

# **Attachment O**

Gen-tie Structural Drawings

# BILL OF MATERIALS

ITEM	DRAWING NO.	MFR.	MFR. PART NO.	QTY	UNIT	DESCRIPTION
1				1	EA	H FRAME ASSEMBLY
	CLMP-001					STATIC SUSP. CLAMP W/ARMOR ROD ASSEMBLY
2		ANDERSON PRODUCTS	YBC-30	1	EA	BALL Y-CLEVIS (30K)
3		HUBBELL POWER SYSTEMS	MS70S	1	EA	SUSPENSION CLAMP
4		PREFORMED LINE PRODUCTS	AR-1130	1	EA	ARMOR ROD
	OPGW-001					OPGW SUSP. CLAMP W/ ARMOR ROD ASSEMBLY
5		AFL	YCBS	1	EA	BALL Y-CLEVIS (30K)
6		AFL	SUME 528/555	1	EA	OPGW SUSP. CLAMP W/ ARMOR ROD
7		AFL	BWAL50H/50H-24	1	EA	BONDING WIRE
8		AFL	SE-SC	1	EA	SOCKET EYE
						TWO POLE GROUNDING ASSEMBLY
9		HUBBELL POWER SYSTEMS	VAUL112BN	2	EA	GROUND TERMINAL
10				4	EA	1/2" X 3/4" SS BOLT
11		MACLEAN POWER SYSTEMS	J1086	4	EA	1/2" FLAT WASHER
12		MACLEAN POWER SYSTEMS	J138	4	EA	1/2" LOCK WASHER
13		CME	5100W01S-US	9	FT	NO.2 COPPER GROUND WIRE
14		THOMAS & BETTS	JAB58H	2	EA	GROUND ROD CLAMP
15		THOMAS & BETTS	6258	2	EA	GROUND ROD
16		BLACKBURN	CF221	2	EA	GROUND COMPRESSION CONNECTOR
						STATIC GROUND ASSEMBLY
17		HUBBELL POWER SYSTEMS	LC522AXB	1	EA	GROUND COMP. CONNECTOR
18		CME	5100W01S-US	6	FT	NO.2 COPPER GROUND WIRE
19		HUBBELL POWER SYSTEMS	VAUL112BN	1	EA	GROUND TERMINAL
20				2	EA	1/2" X 3/4" SS BOLT
21		MACLEAN POWER SYSTEMS	J1086	2	EA	1/2" FLAT WASHER
22		MACLEAN POWER SYSTEMS	J138	2	EA	1/2" LOCK WASHER
	INS-001					138KV SUSP. ASSEMBLY (30K 8-BELLS)
23		ANDERSON PRODUCTS	YBC-30	3	EA	BALL Y-CLEVIS (30K)
24		LAPP INSULATOR	5960A-70	24	EA	10" PORC. BELL (30K)
25		HUBBELL POWER SYSTEMS	HAS-182-S	3	EA	SUSPENSION CLAMP
26		PREFORMED LINE PRODUCTS	AR-0141	3	EA	ARMOR ROD
						MISC ITEMS
27	POLE TAG			1	EA	

NOTES:  
1) H-FRAME TO BE ORDERED AS COMPLETE ASSEMBLY.



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McDonnell Engineering Co., Inc.

