

PROJECT SPECIFIC TECHNICAL SPECIFICATIONS
FOR THE PURCHASE OF
STEEL TRANSMISSION POLES AND CAISSONS FOR THE CIRCUIT 838
STRUCTURES #5, 6, 7, 10, AND 11 REPLACEMENT

JEA PROJECT NO: 8006169
TR NO: TR 1355
REQUESTED BY: Jonathan Maywood
UPDATED: 1/24/2020

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1. SCOPE

- 1.1 This specification outlines the required information needed for the purchase, fabrication, and delivery of steel transmission poles and caissons for the Circuit 838 Structures #5, 6, 7, 10, and 11 Replacement project. This specification complements the "General Technical Specifications for the Purchase of Steel Transmission Poles", Rev 1.3.
- 1.2 This specification includes the following attachments:
 - a) Pole/caisson Drawings, containing the configuration and hole drilling details of the pole(s)
 - b) Pole Attachment Details
 - c) PLS-POLE backup file(s) for the pole(s), containing loading data and geometry
- 1.3 The Project Engineer (JEA) for this purchase is:
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21 West Church Street, T-09
Jacksonville, FL, 32202
Office: (904) 665-8512
Cell: (310) 892-0870
Email: maywjw2@jea.com

2. DESIGN

Structures shall be designed for the configuration, drilling details, loadings and limitations contained in these and the "General Technical Specifications for the Purchase of Steel Transmission Poles", Rev 1.3.

- 2.1 Pole Configuration: The configuration of each pole to be provided is shown in the "Pole Drawings" attachment of these specifications. The Drawings specify the dimensions of the poles, the orientation, drilling details, and attachment locations for insulators, brackets, vangs, etc.
- 2.2 Pole Attachment Details: Details of all attachments are shown in the "Attachment Details" attachment of these specifications. These details illustrate and identify required dimensions on all the insulator attachments, brackets, and vangs that are to be provided with each pole. Attachments that support any equipment if any (transformers, streetlights, etc. modeled in PLS-POLE) need to be analyzed to determine if they can withstand the dead loads of that equipment. It is the responsibility of the fabricator to ensure that the attachments are fabricated and can withstand the loads placed on them as specified in these specifications and attachments.
- 2.3 Pole Load Data: All of the loading data for which the poles are to be designed to are included as a separate electronic attachment in the form of a PLS-POLE backup file. At the least, all the poles are all being subjected to a NESC Light 60 mph wind loading, NESC Extreme 120 mph wind loading, NESC Blow Out 6PSF loading, and 60 Degree loading criteria plus applicable load factors. Load criteria is being applied from multiple directions. Additional load cases are shown in the files as needed for some dead-end poles. These loads are described in more detail in section 2.6 below.

2.3.1 There are five (5) PLS-POLE models with five (5) .lca files provided as described below. There are a total of five (5) poles being purchased:

- a) One (1) PLS-POLE backup file provided for structure #5
- b) One (1) PLS-POLE backup file provided for structure #6
- c) One (1) PLS-POLE backup file provided for structure #7
- d) One (1) PLS-POLE backup file provided for structure #10
- e) One (1) PLS-POLE backup file provided for structure #11

2.3.2 Each PLS-POLE backup file references a Vector Loads File (.lca) which contains all the loading data on the pole and the pole attachments.

2.3.3 The PLS-POLE backup file also contains all the geometrical data necessary to analyze the pole with the specific loads.

2.3.4 The loads shown in the Vector Loads files (.lca) include the wind loads acting on the conductors/wires, attachments, and the theoretical pole that was modeled. A wind pressure is identified for each load case within the Vector Loads file (.lca). It is the manufacturer's responsibility to apply these wind pressures onto the poles and components that it will be providing.

2.4 Pre-cambering: Pole pre-cambering is not allowed on this project.

2.5 Joints: Steel pole sections shall be designed by the slip-joint method and/or bolted flange method. It is up to the manufacturer to decide the most appropriate joining method based on the loads provided.

2.6 Deflection: All Poles shall be designed to meet the deflection limits as identified in the load (.lca) files found within the PLS-POLE models. In general, poles shall meet the deflection limits for the "NESC LIGHT 250 B", "NESC EXTREME 250 C", "NESC BLOW OUT 6 PSF", and "60 DEG F" loading conditions. When applicable (as identified in the .lca files), poles shall also meet the deflection limits of the loading conditions as described in the sections below. These load conditions are identified under the "Load Case Description" column of each pole's .lca file. On all poles, loads are provided from multiple directions including loads that result with positive offset (NA+), negative offset (NA-), and maximum structure usage (MAX). The loading condition name will be followed by a comma and a wind load direction. For example, a load case description by the name of "NESC LIGHT 250B, U NA+" identifies that this is a NESC Light 250 B loading criteria with wind normal to all spans/ structure in direction of positive offset. The deflection limits are as described below:

2.6.1 **The "60 DEG F" loading condition:** The "60 DEG F" loading condition is at final wire tension, at 60 degrees Fahrenheit, with no wind, and no Over Load Factors (OLF). The pole shaft shall have a calculated deflection at the pole tip that does not exceed **one (1) %** of the pole height above ground under this loading condition.

2.6.2 **The "60 DEG F (BROKEN WIRES)" loading condition:** Structures #6, 7, and 10 has several "broken wires" loading conditions. These conditions represent the lack of tension on one side (or multiple sides) of the dead-end transmission attachments on the pole. The "60 DEG F (BROKEN WIRES)" loading condition is at final wire tension, at 60 degrees Fahrenheit, with no wind, no OLF, and with the absence of tension on a pre-determined side of the pole. The pole shaft shall have a calculated deflection at

the pole tip that does not exceed **one (1) %** of the pole height above ground under this loading condition.

- 2.6.3 **The “NESC BLOW OUT 6 PSF” loading condition:** The “NESC BLOW OUT 6 PSF” loading condition is at final wire tension, at 60 degrees Fahrenheit, with a 6psf wind, and no OLF. The pole shaft shall have a calculated deflection at the pole tip that does not exceed **two (2) %** of the pole height above ground under this loading condition.
- 2.6.4 **The “NESC BLOW OUT 6PSF (BROKEN WIRES)” loading condition:** Structure #6, 7, and 10 has several “broken wires” loading conditions. These conditions represent the lack of tension on one side (or multiple sides) of the dead-end transmission attachments on the pole. The “NESC BLOW OUT 6PSF (BROKEN WIRES)” loading condition is at final wire tension, at 60 degrees Fahrenheit, with a 6psf wind, no OLF, and with the absence of tension on a pre-determined side of the pole. The pole shaft shall have a calculated deflection at the pole tip that does not exceed **two (2) %** of the pole height above ground under this loading condition.
- 2.6.5 **The “NESC LIGHT 250 B” loading condition:** The “NESC LIGHT 250 B” loading condition is at final wire tension, at 30 degrees Fahrenheit, with a 9psf wind, and appropriate OLF. The pole shaft for all poles shall have a calculated deflection at the pole tip that does not exceed **eight (8) %** of the pole height above ground under this loading condition.
- 2.6.6 **The “NESC LIGHT 250 B (BROKEN WIRES)” loading condition:** Structure #6 has several “broken wires” loading conditions. These conditions represent the lack of tension on one side (or multiple sides) of the dead-end transmission attachments on the pole. The “NESC LIGHT 250 B (BROKEN WIRES)” loading condition is at final wire tension, at 30 degrees Fahrenheit, with a 9psf wind, appropriate OLF, and with the absence of tension on a pre-determined side of the pole. The pole shaft shall have a calculated deflection at the pole tip that does not exceed **eight (8) %** of the pole height above ground under this loading condition.
- 2.6.7 **The “NESC EXTREME 250 C” loading condition:** The NESC EXTREME 250 C” loading condition is at final wire tension, at 60 degrees Fahrenheit, with a 120 mph wind, with appropriate OLF. The pole shaft for all poles shall have a calculated deflection at the pole tip that does not exceed **eight (8) %** of the pole height above ground under this loading condition.

3. DIMENSION RESTRICTIONS

- 3.1 Poles for this project shall be installed in a JEA transmission right-of-way with limited room/access. Pole dimensions shall adhere to very strict restrictions as described in the sections below:
- 3.2 Structures #5, 6, and 11 shall be direct embedded steel poles. Structures # 7 and 10 shall be steel poles installed on vibratory steel caissons. The pole manufacturer is responsible for designing, manufacturing, and delivering the steel poles/caissons to the construction sites.
- 3.3 Top Diameter: The top/tip diameter of all poles must be large enough to allow for the climbing provisions to be installed on four faces of the pole simultaneously without the bail steps touching each other. Please see the “Pole Attachment Details” to locate the “Step Lugs / Clips / Bail Steps attachment details”. **The Bail Steps are 14 inches in width. The poles have to be more than 14 inches in diameter at the locations of the bail steps.** In addition the following minimum and maximum top/tip diameters shall be used for each pole:

- 3.3.1 **STR #5 and 11:** The top/tip diameter shall be between fourteen (14) inches and sixteen (16) inches.
- 3.3.2 **STR #6:** The top/tip diameter shall be between sixteen (16) inches and eighteen (18) inches.
- 3.3.3 **STR #7 and 10:** The top/tip diameter shall be between twenty-five (25) inches and twenty-seven (27) inches.
- 3.4 **Bottom Diameter:** The bottom diameter of all poles shall be as described below:
 - 3.4.1 **STR #5 and 11:** The base diameter shall be between thirty (30) inches and thirty-two (32) inches.
 - 3.4.2 **STR #6:** The base diameter shall be between forty-seven (47) inches and forty-eight (48) inches.
 - 3.4.3 **STR #7:** The base diameter shall be sixty-five (65) inches.
 - 3.4.4 **STR #10:** The base diameter shall be sixty (60) inches.
- 3.5 **Steel Pole Shaft Thickness:** The minimum allowed steel thickness for use on any steel pole shafts shall be 0.1875 inches.
- 3.6 **Other restrictions:** To ensure proper alignment of the steel poles, the pole shafts must have some sort of marking that will allow the contractor to align the pole shafts with the poles in the ahead and/or back spans. The marking must be easily identifiable and visible to the contractor. If a weld mark is used, the weld mark must be clearly visible so that it is not confused with a seam weld.

4. POLE ATTACHMENT HARDWARE

- 4.1 The pole manufacturer shall provide all brackets, vangs, step bolts, step clips, step lugs, grounding attachments, and holes on each pole as shown in the "POLE DRAWINGS" and "POLE ATTACHMENT DETAILS" of these specifications.
 - 4.1.1 Bail Steps and their clips (the clips are to be welded to the poles) are required as part of this bid. **A total of TWO-HUNDRED AND TWENTY-FIVE (225) bail steps, clips, and cotter pins** are required for this project. The "Pole Drawings" detail the locations of the bail steps/clips. Bail steps shall be provided with cotter pins so that the bail steps can remain secured to the bail clips when installed by the contractor.
- 4.2 Bolts, nuts, washers and other hardware required for attaching insulators, cross-arms, davit arms, transformers, and miscellaneous cables to pole brackets / vangs / holes, will be supplied by JEA and are not to be provided by the manufacturer.
- 4.3 Bolts, nuts, washers and other hardware required for assembling the pole sections together at the splice locations are to be provided by the pole manufacturer.

