

SECTION BILL OF MATERIAL w/ACCS.

ITEM #	QTY.	PART No.	DESCRIPTION	MATERIAL	Wt./Lb.	TOTAL Wt./Lb.
1	1	12910-2-13	TOP SECTION: PL. 7/16" x 18.50" F.F. x 28.30" F.F. x 28'-3" LG.	A572-65	3489	3489
2	1	12910-2-23	MID. TOP SECTION: PL. 3/4" x 25.91" F.F. x 38.40" F.F. x 36'-0" LG.	A572-65	9913	9913
3	1	12910-2-33	MID. BOT. SECTION: PL. 1" x 34.95" F.F. x 37.38" F.F. x 7'-0" LG.	A572-65	2691	2691
4	1	12910-2-33	BOT. SECTION: PL. 1" x 37.38" F.F. x 51.25" F.F. x 40'-0" LG.	A572-65	22351	22351
5	3	12910-CA1	CONDUCTOR ARM 1: SEE DWG#12910-CA1	A572-65	556	1668
6	1	12910-CA2	CONDUCTOR ARM 2: SEE DWG#12910-CA2	A572-65	556	556
SP	4	00-SP	SEAL PLATE: PL. 3/16" x 1 1/2" x 2 1/4"	A36	0.18	0.72
CS	1	00-CS	CABLE SHIELD: PL. 3/16" x 14'-5 1/4" x 17'-7 3/8"	A572-65	2194.6	2194.6
					BLACK WT.	42863
					GALV. WT.	45435

HARDWARE BILL OF MATERIAL

ITEM #	QTY.	PART No.	DESCRIPTION	MATERIAL	Wt./Lb.	TOTAL Wt./Lb.
a	4	00-TS	TAPPING SCREWS: Ø1/4"-14 x 1 1/4"	300 S-S TOPS	0.03	0.12
b	32	00-HHB	Ø1"-8UNC x 3 1/4" LG. HVY. HEX BOLT (GALV.)	A325	1	32
c	32	00-SLW	Ø1" SPRING LOCK WASHER (GALV.)	B.18.21.1	0.096	3.072
d	32	00-HHN	Ø1"-8UNC HVY. HEX NUT (GALV.)	A563-DH	0.425	13.6
e	14	00-RN	RIVNUT Ø1/2"-13UNC HVY. HEX NUT	ALS4-813-200	0.04	0.56
f	14	00-HB	Ø1/2"-13UNC x 2" LG. HEX BOLT FULL THREAD (GALV.)	A307	0.131	1.834
g	18	-	(PLASTIC PLUGS Ø1/2") HOLES 0.5"	PLUGS	-	-
h	10	-	(PLASTIC PLUGS Ø3/4") HOLES 0.75"	PLUGS	-	-
i	16	-	(PLASTIC PLUGS Ø1") HOLES 1"	PLUGS	-	-
j	14	-	(PLASTIC PLUGS Ø11/16") HOLES 0.6875"	PLUGS	-	-
					HARDWARE WT.	51.19
					TOTAL WT. (HARDWARE WT. + GALV. WT.)	45486

QTY. SHOWN ABOVE IS FOR (1) POLE ASSEMBLY
TOTAL OF ONE (1) POLE ASSEMBLY REQUIRED

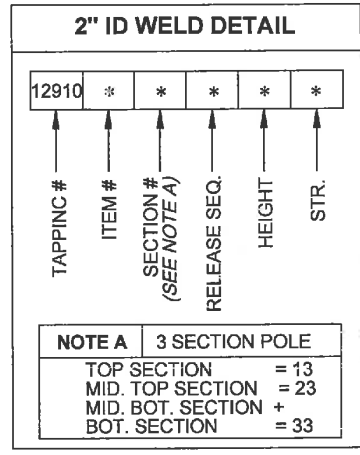
BUILD No.	SECTION	2" ID WELD MARK
1	TOP	12910-2-13-A1-102FT-8-2
1	MID. TOP	12910-2-23-A1-102FT-8-2
1	MID. BOT.	12910-2-33-A1-102FT-8-2
1	BOT.	12910-2-33-A1-102FT-8-2

GENERAL NOTES:

- WORKMANSHIP IN ACCORDANCE WITH AISC
- STRUCTURAL STEEL MULTI-SIDED TUBULAR SECTIONS CONFORM TO ASTM A572 GRADE 50 (MIN.)
- MISCELLANEOUS SHAPES AND BARS CONFORM TO ASTM A36, ASTM A572
- BOLTS, NUTS & WASHERS IN ACCORDANCE WITH ASTM A325 TYPE DH RESPECTIVELY
- HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A123, A143, A153, A384, A385, A386
- ARC WELDING PERFORMED IN ACCORDANCE WITH AWS D1.1 & WELDING ELECTRODES SHALL BE E-70XX OR EQUIVALENT
- TEST IN ACCORDANCE WITH ASTM A370 & ASTM A673

FABRICATION NOTES:

- 1 SET OF LADDER CLIPS = 2 CLIPS
- CABLE CLAMP ATTACHMENT PLATE WILL BE WELDED OVER CABLE CLAMP ATTACHMENT BRACKET AND DRILL AFTER WELDED



STR.	8/2
STR. TYPE	TERMINATION POLE

FINISH: HOT DIP GALVANIZED AS PER ASTM A123

FOR APPROVAL

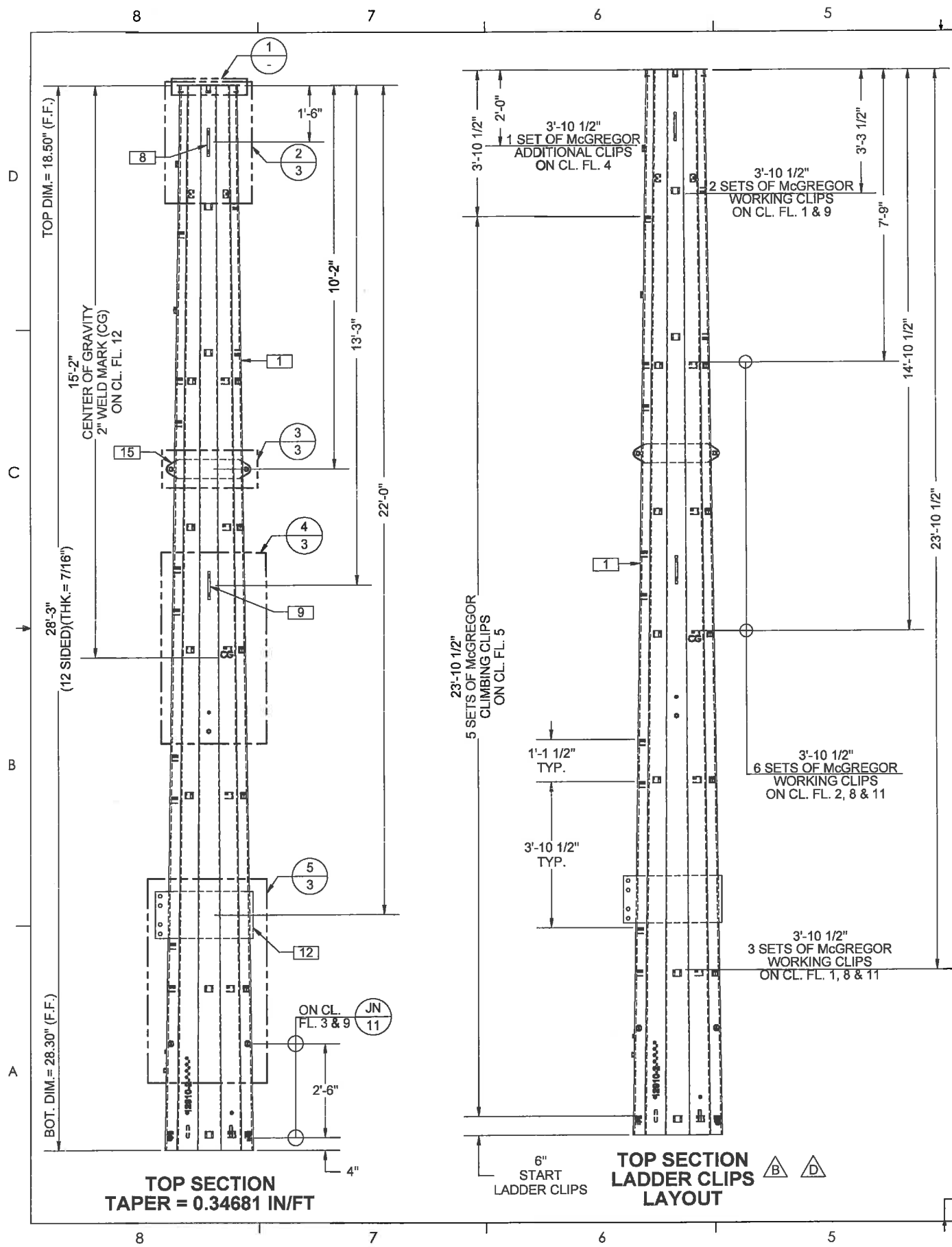
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PROPERTY OF TAPP, INC.
2427 KELLY LANE
HOUSTON, TEXAS, 77068 U.S.A.
PHONE 281-444-8277 FAX 281-444-7270

REV.	DATE	REV. BY	CHK. BY	DESCRIPTION
E	10/29/14	WALTER	OCTAVIO	UPDATED GENERAL ERECTION & BOM
D	10/28/14	WALTER	OCTAVIO	UPDATED BOM
C	10/22/14	WALTER	OCTAVIO	ADDED CA2, UPDATED TITLE BLOCK, STR. TYPE & BOM
B	10/14/14	WALTER	OCTAVIO	UPDATED GENERAL ERECTION & BOM
A	10/03/14	-	OCTAVIO	ISSUED FOR APPROVAL

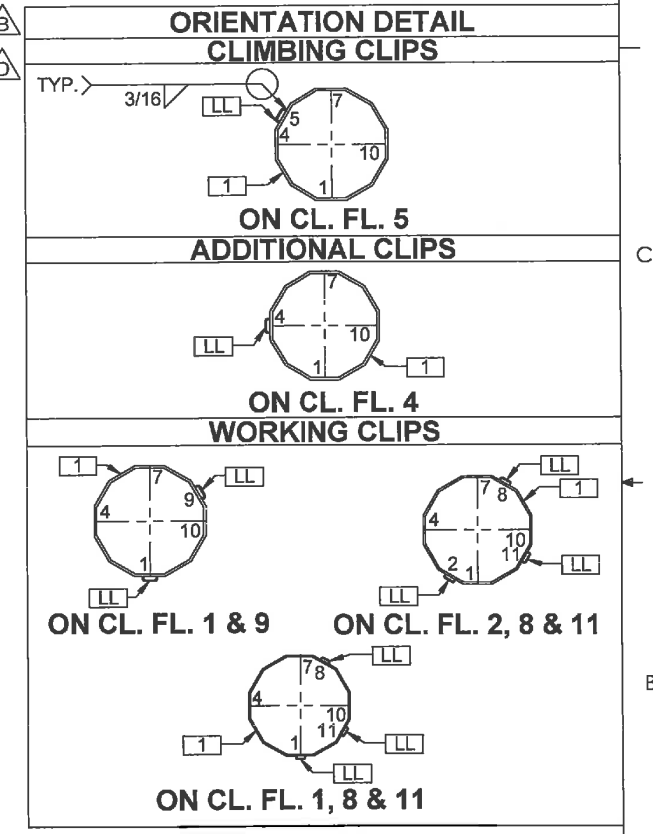
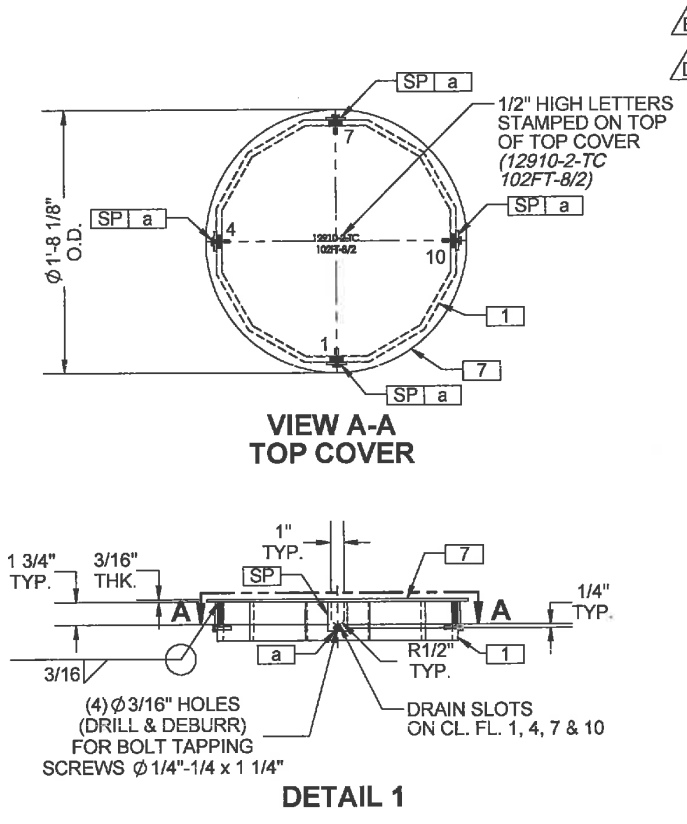
TAPP
QUALITY STEEL POLES. DELIVERED.

DWN	DATE	PACIFICORP			
WALTER	09/27/14				
CHK	DATE				
R.C.	-/-/-	102FT - 138KV STRUCTURE, SHIELDED SINGLE CIRCUIT, DEADEND, 5° TO 65°			
APP	DATE				
P.K.	-/-/-	ASSEMBLY AND GENERAL DETAILS			
CUST. P.O. NUMBER	TAPP ORDER No.	DRAWING No.	SH / OF	SCALE	REV.
4500712199	TP-12910	12910-2-PA	1/13	NTS	E



TOP SECTION BILL OF MATERIAL						
ITEM #	QTY.	PART No.	DESCRIPTION	MATERIAL	Wt./Lb.	TOTAL Wt./Lb.
1	1	12910-2-13	TOP SECTION: PL. 7/16" x 18.50" F.F. x 28.30" F.F. x 28'-3" LG.	A572-65	3103	3103
7	1	12910-2-TC	TOP COVER: PL. 3/16" x 1'-8 1/8" O.D.	A36	18.1	18.1
8	1	12910-2-SWV	SHIELD WIRE VANG: PL. 3/4" x 9" x 2'-4 1/8"	A572-65	52.5	52.5
9	1	12910-2-CV1	CONDUCTOR VANG 1: PL. 3/4" x 9" x 2'-8 1/8"	A572-65	60.3	60.3
12	2	12910-2-TP1	THRU PLATE 1: PL. 3/4" x 1'-3" x 2'-7 1/4"	A572-65	99.03	198.06
15	1	12910-2-LV1	LIFTING VANG 1: PL. 3/4" x 6" x 2'-7"	A572-65	35.5	35.5
GV	2	00-GV	GROUNDING VANG: PL. 3/8" x 2 1/2" x 3 1/4" (S.S.)	304	0.8	1.6
GN1	5	00-GN1	GROUNDING NUT 1: Ø1/2"-13UNC HEX NUT (S.S.)	304	0.0654	0.327
GN2	3	00-GN2	GROUNDING NUT 2: Ø3/4"-10UNC HEX NUT (S.S.)	304	0.19	0.57
JN	4	00-JN	JACKING NUT: Ø1"-8UNC HVY. HEX NUT (BLACK)	A563-DH	0.425	1.7
LL	34	00-LL	McGREGOR LADDER CLIP: PL. 1/4" x 2" x 3 1/2"	A36	0.5	17
					BLACK WT.	3489
					GALV. WT.	3611

QTY. SHOWN ABOVE IS FOR TOP SECTION ASSEMBLY



STR.	8/2
STR. TYPE	TERMINATION POLE

FINISH:
HOT DIP GALVANIZED
AS PER ASTM A123

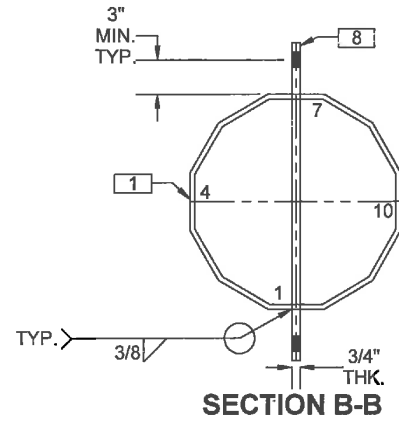
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2427 KELLY LANE
HOUSTON, TEXAS, 77068 U.S.A.
PHONE 281-444-8277 FAX 281-444-7270

REV.	DATE	REV. BY	CHK. BY	DESCRIPTION
E	10/29/14	WALTER	OCTAVIO	NO CHANGES ON THIS SHEET
D	10/28/14	WALTER	OCTAVIO	UPDATED LADDER CLIPS LAYOUT & BOM
C	10/22/14	WALTER	OCTAVIO	UPDATED TITLE BLOCK & STR. TYPE
B	10/14/14	WALTER	OCTAVIO	UPDATED LADDER CLIPS LAYOUT
A	10/03/14	-	OCTAVIO	ISSUED FOR APPROVAL

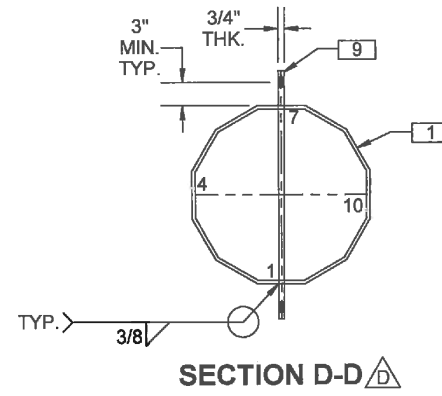


DWN	DATE	PACIFICORP			
WALTER	09/27/14	102FT - 138KV STRUCTURE, SHIELDED SINGLE CIRCUIT, DEADEND, 5° TO 65°			
CHK	DATE	TOP SECTION LAYOUT			
R.C.	-/-/-				
APP	DATE				
P.K.	-/-/-				
CUST. P.O. NUMBER	TAPP ORDER No.	DRAWING No.	SH / OF	SCALE	REV.
4500712199	TP-12910	12910-2-PA	2/13	NTS	E

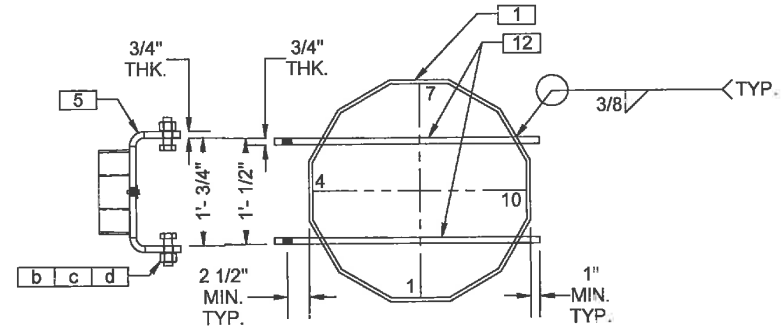
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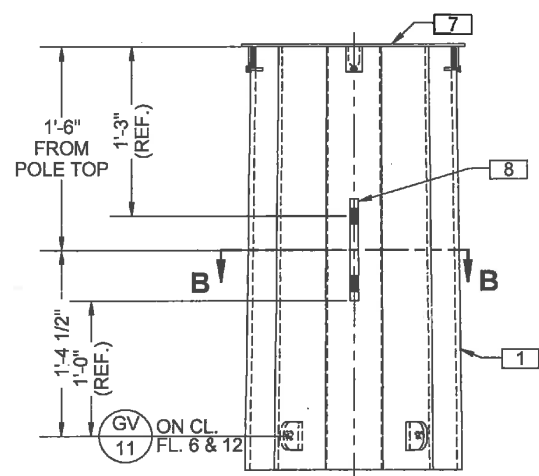
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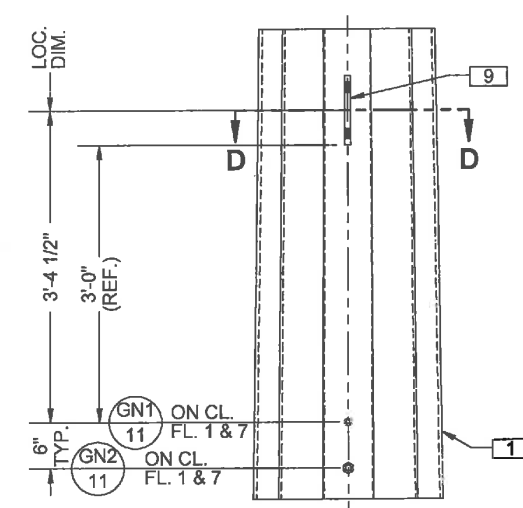
SECTION D-D



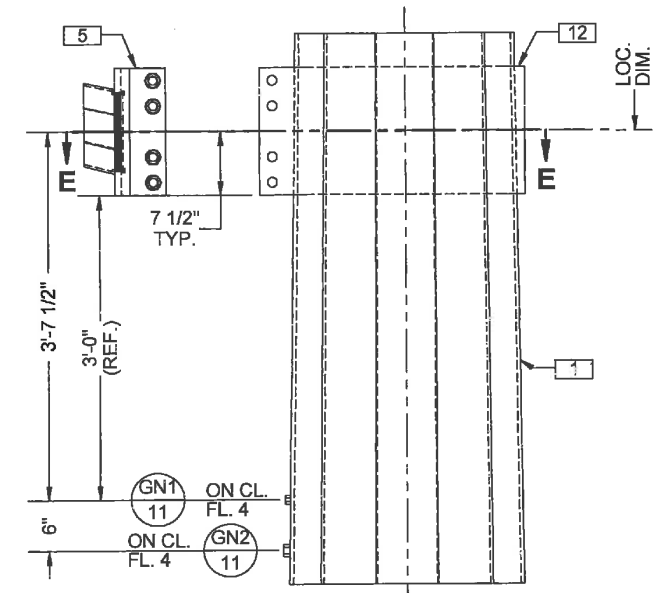
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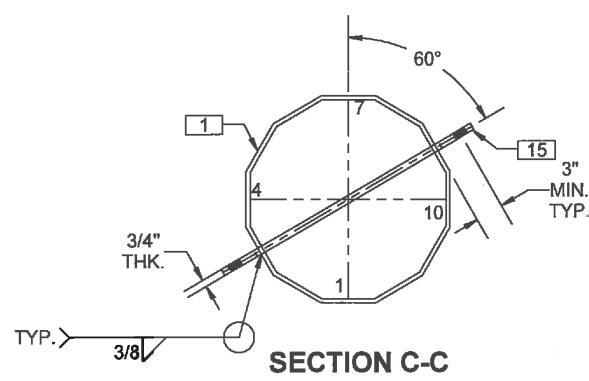
DETAIL 2



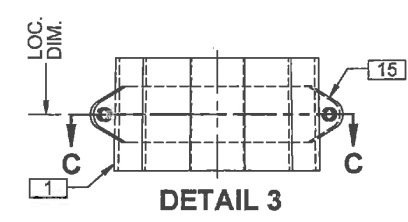
DETAIL 4



DETAIL 5



SECTION C-C



DETAIL 3

8 7 6 5 4 3 2 1

FINISH:
HOT DIP GALVANIZED
AS PER ASTM A123

FOR APPROVAL

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PHONE 281-444-5277 FAX 281-444-7270

R.DB.10-2

REV.	DATE:	REV. BY:	CHK. BY:	DESCRIPTION:
E	10/29/14	WALTER	OCTAVIO	NO CHANGES ON THIS SHEET
D	10/28/14	WALTER	OCTAVIO	UPDATED DETAIL 4
C	10/22/14	WALTER	OCTAVIO	UPDATED TITLE BLOCK
B	10/14/14	WALTER	OCTAVIO	UPDATED DETAIL 2
A	10/03/14	-	OCTAVIO	ISSUED FOR APPROVAL



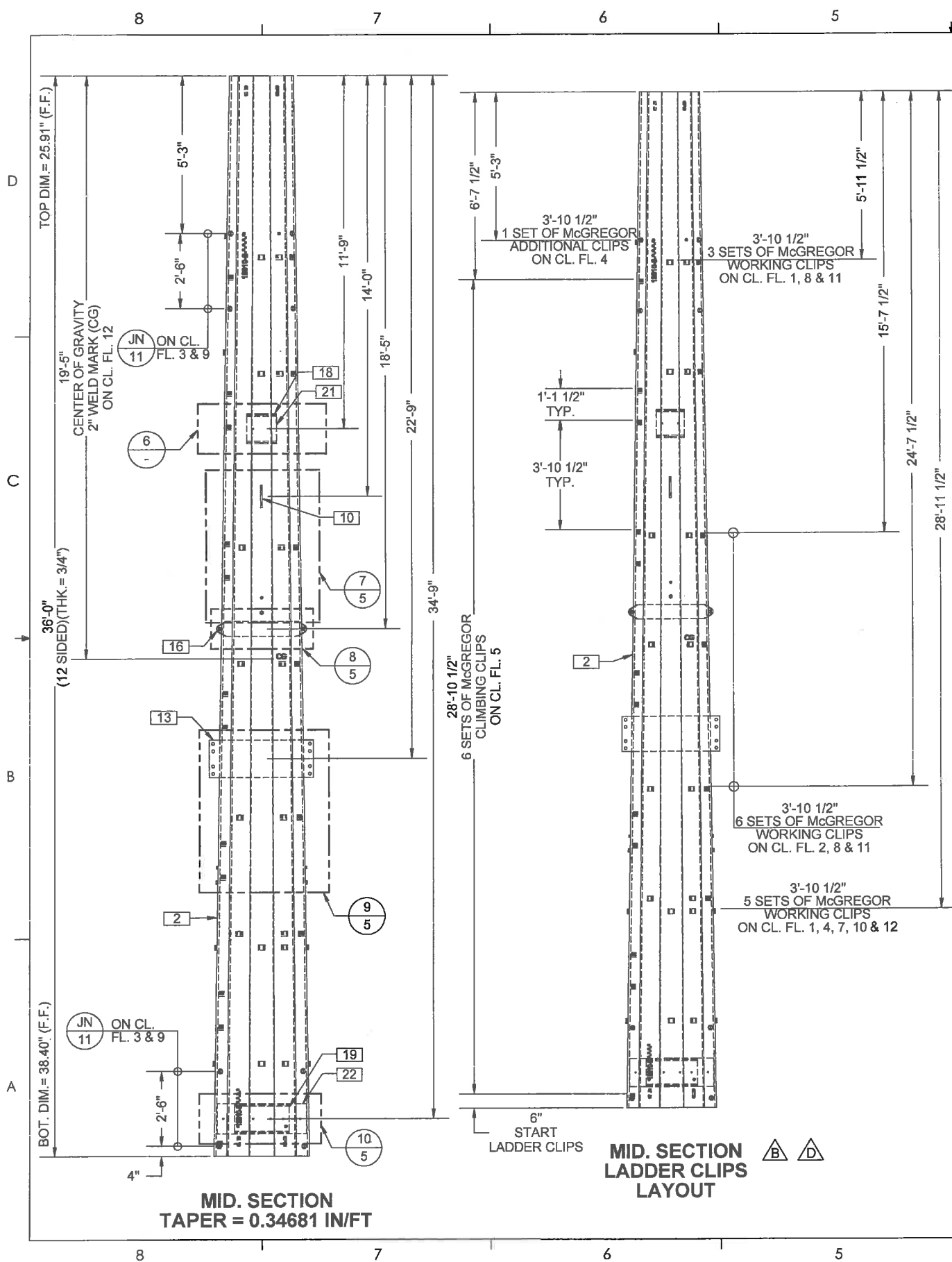
QUALITY STEEL POLES. DELIVERED.

