

BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION

**IN THE MATTER OF SOUTHWESTERN)
PUBLIC SERVICE COMPANY'S)
APPLICATION FOR: (1) ISSUANCE OF A)
CERTIFICATE OF PUBLIC CONVENIENCE)
AND NECESSITY AUTHORIZING)
CONSTRUCTION AND OPERATION OF)
TWO 230 KV TRANSMISSION LINES AND)
ASSOCIATED SUBSTATION FACILITIES IN)
CURRY AND ROOSEVELT COUNTIES, NEW)
MEXICO; (2) APPROVAL OF THE)
LOCATION OF THE 230 KV TRANSMISSION)
LINES AND ASSOCIATED FACILITIES;)
AND (3) AUTHORIZING ACCRUAL OF AN)
ALLOWANCE FOR FUNDS USED DURING)
CONSTRUCTION FOR THE TRANSMISSION)
LINES AND ASSOCIATED FACILITIES,)
SOUTHWESTERN PUBLIC SERVICE)
COMPANY,)
APPLICANT.)**

CASE NO. 12-____-UT

DIRECT TESTIMONY

of

JEFFREY B. STEBBINS

on behalf of

SOUTHWESTERN PUBLIC SERVICE COMPANY

February 7, 2012

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GLOSSARY OF ACRONYMS AND DEFINED TERMS

Acronym/Defined Term	Meaning
CCN	Certificate of Public Convenience and Necessity
Commission	New Mexico Public Regulation Commission
kV	Kilovolt
Proposed Project	230/115 kV Pleasant Hill Substation and two 230 kV transmission lines and associated substation facilities in Curry and Roosevelt Counties, New Mexico
ROW	Right-of-way
SPS	Southwestern Public Service Company
Xcel Energy	Xcel Energy Inc.

LIST OF ATTACHMENTS

Attachment	Description
JBS-1	230 kV Transmission Structure Drawings

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Direct Testimony
of
Jeffrey B. Stebbins

1 **I. WITNESS IDENTIFICATION AND QUALIFICATIONS**

2 **Q. Please state your name and business address.**

3 A. My name is Jeffrey B. Stebbins and my business address is 600 S. Tyler Street,
4 Amarillo, Texas 79101.

5 **Q. On whose behalf are you testifying?**

6 A. I am filing testimony on behalf of Southwestern Public Service Company, a New
7 Mexico corporation (“SPS”), a wholly owned subsidiary of Xcel Energy Inc.
8 (“Xcel Energy”). Xcel Energy is a registered holding company that owns several
9 electric and natural gas utility operating companies and a regulated natural gas
10 pipeline company.¹

11 **Q. By whom are you employed and in what position?**

12 A. I am employed by SPS as Manager of Transmission Engineering Design.

¹ Xcel Energy is the parent company of four electric and gas utility operating companies: Northern States Power Company, a Minnesota corporation; Northern States Power Company, a Wisconsin corporation; Public Service Company of Colorado, a Colorado corporation; and SPS. Xcel Energy’s gas pipeline subsidiary is WestGas InterState, Inc.

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1 **Q. Please briefly outline your responsibilities as Manager of Transmission**
2 **Engineering Design.**

3 A. I supervise the design and related activities that involve the construction and
4 maintenance of SPS's transmission lines in New Mexico, Texas, Oklahoma, and
5 Kansas.

6 **Q. Describe your educational background.**

7 A. I received a Bachelor of Science degree in Electrical Engineering from University
8 of Colorado in December 1981, and a Masters of Business Administration from
9 West Texas State University in May 1988.

10 **Q. Please describe your professional experience.**

11 A. I began my employment with SPS in 1982 as a distribution engineer working on
12 the design of new power lines operated at 35 kilovolt ("kV") and below. In 1985,
13 I transferred to the Operations Department where I supervised transmission and
14 distribution switching procedures and coordinated the design of improvements to
15 various substations and interchanges. In 1990, I transferred into the Transmission
16 Planning Department, which is responsible for the evaluation and
17 recommendation of system loading and stability improvements. In 1993, I
18 transferred to the Transmission Engineering Design Department, which performs
19 design work for new power lines operated at 69 kV and above. In 2002, I was

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of
Jeffrey B. Stebbins

1 promoted to Team Lead of the SPS Transmission Systems Engineering
2 Department. In 2008, I was promoted to Manager of the SPS Transmission
3 Engineering Design Department.

4 **Q. Do you hold any professional licenses?**

5 A. Yes, I am a registered professional engineer in the states of New Mexico, Texas,
6 Oklahoma, Kansas, and Colorado.

7 **Q. Do you belong to any professional associations?**

8 A. Yes, I am a senior member of the Institute of Electrical and Electronics Engineers.

9 **Q. Have you testified before any regulatory authorities?**

10 A. Yes. I have testified before the New Mexico Public Regulation Commission
11 (“Commission”) in Case Nos. 03-00288-UT² and 07-00084-UT³, and before the
12 Public Utility Commission of Texas.

² *In the Matter of Southwestern Public Service Company's Application for a Certificate of Convenience and Necessity Authorizing a 230kV Transmission Line and Substation in Eddy County, New Mexico*, Case No. 03-00288-UT, Final Order Approving Recommended Decision (Jan. 13, 2004).

³ *In the Matter of Southwestern Public Service Company's Application for Issuance of a Certificate of Convenience and Necessity Authorizing Southwestern Public Service Company to Construct and Operate 115 and 230 kV Transmission Lines and Substation Facilities that will be Associated with Lea Power Partners, LLC's Hobbs Generating Station in Lea County, New Mexico and for Approval of the Location of the Proposed 230 kV Transmission Line*, Case No. 07-00084-UT, Final Order Approving Recommended Decision as Modified and Clarified (Oct. 11, 2007)

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1 transmission lines will be approximately 37 miles and approximately 230 steel
2 tangent structures will be installed.

3 **Q. Please describe the corner and termination structures and how many will be**
4 **installed?**

5 A. The structures used at corners and terminations of the 230 kV transmission lines
6 will be self-supporting steel single pole or H-frame structures installed on
7 concrete foundations as shown in Attachment JBS-1. Approximately 20 of these
8 structures will be used along the route (depending on the final route selection).
9 The steel structures will be fabricated of self-weathering steel.

10 **Q. What is the construction timetable for the Proposed Project?**

11 A. The transmission line design process will begin following the issuance of a CCN
12 (anticipated in the summer of 2012). Material requests will be submitted
13 beginning about halfway through the design process (in late 2012). All material
14 should be available approximately nine to twelve months after material requests
15 are initiated. Construction should take approximately eight months to complete.
16 The expected in-service date of the Proposed Project is December 2014.

1 **VI. LOCATION APPROVAL REQUIREMENTS AND PERMITS**

2 **Q. Please identify the transmission lines and associated facilities for which SPS**
3 **is requesting location approval under section 62-9-3 NMSA 1978 and**
4 **Commission Rule 17.9.592 NMAC.**

5 A. SPS is requesting location approval for the two 230 kV transmission lines and
6 associated substation facilities that will be built from Oasis Substation to the
7 proposed Pleasant Hill Substation and from the proposed Pleasant Hill Substation
8 to Roosevelt County Substation. Please refer to the Environmental Assessment
9 (Attachment HCH-1 to the direct testimony of Howard C. Higgins), Figure 1.1,
10 for a map of the preferred and alternative routes.