5. MINIMUM QUALIFICATIONS

- 5.1 See section 1.2.1 of RFQ 98762: STEEL TRANSMISSION POLES FOR THE CIRCUIT 838 STRUCTURES #5, 6, 7, 10, and 11 REPLACEMENT

6. DELIVERY LOCATION AND DATE

- 6.1 Delivery of all poles and hardware will be to storage areas near the job sites within the JEA service area. The delivery location for structures #5, 6, and 7 will be near 1023 Granville Rd, Jacksonville, FL 32205. The delivery location for structures #10 and 11 will be near 1014 La Marche Dr, Jacksonville, FL 32205. Final discretion will be left to the contractor (TBD), who may chose a central delivery location for all structures.
- 6.2 Specific directions for delivery will be provided by the construction contractor. The unloading will be done by the owner's forces and equipment or by a contractor representing the owner. The owner also reserves the right to allow a contractor representing the owner to coordinate delivery with the supplier. The supplier shall allow four (4) hours "turn around" time for unloading each pole. Untimely delivery, either ahead of or behind agreed upon delivery schedules, shall not be a cause for claim to the owner for any costs incurred by the Manufacturer. Freight is to be included in the bid price. **All communications regarding the delivery date/time are to be verified and approved by email with the JEA Project Engineer even if verified and coordinated verbally with the contractor representing JEA. JEA will not be responsible for any extra costs incurred by the manufacturer for delivery that was not approved by the JEA Project Engineer.**

The poles and all associated hardware/attachments for the structures shall be delivered on the following tentative dates:

- Between June 1st and June 3rd, 2020.

Due to unforeseeable delays, the contractor representing owner will update and coordinate new delivery dates with the pole supplier should they change.

7. POLE DRAWINGS

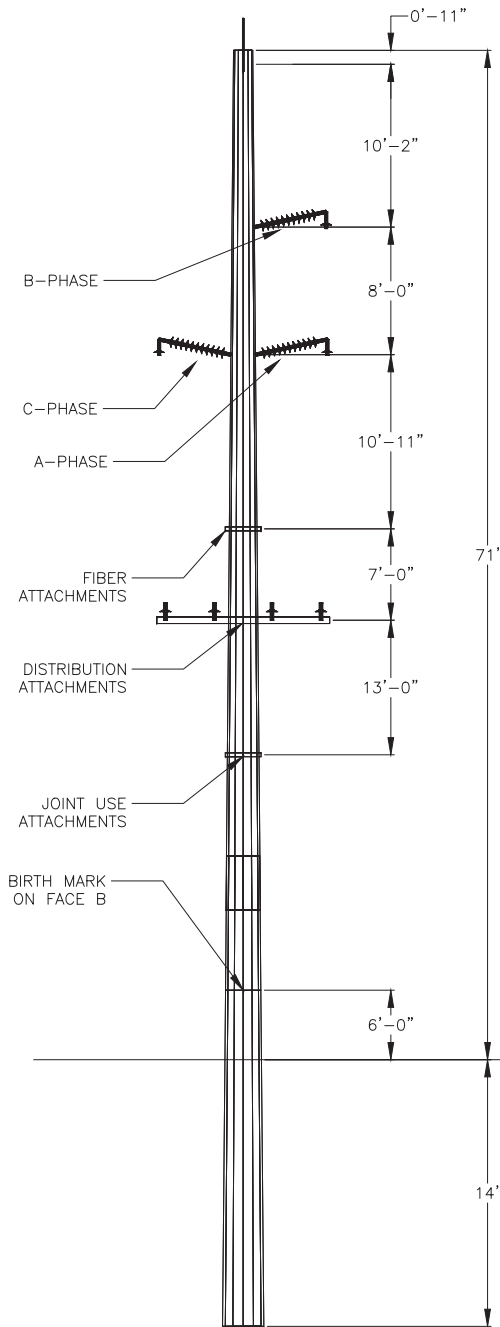
- 1) Pole Drawings:
Structure Type B6322 – Delta Line Post, Un-Guyed, 3-Phase, with Under-Built Distribution
Structure(s) #5
- 2) Pole Drawings:
Structure Type B1366 – Double Dead End with Post, Full Tension to Reduced Tension, Un-Guyed, 3-Phase
Structure(s) #6
- 3) Pole Drawings:
Structure Type B1366 – Double Dead End with Post, Full Tension to Reduced Tension, Un-Guyed, 3-Phase
Structure(s) #7 and 10
- 4) Pole Drawings:
Structure Type B6322 – Delta Line Post, Un-Guyed, 3-Phase
Structure(s) #11
- 5) Caisson Drawings:
Structure(s) #7 and 10

STRUCTURE TYPE
B6322 DELTA LINE POST, UN-GUYED, 3-PHASE
STRUCTURE #5

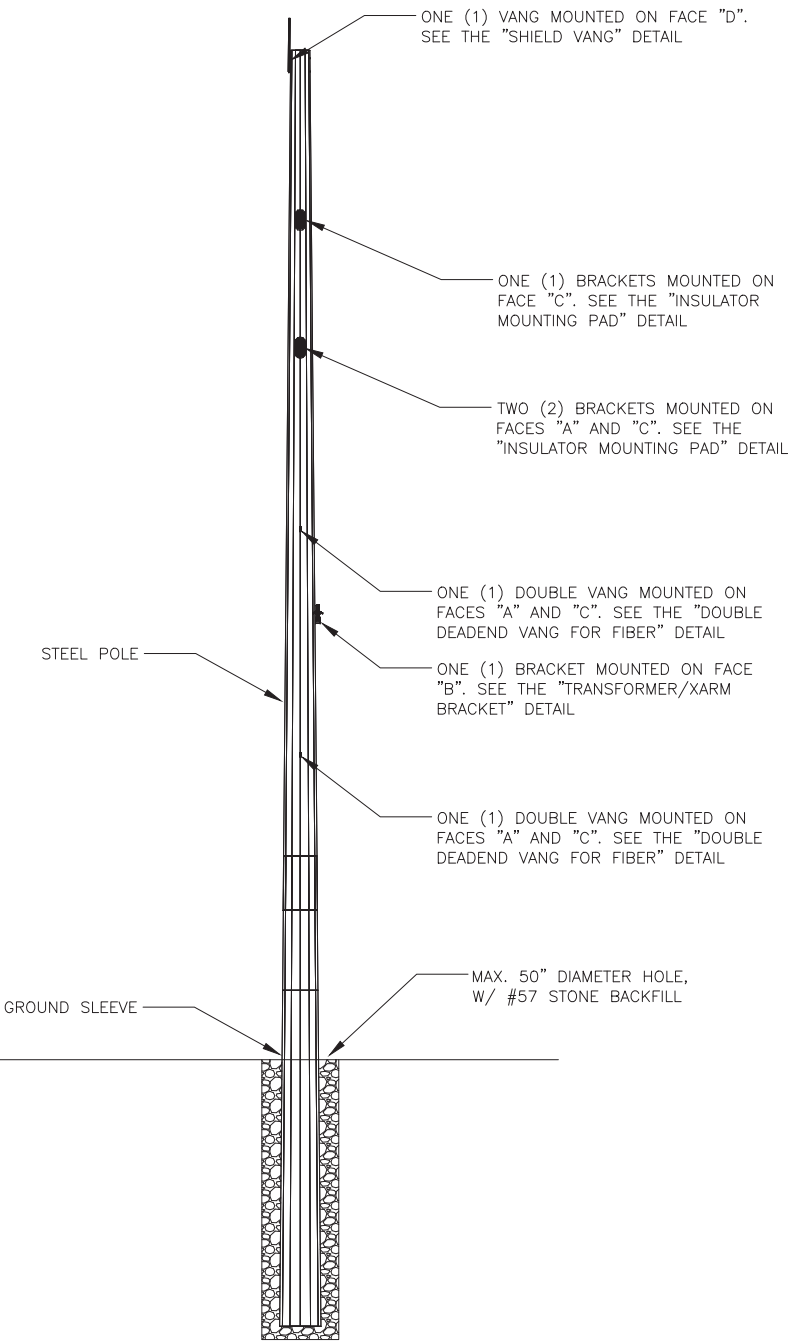
ELEVATION VIEW

DRILLING DETAIL

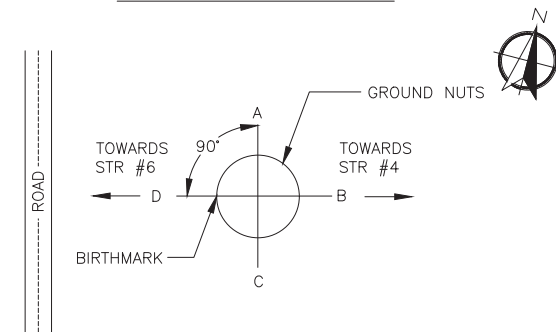
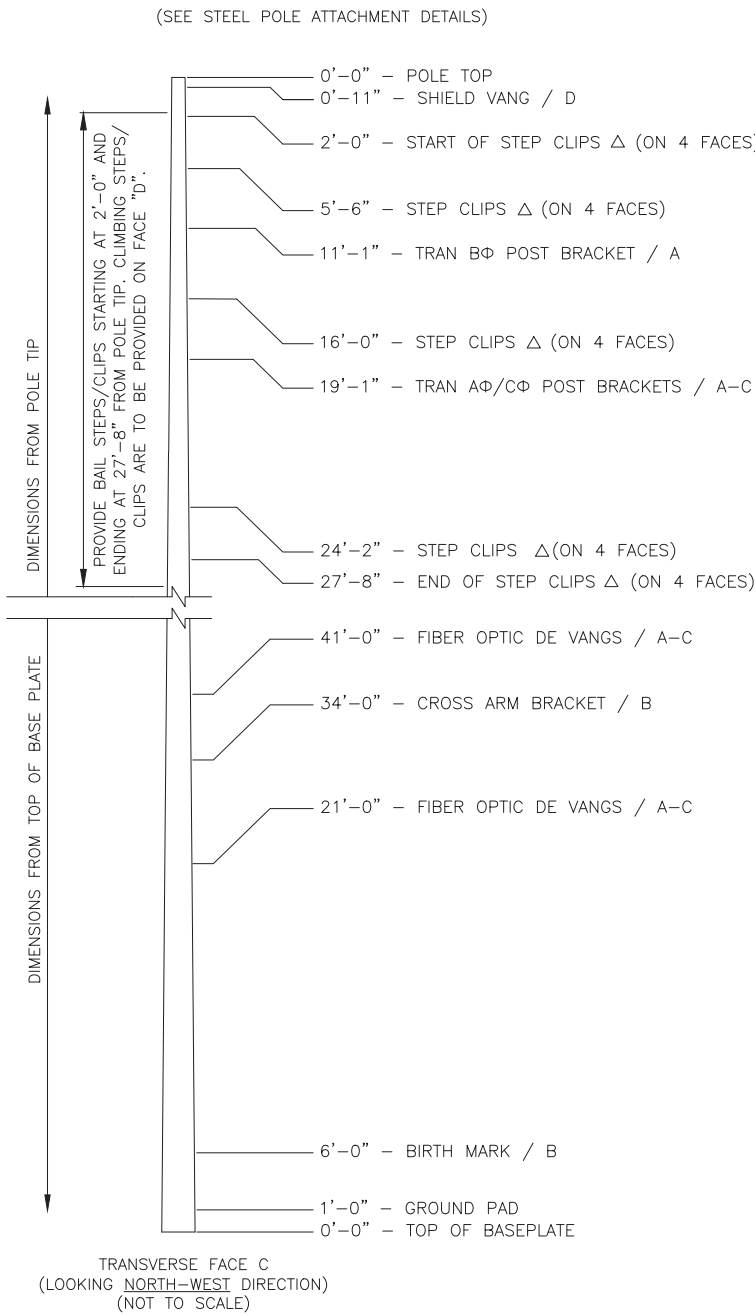
POLE TIP VIEW



IN-LINE FACE D
(LOOKING NORTH-EAST DIRECTION)
(NOT TO SCALE)



TRANSVERSE FACE C
(LOOKING NORTH-WEST DIRECTION)
(NOT TO SCALE)



GROUNDING NUT LOCATIONS

FOR	FROM POLE TOP	FROM POLE BASEPLATE
SHIELD	1'-5"	-
TRANS BΦ	11'-7"	-
TRANS AΦ/CΦ	19'-7"	-
FIBER OPTIC	-	39'-6"
JOINT USE	-	20'-6"
GROUND ROD	-	1'-0"

- NOTES:
- THIS POLE DRAWING IS ACCOMPANIED BY A PLS-POLE BACKUP FILES NAMED "STR5.B6322.BAK", CONTAINING ALL THE LOADS SPECIFIED IN REFERENCED VECTOR LOAD (.LCA) FILES FOR STRUCTURE #5.
 - ALL LOADS ARE ULTIMATE LOADS AND INCLUDE APPROPRIATE LOAD FACTORS.
 - ALL REFERENCED DETAILS ARE PROVIDED IN THE "PROJECT SPECIFIC TECHNICAL SPECIFICATIONS FOR THE PURCHASE OF STEEL TRANSMISSION POLES AND CAISSONS FOR THE CIRCUIT 838 STRUCTURES #5, 6, 7, 10, AND 11 REPLACEMENT". POLES SHALL BE DESIGNED TO MEET THE REQUIREMENTS OF THESE SPECIFICATIONS AND DETAILS.
 - POLES ARE TOP BE DESIGNED TO MEET ALL OF THE REQUIREMENTS FOUND IN THE "GENERAL TECHNICAL SPECIFICATIONS FOR THE PURCHASE OF STEEL TRANSMISSION POLES, REVISION 1.3, UPDATED ON 12/31/2016.

