Valmont Industries, Inc.
7002 North 288th St.
P.O. Box 358
Valley, Nebraska 68064-0358 USA
(402) 359-2201

Transmission Structure Calculations
for
OMPA
Waynoka 24KV/69KV Relocate
Valmont Quote #607956

Tuesday, 30 January 2024

Prepared By:
wmp

Valmont Industries, Inc.
7002 North 288th St.
P.O. Box 358
Valley, Nebraska 68064-0358 USA
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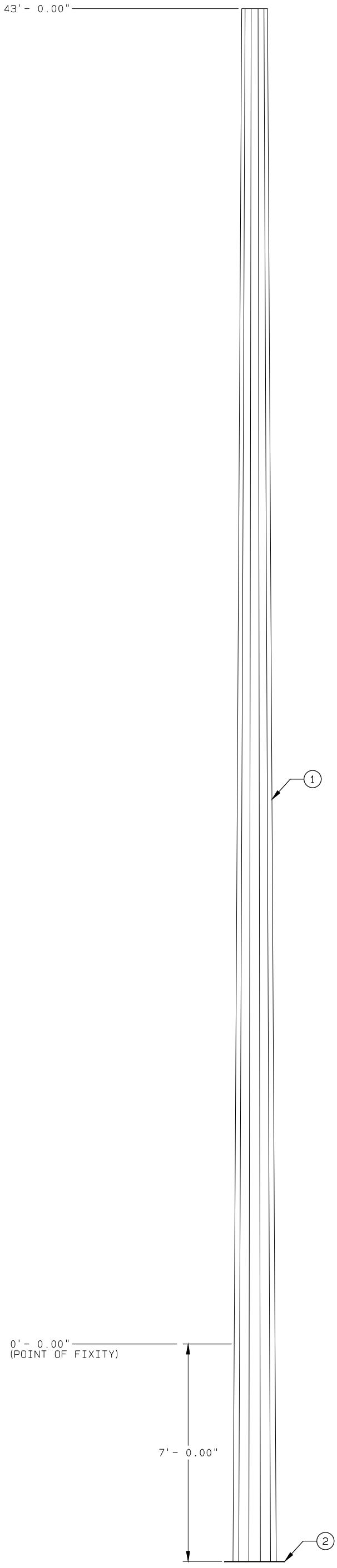
ITEM ID	NO. REQD	FEATURES	UNIT WEIGHT (LBS)	WEIGHT (LBS)
1	1	SECTION A VALMONT S-22 0.188" THK (A572 GR65)	1,336	1,336
2	1	BEARING PLATE	17	17
		GALVANIZING	51	51
	1	EXTERIOR COAL TAR 20 MILS (LENGTH = 8.00')		
	28	HOLE 1.13" DIA		
	4	GROUND PLATE	1	4
	1	POLE CAP	7	7

NOTES:

1. POLE SHAFT-GOVERNING REACTIONS.
   MOMENT = 2,053 IN-KIPS
   SHEAR = 4,160 #
   VERTICAL = 1,336 #



SECTION INFORMATION					
ITEM ID	LENGTH	BASE OD	TOP OD	THK	MATL
1	50'- 0.00"	16.73"	9.97"	0.188"	A572 65 KSI

ORDER	PROJECT	FILE ID	SCALE	DATE	ENGR
	607956	50H2	NONE	01/30/24	WMP

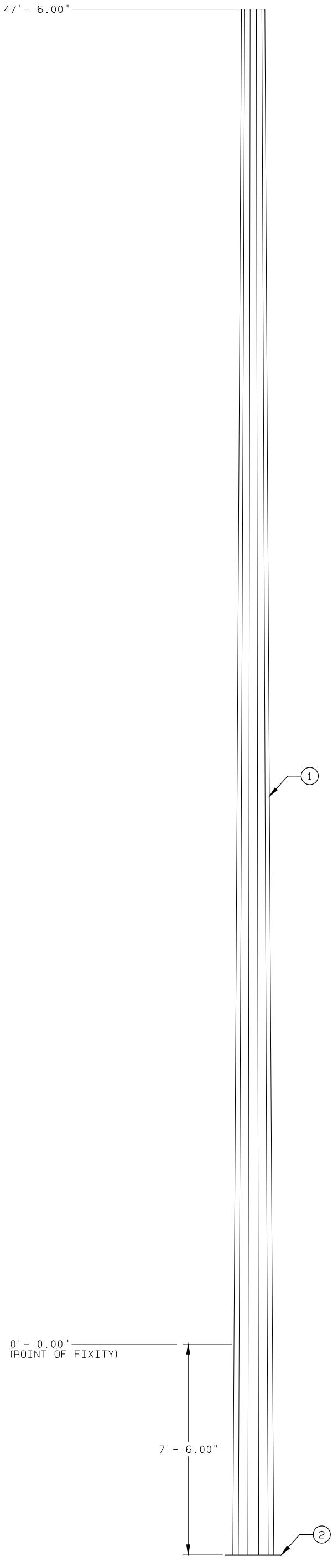
DESCRIPTION
OMPA, 43.0' AGH, 50' CLASS H2 STEEL POLES, 607956

valmont

ITEM ID	NO. REQD	FEATURES	UNIT WEIGHT (LBS)	WEIGHT (LBS)
1	1	SECTION A VALMONT S-22 0.188" THK (A572 GR65)	1,507	1,507
2	1	BEARING PLATE	18	18
		GALVANIZING	58	58
	1	EXTERIOR COAL TAR 20 MILS (LENGTH = 8.50')		
	28	HOLE 1.13" DIA		
	4	GROUND PLATE	1	4
	1	POLE CAP	7	7

NOTES:

1. POLE SHAFT-GOVERNING REACTIONS.
   MOMENT = 2,280 IN-KIPS
   SHEAR = 4,160 #
   VERTICAL = 1,507 #



SECTION INFORMATION					
ITEM ID	LENGTH	BASE OD	TOP OD	THK	MATL
1	55'- 0.00"	17.40"	9.97"	0.188"	A572 65 KSI

ORDER	PROJECT	FILE ID	SCALE	DATE	ENGR
	607956	55H2	NONE	01/26/24	WMP

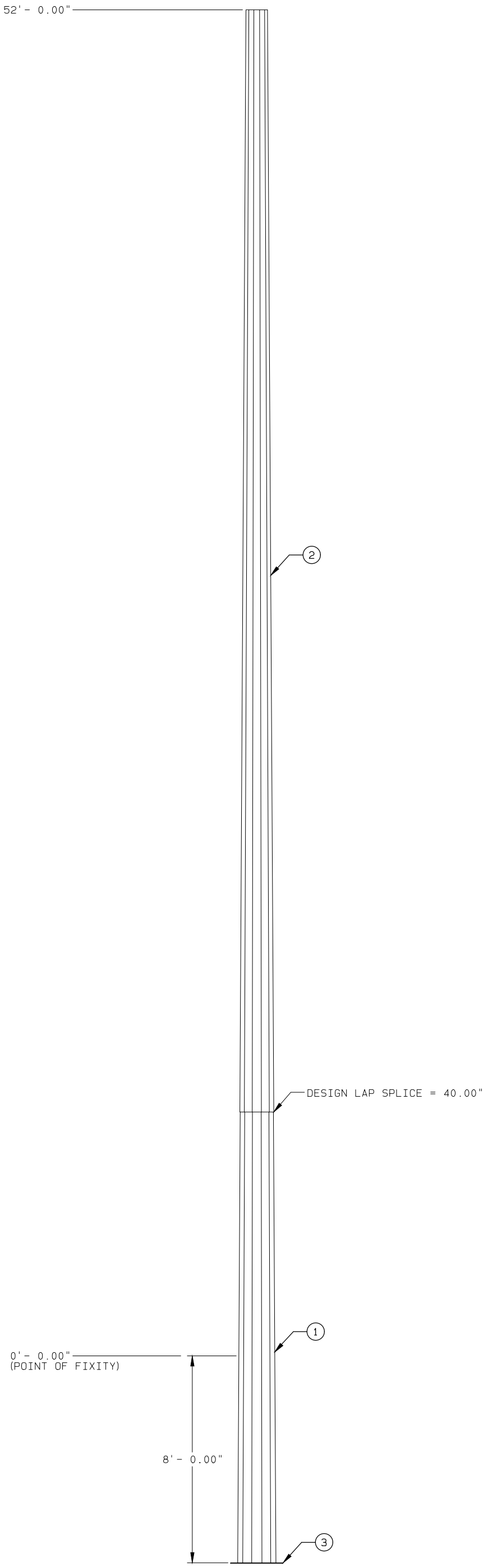
DESCRIPTION
OMPA, 47.5' AGH, 55' CLASS H2 STEEL POLES, 607956

valmont

ITEM ID	NO. REQD	FEATURES	UNIT WEIGHT (LBS)	WEIGHT (LBS)
1	1	SECTION A VALMONT S-22 0.188" THK (A572 GR65)	680	680
2	1	SECTION B VALMONT S-22 0.188" THK (A572 GR65)	1,094	1,094
3	1	BEARING PLATE	19	19
		GALVANIZING	68	68
	1	EXTERIOR COAL TAR 20 MILS (LENGTH = 9.00')		
	28	HOLE 1.13" DIA		
	4	GROUND PLATE	1	4
	1	POLE CAP	7	7

NOTES:

1. POLE SHAFT-GOVERNING REACTIONS.
   MOMENT = 2,508 IN-KIPS
   SHEAR = 4,160 #
   VERTICAL = 1,774 #



SECTION INFORMATION					
ITEM ID	LENGTH	BASE OD	TOP OD	THK	MATL
1	20'- 9.00"	17.70"	14.90"	0.188"	A572 65 KSI
2	42'- 7.00"	15.72"	9.97"	0.188"	A572 65 KSI

ORDER	PROJECT	FILE ID	SCALE	DATE	ENGR
	607956	60H2	NONE	01/26/24	WMP

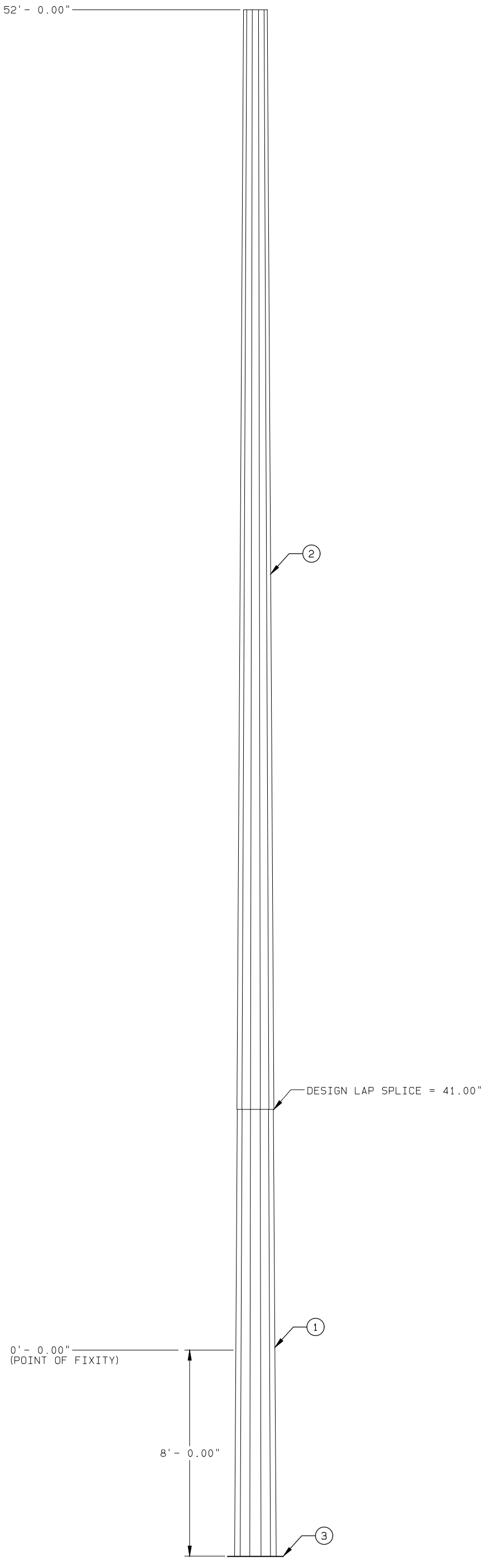
DESCRIPTION
OMPA, 52.0' AGH, 60' CLASS H2 STEEL POLES, 607956

valmont

ITEM ID	NO. REQD	FEATURES	UNIT WEIGHT (LBS)	WEIGHT (LBS)
1	1	SECTION A VALMONT S-22 0.188" THK (A572 GR65)	745	745
2	1	SECTION B VALMONT S-22 0.188" THK (A572 GR65)	1,206	1,206
3	1	BEARING PLATE	22	22
		GALVANIZING	75	75
	1	EXTERIOR COAL TAR 20 MILS (LENGTH = 9.00')		
	28	HOLE 1.13" DIA		
	4	GROUND PLATE	1	4
	1	POLE CAP	8	8

NOTES:

1. POLE SHAFT-GOVERNING REACTIONS.
   MOMENT = 2,938 IN-KIPS
   SHEAR = 4,876 #
   VERTICAL = 1,951 #



SECTION INFORMATION					
ITEM ID	LENGTH	BASE OD	TOP OD	THK	MATL
1	20'- 9.00"	19.33"	16.32"	0.188"	A572 65 KSI
2	42'- 8.00"	17.19"	11.01"	0.188"	A572 65 KSI

ORDER	PROJECT	FILE ID	SCALE	DATE	ENGR
	607956	60H3	NONE	01/26/24	WMP

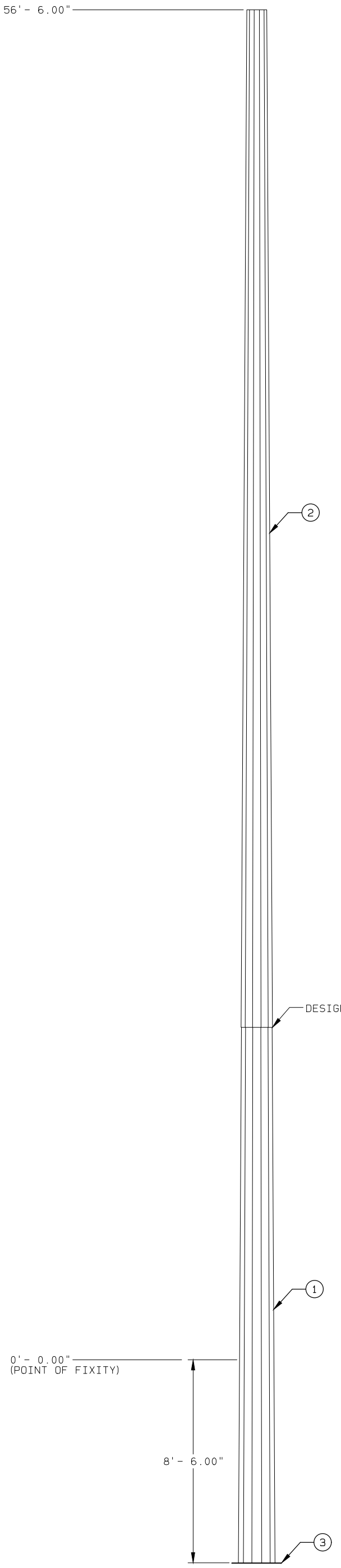
DESCRIPTION
OMPA, 52.0' AGH, 60' CLASS H3 STEEL POLES, 607956

valmont

ITEM ID	NO. REQD	FEATURES	UNIT WEIGHT (LBS)	WEIGHT (LBS)
1	1	SECTION A VALMONT S-22 0.188" THK (A572 GR65)	862	862
2	1	SECTION B VALMONT S-22 0.188" THK (A572 GR65)	1,094	1,094
3	1	BEARING PLATE	20	20
		GALVANIZING	75	75
	1	EXTERIOR COAL TAR 20 MILS (LENGTH = 9.50')		
	28	HOLE 1.13" DIA		
	4	GROUND PLATE	1	4
	1	POLE CAP	7	7

NOTES:

1. POLE SHAFT-GOVERNING REACTIONS.
   MOMENT = 2,736 IN-KIPS
   SHEAR = 4,160 #
   VERTICAL = 1,955 #



SECTION INFORMATION					
ITEM ID	LENGTH	BASE OD	TOP OD	THK	MATL
1	25'- 9.00"	18.38"	14.90"	0.188"	A572 65 KSI
2	42'- 7.00"	15.72"	9.97"	0.188"	A572 65 KSI

ORDER	PROJECT	FILE ID	SCALE	DATE	ENGR
	607956	65H2	NONE	01/26/24	WMP

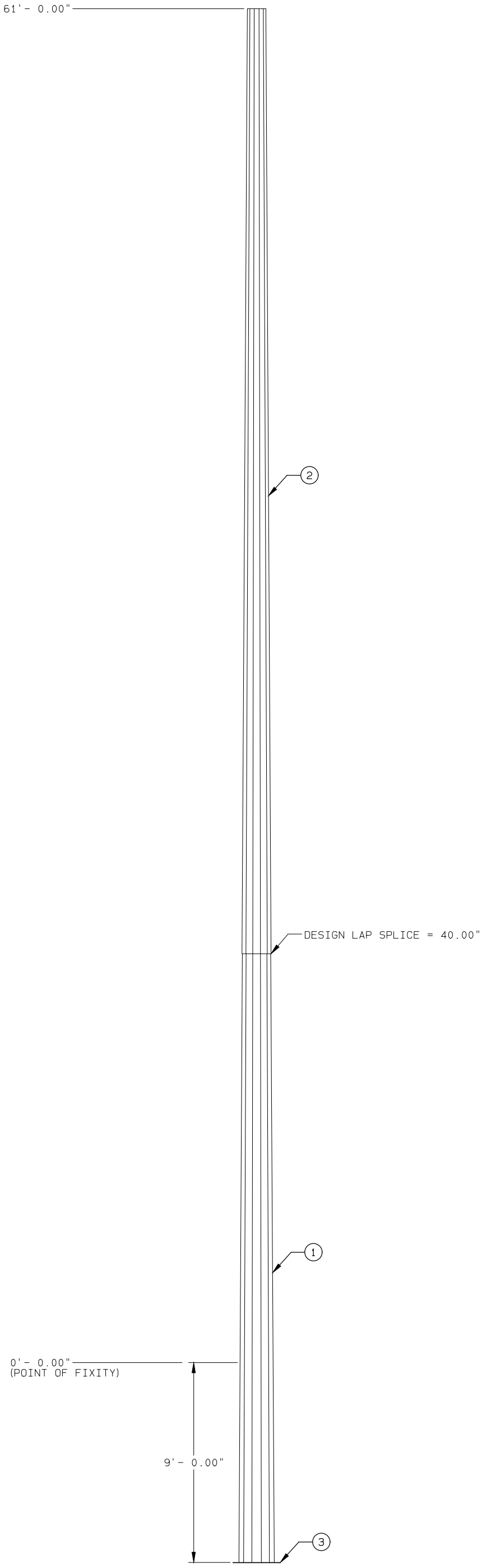
DESCRIPTION
OMPA, 56.5' AGH, 65' CLASS H2 STEEL POLES, 607956

valmont

ITEM ID	NO. REQD	FEATURES	UNIT WEIGHT (LBS)	WEIGHT (LBS)
1	1	SECTION A VALMONT S-22 0.188" THK (A572 GR65)	1,050	1,050
2	1	SECTION B VALMONT S-22 0.188" THK (A572 GR65)	1,094	1,094
3	1	BEARING PLATE	21	21
		GALVANIZING	82	82
	1	EXTERIOR COAL TAR 20 MILS (LENGTH = 10.00')		
	28	HOLE 1.13" DIA		
	4	GROUND PLATE	1	4
	1	POLE CAP	7	7

NOTES:

1. POLE SHAFT-GOVERNING REACTIONS.
   MOMENT = 2,965 IN-KIPS
   SHEAR = 4,160 #
   VERTICAL = 2,144 #



SECTION INFORMATION					
ITEM ID	LENGTH	BASE OD	TOP OD	THK	MATL
1	30'- 9.00"	19.06"	14.90"	0.188"	A572 65 KSI
2	42'- 7.00"	15.72"	9.97"	0.188"	A572 65 KSI

ORDER	PROJECT	FILE ID	SCALE	DATE	ENGR
	607956	70H2	NONE	01/26/24	WMP

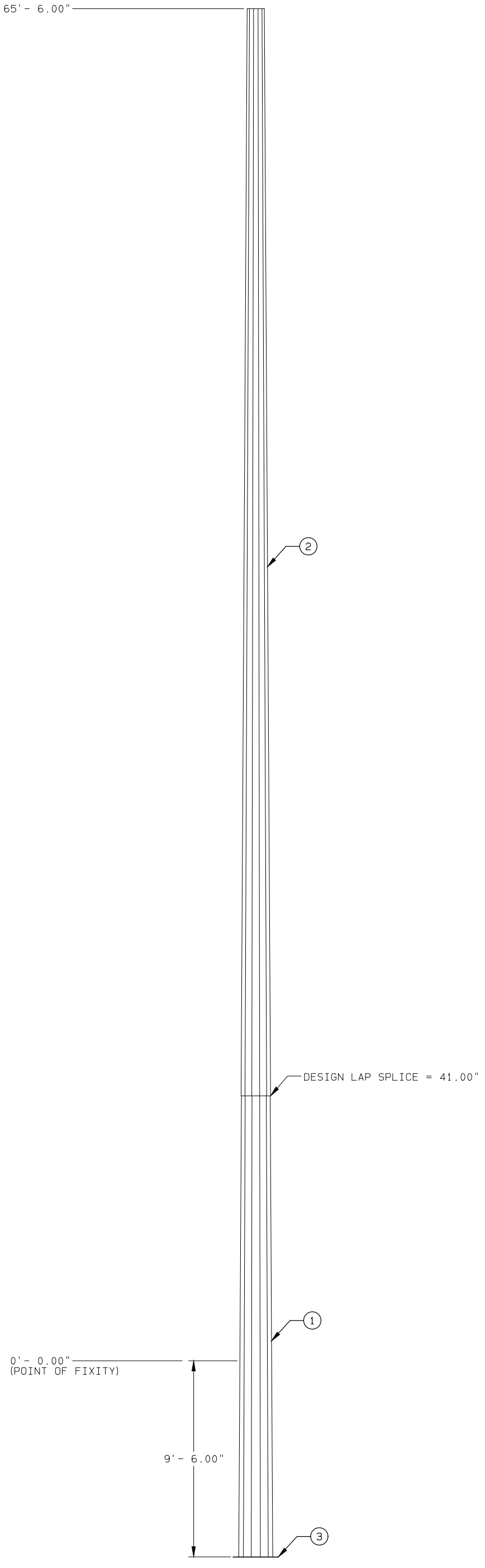
DESCRIPTION
OMPA, 61.0' AGH, 70' CLASS H2 STEEL POLES, 607956

valmont

ITEM ID	NO. REQD	FEATURES	UNIT WEIGHT (LBS)	WEIGHT (LBS)
1	1	SECTION A VALMONT S-22 0.188" THK (A572 GR65)	933	933
2	1	SECTION B VALMONT S-22 0.188" THK (A572 GR65)	1,426	1,426
3	1	BEARING PLATE	22	22
		GALVANIZING	90	90
	1	EXTERIOR COAL TAR 20 MILS (LENGTH = 10.50')		
	28	HOLE 1.13" DIA		
	4	GROUND PLATE	1	4
	1	POLE CAP	7	7

NOTES:

1. POLE SHAFT-GOVERNING REACTIONS.
   MOMENT = 3,193 IN-KIPS
   SHEAR = 4,160 #
   VERTICAL = 2,360 #



SECTION INFORMATION					
ITEM ID	LENGTH	BASE OD	TOP OD	THK	MATL
1	25'- 9.00"	19.73"	16.25"	0.188"	A572 65 KSI
2	52'- 8.00"	17.09"	9.97"	0.188"	A572 65 KSI

ORDER	PROJECT	FILE ID	SCALE	DATE	ENGR
	607956	75H2	NONE	01/26/24	WMP

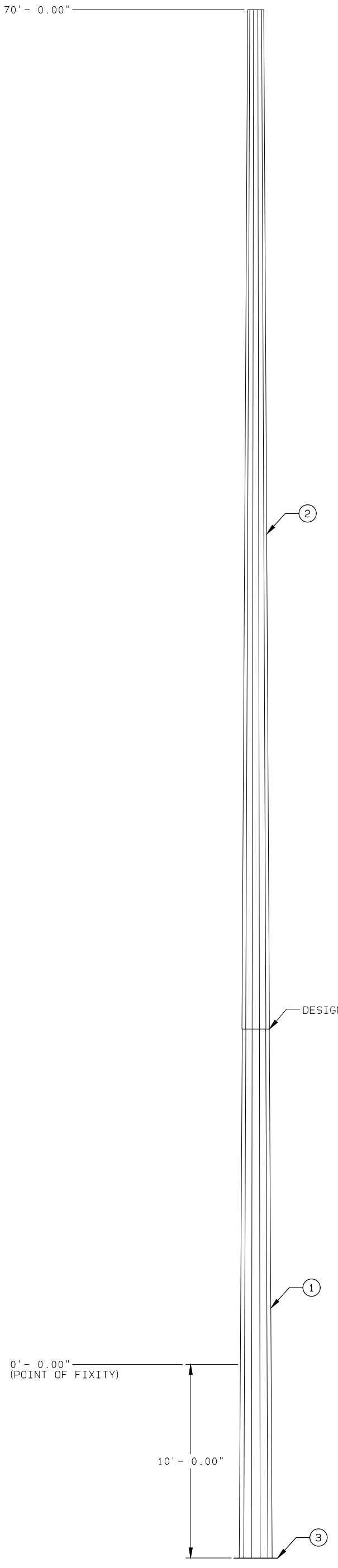
DESCRIPTION
OMPA, 65.5' AGH, 75' CLASS H2 STEEL POLES, 607956

valmont

ITEM ID	NO. REQD	FEATURES	UNIT WEIGHT (LBS)	WEIGHT (LBS)
1	1	SECTION A VALMONT S-22 0.188" THK (A572 GR65)	1,136	1,136
2	1	SECTION B VALMONT S-22 0.188" THK (A572 GR65)	1,426	1,426
3	1	BEARING PLATE	24	24
		GALVANIZING	98	98
	1	EXTERIOR COAL TAR 20 MILS (LENGTH = 11.00')		
	28	HOLE 1.13" DIA		
	4	GROUND PLATE	1	4
	1	POLE CAP	7	7

NOTES:

1. POLE SHAFT-GOVERNING REACTIONS.
   MOMENT = 3,424 IN-KIPS
   SHEAR = 4,160 #
   VERTICAL = 2,562 #



SECTION INFORMATION					
ITEM ID	LENGTH	BASE OD	TOP OD	THK	MATL
1	30'- 9.00"	20.41"	16.25"	0.188"	A572 65 KSI
2	52'- 8.00"	17.09"	9.97"	0.188"	A572 65 KSI

ORDER	PROJECT	FILE ID	SCALE	DATE	ENGR
	607956	80H2	NONE	01/26/24	WMP

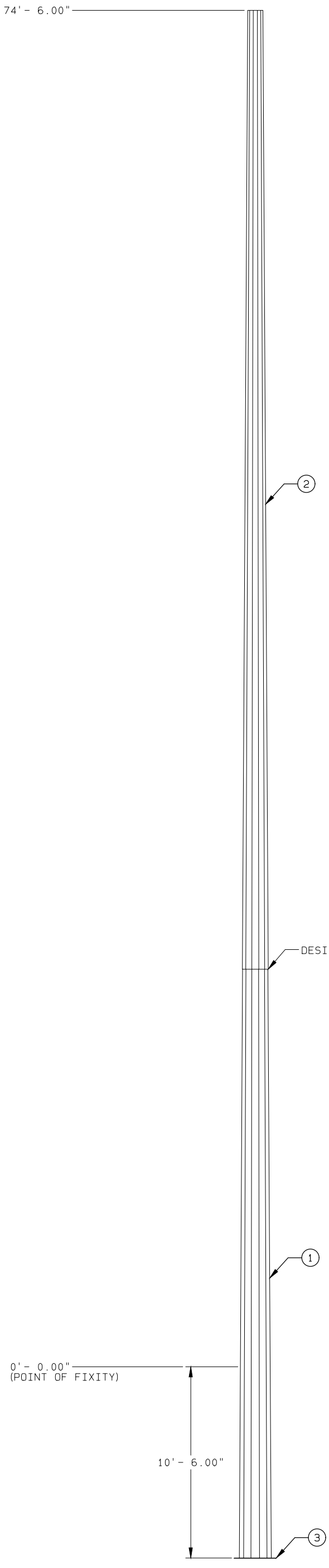
DESCRIPTION
OMPA, 70.0' AGH, 80' CLASS H2 STEEL POLES, 607956

valmont

ITEM ID	NO. REQD	FEATURES	UNIT WEIGHT (LBS)	WEIGHT (LBS)
1	1	SECTION A VALMONT S-22 0.188" THK (A572 GR65)	1,345	1,345
2	1	SECTION B VALMONT S-22 0.188" THK (A572 GR65)	1,426	1,426
3	1	BEARING PLATE	25	25
		GALVANIZING	105	105
	1	EXTERIOR COAL TAR 20 MILS (LENGTH = 11.50')		
	28	HOLE 1.13" DIA		
	4	GROUND PLATE	1	4
	1	POLE CAP	7	7

NOTES:

1. POLE SHAFT-GOVERNING REACTIONS.
   MOMENT = 3,654 IN-KIPS
   SHEAR = 4,160 #
   VERTICAL = 2,772 #



SECTION INFORMATION					
ITEM ID	LENGTH	BASE OD	TOP OD	THK	MATL
1	35'- 9.00"	21.08"	16.25"	0.188"	A572 65 KSI
2	52'- 8.00"	17.09"	9.97"	0.188"	A572 65 KSI

ORDER	PROJECT	FILE ID	SCALE	DATE	ENGR
	607956	85H2	NONE	01/26/24	WMP

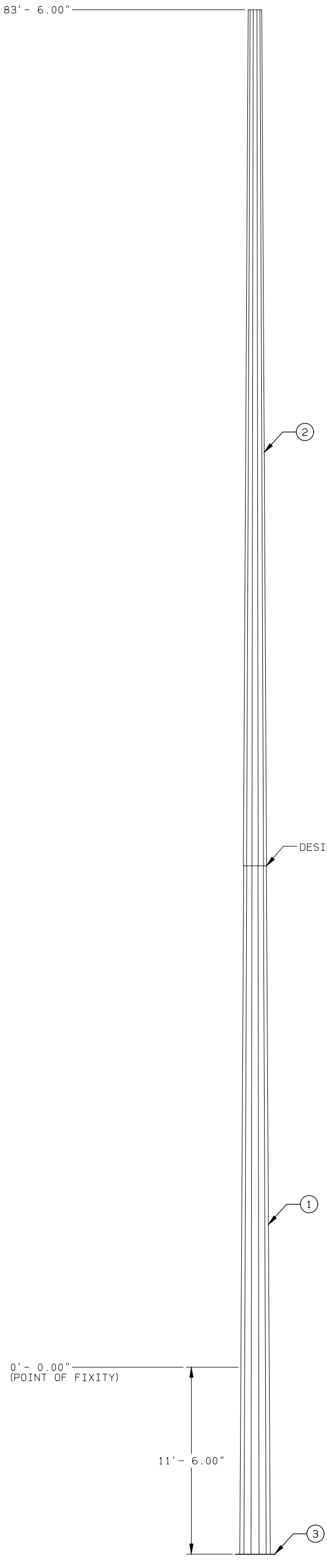
DESCRIPTION
OMPA, 74.5' AGH, 85' CLASS H2 STEEL POLES, 607956

valmont

ITEM ID	NO. REQD	FEATURES	UNIT WEIGHT (LBS)	WEIGHT (LBS)
1	1	SECTION A VALMONT S-22 0.188" THK (A572 GR65)	1,785	1,785
2	1	SECTION B VALMONT S-22 0.188" THK (A572 GR65)	1,426	1,426
3	1	BEARING PLATE	28	28
		GALVANIZING	122	122
	1	EXTERIOR COAL TAR 20 MILS (LENGTH = 12.50')		
	28	HOLE 1.13" DIA		
	4	GROUND PLATE	1	4
	1	POLE CAP	7	7

NOTES:

1. POLE SHAFT-GOVERNING REACTIONS.
   MOMENT = 4,119 IN-KIPS
   SHEAR = 4,160 #
   VERTICAL = 3,211 #



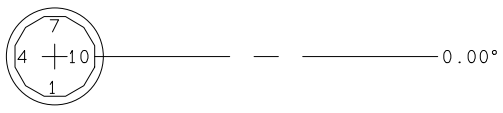
SECTION INFORMATION					
ITEM ID	LENGTH	BASE OD	TOP OD	THK	MATL
1	45'- 9.00"	22.44"	16.25"	0.188"	A572 65 KSI
2	52'- 8.00"	17.09"	9.97"	0.188"	A572 65 KSI

ORDER	PROJECT	FILE ID	SCALE	DATE	ENGR
	607956	95H2	NONE	01/26/24	WMP

DESCRIPTION
OMPA, 83.5' AGH, 95' CLASS H2 STEEL POLES, 607956

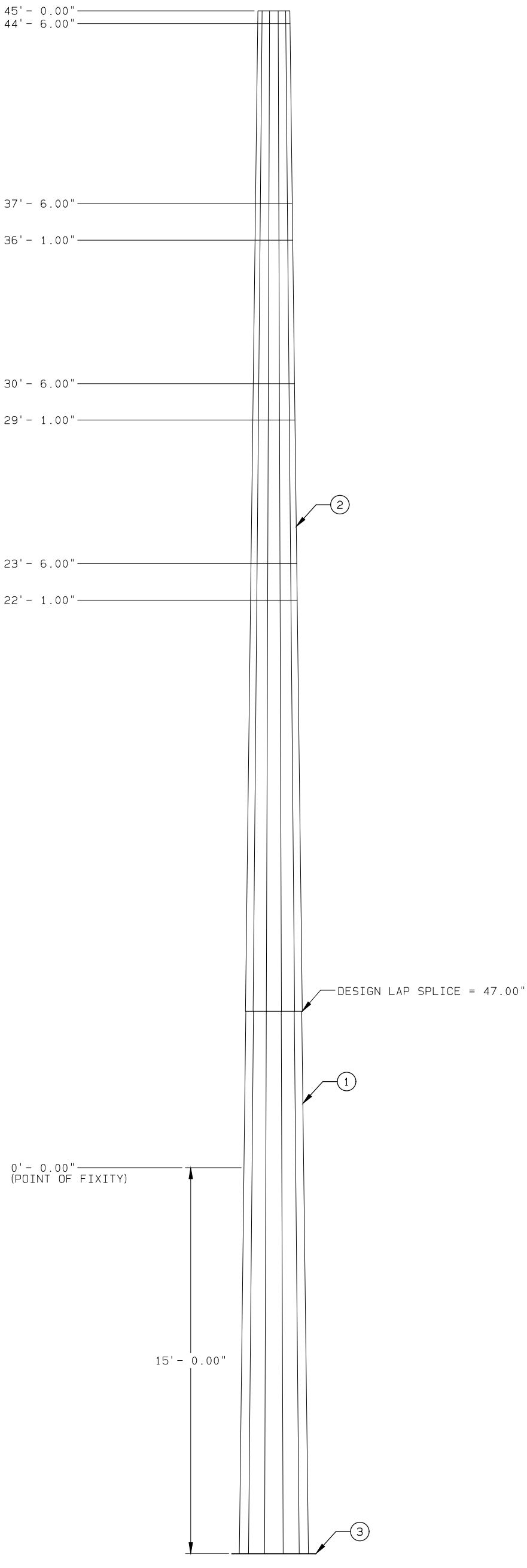
valmont

ITEM ID	NO. REQD	FEATURES	UNIT WEIGHT (LBS)	WEIGHT (LBS)
1	1	SECTION A VALMONT S-22 0.250" THK (A572 GR65)	1,931	1,931
2	1	SECTION B VALMONT S-22 0.219" THK (A572 GR65)	1,900	1,900
3	1	BEARING PLATE	71	71
		GALVANIZING	118	118
	1	EXTERIOR COAL TAR 20 MILS (LENGTH = 16.00')		
	4	GROUND PLATE	1	4
	1	POLE CAP	13	13



NOTES:

1. POLE SHAFT-GOVERNING REACTIONS.
   MOMENT = 9,402 IN-KIPS
   SHEAR = 23,254 #
   VERTICAL = 6,452 #

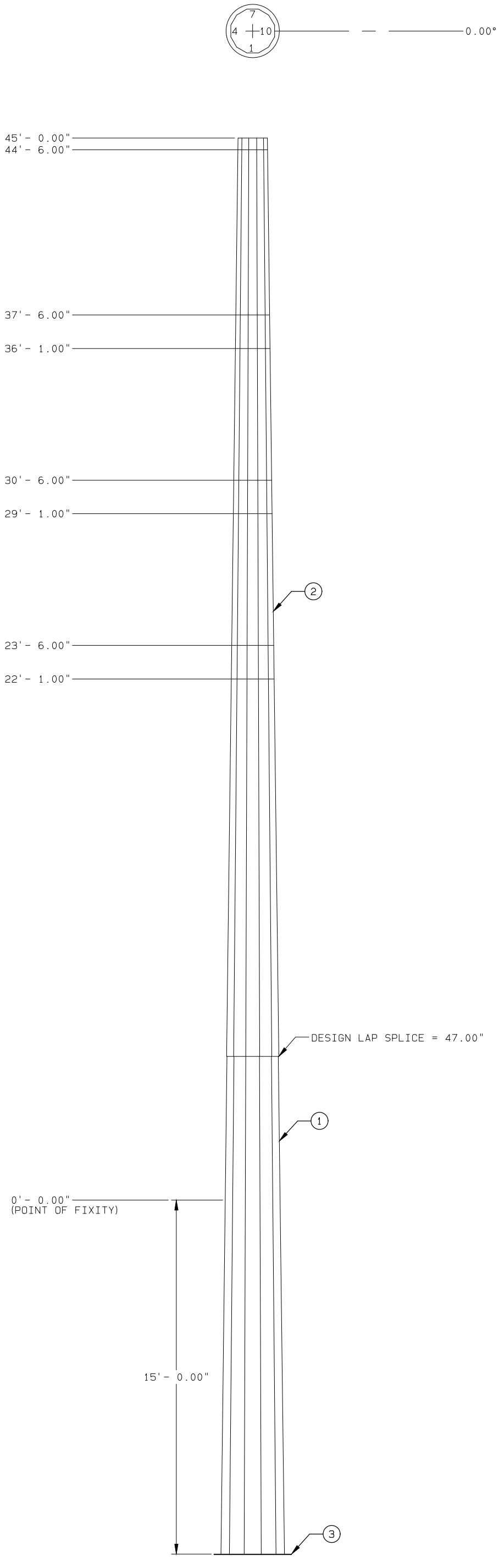


SECTION INFORMATION					
ITEM ID	LENGTH	BASE OD	TOP OD	THK	MATL
1	25'- 0.00"	32.35"	24.94"	0.250"	A572 65 KSI
2	38'-11.00"	26.53"	15.00"	0.219"	A572 65 KSI

ORDER	PROJECT	FILE ID	SCALE	DATE	ENGR
	607956	STR7_11	NONE	01/30/24	WMP

DESCRIPTION
OMPA, 45.0' AGH, 60' CUSTOM POLES, STR. #7/11, 607956

valmont



ITEM ID	NO. REQD	FEATURES	UNIT WEIGHT (LBS)	WEIGHT (LBS)
1	1	SECTION A VALMONT S-22 0.250" THK (A572 GR65)	1,931	1,931
2	1	SECTION B VALMONT S-22 0.219" THK (A572 GR65)	1,900	1,900
3	1	BEARING PLATE	71	71
		GALVANIZING	118	118
	1	EXTERIOR COAL TAR 20 MILS (LENGTH = 16.00')		
	4	GROUND PLATE	1	4
	1	POLE CAP	13	13

NOTES:

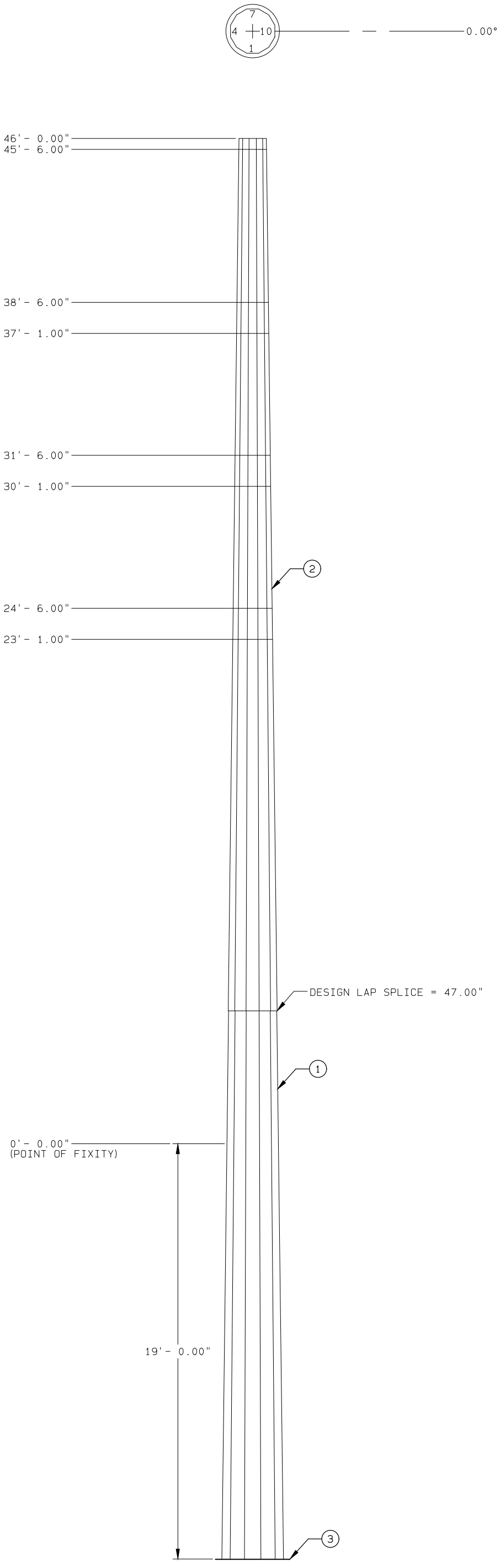
1. POLE SHAFT-GOVERNING REACTIONS.
   MOMENT = 9,568 IN-KIPS
   SHEAR = 23,716 #
   VERTICAL = 6,754 #

SECTION INFORMATION					
ITEM ID	LENGTH	BASE OD	TOP OD	THK	MATL
1	25'- 0.00"	32.35"	24.94"	0.250"	A572 65 KSI
2	38'-11.00"	26.53"	15.00"	0.219"	A572 65 KSI

ORDER	PROJECT	FILE ID	SCALE	DATE	ENGR
	607956	STR5_7	NONE	01/30/24	WMP

DESCRIPTION
OMPA, 45.0' AGH, 60' CUSTOM POLES, STR. #5/7, 607956

valmont



ITEM ID	NO. REQD	FEATURES	UNIT WEIGHT (LBS)	WEIGHT (LBS)
1	1	SECTION A VALMONT S-22 0.250" THK (A572 GR65)	2,310	2,310
2	1	SECTION B VALMONT S-22 0.219" THK (A572 GR65)	1,965	1,965
3	1	BEARING PLATE	76	76
		GALVANIZING	131	131
	1	EXTERIOR COAL TAR 20 MILS (LENGTH = 20.00')		
	4	GROUND PLATE	1	4
	1	POLE CAP	13	13

NOTES:

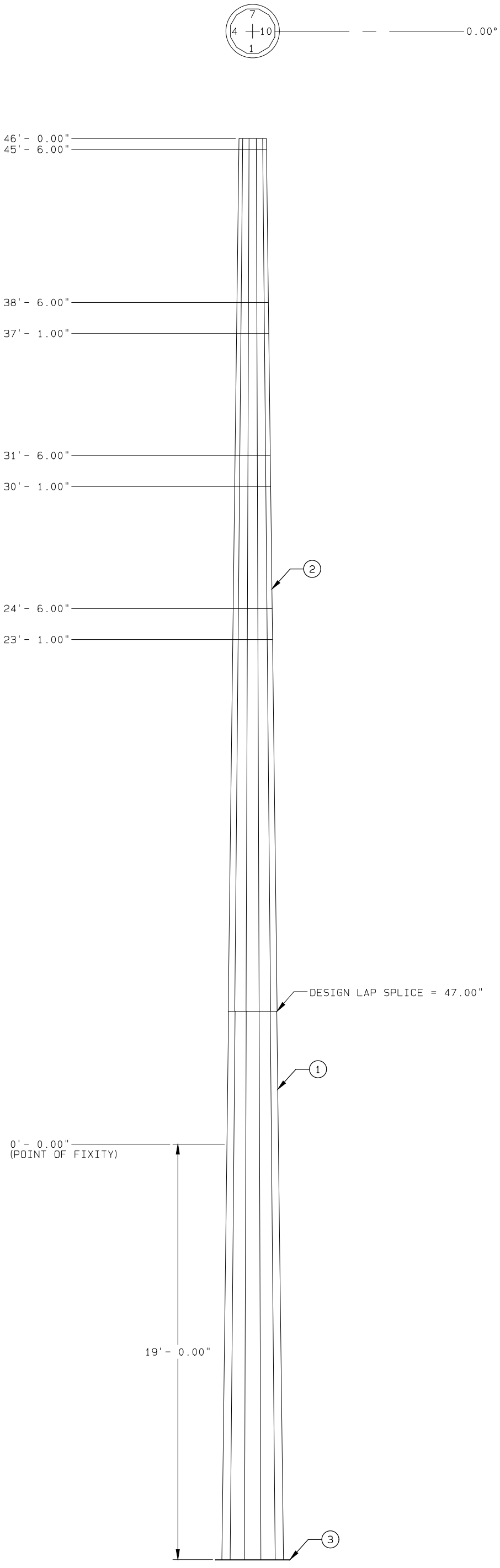
1. POLE SHAFT-GOVERNING REACTIONS.
   MOMENT = 9,674 IN-KIPS
   SHEAR = 23,271 #
   VERTICAL = 7,820 #

SECTION INFORMATION					
ITEM ID	LENGTH	BASE OD	TOP OD	THK	MATL
1	29'- 0.00"	33.82"	25.24"	0.250"	A572 65 KSI
2	39'-11.00"	26.84"	15.02"	0.219"	A572 65 KSI

ORDER	PROJECT	FILE ID	SCALE	DATE	ENGR
	607956	STR8_6	NONE	01/30/24	WMP

DESCRIPTION
OMPA, 46.0' AGH, 65' CUSTOM POLES, STR. #8/6, 607956

valmont



ITEM ID	NO. REQD	FEATURES	UNIT WEIGHT (LBS)	WEIGHT (LBS)
1	1	SECTION A VALMONT S-22 0.250" THK (A572 GR65)	2,310	2,310
2	1	SECTION B VALMONT S-22 0.219" THK (A572 GR65)	1,965	1,965
3	1	BEARING PLATE	76	76
		GALVANIZING	131	131
	1	EXTERIOR COAL TAR 20 MILS (LENGTH = 20.00')		
	4	GROUND PLATE	1	4
	1	POLE CAP	13	13

NOTES:

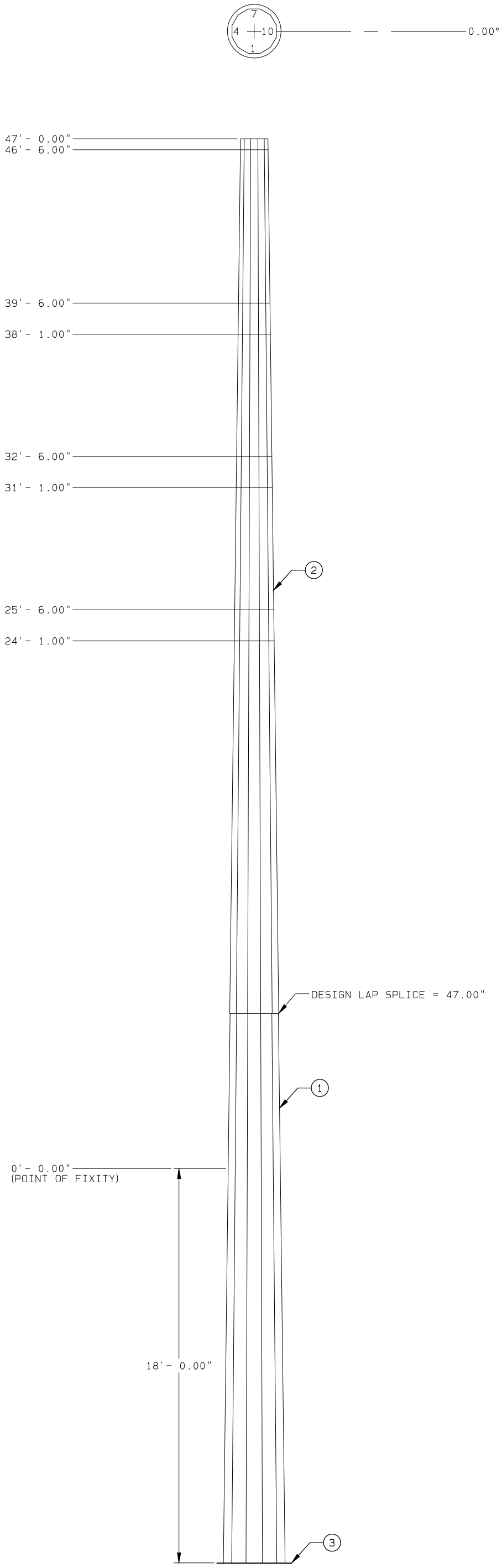
1. POLE SHAFT-GOVERNING REACTIONS.
   MOMENT = 9,835 IN-KIPS
   SHEAR = 23,614 #
   VERTICAL = 8,919 #

SECTION INFORMATION					
ITEM ID	LENGTH	BASE OD	TOP OD	THK	MATL
1	29'- 0.00"	33.82"	25.24"	0.250"	A572 65 KSI
2	39'-11.00"	26.84"	15.02"	0.219"	A572 65 KSI

ORDER	PROJECT	FILE ID	SCALE	DATE	ENGR
	607956	STR8_12	NONE	01/30/24	WMP

DESCRIPTION
OMPA, 46.0' AGH, 65' CUSTOM POLES, STR. #8/12, 607956

valmont



ITEM ID	NO. REQD	FEATURES	UNIT WEIGHT (LBS)	WEIGHT (LBS)
1	1	SECTION A VALMONT S-22 0.250" THK (A572 GR65)	2,310	2,310
2	1	SECTION B VALMONT S-22 0.219" THK (A572 GR65)	1,965	1,965
3	1	BEARING PLATE	76	76
		GALVANIZING	131	131
	1	EXTERIOR COAL TAR 20 MILS (LENGTH = 19.00')		
	4	GROUND PLATE	1	4
	1	POLE CAP	13	13

NOTES:

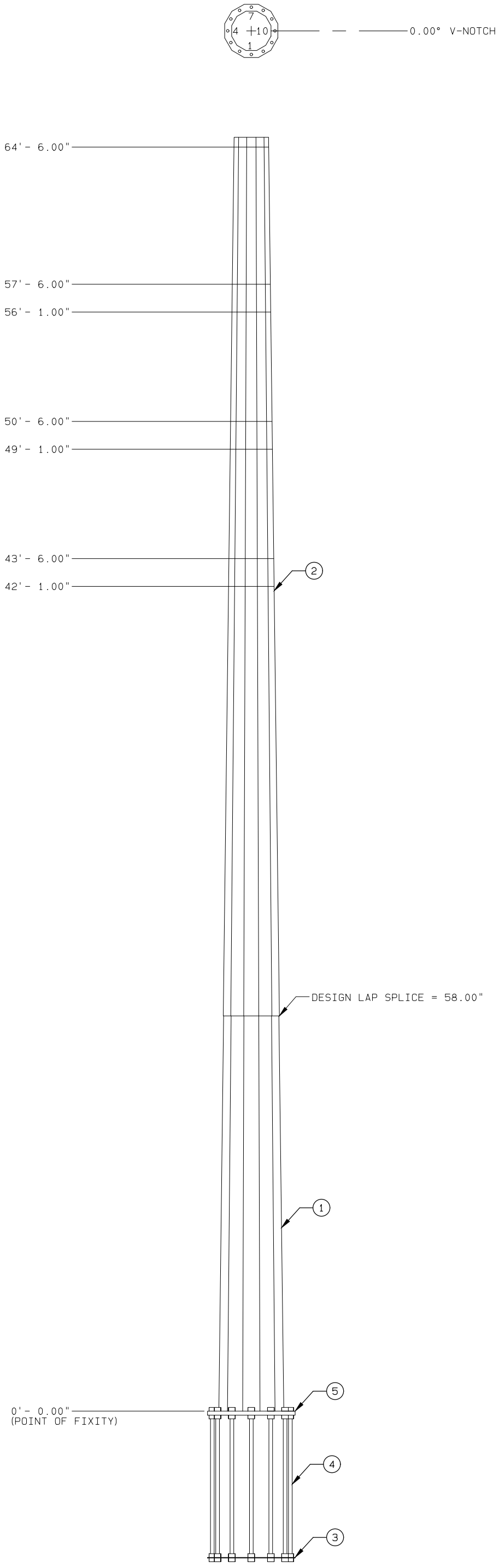
1. POLE SHAFT-GOVERNING REACTIONS.
   MOMENT = 10,084 IN-KIPS
   SHEAR = 23,557 #
   VERTICAL = 7,418 #

SECTION INFORMATION					
ITEM ID	LENGTH	BASE OD	TOP OD	THK	MATL
1	29'- 0.00"	33.82"	25.24"	0.250"	A572 65 KSI
2	39'-11.00"	26.84"	15.02"	0.219"	A572 65 KSI

ORDER	PROJECT	FILE ID	SCALE	DATE	ENGR
	607956	STR10_2	NONE	01/30/24	WMP

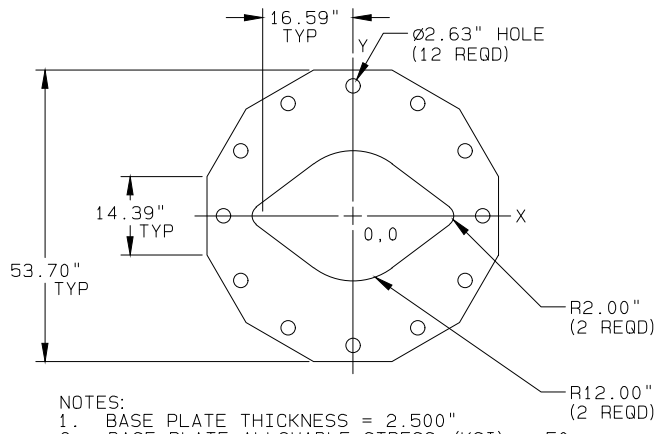
DESCRIPTION
OMPA, 46.0' AGH, 65' CUSTOM POLES, STR. #10/2, 607956

valmont



ITEM ID	NO. REQD	FEATURES	UNIT WEIGHT (LBS)	WEIGHT (LBS)
1	1	SECTION A VALMONT S-22 0.313" THK (A572 GR65)	3,038	3,038
2	1	SECTION B VALMONT S-22 0.250" THK (A572 GR65)	3,342	3,342
	1	ANCHORAGE (SHIPPED ASSEMBLED)	1,720	1,720
3	1	BOTTOM CAGE PLATE		
	1	TOP CAGE PLATE (REMOVE BEFORE SETTING POLE)		
4	12	2.25" ANCHOR BOLT, LENGTH=7.75' A615 GR75		
5	1	BASE PLATE VALMONT S-56 2.500" THK (A572 GR50)	1,169	1,169
		GALVANIZING	166	166
	4	GROUND PLATE	1	4
	1	POLE CAP	24	24

HOLE COORDS (INCHES)	
X-COORD	Y-COORD
23.85	0.00
20.66	11.93
11.93	20.66
0.00	23.85



NOTES:
1. BASE PLATE THICKNESS = 2.500"
2. BASE PLATE ALLOWABLE STRESS (KSI) = 50
3. VENT AND DRAIN HOLES PROVIDED
4. MAXIMUM BOLT CIRCLE DIAMETER = 47.70"
5. MAXIMUM CAGE TEMPLATE DIAMETER = 53.70"

BASE PLATE / ANCHORAGE CHARACTERISTICS

NOTES:

1. POLE SHAFT-GOVERNING REACTIONS.
   MOMENT = 24,027 IN-KIPS
   SHEAR = 37,376 #
   VERTICAL = 7,582 #
2 V-NOTCH INDICATES BISECTOR OF THE INTERIOR LINE ANGLE

SECTION INFORMATION					
ITEM ID	LENGTH	BASE OD	TOP OD	THK	MATL
1	25'- 0.00"	39.80"	32.43"	0.313"	A572 65 KSI
2	44'-10.00"	34.35"	21.13"	0.250"	A572 65 KSI

ORDER	PROJECT	FILE ID	SCALE	DATE	ENGR
	607956	STR10_8	NONE	01/30/24	WMP

DESCRIPTION
OMPA, 65.0' AGH, 65' CUSTOM POLES, STR. #10/8,10/11, 607956

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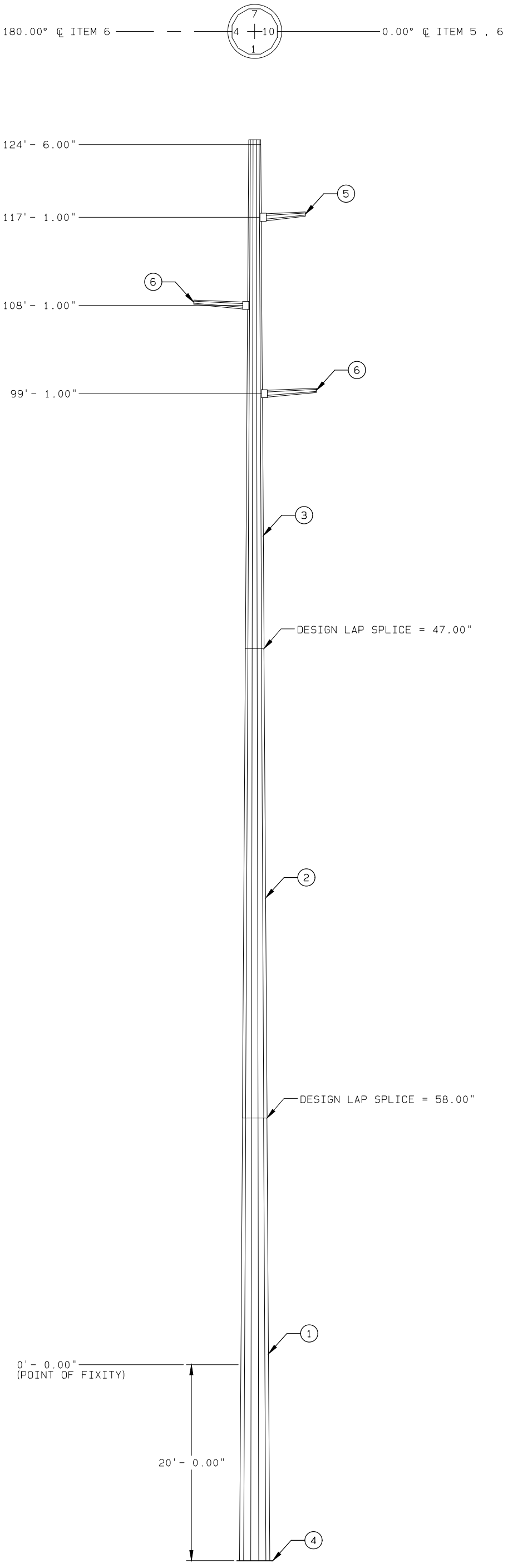

ITEM ID	NO. REQD	FEATURES	UNIT WEIGHT (LBS)	WEIGHT (LBS)
1	1	SECTION A VALMONT S-22 0.281" THK (A572 GR65)	5,024	5,024
2	1	SECTION B VALMONT S-22 0.219" THK (A572 GR65)	3,201	3,201
3	1	SECTION C VALMONT S-22 0.188" THK (A572 GR65)	1,975	1,975
4	1	BEARING PLATE	91	91
5	1	4' CON ARM	73	73
6	2	5' CON ARM	85	170
		GALVANIZING	315	315
	1	EXTERIOR COAL TAR 20 MILS (LENGTH = 21.00')		
	4	GROUND PLATE	1	4
	4	VANG	35	137
	2	VANG	32	63
	1	VANG	22	22
	1	POLE CAP	13	13

NOTES:

1. POLE SHAFT-GOVERNING REACTIONS.
   MOMENT = 11,260 IN-KIPS
   SHEAR = 11,332 #
   VERTICAL = 14,871 #

SECTION INFORMATION					
ITEM ID	LENGTH	BASE OD	TOP OD	THK	MATL
1	50'- 0.00"	37.10"	29.10"	0.281"	A572 65 KSI
2	51'-10.00"	30.31"	22.02"	0.219"	A572 65 KSI
3	51'-11.00"	23.02"	14.71"	0.188"	A572 65 KSI

ORDER	PROJECT	FILE ID	SCALE	DATE	ENGR
	607956	STR10_9	NONE	01/30/24	WMP

DESCRIPTION
OMPA, 125.0' AGH, 145' CUSTOM POLES, STR. #10/9,10/10, 607956

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OMPA
Waynoka 24KV/69KV Relocate

The design information included with this proposal is preliminary in nature and may be refined after the award of an order. Valmont's intent is to meet the inquiry specification with the following engineering comments. Please review these, along with the design information enclosed, to assure that we have correctly interpreted the inquiry requirements. The engineering comments and exceptions contained herein are a material part of our proposal, and should be incorporated as an Exhibit to the contract terms and conditions or as an amendment to final technical specifications.

EXCEPTIONS

1. Note 3 in DRD drawings
   The bisect towards 0°.

2. For 145’ Custom poles, the arm designed with rising 1inch/feet.

3. Valmont arm length is measured from pole face to the end of the arm tip and it's assumed to be 4ft and 5ft on Str.10/9&10/10.

4. Str.10/9 and 10/10, are designed as tangent pole since all the loads are intact.

COMMENTS

DESIGN

Design is based on the following publications:

- ASCE/SEI 48-19, "Design of Steel Transmission Pole Structures"
- ACI 318-83 (f’c=3000 psi)

Base plate to foundation clearance of up to 4.5 inches is acceptable without grouting or additional calculations (ref. ASCE guidelines).

A 0.25 degree ground line rotation is included in the design of all structures.

Point of fixity for embedded structures is assumed to be at the ground line.

As DRD drawing’s requirement, str.#10/8&#10/11 designed with anchor bolt cage, all the other poles designed with embedded.

Deflection limitation for Custom poles: limit pole top deflection to 6” under deflection load case for 60’ Custom poles and 65’ Custom poles, limit pole top deflection to 12” under deflection load case for 145’ Custom poles.

For class pole, if the holes are required on the pole, OMPA should provide the hole pattern on the pole and any additional attachments.

For Custom poles, OMPA should provide the hole diameter and eccentricity distance at the order stage.

No ladders or ladder clips are required.

The designs presented have been completed by a trained structural engineer under the direct supervision of a professional engineer licensed in the state of Nebraska. **Required stamping of drawings will reflect Nebraska registration. If stamping needs to reflect another state (or territory) a fee will be charged for the services of a third party engineer.** Project scheduling must reflect the additional time for stamping because we require approval and stamping of calculations and drawings to occur before manufacturing begins.

Welds will be sized based on the applied loads and may not develop the full strength of any of the components.

Valmont's design calculations are based on the **static** loads provided by the line designer. Any additional loading consideration for fatigue, if required, must be supplied by the line designer. Valmont does recognize the potential effects of wind induced vibration. Wind induced vibration is believed to be more likely to happen when structures (or components such as arms) are installed without insulators and conductors. It is strongly recommended for installers to attach equipment of **30%** arm weight at end of each arm or tie the ends of the arms together or back to the structure with a tension of **50%** the arm weight at the time of installation. For extended periods with tied arms (longer than a month or two), the recommendation is to use a tension for at least 100% of the arm weight. Please review attached Valmont Installation Guideline I002 for more information.

We know of no way to prove that local buckling cannot occur in a connection. We do know, through testing, that the connection we will provide will reliably carry all design loads. Local buckling, if it occurs, will be induced by loads in excess of the design loads.

Cambering is not required to meet your specification. Camber costs have not been included.

PLS-Pole files for all structures are being provided with this quote. These files may not accurately reflect connection items such as swing brackets, V-strings, drop vangs, etc.. Adjustments to these files can be made if an order is awarded to Valmont.

MATERIAL

Anchor bolt material does not have a corrosion resistance greater than carbon steel.

Bolts, nuts and washers may be of **foreign origin**.

Connection bolts, other than anchor bolts, will not have guaranteed Charpy values.

The following **materials** will be used:

shaft and attachment plate: (Galvanized or Painted)

thk <= 1.25"	Valmont S-22 (exceeds ASTM A572, Gr 65, Heat test)

1.25" < thk<= 2.75” Valmont S-56 (exceeds ASTM A572, Gr 50, Heat test)
2.75" < = thk Valmont S-221(ASTM 350, equivalent to ASTM A572, Gr 60, Plate test)

anchor bolts: Valmont S-23 (exceeds ASTM A615 Gr. 75)
connection bolts: (galv) ASTM A325
nuts/washers: matching the bolts used
ANCO type locknuts are provided for connection bolts other than anchorage

FABRICATION

Base plate holes will be burned using a mechanically guided torch.

Connection bolt holes will be 0.13" larger than the nominal bolt diameter, except holes in base plate for 2.25” diameter anchor bolt will be 2.63" in diameter.

Prefitting of components or match-marking is not included in our proposal. The fabrication tolerances and detailing practices used assure fit as well as interchangeability. *Our standard method for identifying sections assures correct section orientation and provides a reference point for measure of slip distance.*

Slip joint tolerance: +6", -(1.872/Taper + K)
where: Taper = diameter change per foot of length (in/ft)
K = 9.9 - 0.082(D/t)
D = top diameter of male section (inches)
t = thickness of mail section (inches)

Tolerances for fabrication shall meet Valmont's M-1 specification.

Welding and weld inspection will be performed in accordance with Valmont's W-22 specification.

Caged anchor bolts will be provided as shown in the attached sketch. Note that the bottom template is welded to the anchor bolt at a point below the required bond length.

A drilled and tapped pad shall be used as an alternate to less that 0.5" grounding nuts.

Pole caps may project up to three inches from the pole shaft.

Identification markings will be stamped into plates welded to the components.

Weld joint details will have either the prequalified or qualified joint status in accordance with the AWS D1.1 code.

Attachment vangs will extend thru the pole shaft eliminating the need for doubler or reinforcing plates.

Vang-to-pole shaft welds will be fillet or partial penetration groove welds (with or without a fillet overlay) sized for the strength requirements of the joint. These welds are qualified in accordance with AWS D1.1.

The arm-to-bracket weld has been standardized as a partial penetration groove weld with fillet overlay sized to develop the full strength of the arm section. This weld detail is fully inspectable per AWS acceptance criteria and develops the full strength of the arm while maintaining thru-thickness stress levels per ASCE allowables.

FINISH SPECIFICATIONS

Hot-dip Galvanizing of Members per Valmont Specification F-1 (exceeds ASTM A123).

Hot-dip Galvanizing of Hardware per Valmont Specification F-2 (ASTM A153).