DWN	DATE	102FT - 138KV STRUCTURE, SHIELDED SINGLE CIRCUIT, DEADEND, 5° TO 65°
WALTER	09/27/14	
CHK	DATE	

R.C.	DATE	ASSEMBLY AND GENERAL DETAILS
APP	DATE	

P.K.	DATE	
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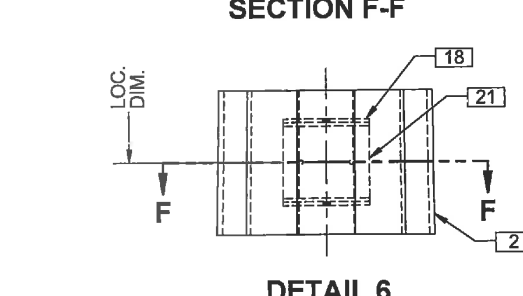
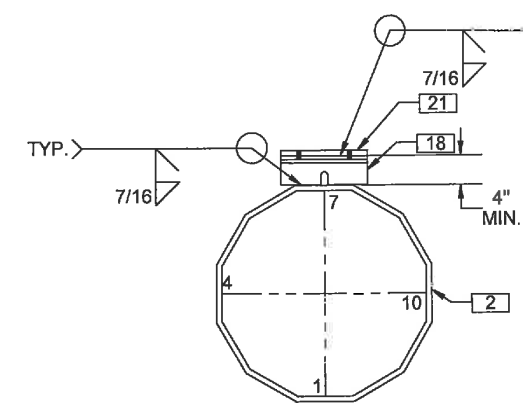
CUST. P.O. NUMBER	TAPP ORDER No.	DRAWING No.	SH / OF	SCALE	REV.
4500712199	TP-12910	12910-2-PA	3/13	NTS	E



MID. SECTION BILL OF MATERIAL

ITEM #	QTY.	PART No.	DESCRIPTION	MATERIAL	Wt./Lb.	TOTAL Wt./Lb.
2	1	12910-2-23	MID. TOP SECTION: PL. 3/4" x 25.91" F.F. x 38.40" F.F. x 36'-0" LG.	A572-65	9273	9273
10	1	12910-2-CV2	CONDUCTOR VANG 2: PL. 3/4" x 9" x 3'-3 7/8"	A572-65	75.0	75
13	2	12910-2-TP2	THRU PLATE 2: PL. 3/4" x 1'-3" x 3'-6"	A572-65	132.23	264.46
16	1	12910-2-LV2	LIFTING VANG 2: PL. 1" x 6" x 3'-5 1/4"	A572-65	64.8	64.8
18	1	12910-2-CCAB1	CABLE CLAMP ATTACHMENT BRACKET 1: PL. 1/2" x 1'-0" x 1'-6 1/2"	A572-65	31.0	31
19	1	12910-2-CCAB2	CABLE CLAMP ATTACHMENT BRACKET 2: PL. 1/2" x 1'-6 1/2" x 1'-10"	A572-65	57.2	57.2
21	1	12910-2-CCAP1	CABLE CLAMP ATTACHMENT PLATE 1: PL. 3/4" x 1'-0" x 1'-0"	A572-65	30.5	30.5
22	1	12910-2-CCAP2	CABLE CLAMP ATTACHMENT PLATE 2: PL. 3/4" x 1'-0" x 3'-0"	A572-65	91.6	91.6
GN1	8	00-GN1	GROUNDING NUT 1: Ø1/2"-13UNC HEX NUT (S.S.)	304	0.0654	0.5232
GN2	4	00-GN2	GROUNDING NUT 2: Ø3/4"-10UNC HEX NUT (S.S.)	304	0.19	0.76
JN	8	00-JN	JACKING NUT: Ø1"-8UNC HVY. HEX NUT (BLACK)	A563-DH	0.425	3.4
LL	42	00-LL	McGREGOR LADDER CLIP: PL. 1/4" x 2" x 3 1/2"	A36	0.5	21
					BLACK WT.	9913
					GALV. WT.	10508

QTY. SHOWN ABOVE IS FOR MID. SECTION ASSEMBLY



STR.	8/2
STR. TYPE	TERMINATION POLE

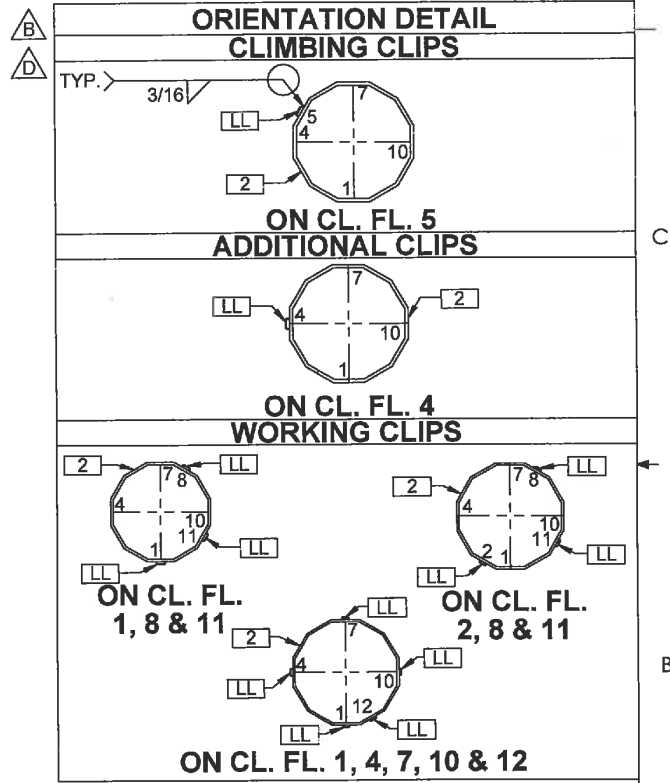
FINISH:
HOT DIP GALVANIZED
AS PER ASTM A123

FOR APPROVAL

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R.DB.10-2

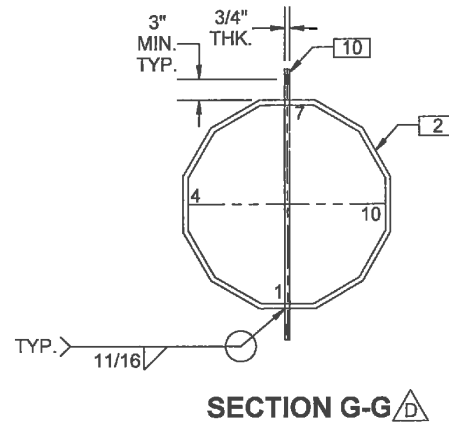


REV.	DATE	REV. BY	CHK. BY	DESCRIPTION
E	10/29/14	WALTER	OCTAVIO	NO CHANGES ON THIS SHEET
D	10/28/14	WALTER	OCTAVIO	UPDATED DETAIL 6, LADDER CLIPS LAYOUT & BOM
C	10/22/14	WALTER	OCTAVIO	UPDATED TITLE BLOCK & STR. TYPE
B	10/14/14	WALTER	OCTAVIO	UPDATED LADDER CLIPS LAYOUT & BOM
A	10/03/14	-	OCTAVIO	ISSUED FOR APPROVAL

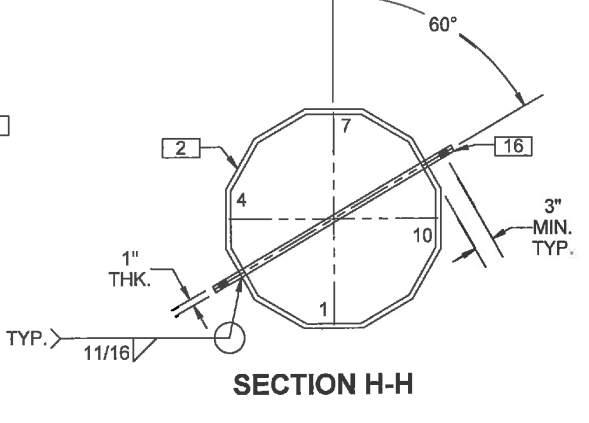


DWN	DATE	<p>PACIFICORP</p> <p>102FT - 138KV STRUCTURE, SHIELDED SINGLE CIRCUIT, DEADEND, 5° TO 65°</p> <p>MID. SECTION LAYOUT</p>			
WALTER	09/27/14				
CHK	DATE				
R.C.	--/--				
APP	DATE				
P.K.	--/--				
CUST. P.O. NUMBER	TAPP ORDER No.	DRAWING No.	SH / OF	SCALE	REV.
4500712199	TP-12910	12910-2-PA	4/13	NTS	E

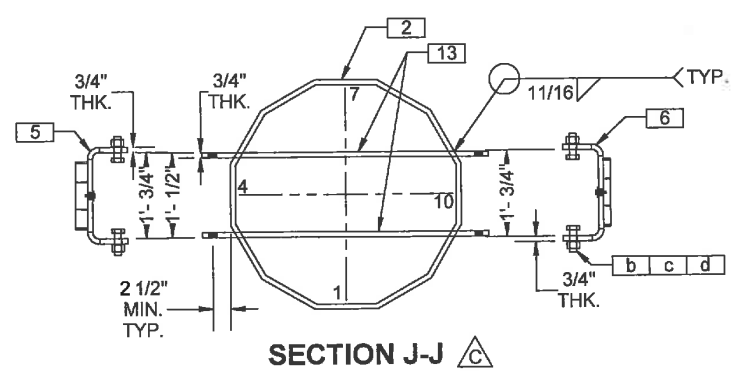
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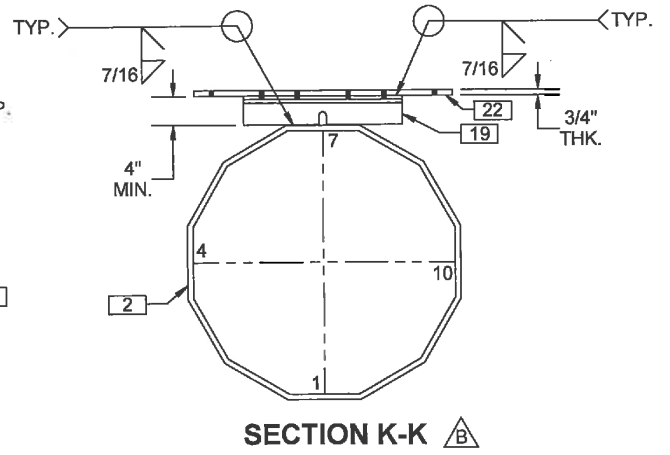
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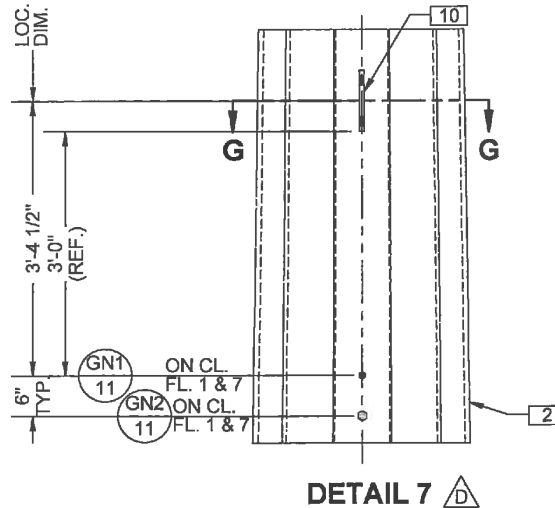
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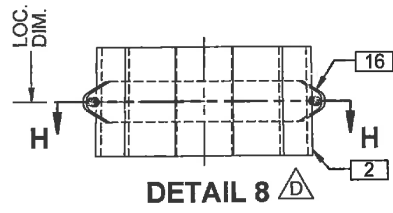
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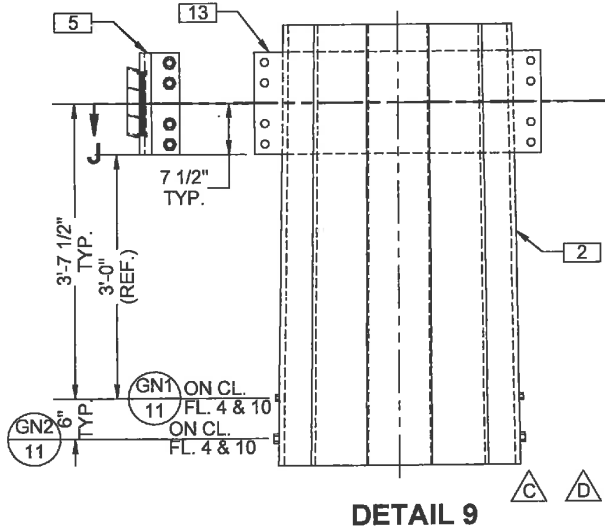
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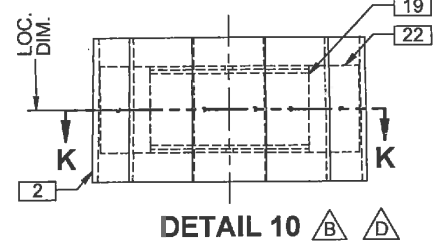
DETAIL 7



DETAIL 8



DETAIL 9



DETAIL 10

STR. #	8/2
STR. TYPE	TERMINATION POLE

REV.	DATE:	REV. BY:	CHK. BY:	DESCRIPTION:
E	10/29/14	WALTER	OCTAVIO	NO CHANGES ON THIS SHEET
D	10/28/14	WALTER	OCTAVIO	UPDATED DETAILS 7, 8, 9 & 10
C	10/22/14	WALTER	OCTAVIO	UPDATED DETAIL 8, TITLE BLOCK & STR. TYPE
B	10/14/14	WALTER	OCTAVIO	ADDED DETAIL 9
A	10/03/14	-	OCTAVIO	ISSUED FOR APPROVAL

TAPP
QUALITY STEEL POLES. DELIVERED.

**FINISH:
HOT DIP GALVANIZED
AS PER ASTM A123**

FOR APPROVAL

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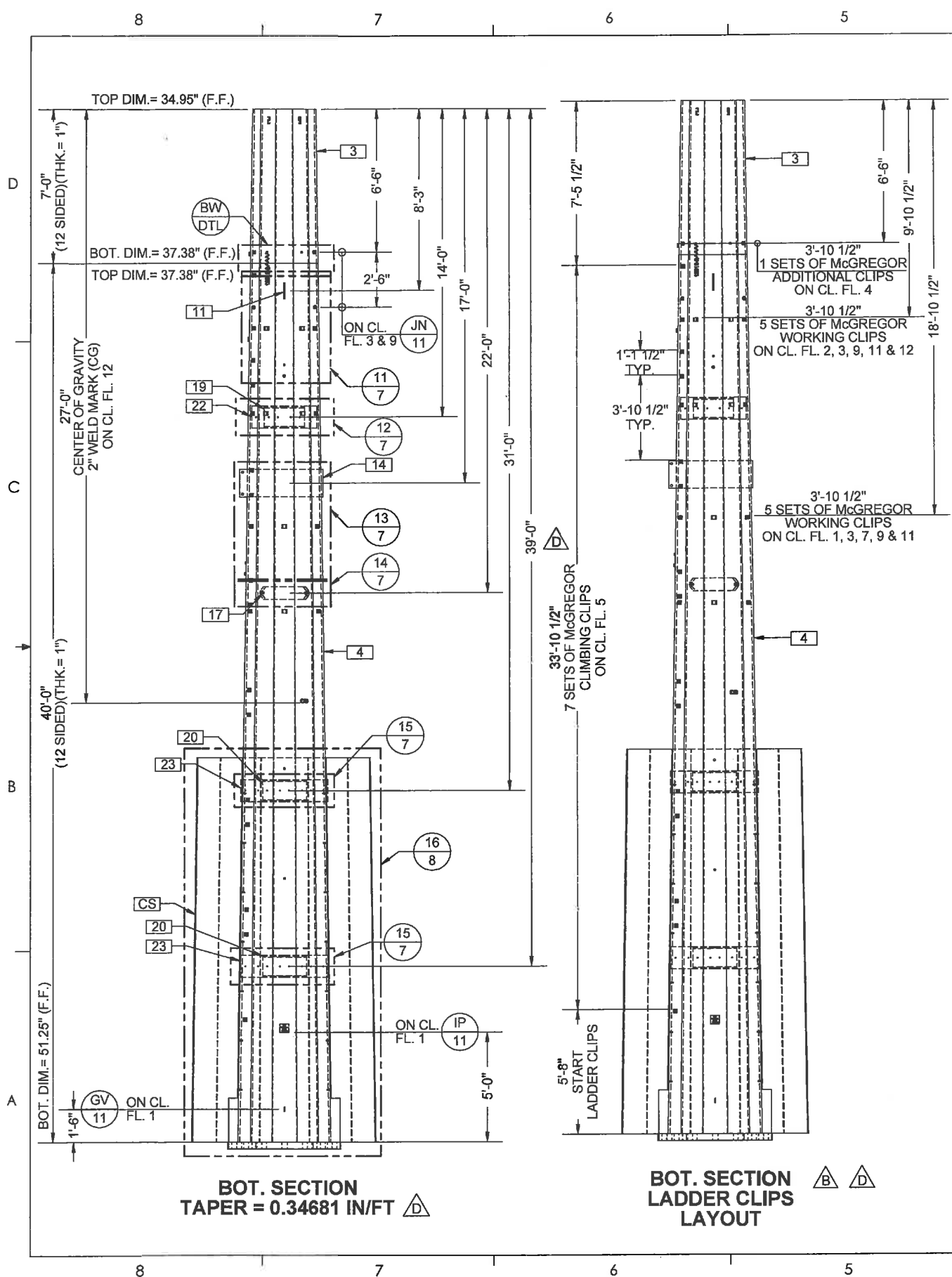
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2427 KELLY LANE
HOUSTON, TEXAS, 77066 U.S.A.
PHONE 281-444-8277 FAX 281-444-7270

R.DB.10-2

DWN	DATE	PACIFICORP 102FT - 138KV STRUCTURE, SHIELDED SINGLE CIRCUIT, DEADEND, 5° TO 65°			
WALTER	09/27/14				
CHK	DATE				
R.C.	--/--				
APP	DATE	ASSEMBLY AND GENERAL DETAILS			
P.K.	--/--				
CUST. P.O. NUMBER	TAPP ORDER No.	DRAWING No.	SH / OF	SCALE	REV.
4500712199	TP-12910	12910-2-PA	5/13	NTS	E

D
C
B
A

8 7 6 5 4 3 2 1

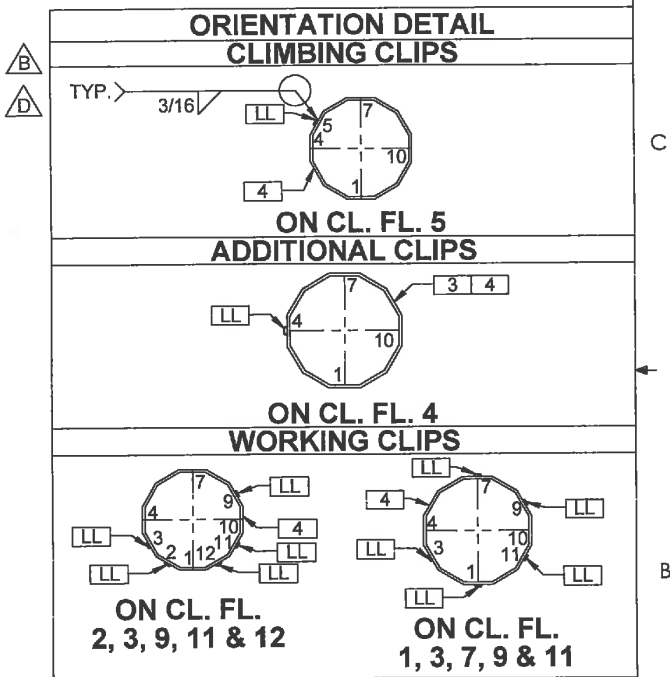
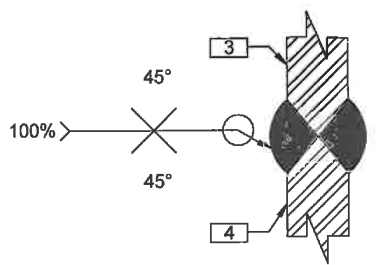