NO.	REVISION	DATE	BY	CH'D	APP'D		REVISION	DATE	BY	CH'D	APP'D	ENGINEERING	RECORD	
												STATUS	BY	DATE
												ASSIGNED	PLAN	10/01/19
												DESIGNED	JWM	12/30/19
												DRAWN	JWM	01/13/20
												CHECKED	SMC	01/13/20
												APP'D	SMC	01/13/20



STR #5 DRAWING
FOR THE
STEEL TRANSMISSION POLES
FOR THE CIRCUIT 838 POLE REPLACEMENT

SCALE: N/A PROJECT DESIGN SEGMENT 20410

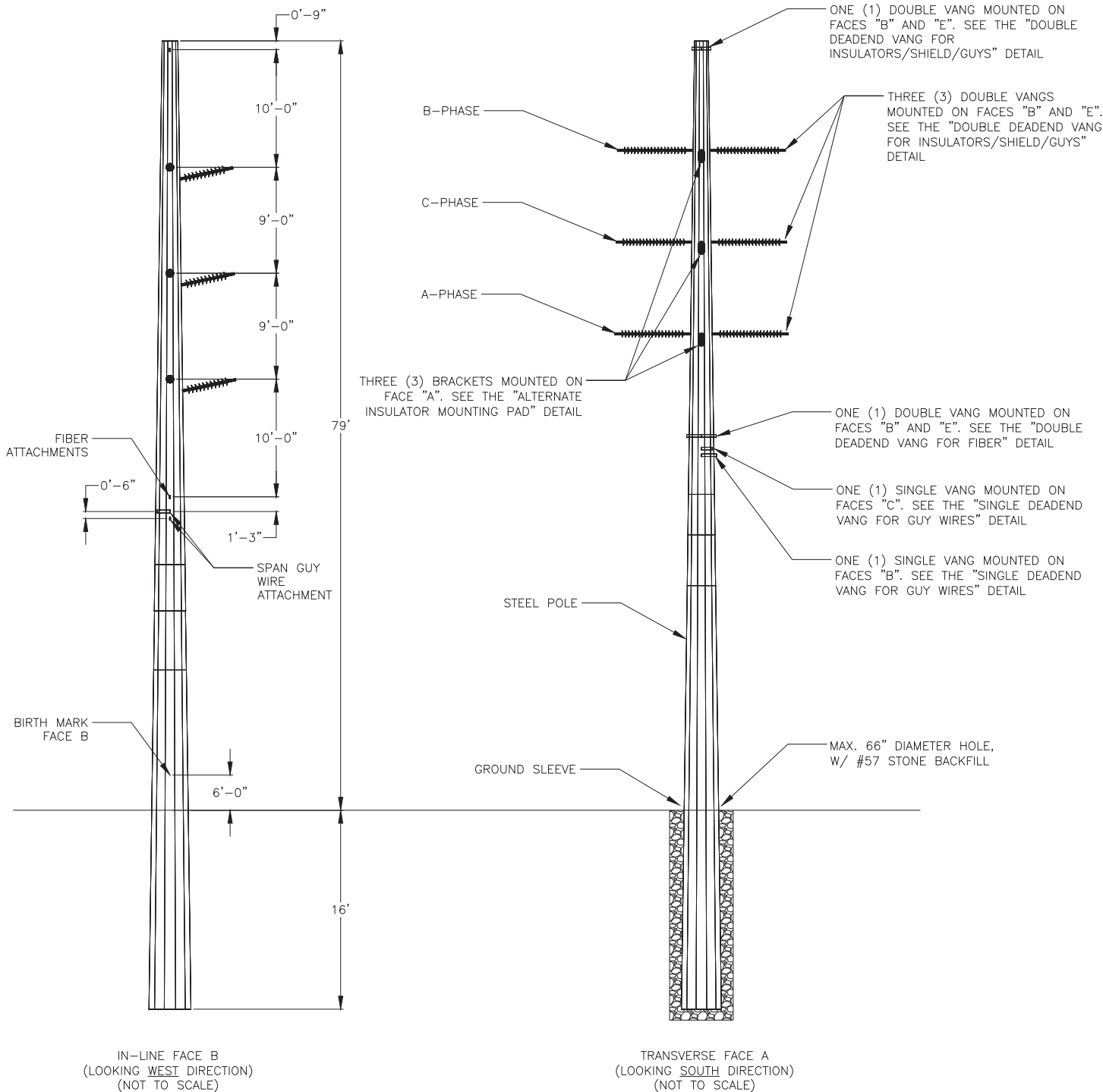
PROJECT NO. 8006169
DRAWING NO. TR 1355 SP
SHEET NO. 1 OF 5

STRUCTURE TYPE

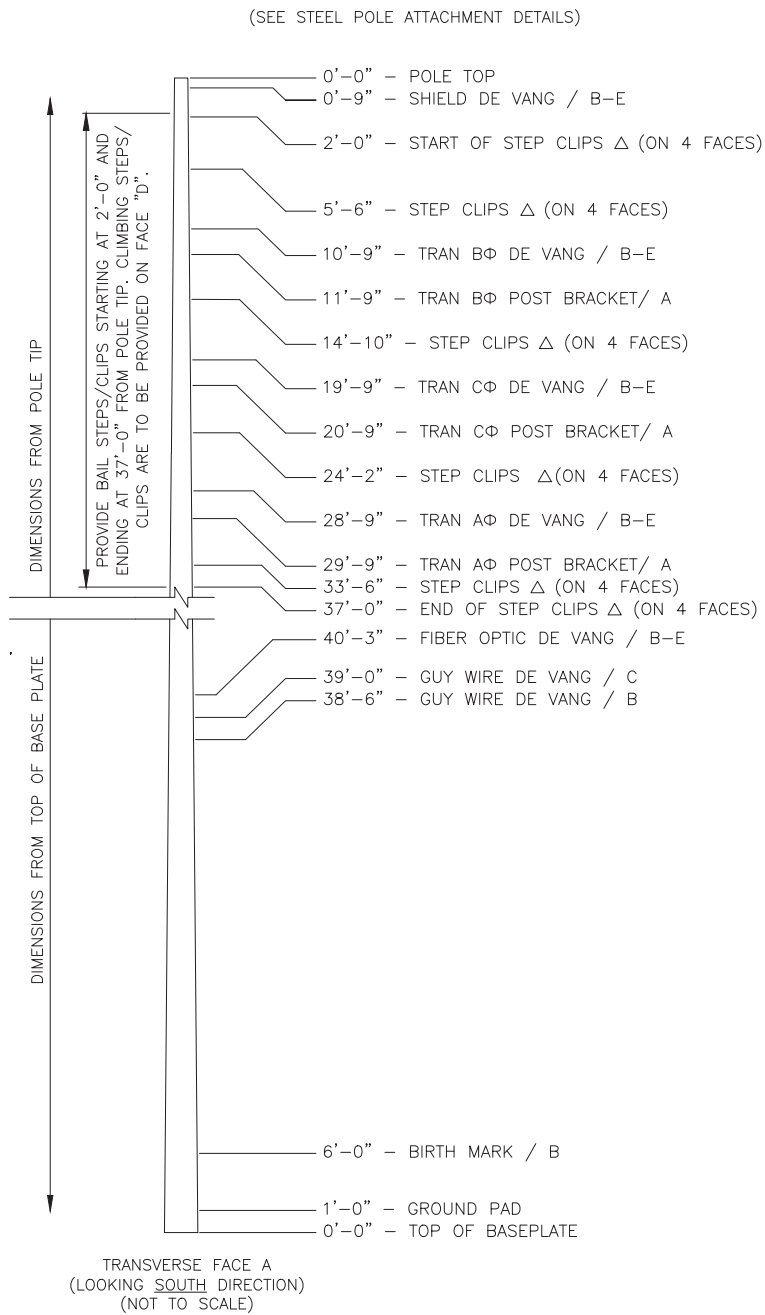
B1366 DOUBLE DEAD-END WITH POST, REDUCED TENSION TO FULL TENSION, UN-GUYED, 3-PHASE

STRUCTURE #6

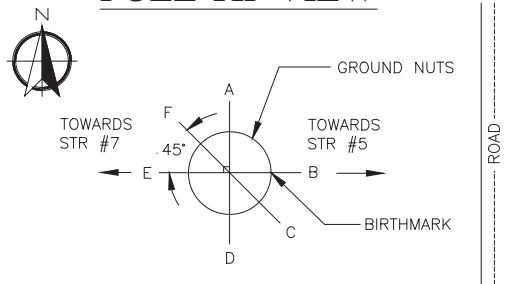
ELEVATION VIEW



DRILLING DETAIL




POLE TIP VIEW



GROUNDING NUT LOCATIONS

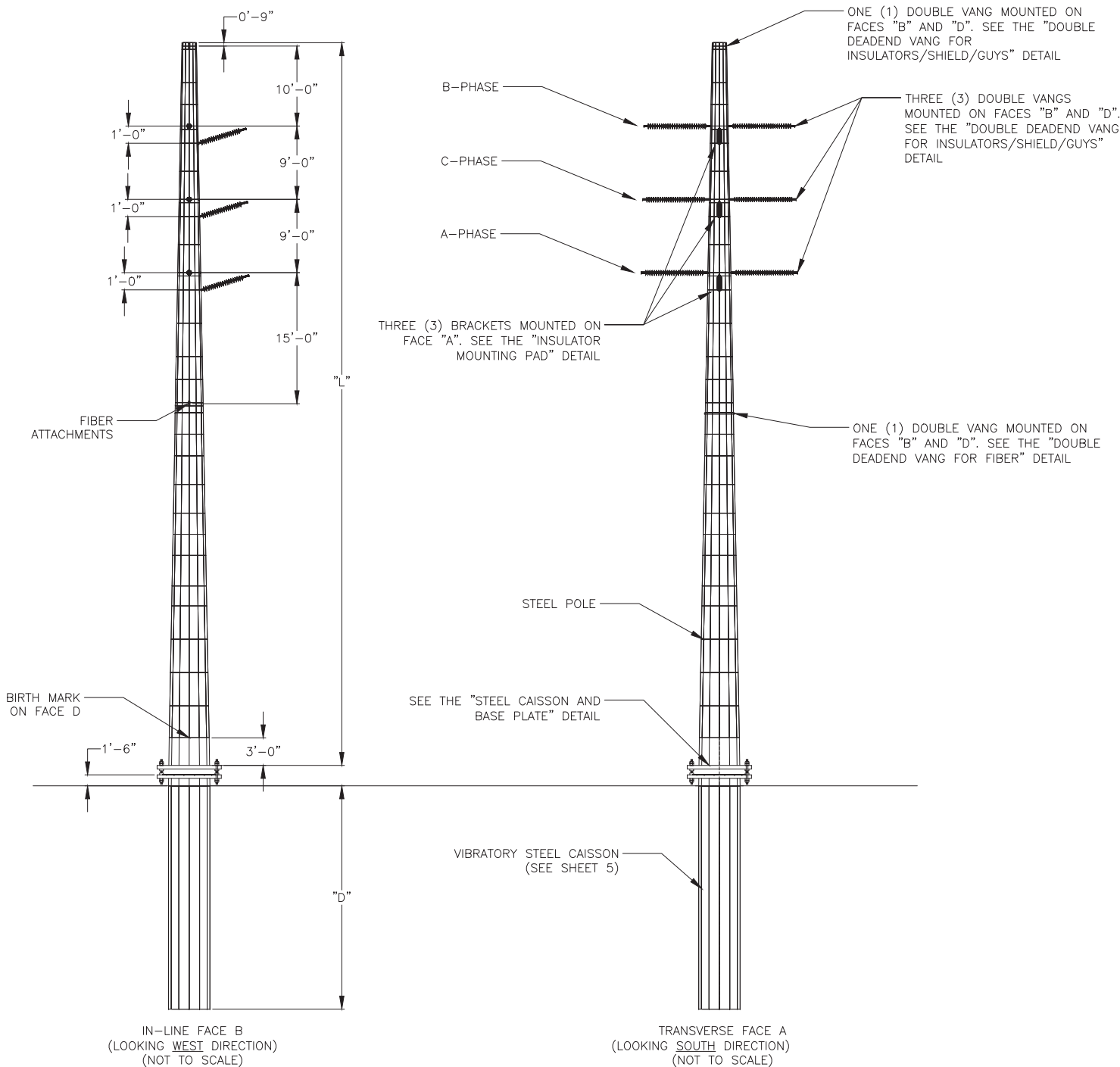
FOR	FROM POLE TOP	FROM POLE BASEPLATE
SHIELD	1'-6"	-
TRANS AΦ	11'-6"	-
TRANS BΦ	20'-6"	-
TRANS CΦ	30'-3"	-
FIBER OPTIC	-	39'-9"
GUY WIRES	-	38'-9"
GROUND ROD	-	1'-0"