Polyurethane coating meeting Valmont F-668 specification is proposed for below grade protection. **Below grade protection coating** meeting Valmont's F-668 specification is provided for the entire embedded portion of the structure to a height of 1.00" above designated groundline. The specified coating thickness is 20 mils.

This quotation complies with the requirements identified in the specifications for a below grade coating. We will utilize the standard practices outlined in The Society of Protective Coatings SSPC-PA 2 for measuring the applied coating thickness against the specification requirements. A determination of the adequacy of a below grade protection system requires a complete investigation of a number of interrelated variables including: The presence or absence of ground water; soil ph levels; backfill materials planned for use; tamping practices; anticipated UV exposure; etc. We have not attempted to make such a determination.

Valmont will apply below-grade protective coating to the interior and exterior. However, only the exterior coating will be applied as specified and will be guaranteed. The limiting factors of surface preparation, access and nature of the coating preclude a warranty for the interior coating. Furthermore, Valmont cannot guarantee a thickness of coating on the interior nor that it can apply coating on the interior for the full length specified.

SSPC SP8 surface preparation will precede galvanizing. Exposed welds will be mechanically cleaned.

A maximum galvanizing thickness will not be guaranteed.

INSPECTION

Base plate material over 1.5" thick shall be ultrasonically inspected per ASTM A435 and Valmont QP 13.6.

Certified test reports are obtained from our suppliers for:

1. structural steel plates and shapes
2. connecting hardware
3. welding electrodes and flux

4. rebar used for anchor bolts

Valmont will review steel mill certified reports to verify material meets all requirements including Charpy impact property. **No additional tests** will be done by Valmont to confirm steel properties.

Formed plates will be visually inspected for cracking. Magnetic particle inspection will supplement the visual inspection in questionable areas.

Inspection records in the form of "Traveler Cards" will follow the components through the fabrication process.

If used by customer, **the third part inspection** agency should be approved by Valmont.

Systems are in place that will provide the following levels of test report traceability:
1. direct, one-to-one traceability to pole shafts and base plates
2. batch to other structural components

The test reports and inspection records are maintained at Valmont. When requested, these can be provided to the customer **no sooner than two weeks** after the fabrication of the component.

We recommend the **turn-of-nut tightening method** explained in the AISC Steel Construction Manual specification. Torque values for bolts will not be provided.

DRAWINGS/CALCULATIONS

Preliminary drawings showing standard features and options are included with proposal.

Final designs and drawings will be submitted on a schedule determined by the required shipping dates.

Valmont standard drawings and details shall be supplied and shall include the following information:
1. - erection drawings, will include the following:
   total structure weight
   arm connection detail. no bolt details / layouts
   referenced major components and loose hardware bill of material.
2. - section assembly drawings will include all integral parts of the section.
3. - subassembly drawings: i.e. arm assemblies with all integral parts.

Valmont Industries, Inc.

Project Summary

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			Anchor Bolts			Shaft Diameters			Shaft Weight (lb)								Global Base Reactions For Pole Shaft Governing Load Case				
Structure Identifier	Pole Height	Emb. Length (ft)	Max Bolt Circle (in)	Anchor Bolt Length (in)	Qty	Base (in)	Ground Line (in)	Top (in)	Sect A	Sect B	Sect C	Sect D	Sect E	Sect F	Base Plate	Anchor Bolts	Load Case Identifier	Moment (in-kip)	Shear (kip)	Axial (kip)	Max Defl (in)
STR7_11	45.00	15.00	----	----	----	32.35	27.90	15.00	1931	1900	----	----	----	----	----	----	1B NE	9402	23.3	6.5	19
STR5_7	45.00	15.00	----	----	----	32.35	27.90	15.00	1931	1900	----	----	----	----	----	----	1B NE	9568	23.7	6.8	19
STR8_6	46.00	19.00	----	----	----	33.82	28.20	15.02	2310	1965	----	----	----	----	----	----	1C NE	9674	23.3	7.8	20
STR8_12	46.00	19.00	----	----	----	33.82	28.20	15.02	2310	1965	----	----	----	----	----	----	1B NE	9835	23.6	8.9	20
STR10_2	47.00	18.00	----	----	----	33.82	28.50	15.02	2310	1965	----	----	----	----	----	----	1C NE	10084	23.6	7.4	21
STR10_8	65.00	----	47.70	93	12	39.79	39.80	21.13	3038	3342	----	----	----	----	1169	1720	1C NE	24027	37.4	7.6	31
STR10_9	125.00	20.00	----	----	----	37.10	33.90	14.71	5024	3201	1975	----	----	----	----	----	2 EXT	11260	11.3	14.9	118

Valmont Industries, Inc.

Project Summary

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								Section Length (ft)						Thickness (in)					
Structure Identifier	Shaft Yield Stress (ksi)	Shaft Taper (in/ft)	Shaft Shape	Anchor Bolt Diameter (in)	Base Plate Width/ Length (in)	Base Plate Thickness (in)	Camber (in)	Sect A	Sect B	Sect C	Sect D	Sect E	Sect F	Sect A	Sect B	Sect C	Sect D	Sect E	Sect F
STR7_11	65	0.296	12	----	----	----	0.0	25.00	38.92	----	----	----	----	0.250	0.219	----	----	----	----
STR5_7	65	0.296	12	----	----	----	0.0	25.00	38.92	----	----	----	----	0.250	0.219	----	----	----	----
STR8_6	65	0.296	12	----	----	----	0.0	29.00	39.92	----	----	----	----	0.250	0.219	----	----	----	----
STR8_12	65	0.296	12	----	----	----	0.0	29.00	39.92	----	----	----	----	0.250	0.219	----	----	----	----
STR10_2	65	0.296	12	----	----	----	0.0	29.00	39.92	----	----	----	----	0.250	0.219	----	----	----	----
STR10_8	65	0.295	12	2.25	53.70	2.50	0.0	25.00	44.83	----	----	----	----	0.313	0.250	----	----	----	----
STR10_9	65	0.160	12	----	----	----	0.0	50.00	51.83	51.92	----	----	----	0.281	0.219	0.188	----	----	----

Valmont Industries, Inc.

Project Summary

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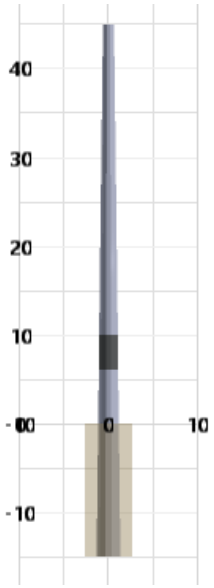
	Shaft Data As Detailed																
Structure Identifier	"A" Base Diameter (in)	"A" Top Diameter (in)	"B" Base Diameter (in)	"B" Top Diameter (in)	"C" Base Diameter (in)	"C" Top Diameter (in)	"D" Base Diameter (in)	"D" Top Diameter (in)	"E" Base Diameter (in)	"E" Top Diameter (in)	"F" Base Diameter (in)	"F" Top Diameter (in)	"A"-"B" Joint Type	"B"-"C" Joint Type	"C"-"D" Joint Type	"D"-"E" Joint Type	"E"-"F" Joint Type
STR7_11	32.35	24.94	26.53	15.00	----	----	----	----	----	----	----	----	Slip Joint		----	----	----
STR5_7	32.35	24.94	26.53	15.00	----	----	----	----	----	----	----	----	Slip Joint		----	----	----
STR8_6	33.82	25.24	26.84	15.02	----	----	----	----	----	----	----	----	Slip Joint		----	----	----
STR8_12	33.82	25.24	26.84	15.02	----	----	----	----	----	----	----	----	Slip Joint		----	----	----
STR10_2	33.82	25.24	26.84	15.02	----	----	----	----	----	----	----	----	Slip Joint		----	----	----
STR10_8	39.79	32.43	34.35	21.13	----	----	----	----	----	----	----	----	Slip Joint		----	----	----
STR10_9	37.10	29.10	30.31	22.02	23.02	14.71	----	----	----	----	----	----	Slip Joint	Slip Joint		----	----

45.0' AGH, 60' CUSTOM POLES, STR. #7/11
Design Id: STR7_11



*** SUMMARY ***

DESIGN SUMMARY

Above Ground Height	45'- 0.00"	Ground Line Diameter (in)	27.900	Pole Shaft Weight (lbs)	3831
Embedment Length	15'- 0.00"	Top Diameter (in)	15.000		
Total Pole Length	60'- 0.00"	Pole Taper (in/ft)	0.29639	Shape:	12 Sides

Connections Between Sections /First/

Height Above Ground	10'- 0.00"
Type	Slip Joint
Overlap Length (in)	47
Maximum Axial Force (lbs)	5883

Section Characteristics	/First/	/Second/
Base Diameter (in)	32.346	26.534
Top Diameter (in)	24.936	15.000
Thickness (in)	0.25000	0.21875
Length	25'- 0.00"	38'-11.00"
Weight (lbs)	1931	1900

ANALYSIS SUMMARY

	Pt. of Fixity	Governing Level Sec.1	Governing Level Sec.2	Pole Top
Governing Load Case	1B NESC HEAV	1B NESC HEAV	1B NESC HEAV	1B NESC HEAV
Height (ft)	0.00	0.00	10.00	45.00
Resultant Moment (in-kips)	9401	9401	6607	0
Shear Force (lbs)	23266	23266	23300	0
Axial Force (lbs)	4563	4563	2717	0
Combined Stress (ksi)	61.26	61.26	59.33	0.00
Allowable Stress (ksi)	65.00	65.00	65.00	65.00
Allowable/Combined Stress	1.06	1.06	1.10	99.90
Total Deflection (in)	0.00	0.00	1.08	19.11

Note: Diameters are outside, measured across the flats
Forces and moments are reported in the local element coordinate system

*** POLE SHAFT POINT OF FIXITY REACTIONS ***

Loading Case Identifier	Moments About X-Axis (in-kips)	Moments About Y-Axis (in-kips)	Moments Resultant (X & Y) (in-kips)	Moments Torsional (in-kips)	Vertical Force (lbs)	Shear In X-Direction (lbs)	Shear In Y-Direction (lbs)	Shear Resultant (X & Y) (lbs)	Notes
1A NESC HE	54	733	735	1	9153	-2291	100	2294	B
1B NESC HE	9389	486	9402	242	6452	-1591	23200	23254	A C
1C NESC HE	-9357	466	9369	-242	8452	-1591	-23100	23155	
2A EXTREME	54	1095	1096	1	4647	-3559	100	3560	
2B EXTREME	4416	834	4494	115	3345	-2859	11000	11365	
2C EXTREME	-4372	763	4438	-115	5145	-2759	-10900	11244	
3A CONCURR	0	485	485	0	8033	-1465	0	1465	
3B CONCURR	7152	243	7156	185	4933	-765	17700	17716	
3C CONCURR	-7169	332	7176	-186	6933	-1065	-17700	17732	
4 DEFLECTI	0	341	341	0	4732	-889	0	889	

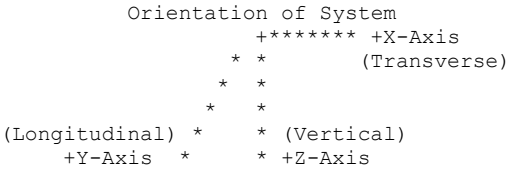
Note: Positive vertical force is downward.
Reactions are considered in the global coordinate system.

Key to the special note entries
A Indicates load case with maximum overturning moment
B Indicates load case with maximum vertical force
C Indicates load case with maximum resultant shear

*** INPUT LOADS ***

Loading Case 1A NESC HEAVY

Basic Wind Pressure is 10.00 psf
Wind Orientation is 180.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.500
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

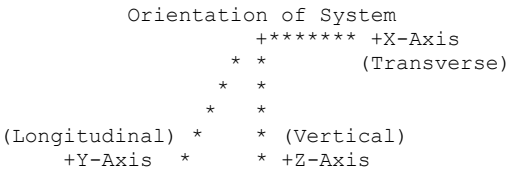


Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	44'- 6.00"	44'- 6.00"	3.00"	0.00	-100	5200	100	SW_A
2	44'- 6.00"	44'- 6.00"	3.00"	0.00	-100	-5100	300	SW_B
3	37'- 6.00"	37'- 6.00"	3.00"	0.00	-200	6000	200	TCND_C
4	30'- 6.00"	30'- 6.00"	3.00"	0.00	-200	6000	200	MCND_C
5	23'- 6.00"	23'- 6.00"	3.00"	0.00	-200	6000	200	BCND_C
6	37'- 6.00"	37'- 6.00"	3.00"	0.00	-200	-6000	800	TCND_D
7	30'- 6.00"	30'- 6.00"	3.00"	0.00	-200	-6000	800	MCND_D
8	23'- 6.00"	23'- 6.00"	3.00"	0.00	-200	-6000	800	BCND_D
9	36'- 1.00"	36'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	29'- 1.00"	29'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	22'- 1.00"	22'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 1B NESC HEAVY

Basic Wind Pressure is 10.00 psf
Wind Orientation is 180.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.500
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

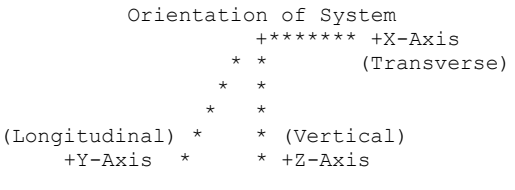


Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	44'- 6.00"	44'- 6.00"	3.00"	0.00	-100	5200	100	SW_A
2	44'- 6.00"	44'- 6.00"	3.00"	0.00	0	0	0	SW_B
3	37'- 6.00"	37'- 6.00"	3.00"	0.00	-200	6000	200	TCND_C
4	30'- 6.00"	30'- 6.00"	3.00"	0.00	-200	6000	200	MCND_C
5	23'- 6.00"	23'- 6.00"	3.00"	0.00	-200	6000	200	BCND_C
6	37'- 6.00"	37'- 6.00"	3.00"	0.00	0	0	0	TCND_D
7	30'- 6.00"	30'- 6.00"	3.00"	0.00	0	0	0	MCND_D
8	23'- 6.00"	23'- 6.00"	3.00"	0.00	0	0	0	BCND_D
9	36'- 1.00"	36'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	29'- 1.00"	29'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	22'- 1.00"	22'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 1C NESC HEAVY

Basic Wind Pressure is 10.00 psf
Wind Orientation is 180.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.500
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

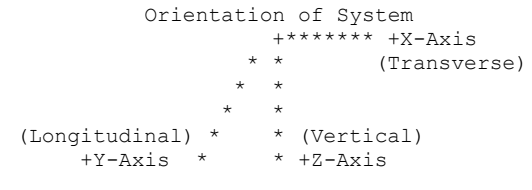


Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	44'- 6.00"	44'- 6.00"	3.00"	0.00	0	0	0	SW_A
2	44'- 6.00"	44'- 6.00"	3.00"	0.00	-100	-5100	300	SW_B
3	37'- 6.00"	37'- 6.00"	3.00"	0.00	0	0	0	TCND_C
4	30'- 6.00"	30'- 6.00"	3.00"	0.00	0	0	0	MCND_C
5	23'- 6.00"	23'- 6.00"	3.00"	0.00	0	0	0	BCND_C
6	37'- 6.00"	37'- 6.00"	3.00"	0.00	-200	-6000	800	TCND_D
7	30'- 6.00"	30'- 6.00"	3.00"	0.00	-200	-6000	800	MCND_D
8	23'- 6.00"	23'- 6.00"	3.00"	0.00	-200	-6000	800	BCND_D
9	36'- 1.00"	36'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	29'- 1.00"	29'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	22'- 1.00"	22'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 2A EXTREME WIND

Basic Wind Pressure is 23.10 psf
Wind Orientation is 180.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

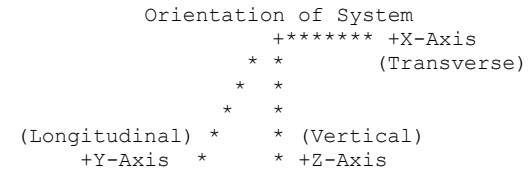


Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	44'- 6.00"	44'- 6.00"	3.00"	0.00	-200	2300	-200	SW_A
2	44'- 6.00"	44'- 6.00"	3.00"	0.00	-100	-2200	100	SW_B
3	37'- 6.00"	37'- 6.00"	3.00"	0.00	-200	2900	-100	TCND_C
4	30'- 6.00"	30'- 6.00"	3.00"	0.00	-200	2900	-100	MCND_C
5	23'- 6.00"	23'- 6.00"	3.00"	0.00	-200	2900	-100	BCND_C
6	37'- 6.00"	37'- 6.00"	3.00"	0.00	-200	-2900	400	TCND_D
7	30'- 6.00"	30'- 6.00"	3.00"	0.00	-200	-2900	400	MCND_D
8	23'- 6.00"	23'- 6.00"	3.00"	0.00	-200	-2900	400	BCND_D
9	36'- 1.00"	36'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	29'- 1.00"	29'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	22'- 1.00"	22'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 2B EXTREME WIND

Basic Wind Pressure is 23.10 psf
Wind Orientation is 180.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

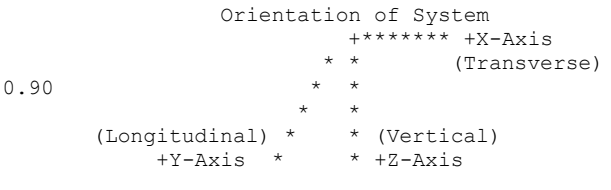


Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	44'- 6.00"	44'- 6.00"	3.00"	0.00	-200	2300	-200	SW_A
2	44'- 6.00"	44'- 6.00"	3.00"	0.00	0	0	0	SW_B
3	37'- 6.00"	37'- 6.00"	3.00"	0.00	-200	2900	-100	TCND_C
4	30'- 6.00"	30'- 6.00"	3.00"	0.00	-200	2900	-100	MCND_C
5	23'- 6.00"	23'- 6.00"	3.00"	0.00	-200	2900	-100	BCND_C
6	37'- 6.00"	37'- 6.00"	3.00"	0.00	0	0	0	TCND_D
7	30'- 6.00"	30'- 6.00"	3.00"	0.00	0	0	0	MCND_D
8	23'- 6.00"	23'- 6.00"	3.00"	0.00	0	0	0	BCND_D
9	36'- 1.00"	36'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	29'- 1.00"	29'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	22'- 1.00"	22'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 2C EXTREME WIND

Basic Wind Pressure is 23.10 psf
Wind Orientation is 180.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

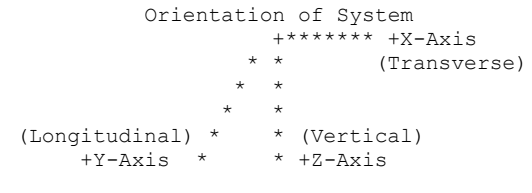


Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	44'- 6.00"	44'- 6.00"	3.00"	0.00	0	0	0	SW_A
2	44'- 6.00"	44'- 6.00"	3.00"	0.00	-100	-2200	100	SW_B
3	37'- 6.00"	37'- 6.00"	3.00"	0.00	0	0	0	TCND_C
4	30'- 6.00"	30'- 6.00"	3.00"	0.00	0	0	0	MCND_C
5	23'- 6.00"	23'- 6.00"	3.00"	0.00	0	0	0	BCND_C
6	37'- 6.00"	37'- 6.00"	3.00"	0.00	-200	-2900	400	TCND_D
7	30'- 6.00"	30'- 6.00"	3.00"	0.00	-200	-2900	400	MCND_D
8	23'- 6.00"	23'- 6.00"	3.00"	0.00	-200	-2900	400	BCND_D
9	36'- 1.00"	36'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	29'- 1.00"	29'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	22'- 1.00"	22'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 3A CONCURRENT

Basic Wind Pressure is 4.10 psf
Wind Orientation is 180.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

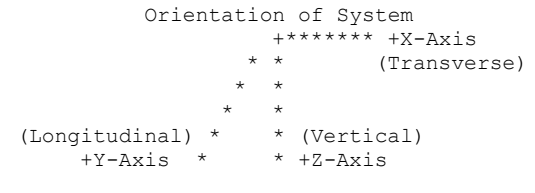


Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	44'- 6.00"	44'- 6.00"	3.00"	0.00	-100	3900	200	SW_A
2	44'- 6.00"	44'- 6.00"	3.00"	0.00	-100	-3900	400	SW_B
3	37'- 6.00"	37'- 6.00"	3.00"	0.00	-100	4600	300	TCND_C
4	30'- 6.00"	30'- 6.00"	3.00"	0.00	-100	4600	300	MCND_C
5	23'- 6.00"	23'- 6.00"	3.00"	0.00	-100	4600	300	BCND_C
6	37'- 6.00"	37'- 6.00"	3.00"	0.00	-200	-4600	900	TCND_D
7	30'- 6.00"	30'- 6.00"	3.00"	0.00	-200	-4600	900	MCND_D
8	23'- 6.00"	23'- 6.00"	3.00"	0.00	-200	-4600	900	BCND_D
9	36'- 1.00"	36'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	29'- 1.00"	29'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	22'- 1.00"	22'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 3B CONCURRENT

Basic Wind Pressure is 4.10 psf
Wind Orientation is 180.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

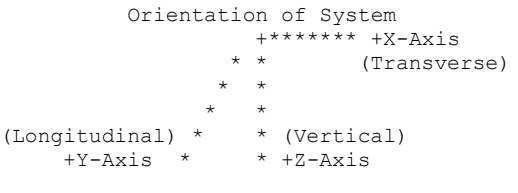


Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	44'- 6.00"	44'- 6.00"	3.00"	0.00	-100	3900	200	SW_A
2	44'- 6.00"	44'- 6.00"	3.00"	0.00	0	0	0	SW_B
3	37'- 6.00"	37'- 6.00"	3.00"	0.00	-100	4600	300	TCND_C
4	30'- 6.00"	30'- 6.00"	3.00"	0.00	-100	4600	300	MCND_C
5	23'- 6.00"	23'- 6.00"	3.00"	0.00	-100	4600	300	BCND_C
6	37'- 6.00"	37'- 6.00"	3.00"	0.00	0	0	0	TCND_D
7	30'- 6.00"	30'- 6.00"	3.00"	0.00	0	0	0	MCND_D
8	23'- 6.00"	23'- 6.00"	3.00"	0.00	0	0	0	BCND_D
9	36'- 1.00"	36'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	29'- 1.00"	29'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	22'- 1.00"	22'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 3C CONCURRENT

Basic Wind Pressure is 4.10 psf
Wind Orientation is 180.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

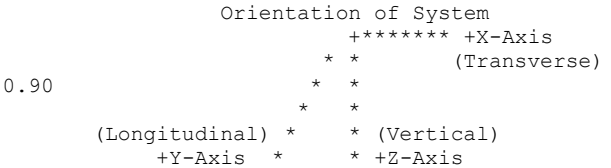


Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	44'- 6.00"	44'- 6.00"	3.00"	0.00	0	0	0	SW_A
2	44'- 6.00"	44'- 6.00"	3.00"	0.00	-100	-3900	400	SW_B
3	37'- 6.00"	37'- 6.00"	3.00"	0.00	0	0	0	TCND_C
4	30'- 6.00"	30'- 6.00"	3.00"	0.00	0	0	0	MCND_C
5	23'- 6.00"	23'- 6.00"	3.00"	0.00	0	0	0	BCND_C
6	37'- 6.00"	37'- 6.00"	3.00"	0.00	-200	-4600	900	TCND_D
7	30'- 6.00"	30'- 6.00"	3.00"	0.00	-200	-4600	900	MCND_D
8	23'- 6.00"	23'- 6.00"	3.00"	0.00	-200	-4600	900	BCND_D
9	36'- 1.00"	36'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	29'- 1.00"	29'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	22'- 1.00"	22'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 4 DEFLECTION

Basic Wind Pressure is 1.00 psf
Wind Orientation is 180.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees
Deflection Limitation: 6.0 in



Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	44'- 6.00"	44'- 6.00"	3.00"	0.00	-100	1800	-100	SW_A
2	44'- 6.00"	44'- 6.00"	3.00"	0.00	-100	-1800	100	SW_B
3	37'- 6.00"	37'- 6.00"	3.00"	0.00	-100	1500	100	TCND_C
4	30'- 6.00"	30'- 6.00"	3.00"	0.00	-100	1500	100	MCND_C
5	23'- 6.00"	23'- 6.00"	3.00"	0.00	-100	1500	100	BCND_C
6	37'- 6.00"	37'- 6.00"	3.00"	0.00	-100	-1500	200	TCND_D
7	30'- 6.00"	30'- 6.00"	3.00"	0.00	-100	-1500	200	MCND_D
8	23'- 6.00"	23'- 6.00"	3.00"	0.00	-100	-1500	200	BCND_D
9	36'- 1.00"	36'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	29'- 1.00"	29'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	22'- 1.00"	22'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** Properties ***

Connection Locations	Distance From Base (ft)	Diameter Across Flats (in)	Wall Thickness (in)	D/t Across Flats	w/t Across Flats	Moments of Inertia (in^4)	Area (in^2)
Top of Sect 2	45.00	15.000	0.2188	68.57	15.69	291	10.40
	44.50	15.148	0.2188	69.25	15.88	300	10.50
	40.01	16.479	0.2188	75.33	17.51	387	11.44
	37.50	17.223	0.2188	78.73	18.42	443	11.96
	36.08	17.643	0.2188	80.65	18.93	476	12.26
	35.02	17.958	0.2188	82.09	19.32	503	12.48
	30.50	19.298	0.2188	88.22	20.96	625	13.42
	30.03	19.437	0.2188	88.85	21.13	639	13.52
	29.08	19.717	0.2188	90.14	21.47	667	13.71
	25.04	20.916	0.2188	95.62	22.94	798	14.56
	23.50	21.372	0.2188	97.70	23.50	852	14.88
	22.08	21.792	0.2188	99.62	24.01	904	15.17
	20.05	22.395	0.2188	102.38	24.75	982	15.60
	15.06	23.874	0.2188	109.14	26.56	1192	16.64
	12.53	24.624	0.2188	112.57	27.48	1309	17.17
	10.00	25.374	0.2188	115.99	28.40	1433	17.69
Top of Sect 1	10.00	24.936	0.2500	99.74	24.05	1548	19.84
Base of Sect 2	6.08	26.097	0.2500	104.39	25.29	1777	20.78
	5.08	26.394	0.2500	105.58	25.61	1839	21.02
	2.54	27.147	0.2500	108.59	26.42	2002	21.62
	0.00	27.900	0.2500	111.60	27.22	2175	22.23
	-4.90	29.352	0.2500	117.41	28.78	2536	23.39
	-9.89	30.831	0.2500	123.33	30.37	2943	24.58
	-12.45	31.589	0.2500	126.35	31.18	3167	25.19
Base of Sect 1	-15.00	32.346	0.2500	129.38	31.99	3402	25.80

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 1A NESC HEAVY

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
45.00	0	0	0	0	0	0	0	0
44.50	0	0	0	0	-7	0	7	26
44.50	0	-4	4	1	-210	100	233	425
40.01	5	9	10	1	-277	100	295	674
37.50	8	18	20	1	-317	100	333	822
37.50	8	6	11	1	-725	101	732	1819
36.08	10	19	21	1	-748	101	755	1906
35.02	11	29	31	1	-766	101	773	1973
30.50	17	72	74	1	-845	101	851	2269
30.50	17	60	62	1	-1253	101	1257	3266
30.03	17	67	69	1	-1261	101	1265	3298
29.08	19	81	83	1	-1279	101	1283	3363
29.08	19	81	83	1	-1278	101	1282	3364
25.04	24	145	147	1	-1355	101	1359	3653
23.50	25	170	172	1	-1386	101	1389	3768
23.50	25	157	159	1	-1792	101	1795	4766
22.08	27	187	189	1	-1821	101	1824	4873
22.08	27	187	189	1	-1821	101	1823	4874
20.05	30	232	234	1	-1861	101	1864	5033
15.06	36	347	349	1	-1967	101	1970	5442
12.53	39	408	409	1	-2023	101	2025	5659
10.00	42	470	472	1	-2082	101	2085	5883
10.00	42	470	472	1	-2080	101	2082	5884
6.08	46	570	572	1	-2177	101	2179	6647
6.08	46	570	572	1	-2175	100	2177	6648
5.08	48	596	598	1	-2198	100	2200	6755
2.54	51	664	666	1	-2259	100	2261	7031
0.00	54	734	736	1	-2325	100	2327	7313

Deflections and Stresses for Pole

Loading Case 1A NESC HEAVY *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
45.00	-1.3	0.1	1.3	0.0	0.20	0.00	0.00	0.00	0.00	0.00	65.00	99.90
44.50	-1.3	0.1	1.3	0.0	0.20	0.00	0.00	0.00	0.00	0.00	65.00	99.90
44.50	-1.3	0.1	1.3	0.0	0.20	0.11	0.04	0.01	0.06	0.16	65.00	99.90
40.01	-1.1	0.1	1.1	0.0	0.20	0.22	0.06	0.01	0.06	0.29	65.00	99.90
37.50	-1.0	0.1	1.0	0.0	0.20	0.39	0.07	0.01	0.07	0.46	65.00	99.90
37.50	-1.0	0.1	1.0	0.0	0.20	0.21	0.15	0.01	0.13	0.41	65.00	99.90
36.08	-0.9	0.1	0.9	0.0	0.20	0.40	0.16	0.01	0.13	0.57	65.00	99.90
35.02	-0.9	0.1	0.9	0.0	0.20	0.56	0.16	0.01	0.13	0.72	65.00	89.83
30.50	-0.7	0.1	0.7	0.0	0.19	1.18	0.17	0.01	0.14	1.35	65.00	48.00
30.50	-0.7	0.1	0.7	0.0	0.19	0.99	0.24	0.01	0.20	1.24	65.00	52.62
30.03	-0.7	0.1	0.7	0.0	0.19	1.09	0.24	0.01	0.20	1.33	65.00	48.82
29.08	-0.6	0.1	0.6	0.0	0.19	1.27	0.25	0.01	0.20	1.52	65.00	42.80
25.04	-0.5	0.0	0.5	0.0	0.17	1.98	0.25	0.01	0.20	2.23	65.00	29.08
23.50	-0.4	0.0	0.4	0.0	0.16	2.22	0.25	0.01	0.20	2.48	65.00	26.25
23.50	-0.4	0.0	0.4	0.0	0.16	2.05	0.32	0.01	0.25	2.37	65.00	27.39
22.08	-0.4	0.0	0.4	0.0	0.16	2.35	0.32	0.01	0.25	2.67	65.00	24.35
20.05	-0.3	0.0	0.3	0.0	0.15	2.74	0.32	0.01	0.25	3.06	65.00	21.21
15.06	-0.2	0.0	0.2	0.0	0.11	3.57	0.33	0.01	0.24	3.90	65.00	16.67
12.53	-0.1	0.0	0.1	0.0	0.10	3.93	0.33	0.01	0.24	4.26	65.00	15.25
10.00	-0.1	0.0	0.1	0.0	0.08	4.26	0.33	0.00	0.24	4.59	65.00	14.15
10.00	-0.1	0.0	0.1	0.0	0.08	3.88	0.30	0.00	0.22	4.17	65.00	15.58
6.08	0.0	0.0	0.0	0.0	0.05	4.28	0.32	0.00	0.22	4.60	65.00	14.13
5.08	0.0	0.0	0.0	0.0	0.04	4.37	0.32	0.00	0.22	4.69	65.00	13.85
2.54	0.0	0.0	0.0	0.0	0.02	4.60	0.33	0.00	0.22	4.92	65.00	13.21
0.00	0.0	0.0	0.0	0.0	0.00	4.80	0.33	0.00	0.22	5.13	65.00	12.67

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 1B NESC HEAVY

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
45.00	0	0	0	0	0	0	0	0
44.50	0	0	0	0	-7	2	7	26
44.50	0	2	2	55	-82	5199	5200	-162
40.01	281	8	281	55	-148	5214	5216	86
37.50	438	13	438	55	-190	5222	5225	239
37.50	438	15	438	125	-365	11224	11230	119
36.08	628	21	629	125	-388	11229	11236	206
36.08	628	21	629	125	-390	11229	11236	213
35.02	772	26	772	125	-408	11232	11240	280
30.50	1381	51	1382	125	-491	11247	11258	599
30.50	1381	52	1382	201	-673	17249	17262	527
30.03	1479	56	1480	201	-682	17251	17264	559
29.08	1675	64	1676	201	-701	17253	17268	636
29.08	1675	64	1676	201	-707	17251	17266	685
25.04	2512	100	2514	201	-791	17261	17279	1034
23.50	2831	115	2833	201	-822	17266	17285	1149
23.50	2831	116	2833	283	-1011	23267	23289	1143
22.08	3226	134	3229	283	-1040	23271	23294	1251
22.08	3226	134	3229	283	-1046	23268	23291	1311
20.05	3794	160	3798	283	-1100	23264	23290	1605
15.06	5188	230	5193	283	-1219	23263	23295	2167
12.53	5894	268	5900	283	-1283	23256	23292	2493
10.00	6600	308	6607	283	-1342	23261	23300	2717
10.00	6600	309	6607	283	-1349	23244	23283	2854
6.08	7693	374	7702	283	-1446	23255	23300	3617
6.08	7693	375	7702	283	-1450	23239	23284	3719
5.08	7973	392	7982	283	-1477	23227	23274	3900
2.54	8681	439	8692	283	-1545	23210	23261	4281
0.00	9388	487	9401	283	-1610	23210	23266	4563

BY VALMONT INDUSTRIES FOR: OMPA, 45.0' AGH, 60' CUSTOM POLES, STR. #7/11, 607956 DATE 01/30/2024
Design Id: STR7_11 IMPAX 26.2.5.1
Deflections and Stresses for Pole

Loading Case 1B NESC HEAVY *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
45.00	-0.9	19.1	19.1	0.4	3.20	0.00	0.00	0.00	0.00	0.00	65.00	99.90
44.50	-0.9	18.8	18.8	0.4	3.20	0.00	0.00	0.00	0.00	0.00	65.00	99.90
44.50	-0.9	18.8	18.8	0.4	3.20	0.05	0.02	0.70	1.70	2.95	65.00	22.03
40.01	-0.7	15.8	15.8	0.3	3.15	6.02	0.01	0.59	1.51	6.17	65.00	10.53
37.50	-0.7	14.1	14.1	0.3	3.10	8.58	0.02	0.54	1.42	8.66	65.00	7.51
37.50	-0.7	14.1	14.1	0.3	3.10	8.59	0.01	1.23	3.12	9.05	65.00	7.18
36.08	-0.6	13.2	13.2	0.3	3.06	11.75	0.02	1.17	3.02	12.05	65.00	5.40
35.02	-0.6	12.5	12.5	0.2	3.03	13.92	0.02	1.13	2.95	14.15	65.00	4.60
30.50	-0.5	9.8	9.8	0.2	2.82	21.53	0.04	0.97	2.67	21.61	65.00	3.01
30.50	-0.5	9.8	9.8	0.2	2.82	21.54	0.04	1.57	4.17	21.81	65.00	2.98
30.03	-0.5	9.5	9.5	0.2	2.80	22.72	0.04	1.54	4.13	22.97	65.00	2.83
29.08	-0.4	8.9	8.9	0.2	2.74	24.99	0.05	1.50	4.05	25.20	65.00	2.58
29.08	-0.4	8.9	8.9	0.2	2.74	24.99	0.05	1.50	4.05	25.19	65.00	2.58
25.04	-0.3	6.7	6.7	0.1	2.47	33.27	0.07	1.33	3.73	33.37	65.00	1.95
23.50	-0.3	5.9	6.0	0.1	2.35	35.89	0.08	1.27	3.62	35.99	65.00	1.81
23.50	-0.3	5.9	6.0	0.1	2.35	35.89	0.08	1.80	4.96	36.07	65.00	1.80
22.08	-0.3	5.3	5.3	0.1	2.23	39.32	0.08	1.73	4.83	39.46	65.00	1.65
22.08	-0.3	5.3	5.3	0.1	2.23	39.32	0.09	1.73	4.83	39.46	65.00	1.65
20.05	-0.2	4.4	4.4	0.1	2.05	43.76	0.10	1.63	4.65	43.90	65.00	1.48
15.06	-0.1	2.5	2.5	0.0	1.57	52.58	0.13	1.44	4.27	52.74	65.00	1.23
12.53	-0.1	1.7	1.7	0.0	1.30	56.13	0.15	1.35	4.09	56.29	65.00	1.15
10.00	-0.1	1.1	1.1	0.0	1.03	59.17	0.15	1.27	3.93	59.33	65.00	1.10
10.00	-0.1	1.1	1.1	0.0	1.03	53.83	0.14	1.15	3.52	53.99	65.00	1.20
6.08	0.0	0.4	0.4	0.0	0.63	57.24	0.17	1.05	3.32	57.42	65.00	1.13
6.08	0.0	0.4	0.4	0.0	0.63	57.24	0.18	1.05	3.32	57.43	65.00	1.13
5.08	0.0	0.3	0.3	0.0	0.52	57.98	0.19	1.03	3.27	58.17	65.00	1.12
2.54	0.0	0.1	0.1	0.0	0.26	59.65	0.20	0.97	3.14	59.86	65.00	1.09
0.00	0.0	0.0	0.0	0.0	0.00	61.05	0.21	0.92	3.03	61.26	65.00	1.06

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 1C NESC HEAVY

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
45.00	0	0	0	0	0	0	0	0
44.50	0	0	0	0	-7	-1	7	26
44.50	0	0	0	-54	-84	-5111	5111	45
40.01	-276	6	276	-54	-152	-5124	5127	297
37.50	-430	11	430	-54	-191	-5133	5136	446
37.50	-430	6	430	-124	-370	-11167	11173	926
36.08	-620	12	620	-124	-393	-11172	11179	1013
36.08	-620	12	620	-124	-395	-11171	11178	1020
35.02	-763	17	763	-124	-417	-11172	11180	1110
30.50	-1369	42	1370	-124	-496	-11188	11199	1406
30.50	-1369	36	1370	-200	-682	-17217	17231	1933
30.03	-1466	40	1467	-200	-692	-17217	17231	1977
29.08	-1662	48	1662	-200	-710	-17221	17235	2043
29.08	-1662	48	1662	-200	-716	-17215	17229	2092
25.04	-2497	85	2499	-200	-800	-17219	17238	2440
23.50	-2816	100	2817	-200	-830	-17224	17244	2554
23.50	-2816	92	2817	-283	-1023	-23246	23269	3149
22.08	-3211	110	3213	-283	-1052	-23251	23274	3256
22.08	-3211	110	3213	-283	-1058	-23242	23266	3316
20.05	-3778	137	3780	-283	-1111	-23227	23253	3610
15.06	-5169	207	5173	-283	-1230	-23212	23245	4170
12.53	-5874	246	5879	-283	-1293	-23197	23233	4496
10.00	-6578	286	6585	-283	-1353	-23201	23241	4720
10.00	-6578	287	6585	-283	-1359	-23173	23213	4856
6.08	-7668	353	7676	-283	-1456	-23184	23229	5619
6.08	-7668	353	7676	-283	-1460	-23159	23205	5721
5.08	-7946	371	7955	-283	-1487	-23141	23189	5901
2.54	-8652	418	8662	-283	-1554	-23114	23166	6281
0.00	-9356	466	9368	-283	-1619	-23115	23172	6563

Deflections and Stresses for Pole

Loading Case 1C NESC HEAVY *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
45.00	-0.8	-19.0	19.0	0.4	3.18	0.00	0.00	0.00	0.00	0.00	65.00	99.90
44.50	-0.8	-18.7	18.7	0.4	3.18	0.00	0.00	0.00	0.00	0.00	65.00	99.90
44.50	-0.8	-18.7	18.7	0.4	3.18	0.00	0.00	0.69	1.67	2.90	65.00	22.42
40.01	-0.7	-15.7	15.7	0.3	3.14	5.91	0.03	0.58	1.49	6.04	65.00	10.76
37.50	-0.6	-14.1	14.1	0.3	3.09	8.43	0.04	0.53	1.40	8.49	65.00	7.66
37.50	-0.6	-14.1	14.1	0.3	3.09	8.40	0.08	1.22	3.11	8.96	65.00	7.26
36.08	-0.6	-13.2	13.2	0.3	3.05	11.55	0.08	1.16	3.01	11.88	65.00	5.47
35.02	-0.5	-12.5	12.5	0.2	3.01	13.71	0.09	1.12	2.93	13.93	65.00	4.67
30.50	-0.4	-9.7	9.7	0.2	2.81	21.30	0.10	0.97	2.66	21.43	65.00	3.03
30.50	-0.4	-9.7	9.7	0.2	2.81	21.28	0.14	1.57	4.16	21.51	65.00	3.02
30.03	-0.4	-9.5	9.5	0.2	2.78	22.46	0.15	1.54	4.12	22.67	65.00	2.87
29.08	-0.4	-8.9	8.9	0.2	2.73	24.73	0.15	1.50	4.04	24.94	65.00	2.61
29.08	-0.4	-8.9	8.9	0.2	2.73	24.74	0.15	1.50	4.04	24.94	65.00	2.61
25.04	-0.3	-6.7	6.7	0.1	2.46	33.02	0.17	1.33	3.72	33.22	65.00	1.96
23.50	-0.3	-5.9	5.9	0.1	2.34	35.64	0.17	1.27	3.62	35.84	65.00	1.81
23.50	-0.3	-5.9	5.9	0.1	2.34	35.62	0.21	1.80	4.96	35.88	65.00	1.81
22.08	-0.2	-5.3	5.3	0.1	2.23	39.06	0.21	1.73	4.83	39.32	65.00	1.65
22.08	-0.2	-5.3	5.3	0.1	2.23	39.06	0.22	1.73	4.83	39.32	65.00	1.65
20.05	-0.2	-4.3	4.3	0.1	2.05	43.51	0.23	1.64	4.65	43.77	65.00	1.49
15.06	-0.1	-2.4	2.5	0.0	1.56	52.34	0.25	1.44	4.26	52.61	65.00	1.24
12.53	-0.1	-1.7	1.7	0.0	1.29	55.88	0.26	1.35	4.08	56.16	65.00	1.16
10.00	-0.1	-1.1	1.1	0.0	1.02	58.92	0.27	1.27	3.92	59.20	65.00	1.10
10.00	-0.1	-1.1	1.1	0.0	1.02	53.61	0.24	1.15	3.52	53.86	65.00	1.21
6.08	0.0	-0.4	0.4	0.0	0.62	57.01	0.27	1.05	3.31	57.29	65.00	1.13
6.08	0.0	-0.4	0.4	0.0	0.62	57.01	0.28	1.05	3.31	57.30	65.00	1.13
5.08	0.0	-0.3	0.3	0.0	0.52	57.75	0.28	1.03	3.26	58.04	65.00	1.12
2.54	0.0	-0.1	0.1	0.0	0.26	59.42	0.29	0.97	3.14	59.71	65.00	1.09
0.00	0.0	0.0	0.0	0.0	0.00	60.81	0.30	0.92	3.02	61.11	65.00	1.06

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 2A EXTREME WIND

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
45.00	0	0	0	0	0	0	0	0
44.50	0	0	0	0	-16	0	16	18
44.50	0	1	1	1	-315	100	331	-85
40.01	5	22	23	1	-467	100	478	81
37.50	8	38	39	1	-558	100	567	180
37.50	8	34	35	1	-961	100	966	476
36.08	10	51	52	1	-1013	100	1018	534
35.02	11	64	65	1	-1054	100	1059	578
30.50	17	126	127	1	-1234	100	1238	776
30.50	17	122	124	1	-1637	100	1640	1072
30.03	17	132	133	1	-1656	100	1659	1094
29.08	19	151	152	1	-1696	100	1699	1137
29.08	19	151	152	1	-1695	100	1698	1138
25.04	23	237	238	1	-1871	100	1873	1331
23.50	25	273	274	1	-1940	100	1943	1408
23.50	25	268	270	1	-2343	100	2345	1705
22.08	27	309	310	1	-2408	100	2410	1777
22.08	27	309	310	1	-2407	100	2410	1777
20.05	29	369	370	1	-2502	100	2504	1885
15.06	35	526	527	1	-2748	100	2749	2158
12.53	38	611	613	1	-2877	100	2879	2304
10.00	42	701	702	1	-3012	100	3014	2454
10.00	42	701	702	1	-3011	100	3012	2455
6.08	46	847	849	1	-3229	100	3231	2964
6.08	46	847	849	1	-3228	100	3229	2966
5.08	47	887	888	1	-3283	100	3284	3038
2.54	50	989	990	1	-3426	100	3427	3223
0.00	54	1096	1097	1	-3575	100	3576	3411

Deflections and Stresses for Pole

Loading Case 2A EXTREME WIND *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
45.00	-2.0	0.1	2.0	0.0	0.32	0.00	0.00	0.00	0.00	0.00	65.00	99.90
44.50	-2.0	0.1	2.0	0.0	0.32	0.00	0.00	0.00	0.00	0.01	65.00	99.90
44.50	-2.0	0.1	2.0	0.0	0.32	0.03	0.01	0.01	0.08	0.13	65.00	99.90
40.01	-1.7	0.1	1.7	0.0	0.32	0.50	0.01	0.01	0.10	0.51	65.00	99.90
37.50	-1.5	0.1	1.5	0.0	0.32	0.78	0.02	0.01	0.11	0.79	65.00	82.09
37.50	-1.5	0.1	1.5	0.0	0.32	0.71	0.04	0.01	0.17	0.75	65.00	86.48
36.08	-1.4	0.1	1.4	0.0	0.31	0.99	0.04	0.01	0.18	1.04	65.00	62.50
35.02	-1.3	0.1	1.3	0.0	0.31	1.20	0.05	0.01	0.18	1.25	65.00	52.03
30.50	-1.0	0.1	1.0	0.0	0.29	2.02	0.06	0.01	0.19	2.08	65.00	31.30
30.50	-1.0	0.1	1.0	0.0	0.29	1.96	0.08	0.01	0.26	2.04	65.00	31.83
30.03	-1.0	0.1	1.0	0.0	0.29	2.07	0.08	0.01	0.26	2.16	65.00	30.12
29.08	-1.0	0.1	1.0	0.0	0.28	2.30	0.08	0.01	0.26	2.39	65.00	27.25
25.04	-0.7	0.0	0.7	0.0	0.26	3.19	0.09	0.01	0.27	3.28	65.00	19.79
23.50	-0.6	0.0	0.6	0.0	0.25	3.50	0.09	0.01	0.27	3.60	65.00	18.06
23.50	-0.6	0.0	0.6	0.0	0.25	3.45	0.11	0.01	0.33	3.57	65.00	18.21
22.08	-0.6	0.0	0.6	0.0	0.24	3.81	0.12	0.01	0.33	3.93	65.00	16.54
20.05	-0.5	0.0	0.5	0.0	0.22	4.30	0.12	0.01	0.33	4.42	65.00	14.71
15.06	-0.3	0.0	0.3	0.0	0.17	5.36	0.13	0.01	0.34	5.50	65.00	11.83
12.53	-0.2	0.0	0.2	0.0	0.14	5.85	0.13	0.01	0.34	5.99	65.00	10.86
10.00	-0.1	0.0	0.1	0.0	0.11	6.30	0.14	0.00	0.35	6.44	65.00	10.09
10.00	-0.1	0.0	0.1	0.0	0.11	5.73	0.12	0.00	0.31	5.86	65.00	11.09
6.08	0.0	0.0	0.0	0.0	0.07	6.31	0.14	0.00	0.32	6.46	65.00	10.06
5.08	0.0	0.0	0.0	0.0	0.06	6.46	0.14	0.00	0.32	6.60	65.00	9.85
2.54	0.0	0.0	0.0	0.0	0.03	6.80	0.15	0.00	0.32	6.95	65.00	9.36
0.00	0.0	0.0	0.0	0.0	0.00	7.12	0.15	0.00	0.33	7.27	65.00	8.94

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 2B EXTREME WIND

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
45.00	0	0	0	0	0	0	0	0
44.50	0	0	0	0	-16	0	16	18
44.50	0	3	3	24	-209	2295	2304	-243
40.01	124	18	125	24	-361	2300	2328	-77
37.50	193	30	195	24	-451	2302	2346	23
37.50	193	32	196	58	-644	5199	5239	-151
36.08	281	44	285	58	-697	5201	5247	-93
36.08	281	44	285	58	-698	5201	5247	-91
35.02	348	53	352	58	-738	5202	5254	-47
30.50	630	98	638	58	-919	5207	5287	156
30.50	630	100	638	95	-1114	8104	8180	-8
30.03	676	106	684	95	-1133	8104	8183	14
29.08	768	120	777	95	-1173	8105	8190	60
29.08	768	120	777	95	-1174	8105	8190	71
25.04	1161	181	1175	95	-1351	8109	8221	277
23.50	1311	206	1327	95	-1421	8110	8234	354
23.50	1311	209	1328	134	-1617	11008	11126	206
22.08	1498	237	1517	134	-1683	11009	11137	278
22.08	1498	237	1517	134	-1684	11008	11137	291
20.05	1767	279	1789	134	-1783	11009	11152	428
15.06	2426	393	2458	134	-2031	11010	11196	734
12.53	2760	457	2798	134	-2163	11010	11220	904
10.00	3095	525	3139	134	-2298	11011	11249	1053
10.00	3095	525	3139	134	-2299	11008	11246	1085
6.08	3612	638	3668	134	-2517	11012	11296	1594
6.08	3612	638	3668	134	-2518	11008	11292	1617
5.08	3745	669	3804	134	-2574	11006	11303	1705
2.54	4080	750	4148	134	-2719	11002	11333	1913
0.00	4415	835	4494	134	-2868	11002	11370	2101

Deflections and Stresses for Pole

Loading Case 2B EXTREME WIND *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
45.00	-1.5	8.9	9.0	0.1	1.50	0.00	0.00	0.00	0.00	0.00	65.00	99.90
44.50	-1.5	8.8	8.9	0.1	1.50	0.00	0.00	0.00	0.00	0.01	65.00	99.90
44.50	-1.5	8.8	8.9	0.1	1.50	0.07	0.02	0.31	0.75	1.31	65.00	49.79
40.01	-1.3	7.4	7.5	0.1	1.49	2.74	0.01	0.26	0.67	2.80	65.00	23.25
37.50	-1.1	6.6	6.7	0.1	1.46	3.91	0.00	0.24	0.63	3.94	65.00	16.50
37.50	-1.1	6.6	6.7	0.1	1.46	3.93	0.01	0.57	1.45	4.12	65.00	15.79
36.08	-1.1	6.2	6.3	0.1	1.44	5.43	0.01	0.54	1.40	5.55	65.00	11.70
35.02	-1.0	5.9	6.0	0.1	1.43	6.47	0.00	0.52	1.37	6.56	65.00	9.90
30.50	-0.8	4.6	4.6	0.0	1.33	10.13	0.01	0.45	1.25	10.16	65.00	6.40
30.50	-0.8	4.6	4.6	0.0	1.33	10.14	0.00	0.74	1.96	10.26	65.00	6.34
30.03	-0.8	4.4	4.5	0.0	1.32	10.71	0.00	0.73	1.94	10.82	65.00	6.01
29.08	-0.7	4.2	4.3	0.0	1.30	11.82	0.00	0.71	1.91	11.90	65.00	5.46
29.08	-0.7	4.2	4.3	0.0	1.30	11.82	0.01	0.71	1.91	11.90	65.00	5.46
25.04	-0.5	3.2	3.2	0.0	1.17	15.85	0.02	0.63	1.76	15.89	65.00	4.09
23.50	-0.5	2.8	2.8	0.0	1.11	17.13	0.02	0.60	1.72	17.18	65.00	3.78
23.50	-0.5	2.8	2.8	0.0	1.11	17.14	0.01	0.85	2.35	17.22	65.00	3.77
22.08	-0.4	2.5	2.5	0.0	1.06	18.82	0.02	0.82	2.30	18.88	65.00	3.44
20.05	-0.4	2.0	2.1	0.0	0.98	21.00	0.03	0.78	2.21	21.06	65.00	3.09
15.06	-0.2	1.2	1.2	0.0	0.74	25.36	0.04	0.68	2.04	25.42	65.00	2.56
12.53	-0.1	0.8	0.8	0.0	0.62	27.12	0.05	0.64	1.96	27.19	65.00	2.39
10.00	-0.1	0.5	0.5	0.0	0.49	28.64	0.06	0.60	1.89	28.72	65.00	2.26
10.00	-0.1	0.5	0.5	0.0	0.49	26.06	0.05	0.55	1.69	26.13	65.00	2.49
6.08	0.0	0.2	0.2	0.0	0.30	27.79	0.08	0.50	1.60	27.87	65.00	2.33
5.08	0.0	0.1	0.1	0.0	0.25	28.16	0.08	0.49	1.58	28.26	65.00	2.30
2.54	0.0	0.0	0.0	0.0	0.12	29.02	0.09	0.46	1.52	29.12	65.00	2.23
0.00	0.0	0.0	0.0	0.0	0.00	29.76	0.09	0.44	1.47	29.86	65.00	2.18

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 2C EXTREME WIND

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
45.00	0	0	0	0	0	0	0	0
44.50	0	0	0	0	-16	0	16	18
44.50	0	0	0	-23	-112	-2203	2205	61
40.01	-119	10	119	-23	-264	-2207	2223	228
37.50	-185	19	186	-23	-354	-2210	2238	327
37.50	-185	15	186	-57	-551	-5119	5148	654
36.08	-272	25	273	-57	-604	-5120	5156	712
36.08	-272	25	273	-57	-604	-5120	5156	713
35.02	-338	33	339	-57	-645	-5120	5161	763
30.50	-616	73	620	-57	-825	-5125	5191	960
30.50	-616	69	619	-94	-1024	-8033	8098	1298
30.03	-661	75	665	-94	-1044	-8033	8101	1322
29.08	-752	87	757	-94	-1083	-8034	8107	1365
29.08	-752	87	757	-94	-1084	-8032	8105	1376
25.04	-1142	144	1151	-94	-1261	-8034	8132	1581
23.50	-1290	168	1301	-94	-1330	-8035	8145	1658
23.50	-1290	163	1301	-134	-1530	-10941	11047	2010
22.08	-1476	189	1488	-134	-1596	-10942	11058	2082
22.08	-1476	189	1488	-134	-1597	-10940	11055	2095
20.05	-1743	230	1758	-134	-1694	-10935	11066	2231
15.06	-2398	339	2422	-134	-1942	-10931	11102	2537
12.53	-2730	400	2759	-134	-2074	-10927	11122	2706
10.00	-3062	465	3097	-134	-2208	-10928	11149	2855
10.00	-3062	465	3097	-134	-2209	-10920	11141	2886
6.08	-3575	574	3621	-134	-2427	-10923	11190	3395
6.08	-3575	574	3621	-134	-2427	-10916	11183	3418
5.08	-3707	603	3755	-134	-2483	-10911	11190	3506
2.54	-4039	681	4096	-134	-2627	-10904	11216	3713
0.00	-4372	764	4438	-134	-2776	-10904	11252	3901

Deflections and Stresses for Pole

Loading Case 2C EXTREME WIND *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
45.00	-1.3	-8.8	8.9	0.1	1.48	0.00	0.00	0.00	0.00	0.00	65.00	99.90
44.50	-1.3	-8.7	8.7	0.1	1.48	0.00	0.00	0.00	0.00	0.01	65.00	99.90
44.50	-1.3	-8.7	8.7	0.1	1.48	0.01	0.01	0.30	0.72	1.25	65.00	52.02
40.01	-1.1	-7.3	7.4	0.1	1.46	2.58	0.02	0.25	0.64	2.63	65.00	24.75
37.50	-1.0	-6.5	6.6	0.1	1.44	3.70	0.03	0.23	0.61	3.75	65.00	17.35
37.50	-1.0	-6.5	6.6	0.1	1.44	3.68	0.05	0.56	1.43	3.89	65.00	16.72
36.08	-0.9	-6.1	6.2	0.1	1.42	5.17	0.06	0.53	1.38	5.27	65.00	12.32
35.02	-0.9	-5.8	5.9	0.1	1.40	6.19	0.06	0.52	1.35	6.29	65.00	10.33
30.50	-0.7	-4.5	4.6	0.0	1.31	9.80	0.07	0.45	1.22	9.89	65.00	6.57
30.50	-0.7	-4.5	4.6	0.0	1.31	9.78	0.10	0.73	1.94	9.93	65.00	6.55
30.03	-0.7	-4.4	4.4	0.0	1.30	10.35	0.10	0.72	1.93	10.50	65.00	6.19
29.08	-0.6	-4.1	4.2	0.0	1.28	11.45	0.10	0.70	1.89	11.59	65.00	5.61
25.04	-0.5	-3.1	3.2	0.0	1.15	15.47	0.11	0.62	1.75	15.60	65.00	4.17
23.50	-0.4	-2.8	2.8	0.0	1.10	16.74	0.11	0.60	1.70	16.88	65.00	3.85
23.50	-0.4	-2.8	2.8	0.0	1.10	16.73	0.14	0.85	2.34	16.90	65.00	3.85
22.08	-0.4	-2.4	2.5	0.0	1.05	18.41	0.14	0.82	2.28	18.58	65.00	3.50
20.05	-0.3	-2.0	2.0	0.0	0.96	20.58	0.14	0.77	2.20	20.75	65.00	3.13
15.06	-0.2	-1.1	1.2	0.0	0.73	24.93	0.15	0.68	2.02	25.10	65.00	2.59
12.53	-0.1	-0.8	0.8	0.0	0.61	26.69	0.16	0.64	1.94	26.87	65.00	2.42
10.00	-0.1	-0.5	0.5	0.0	0.48	28.21	0.16	0.60	1.87	28.39	65.00	2.29
10.00	-0.1	-0.5	0.5	0.0	0.48	25.67	0.15	0.55	1.68	25.83	65.00	2.52
6.08	0.0	-0.2	0.2	0.0	0.29	27.39	0.16	0.50	1.59	27.56	65.00	2.36
5.08	0.0	-0.1	0.1	0.0	0.25	27.77	0.17	0.49	1.56	27.94	65.00	2.33
2.54	0.0	0.0	0.0	0.0	0.12	28.62	0.17	0.46	1.51	28.80	65.00	2.26
0.00	0.0	0.0	0.0	0.0	0.00	29.35	0.18	0.43	1.46	29.54	65.00	2.20

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 3A CONCURRENT

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
45.00	0	0	0	0	0	0	0	0
44.50	0	0	0	0	-3	0	3	18
44.50	0	-6	6	0	-207	0	207	616
40.01	0	6	6	0	-235	0	235	782
37.50	0	13	13	0	-251	0	251	881
37.50	0	-1	1	0	-559	0	559	2079
36.08	0	9	9	0	-569	0	569	2137
35.02	0	16	16	0	-576	0	576	2182
30.50	0	48	48	0	-609	0	609	2379
30.50	0	33	33	0	-917	0	917	3577
30.03	0	38	38	0	-920	0	920	3599
29.08	0	49	49	0	-927	0	927	3642
25.04	0	94	94	0	-959	0	959	3835
23.50	0	112	112	0	-971	0	971	3912
23.50	0	96	96	0	-1279	0	1279	5110
22.08	0	118	118	0	-1291	0	1291	5182
22.08	0	118	118	0	-1290	0	1290	5182
20.05	0	149	149	0	-1306	0	1306	5288
15.06	0	229	229	0	-1350	0	1350	5561
12.53	0	270	270	0	-1372	0	1372	5706
10.00	0	312	312	0	-1397	0	1397	5855
10.00	0	312	312	0	-1395	0	1395	5855
6.08	0	379	379	0	-1436	0	1436	6364
6.08	0	379	379	0	-1435	0	1435	6364
5.08	0	396	396	0	-1444	0	1444	6435
2.54	0	441	441	0	-1469	0	1469	6619
0.00	0	486	486	0	-1496	0	1496	6807

Deflections and Stresses for Pole

Loading Case 3A CONCURRENT *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
45.00	-0.8	0.0	0.8	0.0	0.13	0.00	0.00	0.00	0.00	0.00	65.00	99.90
44.50	-0.8	0.0	0.8	0.0	0.13	0.00	0.00	0.00	0.00	0.00	65.00	99.90
44.50	-0.8	0.0	0.8	0.0	0.13	0.16	0.06	0.00	0.04	0.22	65.00	99.90
40.01	-0.7	0.0	0.7	0.0	0.13	0.12	0.07	0.00	0.04	0.19	65.00	99.90
37.50	-0.6	0.0	0.6	0.0	0.13	0.25	0.07	0.00	0.04	0.33	65.00	99.90
37.50	-0.6	0.0	0.6	0.0	0.13	0.02	0.17	0.00	0.09	0.24	65.00	99.90
36.08	-0.6	0.0	0.6	0.0	0.13	0.16	0.17	0.00	0.09	0.34	65.00	99.90
35.02	-0.6	0.0	0.6	0.0	0.13	0.28	0.17	0.00	0.09	0.46	65.00	99.90
30.50	-0.5	0.0	0.5	0.0	0.12	0.74	0.18	0.00	0.09	0.92	65.00	70.70
30.50	-0.5	0.0	0.5	0.0	0.12	0.51	0.27	0.00	0.14	0.78	65.00	83.73
30.03	-0.4	0.0	0.4	0.0	0.12	0.58	0.27	0.00	0.14	0.85	65.00	76.73
29.08	-0.4	0.0	0.4	0.0	0.12	0.72	0.27	0.00	0.14	0.98	65.00	66.03
25.04	-0.3	0.0	0.3	0.0	0.11	1.24	0.26	0.00	0.13	1.50	65.00	43.33
23.50	-0.3	0.0	0.3	0.0	0.11	1.41	0.26	0.00	0.13	1.67	65.00	38.92
23.50	-0.3	0.0	0.3	0.0	0.11	1.20	0.34	0.00	0.17	1.55	65.00	42.04
22.08	-0.3	0.0	0.3	0.0	0.10	1.42	0.34	0.00	0.17	1.76	65.00	36.92
20.05	-0.2	0.0	0.2	0.0	0.10	1.70	0.34	0.00	0.17	2.04	65.00	31.82
15.06	-0.1	0.0	0.1	0.0	0.08	2.29	0.33	0.00	0.16	2.63	65.00	24.74
12.53	-0.1	0.0	0.1	0.0	0.06	2.54	0.33	0.00	0.16	2.88	65.00	22.61
10.00	-0.1	0.0	0.1	0.0	0.05	2.76	0.33	0.00	0.16	3.10	65.00	20.99
10.00	-0.1	0.0	0.1	0.0	0.05	2.52	0.30	0.00	0.14	2.81	65.00	23.13
6.08	0.0	0.0	0.0	0.0	0.03	2.78	0.31	0.00	0.14	3.09	65.00	21.04
5.08	0.0	0.0	0.0	0.0	0.03	2.84	0.31	0.00	0.14	3.15	65.00	20.64
2.54	0.0	0.0	0.0	0.0	0.01	2.99	0.31	0.00	0.14	3.29	65.00	19.74
0.00	0.0	0.0	0.0	0.0	0.00	3.12	0.31	0.00	0.14	3.42	65.00	18.99

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 3B CONCURRENT

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
45.00	0	0	0	0	0	0	0	0
44.50	0	0	0	0	-3	1	3	18
44.50	0	0	0	41	-89	3906	3907	53
40.01	211	5	211	41	-117	3913	3915	219
37.50	329	9	329	41	-134	3917	3919	320
37.50	329	8	329	95	-220	8526	8528	434
36.08	473	12	474	95	-230	8528	8531	492
36.08	473	12	474	95	-231	8528	8531	496
35.02	582	15	583	95	-239	8530	8533	540
30.50	1045	29	1046	95	-273	8536	8541	751
30.50	1045	27	1046	153	-364	13143	13148	892
30.03	1119	29	1120	153	-368	13144	13149	913
29.08	1268	33	1269	153	-376	13145	13151	964
29.08	1268	33	1269	153	-380	13143	13149	992
25.04	1906	53	1907	153	-415	13147	13153	1219
23.50	2149	61	2150	153	-428	13149	13156	1296
23.50	2149	58	2150	216	-523	17754	17762	1476
22.08	2451	67	2452	216	-535	17756	17764	1548
22.08	2451	68	2452	216	-538	17753	17761	1582
20.05	2884	81	2886	216	-563	17748	17757	1767
15.06	3947	117	3949	216	-614	17744	17755	2128
12.53	4486	136	4488	216	-641	17739	17750	2336
10.00	5025	156	5027	216	-666	17741	17753	2485
10.00	5025	156	5027	216	-670	17729	17742	2565
6.08	5858	188	5861	216	-710	17735	17749	3073
6.08	5858	189	5861	216	-713	17725	17739	3133
5.08	6072	197	6075	216	-725	17717	17732	3247
2.54	6612	220	6615	216	-754	17706	17722	3491
0.00	7151	243	7155	216	-781	17706	17724	3680

Deflections and Stresses for Pole

Loading Case 3B CONCURRENT *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
45.00	-0.5	14.5	14.5	0.2	2.43	0.00	0.00	0.00	0.00	0.00	65.00	99.90
44.50	-0.4	14.3	14.3	0.2	2.43	0.00	0.00	0.00	0.00	0.00	65.00	99.90
44.50	-0.4	14.3	14.3	0.2	2.43	0.01	0.01	0.53	1.28	2.22	65.00	29.33
40.01	-0.4	12.0	12.0	0.2	2.40	4.51	0.02	0.44	1.14	4.61	65.00	14.09
37.50	-0.3	10.7	10.8	0.2	2.36	6.44	0.03	0.41	1.07	6.48	65.00	10.02
37.50	-0.3	10.7	10.8	0.2	2.36	6.43	0.04	0.93	2.37	6.80	65.00	9.56
36.08	-0.3	10.1	10.1	0.2	2.33	8.83	0.04	0.89	2.30	9.04	65.00	7.19
35.02	-0.3	9.5	9.5	0.1	2.30	10.47	0.04	0.86	2.24	10.63	65.00	6.12
30.50	-0.2	7.4	7.4	0.1	2.15	16.25	0.06	0.74	2.03	16.32	65.00	3.98
30.50	-0.2	7.4	7.4	0.1	2.15	16.24	0.07	1.20	3.18	16.43	65.00	3.96
30.03	-0.2	7.2	7.2	0.1	2.13	17.14	0.07	1.18	3.15	17.31	65.00	3.76
29.08	-0.2	6.8	6.8	0.1	2.09	18.87	0.07	1.15	3.08	19.00	65.00	3.42
25.04	-0.2	5.1	5.1	0.1	1.88	25.16	0.08	1.02	2.84	25.27	65.00	2.57
23.50	-0.1	4.5	4.5	0.1	1.79	27.16	0.09	0.97	2.76	27.26	65.00	2.38
23.50	-0.1	4.5	4.5	0.1	1.79	27.15	0.10	1.37	3.79	27.29	65.00	2.38
22.08	-0.1	4.0	4.0	0.0	1.70	29.76	0.10	1.32	3.69	29.90	65.00	2.17
20.05	-0.1	3.3	3.3	0.0	1.56	33.14	0.11	1.25	3.55	33.28	65.00	1.95
15.06	-0.1	1.9	1.9	0.0	1.19	39.85	0.13	1.10	3.26	40.00	65.00	1.63
12.53	0.0	1.3	1.3	0.0	0.99	42.55	0.14	1.03	3.12	42.70	65.00	1.52
10.00	0.0	0.8	0.8	0.0	0.78	44.86	0.14	0.97	3.00	45.01	65.00	1.44
10.00	0.0	0.8	0.8	0.0	0.78	40.81	0.13	0.88	2.69	40.95	65.00	1.59
6.08	0.0	0.3	0.3	0.0	0.48	43.40	0.15	0.80	2.53	43.55	65.00	1.49
6.08	0.0	0.3	0.3	0.0	0.48	43.40	0.15	0.81	2.53	43.55	65.00	1.49
5.08	0.0	0.2	0.2	0.0	0.40	43.96	0.15	0.79	2.49	44.12	65.00	1.47
2.54	0.0	0.1	0.1	0.0	0.20	45.22	0.16	0.74	2.40	45.39	65.00	1.43
0.00	0.0	0.0	0.0	0.0	0.00	46.29	0.17	0.70	2.32	46.46	65.00	1.40

