



**NOTES FOR POLE TOP ASSEMBLY**

1. POLE TOP ASSEMBLY INCLUDES INSULATORS, HARDWARE, SUSPENSION CLAMPS, AND OPGW AND OHSW ASSEMBLY.
2. POLES WITH CROSSARM, BRACES AND MOUNTING BOLTS, GROUNDING, POLE NUMBER SIGN, AND OTHER ITEMS ARE INCLUDED IN SEPARATE CONSTRUCTION UNITS.
3. POLE TOP ASSEMBLY INCLUDES:

ITEM NO.	QTY.	DESCRIPTION	MANUF.	CAT. NO.	RUS CODE	DETAIL DRAWING
①	1	OPGW SUSPENSION ASSEMBLY				TM-4FS
②	3	230KV SUSPENSION INSULATOR ASSEMBLY				TM-2B

**NOTES FOR STEEL POLE MATERIALS AND LABOR**

1. POLE, ARM, SHALL BE GALVANIZED STEEL. POLE TO BE DIRECT EMBEDDED.
2. DESIGN CAPACITY WITH 1272 KCM 45/7 ACSR CONDUCTORS 3/8, EHS 7 STRAND OHSW AND 1/2" OPGW:  
 WIND SPAN.....800 FEET  
 WEIGHT SPAN.....1100 FEET  
 LINE ANGLE.....3 DEG. MAX.  
 SPECIFIC LOAD CASES AND LOADING TREES ARE SHOWN ELSEWHERE.
3. POLES MAY BE SINGLE PIECE OR HAVE A FABRICATION JOINT.
4. IN ADDITION TO THE SPECIFIED LOADINGS, ALL ARMS SHALL BE CAPABLE OF WITHSTANDING THE FOLLOWING STRINGING LOADS:  
 $V = 2.6K$   
 $L = 7.0K$   
 TYPICAL PHASE ATTACHMENT IS SHOWN. DESIGN AND DETAILING OF PHASE ATTACHMENT SHALL BE BY FABRICATOR. END CLOSURES SHALL BE PROVIDED FOR ALL OPEN SECTIONS.

**PRELIMINARY**

REV.	DESCRIPTION	DRWN	DSGN	APPD	DATE
A	PRELIMINARY	A. BURGARD	S. VASSINDER		3/7/08

REFERENCE DRAWINGS	FACTORY: TRANSMISSION SYSTEM MAINTENANCE	DESIGN BY: S. VASSINDER	3/7/08
	LOCATION/UNIT: 181-230KV LINE-BELFIELD SUBSTATION TO RHAME SUBSTATION	DRAWN BY: A. BURGARD	3/7/08
	CONTRACT/DESIGNATION:	BRN: L. FROELICH	
	APPROVED:		
230KV SINGLE POLE TANGENT STRUCTURES TYPE ST		SCALE: DO NOT SCALE	
		VENDOR/ORIGINATED FROM:	
<b>BASIN ELECTRIC POWER COOPERATIVE</b> 1717 EAST INTERSTATE AVENUE BISMARCK, NORTH DAKOTA 58503-0564 PHONE: 701-223-0441		VENDOR DRAWING NO. ORIGINAL REV	
		BASIN DRAWING NO. REV NO	181-090-T2-001 A