11 **Q. In relation to SPS's request that the Commission approve the proposed**
12 **location of the 230 kV transmission lines and associated substation facilities,**
13 **what governmental permits are required?**

14 A. All of the facilities are on private land and there are no governmental permits
15 required before the location of the two 230 kV transmission lines and associated
16 facilities can be approved.

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1 **Q. What permits are required for construction after the CCN is approved by**
2 **the Commission?**

3 A. After the Commission enters its order granting a CCN for the construction and
4 operation of the proposed 230 kV transmission lines and approves the location of
5 the lines and the proposed Pleasant Hill Substation, SPS will obtain the necessary
6 permits required for construction of the transmission line facilities. The permits
7 required after CCN approval and prior to construction may include:

- 8 • Curry County and Roosevelt County Road Crossing Permits
- 9 • New Mexico State Highway Department Permit to Install Utility Facilities
10 within Public Right-of-Way
- 11 • Federal Storm Water Discharge Permit
- 12 • Railroad Crossing Permit
- 13 • Federal Aviation Administration permit(s)

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1

VII. CONCLUSION

2 **Q. Was attachment JBS-1 prepared by you or under your supervision?**

3 A. Yes

4 **Q. Does this conclude your testimony?**

5 A. Yes.

VERIFICATION

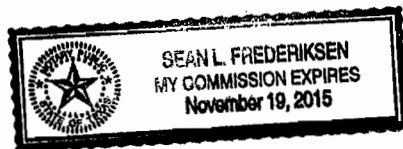
STATE OF TEXAS)
) ss.
COUNTY OF POTTER)

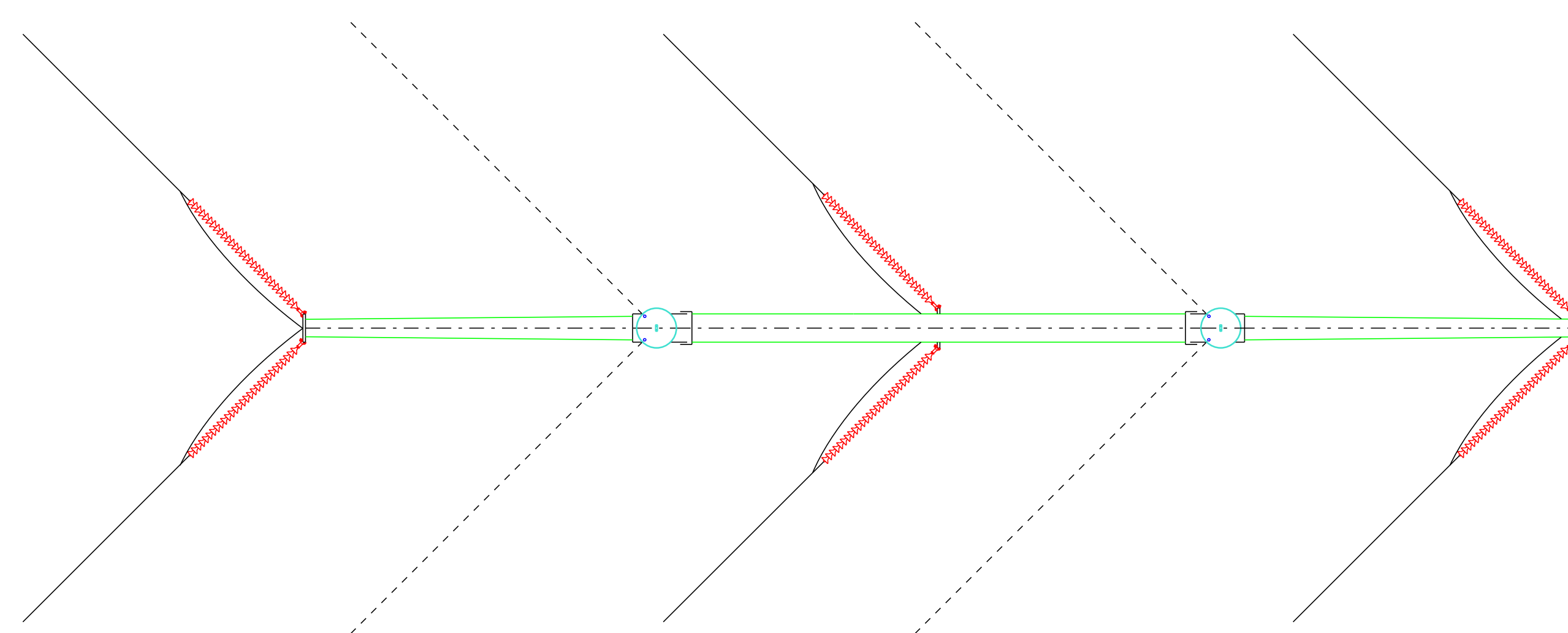
Jeffrey B. Stebbins being first duly sworn on oath, deposes and states that he is the witness identified in the foregoing prepared testimony, that he has read the testimony and is familiar with its contents, and that the facts set forth are true to the best of his knowledge, information, and belief.

Jeffrey B. Stebbins

SUBSCRIBED AND SWORN TO before me this 2nd day of February 2012.