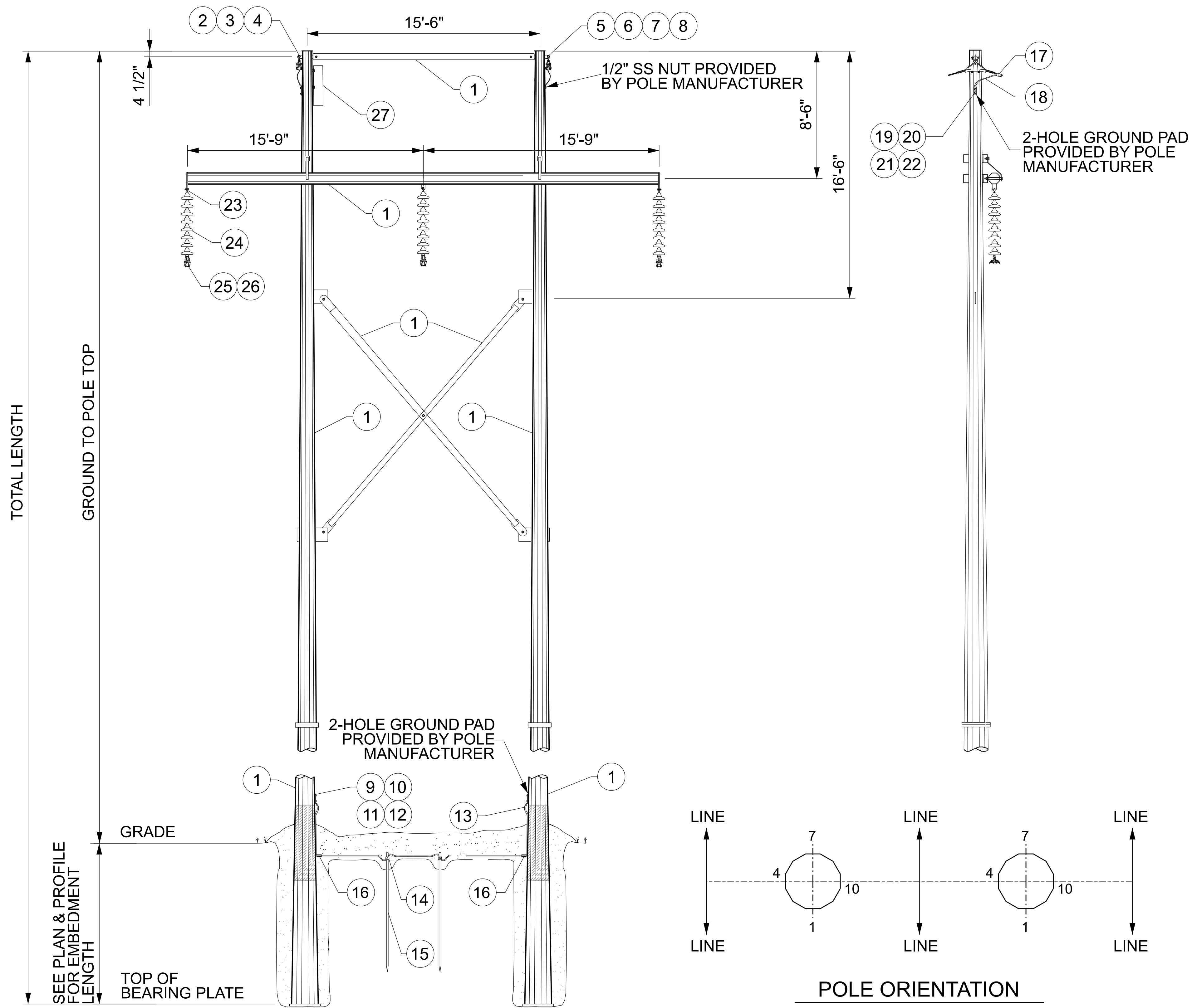
date	detailed
08/13/2021	H. SWANSON
designed	checked
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RHODES CREEK SOLAR  
HARDIN COUNTY, KY  
UNITED STATES

