

**PROJECT SPECIFIC TECHNICAL SPECIFICATIONS
FOR THE PURCHASE OF
STEEL TRANSMISSION POLES FOR THE 691-693 69kV STRUCTURE
REPLACEMENTS**

JEA PROJECT NO: 8010196
TR NO: TR 1404
BID DUE DATE: September 30, 2025
REQUESTED BY: Mohsen Shojaeion

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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 for the the “691-693 69kV Structure Replacements”. This specification complements the “General Technical Specifications for the Purchase of Steel Transmission Poles”, Rev 1.4.3.
- 1.2 This specification includes the following attachments:
 - a) Pole Drawings, containing the configuration, load development, and hole drilling details of the pole(s)
 - b) Pole Attachment Details
- 1.3 The Project Engineer (JEA) for this purchase is:

Mohsen Shojaeion
225 North Pearl Street
Jacksonville, FL, 32202
Cell: (904) 678-7227
Email: Talem@jea.com

2. DESIGN

Structures shall be designed for the configuration, drilling and fabrication details, loadings and limitations contained in these and the “General Technical Specifications for the Purchase of Steel Transmission Poles”, Rev 1.4.3.

- 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 the loading data for which the poles are to be designed to are included in the “Load Development Drawings” attachment of these specifications. All structures are subjected to a NESC Light 60 mph wind loading, NESC Extreme 120 mph base wind loading, NESC Blow Out 6PSF loading, and 60 Degree loading criteria plus applicable load factors. Deflection criteria is specified in the “Load Development Drawings” and described in more detail in section 2.6 below.

- 2.3.1 There are two (2) unique structure design specified as provided in the Pole Configuration and Load Development drawings. There are two (2) structures being purchased.
- 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 Development Drawings. 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 Load Development Drawings), 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 table notes within the Load Development Drawings. 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 top of flange under this loading condition.
- 2.6.2 **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 top of flange under this loading condition.
- 2.6.3 **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 top of flange under this loading condition.
- 2.6.4 **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 base 120 mph wind that has been adjusted based on the 250C wind adjustment modeling, 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 top of flange 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. The pole manufacturer shall design the poles to meet the requirements as described in sections 3.2.1 below.

- 3.2 Structures # 13, and 17 shall be galvanized steel structures. The pole manufacturer is responsible for designing, manufacturing, and delivering the steel poles to the construction sites.
- 3.3 **Structures shall be supported by direct embed foundations.**
- 3.3.1 General Technical Specifications for Steel Transmission Poles, sections 8.6, 8.7, and 8.8 shall be followed for the fabrication of the direct embedded pole section design.
 - 3.3.2 For the design of the foundation section of the direct embedment pole, the point of maximum moment on the foundation shall be located at 1/3 the depth of the foundation.
 - 3.3.3 A tapered section shall be standard for the embedded pole section design. However when a depth of more than 20 FT is specified, the embedded section shall have no taper below the ground line as long as foundation requirements and manufacturing capabilities permit. Zero taper shall begin at the ground line.
 - 3.3.4 All embedded pole sections shall be sized so the top of the embedded section shall extend 15 FT above the ground line.
- 3.4 Steel Pole Shaft Thickness: The minimum allowed steel thickness for use on any steel pole shafts shall be 0.1875 inches.
- 3.5 Other restrictions: To ensure proper alignment of the steel poles, the pole shafts must have markings 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.
- 3.6 Quality Control: Quality control documents will be required prior to shipment of all structures. In addition to any requirements mentioned in the general technical specification, JEA will be looking for weld inspection reports. The manufacturer must perform inspections for weld integrity and to verify the absence of any detrimental defects to the structures per ASCE/SEI 48-11. Section 10.3.5 of this code states that "For galvanized members with large T-Joint Connections, such as base plates, etc., ultrasonic nondestructive weld testing shall be performed on 100% of all such joints, not only before, but after galvanizing to ensure that no cracks have developed." The inspections usually involve Magnetic particle inspection and ultrasonic flaw inspection. JEA is requiring that at minimum, a 45 degree angle transducer be used when inspecting for toe cracks before and after galvanization. Quality Control Reports must be submitted to the JEA project manager showing that all joints per section 10.3.5 of ASCE/SEQ 48-11 were inspected with the use of a 45 degree transducer before and after galvanization.

4. POLE ATTACHMENT HARDWARE

- 4.1 The pole manufacturer shall provide all brackets, vangs, grounding attachments, and holes on each pole as shown in the "POLE DRAWINGS" and "POLE ATTACHMENT DETAILS" of these specifications.
- 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.
- 4.4 Bail steps will not be utilized for this project.

5. DELIVERY LOCATION AND DATE

- 5.1 Delivery of all poles and hardware will be to storage areas near the job site within the JEA service area. The delivery location for structures 13 and 17 will be on the Project site as specified in section 10.
- 5.2 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:

- Spring or Fall, 2026

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

6. BID FORM (SLIP JOINTS)**PROPOSAL FOR STEEL TRANSMISSION POLES****PROJECT: 691-693 69kV STRUCTURE REPLACEMENTS**

Bidder Please Write Company Name Here: _____

Bid Item No.	Standard Design No.	Structure No.	Total Length / Embedment	Required Quantity	Unit Price	Extended Bid Price
1	STR 13	#13	104'-0" / 29'-0"	1	\$ _____	\$ _____
2	STR 17	#17	102'-0" / 27'-0"	1	\$ _____	\$ _____
3	STR 13 – Three (3) additional transmission arms for O&M	#13	-	3	\$ _____	\$ _____
4	STR 17 – Three (3) additional transmission arms for O&M	#17	-	3	\$ _____	\$ _____
5	STR 17 – One (1) additional distribution arm for O&M	#17	-	1	\$ _____	\$ _____
6	Freight for all poles					\$ _____
					Total =	\$ _____

My (our) lump sum bid for the items described above and in the tabulated total quantities is: \$ _____.

I (we) agree to provide approval drawings within _____ calendar days after receipt of the "notice to proceed" / purchase order.

And I (we) agree to complete deliveries of all items within _____ calendar days after the approval of the design calculations and approval drawings.

SIGNED FOR BIDDER: _____
TITLE: _____

7. BID FORM (FLANGE PLATES)

PROPOSAL FOR STEEL TRANSMISSION POLES

PROJECT: 691-693 69kV STRUCTURE REPLACEMENTS

Bidder Please Write Company Name Here: _____

Bid Item No.	Standard Design No.	Structure No.	Total Length / Embedment	Required Quantity	Unit Price	Extended Bid Price
1	STR 13	#13	104'-0"/ 29'-0"	1	\$ _____	\$ _____
2	STR 17	#17	102'-0"/ 27'-0"	1	\$ _____	\$ _____
3	STR 13 – Three (3) additional transmission arms for O&M	#13	-	3	\$ _____	\$ _____
4	STR 17 – Three (3) additional transmission arms for O&M	#17	-	3	\$ _____	\$ _____
5	STR 17 – One (1) additional distribution arm for O&M	#17	-	1	\$ _____	\$ _____
6	Freight for all poles					\$ _____
					Total =	\$ _____

My (our) lump sum bid for the items described above and in the tabulated total quantities is: \$ _____.

I (we) agree to provide approval drawings within _____ calendar days after receipt of the "notice to proceed" / purchase order.

And I (we) agree to complete deliveries of all items within _____ calendar days after the approval of the design calculations and approval drawings.