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 3C CONCURRENT

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
45.00	0	0	0	0	0	0	0	0
44.50	0	0	0	0	-3	-1	3	18
44.50	0	-2	2	-41	-90	-3914	3916	252
40.01	-211	3	211	-41	-119	-3921	3923	420
37.50	-329	7	329	-41	-135	-3925	3928	519
37.50	-329	-1	329	-95	-325	-8559	8565	1231
36.08	-475	4	475	-95	-335	-8561	8568	1289
36.08	-475	4	475	-95	-336	-8561	8567	1293
35.02	-584	9	584	-95	-345	-8560	8567	1351
30.50	-1049	28	1049	-95	-378	-8568	8576	1549
30.50	-1049	19	1049	-154	-572	-13196	13209	2288
30.03	-1123	23	1123	-154	-577	-13196	13208	2317
29.08	-1273	29	1273	-154	-584	-13198	13210	2360
29.08	-1273	29	1273	-154	-588	-13192	13205	2389
25.04	-1913	59	1914	-154	-624	-13192	13207	2616
23.50	-2157	70	2158	-154	-636	-13194	13210	2693
23.50	-2157	60	2158	-217	-834	-17816	17835	3471
22.08	-2460	74	2461	-217	-846	-17818	17838	3543
22.08	-2460	74	2461	-217	-850	-17811	17831	3578
20.05	-2894	96	2896	-217	-874	-17797	17818	3763
15.06	-3960	150	3963	-217	-925	-17783	17807	4125
12.53	-4500	178	4504	-217	-952	-17770	17795	4334
10.00	-5040	208	5044	-217	-976	-17772	17799	4483
10.00	-5040	208	5044	-217	-980	-17752	17779	4562
6.08	-5874	255	5880	-217	-1020	-17757	17787	5071
6.08	-5874	255	5880	-217	-1023	-17740	17769	5131
5.08	-6088	268	6094	-217	-1034	-17728	17758	5245
2.54	-6628	300	6635	-217	-1062	-17710	17741	5490
0.00	-7168	333	7176	-217	-1090	-17710	17743	5678

Deflections and Stresses for Pole

Loading Case 3C CONCURRENT *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
45.00	-0.6	-14.6	14.6	0.3	2.44	0.00	0.00	0.00	0.00	0.00	65.00	99.90
44.50	-0.6	-14.3	14.3	0.2	2.44	0.00	0.00	0.00	0.00	0.00	65.00	99.90
44.50	-0.6	-14.3	14.3	0.2	2.44	0.06	0.02	0.53	1.28	2.22	65.00	29.25
40.01	-0.5	-12.0	12.0	0.2	2.40	4.51	0.04	0.45	1.14	4.65	65.00	13.98
37.50	-0.4	-10.8	10.8	0.2	2.36	6.44	0.04	0.41	1.07	6.50	65.00	10.00
37.50	-0.4	-10.8	10.8	0.2	2.36	6.41	0.10	0.94	2.38	6.93	65.00	9.38
36.08	-0.4	-10.1	10.1	0.2	2.33	8.82	0.11	0.89	2.30	9.16	65.00	7.09
35.02	-0.4	-9.6	9.6	0.1	2.31	10.48	0.11	0.86	2.25	10.73	65.00	6.06
30.50	-0.3	-7.5	7.5	0.1	2.15	16.30	0.12	0.74	2.04	16.43	65.00	3.96
30.50	-0.3	-7.5	7.5	0.1	2.15	16.26	0.17	1.20	3.19	16.57	65.00	3.92
30.03	-0.3	-7.2	7.2	0.1	2.13	17.17	0.17	1.18	3.16	17.43	65.00	3.73
29.08	-0.3	-6.8	6.8	0.1	2.09	18.92	0.17	1.15	3.10	19.13	65.00	3.40
25.04	-0.2	-5.1	5.1	0.1	1.88	25.27	0.18	1.02	2.85	25.47	65.00	2.55
23.50	-0.2	-4.5	4.5	0.1	1.79	27.28	0.18	0.98	2.77	27.48	65.00	2.36
23.50	-0.2	-4.5	4.5	0.1	1.79	27.25	0.23	1.38	3.80	27.52	65.00	2.36
22.08	-0.2	-4.0	4.0	0.0	1.71	29.89	0.23	1.33	3.70	30.16	65.00	2.16
22.08	-0.2	-4.0	4.0	0.0	1.71	29.89	0.24	1.33	3.70	30.16	65.00	2.16
20.05	-0.1	-3.3	3.3	0.0	1.57	33.30	0.24	1.26	3.56	33.57	65.00	1.94
15.06	-0.1	-1.9	1.9	0.0	1.19	40.07	0.25	1.10	3.27	40.34	65.00	1.61
12.53	-0.1	-1.3	1.3	0.0	0.99	42.79	0.25	1.04	3.13	43.05	65.00	1.51
10.00	0.0	-0.8	0.8	0.0	0.78	45.11	0.25	0.98	3.01	45.38	65.00	1.43
10.00	0.0	-0.8	0.8	0.0	0.78	41.04	0.23	0.89	2.70	41.28	65.00	1.57
6.08	0.0	-0.3	0.3	0.0	0.48	43.64	0.24	0.81	2.54	43.90	65.00	1.48
6.08	0.0	-0.3	0.3	0.0	0.48	43.65	0.25	0.81	2.54	43.90	65.00	1.48
5.08	0.0	-0.2	0.2	0.0	0.40	44.21	0.25	0.79	2.50	44.47	65.00	1.46
2.54	0.0	-0.1	0.1	0.0	0.20	45.48	0.25	0.75	2.40	45.74	65.00	1.42
0.00	0.0	0.0	0.0	0.0	0.00	46.55	0.26	0.71	2.32	46.81	65.00	1.39

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 4 DEFLECTION

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
45.00	0	0	0	0	0	0	0	0
44.50	0	0	0	0	-1	0	1	18
44.50	0	0	0	0	-201	0	201	16
40.01	0	11	11	0	-208	0	208	182
37.50	0	17	17	0	-213	0	213	281
37.50	0	14	14	0	-415	0	415	580
36.08	0	21	21	0	-417	0	417	638
35.02	0	26	26	0	-419	0	419	682
30.50	0	49	49	0	-428	0	428	880
30.50	0	46	46	0	-630	0	630	1179
30.03	0	49	49	0	-631	0	631	1200
29.08	0	56	56	0	-633	0	633	1244
25.04	0	87	87	0	-641	0	641	1437
23.50	0	99	99	0	-645	0	645	1514
23.50	0	95	95	0	-846	0	846	1812
22.08	0	109	109	0	-850	0	850	1884
22.08	0	109	109	0	-849	0	849	1884
20.05	0	130	130	0	-854	0	854	1990
15.06	0	182	182	0	-865	0	865	2262
12.53	0	208	208	0	-871	0	871	2407
10.00	0	235	235	0	-878	0	878	2556
10.00	0	235	235	0	-877	0	877	2557
6.08	0	276	276	0	-889	0	889	3065
6.08	0	276	276	0	-889	0	889	3066
5.08	0	287	287	0	-891	0	891	3137
2.54	0	314	314	0	-897	0	897	3320
0.00	0	342	342	0	-905	0	905	3508

Deflections and Stresses for Pole

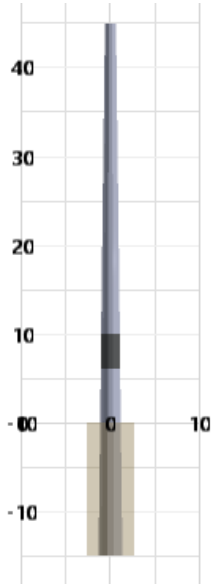
Loading Case 4 DEFLECTION *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
45.00	-0.7	0.0	0.7	0.0	0.11	0.00	0.00	0.00	0.00	0.00	65.00	99.90
44.50	-0.7	0.0	0.7	0.0	0.11	0.00	0.00	0.00	0.00	0.00	65.00	99.90
44.50	-0.7	0.0	0.7	0.0	0.11	0.00	0.00	0.00	0.04	0.07	65.00	99.90
40.01	-0.6	0.0	0.6	0.0	0.11	0.23	0.02	0.00	0.04	0.25	65.00	99.90
37.50	-0.5	0.0	0.5	0.0	0.11	0.34	0.02	0.00	0.04	0.36	65.00	99.90
37.50	-0.5	0.0	0.5	0.0	0.11	0.27	0.05	0.00	0.07	0.32	65.00	99.90
36.08	-0.5	0.0	0.5	0.0	0.11	0.39	0.05	0.00	0.07	0.44	65.00	99.90
35.02	-0.4	0.0	0.4	0.0	0.11	0.47	0.05	0.00	0.07	0.53	65.00	99.90
30.50	-0.3	0.0	0.3	0.0	0.10	0.76	0.07	0.00	0.06	0.83	65.00	78.60
30.50	-0.3	0.0	0.3	0.0	0.10	0.70	0.09	0.00	0.09	0.79	65.00	82.11
30.03	-0.3	0.0	0.3	0.0	0.10	0.75	0.09	0.00	0.09	0.84	65.00	77.72
29.08	-0.3	0.0	0.3	0.0	0.10	0.83	0.09	0.00	0.09	0.92	65.00	70.45
25.04	-0.2	0.0	0.2	0.0	0.09	1.14	0.10	0.00	0.09	1.24	65.00	52.36
23.50	-0.2	0.0	0.2	0.0	0.08	1.24	0.10	0.00	0.09	1.34	65.00	48.35
23.50	-0.2	0.0	0.2	0.0	0.08	1.19	0.12	0.00	0.12	1.31	65.00	49.48
22.08	-0.2	0.0	0.2	0.0	0.08	1.32	0.12	0.00	0.11	1.44	65.00	45.03
20.05	-0.2	0.0	0.2	0.0	0.07	1.48	0.13	0.00	0.11	1.61	65.00	40.30
15.06	-0.1	0.0	0.1	0.0	0.06	1.82	0.14	0.00	0.11	1.96	65.00	33.23
12.53	-0.1	0.0	0.1	0.0	0.05	1.96	0.14	0.00	0.10	2.10	65.00	30.99
10.00	0.0	0.0	0.0	0.0	0.04	2.08	0.14	0.00	0.10	2.22	65.00	29.26
10.00	0.0	0.0	0.0	0.0	0.04	1.89	0.13	0.00	0.09	2.02	65.00	32.20
6.08	0.0	0.0	0.0	0.0	0.02	2.03	0.15	0.00	0.09	2.18	65.00	29.88
5.08	0.0	0.0	0.0	0.0	0.02	2.06	0.15	0.00	0.09	2.21	65.00	29.44
2.54	0.0	0.0	0.0	0.0	0.01	2.13	0.15	0.00	0.08	2.28	65.00	28.47
0.00	0.0	0.0	0.0	0.0	0.00	2.19	0.16	0.00	0.08	2.35	65.00	27.68

MINIMUM DEFLECTION RATIO // DEFLECTION LIMIT / DEFLECTION // IS

45.0' AGH, 60' CUSTOM POLES, STR. #5/7

Design Id: STR5_7



BY VALMONT INDUSTRIES FOR: OMPA, 45.0' AGH, 60' CUSTOM POLES, STR. #5/7, 607956 DATE 01/30/2024
Design Id: STR5_7 IMPAX 26.2.5.1

*** SUMMARY ***

DESIGN SUMMARY

Above Ground Height	45'- 0.00"	Ground Line Diameter (in)	27.900	Pole Shaft Weight (lbs)	3831
Embedment Length	15'- 0.00"	Top Diameter (in)	15.000		
Total Pole Length	60'- 0.00"	Pole Taper (in/ft)	0.29639	Shape:	12 Sides

Connections Between Sections /First/

Height Above Ground	10'- 0.00"
Type	Slip Joint
Overlap Length (in)	47
Maximum Axial Force (lbs)	4748

Section Characteristics	/First/	/Second/
Base Diameter (in)	32.346	26.534
Top Diameter (in)	24.936	15.000
Thickness (in)	0.25000	0.21875
Length	25'- 0.00"	38'-11.00"
Weight (lbs)	1931	1900

ANALYSIS SUMMARY

	Pt. of Fixity	Governing Level Sec.1	Governing Level Sec.2	Pole Top
Governing Load Case	1B NESC HEAV	1B NESC HEAV	1B NESC HEAV	1B NESC HEAV
Height (ft)	0.00	0.00	10.00	45.00
Resultant Moment (in-kips)	9570	9570	6721	0
Shear Force (lbs)	23730	23730	23753	0
Axial Force (lbs)	4856	4856	2994	0
Combined Stress (ksi)	63.18	63.18	61.21	0.00
Allowable Stress (ksi)	65.00	65.00	65.00	65.00
Allowable/Combined Stress	1.03	1.03	1.06	99.90
Total Deflection (in)	0.00	0.00	1.10	19.42

Note: Diameters are outside, measured across the flats
Forces and moments are reported in the local element coordinate system

BY VALMONT INDUSTRIES FOR: OMPA, 45.0' AGH, 60' CUSTOM POLES, STR. #5/7, 607956 DATE 01/30/2024
Design Id: STR5_7 IMPAX 26.2.5.1

*** POLE SHAFT POINT OF FIXITY REACTIONS ***

Loading Case Identifier	Moments About X-Axis (in-kips)	Moments About Y-Axis (in-kips)	Moments Resultant (X & Y) (in-kips)	Moments Torsional (in-kips)	Vertical Force (lbs)	Shear In X-Direction (lbs)	Shear In Y-Direction (lbs)	Shear Resultant (X & Y) (lbs)	Notes
1A NESC HE	-438	-2223	2266	-15	8057	5791	-1100	5895	B
1B NESC HE	-9497	-1162	9568	-328	6754	3191	-23500	23715	A C
1C NESC HE	9063	-1277	9153	313	7054	3491	22400	22670	
2A EXTREME	-273	-1166	1197	-10	4448	3659	-700	3725	
2B EXTREME	-4527	-833	4603	-158	4045	2859	-11300	11656	
2C EXTREME	4256	-836	4337	148	4245	2859	10600	10979	
3A CONCURR	-491	-1653	1725	-17	6035	4165	-1200	4335	
3B CONCURR	-7312	-871	7364	-253	4934	2265	-18100	18241	
3C CONCURR	6822	-871	6877	236	4934	2265	16900	17051	
4 DEFLECTI	-110	-749	757	-4	5032	1789	-300	1814	

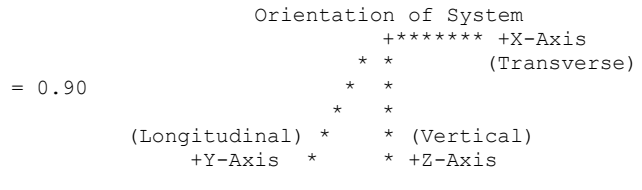
Note: Positive vertical force is downward.
Reactions are considered in the global coordinate system.

Key to the special note entries
A Indicates load case with maximum overturning moment
B Indicates load case with maximum vertical force
C Indicates load case with maximum resultant shear

*** INPUT LOADS ***

Loading Case 1A NESC HEAVY

Basic Wind Pressure is 10.00 psf
Wind Orientation is 0.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.500
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

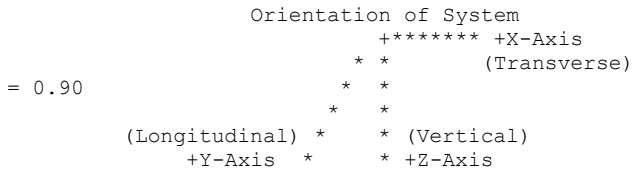


Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	44'- 6.00"	44'- 6.00"	3.00"	0.00	500	-5200	100	SW_A
2	44'- 6.00"	44'- 6.00"	3.00"	0.00	500	5000	100	SW_B
3	37'- 6.00"	37'- 6.00"	3.00"	0.00	600	-6100	300	TCND_C
4	30'- 6.00"	30'- 6.00"	3.00"	0.00	600	-6100	300	MCND_C
5	23'- 6.00"	23'- 6.00"	3.00"	0.00	600	-6100	300	BCND_C
6	37'- 6.00"	37'- 6.00"	3.00"	0.00	700	5800	400	TCND_D
7	30'- 6.00"	30'- 6.00"	3.00"	0.00	700	5800	400	MCND_D
8	23'- 6.00"	23'- 6.00"	3.00"	0.00	700	5800	400	BCND_D
9	36'- 1.00"	36'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	29'- 1.00"	29'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	22'- 1.00"	22'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 1B NESC HEAVY

Basic Wind Pressure is 10.00 psf
Wind Orientation is 0.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.500
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

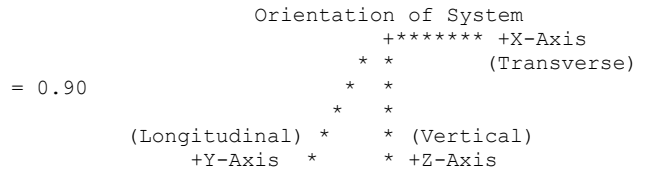


Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	44'- 6.00"	44'- 6.00"	3.00"	0.00	500	-5200	100	SW_A
2	44'- 6.00"	44'- 6.00"	3.00"	0.00	0	0	0	SW_B
3	37'- 6.00"	37'- 6.00"	3.00"	0.00	600	-6100	300	TCND_C
4	30'- 6.00"	30'- 6.00"	3.00"	0.00	600	-6100	300	MCND_C
5	23'- 6.00"	23'- 6.00"	3.00"	0.00	600	-6100	300	BCND_C
6	37'- 6.00"	37'- 6.00"	3.00"	0.00	0	0	0	TCND_D
7	30'- 6.00"	30'- 6.00"	3.00"	0.00	0	0	0	MCND_D
8	23'- 6.00"	23'- 6.00"	3.00"	0.00	0	0	0	BCND_D
9	36'- 1.00"	36'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	29'- 1.00"	29'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	22'- 1.00"	22'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 1C NESC HEAVY

Basic Wind Pressure is 10.00 psf
Wind Orientation is 0.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.500
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

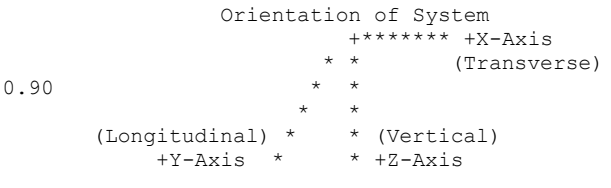


Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	44'- 6.00"	44'- 6.00"	3.00"	0.00	0	0	0	SW_A
2	44'- 6.00"	44'- 6.00"	3.00"	0.00	500	5000	100	SW_B
3	37'- 6.00"	37'- 6.00"	3.00"	0.00	0	0	0	TCND_C
4	30'- 6.00"	30'- 6.00"	3.00"	0.00	0	0	0	MCND_C
5	23'- 6.00"	23'- 6.00"	3.00"	0.00	0	0	0	BCND_C
6	37'- 6.00"	37'- 6.00"	3.00"	0.00	700	5800	400	TCND_D
7	30'- 6.00"	30'- 6.00"	3.00"	0.00	700	5800	400	MCND_D
8	23'- 6.00"	23'- 6.00"	3.00"	0.00	700	5800	400	BCND_D
9	36'- 1.00"	36'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	29'- 1.00"	29'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	22'- 1.00"	22'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 2A EXTREME WIND

Basic Wind Pressure is 23.10 psf
Wind Orientation is 0.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

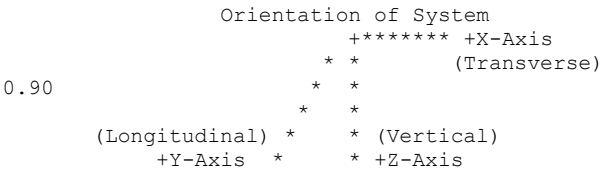


Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	44'- 6.00"	44'- 6.00"	3.00"	0.00	200	-2300	-100	SW_A
2	44'- 6.00"	44'- 6.00"	3.00"	0.00	200	2200	100	SW_B
3	37'- 6.00"	37'- 6.00"	3.00"	0.00	200	-3000	100	TCND_C
4	30'- 6.00"	30'- 6.00"	3.00"	0.00	200	-3000	100	MCND_C
5	23'- 6.00"	23'- 6.00"	3.00"	0.00	200	-3000	100	BCND_C
6	37'- 6.00"	37'- 6.00"	3.00"	0.00	200	2800	100	TCND_D
7	30'- 6.00"	30'- 6.00"	3.00"	0.00	200	2800	100	MCND_D
8	23'- 6.00"	23'- 6.00"	3.00"	0.00	200	2800	100	BCND_D
9	36'- 1.00"	36'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	29'- 1.00"	29'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	22'- 1.00"	22'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 2B EXTREME WIND

Basic Wind Pressure is 23.10 psf
Wind Orientation is 0.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

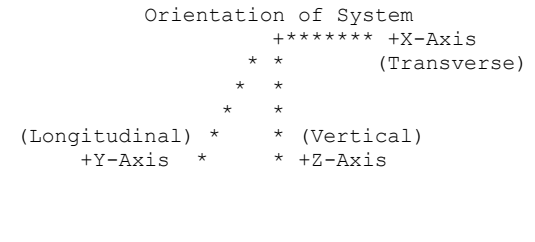


Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	44'- 6.00"	44'- 6.00"	3.00"	0.00	200	-2300	-100	SW_A
2	44'- 6.00"	44'- 6.00"	3.00"	0.00	0	0	0	SW_B
3	37'- 6.00"	37'- 6.00"	3.00"	0.00	200	-3000	100	TCND_C
4	30'- 6.00"	30'- 6.00"	3.00"	0.00	200	-3000	100	MCND_C
5	23'- 6.00"	23'- 6.00"	3.00"	0.00	200	-3000	100	BCND_C
6	37'- 6.00"	37'- 6.00"	3.00"	0.00	0	0	0	TCND_D
7	30'- 6.00"	30'- 6.00"	3.00"	0.00	0	0	0	MCND_D
8	23'- 6.00"	23'- 6.00"	3.00"	0.00	0	0	0	BCND_D
9	36'- 1.00"	36'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	29'- 1.00"	29'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	22'- 1.00"	22'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 2C EXTREME WIND

Basic Wind Pressure is 23.10 psf
Wind Orientation is 0.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees



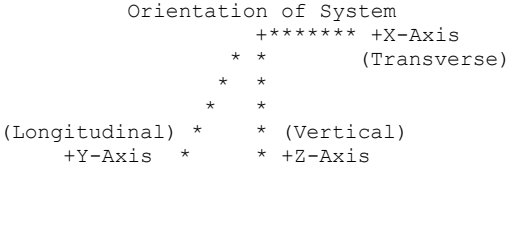
Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	44'- 6.00"	44'- 6.00"	3.00"	0.00	0	0	0	SW_A
2	44'- 6.00"	44'- 6.00"	3.00"	0.00	200	2200	100	SW_B
3	37'- 6.00"	37'- 6.00"	3.00"	0.00	0	0	0	TCND_C
4	30'- 6.00"	30'- 6.00"	3.00"	0.00	0	0	0	MCND_C
5	23'- 6.00"	23'- 6.00"	3.00"	0.00	0	0	0	BCND_C
6	37'- 6.00"	37'- 6.00"	3.00"	0.00	200	2800	100	TCND_D
7	30'- 6.00"	30'- 6.00"	3.00"	0.00	200	2800	100	MCND_D
8	23'- 6.00"	23'- 6.00"	3.00"	0.00	200	2800	100	BCND_D
9	36'- 1.00"	36'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	29'- 1.00"	29'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	22'- 1.00"	22'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 3A CONCURRENT

Basic Wind Pressure is 4.10 psf
Wind Orientation is 0.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

Orientation of System

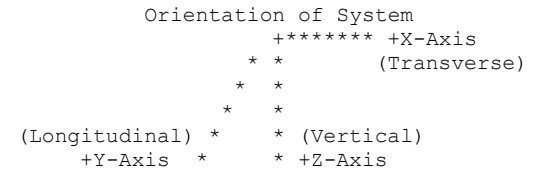


Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	44'- 6.00"	44'- 6.00"	3.00"	0.00	400	-4000	200	SW_A
2	44'- 6.00"	44'- 6.00"	3.00"	0.00	400	3700	200	SW_B
3	37'- 6.00"	37'- 6.00"	3.00"	0.00	500	-4700	300	TCND_C
4	30'- 6.00"	30'- 6.00"	3.00"	0.00	500	-4700	300	MCND_C
5	23'- 6.00"	23'- 6.00"	3.00"	0.00	500	-4700	300	BCND_C
6	37'- 6.00"	37'- 6.00"	3.00"	0.00	500	4400	300	TCND_D
7	30'- 6.00"	30'- 6.00"	3.00"	0.00	500	4400	300	MCND_D
8	23'- 6.00"	23'- 6.00"	3.00"	0.00	500	4400	300	BCND_D
9	36'- 1.00"	36'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	29'- 1.00"	29'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	22'- 1.00"	22'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 3B CONCURRENT

Basic Wind Pressure is 4.10 psf
Wind Orientation is 0.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

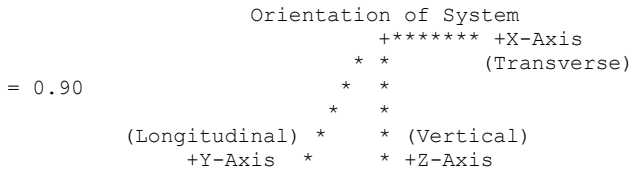


Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	44'- 6.00"	44'- 6.00"	3.00"	0.00	400	-4000	200	SW_A
2	44'- 6.00"	44'- 6.00"	3.00"	0.00	0	0	0	SW_B
3	37'- 6.00"	37'- 6.00"	3.00"	0.00	500	-4700	300	TCND_C
4	30'- 6.00"	30'- 6.00"	3.00"	0.00	500	-4700	300	MCND_C
5	23'- 6.00"	23'- 6.00"	3.00"	0.00	500	-4700	300	BCND_C
6	37'- 6.00"	37'- 6.00"	3.00"	0.00	0	0	0	TCND_D
7	30'- 6.00"	30'- 6.00"	3.00"	0.00	0	0	0	MCND_D
8	23'- 6.00"	23'- 6.00"	3.00"	0.00	0	0	0	BCND_D
9	36'- 1.00"	36'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	29'- 1.00"	29'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	22'- 1.00"	22'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 3C CONCURRENT

Basic Wind Pressure is 4.10 psf
Wind Orientation is 0.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees



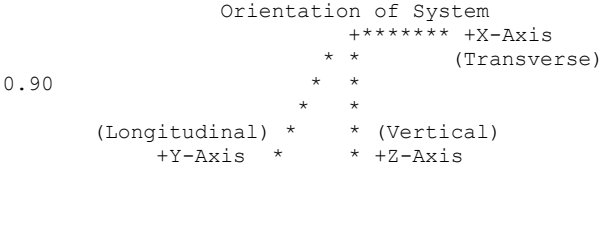
Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	44'- 6.00"	44'- 6.00"	3.00"	0.00	0	0	0	SW_A
2	44'- 6.00"	44'- 6.00"	3.00"	0.00	400	3700	200	SW_B
3	37'- 6.00"	37'- 6.00"	3.00"	0.00	0	0	0	TCND_C
4	30'- 6.00"	30'- 6.00"	3.00"	0.00	0	0	0	MCND_C
5	23'- 6.00"	23'- 6.00"	3.00"	0.00	0	0	0	BCND_C
6	37'- 6.00"	37'- 6.00"	3.00"	0.00	500	4400	300	TCND_D
7	30'- 6.00"	30'- 6.00"	3.00"	0.00	500	4400	300	MCND_D
8	23'- 6.00"	23'- 6.00"	3.00"	0.00	500	4400	300	BCND_D
9	36'- 1.00"	36'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	29'- 1.00"	29'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	22'- 1.00"	22'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 4 DEFLECTION

Basic Wind Pressure is 1.00 psf
Wind Orientation is 0.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees
Deflection Limitation: 6.0 in

Orientation of System



Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	44'- 6.00"	44'- 6.00"	3.00"	0.00	200	-1800	-100	SW_A
2	44'- 6.00"	44'- 6.00"	3.00"	0.00	300	1800	100	SW_B
3	37'- 6.00"	37'- 6.00"	3.00"	0.00	200	-1500	200	TCND_C
4	30'- 6.00"	30'- 6.00"	3.00"	0.00	200	-1500	200	MCND_C
5	23'- 6.00"	23'- 6.00"	3.00"	0.00	200	-1500	200	BCND_C
6	37'- 6.00"	37'- 6.00"	3.00"	0.00	200	1400	200	TCND_D
7	30'- 6.00"	30'- 6.00"	3.00"	0.00	200	1400	200	MCND_D
8	23'- 6.00"	23'- 6.00"	3.00"	0.00	200	1400	200	BCND_D
9	36'- 1.00"	36'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	29'- 1.00"	29'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	22'- 1.00"	22'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** Properties ***

Connection Locations	Distance From Base (ft)	Diameter Across Flats (in)	Wall Thickness (in)	D/t Across Flats	w/t Across Flats	Moments of Inertia (in^4)	Area (in^2)
Top of Sect 2	45.00	15.000	0.2188	68.57	15.69	291	10.40
	44.50	15.148	0.2188	69.25	15.88	300	10.50
	40.01	16.479	0.2188	75.33	17.51	387	11.44
	37.50	17.223	0.2188	78.73	18.42	443	11.96
	36.08	17.643	0.2188	80.65	18.93	476	12.26
	35.02	17.958	0.2188	82.09	19.32	503	12.48
	30.50	19.298	0.2188	88.22	20.96	625	13.42
	30.03	19.437	0.2188	88.85	21.13	639	13.52
	29.08	19.717	0.2188	90.14	21.47	667	13.71
	25.04	20.916	0.2188	95.62	22.94	798	14.56
	23.50	21.372	0.2188	97.70	23.50	852	14.88
	22.08	21.792	0.2188	99.62	24.01	904	15.17
	20.05	22.395	0.2188	102.38	24.75	982	15.60
	15.06	23.874	0.2188	109.14	26.56	1192	16.64
	12.53	24.624	0.2188	112.57	27.48	1309	17.17
	10.00	25.374	0.2188	115.99	28.40	1433	17.69
Top of Sect 1	10.00	24.936	0.2500	99.74	24.05	1548	19.84
Base of Sect 2	6.08	26.097	0.2500	104.39	25.29	1777	20.78
	5.08	26.394	0.2500	105.58	25.61	1839	21.02
	2.54	27.147	0.2500	108.59	26.42	2002	21.62
	0.00	27.900	0.2500	111.60	27.22	2175	22.23
	-4.90	29.352	0.2500	117.41	28.78	2536	23.39
	-9.89	30.831	0.2500	123.33	30.37	2943	24.58
	-12.45	31.589	0.2500	126.35	31.18	3167	25.19
Base of Sect 1	-15.00	32.346	0.2500	129.38	31.99	3402	25.80

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 1A NESC HEAVY

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
45.00	0	0	0	0	0	0	0	0
44.50	0	0	0	0	7	0	7	26
44.50	0	-2	2	-2	1011	-200	1030	209
40.01	-11	-58	59	-2	1080	-201	1098	458
37.50	-17	-91	93	-2	1121	-201	1139	606
37.50	-17	-99	101	-6	2433	-503	2484	1284
36.08	-25	-141	143	-6	2457	-503	2508	1371
35.02	-32	-172	175	-6	2474	-503	2525	1439
30.50	-59	-309	314	-6	2556	-504	2606	1735
30.50	-59	-317	323	-9	3867	-805	3949	2415
30.03	-64	-339	345	-9	3875	-805	3958	2448
29.08	-73	-383	390	-9	3893	-805	3975	2513
29.08	-73	-383	390	-9	3891	-805	3974	2516
25.04	-112	-574	585	-9	3969	-805	4050	2809
23.50	-127	-648	660	-9	4000	-805	4080	2923
23.50	-127	-657	669	-14	5308	-1106	5422	3607
22.08	-146	-747	761	-14	5338	-1106	5451	3715
22.08	-146	-747	761	-14	5336	-1106	5449	3718
20.05	-173	-878	895	-14	5374	-1105	5486	3884
15.06	-239	-1203	1227	-14	5478	-1105	5588	4301
12.53	-272	-1370	1397	-14	5531	-1104	5640	4524
10.00	-306	-1539	1569	-14	5591	-1104	5699	4748
10.00	-306	-1539	1569	-14	5585	-1103	5692	4756
6.08	-358	-1804	1839	-14	5684	-1104	5790	5519
6.08	-358	-1804	1839	-14	5678	-1102	5784	5525
5.08	-371	-1873	1909	-14	5699	-1102	5804	5636
2.54	-405	-2047	2087	-14	5756	-1101	5861	5917
0.00	-438	-2224	2266	-14	5822	-1101	5925	6200

Deflections and Stresses for Pole

Loading Case 1A NESC HEAVY *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
45.00	4.4	-0.9	4.5	0.0	0.75	0.00	0.00	0.00	0.00	0.00	65.00	99.90
44.50	4.4	-0.9	4.4	0.0	0.75	0.00	0.00	0.00	0.00	0.00	65.00	99.90
44.50	4.4	-0.9	4.4	0.0	0.75	0.05	0.02	0.03	0.22	0.39	65.00	99.90
40.01	3.7	-0.7	3.7	0.0	0.74	1.30	0.04	0.02	0.22	1.34	65.00	48.43
37.50	3.3	-0.7	3.4	0.0	0.73	1.87	0.05	0.02	0.21	1.92	65.00	33.90
37.50	3.3	-0.7	3.4	0.0	0.73	2.02	0.11	0.06	0.47	2.13	65.00	30.55
36.08	3.1	-0.6	3.1	0.0	0.72	2.73	0.11	0.05	0.47	2.85	65.00	22.83
35.02	2.9	-0.6	3.0	0.0	0.71	3.23	0.12	0.05	0.46	3.35	65.00	19.42
30.50	2.3	-0.5	2.3	0.0	0.67	5.01	0.13	0.04	0.44	5.14	65.00	12.65
30.50	2.3	-0.5	2.3	0.0	0.67	5.14	0.18	0.07	0.67	5.32	65.00	12.21
30.03	2.2	-0.4	2.3	0.0	0.66	5.42	0.18	0.07	0.66	5.60	65.00	11.61
29.08	2.1	-0.4	2.1	0.0	0.65	5.95	0.18	0.07	0.66	6.13	65.00	10.60
25.04	1.6	-0.3	1.6	0.0	0.59	7.91	0.19	0.06	0.62	8.11	65.00	8.02
23.50	1.4	-0.3	1.4	0.0	0.56	8.55	0.20	0.06	0.61	8.74	65.00	7.43
23.50	1.4	-0.3	1.4	0.0	0.56	8.66	0.24	0.09	0.82	8.91	65.00	7.30
22.08	1.2	-0.2	1.3	0.0	0.53	9.48	0.24	0.08	0.81	9.72	65.00	6.68
22.08	1.2	-0.2	1.3	0.0	0.53	9.48	0.25	0.08	0.81	9.73	65.00	6.68
20.05	1.0	-0.2	1.0	0.0	0.49	10.54	0.25	0.08	0.79	10.79	65.00	6.02
15.06	0.6	-0.1	0.6	0.0	0.37	12.69	0.26	0.07	0.75	12.95	65.00	5.02
12.53	0.4	-0.1	0.4	0.0	0.31	13.58	0.26	0.06	0.73	13.84	65.00	4.70
10.00	0.3	-0.1	0.3	0.0	0.25	14.35	0.27	0.06	0.71	14.62	65.00	4.45
10.00	0.3	-0.1	0.3	0.0	0.25	13.06	0.24	0.06	0.63	13.30	65.00	4.89
6.08	0.1	0.0	0.1	0.0	0.15	13.95	0.27	0.05	0.61	14.22	65.00	4.57
5.08	0.1	0.0	0.1	0.0	0.13	14.15	0.27	0.05	0.61	14.42	65.00	4.51
2.54	0.0	0.0	0.0	0.0	0.06	14.61	0.27	0.05	0.59	14.89	65.00	4.37
0.00	0.0	0.0	0.0	0.0	0.00	15.02	0.28	0.04	0.58	15.29	65.00	4.25

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 1B NESC HEAVY

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
45.00	0	0	0	0	0	0	0	0
44.50	0	0	0	0	7	-1	7	26
44.50	0	2	2	-55	533	-5196	5223	-170
40.01	-280	-28	282	-55	600	-5210	5244	83
37.50	-437	-47	440	-55	640	-5218	5257	232
37.50	-437	-47	440	-126	1269	-11322	11393	198
36.08	-630	-68	634	-126	1293	-11327	11400	285
36.08	-630	-68	634	-126	1290	-11327	11400	292
35.02	-774	-85	779	-126	1305	-11330	11405	383
30.50	-1389	-158	1398	-126	1385	-11345	11429	679
30.50	-1389	-158	1398	-203	2006	-17449	17563	694
30.03	-1488	-169	1497	-203	2013	-17450	17565	738
29.08	-1686	-192	1697	-203	2030	-17453	17571	803
29.08	-1686	-192	1697	-203	2023	-17451	17568	854
25.04	-2533	-292	2550	-203	2094	-17461	17586	1205
23.50	-2856	-331	2875	-203	2125	-17466	17595	1319
23.50	-2856	-331	2875	-287	2739	-23569	23728	1404
22.08	-3256	-378	3278	-287	2768	-23573	23735	1512
22.08	-3256	-378	3278	-287	2760	-23570	23731	1574
20.05	-3832	-445	3858	-287	2790	-23567	23731	1873
15.06	-5243	-615	5279	-287	2885	-23565	23741	2440
12.53	-5959	-703	6000	-287	2934	-23559	23741	2771
10.00	-6674	-793	6721	-287	2994	-23563	23753	2994
10.00	-6674	-792	6721	-287	2984	-23546	23734	3136
6.08	-7781	-935	7837	-287	3082	-23557	23758	3899
6.08	-7781	-934	7837	-287	3075	-23540	23740	4005
5.08	-8065	-971	8123	-287	3094	-23528	23731	4189
2.54	-8782	-1066	8847	-287	3151	-23510	23720	4574
0.00	-9499	-1163	9570	-287	3216	-23511	23730	4856

Deflections and Stresses for Pole

Loading Case 1B NESC HEAVY *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
45.00	2.3	-19.3	19.4	0.4	3.25	0.00	0.00	0.00	0.00	0.00	65.00	99.90
44.50	2.2	-19.0	19.1	0.4	3.25	0.00	0.00	0.00	0.00	0.00	65.00	99.90
44.50	2.2	-19.0	19.1	0.4	3.25	0.05	0.02	0.70	1.70	2.95	65.00	22.04
40.01	1.9	-15.9	16.0	0.3	3.20	6.13	0.01	0.59	1.51	6.27	65.00	10.37
37.50	1.7	-14.3	14.4	0.3	3.15	8.75	0.02	0.54	1.42	8.85	65.00	7.35
37.50	1.7	-14.3	14.4	0.3	3.15	8.75	0.02	1.24	3.15	9.16	65.00	7.10
36.08	1.6	-13.4	13.4	0.3	3.11	12.01	0.02	1.18	3.05	12.29	65.00	5.29
35.02	1.5	-12.7	12.8	0.3	3.07	14.24	0.03	1.14	2.97	14.48	65.00	4.49
30.50	1.2	-9.9	9.9	0.2	2.87	22.09	0.05	0.98	2.69	22.25	65.00	2.92
30.50	1.2	-9.9	9.9	0.2	2.87	22.09	0.05	1.59	4.22	22.41	65.00	2.90
30.03	1.1	-9.6	9.7	0.2	2.84	23.32	0.05	1.56	4.17	23.61	65.00	2.75
29.08	1.1	-9.0	9.1	0.2	2.79	25.66	0.06	1.52	4.09	25.93	65.00	2.51
25.04	0.8	-6.8	6.9	0.1	2.51	34.21	0.08	1.35	3.77	34.42	65.00	1.89
23.50	0.7	-6.0	6.1	0.1	2.39	36.92	0.09	1.29	3.67	37.12	65.00	1.75
23.50	0.7	-6.0	6.1	0.1	2.39	36.92	0.09	1.82	5.03	37.23	65.00	1.75
22.08	0.6	-5.3	5.4	0.1	2.27	40.47	0.10	1.75	4.89	40.75	65.00	1.59
22.08	0.6	-5.3	5.4	0.1	2.27	40.47	0.10	1.75	4.89	40.76	65.00	1.59
20.05	0.5	-4.4	4.4	0.1	2.09	45.06	0.12	1.66	4.71	45.33	65.00	1.43
15.06	0.3	-2.5	2.5	0.0	1.59	54.17	0.15	1.46	4.32	54.42	65.00	1.19
12.53	0.2	-1.7	1.7	0.0	1.32	57.84	0.16	1.37	4.15	58.08	65.00	1.12
10.00	0.1	-1.1	1.1	0.0	1.04	60.97	0.17	1.29	3.98	61.21	65.00	1.06
10.00	0.1	-1.1	1.1	0.0	1.04	55.47	0.16	1.17	3.57	55.69	65.00	1.17
6.08	0.0	-0.4	0.4	0.0	0.64	58.99	0.19	1.07	3.36	59.23	65.00	1.10
5.08	0.0	-0.3	0.3	0.0	0.53	59.75	0.20	1.04	3.31	60.00	65.00	1.08
2.54	0.0	-0.1	0.1	0.0	0.27	61.48	0.21	0.99	3.19	61.73	65.00	1.05
0.00	0.0	0.0	0.0	0.0	0.00	62.92	0.22	0.93	3.07	63.18	65.00	1.03

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 1C NESC HEAVY

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
45.00	0	0	0	0	0	0	0	0
44.50	0	0	0	0	7	1	7	26
44.50	0	2	2	53	531	4997	5025	-146
40.01	270	-29	271	53	598	5010	5045	106
37.50	421	-47	423	53	638	5018	5058	255
37.50	421	-48	423	120	1366	10827	10913	349
36.08	605	-72	609	120	1390	10831	10920	436
36.08	605	-72	609	120	1388	10831	10920	443
35.02	743	-89	748	120	1402	10834	10924	532
30.50	1331	-168	1341	120	1483	10848	10949	828
30.50	1331	-169	1342	194	2203	16657	16802	967
30.03	1425	-181	1436	194	2210	16658	16804	1010
29.08	1614	-207	1627	194	2228	16661	16809	1075
29.08	1614	-207	1627	194	2221	16659	16806	1122
25.04	2423	-316	2443	194	2293	16667	16824	1468
23.50	2731	-359	2754	194	2324	16672	16833	1582
23.50	2731	-361	2755	273	3037	22478	22683	1785
22.08	3113	-413	3140	273	3066	22482	22690	1893
22.08	3113	-412	3140	273	3059	22478	22686	1950
20.05	3662	-487	3694	273	3089	22473	22685	2237
15.06	5008	-675	5053	273	3185	22470	22694	2790
12.53	5690	-772	5742	273	3235	22462	22694	3111
10.00	6372	-871	6431	273	3295	22466	22707	3335
10.00	6372	-871	6431	273	3285	22448	22687	3465
6.08	7427	-1028	7498	273	3383	22459	22712	4228
6.08	7428	-1027	7498	273	3376	22441	22694	4325
5.08	7698	-1068	7771	273	3396	22429	22685	4502
2.54	8381	-1172	8463	273	3452	22410	22675	4877
0.00	9065	-1278	9154	273	3518	22411	22685	5160

Deflections and Stresses for Pole

Loading Case 1C NESC HEAVY *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
45.00	2.5	18.4	18.6	0.4	3.11	0.00	0.00	0.00	0.00	0.00	65.00	99.90
44.50	2.4	18.1	18.3	0.4	3.11	0.00	0.00	0.00	0.00	0.00	65.00	99.90
44.50	2.4	18.1	18.3	0.4	3.11	0.05	0.01	0.67	1.64	2.84	65.00	22.92
40.01	2.1	15.2	15.4	0.3	3.07	5.90	0.01	0.57	1.45	6.03	65.00	10.77
37.50	1.8	13.6	13.8	0.3	3.02	8.43	0.02	0.52	1.37	8.52	65.00	7.63
37.50	1.8	13.6	13.8	0.3	3.02	8.43	0.03	1.18	3.01	8.82	65.00	7.37
36.08	1.7	12.8	12.9	0.3	2.98	11.56	0.04	1.13	2.91	11.83	65.00	5.49
36.08	1.7	12.8	12.9	0.3	2.98	11.55	0.04	1.13	2.91	11.83	65.00	5.49
35.02	1.6	12.1	12.2	0.2	2.94	13.70	0.04	1.09	2.84	13.93	65.00	4.66
30.50	1.3	9.4	9.5	0.2	2.74	21.23	0.06	0.94	2.58	21.39	65.00	3.04
30.50	1.3	9.4	9.5	0.2	2.74	21.24	0.07	1.51	4.02	21.55	65.00	3.02
30.03	1.2	9.2	9.2	0.2	2.72	22.41	0.07	1.49	3.99	22.70	65.00	2.86
29.08	1.2	8.6	8.7	0.1	2.67	24.66	0.08	1.45	3.91	24.93	65.00	2.61
25.04	0.9	6.5	6.6	0.1	2.40	32.85	0.10	1.29	3.60	33.07	65.00	1.97
23.50	0.8	5.7	5.8	0.1	2.29	35.45	0.11	1.23	3.50	35.65	65.00	1.82
23.50	0.8	5.7	5.8	0.1	2.29	35.46	0.12	1.74	4.79	35.77	65.00	1.82
22.08	0.7	5.1	5.1	0.1	2.17	38.86	0.12	1.67	4.67	39.14	65.00	1.66
22.08	0.7	5.1	5.1	0.1	2.17	38.86	0.13	1.67	4.67	39.15	65.00	1.66
20.05	0.6	4.2	4.2	0.1	2.00	43.25	0.14	1.58	4.50	43.52	65.00	1.49
15.06	0.3	2.4	2.4	0.0	1.52	51.98	0.17	1.39	4.13	52.23	65.00	1.24
12.53	0.2	1.6	1.7	0.0	1.26	55.48	0.18	1.30	3.96	55.73	65.00	1.17
10.00	0.1	1.0	1.1	0.0	1.00	58.48	0.19	1.23	3.81	58.73	65.00	1.11
10.00	0.1	1.0	1.1	0.0	1.00	53.21	0.17	1.12	3.41	53.44	65.00	1.22
6.08	0.1	0.4	0.4	0.0	0.61	56.57	0.20	1.02	3.21	56.82	65.00	1.14
6.08	0.1	0.4	0.4	0.0	0.61	56.57	0.21	1.02	3.21	56.82	65.00	1.14
5.08	0.0	0.3	0.3	0.0	0.51	57.31	0.21	0.99	3.16	57.56	65.00	1.13
2.54	0.0	0.1	0.1	0.0	0.25	58.95	0.23	0.94	3.05	59.21	65.00	1.10
0.00	0.0	0.0	0.0	0.0	0.00	60.34	0.23	0.89	2.94	60.60	65.00	1.07

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 2A EXTREME WIND

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
45.00	0	0	0	0	0	0	0	0
44.50	0	0	0	0	16	0	16	18
44.50	0	0	0	-1	416	-100	428	13
40.01	-5	-27	27	-1	568	-100	577	179
37.50	-8	-45	46	-1	659	-100	666	278
37.50	-8	-47	48	-3	1061	-301	1103	474
36.08	-14	-66	67	-3	1114	-301	1154	532
35.02	-17	-80	82	-3	1154	-301	1193	576
30.50	-34	-148	152	-3	1334	-301	1368	774
30.50	-34	-150	154	-6	1736	-501	1807	970
30.03	-37	-160	164	-6	1756	-501	1826	992
29.08	-42	-180	185	-6	1795	-501	1864	1035
29.08	-42	-180	185	-6	1795	-501	1864	1036
25.04	-67	-272	280	-6	1970	-501	2033	1230
23.50	-76	-309	318	-6	2040	-501	2101	1306
23.50	-76	-311	320	-9	2441	-702	2540	1503
22.08	-88	-353	364	-9	2507	-702	2603	1575
22.08	-88	-353	364	-9	2506	-702	2603	1575
20.05	-105	-416	429	-9	2601	-701	2694	1683
15.06	-147	-579	597	-9	2847	-701	2932	1957
12.53	-168	-667	688	-9	2976	-701	3058	2103
10.00	-189	-760	783	-9	3111	-701	3189	2253
10.00	-189	-760	783	-9	3110	-701	3188	2255
6.08	-222	-911	938	-9	3328	-701	3401	2764
6.08	-222	-911	938	-9	3327	-701	3400	2766
5.08	-231	-951	979	-9	3382	-701	3454	2838
2.54	-252	-1057	1086	-9	3525	-700	3594	3023
0.00	-274	-1166	1198	-9	3674	-700	3740	3211

Deflections and Stresses for Pole

Loading Case 2A EXTREME WIND *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
45.00	2.2	-0.5	2.3	0.0	0.37	0.00	0.00	0.00	0.00	0.00	65.00	99.90
44.50	2.2	-0.5	2.2	0.0	0.37	0.00	0.00	0.00	0.00	0.01	65.00	99.90
44.50	2.2	-0.5	2.2	0.0	0.37	0.00	0.00	0.01	0.10	0.17	65.00	99.90
40.01	1.8	-0.4	1.9	0.0	0.37	0.60	0.02	0.01	0.11	0.61	65.00	99.90
37.50	1.6	-0.4	1.7	0.0	0.36	0.92	0.02	0.01	0.12	0.94	65.00	68.96
37.50	1.6	-0.4	1.7	0.0	0.36	0.96	0.04	0.03	0.22	1.01	65.00	64.67
36.08	1.5	-0.4	1.6	0.0	0.36	1.28	0.04	0.03	0.22	1.33	65.00	48.89
35.02	1.4	-0.4	1.5	0.0	0.35	1.52	0.05	0.03	0.22	1.56	65.00	41.57
30.50	1.1	-0.3	1.2	0.0	0.33	2.42	0.06	0.03	0.23	2.48	65.00	26.24
30.50	1.1	-0.3	1.2	0.0	0.33	2.46	0.07	0.05	0.32	2.53	65.00	25.68
30.03	1.1	-0.3	1.1	0.0	0.33	2.58	0.07	0.05	0.32	2.66	65.00	24.46
29.08	1.0	-0.3	1.1	0.0	0.32	2.83	0.08	0.04	0.32	2.91	65.00	22.37
25.04	0.8	-0.2	0.8	0.0	0.29	3.79	0.08	0.04	0.32	3.88	65.00	16.77
23.50	0.7	-0.2	0.7	0.0	0.28	4.12	0.09	0.04	0.32	4.21	65.00	15.43
23.50	0.7	-0.2	0.7	0.0	0.28	4.16	0.10	0.05	0.40	4.26	65.00	15.26
22.08	0.6	-0.2	0.6	0.0	0.26	4.54	0.10	0.05	0.40	4.65	65.00	13.99
20.05	0.5	-0.1	0.5	0.0	0.24	5.06	0.11	0.05	0.40	5.17	65.00	12.57
15.06	0.3	-0.1	0.3	0.0	0.19	6.19	0.12	0.04	0.40	6.31	65.00	10.30
12.53	0.2	0.0	0.2	0.0	0.16	6.70	0.12	0.04	0.40	6.82	65.00	9.52
10.00	0.1	0.0	0.1	0.0	0.13	7.18	0.13	0.04	0.40	7.30	65.00	8.90
10.00	0.1	0.0	0.1	0.0	0.13	6.53	0.11	0.04	0.36	6.64	65.00	9.79
6.08	0.0	0.0	0.1	0.0	0.08	7.13	0.13	0.03	0.36	7.26	65.00	8.95
5.08	0.0	0.0	0.0	0.0	0.07	7.27	0.14	0.03	0.36	7.41	65.00	8.78
2.54	0.0	0.0	0.0	0.0	0.03	7.62	0.14	0.03	0.37	7.76	65.00	8.37
0.00	0.0	0.0	0.0	0.0	0.00	7.95	0.14	0.03	0.37	8.10	65.00	8.03

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 2B EXTREME WIND

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
45.00	0	0	0	0	0	0	0	0
44.50	0	0	0	0	16	0	16	18
44.50	0	2	2	-24	221	-2296	2307	-145
40.01	-124	-14	125	-24	372	-2300	2330	22
37.50	-193	-27	195	-24	462	-2303	2349	121
37.50	-193	-27	195	-59	669	-5304	5346	144
36.08	-283	-39	286	-59	722	-5305	5354	201
36.08	-283	-39	286	-59	722	-5305	5354	203
35.02	-351	-48	354	-59	761	-5306	5361	253
30.50	-639	-95	646	-59	941	-5311	5393	450
30.50	-639	-95	646	-97	1147	-8311	8390	483
30.03	-686	-101	693	-97	1165	-8312	8393	507
29.08	-780	-115	789	-97	1205	-8313	8400	551
29.08	-780	-115	789	-97	1203	-8312	8399	562
25.04	-1184	-177	1197	-97	1377	-8315	8428	769
23.50	-1337	-204	1353	-97	1447	-8317	8442	846
23.50	-1337	-204	1353	-138	1650	-11317	11437	895
22.08	-1530	-233	1547	-138	1715	-11318	11448	967
22.08	-1530	-233	1547	-138	1714	-11317	11446	981
20.05	-1806	-276	1827	-138	1806	-11317	11460	1119
15.06	-2484	-391	2514	-138	2049	-11317	11501	1427
12.53	-2827	-455	2864	-138	2178	-11315	11523	1598
10.00	-3171	-523	3214	-138	2313	-11316	11550	1748
10.00	-3171	-523	3214	-138	2310	-11312	11545	1781
6.08	-3703	-637	3757	-138	2528	-11315	11594	2289
6.08	-3703	-637	3757	-138	2526	-11311	11589	2314
5.08	-3839	-667	3896	-138	2581	-11307	11598	2403
2.54	-4184	-748	4250	-138	2724	-11303	11626	2612
0.00	-4528	-833	4604	-138	2872	-11303	11662	2801

Deflections and Stresses for Pole

Loading Case 2B EXTREME WIND *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
45.00	1.5	-9.1	9.2	0.1	1.53	0.00	0.00	0.00	0.00	0.00	65.00	99.90
44.50	1.5	-9.0	9.1	0.1	1.53	0.00	0.00	0.00	0.00	0.01	65.00	99.90
44.50	1.5	-9.0	9.1	0.1	1.53	0.04	0.01	0.31	0.75	1.30	65.00	49.84
40.01	1.2	-7.5	7.6	0.1	1.52	2.72	0.00	0.26	0.67	2.77	65.00	23.47
37.50	1.1	-6.8	6.9	0.1	1.49	3.90	0.01	0.24	0.64	3.93	65.00	16.52
37.50	1.1	-6.8	6.9	0.1	1.49	3.90	0.01	0.58	1.48	4.10	65.00	15.86
36.08	1.0	-6.3	6.4	0.1	1.48	5.44	0.02	0.55	1.43	5.58	65.00	11.65
35.02	1.0	-6.0	6.1	0.1	1.46	6.50	0.02	0.53	1.40	6.62	65.00	9.82
30.50	0.8	-4.7	4.7	0.0	1.36	10.25	0.03	0.46	1.27	10.33	65.00	6.29
30.50	0.8	-4.7	4.7	0.0	1.36	10.25	0.04	0.76	2.01	10.41	65.00	6.24
30.03	0.8	-4.6	4.6	0.0	1.35	10.84	0.04	0.75	1.99	10.99	65.00	5.91
29.08	0.7	-4.3	4.4	0.0	1.33	11.98	0.04	0.73	1.96	12.11	65.00	5.37
29.08	0.7	-4.3	4.4	0.0	1.33	11.98	0.04	0.73	1.96	12.12	65.00	5.37
25.04	0.5	-3.2	3.3	0.0	1.20	16.13	0.05	0.64	1.81	16.24	65.00	4.00
23.50	0.5	-2.9	2.9	0.0	1.14	17.45	0.06	0.62	1.76	17.56	65.00	3.70
23.50	0.5	-2.9	2.9	0.0	1.14	17.46	0.06	0.88	2.42	17.61	65.00	3.69
22.08	0.4	-2.5	2.6	0.0	1.08	19.19	0.06	0.84	2.36	19.33	65.00	3.36
22.08	0.4	-2.5	2.6	0.0	1.08	19.19	0.06	0.84	2.36	19.34	65.00	3.36
20.05	0.4	-2.1	2.1	0.0	1.00	21.44	0.07	0.80	2.28	21.57	65.00	3.01
15.06	0.2	-1.2	1.2	0.0	0.76	25.93	0.09	0.70	2.09	26.05	65.00	2.49
12.53	0.1	-0.8	0.8	0.0	0.63	27.75	0.09	0.66	2.01	27.87	65.00	2.33
10.00	0.1	-0.5	0.5	0.0	0.50	29.31	0.10	0.62	1.94	29.44	65.00	2.21
10.00	0.1	-0.5	0.5	0.0	0.50	26.67	0.09	0.56	1.74	26.78	65.00	2.43
6.08	0.0	-0.2	0.2	0.0	0.31	28.45	0.11	0.51	1.64	28.57	65.00	2.27
6.08	0.0	-0.2	0.2	0.0	0.31	28.45	0.11	0.51	1.64	28.58	65.00	2.27
5.08	0.0	-0.1	0.1	0.0	0.26	28.84	0.11	0.50	1.62	28.97	65.00	2.24
2.54	0.0	0.0	0.0	0.0	0.13	29.72	0.12	0.48	1.56	29.86	65.00	2.18
0.00	0.0	0.0	0.0	0.0	0.00	30.47	0.13	0.45	1.51	30.61	65.00	2.12

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 2C EXTREME WIND

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
45.00	0	0	0	0	0	0	0	0
44.50	0	0	0	0	16	0	16	18
44.50	0	-1	1	23	222	2202	2213	61
40.01	119	-17	120	23	373	2205	2237	228
37.50	185	-29	187	23	464	2208	2256	327
37.50	185	-29	188	56	670	5009	5053	359
36.08	270	-41	273	56	723	5010	5062	416
36.08	270	-41	273	56	722	5010	5062	418
35.02	334	-51	338	56	762	5011	5068	467
30.50	606	-97	614	56	942	5015	5102	664
30.50	606	-97	614	91	1146	7815	7899	706
30.03	650	-104	659	91	1165	7816	7902	729
29.08	739	-117	748	91	1205	7817	7909	773
29.08	739	-117	748	91	1204	7816	7908	783
25.04	1118	-180	1133	91	1377	7818	7939	988
23.50	1263	-206	1280	91	1447	7820	7952	1065
23.50	1263	-207	1280	130	1650	10620	10747	1120
22.08	1443	-235	1462	130	1715	10621	10759	1192
22.08	1443	-235	1462	130	1714	10620	10757	1205
20.05	1703	-278	1725	130	1806	10619	10771	1339
15.06	2339	-394	2371	130	2050	10618	10814	1643
12.53	2661	-458	2700	130	2178	10616	10837	1811
10.00	2983	-526	3029	130	2313	10617	10866	1961
10.00	2983	-526	3029	130	2311	10612	10861	1990
6.08	3482	-640	3540	130	2529	10616	10913	2499
6.08	3482	-639	3540	130	2527	10611	10908	2521
5.08	3610	-670	3672	130	2582	10608	10917	2608
2.54	3933	-751	4004	130	2724	10603	10947	2814
0.00	4256	-836	4338	130	2873	10603	10985	3002

Deflections and Stresses for Pole

Loading Case 2C EXTREME WIND *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
45.00	1.5	8.6	8.7	0.1	1.45	0.00	0.00	0.00	0.00	0.00	65.00	99.90
44.50	1.5	8.4	8.6	0.1	1.45	0.00	0.00	0.00	0.00	0.01	65.00	99.90
44.50	1.5	8.4	8.6	0.1	1.45	0.01	0.01	0.30	0.72	1.25	65.00	52.03
40.01	1.2	7.1	7.2	0.1	1.43	2.62	0.02	0.25	0.64	2.69	65.00	24.18
37.50	1.1	6.4	6.5	0.1	1.41	3.75	0.03	0.23	0.61	3.81	65.00	17.07
37.50	1.1	6.4	6.5	0.1	1.41	3.76	0.03	0.55	1.40	3.95	65.00	16.44
36.08	1.1	6.0	6.1	0.1	1.39	5.21	0.03	0.52	1.35	5.36	65.00	12.14
35.02	1.0	5.7	5.7	0.1	1.38	6.22	0.04	0.50	1.32	6.34	65.00	10.26
30.50	0.8	4.4	4.5	0.0	1.29	9.76	0.05	0.44	1.20	9.84	65.00	6.60
30.50	0.8	4.4	4.5	0.0	1.29	9.76	0.05	0.71	1.89	9.92	65.00	6.55
30.03	0.8	4.3	4.4	0.0	1.28	10.31	0.05	0.70	1.88	10.47	65.00	6.21
29.08	0.7	4.0	4.1	0.0	1.25	11.38	0.06	0.68	1.84	11.52	65.00	5.64
25.04	0.5	3.0	3.1	0.0	1.13	15.28	0.07	0.61	1.70	15.40	65.00	4.22
23.50	0.5	2.7	2.7	0.0	1.08	16.53	0.07	0.58	1.66	16.64	65.00	3.91
23.50	0.5	2.7	2.7	0.0	1.08	16.53	0.08	0.82	2.28	16.69	65.00	3.89
22.08	0.4	2.4	2.4	0.0	1.02	18.16	0.08	0.79	2.22	18.31	65.00	3.55
20.05	0.4	2.0	2.0	0.0	0.94	20.27	0.09	0.75	2.14	20.41	65.00	3.18
15.06	0.2	1.1	1.1	0.0	0.72	24.48	0.10	0.66	1.97	24.62	65.00	2.64
12.53	0.1	0.8	0.8	0.0	0.60	26.19	0.11	0.62	1.89	26.32	65.00	2.47
10.00	0.1	0.5	0.5	0.0	0.47	27.66	0.11	0.58	1.82	27.79	65.00	2.34
10.00	0.1	0.5	0.5	0.0	0.47	25.17	0.10	0.53	1.63	25.29	65.00	2.57
6.08	0.0	0.2	0.2	0.0	0.29	26.83	0.12	0.48	1.54	26.97	65.00	2.41
5.08	0.0	0.1	0.1	0.0	0.24	27.20	0.12	0.47	1.52	27.34	65.00	2.38
2.54	0.0	0.0	0.0	0.0	0.12	28.03	0.13	0.45	1.47	28.17	65.00	2.31
0.00	0.0	0.0	0.0	0.0	0.00	28.74	0.14	0.42	1.42	28.88	65.00	2.25

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 3A CONCURRENT

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
45.00	0	0	0	0	0	0	0	0
44.50	0	0	0	0	3	0	3	18
44.50	0	-4	4	-3	809	-301	863	405
40.01	-16	-48	51	-3	838	-301	890	572
37.50	-25	-74	78	-3	855	-302	907	671
37.50	-25	-81	85	-7	1863	-603	1958	1256
36.08	-36	-112	118	-7	1873	-603	1968	1314
35.02	-43	-136	143	-7	1880	-603	1975	1359
30.50	-76	-239	251	-7	1914	-604	2007	1557
30.50	-76	-247	258	-10	2922	-905	3059	2144
30.03	-81	-263	275	-10	2925	-905	3062	2165
29.08	-91	-297	310	-10	2933	-905	3069	2209
29.08	-91	-297	310	-10	2931	-905	3068	2211
25.04	-135	-440	460	-10	2963	-905	3098	2406
23.50	-152	-494	517	-10	2976	-905	3111	2482
23.50	-152	-503	525	-15	3982	-1206	4161	3071
22.08	-173	-570	596	-15	3995	-1206	4173	3143
22.08	-173	-570	596	-15	3993	-1206	4171	3145
20.05	-202	-668	698	-15	4008	-1205	4185	3255
15.06	-274	-909	950	-15	4050	-1204	4225	3533
12.53	-311	-1033	1078	-15	4071	-1204	4245	3681
10.00	-347	-1157	1208	-15	4096	-1204	4269	3830
10.00	-347	-1157	1208	-15	4092	-1203	4265	3835
6.08	-404	-1350	1409	-15	4134	-1203	4305	4343
6.08	-404	-1350	1409	-15	4130	-1202	4302	4347
5.08	-418	-1400	1461	-15	4138	-1202	4309	4420
2.54	-455	-1526	1593	-15	4161	-1201	4331	4607
0.00	-492	-1654	1725	-15	4188	-1201	4357	4796

Deflections and Stresses for Pole

Loading Case 3A CONCURRENT *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
45.00	3.4	-1.0	3.5	0.0	0.59	0.00	0.00	0.00	0.00	0.00	65.00	99.90
44.50	3.3	-1.0	3.4	0.0	0.59	0.00	0.00	0.00	0.00	0.00	65.00	99.90
44.50	3.3	-1.0	3.4	0.0	0.59	0.10	0.04	0.04	0.21	0.37	65.00	99.90
40.01	2.8	-0.8	2.9	0.0	0.58	1.12	0.05	0.03	0.19	1.18	65.00	55.22
37.50	2.5	-0.7	2.6	0.0	0.57	1.57	0.06	0.03	0.18	1.63	65.00	39.91
37.50	2.5	-0.7	2.6	0.0	0.57	1.70	0.11	0.07	0.40	1.81	65.00	35.84
36.08	2.3	-0.7	2.4	0.0	0.56	2.26	0.11	0.06	0.39	2.37	65.00	27.41
35.02	2.2	-0.7	2.3	0.0	0.55	2.65	0.11	0.06	0.38	2.76	65.00	23.57
30.50	1.7	-0.5	1.8	0.0	0.52	4.01	0.12	0.05	0.35	4.13	65.00	15.75
30.50	1.7	-0.5	1.8	0.0	0.52	4.12	0.16	0.08	0.54	4.29	65.00	15.17
30.03	1.7	-0.5	1.7	0.0	0.51	4.33	0.16	0.08	0.54	4.50	65.00	14.45
29.08	1.6	-0.5	1.6	0.0	0.50	4.74	0.16	0.08	0.53	4.91	65.00	13.25
25.04	1.2	-0.4	1.2	0.0	0.45	6.23	0.17	0.07	0.50	6.40	65.00	10.15
23.50	1.0	-0.3	1.1	0.0	0.43	6.71	0.17	0.07	0.49	6.88	65.00	9.45
23.50	1.0	-0.3	1.1	0.0	0.43	6.81	0.21	0.09	0.66	7.02	65.00	9.26
22.08	0.9	-0.3	1.0	0.0	0.41	7.43	0.21	0.09	0.65	7.64	65.00	8.51
22.08	0.9	-0.3	1.0	0.0	0.41	7.43	0.21	0.09	0.64	7.64	65.00	8.51
20.05	0.8	-0.2	0.8	0.0	0.38	8.24	0.21	0.08	0.63	8.45	65.00	7.70
15.06	0.4	-0.1	0.5	0.0	0.29	9.84	0.21	0.07	0.59	10.06	65.00	6.46
12.53	0.3	-0.1	0.3	0.0	0.24	10.50	0.21	0.07	0.57	10.71	65.00	6.07
10.00	0.2	-0.1	0.2	0.0	0.19	11.06	0.22	0.07	0.55	11.28	65.00	5.76
10.00	0.2	-0.1	0.2	0.0	0.19	10.07	0.19	0.06	0.49	10.26	65.00	6.34
6.08	0.1	0.0	0.1	0.0	0.11	10.71	0.21	0.05	0.47	10.92	65.00	5.95
5.08	0.0	0.0	0.1	0.0	0.10	10.85	0.21	0.05	0.47	11.06	65.00	5.88
2.54	0.0	0.0	0.0	0.0	0.05	11.17	0.21	0.05	0.46	11.39	65.00	5.71
0.00	0.0	0.0	0.0	0.0	0.00	11.45	0.22	0.05	0.44	11.67	65.00	5.57