Sean L. Frederiksen
Notary Public
My Commission Expires: 11/19/15



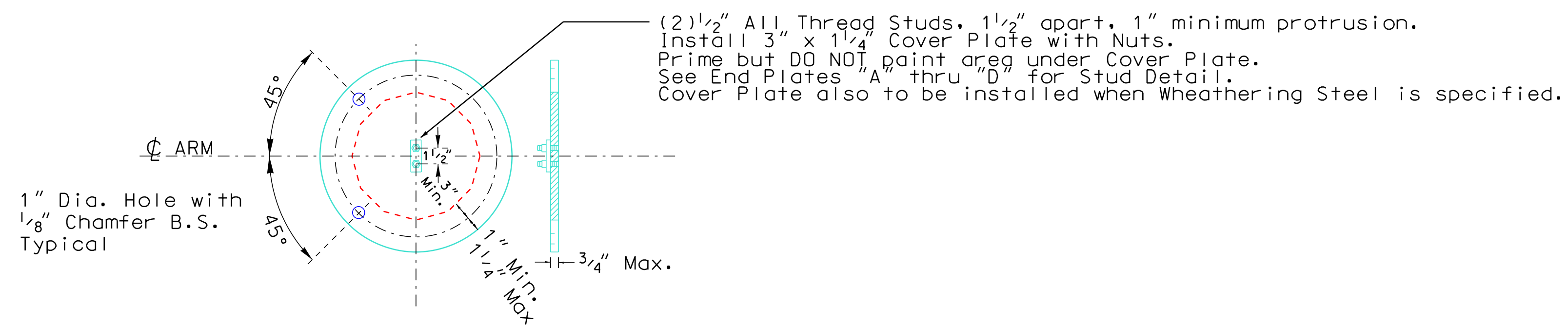
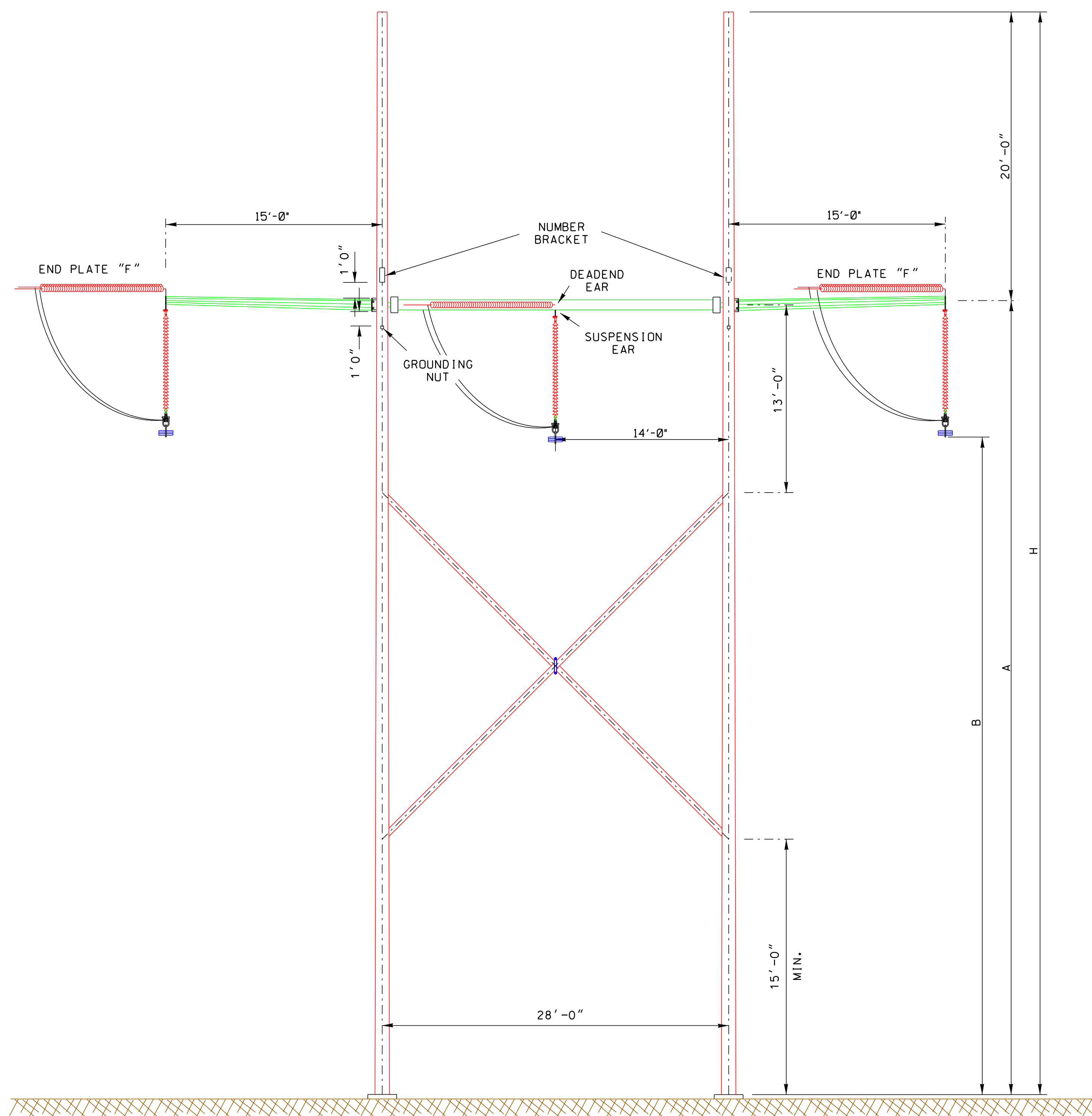


DESIGN NOTES:

1. FOR TOWER AND FOOTING LOAD DATA SEE FORM IN PROJECT FILE.
2. STRUCTURE DESIGN SHOWN IS FOR CONFIGURATION ONLY. ENGINEERING STRENGTH CALCULATIONS AND STRUCTURE DESIGN DETAILS MUST BE PERFORMED FOR EACH PROJECT.
3. INSTALL STEP LUGS FROM 85' ABOVE BASE PLATE TO POLE TOP.

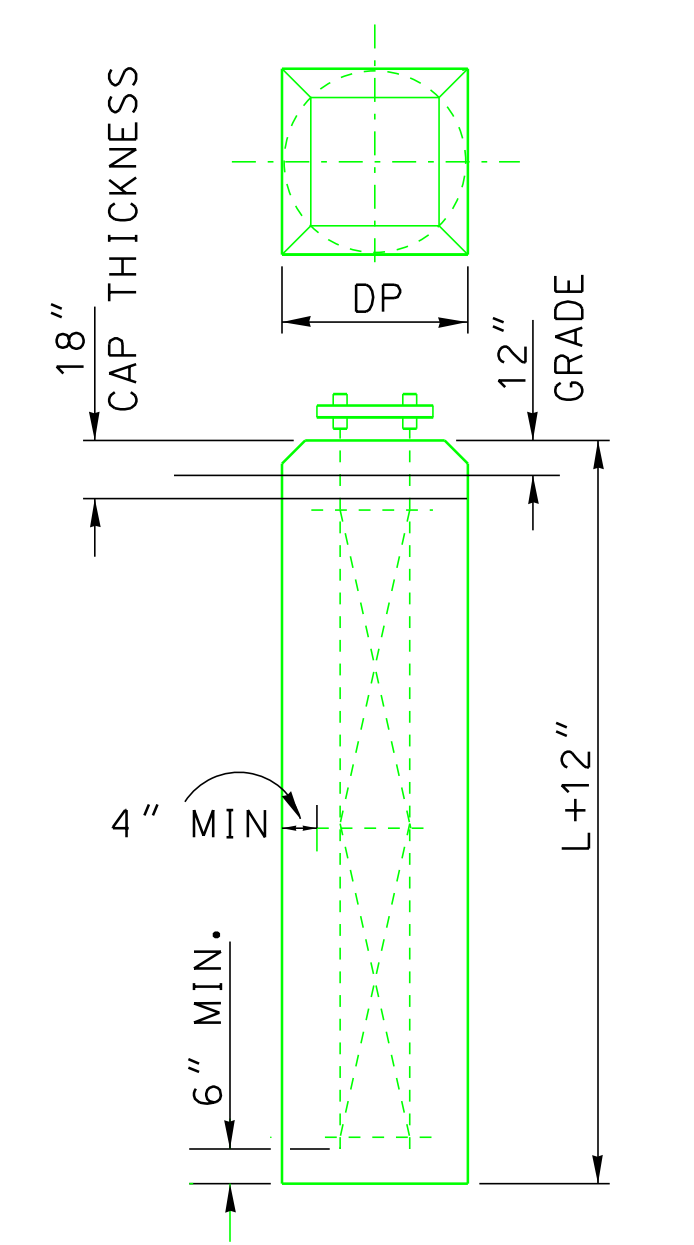
REFERENCE DRAWINGS:

1. SEE SHEET T-0-400 FOR GENERAL DETAILS
2. SEE SHEET T-0-400A FOR ARM END PLATE AND DEADEND EAR DETAILS
3. SEE SHEET T-0-400C FOR ANCHOR BOLT CAGE DETAILS.



