAL

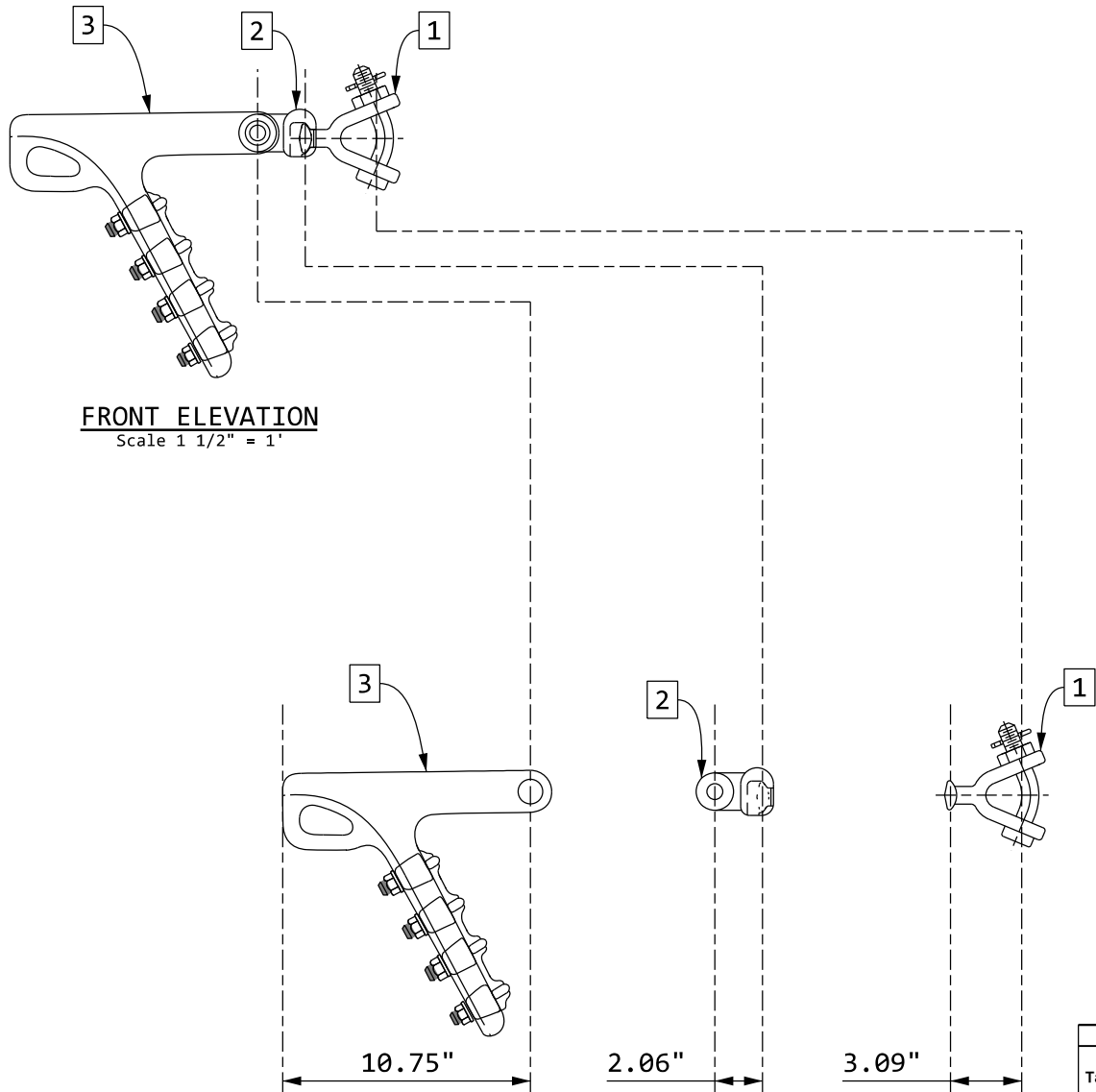
CALCULATIONS:
ASSEMBLY WEIGHT = Y-CLEVIS BALL + SOCKET EYE + BOLTED DEADEND CLAMP
= 1.78 + 1.30 + 11.00
= 14.08 lbs