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 3B CONCURRENT

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
45.00	0	0	0	0	0	0	0	0
44.50	0	0	0	0	3	-1	3	18
44.50	0	0	0	-42	420	-4004	4026	42
40.01	-216	-24	217	-42	447	-4011	4036	210
37.50	-337	-37	339	-42	464	-4015	4042	309
37.50	-337	-38	339	-97	982	-8721	8777	410
36.08	-485	-55	488	-97	992	-8724	8780	468
36.08	-485	-55	488	-97	991	-8724	8780	472
35.02	-596	-68	600	-97	996	-8725	8782	531
30.50	-1070	-123	1077	-97	1029	-8733	8793	729
30.50	-1070	-124	1077	-157	1543	-13438	13526	859
30.03	-1146	-133	1153	-157	1545	-13439	13527	887
29.08	-1298	-150	1307	-157	1552	-13440	13530	931
29.08	-1298	-150	1307	-157	1548	-13439	13528	961
25.04	-1951	-226	1964	-157	1576	-13443	13535	1190
23.50	-2199	-255	2214	-157	1589	-13445	13539	1267
23.50	-2199	-257	2214	-221	2098	-18149	18270	1438
22.08	-2507	-293	2525	-221	2110	-18152	18274	1510
22.08	-2507	-293	2525	-221	2106	-18149	18271	1547
20.05	-2950	-344	2971	-221	2115	-18145	18268	1736
15.06	-4037	-472	4065	-221	2152	-18142	18269	2102
12.53	-4588	-538	4620	-221	2171	-18137	18267	2314
10.00	-5139	-604	5174	-221	2196	-18139	18272	2463
10.00	-5139	-604	5174	-221	2190	-18129	18260	2547
6.08	-5991	-707	6033	-221	2231	-18134	18271	3056
6.08	-5991	-707	6033	-221	2227	-18124	18260	3119
5.08	-6209	-734	6253	-221	2234	-18117	18254	3235
2.54	-6762	-802	6809	-221	2257	-18106	18246	3484
0.00	-7313	-871	7365	-221	2284	-18106	18250	3672

Deflections and Stresses for Pole

Loading Case 3B CONCURRENT *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
45.00	1.7	-14.9	15.0	0.3	2.50	0.00	0.00	0.00	0.00	0.00	65.00	99.90
44.50	1.7	-14.6	14.7	0.3	2.50	0.00	0.00	0.00	0.00	0.00	65.00	99.90
44.50	1.7	-14.6	14.7	0.3	2.50	0.01	0.00	0.54	1.31	2.27	65.00	28.61
40.01	1.4	-12.3	12.4	0.2	2.46	4.73	0.02	0.46	1.16	4.85	65.00	13.41
37.50	1.3	-11.0	11.1	0.2	2.43	6.75	0.03	0.42	1.10	6.83	65.00	9.51
37.50	1.3	-11.0	11.1	0.2	2.43	6.75	0.03	0.95	2.43	7.09	65.00	9.17
36.08	1.2	-10.3	10.4	0.2	2.39	9.26	0.04	0.91	2.35	9.50	65.00	6.84
35.02	1.1	-9.8	9.8	0.2	2.37	10.98	0.04	0.88	2.29	11.18	65.00	5.81
30.50	0.9	-7.6	7.7	0.1	2.21	17.02	0.05	0.76	2.07	17.15	65.00	3.79
30.50	0.9	-7.6	7.7	0.1	2.21	17.02	0.06	1.22	3.25	17.29	65.00	3.76
30.03	0.9	-7.4	7.4	0.1	2.19	17.97	0.07	1.20	3.22	18.22	65.00	3.57
29.08	0.8	-7.0	7.0	0.1	2.15	19.77	0.07	1.17	3.15	20.00	65.00	3.25
25.04	0.6	-5.2	5.3	0.1	1.93	26.35	0.08	1.04	2.91	26.53	65.00	2.45
23.50	0.5	-4.6	4.7	0.1	1.84	28.43	0.09	0.99	2.82	28.60	65.00	2.27
23.50	0.5	-4.6	4.7	0.1	1.84	28.44	0.10	1.40	3.87	28.70	65.00	2.26
22.08	0.5	-4.1	4.1	0.0	1.75	31.17	0.10	1.35	3.77	31.41	65.00	2.07
20.05	0.4	-3.4	3.4	0.0	1.61	34.70	0.11	1.28	3.63	34.93	65.00	1.86
15.06	0.2	-1.9	1.9	0.0	1.23	41.71	0.13	1.12	3.33	41.91	65.00	1.55
12.53	0.2	-1.3	1.3	0.0	1.02	44.52	0.13	1.05	3.19	44.72	65.00	1.45
10.00	0.1	-0.8	0.8	0.0	0.80	46.93	0.14	0.99	3.07	47.12	65.00	1.38
10.00	0.1	-0.8	0.8	0.0	0.80	42.70	0.13	0.90	2.75	42.87	65.00	1.52
6.08	0.0	-0.3	0.3	0.0	0.49	45.39	0.15	0.82	2.59	45.58	65.00	1.43
5.08	0.0	-0.2	0.2	0.0	0.41	45.98	0.15	0.80	2.55	46.17	65.00	1.41
2.54	0.0	-0.1	0.1	0.0	0.20	47.30	0.16	0.76	2.45	47.49	65.00	1.37
0.00	0.0	0.0	0.0	0.0	0.00	48.41	0.17	0.72	2.37	48.60	65.00	1.34

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 3C CONCURRENT

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
45.00	0	0	0	0	0	0	0	0
44.50	0	0	0	0	3	1	3	18
44.50	0	-1	1	39	418	3704	3728	65
40.01	200	-24	201	39	445	3711	3737	233
37.50	312	-37	314	39	462	3715	3743	332
37.50	312	-39	314	90	978	8121	8180	458
36.08	450	-56	453	90	988	8123	8183	516
36.08	450	-56	453	90	987	8123	8183	520
35.02	553	-68	558	90	993	8124	8184	577
30.50	994	-123	1002	90	1026	8131	8196	774
30.50	994	-125	1002	146	1538	12537	12631	925
30.03	1065	-133	1073	146	1541	12537	12631	953
29.08	1207	-151	1217	146	1548	12539	12634	997
29.08	1207	-151	1217	146	1544	12537	12632	1023
25.04	1816	-226	1830	146	1573	12541	12639	1247
23.50	2048	-256	2063	146	1586	12543	12643	1324
23.50	2048	-258	2064	206	2094	16947	17076	1511
22.08	2336	-293	2354	206	2106	16949	17080	1583
22.08	2336	-293	2354	206	2102	16947	17077	1615
20.05	2749	-345	2771	206	2112	16943	17074	1793
15.06	3764	-472	3794	206	2150	16940	17076	2148
12.53	4278	-538	4312	206	2170	16935	17073	2351
10.00	4793	-604	4830	206	2194	16937	17079	2500
10.00	4793	-604	4830	206	2189	16927	17068	2573
6.08	5588	-707	5633	206	2230	16932	17078	3082
6.08	5588	-707	5633	206	2226	16922	17068	3137
5.08	5792	-734	5838	206	2234	16916	17063	3248
2.54	6308	-802	6359	206	2256	16906	17055	3488
0.00	6823	-871	6878	206	2284	16906	17059	3676

Deflections and Stresses for Pole

Loading Case 3C CONCURRENT *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
45.00	1.7	13.8	14.0	0.2	2.33	0.00	0.00	0.00	0.00	0.00	65.00	99.90
44.50	1.7	13.6	13.7	0.2	2.33	0.00	0.00	0.00	0.00	0.00	65.00	99.90
44.50	1.7	13.6	13.7	0.2	2.33	0.01	0.01	0.50	1.21	2.10	65.00	30.93
40.01	1.4	11.4	11.5	0.2	2.30	4.39	0.02	0.42	1.08	4.50	65.00	14.45
37.50	1.3	10.3	10.3	0.2	2.26	6.26	0.03	0.39	1.01	6.34	65.00	10.26
37.50	1.3	10.3	10.3	0.2	2.26	6.26	0.04	0.89	2.26	6.58	65.00	9.88
36.08	1.2	9.6	9.7	0.1	2.23	8.60	0.04	0.85	2.19	8.83	65.00	7.36
35.02	1.1	9.1	9.2	0.1	2.21	10.21	0.05	0.82	2.13	10.40	65.00	6.25
30.50	0.9	7.1	7.1	0.1	2.06	15.85	0.06	0.71	1.93	15.98	65.00	4.07
30.50	0.9	7.1	7.1	0.1	2.06	15.86	0.07	1.14	3.03	16.11	65.00	4.03
30.03	0.9	6.9	6.9	0.1	2.04	16.74	0.07	1.12	3.00	16.98	65.00	3.83
29.08	0.8	6.5	6.5	0.1	2.00	18.43	0.07	1.09	2.94	18.65	65.00	3.49
25.04	0.6	4.9	4.9	0.1	1.80	24.58	0.09	0.97	2.71	24.76	65.00	2.63
23.50	0.5	4.3	4.4	0.0	1.72	26.53	0.09	0.93	2.63	26.70	65.00	2.43
23.50	0.5	4.3	4.4	0.0	1.72	26.54	0.10	1.31	3.62	26.79	65.00	2.43
22.08	0.5	3.8	3.9	0.0	1.63	29.10	0.10	1.26	3.52	29.33	65.00	2.22
22.08	0.5	3.8	3.9	0.0	1.63	29.10	0.11	1.26	3.52	29.33	65.00	2.22
20.05	0.4	3.2	3.2	0.0	1.50	32.41	0.11	1.19	3.39	32.63	65.00	1.99
15.06	0.2	1.8	1.8	0.0	1.14	38.97	0.13	1.05	3.11	39.17	65.00	1.66
12.53	0.2	1.2	1.2	0.0	0.95	41.61	0.14	0.99	2.98	41.80	65.00	1.55
10.00	0.1	0.8	0.8	0.0	0.75	43.86	0.14	0.93	2.86	44.05	65.00	1.48
10.00	0.1	0.8	0.8	0.0	0.75	39.91	0.13	0.84	2.57	40.08	65.00	1.62
6.08	0.0	0.3	0.3	0.0	0.46	42.44	0.15	0.77	2.42	42.62	65.00	1.53
5.08	0.0	0.2	0.2	0.0	0.38	42.98	0.15	0.75	2.38	43.17	65.00	1.51
2.54	0.0	0.1	0.1	0.0	0.19	44.22	0.16	0.71	2.29	44.41	65.00	1.46
0.00	0.0	0.0	0.0	0.0	0.00	45.26	0.17	0.67	2.21	45.45	65.00	1.43

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 4 DEFLECTION

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
45.00	0	0	0	0	0	0	0	0
44.50	0	0	0	0	1	0	1	18
44.50	0	0	0	0	501	0	501	13
40.01	0	-27	27	0	509	0	509	179
37.50	0	-43	43	0	514	0	514	278
37.50	0	-47	47	-1	917	-100	923	675
36.08	-2	-63	63	-1	920	-100	925	732
35.02	-3	-75	75	-1	922	-100	927	777
30.50	-8	-125	125	-1	931	-100	937	975
30.50	-8	-130	130	-2	1334	-201	1349	1371
30.03	-10	-137	138	-2	1335	-201	1350	1393
29.08	-12	-152	153	-2	1337	-201	1352	1436
29.08	-12	-152	153	-2	1337	-201	1352	1437
25.04	-22	-218	219	-2	1346	-201	1361	1630
23.50	-25	-242	244	-2	1349	-201	1364	1707
23.50	-25	-248	249	-4	1752	-301	1778	2104
22.08	-30	-278	279	-4	1755	-301	1781	2176
22.08	-30	-278	279	-4	1755	-301	1780	2176
20.05	-38	-321	323	-4	1759	-301	1784	2283
15.06	-56	-426	430	-4	1770	-301	1795	2556
12.53	-65	-480	484	-4	1775	-301	1800	2701
10.00	-74	-534	539	-4	1782	-301	1807	2850
10.00	-74	-534	539	-4	1781	-300	1806	2851
6.08	-88	-618	624	-4	1793	-301	1818	3360
6.08	-88	-618	624	-4	1791	-300	1816	3361
5.08	-92	-640	646	-4	1793	-300	1818	3432
2.54	-101	-694	702	-4	1799	-300	1824	3616
0.00	-110	-749	757	-4	1806	-300	1831	3804

Deflections and Stresses for Pole

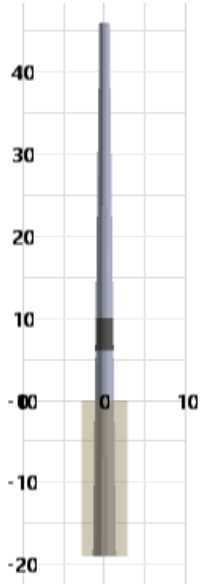
Loading Case 4 DEFLECTION *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
45.00	1.6	-0.2	1.6	0.0	0.27	0.00	0.00	0.00	0.00	0.00	65.00	99.90
44.50	1.6	-0.2	1.6	0.0	0.27	0.00	0.00	0.00	0.00	0.00	65.00	99.90
44.50	1.6	-0.2	1.6	0.0	0.27	0.00	0.00	0.00	0.10	0.17	65.00	99.90
40.01	1.3	-0.2	1.3	0.0	0.27	0.58	0.02	0.00	0.09	0.60	65.00	99.90
37.50	1.2	-0.2	1.2	0.0	0.26	0.83	0.02	0.00	0.09	0.85	65.00	76.29
37.50	1.2	-0.2	1.2	0.0	0.26	0.92	0.06	0.01	0.17	0.98	65.00	66.27
36.08	1.1	-0.1	1.1	0.0	0.26	1.17	0.06	0.01	0.16	1.23	65.00	52.80
35.02	1.0	-0.1	1.0	0.0	0.25	1.35	0.06	0.01	0.16	1.41	65.00	46.16
30.50	0.8	-0.1	0.8	0.0	0.24	1.96	0.07	0.01	0.15	2.03	65.00	31.97
30.50	0.8	-0.1	0.8	0.0	0.24	2.04	0.10	0.02	0.22	2.14	65.00	30.37
30.03	0.8	-0.1	0.8	0.0	0.23	2.13	0.10	0.02	0.22	2.23	65.00	29.14
29.08	0.7	-0.1	0.7	0.0	0.23	2.30	0.10	0.02	0.22	2.40	65.00	27.04
25.04	0.5	-0.1	0.6	0.0	0.20	2.93	0.11	0.02	0.20	3.04	65.00	21.39
23.50	0.5	-0.1	0.5	0.0	0.19	3.13	0.11	0.02	0.20	3.24	65.00	20.06
23.50	0.5	-0.1	0.5	0.0	0.19	3.19	0.14	0.02	0.26	3.34	65.00	19.49
22.08	0.4	-0.1	0.4	0.0	0.18	3.45	0.14	0.02	0.26	3.59	65.00	18.11
20.05	0.4	0.0	0.4	0.0	0.17	3.77	0.15	0.02	0.25	3.92	65.00	16.59
15.06	0.2	0.0	0.2	0.0	0.13	4.42	0.15	0.02	0.24	4.57	65.00	14.21
12.53	0.1	0.0	0.1	0.0	0.11	4.68	0.16	0.02	0.23	4.84	65.00	13.44
10.00	0.1	0.0	0.1	0.0	0.08	4.90	0.16	0.02	0.22	5.07	65.00	12.83
10.00	0.1	0.0	0.1	0.0	0.08	4.46	0.14	0.02	0.20	4.61	65.00	14.11
6.08	0.0	0.0	0.0	0.0	0.05	4.71	0.16	0.01	0.19	4.87	65.00	13.33
5.08	0.0	0.0	0.0	0.0	0.04	4.77	0.16	0.01	0.19	4.93	65.00	13.18
2.54	0.0	0.0	0.0	0.0	0.02	4.89	0.17	0.01	0.18	5.06	65.00	12.85
0.00	0.0	0.0	0.0	0.0	0.00	5.00	0.17	0.01	0.18	5.17	65.00	12.58

MINIMUM DEFLECTION RATIO // DEFLECTION LIMIT / DEFLECTION // IS

46.0' AGH, 65' CUSTOM POLES, STR. #8/6

Design Id: STR8_6



BY VALMONT INDUSTRIES FOR: OMPA, 46.0' AGH, 65' CUSTOM POLES, STR. #8/6, 607956 DATE 01/30/2024
Design Id: STR8_6 IMPAX 26.2.5.1

*** SUMMARY ***

DESIGN SUMMARY

Above Ground Height	46'- 0.00"	Ground Line Diameter (in)	28.200	Pole Shaft Weight (lbs)	4275
Embedment Length	19'- 0.00"	Top Diameter (in)	15.022		
Total Pole Length	65'- 0.00"	Pole Taper (in/ft)	0.29600	Shape:	12 Sides

Connections Between Sections /First/

Height Above Ground	10'- 0.00"
Type	Slip Joint
Overlap Length (in)	47
Maximum Axial Force (lbs)	5455

Section Characteristics	/First/	/Second/
Base Diameter (in)	33.824	26.837
Top Diameter (in)	25.240	15.022
Thickness (in)	0.25000	0.21875
Length	29'- 0.00"	39'-11.00"
Weight (lbs)	2310	1965

ANALYSIS SUMMARY

	Pt. of Fixity	Governing Level Sec.1	Governing Level Sec.2	Pole Top
Governing Load Case	1C NESC HEAV	1C NESC HEAV	1C NESC HEAV	1C NESC HEAV
Height (ft)	0.00	0.00	10.00	46.00
Resultant Moment (in-kips)	9676	9676	6880	0
Shear Force (lbs)	23279	23279	23315	0
Axial Force (lbs)	5399	5399	3537	0
Combined Stress (ksi)	62.40	62.40	61.06	0.00
Allowable Stress (ksi)	65.00	65.00	65.00	65.00
Allowable/Combined Stress	1.04	1.04	1.06	99.90
Total Deflection (in)	0.00	0.00	1.08	20.09

Note: Diameters are outside, measured across the flats
Forces and moments are reported in the local element coordinate system

BY VALMONT INDUSTRIES FOR: OMPA, 46.0' AGH, 65' CUSTOM POLES, STR. #8/6, 607956 DATE 01/30/2024
Design Id: STR8_6 IMPAX 26.2.5.1

*** POLE SHAFT POINT OF FIXITY REACTIONS ***

Loading Case Identifier	Moments About X-Axis (in-kips)	Moments About Y-Axis (in-kips)	Moments Resultant (X & Y) (in-kips)	Moments Torsional (in-kips)	Vertical Force (lbs)	Shear In X-Direction (lbs)	Shear In Y-Direction (lbs)	Shear Resultant (X & Y) (lbs)	Notes
1A NESC HE	114	-1852	1856	4	9322	4718	300	4727	B
1B NESC HE	-9507	-1040	9563	-320	7920	2818	-22800	22973	
1C NESC HE	9618	-1039	9674	324	7820	2818	23100	23271	A C
2A EXTREME	168	-1223	1235	6	5693	3721	400	3742	
2B EXTREME	-4385	-875	4472	-149	4990	2921	-10600	10995	
2C EXTREME	4553	-875	4637	154	4990	2921	11000	11381	
3A CONCURR	169	-1390	1400	6	7979	3376	400	3400	
3B CONCURR	-7202	-742	7240	-243	6178	1876	-17300	17401	
3C CONCURR	7369	-740	7406	249	6078	1876	17700	17799	
4 DEFLECTI	0	-719	719	0	5676	1692	0	1692	

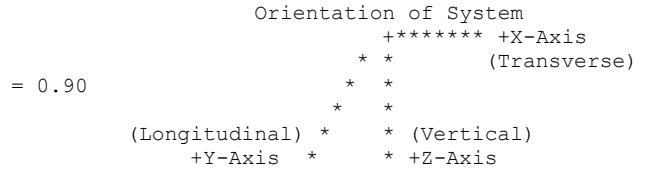
Note: Positive vertical force is downward.
Reactions are considered in the global coordinate system.

Key to the special note entries
A Indicates load case with maximum overturning moment
B Indicates load case with maximum vertical force
C Indicates load case with maximum resultant shear

*** INPUT LOADS ***

Loading Case 1A NESC HEAVY

Basic Wind Pressure is 10.00 psf
Wind Orientation is 0.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.500
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees



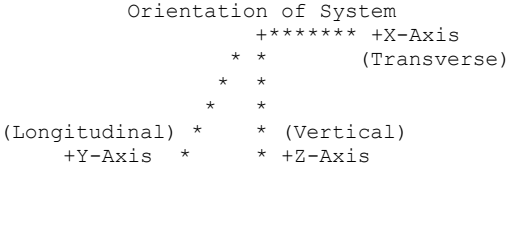
Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	45'- 6.00"	45'- 6.00"	3.00"	0.00	400	-5100	300	SW_A
2	45'- 6.00"	45'- 6.00"	3.00"	0.00	400	5100	200	SW_B
3	38'- 6.00"	38'- 6.00"	3.00"	0.00	500	-5900	400	TCND_C
4	31'- 6.00"	31'- 6.00"	3.00"	0.00	500	-5900	400	MCND_C
5	24'- 6.00"	24'- 6.00"	3.00"	0.00	500	-5900	400	BCND_C
6	38'- 6.00"	38'- 6.00"	3.00"	0.00	500	6000	400	TCND_D
7	31'- 6.00"	31'- 6.00"	3.00"	0.00	500	6000	400	MCND_D
8	24'- 6.00"	24'- 6.00"	3.00"	0.00	500	6000	400	BCND_D
9	37'- 1.00"	37'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	30'- 1.00"	30'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	23'- 1.00"	23'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 1B NESC HEAVY

Basic Wind Pressure is 10.00 psf
Wind Orientation is 0.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.500
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

Orientation of System



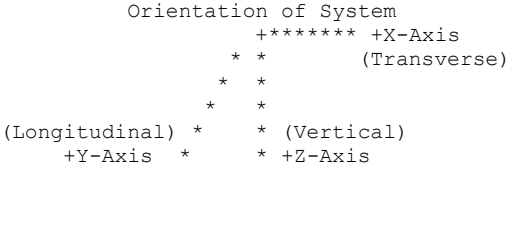
Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	45'- 6.00"	45'- 6.00"	3.00"	0.00	400	-5100	300	SW_A
2	45'- 6.00"	45'- 6.00"	3.00"	0.00	0	0	0	SW_B
3	38'- 6.00"	38'- 6.00"	3.00"	0.00	500	-5900	400	TCND_C
4	31'- 6.00"	31'- 6.00"	3.00"	0.00	500	-5900	400	MCND_C
5	24'- 6.00"	24'- 6.00"	3.00"	0.00	500	-5900	400	BCND_C
6	38'- 6.00"	38'- 6.00"	3.00"	0.00	0	0	0	TCND_D
7	31'- 6.00"	31'- 6.00"	3.00"	0.00	0	0	0	MCND_D
8	24'- 6.00"	24'- 6.00"	3.00"	0.00	0	0	0	BCND_D
9	37'- 1.00"	37'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	30'- 1.00"	30'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	23'- 1.00"	23'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 1C NESC HEAVY

Basic Wind Pressure is 10.00 psf
Wind Orientation is 0.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.500
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

Orientation of System

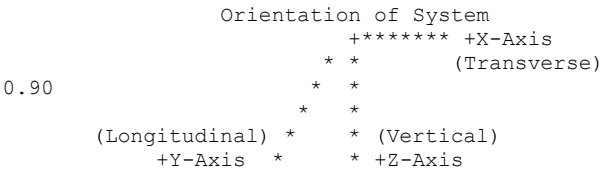


Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	45'- 6.00"	45'- 6.00"	3.00"	0.00	0	0	0	SW_A
2	45'- 6.00"	45'- 6.00"	3.00"	0.00	400	5100	200	SW_B
3	38'- 6.00"	38'- 6.00"	3.00"	0.00	0	0	0	TCND_C
4	31'- 6.00"	31'- 6.00"	3.00"	0.00	0	0	0	MCND_C
5	24'- 6.00"	24'- 6.00"	3.00"	0.00	0	0	0	BCND_C
6	38'- 6.00"	38'- 6.00"	3.00"	0.00	500	6000	400	TCND_D
7	31'- 6.00"	31'- 6.00"	3.00"	0.00	500	6000	400	MCND_D
8	24'- 6.00"	24'- 6.00"	3.00"	0.00	500	6000	400	BCND_D
9	37'- 1.00"	37'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	30'- 1.00"	30'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	23'- 1.00"	23'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 2A EXTREME WIND

Basic Wind Pressure is 23.10 psf
Wind Orientation is 0.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

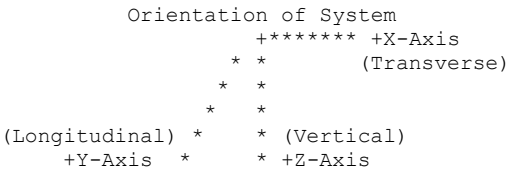


Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	45'- 6.00"	45'- 6.00"	3.00"	0.00	200	-2200	100	SW_A
2	45'- 6.00"	45'- 6.00"	3.00"	0.00	200	2300	100	SW_B
3	38'- 6.00"	38'- 6.00"	3.00"	0.00	200	-2800	200	TCND_C
4	31'- 6.00"	31'- 6.00"	3.00"	0.00	200	-2800	200	MCND_C
5	24'- 6.00"	24'- 6.00"	3.00"	0.00	200	-2800	200	BCND_C
6	38'- 6.00"	38'- 6.00"	3.00"	0.00	200	2900	200	TCND_D
7	31'- 6.00"	31'- 6.00"	3.00"	0.00	200	2900	200	MCND_D
8	24'- 6.00"	24'- 6.00"	3.00"	0.00	200	2900	200	BCND_D
9	37'- 1.00"	37'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	30'- 1.00"	30'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	23'- 1.00"	23'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 2B EXTREME WIND

Basic Wind Pressure is 23.10 psf
Wind Orientation is 0.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

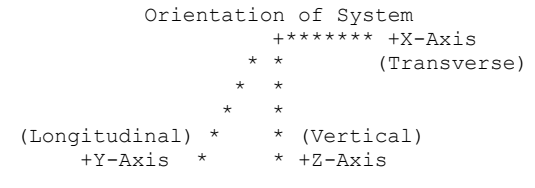


Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	45'- 6.00"	45'- 6.00"	3.00"	0.00	200	-2200	100	SW_A
2	45'- 6.00"	45'- 6.00"	3.00"	0.00	0	0	0	SW_B
3	38'- 6.00"	38'- 6.00"	3.00"	0.00	200	-2800	200	TCND_C
4	31'- 6.00"	31'- 6.00"	3.00"	0.00	200	-2800	200	MCND_C
5	24'- 6.00"	24'- 6.00"	3.00"	0.00	200	-2800	200	BCND_C
6	38'- 6.00"	38'- 6.00"	3.00"	0.00	0	0	0	TCND_D
7	31'- 6.00"	31'- 6.00"	3.00"	0.00	0	0	0	MCND_D
8	24'- 6.00"	24'- 6.00"	3.00"	0.00	0	0	0	BCND_D
9	37'- 1.00"	37'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	30'- 1.00"	30'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	23'- 1.00"	23'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 2C EXTREME WIND

Basic Wind Pressure is 23.10 psf
Wind Orientation is 0.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees



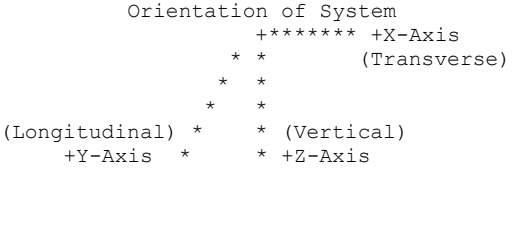
Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	45'- 6.00"	45'- 6.00"	3.00"	0.00	0	0	0	SW_A
2	45'- 6.00"	45'- 6.00"	3.00"	0.00	200	2300	100	SW_B
3	38'- 6.00"	38'- 6.00"	3.00"	0.00	0	0	0	TCND_C
4	31'- 6.00"	31'- 6.00"	3.00"	0.00	0	0	0	MCND_C
5	24'- 6.00"	24'- 6.00"	3.00"	0.00	0	0	0	BCND_C
6	38'- 6.00"	38'- 6.00"	3.00"	0.00	200	2900	200	TCND_D
7	31'- 6.00"	31'- 6.00"	3.00"	0.00	200	2900	200	MCND_D
8	24'- 6.00"	24'- 6.00"	3.00"	0.00	200	2900	200	BCND_D
9	37'- 1.00"	37'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	30'- 1.00"	30'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	23'- 1.00"	23'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 3A CONCURRENT

Basic Wind Pressure is 4.10 psf
Wind Orientation is 0.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

Orientation of System

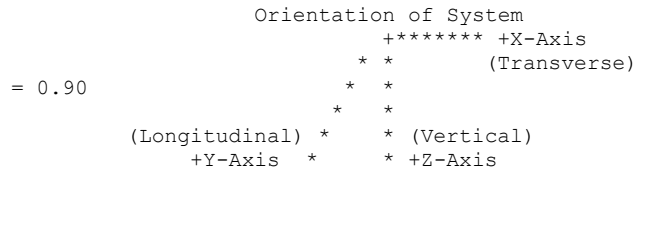


Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	45'- 6.00"	45'- 6.00"	3.00"	0.00	300	-3800	400	SW_A
2	45'- 6.00"	45'- 6.00"	3.00"	0.00	300	3900	300	SW_B
3	38'- 6.00"	38'- 6.00"	3.00"	0.00	400	-4500	500	TCND_C
4	31'- 6.00"	31'- 6.00"	3.00"	0.00	400	-4500	500	MCND_C
5	24'- 6.00"	24'- 6.00"	3.00"	0.00	400	-4500	500	BCND_C
6	38'- 6.00"	38'- 6.00"	3.00"	0.00	400	4600	500	TCND_D
7	31'- 6.00"	31'- 6.00"	3.00"	0.00	400	4600	500	MCND_D
8	24'- 6.00"	24'- 6.00"	3.00"	0.00	400	4600	500	BCND_D
9	37'- 1.00"	37'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	30'- 1.00"	30'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	23'- 1.00"	23'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 3B CONCURRENT

Basic Wind Pressure is 4.10 psf
Wind Orientation is 0.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees



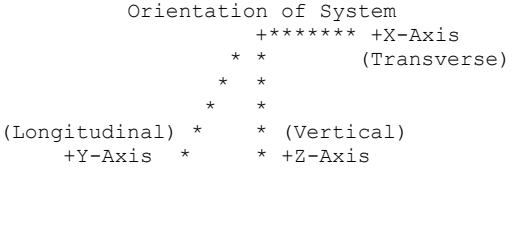
Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	45'- 6.00"	45'- 6.00"	3.00"	0.00	300	-3800	400	SW_A
2	45'- 6.00"	45'- 6.00"	3.00"	0.00	0	0	0	SW_B
3	38'- 6.00"	38'- 6.00"	3.00"	0.00	400	-4500	500	TCND_C
4	31'- 6.00"	31'- 6.00"	3.00"	0.00	400	-4500	500	MCND_C
5	24'- 6.00"	24'- 6.00"	3.00"	0.00	400	-4500	500	BCND_C
6	38'- 6.00"	38'- 6.00"	3.00"	0.00	0	0	0	TCND_D
7	31'- 6.00"	31'- 6.00"	3.00"	0.00	0	0	0	MCND_D
8	24'- 6.00"	24'- 6.00"	3.00"	0.00	0	0	0	BCND_D
9	37'- 1.00"	37'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	30'- 1.00"	30'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	23'- 1.00"	23'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 3C CONCURRENT

Basic Wind Pressure is 4.10 psf
Wind Orientation is 0.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

Orientation of System



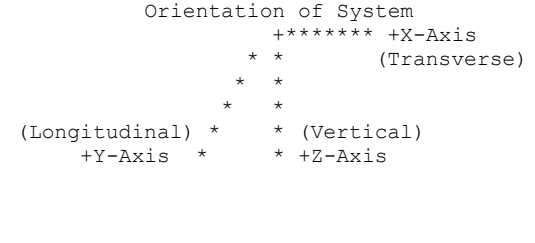
Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	45'- 6.00"	45'- 6.00"	3.00"	0.00	0	0	0	SW_A
2	45'- 6.00"	45'- 6.00"	3.00"	0.00	300	3900	300	SW_B
3	38'- 6.00"	38'- 6.00"	3.00"	0.00	0	0	0	TCND_C
4	31'- 6.00"	31'- 6.00"	3.00"	0.00	0	0	0	MCND_C
5	24'- 6.00"	24'- 6.00"	3.00"	0.00	0	0	0	BCND_C
6	38'- 6.00"	38'- 6.00"	3.00"	0.00	400	4600	500	TCND_D
7	31'- 6.00"	31'- 6.00"	3.00"	0.00	400	4600	500	MCND_D
8	24'- 6.00"	24'- 6.00"	3.00"	0.00	400	4600	500	BCND_D
9	37'- 1.00"	37'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	30'- 1.00"	30'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	23'- 1.00"	23'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 4 DEFLECTION

Basic Wind Pressure is 1.00 psf
Wind Orientation is 0.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees
Deflection Limitation: 6.0 in

Orientation of System



Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	45'- 6.00"	45'- 6.00"	3.00"	0.00	200	-1800	100	SW_A
2	45'- 6.00"	45'- 6.00"	3.00"	0.00	200	1800	100	SW_B
3	38'- 6.00"	38'- 6.00"	3.00"	0.00	200	-1500	200	TCND_C
4	31'- 6.00"	31'- 6.00"	3.00"	0.00	200	-1500	200	MCND_C
5	24'- 6.00"	24'- 6.00"	3.00"	0.00	200	-1500	200	BCND_C
6	38'- 6.00"	38'- 6.00"	3.00"	0.00	200	1500	200	TCND_D
7	31'- 6.00"	31'- 6.00"	3.00"	0.00	200	1500	200	MCND_D
8	24'- 6.00"	24'- 6.00"	3.00"	0.00	200	1500	200	BCND_D
9	37'- 1.00"	37'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	30'- 1.00"	30'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	23'- 1.00"	23'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** Properties ***

Connection Locations	Distance From Base (ft)	Diameter Across Flats (in)	Wall Thickness (in)	D/t Across Flats	w/t Across Flats	Moments of Inertia (in^4)	Area (in^2)
Top of Sect 2	46.00	15.022	0.2188	68.67	15.72	292	10.41
	45.50	15.170	0.2188	69.35	15.90	301	10.52
	41.01	16.499	0.2188	75.42	17.53	388	11.45
	38.50	17.242	0.2188	78.82	18.44	444	11.97
	37.08	17.661	0.2188	80.73	18.95	478	12.27
	36.02	17.976	0.2188	82.17	19.34	504	12.49
	31.50	19.314	0.2188	88.29	20.98	627	13.43
	31.03	19.453	0.2188	88.93	21.15	641	13.53
	30.08	19.733	0.2188	90.21	21.49	669	13.73
	26.04	20.930	0.2188	95.68	22.96	800	14.57
	24.50	21.386	0.2188	97.76	23.52	854	14.89
	23.08	21.805	0.2188	99.68	24.03	905	15.18
	21.05	22.407	0.2188	102.43	24.77	983	15.61
	16.06	23.884	0.2188	109.18	26.58	1193	16.65
	11.07	25.361	0.2188	115.93	28.39	1431	17.68
	10.00	25.678	0.2188	117.38	28.77	1486	17.91
Top of Sect 1	10.00	25.240	0.2500	100.96	24.37	1606	20.09
Base of Sect 2	6.08	26.399	0.2500	105.60	25.62	1840	21.02
	3.59	27.138	0.2500	108.55	26.41	2000	21.61
	1.09	27.877	0.2500	111.51	27.20	2170	22.21
	0.00	28.200	0.2500	112.80	27.55	2247	22.47
	-3.90	29.354	0.2500	117.42	28.78	2537	23.40
	-8.89	30.831	0.2500	123.33	30.37	2943	24.58
	-13.88	32.308	0.2500	129.23	31.95	3390	25.77
	-16.44	33.066	0.2500	132.26	32.76	3636	26.38
Base of Sect 1	-19.00	33.824	0.2500	135.30	33.57	3894	26.99

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 1A NESC HEAVY

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
46.00	0	0	0	0	0	0	0	0
45.50	0	0	0	0	7	0	7	26
45.50	0	-5	5	0	815	0	815	514
41.01	0	-51	51	0	884	0	884	764
38.50	0	-78	78	0	925	0	925	912
38.50	0	-87	87	1	1936	101	1939	1698
37.08	2	-120	120	1	1960	101	1963	1784
37.08	2	-120	120	1	1960	101	1963	1785
36.02	3	-146	146	1	1978	101	1980	1852
31.50	9	-255	255	1	2059	101	2062	2149
31.50	9	-265	265	2	3069	201	3076	2935
31.03	10	-282	282	2	3078	201	3084	2968
30.08	12	-317	318	2	3096	201	3102	3033
30.08	12	-317	318	2	3094	201	3101	3035
26.04	22	-469	470	2	3171	201	3178	3327
24.50	25	-528	529	2	3203	202	3209	3442
24.50	25	-539	540	4	4211	302	4222	4231
23.08	31	-611	612	4	4240	302	4251	4338
23.08	31	-611	612	4	4238	302	4249	4341
21.05	38	-715	716	4	4276	302	4287	4504
16.06	56	-974	976	4	4378	301	4389	4919
11.07	74	-1240	1242	4	4489	301	4499	5359
10.00	78	-1298	1300	4	4515	301	4525	5455
10.00	78	-1298	1300	4	4510	301	4520	5459
6.08	92	-1512	1515	4	4610	301	4620	6232
6.08	92	-1512	1515	4	4603	301	4613	6237
3.59	101	-1651	1654	4	4661	300	4670	6511
1.09	110	-1791	1795	4	4721	300	4730	6791
0.00	114	-1853	1857	4	4749	300	4759	6915

Deflections and Stresses for Pole

Loading Case 1A NESC HEAVY *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
46.00	3.8	0.2	3.8	0.0	0.62	0.00	0.00	0.00	0.00	0.00	65.00	99.90
45.50	3.7	0.2	3.7	0.0	0.62	0.00	0.00	0.00	0.00	0.00	65.00	99.90
45.50	3.7	0.2	3.7	0.0	0.62	0.13	0.05	0.00	0.16	0.28	65.00	99.90
41.01	3.2	0.2	3.2	0.0	0.61	1.08	0.07	0.00	0.16	1.15	65.00	56.48
38.50	2.8	0.2	2.8	0.0	0.61	1.52	0.08	0.00	0.16	1.60	65.00	40.74
38.50	2.8	0.2	2.8	0.0	0.61	1.69	0.14	0.01	0.34	1.85	65.00	35.20
37.08	2.7	0.2	2.7	0.0	0.60	2.23	0.15	0.01	0.33	2.38	65.00	27.29
36.02	2.5	0.1	2.5	0.0	0.59	2.61	0.15	0.01	0.33	2.76	65.00	23.55
31.50	2.0	0.1	2.0	0.0	0.55	3.96	0.16	0.01	0.32	4.13	65.00	15.76
31.50	2.0	0.1	2.0	0.0	0.55	4.12	0.22	0.02	0.48	4.34	65.00	14.98
31.03	1.9	0.1	1.9	0.0	0.55	4.33	0.22	0.02	0.48	4.55	65.00	14.30
30.08	1.8	0.1	1.8	0.0	0.54	4.73	0.22	0.02	0.47	4.95	65.00	13.13
26.04	1.4	0.1	1.4	0.0	0.49	6.22	0.23	0.02	0.46	6.45	65.00	10.08
24.50	1.2	0.1	1.2	0.0	0.46	6.70	0.23	0.02	0.45	6.93	65.00	9.37
24.50	1.2	0.1	1.2	0.0	0.46	6.84	0.28	0.02	0.60	7.12	65.00	9.13
23.08	1.1	0.1	1.1	0.0	0.44	7.45	0.29	0.02	0.59	7.74	65.00	8.40
21.05	0.9	0.1	0.9	0.0	0.41	8.26	0.29	0.02	0.58	8.55	65.00	7.60
16.06	0.5	0.0	0.5	0.0	0.32	9.90	0.30	0.02	0.55	10.20	65.00	6.37
11.07	0.3	0.0	0.3	0.0	0.22	11.16	0.30	0.02	0.53	11.47	65.00	5.67
10.00	0.2	0.0	0.2	0.0	0.20	11.40	0.30	0.02	0.53	11.70	65.00	5.55
10.00	0.2	0.0	0.2	0.0	0.20	10.36	0.27	0.02	0.47	10.64	65.00	6.11
6.08	0.1	0.0	0.1	0.0	0.12	11.03	0.30	0.01	0.46	11.32	65.00	5.74
3.59	0.0	0.0	0.0	0.0	0.07	11.38	0.30	0.01	0.45	11.69	65.00	5.56
1.09	0.0	0.0	0.0	0.0	0.02	11.70	0.31	0.01	0.44	12.01	65.00	5.41
0.00	0.0	0.0	0.0	0.0	0.00	11.82	0.31	0.01	0.44	12.13	65.00	5.36

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 1B NESC HEAVY

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
46.00	0	0	0	0	0	0	0	0
45.50	0	0	0	0	7	-1	7	26
45.50	0	0	0	-54	435	-5108	5126	35
41.01	-276	-25	277	-54	501	-5122	5146	288
38.50	-430	-41	432	-54	541	-5130	5158	437
38.50	-430	-42	432	-123	1070	-11040	11092	513
37.08	-618	-60	621	-123	1093	-11045	11099	599
37.08	-618	-60	621	-123	1091	-11044	11098	607
36.02	-759	-74	762	-123	1106	-11047	11102	696
31.50	-1358	-136	1365	-123	1186	-11062	11125	992
31.50	-1358	-137	1365	-198	1707	-16971	17056	1114
31.03	-1454	-147	1461	-198	1714	-16972	17058	1158
30.08	-1647	-167	1655	-198	1731	-16975	17063	1223
30.08	-1647	-167	1655	-198	1725	-16972	17060	1271
26.04	-2471	-252	2483	-198	1796	-16981	17075	1618
24.50	-2784	-285	2799	-198	1827	-16986	17083	1733
24.50	-2785	-287	2799	-278	2341	-22892	23012	1920
23.08	-3174	-327	3190	-278	2370	-22897	23019	2028
23.08	-3174	-327	3190	-278	2363	-22892	23014	2087
21.05	-3732	-385	3752	-278	2392	-22886	23011	2378
16.06	-5103	-531	5131	-278	2485	-22876	23010	2988
11.07	-6473	-682	6509	-278	2591	-22868	23014	3551
10.00	-6767	-716	6805	-278	2616	-22869	23019	3648
10.00	-6767	-716	6805	-278	2609	-22854	23002	3751
6.08	-7842	-840	7886	-278	2708	-22864	23024	4523
6.08	-7842	-840	7886	-278	2699	-22839	22998	4653
3.59	-8526	-921	8576	-278	2755	-22820	22986	5025
1.09	-9210	-1005	9264	-278	2815	-22805	22978	5376
0.00	-9508	-1042	9565	-278	2844	-22805	22981	5499

Deflections and Stresses for Pole

Loading Case 1B NESC HEAVY *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
46.00	2.1	-19.8	19.9	0.5	3.26	0.00	0.00	0.00	0.00	0.00	65.00	99.90
45.50	2.0	-19.4	19.5	0.4	3.26	0.00	0.00	0.00	0.00	0.00	65.00	99.90
45.50	2.0	-19.4	19.5	0.4	3.26	0.00	0.00	0.69	1.67	2.89	65.00	22.47
41.01	1.7	-16.4	16.5	0.4	3.22	6.00	0.03	0.58	1.48	6.15	65.00	10.56
38.50	1.5	-14.7	14.8	0.3	3.17	8.56	0.04	0.53	1.40	8.67	65.00	7.49
38.50	1.5	-14.7	14.8	0.3	3.17	8.56	0.04	1.20	3.07	9.00	65.00	7.22
37.08	1.4	-13.8	13.9	0.3	3.13	11.71	0.05	1.15	2.97	12.03	65.00	5.40
36.02	1.4	-13.1	13.2	0.3	3.09	13.88	0.06	1.11	2.90	14.15	65.00	4.59
31.50	1.1	-10.3	10.3	0.2	2.89	21.49	0.07	0.96	2.62	21.67	65.00	3.00
31.50	1.1	-10.3	10.3	0.2	2.89	21.49	0.08	1.54	4.10	21.84	65.00	2.98
31.03	1.1	-10.0	10.1	0.2	2.87	22.67	0.09	1.52	4.06	23.00	65.00	2.83
30.08	1.0	-9.4	9.5	0.2	2.81	24.94	0.09	1.48	3.98	25.24	65.00	2.57
30.08	1.0	-9.4	9.5	0.2	2.81	24.94	0.09	1.48	3.98	25.25	65.00	2.57
26.04	0.8	-7.2	7.2	0.1	2.54	33.21	0.11	1.31	3.67	33.45	65.00	1.94
24.50	0.7	-6.4	6.4	0.1	2.43	35.83	0.12	1.25	3.56	36.06	65.00	1.80
24.50	0.7	-6.4	6.4	0.1	2.43	35.84	0.13	1.77	4.88	36.18	65.00	1.80
23.08	0.6	-5.7	5.7	0.1	2.31	39.27	0.13	1.70	4.75	39.58	65.00	1.64
23.08	0.6	-5.7	5.7	0.1	2.31	39.27	0.14	1.70	4.75	39.58	65.00	1.64
21.05	0.5	-4.7	4.8	0.1	2.14	43.70	0.15	1.61	4.58	44.00	65.00	1.48
16.06	0.3	-2.8	2.8	0.0	1.65	52.50	0.18	1.41	4.19	52.78	65.00	1.23
11.07	0.1	-1.3	1.3	0.0	1.13	58.99	0.20	1.25	3.87	59.26	65.00	1.10
10.00	0.1	-1.1	1.1	0.0	1.01	60.14	0.20	1.22	3.81	60.41	65.00	1.08
10.00	0.1	-1.1	1.1	0.0	1.01	54.69	0.19	1.11	3.41	54.94	65.00	1.18
6.08	0.0	-0.4	0.4	0.0	0.62	57.88	0.22	1.01	3.21	58.14	65.00	1.12
3.59	0.0	-0.1	0.1	0.0	0.36	59.52	0.23	0.96	3.09	59.79	65.00	1.09
1.09	0.0	0.0	0.0	0.0	0.11	60.90	0.24	0.91	2.99	61.17	65.00	1.06
0.00	0.0	0.0	0.0	0.0	0.00	61.43	0.24	0.89	2.94	61.71	65.00	1.05

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 1C NESC HEAVY

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
46.00	0	0	0	0	0	0	0	0
45.50	0	0	0	0	7	1	7	26
45.50	0	1	1	54	434	5102	5121	-67
41.01	275	-24	276	54	500	5116	5141	186
38.50	430	-40	431	54	541	5124	5153	334
38.50	430	-41	431	124	1070	11134	11186	401
37.08	619	-59	622	124	1093	11139	11193	488
37.08	619	-59	622	124	1091	11139	11192	495
36.02	761	-73	764	124	1106	11142	11196	585
31.50	1366	-135	1372	124	1186	11157	11220	881
31.50	1366	-136	1373	200	1708	17166	17251	995
31.03	1463	-146	1470	200	1714	17167	17252	1039
30.08	1657	-165	1666	200	1732	17170	17257	1104
30.08	1657	-165	1666	200	1725	17168	17254	1154
26.04	2491	-251	2504	200	1796	17177	17270	1502
24.50	2808	-284	2823	200	1827	17182	17279	1617
24.50	2808	-286	2823	282	2341	23189	23307	1798
23.08	3203	-326	3219	282	2370	23193	23314	1905
23.08	3203	-326	3219	282	2363	23189	23309	1965
21.05	3769	-384	3788	282	2393	23184	23307	2259
16.06	5157	-529	5184	282	2485	23174	23307	2875
11.07	6545	-681	6581	282	2590	23166	23311	3441
10.00	6843	-714	6880	282	2616	23168	23315	3537
10.00	6843	-714	6880	282	2609	23153	23299	3643
6.08	7931	-839	7976	282	2708	23164	23321	4415
6.08	7931	-838	7976	282	2699	23139	23296	4549
3.59	8625	-920	8674	282	2755	23120	23284	4923
1.09	9317	-1003	9371	282	2815	23105	23276	5275
0.00	9620	-1040	9676	282	2843	23105	23279	5399

Deflections and Stresses for Pole

Loading Case 1C NESC HEAVY *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
46.00	2.0	20.0	20.1	0.5	3.29	0.00	0.00	0.00	0.00	0.00	65.00	99.90
45.50	2.0	19.6	19.7	0.5	3.29	0.00	0.00	0.00	0.00	0.00	65.00	99.90
45.50	2.0	19.6	19.7	0.5	3.29	0.02	0.01	0.69	1.67	2.89	65.00	22.49
41.01	1.7	16.6	16.7	0.4	3.25	5.98	0.02	0.58	1.48	6.13	65.00	10.60
38.50	1.5	14.9	15.0	0.3	3.20	8.55	0.03	0.53	1.40	8.65	65.00	7.51
38.50	1.5	14.9	15.0	0.3	3.20	8.55	0.03	1.22	3.10	8.98	65.00	7.24
37.08	1.4	14.0	14.0	0.3	3.16	11.73	0.04	1.16	2.99	12.04	65.00	5.40
36.02	1.4	13.3	13.3	0.3	3.12	13.92	0.05	1.12	2.92	14.18	65.00	4.58
31.50	1.1	10.4	10.5	0.2	2.92	21.60	0.07	0.97	2.65	21.77	65.00	2.99
31.50	1.1	10.4	10.5	0.2	2.92	21.60	0.07	1.56	4.15	21.95	65.00	2.96
31.03	1.0	10.1	10.2	0.2	2.90	22.80	0.08	1.54	4.10	23.13	65.00	2.81
30.08	1.0	9.5	9.6	0.2	2.84	25.10	0.08	1.49	4.02	25.39	65.00	2.56
30.08	1.0	9.5	9.6	0.2	2.84	25.10	0.08	1.49	4.02	25.40	65.00	2.56
26.04	0.8	7.3	7.3	0.1	2.57	33.47	0.10	1.33	3.71	33.70	65.00	1.93
24.50	0.7	6.5	6.5	0.1	2.45	36.13	0.11	1.27	3.60	36.35	65.00	1.79
24.50	0.7	6.5	6.5	0.1	2.45	36.13	0.12	1.79	4.94	36.47	65.00	1.78
23.08	0.6	5.7	5.8	0.1	2.34	39.61	0.13	1.72	4.81	39.92	65.00	1.63
21.05	0.5	4.8	4.8	0.1	2.16	44.10	0.14	1.63	4.64	44.40	65.00	1.46
16.06	0.3	2.8	2.8	0.0	1.67	53.04	0.17	1.43	4.25	53.31	65.00	1.22
11.07	0.1	1.3	1.3	0.0	1.14	59.63	0.19	1.27	3.92	59.89	65.00	1.09
10.00	0.1	1.1	1.1	0.0	1.02	60.79	0.20	1.24	3.86	61.06	65.00	1.06
10.00	0.1	1.1	1.1	0.0	1.02	55.28	0.18	1.12	3.46	55.52	65.00	1.17
6.08	0.0	0.4	0.4	0.0	0.62	58.52	0.21	1.03	3.26	58.78	65.00	1.11
6.08	0.0	0.4	0.4	0.0	0.62	58.52	0.22	1.03	3.25	58.78	65.00	1.11
3.59	0.0	0.1	0.1	0.0	0.37	60.18	0.23	0.97	3.14	60.45	65.00	1.08
1.09	0.0	0.0	0.0	0.0	0.11	61.59	0.24	0.92	3.02	61.86	65.00	1.05
0.00	0.0	0.0	0.0	0.0	0.00	62.13	0.24	0.90	2.98	62.40	65.00	1.04

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 2A EXTREME WIND

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
46.00	0	0	0	0	0	0	0	0
45.50	0	0	0	0	16	0	16	18
45.50	0	-2	2	1	418	100	430	213
41.01	5	-29	29	1	571	100	579	379
38.50	8	-47	48	1	661	100	669	479
38.50	8	-52	53	2	1066	201	1084	874
37.08	12	-70	71	2	1119	201	1137	932
37.08	12	-70	71	2	1119	201	1136	932
36.02	14	-85	86	2	1159	201	1176	977
31.50	25	-153	155	2	1339	201	1354	1175
31.50	25	-158	160	3	1743	301	1769	1571
31.03	27	-168	170	3	1763	301	1788	1592
30.08	30	-188	190	3	1802	301	1827	1636
26.04	45	-280	283	3	1977	301	2000	1830
24.50	51	-317	321	3	2047	301	2069	1907
24.50	51	-322	326	5	2450	402	2483	2304
23.08	57	-364	369	5	2516	402	2547	2376
23.08	57	-364	369	5	2515	402	2547	2376
21.05	67	-427	432	5	2609	401	2640	2484
16.06	91	-591	598	5	2853	401	2881	2759
11.07	115	-769	778	5	3114	401	3139	3051
10.00	120	-810	819	5	3172	401	3197	3115
10.00	120	-810	819	5	3170	401	3195	3117
6.08	139	-964	974	5	3391	401	3415	3632
6.08	139	-964	974	5	3389	401	3412	3634
3.59	151	-1068	1078	5	3529	400	3552	3816
1.09	163	-1175	1187	5	3674	400	3696	4003
0.00	169	-1224	1235	5	3739	400	3760	4085

Deflections and Stresses for Pole

Loading Case 2A EXTREME WIND *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
46.00	2.4	0.4	2.4	0.0	0.39	0.00	0.00	0.00	0.00	0.00	65.00	99.90
45.50	2.3	0.3	2.3	0.0	0.39	0.00	0.00	0.00	0.00	0.01	65.00	99.90
45.50	2.3	0.3	2.3	0.0	0.39	0.05	0.02	0.01	0.10	0.17	65.00	99.90
41.01	2.0	0.3	2.0	0.0	0.38	0.64	0.03	0.01	0.11	0.67	65.00	96.34
38.50	1.8	0.3	1.8	0.0	0.38	0.96	0.04	0.01	0.12	1.00	65.00	64.85
38.50	1.8	0.3	1.8	0.0	0.38	1.05	0.07	0.02	0.20	1.12	65.00	57.79
37.08	1.7	0.2	1.7	0.0	0.37	1.36	0.08	0.02	0.21	1.44	65.00	45.22
36.02	1.6	0.2	1.6	0.0	0.37	1.58	0.08	0.02	0.21	1.66	65.00	39.09
31.50	1.2	0.2	1.3	0.0	0.34	2.46	0.09	0.02	0.22	2.55	65.00	25.53
31.50	1.2	0.2	1.3	0.0	0.34	2.54	0.12	0.03	0.29	2.65	65.00	24.51
31.03	1.2	0.2	1.2	0.0	0.34	2.66	0.12	0.03	0.29	2.77	65.00	23.44
30.08	1.1	0.2	1.2	0.0	0.34	2.89	0.12	0.03	0.29	3.01	65.00	21.59
26.04	0.9	0.1	0.9	0.0	0.30	3.82	0.13	0.02	0.30	3.94	65.00	16.49
24.50	0.8	0.1	0.8	0.0	0.29	4.14	0.13	0.02	0.30	4.27	65.00	15.24
24.50	0.8	0.1	0.8	0.0	0.29	4.21	0.15	0.03	0.37	4.36	65.00	14.91
23.08	0.7	0.1	0.7	0.0	0.28	4.57	0.16	0.03	0.37	4.73	65.00	13.74
21.05	0.6	0.1	0.6	0.0	0.26	5.07	0.16	0.03	0.37	5.23	65.00	12.43
16.06	0.3	0.0	0.3	0.0	0.20	6.16	0.17	0.02	0.37	6.32	65.00	10.28
11.07	0.2	0.0	0.2	0.0	0.14	7.09	0.17	0.02	0.38	7.26	65.00	8.95
10.00	0.1	0.0	0.1	0.0	0.13	7.28	0.17	0.02	0.38	7.45	65.00	8.72
10.00	0.1	0.0	0.1	0.0	0.13	6.62	0.16	0.02	0.34	6.77	65.00	9.60
6.08	0.0	0.0	0.1	0.0	0.08	7.18	0.17	0.02	0.34	7.36	65.00	8.84
3.59	0.0	0.0	0.0	0.0	0.05	7.52	0.18	0.02	0.35	7.69	65.00	8.45
1.09	0.0	0.0	0.0	0.0	0.01	7.83	0.18	0.02	0.35	8.01	65.00	8.11
0.00	0.0	0.0	0.0	0.0	0.00	7.97	0.18	0.02	0.35	8.15	65.00	7.98

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 2B EXTREME WIND

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
46.00	0	0	0	0	0	0	0	0
45.50	0	0	0	0	16	0	16	18
45.50	0	0	0	-23	222	-2202	2213	59
41.01	-119	-17	120	-23	374	-2206	2237	226
38.50	-185	-29	187	-23	464	-2208	2256	325
38.50	-185	-31	188	-56	671	-5012	5056	455
37.08	-270	-42	274	-56	724	-5013	5065	512
37.08	-270	-42	274	-56	724	-5013	5065	514
36.02	-334	-52	338	-56	763	-5013	5071	563
31.50	-606	-98	614	-56	944	-5018	5106	761
31.50	-606	-100	615	-91	1149	-7821	7905	899
31.03	-651	-106	659	-91	1168	-7821	7908	923
30.08	-739	-120	749	-91	1208	-7822	7914	967
30.08	-739	-120	749	-91	1206	-7821	7913	977
26.04	-1119	-183	1134	-91	1380	-7823	7944	1182
24.50	-1264	-209	1281	-91	1450	-7824	7958	1259
24.50	-1264	-211	1281	-130	1654	-10626	10754	1412
23.08	-1444	-239	1464	-130	1719	-10628	10766	1484
23.08	-1444	-239	1464	-130	1717	-10626	10764	1496
21.05	-1704	-282	1727	-130	1810	-10624	10777	1631
16.06	-2340	-398	2373	-130	2052	-10621	10817	1947
11.07	-2976	-529	3023	-130	2312	-10619	10867	2265
10.00	-3112	-559	3162	-130	2370	-10619	10880	2329
10.00	-3112	-559	3162	-130	2368	-10615	10876	2352
6.08	-3611	-675	3674	-130	2588	-10618	10929	2867
6.08	-3611	-675	3674	-130	2586	-10611	10921	2895
3.59	-3929	-755	4001	-130	2726	-10605	10950	3098
1.09	-4247	-838	4329	-130	2871	-10601	10983	3299
0.00	-4386	-876	4472	-130	2936	-10601	11000	3382

Deflections and Stresses for Pole

Loading Case 2B EXTREME WIND *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
46.00	1.6	-9.1	9.2	0.1	1.50	0.00	0.00	0.00	0.00	0.00	65.00	99.90
45.50	1.6	-8.9	9.0	0.1	1.50	0.00	0.00	0.00	0.00	0.01	65.00	99.90
45.50	1.6	-8.9	9.0	0.1	1.50	0.01	0.01	0.30	0.72	1.25	65.00	52.11
41.01	1.3	-7.5	7.6	0.1	1.48	2.62	0.02	0.25	0.64	2.68	65.00	24.24
38.50	1.2	-6.8	6.9	0.1	1.46	3.75	0.03	0.23	0.61	3.80	65.00	17.11
38.50	1.2	-6.8	6.9	0.1	1.46	3.75	0.04	0.55	1.40	3.96	65.00	16.41
37.08	1.1	-6.3	6.4	0.1	1.44	5.21	0.04	0.52	1.35	5.36	65.00	12.13
36.02	1.1	-6.0	6.1	0.1	1.43	6.21	0.05	0.50	1.32	6.34	65.00	10.25
31.50	0.9	-4.7	4.8	0.0	1.34	9.75	0.06	0.44	1.20	9.84	65.00	6.60
31.50	0.9	-4.7	4.8	0.0	1.34	9.76	0.07	0.71	1.89	9.93	65.00	6.54
31.03	0.8	-4.6	4.7	0.0	1.33	10.31	0.07	0.70	1.88	10.48	65.00	6.20
30.08	0.8	-4.3	4.4	0.0	1.30	11.38	0.07	0.68	1.84	11.53	65.00	5.64
26.04	0.6	-3.3	3.4	0.0	1.18	15.28	0.08	0.61	1.70	15.41	65.00	4.22
24.50	0.5	-2.9	3.0	0.0	1.13	16.53	0.08	0.58	1.66	16.65	65.00	3.90
24.50	0.5	-2.9	3.0	0.0	1.13	16.53	0.09	0.82	2.28	16.71	65.00	3.89
23.08	0.5	-2.6	2.7	0.0	1.07	18.16	0.10	0.79	2.22	18.33	65.00	3.55
21.05	0.4	-2.2	2.2	0.0	0.99	20.27	0.10	0.75	2.14	20.43	65.00	3.18
16.06	0.2	-1.3	1.3	0.0	0.77	24.49	0.12	0.66	1.97	24.64	65.00	2.64
11.07	0.1	-0.6	0.6	0.0	0.53	27.63	0.13	0.58	1.82	27.78	65.00	2.34
10.00	0.1	-0.5	0.5	0.0	0.47	28.19	0.13	0.57	1.80	28.34	65.00	2.29
10.00	0.1	-0.5	0.5	0.0	0.47	25.64	0.12	0.52	1.61	25.77	65.00	2.52
6.08	0.0	-0.2	0.2	0.0	0.29	27.21	0.14	0.47	1.52	27.36	65.00	2.38
3.59	0.0	-0.1	0.1	0.0	0.17	28.03	0.14	0.45	1.47	28.18	65.00	2.31
1.09	0.0	0.0	0.0	0.0	0.05	28.73	0.15	0.42	1.42	28.89	65.00	2.25
0.00	0.0	0.0	0.0	0.0	0.00	29.00	0.15	0.41	1.40	29.16	65.00	2.23

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 2C EXTREME WIND

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
46.00	0	0	0	0	0	0	0	0
45.50	0	0	0	0	16	0	16	18
45.50	0	0	0	24	222	2302	2312	55
41.01	124	-17	125	24	374	2306	2336	222
38.50	194	-29	196	24	465	2308	2354	321
38.50	194	-31	196	58	672	5212	5255	444
37.08	282	-42	285	58	725	5213	5263	502
37.08	282	-42	285	58	725	5213	5263	504
36.02	349	-52	353	58	764	5214	5269	553
31.50	632	-98	639	58	944	5218	5303	751
31.50	632	-100	640	95	1150	8121	8202	885
31.03	677	-106	686	95	1169	8122	8205	909
30.08	770	-120	779	95	1209	8122	8212	953
30.08	770	-120	779	95	1207	8121	8211	964
26.04	1164	-183	1178	95	1381	8124	8240	1170
24.50	1314	-209	1331	95	1451	8125	8254	1247
24.50	1314	-211	1331	135	1655	11027	11151	1396
23.08	1501	-239	1520	135	1720	11029	11162	1468
23.08	1501	-239	1520	135	1718	11027	11160	1482
21.05	1771	-282	1793	135	1811	11025	11173	1618
16.06	2431	-398	2463	135	2053	11022	11211	1938
11.07	3091	-529	3136	135	2312	11019	11259	2257
10.00	3233	-559	3280	135	2370	11020	11272	2322
10.00	3233	-559	3280	135	2368	11015	11267	2346
6.08	3750	-675	3811	135	2589	11019	11319	2861
6.08	3750	-675	3811	135	2586	11011	11311	2892
3.59	4080	-755	4149	135	2726	11006	11338	3096
1.09	4410	-838	4489	135	2871	11001	11370	3299
0.00	4554	-876	4637	135	2936	11001	11386	3381

Deflections and Stresses for Pole

Loading Case 2C EXTREME WIND *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
46.00	1.6	9.4	9.6	0.1	1.56	0.00	0.00	0.00	0.00	0.00	65.00	99.90
45.50	1.6	9.3	9.4	0.1	1.56	0.00	0.00	0.00	0.00	0.01	65.00	99.90
45.50	1.6	9.3	9.4	0.1	1.56	0.01	0.01	0.31	0.75	1.30	65.00	49.85
41.01	1.3	7.8	7.9	0.1	1.54	2.73	0.02	0.26	0.67	2.80	65.00	23.22
38.50	1.2	7.0	7.1	0.1	1.52	3.91	0.03	0.24	0.64	3.96	65.00	16.40
38.50	1.2	7.0	7.1	0.1	1.52	3.92	0.04	0.57	1.45	4.13	65.00	15.74
37.08	1.1	6.6	6.7	0.1	1.50	5.43	0.04	0.54	1.40	5.58	65.00	11.64
36.02	1.1	6.3	6.3	0.1	1.48	6.47	0.04	0.52	1.37	6.60	65.00	9.85
31.50	0.9	4.9	5.0	0.0	1.39	10.14	0.06	0.45	1.25	10.23	65.00	6.35
31.50	0.9	4.9	5.0	0.0	1.39	10.14	0.07	0.74	1.97	10.33	65.00	6.30
31.03	0.8	4.8	4.8	0.0	1.38	10.72	0.07	0.73	1.95	10.89	65.00	5.97
30.08	0.8	4.5	4.6	0.0	1.35	11.83	0.07	0.71	1.91	11.98	65.00	5.42
30.08	0.8	4.5	4.6	0.0	1.35	11.83	0.07	0.71	1.91	11.99	65.00	5.42
26.04	0.6	3.4	3.5	0.0	1.22	15.87	0.08	0.63	1.77	16.00	65.00	4.06
24.50	0.5	3.0	3.1	0.0	1.17	17.16	0.08	0.60	1.72	17.28	65.00	3.76
24.50	0.5	3.0	3.1	0.0	1.17	17.16	0.09	0.85	2.36	17.35	65.00	3.75
23.08	0.5	2.7	2.8	0.0	1.11	18.85	0.10	0.82	2.30	19.02	65.00	3.42
21.05	0.4	2.3	2.3	0.0	1.03	21.03	0.10	0.78	2.22	21.20	65.00	3.07
16.06	0.2	1.3	1.3	0.0	0.80	25.40	0.12	0.68	2.04	25.55	65.00	2.54
11.07	0.1	0.6	0.6	0.0	0.55	28.65	0.13	0.61	1.89	28.80	65.00	2.26
10.00	0.1	0.5	0.5	0.0	0.49	29.23	0.13	0.59	1.86	29.38	65.00	2.21
10.00	0.1	0.5	0.5	0.0	0.49	26.58	0.12	0.54	1.67	26.72	65.00	2.43
6.08	0.0	0.2	0.2	0.0	0.30	28.21	0.14	0.49	1.58	28.36	65.00	2.29
3.59	0.0	0.1	0.1	0.0	0.18	29.05	0.14	0.46	1.52	29.21	65.00	2.23
1.09	0.0	0.0	0.0	0.0	0.05	29.78	0.15	0.44	1.47	29.93	65.00	2.17
0.00	0.0	0.0	0.0	0.0	0.00	30.06	0.15	0.43	1.45	30.22	65.00	2.15