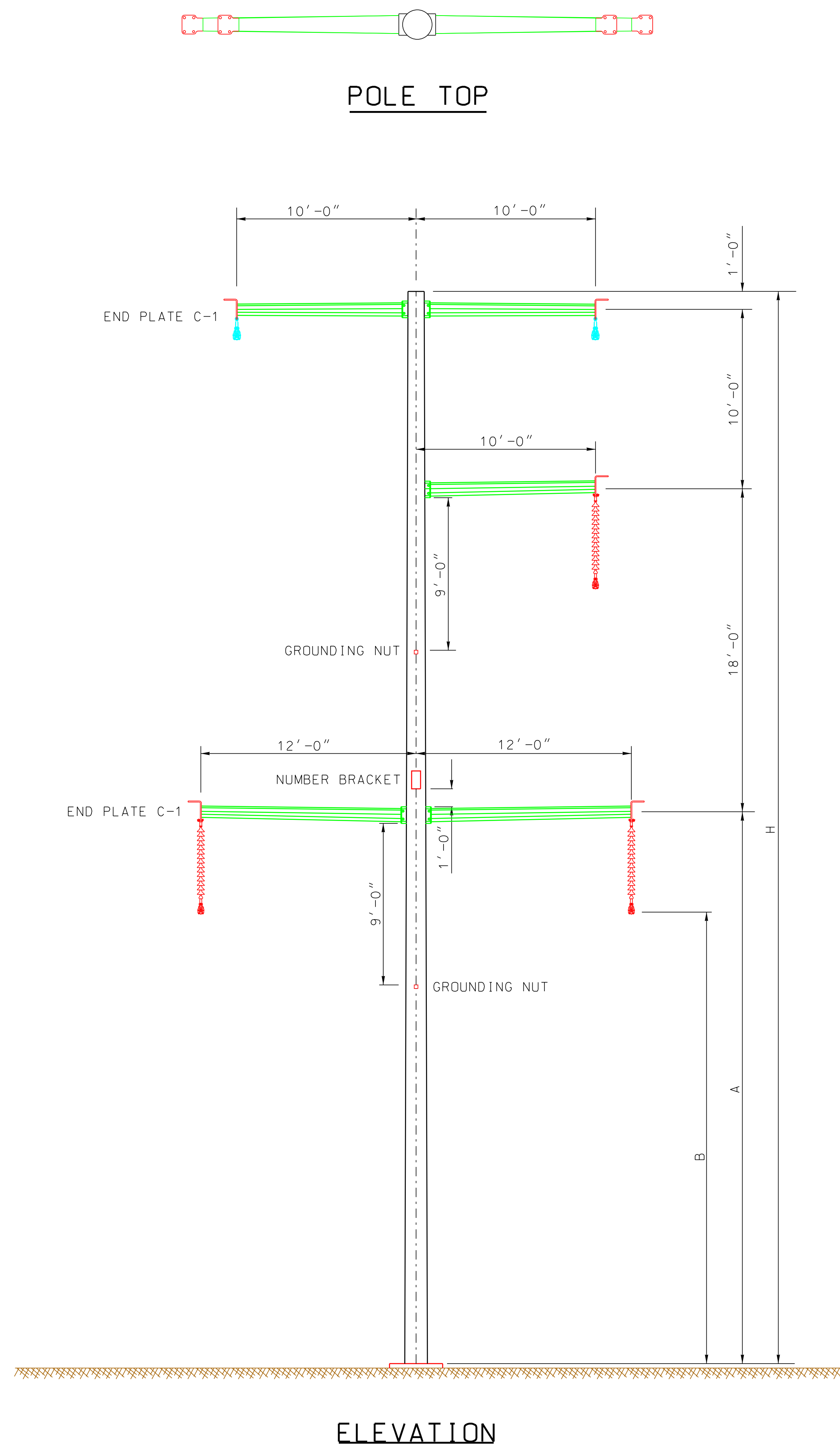
POLE TOP DETAIL

DIMENSIONS		
H	A	B
70'	50'-0"	40'-6"
75'	55'-0"	45'-6"
80'	60'-0"	50'-6"
85'	65'-0"	55'-6"
90'	70'-0"	60'-6"
95'	75'-0"	65'-6"
100'	80'-0"	70'-6"
105'	85'-0"	75'-6"
110'	90'-0"	80'-6"
115'	95'-0"	85'-6"
120'	100'-0"	90'-6"
125'	105'-0"	95'-6"
130'	110'-0"	100'-6"
135'	115'-0"	105'-6"
140'	120'-0"	110'-6"



FOOTING DATA

NO.	REVISIONS	BY	CHK.	APPR.	DATE
THIS DRAWING IS THE PROPERTY OF XCEL ENERGY, AMARILLO, TEXAS AND IS NOT TO BE REPRODUCED OR USED TO FURNISH ANY INFORMATION FOR THE MAKING OF DRAWINGS OR APPARATUS EXCEPT WHERE PROVIDED FOR BY AGREEMENT WITH SAID COMPANY.					
230 KV 75° - 100° STEEL CORNER STRUCTURE					
DRAWN	JDC	06-14-98	CHECKED	-	-
DESIGNED	-	-	APP. ENGR.	-	SCALE
APPROVAL	-	-	ENGINEER	-	-
CADD DWS. NO.			SHT. NO.		REV.
T-0-434					