SIGNED FOR BIDDER: _____
TITLE: _____

8. POLE DRAWINGS

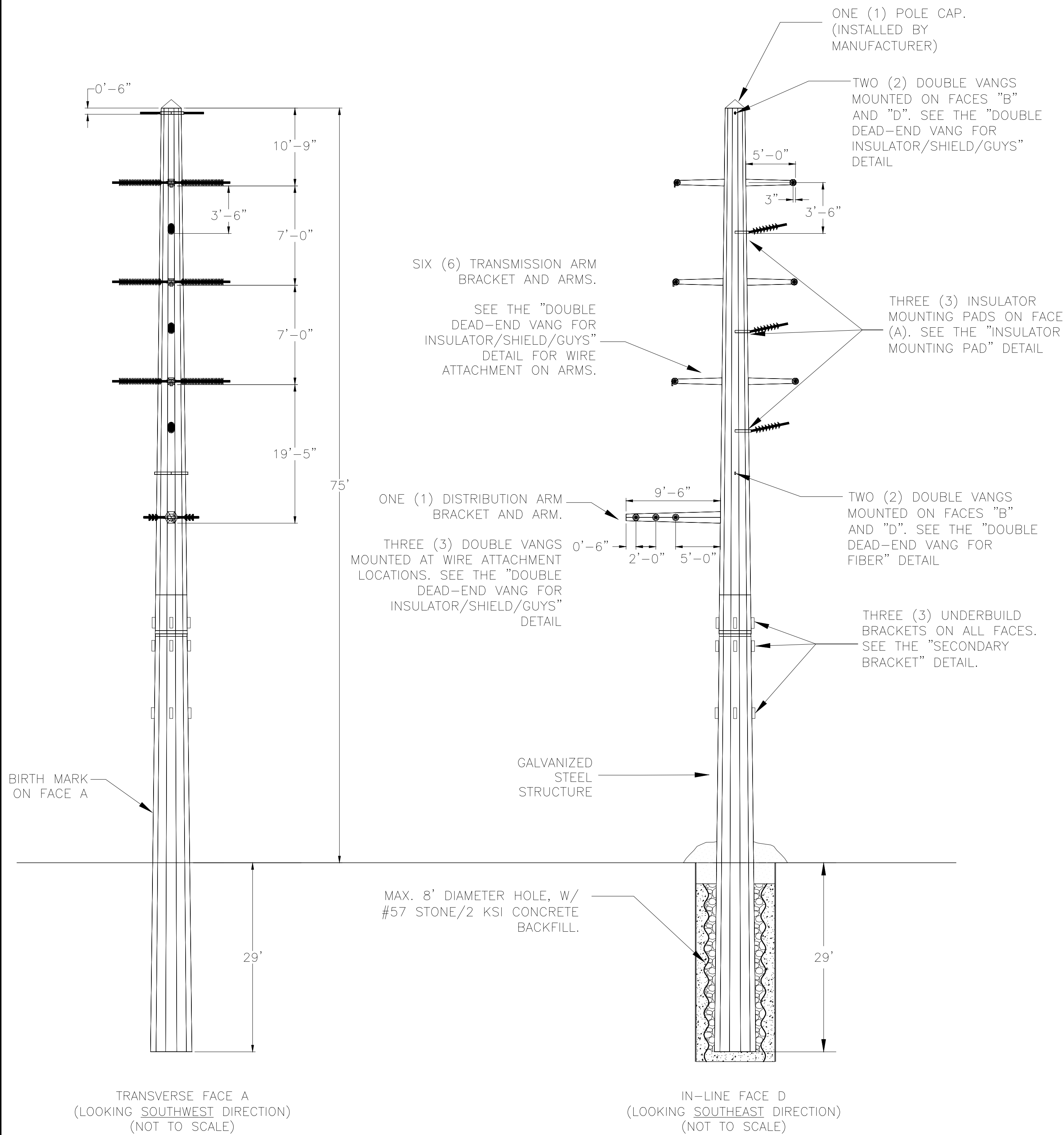
1) Pole Drawings:

Structure Type A2363*556S – Double deadend, Full Tension to Full Tension, Medium Angle, 3 Phase, Self Supported Steel Structure, Structure 13

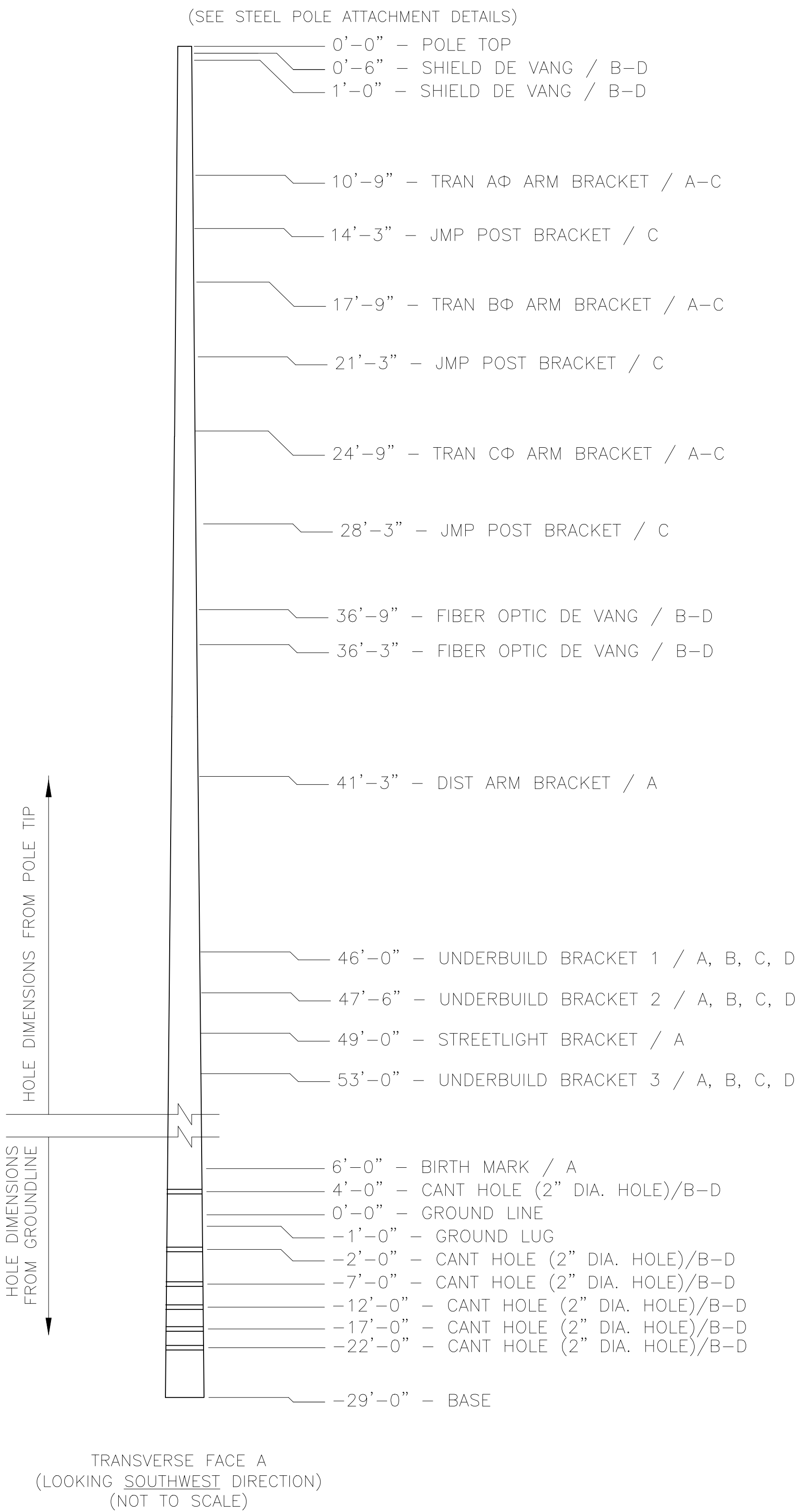
Structure Type A2365*556S – Double deadend, Full Tension to Full Tension, Heavy Angle, 3 Phase, Self Supported Steel Structure, Structure 17