- NOTES:
- THIS POLE DRAWING IS ACCOMPANIED BY A PLS-POLE BACKUP FILES NAMED "STR6.B1366.BAK", CONTAINING ALL THE LOADS SPECIFIED IN REFERENCED VECTOR LOAD (.LCA) FILES FOR STRUCTURE #6.
 - ALL LOADS ARE ULTIMATE LOADS AND INCLUDE APPROPRIATE LOAD FACTORS.
 - ALL REFERENCED DETAILS ARE PROVIDED IN THE "PROJECT SPECIFIC TECHNICAL SPECIFICATIONS FOR THE PURCHASE OF STEEL TRANSMISSION POLES AND CAISSONS FOR THE CIRCUIT 838 STRUCTURES #5, 6, 7, 10, AND 11 REPLACEMENT. POLES SHALL BE DESIGNED TO MEET THE REQUIREMENTS OF THESE SPECIFICATIONS AND DETAILS.
 - POLES ARE TOP BE DESIGNED TO MEET ALL OF THE REQUIREMENTS FOUND IN THE "GENERAL TECHNICAL SPECIFICATIONS FOR THE PURCHASE OF STEEL TRANSMISSION POLES, REVISION 1.3, UPDATED ON 12/31/2016.

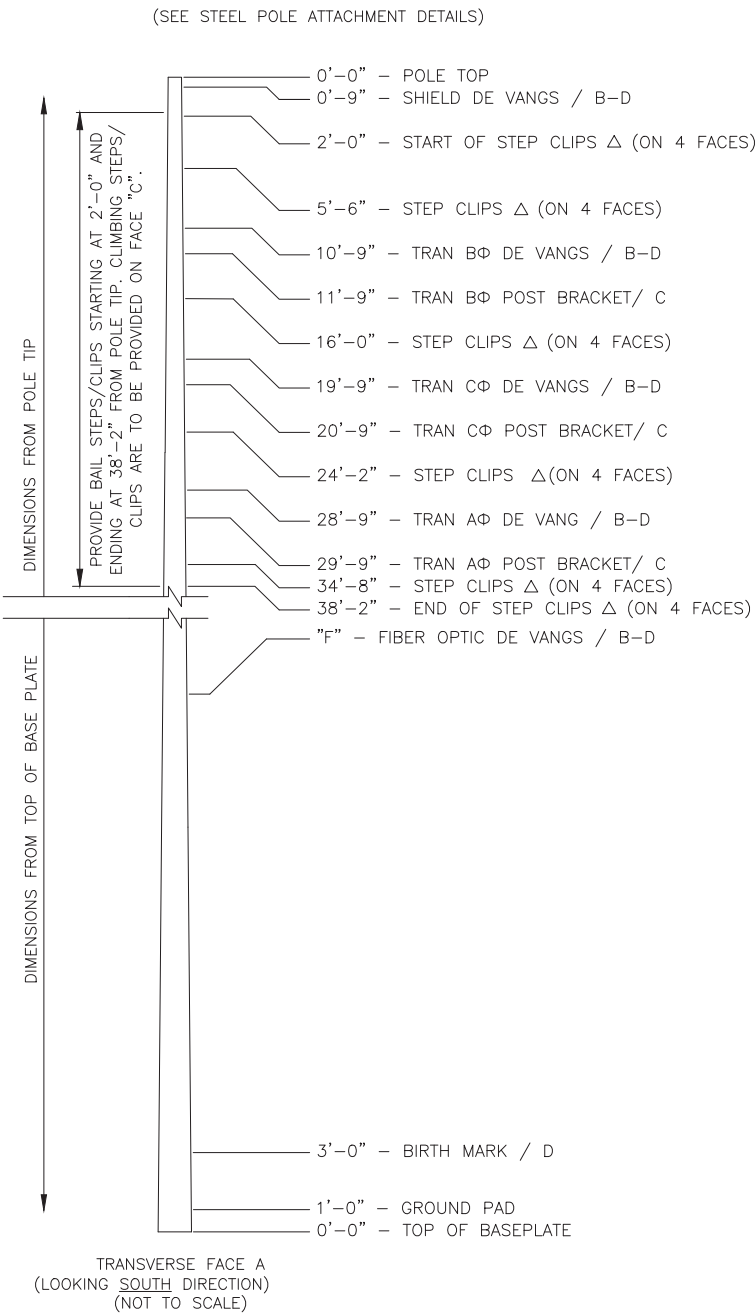
NO.	REVISION	DATE	BY	CH'D	APP'D		REVISION	DATE	BY	CH'D	APP'D	ENGINEERING RECORD			 <div>STR #6 DRAWING FOR THE STEEL TRANSMISSION POLES FOR THE CIRCUIT 838 POLE REPLACEMENT</div> <div>SCALE: N/A</div> <div>PROJECT DESIGN SEGMENT 20410</div>	PROJECT NO. 8006169
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												DESIGNED	JWM	12/30/19		
												DRAWN	JWM	01/13/20		
												CHECKED	SMC	01/13/20		
												APP'D	SMC	01/13/20		

STRUCTURE TYPE
B1366 DOUBLE DEAD-END WITH POST, FULL TENSION TO REDUCED TENSION, UN-GUYED, 3-PHASE
STRUCTURES #7 AND 10

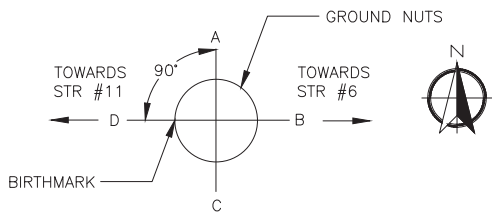
ELEVATION VIEW



DRILLING DETAIL



POLE TIP VIEW



GROUNDING NUT LOCATIONS

FOR	FROM POLE TOP	FROM POLE BASEPLATE
SHIELD	1'-6"	-
TRANS AΦ	11'-6"	-
TRANS BΦ	20'-6"	-
TRANS CΦ	30'-3"	-
FIBER OPTIC	-	40'-9"
GROUND ROD	-	1'-0"

STRUCTURE LIST

STR. NO.	LENGTH "L"	LENGTH "D"	LENGTH "F"
#7	95'-0"	25'-6"	51'-3"
#10	85'-0"	36'-6"	41'-3"

NOTES:

- THIS POLE DRAWING IS ACCOMPANIED BY PLS-POLE BACKUP FILES NAMED "STR7.B1366.BAK" AND "STR10.B1366.BAK" RESPECTIVELY, CONTAINING ALL THE LOADS SPECIFIED IN REFERENCED VECTOR LOAD (.LCA) FILE FOR STRUCTURES #7 AND 10.
- ALL LOADS ARE ULTIMATE LOADS AND INCLUDE APPROPRIATE LOAD FACTORS.
- CAISSONS ARE SHOWN IN THE PLS-POLE MODEL. NO LOADS ARE APPLIED TO THESE CAISSONS AS THEY ARE PRESENT ONLY FOR VISUAL REFERENCE. SEE SHEET 5 FOR CAISSON DRAWINGS AND LOADS. THERE WILL BE A GAP BETWEEN THE FLANGE OF THE CAISSON AND THE POLE'S BASE PLATE. THE GAP SHALL BE ESTABLISHED BY THE MANUFACTURER AS PER THE "STEEL CAISSON AND BASE PLATE" DETAILS FOUND IN THE TECHNICAL SPECIFICATIONS (SEE NOTE 4 BELOW).
- ALL REFERENCED DETAILS ARE PROVIDED IN THE "PROJECT SPECIFIC TECHNICAL SPECIFICATIONS FOR THE PURCHASE OF STEEL TRANSMISSION POLES AND CAISSONS FOR THE CIRCUIT 838 STRUCTURES #5, 6, 7, 10, AND 11 REPLACEMENT. POLES SHALL BE DESIGNED TO MEET THE REQUIREMENTS OF THESE SPECIFICATIONS AND DETAILS.
- POLES ARE TO BE DESIGNED TO MEET ALL OF THE REQUIREMENTS FOUND IN THE "GENERAL TECHNICAL SPECIFICATIONS FOR THE PURCHASE OF STEEL TRANSMISSION POLES, REVISION 1.3, UPDATED ON 12/31/2016.

NO.	REVISION	DATE	BY	CH'D	APP'D	REVISION	DATE	BY	CH'D	APP'D	ENGINEERING	RECORD	
											STATUS	BY	DATE
											ASSIGNED	PLAN	10/01/19
											DESIGNED	JWM	12/30/19
											DRAWN	JWM	01/13/20
											CHECKED	SMC	01/13/20
											APP'D	SMC	01/13/20