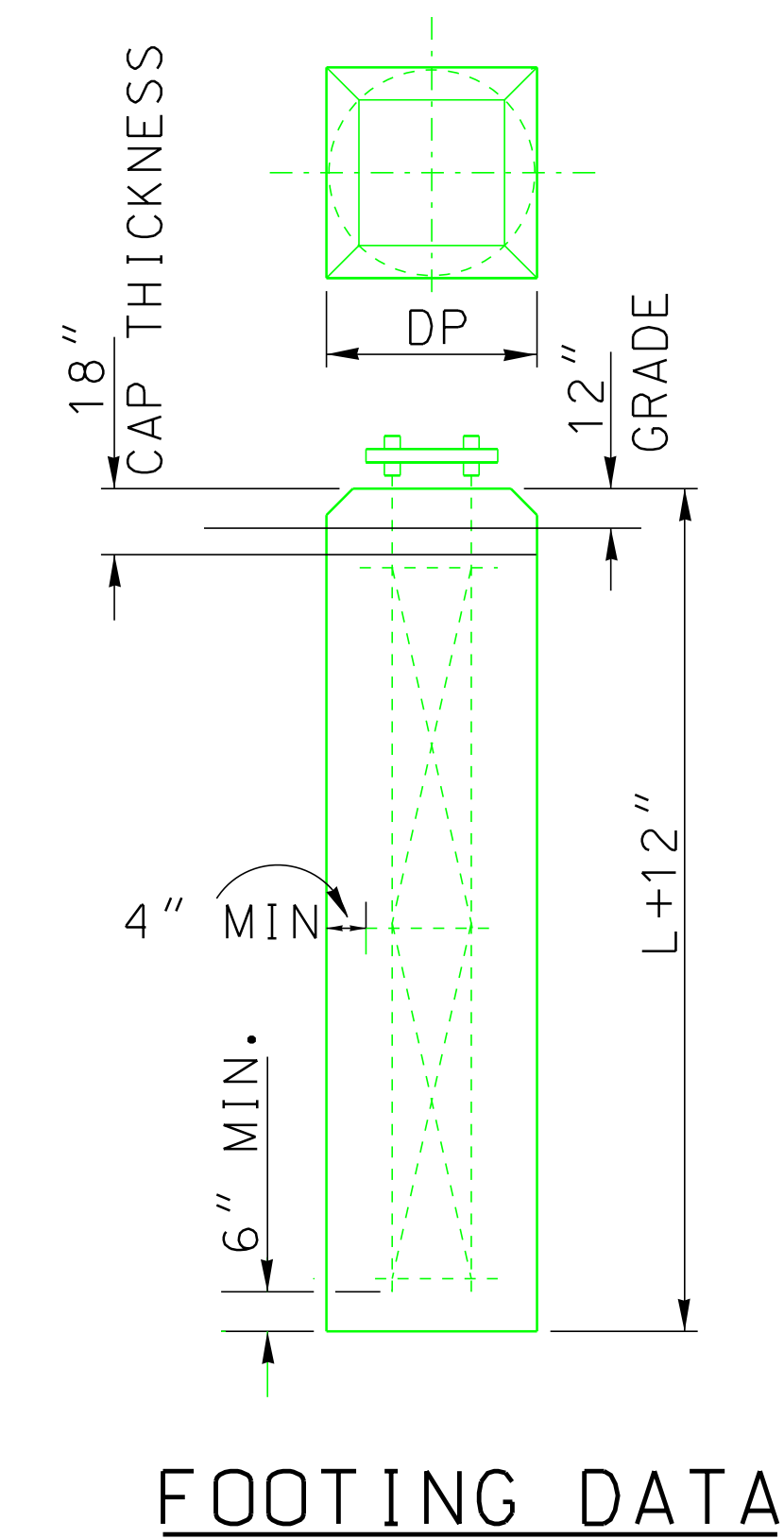
DIMENSIONS		
H	A	B
85'-0"	56'-0"	48'-6"
90'-0"	61'-0"	53'-6"
95'-0"	66'-0"	58'-6"
100'-0"	71'-0"	63'-6"
105'-0"	76'-0"	68'-6"
110'-0"	81'-0"	73'-6"
115'-0"	86'-0"	78'-6"
120'-0"	91'-0"	83'-6"
125'-0"	96'-0"	88'-6"
130'-0"	101'-0"	93'-6"
135'-0"	106'-0"	98'-6"
140'-0"	111'-0"	103'-6"
145'-0"	116'-0"	108'-6"

DESIGN NOTES:

- FOR TOWER AND FOOTING LOAD DATA SEE FORM IN PROJECT FILE.
- STRUCTURE DESIGN SHOWN IS FOR CONFIGURATION ONLY. ENGINEERING STRENGTH CALCULATIONS AND STRUCTURE DESIGN DETAILS MUST BE PERFORMED FOR EACH PROJECT.
- INSTALL STEP LUGS FROM 85FT. ABOVE BASE PLATE TO TOP OF POLE.

REFERENCE DRAWINGS:

- SEE SHEET T-0-400 FOR GENERAL DETAILS
- SEE SHEET T-0-400A FOR ARM END PLATE AND DEADEND EAR DETAILS
- SEE SHEET T-0-400C FOR ANCHOR BOLT CAGE DETAILS



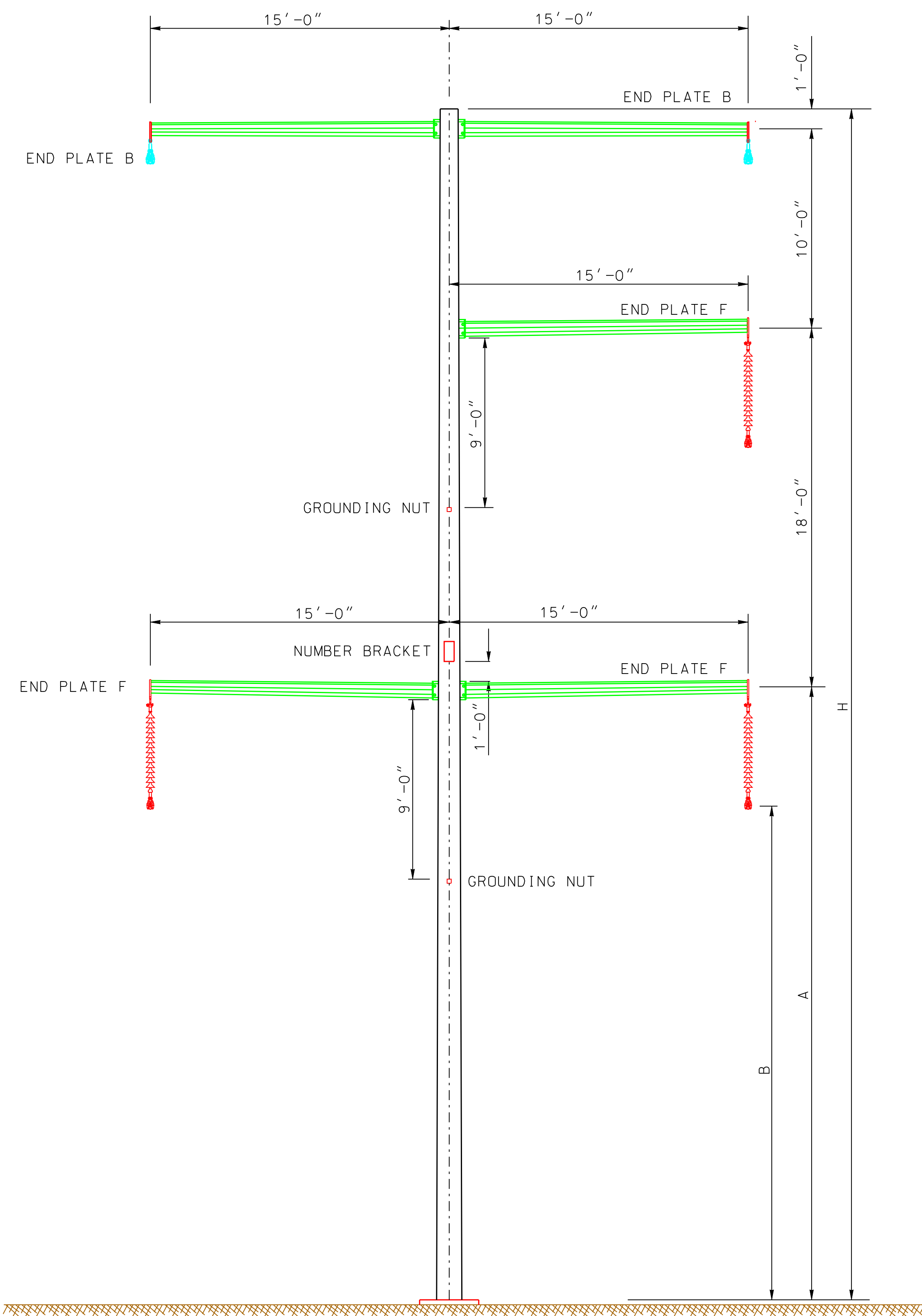
THIS MAP/DRAWING IS A TOOL TO ASSIST EMPLOYEES IN THE PERFORMANCE OF THEIR JOBS. YOUR PERSONAL SAFETY IS PROVIDED FOR BY USING SAFETY PRACTICES, PROCEDURES AND EQUIPMENT AS DESCRIBED IN THE SAFETY TRAINING PROGRAMS, MANUALS AND SPARS. CONFIDENTIAL. DO NOT COPY OR DISTRIBUTE TO OTHERS WITHOUT EXPRESS WRITTEN CONSENT FROM XCEL ENERGY.					
SPS OPERATING AREA TRANSMISSION ENGINEERING AMARILLO, TX	STEEL SINGLE POLE STRUCTURE DRAWING - T0 TANGENT STR				230 kV
APPROVING ENGINEER TEG	DATE 2011-06-06	DESIGNED DATE	DRAWN DATE KSL	CHECKED DATE 2011-06-06	SCALE
XcelEnergy® SD-T0-484				SHEET NUMBER 1 of 1	REV