ibV energypartners  
138kV H-FRAME  
0° TO 3° TYP.  
GALVANIZED STEEL POLES

project	contract
133582	
drawing	rev.
FRM-0138-001	A
sheet	of
1	1
sheets	

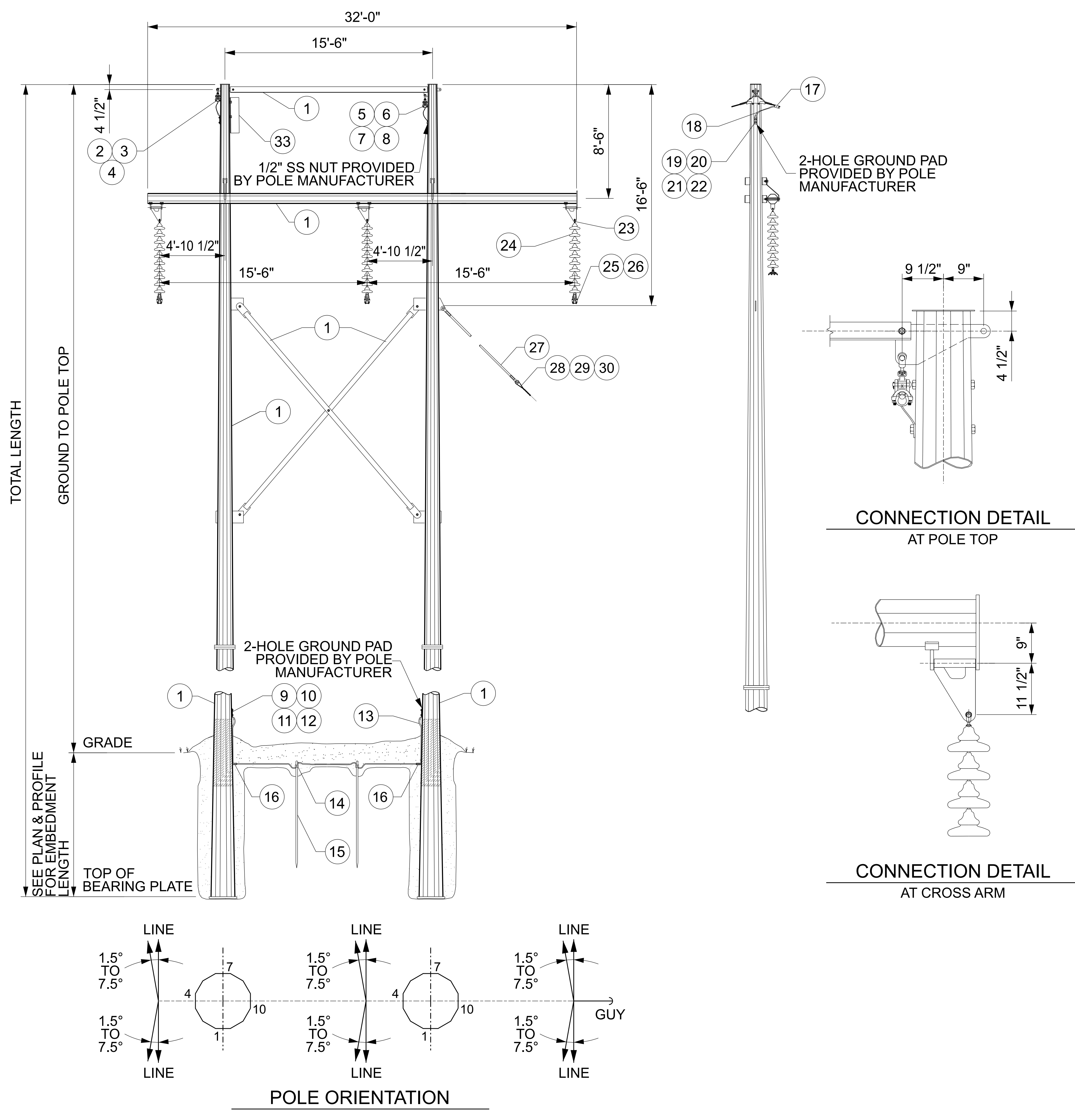


# BILL OF MATERIALS

ITEM	DRAWING NO.	MFR.	MFR. PART NO.	QTY	UNIT	DESCRIPTION
1				1	EA	H FRAME ASSEMBLY
	CLMP-001					STATIC SUSP. CLAMP W/ARMOR ROD ASSEMBLY
2		ANDERSON PRODUCTS	YBC-30	1	EA	BALL Y-CLEVIS (30K)
3		HUBBELL POWER SYSTEMS	MS70S	1	EA	SUSPENSION CLAMP
4		PREFORMED LINE PRODUCTS	AR-1130	1	EA	ARMOR ROD
	OPGW-001					OPGW SUSP. CLAMP W/ ARMOR ROD ASSEMBLY
5		AFL	YCBS	1	EA	BALL Y-CLEVIS (30K)
6		AFL	SUME 528/555	1	EA	OPGW SUSP. CLAMP W/ ARMOR ROD
7		AFL	BWAL50H/50H-24	1	EA	BONDING WIRE
8		AFL	SE-SC	1	EA	EYE SOCKET
						TWO POLE GROUNDING ASSEMBLY
9		HUBBELL POWER SYSTEMS	VAUL112BN	2	EA	GROUND TERMINAL
10				4	EA	1/2" X 3/4" SS BOLT
11		MACLEAN POWER SYSTEMS	J1086	4	EA	1/2" FLAT WASHER
12		MACLEAN POWER SYSTEMS	J138	4	EA	1/2" LOCK WASHER
13		CME	5100W01S-US	9	FT	NO.2 COPPER GROUND WIRE
14		THOMAS & BETTS	JAB58H	2	EA	GROUND ROD CLAMP
15		THOMAS & BETTS	6258	2	EA	GROUND ROD
16		BLACKBURN	CF221	2	EA	GROUND COMPRESSION CONNECTOR
						STATIC GROUND ASSEMBLY
17		HUBBELL POWER SYSTEMS	LC522AXB	1	EA	GROUND COMP. CONNECTOR
18		CME	5100W01S-US	6	FT	NO.2 COPPER GROUND WIRE
19		HUBBELL POWER SYSTEMS	VAUL112BN	1	EA	GROUND TERMINAL
20				2	EA	1/2" X 3/4" SS BOLT
21		MACLEAN POWER SYSTEMS	J1086	2	EA	1/2" FLAT WASHER
22		MACLEAN POWER SYSTEMS	J138	2	EA	1/2" LOCK WASHER
	INS-002					138KV SUSP. ASSEMBLY (30K 10-BELLS)
23		ANDERSON PRODUCTS	YBC-30	3	EA	BALL Y-CLEVIS (30K)
24		LAPP INSULATOR	5960A-70	30	EA	10in PORC. BELL (30K) GRAY
25		HUBBELL POWER SYSTEMS	HAS-182-S	3	EA	SUSPENSION CLAMP
26		PREFORMED LINE PRODUCTS	AR-0141	3	EA	ARMOR ROD
	GUY-001					7/16" DOWN GUY ASSEMBLY
27		HUBBELL POWER SYSTEMS	GS30078CC1	1	EA	78" FIBERGLASS GUY STRAIN INSULATOR
28		NATIONAL	7/16-EHS-GUY	70	FT	7/16" EHS DOWN GUY
29		PREFORMED LINE PRODUCTS	GDE-1108	4	EA	7/16" PREFORMED GUY GRIP
30		HUBBELL POWER SYSTEMS	PSP6531907P	1	EA	GUY ROLLER
31		VIRGINIA PLASTICS	TGP16-1B-8YPF	1	EA	GUY PROTECTOR
						MISC ITEMS
32	ANC-001			1	SET	TRIPLE HELIX SCREW ASSEMBLY
33	POLE TAG			1	SET	

**NOTES:**

1) H-FRAME TO BE ORDERED AS COMPLETE ASSEMBLY.