ASSEMBLY LENGTH = Y-CLEVIS BALL + SOCKET EYE + BOLTED DEADEND CLAMP
= 3.09 + 2.0625 + 10.75
= 15.9025
= 1.33 ft

ASSEMBLY STRENGTH = TENSION CAPACITY OF SOCKET EYE = 25K



DETAIL OF GROUNDING ATTACHMENT AT POLE TOP



MATERIAL LIST						
Tag	Qty	UBS (lbs)	Description	Preferred Manufacturer	Preferred Manufacturer Part #	SAP ID
1	1	35,000	Y-Clevis Ball	HPS	YBC30	N/A TBD
2	1	20,000	Socket Eye	HPS	SA06	5988732 9307201
3	1	30,000	Bolted Strain Clamp 0.360"-0.840"	HPS	SWDE84N	N/A 9312468
4	1	-	Bronze Gouinding Lug	Burdy	K2C25	5961547 9313780
5	1	-	Wire, 3/8" Steel, Common Grade	National Strand	38GACG7475R05000	5998530 9306353
6	1	-	Parallel Groove Clamp, Alum.	AFL	#481.1P	5962850 9320568

001 000	05/23	DATE	NO.	DESCRIPTION OF ISSUE OR REVISION	DR.	EJH	EJH	RMS	RMS	APP.	EJH DES.	STANCIENSKI APPROVED	PREPARED BY	nationalgrid			TRANSMISSION SYSTEM			05/23		
														ASSEMBLY FIT CHECK DETAILS - SHIELD WIRE, DE			6.0 - 4.6- E32			00013		
														BOLTED			00013			00013		
														VANG, 0.30IN-0.84IN, 25K CAP.			001 FINAL			001 FINAL		

[illegible]

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CALCULATIONS:

ASSEMBLY SIDE A WEIGHT

= Y-CLEVIS BALL + INSULATOR (10) + HOT LINE SOCKET EYE LONG + HOT LINE SOCKET CLEVIS + EYE BALL + CGS CLAMPS

= 2.15 + 8.1 (10) + 2.30 + 3.5 + 1.00 + 5.5

= 95.45 lbs

ASSEMBLY SIDE B WEIGHT

= TOWER MOUNTING BRACKET + STRUT ADAPTER + INSULATOR STRUT (2) + CLEVIS ADAPTER

= ~120 lbs

ASSEMBLY SIDE A LENGTH

= Y-CLEVIS BALL + INSULATOR (10) + HOT LINE SOCKET EYE LONG

= 3.25 + 5.75(10) + 5.5

= 66.25 in

= 5.52 ft

ASSEMBLY SIDE B LENGTH

= TOWER MOUNTING BRACKET + STRUT ADAPTER + INSULATOR STRUT (2) + CLEVIS ADAPTER

= 4 + 2.5 + 25.44 + 33.44 + 6.38

= 71.76 in

= 5.98 ft

SUSPENSION CLAMP LENGTH

= HOT LINE SOCKET CLEVIS + EYE BALL + CGS CLAMPS

= 10 + 3.71875 + 3.31

= 17.02875 in

= 1.42 ft

ASSEMBLY STRENGTH: TENSION CAPACITY OF 25K CUSHION GRIP SUSPENSION CLAMP

ENERGIZED LENGTH AND DIAMETER

DIAMETER = WIDTH OF CGS CLAMP

= 4.5 in

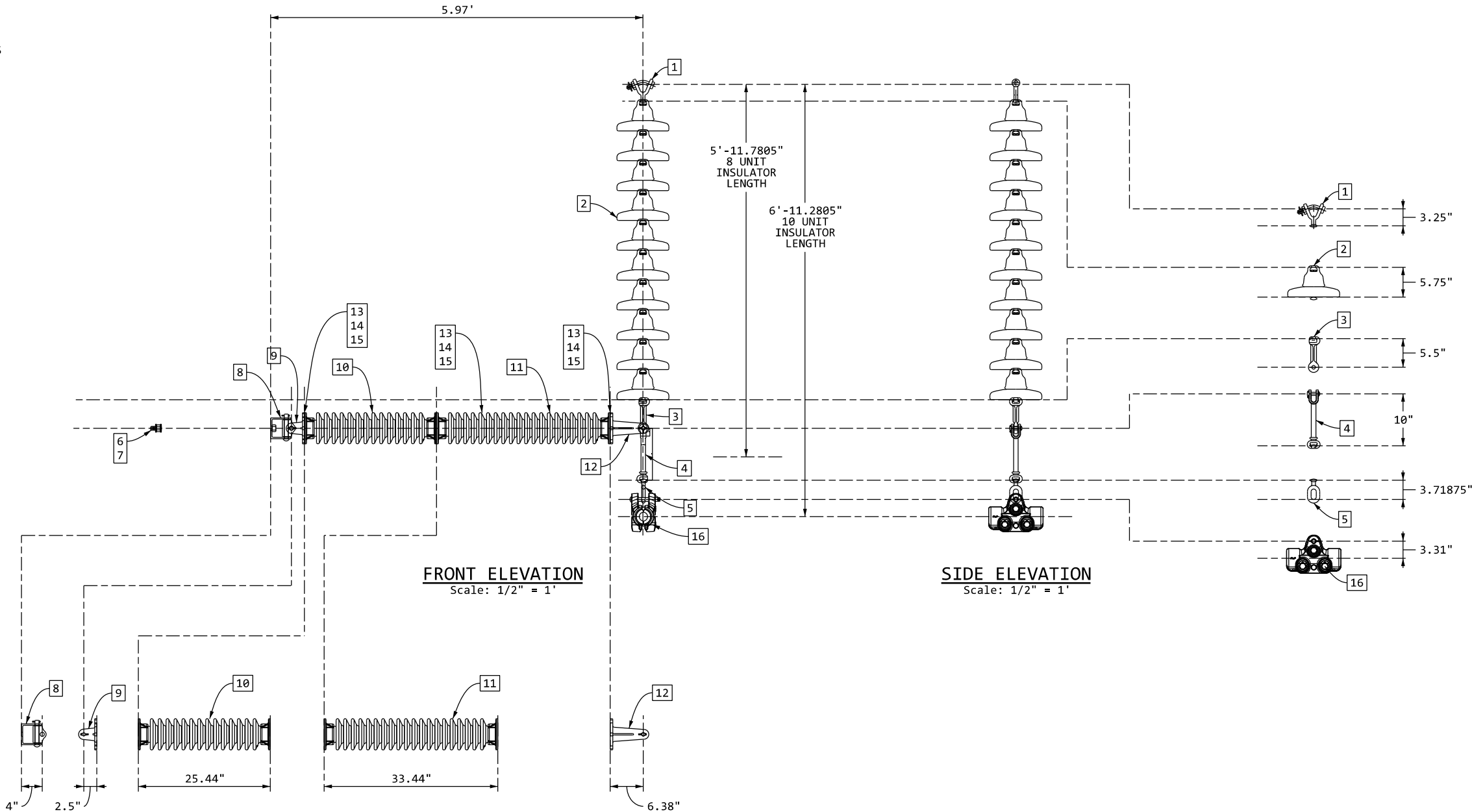
= 0.375 ft

LENGTH = HOT LINE SOCKET CLEVIS + EYE BALL + CGS CLAMPS

= 10 + 3.71875 + 3.31

= 17.02875 in

= 1.42 ft



MATERIAL LIST								
Tag	Qty	UBS (lbs)	Description	Preferred Manufacturer	Preferred Manufacturer Part #	PS ID	SAP ID	CU
1	1	30,000	Y-Clevis Ball	Maclean	YCB65A	3504441	9312426	IN.SU.SS.00.HW-01
2	10	22,000	Insulator Toughened Glass 52-3-H	SEDIVER	N14/146DC	N/A	9392059	IN.00.00.00-01
3	1	35,000	Hot Line Socket Eye Long	Maclean	SEL-687	5988738	9313210	IN.RS.00.00-01
4	1	30,000	Hot Line Socket Clevis	HPS	HSC-100	5106139	9305991	
5	1	30,000	Ball Eye	HPS	BE-30	3506907	9312244	
6	1	-	Bolt, Machined, 3/4"	HPS	*	*	*	
7	1	-	Washer for 3/4" Bolt	HPS	6806	5997840	9320428	
8	1	-	Tower Mounting Bracket	LAPP	L79032A	5984625	9307366	
9	1	-	Strut Adapter	LAPP	L300908	5980018	9306953	
10	1	-	Insulator, Strut, 25-1/2", Gray, 15M	LAPP	60103-70	5991714	9307231	
11	1	-	Insulator, Strut, 33-1/2", Gray, 15M	Lapp	71790-70	5991718	9307247	
12	1	-	Clevis Adapter	LAPP	L078869B	5980022	9310647	
13	12	-	Bolt, S.S., 1/2" x 2"	Allied Bolt	10014T	5624920	9304786	
14	12	-	Nut, S.S., for 1/2" Bolt	Allied Bolt	54513	7001719	9319754	
15	12	-	Lock Washer, S.S., for 1/2" Bolt	HPS	HWL-500	5629299	9304690	
16	1	25,000	CGS Clamp HT 0.884"-1.196"	PLP	CGS-1097HT250	9202079	9306305	CN.SU.CG.00-02