DESIGN NOTES:

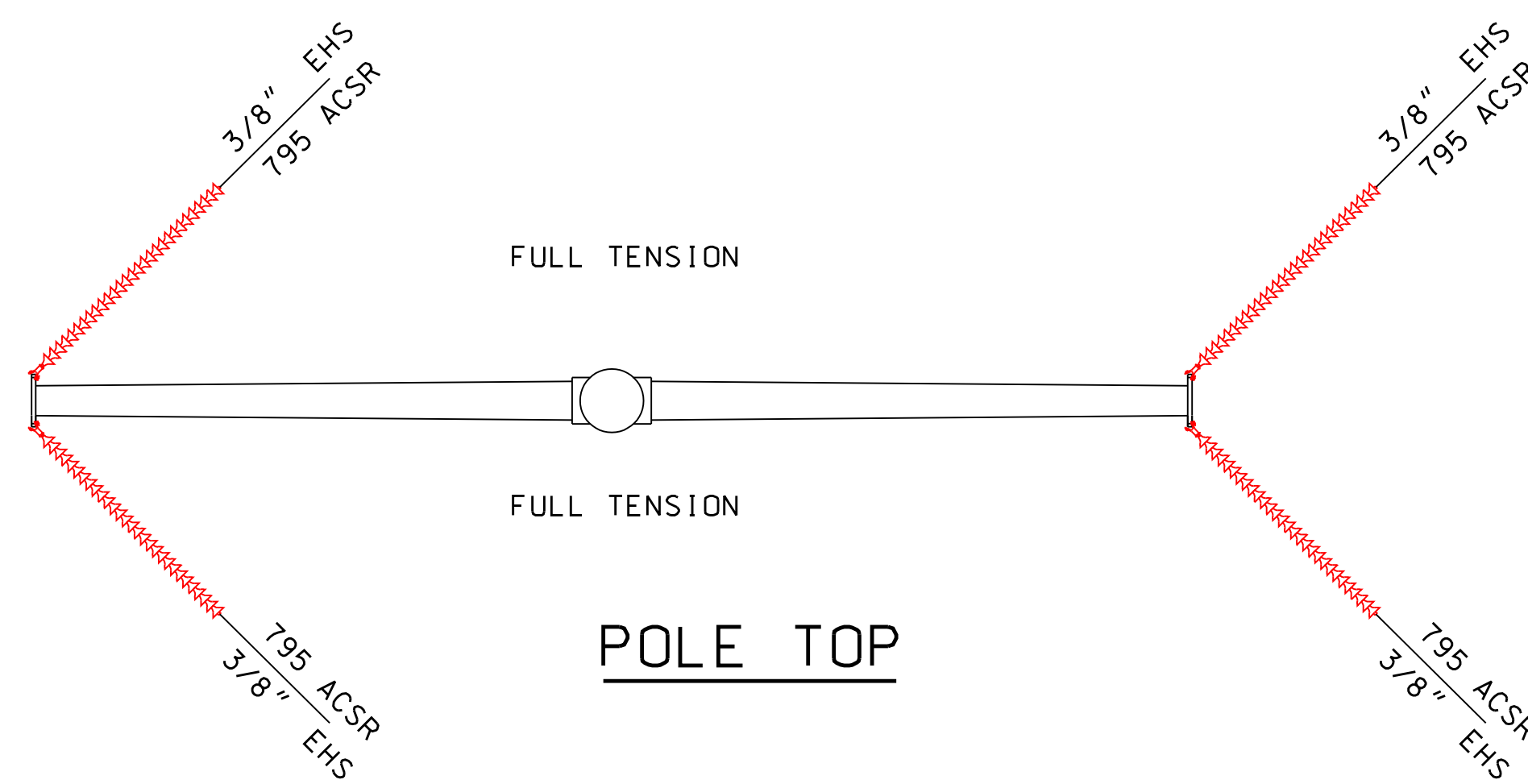
1. FOR TOWER AND FOOTING LOAD DATA SEE FORM IN PROJECT FILE.
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3. INSTALL STEP LUGS FROM 85FT. ABOVE BASE PLATE TO TOP OF POLE.

REFERENCE DRAWINGS:

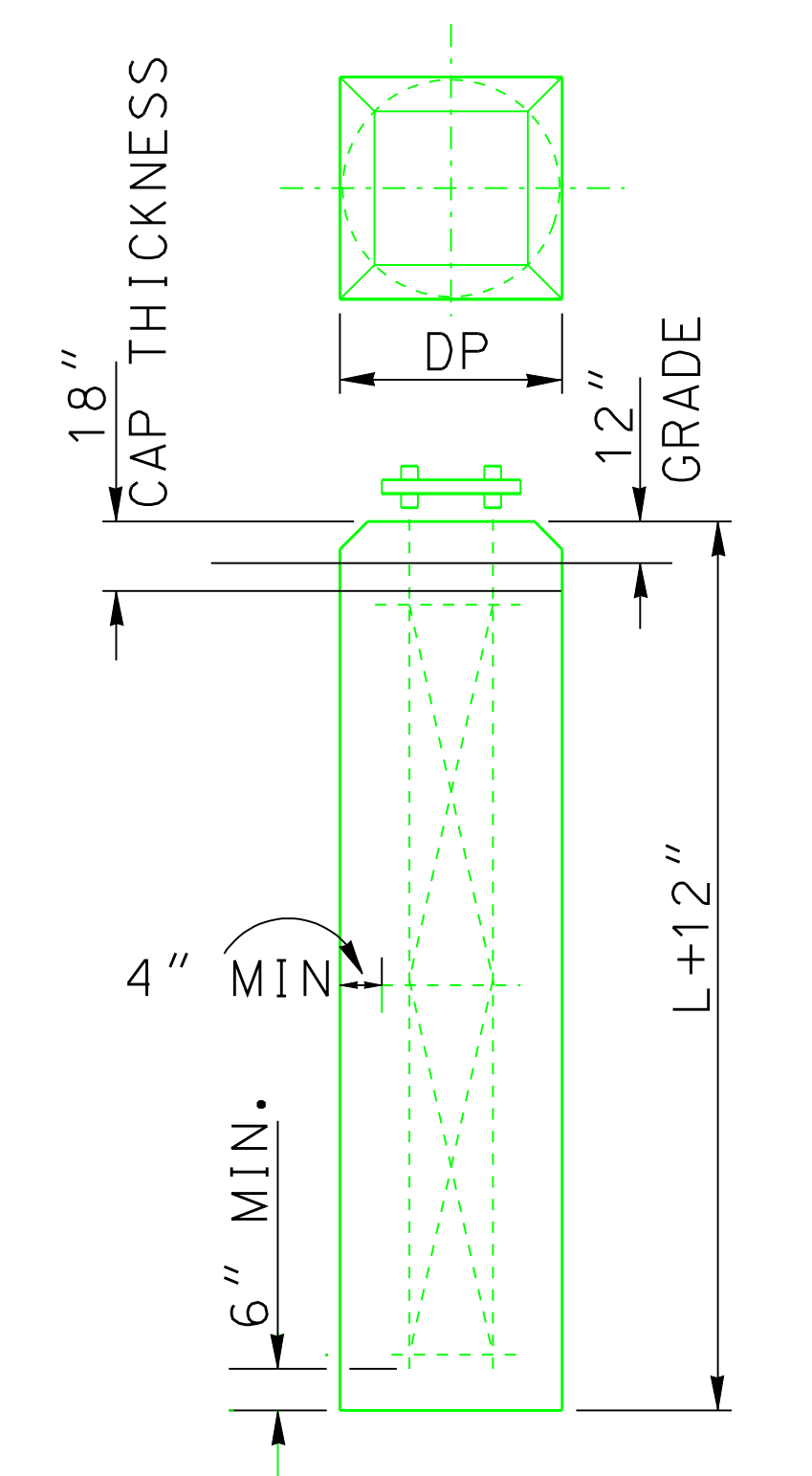
1. SEE SHEET T-0-400 FOR GENERAL DETAILS
2. SEE SHEET T-0-400A FOR ARM END PLATE AND DEADEND EAR DETAILS
3. SEE SHEET T-0-400C FOR ANCHOR BOLT CAGE DETAILS



ELEVATION



DIMENSIONS		
H	A	B
80'-0"	51'-0"	43'-6"
85'-0"	56'-0"	48'-6"
90'-0"	61'-0"	53'-6"
95'-0"	66'-0"	58'-6"
100'-0"	71'-0"	63'-6"
105'-0"	76'-0"	68'-6"
110'-0"	81'-0"	73'-6"
115'-0"	86'-0"	78'-6"
120'-0"	91'-0"	83'-6"



FOOTING DATA

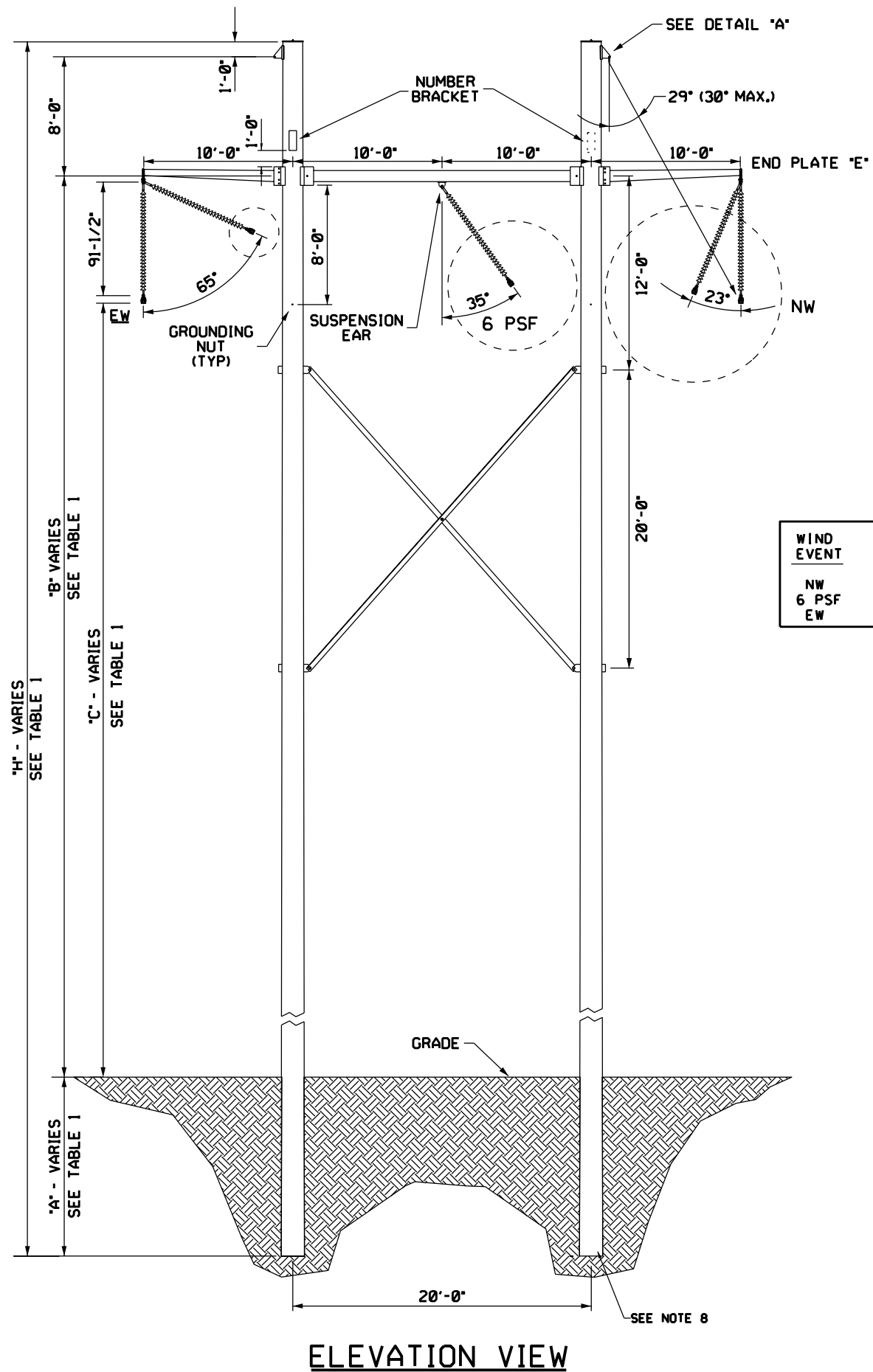
NO.	REVISIONS	BY	CHK.	APPR.	DATE

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**Southwestern
Public Service**