BOT. SECTION BILL OF MATERIAL

ITEM #	QTY.	PART No.	DESCRIPTION	MATERIAL	Wt./Lb.	TOTAL Wt./Lb.
3	1	12910-2-33	MID. BOT. SECTION: PL. 1" x 34.95" F.F. x 37.38" F.F. x 7'-0" LG.	A572-65	2691	2691
4	1	12910-2-33	BOT. SECTION: PL. 1" x 37.38" F.F. x 51.25" F.F. x 40'-0" LG.	A572-65	18959	18959
11	1	12910-2-CV3	CONDUCTOR VANG 3: PL. 3/4" x 9" x 3'-10 7/8"	A572-65	88.5	88.5
14	2	12910-2-TP3	THRU PLATE 3: PL. 3/4" x 1'-3" x 3'-10"	A572-65	146.41	292.82
17	1	12910-2-LV3	LIFTING VANG 3: PL. 1 1/2" x 7" x 4'-3 5/8"	A572-65	143.4	143.4
19	1	12910-2-CCAB2	CABLE CLAMP ATTACHMENT BRACKET 2: PL. 1/2" x 1'-6 1/2" x 1'-10"	A572-65	57.2	57.2
20	2	12910-2-CCAB3	CABLE CLAMP ATTACHMENT BRACKET 3: PL. 1/2" x 1'-6 1/2" x 2'-0"	A572-65	62.4	124.8
22	1	12910-2-CCAP2	CABLE CLAMP ATTACHMENT PLATE 2: PL. 3/4" x 1'-0" x 3'-0"	A572-65	91.6	91.6
23	2	12910-2-CCAP3	CABLE CLAMP ATTACHMENT PLATE 3: PL. 3/4" x 1'-0" x 4'-0"	A572-65	122.1	244.2
24	1	12910-2-BP	BASE PLATE: PL. 3 3/4" x 5'-1 1/2" (SQUARE)	A572-50	2326.8	2326.8
IP	1	00-IP	ID PLATE: PL. 3/16" x 4 1/2" x 5"	A36	1.2	1.2
GV	1	00-GV	GROUNDING VANG: PL. 3/8" x 2 1/2" x 3 1/4" (S.S.)	304	0.8	0.8
GN1	5	00-GN1	GROUNDING NUT 1: Ø1/2"-13UNC HEX NUT (S.S.)	304	0.0654	0.327
GN2	3	00-GN2	GROUNDING NUT 2: Ø3/4"-10UNC HEX NUT (S.S.)	304	0.19	0.57
JN	4	00-JN	JACKING NUT: Ø1"-8UNC HWY. HEX NUT (BLACK)	A563-DH	0.425	1.7
LL	36	00-LL	MCGREGOR LADDER CLIP: PL. 1/4" x 2" x 3 1/2"	A36	0.5	18
					BLACK WT.	25042
					GALV. WT.	25918

QTY. SHOWN ABOVE IS FOR BOT. SECTION ASSEMBLY

STR.	8/2
STR. TYPE	
TERMINATION POLE	



REV.	DATE	REV. BY	CHK. BY	DESCRIPTION
E	10/29/14	WALTER	OCTAVIO	UPDATED CABLE CLAMPS LOCATION
D	10/28/14	WALTER	OCTAVIO	UPDATED LADDER CLIPS LAYOUT & BOM
C	10/22/14	WALTER	OCTAVIO	UPDATED TITLE BLOCK & STR. TYPE
B	10/14/14	WALTER	OCTAVIO	UPDATED LADDER CLIPS LAYOUT & BOM
A	10/03/14	-	OCTAVIO	ISSUED FOR APPROVAL



FINISH: HOT DIP GALVANIZED AS PER ASTM A123

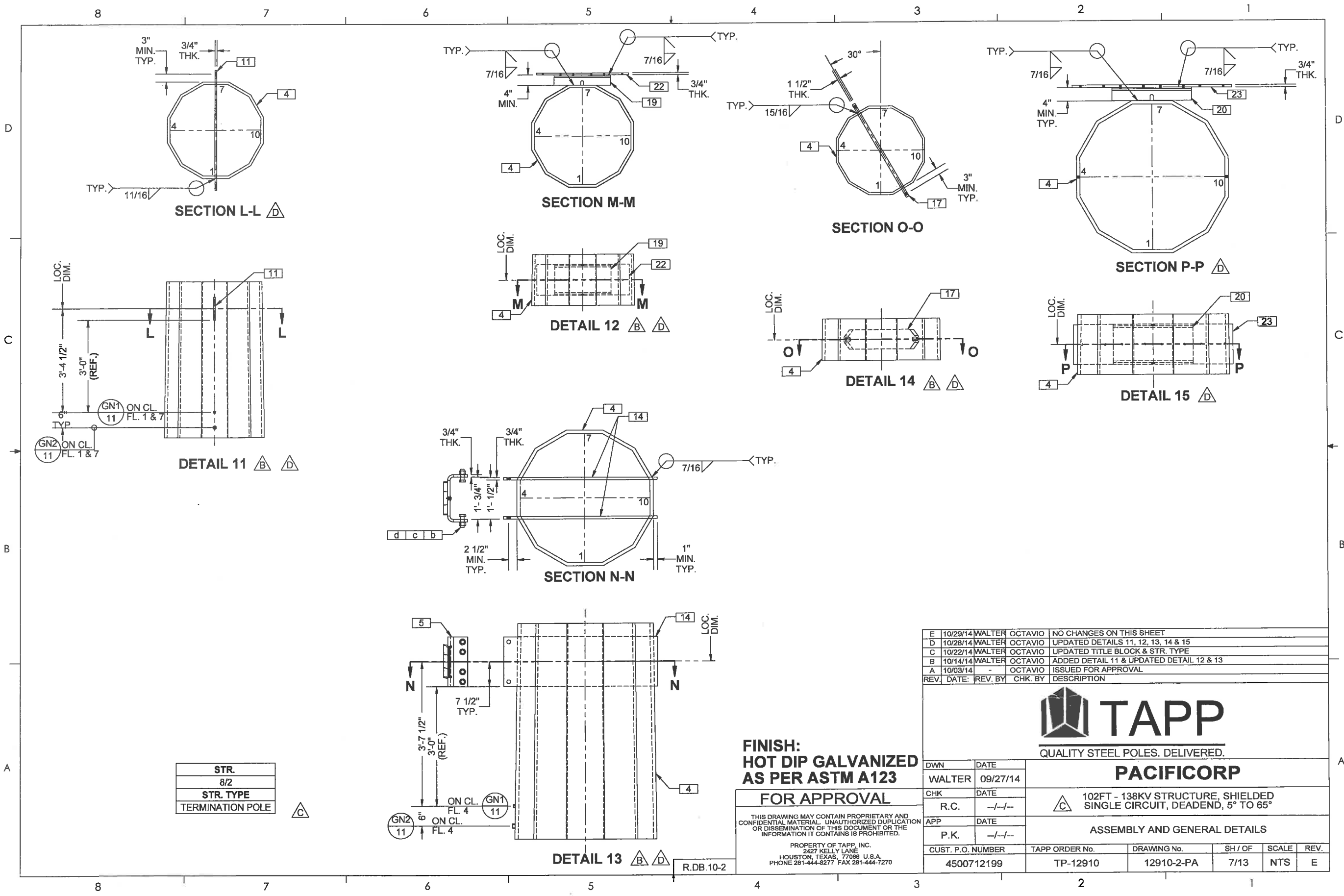
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R.DB.10-2

DWN	DATE	102FT - 138KV STRUCTURE, SHIELDED SINGLE CIRCUIT, DEADEND, 5° TO 65°	PACIFICORP BOT. SECTION LAYOUT		
WALTER	09/27/14				
CHK	DATE				
R.C.	-/-/-				
APP	DATE				
P.K.	-/-/-				
CUST. P.O. NUMBER	TAPP ORDER No.	DRAWING No.	SH / OF	SCALE	REV.
4500712199	TP-12910	12910-2-PA	6/13	NTS	E

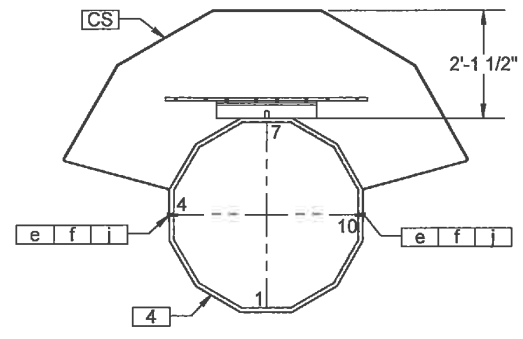


REV.	DATE	REV. BY	CHK. BY	DESCRIPTION
E	10/29/14	WALTER	OCTAVIO	NO CHANGES ON THIS SHEET
D	10/28/14	WALTER	OCTAVIO	UPDATED DETAILS 11, 12, 13, 14 & 15
C	10/22/14	WALTER	OCTAVIO	UPDATED TITLE BLOCK & STR. TYPE
B	10/14/14	WALTER	OCTAVIO	ADDED DETAIL 11 & UPDATED DETAIL 12 & 13
A	10/03/14	-	OCTAVIO	ISSUED FOR APPROVAL



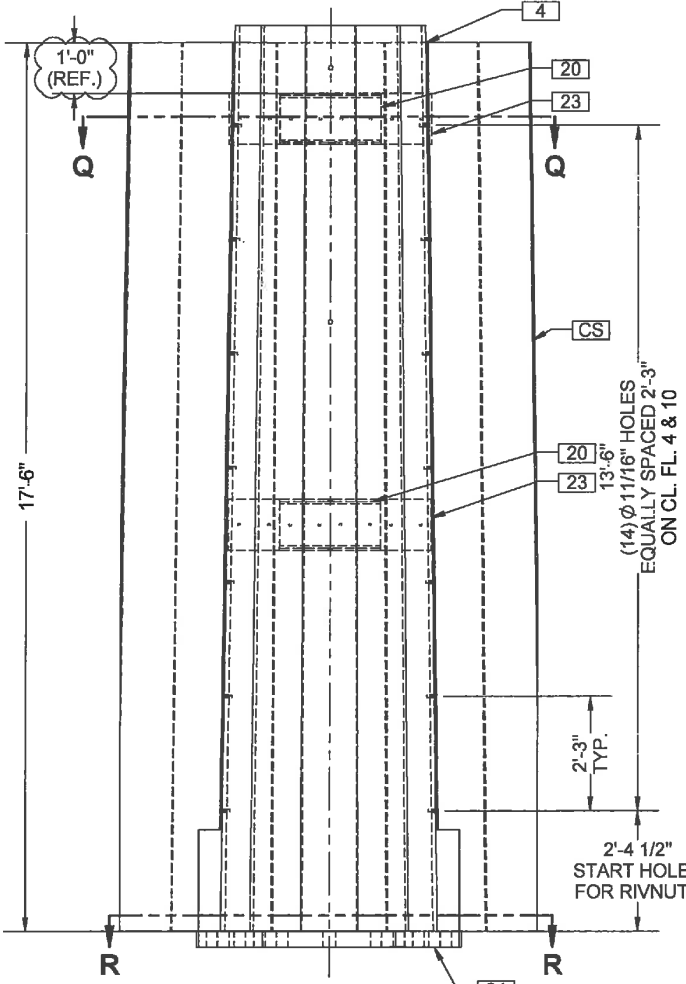
DWN		DATE	PACIFICORP		
WALTER		09/27/14	102FT - 138KV STRUCTURE, SHIELDED SINGLE CIRCUIT, DEADEND, 5° TO 65°		
CHK		DATE	ASSEMBLY AND GENERAL DETAILS		
R.C.		-/-/-			
APP		DATE			
P.K.		-/-/-			
CUST. P.O. NUMBER	TAPP ORDER No.	DRAWING No.	SH / OF	SCALE	REV.
4500712199	TP-12910	12910-2-PA	7/13	NTS	E

8 7 6 5 4 3 2 1

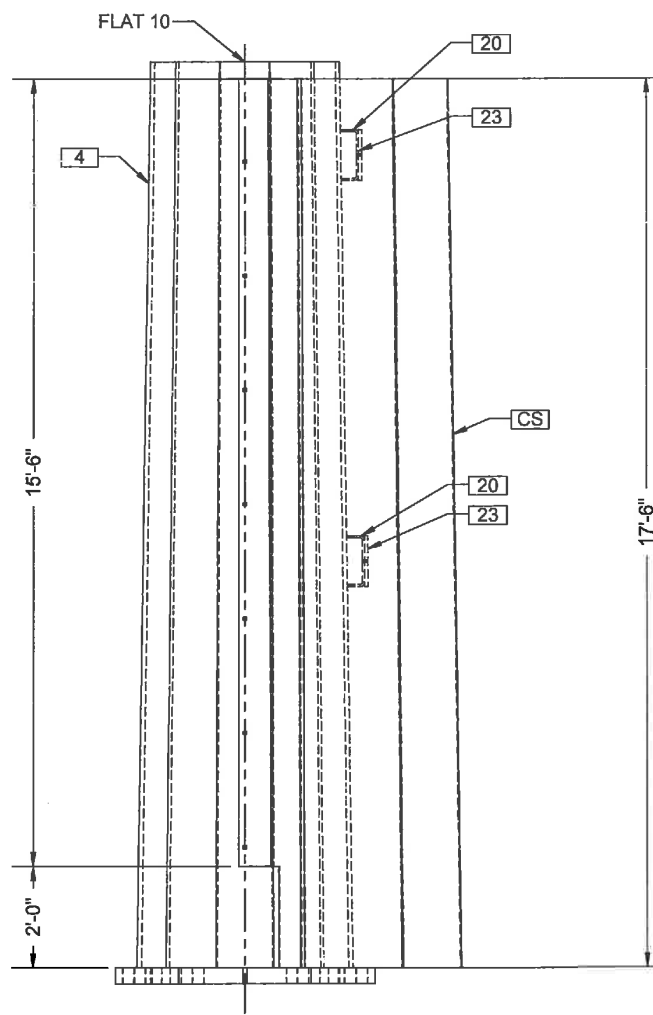


SECTION Q-Q

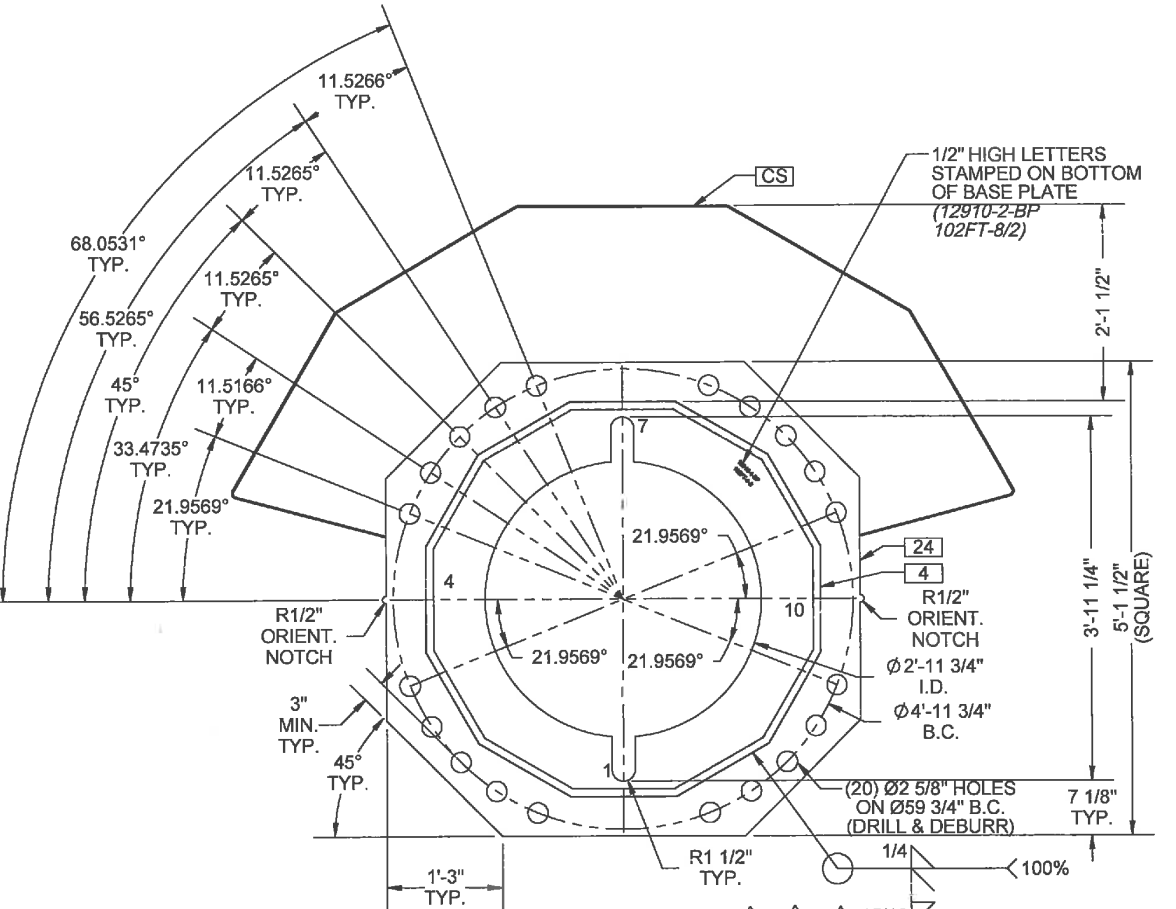
**NOTE FOR CUSTOMER:
PLEASE CONFIRM
CABLE SHIELD DESIGN**



DETAIL 16



SIDE VIEW



SECTION R-R
BASE PLATE

STR.
8/2
STR. TYPE
TERMINATION POLE

E	10/29/14	WALTER	OCTAVIO	UPDATED DETAIL 16
D	10/28/14	WALTER	OCTAVIO	UPDATED DETAIL 16
C	10/22/14	WALTER	OCTAVIO	UPDATED TITLE BLOCK & STR. TYPE
B	10/14/14	WALTER	OCTAVIO	ADDED DETAIL 14 & UPDATED SECTION S-S
A	10/03/14	-	OCTAVIO	ISSUED FOR APPROVAL
REV.	DATE	REV. BY	CHK. BY	DESCRIPTION



PACIFICORP

DWN	DATE	WALTER	09/27/14		
CHK	DATE	R.C.	-/-/-		
APP	DATE	P.K.	-/-/-		
CUST. P.O. NUMBER	TAPP ORDER No.	DRAWING No.	SH / OF	SCALE	REV.
4500712199	TP-12910	12910-2-PA	8/13	NTS	E

**FINISH:
HOT DIP GALVANIZED
AS PER ASTM A123**

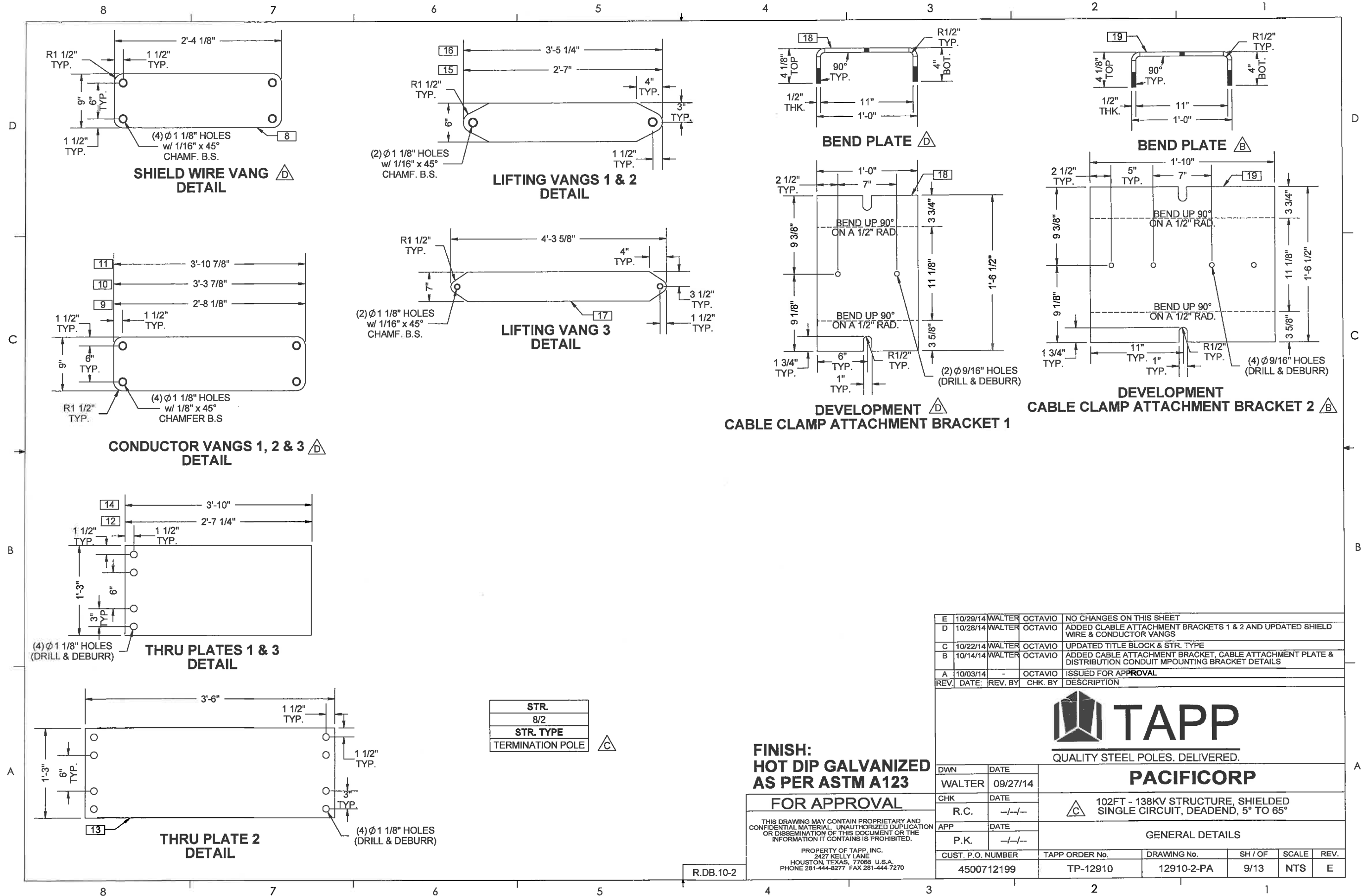
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R.DB.10-2

8 7 6 5 4 3 2 1



STR.
8/2
STR. TYPE
TERMINATION POLE

FINISH:
HOT DIP GALVANIZED
AS PER ASTM A123

FOR APPROVAL

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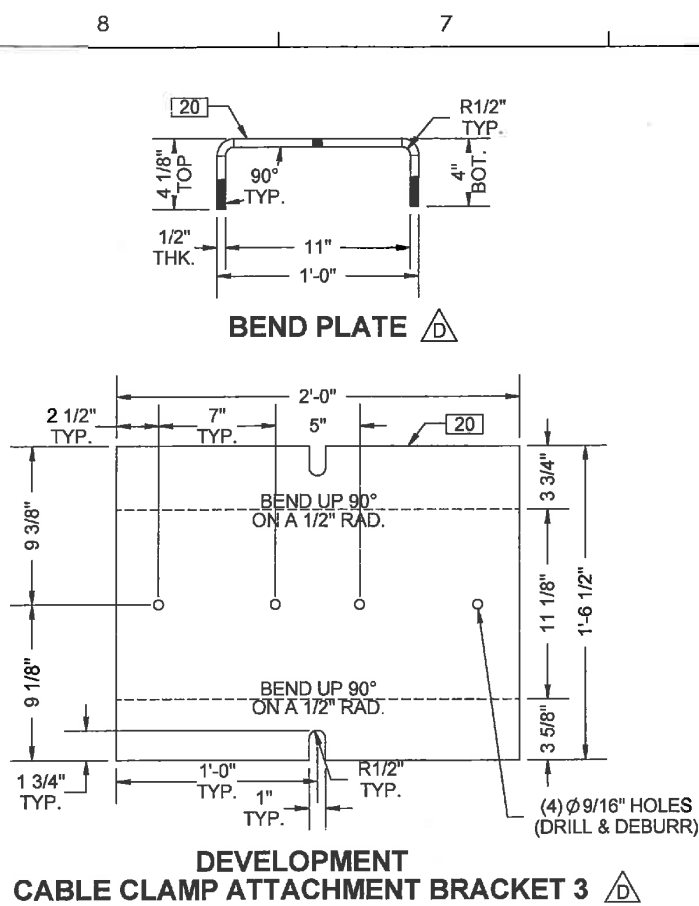
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R.DB.10-2