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designed	H. SWANSON	checked	S. McLWEE

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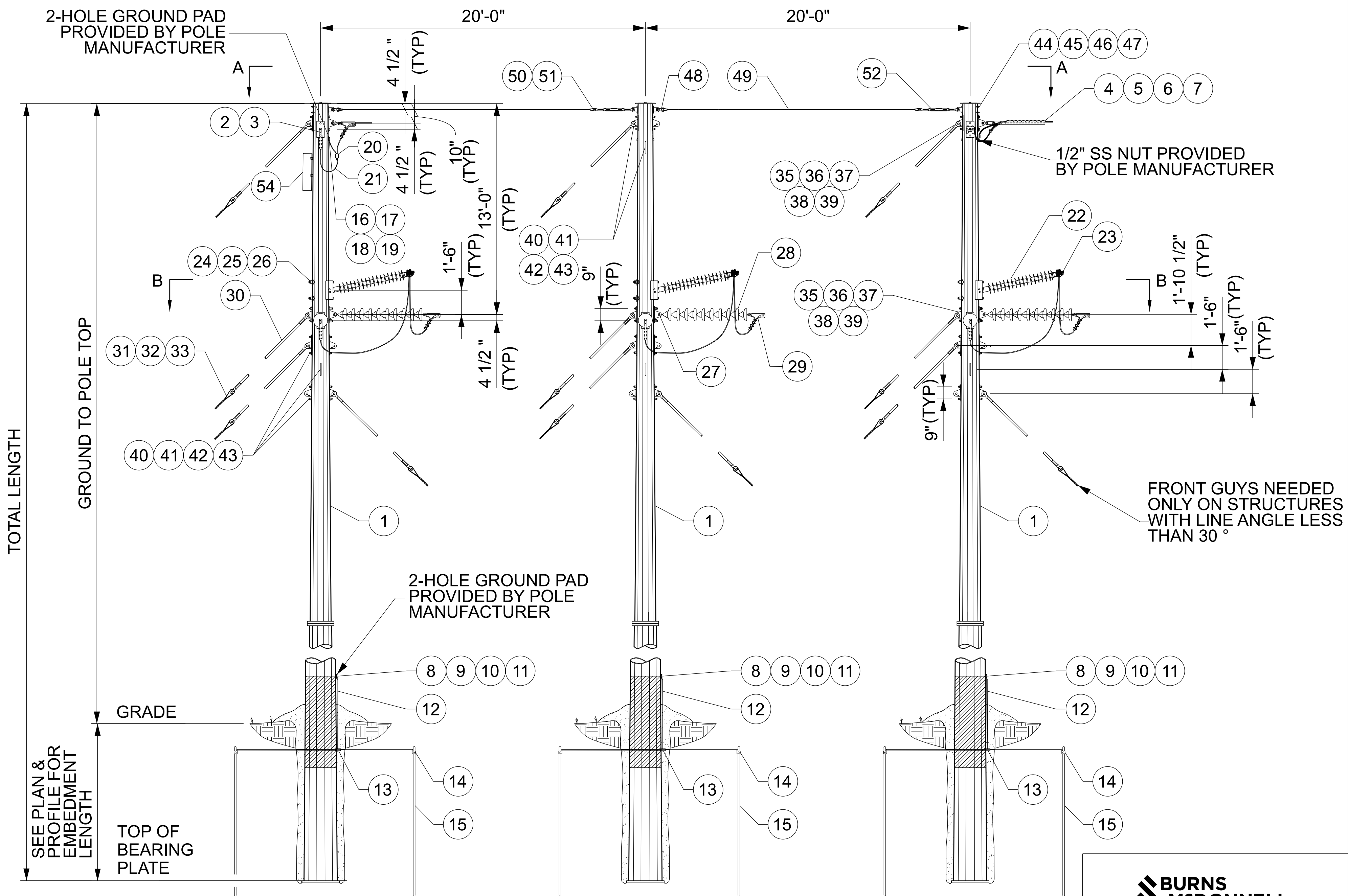
RHODES CREEK SOLAR  
 HARDIN COUNTY, KY  
 UNITED STATES

ibV energypartners  
 138kV OFFSET H-FRAME  
 3° TO 15° TYP.  
 GALVANIZED STEEL POLES