STR #7 AND 10 DRAWING
FOR THE
STEEL TRANSMISSION POLES
FOR THE CIRCUIT 838 POLE REPLACEMENT

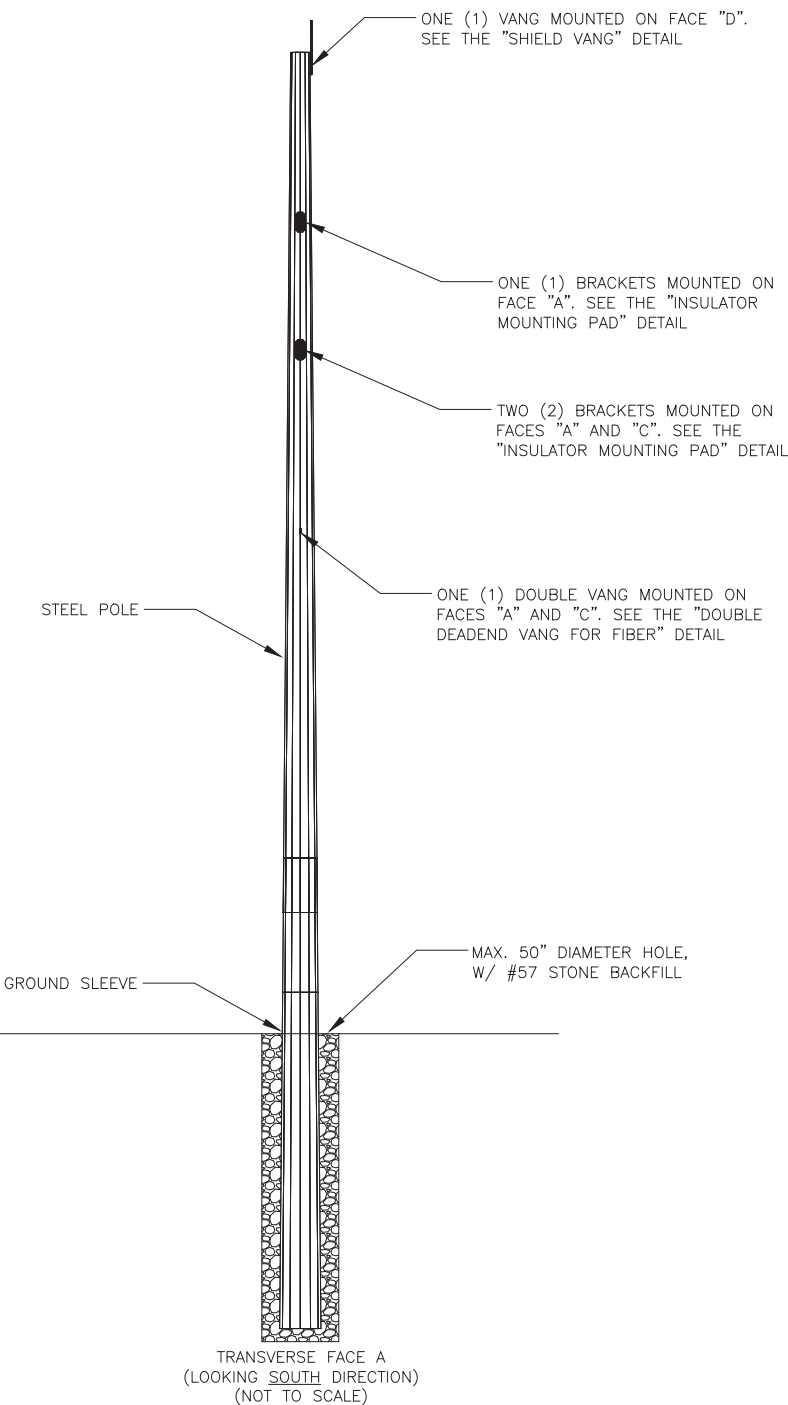
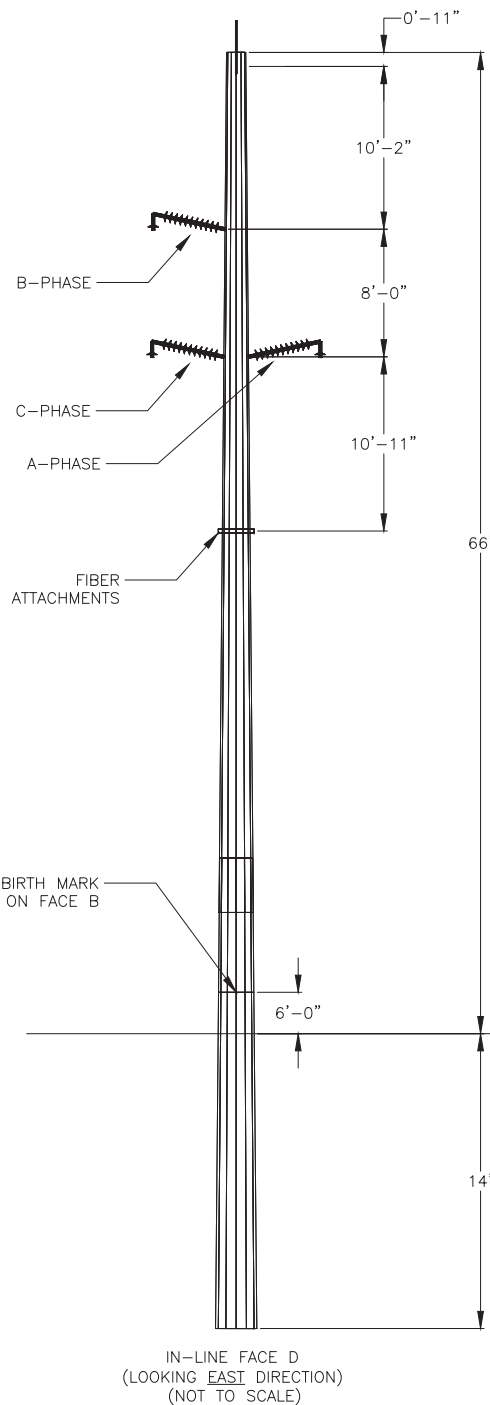
SCALE: N/A

PROJECT DESIGN SEGMENT 20410

PROJECT NO. 8006169
DRAWING NO. TR 1355 SP
SHEET NO. 3 OF 5

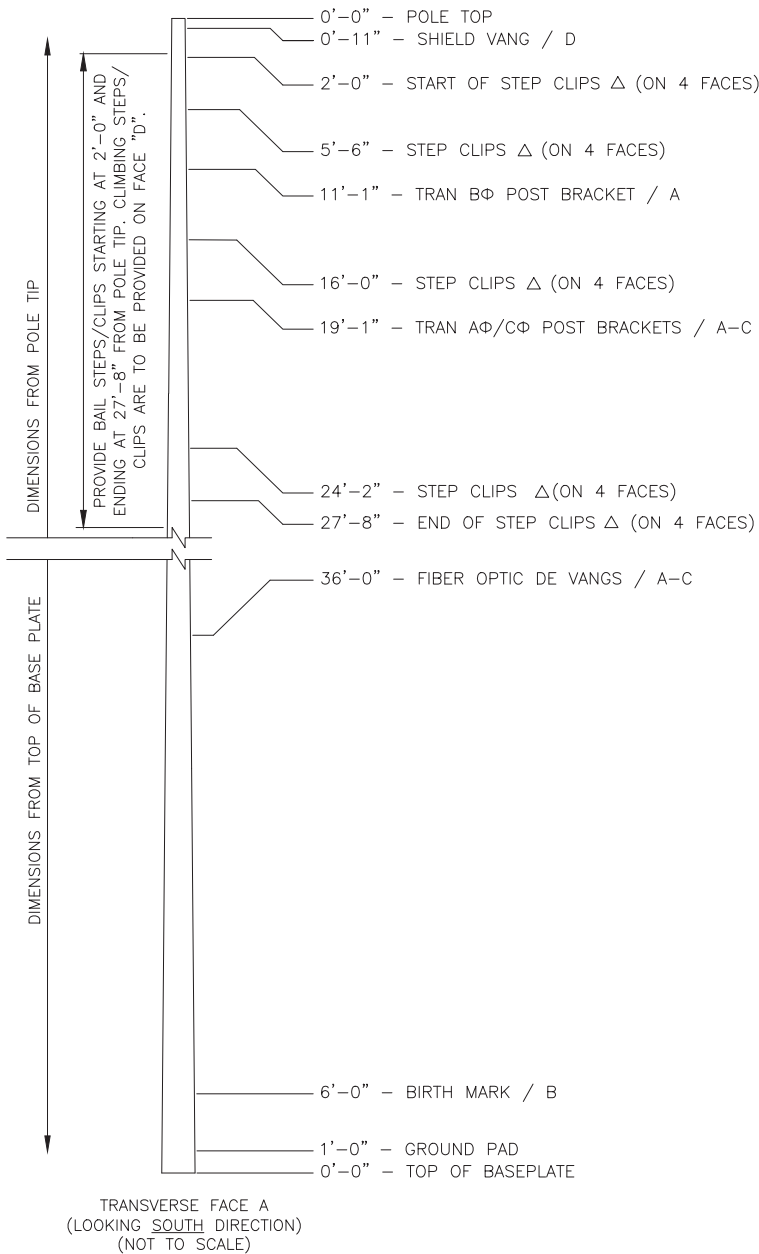
STRUCTURE TYPE
B6322 DELTA LINE POST, UN-GUYED, 3-PHASE
STRUCTURE #11

ELEVATION VIEW

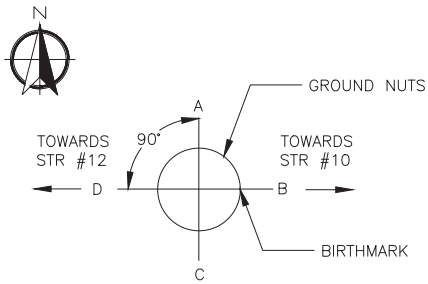


DRILLING DETAIL

(SEE STEEL POLE ATTACHMENT DETAILS)



POLE TIP VIEW



GROUNDING NUT LOCATIONS

FOR	FROM POLE TOP	FROM POLE BASEPLATE
SHIELD	1'-5"	-
TRANS BΦ	11'-7"	-
TRANS AΦ/CΦ	19'-7"	-
FIBER OPTIC	-	35'-6"
GROUND ROD	-	1'-0"

NOTES:

- THIS POLE DRAWING IS ACCOMPANIED BY A PLS-POLE BACKUP FILES NAMED "STR11.B6322.BAK", CONTAINING ALL THE LOADS SPECIFIED IN REFERENCED VECTOR LOAD (.LCA) FILES FOR STRUCTURE #11.
- ALL LOADS ARE ULTIMATE LOADS AND INCLUDE APPROPRIATE LOAD FACTORS.
- ALL REFERENCED DETAILS ARE PROVIDED IN THE "PROJECT SPECIFIC TECHNICAL SPECIFICATIONS FOR THE PURCHASE OF STEEL TRANSMISSION POLES AND CAISSONS FOR THE CIRCUIT 838 STRUCTURES #5, 6, 7, 10, AND 11 REPLACEMENT". POLES SHALL BE DESIGNED TO MEET THE REQUIREMENTS OF THESE SPECIFICATIONS AND DETAILS.
- POLES ARE TOP BE DESIGNED TO MEET ALL OF THE REQUIREMENTS FOUND IN THE "GENERAL TECHNICAL SPECIFICATIONS FOR THE PURCHASE OF STEEL TRANSMISSION POLES, REVISION 1.3, UPDATED ON 12/31/2016.