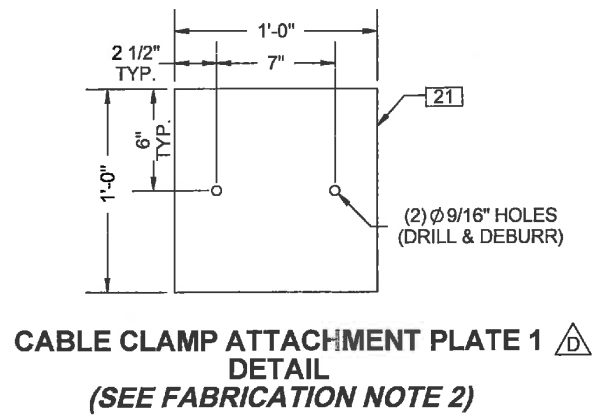
REV.	DATE	REV. BY	CHK. BY	DESCRIPTION
E	10/29/14	WALTER	OCTAVIO	NO CHANGES ON THIS SHEET
D	10/28/14	WALTER	OCTAVIO	ADDED CABLE ATTACHMENT BRACKETS 1 & 2 AND UPDATED SHIELD WIRE & CONDUCTOR VANGS
C	10/22/14	WALTER	OCTAVIO	UPDATED TITLE BLOCK & STR. TYPE
B	10/14/14	WALTER	OCTAVIO	ADDED CABLE ATTACHMENT BRACKET, CABLE ATTACHMENT PLATE & DISTRIBUTION CONDUIT MOUNTING BRACKET DETAILS
A	10/03/14	-	OCTAVIO	ISSUED FOR APPROVAL



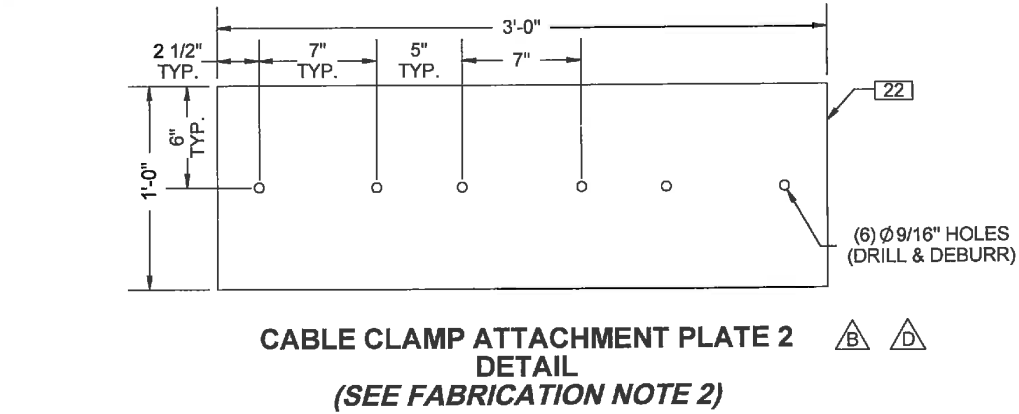
DWN		DATE	PACIFICORP			
WALTER		09/27/14				
CHK		DATE	102FT - 138KV STRUCTURE, SHIELDED SINGLE CIRCUIT, DEADEND, 5° TO 65°			
R.C.		---				
APP		DATE	GENERAL DETAILS			
P.K.		---				
CUST. P.O. NUMBER	TAPP ORDER No.	DRAWING No.	SH / OF	SCALE	REV.	
4500712199	TP-12910	12910-2-PA	9/13	NTS	E	



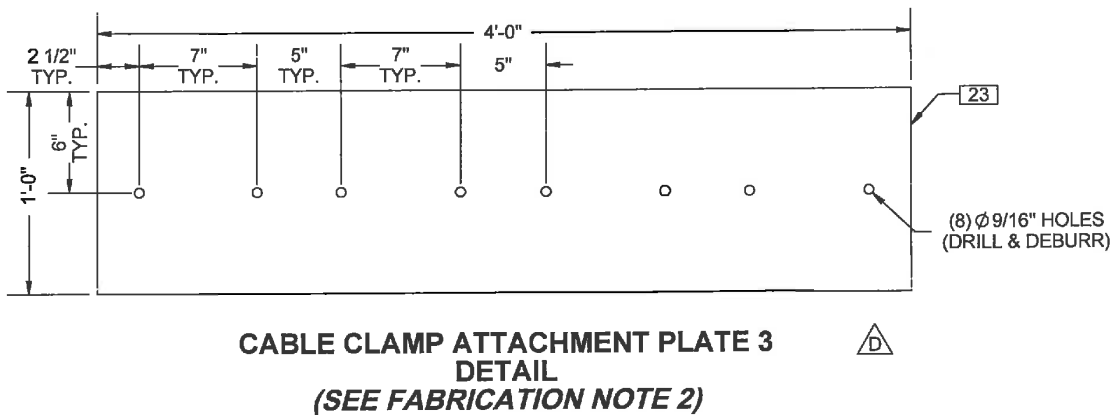
**DEVELOPMENT
CABLE CLAMP ATTACHMENT BRACKET 3** Δ



**CABLE CLAMP ATTACHMENT PLATE 1
DETAIL
(SEE FABRICATION NOTE 2)** Δ



**CABLE CLAMP ATTACHMENT PLATE 2
DETAIL
(SEE FABRICATION NOTE 2)** Δ Δ



**CABLE CLAMP ATTACHMENT PLATE 3
DETAIL
(SEE FABRICATION NOTE 2)** Δ

STR.
8/2
STR. TYPE
TERMINATION POLE Δ

**FINISH:
HOT DIP GALVANIZED
AS PER ASTM A123**

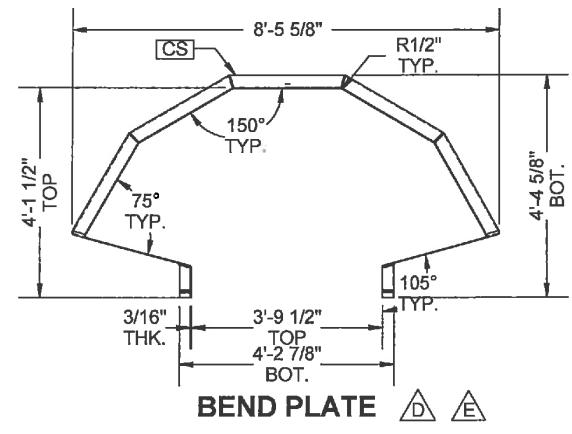
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E	10/29/14	WALTER	OCTAVIO	NO CHANGES ON THIS SHEET
D	10/28/14	WALTER	OCTAVIO	ADDED CALBE ATTACHMENT BRACKET 3, CABLE ATTACHMENT PLATES 1, 2 & 3
C	10/22/14	WALTER	OCTAVIO	NO CHANGES ON THIS SHEET
B	10/14/14	WALTER	OCTAVIO	NO CHANGES ON THIS SHEET
A	10/03/14	-	OCTAVIO	ISSUED FOR APPROVAL
REV.	DATE:	REV. BY	CHK. BY	DESCRIPTION



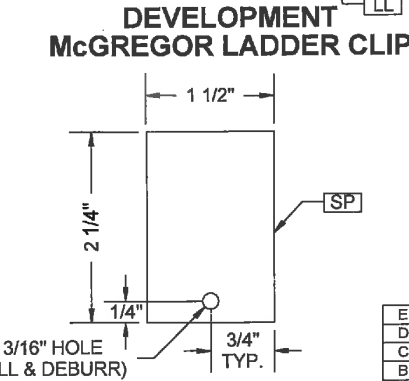
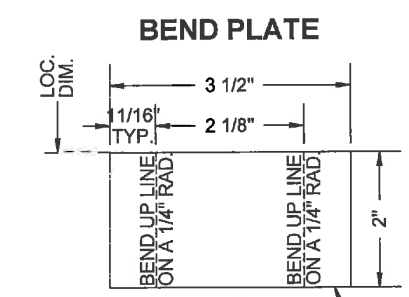
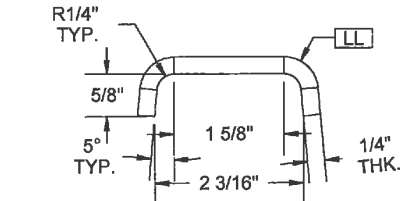
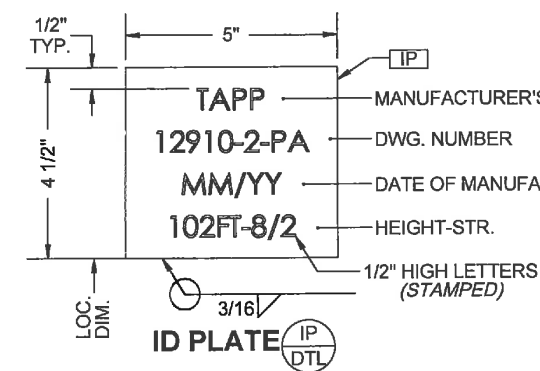
DWN	DATE	PACIFICORP			
WALTER	09/27/14				
CHK	DATE	Δ 102FT - 138KV STRUCTURE, SHIELDED SINGLE CIRCUIT, DEADEND, 5° TO 65°			
R.C.	-/-/-				
APP	DATE	GENERAL DETAILS			
P.K.	-/-/-				
CUST. P.O. NUMBER	TAPP ORDER No.	DRAWING No.	SH / OF	SCALE	REV.
4500712199	TP-12910	12910-2-PA	10/13	NTS	E

R.DB.10-2



**NOTE FOR CUSTOMER:
PLEASE CONFIRM
CABLE SHIELD DESIGN**

STR.
8/2
STR. TYPE
TERMINATION POLE

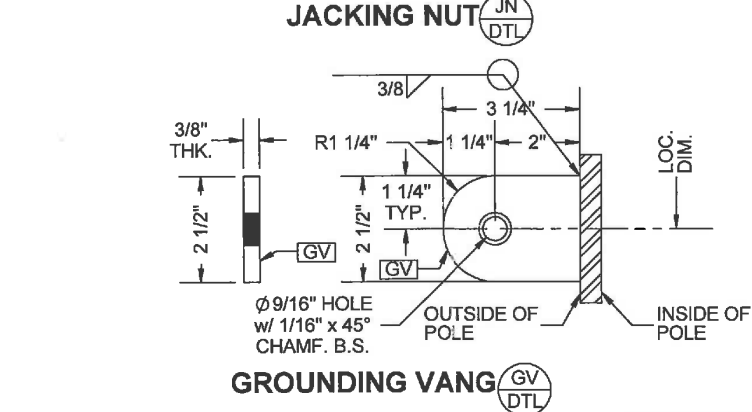
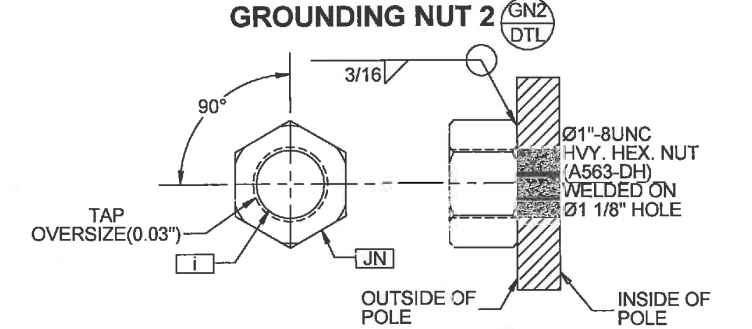
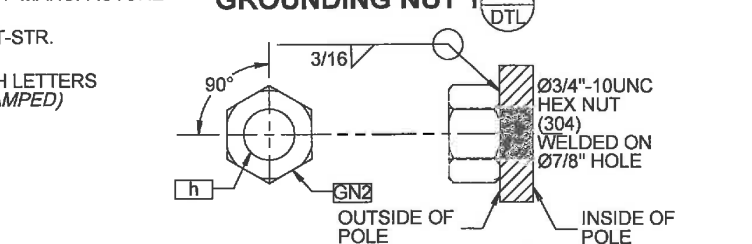
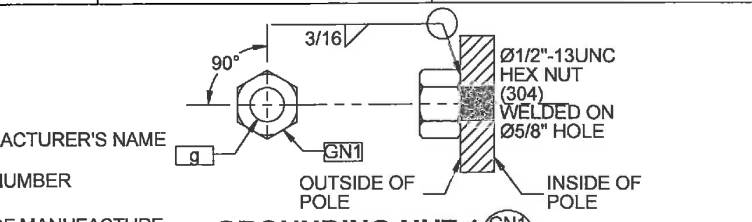


**FINISH:
HOT DIP GALVANIZED
AS PER ASTM A123**

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REV.	DATE	REV. BY	CHK. BY	DESCRIPTION
E	10/29/14	WALTER	OCTAVIO	UPDATED CABLE SHIELD DETAIL
D	10/28/14	WALTER	OCTAVIO	UPDATED CABLE SHIELD DETAIL
C	10/22/14	WALTER	OCTAVIO	UPDATED TITLE BLOCK & STR. TYPE
B	10/14/14	WALTER	OCTAVIO	ADDED CABLE SHIELD 1 & 2 DETAILS
A	10/03/14	-	OCTAVIO	ISSUED FOR APPROVAL



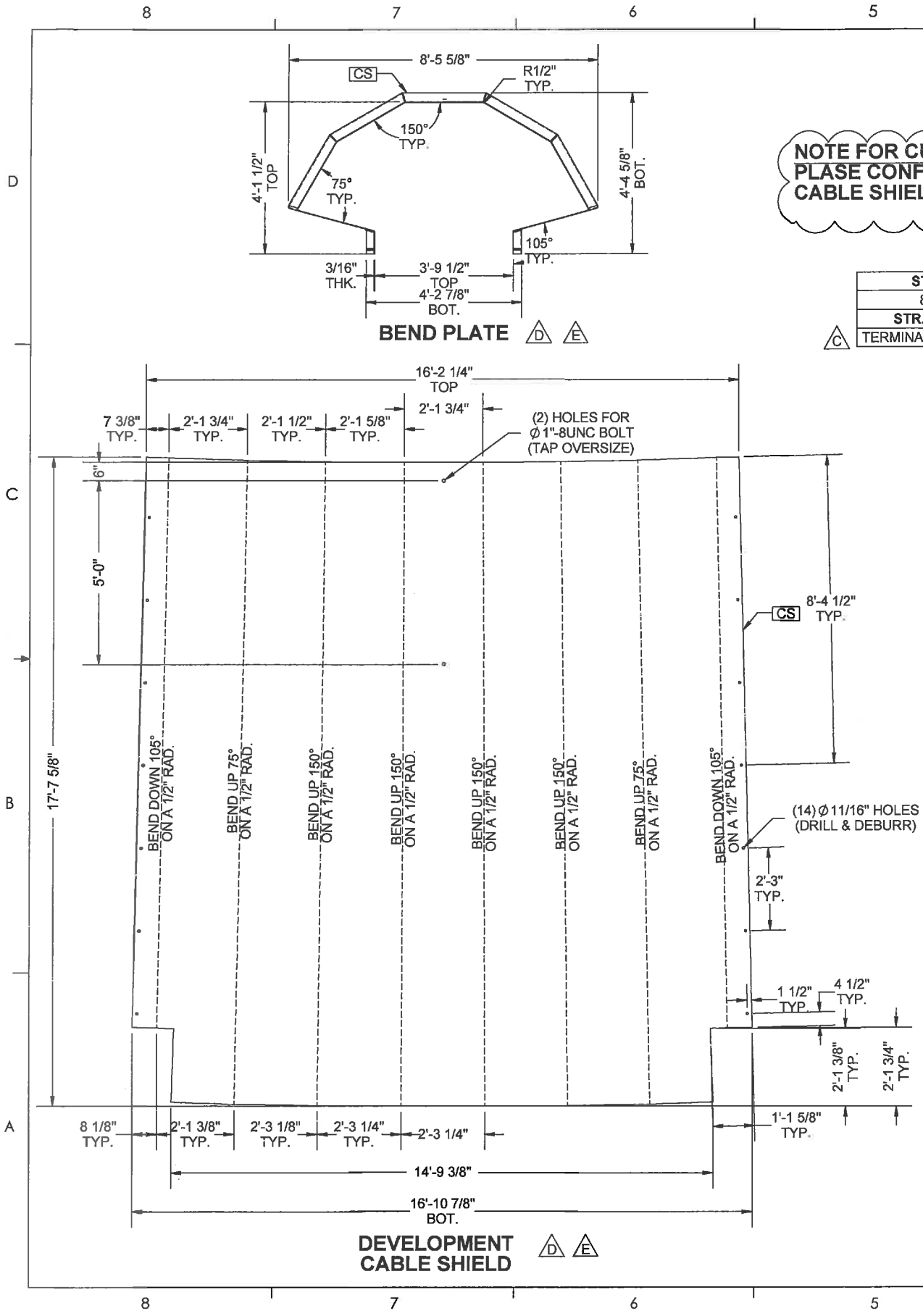
QUALITY STEEL POLES. DELIVERED.

PACIFICORP

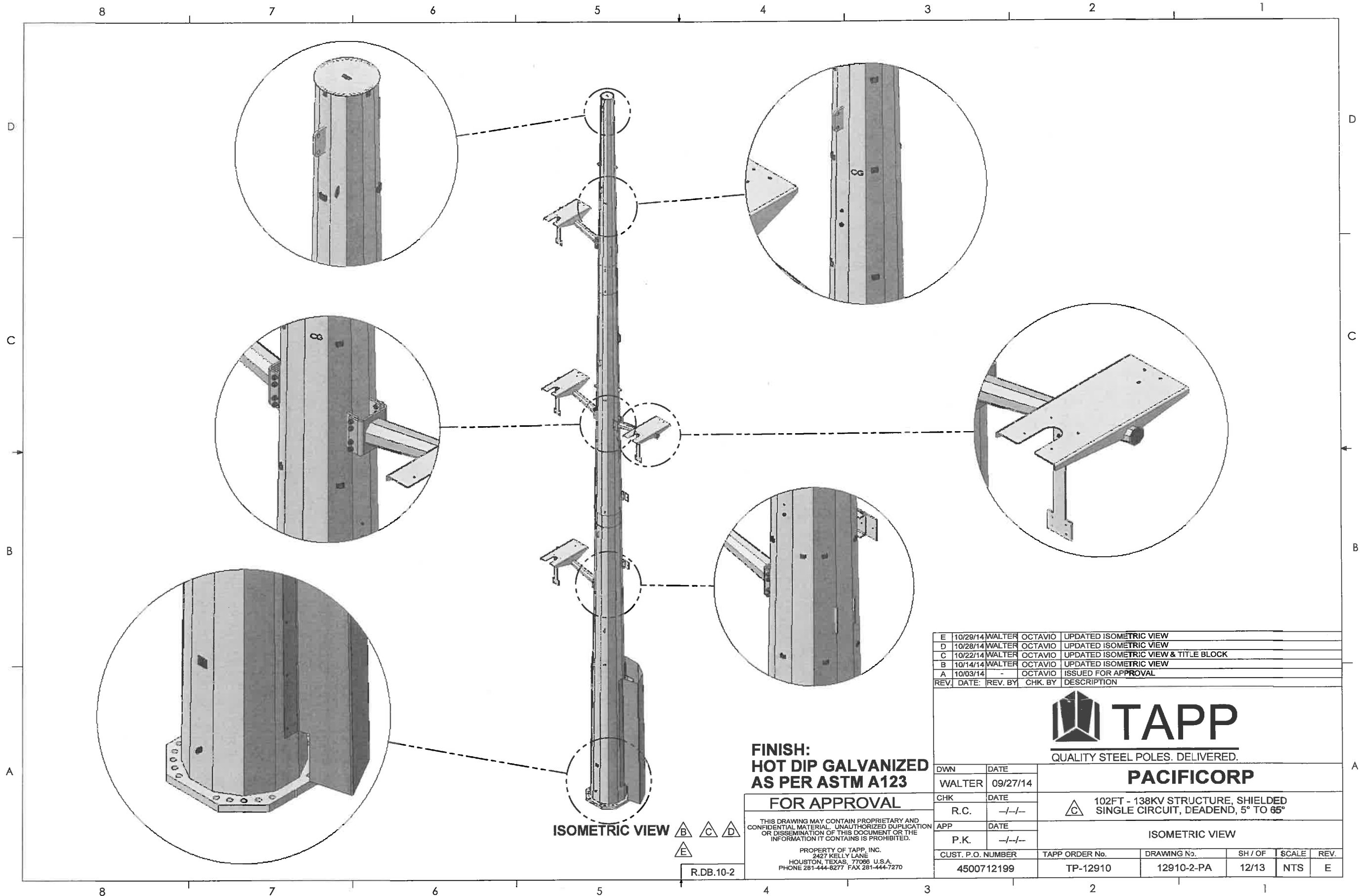
102FT - 138KV STRUCTURE, SHIELDED SINGLE CIRCUIT, DEADEND, 5° TO 65°

GENERAL DETAILS

CUST. P.O. NUMBER	TAPP ORDER No.	DRAWING No.	SH / OF	SCALE	REV.
4500712199	TP-12910	12910-2-PA	11/13	NTS	E



R.DB.10-2



ISOMETRIC VIEW

**FINISH:
HOT DIP GALVANIZED
AS PER ASTM A123**

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R.DB.10-2

REV.	DATE	REV. BY	CHK. BY	DESCRIPTION
E	10/29/14	WALTER	OCTAVIO	UPDATED ISOMETRIC VIEW
D	10/28/14	WALTER	OCTAVIO	UPDATED ISOMETRIC VIEW
C	10/22/14	WALTER	OCTAVIO	UPDATED ISOMETRIC VIEW & TITLE BLOCK
B	10/14/14	WALTER	OCTAVIO	UPDATED ISOMETRIC VIEW
A	10/03/14	-	OCTAVIO	ISSUED FOR APPROVAL



QUALITY STEEL POLES. DELIVERED.

DWN	DATE				
WALTER	09/27/14	PACIFICORP			
CHK	DATE	△ C 102FT - 138KV STRUCTURE, SHIELDED SINGLE CIRCUIT, DEADEND, 5° TO 65°			
APP	DATE	ISOMETRIC VIEW			
P.K.	-/-/-				
CUST. P.O. NUMBER	TAPP ORDER No.	DRAWING No.	SH / OF	SCALE	REV.
4500712199	TP-12910	12910-2-PA	12/13	NTS	E

SLIP JOINT ASSEMBLY

THIS STANDARD DEFINES THE STANDARD PROCEDURE FOR JACKING SLIP-FIT POLES TOGETHER.