project	133582	contract	
drawing	FRM-0138-002	rev.	A
sheet	1	of	1 sheets

# BILL OF MATERIALS

ITEM	DRAWING NO.	MFR.	MFR. PART NO.	QTY	UNIT	DESCRIPTION
1				3	EA	STEEL POLE
	CLMP-002					STATIC WIRE STRAIN CLAMP ASSEMBLY
2		ANDERSON PRODUCTS	YBC-30	2	EA	BALL Y-CLEVIS (30K)
3		HUBBELL POWER SYSTEMS	SWDE55S	2	EA	STRAIN CLAMP
	OPGW-002					OPGW DEADEND ASSEMBLY
4		AFL	ODES520/529G09	2	EA	BOLTED DEADEND CLAMP
5		AFL	ODELP15	2	EA	LINK PLATE
6		HUBBELL POWER SYSTEMS	YCC	2	EA	Y-CLEVIS CLEVIS
7		AFL	BWAL50H/50H-36	1	EA	BONDING WIRE
						THREE POLE GROUND ASS'Y UNBONDED
8		HUBBELL POWER SYSTEMS	VAUL112BN	3	EA	GROUND TERMINAL
9				6	EA	1/2" X 3/4" SS BOLT
10		MACLEAN POWER SYSTEMS	J1086	6	EA	1/2" FLAT WASHER
11		MACLEAN POWER SYSTEMS	J138	6	EA	1/2" LOCK WASHER
12		CME	5100W01S-US	15	FT	NO.2 COPPER GROUND WIRE
13		BLACKBURN	CF221	3	EA	GROUND COMPRESSION CONNECTOR
14		THOMAS & BETTS	JAB58H	6	EA	GROUND ROD CLAMP
15		THOMAS & BETTS	6258	6	EA	GROUND ROD
						STATIC GROUND ASSEMBLY
16		HUBBELL POWER SYSTEMS	VAUL112BN	1	EA	GROUND TERMINAL
17				2	EA	1/2" X 3/4" SS BOLT
18		MACLEAN POWER SYSTEMS	J1086	2	EA	1/2" FLAT WASHER
19		MACLEAN POWER SYSTEMS	J138	2	EA	1/2" LOCK WASHER
20		HUBBELL POWER SYSTEMS	LC522AXB	1	EA	GROUND COMP. CONNECTOR
21		CME	5100W01S-US	6	FT	NO.2 COPPER GROUND WIRE
	INS-003					138KV POLYMER HORIZONTAL POST ASSEMBLY
22		HUBBELL POWER SYSTEMS	P250048S1020	3	EA	138KV POLYMER HORIZONTAL POST INSULATOR
23		HUBBELL POWER SYSTEMS	TSC150	3	EA	TRUNNION CLAMP
24		MACLEAN POWER SYSTEMS	J9070	6	EA	7/8" x 20" MBOLT W/SQ NUT
25		MACLEAN POWER SYSTEMS	J1082	6	EA	4"x4" SQUARE FLAT WASHER
26		MACLEAN POWER SYSTEMS	J8584-1/2	6	EA	7/8in LOCKNUT
	INS-004					138KV STRAIN DEADEND ASSEMBLY
27		ANDERSON PRODUCTS	YBC-30	6	EA	BALL Y-CLEVIS (30K)
28		LAPP INSULATOR	5960A-70	72	EA	10in PORC. BELL (30K) GRAY
29		HUBBELL POWER SYSTEMS	SD-112-S	6	EA	STRAIN CLAMP
	GUY-001					7/16" DOWN GUY ASSEMBLY
30		HUBBELL POWER SYSTEMS	GS30078CC1	AS REQ'D	EA	78" FIBERGLASS GUY STRAIN INSULATOR
31		NATIONAL	7/16-EHS-GUY	AS REQ'D	FT	7/16" EHS DOWN GUY
32		PREFORMED LINE PRODUCTS	GDE-1108	AS REQ'D	EA	7/16" PREFORMED GUY GRIP
33		HUBBELL POWER SYSTEMS	PSP6531907P	AS REQ'D	EA	GUY ROLLER
34		VIRGINIA PLASTICS	TGP16-1B-8YPP	AS REQ'D	EA	GUY PROTECTOR
						CONDUCTOR/DOWN GUY VANG ASSEMBLY
35		HUGHES BROS.	A2132-E	10	EA	BOLT ON COND. VANG
36		HUGHES BROS.	A2132-D	10	EA	BOLT ON GUY VANG
37		MACLEAN POWER SYSTEMS	J9066	20	EA	7/8" x 16" MBOLT W/SQ NUT
38		MACLEAN POWER SYSTEMS	J9068	20	EA	7/8" x 18" MBOLT W/SQ NUT
39		HUGHES BROS.	MF80	20	EA	7/8" LOCKNUT
						DOWN GUY/DOWN GUY VANG ASSEMBLY
40		HUGHES BROS.	A2132-D	22	EA	BOLT ON GUY VANG
41		MACLEAN POWER SYSTEMS	J9066	22	EA	7/8" x 16" MBOLT W/SQ NUT
42		MACLEAN POWER SYSTEMS	J9068	22	EA	7/8" x 18" MBOLT W/SQ NUT
43		HUGHES BROS.	MF80	22	EA	7/8" LOCKNUT
						MISC ITEMS
44		HUGHES BROS.	2817-11	4	EA	BOLT ON DEADEND TEE
45		MACLEAN POWER SYSTEMS	J8816	6	EA	5/8" x 16" MBOLT W/SQ NUT
46		HUGHES BROS.	J8583	6	EA	5/8" LOCKNUT
47		MACLEAN POWER SYSTEMS	J1074	4	EA	2"x2" SQUARE FLAT WASHER
48		MACLEAN POWER SYSTEMS	CT-88-H	2	EA	CLEVIS THIMBLE (40K)
49		NATIONAL	7/16-EHS-GUY	25	FT	7/16" EHS SPAN GUY
50		HUBBELL POWER SYSTEMS	PSP6531907P	2	EA	GUY ROLLER
51		PREFORMED LINE PRODUCTS	GDE-1108	4	EA	7/16" PREFORMED GUY GRIP
52		MACLEAN POWER SYSTEMS	G-228-NBC-1x12	2	EA	CLEVIS-CLEVIS TURNBUCKLE (28K)
53	ANC-001			AS REQ'D	SET	TRIPLE HELIX SCREW ASSEMBLY
54	POLE TAG			1	EA	