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 3A CONCURRENT

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
46.00	0	0	0	0	0	0	0	0
45.50	0	0	0	0	3	0	3	18
45.50	0	-7	7	1	612	101	620	710
41.01	5	-41	41	1	641	101	648	876
38.50	8	-61	61	1	658	101	665	975
38.50	8	-72	73	2	1470	202	1484	1965
37.08	12	-97	98	2	1480	202	1494	2023
36.02	14	-116	117	2	1487	202	1500	2068
31.50	25	-198	199	2	1521	202	1534	2266
31.50	25	-210	212	4	2332	303	2351	3257
31.03	27	-223	225	4	2335	303	2355	3279
30.08	31	-250	252	4	2343	303	2362	3322
30.08	31	-250	252	4	2341	303	2361	3323
26.04	45	-364	367	4	2373	303	2392	3518
24.50	51	-408	412	4	2386	303	2405	3594
24.50	51	-422	425	5	3195	403	3220	4586
23.08	58	-476	480	5	3207	403	3232	4658
23.08	58	-476	480	5	3205	403	3231	4660
21.05	68	-555	559	5	3219	403	3244	4768
16.06	92	-749	755	5	3259	402	3283	5045
11.07	116	-946	953	5	3303	402	3327	5337
10.00	121	-988	995	5	3314	402	3338	5401
10.00	121	-988	995	5	3310	401	3334	5404
6.08	140	-1145	1153	5	3352	401	3376	5919
6.08	140	-1145	1153	5	3347	401	3371	5921
3.59	152	-1245	1254	5	3369	400	3393	6104
1.09	164	-1347	1356	5	3393	400	3417	6290
0.00	169	-1391	1401	5	3405	400	3429	6373

Deflections and Stresses for Pole

Loading Case 3A CONCURRENT *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
46.00	2.9	0.4	2.9	0.0	0.48	0.00	0.00	0.00	0.00	0.00	65.00	99.90
45.50	2.9	0.3	2.9	0.0	0.48	0.00	0.00	0.00	0.00	0.00	65.00	99.90
45.50	2.9	0.3	2.9	0.0	0.48	0.18	0.07	0.01	0.13	0.28	65.00	99.90
41.01	2.4	0.3	2.4	0.0	0.48	0.90	0.08	0.01	0.13	0.98	65.00	66.34
38.50	2.2	0.3	2.2	0.0	0.47	1.22	0.08	0.01	0.12	1.30	65.00	49.90
38.50	2.2	0.3	2.2	0.0	0.47	1.44	0.16	0.02	0.27	1.61	65.00	40.41
37.08	2.0	0.2	2.0	0.0	0.46	1.86	0.16	0.02	0.27	2.02	65.00	32.17
36.02	1.9	0.2	1.9	0.0	0.46	2.14	0.17	0.02	0.26	2.31	65.00	28.19
31.50	1.5	0.2	1.5	0.0	0.43	3.15	0.17	0.02	0.25	3.32	65.00	19.58
31.50	1.5	0.2	1.5	0.0	0.43	3.34	0.24	0.03	0.38	3.59	65.00	18.12
31.03	1.5	0.2	1.5	0.0	0.42	3.50	0.24	0.03	0.38	3.75	65.00	17.36
30.08	1.4	0.2	1.4	0.0	0.41	3.81	0.24	0.03	0.37	4.05	65.00	16.05
26.04	1.1	0.1	1.1	0.0	0.37	4.93	0.24	0.02	0.35	5.17	65.00	12.58
24.50	0.9	0.1	0.9	0.0	0.36	5.28	0.24	0.02	0.35	5.53	65.00	11.76
24.50	0.9	0.1	0.9	0.0	0.36	5.45	0.31	0.03	0.47	5.76	65.00	11.28
23.08	0.8	0.1	0.8	0.0	0.34	5.92	0.31	0.03	0.46	6.23	65.00	10.44
21.05	0.7	0.1	0.7	0.0	0.31	6.53	0.31	0.03	0.45	6.83	65.00	9.51
16.06	0.4	0.0	0.4	0.0	0.24	7.74	0.30	0.02	0.42	8.04	65.00	8.08
11.07	0.2	0.0	0.2	0.0	0.17	8.65	0.30	0.02	0.40	8.96	65.00	7.26
10.00	0.2	0.0	0.2	0.0	0.15	8.82	0.30	0.02	0.40	9.12	65.00	7.13
10.00	0.2	0.0	0.2	0.0	0.15	8.02	0.27	0.02	0.35	8.29	65.00	7.84
6.08	0.1	0.0	0.1	0.0	0.09	8.48	0.28	0.02	0.34	8.76	65.00	7.42
3.59	0.0	0.0	0.0	0.0	0.05	8.72	0.28	0.02	0.33	9.01	65.00	7.22
1.09	0.0	0.0	0.0	0.0	0.02	8.93	0.28	0.02	0.33	9.22	65.00	7.05
0.00	0.0	0.0	0.0	0.0	0.00	9.01	0.28	0.02	0.32	9.30	65.00	6.99

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 3B CONCURRENT

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
46.00	0	0	0	0	0	0	0	0
45.50	0	0	0	0	3	-1	3	18
45.50	0	-3	3	-40	320	-3813	3826	253
41.01	-206	-21	207	-40	348	-3820	3836	422
38.50	-321	-31	322	-40	365	-3824	3841	521
38.50	-321	-35	323	-93	783	-8339	8376	833
37.08	-462	-48	465	-93	793	-8341	8379	891
37.08	-462	-48	465	-93	792	-8341	8379	895
36.02	-569	-58	572	-93	797	-8342	8380	952
31.50	-1022	-102	1027	-93	830	-8349	8390	1150
31.50	-1022	-107	1027	-150	1245	-12862	12922	1489
31.03	-1094	-114	1100	-150	1247	-12862	12923	1517
30.08	-1240	-128	1247	-150	1254	-12864	12925	1560
30.08	-1240	-128	1247	-150	1250	-12861	12922	1588
26.04	-1865	-189	1874	-150	1279	-12863	12927	1814
24.50	-2102	-213	2113	-150	1292	-12866	12931	1890
24.50	-2102	-218	2113	-212	1701	-17376	17459	2266
23.08	-2398	-247	2410	-212	1714	-17378	17462	2338
23.08	-2398	-246	2410	-212	1709	-17374	17458	2372
21.05	-2822	-288	2836	-212	1719	-17367	17452	2554
16.06	-3862	-392	3882	-212	1754	-17355	17444	2942
11.07	-4901	-498	4926	-212	1797	-17347	17440	3305
10.00	-5124	-521	5150	-212	1807	-17348	17442	3370
10.00	-5124	-521	5150	-212	1803	-17337	17430	3429
6.08	-5939	-607	5970	-212	1845	-17342	17440	3944
6.08	-5939	-607	5970	-212	1839	-17326	17423	4018
3.59	-6458	-662	6492	-212	1861	-17313	17413	4257
1.09	-6977	-718	7014	-212	1885	-17303	17406	4484
0.00	-7203	-743	7241	-212	1897	-17303	17407	4566

Deflections and Stresses for Pole

Loading Case 3B CONCURRENT *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
46.00	1.5	-15.0	15.0	0.3	2.46	0.00	0.00	0.00	0.00	0.00	65.00	99.90
45.50	1.5	-14.7	14.8	0.3	2.46	0.00	0.00	0.00	0.00	0.00	65.00	99.90
45.50	1.5	-14.7	14.8	0.3	2.46	0.06	0.02	0.51	1.25	2.16	65.00	30.07
41.01	1.3	-12.4	12.5	0.2	2.43	4.48	0.04	0.43	1.11	4.62	65.00	14.07
38.50	1.1	-11.1	11.2	0.2	2.39	6.39	0.04	0.40	1.04	6.49	65.00	10.01
38.50	1.1	-11.1	11.2	0.2	2.39	6.41	0.07	0.91	2.32	6.78	65.00	9.59
37.08	1.1	-10.4	10.5	0.2	2.37	8.79	0.07	0.87	2.24	9.06	65.00	7.17
36.02	1.0	-9.9	10.0	0.2	2.34	10.42	0.08	0.84	2.19	10.66	65.00	6.10
31.50	0.8	-7.8	7.8	0.1	2.19	16.16	0.09	0.72	1.98	16.33	65.00	3.98
31.50	0.8	-7.8	7.8	0.1	2.19	16.18	0.11	1.17	3.11	16.49	65.00	3.94
31.03	0.8	-7.6	7.6	0.1	2.17	17.08	0.11	1.15	3.08	17.38	65.00	3.74
30.08	0.7	-7.1	7.2	0.1	2.13	18.80	0.11	1.12	3.02	19.07	65.00	3.41
30.08	0.7	-7.1	7.2	0.1	2.13	18.80	0.12	1.12	3.02	19.07	65.00	3.41
26.04	0.6	-5.4	5.5	0.1	1.92	25.06	0.12	0.99	2.78	25.28	65.00	2.57
24.50	0.5	-4.8	4.9	0.1	1.84	27.04	0.13	0.95	2.70	27.25	65.00	2.38
24.50	0.5	-4.8	4.9	0.1	1.84	27.06	0.15	1.34	3.71	27.38	65.00	2.37
23.08	0.4	-4.3	4.3	0.0	1.75	29.66	0.15	1.29	3.61	29.96	65.00	2.17
23.08	0.4	-4.3	4.3	0.0	1.75	29.66	0.16	1.29	3.61	29.96	65.00	2.17
21.05	0.4	-3.6	3.6	0.0	1.62	33.03	0.16	1.22	3.47	33.30	65.00	1.95
16.06	0.2	-2.1	2.1	0.0	1.25	39.70	0.18	1.08	3.18	39.96	65.00	1.63
11.07	0.1	-1.0	1.0	0.0	0.85	44.62	0.19	0.95	2.94	44.86	65.00	1.45
10.00	0.1	-0.8	0.8	0.0	0.77	45.49	0.19	0.93	2.89	45.73	65.00	1.42
10.00	0.1	-0.8	0.8	0.0	0.77	41.37	0.17	0.84	2.59	41.59	65.00	1.56
6.08	0.0	-0.3	0.3	0.0	0.47	43.78	0.19	0.77	2.44	44.00	65.00	1.48
3.59	0.0	-0.1	0.1	0.0	0.28	45.02	0.20	0.73	2.35	45.24	65.00	1.44
1.09	0.0	0.0	0.0	0.0	0.08	46.06	0.20	0.69	2.27	46.29	65.00	1.40
0.00	0.0	0.0	0.0	0.0	0.00	46.46	0.20	0.67	2.23	46.69	65.00	1.39

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 3C CONCURRENT

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
46.00	0	0	0	0	0	0	0	0
45.50	0	0	0	0	3	1	3	18
45.50	0	-1	1	41	320	3909	3922	145
41.01	211	-19	212	41	348	3916	3931	314
38.50	329	-30	330	41	364	3920	3937	413
38.50	329	-34	331	95	784	8535	8571	717
37.08	474	-47	476	95	793	8538	8575	774
37.08	474	-47	476	95	792	8537	8574	779
36.02	583	-57	586	95	797	8538	8575	837
31.50	1046	-101	1051	95	831	8546	8586	1034
31.50	1046	-105	1051	153	1245	13159	13218	1366
31.03	1120	-112	1126	153	1248	13159	13219	1394
30.08	1270	-126	1276	153	1255	13161	13221	1438
30.08	1270	-126	1276	153	1251	13158	13218	1466
26.04	1909	-188	1918	153	1279	13161	13223	1694
24.50	2152	-211	2162	153	1292	13164	13227	1771
24.50	2152	-216	2163	217	1702	17774	17855	2141
23.08	2454	-245	2466	217	1714	17776	17859	2213
23.08	2454	-245	2466	217	1710	17772	17854	2248
21.05	2888	-287	2902	217	1720	17765	17848	2434
16.06	3952	-391	3971	217	1754	17754	17841	2827
11.07	5015	-497	5040	217	1796	17747	17837	3194
10.00	5243	-520	5269	217	1807	17748	17839	3258
10.00	5243	-520	5269	217	1803	17737	17828	3320
6.08	6077	-605	6107	217	1844	17742	17838	3835
6.08	6077	-605	6107	217	1839	17726	17821	3913
3.59	6608	-660	6641	217	1861	17713	17811	4154
1.09	7139	-716	7174	217	1885	17703	17803	4383
0.00	7370	-741	7407	217	1897	17703	17805	4466

Deflections and Stresses for Pole

Loading Case 3C CONCURRENT *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
46.00	1.5	15.3	15.4	0.3	2.52	0.00	0.00	0.00	0.00	0.00	65.00	99.90
45.50	1.5	15.0	15.1	0.3	2.52	0.00	0.00	0.00	0.00	0.00	65.00	99.90
45.50	1.5	15.0	15.1	0.3	2.52	0.03	0.01	0.53	1.28	2.21	65.00	29.35
41.01	1.2	12.7	12.8	0.2	2.49	4.59	0.03	0.44	1.14	4.72	65.00	13.78
38.50	1.1	11.4	11.5	0.2	2.45	6.54	0.03	0.41	1.07	6.63	65.00	9.80
38.50	1.1	11.4	11.5	0.2	2.45	6.56	0.06	0.93	2.37	6.92	65.00	9.39
37.08	1.1	10.7	10.7	0.2	2.42	8.99	0.06	0.89	2.30	9.26	65.00	7.02
36.02	1.0	10.2	10.2	0.2	2.39	10.67	0.07	0.86	2.24	10.90	65.00	5.96
31.50	0.8	8.0	8.0	0.1	2.24	16.54	0.08	0.74	2.03	16.70	65.00	3.89
31.50	0.8	8.0	8.0	0.1	2.24	16.55	0.10	1.20	3.18	16.86	65.00	3.85
31.03	0.8	7.7	7.8	0.1	2.22	17.47	0.10	1.18	3.15	17.76	65.00	3.66
30.08	0.7	7.3	7.4	0.1	2.18	19.23	0.10	1.15	3.09	19.50	65.00	3.33
30.08	0.7	7.3	7.4	0.1	2.18	19.23	0.11	1.15	3.09	19.50	65.00	3.33
26.04	0.6	5.6	5.6	0.1	1.97	25.63	0.12	1.02	2.84	25.85	65.00	2.51
24.50	0.5	4.9	5.0	0.1	1.88	27.66	0.12	0.97	2.76	27.86	65.00	2.33
24.50	0.5	4.9	5.0	0.1	1.88	27.68	0.14	1.37	3.79	27.99	65.00	2.32
23.08	0.4	4.4	4.4	0.1	1.79	30.34	0.15	1.32	3.69	30.63	65.00	2.12
21.05	0.4	3.7	3.7	0.0	1.65	33.77	0.16	1.25	3.55	34.05	65.00	1.91
16.06	0.2	2.1	2.1	0.0	1.28	40.60	0.17	1.10	3.26	40.85	65.00	1.59
11.07	0.1	1.0	1.0	0.0	0.87	45.63	0.18	0.97	3.00	45.86	65.00	1.42
10.00	0.1	0.8	0.8	0.0	0.78	46.52	0.18	0.95	2.96	46.75	65.00	1.39
10.00	0.1	0.8	0.8	0.0	0.78	42.30	0.17	0.86	2.65	42.51	65.00	1.53
6.08	0.0	0.3	0.3	0.0	0.48	44.76	0.18	0.79	2.50	44.98	65.00	1.44
6.08	0.0	0.3	0.3	0.0	0.48	44.76	0.19	0.79	2.49	44.99	65.00	1.44
3.59	0.0	0.1	0.1	0.0	0.28	46.03	0.19	0.75	2.40	46.25	65.00	1.41
1.09	0.0	0.0	0.0	0.0	0.09	47.09	0.20	0.71	2.32	47.32	65.00	1.37
0.00	0.0	0.0	0.0	0.0	0.00	47.50	0.20	0.69	2.28	47.73	65.00	1.36

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 4 DEFLECTION

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
46.00	0	0	0	0	0	0	0	0
45.50	0	0	0	0	1	0	1	18
45.50	0	-2	2	0	403	0	403	214
41.01	0	-24	24	0	411	0	411	380
38.50	0	-36	36	0	415	0	415	480
38.50	0	-41	41	0	819	0	819	876
37.08	0	-55	55	0	821	0	821	934
36.02	0	-65	65	0	823	0	823	979
31.50	0	-110	110	0	833	0	833	1176
31.50	0	-115	115	0	1236	0	1236	1573
31.03	0	-122	122	0	1237	0	1237	1595
30.08	0	-136	136	0	1239	0	1239	1638
30.08	0	-136	136	0	1238	0	1238	1638
26.04	0	-197	197	0	1247	0	1247	1832
24.50	0	-220	220	0	1251	0	1251	1909
24.50	0	-225	225	0	1653	0	1653	2306
23.08	0	-253	253	0	1657	0	1657	2378
23.08	0	-253	253	0	1656	0	1656	2378
21.05	0	-294	294	0	1660	0	1660	2485
16.06	0	-394	394	0	1671	0	1671	2758
11.07	0	-494	494	0	1682	0	1682	3048
10.00	0	-516	516	0	1685	0	1685	3113
10.00	0	-516	516	0	1684	0	1684	3113
6.08	0	-595	595	0	1696	0	1696	3628
6.08	0	-595	595	0	1695	0	1695	3629
3.59	0	-646	646	0	1701	0	1701	3810
1.09	0	-697	697	0	1707	0	1707	3995
0.00	0	-719	719	0	1710	0	1710	4078

Deflections and Stresses for Pole

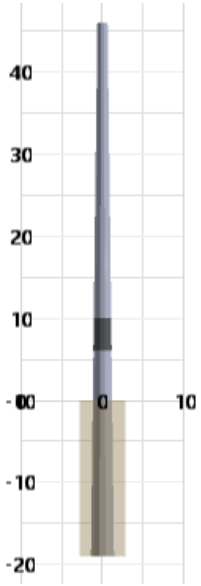
Loading Case 4 DEFLECTION *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
46.00	1.5	0.0	1.5	0.0	0.25	0.00	0.00	0.00	0.00	0.00	65.00	99.90
45.50	1.5	0.0	1.5	0.0	0.25	0.00	0.00	0.00	0.00	0.00	65.00	99.90
45.50	1.5	0.0	1.5	0.0	0.25	0.05	0.02	0.00	0.08	0.14	65.00	99.90
41.01	1.3	0.0	1.3	0.0	0.25	0.51	0.03	0.00	0.07	0.54	65.00	99.90
38.50	1.1	0.0	1.1	0.0	0.25	0.71	0.04	0.00	0.07	0.75	65.00	86.92
38.50	1.1	0.0	1.1	0.0	0.25	0.80	0.07	0.00	0.14	0.87	65.00	74.55
37.08	1.1	0.0	1.1	0.0	0.24	1.02	0.08	0.00	0.14	1.09	65.00	59.42
36.02	1.0	0.0	1.0	0.0	0.24	1.17	0.08	0.00	0.13	1.25	65.00	52.12
31.50	0.8	0.0	0.8	0.0	0.22	1.70	0.09	0.00	0.13	1.79	65.00	36.33
31.50	0.8	0.0	0.8	0.0	0.22	1.78	0.12	0.00	0.19	1.90	65.00	34.27
31.03	0.8	0.0	0.8	0.0	0.22	1.86	0.12	0.00	0.18	1.98	65.00	32.87
30.08	0.7	0.0	0.7	0.0	0.22	2.01	0.12	0.00	0.18	2.13	65.00	30.47
26.04	0.5	0.0	0.5	0.0	0.19	2.57	0.13	0.00	0.17	2.70	65.00	24.06
24.50	0.5	0.0	0.5	0.0	0.19	2.75	0.13	0.00	0.17	2.88	65.00	22.55
24.50	0.5	0.0	0.5	0.0	0.19	2.82	0.15	0.00	0.22	2.98	65.00	21.83
23.08	0.4	0.0	0.4	0.0	0.18	3.05	0.16	0.00	0.22	3.21	65.00	20.26
21.05	0.4	0.0	0.4	0.0	0.16	3.35	0.16	0.00	0.22	3.51	65.00	18.53
16.06	0.2	0.0	0.2	0.0	0.13	3.94	0.17	0.00	0.20	4.11	65.00	15.83
11.07	0.1	0.0	0.1	0.0	0.09	4.38	0.17	0.00	0.19	4.55	65.00	14.28
10.00	0.1	0.0	0.1	0.0	0.08	4.46	0.17	0.00	0.19	4.63	65.00	14.03
10.00	0.1	0.0	0.1	0.0	0.08	4.05	0.15	0.00	0.17	4.21	65.00	15.44
6.08	0.0	0.0	0.0	0.0	0.05	4.27	0.17	0.00	0.16	4.44	65.00	14.63
3.59	0.0	0.0	0.0	0.0	0.03	4.38	0.18	0.00	0.16	4.56	65.00	14.26
1.09	0.0	0.0	0.0	0.0	0.01	4.48	0.18	0.00	0.16	4.66	65.00	13.95
0.00	0.0	0.0	0.0	0.0	0.00	4.52	0.18	0.00	0.15	4.70	65.00	13.84

MINIMUM DEFLECTION RATIO // DEFLECTION LIMIT / DEFLECTION // IS

46.0' AGH, 65' CUSTOM POLES, STR. #8/12

Design Id: STR8_12



BY VALMONT INDUSTRIES FOR: OMPA, 46.0' AGH, 65' CUSTOM POLES, STR. #8/12, 607956 DATE 01/30/2024
Design Id: STR8_12 IMPAX 26.2.5.1

*** SUMMARY ***

---------- DESIGN SUMMARY ----------

Above Ground Height	46'- 0.00"	Ground Line Diameter (in)	28.200	Pole Shaft Weight (lbs)	4275
Embedment Length	19'- 0.00"	Top Diameter (in)	15.022		
Total Pole Length	65'- 0.00"	Pole Taper (in/ft)	0.29600	Shape:	12 Sides

Connections Between Sections /First/

Height Above Ground	10'- 0.00"
Type	Slip Joint
Overlap Length (in)	47
Maximum Axial Force (lbs)	6467

Section Characteristics	/First/	/Second/
Base Diameter (in)	33.824	26.837
Top Diameter (in)	25.240	15.022
Thickness (in)	0.25000	0.21875
Length	29'- 0.00"	39'-11.00"
Weight (lbs)	2310	1965

---------- ANALYSIS SUMMARY ----------

	Pt. of Fixity	Governing Level Sec.1	Governing Level Sec.2	Pole Top
Governing Load Case	1B NESC HEAV	1B NESC HEAV	1B NESC HEAV	1B NESC HEAV
Height (ft)	0.00	0.00	10.00	46.00
Resultant Moment (in-kips)	9835	9835	6997	0
Shear Force (lbs)	23623	23623	23686	0
Axial Force (lbs)	6499	6499	4624	0
Combined Stress (ksi)	63.13	63.13	61.75	0.00
Allowable Stress (ksi)	65.00	65.00	65.00	65.00
Allowable/Combined Stress	1.03	1.03	1.05	99.90
Total Deflection (in)	0.00	0.00	1.10	20.43

Note: Diameters are outside, measured across the flats
Forces and moments are reported in the local element coordinate system

BY VALMONT INDUSTRIES FOR: OMPA, 46.0' AGH, 65' CUSTOM POLES, STR. #8/12, 607956 DATE 01/30/2024
Design Id: STR8_12 IMPAX 26.2.5.1

*** POLE SHAFT POINT OF FIXITY REACTIONS ***

Loading Case Identifier	Moments About X-Axis (in-kips)	Moments About Y-Axis (in-kips)	Moments Resultant (X & Y) (in-kips)	Moments Torsional (in-kips)	Vertical Force (lbs)	Shear In X-Direction (lbs)	Shear In Y-Direction (lbs)	Shear Resultant (X & Y) (lbs)	Notes
1A NESC HE	-283	1210	1242	-7	10320	-3418	-700	3489	B
1B NESC HE	-9805	770	9836	-245	8919	-2318	-23500	23614	A C
1C NESC HE	9510	667	9533	237	7819	-2018	22800	22889	
2A EXTREME	-169	1303	1314	-4	6093	-4121	-400	4140	
2B EXTREME	-4558	913	4649	-115	5390	-3121	-11000	11434	
2C EXTREME	4387	917	4482	111	4990	-3121	10600	11050	
3A CONCURR	-284	837	884	-8	8978	-2276	-700	2382	
3B CONCURR	-7497	516	7514	-188	7177	-1476	-18000	18060	
3C CONCURR	7204	414	7216	180	6077	-1176	17300	17340	
4 DEFLECTI	0	124	124	0	6076	-492	0	492	

Note: Positive vertical force is downward.
Reactions are considered in the global coordinate system.

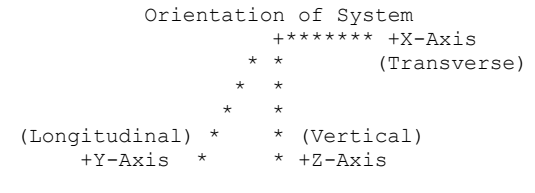
Key to the special note entries
A Indicates load case with maximum overturning moment
B Indicates load case with maximum vertical force
C Indicates load case with maximum resultant shear

BY VALMONT INDUSTRIES FOR: OMPA, 46.0' AGH, 65' CUSTOM POLES, STR. #8/12, 607956 DATE 01/30/2024
Design Id: STR8_12 IMPAX 26.2.5.1

*** INPUT LOADS ***

Loading Case 1A NESC HEAVY

Basic Wind Pressure is 10.00 psf
Wind Orientation is 180.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.500
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

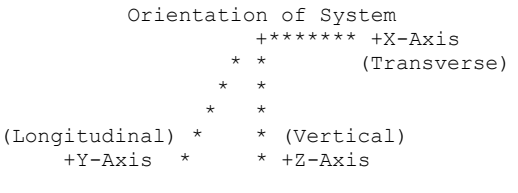


Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	45'- 6.00"	45'- 6.00"	3.00"	0.00	-200	-5200	400	SW_A
2	45'- 6.00"	45'- 6.00"	3.00"	0.00	-200	5100	200	SW_B
3	38'- 6.00"	38'- 6.00"	3.00"	0.00	-400	-6100	700	TCND_C
4	31'- 6.00"	31'- 6.00"	3.00"	0.00	-400	-6100	700	MCND_C
5	24'- 6.00"	24'- 6.00"	3.00"	0.00	-400	-6100	700	BCND_C
6	38'- 6.00"	38'- 6.00"	3.00"	0.00	-300	5900	400	TCND_D
7	31'- 6.00"	31'- 6.00"	3.00"	0.00	-300	5900	400	MCND_D
8	24'- 6.00"	24'- 6.00"	3.00"	0.00	-300	5900	400	BCND_D
9	37'- 1.00"	37'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	30'- 1.00"	30'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	23'- 1.00"	23'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 1B NESC HEAVY

Basic Wind Pressure is 10.00 psf
Wind Orientation is 180.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.500
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees



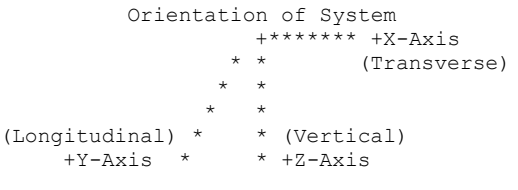
Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	45'- 6.00"	45'- 6.00"	3.00"	0.00	-200	-5200	400	SW_A
2	45'- 6.00"	45'- 6.00"	3.00"	0.00	0	0	0	SW_B
3	38'- 6.00"	38'- 6.00"	3.00"	0.00	-400	-6100	700	TCND_C
4	31'- 6.00"	31'- 6.00"	3.00"	0.00	-400	-6100	700	MCND_C
5	24'- 6.00"	24'- 6.00"	3.00"	0.00	-400	-6100	700	BCND_C
6	38'- 6.00"	38'- 6.00"	3.00"	0.00	0	0	0	TCND_D
7	31'- 6.00"	31'- 6.00"	3.00"	0.00	0	0	0	MCND_D
8	24'- 6.00"	24'- 6.00"	3.00"	0.00	0	0	0	BCND_D
9	37'- 1.00"	37'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	30'- 1.00"	30'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	23'- 1.00"	23'- 1.01"	6.00"	0.00	0	0	0	BRKT3

BY VALMONT INDUSTRIES FOR: OMPA, 46.0' AGH, 65' CUSTOM POLES, STR. #8/12, 607956 DATE 01/30/2024
Design Id: STR8_12 IMPAX 26.2.5.1

*** INPUT LOADS ***

Loading Case 1C NESC HEAVY

Basic Wind Pressure is 10.00 psf
Wind Orientation is 180.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.500
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

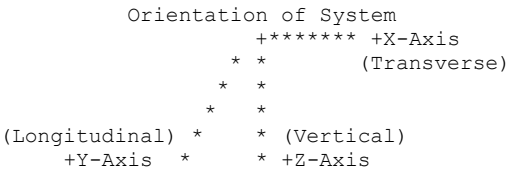


Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	45'- 6.00"	45'- 6.00"	3.00"	0.00	0	0	0	SW_A
2	45'- 6.00"	45'- 6.00"	3.00"	0.00	-200	5100	200	SW_B
3	38'- 6.00"	38'- 6.00"	3.00"	0.00	0	0	0	TCND_C
4	31'- 6.00"	31'- 6.00"	3.00"	0.00	0	0	0	MCND_C
5	24'- 6.00"	24'- 6.00"	3.00"	0.00	0	0	0	BCND_C
6	38'- 6.00"	38'- 6.00"	3.00"	0.00	-300	5900	400	TCND_D
7	31'- 6.00"	31'- 6.00"	3.00"	0.00	-300	5900	400	MCND_D
8	24'- 6.00"	24'- 6.00"	3.00"	0.00	-300	5900	400	BCND_D
9	37'- 1.00"	37'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	30'- 1.00"	30'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	23'- 1.00"	23'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 2A EXTREME WIND

Basic Wind Pressure is 23.10 psf
Wind Orientation is 180.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

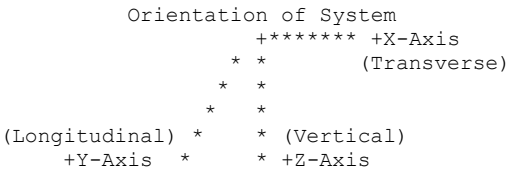


Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	45'- 6.00"	45'- 6.00"	3.00"	0.00	-100	-2300	200	SW_A
2	45'- 6.00"	45'- 6.00"	3.00"	0.00	-100	2200	100	SW_B
3	38'- 6.00"	38'- 6.00"	3.00"	0.00	-300	-2900	300	TCND_C
4	31'- 6.00"	31'- 6.00"	3.00"	0.00	-300	-2900	300	MCND_C
5	24'- 6.00"	24'- 6.00"	3.00"	0.00	-300	-2900	300	BCND_C
6	38'- 6.00"	38'- 6.00"	3.00"	0.00	-300	2800	200	TCND_D
7	31'- 6.00"	31'- 6.00"	3.00"	0.00	-300	2800	200	MCND_D
8	24'- 6.00"	24'- 6.00"	3.00"	0.00	-300	2800	200	BCND_D
9	37'- 1.00"	37'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	30'- 1.00"	30'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	23'- 1.00"	23'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 2B EXTREME WIND

Basic Wind Pressure is 23.10 psf
Wind Orientation is 180.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

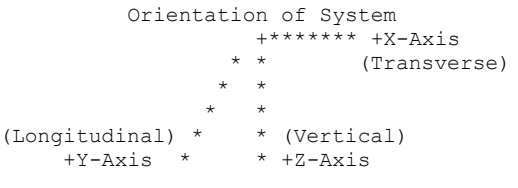


Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	45'- 6.00"	45'- 6.00"	3.00"	0.00	-100	-2300	200	SW_A
2	45'- 6.00"	45'- 6.00"	3.00"	0.00	0	0	0	SW_B
3	38'- 6.00"	38'- 6.00"	3.00"	0.00	-300	-2900	300	TCND_C
4	31'- 6.00"	31'- 6.00"	3.00"	0.00	-300	-2900	300	MCND_C
5	24'- 6.00"	24'- 6.00"	3.00"	0.00	-300	-2900	300	BCND_C
6	38'- 6.00"	38'- 6.00"	3.00"	0.00	0	0	0	TCND_D
7	31'- 6.00"	31'- 6.00"	3.00"	0.00	0	0	0	MCND_D
8	24'- 6.00"	24'- 6.00"	3.00"	0.00	0	0	0	BCND_D
9	37'- 1.00"	37'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	30'- 1.00"	30'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	23'- 1.00"	23'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 2C EXTREME WIND

Basic Wind Pressure is 23.10 psf
Wind Orientation is 180.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

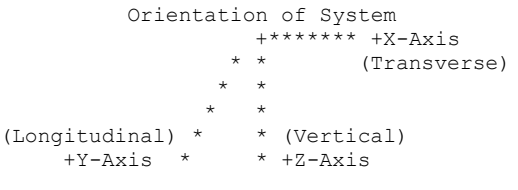


Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	45'- 6.00"	45'- 6.00"	3.00"	0.00	0	0	0	SW_A
2	45'- 6.00"	45'- 6.00"	3.00"	0.00	-100	2200	100	SW_B
3	38'- 6.00"	38'- 6.00"	3.00"	0.00	0	0	0	TCND_C
4	31'- 6.00"	31'- 6.00"	3.00"	0.00	0	0	0	MCND_C
5	24'- 6.00"	24'- 6.00"	3.00"	0.00	0	0	0	BCND_C
6	38'- 6.00"	38'- 6.00"	3.00"	0.00	-300	2800	200	TCND_D
7	31'- 6.00"	31'- 6.00"	3.00"	0.00	-300	2800	200	MCND_D
8	24'- 6.00"	24'- 6.00"	3.00"	0.00	-300	2800	200	BCND_D
9	37'- 1.00"	37'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	30'- 1.00"	30'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	23'- 1.00"	23'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 3A CONCURRENT

Basic Wind Pressure is 4.10 psf
Wind Orientation is 180.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

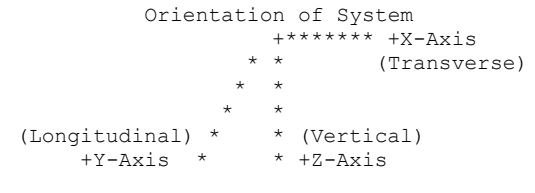


Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	45'- 6.00"	45'- 6.00"	3.00"	0.00	-200	-3900	500	SW_A
2	45'- 6.00"	45'- 6.00"	3.00"	0.00	-200	3800	300	SW_B
3	38'- 6.00"	38'- 6.00"	3.00"	0.00	-300	-4700	800	TCND_C
4	31'- 6.00"	31'- 6.00"	3.00"	0.00	-300	-4700	800	MCND_C
5	24'- 6.00"	24'- 6.00"	3.00"	0.00	-300	-4700	800	BCND_C
6	38'- 6.00"	38'- 6.00"	3.00"	0.00	-200	4500	500	TCND_D
7	31'- 6.00"	31'- 6.00"	3.00"	0.00	-200	4500	500	MCND_D
8	24'- 6.00"	24'- 6.00"	3.00"	0.00	-200	4500	500	BCND_D
9	37'- 1.00"	37'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	30'- 1.00"	30'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	23'- 1.00"	23'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 3B CONCURRENT

Basic Wind Pressure is 4.10 psf
Wind Orientation is 180.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees



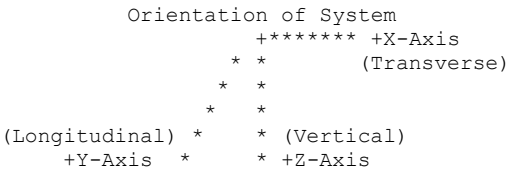
Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	45'- 6.00"	45'- 6.00"	3.00"	0.00	-200	-3900	500	SW_A
2	45'- 6.00"	45'- 6.00"	3.00"	0.00	0	0	0	SW_B
3	38'- 6.00"	38'- 6.00"	3.00"	0.00	-300	-4700	800	TCND_C
4	31'- 6.00"	31'- 6.00"	3.00"	0.00	-300	-4700	800	MCND_C
5	24'- 6.00"	24'- 6.00"	3.00"	0.00	-300	-4700	800	BCND_C
6	38'- 6.00"	38'- 6.00"	3.00"	0.00	0	0	0	TCND_D
7	31'- 6.00"	31'- 6.00"	3.00"	0.00	0	0	0	MCND_D
8	24'- 6.00"	24'- 6.00"	3.00"	0.00	0	0	0	BCND_D
9	37'- 1.00"	37'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	30'- 1.00"	30'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	23'- 1.00"	23'- 1.01"	6.00"	0.00	0	0	0	BRKT3

BY VALMONT INDUSTRIES FOR: OMPA, 46.0' AGH, 65' CUSTOM POLES, STR. #8/12, 607956 DATE 01/30/2024
Design Id: STR8_12 IMPAX 26.2.5.1

*** INPUT LOADS ***

Loading Case 3C CONCURRENT

Basic Wind Pressure is 4.10 psf
Wind Orientation is 180.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees



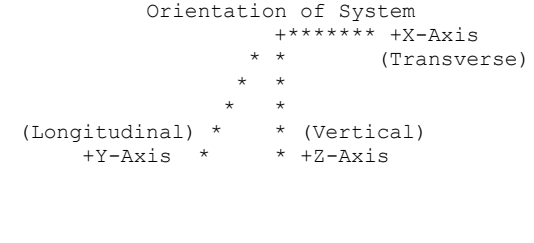
Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	45'- 6.00"	45'- 6.00"	3.00"	0.00	0	0	0	SW_A
2	45'- 6.00"	45'- 6.00"	3.00"	0.00	-200	3800	300	SW_B
3	38'- 6.00"	38'- 6.00"	3.00"	0.00	0	0	0	TCND_C
4	31'- 6.00"	31'- 6.00"	3.00"	0.00	0	0	0	MCND_C
5	24'- 6.00"	24'- 6.00"	3.00"	0.00	0	0	0	BCND_C
6	38'- 6.00"	38'- 6.00"	3.00"	0.00	-200	4500	500	TCND_D
7	31'- 6.00"	31'- 6.00"	3.00"	0.00	-200	4500	500	MCND_D
8	24'- 6.00"	24'- 6.00"	3.00"	0.00	-200	4500	500	BCND_D
9	37'- 1.00"	37'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	30'- 1.00"	30'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	23'- 1.00"	23'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 4 DEFLECTION

Basic Wind Pressure is 1.00 psf
Wind Orientation is 180.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees
Deflection Limitation: 6.0 in

Orientation of System



Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	45'- 6.00"	45'- 6.00"	3.00"	0.00	100	-1800	200	SW_A
2	45'- 6.00"	45'- 6.00"	3.00"	0.00	100	1800	100	SW_B
3	38'- 6.00"	38'- 6.00"	3.00"	0.00	-100	-1500	300	TCND_C
4	31'- 6.00"	31'- 6.00"	3.00"	0.00	-100	-1500	300	MCND_C
5	24'- 6.00"	24'- 6.00"	3.00"	0.00	-100	-1500	300	BCND_C
6	38'- 6.00"	38'- 6.00"	3.00"	0.00	-100	1500	200	TCND_D
7	31'- 6.00"	31'- 6.00"	3.00"	0.00	-100	1500	200	MCND_D
8	24'- 6.00"	24'- 6.00"	3.00"	0.00	-100	1500	200	BCND_D
9	37'- 1.00"	37'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	30'- 1.00"	30'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	23'- 1.00"	23'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** Properties ***

Connection Locations	Distance From Base (ft)	Diameter Across Flats (in)	Wall Thickness (in)	D/t Across Flats	w/t Across Flats	Moments of Inertia (in^4)	Area (in^2)
Top of Sect 2	46.00	15.022	0.2188	68.67	15.72	292	10.41
	45.50	15.170	0.2188	69.35	15.90	301	10.52
	41.01	16.499	0.2188	75.42	17.53	388	11.45
	38.50	17.242	0.2188	78.82	18.44	444	11.97
	37.08	17.661	0.2188	80.73	18.95	478	12.27
	36.02	17.976	0.2188	82.17	19.34	504	12.49
	31.50	19.314	0.2188	88.29	20.98	627	13.43
	31.03	19.453	0.2188	88.93	21.15	641	13.53
	30.08	19.733	0.2188	90.21	21.49	669	13.73
	26.04	20.930	0.2188	95.68	22.96	800	14.57
	24.50	21.386	0.2188	97.76	23.52	854	14.89
	23.08	21.805	0.2188	99.68	24.03	905	15.18
	21.05	22.407	0.2188	102.43	24.77	983	15.61
	16.06	23.884	0.2188	109.18	26.58	1193	16.65
	11.07	25.361	0.2188	115.93	28.39	1431	17.68
	10.00	25.678	0.2188	117.38	28.77	1486	17.91
Top of Sect 1	10.00	25.240	0.2500	100.96	24.37	1606	20.09
Base of Sect 2	6.08	26.399	0.2500	105.60	25.62	1840	21.02
	3.59	27.138	0.2500	108.55	26.41	2000	21.61
	1.09	27.877	0.2500	111.51	27.20	2170	22.21
	0.00	28.200	0.2500	112.80	27.55	2247	22.47
	-3.90	29.354	0.2500	117.42	28.78	2537	23.40
	-8.89	30.831	0.2500	123.33	30.37	2943	24.58
	-13.88	32.308	0.2500	129.23	31.95	3390	25.77
	-16.44	33.066	0.2500	132.26	32.76	3636	26.38
Base of Sect 1	-19.00	33.824	0.2500	135.30	33.57	3894	26.99

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 1A NESC HEAVY

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
46.00	0	0	0	0	0	0	0	0
45.50	0	0	0	0	-7	0	7	26
45.50	0	-6	6	-1	-413	-101	426	622
41.01	-5	18	19	-1	-481	-101	492	871
38.50	-9	33	34	-1	-522	-102	531	1020
38.50	-9	20	22	-3	-1233	-303	1270	2112
37.08	-14	41	44	-3	-1257	-304	1293	2199
37.08	-14	41	44	-3	-1256	-304	1293	2199
36.02	-18	58	60	-3	-1274	-304	1310	2266
31.50	-34	129	133	-3	-1354	-304	1388	2563
31.50	-34	115	120	-6	-2065	-505	2126	3656
31.03	-37	127	132	-6	-2073	-505	2134	3688
30.08	-43	150	156	-6	-2091	-506	2151	3753
30.08	-43	150	156	-6	-2090	-505	2150	3754
26.04	-67	254	262	-6	-2167	-505	2225	4044
24.50	-76	294	304	-6	-2198	-505	2255	4159
24.50	-76	279	289	-9	-2907	-707	2992	5253
23.08	-88	329	340	-9	-2936	-707	3020	5361
23.08	-88	329	340	-9	-2935	-706	3019	5362
21.05	-106	401	415	-9	-2974	-706	3056	5523
16.06	-148	582	601	-9	-3077	-704	3157	5934
11.07	-190	770	793	-9	-3189	-704	3266	6371
10.00	-199	811	835	-9	-3215	-704	3291	6467
10.00	-199	811	835	-9	-3211	-703	3287	6469
6.08	-232	964	992	-9	-3310	-703	3384	7242
6.08	-232	964	992	-9	-3305	-702	3379	7244
3.59	-253	1064	1094	-9	-3364	-701	3436	7516
1.09	-274	1166	1198	-9	-3425	-700	3496	7795
0.00	-283	1211	1244	-9	-3454	-700	3524	7919

Deflections and Stresses for Pole

Loading Case 1A NESC HEAVY *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
46.00	-2.3	-0.6	2.4	0.0	0.37	0.00	0.00	0.00	0.00	0.00	65.00	99.90
45.50	-2.2	-0.6	2.3	0.0	0.37	0.00	0.00	0.00	0.00	0.00	65.00	99.90
45.50	-2.2	-0.6	2.3	0.0	0.37	0.16	0.06	0.01	0.10	0.24	65.00	99.90
41.01	-1.9	-0.5	2.0	0.0	0.37	0.41	0.08	0.01	0.10	0.49	65.00	99.90
38.50	-1.7	-0.4	1.8	0.0	0.36	0.68	0.09	0.01	0.10	0.77	65.00	84.50
38.50	-1.7	-0.4	1.8	0.0	0.36	0.44	0.18	0.03	0.25	0.64	65.00	99.90
37.08	-1.6	-0.4	1.7	0.0	0.36	0.83	0.18	0.03	0.24	1.01	65.00	64.10
36.02	-1.5	-0.4	1.6	0.0	0.36	1.11	0.18	0.03	0.24	1.29	65.00	50.27
31.50	-1.2	-0.3	1.3	0.0	0.34	2.13	0.19	0.03	0.24	2.32	65.00	28.05
31.50	-1.2	-0.3	1.3	0.0	0.34	1.91	0.27	0.05	0.37	2.19	65.00	29.73
31.03	-1.2	-0.3	1.2	0.0	0.34	2.07	0.27	0.05	0.36	2.35	65.00	27.69
30.08	-1.1	-0.3	1.2	0.0	0.33	2.39	0.27	0.04	0.36	2.66	65.00	24.43
26.04	-0.9	-0.2	0.9	0.0	0.30	3.55	0.28	0.04	0.35	3.83	65.00	16.96
24.50	-0.8	-0.2	0.8	0.0	0.29	3.94	0.28	0.04	0.34	4.22	65.00	15.41
24.50	-0.8	-0.2	0.8	0.0	0.29	3.75	0.35	0.06	0.46	4.11	65.00	15.83
23.08	-0.7	-0.2	0.7	0.0	0.28	4.24	0.35	0.05	0.46	4.60	65.00	14.14
21.05	-0.6	-0.1	0.6	0.0	0.26	4.89	0.35	0.05	0.45	5.24	65.00	12.40
16.06	-0.3	-0.1	0.3	0.0	0.21	6.22	0.36	0.04	0.43	6.58	65.00	9.88
11.07	-0.2	0.0	0.2	0.0	0.14	7.27	0.36	0.04	0.41	7.64	65.00	8.51
10.00	-0.1	0.0	0.1	0.0	0.13	7.47	0.36	0.04	0.41	7.83	65.00	8.30
10.00	-0.1	0.0	0.1	0.0	0.13	6.79	0.32	0.03	0.37	7.12	65.00	9.13
6.08	0.0	0.0	0.1	0.0	0.08	7.36	0.34	0.03	0.36	7.71	65.00	8.43
3.59	0.0	0.0	0.0	0.0	0.05	7.68	0.35	0.03	0.35	8.03	65.00	8.10
1.09	0.0	0.0	0.0	0.0	0.01	7.96	0.35	0.03	0.35	8.31	65.00	7.82
0.00	0.0	0.0	0.0	0.0	0.00	8.08	0.35	0.03	0.34	8.43	65.00	7.71

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 1B NESC HEAVY

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
46.00	0	0	0	0	0	0	0	0
45.50	0	0	0	0	-7	-2	7	26
45.50	0	-1	1	-55	-183	-5217	5220	123
41.01	-281	11	282	-55	-250	-5232	5238	372
38.50	-439	19	440	-55	-292	-5240	5248	525
38.50	-439	15	439	-126	-670	-11371	11391	881
37.08	-632	26	633	-126	-693	-11376	11397	968
37.08	-632	26	633	-126	-695	-11375	11396	975
36.02	-778	35	779	-126	-713	-11379	11401	1042
31.50	-1395	76	1397	-126	-796	-11393	11420	1362
31.50	-1395	72	1397	-204	-1181	-17519	17559	1767
31.03	-1494	79	1496	-204	-1192	-17519	17560	1811
30.08	-1693	92	1695	-204	-1210	-17523	17564	1876
30.08	-1693	92	1695	-204	-1216	-17517	17559	1927
26.04	-2543	153	2548	-204	-1300	-17522	17571	2278
24.50	-2867	178	2873	-204	-1331	-17528	17578	2392
24.50	-2867	172	2872	-288	-1723	-23647	23710	2866
23.08	-3269	202	3275	-288	-1752	-23652	23717	2974
23.08	-3269	202	3275	-288	-1758	-23644	23709	3036
21.05	-3846	245	3854	-288	-1811	-23630	23699	3335
16.06	-5261	358	5274	-288	-1933	-23608	23687	3957
11.07	-6675	478	6692	-288	-2055	-23593	23682	4528
10.00	-6978	504	6997	-288	-2080	-23595	23686	4624
10.00	-6978	505	6997	-288	-2084	-23573	23665	4733
6.08	-8086	605	8109	-288	-2183	-23584	23685	5506
6.08	-8086	605	8109	-288	-2187	-23551	23652	5643
3.59	-8792	672	8818	-288	-2252	-23526	23633	6021
1.09	-9497	741	9526	-288	-2318	-23506	23620	6376
0.00	-9804	772	9835	-288	-2346	-23506	23623	6499

Deflections and Stresses for Pole

Loading Case 1B NESC HEAVY *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
46.00	-1.4	-20.4	20.4	0.5	3.35	0.00	0.00	0.00	0.00	0.00	65.00	99.90
45.50	-1.4	-20.0	20.1	0.5	3.35	0.00	0.00	0.00	0.00	0.00	65.00	99.90
45.50	-1.4	-20.0	20.1	0.5	3.35	0.03	0.01	0.70	1.71	2.96	65.00	22.00
41.01	-1.2	-16.9	16.9	0.4	3.31	6.04	0.03	0.59	1.52	6.16	65.00	10.55
38.50	-1.1	-15.2	15.2	0.3	3.25	8.62	0.04	0.54	1.43	8.69	65.00	7.48
38.50	-1.1	-15.2	15.2	0.3	3.25	8.60	0.07	1.24	3.16	9.10	65.00	7.14
37.08	-1.0	-14.2	14.3	0.3	3.22	11.82	0.08	1.18	3.06	12.05	65.00	5.40
36.02	-1.0	-13.5	13.6	0.3	3.18	14.04	0.08	1.14	2.98	14.19	65.00	4.58
31.50	-0.8	-10.6	10.6	0.2	2.97	21.81	0.10	0.99	2.70	21.94	65.00	2.96
31.50	-0.8	-10.6	10.6	0.2	2.97	21.79	0.13	1.59	4.23	22.00	65.00	2.95
31.03	-0.8	-10.3	10.3	0.2	2.95	23.00	0.13	1.57	4.19	23.21	65.00	2.80
30.08	-0.7	-9.7	9.8	0.2	2.89	25.33	0.14	1.52	4.11	25.53	65.00	2.55
26.04	-0.5	-7.4	7.4	0.1	2.62	33.82	0.16	1.35	3.79	34.01	65.00	1.91
24.50	-0.5	-6.6	6.6	0.1	2.50	36.50	0.16	1.29	3.68	36.70	65.00	1.77
24.50	-0.5	-6.6	6.6	0.1	2.50	36.49	0.19	1.83	5.04	36.74	65.00	1.77
23.08	-0.4	-5.9	5.9	0.1	2.38	40.01	0.20	1.76	4.91	40.26	65.00	1.61
21.05	-0.4	-4.9	4.9	0.1	2.20	44.57	0.21	1.66	4.73	44.82	65.00	1.45
16.06	-0.2	-2.8	2.9	0.0	1.70	53.62	0.24	1.46	4.33	53.88	65.00	1.21
11.07	-0.1	-1.3	1.3	0.0	1.16	60.30	0.26	1.30	3.99	60.57	65.00	1.07
10.00	-0.1	-1.1	1.1	0.0	1.04	61.48	0.26	1.26	3.93	61.75	65.00	1.05
10.00	-0.1	-1.1	1.1	0.0	1.04	55.91	0.24	1.15	3.52	56.16	65.00	1.16
6.08	0.0	-0.4	0.4	0.0	0.63	59.18	0.26	1.05	3.32	59.46	65.00	1.09
6.08	0.0	-0.4	0.4	0.0	0.63	59.18	0.27	1.05	3.31	59.46	65.00	1.09
3.59	0.0	-0.1	0.1	0.0	0.37	60.87	0.28	0.99	3.19	61.16	65.00	1.06
1.09	0.0	0.0	0.0	0.0	0.11	62.29	0.29	0.94	3.08	62.58	65.00	1.04
0.00	0.0	0.0	0.0	0.0	0.00	62.83	0.29	0.92	3.03	63.13	65.00	1.03

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 1C NESC HEAVY

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
46.00	0	0	0	0	0	0	0	0
45.50	0	0	0	0	-7	2	7	26
45.50	0	1	1	54	-183	5106	5109	-62
41.01	275	13	276	54	-250	5120	5126	187
38.50	430	21	430	54	-291	5128	5136	339
38.50	430	20	430	123	-568	11042	11057	418
37.08	617	30	618	123	-592	11047	11063	505
37.08	617	30	618	123	-594	11046	11062	512
36.02	759	38	759	123	-612	11050	11067	578
31.50	1358	73	1360	123	-695	11064	11086	897
31.50	1358	72	1360	198	-979	16976	17004	1022
31.03	1454	78	1456	198	-987	16978	17006	1054
30.08	1647	89	1649	198	-1007	16980	17010	1130
30.08	1647	89	1649	198	-1013	16976	17007	1178
26.04	2471	140	2475	198	-1097	16985	17020	1525
24.50	2785	161	2789	198	-1127	16990	17027	1640
24.50	2785	159	2789	279	-1418	22898	22942	1829
23.08	3174	183	3179	279	-1447	22903	22948	1937
23.08	3174	183	3179	279	-1453	22897	22943	1995
21.05	3733	220	3739	279	-1506	22890	22940	2285
16.06	5104	314	5114	279	-1627	22878	22936	2894
11.07	6474	415	6487	279	-1749	22869	22936	3457
10.00	6768	438	6782	279	-1774	22871	22940	3553
10.00	6768	438	6782	279	-1779	22855	22924	3655
6.08	7842	524	7860	279	-1877	22866	22943	4428
6.08	7842	525	7860	279	-1881	22840	22917	4557
3.59	8526	582	8546	279	-1947	22821	22903	4928
1.09	9210	642	9232	279	-2013	22805	22894	5278
0.00	9508	668	9532	279	-2041	22805	22896	5402

Deflections and Stresses for Pole

Loading Case 1C NESC HEAVY *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
46.00	-1.3	19.8	19.8	0.5	3.25	0.00	0.00	0.00	0.00	0.00	65.00	99.90
45.50	-1.3	19.4	19.5	0.4	3.25	0.00	0.00	0.00	0.00	0.00	65.00	99.90
45.50	-1.3	19.4	19.5	0.4	3.25	0.02	0.01	0.69	1.67	2.89	65.00	22.48
41.01	-1.1	16.4	16.4	0.4	3.21	5.92	0.02	0.58	1.48	6.05	65.00	10.74
38.50	-1.0	14.7	14.8	0.3	3.16	8.45	0.03	0.53	1.40	8.51	65.00	7.64
38.50	-1.0	14.7	14.8	0.3	3.16	8.45	0.03	1.20	3.07	8.85	65.00	7.34
37.08	-0.9	13.8	13.8	0.3	3.12	11.56	0.04	1.15	2.97	11.82	65.00	5.50
36.02	-0.9	13.1	13.1	0.3	3.08	13.70	0.05	1.11	2.90	13.90	65.00	4.68
31.50	-0.7	10.3	10.3	0.2	2.88	21.23	0.07	0.96	2.62	21.32	65.00	3.05
31.50	-0.7	10.3	10.3	0.2	2.88	21.22	0.08	1.54	4.10	21.45	65.00	3.03
31.03	-0.7	10.0	10.0	0.2	2.86	22.39	0.08	1.52	4.06	22.59	65.00	2.88
30.08	-0.6	9.4	9.5	0.2	2.81	24.64	0.08	1.48	3.98	24.79	65.00	2.62
30.08	-0.6	9.4	9.5	0.2	2.81	24.64	0.09	1.48	3.98	24.79	65.00	2.62
26.04	-0.5	7.2	7.2	0.1	2.54	32.82	0.10	1.31	3.67	32.96	65.00	1.97
24.50	-0.4	6.4	6.4	0.1	2.42	35.42	0.11	1.25	3.56	35.55	65.00	1.83
24.50	-0.4	6.4	6.4	0.1	2.42	35.41	0.12	1.77	4.88	35.59	65.00	1.83
23.08	-0.4	5.7	5.7	0.1	2.31	38.81	0.13	1.70	4.75	38.98	65.00	1.67
21.05	-0.3	4.7	4.7	0.1	2.13	43.20	0.15	1.61	4.58	43.38	65.00	1.50
16.06	-0.2	2.8	2.8	0.0	1.65	51.92	0.17	1.41	4.20	52.12	65.00	1.25
11.07	-0.1	1.3	1.3	0.0	1.13	58.36	0.20	1.25	3.87	58.57	65.00	1.11
10.00	-0.1	1.1	1.1	0.0	1.01	59.50	0.20	1.22	3.81	59.72	65.00	1.09
10.00	-0.1	1.1	1.1	0.0	1.01	54.11	0.18	1.11	3.41	54.31	65.00	1.20
6.08	0.0	0.4	0.4	0.0	0.62	57.27	0.21	1.01	3.21	57.49	65.00	1.13
6.08	0.0	0.4	0.4	0.0	0.62	57.27	0.22	1.01	3.21	57.50	65.00	1.13
3.59	0.0	0.1	0.1	0.0	0.36	58.90	0.23	0.96	3.09	59.14	65.00	1.10
1.09	0.0	0.0	0.0	0.0	0.11	60.28	0.24	0.91	2.99	60.52	65.00	1.07
0.00	0.0	0.0	0.0	0.0	0.00	60.80	0.24	0.89	2.94	61.05	65.00	1.06

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 2A EXTREME WIND

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
46.00	0	0	0	0	0	0	0	0
45.50	0	0	0	0	-16	0	16	18
45.50	0	-3	3	-1	-219	-100	241	315
41.01	-5	13	14	-1	-372	-101	385	482
38.50	-8	25	27	-1	-462	-101	473	581
38.50	-8	20	21	-2	-1068	-201	1086	1074
37.08	-12	38	40	-2	-1121	-201	1138	1132
37.08	-12	38	40	-2	-1120	-201	1138	1132
36.02	-14	53	55	-2	-1161	-201	1178	1177
31.50	-25	121	123	-2	-1341	-201	1356	1375
31.50	-25	114	117	-4	-1946	-302	1970	1869
31.03	-27	125	128	-4	-1966	-302	1989	1890
30.08	-30	148	151	-4	-2005	-302	2028	1934
30.08	-30	148	151	-4	-2005	-302	2027	1934
26.04	-45	250	254	-4	-2180	-302	2201	2128
24.50	-51	290	295	-4	-2250	-302	2270	2205
24.50	-51	284	288	-5	-2854	-402	2882	2700
23.08	-58	333	338	-5	-2919	-402	2947	2771
23.08	-58	333	338	-5	-2919	-402	2946	2772
21.05	-67	405	411	-5	-3013	-402	3040	2880
16.06	-91	593	600	-5	-3257	-401	3281	3156
11.07	-115	796	804	-5	-3517	-401	3540	3448
10.00	-121	841	850	-5	-3575	-401	3597	3512
10.00	-121	841	850	-5	-3573	-401	3595	3514
6.08	-139	1015	1024	-5	-3794	-401	3815	4029
6.08	-139	1015	1024	-5	-3791	-401	3812	4032
3.59	-151	1130	1140	-5	-3931	-400	3951	4214
1.09	-163	1250	1261	-5	-4076	-400	4095	4401
0.00	-169	1304	1315	-5	-4141	-400	4160	4483

Deflections and Stresses for Pole

Loading Case 2A EXTREME WIND *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
46.00	-2.4	-0.4	2.4	0.0	0.37	0.00	0.00	0.00	0.00	0.00	65.00	99.90
45.50	-2.3	-0.3	2.3	0.0	0.37	0.00	0.00	0.00	0.00	0.01	65.00	99.90
45.50	-2.3	-0.3	2.3	0.0	0.37	0.08	0.03	0.01	0.06	0.13	65.00	99.90
41.01	-2.0	-0.3	2.0	0.0	0.37	0.30	0.04	0.01	0.08	0.35	65.00	99.90
38.50	-1.8	-0.3	1.8	0.0	0.36	0.54	0.05	0.01	0.09	0.59	65.00	99.90
38.50	-1.8	-0.3	1.8	0.0	0.36	0.43	0.09	0.02	0.20	0.53	65.00	99.90
37.08	-1.7	-0.2	1.7	0.0	0.36	0.77	0.09	0.02	0.21	0.86	65.00	75.57
36.02	-1.6	-0.2	1.6	0.0	0.36	1.01	0.09	0.02	0.21	1.11	65.00	58.74
31.50	-1.3	-0.2	1.3	0.0	0.34	1.96	0.10	0.02	0.22	2.07	65.00	31.44
31.50	-1.3	-0.2	1.3	0.0	0.34	1.87	0.14	0.03	0.32	2.01	65.00	32.35
31.03	-1.2	-0.2	1.3	0.0	0.34	2.01	0.14	0.03	0.32	2.16	65.00	30.14
30.08	-1.2	-0.2	1.2	0.0	0.33	2.30	0.14	0.03	0.32	2.45	65.00	26.57
26.04	-0.9	-0.1	0.9	0.0	0.31	3.42	0.15	0.02	0.33	3.57	65.00	18.20
24.50	-0.8	-0.1	0.8	0.0	0.30	3.81	0.15	0.02	0.33	3.96	65.00	16.42
24.50	-0.8	-0.1	0.8	0.0	0.30	3.72	0.18	0.03	0.42	3.91	65.00	16.64
23.08	-0.7	-0.1	0.7	0.0	0.28	4.19	0.18	0.03	0.42	4.38	65.00	14.85
21.05	-0.6	-0.1	0.6	0.0	0.27	4.82	0.18	0.03	0.42	5.01	65.00	12.98
16.06	-0.4	0.0	0.4	0.0	0.21	6.18	0.19	0.02	0.42	6.37	65.00	10.20
11.07	-0.2	0.0	0.2	0.0	0.15	7.33	0.19	0.02	0.42	7.52	65.00	8.64
10.00	-0.1	0.0	0.1	0.0	0.13	7.55	0.20	0.02	0.43	7.75	65.00	8.39
10.00	-0.1	0.0	0.1	0.0	0.13	6.87	0.17	0.02	0.38	7.04	65.00	9.23
6.08	-0.1	0.0	0.1	0.0	0.08	7.55	0.19	0.02	0.38	7.74	65.00	8.40
3.59	0.0	0.0	0.0	0.0	0.05	7.94	0.19	0.02	0.38	8.14	65.00	7.99
1.09	0.0	0.0	0.0	0.0	0.02	8.31	0.20	0.02	0.39	8.51	65.00	7.64
0.00	0.0	0.0	0.0	0.0	0.00	8.47	0.20	0.02	0.39	8.67	65.00	7.50

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 2B EXTREME WIND

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
46.00	0	0	0	0	0	0	0	0
45.50	0	0	0	0	-16	-1	16	18
45.50	0	-1	1	-24	-112	-2305	2308	155
41.01	-124	9	125	-24	-265	-2310	2325	322
38.50	-194	18	195	-24	-355	-2313	2340	421
38.50	-194	16	195	-58	-651	-5220	5260	644
37.08	-283	27	284	-58	-704	-5221	5269	702
37.08	-283	27	284	-58	-705	-5221	5269	704
36.02	-349	36	351	-58	-746	-5222	5275	753
31.50	-633	82	638	-58	-926	-5227	5308	951
31.50	-633	79	638	-95	-1224	-8133	8224	1184
31.03	-679	86	684	-95	-1244	-8133	8227	1208
30.08	-771	100	777	-95	-1283	-8134	8234	1252
30.08	-771	100	777	-95	-1285	-8132	8233	1263
26.04	-1166	167	1177	-95	-1461	-8134	8264	1469
24.50	-1316	194	1330	-95	-1531	-8136	8278	1546
24.50	-1316	191	1330	-135	-1830	-11040	11190	1794
23.08	-1504	223	1520	-135	-1896	-11041	11203	1866
23.08	-1504	223	1520	-135	-1897	-11039	11200	1880
21.05	-1773	270	1793	-135	-1995	-11035	11213	2016
16.06	-2434	397	2466	-135	-2243	-11029	11255	2336
11.07	-3094	540	3141	-135	-2505	-11025	11306	2656
10.00	-3236	572	3286	-135	-2564	-11025	11320	2720
10.00	-3236	572	3286	-135	-2564	-11019	11314	2745
6.08	-3754	698	3818	-135	-2784	-11023	11369	3260
6.08	-3754	698	3818	-135	-2784	-11014	11360	3291
3.59	-4084	784	4158	-135	-2926	-11007	11389	3495
1.09	-4414	874	4499	-135	-3072	-11001	11422	3698
0.00	-4557	914	4648	-135	-3137	-11002	11440	3780

Deflections and Stresses for Pole

Loading Case 2B EXTREME WIND *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
46.00	-1.6	-9.4	9.6	0.1	1.56	0.00	0.00	0.00	0.00	0.00	65.00	99.90
45.50	-1.6	-9.3	9.4	0.1	1.56	0.00	0.00	0.00	0.00	0.01	65.00	99.90
45.50	-1.6	-9.3	9.4	0.1	1.56	0.04	0.01	0.31	0.75	1.31	65.00	49.74
41.01	-1.4	-7.8	7.9	0.1	1.54	2.69	0.03	0.26	0.67	2.74	65.00	23.72
38.50	-1.2	-7.0	7.1	0.1	1.52	3.86	0.04	0.24	0.63	3.91	65.00	16.63
38.50	-1.2	-7.0	7.1	0.1	1.52	3.85	0.05	0.57	1.45	4.05	65.00	16.03
37.08	-1.2	-6.6	6.7	0.1	1.50	5.36	0.06	0.54	1.41	5.47	65.00	11.89
36.02	-1.1	-6.3	6.4	0.1	1.48	6.40	0.06	0.52	1.37	6.50	65.00	9.99
31.50	-0.9	-4.9	5.0	0.0	1.39	10.08	0.07	0.45	1.25	10.18	65.00	6.39
31.50	-0.9	-4.9	5.0	0.0	1.39	10.07	0.09	0.74	1.97	10.21	65.00	6.36
31.03	-0.8	-4.8	4.9	0.0	1.38	10.65	0.09	0.73	1.95	10.79	65.00	6.02
30.08	-0.8	-4.5	4.6	0.0	1.35	11.76	0.09	0.71	1.92	11.90	65.00	5.46
26.04	-0.6	-3.4	3.5	0.0	1.23	15.84	0.10	0.63	1.77	15.96	65.00	4.07
24.50	-0.6	-3.1	3.1	0.0	1.17	17.13	0.10	0.60	1.72	17.26	65.00	3.77
24.50	-0.6	-3.1	3.1	0.0	1.17	17.12	0.12	0.86	2.37	17.29	65.00	3.76
23.08	-0.5	-2.7	2.8	0.0	1.12	18.82	0.12	0.82	2.31	18.98	65.00	3.42
21.05	-0.4	-2.3	2.3	0.0	1.03	21.02	0.13	0.78	2.23	21.18	65.00	3.07
16.06	-0.2	-1.3	1.3	0.0	0.80	25.43	0.14	0.68	2.05	25.59	65.00	2.54
11.07	-0.1	-0.6	0.6	0.0	0.55	28.71	0.15	0.61	1.90	28.87	65.00	2.25
10.00	-0.1	-0.5	0.5	0.0	0.49	29.29	0.15	0.59	1.87	29.46	65.00	2.21
10.00	-0.1	-0.5	0.5	0.0	0.49	26.64	0.14	0.54	1.68	26.79	65.00	2.43
6.08	0.0	-0.2	0.2	0.0	0.30	28.28	0.16	0.49	1.58	28.44	65.00	2.29
3.59	0.0	-0.1	0.1	0.0	0.18	29.13	0.16	0.46	1.53	29.30	65.00	2.22
1.09	0.0	0.0	0.0	0.0	0.05	29.86	0.17	0.44	1.48	30.04	65.00	2.16
0.00	0.0	0.0	0.0	0.0	0.00	30.14	0.17	0.43	1.46	30.32	65.00	2.14