NO.	REVISION	DATE	BY	CH'D	APP'D		REVISION	DATE	BY	CH'D	APP'D	ENGINEERING	RECORD	
												STATUS	BY	DATE
												ASSIGNED	PLAN	10/01/19
												DESIGNED	JWM	12/30/19
												DRAWN	JWM	01/13/20
												CHECKED	SMC	01/13/20
												APP'D	SMC	01/13/20



STR #11 DRAWING
FOR THE
STEEL TRANSMISSION POLES
FOR THE CIRCUIT 838 POLE REPLACEMENT

SCALE: N/A

PROJECT DESIGN SEGMENT 20410

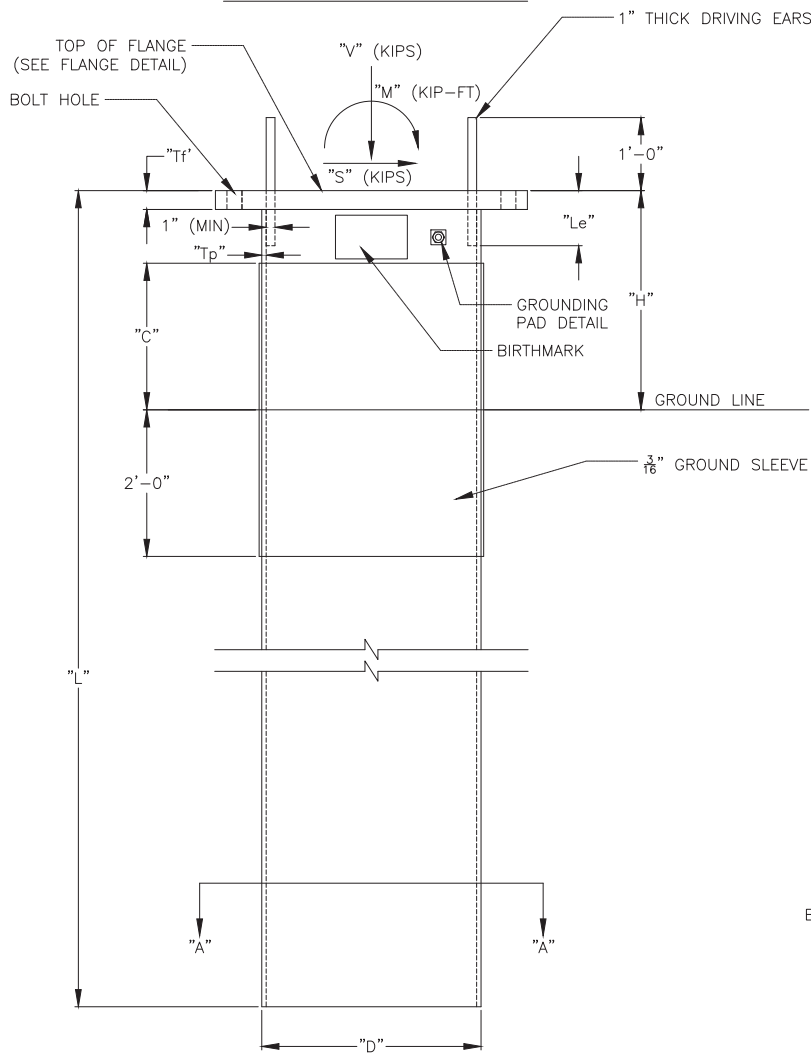
PROJECT NO.
8006169

DRAWING NO.
TR 1355 SP

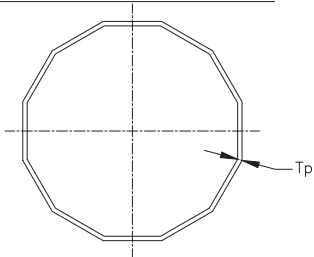
SHEET NO.
4 OF 5

STEEL CAISSON DRAWINGS
FOR STEEL POLES
STRUCTURES #7 AND 10

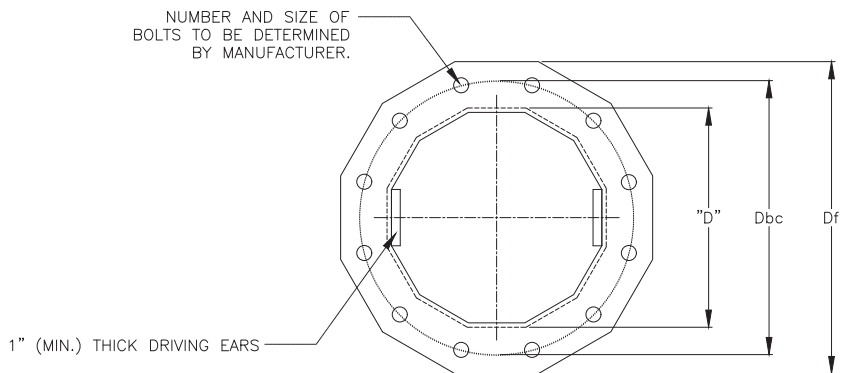
VERTICAL VIEW



SECTION "A-A"



FLANGE DETAIL



CAISSON IDENTIFICATION & DIMENSIONS

STRUCTURE NUMBER(S)	CAISSON LENGTH "L"	CAISSON DIAMETER "D"	CAISSON HEIGHT ABOVE GRADE "H"	CAISSON THICKNESS "Tp"	ABOVE GRADE GROUND SLEEVE "C"	MAXIMUM FLANGE DIAMETER "Df"	QUANTITY REQUIRED
#7	27'-0"	65"	1'-6"	0.5"	1'-0"	84"	1
#10	38'-0"	72"	1'-6"	0.625"	1'-0"	89"	1

LOADING TABLE

STR #	ULTIMATE MOMENT "M" (KIP-FT) @ POLE FLANGE	ULTIMATE SHEAR "S" (KIPS) @ POLE FLANGE	ULTIMATE LOAD "V" (KIPS) @ POLE FLANGE
#7	4,000	54	41
#10	2,900	50	30

NOTES:

- ALL REFERENCED DETAILS ARE PROVIDED IN THE "PROJECT SPECIFIC TECHNICAL SPECIFICATIONS FOR THE PURCHASE OF STEEL TRANSMISSION POLES FOR THE CIRCUIT 838 STRUCTURES #5, 6, 7, 10, AND 11 REPLACEMENT". CAISSONS SHALL BE DESIGNED TO MEET THE REQUIREMENTS OF THESE SPECIFICATIONS AND DETAILS.
- CAISSONS ARE TO BE DESIGNED TO MEET ALL OF THE REQUIREMENTS FOUND IN THE "GENERAL TECHNICAL SPECIFICATIONS FOR THE PURCHASE OF STEEL TRANSMISSION POLES, REVISION 1.3, UPDATED ON 12/31/2016.
- DIMENSIONS Tf, Le, and Df WILL BE DETERMINED BY THE STEEL CAISSON MANUFACTURER. "Df" MAXIMUM ALLOWABLE VALUES SHOWN IN CAISSON IDENTIFICATION & DIMENSION TABLE ABOVE.

NO.	REVISION					REVISION					ENGINEERING RECORD		
	DATE	BY	CH'D	APP'D		DATE	BY	CH'D	APP'D		STATUS	BY	DATE
											ASSIGNED	PLAN	10/01/19
											DESIGNED	JWM	12/30/19
											DRAWN	JWM	01/13/20
											CHECKED	SMC	01/13/20
											APP'D	SMC	01/13/20



VIBRATORY STEEL CAISSON DRAWINGS
FOR THE
STEEL TRANSMISSION POLES
FOR THE CIRCUIT 838 POLE REPLACEMENT

SCALE: N/A

PROJECT DESIGN SEGMENT 20410

PROJECT NO.
8006169

DRAWING NO.
TR 1355 SP

SHEET NO.
5 OF 5

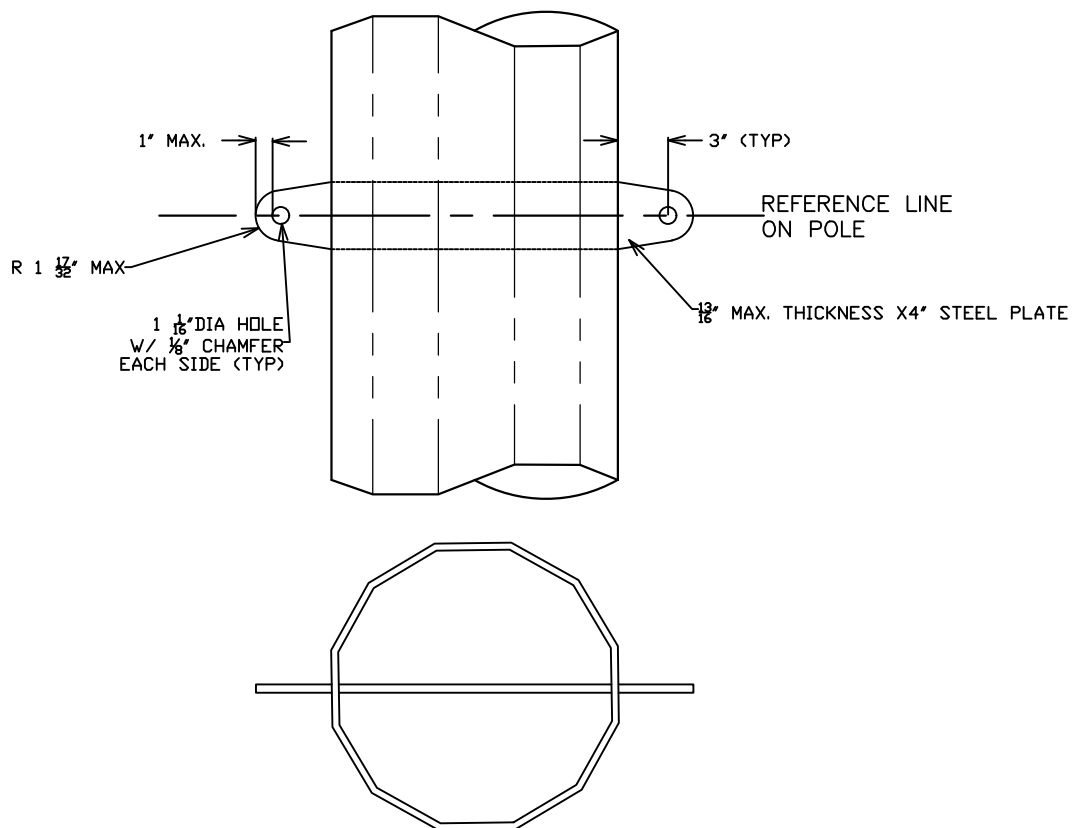
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8. POLE ATTACHMENT DETAILS

- 1) Double Dead-End Vang for Insulator/Shield/Guys Attachment Details
- 2) Single Dead-End Vang for Insulator/Shield/Guys Attachment Details
- 3) Double Dead-End Vang for Fiber Attachment Details
- 4) Shield Bayonet Attachment Details
- 5) Insulator Mounting Pad Attachment Details
- 6) Transformer/Xarm Bracket Attachment Details
- 7) Step Lugs/Clips/ Bail Steps Attachment Details
- 8) Grounding Pad Attachment Details

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DOUBLE DEADEND VANG FOR INSULATORS/SHIELD/GUYS



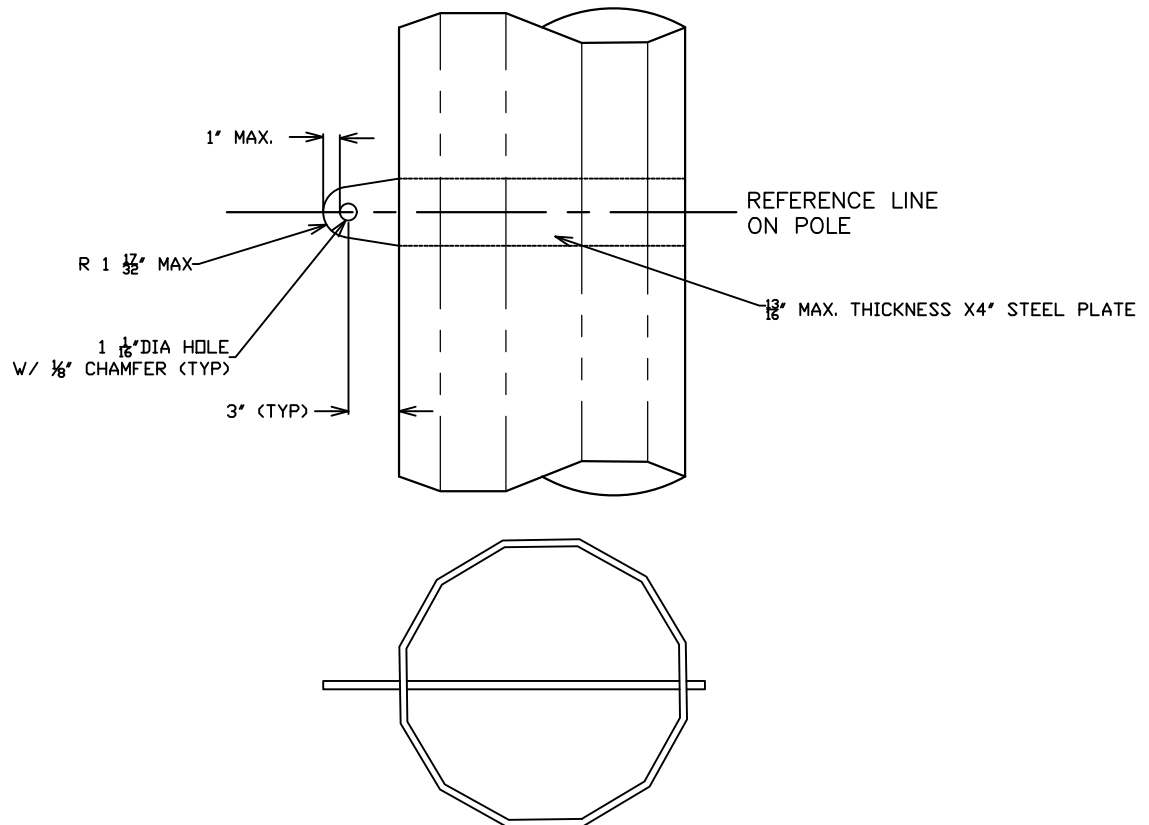
NO.	REVISIONS TO DRAWING	BY	DATE	APPROVED	TRANSMISSION STANDARDS


SCALE:
NOT TO SCALE

DEADEND VANG
STEEL POLE



SINGLE DEADEND VANG FOR INSULATORS/SHIELD/GUYS



NO.	REVISIONS TO DRAWING	BY	DATE	APPROVED	TRANSMISSION STANDARDS
SCALE: NOT TO SCALE					DEADEND VANG STEEL POLE
 JEA BUILDING COMMUNITY					

5" MAX.