STRUCTURE TYPE
A2363*556S 69 KV DOUBLE DEADEND, FULL TENSION TO FULL TENSION MEDIUM ANGLE, 3-PHASE
STRUCTURE 013

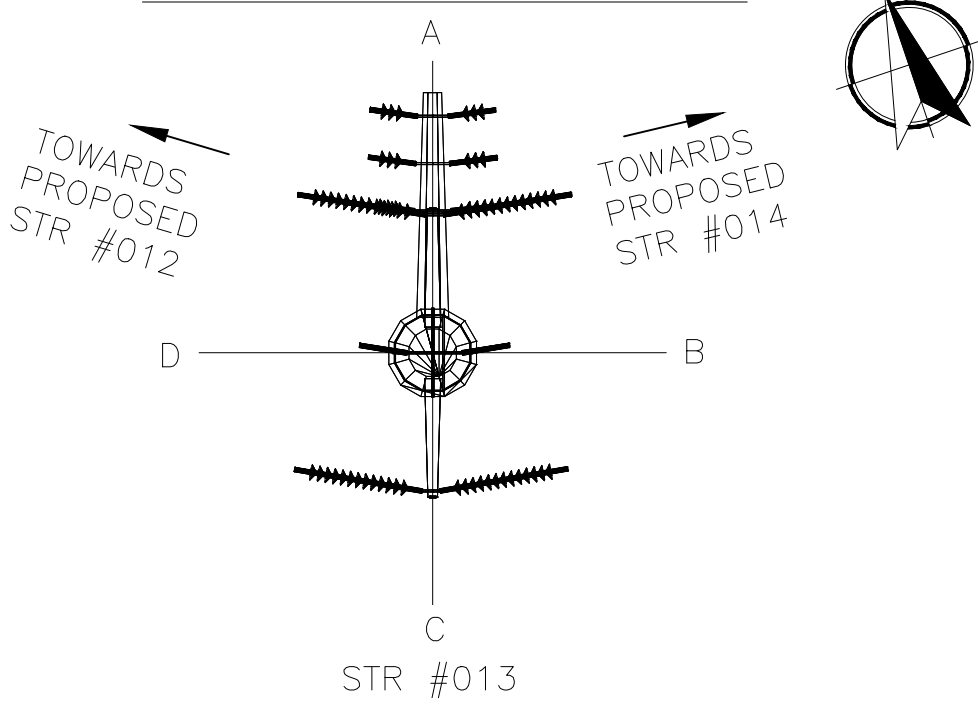
ELEVATION VIEW



FABRICATION DETAIL



POLE TIP VIEW




GROUND LUG LOCATIONS

FOR	FROM POLE TOP	FROM POLE GROUNDLINE
SHIELD	1'-6"	-
TRANS AΦ	11'-3"	-
TRANS BΦ	18'-3"	-
TRANS CΦ	25'-3"	-
DIST	41'-5"	-
NEUTRAL	46'-2"	-
SECONDARY	47'-8"	-
GROUND ROD	-	-1'-0"

NOTES:

- SEE THE PROVIDED STREET LIGHT CUTSHEET, "JEA BKTSL002" FOR BASE DIMENSIONS AND WEIGHT. STREET LIGHT BRACKET TO BE DESIGNED BY MANUFACTURER

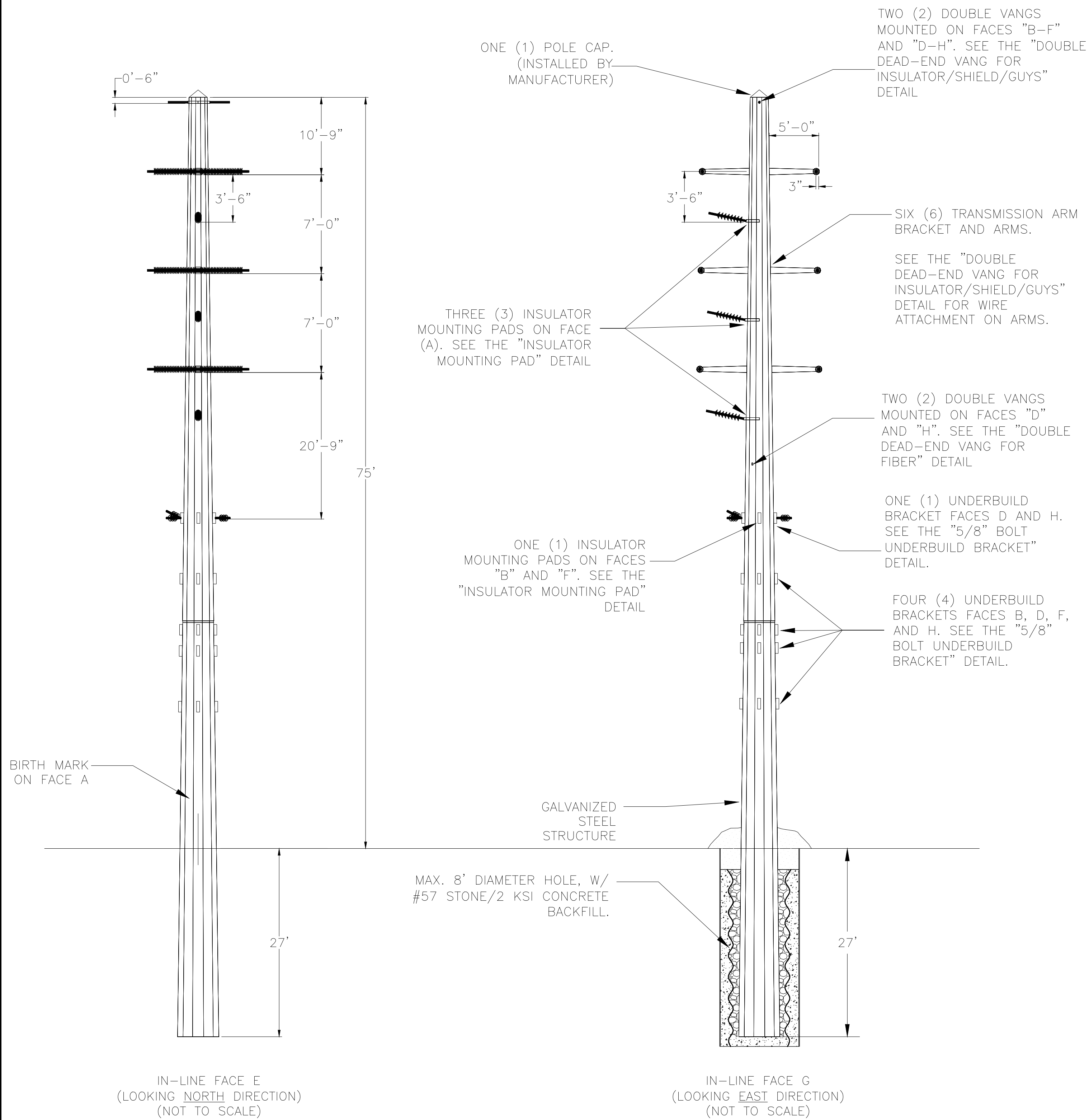
NO.	REVISION	DATE	BY	CH'D	APP'D	REVISION	DATE	BY	CH'D	APP'D	ENGINEERING	RECORD	 BUILDING COMMUNITY	PROPOSED STR #013 POLE CONFIGURATION FOR THE 691-693 69 kV STRUCTURE REPLACEMENTS		PROJECT NO. 8010196
	ISSUED FOR 30% DESIGN REVIEW	05/20/25	AJS	JA							STATUS	BY	DATE			DRAWING NO. TR 1404
	ISSUED FOR BID	08/18/25	AJS	JA							ASSIGNED	PLAN	12/10/24			
											DESIGNED	AJS	05/20/25	SCALE: N/A		PROJECT DESIGN SEGMENT 8010196
											DRAWN	AJS	05/20/25			SHEET NO.
											CHECKED	AJS	07/01/25			1 OF 5
											APP'D	TBD	-			