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 2C EXTREME WIND

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
46.00	0	0	0	0	0	0	0	0
45.50	0	0	0	0	-16	0	16	18
45.50	0	0	0	23	-112	2203	2205	60
41.01	119	10	119	23	-264	2207	2223	227
38.50	185	19	186	23	-355	2210	2238	326
38.50	185	18	186	56	-651	5014	5056	455
37.08	271	29	272	56	-703	5016	5065	512
37.08	271	29	272	56	-704	5016	5065	514
36.02	335	38	337	56	-745	5016	5071	563
31.50	607	84	613	56	-925	5021	5106	761
31.50	607	82	612	91	-1222	7825	7920	898
31.03	651	89	657	91	-1242	7825	7923	922
30.08	740	103	747	91	-1282	7826	7930	966
30.08	740	103	747	91	-1283	7824	7929	976
26.04	1120	170	1132	91	-1460	7827	7962	1181
24.50	1264	197	1280	91	-1529	7828	7976	1258
24.50	1264	196	1279	130	-1828	10631	10787	1410
23.08	1445	227	1463	130	-1894	10632	10799	1482
23.08	1445	227	1463	130	-1895	10630	10798	1495
21.05	1704	275	1726	130	-1992	10627	10813	1629
16.06	2341	402	2375	130	-2241	10623	10857	1945
11.07	2977	544	3026	130	-2503	10621	10912	2263
10.00	3113	576	3166	130	-2562	10621	10926	2328
10.00	3113	576	3166	130	-2562	10616	10921	2350
6.08	3612	702	3680	130	-2782	10619	10978	2865
6.08	3612	702	3680	130	-2782	10612	10970	2894
3.59	3930	788	4008	130	-2924	10606	11002	3097
1.09	4248	877	4338	130	-3070	10601	11037	3298
0.00	4387	918	4482	130	-3135	10601	11055	3381

Deflections and Stresses for Pole

Loading Case 2C EXTREME WIND *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
46.00	-1.6	9.1	9.2	0.1	1.50	0.00	0.00	0.00	0.00	0.00	65.00	99.90
45.50	-1.6	8.9	9.1	0.1	1.50	0.00	0.00	0.00	0.00	0.01	65.00	99.90
45.50	-1.6	8.9	9.1	0.1	1.50	0.01	0.01	0.30	0.72	1.25	65.00	52.10
41.01	-1.4	7.5	7.6	0.1	1.48	2.58	0.02	0.25	0.64	2.62	65.00	24.81
38.50	-1.2	6.8	6.9	0.1	1.46	3.70	0.03	0.23	0.60	3.74	65.00	17.39
38.50	-1.2	6.8	6.9	0.1	1.46	3.69	0.04	0.55	1.40	3.85	65.00	16.87
37.08	-1.2	6.3	6.4	0.1	1.44	5.14	0.04	0.52	1.35	5.24	65.00	12.41
36.02	-1.1	6.0	6.1	0.1	1.43	6.15	0.05	0.50	1.32	6.23	65.00	10.43
31.50	-0.9	4.7	4.8	0.0	1.34	9.69	0.06	0.44	1.20	9.77	65.00	6.65
31.50	-0.9	4.7	4.8	0.0	1.34	9.69	0.07	0.71	1.90	9.81	65.00	6.63
31.03	-0.9	4.6	4.7	0.0	1.33	10.24	0.07	0.70	1.88	10.36	65.00	6.27
30.08	-0.8	4.3	4.4	0.0	1.30	11.32	0.07	0.68	1.85	11.43	65.00	5.69
30.08	-0.8	4.3	4.4	0.0	1.30	11.32	0.07	0.68	1.84	11.43	65.00	5.69
26.04	-0.6	3.3	3.4	0.0	1.18	15.24	0.08	0.61	1.71	15.35	65.00	4.23
24.50	-0.6	2.9	3.0	0.0	1.13	16.50	0.08	0.58	1.66	16.60	65.00	3.91
24.50	-0.6	2.9	3.0	0.0	1.13	16.49	0.09	0.82	2.28	16.63	65.00	3.91
23.08	-0.5	2.6	2.7	0.0	1.07	18.13	0.10	0.79	2.23	18.26	65.00	3.56
23.08	-0.5	2.6	2.7	0.0	1.07	18.13	0.10	0.79	2.22	18.26	65.00	3.56
21.05	-0.4	2.2	2.2	0.0	0.99	20.25	0.10	0.75	2.15	20.39	65.00	3.19
16.06	-0.2	1.3	1.3	0.0	0.77	24.50	0.12	0.66	1.98	24.64	65.00	2.64
11.07	-0.1	0.6	0.6	0.0	0.53	27.67	0.13	0.58	1.83	27.82	65.00	2.34
10.00	-0.1	0.5	0.5	0.0	0.47	28.24	0.13	0.57	1.80	28.39	65.00	2.29
10.00	-0.1	0.5	0.5	0.0	0.47	25.68	0.12	0.52	1.62	25.81	65.00	2.52
6.08	0.0	0.2	0.2	0.0	0.29	27.27	0.14	0.47	1.53	27.42	65.00	2.37
3.59	0.0	0.1	0.1	0.0	0.17	28.10	0.14	0.45	1.48	28.25	65.00	2.30
1.09	0.0	0.0	0.0	0.0	0.05	28.80	0.15	0.42	1.43	28.96	65.00	2.24
0.00	0.0	0.0	0.0	0.0	0.00	29.08	0.15	0.41	1.41	29.24	65.00	2.22

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 3A CONCURRENT

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
46.00	0	0	0	0	0	0	0	0
45.50	0	0	0	0	-3	0	3	18
45.50	0	-8	8	-1	-410	-101	422	814
41.01	-5	14	15	-1	-438	-102	450	980
38.50	-9	28	29	-1	-455	-102	466	1079
38.50	-9	13	15	-3	-966	-304	1013	2375
37.08	-14	29	32	-3	-976	-304	1022	2433
36.02	-18	42	45	-3	-983	-304	1029	2477
31.50	-34	96	102	-3	-1016	-304	1061	2675
31.50	-34	80	87	-6	-1527	-506	1608	3971
31.03	-37	88	96	-6	-1530	-506	1612	3992
30.08	-43	106	114	-6	-1537	-506	1619	4036
30.08	-43	106	114	-6	-1537	-506	1618	4036
26.04	-67	181	193	-6	-1568	-505	1648	4230
24.50	-77	210	224	-6	-1581	-506	1660	4306
24.50	-77	192	207	-9	-2090	-707	2207	5602
23.08	-89	228	245	-9	-2102	-707	2218	5674
23.08	-89	228	245	-9	-2101	-707	2217	5675
21.05	-106	280	299	-9	-2117	-706	2231	5782
16.06	-148	408	434	-9	-2158	-704	2270	6055
11.07	-190	538	571	-9	-2203	-704	2313	6346
10.00	-199	567	601	-9	-2214	-704	2323	6411
10.00	-199	567	601	-9	-2211	-703	2320	6411
6.08	-232	672	711	-9	-2253	-703	2360	6926
6.08	-232	672	711	-9	-2249	-702	2356	6928
3.59	-253	739	782	-9	-2273	-701	2378	7109
1.09	-274	808	853	-9	-2297	-700	2402	7294
0.00	-283	838	885	-9	-2309	-700	2413	7377

Deflections and Stresses for Pole

Loading Case 3A CONCURRENT *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
46.00	-1.6	-0.6	1.7	0.0	0.27	0.00	0.00	0.00	0.00	0.00	65.00	99.90
45.50	-1.6	-0.6	1.7	0.0	0.27	0.00	0.00	0.00	0.00	0.00	65.00	99.90
45.50	-1.6	-0.6	1.7	0.0	0.27	0.21	0.08	0.01	0.09	0.30	65.00	99.90
41.01	-1.3	-0.5	1.4	0.0	0.26	0.34	0.09	0.01	0.09	0.42	65.00	99.90
38.50	-1.2	-0.4	1.3	0.0	0.26	0.59	0.09	0.01	0.09	0.68	65.00	96.15
38.50	-1.2	-0.4	1.3	0.0	0.26	0.30	0.20	0.03	0.20	0.54	65.00	99.90
37.08	-1.1	-0.4	1.2	0.0	0.26	0.61	0.20	0.03	0.20	0.81	65.00	80.32
36.02	-1.1	-0.4	1.1	0.0	0.26	0.83	0.20	0.03	0.20	1.03	65.00	63.17
31.50	-0.9	-0.3	0.9	0.0	0.24	1.62	0.20	0.03	0.19	1.82	65.00	35.72
31.50	-0.9	-0.3	0.9	0.0	0.24	1.37	0.30	0.05	0.29	1.66	65.00	39.06
31.03	-0.8	-0.3	0.9	0.0	0.24	1.49	0.30	0.05	0.29	1.79	65.00	36.39
30.08	-0.8	-0.3	0.8	0.0	0.24	1.73	0.29	0.04	0.28	2.02	65.00	32.15
26.04	-0.6	-0.2	0.6	0.0	0.22	2.60	0.29	0.04	0.27	2.90	65.00	22.45
24.50	-0.5	-0.2	0.6	0.0	0.21	2.89	0.29	0.04	0.26	3.18	65.00	20.45
24.50	-0.5	-0.2	0.6	0.0	0.21	2.67	0.38	0.06	0.35	3.04	65.00	21.36
23.08	-0.5	-0.2	0.5	0.0	0.20	3.03	0.37	0.05	0.35	3.41	65.00	19.09
21.05	-0.4	-0.1	0.4	0.0	0.19	3.51	0.37	0.05	0.34	3.88	65.00	16.76
16.06	-0.2	-0.1	0.3	0.0	0.15	4.48	0.36	0.04	0.32	4.84	65.00	13.43
11.07	-0.1	0.0	0.1	0.0	0.10	5.22	0.36	0.04	0.30	5.58	65.00	11.65
10.00	-0.1	0.0	0.1	0.0	0.09	5.36	0.36	0.04	0.30	5.72	65.00	11.37
10.00	-0.1	0.0	0.1	0.0	0.09	4.87	0.32	0.03	0.27	5.19	65.00	12.52
6.08	0.0	0.0	0.0	0.0	0.06	5.26	0.33	0.03	0.26	5.59	65.00	11.62
3.59	0.0	0.0	0.0	0.0	0.03	5.48	0.33	0.03	0.25	5.81	65.00	11.20
1.09	0.0	0.0	0.0	0.0	0.01	5.66	0.33	0.03	0.25	5.99	65.00	10.85
0.00	0.0	0.0	0.0	0.0	0.00	5.74	0.33	0.03	0.24	6.06	65.00	10.72

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 3B CONCURRENT

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
46.00	0	0	0	0	0	0	0	0
45.50	0	0	0	0	-3	-1	3	18
45.50	0	-3	3	-41	-191	-3920	3924	344
41.01	-211	8	212	-41	-220	-3927	3933	512
38.50	-330	14	330	-41	-236	-3931	3938	611
38.50	-330	8	330	-96	-525	-8662	8678	1209
37.08	-477	17	477	-96	-535	-8664	8681	1267
37.08	-477	17	477	-96	-536	-8664	8680	1271
36.02	-588	24	588	-96	-546	-8663	8680	1329
31.50	-1058	54	1059	-96	-579	-8671	8691	1527
31.50	-1058	46	1059	-156	-872	-13398	13426	2153
31.03	-1133	51	1134	-156	-877	-13397	13426	2181
30.08	-1285	61	1287	-156	-884	-13399	13428	2225
30.08	-1285	61	1287	-156	-888	-13394	13423	2254
26.04	-1935	105	1938	-156	-924	-13394	13426	2483
24.50	-2183	123	2186	-156	-937	-13397	13429	2559
24.50	-2183	114	2186	-221	-1234	-18117	18159	3226
23.08	-2491	135	2495	-221	-1246	-18119	18162	3298
23.08	-2491	135	2495	-221	-1250	-18112	18155	3334
21.05	-2933	166	2938	-221	-1273	-18099	18144	3521
16.06	-4017	244	4024	-221	-1326	-18079	18128	3919
11.07	-5100	325	5110	-221	-1377	-18066	18118	4288
10.00	-5332	343	5343	-221	-1388	-18067	18120	4352
10.00	-5332	343	5343	-221	-1390	-18051	18104	4416
6.08	-6180	409	6194	-221	-1431	-18057	18113	4931
6.08	-6180	410	6194	-221	-1434	-18034	18091	5011
3.59	-6720	453	6736	-221	-1461	-18017	18076	5254
1.09	-7260	498	7277	-221	-1489	-18004	18066	5484
0.00	-7496	517	7514	-221	-1501	-18004	18067	5567

Deflections and Stresses for Pole

Loading Case 3B CONCURRENT *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
46.00	-1.0	-15.6	15.6	0.3	2.55	0.00	0.00	0.00	0.00	0.00	65.00	99.90
45.50	-1.0	-15.3	15.3	0.3	2.55	0.00	0.00	0.00	0.00	0.00	65.00	99.90
45.50	-1.0	-15.3	15.3	0.3	2.55	0.09	0.03	0.53	1.28	2.22	65.00	29.23
41.01	-0.8	-12.9	12.9	0.2	2.52	4.53	0.04	0.45	1.14	4.63	65.00	14.02
38.50	-0.7	-11.6	11.6	0.2	2.48	6.48	0.05	0.41	1.07	6.54	65.00	9.93
38.50	-0.7	-11.6	11.6	0.2	2.48	6.44	0.10	0.95	2.41	6.91	65.00	9.41
37.08	-0.7	-10.9	10.9	0.2	2.45	8.90	0.10	0.90	2.33	9.14	65.00	7.11
36.02	-0.7	-10.3	10.3	0.2	2.42	10.59	0.11	0.87	2.27	10.74	65.00	6.05
31.50	-0.5	-8.1	8.1	0.1	2.27	16.52	0.11	0.75	2.06	16.65	65.00	3.90
31.50	-0.5	-8.1	8.1	0.1	2.27	16.49	0.16	1.22	3.24	16.71	65.00	3.89
31.03	-0.5	-7.9	7.9	0.1	2.25	17.42	0.16	1.20	3.21	17.63	65.00	3.69
30.08	-0.5	-7.4	7.5	0.1	2.21	19.20	0.16	1.17	3.14	19.41	65.00	3.35
26.04	-0.4	-5.7	5.7	0.1	2.00	25.69	0.17	1.04	2.90	25.89	65.00	2.51
24.50	-0.3	-5.0	5.0	0.1	1.91	27.75	0.17	0.99	2.81	27.95	65.00	2.33
24.50	-0.3	-5.0	5.0	0.1	1.91	27.72	0.22	1.40	3.86	27.99	65.00	2.32
23.08	-0.3	-4.5	4.5	0.1	1.82	30.43	0.22	1.35	3.76	30.68	65.00	2.12
21.05	-0.2	-3.7	3.7	0.0	1.68	33.92	0.23	1.28	3.62	34.18	65.00	1.90
16.06	-0.1	-2.2	2.2	0.0	1.30	40.86	0.24	1.12	3.32	41.11	65.00	1.58
11.07	-0.1	-1.0	1.0	0.0	0.89	45.97	0.24	0.99	3.06	46.22	65.00	1.41
10.00	-0.1	-0.8	0.8	0.0	0.80	46.87	0.24	0.97	3.01	47.13	65.00	1.38
10.00	-0.1	-0.8	0.8	0.0	0.80	42.63	0.22	0.88	2.70	42.86	65.00	1.52
6.08	0.0	-0.3	0.3	0.0	0.48	45.13	0.23	0.80	2.54	45.37	65.00	1.43
6.08	0.0	-0.3	0.3	0.0	0.48	45.13	0.24	0.80	2.54	45.38	65.00	1.43
3.59	0.0	-0.1	0.1	0.0	0.29	46.42	0.24	0.76	2.45	46.67	65.00	1.39
1.09	0.0	0.0	0.0	0.0	0.09	47.50	0.25	0.72	2.36	47.75	65.00	1.36
0.00	0.0	0.0	0.0	0.0	0.00	47.92	0.25	0.70	2.33	48.17	65.00	1.35

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 3C CONCURRENT

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
46.00	0	0	0	0	0	0	0	0
45.50	0	0	0	0	-3	1	3	18
45.50	0	-1	1	40	-190	3811	3816	155
41.01	206	10	206	40	-218	3818	3824	321
38.50	321	16	321	40	-236	3822	3829	422
38.50	321	13	321	93	-424	8339	8350	737
37.08	462	20	463	93	-434	8341	8353	794
37.08	462	20	463	93	-435	8341	8352	798
36.02	569	26	569	93	-442	8343	8355	843
31.50	1021	51	1023	93	-477	8349	8363	1053
31.50	1021	47	1023	150	-669	12864	12881	1394
31.03	1094	50	1095	150	-674	12864	12881	1422
30.08	1240	58	1241	150	-681	12865	12884	1465
30.08	1240	58	1241	150	-685	12862	12880	1493
26.04	1864	92	1867	150	-720	12865	12885	1719
24.50	2102	106	2105	150	-733	12867	12888	1795
24.50	2102	101	2105	212	-929	17378	17403	2173
23.08	2397	117	2400	212	-941	17380	17406	2245
23.08	2397	117	2400	212	-944	17376	17401	2278
21.05	2822	140	2825	212	-968	17368	17395	2460
16.06	3862	200	3867	212	-1020	17356	17386	2847
11.07	4901	263	4908	212	-1072	17348	17381	3210
10.00	5124	277	5131	212	-1082	17348	17382	3274
10.00	5124	277	5131	212	-1085	17337	17371	3333
6.08	5939	329	5948	212	-1126	17343	17379	3848
6.08	5939	329	5948	212	-1128	17326	17363	3922
3.59	6458	364	6468	212	-1156	17313	17352	4160
1.09	6977	399	6988	212	-1184	17303	17344	4386
0.00	7203	414	7215	212	-1196	17303	17344	4469

Deflections and Stresses for Pole

Loading Case 3C CONCURRENT *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
46.00	-0.8	15.0	15.0	0.3	2.46	0.00	0.00	0.00	0.00	0.00	65.00	99.90
45.50	-0.8	14.7	14.7	0.3	2.46	0.00	0.00	0.00	0.00	0.00	65.00	99.90
45.50	-0.8	14.7	14.7	0.3	2.46	0.04	0.01	0.51	1.25	2.16	65.00	30.11
41.01	-0.7	12.4	12.4	0.2	2.42	4.42	0.03	0.43	1.11	4.50	65.00	14.44
38.50	-0.6	11.1	11.2	0.2	2.39	6.31	0.04	0.40	1.04	6.36	65.00	10.22
38.50	-0.6	11.1	11.2	0.2	2.39	6.29	0.06	0.91	2.32	6.64	65.00	9.79
37.08	-0.6	10.4	10.5	0.2	2.36	8.64	0.06	0.87	2.24	8.81	65.00	7.38
37.08	-0.6	10.4	10.5	0.2	2.36	8.64	0.07	0.87	2.24	8.81	65.00	7.38
36.02	-0.5	9.9	9.9	0.2	2.33	10.27	0.07	0.84	2.19	10.38	65.00	6.26
31.50	-0.4	7.8	7.8	0.1	2.18	15.95	0.08	0.72	1.98	16.05	65.00	4.05
31.50	-0.4	7.8	7.8	0.1	2.18	15.93	0.10	1.17	3.11	16.09	65.00	4.04
31.03	-0.4	7.6	7.6	0.1	2.16	16.82	0.11	1.15	3.08	16.97	65.00	3.83
30.08	-0.4	7.1	7.2	0.1	2.12	18.52	0.11	1.12	3.02	18.67	65.00	3.48
26.04	-0.3	5.4	5.4	0.1	1.92	24.72	0.12	0.99	2.78	24.86	65.00	2.61
24.50	-0.3	4.8	4.8	0.1	1.83	26.68	0.12	0.95	2.70	26.82	65.00	2.42
24.50	-0.3	4.8	4.8	0.1	1.83	26.67	0.15	1.34	3.71	26.85	65.00	2.42
23.08	-0.2	4.3	4.3	0.0	1.74	29.24	0.15	1.29	3.61	29.42	65.00	2.21
23.08	-0.2	4.3	4.3	0.0	1.74	29.24	0.15	1.29	3.61	29.43	65.00	2.21
21.05	-0.2	3.6	3.6	0.0	1.61	32.57	0.16	1.22	3.47	32.76	65.00	1.98
16.06	-0.1	2.1	2.1	0.0	1.25	39.19	0.17	1.08	3.19	39.37	65.00	1.65
11.07	-0.1	1.0	1.0	0.0	0.85	44.06	0.18	0.95	2.94	44.25	65.00	1.47
10.00	0.0	0.8	0.8	0.0	0.76	44.92	0.18	0.93	2.89	45.12	65.00	1.44
10.00	0.0	0.8	0.8	0.0	0.76	40.85	0.17	0.84	2.59	41.03	65.00	1.58
6.08	0.0	0.3	0.3	0.0	0.47	43.24	0.18	0.77	2.44	43.43	65.00	1.50
6.08	0.0	0.3	0.3	0.0	0.47	43.24	0.19	0.77	2.44	43.44	65.00	1.50
3.59	0.0	0.1	0.1	0.0	0.27	44.47	0.19	0.73	2.35	44.67	65.00	1.46
1.09	0.0	0.0	0.0	0.0	0.08	45.51	0.20	0.69	2.27	45.71	65.00	1.42
0.00	0.0	0.0	0.0	0.0	0.00	45.91	0.20	0.67	2.23	46.11	65.00	1.41

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 4 DEFLECTION

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
46.00	0	0	0	0	0	0	0	0
45.50	0	0	0	0	-1	0	1	18
45.50	0	-3	3	0	198	0	198	319
41.01	0	-14	14	0	191	0	191	485
38.50	0	-19	19	0	186	0	186	584
38.50	0	-25	25	0	-16	0	16	1083
37.08	0	-25	25	0	-18	0	18	1141
36.02	0	-25	25	0	-20	0	20	1185
31.50	0	-23	23	0	-29	0	29	1383
31.50	0	-30	30	0	-231	0	231	1882
31.03	0	-28	28	0	-232	0	232	1904
30.08	0	-26	26	0	-234	0	234	1947
26.04	0	-14	14	0	-243	0	243	2140
24.50	0	-10	10	0	-246	0	246	2217
24.50	0	-16	16	0	-449	0	449	2716
23.08	0	-9	9	0	-452	0	452	2788
21.05	0	2	2	0	-456	0	456	2894
16.06	0	30	30	0	-468	0	468	3166
11.07	0	58	58	0	-480	0	480	3456
10.00	0	65	65	0	-483	0	483	3520
10.00	0	65	65	0	-483	0	483	3520
6.08	0	88	88	0	-495	0	495	4035
3.59	0	103	103	0	-501	0	501	4215
1.09	0	118	118	0	-508	0	508	4400
0.00	0	124	124	0	-511	0	511	4483

Deflections and Stresses for Pole

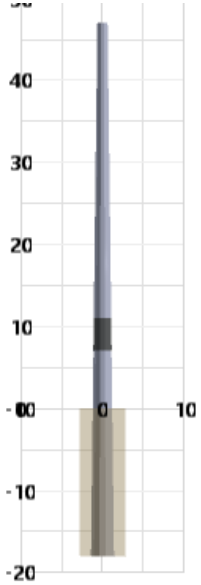
Loading Case 4 DEFLECTION *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
46.00	-0.1	0.0	0.1	0.0	0.00	0.00	0.00	0.00	0.00	0.00	65.00	99.90
45.50	-0.1	0.0	0.1	0.0	0.00	0.00	0.00	0.00	0.00	0.00	65.00	99.90
45.50	-0.1	0.0	0.1	0.0	0.00	0.08	0.03	0.00	0.04	0.11	65.00	99.90
41.01	-0.1	0.0	0.1	0.0	0.00	0.29	0.04	0.00	0.03	0.33	65.00	99.90
38.50	-0.1	0.0	0.1	0.0	0.01	0.38	0.05	0.00	0.03	0.42	65.00	99.90
38.50	-0.1	0.0	0.1	0.0	0.01	0.49	0.09	0.00	0.00	0.58	65.00	99.90
37.08	-0.1	0.0	0.1	0.0	0.01	0.46	0.09	0.00	0.00	0.55	65.00	99.90
36.02	-0.1	0.0	0.1	0.0	0.01	0.44	0.09	0.00	0.00	0.53	65.00	99.90
31.50	-0.1	0.0	0.1	0.0	0.01	0.36	0.10	0.00	0.00	0.46	65.00	99.90
31.50	-0.1	0.0	0.1	0.0	0.01	0.46	0.14	0.00	0.03	0.60	65.00	99.90
31.03	-0.1	0.0	0.1	0.0	0.01	0.43	0.14	0.00	0.03	0.57	65.00	99.90
30.08	-0.1	0.0	0.1	0.0	0.01	0.38	0.14	0.00	0.03	0.52	65.00	99.90
26.04	-0.1	0.0	0.1	0.0	0.02	0.18	0.15	0.00	0.03	0.33	65.00	99.90
24.50	-0.1	0.0	0.1	0.0	0.02	0.12	0.15	0.00	0.03	0.27	65.00	99.90
24.50	-0.1	0.0	0.1	0.0	0.02	0.20	0.18	0.00	0.06	0.39	65.00	99.90
23.08	-0.1	0.0	0.1	0.0	0.02	0.10	0.18	0.00	0.06	0.29	65.00	99.90
21.05	0.0	0.0	0.0	0.0	0.02	0.03	0.19	0.00	0.06	0.22	65.00	99.90
16.06	0.0	0.0	0.0	0.0	0.02	0.30	0.19	0.00	0.06	0.49	65.00	99.90
11.07	0.0	0.0	0.0	0.0	0.01	0.52	0.20	0.00	0.05	0.71	65.00	91.02
10.00	0.0	0.0	0.0	0.0	0.01	0.56	0.20	0.00	0.05	0.76	65.00	86.00
10.00	0.0	0.0	0.0	0.0	0.01	0.51	0.18	0.00	0.05	0.68	65.00	95.06
6.08	0.0	0.0	0.0	0.0	0.01	0.63	0.19	0.00	0.05	0.82	65.00	79.16
3.59	0.0	0.0	0.0	0.0	0.00	0.70	0.20	0.00	0.05	0.89	65.00	72.94
1.09	0.0	0.0	0.0	0.0	0.00	0.76	0.20	0.00	0.05	0.95	65.00	68.10
0.00	0.0	0.0	0.0	0.0	0.00	0.78	0.20	0.00	0.05	0.98	65.00	66.31

MINIMUM DEFLECTION RATIO // DEFLECTION LIMIT / DEFLECTION // IS

46.0' AGH, 65' CUSTOM POLES, STR. #10/2

Design Id: STR10_2



BY VALMONT INDUSTRIES FOR: OMPA, 46.0' AGH, 65' CUSTOM POLES, STR. #10/2, 607956 DATE 01/30/2024
Design Id: STR10_2 IMPAX 26.2.5.1

*** SUMMARY ***

---------- DESIGN SUMMARY ----------

Above Ground Height	47'- 0.00"	Ground Line Diameter (in)	28.496	Pole Shaft Weight (lbs)	4275
Embedment Length	18'- 0.00"	Top Diameter (in)	15.022		
Total Pole Length	65'- 0.00"	Pole Taper (in/ft)	0.29600	Shape:	12 Sides

Connections Between Sections /First/

Height Above Ground	11'- 0.00"
Type	Slip Joint
Overlap Length (in)	47
Maximum Axial Force (lbs)	5413

Section Characteristics	/First/	/Second/
Base Diameter (in)	33.824	26.837
Top Diameter (in)	25.240	15.022
Thickness (in)	0.25000	0.21875
Length	29'- 0.00"	39'-11.00"
Weight (lbs)	2310	1965

---------- ANALYSIS SUMMARY ----------

	Pt. of Fixity	Governing Level Sec.1	Governing Level Sec.2	Pole Top
Governing Load Case	1C NESC HEAV	1C NESC HEAV	1C NESC HEAV	1C NESC HEAV
Height (ft)	0.00	0.00	11.00	47.00
Resultant Moment (in-kips)	10082	10082	6969	0
Shear Force (lbs)	23568	23568	23611	0
Axial Force (lbs)	5095	5095	3087	0
Combined Stress (ksi)	62.96	62.96	61.09	0.00
Allowable Stress (ksi)	65.00	65.00	65.00	65.00
Allowable/Combined Stress	1.03	1.03	1.06	99.90
Total Deflection (in)	0.00	0.00	1.32	21.35

Note: Diameters are outside, measured across the flats
Forces and moments are reported in the local element coordinate system

BY VALMONT INDUSTRIES FOR: OMPA, 46.0' AGH, 65' CUSTOM POLES, STR. #10/2, 607956 DATE 01/30/2024
Design Id: STR10_2 IMPAX 26.2.5.1

*** POLE SHAFT POINT OF FIXITY REACTIONS ***

Loading Case Identifier	Moments About X-Axis (in-kips)	Moments About Y-Axis (in-kips)	Moments Resultant (X & Y) (in-kips)	Moments Torsional (in-kips)	Vertical Force (lbs)	Shear In X-Direction (lbs)	Shear In Y-Direction (lbs)	Shear Resultant (X & Y) (lbs)	Notes
1A NESC HE	-639	853	1066	-16	9219	-2444	-1500	2868	B
1B NESC HE	9444	571	9461	228	8218	-1744	22000	22069	
1C NESC HE	-10070	523	10084	-243	7418	-1644	-23500	23557	A C
2A EXTREME	-235	305	385	-7	5186	-1481	-600	1598	
2B EXTREME	4398	486	4424	107	4988	-1981	10300	10489	
2C EXTREME	-4629	374	4644	-113	4487	-1681	-10900	11029	
3A CONCURR	-583	645	870	-15	7978	-1787	-1400	2270	
3B CONCURR	7126	368	7136	172	6477	-1087	16600	16635	
3C CONCURR	-7701	375	7710	-187	5777	-1087	-18000	18033	
4 DEFLECTI	-117	363	381	-3	5176	-894	-300	943	

Note: Positive vertical force is downward.
Reactions are considered in the global coordinate system.

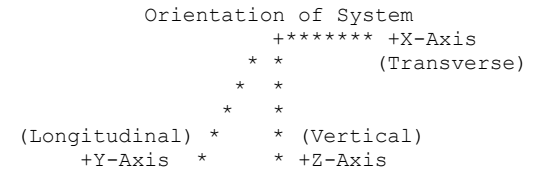
Key to the special note entries
A Indicates load case with maximum overturning moment
B Indicates load case with maximum vertical force
C Indicates load case with maximum resultant shear

BY VALMONT INDUSTRIES FOR: OMPA, 46.0' AGH, 65' CUSTOM POLES, STR. #10/2, 607956 DATE 01/30/2024
Design Id: STR10_2 IMPAX 26.2.5.1

*** INPUT LOADS ***

Loading Case 1A NESC HEAVY

Basic Wind Pressure is 10.00 psf
Wind Orientation is 180.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.500
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

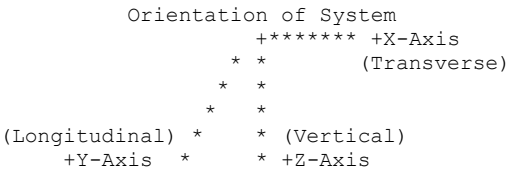


Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	46'- 6.00"	46'- 6.00"	3.00"	0.00	-200	4900	300	SW_A
2	46'- 6.00"	46'- 6.00"	3.00"	0.00	-100	-5200	100	SW_B
3	39'- 6.00"	39'- 6.00"	3.00"	0.00	-200	5700	500	TCND_C
4	32'- 6.00"	32'- 6.00"	3.00"	0.00	-200	5700	500	MCND_C
5	25'- 6.00"	25'- 6.00"	3.00"	0.00	-200	5700	500	BCND_C
6	39'- 6.00"	39'- 6.00"	3.00"	0.00	-200	-6100	300	TCND_D
7	32'- 6.00"	32'- 6.00"	3.00"	0.00	-200	-6100	300	MCND_D
8	25'- 6.00"	25'- 6.00"	3.00"	0.00	-200	-6100	300	BCND_D
9	38'- 1.00"	38'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	31'- 1.00"	31'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	24'- 1.00"	24'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 1B NESC HEAVY

Basic Wind Pressure is 10.00 psf
Wind Orientation is 180.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.500
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

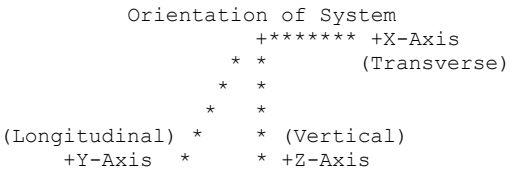


Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	46'- 6.00"	46'- 6.00"	3.00"	0.00	-200	4900	300	SW_A
2	46'- 6.00"	46'- 6.00"	3.00"	0.00	0	0	0	SW_B
3	39'- 6.00"	39'- 6.00"	3.00"	0.00	-200	5700	500	TCND_C
4	32'- 6.00"	32'- 6.00"	3.00"	0.00	-200	5700	500	MCND_C
5	25'- 6.00"	25'- 6.00"	3.00"	0.00	-200	5700	500	BCND_C
6	39'- 6.00"	39'- 6.00"	3.00"	0.00	0	0	0	TCND_D
7	32'- 6.00"	32'- 6.00"	3.00"	0.00	0	0	0	MCND_D
8	25'- 6.00"	25'- 6.00"	3.00"	0.00	0	0	0	BCND_D
9	38'- 1.00"	38'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	31'- 1.00"	31'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	24'- 1.00"	24'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 1C NESC HEAVY

Basic Wind Pressure is 10.00 psf
Wind Orientation is 180.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.500
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees



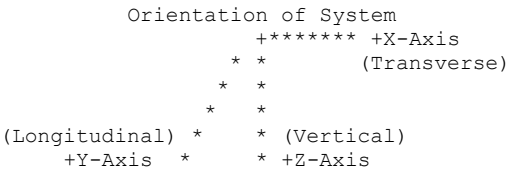
Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	46'- 6.00"	46'- 6.00"	3.00"	0.00	0	0	0	SW_A
2	46'- 6.00"	46'- 6.00"	3.00"	0.00	-100	-5200	100	SW_B
3	39'- 6.00"	39'- 6.00"	3.00"	0.00	0	0	0	TCND_C
4	32'- 6.00"	32'- 6.00"	3.00"	0.00	0	0	0	MCND_C
5	25'- 6.00"	25'- 6.00"	3.00"	0.00	0	0	0	BCND_C
6	39'- 6.00"	39'- 6.00"	3.00"	0.00	-200	-6100	300	TCND_D
7	32'- 6.00"	32'- 6.00"	3.00"	0.00	-200	-6100	300	MCND_D
8	25'- 6.00"	25'- 6.00"	3.00"	0.00	-200	-6100	300	BCND_D
9	38'- 1.00"	38'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	31'- 1.00"	31'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	24'- 1.00"	24'- 1.01"	6.00"	0.00	0	0	0	BRKT3

BY VALMONT INDUSTRIES FOR: OMPA, 46.0' AGH, 65' CUSTOM POLES, STR. #10/2, 607956 DATE 01/30/2024
Design Id: STR10_2 IMPAX 26.2.5.1

*** INPUT LOADS ***

Loading Case 2A EXTREME WIND

Basic Wind Pressure is 23.10 psf
Wind Orientation is 180.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

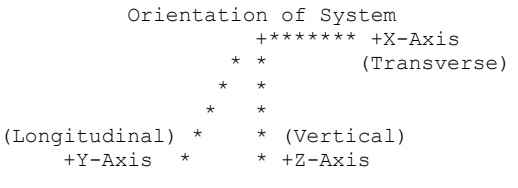


Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	46'- 6.00"	46'- 6.00"	3.00"	0.00	-100	2200	100	SW_A
2	46'- 6.00"	46'- 6.00"	3.00"	0.00	-100	-2200	-100	SW_B
3	39'- 6.00"	39'- 6.00"	3.00"	0.00	100	2700	200	TCND_C
4	32'- 6.00"	32'- 6.00"	3.00"	0.00	100	2700	200	MCND_C
5	25'- 6.00"	25'- 6.00"	3.00"	0.00	100	2700	200	BCND_C
6	39'- 6.00"	39'- 6.00"	3.00"	0.00	200	-2900	100	TCND_D
7	32'- 6.00"	32'- 6.00"	3.00"	0.00	200	-2900	100	MCND_D
8	25'- 6.00"	25'- 6.00"	3.00"	0.00	200	-2900	100	BCND_D
9	38'- 1.00"	38'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	31'- 1.00"	31'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	24'- 1.00"	24'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 2B EXTREME WIND

Basic Wind Pressure is 23.10 psf
Wind Orientation is 180.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

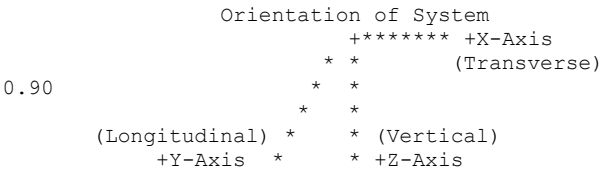


Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	46'- 6.00"	46'- 6.00"	3.00"	0.00	-100	2200	100	SW_A
2	46'- 6.00"	46'- 6.00"	3.00"	0.00	0	0	0	SW_B
3	39'- 6.00"	39'- 6.00"	3.00"	0.00	100	2700	200	TCND_C
4	32'- 6.00"	32'- 6.00"	3.00"	0.00	100	2700	200	MCND_C
5	25'- 6.00"	25'- 6.00"	3.00"	0.00	100	2700	200	BCND_C
6	39'- 6.00"	39'- 6.00"	3.00"	0.00	0	0	0	TCND_D
7	32'- 6.00"	32'- 6.00"	3.00"	0.00	0	0	0	MCND_D
8	25'- 6.00"	25'- 6.00"	3.00"	0.00	0	0	0	BCND_D
9	38'- 1.00"	38'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	31'- 1.00"	31'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	24'- 1.00"	24'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 2C EXTREME WIND

Basic Wind Pressure is 23.10 psf
Wind Orientation is 180.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees



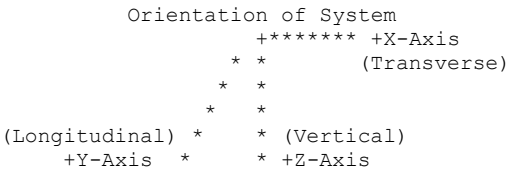
Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	46'- 6.00"	46'- 6.00"	3.00"	0.00	0	0	0	SW_A
2	46'- 6.00"	46'- 6.00"	3.00"	0.00	-100	-2200	-100	SW_B
3	39'- 6.00"	39'- 6.00"	3.00"	0.00	0	0	0	TCND_C
4	32'- 6.00"	32'- 6.00"	3.00"	0.00	0	0	0	MCND_C
5	25'- 6.00"	25'- 6.00"	3.00"	0.00	0	0	0	BCND_C
6	39'- 6.00"	39'- 6.00"	3.00"	0.00	200	-2900	100	TCND_D
7	32'- 6.00"	32'- 6.00"	3.00"	0.00	200	-2900	100	MCND_D
8	25'- 6.00"	25'- 6.00"	3.00"	0.00	200	-2900	100	BCND_D
9	38'- 1.00"	38'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	31'- 1.00"	31'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	24'- 1.00"	24'- 1.01"	6.00"	0.00	0	0	0	BRKT3

BY VALMONT INDUSTRIES FOR: OMPA, 46.0' AGH, 65' CUSTOM POLES, STR. #10/2, 607956 DATE 01/30/2024
Design Id: STR10_2 IMPAX 26.2.5.1

*** INPUT LOADS ***

Loading Case 3A CONCURRENT

Basic Wind Pressure is 4.10 psf
Wind Orientation is 180.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

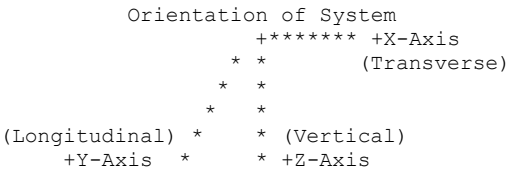


Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	46'- 6.00"	46'- 6.00"	3.00"	0.00	-100	3700	400	SW_A
2	46'- 6.00"	46'- 6.00"	3.00"	0.00	-100	-3900	300	SW_B
3	39'- 6.00"	39'- 6.00"	3.00"	0.00	-200	4300	600	TCND_C
4	32'- 6.00"	32'- 6.00"	3.00"	0.00	-200	4300	600	MCND_C
5	25'- 6.00"	25'- 6.00"	3.00"	0.00	-200	4300	600	BCND_C
6	39'- 6.00"	39'- 6.00"	3.00"	0.00	-200	-4700	400	TCND_D
7	32'- 6.00"	32'- 6.00"	3.00"	0.00	-200	-4700	400	MCND_D
8	25'- 6.00"	25'- 6.00"	3.00"	0.00	-200	-4700	400	BCND_D
9	38'- 1.00"	38'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	31'- 1.00"	31'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	24'- 1.00"	24'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 3B CONCURRENT

Basic Wind Pressure is 4.10 psf
Wind Orientation is 180.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees



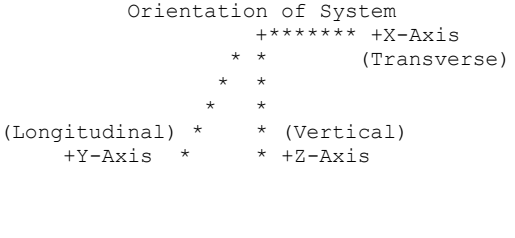
Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	46'- 6.00"	46'- 6.00"	3.00"	0.00	-100	3700	400	SW_A
2	46'- 6.00"	46'- 6.00"	3.00"	0.00	0	0	0	SW_B
3	39'- 6.00"	39'- 6.00"	3.00"	0.00	-200	4300	600	TCND_C
4	32'- 6.00"	32'- 6.00"	3.00"	0.00	-200	4300	600	MCND_C
5	25'- 6.00"	25'- 6.00"	3.00"	0.00	-200	4300	600	BCND_C
6	39'- 6.00"	39'- 6.00"	3.00"	0.00	0	0	0	TCND_D
7	32'- 6.00"	32'- 6.00"	3.00"	0.00	0	0	0	MCND_D
8	25'- 6.00"	25'- 6.00"	3.00"	0.00	0	0	0	BCND_D
9	38'- 1.00"	38'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	31'- 1.00"	31'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	24'- 1.00"	24'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 3C CONCURRENT

Basic Wind Pressure is 4.10 psf
Wind Orientation is 180.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

Orientation of System



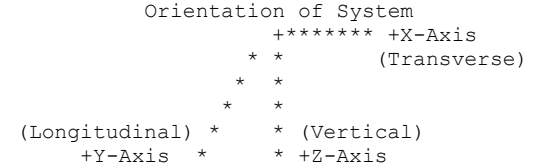
Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	46'- 6.00"	46'- 6.00"	3.00"	0.00	0	0	0	SW_A
2	46'- 6.00"	46'- 6.00"	3.00"	0.00	-100	-3900	300	SW_B
3	39'- 6.00"	39'- 6.00"	3.00"	0.00	0	0	0	TCND_C
4	32'- 6.00"	32'- 6.00"	3.00"	0.00	0	0	0	MCND_C
5	25'- 6.00"	25'- 6.00"	3.00"	0.00	0	0	0	BCND_C
6	39'- 6.00"	39'- 6.00"	3.00"	0.00	-200	-4700	400	TCND_D
7	32'- 6.00"	32'- 6.00"	3.00"	0.00	-200	-4700	400	MCND_D
8	25'- 6.00"	25'- 6.00"	3.00"	0.00	-200	-4700	400	BCND_D
9	38'- 1.00"	38'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	31'- 1.00"	31'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	24'- 1.00"	24'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 4 DEFLECTION

Basic Wind Pressure is 1.00 psf
Wind Orientation is 180.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees
Deflection Limitation: 6.0 in

Orientation of System



Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	46'- 6.00"	46'- 6.00"	3.00"	0.00	-100	1800	100	SW_A
2	46'- 6.00"	46'- 6.00"	3.00"	0.00	-100	-1800	-100	SW_B
3	39'- 6.00"	39'- 6.00"	3.00"	0.00	-100	1400	200	TCND_C
4	32'- 6.00"	32'- 6.00"	3.00"	0.00	-100	1400	200	MCND_C
5	25'- 6.00"	25'- 6.00"	3.00"	0.00	-100	1400	200	BCND_C
6	39'- 6.00"	39'- 6.00"	3.00"	0.00	-100	-1500	100	TCND_D
7	32'- 6.00"	32'- 6.00"	3.00"	0.00	-100	-1500	100	MCND_D
8	25'- 6.00"	25'- 6.00"	3.00"	0.00	-100	-1500	100	BCND_D
9	38'- 1.00"	38'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	31'- 1.00"	31'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	24'- 1.00"	24'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** Properties ***

Connection Locations	Distance From Base (ft)	Diameter Across Flats (in)	Wall Thickness (in)	D/t Across Flats	w/t Across Flats	Moments of Inertia (in^4)	Area (in^2)
Top of Sect 2	47.00	15.022	0.2188	68.67	15.72	292	10.41
	46.50	15.170	0.2188	69.35	15.90	301	10.52
	42.01	16.499	0.2188	75.42	17.53	388	11.45
	39.50	17.242	0.2188	78.82	18.44	444	11.97
	38.08	17.661	0.2188	80.73	18.95	478	12.27
	37.02	17.976	0.2188	82.17	19.34	504	12.49
	32.50	19.314	0.2188	88.29	20.98	627	13.43
	32.03	19.453	0.2188	88.93	21.15	641	13.53
	31.08	19.733	0.2188	90.21	21.49	669	13.73
	27.04	20.930	0.2188	95.68	22.96	800	14.57
	25.50	21.386	0.2188	97.76	23.52	854	14.89
	24.08	21.805	0.2188	99.68	24.03	905	15.18
	22.05	22.407	0.2188	102.43	24.77	983	15.61
	17.06	23.884	0.2188	109.18	26.58	1193	16.65
	12.07	25.361	0.2188	115.93	28.39	1431	17.68
	11.00	25.678	0.2188	117.38	28.77	1486	17.91
Top of Sect 1	11.00	25.240	0.2500	100.96	24.37	1606	20.09
Base of Sect 2	7.08	26.399	0.2500	105.60	25.62	1840	21.02
	4.59	27.138	0.2500	108.55	26.41	2000	21.61
	2.09	27.877	0.2500	111.51	27.20	2170	22.21
	0.00	28.496	0.2500	113.98	27.86	2319	22.71
	-2.90	29.354	0.2500	117.42	28.78	2537	23.40
	-7.89	30.831	0.2500	123.33	30.37	2943	24.58
	-12.88	32.308	0.2500	129.23	31.95	3390	25.77
	-15.44	33.066	0.2500	132.26	32.76	3636	26.38
Base of Sect 1	-18.00	33.824	0.2500	135.30	33.57	3894	26.99

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 1A NESC HEAVY

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
47.00	0	0	0	0	0	0	0	0
46.50	0	0	0	0	-7	0	7	26
46.50	0	-4	4	-3	-311	-302	433	423
42.01	-16	14	22	-3	-378	-303	484	672
39.50	-25	26	37	-3	-418	-303	516	821
39.50	-25	17	31	-8	-825	-706	1086	1616
38.08	-37	31	49	-8	-848	-706	1104	1703
37.02	-46	42	63	-8	-866	-706	1117	1770
32.50	-85	91	125	-8	-946	-707	1181	2066
32.50	-85	81	117	-13	-1352	-1110	1749	2862
32.03	-91	89	127	-13	-1360	-1110	1756	2894
31.08	-104	105	147	-13	-1378	-1110	1770	2959
31.08	-104	105	147	-13	-1377	-1110	1769	2960
27.04	-157	173	234	-13	-1454	-1110	1829	3250
25.50	-178	200	268	-13	-1485	-1110	1854	3365
25.50	-178	190	260	-18	-1891	-1512	2421	4161
24.08	-204	222	301	-18	-1920	-1512	2444	4269
24.08	-204	222	301	-18	-1919	-1512	2443	4270
22.05	-241	269	361	-18	-1960	-1510	2474	4430
17.06	-331	390	511	-18	-2065	-1508	2557	4840
12.07	-421	517	667	-18	-2178	-1507	2649	5276
11.00	-441	545	701	-18	-2204	-1507	2670	5373
11.00	-441	545	701	-18	-2202	-1506	2668	5374
7.08	-512	651	828	-18	-2301	-1506	2750	6147
7.08	-512	651	828	-18	-2298	-1504	2746	6148
4.59	-557	721	911	-18	-2358	-1502	2796	6420
2.09	-602	792	995	-18	-2420	-1501	2848	6698
0.00	-639	854	1067	-18	-2475	-1501	2895	6937

Deflections and Stresses for Pole

Loading Case 1A NESC HEAVY *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
47.00	-1.6	-1.3	2.1	0.0	0.33	0.00	0.00	0.00	0.00	0.00	65.00	99.90
46.50	-1.6	-1.3	2.1	0.0	0.33	0.00	0.00	0.00	0.00	0.00	65.00	99.90
46.50	-1.6	-1.3	2.1	0.0	0.33	0.11	0.04	0.04	0.12	0.25	65.00	99.90
42.01	-1.4	-1.1	1.8	0.0	0.33	0.48	0.06	0.03	0.12	0.54	65.00	99.90
39.50	-1.2	-1.0	1.6	0.0	0.32	0.74	0.07	0.03	0.12	0.81	65.00	80.46
39.50	-1.2	-1.0	1.6	0.0	0.32	0.60	0.13	0.08	0.26	0.78	65.00	83.05
38.08	-1.2	-0.9	1.5	0.0	0.32	0.93	0.14	0.07	0.25	1.08	65.00	60.17
37.02	-1.1	-0.9	1.4	0.0	0.32	1.16	0.14	0.07	0.25	1.31	65.00	49.67
32.50	-0.9	-0.7	1.1	0.0	0.30	1.99	0.15	0.06	0.24	2.15	65.00	30.29
32.50	-0.9	-0.7	1.1	0.0	0.30	1.87	0.21	0.10	0.36	2.10	65.00	30.98
32.03	-0.9	-0.7	1.1	0.0	0.30	2.00	0.21	0.10	0.36	2.23	65.00	29.21
31.08	-0.8	-0.7	1.0	0.0	0.29	2.25	0.22	0.10	0.36	2.47	65.00	26.29
27.04	-0.6	-0.5	0.8	0.0	0.27	3.17	0.22	0.09	0.34	3.40	65.00	19.13
25.50	-0.6	-0.4	0.7	0.0	0.26	3.47	0.23	0.08	0.33	3.70	65.00	17.56
25.50	-0.6	-0.4	0.7	0.0	0.26	3.37	0.28	0.12	0.44	3.66	65.00	17.77
24.08	-0.5	-0.4	0.6	0.0	0.25	3.75	0.28	0.11	0.44	4.04	65.00	16.09
22.05	-0.4	-0.3	0.5	0.0	0.23	4.25	0.28	0.11	0.42	4.54	65.00	14.31
17.06	-0.3	-0.2	0.3	0.0	0.18	5.28	0.29	0.09	0.40	5.58	65.00	11.65
12.07	-0.1	-0.1	0.2	0.0	0.13	6.09	0.30	0.08	0.39	6.39	65.00	10.17
11.00	-0.1	-0.1	0.1	0.0	0.12	6.24	0.30	0.08	0.38	6.54	65.00	9.94
11.00	-0.1	-0.1	0.1	0.0	0.12	5.67	0.27	0.07	0.34	5.94	65.00	10.94
7.08	0.0	0.0	0.1	0.0	0.08	6.11	0.29	0.07	0.33	6.40	65.00	10.15
4.59	0.0	0.0	0.0	0.0	0.05	6.34	0.30	0.06	0.33	6.64	65.00	9.78
2.09	0.0	0.0	0.0	0.0	0.02	6.56	0.30	0.06	0.32	6.86	65.00	9.47
0.00	0.0	0.0	0.0	0.0	0.00	6.72	0.31	0.06	0.32	7.02	65.00	9.25

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 1B NESC HEAVY

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
47.00	0	0	0	0	0	0	0	0
46.50	0	0	0	0	-7	2	7	26
46.50	0	0	0	52	-185	4911	4915	50
42.01	265	12	265	52	-252	4926	4932	299
39.50	413	20	414	52	-293	4934	4943	452
39.50	413	18	414	118	-472	10653	10663	643
38.08	595	26	595	118	-496	10658	10669	730
38.08	595	26	595	118	-497	10657	10669	736
37.02	731	32	731	118	-515	10661	10673	803
32.50	1309	63	1311	118	-598	10675	10691	1120
32.50	1309	60	1311	191	-783	16391	16410	1354
32.03	1402	65	1403	191	-792	16393	16412	1386
31.08	1588	74	1589	191	-811	16395	16415	1462
31.08	1588	74	1589	191	-817	16391	16411	1506
27.04	2383	116	2386	191	-900	16398	16423	1849
25.50	2687	132	2690	191	-931	16403	16429	1964
25.50	2687	129	2690	269	-1122	22115	22144	2258
24.08	3062	148	3066	269	-1151	22120	22150	2366
24.08	3062	149	3066	269	-1157	22114	22144	2420
22.05	3602	178	3607	269	-1209	22105	22138	2701
17.06	4926	254	4933	269	-1329	22091	22131	3297
12.07	6249	338	6258	269	-1451	22081	22129	3850
11.00	6533	356	6543	269	-1476	22083	22132	3947
11.00	6533	357	6543	269	-1480	22065	22115	4042
7.08	7570	428	7582	269	-1578	22077	22134	4814
7.08	7570	429	7582	269	-1582	22050	22107	4934
4.59	8231	478	8245	269	-1648	22030	22092	5299
2.09	8891	528	8906	269	-1714	22010	22077	5662
0.00	9443	572	9460	269	-1769	22010	22081	5900

Deflections and Stresses for Pole

Loading Case 1B NESC HEAVY *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
47.00	-1.1	20.0	20.1	0.5	3.23	0.00	0.00	0.00	0.00	0.00	65.00	99.90
46.50	-1.1	19.7	19.7	0.4	3.23	0.00	0.00	0.00	0.00	0.00	65.00	99.90
46.50	-1.1	19.7	19.7	0.4	3.23	0.01	0.00	0.66	1.61	2.78	65.00	23.37
42.01	-0.9	16.7	16.7	0.4	3.19	5.69	0.03	0.56	1.43	5.81	65.00	11.19
39.50	-0.8	15.0	15.0	0.3	3.14	8.13	0.04	0.51	1.34	8.19	65.00	7.94
39.50	-0.8	15.0	15.0	0.3	3.14	8.12	0.05	1.16	2.96	8.52	65.00	7.63
38.08	-0.8	14.1	14.1	0.3	3.11	11.12	0.06	1.11	2.86	11.35	65.00	5.73
37.02	-0.7	13.4	13.4	0.3	3.07	13.18	0.06	1.07	2.80	13.35	65.00	4.87
32.50	-0.6	10.6	10.6	0.2	2.88	20.43	0.08	0.92	2.53	20.54	65.00	3.16
32.50	-0.6	10.6	10.6	0.2	2.88	20.42	0.10	1.49	3.96	20.61	65.00	3.15
32.03	-0.6	10.3	10.3	0.2	2.85	21.54	0.10	1.47	3.92	21.72	65.00	2.99
31.08	-0.5	9.7	9.7	0.2	2.80	23.71	0.11	1.42	3.84	23.87	65.00	2.72
27.04	-0.4	7.5	7.5	0.1	2.54	31.59	0.13	1.26	3.54	31.75	65.00	2.05
25.50	-0.4	6.7	6.7	0.1	2.43	34.09	0.13	1.21	3.44	34.25	65.00	1.90
25.50	-0.4	6.7	6.7	0.1	2.43	34.08	0.15	1.71	4.71	34.28	65.00	1.90
24.08	-0.3	6.0	6.0	0.1	2.32	37.35	0.16	1.64	4.59	37.55	65.00	1.73
22.05	-0.3	5.0	5.0	0.1	2.15	41.58	0.17	1.55	4.42	41.79	65.00	1.56
17.06	-0.2	3.0	3.0	0.0	1.69	49.99	0.20	1.37	4.05	50.20	65.00	1.29
12.07	-0.1	1.5	1.5	0.0	1.18	56.19	0.22	1.21	3.74	56.42	65.00	1.15
11.00	-0.1	1.2	1.2	0.0	1.07	57.28	0.22	1.18	3.68	57.52	65.00	1.13
11.00	-0.1	1.2	1.2	0.0	1.07	52.10	0.20	1.07	3.29	52.31	65.00	1.24
7.08	0.0	0.5	0.5	0.0	0.69	55.14	0.23	0.98	3.10	55.38	65.00	1.17
4.59	0.0	0.2	0.2	0.0	0.45	56.71	0.25	0.93	2.99	56.96	65.00	1.14
2.09	0.0	0.0	0.0	0.0	0.20	58.03	0.25	0.88	2.88	58.29	65.00	1.12
0.00	0.0	0.0	0.0	0.0	0.00	58.97	0.26	0.84	2.80	59.23	65.00	1.10

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 1C NESC HEAVY

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
47.00	0	0	0	0	0	0	0	0
46.50	0	0	0	0	-7	-2	7	26
46.50	0	2	2	-55	-81	-5199	5199	-184
42.01	-281	8	281	-55	-148	-5214	5216	65
39.50	-438	14	438	-55	-189	-5223	5226	218
39.50	-438	14	438	-126	-363	-11330	11336	166
38.08	-630	21	631	-126	-386	-11336	11342	253
38.08	-630	21	631	-126	-388	-11335	11342	260
37.02	-775	26	775	-126	-406	-11339	11347	327
32.50	-1390	50	1391	-126	-489	-11355	11366	647
32.50	-1390	51	1391	-203	-671	-17462	17474	644
32.03	-1489	54	1490	-203	-679	-17463	17477	676
31.08	-1687	62	1688	-203	-699	-17466	17480	753
31.08	-1687	62	1688	-203	-705	-17464	17478	804
27.04	-2535	99	2537	-203	-789	-17474	17492	1153
25.50	-2858	114	2860	-203	-820	-17480	17499	1268
25.50	-2858	113	2860	-287	-1009	-23585	23606	1334
24.08	-3259	131	3261	-287	-1037	-23589	23612	1442
24.08	-3259	131	3261	-287	-1044	-23585	23608	1503
22.05	-3835	157	3838	-287	-1098	-23581	23607	1801
17.06	-5247	227	5252	-287	-1221	-23574	23606	2421
12.07	-6659	304	6666	-287	-1343	-23569	23607	2991
11.00	-6962	322	6969	-287	-1369	-23571	23611	3087
11.00	-6962	322	6969	-287	-1373	-23556	23596	3195
7.08	-8069	389	8078	-287	-1472	-23569	23615	3968
7.08	-8069	389	8078	-287	-1477	-23545	23591	4105
4.59	-8774	435	8785	-287	-1543	-23528	23578	4482
2.09	-9479	482	9492	-287	-1610	-23509	23564	4857
0.00	-10069	524	10082	-287	-1665	-23510	23568	5095

Deflections and Stresses for Pole

Loading Case 1C NESC HEAVY *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
47.00	-1.0	-21.3	21.4	0.5	3.44	0.00	0.00	0.00	0.00	0.00	65.00	99.90
46.50	-1.0	-21.0	21.0	0.5	3.44	0.00	0.00	0.00	0.00	0.00	65.00	99.90
46.50	-1.0	-21.0	21.0	0.5	3.44	0.06	0.02	0.70	1.70	2.95	65.00	22.07
42.01	-0.8	-17.8	17.8	0.4	3.40	6.01	0.01	0.59	1.51	6.16	65.00	10.55
39.50	-0.7	-16.0	16.0	0.4	3.34	8.57	0.02	0.54	1.42	8.64	65.00	7.52
39.50	-0.7	-16.0	16.0	0.4	3.34	8.57	0.01	1.24	3.15	9.03	65.00	7.20
38.08	-0.7	-15.0	15.0	0.3	3.31	11.75	0.02	1.18	3.05	12.05	65.00	5.39
37.02	-0.7	-14.3	14.3	0.3	3.27	13.94	0.03	1.14	2.97	14.17	65.00	4.59
32.50	-0.5	-11.3	11.3	0.2	3.06	21.63	0.05	0.98	2.69	21.71	65.00	2.99
32.50	-0.5	-11.3	11.3	0.2	3.06	21.63	0.05	1.59	4.22	21.91	65.00	2.97
32.03	-0.5	-11.0	11.0	0.2	3.04	22.83	0.05	1.56	4.17	23.08	65.00	2.82
31.08	-0.5	-10.4	10.4	0.2	2.98	25.13	0.05	1.52	4.09	25.33	65.00	2.57
31.08	-0.5	-10.4	10.4	0.2	2.98	25.13	0.06	1.52	4.09	25.33	65.00	2.57
27.04	-0.4	-8.0	8.0	0.1	2.71	33.52	0.08	1.35	3.77	33.63	65.00	1.93
25.50	-0.3	-7.1	7.1	0.1	2.59	36.18	0.09	1.29	3.67	36.29	65.00	1.79
25.50	-0.3	-7.1	7.1	0.1	2.59	36.17	0.09	1.82	5.03	36.35	65.00	1.79
24.08	-0.3	-6.4	6.4	0.1	2.47	39.66	0.09	1.75	4.89	39.80	65.00	1.63
24.08	-0.3	-6.4	6.4	0.1	2.47	39.66	0.10	1.75	4.89	39.80	65.00	1.63
22.05	-0.3	-5.3	5.3	0.1	2.29	44.16	0.12	1.66	4.71	44.31	65.00	1.47
17.06	-0.2	-3.2	3.2	0.0	1.80	53.12	0.15	1.46	4.32	53.29	65.00	1.22
12.07	-0.1	-1.6	1.6	0.0	1.26	59.74	0.17	1.29	3.99	59.92	65.00	1.08
11.00	-0.1	-1.3	1.3	0.0	1.14	60.91	0.17	1.26	3.92	61.09	65.00	1.06
11.00	-0.1	-1.3	1.3	0.0	1.14	55.39	0.16	1.14	3.52	55.56	65.00	1.17
7.08	0.0	-0.5	0.5	0.0	0.74	58.64	0.19	1.04	3.31	58.84	65.00	1.10
7.08	0.0	-0.5	0.5	0.0	0.74	58.64	0.20	1.04	3.31	58.85	65.00	1.10
4.59	0.0	-0.2	0.2	0.0	0.48	60.32	0.21	0.99	3.19	60.53	65.00	1.07
2.09	0.0	0.0	0.0	0.0	0.22	61.73	0.22	0.94	3.08	61.96	65.00	1.05
0.00	0.0	0.0	0.0	0.0	0.00	62.73	0.22	0.89	2.99	62.96	65.00	1.03

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 2A EXTREME WIND

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
47.00	0	0	0	0	0	0	0	0
46.50	0	0	0	0	-16	0	16	18
46.50	0	0	0	0	-216	0	216	16
42.01	0	16	16	0	-368	0	368	183
39.50	0	28	28	0	-458	0	458	282
39.50	0	25	25	-2	-160	-201	256	583
38.08	-3	28	28	-2	-212	-201	292	641
37.02	-6	31	31	-2	-253	-201	323	686
32.50	-17	49	52	-2	-432	-201	477	884
32.50	-17	46	49	-5	-134	-401	423	1185
32.03	-19	46	50	-5	-153	-401	430	1206
31.08	-24	48	54	-5	-193	-401	445	1250
31.08	-24	48	54	-5	-192	-401	445	1250
27.04	-43	62	76	-5	-367	-401	544	1443
25.50	-51	69	86	-5	-437	-402	593	1520
25.50	-51	65	83	-8	-138	-602	617	1821
24.08	-61	68	91	-8	-204	-602	635	1893
24.08	-61	68	91	-8	-203	-602	635	1893
22.05	-76	74	106	-8	-299	-602	672	1999
17.06	-112	100	150	-8	-545	-601	811	2272
12.07	-148	140	203	-8	-806	-601	1005	2561
11.00	-155	151	216	-8	-864	-601	1053	2626
11.00	-155	151	216	-8	-864	-601	1052	2626
7.08	-184	197	269	-8	-1084	-601	1240	3141
7.08	-184	197	269	-8	-1084	-601	1239	3141
4.59	-202	231	307	-8	-1226	-600	1365	3321
2.09	-220	270	348	-8	-1371	-600	1497	3507
0.00	-235	306	386	-8	-1497	-600	1613	3666

Deflections and Stresses for Pole

Loading Case 2A EXTREME WIND *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
47.00	-0.5	-0.4	0.7	0.0	0.11	0.00	0.00	0.00	0.00	0.00	65.00	99.90
46.50	-0.5	-0.4	0.7	0.0	0.11	0.00	0.00	0.00	0.00	0.01	65.00	99.90
46.50	-0.5	-0.4	0.7	0.0	0.11	0.00	0.00	0.00	0.04	0.07	65.00	99.90
42.01	-0.4	-0.4	0.6	0.0	0.11	0.34	0.02	0.00	0.06	0.35	65.00	99.90
39.50	-0.4	-0.3	0.5	0.0	0.10	0.55	0.02	0.00	0.08	0.57	65.00	99.90
39.50	-0.4	-0.3	0.5	0.0	0.10	0.48	0.05	0.02	0.07	0.53	65.00	99.90
38.08	-0.4	-0.3	0.5	0.0	0.10	0.53	0.05	0.02	0.07	0.58	65.00	99.90
37.02	-0.3	-0.3	0.5	0.0	0.10	0.58	0.05	0.02	0.07	0.63	65.00	99.90
32.50	-0.3	-0.2	0.4	0.0	0.09	0.83	0.07	0.02	0.09	0.90	65.00	72.49
32.50	-0.3	-0.2	0.4	0.0	0.09	0.77	0.09	0.04	0.10	0.86	65.00	75.52
32.03	-0.3	-0.2	0.4	0.0	0.09	0.78	0.09	0.04	0.10	0.87	65.00	74.55
31.08	-0.2	-0.2	0.3	0.0	0.09	0.81	0.09	0.04	0.10	0.90	65.00	72.36
27.04	-0.2	-0.2	0.3	0.0	0.08	1.01	0.10	0.03	0.11	1.11	65.00	58.70
25.50	-0.2	-0.2	0.2	0.0	0.08	1.10	0.10	0.03	0.11	1.20	65.00	54.00
25.50	-0.2	-0.2	0.2	0.0	0.08	1.06	0.12	0.05	0.13	1.18	65.00	54.87
24.08	-0.2	-0.1	0.2	0.0	0.08	1.14	0.12	0.05	0.13	1.26	65.00	51.52
22.05	-0.1	-0.1	0.2	0.0	0.07	1.25	0.13	0.04	0.13	1.38	65.00	47.17
17.06	-0.1	-0.1	0.1	0.0	0.06	1.55	0.14	0.04	0.14	1.68	65.00	38.59
12.07	0.0	0.0	0.1	0.0	0.04	1.87	0.14	0.03	0.15	2.01	65.00	32.30
11.00	0.0	0.0	0.0	0.0	0.04	1.94	0.15	0.03	0.15	2.08	65.00	31.18
11.00	0.0	0.0	0.0	0.0	0.04	1.76	0.13	0.03	0.14	1.89	65.00	34.33
7.08	0.0	0.0	0.0	0.0	0.03	2.00	0.15	0.03	0.15	2.15	65.00	30.26
4.59	0.0	0.0	0.0	0.0	0.02	2.15	0.15	0.03	0.15	2.31	65.00	28.20
2.09	0.0	0.0	0.0	0.0	0.01	2.30	0.16	0.02	0.16	2.46	65.00	26.38
0.00	0.0	0.0	0.0	0.0	0.00	2.43	0.16	0.02	0.17	2.60	65.00	25.03