1. POLE ASSEMBLY SHOULD BE DONE ON THE GROUND AS PER TAPP'S RECOMMENDATION AND STANDARD. HOWEVER, THIS CAN BE OPTED OUT BY THE CONTRACTOR IF OTHER CONDITIONS APPLY.
2. ALIGN THE SECTION PROPERLY, THERE IS A 2" LONG WELD ON THE MATCHING CORNERS OF EACH SECTION. LINE THEM UP FOR PROPER SECTION ALIGNMENT.
3. THERE ARE SEVERAL ACCEPTABLE TYPES OF EQUIPMENT FOR PULLING THE SECTION TOGETHER: HYDRAULIC JACKS, ARE USED IN COMMON PRACTICE.
4. JACKING PLATES MUST BE USED AT ALL TIMES. FOUR JACKING PLATES ARE REQUIRED (TWO PLATES PER SECTION). THESE PLATES SHOULD BE BOLTED ON TO BOTH JACKING NUTS AND THE LOAD SHOULD BE APPLIED TO THE JACKING PLATES. THE MAIN GOAL IS TO ENSURE THAT THESE JACKING NUTS ON EACH SECTION CARRY THE JACKING LOAD.
5. IF ASSEMBLED ON THE GROUND, THE SECTIONS SHALL BE BLOCKED. LUBRICATION MAY BE APPLIED TO THE MALE SECTION TO AID IN SLIPPING PROCESS. LIQUID DISH WASHING DETERGENT IS PREFERRED. DO NOT USE OIL BASED LUBRICANTS. THEY WILL BE DIFFICULT, IF NOT IMPOSSIBLE TO REMOVE.
6. IF THE MINIMUM SPLICE LENGTH CANNOT BE ACHIEVED, OR IF THERE ARE VISIBLE GAPS (IN EXCESS OF 3/16" ON OPPOSITE FLATS) AFTER THE SECTIONS TRESPASS MAXIMUM SLIP - TRANSAMERICAN POWER SHOULD BE CONTACTED BEFORE PROCEEDING WITH THE ERECTION. UNDER NO CIRCUMSTANCE SHOULD THE STRUCTURE BE ERECTED OR LOADED IF EITHER OF THESE CONDITIONS EXIST.
7. RECOMMENDED JACKING FORCES

MINIMUM PLATE THICKNESS (INCHES)	MINIMUM JACKING FORCE PER SIDE (POUNDS)	MAXIMUM JACKING FORCE PER SIDE (POUNDS)
3/16	19,000	25,800
1/4	26,800	32,700
5/16	34,700	42,000
3/8	42,500	47,500
7/16 and Above	48,000	52,000

**FINISH:
HOT DIP GALVANIZED
AS PER ASTM A123**

FOR APPROVAL

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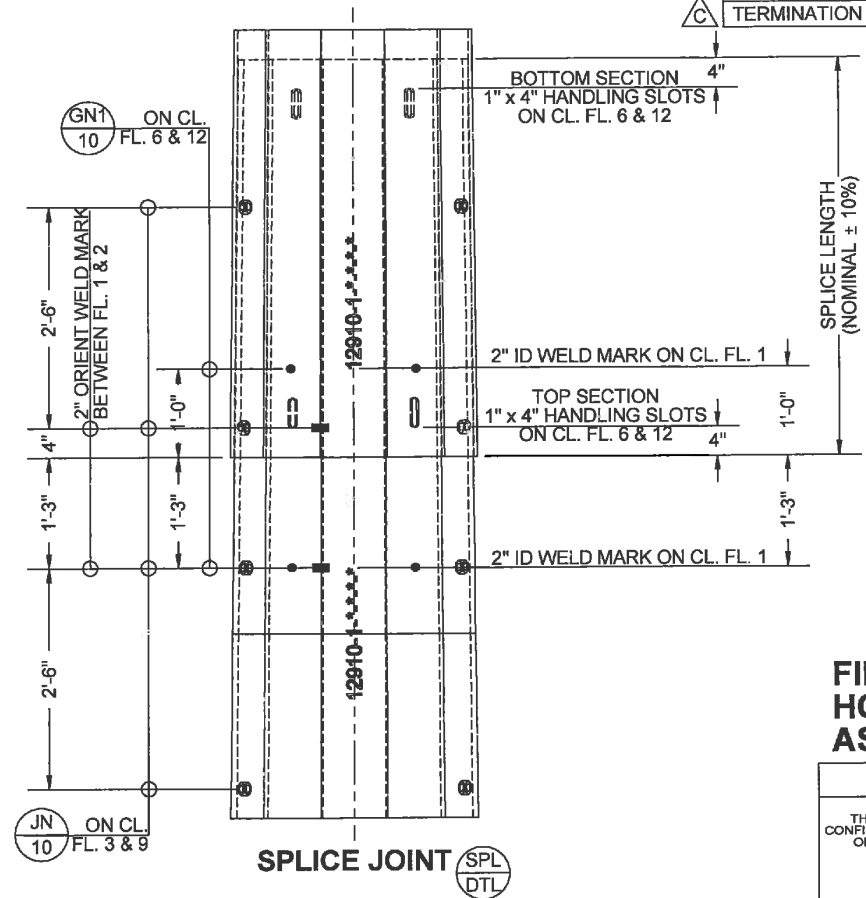
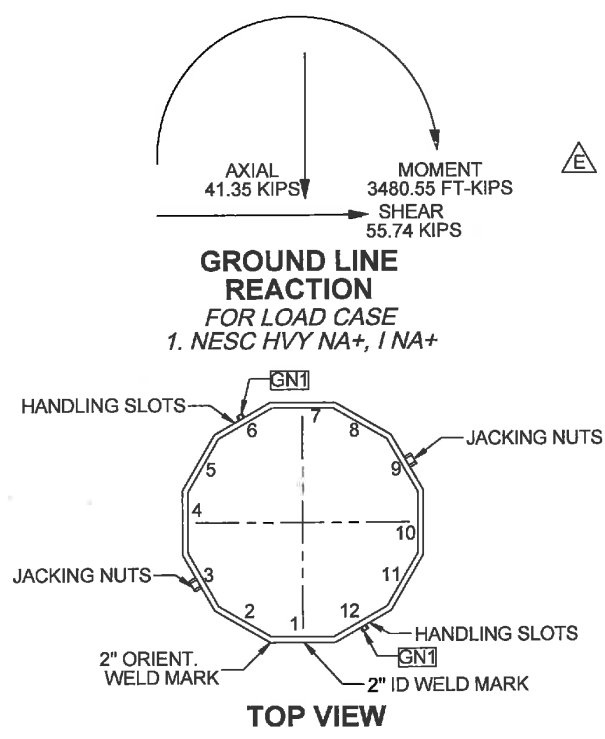
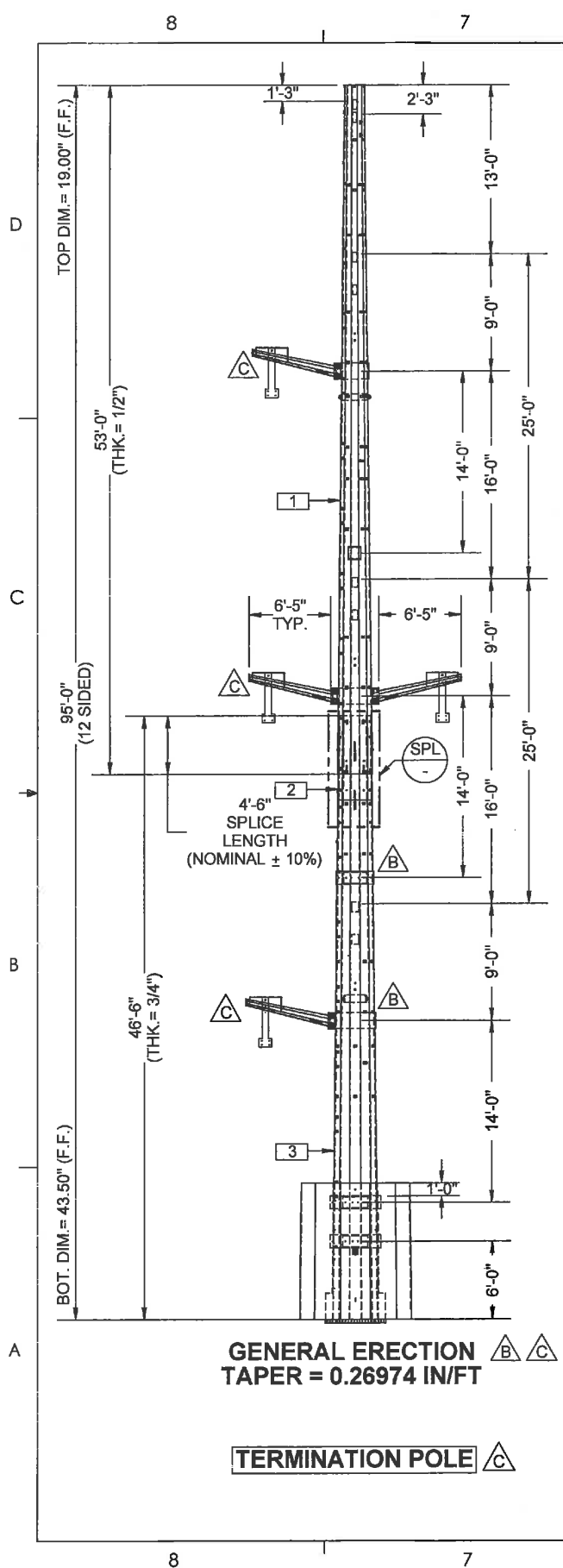
R.DB.10-2

REV.	DATE	REV. BY	CHK. BY	DESCRIPTION
E	10/29/14	WALTER	OCTAVIO	NO CHANGES ON THIS SHEET
D	10/28/14	WALTER	OCTAVIO	NO CHANGES ON THIS SHEET
C	10/22/14	WALTER	OCTAVIO	UPDATED TITLE BLOCK
B	10/14/14	WALTER	OCTAVIO	NO CHANGES ON THIS SHEET
A	10/03/14	-	OCTAVIO	ISSUED FOR APPROVAL



QUALITY STEEL POLES. DELIVERED.

DWN	DATE				
WALTER	09/27/14	PACIFICORP			
CHK	DATE	102FT - 138KV STRUCTURE, SHIELDED SINGLE CIRCUIT, DEADEND, 5° TO 65°			
R.C.	-/-/-				
APP	DATE	SLIP JOINT ASSEMBLY PROCEDURES			
P.K.	-/-/-				
CUST. P.O. NUMBER	TAPP ORDER No.	DRAWING No.	SH / OF	SCALE	REV.
4500712199	TP-12910	12910-2-PA	13/13	NTS	E



SECTION BILL OF MATERIAL w/ACCS.

ITEM #	QTY.	PART No.	DESCRIPTION	MATERIAL	Wt./Lb.	TOTAL Wt./Lb.
1	1	12910-1-12	TOP SECTION: PL. 1/2" x 19.00" F.F. x 33.30" F.F. x 53'-0" LG.	A572-55	8386	8386
2	1	12910-1-22	MID. SECTION: PL. 3/4" x 30.96" F.F. x 32.71" F.F. x 6'-6" LG.	A572-55	1658	1658
3	1	12910-1-22	BOT. SECTION: PL. 3/4" x 32.71" F.F. x 43.50" F.F. x 40'-0" LG.	A572-55	14974	14974
4	1	12910-CA1	CONDUCTOR ARM 1: SEE DWG#12910-CA1	A572-55	556	556
5	3	12910-CA2	CONDUCTOR ARM 2: SEE DWG#12910-CA2	A572-55	556	1668
SP	4	00-SP	SEAL PLATE: PL. 3/16" x 1 1/2" x 2 1/4"	A36	0.18	0.72
CS	1	00-CS	CABLE SHIELD: PL. 3/16" x 10'-7 1/2" x 18'-2"	A572-55	1418.9	1418.9
					BLACK WT.	28662
					GALV. WT.	30382

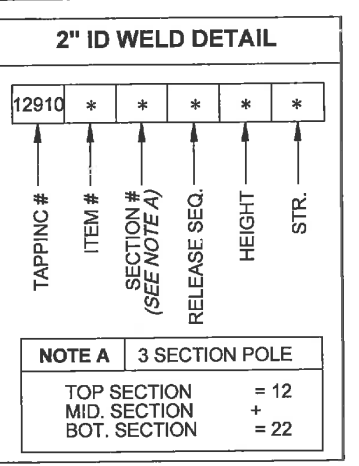
HARDWARE BILL OF MATERIAL

ITEM #	QTY.	PART No.	DESCRIPTION	MATERIAL	Wt./Lb.	TOTAL Wt./Lb.
a	4	00-TS	TAPPING SCREWS: Ø1/4"-14 x 1 1/4"	300 S-S STOPS	0.03	0.12
b	32	00-HHB	Ø1"-8UNC x 3 1/4" LG. HVY. HEX BOLT (GALV.)	A325	1	32
c	32	00-SLW	Ø1" SPRING LOCK WASHER (GALV.)	B.18.21.1	0.096	3.072
d	32	00-HHN	Ø1"-8UNC HVY. HEX NUT (GALV.)	A563-DH	0.425	13.6
e	8	00-RN	RIVNUT Ø1/2"-13UNC HVY. HEX NUT	ALS4-813-200	0.04	0.32
f	8	00-HB	Ø1/2"-13UNC x 2" LG. HEX BOLT FULL THREAD (GALV.)	A307	0.131	1.048
g	12	-	(PLASTIC PLUGS Ø1/2") HOLES 0.5"	PLUGS	-	-
h	8	-	(PLASTIC PLUGS Ø3/4") HOLES 0.75"	PLUGS	-	-
i	8	-	(PLASTIC PLUGS Ø1") HOLES 1"	PLUGS	-	-
j	8	-	(PLASTIC PLUGS Ø1 1/16") HOLES 0.6875"	PLUGS	-	-
					HARDWARE WT.	50.16
					TOTAL WT. (HARDWARE WT. + GALV. WT.)	30432

QTY. SHOWN ABOVE IS FOR (1) POLE ASSEMBLY
TOTAL OF ONE (1) POLE ASSEMBLY REQUIRED

BUILD No.	SECTION	2" ID WELD MARK
1	TOP	12910-1-12-A1-95FT-1-3
1	MID.	12910-1-22-A1-95FT-1-3
1	BOT.	12910-1-22-A1-95FT-1-3

STR.	STR. TYPE
1/3	TERMINATION POLE



GENERAL NOTES:

1. WORKMANSHIP IN ACCORDANCE WITH AISC
2. STRUCTURAL STEEL MULTI-SIDED TUBULAR SECTIONS CONFORM TO ASTM A572 GRADE 50 (MIN.)
3. MISCELLANEOUS SHAPES AND BARS CONFORM TO ASTM A36, ASTM A572
4. BOLTS, NUTS & WASHERS IN ACCORDANCE WITH ASTM A325 TYPE DH RESPECTIVELY
5. HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A123, A143, A153, A384, A385, A386
6. ARC WELDING PERFORMED IN ACCORDANCE WITH AWS D1.1 & WELDING ELECTRODES SHALL BE E-70XX OR EQUIVALENT
7. TEST IN ACCORDANCE WITH ASTM A370 & ASTM A673

FABRICATION NOTES:

1. 1 SET OF LADDER CLIPS = 2 CLIPS
2. CABLE CLAMP ATTACHMENT PLATE WILL BE WELDED OVER CABLE CLAMP ATTACHMENT BRACKET AND DRILL AFTER WELDED

REV.	DATE	REV. BY	CHK. BY	DESCRIPTION
E	10/29/14	WALTER	OCTAVIO	UPDATED BOM
D	10/28/14	WALTER	OCTAVIO	UPDATED BOM
C	10/22/14	WALTER	OCTAVIO	ADDED CA2, UPDATED GENERAL ERECTION, TITLE BLOCK, STR. TYPE & BOM
B	10/14/14	WALTER	OCTAVIO	UPDATED GENERAL ERECTION & BOM
A	10/03/14	-	OCTAVIO	ISSUED FOR APPROVAL



DWN	DATE	CHK	DATE	APP	DATE	CUST. P.O. NUMBER	TAPP ORDER No.	DRAWING No.	SH / OF	SCALE	REV.
WALTER	10/01/14	R.C.	-/-/-	P.K.	-/-/-	4500712199	TP-12910	12910-1-PA	1/12	NTS	E

PACIFICORP

95FT - 138KV STRUCTURE, SHIELDED SINGLE CIRCUIT, DEADEND, 5° TO 65°

ASSEMBLY AND GENERAL DETAILS

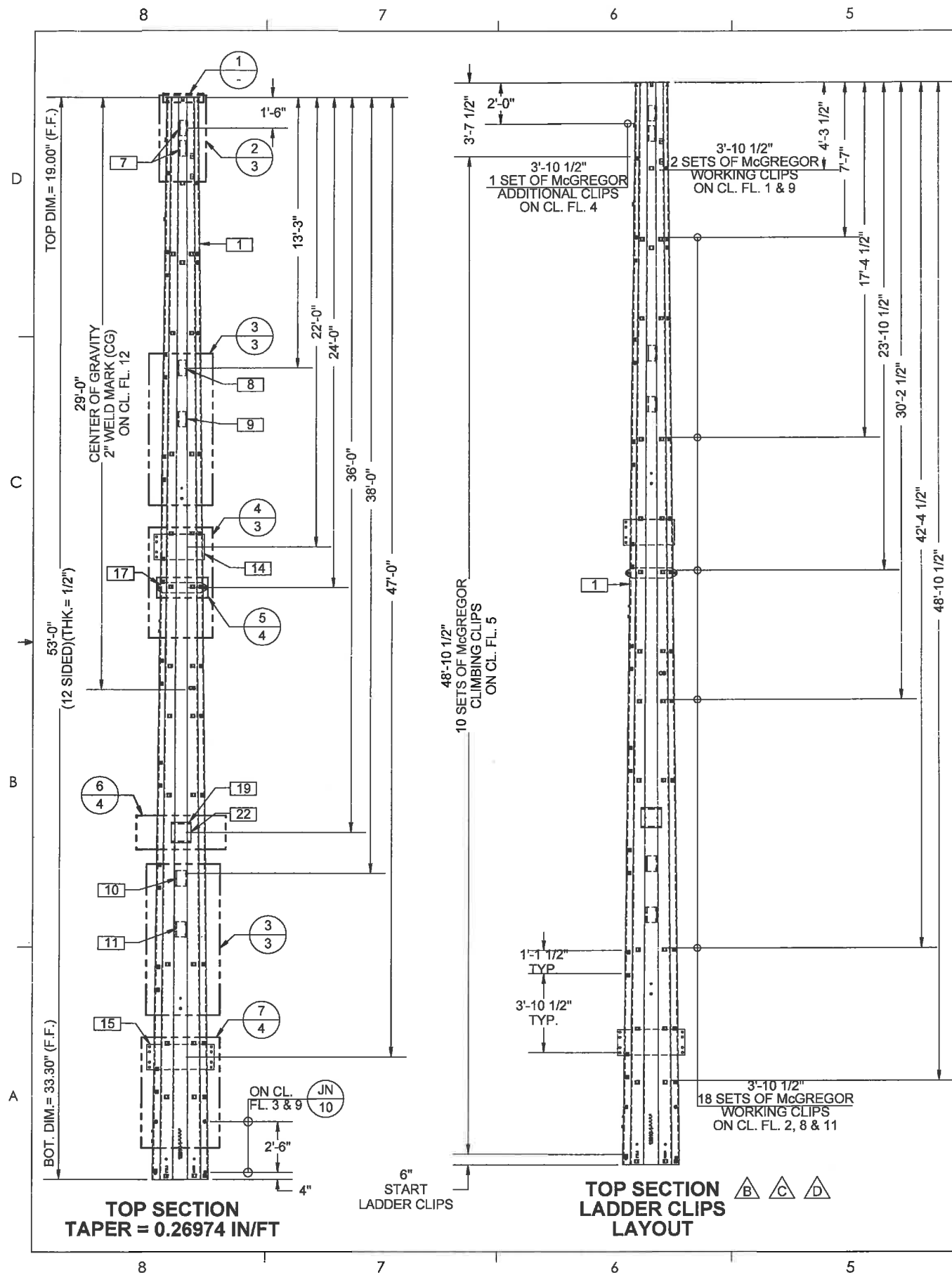
FINISH:
HOT DIP GALVANIZED
AS PER ASTM A123

FOR APPROVAL

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HOUSTON, TEXAS, 77066 U.S.A.
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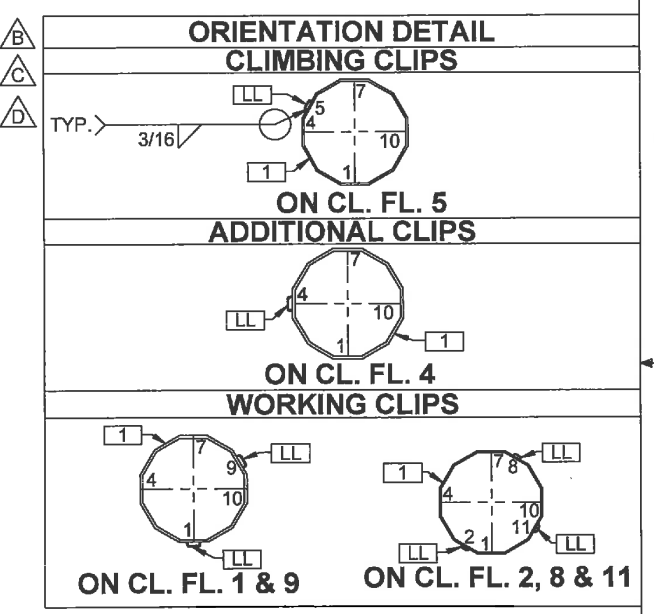
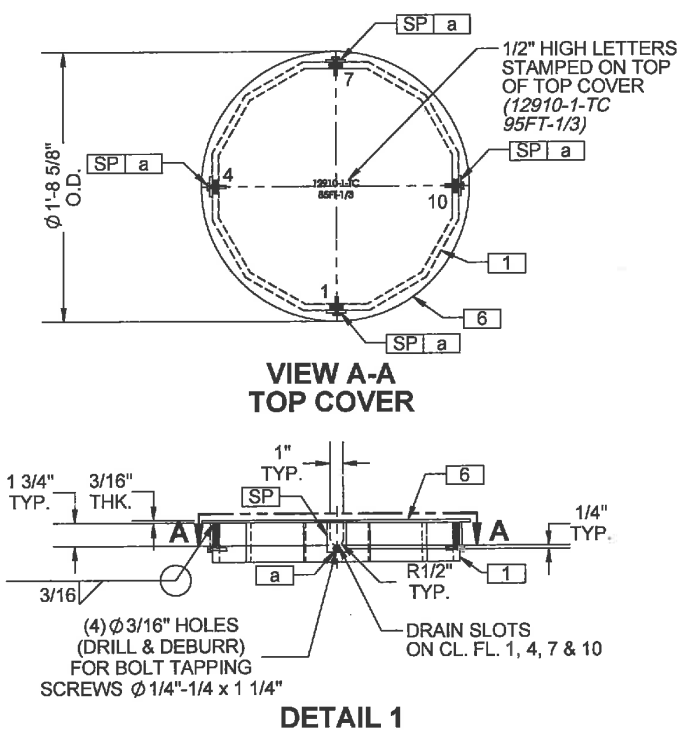
R.DB.10-2



TOP SECTION BILL OF MATERIAL

ITEM #	QTY.	PART No.	DESCRIPTION	MATERIAL	Wt./Lb.	TOTAL Wt./Lb.
1	1	12910-1-12	TOP SECTION: PL. 1/2" x 19.00" F.F. x 33.30" F.F. x 53'-0" LG.	A572-65	7435	7435
6	1	12910-1-TC	TOP COVER: PL. 3/16" x 1'-8 5/8" O.D.	A36	19.0	19
7	2	12910-1-SWV	SHIELD WIRE VANG: PL. 3/4" x 9" x 2'-1 1/2"	A572-65	48.3	96.6
8	1	12910-1-CV1	CONDUCTOR VANG 1: PL. 3/4" x 9" x 2'-4 1/2"	A572-65	53.9	53.9
9	1	12910-1-CV2	CONDUCTOR VANG 2: PL. 3/4" x 9" x 2'-5 1/4"	A572-65	55.2	55.2
10	1	12910-1-CV3	CONDUCTOR VANG 3: PL. 3/4" x 9" x 2'-11 3/8"	A572-65	67.0	67
11	1	12910-1-CV4	CONDUCTOR VANG 4: PL. 3/4" x 9" x 3'-0"	A572-65	68.3	68.3
14	2	12910-1-TP1	THRU PLATE 1: PL. 3/4" x 1'-3" x 2'-6 1/8"	A572-65	95.09	190.18
15	2	12910-1-TP2	THRU PLATE 2: PL. 3/4" x 1'-3" x 3'-3 7/8"	A572-65	125.34	250.68
17	1	12910-1-LV1	LIFTING VANG 1: PL. 3/4" x 6" x 2'-10 1/2"	A572-65	53.2	53.2
19	1	12910-1-CCAB1	CABLE CLAMP ATTACHMENT BRACKET 1: PL. 1/2" x 1'-0" x 1'-6 1/2"	A572-65	30.9	30.9
22	1	12910-1-CCAP1	CABLE CLAMP ATTACHMENT PLATE 1: PL. 3/4" x 1'-0" x 1'-0"	A572-65	30.5	30.5
GV	2	00-GV	GROUNDING VANG: PL. 3/8" x 3" x 4 1/2" (S.S.)	304	1.3	2.6
GN1	7	00-GN1	GROUNDING NUT 1: Ø1/2"-13UNC HEX NUT (S.S.)	304	0.0654	0.4578
GN2	5	00-GN2	GROUNDING NUT 2: Ø3/4"-10UNC HEX NUT (S.S.)	304	0.19	0.95
JN	4	00-JN	JACKING NUT: Ø1"-8UNC HVY. HEX NUT (BLACK)	A563-DH	0.425	1.7
LL	62	00-LL	McGREGOR LADDER CLIP: PL. 1/4" x 2" x 3 1/2"	A36	0.5	31
					BLACK WT.	8387
					GALV. WT.	8890