3" (TYP)

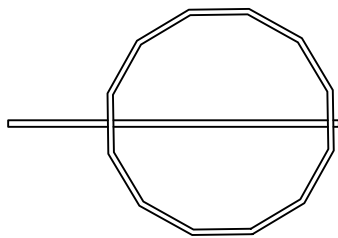
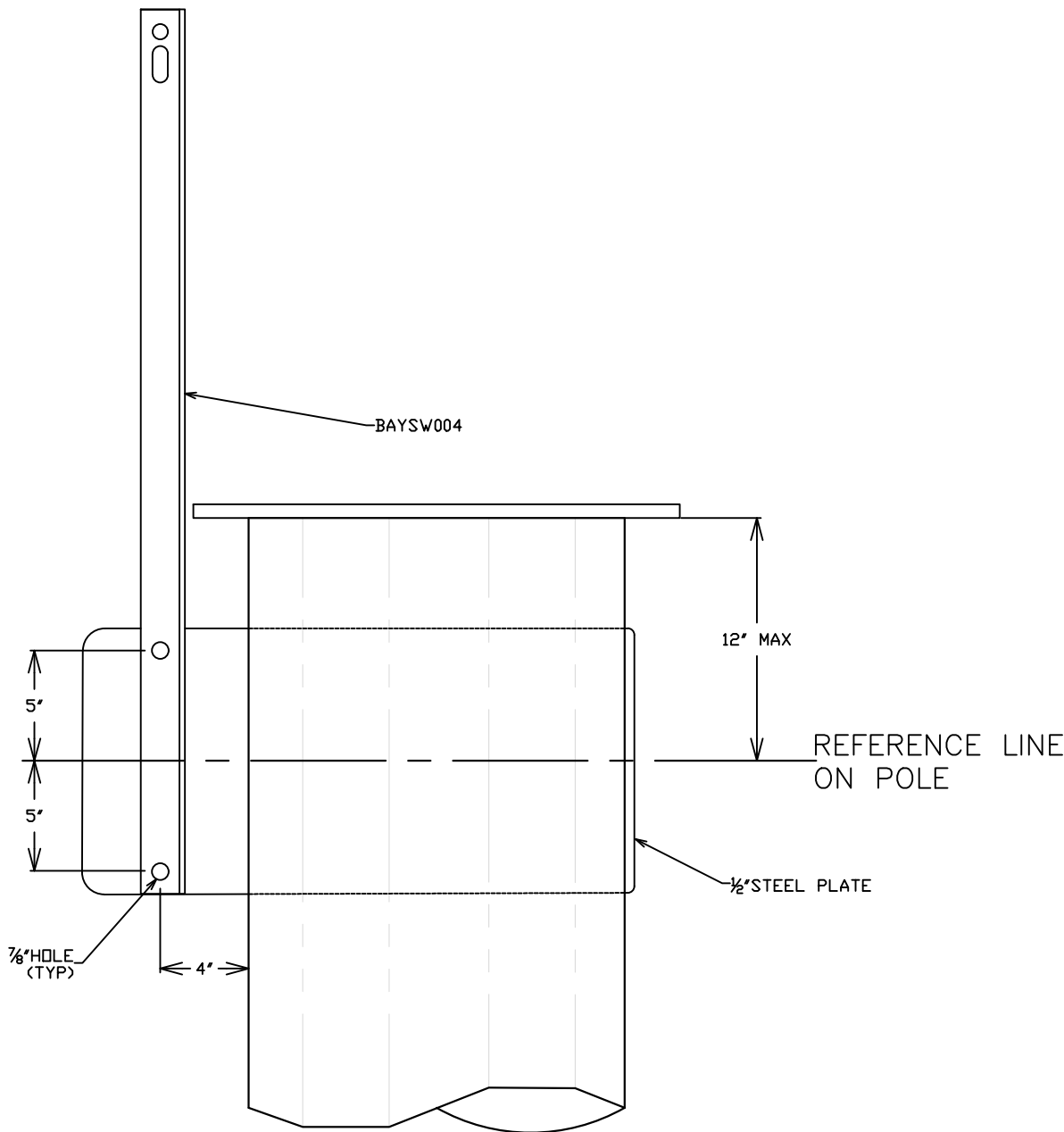
REFERENCE LINE ON POLE


R 1" MAX

3/4" DIA HOLE
W/ 1/8" CHAMFER
EACH SIDE (TYP)

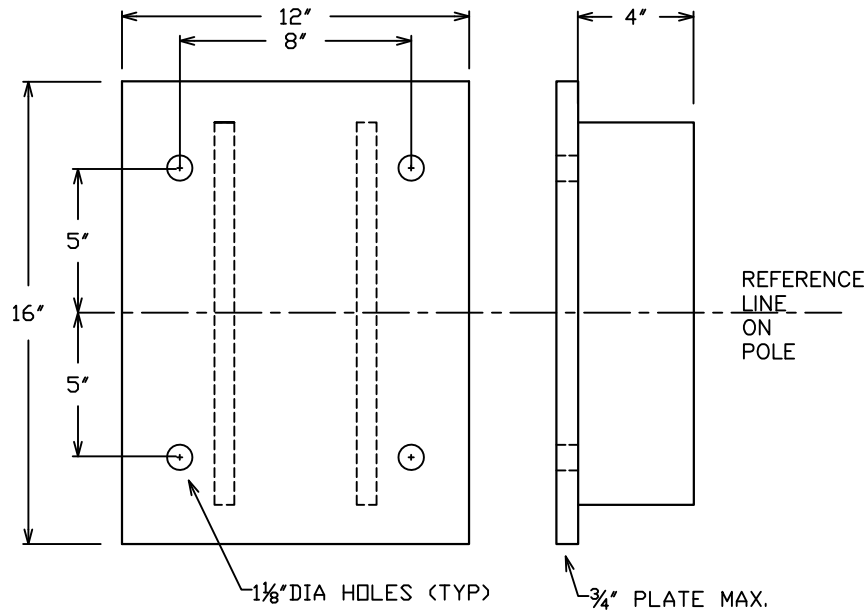
1/2" MAX. THICKNESS X 4" STEEL PLATE

NO.	REVISIONS TO DRAWING	BY	DATE	APPROVED	TRANSMISSION STANDARDS
					<div>  </div>
				SCALE: NOT TO SCALE	



NO.	REVISIONS TO DRAWING	BY	DATE	APPROVED	TRANSMISSION STANDARDS	
					<div>SHIELD VANG</div> <div>STEEL POLE</div> <div>SCALE: NOT TO SCALE</div>	

INSULATOR MOUNTING PAD



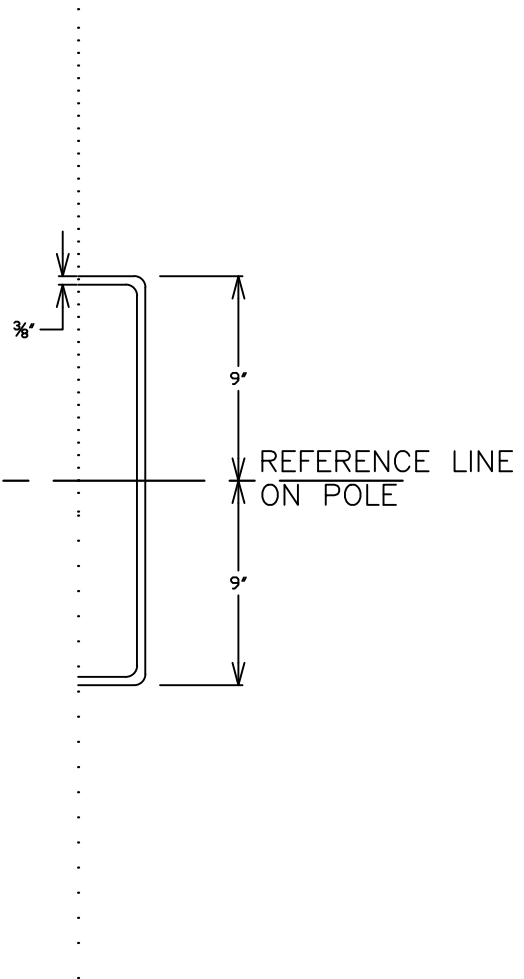
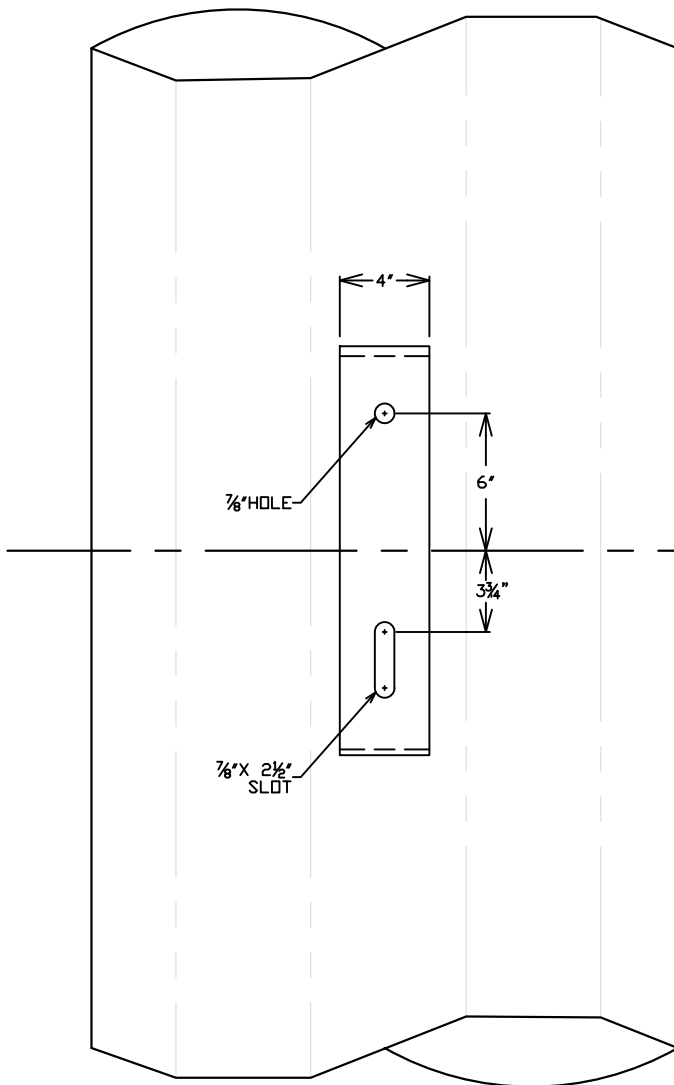
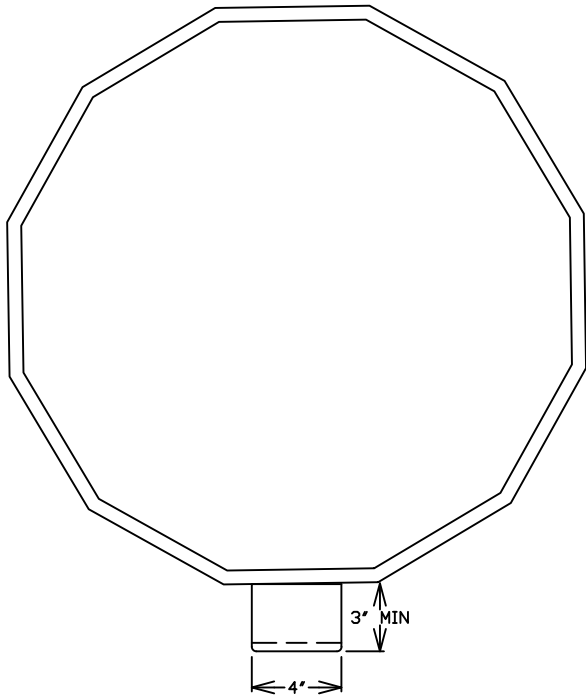
NO.	REVISIONS TO DRAWING	BY	DATE	APPROVED	TRANSMISSION STANDARDS