**230KV SGL POLE STEEL
100 DEG ANGLE STR**

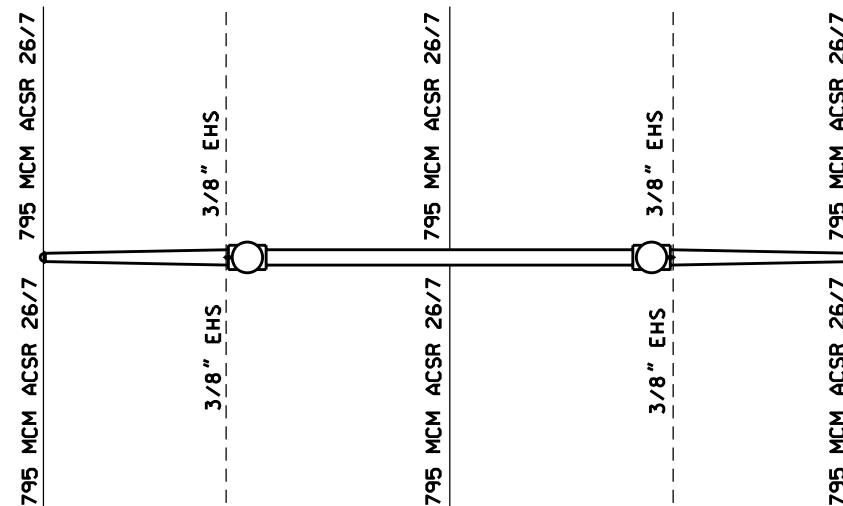
DRAWN	KSL	D6-16-08	CHECKED	- -		
DESIGNED	- -		APP. ENGR.	- -	SCALE	
APPROVAL	- -	ENGINEER	CADD DWG. NO.	T-60-468	SHT. NO.	REV.



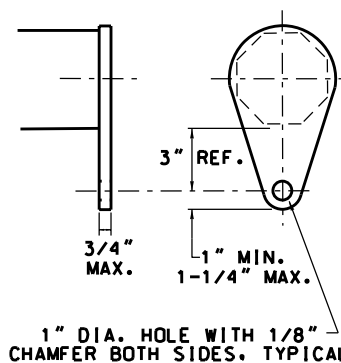
WIND EVENT	RADIAL CLEARANCE
NW	71"
6 PSF	52"
EW	20"

DIMENSIONS			
H	A	B	C
90'	14'0"	67'0"	58'6"
95'	14'6"	71'6"	63'0"
100'	15'0"	76'0"	67'6"
105'	15'6"	80'6"	72'0"
110'	16'0"	85'0"	76'6"
115'	16'6"	89'6"	81'0"
120'	17'0"	94'0"	85'6"

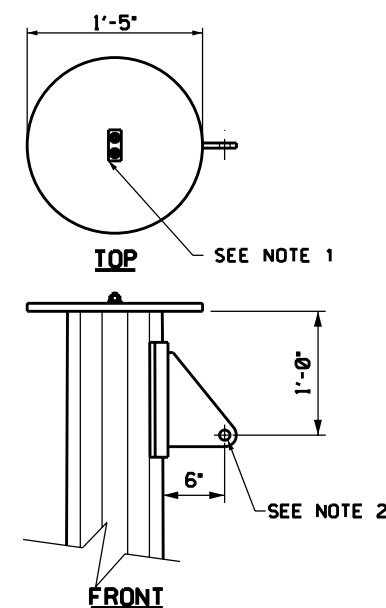
TABLE '1'



PLAN VIEW



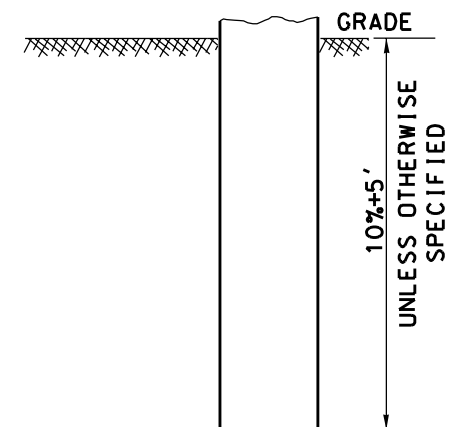
END PLATE 'E'



DETAIL 'A'

GENERAL NOTES

- (2) 1/2" ALL THREAD STUDS, 1-1/2" APART, 1" MINIMUM PROTRUSION. INSTALL 3" x 1-14" COVER PLATE WITH NUTS. FOR PAINTED POLES, PRIME, BUT DO NOT PAINT, AREA UNDER COVER PLATE. COVER PLATE SHALL BE INSTALLED WHEN WEATHERING STEEL IS SPECIFIED.
- 1" DIAMETER HOLE WITH 1/8" CHAMFER BOTH SIDES.
- INSTALL STEP LUGS FROM 85' ABOVE BASE PLATE TO TOP OF POLE.
- POLE HOLE DEPTH SHALL BE ACCURATE. WHEN HOLES DO NOT ALLOW STRUCTURE TO BE EVEN AND LEVEL. THE DEEP HOLE SHALL BE BACKFILLED AND THOROUGHLY TAMPED TO PROPER DEPTH.
- POLE NUMBER SHALL BE INSTALLED ON EACH POLE AS REQUIRED.
- SEE SHEET T-0-400 FOR GENERAL DETAILS.
- SEE SHEET T-0-400A FOR ARM END PLATE DETAILS.
- BEARING PLATES TO BE 12" LARGER THAN POLE DIAMETER. MINIMUM PLATE THICKNESS IS TO BE 5/8".
- SUSPENSION INSULATORS TO BE 230KV POLYMER INSULATORS.
- STRUCTURE DESIGN SHOWN IS FOR CONFIGURATION ONLY. ENGINEERING STRENGTH CALCULATIONS AND STRUCTURE DESIGN DETAILS MUST BE PERFORMED FOR EACH PROJECT.



DIRECT BURIAL DETAIL

REVISIONS			
REV.3, 01-18-10:	X-BRACE TO CROSS-ARM DIMENSION		
REV.2, 01-05-10:	DIMENSION TABLE, DIRECT BURIAL DETAIL, NOTES		
REV.1, 10-13-09:	CROSS ARM, DAVIT ARM STYLE, NOTES		

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DESCRIPTION			
230KV STEEL H-FRAME DIRECT EMBEDDED TANG. STR.			
	DRAWN BGK	DATE 5-11-09	CHECKED DMD: 5-11-09
APPROVED JGC: 5-11-09	SCALE NONE	ENGINEERING DEPT. TX T-10-421	REV. 3

PATTERSON & DEWAR ENGINEERS, INC.

850 CENTER WAY
NORCROSS, GEORGIA 30071
Phone (770) 453-1410
ENGINEERS - SURVEYORS

TEXAS REGISTERED ENGINEERING FIRM F-7149