QTY. SHOWN ABOVE IS FOR TOP SECTION ASSEMBLY



STR.	1/3
STR. TYPE	TERMINATION POLE

FINISH:
HOT DIP GALVANIZED
AS PER ASTM A123

FOR APPROVAL

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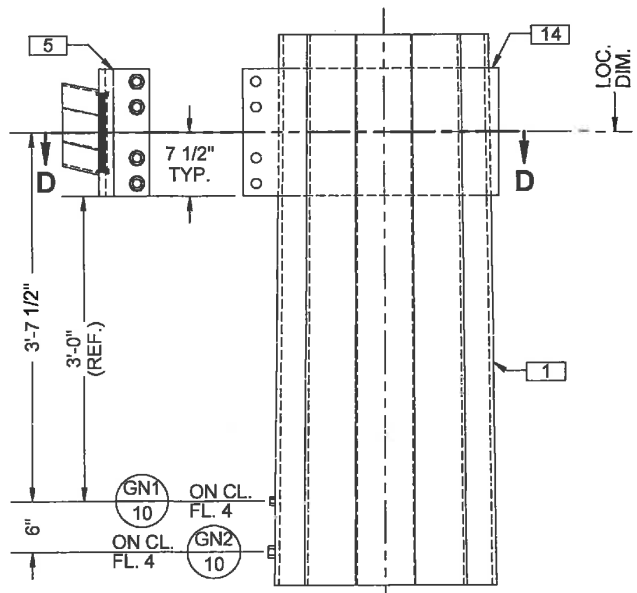
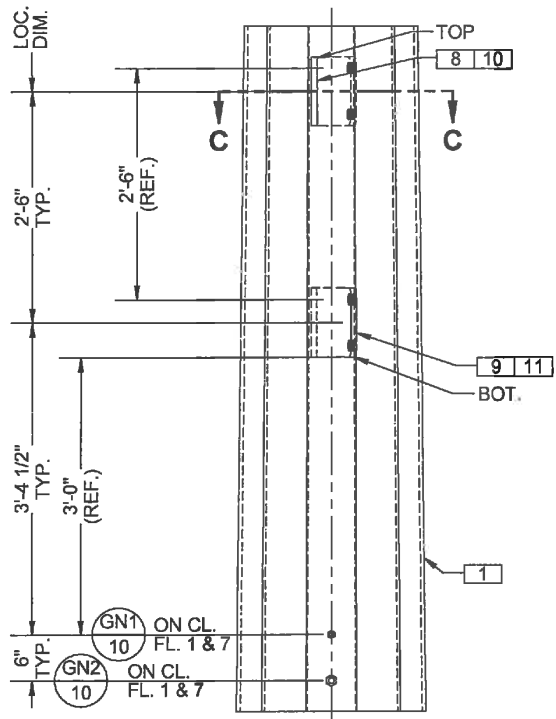
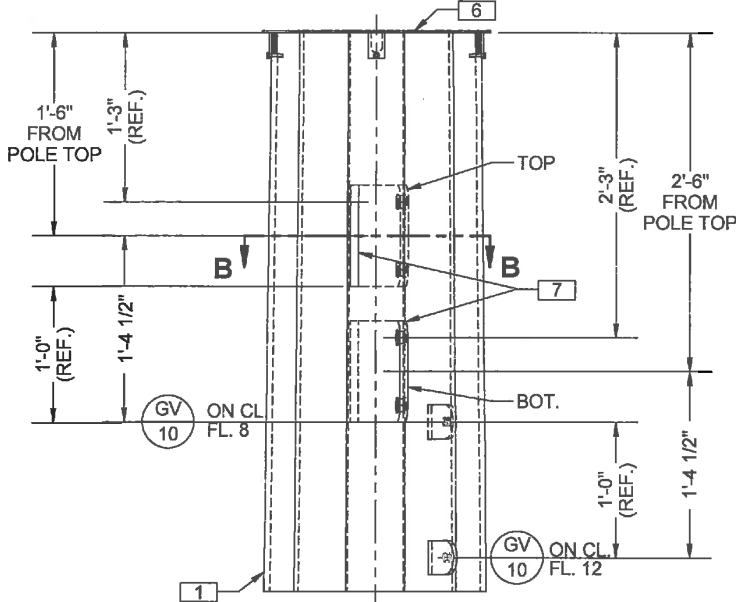
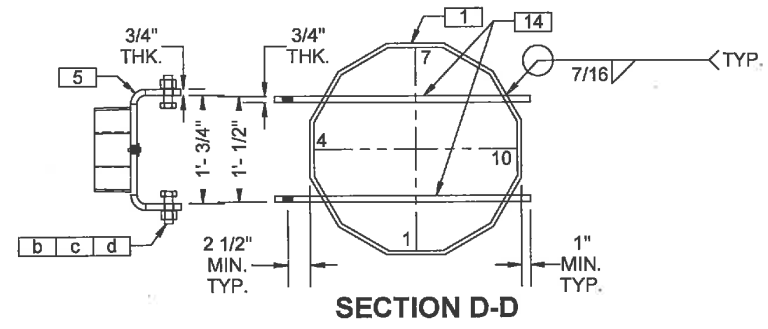
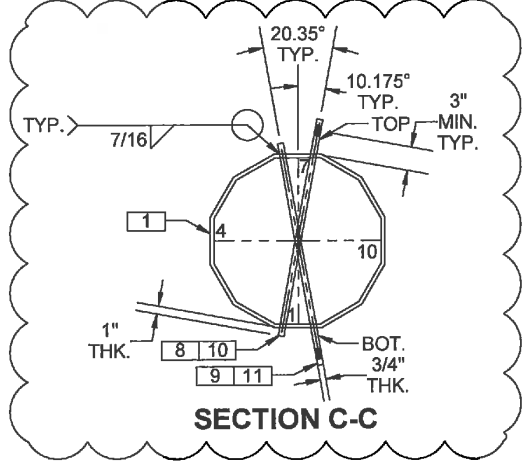
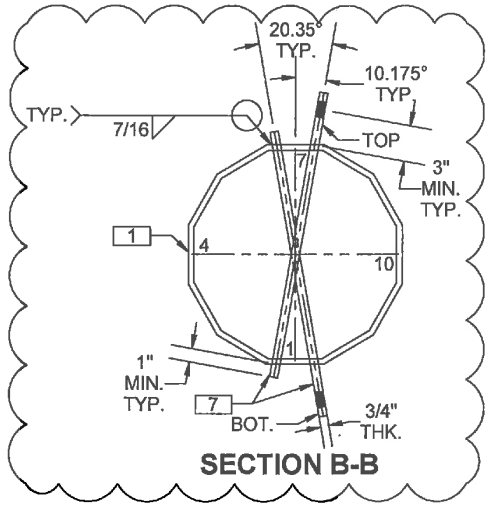
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HOUSTON, TEXAS, 77066 U.S.A.
PHONE 281-444-8277 FAX 281-444-7270

REV.	DATE	REV. BY	CHK. BY	DESCRIPTION
E	10/29/14	WALTER OCTAVIO		NO CHANGES ON THIS SHEET
C	10/22/14	WALTER OCTAVIO		UPDATED TITLE BLOCK, STR. TYPE, LADDER CLIPS LAYOUT & BOM
B	10/14/14	WALTER OCTAVIO		UPDATED LADDER CLIPS LAYOUT
A	10/03/14		OCTAVIO	ISSUED FOR APPROVAL



DWN	DATE	WALTER	10/01/14
CHK	DATE	R.C.	--/--
APP	DATE	P.K.	--/--
CUST. P.O. NUMBER	TAPP ORDER No.	DRAWING No.	SH / OF SCALE REV.
4500712199	TP-12910	12910-1-PA	2/12 NTS E

8 7 6 5 4 3 2 1



**NOTE FOR CUSTOMER:
PLEASE CONFIRM SHIELD WIRE
& CONDUCTOR VANGS
ORIENTATION**

**FINISH:
HOT DIP GALVANIZED
AS PER ASTM A123**

FOR APPROVAL

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R.DB.10-2

REV.	DATE	REV. BY	CHK. BY	DESCRIPTION
E	10/29/14	WALTER	OCTAVIO	NO CHANGES ON THIS SHEET
D	10/28/14	WALTER	OCTAVIO	NO CHANGES ON THIS SHEET
C	10/22/14	WALTER	OCTAVIO	UPDATED TITLE BLOCK
B	10/14/14	WALTER	OCTAVIO	UPDATED DETAIL 2
A	10/03/14	-	OCTAVIO	ISSUED FOR APPROVAL



QUALITY STEEL POLES. DELIVERED.

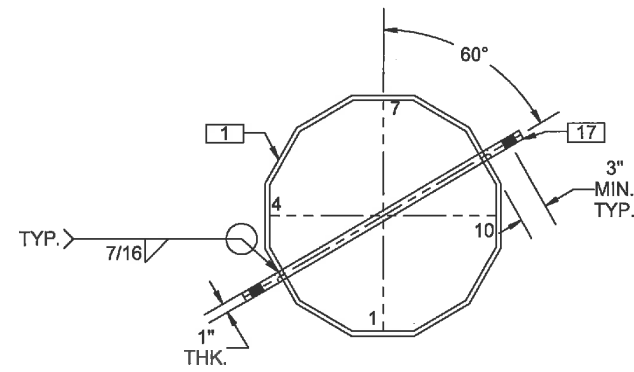
PACIFICORP

95FT - 138KV STRUCTURE, SHIELDED SINGLE CIRCUIT, DEADEND, 5° TO 65°

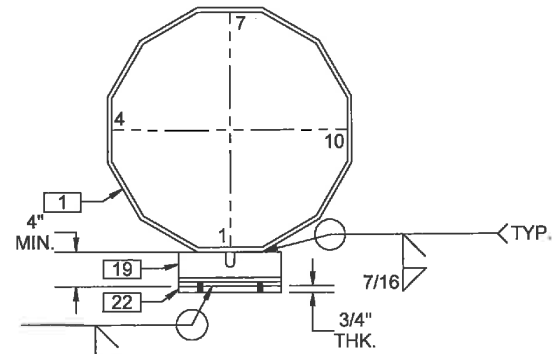
ASSEMBLY AND GENERAL DETAILS

DWN	DATE				
WALTER	10/01/14				
CHK	DATE				
R.C.	-/-/-				
APP	DATE				
P.K.	-/-/-				
CUST. P.O. NUMBER	TAPP ORDER No.	DRAWING No.	SH / OF	SCALE	REV.
4500712199	TP-12910	12910-1-PA	3/12	NTS	E

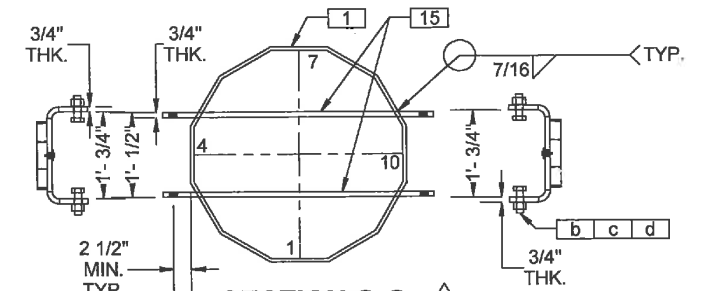
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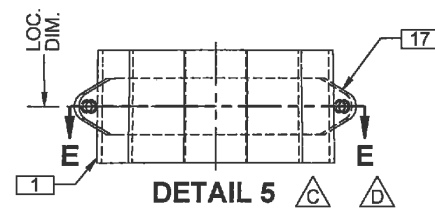
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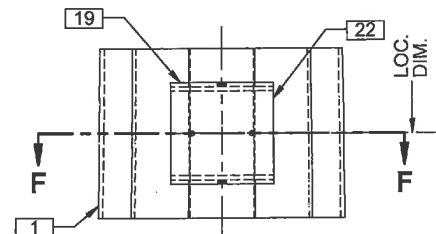
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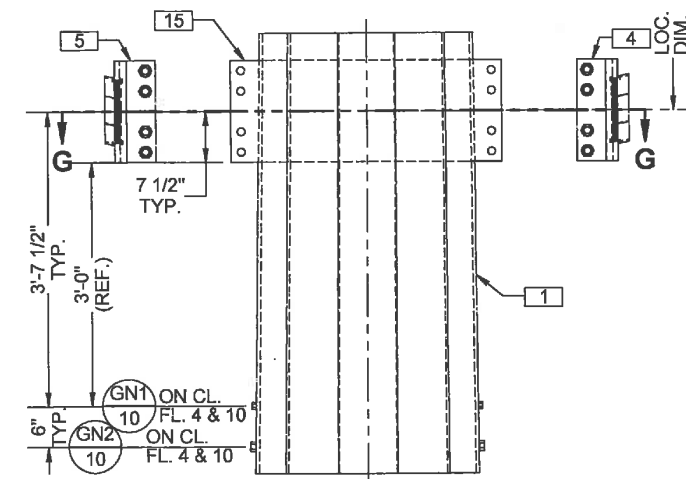
SECTION G-G



DETAIL 5



DETAIL 6



DETAIL 7

REV.	DATE:	REV. BY:	CHK. BY:	DESCRIPTION:
E	10/29/14	WALTER	OCTAVIO	NO CHANGES ON THIS SHEET
D	10/28/14	WALTER	OCTAVIO	UPDATED DETAIL 5 & 6
C	10/22/14	WALTER	OCTAVIO	UPDATED DETAIL 5, 6 & 7 AND TITLE BLOCK
B	10/14/14	WALTER	OCTAVIO	UPDATED DETAIL 2
A	10/03/14	-	OCTAVIO	ISSUED FOR APPROVAL



QUALITY STEEL POLES. DELIVERED.

PACIFICORP

95FT - 138KV STRUCTURE, SHIELDED SINGLE CIRCUIT, DEADEND, 5° TO 65°

ASSEMBLY AND GENERAL DETAILS

DWN	DATE	TAPP ORDER No.	DRAWING No.	SH / OF	SCALE	REV.
WALTER	10/01/14	TP-12910	12910-1-PA	4/12	NTS	E
CHK	DATE					
R.C.	--/--					
APP	DATE					
P.K.	--/--					

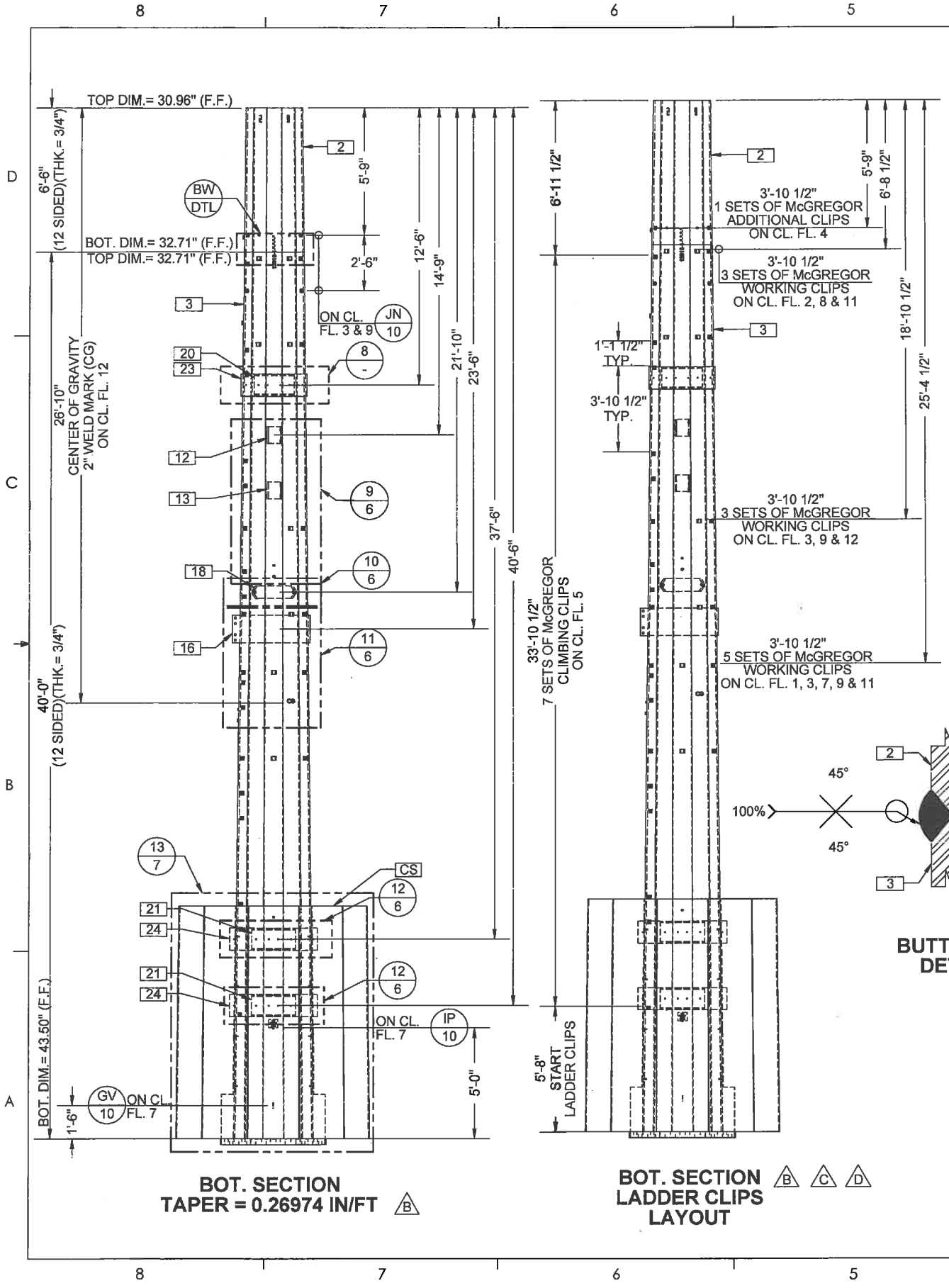
**FINISH:
HOT DIP GALVANIZED
AS PER ASTM A123**

FOR APPROVAL

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R.DB.10-2



BOT. SECTION BILL OF MATERIAL

ITEM #	QTY.	PART No.	DESCRIPTION	MATERIAL	Wt./Lb.	TOTAL Wt./Lb.
2	1	12910-1-22	MID. SECTION: PL. 3/4" x 30.96" F.F. x 32.71" F.F. x 6'-6" LG.	A572-65	1656	1656
3	1	12910-1-22	BOT. SECTION: PL. 3/4" x 32.71" F.F. x 43.50" F.F. x 40'-0" LG.	A572-65	12262	12262
12	1	12910-1-CV5	CONDUCTOR VANG 5: PL. 3/4" x 9" x 3'-5"	A572-65	77.9	77.9
13	1	12910-1-CV6	CONDUCTOR VANG 6: PL. 3/4" x 9" x 3'-5 3/4"	A572-65	79.3	79.3
16	2	12910-1-TP3	THRU PLATE 3: PL. 3/4" x 1'-3" x 3'-6 3/8"	A572-65	134.53	269.06
18	1	12910-1-LV2	LIFTING VANG 2: PL. 1 1/4" x 7" x 3'-9 7/8"	A572-65	105.2	105.2
20	1	12910-1-CCAB2	CABLE CLAMP ATTACHMENT BRACKET 2: PL. 1/2" x 1'-6 1/2" x 1'-10"	A572-65	57.1	57.1
21	2	12910-1-CCAB3	CABLE CLAMP ATTACHMENT BRACKET 3: PL. 1/2" x 1'-6 1/2" x 2'-0"	A572-65	62.3	124.6
23	1	12910-1-CCAP2	CABLE CLAMP ATTACHMENT PLATE 2: PL. 3/4" x 1'-0" x 3'-0"	A572-65	91.6	91.6
24	2	12910-1-CCAP3	CABLE CLAMP ATTACHMENT PLATE 3: PL. 3/4" x 1'-0" x 4'-0"	A572-65	122.1	244.2
25	1	12910-1-BP	BASE PLATE: PL. 3 1/4" x 4'-8 1/2" (SQUARE)	A572-50	1641.8	1641.8
IP	1	00-IP	ID PLATE: PL. 3/16" x 4 1/2" x 5"	A36	1.2	1.2
GV	1	00-GV	GROUNDING VANG: PL. 3/8" x 3" x 4 1/2" (S.S.)	304	1.3	1.3
GN1	5	00-GN1	GROUNDING NUT 1: Ø1/2"-13UNC HEX NUT (S.S.)	304	0.0654	0.327
GN2	3	00-GN2	GROUNDING NUT 2: Ø3/4"-10UNC HEX NUT (S.S.)	304	0.19	0.57
JN	4	00-JN	JACKING NUT: Ø1"-8UNC HVY. HEX NUT (BLACK)	A563-DH	0.425	1.7
LL	38	00-LL	McGREGOR LADDER CLIP: PL. 1/4" x 2" x 3 1/2"	A36	0.5	19
					BLACK WT.	16633
					GALV. WT.	17631

QTY. SHOWN ABOVE IS FOR BOT. SECTION ASSEMBLY

REV.	DATE	REV. BY	CHK. BY	DESCRIPTION
E	10/29/14	WALTER	OCTAVIO	NO CHANGES ON THIS SHEET
D	10/28/14	WALTER	OCTAVIO	UPDATED DETAIL 8, LADDER CLIPS LAYOUT AND BOM
C	10/22/14	WALTER	OCTAVIO	UPDATED DETAIL 8, TITLE BLOCK, STR. TYPE, LADDER CLIPS LAYOUT & BOM
B	10/14/14	WALTER	OCTAVIO	UPDATED LADDER CLIPS LAYOUT & BOM
A	10/03/14	-	OCTAVIO	ISSUED FOR APPROVAL



PACIFICORP

95FT - 138KV STRUCTURE, SHIELDED SINGLE CIRCUIT, DEADEND, 5° TO 65°

BOT. SECTION ALAYOUT

DWN	DATE	DRAWING No.	SH / OF	SCALE	REV.
WALTER	10/01/14	12910-1-PA	5/12	NTS	E
CHK	DATE	TAPP ORDER No.			
R.C.	-/-/-	TP-12910			
APP	DATE				
P.K.	-/-/-				
CUST. P.O. NUMBER	DRAWING No.	SH / OF	SCALE	REV.	
4500712199	12910-1-PA	5/12	NTS	E	

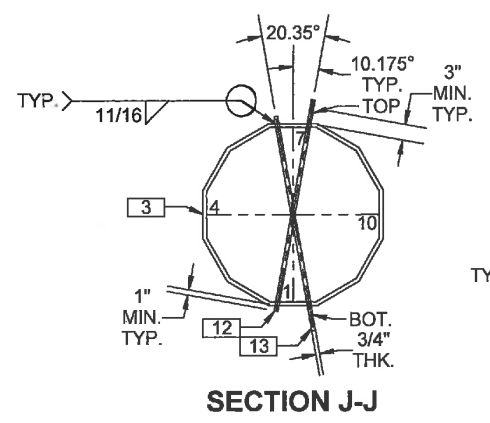
FINISH: HOT DIP GALVANIZED AS PER ASTM A123

FOR APPROVAL

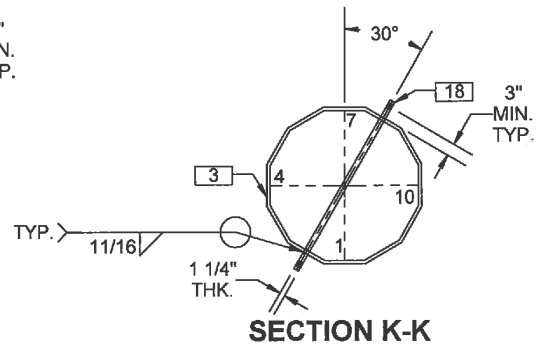
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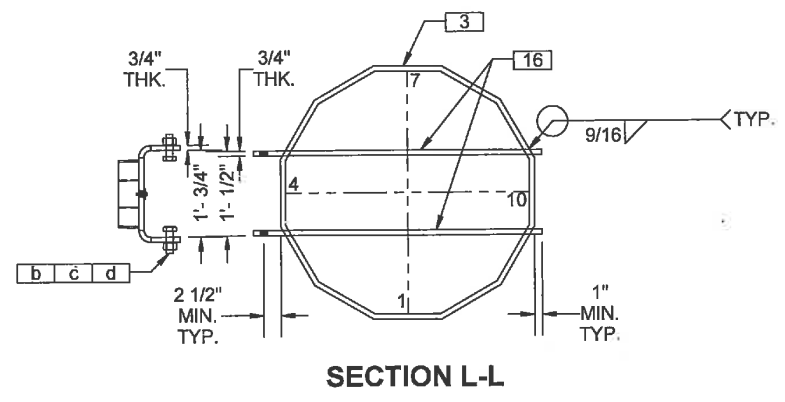
R.DB.10-2