- NOTES:
- 1) ATTACH GUYS AS NEEDED FOR EACH STRUCTURE LOCATION.
  - 2) POLES TO BE ORDERED INDIVIDUALLY.
  - 3) CONDUCTOR, SHIELD WIRE, AND GUY MOUNTING HOLES TO BE FIELD DRILLED ON THIS STRUCTURE.

**BURNS  
MCDONNELL**

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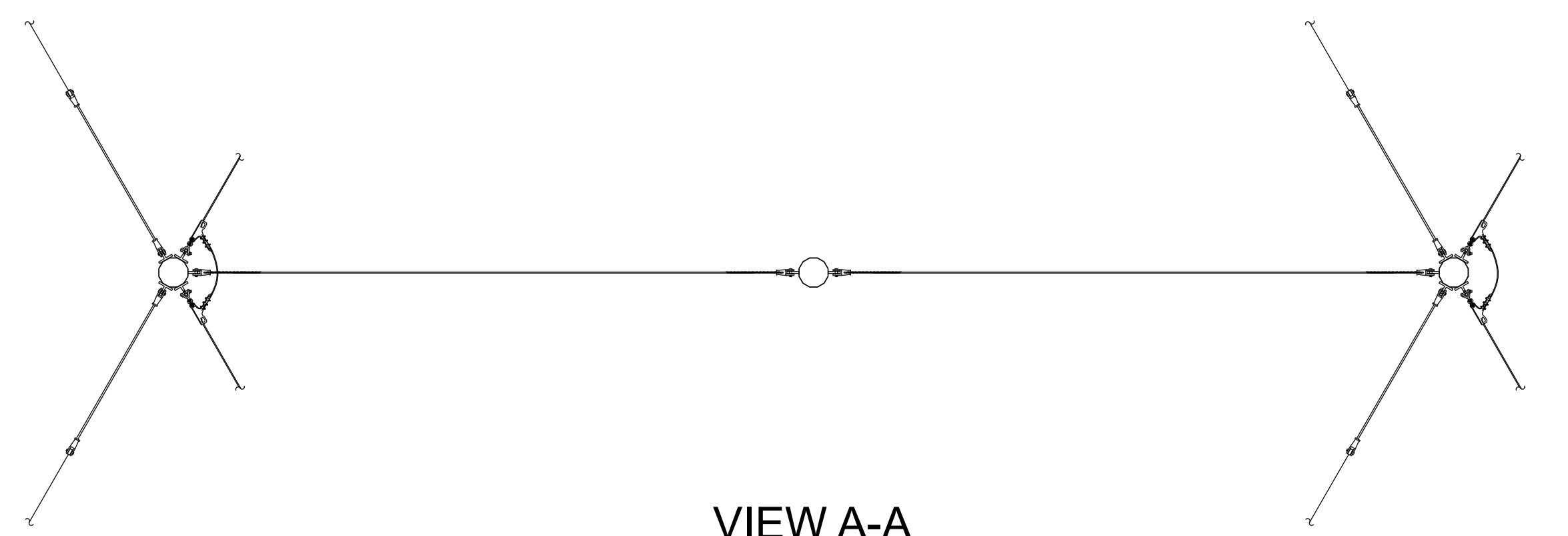
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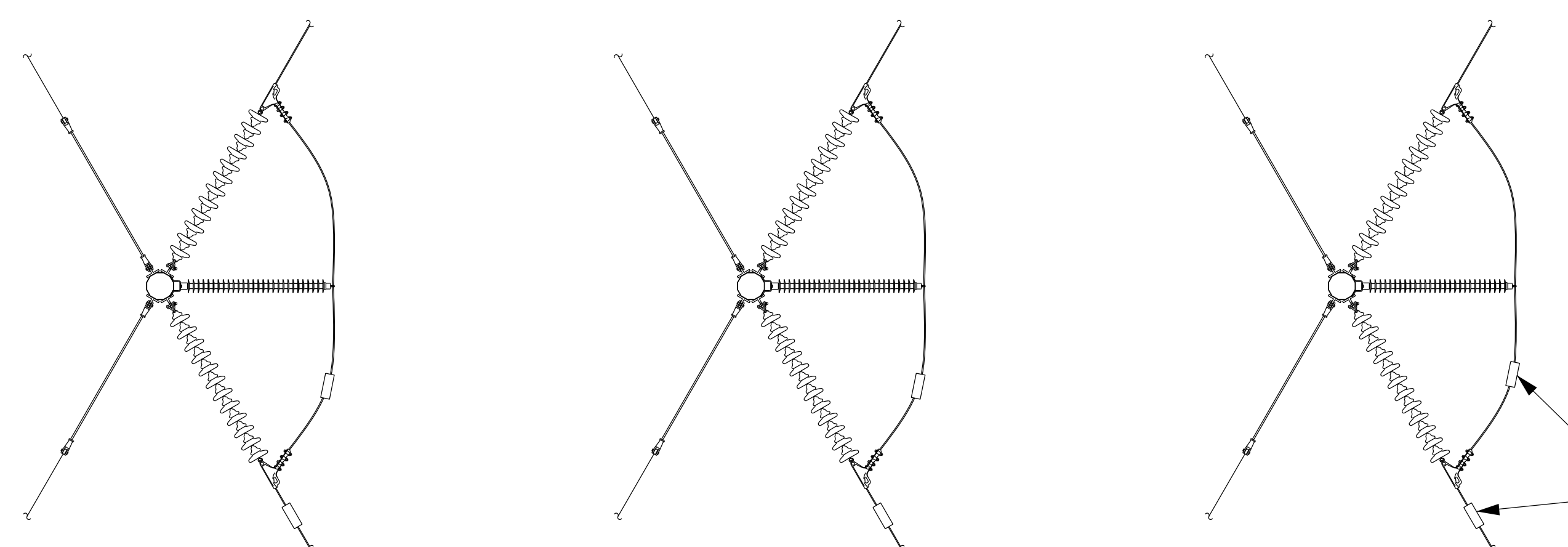
RHUDES CREEK SOLAR  
HARDIN COUNTY, KY  
UNITED STATES