STRUCTURE TYPE

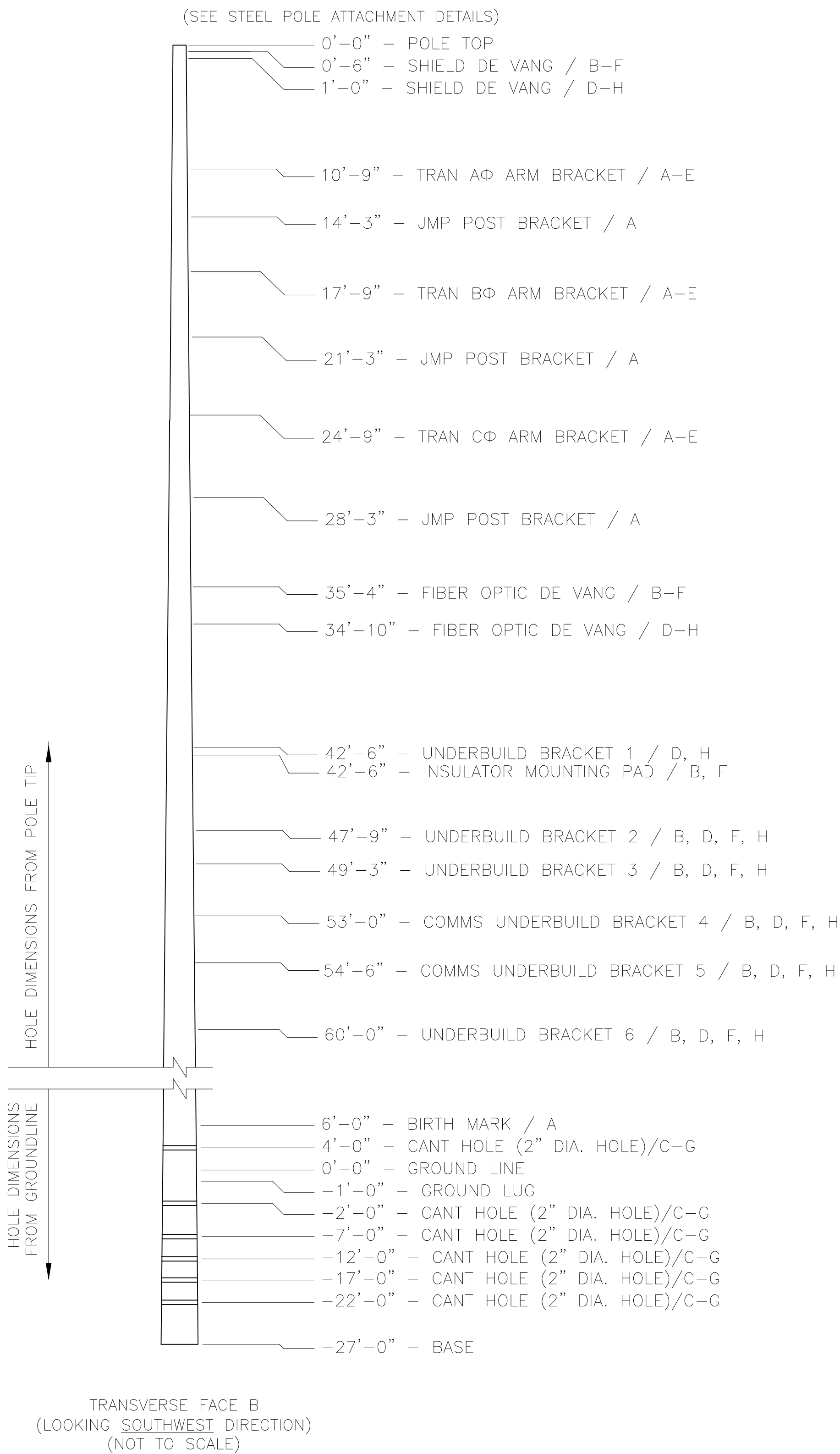
A2365*556S 69 KV DOUBLE DEADEND, FULL TENSION TO FULL TENSION HEAVY ANGLE, 3-PHASE

STRUCTURE 017

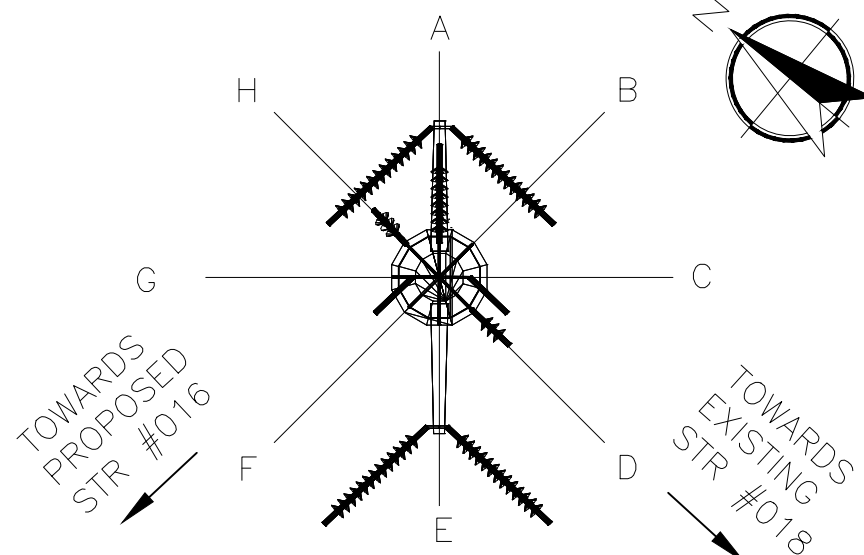
ELEVATION VIEW



FABRICATION DETAIL



POLE TIP VIEW

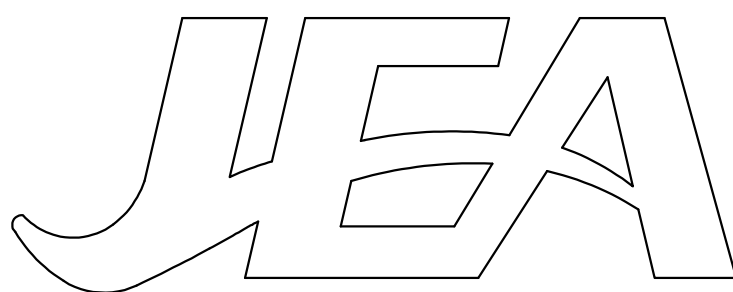


GROUND LUG LOCATIONS

FOR	FROM POLE TOP	FROM POLE GROUNDLINE
SHIELD	1'-6"	-
TRANS AΦ	11'-3"	-
TRANS BΦ	18'-3"	-
TRANS CΦ	25'-3"	-
DIST	42'-8"	-
NEUTRAL	47'-11"	-
SECONDARY	49'-5"	-
GROUND ROD	-	-1'-0"

NOTES:

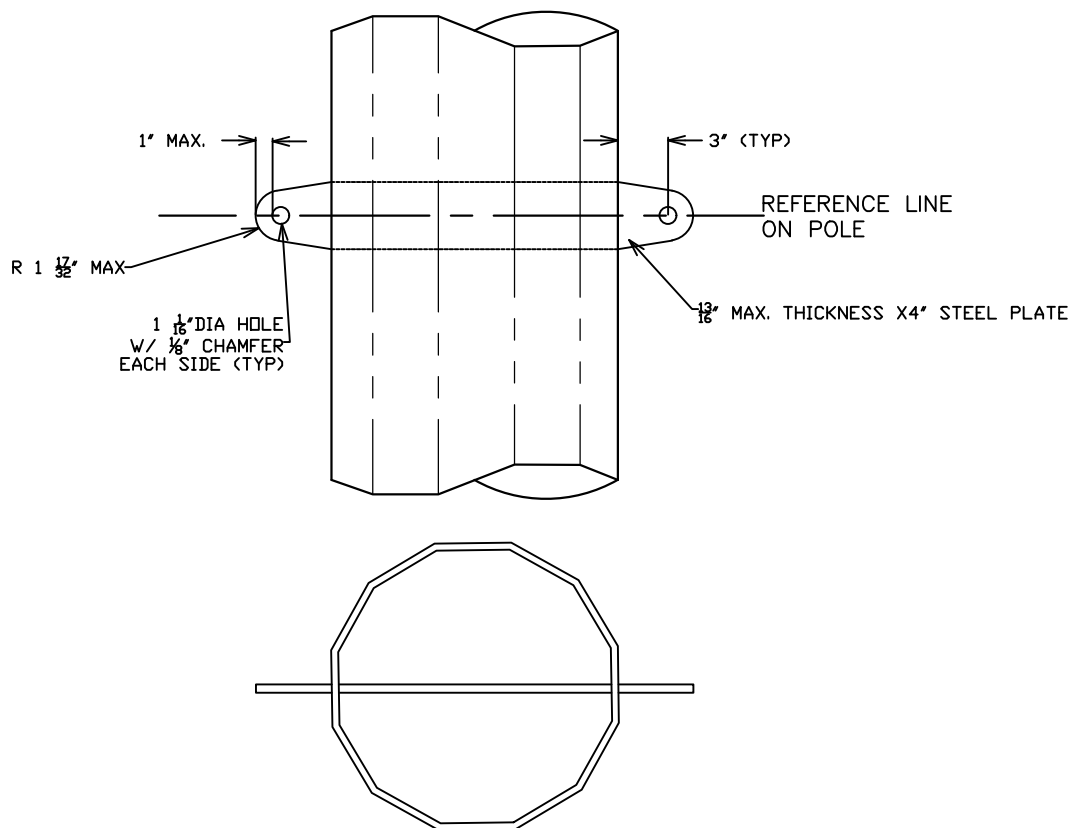
- SEE THE PROVIDED STREET LIGHT CUTSHEET, "JEA BKTSLO02" FOR BASE DIMENSIONS AND WEIGHT. STREET LIGHT BRACKET TO BE DESIGNED BY MANUFACTURER

NO.	REVISION	DATE	BY	CH'D	APP'D	REVISION	DATE	BY	CH'D	APP'D	ENGINEERING	RECORD	 BUILDING COMMUNITY	PROPOSED STR #017 POLE CONFIGURATION FOR THE 691-693 69 kV STRUCTURE REPLACEMENTS		PROJECT NO. 8010196
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	ISSUED FOR BID	08/18/25	AJS	JA							ASSIGNED	PLAN	12/10/24			
											DESIGNED	AJS	05/20/25			
											DRAWN	AJS	05/20/25	SCALE: N/A		PROJECT DESIGN SEGMENT 8010196
											CHECKED	JA	07/01/25			
											APP'D	TBD	-			SHEET NO. 3 OF 5

9. POLE ATTACHMENT DETAILS

- 1) Double Deadend Vang for Insulators/Shield/Guys
- 2) Double Deadend Vang for Fiber
- 3) Grounding Nut/Pad Attachment Details
- 4) Steel Pole Details/Bracket Details
- 5) Insulator Mounting Pad Details
- 6) Streetlight Bracket Details (JEA BKTSL002)