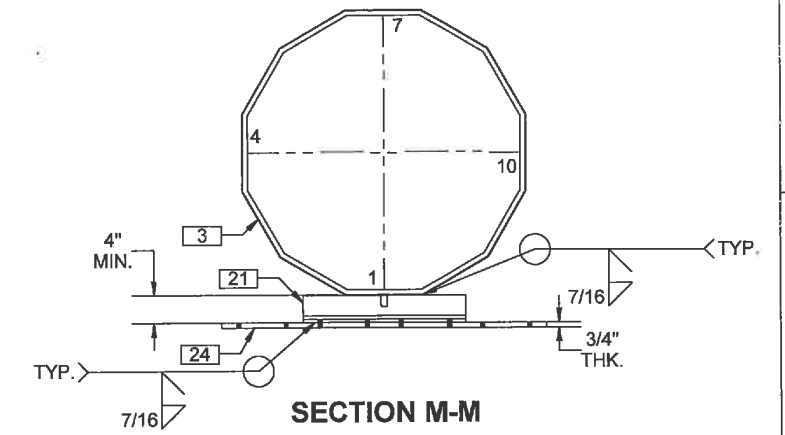
SECTION J-J



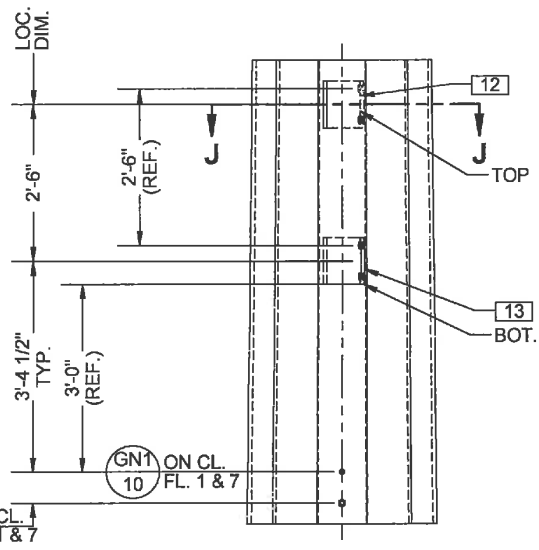
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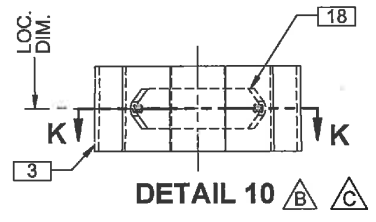
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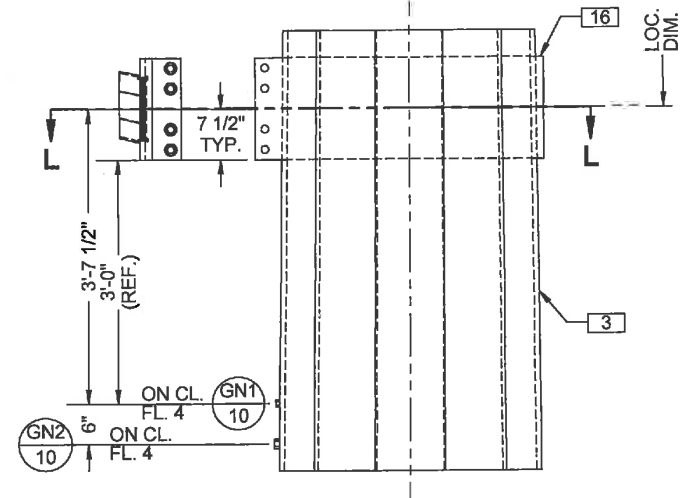
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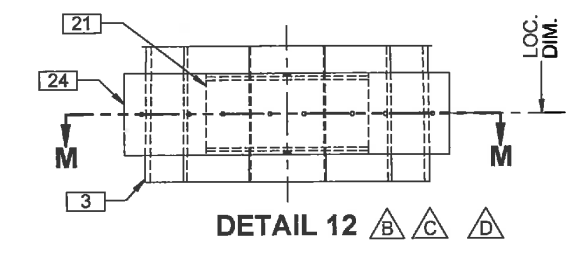
DETAIL 9



DETAIL 10



DETAIL 11



DETAIL 12

STR.
1/3
STR. TYPE
TERMINATION POLE

FINISH:
HOT DIP GALVANIZED
AS PER ASTM A123

FOR APPROVAL

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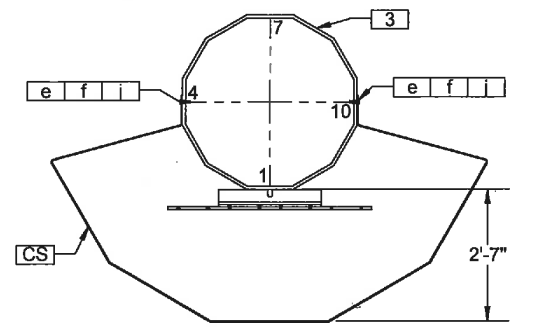
R.DB.10-2

REV.	DATE	REV. BY	CHK. BY	DESCRIPTION
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D	10/28/14	WALTER	OCTAVIO	UPDATED DETAIL 12
C	10/22/14	WALTER	OCTAVIO	UPDATED DETAILS 9, 10, 11 & 12 AND TITLE BLOCK
B	10/14/14	WALTER	OCTAVIO	ADDED DETAIL 7 & UPDATED DETAIL 8, 9 & 10
A	10/03/14	-	OCTAVIO	ISSUED FOR APPROVAL

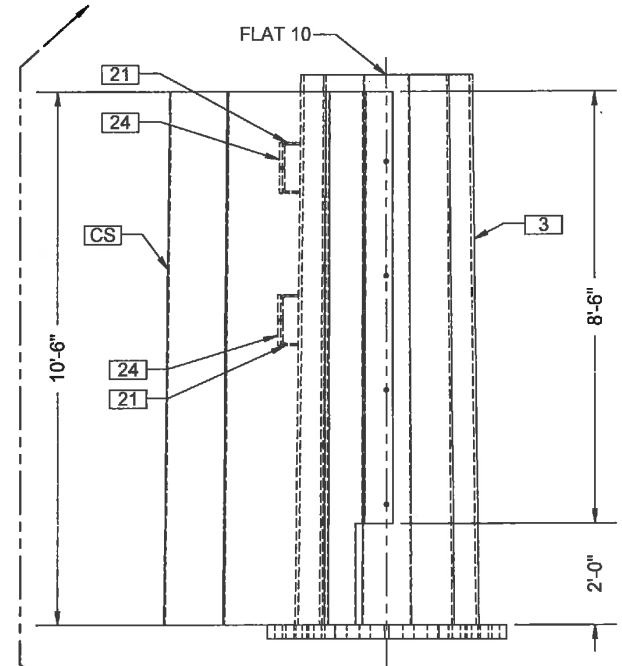
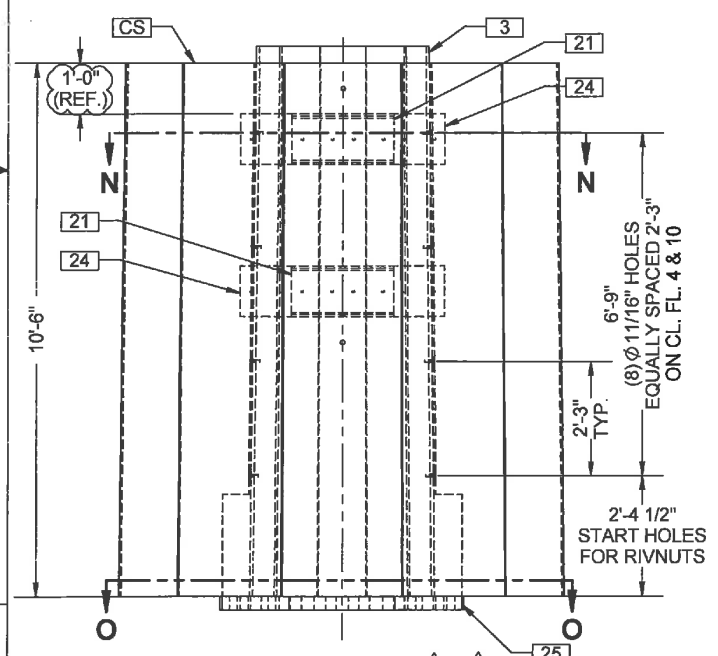
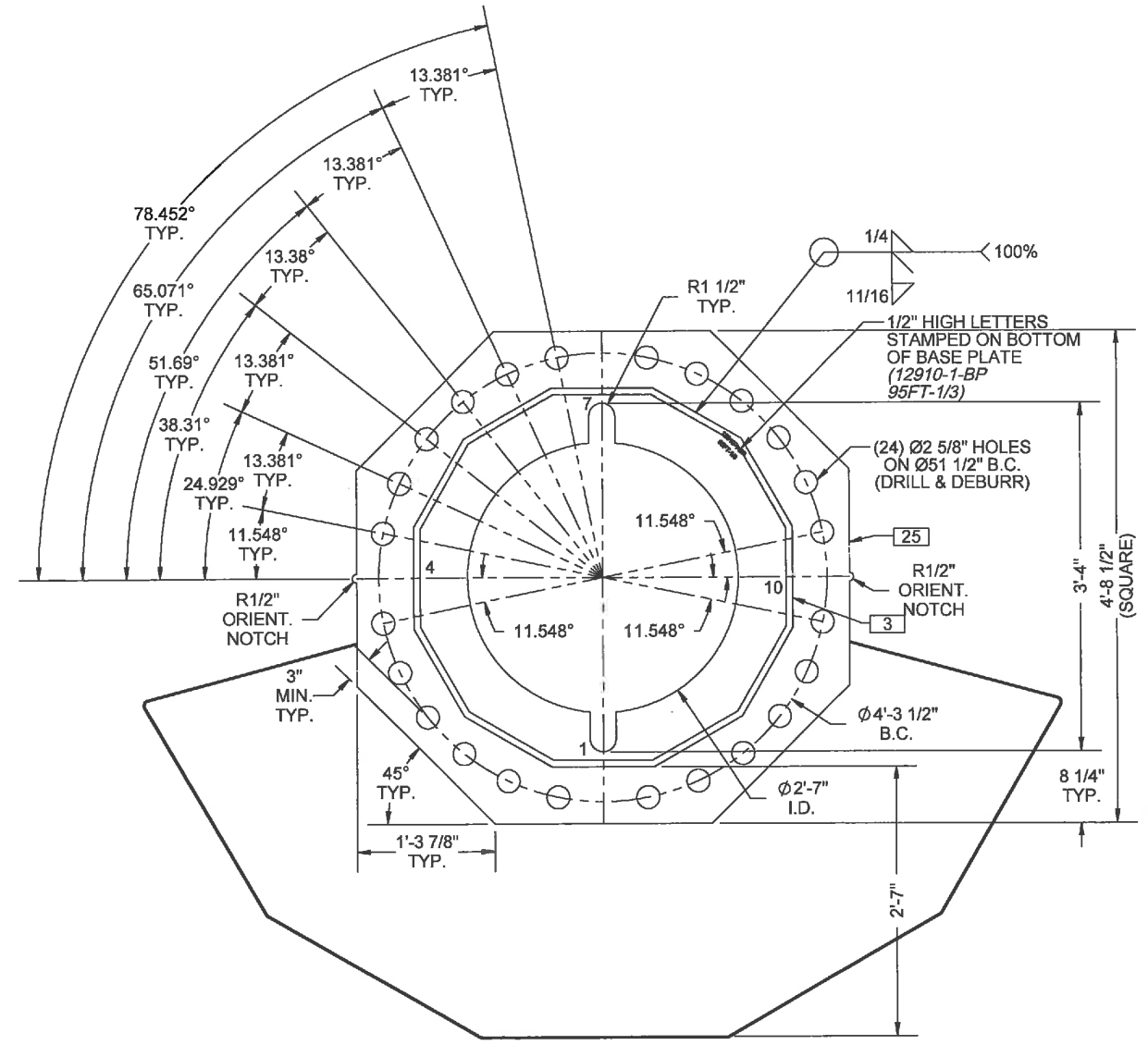


QUALITY STEEL POLES. DELIVERED.

DWN	DATE	PACIFICORP				
WALTER	10/01/14	95FT - 138KV STRUCTURE, SHIELDED SINGLE CIRCUIT, DEADEND, 5° TO 65°				
CHK	DATE	ASSEMBLY AND GENERAL DETAILS				
R.C.	-/-/-	CUST. P.O. NUMBER				
APP	DATE	TAPP ORDER No.				
P.K.	-/-/-	DRAWING No.				
4500712199		TP-12910		SH / OF	SCALE	REV.
		12910-1-PA		6/12	NTS	E



**NOTE FOR CUSTOMER:
PLEASE CONFIRM
CABLE SHIELD DESIGN**



STR.
1/3
STR. TYPE
TERMINATION POLE $\triangle C$

REV.	DATE	REV. BY	CHK. BY	DESCRIPTION
E	10/29/14	WALTER	OCTAVIO	UPDATED DETAIL 13
D	10/28/14	WALTER	OCTAVIO	UPDATED DETAIL 13
C	10/22/14	WALTER	OCTAVIO	UPDATED DETAIL 13, TITLE BLOCK AND STR. TYPE
B	10/14/14	WALTER	OCTAVIO	ADDED DETAIL 11 & UPDATED SECTION O-O
A	10/03/14	-	OCTAVIO	ISSUED FOR APPROVAL

**FINISH:
HOT DIP GALVANIZED
AS PER ASTM A123**

FOR APPROVAL

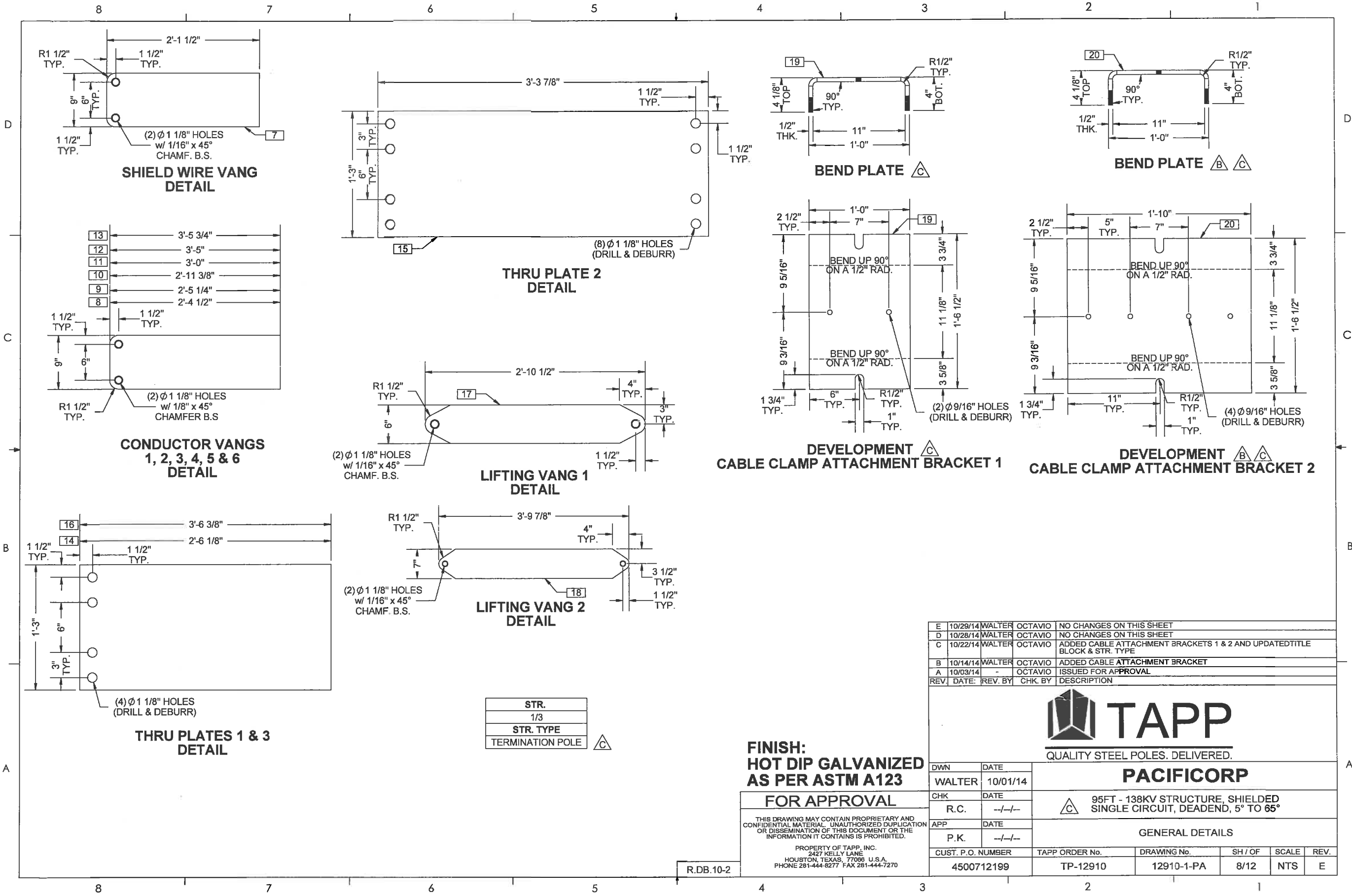
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PHONE 281-444-8277 FAX 281-444-7270



DWN	DATE	PACIFICORP $\triangle C$ 95FT - 138KV STRUCTURE, SHIELDED SINGLE CIRCUIT, DEADEND, 5° TO 65° ASSEMBLY AND GENERAL DETAILS										
WALTER	10/01/14											
CHK	DATE											
R.C.	-/-/-											
APP	DATE	CUST. P.O. NUMBER										
P.K.	-/-/-	4500712199	TAPP ORDER No.	TP-12910	DRAWING No.	12910-1-PA	SH / OF	7/12	SCALE	NTS	REV.	E

R.DB.10-2



STR.
1/3
STR. TYPE
TERMINATION POLE C

FINISH:
HOT DIP GALVANIZED
AS PER ASTM A123

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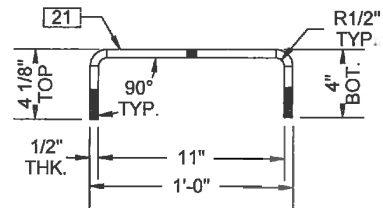
PROPERTY OF TAPP, INC.
 2427 KELLY LANE
 HOUSTON, TEXAS 77096 U.S.A.
 PHONE 281-444-8277 FAX 281-444-7270

E	10/29/14	WALTER	OCTAVIO	NO CHANGES ON THIS SHEET
D	10/28/14	WALTER	OCTAVIO	NO CHANGES ON THIS SHEET
C	10/22/14	WALTER	OCTAVIO	ADDED CABLE ATTACHMENT BRACKETS 1 & 2 AND UPDATED TITLE BLOCK & STR. TYPE
B	10/14/14	WALTER	OCTAVIO	ADDED CABLE ATTACHMENT BRACKET
A	10/03/14	-	OCTAVIO	ISSUED FOR APPROVAL
REV.	DATE:	REV. BY	CHK. BY	DESCRIPTION

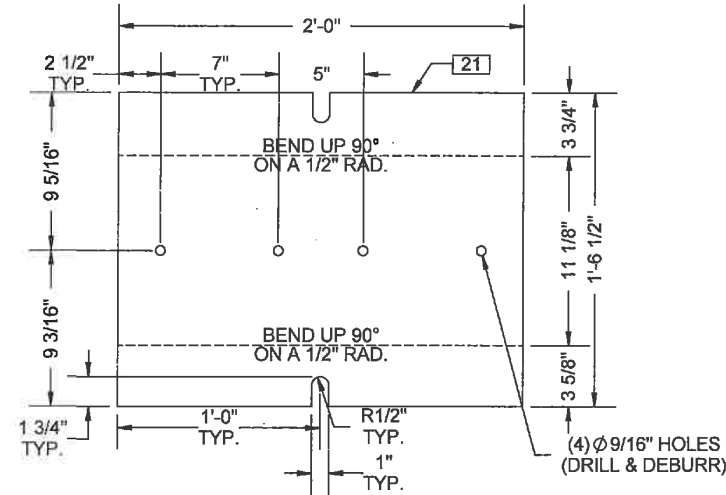


DWN	DATE	PACIFICORP			
WALTER	10/01/14				
CHK	DATE				
R.C.	--/--	95FT - 138KV STRUCTURE, SHIELDED SINGLE CIRCUIT, DEADEND, 5° TO 65°			
APP	DATE				
P.K.	--/--	GENERAL DETAILS			
CUST. P.O. NUMBER	TAPP ORDER No.	DRAWING No.	SH / OF	SCALE	REV.
4500712199	TP-12910	12910-1-PA	8/12	NTS	E

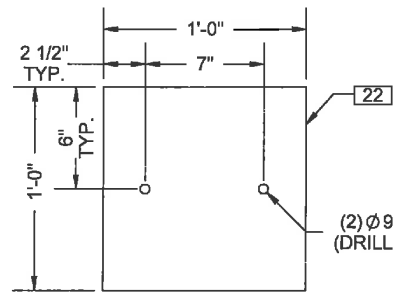
8 7 6 5 4 3 2 1



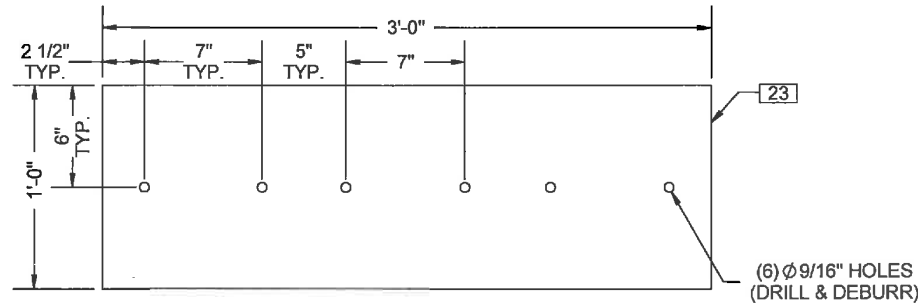
BEND PLATE \triangle



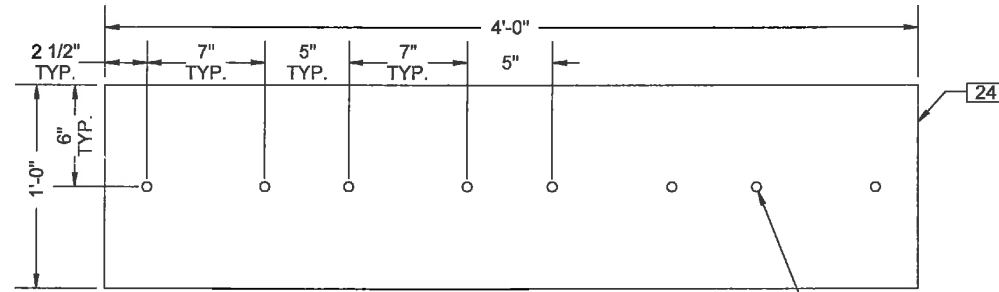
DEVELOPMENT CABLE CLAMP ATTACHMENT BRACKET 3 \triangle



CABLE CLAMP ATTACHMENT PLATE 1 \triangle
DETAIL
(SEE FABRICATION NOTE 2)



CABLE CLAMP ATTACHMENT PLATE 2 \triangle \triangle
DETAIL
(SEE FABRICATION NOTE 2)



CABLE CLAMP ATTACHMENT PLATE 3 \triangle
DETAIL
(SEE FABRICATION NOTE 2)