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 2B EXTREME WIND

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
47.00	0	0	0	0	0	0	0	0
46.50	0	0	0	0	-16	0	16	18
46.50	0	0	0	23	-112	2203	2205	60
42.01	119	10	119	23	-264	2207	2223	227
39.50	185	19	186	23	-354	2210	2238	326
39.50	185	17	186	55	-250	4914	4920	459
38.08	269	22	270	55	-303	4915	4924	517
38.08	269	22	270	55	-303	4915	4924	519
37.02	332	26	333	55	-344	4916	4928	568
32.50	598	50	600	55	-524	4921	4948	765
32.50	598	48	600	89	-421	7624	7635	908
32.03	641	51	643	89	-441	7624	7637	931
31.08	728	56	730	89	-480	7625	7640	975
31.08	728	56	730	89	-481	7624	7639	984
27.04	1098	83	1101	89	-658	7626	7655	1189
25.50	1239	96	1243	89	-727	7628	7662	1266
25.50	1239	94	1242	126	-626	10330	10349	1421
24.08	1414	105	1418	126	-691	10331	10354	1493
24.08	1414	106	1418	126	-692	10330	10353	1505
22.05	1667	124	1671	126	-790	10327	10357	1637
17.06	2285	178	2292	126	-1039	10324	10376	1950
12.07	2903	249	2914	126	-1302	10321	10403	2266
11.00	3036	266	3048	126	-1360	10322	10411	2330
11.00	3036	266	3048	126	-1360	10317	10407	2351
7.08	3521	335	3537	126	-1581	10321	10441	2866
7.08	3521	335	3537	126	-1581	10314	10434	2892
4.59	3830	385	3849	126	-1724	10308	10451	3093
2.09	4139	438	4162	126	-1870	10303	10471	3297
0.00	4397	487	4424	126	-1996	10303	10494	3456

Deflections and Stresses for Pole

Loading Case 2B EXTREME WIND *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
47.00	-0.8	9.3	9.3	0.1	1.50	0.00	0.00	0.00	0.00	0.00	65.00	99.90
46.50	-0.8	9.1	9.2	0.1	1.50	0.00	0.00	0.00	0.00	0.01	65.00	99.90
46.50	-0.8	9.1	9.2	0.1	1.50	0.01	0.01	0.30	0.72	1.25	65.00	52.10
42.01	-0.7	7.7	7.8	0.1	1.48	2.58	0.02	0.25	0.64	2.62	65.00	24.81
39.50	-0.6	7.0	7.0	0.1	1.46	3.70	0.03	0.23	0.60	3.74	65.00	17.39
39.50	-0.6	7.0	7.0	0.1	1.46	3.69	0.04	0.54	1.37	3.85	65.00	16.87
38.08	-0.6	6.5	6.6	0.1	1.44	5.08	0.04	0.51	1.32	5.17	65.00	12.57
37.02	-0.6	6.2	6.2	0.1	1.43	6.04	0.05	0.49	1.29	6.11	65.00	10.63
32.50	-0.4	4.9	4.9	0.0	1.34	9.42	0.06	0.43	1.17	9.50	65.00	6.84
32.50	-0.4	4.9	4.9	0.0	1.34	9.42	0.07	0.69	1.84	9.52	65.00	6.83
32.03	-0.4	4.8	4.8	0.0	1.33	9.94	0.07	0.68	1.82	10.04	65.00	6.47
31.08	-0.4	4.5	4.5	0.0	1.30	10.96	0.07	0.66	1.79	11.05	65.00	5.88
27.04	-0.3	3.5	3.5	0.0	1.18	14.66	0.08	0.59	1.65	14.76	65.00	4.40
25.50	-0.3	3.1	3.1	0.0	1.13	15.84	0.09	0.56	1.60	15.94	65.00	4.08
25.50	-0.3	3.1	3.1	0.0	1.13	15.83	0.10	0.80	2.20	15.95	65.00	4.07
24.08	-0.3	2.8	2.8	0.0	1.08	17.37	0.10	0.77	2.15	17.49	65.00	3.72
22.05	-0.2	2.3	2.3	0.0	1.00	19.36	0.10	0.73	2.07	19.49	65.00	3.34
17.06	-0.1	1.4	1.4	0.0	0.79	23.35	0.12	0.64	1.89	23.48	65.00	2.77
12.07	-0.1	0.7	0.7	0.0	0.55	26.32	0.13	0.57	1.75	26.46	65.00	2.46
11.00	-0.1	0.6	0.6	0.0	0.50	26.85	0.13	0.55	1.72	26.99	65.00	2.41
11.00	-0.1	0.6	0.6	0.0	0.50	24.42	0.12	0.50	1.54	24.55	65.00	2.65
7.08	0.0	0.2	0.2	0.0	0.32	25.91	0.14	0.46	1.46	26.05	65.00	2.50
4.59	0.0	0.1	0.1	0.0	0.21	26.68	0.14	0.43	1.41	26.83	65.00	2.42
2.09	0.0	0.0	0.0	0.0	0.09	27.34	0.15	0.41	1.36	27.50	65.00	2.36
0.00	0.0	0.0	0.0	0.0	0.00	27.82	0.15	0.39	1.33	27.98	65.00	2.32

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 2C EXTREME WIND

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
47.00	0	0	0	0	0	0	0	0
46.50	0	0	0	0	-16	-1	16	18
46.50	0	2	2	-23	-110	-2197	2200	-142
42.01	-119	12	119	-23	-262	-2202	2218	24
39.50	-185	21	186	-23	-352	-2205	2233	124
39.50	-185	21	186	-57	-147	-5106	5108	149
38.08	-272	24	273	-57	-199	-5108	5112	207
38.08	-272	24	273	-57	-200	-5108	5111	209
37.02	-337	26	338	-57	-240	-5109	5114	253
32.50	-614	44	616	-57	-421	-5114	5131	455
32.50	-614	44	616	-94	-217	-8015	8017	491
32.03	-659	45	661	-94	-236	-8015	8019	512
31.08	-750	48	752	-94	-276	-8016	8021	558
31.08	-750	48	752	-94	-277	-8015	8020	569
27.04	-1139	66	1141	-94	-454	-8019	8031	774
25.50	-1288	75	1290	-94	-523	-8020	8037	851
25.50	-1288	75	1290	-133	-321	-10921	10925	901
24.08	-1473	81	1475	-133	-386	-10922	10929	973
24.08	-1473	81	1475	-133	-388	-10921	10928	986
22.05	-1740	91	1742	-133	-486	-10920	10931	1121
17.06	-2394	128	2397	-133	-735	-10919	10943	1438
12.07	-3048	180	3053	-133	-998	-10918	10963	1756
11.00	-3188	193	3194	-133	-1056	-10918	10969	1821
11.00	-3188	193	3194	-133	-1057	-10914	10965	1844
7.08	-3701	248	3709	-133	-1277	-10918	10993	2359
7.08	-3701	248	3709	-133	-1278	-10912	10986	2388
4.59	-4028	289	4038	-133	-1421	-10907	10999	2591
2.09	-4355	333	4367	-133	-1568	-10902	11014	2797
0.00	-4628	374	4643	-133	-1693	-10902	11033	2956

Deflections and Stresses for Pole

Loading Case 2C EXTREME WIND *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
47.00	-0.6	-9.7	9.7	0.1	1.56	0.00	0.00	0.00	0.00	0.00	65.00	99.90
46.50	-0.6	-9.6	9.6	0.1	1.56	0.00	0.00	0.00	0.00	0.01	65.00	99.90
46.50	-0.6	-9.6	9.6	0.1	1.56	0.04	0.01	0.30	0.72	1.25	65.00	52.17
42.01	-0.5	-8.1	8.1	0.1	1.54	2.58	0.00	0.25	0.64	2.64	65.00	24.66
39.50	-0.5	-7.3	7.3	0.1	1.52	3.70	0.01	0.23	0.60	3.72	65.00	17.46
39.50	-0.5	-7.3	7.3	0.1	1.52	3.70	0.01	0.56	1.42	3.91	65.00	16.62
38.08	-0.4	-6.9	6.9	0.1	1.50	5.14	0.02	0.53	1.37	5.27	65.00	12.33
37.02	-0.4	-6.5	6.5	0.1	1.49	6.13	0.02	0.51	1.34	6.23	65.00	10.44
32.50	-0.3	-5.2	5.2	0.0	1.40	9.64	0.03	0.44	1.21	9.69	65.00	6.71
32.50	-0.3	-5.2	5.2	0.0	1.40	9.64	0.04	0.73	1.94	9.77	65.00	6.66
32.03	-0.3	-5.0	5.0	0.0	1.39	10.20	0.04	0.72	1.92	10.30	65.00	6.31
31.08	-0.3	-4.7	4.8	0.0	1.36	11.26	0.04	0.70	1.88	11.34	65.00	5.73
27.04	-0.2	-3.6	3.7	0.0	1.24	15.14	0.05	0.62	1.73	15.21	65.00	4.27
25.50	-0.2	-3.3	3.3	0.0	1.18	16.38	0.06	0.59	1.68	16.45	65.00	3.95
25.50	-0.2	-3.3	3.3	0.0	1.18	16.38	0.06	0.85	2.33	16.46	65.00	3.95
24.08	-0.2	-2.9	2.9	0.0	1.13	18.00	0.06	0.81	2.27	18.08	65.00	3.60
24.08	-0.2	-2.9	2.9	0.0	1.13	18.00	0.06	0.81	2.27	18.08	65.00	3.59
22.05	-0.2	-2.4	2.5	0.0	1.05	20.10	0.07	0.77	2.19	20.19	65.00	3.22
17.06	-0.1	-1.5	1.5	0.0	0.82	24.30	0.09	0.68	2.00	24.40	65.00	2.66
12.07	-0.1	-0.7	0.7	0.0	0.58	27.44	0.10	0.60	1.85	27.54	65.00	2.36
11.00	0.0	-0.6	0.6	0.0	0.52	28.00	0.10	0.59	1.82	28.11	65.00	2.31
11.00	0.0	-0.6	0.6	0.0	0.52	25.46	0.09	0.53	1.63	25.56	65.00	2.54
7.08	0.0	-0.3	0.3	0.0	0.34	27.03	0.11	0.49	1.54	27.15	65.00	2.39
4.59	0.0	-0.1	0.1	0.0	0.22	27.85	0.12	0.46	1.48	27.98	65.00	2.32
2.09	0.0	0.0	0.0	0.0	0.10	28.55	0.13	0.43	1.43	28.68	65.00	2.27
0.00	0.0	0.0	0.0	0.0	0.00	29.06	0.13	0.42	1.39	29.19	65.00	2.23

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 3A CONCURRENT

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
47.00	0	0	0	0	0	0	0	0
46.50	0	0	0	0	-3	0	3	18
46.50	0	-7	7	-2	-208	-202	290	715
42.01	-11	5	12	-2	-236	-203	311	882
39.50	-17	12	21	-2	-253	-203	324	981
39.50	-17	0	17	-7	-660	-607	896	1977
38.08	-27	12	30	-7	-670	-607	904	2034
37.02	-35	20	41	-7	-677	-607	909	2079
32.50	-68	58	89	-7	-710	-607	934	2277
32.50	-68	45	82	-12	-1117	-1010	1506	3273
32.03	-74	52	90	-12	-1121	-1010	1509	3294
31.08	-85	64	107	-12	-1128	-1010	1514	3338
27.04	-134	120	180	-12	-1159	-1009	1537	3532
25.50	-153	141	208	-12	-1172	-1010	1547	3608
25.50	-153	128	199	-17	-1579	-1412	2118	4605
24.08	-177	155	235	-17	-1591	-1412	2127	4677
24.08	-177	155	235	-17	-1590	-1411	2126	4677
22.05	-211	194	287	-17	-1606	-1410	2137	4784
17.06	-296	291	415	-17	-1649	-1408	2168	5057
12.07	-380	391	546	-17	-1695	-1407	2203	5348
11.00	-398	413	574	-17	-1706	-1407	2211	5413
11.00	-398	413	574	-17	-1704	-1405	2209	5413
7.08	-464	494	678	-17	-1746	-1406	2241	5928
7.08	-464	494	678	-17	-1744	-1404	2239	5929
4.59	-506	547	745	-17	-1768	-1402	2257	6110
2.09	-548	600	813	-17	-1793	-1401	2275	6296
0.00	-583	646	870	-17	-1816	-1401	2293	6455

Deflections and Stresses for Pole

Loading Case 3A CONCURRENT *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
47.00	-1.2	-1.2	1.7	0.0	0.26	0.00	0.00	0.00	0.00	0.00	65.00	99.90
46.50	-1.2	-1.2	1.7	0.0	0.26	0.00	0.00	0.00	0.00	0.00	65.00	99.90
46.50	-1.2	-1.2	1.7	0.0	0.26	0.19	0.07	0.03	0.08	0.29	65.00	99.90
42.01	-1.0	-1.0	1.4	0.0	0.26	0.26	0.08	0.02	0.08	0.35	65.00	99.90
39.50	-0.9	-0.9	1.3	0.0	0.26	0.41	0.08	0.02	0.08	0.50	65.00	99.90
39.50	-0.9	-0.9	1.3	0.0	0.26	0.33	0.17	0.07	0.22	0.60	65.00	99.90
38.08	-0.9	-0.8	1.2	0.0	0.25	0.56	0.17	0.06	0.21	0.77	65.00	84.31
37.02	-0.8	-0.8	1.2	0.0	0.25	0.72	0.17	0.06	0.21	0.92	65.00	70.46
32.50	-0.7	-0.6	0.9	0.0	0.24	1.42	0.17	0.05	0.19	1.59	65.00	40.79
32.50	-0.7	-0.6	0.9	0.0	0.24	1.28	0.24	0.09	0.32	1.53	65.00	42.42
32.03	-0.6	-0.6	0.9	0.0	0.24	1.39	0.24	0.09	0.32	1.65	65.00	39.49
31.08	-0.6	-0.6	0.9	0.0	0.24	1.61	0.24	0.09	0.31	1.87	65.00	34.83
27.04	-0.5	-0.5	0.7	0.0	0.22	2.43	0.24	0.08	0.29	2.68	65.00	24.25
25.50	-0.4	-0.4	0.6	0.0	0.21	2.70	0.24	0.08	0.29	2.94	65.00	22.07
25.50	-0.4	-0.4	0.6	0.0	0.21	2.57	0.31	0.11	0.40	2.89	65.00	22.49
24.08	-0.4	-0.4	0.5	0.0	0.20	2.92	0.31	0.11	0.39	3.24	65.00	20.08
22.05	-0.3	-0.3	0.4	0.0	0.19	3.38	0.31	0.10	0.38	3.69	65.00	17.61
17.06	-0.2	-0.2	0.3	0.0	0.15	4.30	0.30	0.09	0.35	4.61	65.00	14.10
12.07	-0.1	-0.1	0.1	0.0	0.11	5.01	0.30	0.08	0.33	5.31	65.00	12.24
11.00	-0.1	-0.1	0.1	0.0	0.10	5.13	0.30	0.08	0.33	5.44	65.00	11.95
11.00	-0.1	-0.1	0.1	0.0	0.10	4.67	0.27	0.07	0.29	4.94	65.00	13.16
7.08	0.0	0.0	0.0	0.0	0.06	5.03	0.28	0.06	0.28	5.32	65.00	12.22
4.59	0.0	0.0	0.0	0.0	0.04	5.23	0.28	0.06	0.27	5.52	65.00	11.79
2.09	0.0	0.0	0.0	0.0	0.02	5.40	0.28	0.06	0.26	5.69	65.00	11.43
0.00	0.0	0.0	0.0	0.0	0.00	5.53	0.28	0.05	0.26	5.81	65.00	11.18

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 3B CONCURRENT

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
47.00	0	0	0	0	0	0	0	0
46.50	0	0	0	0	-3	1	3	18
46.50	0	-3	3	39	-92	3715	3716	260
42.01	200	3	200	39	-120	3722	3723	429
39.50	312	7	313	39	-137	3726	3728	528
39.50	312	2	313	90	-326	8047	8054	951
38.08	449	8	449	90	-336	8049	8056	1009
38.08	449	8	449	90	-337	8049	8056	1013
37.02	552	12	552	90	-346	8049	8057	1069
32.50	989	32	989	90	-379	8057	8066	1267
32.50	989	26	989	144	-573	12375	12388	1715
32.03	1059	30	1059	144	-577	12375	12388	1742
31.08	1199	36	1200	144	-584	12377	12390	1786
31.08	1199	36	1200	144	-588	12373	12387	1811
27.04	1800	66	1801	144	-623	12374	12390	2035
25.50	2028	77	2030	144	-636	12377	12393	2111
25.50	2028	71	2030	203	-833	16691	16712	2594
24.08	2312	85	2314	203	-845	16693	16714	2666
24.08	2312	85	2314	203	-848	16688	16709	2696
22.05	2719	106	2721	203	-871	16679	16702	2872
17.06	3718	160	3722	203	-922	16665	16691	3250
12.07	4716	217	4721	203	-974	16656	16684	3608
11.00	4930	230	4936	203	-984	16657	16686	3672
11.00	4930	230	4936	203	-986	16645	16674	3726
7.08	5713	277	5719	203	-1028	16651	16682	4241
7.08	5713	278	5719	203	-1030	16633	16665	4310
4.59	6211	309	6219	203	-1057	16620	16653	4543
2.09	6709	341	6718	203	-1085	16606	16642	4777
0.00	7125	369	7135	203	-1108	16607	16644	4936

Deflections and Stresses for Pole

Loading Case 3B CONCURRENT *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
47.00	-0.7	15.1	15.1	0.3	2.44	0.00	0.00	0.00	0.00	0.00	65.00	99.90
46.50	-0.7	14.9	14.9	0.3	2.44	0.00	0.00	0.00	0.00	0.00	65.00	99.90
46.50	-0.7	14.9	14.9	0.3	2.44	0.06	0.02	0.50	1.21	2.11	65.00	30.87
42.01	-0.6	12.6	12.6	0.2	2.41	4.27	0.04	0.42	1.08	4.40	65.00	14.76
39.50	-0.5	11.3	11.3	0.2	2.37	6.10	0.04	0.39	1.02	6.16	65.00	10.55
39.50	-0.5	11.3	11.3	0.2	2.37	6.08	0.08	0.88	2.24	6.52	65.00	9.96
38.08	-0.5	10.6	10.6	0.2	2.34	8.34	0.08	0.84	2.16	8.62	65.00	7.54
37.02	-0.5	10.1	10.1	0.2	2.32	9.90	0.09	0.81	2.11	10.09	65.00	6.44
32.50	-0.4	8.0	8.0	0.1	2.17	15.37	0.09	0.70	1.91	15.48	65.00	4.20
32.50	-0.4	8.0	8.0	0.1	2.17	15.34	0.13	1.12	2.99	15.53	65.00	4.19
32.03	-0.4	7.8	7.8	0.1	2.15	16.19	0.13	1.11	2.96	16.37	65.00	3.97
31.08	-0.3	7.3	7.4	0.1	2.11	17.83	0.13	1.08	2.90	18.00	65.00	3.61
27.04	-0.3	5.6	5.6	0.1	1.92	23.78	0.14	0.96	2.67	23.94	65.00	2.72
25.50	-0.2	5.0	5.0	0.1	1.83	25.66	0.14	0.92	2.60	25.82	65.00	2.52
25.50	-0.2	5.0	5.0	0.1	1.83	25.64	0.17	1.29	3.56	25.86	65.00	2.51
24.08	-0.2	4.5	4.5	0.0	1.75	28.11	0.18	1.24	3.47	28.32	65.00	2.30
24.08	-0.2	4.5	4.5	0.0	1.75	28.11	0.18	1.24	3.46	28.32	65.00	2.30
22.05	-0.2	3.8	3.8	0.0	1.62	31.31	0.18	1.17	3.34	31.51	65.00	2.06
17.06	-0.1	2.3	2.3	0.0	1.27	37.65	0.20	1.03	3.06	37.86	65.00	1.72
12.07	-0.1	1.1	1.1	0.0	0.89	42.32	0.20	0.91	2.82	42.53	65.00	1.53
11.00	0.0	0.9	0.9	0.0	0.81	43.14	0.21	0.89	2.77	43.36	65.00	1.50
11.00	0.0	0.9	0.9	0.0	0.81	39.23	0.19	0.81	2.49	39.43	65.00	1.65
7.08	0.0	0.4	0.4	0.0	0.52	41.52	0.20	0.74	2.34	41.73	65.00	1.56
7.08	0.0	0.4	0.4	0.0	0.52	41.52	0.21	0.74	2.34	41.73	65.00	1.56
4.59	0.0	0.2	0.2	0.0	0.34	42.70	0.21	0.70	2.26	42.91	65.00	1.51
2.09	0.0	0.0	0.0	0.0	0.15	43.69	0.22	0.66	2.18	43.91	65.00	1.48
0.00	0.0	0.0	0.0	0.0	0.00	44.39	0.22	0.63	2.11	44.61	65.00	1.46

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 3C CONCURRENT

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
47.00	0	0	0	0	0	0	0	0
46.50	0	0	0	0	-3	-1	3	18
46.50	0	-1	1	-41	-89	-3911	3912	140
42.01	-211	4	211	-41	-118	-3918	3920	308
39.50	-329	8	329	-41	-134	-3923	3925	407
39.50	-329	6	329	-96	-320	-8636	8642	600
38.08	-476	11	476	-96	-330	-8639	8645	658
38.08	-476	11	476	-96	-331	-8638	8645	662
37.02	-586	16	586	-96	-341	-8639	8646	720
32.50	-1055	35	1055	-96	-374	-8648	8656	918
32.50	-1055	33	1055	-156	-564	-13359	13371	1139
32.03	-1130	36	1131	-156	-568	-13360	13372	1160
31.08	-1282	42	1283	-156	-576	-13361	13373	1211
31.08	-1282	42	1283	-156	-580	-13358	13371	1240
27.04	-1930	71	1932	-156	-616	-13361	13376	1468
25.50	-2177	83	2179	-156	-628	-13364	13379	1545
25.50	-2177	80	2179	-220	-823	-18073	18092	1806
24.08	-2484	94	2486	-220	-835	-18075	18095	1878
24.08	-2484	94	2486	-220	-839	-18071	18091	1914
22.05	-2925	115	2928	-220	-863	-18065	18086	2101
17.06	-4007	168	4011	-220	-916	-18055	18079	2497
12.07	-5089	225	5094	-220	-968	-18049	18075	2866
11.00	-5321	237	5326	-220	-979	-18050	18076	2930
11.00	-5321	238	5326	-220	-982	-18039	18066	2993
7.08	-6169	285	6175	-220	-1023	-18046	18075	3508
7.08	-6168	285	6175	-220	-1026	-18030	18059	3588
4.59	-6709	316	6716	-220	-1054	-18018	18049	3831
2.09	-7248	349	7257	-220	-1082	-18006	18038	4073
0.00	-7700	376	7709	-220	-1105	-18006	18040	4232

Deflections and Stresses for Pole

Loading Case 3C CONCURRENT *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
47.00	-0.7	-16.3	16.3	0.3	2.62	0.00	0.00	0.00	0.00	0.00	65.00	99.90
46.50	-0.7	-16.0	16.0	0.3	2.62	0.00	0.00	0.00	0.00	0.00	65.00	99.90
46.50	-0.7	-16.0	16.0	0.3	2.62	0.03	0.01	0.53	1.28	2.22	65.00	29.34
42.01	-0.6	-13.6	13.6	0.2	2.59	4.50	0.03	0.44	1.14	4.62	65.00	14.08
39.50	-0.5	-12.2	12.2	0.2	2.55	6.43	0.03	0.41	1.07	6.48	65.00	10.03
39.50	-0.5	-12.2	12.2	0.2	2.55	6.42	0.05	0.94	2.40	6.83	65.00	9.51
38.08	-0.5	-11.5	11.5	0.2	2.52	8.85	0.05	0.90	2.32	9.08	65.00	7.16
37.02	-0.5	-10.9	10.9	0.2	2.49	10.53	0.06	0.87	2.27	10.67	65.00	6.09
32.50	-0.4	-8.6	8.6	0.1	2.34	16.40	0.07	0.75	2.05	16.49	65.00	3.94
32.50	-0.4	-8.6	8.6	0.1	2.34	16.39	0.08	1.22	3.23	16.55	65.00	3.93
32.03	-0.4	-8.4	8.4	0.1	2.32	17.31	0.09	1.20	3.20	17.45	65.00	3.72
31.08	-0.4	-7.9	7.9	0.1	2.28	19.07	0.09	1.16	3.13	19.20	65.00	3.38
31.08	-0.4	-7.9	7.9	0.1	2.28	19.07	0.09	1.16	3.13	19.21	65.00	3.38
27.04	-0.3	-6.1	6.1	0.1	2.07	25.51	0.10	1.03	2.89	25.63	65.00	2.54
25.50	-0.2	-5.4	5.4	0.1	1.98	27.55	0.10	0.99	2.81	27.67	65.00	2.35
25.50	-0.2	-5.4	5.4	0.1	1.98	27.54	0.12	1.40	3.85	27.70	65.00	2.35
24.08	-0.2	-4.9	4.9	0.1	1.89	30.21	0.12	1.34	3.75	30.37	65.00	2.14
24.08	-0.2	-4.9	4.9	0.1	1.89	30.22	0.13	1.34	3.75	30.38	65.00	2.14
22.05	-0.2	-4.1	4.1	0.0	1.75	33.68	0.13	1.27	3.61	33.84	65.00	1.92
17.06	-0.1	-2.4	2.4	0.0	1.37	40.56	0.15	1.12	3.31	40.73	65.00	1.60
12.07	-0.1	-1.2	1.2	0.0	0.96	45.63	0.16	0.99	3.06	45.81	65.00	1.42
11.00	0.0	-1.0	1.0	0.0	0.87	46.53	0.16	0.97	3.01	46.71	65.00	1.39
11.00	0.0	-1.0	1.0	0.0	0.87	42.32	0.15	0.88	2.69	42.47	65.00	1.53
7.08	0.0	-0.4	0.4	0.0	0.56	44.81	0.17	0.80	2.54	44.98	65.00	1.45
7.08	0.0	-0.4	0.4	0.0	0.56	44.81	0.17	0.80	2.54	44.98	65.00	1.44
4.59	0.0	-0.2	0.2	0.0	0.36	46.09	0.18	0.76	2.44	46.27	65.00	1.40
2.09	0.0	0.0	0.0	0.0	0.17	47.17	0.18	0.72	2.36	47.36	65.00	1.37
0.00	0.0	0.0	0.0	0.0	0.00	47.94	0.19	0.69	2.29	48.13	65.00	1.35

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 4 DEFLECTION

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
47.00	0	0	0	0	0	0	0	0
46.50	0	0	0	0	-1	0	1	18
46.50	0	0	0	0	-201	0	201	16
42.01	0	11	11	0	-208	0	208	183
39.50	0	17	17	0	-213	0	213	282
39.50	0	14	14	-1	-415	-100	427	580
38.08	-2	21	21	-1	-417	-100	429	638
37.02	-3	26	26	-1	-419	-100	431	683
32.50	-8	49	50	-1	-428	-101	440	881
32.50	-8	46	46	-2	-630	-201	661	1179
32.03	-10	49	50	-2	-631	-201	662	1201
31.08	-12	56	58	-2	-633	-201	664	1244
27.04	-22	87	90	-2	-641	-201	672	1438
25.50	-25	99	102	-2	-645	-201	675	1514
25.50	-25	95	98	-4	-847	-301	898	1813
24.08	-30	109	114	-4	-850	-301	902	1885
24.08	-30	109	114	-4	-850	-301	901	1885
22.05	-38	130	136	-4	-854	-301	905	1991
17.06	-56	182	190	-4	-865	-301	916	2263
12.07	-74	234	245	-4	-878	-301	928	2553
11.00	-78	245	257	-4	-881	-301	930	2618
11.00	-78	245	257	-4	-880	-300	930	2618
7.08	-92	287	301	-4	-892	-301	941	3133
7.08	-92	287	301	-4	-891	-300	941	3133
4.59	-101	314	329	-4	-898	-300	947	3313
2.09	-110	341	358	-4	-905	-300	953	3499
0.00	-117	363	382	-4	-911	-300	959	3657

Deflections and Stresses for Pole

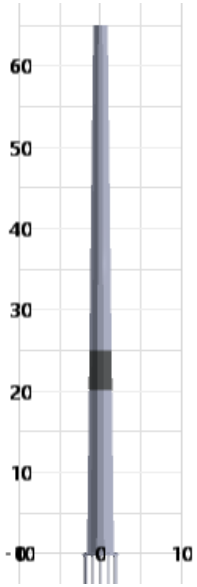
Loading Case 4 DEFLECTION *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
47.00	-0.7	-0.2	0.8	0.0	0.12	0.00	0.00	0.00	0.00	0.00	65.00	99.90
46.50	-0.7	-0.2	0.8	0.0	0.12	0.00	0.00	0.00	0.00	0.00	65.00	99.90
46.50	-0.7	-0.2	0.8	0.0	0.12	0.00	0.00	0.00	0.04	0.07	65.00	99.90
42.01	-0.6	-0.2	0.7	0.0	0.12	0.23	0.02	0.00	0.04	0.25	65.00	99.90
39.50	-0.6	-0.2	0.6	0.0	0.12	0.34	0.02	0.00	0.04	0.36	65.00	99.90
39.50	-0.6	-0.2	0.6	0.0	0.12	0.27	0.05	0.01	0.08	0.32	65.00	99.90
38.08	-0.5	-0.2	0.6	0.0	0.12	0.40	0.05	0.01	0.08	0.45	65.00	99.90
37.02	-0.5	-0.2	0.5	0.0	0.12	0.48	0.05	0.01	0.08	0.54	65.00	99.90
32.50	-0.4	-0.1	0.4	0.0	0.11	0.79	0.07	0.01	0.08	0.86	65.00	75.54
32.50	-0.4	-0.1	0.4	0.0	0.11	0.74	0.09	0.02	0.12	0.82	65.00	78.82
32.03	-0.4	-0.1	0.4	0.0	0.11	0.78	0.09	0.02	0.12	0.87	65.00	74.42
31.08	-0.4	-0.1	0.4	0.0	0.11	0.88	0.09	0.02	0.12	0.97	65.00	67.17
27.04	-0.3	-0.1	0.3	0.0	0.10	1.22	0.10	0.02	0.11	1.32	65.00	49.41
25.50	-0.3	-0.1	0.3	0.0	0.09	1.33	0.10	0.02	0.11	1.43	65.00	45.53
25.50	-0.3	-0.1	0.3	0.0	0.09	1.27	0.12	0.02	0.15	1.40	65.00	46.54
24.08	-0.2	-0.1	0.2	0.0	0.09	1.42	0.12	0.02	0.14	1.54	65.00	42.22
22.05	-0.2	-0.1	0.2	0.0	0.08	1.60	0.13	0.02	0.14	1.73	65.00	37.65
17.06	-0.1	0.0	0.1	0.0	0.07	1.97	0.14	0.02	0.13	2.10	65.00	30.89
12.07	-0.1	0.0	0.1	0.0	0.05	2.25	0.14	0.02	0.12	2.39	65.00	27.17
11.00	0.0	0.0	0.0	0.0	0.04	2.30	0.15	0.02	0.12	2.45	65.00	26.58
11.00	0.0	0.0	0.0	0.0	0.04	2.09	0.13	0.02	0.11	2.22	65.00	29.27
7.08	0.0	0.0	0.0	0.0	0.03	2.23	0.15	0.01	0.10	2.38	65.00	27.27
4.59	0.0	0.0	0.0	0.0	0.02	2.31	0.15	0.01	0.10	2.46	65.00	26.38
2.09	0.0	0.0	0.0	0.0	0.01	2.38	0.16	0.01	0.10	2.54	65.00	25.64
0.00	0.0	0.0	0.0	0.0	0.00	2.43	0.16	0.01	0.10	2.59	65.00	25.12

MINIMUM DEFLECTION RATIO // DEFLECTION LIMIT / DEFLECTION // IS

65.0' AGH, 65' CUSTOM POLES, STR. #10/8,10/11

Design Id: STR10_8



BY VALMONT INDUSTRIES FOR: OMPA, 65.0' AGH, 65' CUSTOM POLES, STR. #10/8,10/11, 607956 DATE 01/30/2024
Design Id: STR10_8 IMPAX 26.2.5.1

*** SUMMARY ***

---------- DESIGN SUMMARY ----------

Height Above Base Plate	65'- 0.00"	Dia. at Top of Baseplate (in)	39.800	Pole Shaft Weight (lbs)	6380
		Top Diameter (in)	21.125		
		Pole Taper (in/ft)	0.29500	Shape:	12 Sides

Connections Between Sections	/First/
Height Above Ground	25'- 0.00"
Type	Slip Joint
Overlap Length (in)	58
Maximum Axial Force (lbs)	6934

Section Characteristics	/First/	/Second/
Base Diameter (in)	39.800	34.351
Top Diameter (in)	32.425	21.125
Thickness (in)	0.31250	0.25000
Length	25'- 0.00"	44'-10.00"
Weight (lbs)	3038	3342

---------- ANALYSIS SUMMARY ----------

	Pt. of Fixity	Governing Level Sec.1	Governing Level Sec.2	Pole Top
Governing Load Case	1C NESC HEAV	1C NESC HEAV	1C NESC HEAV	1C NESC HEAV
Height (ft)	0.00	0.00	25.00	65.00
Resultant Moment (in-kips)	24030	24030	12811	0
Shear Force (lbs)	37391	37391	37363	0
Axial Force (lbs)	7505	7505	1089	0
Combined Stress (ksi)	61.62	61.62	59.75	0.00
Allowable Stress (ksi)	63.43	63.43	62.29	65.00
Allowable/Combined Stress	1.03	1.03	1.04	99.90
Total Deflection (in)	0.00	0.00	4.80	30.54

Note: Diameters are outside, measured across the flats
Forces and moments are reported in the local element coordinate system

BY VALMONT INDUSTRIES FOR: OMPA, 65.0' AGH, 65' CUSTOM POLES, STR. #10/8,10/11, 607956 DATE 01/30/2024
Design Id: STR10_8 IMPAX 26.2.5.1

*** POLE SHAFT POINT OF FIXITY REACTIONS ***

Loading Case Identifier	Moments About X-Axis (in-kips)	Moments About Y-Axis (in-kips)	Moments Resultant (X & Y) (in-kips)	Moments Torsional (in-kips)	Vertical Force (lbs)	Shear In X-Direction (lbs)	Shear In Y-Direction (lbs)	Shear Resultant (X & Y) (lbs)	Notes
1A NESC HE	10278	-2521	10582	287	10584	4721	15900	16586	
1B NESC HE	-13790	-1414	13862	-386	12581	2921	-21300	21499	B
1C NESC HE	23963	-1758	24027	668	7582	3621	37200	37375	A C
2A EXTREME	5454	-2986	6218	156	6014	6606	8600	10844	
2B EXTREME	-6373	-2140	6722	-179	7909	5206	-9900	11185	
2C EXTREME	11799	-2332	12027	334	4510	5606	18499	19330	
3A CONCURR	9494	-1630	9633	266	8085	2846	14700	14973	
3B CONCURR	-10213	-777	10243	-287	9784	1446	-15800	15866	
3C CONCURR	19622	-1122	19654	549	4684	2146	30500	30575	
4 DEFLECTI	1171	-86	1174	35	7081	182	1900	1909	

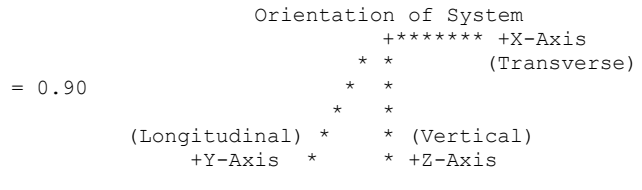
Note: Positive vertical force is downward.
Reactions are considered in the global coordinate system.

Key to the special note entries
A Indicates load case with maximum overturning moment
B Indicates load case with maximum vertical force
C Indicates load case with maximum resultant shear

*** INPUT LOADS ***

Loading Case 1A NESC HEAVY

Basic Wind Pressure is 10.00 psf
Wind Orientation is 0.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.500
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

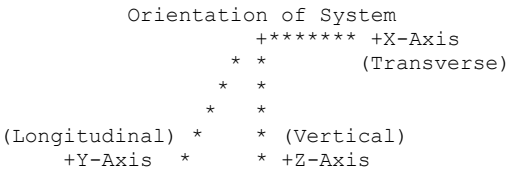


Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	64'- 6.00"	64'- 6.00"	3.00"	0.00	200	-4800	600	SW_A
2	64'- 6.00"	64'- 6.00"	3.00"	0.00	300	8400	-500	SW_B
3	57'- 6.00"	57'- 6.00"	3.00"	0.00	300	-5500	800	TCND_C
4	50'- 6.00"	50'- 6.00"	3.00"	0.00	300	-5500	800	MCND_C
5	43'- 6.00"	43'- 6.00"	3.00"	0.00	300	-5500	800	BCND_C
6	57'- 6.00"	57'- 6.00"	3.00"	0.00	500	9600	-500	TCND_D
7	50'- 6.00"	50'- 6.00"	3.00"	0.00	500	9600	-500	MCND_D
8	43'- 6.00"	43'- 6.00"	3.00"	0.00	500	9600	-500	BCND_D
9	56'- 1.00"	56'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	49'- 1.00"	49'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	42'- 1.00"	42'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 1B NESC HEAVY

Basic Wind Pressure is 10.00 psf
Wind Orientation is 0.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.500
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

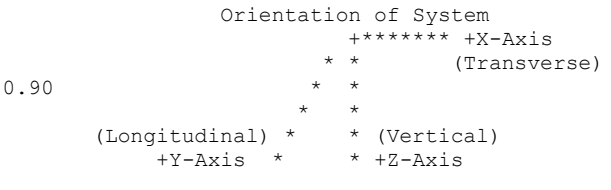


Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	64'- 6.00"	64'- 6.00"	3.00"	0.00	200	-4800	600	SW_A
2	64'- 6.00"	64'- 6.00"	3.00"	0.00	0	0	0	SW_B
3	57'- 6.00"	57'- 6.00"	3.00"	0.00	300	-5500	800	TCND_C
4	50'- 6.00"	50'- 6.00"	3.00"	0.00	300	-5500	800	MCND_C
5	43'- 6.00"	43'- 6.00"	3.00"	0.00	300	-5500	800	BCND_C
6	57'- 6.00"	57'- 6.00"	3.00"	0.00	0	0	0	TCND_D
7	50'- 6.00"	50'- 6.00"	3.00"	0.00	0	0	0	MCND_D
8	43'- 6.00"	43'- 6.00"	3.00"	0.00	0	0	0	BCND_D
9	56'- 1.00"	56'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	49'- 1.00"	49'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	42'- 1.00"	42'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 1C NESC HEAVY

Basic Wind Pressure is 10.00 psf
Wind Orientation is 0.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.500
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

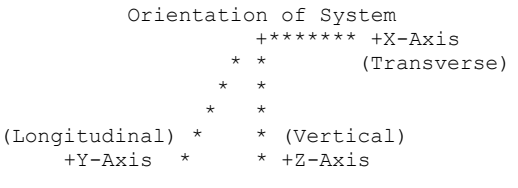


Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	64'- 6.00"	64'- 6.00"	3.00"	0.00	0	0	0	SW_A
2	64'- 6.00"	64'- 6.00"	3.00"	0.00	300	8400	-500	SW_B
3	57'- 6.00"	57'- 6.00"	3.00"	0.00	0	0	0	TCND_C
4	50'- 6.00"	50'- 6.00"	3.00"	0.00	0	0	0	MCND_C
5	43'- 6.00"	43'- 6.00"	3.00"	0.00	0	0	0	BCND_C
6	57'- 6.00"	57'- 6.00"	3.00"	0.00	500	9600	-500	TCND_D
7	50'- 6.00"	50'- 6.00"	3.00"	0.00	500	9600	-500	MCND_D
8	43'- 6.00"	43'- 6.00"	3.00"	0.00	500	9600	-500	BCND_D
9	56'- 1.00"	56'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	49'- 1.00"	49'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	42'- 1.00"	42'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 2A EXTREME WIND

Basic Wind Pressure is 23.10 psf
Wind Orientation is 0.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

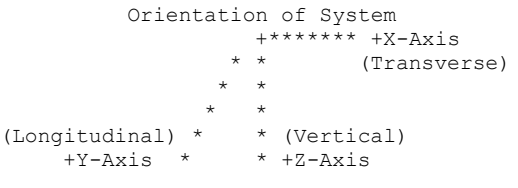


Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	64'- 6.00"	64'- 6.00"	3.00"	0.00	100	-2100	300	SW_A
2	64'- 6.00"	64'- 6.00"	3.00"	0.00	200	3500	-400	SW_B
3	57'- 6.00"	57'- 6.00"	3.00"	0.00	300	-2600	400	TCND_C
4	50'- 6.00"	50'- 6.00"	3.00"	0.00	300	-2600	400	MCND_C
5	43'- 6.00"	43'- 6.00"	3.00"	0.00	300	-2600	400	BCND_C
6	57'- 6.00"	57'- 6.00"	3.00"	0.00	400	5000	-500	TCND_D
7	50'- 6.00"	50'- 6.00"	3.00"	0.00	400	5000	-500	MCND_D
8	43'- 6.00"	43'- 6.00"	3.00"	0.00	400	5000	-500	BCND_D
9	56'- 1.00"	56'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	49'- 1.00"	49'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	42'- 1.00"	42'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 2B EXTREME WIND

Basic Wind Pressure is 23.10 psf
Wind Orientation is 0.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

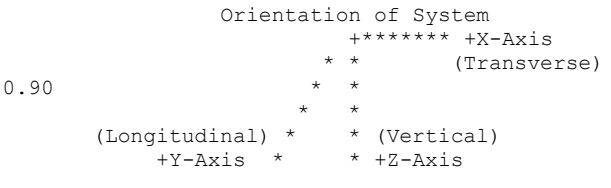


Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	64'- 6.00"	64'- 6.00"	3.00"	0.00	100	-2100	300	SW_A
2	64'- 6.00"	64'- 6.00"	3.00"	0.00	0	0	0	SW_B
3	57'- 6.00"	57'- 6.00"	3.00"	0.00	300	-2600	400	TCND_C
4	50'- 6.00"	50'- 6.00"	3.00"	0.00	300	-2600	400	MCND_C
5	43'- 6.00"	43'- 6.00"	3.00"	0.00	300	-2600	400	BCND_C
6	57'- 6.00"	57'- 6.00"	3.00"	0.00	0	0	0	TCND_D
7	50'- 6.00"	50'- 6.00"	3.00"	0.00	0	0	0	MCND_D
8	43'- 6.00"	43'- 6.00"	3.00"	0.00	0	0	0	BCND_D
9	56'- 1.00"	56'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	49'- 1.00"	49'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	42'- 1.00"	42'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 2C EXTREME WIND

Basic Wind Pressure is 23.10 psf
Wind Orientation is 0.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

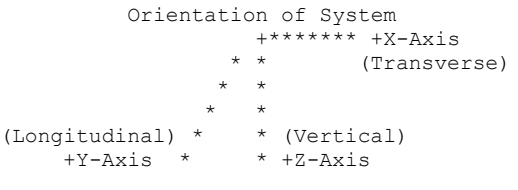


Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	64'- 6.00"	64'- 6.00"	3.00"	0.00	0	0	0	SW_A
2	64'- 6.00"	64'- 6.00"	3.00"	0.00	200	3500	-400	SW_B
3	57'- 6.00"	57'- 6.00"	3.00"	0.00	0	0	0	TCND_C
4	50'- 6.00"	50'- 6.00"	3.00"	0.00	0	0	0	MCND_C
5	43'- 6.00"	43'- 6.00"	3.00"	0.00	0	0	0	BCND_C
6	57'- 6.00"	57'- 6.00"	3.00"	0.00	400	5000	-500	TCND_D
7	50'- 6.00"	50'- 6.00"	3.00"	0.00	400	5000	-500	MCND_D
8	43'- 6.00"	43'- 6.00"	3.00"	0.00	400	5000	-500	BCND_D
9	56'- 1.00"	56'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	49'- 1.00"	49'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	42'- 1.00"	42'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 3A CONCURRENT

Basic Wind Pressure is 4.10 psf
Wind Orientation is 0.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

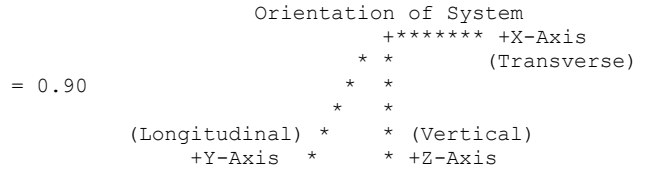


Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	64'- 6.00"	64'- 6.00"	3.00"	0.00	100	-3500	700	SW_A
2	64'- 6.00"	64'- 6.00"	3.00"	0.00	200	6800	-500	SW_B
3	57'- 6.00"	57'- 6.00"	3.00"	0.00	200	-4100	900	TCND_C
4	50'- 6.00"	50'- 6.00"	3.00"	0.00	200	-4100	900	MCND_C
5	43'- 6.00"	43'- 6.00"	3.00"	0.00	200	-4100	900	BCND_C
6	57'- 6.00"	57'- 6.00"	3.00"	0.00	400	7900	-400	TCND_D
7	50'- 6.00"	50'- 6.00"	3.00"	0.00	400	7900	-400	MCND_D
8	43'- 6.00"	43'- 6.00"	3.00"	0.00	400	7900	-400	BCND_D
9	56'- 1.00"	56'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	49'- 1.00"	49'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	42'- 1.00"	42'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 3B CONCURRENT

Basic Wind Pressure is 4.10 psf
Wind Orientation is 0.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

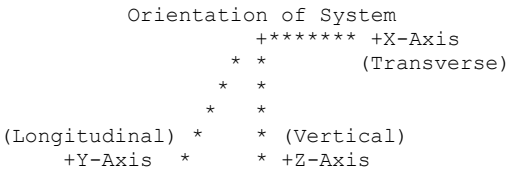


Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	64'- 6.00"	64'- 6.00"	3.00"	0.00	100	-3500	700	SW_A
2	64'- 6.00"	64'- 6.00"	3.00"	0.00	0	0	0	SW_B
3	57'- 6.00"	57'- 6.00"	3.00"	0.00	200	-4100	900	TCND_C
4	50'- 6.00"	50'- 6.00"	3.00"	0.00	200	-4100	900	MCND_C
5	43'- 6.00"	43'- 6.00"	3.00"	0.00	200	-4100	900	BCND_C
6	57'- 6.00"	57'- 6.00"	3.00"	0.00	0	0	0	TCND_D
7	50'- 6.00"	50'- 6.00"	3.00"	0.00	0	0	0	MCND_D
8	43'- 6.00"	43'- 6.00"	3.00"	0.00	0	0	0	BCND_D
9	56'- 1.00"	56'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	49'- 1.00"	49'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	42'- 1.00"	42'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 3C CONCURRENT

Basic Wind Pressure is 4.10 psf
Wind Orientation is 0.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

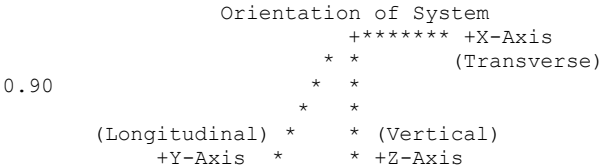


Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	64'- 6.00"	64'- 6.00"	3.00"	0.00	0	0	0	SW_A
2	64'- 6.00"	64'- 6.00"	3.00"	0.00	200	6800	-500	SW_B
3	57'- 6.00"	57'- 6.00"	3.00"	0.00	0	0	0	TCND_C
4	50'- 6.00"	50'- 6.00"	3.00"	0.00	0	0	0	MCND_C
5	43'- 6.00"	43'- 6.00"	3.00"	0.00	0	0	0	BCND_C
6	57'- 6.00"	57'- 6.00"	3.00"	0.00	400	7900	-400	TCND_D
7	50'- 6.00"	50'- 6.00"	3.00"	0.00	400	7900	-400	MCND_D
8	43'- 6.00"	43'- 6.00"	3.00"	0.00	400	7900	-400	BCND_D
9	56'- 1.00"	56'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	49'- 1.00"	49'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	42'- 1.00"	42'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** INPUT LOADS ***

Loading Case 4 DEFLECTION

Basic Wind Pressure is 1.00 psf
Wind Orientation is 0.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees
Deflection Limitation: 6.0 in



Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	64'- 6.00"	64'- 6.00"	3.00"	0.00	100	-1800	300	SW_A
2	64'- 6.00"	64'- 6.00"	3.00"	0.00	-100	1900	-200	SW_B
3	57'- 6.00"	57'- 6.00"	3.00"	0.00	100	-1400	300	TCND_C
4	50'- 6.00"	50'- 6.00"	3.00"	0.00	100	-1400	300	MCND_C
5	43'- 6.00"	43'- 6.00"	3.00"	0.00	100	-1400	300	BCND_C
6	57'- 6.00"	57'- 6.00"	3.00"	0.00	-100	2000	-100	TCND_D
7	50'- 6.00"	50'- 6.00"	3.00"	0.00	-100	2000	-100	MCND_D
8	43'- 6.00"	43'- 6.00"	3.00"	0.00	-100	2000	-100	BCND_D
9	56'- 1.00"	56'- 1.01"	6.00"	0.00	0	0	0	BRKT1
10	49'- 1.00"	49'- 1.01"	6.00"	0.00	0	0	0	BRKT2
11	42'- 1.00"	42'- 1.01"	6.00"	0.00	0	0	0	BRKT3

*** Properties ***

Connection Locations	Distance From Base (ft)	Diameter Across Flats (in)	Wall Thickness (in)	D/t Across Flats	w/t Across Flats	Moments of Inertia (in^4)	Area (in^2)
Top of Sect 2	65.00	21.125	0.2500	84.50	19.96	936	16.78
	64.50	21.273	0.2500	85.09	20.12	956	16.90
	60.01	22.597	0.2500	90.39	21.54	1148	17.96
	57.50	23.338	0.2500	93.35	22.33	1266	18.56
	56.08	23.755	0.2500	95.02	22.78	1336	18.89
	55.02	24.069	0.2500	96.28	23.12	1390	19.15
	50.50	25.403	0.2500	101.61	24.55	1637	20.22
	50.03	25.541	0.2500	102.16	24.70	1664	20.33
	49.08	25.820	0.2500	103.28	24.99	1720	20.55
	45.04	27.013	0.2500	108.05	26.27	1972	21.51
	43.50	27.468	0.2500	109.87	26.76	2074	21.88
	42.08	27.885	0.2500	111.54	27.21	2171	22.21
	40.05	28.485	0.2500	113.94	27.85	2316	22.70
	35.06	29.957	0.2500	119.83	29.43	2697	23.88
	30.07	31.429	0.2500	125.72	31.01	3119	25.06
	27.54	32.177	0.2500	128.71	31.81	3348	25.66
	25.00	32.925	0.2500	131.70	32.61	3589	26.27
Top of Sect 1	25.00	32.425	0.3125	103.76	25.12	4259	32.27
Base of Sect 2	20.17	33.851	0.3125	108.32	26.35	4852	33.70
	17.63	34.598	0.3125	110.71	26.99	5183	34.45
	15.10	35.346	0.3125	113.11	27.63	5530	35.20
	10.11	36.818	0.3125	117.82	28.89	6257	36.68
	5.12	38.290	0.3125	122.53	30.15	7044	38.16
	2.56	39.045	0.3125	124.94	30.80	7473	38.92
Base of Sect 1	0.00	39.800	0.3125	127.36	31.45	7919	39.68

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 1A NESC HEAVY

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
65.00	0	0	0	0	0	0	0	0
64.50	0	0	0	0	10	1	10	42
64.50	0	0	0	49	519	3601	3638	38
60.01	194	-30	197	49	613	3612	3664	434
57.50	303	-50	307	49	668	3618	3679	665
57.50	303	-52	308	109	1479	7723	7863	846
56.08	434	-78	441	109	1511	7726	7873	980
56.08	434	-78	441	109	1511	7726	7873	982
55.02	533	-97	542	109	1534	7729	7879	1088
50.50	953	-183	970	109	1641	7740	7912	1538
50.50	953	-186	971	174	2450	11844	12095	1727
50.03	1019	-200	1039	174	2461	11845	12098	1778
49.08	1154	-228	1176	174	2484	11848	12106	1875
49.08	1154	-228	1176	174	2483	11847	12104	1885
45.04	1729	-351	1764	174	2583	11855	12134	2327
43.50	1948	-399	1989	174	2623	11859	12146	2496
43.50	1948	-402	1989	242	3430	15963	16327	2699
42.08	2220	-461	2267	242	3467	15967	16339	2857
42.08	2220	-461	2267	242	3465	15965	16337	2869
40.05	2609	-546	2666	242	3516	15965	16348	3129
35.06	3566	-761	3646	242	3649	15968	16380	3763
30.07	4522	-983	4628	242	3790	15970	16414	4418
27.54	5008	-1100	5127	242	3863	15968	16429	4770
25.00	5494	-1218	5627	242	3941	15973	16452	5103
25.00	5494	-1218	5627	242	3937	15963	16441	5139
20.17	6420	-1451	6582	242	4097	15981	16498	6603
20.17	6420	-1451	6582	242	4092	15968	16484	6637
17.63	6906	-1577	7084	242	4171	15963	16499	7098
15.10	7391	-1704	7585	242	4251	15951	16508	7580
10.11	8347	-1964	8575	242	4414	15935	16535	8536
5.12	9301	-2233	9565	242	4585	15919	16566	9517
2.56	9790	-2376	10074	242	4674	15907	16579	10041
0.00	10279	-2521	10583	242	4769	15907	16606	10551

Deflections and Stresses for Pole

Loading Case 1A NESC HEAVY *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
65.00	3.0	13.1	13.4	0.2	1.62	0.00	0.00	0.00	0.00	0.00	65.00	99.90
64.50	2.9	12.9	13.3	0.2	1.62	0.00	0.00	0.00	0.00	0.00	65.00	99.90
64.50	2.9	12.9	13.3	0.2	1.62	0.00	0.00	0.28	0.71	1.23	65.00	52.95
60.01	2.6	11.4	11.7	0.1	1.61	1.99	0.02	0.24	0.66	2.08	65.00	31.32
57.50	2.4	10.6	10.9	0.1	1.60	2.92	0.04	0.23	0.63	2.99	65.00	21.76
57.50	2.4	10.6	10.9	0.1	1.60	2.92	0.05	0.51	1.36	3.13	65.00	20.76
56.08	2.3	10.2	10.4	0.1	1.59	4.05	0.05	0.49	1.33	4.21	65.00	15.44
55.02	2.2	9.8	10.1	0.1	1.58	4.84	0.06	0.48	1.31	4.98	65.00	13.04
50.50	1.9	8.4	8.6	0.1	1.52	7.77	0.08	0.43	1.22	7.89	65.00	8.24
50.50	1.9	8.4	8.6	0.1	1.52	7.78	0.09	0.68	1.89	7.97	65.00	8.16
50.03	1.9	8.2	8.5	0.1	1.52	8.23	0.09	0.68	1.88	8.42	65.00	7.72
49.08	1.8	7.9	8.2	0.1	1.50	9.12	0.09	0.66	1.85	9.30	65.00	6.99
45.04	1.6	6.7	6.9	0.1	1.43	12.49	0.11	0.60	1.74	12.64	65.00	5.14
43.50	1.5	6.3	6.5	0.1	1.39	13.61	0.11	0.58	1.71	13.76	65.00	4.72
43.50	1.5	6.3	6.5	0.1	1.39	13.61	0.12	0.81	2.32	13.82	65.00	4.70
42.08	1.4	5.9	6.1	0.1	1.36	15.04	0.13	0.79	2.28	15.25	65.00	4.26
40.05	1.2	5.3	5.5	0.1	1.31	16.95	0.14	0.76	2.21	17.14	65.00	3.79
35.06	1.0	4.1	4.2	0.0	1.16	20.93	0.16	0.68	2.07	21.13	65.00	3.08
30.07	0.7	3.0	3.1	0.0	0.99	24.11	0.18	0.62	1.94	24.32	63.86	2.63
27.54	0.6	2.5	2.6	0.0	0.90	25.48	0.19	0.59	1.89	25.69	63.07	2.46
25.00	0.5	2.1	2.1	0.0	0.80	26.70	0.19	0.56	1.83	26.91	62.29	2.31
25.00	0.5	2.1	2.1	0.0	0.80	22.16	0.16	0.47	1.50	22.33	65.00	2.91
20.17	0.3	1.3	1.4	0.0	0.65	23.75	0.20	0.43	1.42	23.96	65.00	2.71
17.63	0.2	1.0	1.1	0.0	0.57	24.46	0.21	0.41	1.38	24.67	65.00	2.63
15.10	0.2	0.7	0.8	0.0	0.49	25.08	0.22	0.39	1.34	25.31	65.00	2.57
10.11	0.1	0.3	0.3	0.0	0.32	26.11	0.23	0.36	1.27	26.35	65.00	2.47
5.12	0.0	0.1	0.1	0.0	0.16	26.90	0.25	0.33	1.21	27.16	64.69	2.38
2.56	0.0	0.0	0.0	0.0	0.08	27.24	0.26	0.32	1.18	27.50	64.06	2.33
0.00	0.0	0.0	0.0	0.0	0.00	27.53	0.27	0.31	1.16	27.80	63.43	2.28

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 1B NESC HEAVY

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
65.00	0	0	0	0	0	0	0	0
64.50	0	0	0	0	10	-2	10	42
64.50	0	-6	6	-66	229	-4820	4825	463
60.01	-260	-21	261	-66	321	-4834	4845	859
57.50	-406	-31	407	-66	376	-4842	4857	1091
57.50	-406	-40	408	-147	696	-10366	10390	1689
56.08	-582	-52	584	-147	728	-10371	10397	1823
56.08	-582	-52	584	-147	727	-10371	10396	1825
55.02	-714	-61	717	-147	750	-10373	10400	1935
50.50	-1277	-105	1282	-147	856	-10389	10424	2384
50.50	-1278	-114	1283	-233	1173	-15911	15954	2997
50.03	-1367	-121	1373	-233	1183	-15912	15956	3050
49.08	-1548	-135	1554	-233	1206	-15915	15961	3147
49.08	-1548	-135	1554	-233	1203	-15912	15958	3164
45.04	-2320	-195	2329	-233	1301	-15922	15975	3614
43.50	-2615	-220	2624	-233	1341	-15927	15984	3783
43.50	-2615	-230	2625	-326	1655	-21446	21510	4420
42.08	-2979	-258	2990	-326	1692	-21451	21518	4578
42.08	-2979	-258	2990	-326	1689	-21447	21513	4600
40.05	-3503	-300	3516	-326	1736	-21443	21513	4881
35.06	-4787	-408	4805	-326	1866	-21440	21521	5547
30.07	-6072	-524	6094	-326	2004	-21437	21530	6229
27.54	-6724	-585	6749	-326	2076	-21430	21531	6600
25.00	-7376	-650	7404	-326	2154	-21437	21545	6934
25.00	-7376	-650	7404	-326	2148	-21417	21525	6995
20.17	-8619	-779	8654	-326	2306	-21442	21565	8459
20.17	-8619	-778	8654	-326	2301	-21419	21542	8518
17.63	-9270	-849	9309	-326	2380	-21409	21540	8995
15.10	-9921	-923	9964	-326	2459	-21388	21529	9503
10.11	-11202	-1075	11253	-326	2622	-21358	21518	10491
5.12	-12481	-1237	12542	-326	2793	-21332	21514	11498
2.56	-13136	-1324	13203	-326	2883	-21311	21505	12038
0.00	-13791	-1414	13863	-326	2977	-21311	21518	12548

Deflections and Stresses for Pole

Loading Case 1B NESC HEAVY *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
65.00	1.6	-17.6	17.7	0.3	2.13	0.00	0.00	0.00	0.00	0.00	65.00	99.90
64.50	1.6	-17.4	17.4	0.3	2.13	0.00	0.00	0.00	0.00	0.00	65.00	99.90
64.50	1.6	-17.4	17.4	0.3	2.13	0.06	0.03	0.37	0.95	1.64	65.00	39.57
60.01	1.4	-15.4	15.4	0.2	2.12	2.61	0.05	0.33	0.87	2.77	65.00	23.51
57.50	1.3	-14.3	14.3	0.2	2.10	3.82	0.06	0.31	0.83	3.94	65.00	16.51
57.50	1.3	-14.3	14.3	0.2	2.10	3.84	0.09	0.68	1.82	4.23	65.00	15.37
56.08	1.3	-13.6	13.7	0.2	2.09	5.30	0.10	0.66	1.77	5.60	65.00	11.60
55.02	1.2	-13.2	13.2	0.2	2.08	6.33	0.10	0.64	1.74	6.59	65.00	9.86
50.50	1.0	-11.3	11.3	0.1	2.00	10.13	0.12	0.58	1.62	10.33	65.00	6.29
50.50	1.0	-11.3	11.3	0.1	2.00	10.15	0.15	0.92	2.51	10.51	65.00	6.18
50.03	1.0	-11.1	11.1	0.1	2.00	10.74	0.15	0.91	2.49	11.09	65.00	5.86
49.08	1.0	-10.7	10.7	0.1	1.98	11.89	0.15	0.89	2.46	12.21	65.00	5.32
49.08	1.0	-10.7	10.7	0.1	1.98	11.89	0.15	0.89	2.45	12.21	65.00	5.32
45.04	0.8	-9.0	9.1	0.1	1.88	16.25	0.17	0.81	2.31	16.52	65.00	3.93
43.50	0.8	-8.4	8.5	0.1	1.83	17.70	0.17	0.78	2.26	17.96	65.00	3.62
43.50	0.8	-8.4	8.5	0.1	1.83	17.72	0.20	1.09	3.08	18.10	65.00	3.59
42.08	0.7	-7.9	7.9	0.1	1.79	19.57	0.21	1.06	3.02	19.93	65.00	3.26
40.05	0.7	-7.2	7.2	0.1	1.72	22.04	0.22	1.02	2.93	22.38	65.00	2.91
35.06	0.5	-5.5	5.5	0.1	1.52	27.19	0.23	0.92	2.74	27.51	65.00	2.36
30.07	0.4	-4.0	4.0	0.0	1.30	31.30	0.25	0.83	2.56	31.61	63.86	2.02
27.54	0.3	-3.4	3.4	0.0	1.18	33.06	0.26	0.80	2.48	33.37	63.07	1.89
25.00	0.3	-2.8	2.8	0.0	1.06	34.63	0.26	0.76	2.41	34.94	62.29	1.78
25.00	0.3	-2.8	2.8	0.0	1.06	28.74	0.22	0.63	1.97	28.99	65.00	2.24
20.17	0.2	-1.8	1.8	0.0	0.85	30.79	0.25	0.58	1.86	31.07	65.00	2.09
20.17	0.2	-1.8	1.8	0.0	0.85	30.79	0.25	0.58	1.86	31.08	65.00	2.09
17.63	0.1	-1.4	1.4	0.0	0.75	31.70	0.26	0.55	1.81	31.98	65.00	2.03
15.10	0.1	-1.0	1.0	0.0	0.64	32.50	0.27	0.53	1.76	32.79	65.00	1.98
10.11	0.0	-0.4	0.5	0.0	0.43	33.81	0.29	0.49	1.66	34.11	65.00	1.91
5.12	0.0	-0.1	0.1	0.0	0.21	34.82	0.30	0.45	1.58	35.14	64.69	1.84
2.56	0.0	0.0	0.0	0.0	0.11	35.24	0.31	0.43	1.54	35.57	64.06	1.80
0.00	0.0	0.0	0.0	0.0	0.00	35.61	0.32	0.42	1.50	35.94	63.43	1.76

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 1C NESC HEAVY

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
65.00	0	0	0	0	0	0	0	0
64.50	0	0	0	0	10	3	10	42
64.50	0	14	14	114	348	8352	8359	-996
60.01	451	-7	451	114	441	8377	8388	-602
57.50	703	-21	704	114	494	8391	8406	-367
57.50	703	-5	703	254	1033	17938	17968	-1472
56.08	1008	-23	1008	254	1065	17946	17978	-1338
56.08	1008	-23	1008	254	1063	17947	17979	-1332
55.02	1237	-36	1238	254	1087	17953	17986	-1230
50.50	2212	-98	2214	254	1189	17982	18022	-758
50.50	2212	-81	2213	404	1719	27534	27587	-1818
50.03	2367	-90	2369	404	1728	27537	27592	-1758
49.08	2680	-110	2682	404	1751	27543	27599	-1661
49.08	2680	-110	2682	404	1743	27547	27602	-1611
45.04	4017	-197	4022	404	1836	27574	27635	-1121
43.50	4527	-231	4533	404	1876	27584	27647	-952
43.50	4527	-214	4532	564	2397	37142	37219	-1941
42.08	5158	-255	5164	564	2434	37150	37230	-1783
42.08	5158	-254	5164	564	2426	37154	37233	-1719
40.05	6065	-314	6073	564	2464	37173	37254	-1339
35.06	8292	-464	8305	564	2582	37206	37296	-516
30.07	10521	-622	10539	564	2712	37232	37331	294
27.54	11653	-705	11675	564	2780	37242	37346	756
25.00	12787	-791	12811	564	2858	37254	37363	1089
25.00	12787	-790	12811	564	2847	37249	37357	1272
20.17	14948	-960	14979	564	3006	37291	37412	2736
20.17	14948	-959	14979	564	2996	37278	37398	2911
17.63	16082	-1051	16116	564	3072	37278	37404	3470
15.10	17215	-1145	17253	564	3147	37268	37401	4098
10.11	19447	-1338	19493	564	3306	37251	37397	5247
5.12	21678	-1540	21733	564	3474	37230	37392	6374
2.56	22822	-1647	22881	564	3562	37211	37381	6995
0.00	23965	-1758	24030	564	3656	37211	37391	7505

Deflections and Stresses for Pole

Loading Case 1C NESC HEAVY *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
65.00	1.9	30.5	30.5	0.8	3.68	0.00	0.00	0.00	0.00	0.00	65.00	99.90
64.50	1.9	30.1	30.2	0.8	3.68	0.00	0.00	0.00	0.00	0.00	65.00	99.90
64.50	1.9	30.1	30.2	0.8	3.68	0.16	0.06	0.64	1.64	2.85	65.00	22.80
60.01	1.7	26.6	26.7	0.6	3.66	4.45	0.03	0.57	1.51	4.69	65.00	13.85
57.50	1.6	24.7	24.8	0.6	3.63	6.53	0.02	0.53	1.45	6.63	65.00	9.80
57.50	1.6	24.7	24.8	0.6	3.63	6.49	0.08	1.19	3.14	7.25	65.00	8.96
56.08	1.5	23.7	23.7	0.6	3.61	9.01	0.07	1.14	3.07	9.48	65.00	6.86
55.02	1.5	22.9	22.9	0.5	3.59	10.79	0.06	1.11	3.01	11.09	65.00	5.86
50.50	1.3	19.5	19.6	0.4	3.47	17.36	0.04	1.00	2.80	17.48	65.00	3.72
50.50	1.3	19.5	19.6	0.4	3.47	17.33	0.09	1.59	4.34	17.63	65.00	3.69
50.03	1.2	19.2	19.2	0.4	3.45	18.35	0.09	1.57	4.31	18.63	65.00	3.49
49.08	1.2	18.5	18.5	0.4	3.42	20.33	0.08	1.54	4.25	20.57	65.00	3.16
45.04	1.0	15.7	15.7	0.3	3.24	27.87	0.05	1.40	4.00	28.01	65.00	2.32
43.50	1.0	14.7	14.7	0.3	3.17	30.38	0.04	1.36	3.91	30.50	65.00	2.13
43.50	1.0	14.7	14.7	0.3	3.17	30.35	0.09	1.89	5.33	30.58	65.00	2.13
42.08	0.9	13.7	13.8	0.3	3.09	33.56	0.08	1.84	5.22	33.76	65.00	1.93
40.05	0.8	12.4	12.5	0.2	2.97	37.82	0.06	1.76	5.07	37.99	65.00	1.71
35.06	0.6	9.5	9.5	0.1	2.63	46.74	0.02	1.59	4.74	46.87	65.00	1.39
30.07	0.5	7.0	7.0	0.1	2.25	53.85	0.01	1.44	4.45	53.98	63.86	1.18
27.54	0.4	5.8	5.8	0.1	2.04	56.90	0.03	1.38	4.31	57.03	63.07	1.11
25.00	0.3	4.8	4.8	0.1	1.83	59.62	0.04	1.31	4.18	59.75	62.29	1.04
25.00	0.3	4.8	4.8	0.1	1.83	49.48	0.04	1.09	3.42	49.59	65.00	1.31
20.17	0.2	3.1	3.1	0.0	1.48	53.04	0.08	1.00	3.24	53.18	65.00	1.22
20.17	0.2	3.1	3.1	0.0	1.48	53.04	0.09	1.00	3.24	53.19	65.00	1.22
17.63	0.2	2.4	2.4	0.0	1.29	54.61	0.10	0.95	3.14	54.76	65.00	1.19
15.10	0.1	1.7	1.8	0.0	1.11	56.00	0.12	0.91	3.06	56.16	65.00	1.16
10.11	0.1	0.8	0.8	0.0	0.74	58.27	0.14	0.84	2.90	58.45	65.00	1.11
5.12	0.0	0.2	0.2	0.0	0.37	60.04	0.17	0.78	2.75	60.24	64.69	1.07
2.56	0.0	0.0	0.0	0.0	0.18	60.77	0.18	0.75	2.68	60.98	64.06	1.05
0.00	0.0	0.0	0.0	0.0	0.00	61.41	0.19	0.72	2.62	61.62	63.43	1.03