DOUBLE DEADEND VANG FOR INSULATORS/SHIELD/GUYS




NO.	REVISIONS TO DRAWING	BY	DATE	APPROVED	TRANSMISSION STANDARDS

SCALE:
NOT TO SCALE

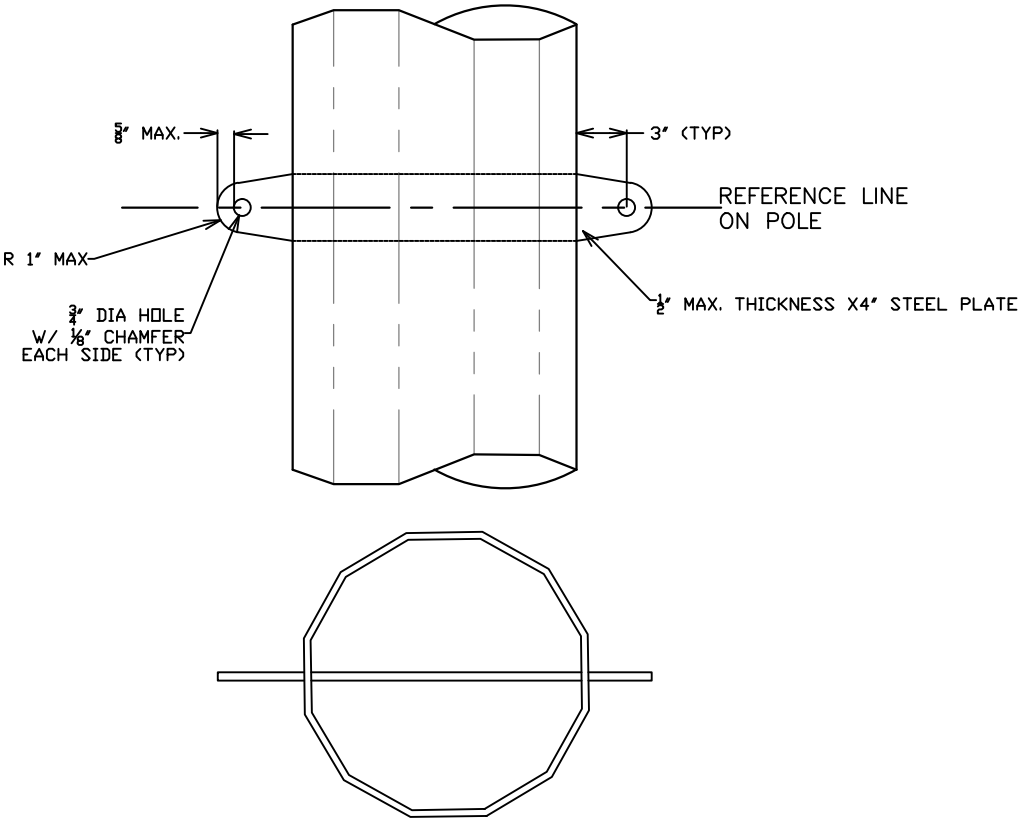
DEADEND VANG

STEEL POLE



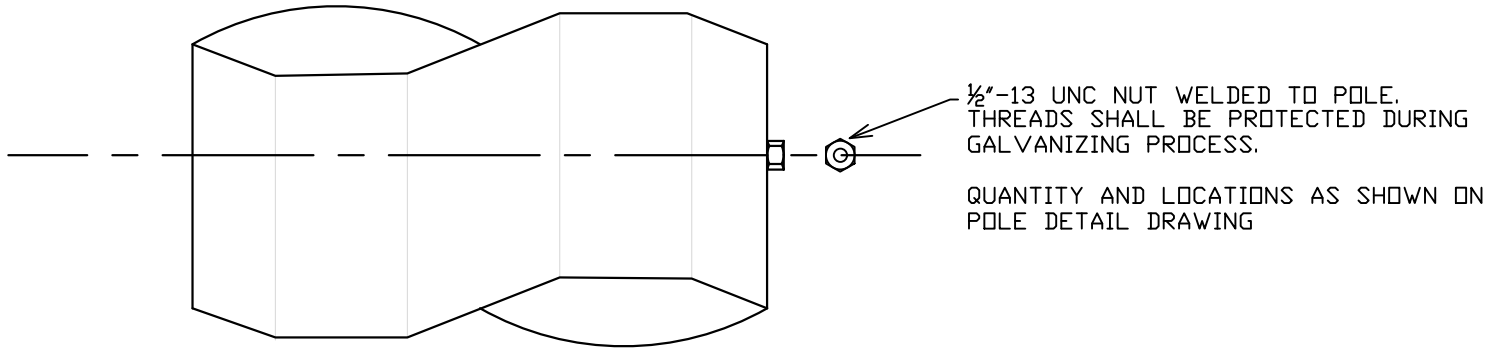
JEA
BUILDING COMMUNITY

DOUBLE DEADEND VANG FOR FIBER

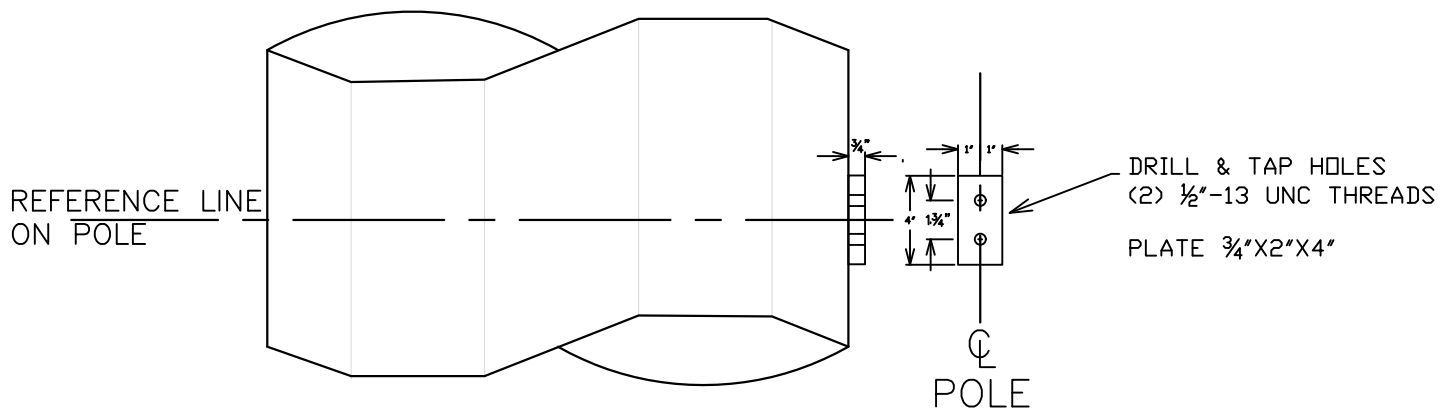


NO.	REVISIONS TO DRAWING	BY	DATE	APPROVED	TRANSMISSION STANDARDS	<div> <div>JEA</div> <div>BUILDING COMMUNITY</div> </div>
SCALE: NOT TO SCALE					DEADEND VANG STEEL POLE	