INSULATOR MOUNTING PAD

SCALE:
NOT TO SCALE

STEEL POLE



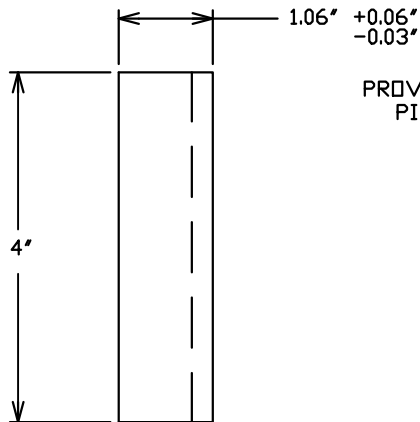
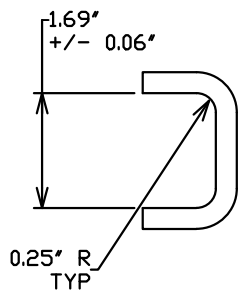


NO.	REVISIONS TO DRAWING	BY	DATE	APPROVED
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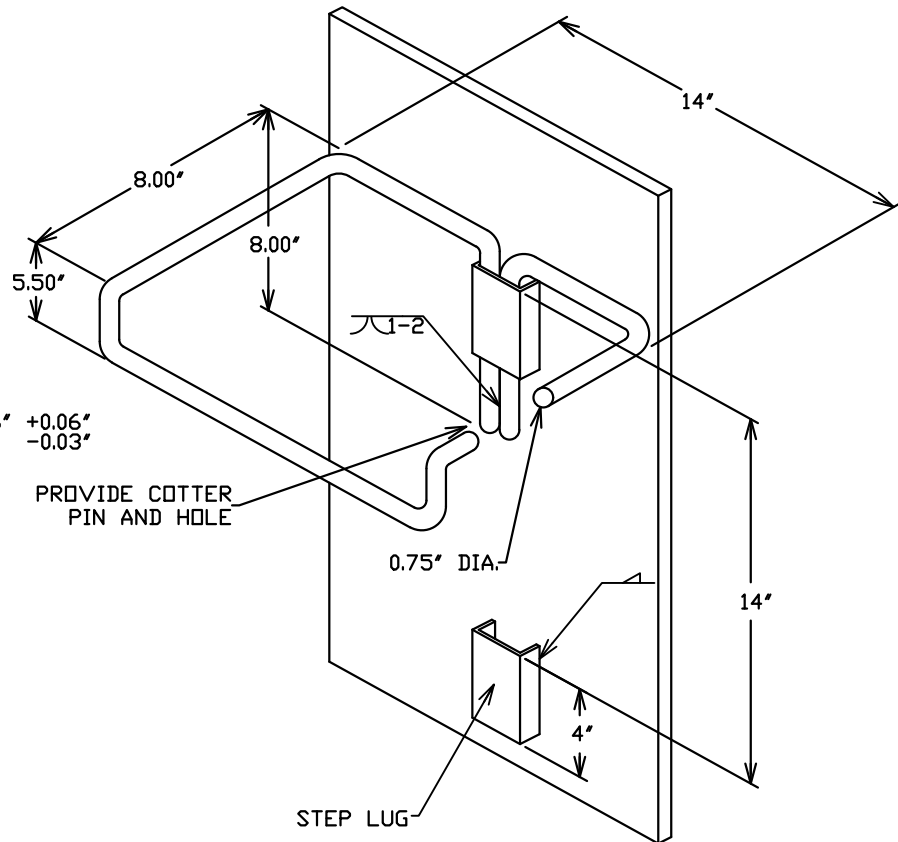
TRANSMISSION STANDARDS

TRANSFORMER/XARM BKT SCALE: NOT TO SCALE



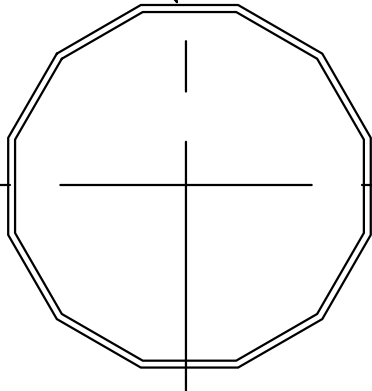


LUG DETAIL



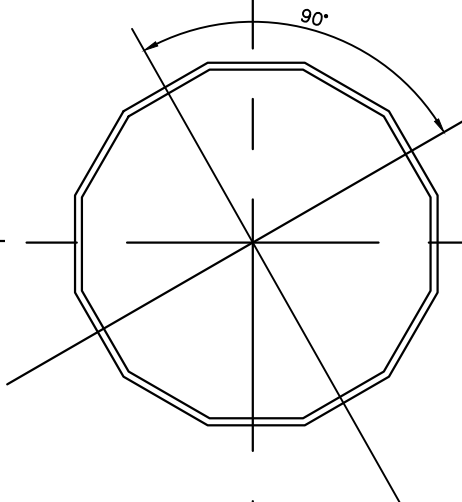
STEP DETAIL

PROVIDE CLIMBING STEP LUGS ON FACE OF POLE DEPICTED IN THE POLE DRAWINGS



CLIMBING STEPS

PROVIDE WORKING STEP LUGS 90° APART, ON 4 FACES OF THE POLE AS DEPICTED BY '△' ON THE POLE DRAWINGS



WORKING STEPS

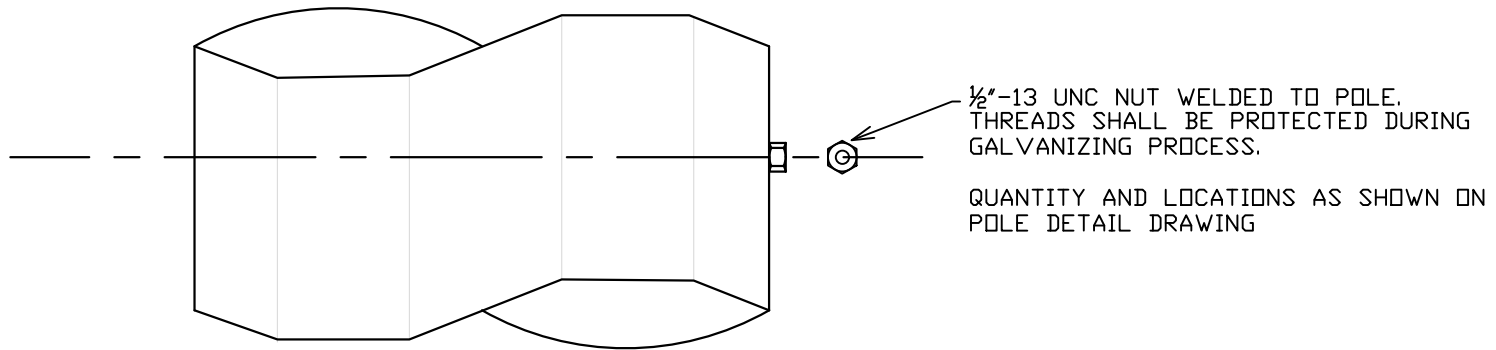
NO.	REVISIONS TO DRAWING	BY	DATE	APPROVED
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TRANSMISSION STANDARDS

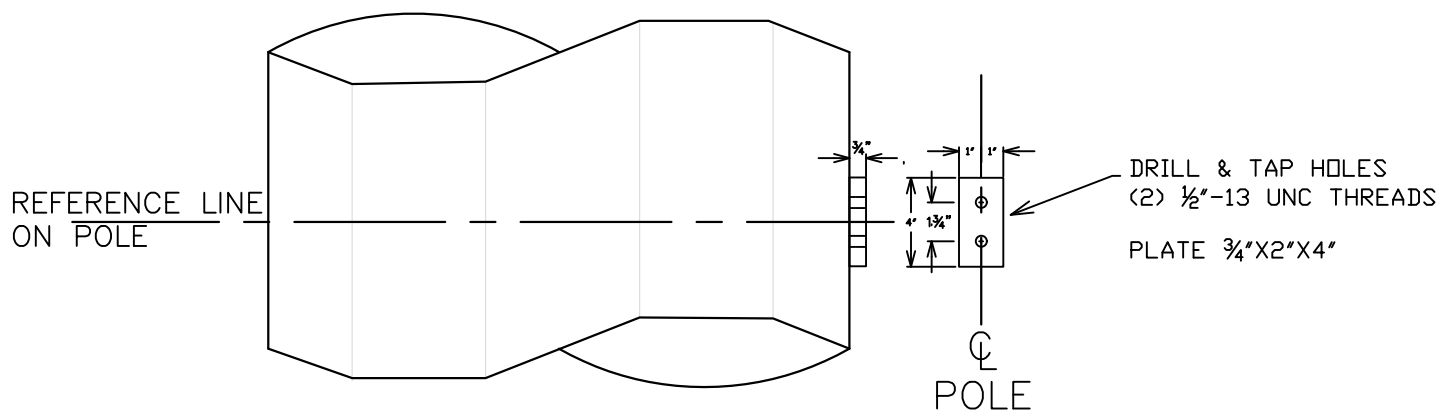
STEP DETAILS
STEEL POLE

SCALE:
NOT TO SCALE

GROUNDING NUT DETAIL



GROUNDING PAD DETAIL



NO.	REVISIONS TO DRAWING	BY	DATE	APPROVED
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TRANSMISSION STANDARDS

GROUNDING

STEEL POLE

SCALE:
NOT TO SCALE



9. PLS-POLE BACKUP FILES

- 1) Pole Drawings:
Structure Type B6322 – Delta Line Post, Un-Guyed, 3-Phase, with Under-Built Distribution
Structure(s) #5
 - a. See electronically attached PLS-POLE back up file “STR5.B6322.bak”
- 2) Pole Drawings:
Structure Type B1366 – Double Dead End with Post, Reduced Tension to Full Tension, Un-Guyed, 3-Phase, without Under-Built Distribution
 - a. See electronically attached PLS-POLE back up file “STR6.B1366.bak”
- 3) Pole Drawings:
Structure Type B1366 – Double Dead End with Post, Full Tension to Full Tension, Un-Guyed, 3-Phase, without Under-Built Distribution
Structure(s) #7
 - a. See electronically attached PLS-POLE back up file “STR7.B1366.bak”
- 4) Pole Drawings:
Structure Type B1366 – Double Dead End with Post, Full Tension to Full Tension, Un-Guyed, 3-Phase, without Under-Built Distribution
Structure(s) #10
 - a. See electronically attached PLS-POLE back up file “STR10.B1366.bak”
- 5) Pole Drawings:
Structure Type B6322 – Delta Line Post, Un-Guyed, 3-Phase
Structure(s) #11
 - a. See electronically attached PLS-POLE back up file “STR11.B6322.bak”