0	2-25-25	EJH		INITIAL ISSUE	RMS	MCF TDH	
MK	DATE	BY	MF	DESCRIPTION OF REVISION	CK.	APP.	

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TRANSMISSION SYSTEM

ASSEMBLY FIT CHECK DETAILS - INSULATOR, SUSP.

6' RESTRAINED, CGS-HT, SGL STRING, 1-BUNDLE

0.884"-1.196", 25K CAP.

DES.	EJH	DR.	EJH	CK.	RMS	DATE	SCALE	AS SHOWN
APPROVED FEENEY				APPROVED		INDEX 6.0- 4.6 - E32		
APPROVED HALE				APPROVED		NO. 00056		

	Grounding Assemblies			Conductor Hardware Parts and Assemblies							OPGW & Shield Wire Assemblies						Miscellaneous Parts				
	NY-6.0-4.6-00014	NY-6.0-4.6-00015	NY-6.0-4.6-00022	NY-6.0-4.6-00005	NY-6.0-4.6-00054	NY-6.0-4.6-00056	NY-6.0-4.6-00053	NY-6.0-4.6-00055	NY-6.0-4.6-00030	NY-6.0-4.6-00051	NY-6.0-4.6-00007	NY-6.0-4.6-00008	NY-6.0-4.6-00027	NY-6.0-4.6-00013	NY-6.0-4.6-00038	Spiral Vibration Dampers(OPGW)	Spiral Vibration Dampers (SW)	Conductor Dampers			
	Direct Embed Grounding	Grounding on Foundation	Wood Pole Grounding	I-String Sus.	Braced Post Insulator	795 ACSR I-String with Strut	Station post for jumper	Horz. Poly Jumper Post	795 ACSR Cond. DE	795 ACSR Cond. DE - double string	OPGW Sus.	OPGW DE	OPGW Splice Box	Bolted SW DE	OHGW Sus.	AFL SVD462/563HM	AFL SVD327/461HM	AFL 1706AA-10			
Str #	WO #10030978277																				
1-4 (EXISTING)			3							6											
1-5		3					9	9		6		1	1	1		2		6			
2 - T1530		1						3		6				2			2	6			
2 - T1510		1						3		6		2				2		6			
3 - T1530		1						3		6				2			2	6			
3 - T1510		1						3		6		2				2		6			
3-1 - T1530	1				3										1		2	3			
3-1 - T1510	1				3						1					2		3			
4 - T1530		1						3		6				2			2	6			
4 - T1510		1						3		6		2				2		6			
5	1				3						1					2					
6	1				3						1					2		6			
7	1				3						1					2					
8	1				3						1					2		6			
8-1	1				3						1					2					
9	1				3						1					2		6			
10	1				3						1					2					
11	1				3						1					2		6			
12	1				3						1					2					
13	1				3						1					2		6			
14	1				3						1					2		3			
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17	1				3						1					2		6			
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36		1						3	3	3		2	1			2		6			

37	1				3						1					2			
38	1				3						1					2		6	
39	1				3						1					2			
40	1				3						1					2		6	
41	1				3						1					2			
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45	1				3						1					2			
46	1				3						1					2		6	
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56		1						3	6			2	1			2		6	
57		1			3						1					2			
58		1			3						1					2		6	
59		1			3						1					2			
60		1			3						1					2		6	
61		1			3						1					2			
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64		1			3						1					2		6	
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66		1			3						1					2		6	
67		1						3	3	3		2				2		6	
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74	1				3						1					2			
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76	1				3						1					2			
77	1				3						1					2		6	
78	1				3						1					2			
79	1				3						1					2		6	
80		1						3		6		2	1			2		6	
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