GROUNDING NUT DETAIL

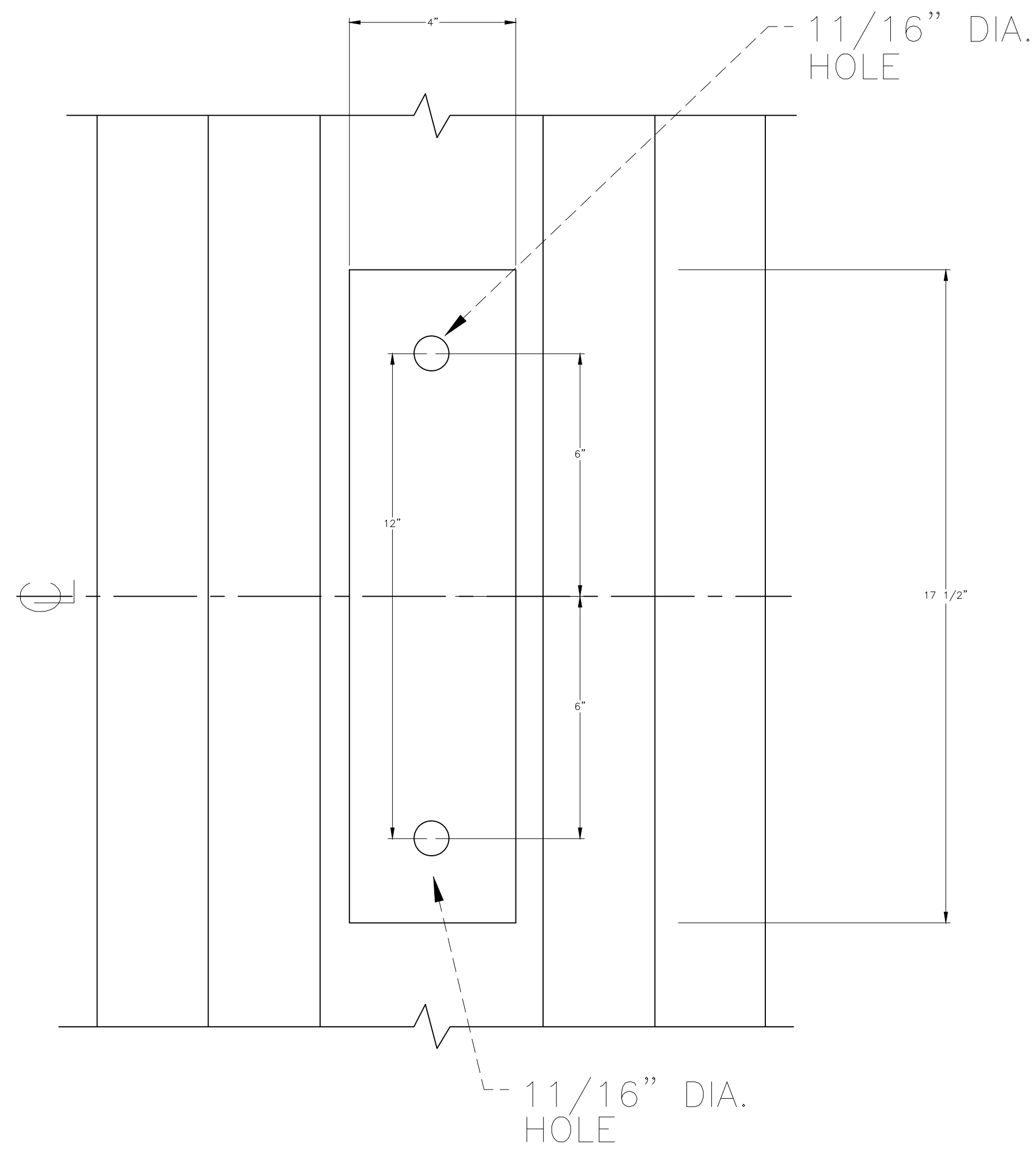


GROUNDING PAD DETAIL

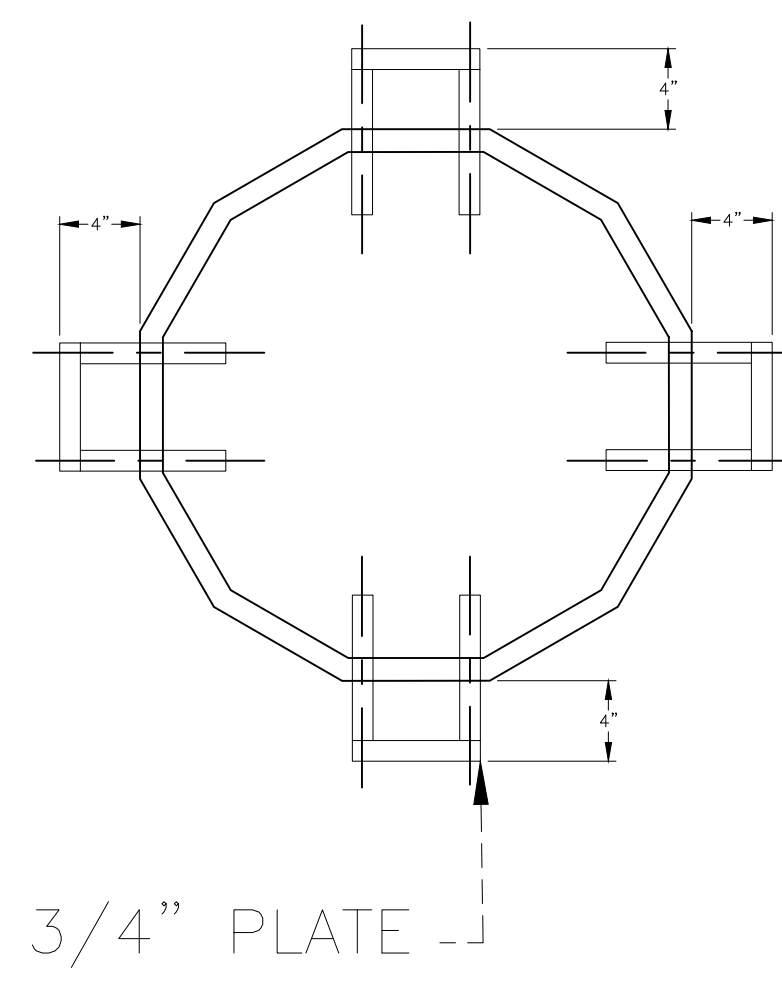


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5/8" BOLT UNDERBUILD BRACKET DETAIL



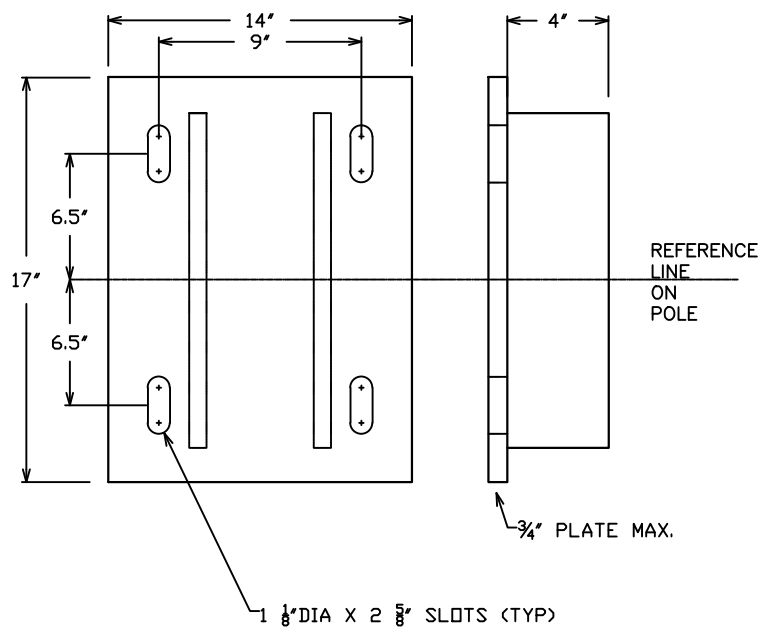
ELEVATION



PLAN

NO.	REVISION	DATE	BY	CH'D	APP'D		REVISION	DATE	BY	CH'D	APP'D	ENGINEERING RECORD			 <div>BUILDING COMMUNITY</div>	STEEL POLE DETAILS FOR THE 691-693 69 kV STRUCTURE REPLACEMENTS		PROJECT NO.
	ISSUED FOR 30% DESIGN REVIEW	05/20/25	AJS	JA								STATUS	BY	DATE				8010196
ISSUED FOR BID	08/18/25	AJS	JA								ASSIGNED	PLAN	12/10/24	DRAWING NO.				
											DESIGNED	AJS	05/20/25	TR 1404				
												DRAWN	AJS	05/20/25				
												CHECKED	AJS	07/01/25				
												APP'D	TBD	-			SHEET NO.	
														SCALE: N/A		PROJECT DESIGN SEGMENT 8010196		5 OF 5