STR.
1/3
STR. TYPE
TERMINATION POLE

FINISH:
HOT DIP GALVANIZED
AS PER ASTM A123

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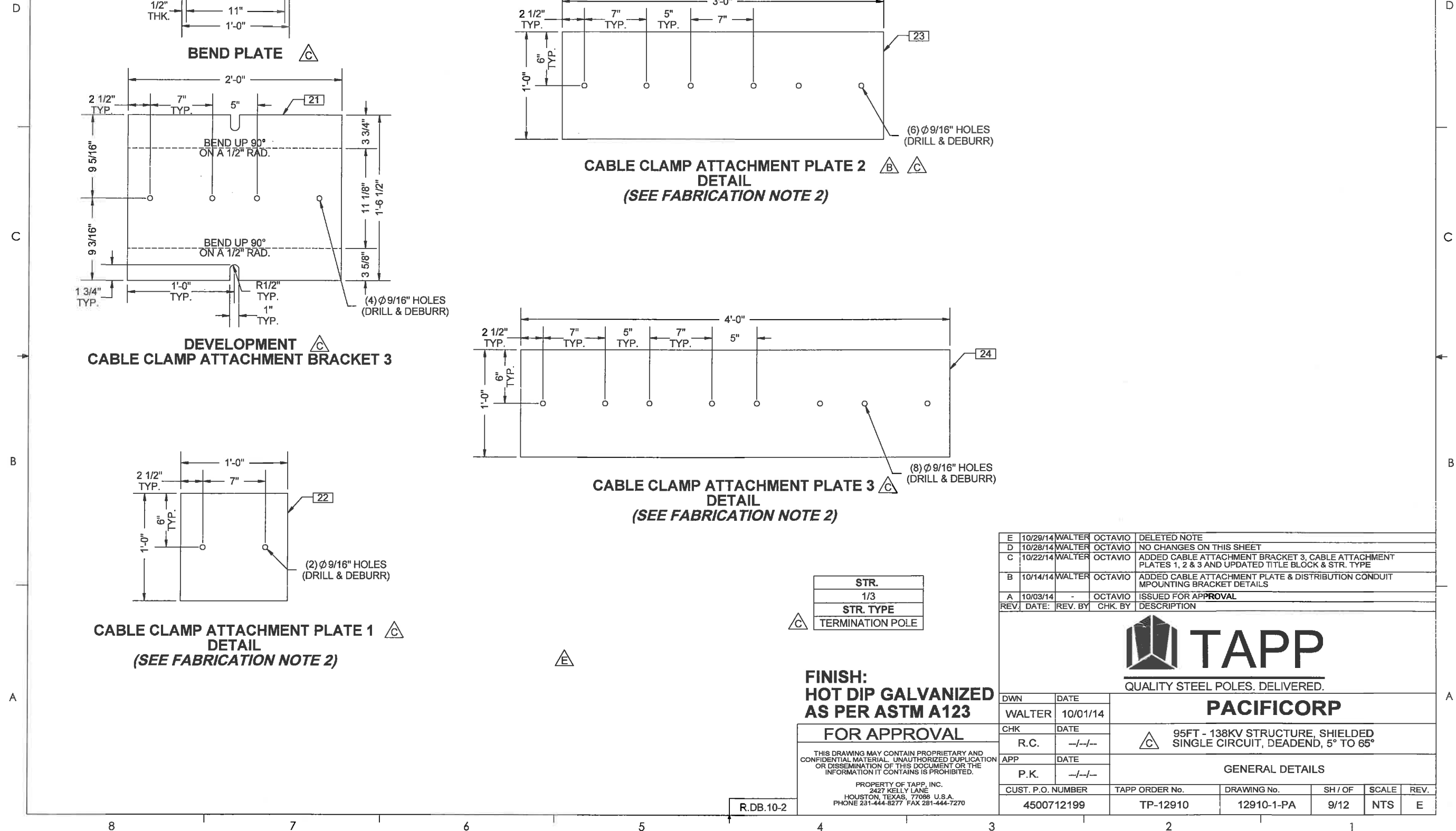
R.DB.10-2

E	10/29/14	WALTER	OCTAVIO	DELETED NOTE
D	10/28/14	WALTER	OCTAVIO	NO CHANGES ON THIS SHEET
C	10/22/14	WALTER	OCTAVIO	ADDED CABLE ATTACHMENT BRACKET 3, CABLE ATTACHMENT PLATES 1, 2 & 3 AND UPDATED TITLE BLOCK & STR. TYPE
B	10/14/14	WALTER	OCTAVIO	ADDED CABLE ATTACHMENT PLATE & DISTRIBUTION CONDUIT MOUNTING BRACKET DETAILS
A	10/03/14	-	OCTAVIO	ISSUED FOR APPROVAL
REV.	DATE:	REV. BY	CHK. BY	DESCRIPTION

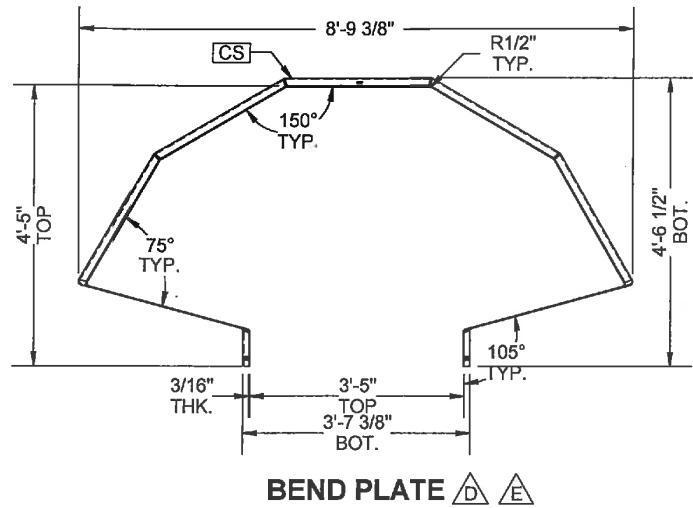


QUALITY STEEL POLES. DELIVERED.

DWN	DATE	PACIFICORP			
WALTER	10/01/14				
CHK	DATE	\triangle 95FT - 138KV STRUCTURE, SHIELDED SINGLE CIRCUIT, DEADEND, 5° TO 65°			
R.C.	-/-/-				
APP	DATE	GENERAL DETAILS			
P.K.	-/-/-				
CUST. P.O. NUMBER	TAPP ORDER No.	DRAWING No.	SH / OF	SCALE	REV.
4500712199	TP-12910	12910-1-PA	9/12	NTS	E



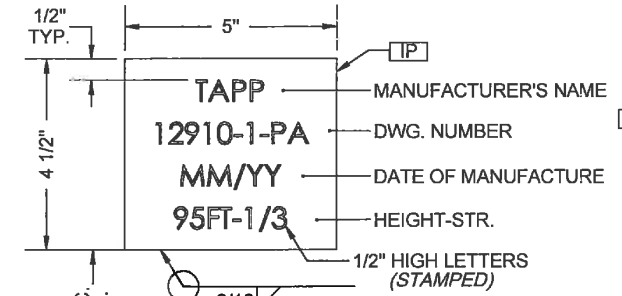
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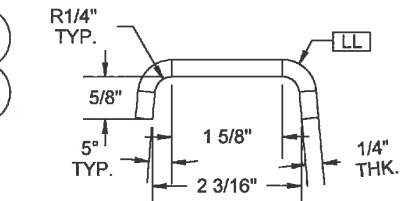
BEND PLATE D E

STR.	1/3
STR. TYPE	TERMINATION POLE

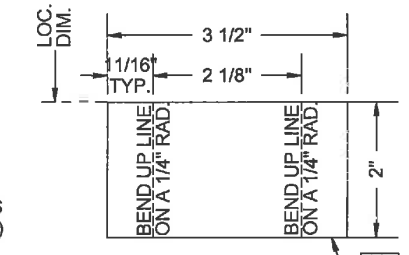
**NOTE FOR CUSTOMER:
PLEASE CONFIRM
CABLE SHIELD DESIGN**



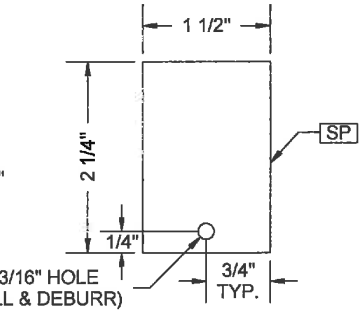
ID PLATE IP DTL



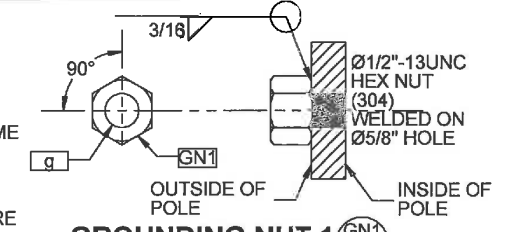
BEND PLATE



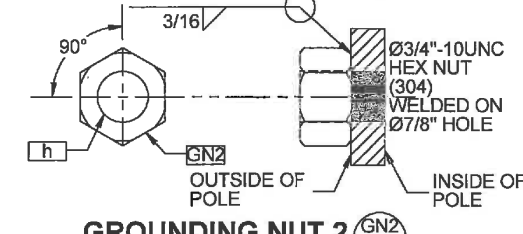
**DEVELOPMENT
McGREGOR LADDER CLIP**



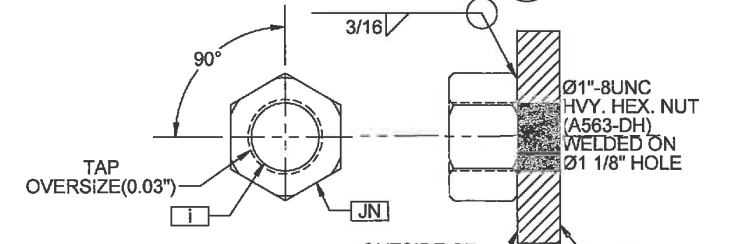
SEAL PLATE SP DTL



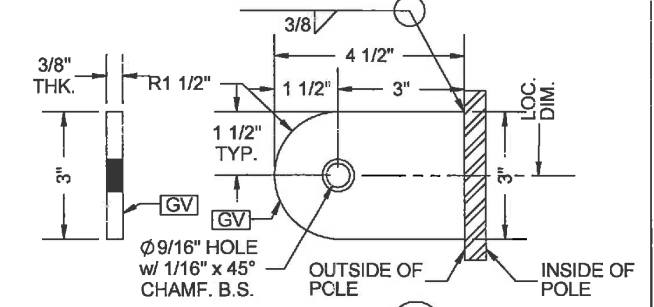
GROUNDING NUT 1 GN1 DTL



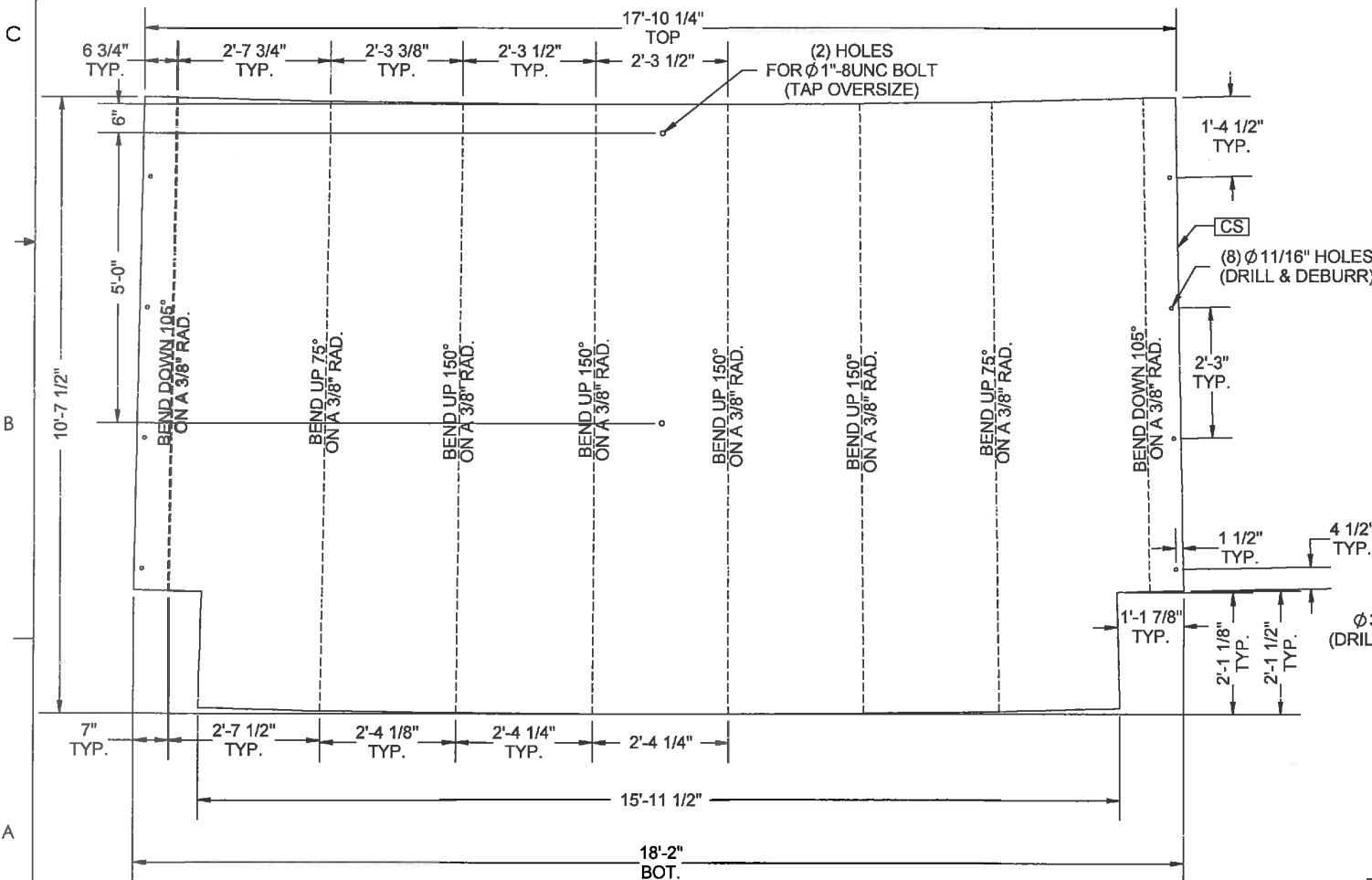
GROUNDING NUT 2 GN2 DTL



JACKING NUT JN DTL



GROUNDING VANG GV DTL



**DEVELOPMENT
CABLE SHIELD** D E

**FINISH:
HOT DIP GALVANIZED
AS PER ASTM A123**

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REV.	DATE	REV. BY	CHK. BY	DESCRIPTION
E	10/28/14	WALTER	OCTAVIO	UPDATED CABLE SHIELD DETAIL
D	10/28/14	WALTER	OCTAVIO	UPDATED CABLE SHIELD DETAIL
C	10/22/14	WALTER	OCTAVIO	UPDATED TITLE BLOCK & STR. TYPE
B	10/14/14	WALTER	OCTAVIO	ADDED CABLE SHIELD 1 & 2 DETAILS
A	10/03/14	-	OCTAVIO	ISSUED FOR APPROVAL



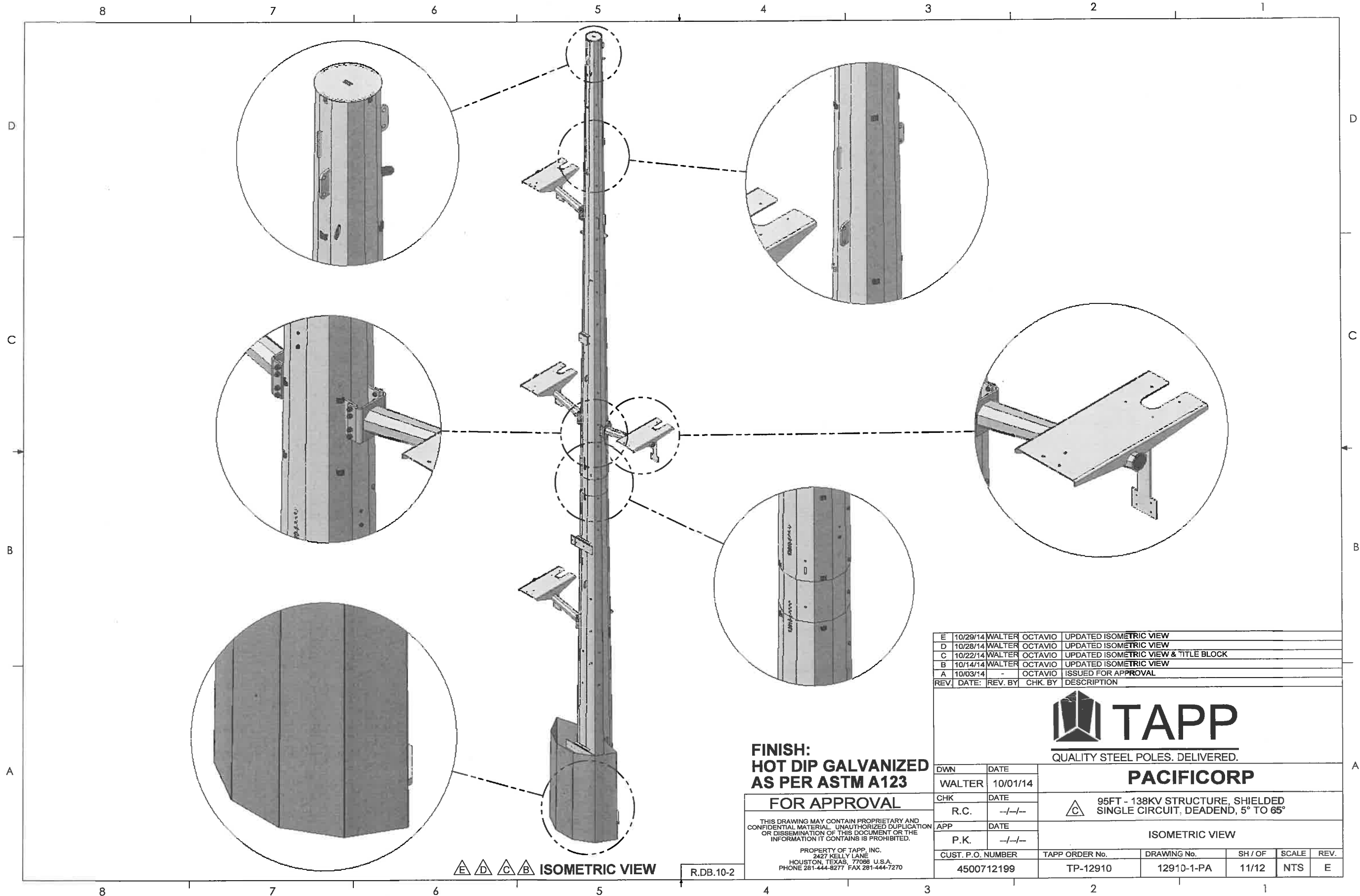
QUALITY STEEL POLES. DELIVERED.

DWN	DATE	<p>PACIFICORP</p> <p>95FT - 138KV STRUCTURE, SHIELDED SINGLE CIRCUIT, DEADEND, 5° TO 65°</p>
WALTER	10/01/14	
CHK	DATE	
R.C.	--/--	
APP	DATE	

GENERAL DETAILS

CUST. P.O. NUMBER	TAPP ORDER No.	DRAWING No.	SH / OF	SCALE	REV.
4500712199	TP-12910	12910-1-PA	10/12	NTS	E

8 7 6 5 4 3 2 1



△ E △ D △ C △ B ISOMETRIC VIEW

R.DB.10-2

**FINISH:
HOT DIP GALVANIZED
AS PER ASTM A123**

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REV.	DATE:	REV. BY	CHK. BY	DESCRIPTION
E	10/29/14	WALTER	OCTAVIO	UPDATED ISOMETRIC VIEW
D	10/28/14	WALTER	OCTAVIO	UPDATED ISOMETRIC VIEW
C	10/22/14	WALTER	OCTAVIO	UPDATED ISOMETRIC VIEW & TITLE BLOCK
B	10/14/14	WALTER	OCTAVIO	UPDATED ISOMETRIC VIEW
A	10/03/14	-	OCTAVIO	ISSUED FOR APPROVAL



DWN		DATE	PACIFICORP			
WALTER		10/01/14				
CHK		DATE	△ 95FT - 138KV STRUCTURE, SHIELDED SINGLE CIRCUIT, DEADEND, 5° TO 65°			
R.C.		-/-/-				
APP		DATE	ISOMETRIC VIEW			
P.K.		-/-/-				
CUST. P.O. NUMBER	TAPP ORDER No.	DRAWING No.	SH / OF	SCALE	REV.	
4500712199	TP-12910	12910-1-PA	11/12	NTS	E	

SLIP JOINT ASSEMBLY

THIS STANDARD DEFINES THE STANDARD PROCEDURE FOR JACKING SLIP-FIT POLES TOGETHER.

1. POLE ASSEMBLY SHOULD BE DONE ON THE GROUND AS PER TAPP'S RECOMMENDATION AND STANDARD. HOWEVER, THIS CAN BE OPTED OUT BY THE CONTRACTOR IF OTHER CONDITIONS APPLY.
2. ALIGN THE SECTION PROPERLY, THERE IS A 2" LONG WELD ON THE MATCHING CORNERS OF EACH SECTION. LINE THEM UP FOR PROPER SECTION ALIGNMENT.
3. THERE ARE SEVERAL ACCEPTABLE TYPES OF EQUIPMENT FOR PULLING THE SECTION TOGETHER: HYDRAULIC JACKS, ARE USED IN COMMON PRACTICE.
4. JACKING PLATES MUST BE USED AT ALL TIMES. FOUR JACKING PLATES ARE REQUIRED (TWO PLATES PER SECTION). THESE PLATES SHOULD BE BOLTED ON TO BOTH JACKING NUTS AND THE LOAD SHOULD BE APPLIED TO THE JACKING PLATES. THE MAIN GOAL IS TO ENSURE THAT THESE JACKING NUTS ON EACH SECTION CARRY THE JACKING LOAD.
5. IF ASSEMBLED ON THE GROUND, THE SECTIONS SHALL BE BLOCKED. LUBRICATION MAY BE APPLIED TO THE MALE SECTION TO AID IN SLIPPING PROCESS. LIQUID DISH WASHING DETERGENT IS PREFERRED. DO NOT USE OIL BASED LUBRICANTS. THEY WILL BE DIFFICULT, IF NOT IMPOSSIBLE TO REMOVE.
6. IF THE MINIMUM SPLICE LENGTH CANNOT BE ACHIEVED, OR IF THERE ARE VISIBLE GAPS (IN EXCESS OF 3/16" ON OPPOSITE FLATS) AFTER THE SECTIONS TRESPASS MAXIMUM SLIP - TRANSAMERICAN POWER SHOULD BE CONTACTED BEFORE PROCEEDING WITH THE ERECTION. UNDER NO CIRCUMSTANCE SHOULD THE STRUCTURE BE ERECTED OR LOADED IF EITHER OF THESE CONDITIONS EXIST.

7. RECOMMENDED JACKING FORCES

MINIMUM PLATE THICKNESS (INCHES)	MINIMUM JACKING FORCE PER SIDE (POUNDS)	MAXIMUM JACKING FORCE PER SIDE (POUNDS)
3/16	19,000	25,800
1/4	26,800	32,700
5/16	34,700	42,000
3/8	42,500	47,500
7/16 and Above	48,000	52,000

**FINISH:
HOT DIP GALVANIZED
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R.DB.10-2

REV.	DATE	REV. BY	CHK. BY	DESCRIPTION
E	10/29/14	WALTER	OCTAVIO	NO CHANGES ON THIS SHEET
D	10/28/14	WALTER	OCTAVIO	NO CHANGES ON THIS SHEET
C	10/22/14	WALTER	OCTAVIO	UPDATED TITLE BLOCK
B	10/14/14	WALTER	OCTAVIO	NO CHANGES ON THIS SHEET
A	10/03/14	-	OCTAVIO	ISSUED FOR APPROVAL



QUALITY STEEL POLES. DELIVERED.

DWN	DATE	PACIFICORP			
WALTER	10/01/14				
CHK	DATE	△	95FT - 138KV STRUCTURE, SHIELDED SINGLE CIRCUIT, DEADEND, 5° TO 65°		
R.C.	--/--				
APP	DATE	SLIP JOINT ASSEMBLY PROCEDURES			
P.K.	--/--				
CUST. P.O. NUMBER	TAPP ORDER No.	DRAWING No.	SH / OF	SCALE	REV.
4500712199	TP-12910	12910-1-PA	12/12	NTS	E