ibV energypartners  
138kV 3-POLE DEADEND  
15° TO 105° TYP.  
GALVANIZED STEEL POLES

project	contract	
133582	contract	
drawing	rev.	
FRM-0138-003	A	
sheet	of	sheets
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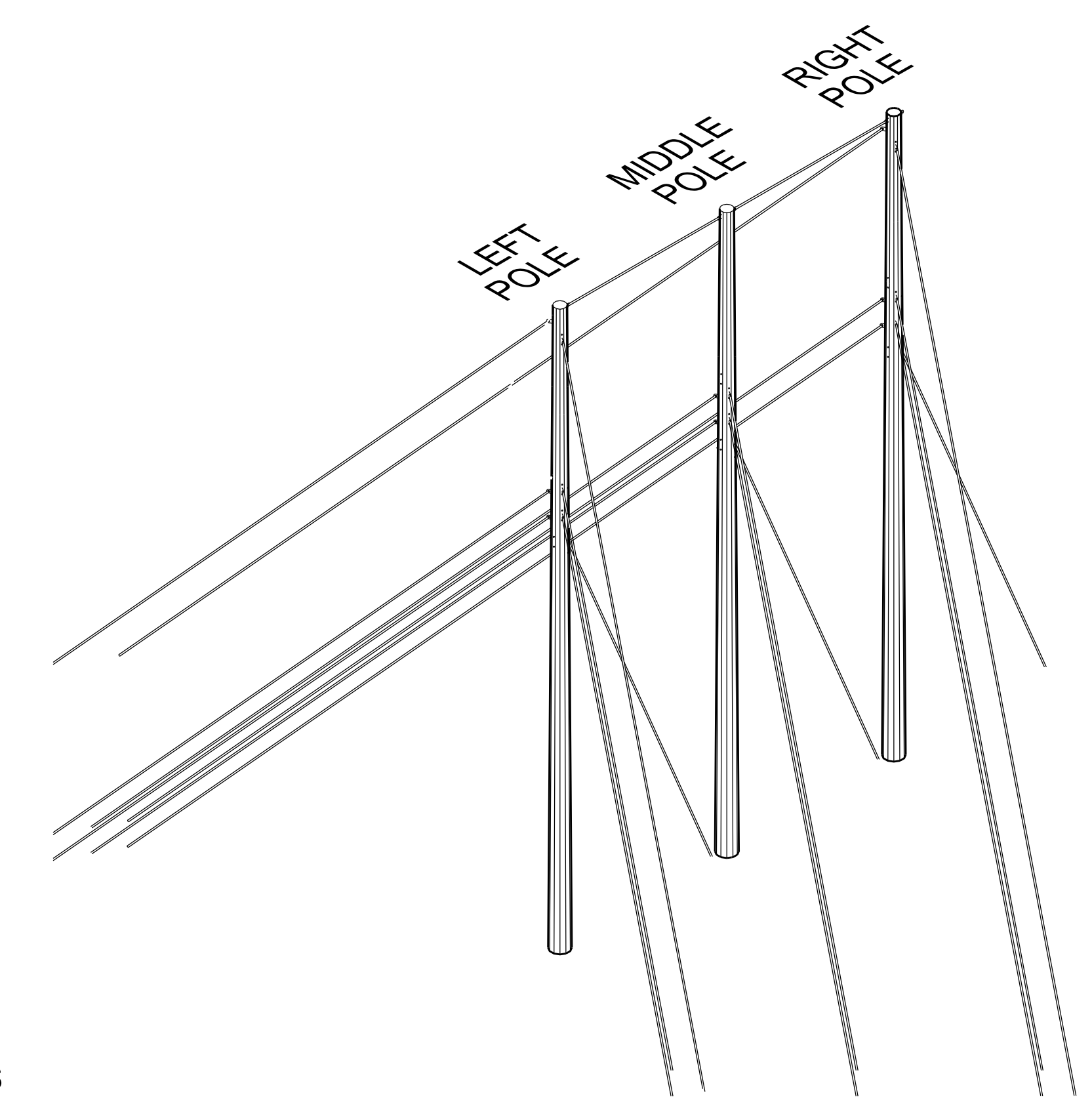