INSULATOR MOUNTING PAD



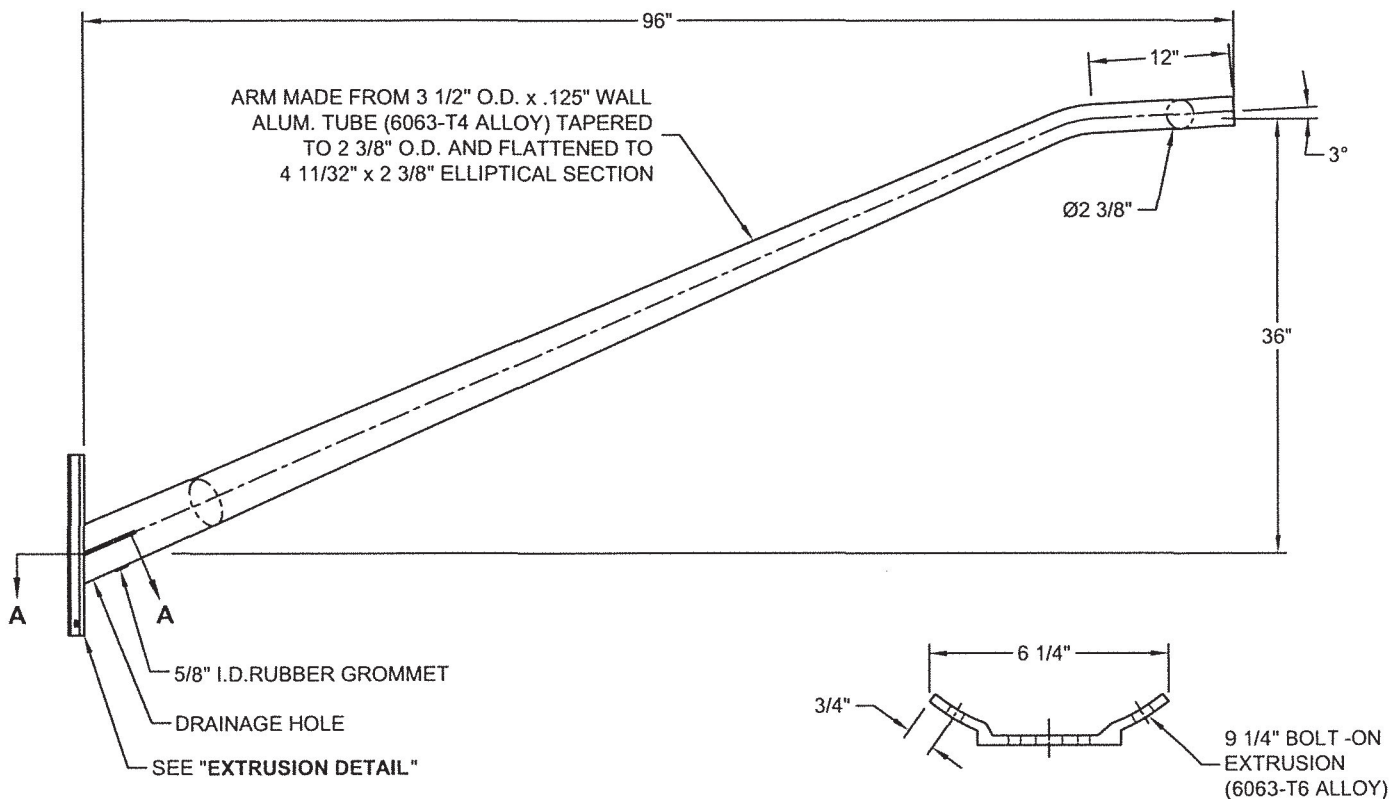
NO.	REVISIONS TO DRAWING	BY	DATE	APPROVED	TRANSMISSION STANDARDS

INSULATOR MOUNTING PAD

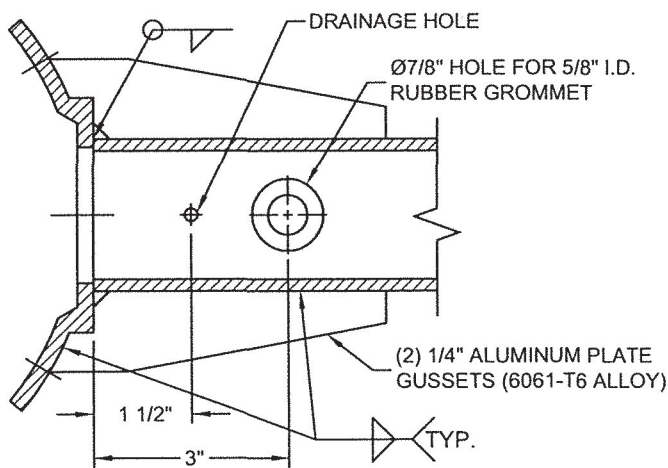
SCALE:
NOT TO SCALE

STEEL POLE

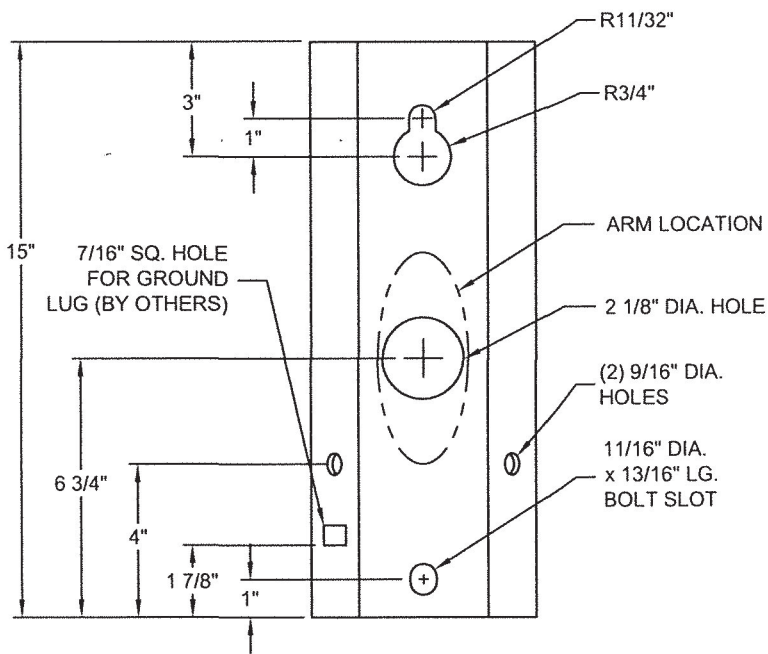




ARM RATING (PER AASHTO 2013):
 3-SEC GUST WIND SPEED: 130 MPH MAX
 EPA (LUMINAIRE): 1.5 SQ. FT. MAX
 WEIGHT (LUMINAIRE): 51 LBS MAX
 25 YEAR DESIGN LIFE
 45' MAX FIXTURE MOUNTING HEIGHT



SECTION A-A



EXTRUSION DETAIL

DO NOT SCALE

JEA #BKTSL002

valmont

Valmont Industries, Inc. Structures Division
 20805 Eaton Ave Farmington, Minnesota 55024-7932
 Phone: (651) 463-8990 (800) 899-7577
 Fax: (651) 463-3349

TITLE: S 8' x 36" x 3.5" SGL FS MS ARM B/O 9.25
 MODEL NO.: 1MA0836B925A
 MATERIAL: ALUMINUM ALLOY
 FINISH: 100 GRIT SATIN POLISH
 PROJECT: JACKSONVILLE ELECTRIC AUTHORITY
 SOLD TO:
 SHIP TO:
 P.O. NO:
 REP: ELECTRIC SALES ASSOCIATES

QTY: 1
 OWN BY: PVB
 CHK'D BY:
 APPR BY: JPS
 DATE: 07-28-17
 DWG NO: A6469

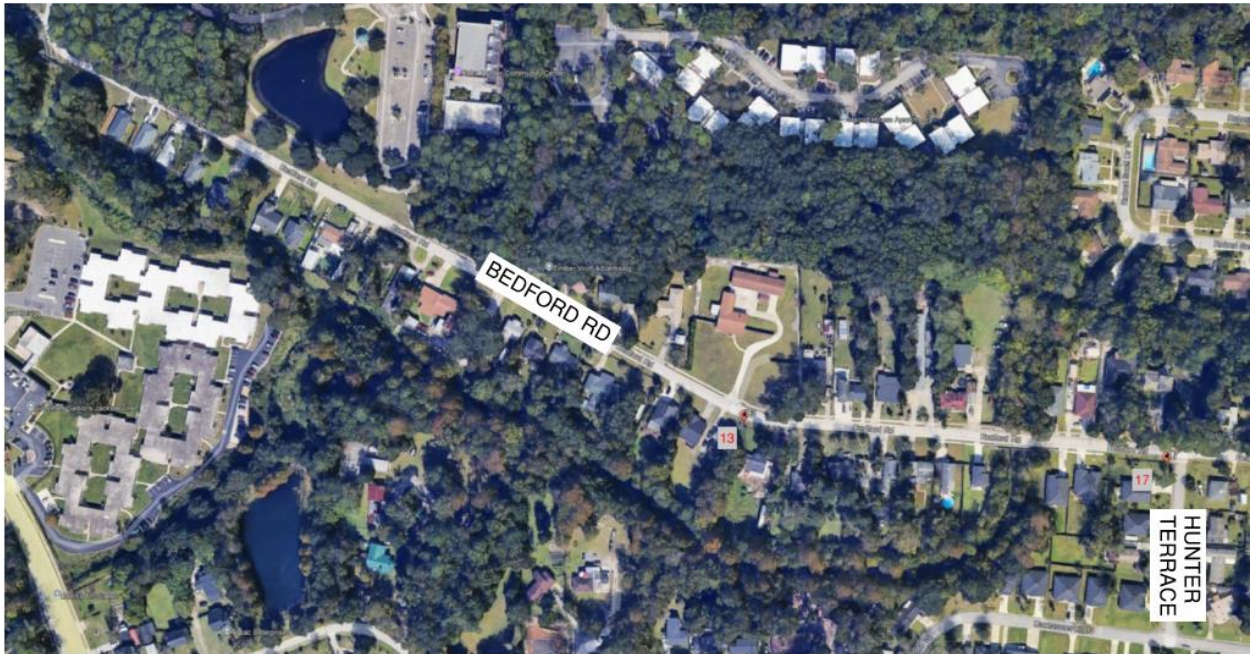
****CONFIDENTIAL****
 The information contained in this drawing is privileged and confidential, and may be protected from disclosure. Please be aware that any use or dissemination of this drawing may be subject to legal restriction or sanction.

REV	DATE	REVISION DESCRIPTION	BY
1	09-11-17	ADDED POLE & T-BASE PAGES	PVB
6	11		



10. POLE DELIVERY MAPS

- 1) The following map show the transmission corridor and the locations near 691-693 69kV Structure Replacement Project, where each pole shall be delivered. Structures are to be installed at the coordinates provided in the table below. Structures are to be installed upon arrival and not to be laid down.



Structure	Latitude	Longitude
13	30.28632281	-81.61629393
17	30.28609116	-81.61356208