VIEW A-A

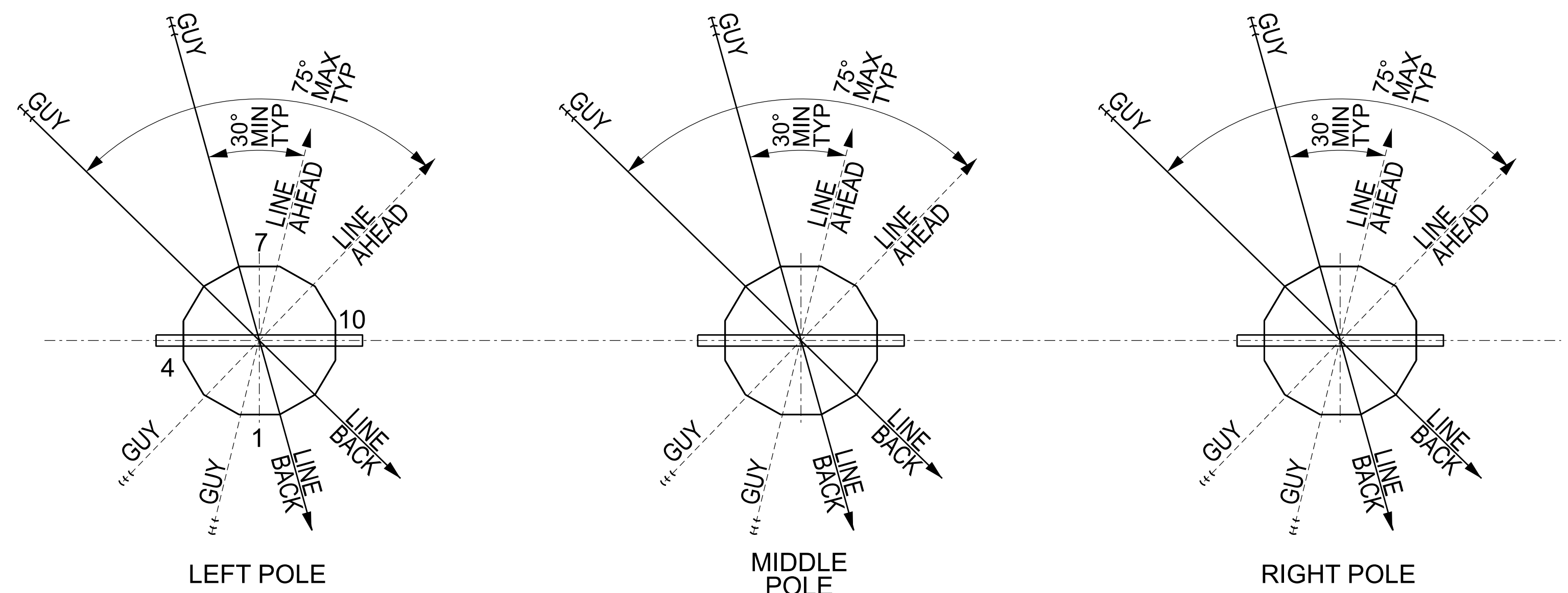


SECTION B-B

INSTALL FULL-TENSION AND NON-TENSION SPLICES AS NEEDED



GUYING DIAGRAM  
ISOMETRIC VIEW



POLE ORIENTATION



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GALVANIZED STEEL POLES

project 133582	contract
drawing FRM-0138-003	rev. A
sheet 2	of 2 sheets