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 2A EXTREME WIND

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
65.00	0	0	0	0	0	0	0	0
64.50	0	0	0	0	23	0	23	28
64.50	0	2	2	19	323	1398	1435	-95
60.01	75	-21	78	19	535	1402	1500	169
57.50	118	-39	124	19	658	1404	1551	323
57.50	118	-37	123	54	1360	3801	4037	182
56.08	182	-61	192	54	1431	3803	4063	272
55.02	231	-80	244	54	1485	3803	4083	341
50.50	437	-167	468	54	1725	3807	4180	641
50.50	437	-165	467	92	2426	6205	6662	502
50.03	472	-178	505	92	2452	6205	6672	535
49.08	543	-206	581	92	2504	6206	6692	600
49.08	543	-206	581	92	2503	6206	6692	603
45.04	844	-334	907	92	2732	6209	6784	893
43.50	959	-385	1033	92	2822	6211	6822	1006
43.50	959	-383	1032	132	3522	8609	9301	871
42.08	1105	-443	1191	132	3606	8610	9335	977
42.08	1105	-443	1191	132	3606	8610	9334	980
40.05	1315	-533	1419	132	3727	8611	9383	1143
35.06	1831	-765	1984	132	4038	8613	9513	1550
30.07	2347	-1017	2558	132	4364	8615	9657	1974
27.54	2609	-1152	2852	132	4535	8615	9736	2200
25.00	2871	-1293	3149	132	4712	8617	9821	2422
25.00	2871	-1293	3149	132	4710	8615	9818	2434
20.17	3371	-1576	3721	132	5062	8621	9997	3410
20.17	3371	-1576	3721	132	5060	8618	9993	3422
17.63	3633	-1733	4025	132	5244	8617	10087	3721
15.10	3895	-1895	4331	132	5431	8614	10183	4032
10.11	4411	-2231	4943	132	5812	8610	10388	4654
5.12	4926	-2591	5566	132	6209	8605	10611	5298
2.56	5191	-2785	5891	132	6418	8602	10732	5641
0.00	5455	-2986	6219	132	6633	8602	10862	5981

Deflections and Stresses for Pole

Loading Case 2A EXTREME WIND *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
65.00	3.2	6.8	7.6	0.1	0.89	0.00	0.00	0.00	0.00	0.00	65.00	99.90
64.50	3.2	6.7	7.5	0.1	0.89	0.00	0.00	0.00	0.00	0.01	65.00	99.90
64.50	3.2	6.7	7.5	0.1	0.89	0.02	0.01	0.11	0.28	0.48	65.00	99.90
60.01	2.8	6.0	6.6	0.1	0.89	0.80	0.01	0.09	0.26	0.82	65.00	79.31
57.50	2.7	5.6	6.2	0.0	0.88	1.18	0.02	0.09	0.26	1.20	65.00	53.99
57.50	2.7	5.6	6.2	0.0	0.88	1.18	0.01	0.25	0.69	1.31	65.00	49.48
56.08	2.5	5.3	5.9	0.0	0.88	1.77	0.01	0.24	0.68	1.82	65.00	35.70
55.02	2.5	5.1	5.7	0.0	0.87	2.18	0.02	0.24	0.67	2.23	65.00	29.21
50.50	2.1	4.4	4.9	0.0	0.85	3.74	0.03	0.21	0.63	3.78	65.00	17.20
50.50	2.1	4.4	4.9	0.0	0.85	3.73	0.02	0.36	1.02	3.79	65.00	17.14
50.03	2.1	4.3	4.8	0.0	0.84	3.99	0.03	0.36	1.02	4.05	65.00	16.07
49.08	2.0	4.2	4.6	0.0	0.84	4.49	0.03	0.35	1.00	4.54	65.00	14.31
45.04	1.7	3.5	3.9	0.0	0.80	6.39	0.04	0.32	0.95	6.44	65.00	10.09
43.50	1.6	3.3	3.7	0.0	0.78	7.03	0.05	0.31	0.94	7.08	65.00	9.17
43.50	1.6	3.3	3.7	0.0	0.78	7.03	0.04	0.44	1.30	7.09	65.00	9.17
42.08	1.5	3.1	3.5	0.0	0.76	7.86	0.04	0.43	1.27	7.92	65.00	8.21
40.05	1.4	2.8	3.1	0.0	0.74	8.97	0.05	0.41	1.24	9.03	65.00	7.20
35.06	1.1	2.2	2.4	0.0	0.66	11.31	0.06	0.37	1.18	11.38	65.00	5.71
30.07	0.8	1.6	1.8	0.0	0.56	13.20	0.08	0.34	1.12	13.28	63.86	4.81
27.54	0.7	1.3	1.5	0.0	0.51	14.02	0.09	0.32	1.09	14.11	63.07	4.47
25.00	0.6	1.1	1.2	0.0	0.46	14.76	0.09	0.31	1.06	14.85	62.29	4.19
25.00	0.6	1.1	1.2	0.0	0.46	12.25	0.08	0.25	0.87	12.32	65.00	5.27
20.17	0.4	0.7	0.8	0.0	0.38	13.23	0.10	0.23	0.83	13.33	65.00	4.87
17.63	0.3	0.5	0.6	0.0	0.33	13.67	0.11	0.22	0.82	13.78	65.00	4.72
15.10	0.2	0.4	0.4	0.0	0.28	14.07	0.11	0.21	0.80	14.19	65.00	4.58
10.11	0.1	0.2	0.2	0.0	0.19	14.74	0.13	0.20	0.77	14.86	65.00	4.37
5.12	0.0	0.0	0.1	0.0	0.10	15.28	0.14	0.18	0.74	15.41	64.69	4.20
2.56	0.0	0.0	0.0	0.0	0.05	15.51	0.14	0.18	0.73	15.66	64.06	4.09
0.00	0.0	0.0	0.0	0.0	0.00	15.72	0.15	0.17	0.72	15.87	63.43	4.00

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 2B EXTREME WIND

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
65.00	0	0	0	0	0	0	0	0
64.50	0	0	0	0	23	0	23	28
64.50	0	-4	4	-29	128	-2105	2109	292
60.01	-114	-16	115	-29	339	-2109	2136	555
57.50	-177	-28	179	-29	462	-2112	2162	710
57.50	-177	-33	180	-67	769	-4717	4780	1064
56.08	-257	-47	262	-67	840	-4719	4793	1153
56.08	-257	-47	262	-67	840	-4719	4793	1154
55.02	-318	-58	323	-67	894	-4719	4803	1223
50.50	-574	-113	585	-67	1133	-4724	4858	1523
50.50	-574	-119	586	-108	1439	-7329	7469	1880
50.03	-615	-127	628	-108	1465	-7330	7475	1913
49.08	-698	-144	713	-108	1517	-7331	7486	1979
49.08	-698	-144	713	-108	1516	-7330	7485	1982
45.04	-1054	-223	1077	-108	1744	-7333	7537	2273
43.50	-1190	-256	1217	-108	1833	-7334	7560	2386
43.50	-1190	-262	1218	-151	2138	-9939	10166	2749
42.08	-1358	-299	1391	-151	2222	-9940	10186	2854
42.08	-1358	-299	1391	-151	2221	-9939	10184	2859
40.05	-1601	-355	1640	-151	2342	-9938	10211	3024
35.06	-2196	-504	2253	-151	2651	-9938	10285	3433
30.07	-2792	-673	2871	-151	2976	-9937	10373	3860
27.54	-3094	-766	3187	-151	3147	-9936	10422	4088
25.00	-3396	-864	3504	-151	3323	-9938	10478	4310
25.00	-3396	-864	3504	-151	3321	-9932	10473	4324
20.17	-3972	-1067	4113	-151	3672	-9940	10596	5300
20.17	-3972	-1067	4113	-151	3669	-9933	10589	5314
17.63	-4274	-1181	4435	-151	3853	-9930	10652	5615
15.10	-4576	-1301	4758	-151	4040	-9925	10715	5927
10.11	-5171	-1555	5399	-151	4421	-9916	10857	6552
5.12	-5765	-1831	6048	-151	4817	-9909	11018	7198
2.56	-6069	-1982	6385	-151	5026	-9903	11105	7541
0.00	-6373	-2140	6723	-151	5241	-9903	11205	7881

Deflections and Stresses for Pole

Loading Case 2B EXTREME WIND *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
65.00	2.2	-8.1	8.4	0.1	1.00	0.00	0.00	0.00	0.00	0.00	65.00	99.90
64.50	2.2	-8.0	8.3	0.1	1.00	0.00	0.00	0.00	0.00	0.01	65.00	99.90
64.50	2.2	-8.0	8.3	0.1	1.00	0.04	0.02	0.16	0.41	0.72	65.00	90.44
60.01	2.0	-7.1	7.3	0.1	1.00	1.16	0.03	0.14	0.38	1.23	65.00	53.03
57.50	1.8	-6.6	6.8	0.1	0.99	1.70	0.04	0.13	0.37	1.76	65.00	36.97
57.50	1.8	-6.6	6.8	0.1	0.99	1.71	0.06	0.31	0.83	1.88	65.00	34.55
56.08	1.8	-6.3	6.5	0.1	0.99	2.40	0.06	0.30	0.81	2.53	65.00	25.67
55.02	1.7	-6.1	6.3	0.1	0.98	2.88	0.06	0.29	0.80	3.00	65.00	21.65
50.50	1.5	-5.2	5.4	0.0	0.95	4.69	0.08	0.26	0.75	4.78	65.00	13.58
50.50	1.5	-5.2	5.4	0.0	0.95	4.70	0.09	0.42	1.17	4.86	65.00	13.37
50.03	1.4	-5.1	5.3	0.0	0.94	4.98	0.09	0.42	1.16	5.14	65.00	12.65
49.08	1.4	-4.9	5.1	0.0	0.94	5.53	0.10	0.41	1.15	5.68	65.00	11.44
45.04	1.2	-4.2	4.3	0.0	0.89	7.63	0.11	0.37	1.08	7.76	65.00	8.37
43.50	1.1	-3.9	4.1	0.0	0.87	8.33	0.11	0.36	1.06	8.46	65.00	7.68
43.50	1.1	-3.9	4.1	0.0	0.87	8.34	0.13	0.51	1.45	8.52	65.00	7.63
42.08	1.1	-3.6	3.8	0.0	0.85	9.24	0.13	0.49	1.42	9.41	65.00	6.91
40.05	1.0	-3.3	3.4	0.0	0.82	10.43	0.13	0.47	1.38	10.60	65.00	6.13
35.06	0.7	-2.5	2.6	0.0	0.72	12.95	0.14	0.43	1.30	13.11	65.00	4.96
30.07	0.6	-1.8	1.9	0.0	0.62	14.97	0.15	0.39	1.22	15.14	63.86	4.22
27.54	0.5	-1.5	1.6	0.0	0.56	15.85	0.16	0.37	1.19	16.02	63.07	3.94
25.00	0.4	-1.3	1.3	0.0	0.51	16.64	0.16	0.35	1.16	16.81	62.29	3.71
25.00	0.4	-1.3	1.3	0.0	0.51	13.81	0.13	0.29	0.95	13.95	65.00	4.66
20.17	0.3	-0.8	0.9	0.0	0.41	14.86	0.16	0.27	0.90	15.02	65.00	4.33
17.63	0.2	-0.6	0.7	0.0	0.36	15.32	0.16	0.26	0.88	15.49	65.00	4.20
15.10	0.1	-0.5	0.5	0.0	0.31	15.74	0.17	0.25	0.86	15.91	65.00	4.09
10.11	0.1	-0.2	0.2	0.0	0.21	16.44	0.18	0.23	0.82	16.62	65.00	3.91
5.12	0.0	-0.1	0.1	0.0	0.10	17.00	0.19	0.21	0.79	17.19	64.69	3.76
2.56	0.0	0.0	0.0	0.0	0.05	17.24	0.19	0.20	0.78	17.44	64.06	3.67
0.00	0.0	0.0	0.0	0.0	0.00	17.46	0.20	0.19	0.76	17.66	63.43	3.59

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 2C EXTREME WIND

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
65.00	0	0	0	0	0	0	0	0
64.50	0	0	0	0	23	1	23	28
64.50	0	7	7	48	228	3486	3494	-482
60.01	188	-11	188	48	439	3494	3521	-218
57.50	293	-26	295	48	562	3498	3543	-63
57.50	293	-16	294	121	968	8480	8535	-719
56.08	437	-34	439	121	1040	8482	8546	-630
56.08	437	-34	439	121	1039	8482	8546	-628
55.02	546	-47	548	121	1093	8485	8555	-555
50.50	1006	-113	1013	121	1332	8493	8597	-256
50.50	1006	-103	1011	199	1737	13476	13587	-901
50.03	1082	-113	1088	199	1762	13477	13592	-866
49.08	1235	-133	1242	199	1814	13479	13600	-801
49.08	1235	-133	1242	199	1812	13480	13601	-789
45.04	1890	-226	1903	199	2041	13487	13641	-503
43.50	2139	-265	2155	199	2128	13491	13658	-376
43.50	2139	-254	2154	282	2531	18476	18648	-1003
42.08	2453	-298	2471	282	2615	18478	18662	-898
42.08	2453	-298	2471	282	2613	18479	18663	-883
40.05	2904	-363	2926	282	2735	18483	18684	-729
35.06	4011	-535	4047	282	3038	18496	18744	-243
30.07	5119	-727	5170	282	3362	18504	18807	217
27.54	5682	-832	5742	282	3532	18507	18841	468
25.00	6245	-942	6316	282	3709	18511	18879	690
25.00	6245	-942	6316	282	3706	18510	18877	735
20.17	7319	-1167	7411	282	4057	18523	18962	1712
20.17	7319	-1167	7411	282	4054	18520	18958	1755
17.63	7882	-1293	7987	282	4238	18520	18999	2078
15.10	8445	-1424	8564	282	4424	18518	19039	2421
10.11	9554	-1700	9704	282	4805	18514	19127	3088
5.12	10663	-2000	10849	282	5202	18508	19225	3765
2.56	11231	-2163	11438	282	5411	18503	19278	4130
0.00	11800	-2332	12028	282	5626	18503	19339	4470

Deflections and Stresses for Pole

Loading Case 2C EXTREME WIND *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
65.00	2.4	14.9	15.1	0.2	1.80	0.00	0.00	0.00	0.00	0.00	65.00	99.90
64.50	2.4	14.7	14.9	0.2	1.80	0.00	0.00	0.00	0.00	0.01	65.00	99.90
64.50	2.4	14.7	14.9	0.2	1.80	0.08	0.03	0.27	0.68	1.19	65.00	54.57
60.01	2.1	13.0	13.2	0.2	1.79	1.88	0.01	0.24	0.63	1.95	65.00	33.31
57.50	2.0	12.1	12.2	0.2	1.78	2.77	0.00	0.22	0.61	2.80	65.00	23.20
57.50	2.0	12.1	12.2	0.2	1.78	2.74	0.04	0.56	1.49	3.12	65.00	20.82
56.08	1.9	11.6	11.7	0.1	1.77	3.97	0.03	0.54	1.45	4.14	65.00	15.71
55.02	1.8	11.2	11.3	0.1	1.76	4.83	0.03	0.53	1.43	4.93	65.00	13.17
50.50	1.6	9.6	9.7	0.1	1.70	8.04	0.01	0.47	1.33	8.09	65.00	8.04
50.50	1.6	9.6	9.7	0.1	1.70	8.02	0.04	0.78	2.13	8.15	65.00	7.98
50.03	1.6	9.4	9.5	0.1	1.69	8.53	0.04	0.77	2.11	8.65	65.00	7.51
49.08	1.5	9.1	9.2	0.1	1.68	9.54	0.04	0.76	2.08	9.63	65.00	6.75
45.04	1.3	7.7	7.8	0.1	1.60	13.35	0.02	0.69	1.96	13.41	65.00	4.85
43.50	1.2	7.2	7.3	0.1	1.56	14.63	0.02	0.67	1.92	14.68	65.00	4.43
43.50	1.2	7.2	7.3	0.1	1.56	14.61	0.05	0.95	2.66	14.71	65.00	4.42
42.08	1.1	6.7	6.8	0.1	1.52	16.26	0.04	0.92	2.61	16.35	65.00	3.98
40.05	1.0	6.1	6.2	0.1	1.47	18.46	0.03	0.88	2.53	18.53	65.00	3.51
35.06	0.8	4.7	4.7	0.0	1.30	23.07	0.01	0.80	2.38	23.12	65.00	2.81
30.07	0.6	3.4	3.5	0.0	1.12	26.78	0.01	0.72	2.23	26.82	63.86	2.38
27.54	0.5	2.9	2.9	0.0	1.01	28.37	0.02	0.69	2.17	28.42	63.07	2.22
25.00	0.4	2.4	2.4	0.0	0.91	29.80	0.03	0.66	2.11	29.85	62.29	2.09
25.00	0.4	2.4	2.4	0.0	0.91	24.73	0.02	0.54	1.73	24.78	65.00	2.62
20.17	0.3	1.5	1.6	0.0	0.74	26.62	0.05	0.50	1.64	26.69	65.00	2.44
17.63	0.2	1.2	1.2	0.0	0.64	27.46	0.06	0.48	1.59	27.54	65.00	2.36
15.10	0.2	0.9	0.9	0.0	0.55	28.21	0.07	0.46	1.55	28.29	65.00	2.30
10.11	0.1	0.4	0.4	0.0	0.37	29.45	0.08	0.42	1.48	29.55	65.00	2.20
5.12	0.0	0.1	0.1	0.0	0.19	30.44	0.10	0.39	1.41	30.54	64.69	2.12
2.56	0.0	0.0	0.0	0.0	0.09	30.85	0.11	0.37	1.38	30.97	64.06	2.07
0.00	0.0	0.0	0.0	0.0	0.00	31.22	0.11	0.36	1.35	31.34	63.43	2.02

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 3A CONCURRENT

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
65.00	0	0	0	0	0	0	0	0
64.50	0	0	0	0	4	1	4	28
64.50	0	-2	2	45	312	3304	3319	142
60.01	178	-19	179	45	351	3311	3329	406
57.50	278	-30	280	45	374	3314	3336	560
57.50	278	-36	280	101	985	7124	7192	960
56.08	399	-53	403	101	999	7127	7196	1050
56.08	399	-53	403	101	998	7127	7196	1051
55.02	490	-66	494	101	1008	7128	7199	1122
50.50	877	-122	885	101	1052	7135	7212	1422
50.50	877	-128	886	161	1662	10944	11070	1830
50.03	939	-137	949	161	1666	10945	11071	1864
49.08	1063	-156	1074	161	1676	10946	11074	1929
49.08	1063	-156	1074	161	1674	10945	11072	1937
45.04	1594	-239	1612	161	1715	10950	11083	2233
43.50	1797	-270	1817	161	1731	10952	11088	2346
43.50	1797	-277	1818	224	2339	14760	14944	2765
42.08	2047	-317	2072	224	2355	14763	14949	2870
42.08	2047	-317	2072	224	2353	14761	14947	2881
40.05	2408	-375	2437	224	2372	14760	14949	3059
35.06	3292	-518	3332	224	2426	14759	14957	3489
30.07	4176	-665	4228	224	2483	14758	14966	3932
27.54	4625	-741	4684	224	2512	14756	14968	4171
25.00	5074	-818	5139	224	2545	14759	14976	4393
25.00	5074	-818	5139	224	2542	14750	14968	4422
20.17	5930	-967	6008	224	2609	14761	14990	5399
20.17	5930	-967	6008	224	2606	14752	14980	5427
17.63	6378	-1047	6463	224	2638	14747	14981	5738
15.10	6826	-1128	6919	225	2670	14738	14978	6065
10.11	7709	-1289	7816	225	2737	14725	14978	6710
5.12	8591	-1455	8713	224	2807	14714	14979	7370
2.56	9043	-1542	9174	224	2843	14705	14977	7722
0.00	9495	-1630	9634	224	2883	14705	14985	8063

Deflections and Stresses for Pole

Loading Case 3A CONCURRENT *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
65.00	2.0	12.1	12.3	0.1	1.48	0.00	0.00	0.00	0.00	0.00	65.00	99.90
64.50	1.9	11.9	12.1	0.1	1.48	0.00	0.00	0.00	0.00	0.00	65.00	99.90
64.50	1.9	11.9	12.1	0.1	1.48	0.02	0.01	0.25	0.65	1.12	65.00	57.79
60.01	1.7	10.6	10.7	0.1	1.47	1.80	0.02	0.22	0.60	1.89	65.00	34.36
57.50	1.6	9.8	9.9	0.1	1.46	2.64	0.03	0.21	0.57	2.71	65.00	24.02
57.50	1.6	9.8	9.9	0.1	1.46	2.65	0.05	0.47	1.25	2.88	65.00	22.60
56.08	1.5	9.4	9.5	0.1	1.45	3.67	0.06	0.45	1.22	3.85	65.00	16.89
55.02	1.5	9.1	9.2	0.1	1.44	4.39	0.06	0.44	1.20	4.55	65.00	14.29
50.50	1.3	7.7	7.8	0.1	1.39	7.06	0.07	0.40	1.11	7.17	65.00	9.06
50.50	1.3	7.7	7.8	0.1	1.39	7.07	0.09	0.63	1.73	7.28	65.00	8.93
50.03	1.3	7.6	7.7	0.1	1.38	7.48	0.09	0.63	1.72	7.69	65.00	8.46
49.08	1.2	7.3	7.4	0.1	1.37	8.29	0.09	0.61	1.69	8.48	65.00	7.66
45.04	1.0	6.2	6.3	0.1	1.30	11.35	0.10	0.56	1.59	11.52	65.00	5.64
43.50	1.0	5.8	5.9	0.1	1.27	12.37	0.11	0.54	1.56	12.53	65.00	5.19
43.50	1.0	5.8	5.9	0.1	1.27	12.39	0.13	0.75	2.13	12.61	65.00	5.16
42.08	0.9	5.4	5.5	0.0	1.24	13.69	0.13	0.73	2.08	13.90	65.00	4.68
40.05	0.8	4.9	5.0	0.0	1.19	15.42	0.13	0.70	2.03	15.63	65.00	4.16
35.06	0.6	3.8	3.8	0.0	1.06	19.05	0.15	0.63	1.89	19.24	65.00	3.38
30.07	0.5	2.8	2.8	0.0	0.90	21.94	0.16	0.57	1.78	22.13	63.86	2.89
27.54	0.4	2.3	2.3	0.0	0.82	23.18	0.16	0.55	1.72	23.37	63.07	2.70
25.00	0.3	1.9	1.9	0.0	0.73	24.28	0.17	0.52	1.67	24.47	62.29	2.55
25.00	0.3	1.9	1.9	0.0	0.73	20.15	0.14	0.43	1.37	20.31	65.00	3.20
20.17	0.2	1.2	1.3	0.0	0.59	21.59	0.16	0.40	1.29	21.77	65.00	2.99
17.63	0.2	0.9	1.0	0.0	0.52	22.22	0.17	0.38	1.26	22.40	65.00	2.90
15.10	0.1	0.7	0.7	0.0	0.44	22.78	0.17	0.36	1.22	22.97	65.00	2.83
10.11	0.1	0.3	0.3	0.0	0.30	23.70	0.18	0.34	1.16	23.89	65.00	2.72
5.12	0.0	0.1	0.1	0.0	0.15	24.41	0.19	0.31	1.10	24.61	64.69	2.63
2.56	0.0	0.0	0.0	0.0	0.07	24.70	0.20	0.30	1.07	24.91	64.06	2.57
0.00	0.0	0.0	0.0	0.0	0.00	24.96	0.20	0.29	1.05	25.17	63.43	2.52

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 3B CONCURRENT

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
65.00	0	0	0	0	0	0	0	0
64.50	0	0	0	0	4	-1	4	28
64.50	0	-8	8	-48	116	-3518	3520	632
60.01	-190	-16	190	-48	155	-3525	3529	896
57.50	-296	-21	297	-48	177	-3529	3534	1050
57.50	-296	-32	298	-108	391	-7651	7661	1839
56.08	-426	-39	428	-108	404	-7654	7665	1928
56.08	-426	-39	428	-108	404	-7654	7664	1929
55.02	-524	-44	526	-108	413	-7654	7665	2002
50.50	-939	-68	942	-108	457	-7662	7676	2301
50.50	-939	-80	943	-173	669	-11782	11801	3098
50.03	-1006	-84	1009	-173	673	-11783	11802	3132
49.08	-1139	-92	1143	-173	682	-11784	11804	3198
49.08	-1139	-91	1143	-173	681	-11782	11802	3207
45.04	-1711	-125	1716	-173	721	-11786	11808	3504
43.50	-1929	-139	1934	-173	737	-11788	11811	3617
43.50	-1929	-152	1935	-242	947	-15906	15934	4427
42.08	-2199	-169	2206	-242	963	-15908	15937	4532
42.08	-2199	-169	2206	-242	961	-15905	15934	4544
40.05	-2588	-192	2595	-242	980	-15901	15931	4725
35.06	-3540	-252	3549	-242	1032	-15895	15929	5160
30.07	-4492	-316	4503	-242	1088	-15891	15928	5608
27.54	-4976	-349	4988	-242	1118	-15885	15924	5850
25.00	-5459	-384	5472	-242	1150	-15888	15930	6072
25.00	-5459	-384	5472	-242	1147	-15876	15917	6105
20.17	-6380	-452	6396	-242	1213	-15888	15934	7082
20.17	-6380	-452	6396	-242	1211	-15874	15920	7113
17.63	-6863	-489	6880	-242	1243	-15866	15915	7427
15.10	-7345	-527	7364	-242	1275	-15853	15904	7758
10.11	-8294	-606	8317	-242	1343	-15835	15891	8407
5.12	-9243	-688	9268	-242	1414	-15819	15882	9071
2.56	-9729	-732	9756	-242	1451	-15806	15873	9426
0.00	-10214	-777	10244	-242	1490	-15807	15877	9767

Deflections and Stresses for Pole

Loading Case 3B CONCURRENT *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
65.00	0.9	-13.0	13.0	0.1	1.57	0.00	0.00	0.00	0.00	0.00	65.00	99.90
64.50	0.9	-12.8	12.9	0.1	1.57	0.00	0.00	0.00	0.00	0.00	65.00	99.90
64.50	0.9	-12.8	12.9	0.1	1.57	0.09	0.04	0.27	0.69	1.20	65.00	53.97
60.01	0.8	-11.4	11.4	0.1	1.56	1.91	0.05	0.24	0.64	2.04	65.00	31.90
57.50	0.8	-10.6	10.6	0.1	1.55	2.78	0.06	0.22	0.61	2.88	65.00	22.54
57.50	0.8	-10.6	10.6	0.1	1.55	2.81	0.10	0.51	1.34	3.14	65.00	20.73
56.08	0.7	-10.1	10.1	0.1	1.54	3.88	0.10	0.49	1.31	4.14	65.00	15.69
55.02	0.7	-9.8	9.8	0.1	1.53	4.64	0.10	0.48	1.28	4.87	65.00	13.35
50.50	0.6	-8.3	8.4	0.1	1.48	7.43	0.11	0.43	1.19	7.61	65.00	8.54
50.50	0.6	-8.3	8.4	0.1	1.48	7.45	0.15	0.68	1.86	7.77	65.00	8.36
50.03	0.6	-8.2	8.2	0.1	1.47	7.89	0.15	0.67	1.85	8.20	65.00	7.93
49.08	0.6	-7.9	7.9	0.1	1.46	8.74	0.16	0.66	1.82	9.02	65.00	7.20
49.08	0.6	-7.9	7.9	0.1	1.46	8.74	0.16	0.66	1.82	9.03	65.00	7.20
45.04	0.5	-6.7	6.7	0.1	1.39	11.95	0.16	0.60	1.71	12.20	65.00	5.33
43.50	0.5	-6.3	6.3	0.1	1.35	13.02	0.17	0.58	1.67	13.26	65.00	4.90
43.50	0.5	-6.3	6.3	0.1	1.35	13.04	0.20	0.81	2.28	13.38	65.00	4.86
42.08	0.4	-5.9	5.9	0.1	1.32	14.41	0.20	0.79	2.24	14.74	65.00	4.41
40.05	0.4	-5.3	5.3	0.0	1.27	16.23	0.21	0.76	2.17	16.54	65.00	3.93
35.06	0.3	-4.1	4.1	0.0	1.12	20.03	0.22	0.68	2.03	20.32	65.00	3.20
30.07	0.2	-3.0	3.0	0.0	0.96	23.06	0.22	0.62	1.90	23.33	63.86	2.74
27.54	0.2	-2.5	2.5	0.0	0.87	24.36	0.23	0.59	1.84	24.63	63.07	2.56
25.00	0.2	-2.0	2.0	0.0	0.78	25.51	0.23	0.56	1.79	25.78	62.29	2.42
25.00	0.2	-2.0	2.0	0.0	0.78	21.17	0.19	0.47	1.46	21.39	65.00	3.04
20.17	0.1	-1.3	1.3	0.0	0.63	22.68	0.21	0.43	1.38	22.91	65.00	2.84
17.63	0.1	-1.0	1.0	0.0	0.55	23.34	0.22	0.41	1.34	23.58	65.00	2.76
15.10	0.1	-0.7	0.7	0.0	0.47	23.93	0.22	0.39	1.30	24.17	65.00	2.69
10.11	0.0	-0.3	0.3	0.0	0.31	24.88	0.23	0.36	1.24	25.13	65.00	2.59
5.12	0.0	-0.1	0.1	0.0	0.16	25.62	0.24	0.33	1.17	25.87	64.69	2.50
2.56	0.0	0.0	0.0	0.0	0.08	25.93	0.24	0.32	1.14	26.18	64.06	2.45
0.00	0.0	0.0	0.0	0.0	0.00	26.19	0.25	0.31	1.12	26.45	63.43	2.40

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 3C CONCURRENT

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
65.00	0	0	0	0	0	0	0	0
64.50	0	0	0	0	4	1	4	28
64.50	0	12	12	92	229	6765	6769	-828
60.01	365	-2	365	92	267	6779	6784	-565
57.50	569	-10	569	92	289	6787	6793	-409
57.50	569	2	569	208	716	14654	14672	-1216
56.08	818	-10	818	208	729	14659	14677	-1127
56.08	818	-10	818	208	728	14659	14677	-1122
55.02	1005	-20	1006	208	738	14663	14681	-1054
50.50	1801	-61	1802	208	779	14679	14699	-740
50.50	1801	-48	1802	331	1199	22549	22581	-1517
50.03	1928	-55	1929	331	1204	22550	22582	-1485
49.08	2184	-69	2185	331	1212	22554	22587	-1412
49.08	2184	-69	2185	331	1207	22556	22589	-1379
45.04	3279	-128	3282	331	1243	22572	22606	-1052
43.50	3697	-151	3700	331	1259	22577	22612	-939
43.50	3697	-138	3699	463	1674	30452	30497	-1669
42.08	4214	-167	4217	463	1690	30456	30503	-1564
42.08	4214	-167	4217	463	1684	30459	30505	-1521
40.05	4958	-208	4962	463	1696	30470	30517	-1267
35.06	6783	-310	6790	463	1739	30491	30540	-718
30.07	8609	-415	8619	463	1790	30506	30559	-177
27.54	9537	-470	9549	463	1816	30513	30567	131
25.00	10465	-526	10478	463	1848	30519	30575	353
25.00	10465	-525	10478	463	1841	30518	30573	476
20.17	12236	-634	12252	463	1908	30541	30600	1452
20.17	12236	-633	12252	463	1902	30535	30595	1569
17.63	13164	-691	13183	463	1932	30536	30597	1942
15.10	14093	-750	14113	463	1961	30533	30596	2361
10.11	15921	-869	15945	463	2025	30525	30592	3128
5.12	17749	-992	17777	463	2094	30515	30587	3880
2.56	18687	-1056	18717	463	2129	30505	30580	4294
0.00	19624	-1122	19656	463	2168	30506	30583	4634

Deflections and Stresses for Pole

Loading Case 3C CONCURRENT *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
65.00	1.2	24.9	25.0	0.5	3.01	0.00	0.00	0.00	0.00	0.00	65.00	99.90
64.50	1.2	24.6	24.7	0.5	3.01	0.00	0.00	0.00	0.00	0.00	65.00	99.90
64.50	1.2	24.6	24.7	0.5	3.01	0.13	0.05	0.52	1.33	2.31	65.00	28.15
60.01	1.1	21.8	21.8	0.4	2.99	3.59	0.03	0.46	1.22	3.81	65.00	17.07
57.50	1.0	20.2	20.3	0.4	2.97	5.27	0.02	0.43	1.17	5.36	65.00	12.12
57.50	1.0	20.2	20.3	0.4	2.97	5.25	0.07	0.97	2.57	5.88	65.00	11.05
56.08	1.0	19.4	19.4	0.4	2.95	7.30	0.06	0.94	2.50	7.71	65.00	8.43
55.02	1.0	18.7	18.7	0.4	2.93	8.75	0.06	0.91	2.46	9.04	65.00	7.19
50.50	0.8	16.0	16.0	0.3	2.84	14.10	0.04	0.82	2.29	14.20	65.00	4.58
50.50	0.8	16.0	16.0	0.3	2.84	14.07	0.08	1.30	3.56	14.37	65.00	4.52
50.03	0.8	15.7	15.7	0.3	2.82	14.91	0.07	1.29	3.53	15.15	65.00	4.29
49.08	0.8	15.1	15.2	0.3	2.80	16.53	0.07	1.26	3.48	16.73	65.00	3.89
49.08	0.8	15.1	15.2	0.3	2.80	16.53	0.07	1.26	3.48	16.73	65.00	3.88
45.04	0.7	12.8	12.9	0.2	2.65	22.69	0.05	1.15	3.27	22.81	65.00	2.85
43.50	0.6	12.0	12.0	0.2	2.59	24.74	0.04	1.11	3.20	24.84	65.00	2.62
43.50	0.6	12.0	12.0	0.2	2.59	24.72	0.08	1.55	4.37	24.92	65.00	2.61
42.08	0.6	11.2	11.3	0.2	2.53	27.34	0.07	1.51	4.28	27.51	65.00	2.36
40.05	0.5	10.2	10.2	0.1	2.43	30.83	0.06	1.44	4.16	30.97	65.00	2.10
35.06	0.4	7.8	7.8	0.1	2.15	38.12	0.03	1.31	3.89	38.23	65.00	1.70
30.07	0.3	5.7	5.7	0.1	1.84	43.94	0.01	1.18	3.65	44.03	63.86	1.45
27.54	0.3	4.8	4.8	0.0	1.67	46.43	0.01	1.13	3.54	46.52	63.07	1.36
25.00	0.2	3.9	3.9	0.0	1.50	48.65	0.01	1.08	3.43	48.73	62.29	1.28
25.00	0.2	3.9	3.9	0.0	1.50	40.37	0.01	0.89	2.81	40.45	65.00	1.61
20.17	0.1	2.6	2.6	0.0	1.21	43.28	0.04	0.82	2.65	43.37	65.00	1.50
20.17	0.1	2.6	2.6	0.0	1.21	43.28	0.05	0.82	2.65	43.37	65.00	1.50
17.63	0.1	2.0	2.0	0.0	1.06	44.55	0.06	0.78	2.58	44.65	65.00	1.46
15.10	0.1	1.4	1.4	0.0	0.91	45.68	0.07	0.75	2.51	45.79	65.00	1.42
10.11	0.0	0.6	0.6	0.0	0.60	47.53	0.09	0.69	2.38	47.65	65.00	1.36
5.12	0.0	0.2	0.2	0.0	0.30	48.96	0.10	0.64	2.26	49.09	64.69	1.32
2.56	0.0	0.0	0.0	0.0	0.15	49.56	0.11	0.61	2.20	49.69	64.06	1.29
0.00	0.0	0.0	0.0	0.0	0.00	50.07	0.12	0.59	2.15	50.21	63.43	1.26

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 4 DEFLECTION

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
65.00	0	0	0	0	0	0	0	0
64.50	0	0	0	0	1	0	1	28
64.50	0	-1	1	1	2	100	100	128
60.01	5	-2	6	1	12	101	102	391
57.50	8	-2	9	1	18	102	103	546
57.50	8	-5	10	10	19	702	702	744
56.08	20	-5	21	10	22	702	703	833
55.02	29	-6	30	10	25	703	703	902
50.50	68	-7	68	10	37	703	704	1201
50.50	68	-11	68	20	38	1304	1304	1400
50.03	75	-11	76	20	39	1304	1305	1432
49.08	90	-11	90	20	41	1304	1305	1497
45.04	153	-13	154	20	52	1305	1306	1784
43.50	177	-14	178	20	57	1305	1306	1897
43.50	177	-18	178	30	58	1905	1906	2095
42.08	209	-19	210	30	62	1906	1907	2201
42.08	209	-19	210	30	62	1905	1906	2201
40.05	256	-20	257	30	68	1905	1907	2355
35.06	370	-25	371	30	83	1906	1907	2748
30.07	484	-30	485	30	98	1906	1908	3160
27.54	542	-33	543	30	107	1905	1908	3378
25.00	600	-37	601	30	115	1906	1909	3600
25.00	600	-37	601	30	115	1905	1908	3601
20.17	711	-44	712	30	135	1906	1911	4577
20.17	711	-44	712	30	134	1905	1910	4578
17.63	769	-48	770	30	144	1905	1910	4869
15.10	827	-53	828	30	153	1904	1910	5168
10.11	941	-63	943	30	172	1903	1910	5774
5.12	1055	-73	1057	30	192	1902	1911	6406
2.56	1113	-79	1116	30	202	1901	1911	6740
0.00	1171	-86	1174	30	213	1901	1912	7080

Deflections and Stresses for Pole

Loading Case 4 DEFLECTION *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
65.00	0.1	1.4	1.4	0.0	0.16	0.00	0.00	0.00	0.00	0.00	65.00	99.90
64.50	0.1	1.4	1.4	0.0	0.16	0.00	0.00	0.00	0.00	0.00	65.00	99.90
64.50	0.1	1.4	1.4	0.0	0.16	0.02	0.01	0.01	0.02	0.04	65.00	99.90
60.01	0.1	1.2	1.2	0.0	0.16	0.06	0.02	0.01	0.02	0.08	65.00	99.90
57.50	0.1	1.2	1.2	0.0	0.16	0.08	0.03	0.01	0.02	0.11	65.00	99.90
57.50	0.1	1.2	1.2	0.0	0.16	0.09	0.04	0.05	0.12	0.24	65.00	99.90
56.08	0.1	1.1	1.1	0.0	0.16	0.19	0.04	0.05	0.12	0.27	65.00	99.90
55.02	0.1	1.1	1.1	0.0	0.16	0.27	0.05	0.04	0.12	0.33	65.00	99.90
50.50	0.1	0.9	0.9	0.0	0.16	0.54	0.06	0.04	0.11	0.61	65.00	99.90
50.50	0.1	0.9	0.9	0.0	0.16	0.55	0.07	0.08	0.21	0.64	65.00	99.90
50.03	0.1	0.9	0.9	0.0	0.16	0.60	0.07	0.08	0.21	0.69	65.00	93.97
49.08	0.1	0.9	0.9	0.0	0.16	0.70	0.07	0.07	0.20	0.79	65.00	82.38
45.04	0.0	0.7	0.7	0.0	0.15	1.07	0.08	0.07	0.19	1.17	65.00	55.71
43.50	0.0	0.7	0.7	0.0	0.15	1.20	0.09	0.07	0.19	1.29	65.00	50.21
43.50	0.0	0.7	0.7	0.0	0.15	1.20	0.10	0.10	0.28	1.32	65.00	49.17
42.08	0.0	0.7	0.7	0.0	0.14	1.38	0.10	0.10	0.27	1.49	65.00	43.48
40.05	0.0	0.6	0.6	0.0	0.14	1.61	0.10	0.09	0.26	1.73	65.00	37.65
35.06	0.0	0.5	0.5	0.0	0.12	2.09	0.12	0.08	0.25	2.22	65.00	29.32
30.07	0.0	0.3	0.3	0.0	0.11	2.48	0.13	0.08	0.23	2.61	63.86	24.43
27.54	0.0	0.3	0.3	0.0	0.10	2.65	0.13	0.07	0.22	2.79	63.07	22.64
25.00	0.0	0.2	0.2	0.0	0.09	2.80	0.14	0.07	0.22	2.94	62.29	21.19
25.00	0.0	0.2	0.2	0.0	0.09	2.32	0.11	0.06	0.18	2.44	65.00	26.66
20.17	0.0	0.2	0.2	0.0	0.07	2.52	0.14	0.05	0.17	2.66	65.00	24.44
17.63	0.0	0.1	0.1	0.0	0.06	2.61	0.14	0.05	0.16	2.75	65.00	23.62
15.10	0.0	0.1	0.1	0.0	0.05	2.69	0.15	0.05	0.16	2.84	65.00	22.92
10.11	0.0	0.0	0.0	0.0	0.04	2.82	0.16	0.04	0.15	2.98	65.00	21.84
5.12	0.0	0.0	0.0	0.0	0.02	2.92	0.17	0.04	0.14	3.09	64.69	20.94
2.56	0.0	0.0	0.0	0.0	0.01	2.96	0.17	0.04	0.14	3.14	64.06	20.42
0.00	0.0	0.0	0.0	0.0	0.00	3.00	0.18	0.04	0.13	3.18	63.43	19.94

MINIMUM DEFLECTION RATIO // DEFLECTION LIMIT / DEFLECTION // IS

ANCHOR BOLTS GEOMETRY AND MATERIAL

Number of bolts	12	
Diameter	2.25	in
Length	93	in
Anchor bolt to baseplate nuts pattern	Two nuts	
Steel Spec.	S23	
Tensile Stress	100000	psi
Allowable Axial Stress	75000	psi
Allowable Bending Stress	75000	psi
Allowable Shear Stress	35000	psi
Gross Area	3.98	in^2
Stress Area	3.25	in^2

CAGE ASSEMBLY / BOLT PATTERN

Cage Weight	1720	lb
Shipped As	Assembled Threaded	
Projection Length	9.50	in
Bolt Pattern	Round multiple of 4	
Max Bolt Circle	47.70	in
Template Diameter	53.70	in
Bolt-bolt spacing - Actual	12.35	in
Bolt-bolt spacing - Min.	6.00	in
Bolt to shaft face spacing - Actual	3.95	in
Bolt to shaft face spacing - Min.	3.25	in
Edge distance - Actual	3.00	in
Edge distance - Min.	3.00	in
Design Code Concrete	ASCE SEI 48-11	
Concrete f'c	3000	psi
Maximum bolt tension	166807	lb
Actual Bond Stress	286	psi
Allowable bond stress	288	psi
Required embedment depth	81.849	in
Max. allowable leveling	2.250	in

ANALYSIS RESULTS

Design Code	ASCE/NESC	
Governing Load Case	1C N	
Safety Factor	1.45	
Max. Axial Stress	51714	psi

POLE SHAFT

Pole Shape	Twelve	
Diameter	39.80	in
Wall Thickness	0.31250	in
Pole Material	S22	
Pole Yield	65000	psi

BASE PLATE

Governing Load Case	1C N	
Base Plate Shape	Match pole	
Drawing Number	POL6-98	
Overall Length	53.70	in
Overall Width	53.70	in
Side Width	14.39	in
Top Width	14.39	in
Thickness	2.50000	in
Valmont Spec	S56	
Other Spec	A572	
Actual Weight	1169	lb
Drainage Type	DrainAndVent	
Center Hole Diameter	27.18	in
Vent Hole Diameter	4.00	in
Vent hole 1, X Coordinate	16.59	in
Vent hole 1, Y Coordinate	0.00	in
Vent hole 2, X Coordinate	-16.59	in
Vent hole 2, Y Coordinate	0.00	in
Critical Failure Mode	4	
Total length of Fail Line	49.14	in
Effective Length	42.03	in
Total moment along fail line	1450716	in-lb
Bending Stress	33136	psi
Allowable Stress	50000	psi

Controlling Loads

Load Case	Axial force (lb)	Shear Force (lb)	Moment X (in-kip)	Moment Y (in-kip)	Moment Z (in-kip)	Component
1C N	7582	37375	23963	-1758	668	Bolts
1C N	7582	37375	23963	-1758	668	Plate

Bolt Coordinates and Forces for Controlling Load Case

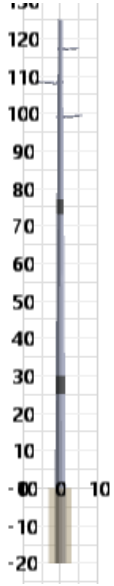
Bolt Number	X-Coord (in)	Y-Coord (in)	Axial force (lb)	Shear Force (lb)	Axial Stress (ksi)	Shear Stress (ksi)	Bending Stress (ksi)	Safety Factor	Loadcase Number
1	23.852	0.000	88177	0	27.13	0.00	0.00	2.764	M901
2	20.656	11.926	-94990	5195	-29.23	1.31	0.00	2.564	1C N
3	11.926	20.656	-151780	4601	-46.70	1.16	0.00	1.605	1C N
4	0.000	23.852	-168071	3707	-51.71	0.93	0.00	1.450	1C N
5	-11.926	20.656	-139496	2587	-42.92	0.65	0.00	1.747	1C N
6	-20.656	11.926	-88177	0	-27.13	0.00	0.00	2.764	M601
7	-23.852	0.000	-88177	0	-27.13	0.00	0.00	2.764	M901
8	-20.656	-11.926	93726	1822	28.84	0.46	0.00	2.600	1C N
9	-11.926	-20.656	150517	3022	46.31	0.76	0.00	1.619	1C N
10	0.000	-23.852	166807	4070	51.33	1.02	0.00	1.461	1C N
11	11.926	-20.656	138232	4859	42.53	1.22	0.00	1.762	1C N
12	20.656	-11.926	88177	0	27.13	0.00	0.00	2.764	M601

Note: positive axial force indicates tension, negative axial force indicates compression.

V-Notch Note:
1) V-Notch at 0 degrees clockwise from X axis
2) V-Notch indicates bisector of the interior line angle

125.0' AGH, 145' CUSTOM POLES, STR. #10/9,10/10

Design Id: STR10_9



BY VALMONT INDUSTRIES FOR: OMPA, 125.0' AGH, 145' CUSTOM POLES, STR. #10/9,10/10, 607956 DATE 01/30/2024
Design Id: STR10_9 IMPAX 26.2.5.1

*** SUMMARY ***

DESIGN SUMMARY

Above Ground Height	125'- 0.00"	Ground Line Diameter (in)	33.900	Pole Shaft Weight (lbs)	10200
Embedment Length	20'- 0.00"	Top Diameter (in)	14.712		
Total Pole Length	145'- 0.00"	Pole Taper (in/ft)	0.16000	Shape:	12 Sides

Connections Between Sections	/First/	/Second/
Height Above Ground	30'- 0.00"	77'- 0.00"
Type	Slip Joint	Slip Joint
Overlap Length (in)	58	47
Maximum Axial Force (lbs)	17804	14503

Section Characteristics	/First/	/Second/	/Third/
Base Diameter (in)	37.100	30.311	23.019
Top Diameter (in)	29.100	22.018	14.712
Thickness (in)	0.28125	0.21875	0.18750
Length	50'- 0.00"	51'-10.00"	51'-11.00"
Weight (lbs)	5024	3201	1975

ANALYSIS SUMMARY

	Pt. of Fixity	Governing Level Sec.1	Governing Level Sec.2	Governing Level Sec.3	Pole Top
Governing Load Case	2 EXTREME WI	2 EXTREME WI	1 NESC HEAVY	1 NESC HEAVY	1 NESC HEAVY
Height (ft)	0.00	0.00	30.00	77.00	125.00
Resultant Moment (in-kips)	11261	11261	7882	3156	0
Shear Force (lbs)	11405	11405	8596	8158	0
Axial Force (lbs)	12648	12648	16946	11814	0
Combined Stress (ksi)	44.35	44.35	52.85	43.35	0.00
Allowable Stress (ksi)	65.00	65.00	61.41	65.00	65.00
Allowable/Combined Stress	1.47	1.47	1.16	1.50	99.90
Total Deflection (in)	0.00	0.00	5.87	44.25	118.33

Note: Diameters are outside, measured across the flats
Forces and moments are reported in the local element coordinate system

BY VALMONT INDUSTRIES FOR: OMPA, 125.0' AGH, 145' CUSTOM POLES, STR. #10/9,10/10, 607956 DATE 01/30/2024
Design Id: STR10_9 IMPAX 26.2.5.1

*** POLE SHAFT POINT OF FIXITY REACTIONS ***

Loading Case Identifier	Moments About X-Axis (in-kips)	Moments About Y-Axis (in-kips)	Moments Resultant (X & Y) (in-kips)	Moments Torsional (in-kips)	Vertical Force (lbs)	Shear In X-Direction (lbs)	Shear In Y-Direction (lbs)	Shear Resultant (X & Y) (lbs)	Notes
1 NESC HEA	-614	11009	11026	-5	25339	-8779	-399	8788	B
2 EXTREME	-572	11245	11259	-5	14871	-11325	-398	11332	A C
3 CONCURRE	-631	7239	7267	-6	23321	-5343	-400	5358	
4 DEFLECTI	-252	1147	1175	-4	13271	-980	-200	1000	

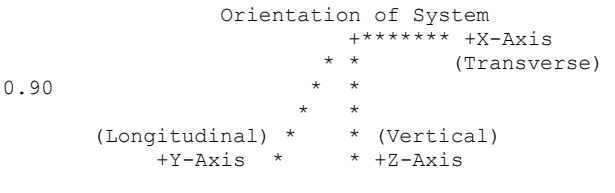
Note: Positive vertical force is downward.
Reactions are considered in the global coordinate system.

Key to the special note entries
A Indicates load case with maximum overturning moment
B Indicates load case with maximum vertical force
C Indicates load case with maximum resultant shear

*** INPUT LOADS ***

Loading Case 1 NESC HEAVY

Basic Wind Pressure is 10.00 psf
Wind Orientation is 180.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.500
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

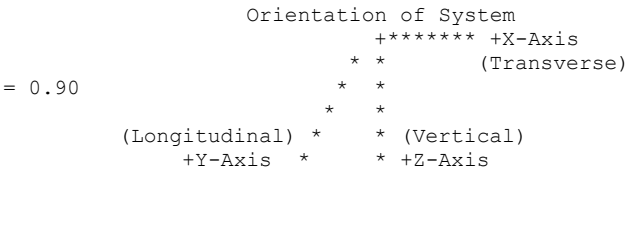


Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	124'- 6.00"	124'- 6.00"	3.00"	0.00	-1200	-100	1800	SW_A
2	117'- 1.00"	117'- 5.00"	4'- 0.00"	0.00	-1600	-100	2600	TCND_B
3	108'- 1.00"	108'- 5.00"	5'- 0.00"	180.00	-1600	-100	2600	MCND_B
4	99'- 1.00"	99'- 5.00"	5'- 0.00"	0.00	-1600	-100	2600	BCND_B

*** INPUT LOADS ***

Loading Case 2 EXTREME WIND

Basic Wind Pressure is 23.10 psf
Wind Orientation is 180.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

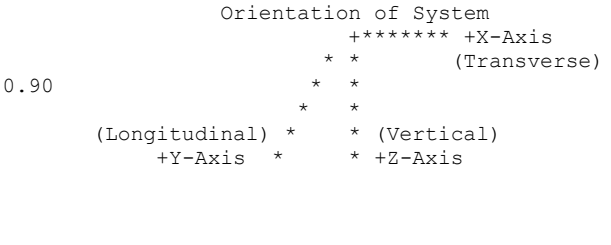


Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	124'- 6.00"	124'- 6.00"	3.00"	0.00	-700	-100	800	SW_A
2	117'- 1.00"	117'- 5.00"	4'- 0.00"	0.00	-1400	-100	1100	TCND_B
3	108'- 1.00"	108'- 5.00"	5'- 0.00"	180.00	-1400	-100	1100	MCND_B
4	99'- 1.00"	99'- 5.00"	5'- 0.00"	0.00	-1400	-100	1100	BCND_B

*** INPUT LOADS ***

Loading Case 3 CONCURRENT

Basic Wind Pressure is 4.10 psf
Wind Orientation is 180.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees

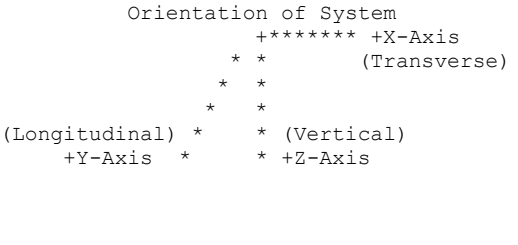


Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	124'- 6.00"	124'- 6.00"	3.00"	0.00	-900	-100	2700	SW_A
2	117'- 1.00"	117'- 5.00"	4'- 0.00"	0.00	-1100	-100	3400	TCND_B
3	108'- 1.00"	108'- 5.00"	5'- 0.00"	180.00	-1100	-100	3400	MCND_B
4	99'- 1.00"	99'- 5.00"	5'- 0.00"	0.00	-1100	-100	3400	BCND_B

*** INPUT LOADS ***

Loading Case 4 DEFLECTION

Basic Wind Pressure is 1.00 psf
Wind Orientation is 180.0 Degrees Clockwise From +X Axis
Drag Factor: 4 = 2.00, 6 = 1.40, 8 = 1.40, 12 = 1.10, 16 = 0.90, Round = 0.90
Structure Weight Overload Factor is 1.000
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.25 Degrees
Deflection Limitation: 12.0 in



Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	
1	124'- 6.00"	124'- 6.00"	3.00"	0.00	-100	100	500	SW_A
2	117'- 1.00"	117'- 5.00"	4'- 0.00"	0.00	-200	-100	800	TCND_B
3	108'- 1.00"	108'- 5.00"	5'- 0.00"	180.00	-200	-100	800	MCND_B
4	99'- 1.00"	99'- 5.00"	5'- 0.00"	0.00	-200	-100	800	BCND_B

*** Properties ***

Connection Locations	Distance From Base (ft)	Diameter Across Flats (in)	Wall Thickness (in)	D/t Across Flats	w/t Across Flats	Moments of Inertia (in^4)	Area (in^2)
Top of Sect 3	125.00	14.713	0.1875	78.47	18.35	236	8.76
	124.50	14.793	0.1875	78.89	18.46	240	8.81
	120.01	15.511	0.1875	82.72	19.49	278	9.24
	117.08	15.979	0.1875	85.22	20.16	304	9.52
	115.02	16.309	0.1875	86.98	20.63	323	9.72
	112.53	16.709	0.1875	89.11	21.20	348	9.96
	110.03	17.108	0.1875	91.24	21.77	374	10.20
	108.08	17.419	0.1875	92.90	22.21	395	10.39
	105.04	17.906	0.1875	95.50	22.91	429	10.68
	102.55	18.305	0.1875	97.63	23.48	459	10.92
	100.05	18.705	0.1875	99.76	24.05	490	11.16
	99.08	18.859	0.1875	100.58	24.27	502	11.26
	95.06	19.503	0.1875	104.02	25.19	556	11.64
	92.57	19.902	0.1875	106.14	25.76	591	11.89
	90.07	20.301	0.1875	108.27	26.33	628	12.13
	87.58	20.701	0.1875	110.40	26.90	666	12.37
	85.08	21.100	0.1875	112.53	27.47	706	12.61
	82.58	21.499	0.1875	114.66	28.04	747	12.85
	80.09	21.898	0.1875	116.79	28.61	790	13.09
	77.00	22.393	0.1875	119.43	29.32	845	13.39
Top of Sect 2	77.00	22.018	0.2188	100.65	24.29	933	15.33
Base of Sect 1	75.10	22.322	0.2188	102.04	24.66	972	15.55
Base of Sect 3	73.08	22.644	0.2188	103.52	25.06	1015	15.77
	70.11	23.120	0.2188	105.69	25.64	1081	16.11
	65.12	23.918	0.2188	109.34	26.62	1198	16.67
	60.13	24.717	0.2188	112.99	27.60	1324	17.23
	55.14	25.515	0.2188	116.64	28.57	1457	17.79
	50.15	26.314	0.2188	120.29	29.55	1600	18.35
	45.16	27.112	0.2188	123.94	30.53	1751	18.92
	40.17	27.910	0.2188	127.59	31.51	1912	19.48
	35.18	28.709	0.2188	131.24	32.49	2082	20.04
	32.59	29.123	0.2188	133.13	32.99	2174	20.33
	30.00	29.538	0.2188	135.03	33.50	2269	20.62
Top of Sect 1	30.00	29.100	0.2813	103.47	25.04	2770	26.06
Base of Sect 2	25.17	29.873	0.2813	106.22	25.78	2999	26.76
	20.21	30.666	0.2813	109.04	26.54	3247	27.48
	15.22	31.465	0.2813	111.87	27.30	3510	28.20
	10.23	32.263	0.2813	114.71	28.06	3786	28.92

*** Properties ***

Connection Locations	Distance From Base (ft)	Diameter Across Flats (in)	Wall Thickness (in)	D/t Across Flats	w/t Across Flats	Moments of Inertia (in^4)	Area (in^2)
	5.24	33.062	0.2813	117.55	28.82	4077	29.64
	2.62	33.481	0.2813	119.04	29.22	4236	30.02
	0.00	33.900	0.2813	120.53	29.62	4398	30.40
	-4.74	34.658	0.2813	123.23	30.34	4702	31.09
	-9.73	35.457	0.2813	126.07	31.10	5038	31.81
	-14.72	36.255	0.2813	128.91	31.86	5389	32.53
	-19.71	37.054	0.2813	131.75	32.62	5755	33.25
Base of Sect 1	-20.00	37.100	0.2813	131.91	32.67	5777	33.30

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 1 NESC HEAVY

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
125.00	0	0	0	0	0	0	0	0
124.50	0	0	0	0	-10	0	10	22
124.50	0	-17	17	-1	-1457	-116	1461	1629
120.01	-6	64	65	-1	-1548	-118	1553	1832
120.01	-6	64	65	-1	-1548	-118	1552	1832
117.08	-10	120	120	-1	-1609	-119	1614	1970
117.08	-11	-6	12	-8	-3577	-242	3585	4377
115.02	-17	83	85	-8	-3621	-243	3630	4477
115.02	-17	83	85	-8	-3620	-243	3628	4478
112.53	-24	193	194	-8	-3675	-244	3684	4601
112.53	-24	193	194	-8	-3673	-243	3681	4603
110.03	-32	303	305	-8	-3729	-244	3737	4729
110.03	-32	303	305	-8	-3726	-244	3734	4731
108.08	-37	391	393	-8	-3771	-245	3779	4832
108.08	-38	563	564	0	-5727	-367	5739	7271
105.04	-51	773	775	0	-5798	-368	5810	7432
105.04	-51	773	775	0	-5783	-367	5795	7444
102.55	-62	947	949	0	-5843	-368	5855	7579
102.55	-62	947	949	0	-5827	-367	5839	7592
100.05	-73	1122	1125	0	-5888	-368	5900	7730
100.05	-73	1122	1125	0	-5876	-367	5887	7739
99.08	-77	1191	1193	0	-5900	-368	5911	7794
99.08	-78	1031	1034	-8	-7825	-487	7840	10254
95.06	-101	1411	1415	-8	-7926	-489	7941	10485
95.06	-101	1411	1415	-8	-7891	-487	7906	10511
92.57	-116	1649	1653	-8	-7955	-488	7970	10659
92.57	-116	1649	1653	-8	-7925	-485	7939	10682
90.07	-131	1887	1891	-8	-7989	-487	8004	10833
90.07	-131	1887	1891	-8	-7956	-484	7970	10857
87.58	-145	2126	2131	-8	-8021	-485	8036	11011
87.58	-145	2126	2131	-8	-7985	-483	8000	11037
85.08	-160	2366	2371	-8	-8052	-484	8066	11194
85.08	-160	2366	2371	-8	-8013	-481	8027	11222
82.58	-174	2607	2613	-8	-8080	-482	8094	11382
82.58	-174	2607	2613	-8	-8039	-479	8053	11411
80.09	-188	2849	2855	-8	-8107	-480	8121	11574
80.09	-188	2849	2855	-8	-8059	-477	8073	11608
77.00	-206	3149	3156	-8	-8144	-478	8158	11814
77.00	-206	3149	3156	-8	-8100	-475	8114	11844
75.10	-217	3335	3342	-8	-8168	-477	8182	12122

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 1 NESC HEAVY

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
75.10	-217	3335	3342	-8	-8135	-475	8149	12144
73.08	-228	3532	3540	-8	-8208	-477	8221	12443
73.08	-228	3532	3540	-8	-8163	-474	8176	12472
70.11	-245	3825	3833	-8	-8174	-470	8188	12760
65.12	-273	4319	4328	-8	-8222	-466	8235	13234
60.13	-301	4816	4825	-8	-8267	-461	8280	13724
55.14	-329	5315	5325	-8	-8309	-457	8322	14229
50.15	-356	5817	5828	-8	-8350	-451	8362	14749
45.16	-383	6322	6333	-8	-8388	-446	8400	15283
40.17	-410	6829	6841	-8	-8425	-440	8436	15832
35.18	-437	7338	7351	-8	-8488	-436	8499	16379
32.59	-450	7603	7616	-8	-8505	-433	8516	16676
30.00	-464	7868	7882	-8	-8586	-434	8596	16946
30.00	-464	7868	7882	-8	-8506	-429	8517	16986
25.17	-489	8367	8381	-8	-8679	-431	8690	18146
25.17	-489	8367	8381	-8	-8576	-425	8587	18195
20.21	-514	8882	8896	-8	-8627	-420	8638	18926
15.22	-539	9403	9418	-8	-8677	-414	8687	19679
10.23	-564	9927	9943	-8	-8726	-408	8735	20450
5.24	-588	10454	10471	-8	-8798	-404	8807	21228
2.62	-601	10732	10749	-8	-8822	-401	8831	21650
0.00	-614	11011	11028	-8	-8905	-401	8914	22052

Deflections and Stresses for Pole

Loading Case 1 NESC HEAVY *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
125.00	-118.1	-7.2	118.3	6.9	8.06	0.00	0.00	0.00	0.00	0.00	65.00	99.90
124.50	-117.3	-7.1	117.5	6.8	8.06	0.00	0.00	0.00	0.00	0.00	65.00	99.90
124.50	-117.3	-7.1	117.5	6.8	8.06	0.51	0.19	0.02	0.35	0.73	65.00	88.48
120.01	-109.7	-6.7	109.9	6.2	8.06	1.84	0.20	0.02	0.36	2.05	65.00	31.78
117.08	-104.8	-6.3	105.0	5.9	8.03	3.22	0.21	0.02	0.36	3.43	65.00	18.95
117.08	-104.8	-6.3	105.0	5.9	8.03	0.33	0.46	0.11	0.87	1.68	65.00	38.72
115.02	-101.4	-6.1	101.6	5.6	8.03	2.22	0.46	0.10	0.86	2.71	65.00	23.97
112.53	-97.2	-5.9	97.4	5.3	8.00	4.78	0.46	0.10	0.85	5.26	65.00	12.36
112.53	-97.2	-5.9	97.4	5.3	8.00	4.78	0.46	0.10	0.84	5.26	65.00	12.36
110.03	-93.1	-5.6	93.2	5.0	7.96	7.14	0.46	0.09	0.83	7.61	65.00	8.54
108.08	-89.8	-5.4	90.0	4.8	7.92	8.84	0.47	0.09	0.82	9.32	65.00	6.98
108.08	-89.8	-5.4	90.0	4.8	7.92	12.63	0.70	0.00	1.12	13.34	65.00	4.87
105.04	-84.9	-5.1	85.0	4.4	7.80	16.41	0.70	0.00	1.10	17.11	65.00	3.80
102.55	-80.8	-4.8	81.0	4.1	7.69	19.22	0.69	0.00	1.09	19.92	65.00	3.26
102.55	-80.8	-4.8	81.0	4.1	7.69	19.22	0.70	0.00	1.08	19.92	65.00	3.26
100.05	-76.9	-4.6	77.0	3.8	7.56	21.80	0.69	0.00	1.07	22.50	65.00	2.89
99.08	-75.4	-4.5	75.5	3.7	7.50	22.74	0.69	0.00	1.06	23.44	65.00	2.77
99.08	-75.4	-4.5	75.5	3.7	7.50	19.75	0.91	0.08	1.48	20.67	65.00	3.14
95.06	-69.1	-4.1	69.3	3.3	7.28	25.23	0.90	0.07	1.45	26.13	65.00	2.49
95.06	-69.1	-4.1	69.3	3.3	7.28	25.23	0.90	0.07	1.44	26.14	65.00	2.49
92.57	-65.4	-3.9	65.5	3.0	7.13	28.27	0.90	0.07	1.42	29.17	65.00	2.23
90.07	-61.7	-3.7	61.8	2.8	6.95	31.07	0.89	0.07	1.40	31.97	65.00	2.03
90.07	-61.7	-3.7	61.8	2.8	6.95	31.07	0.90	0.07	1.39	31.97	65.00	2.03
87.58	-58.2	-3.4	58.3	2.5	6.77	33.64	0.89	0.06	1.38	34.54	65.00	1.88
87.58	-58.2	-3.4	58.3	2.5	6.77	33.64	0.89	0.06	1.37	34.54	65.00	1.88
85.08	-54.7	-3.2	54.8	2.3	6.58	36.01	0.89	0.06	1.35	36.90	65.00	1.76
82.58	-51.3	-3.0	51.4	2.1	6.37	38.19	0.89	0.06	1.33	39.08	65.00	1.66
80.09	-48.1	-2.8	48.1	1.9	6.16	40.20	0.88	0.06	1.31	41.09	65.00	1.58
80.09	-48.1	-2.8	48.1	1.9	6.16	40.20	0.89	0.06	1.30	41.09	65.00	1.58
77.00	-44.2	-2.6	44.3	1.7	5.89	42.46	0.88	0.05	1.29	43.35	65.00	1.50
77.00	-44.2	-2.6	44.3	1.7	5.89	37.83	0.77	0.05	1.12	38.60	65.00	1.68
75.10	-41.9	-2.5	41.9	1.6	5.74	38.95	0.78	0.05	1.11	39.73	65.00	1.64
73.08	-39.5	-2.3	39.6	1.4	5.57	40.07	0.79	0.05	1.10	40.86	65.00	1.59
73.08	-39.5	-2.3	39.6	1.4	5.57	40.07	0.79	0.05	1.09	40.87	65.00	1.59
70.11	-36.1	-2.1	36.2	1.3	5.33	41.60	0.79	0.04	1.07	42.39	65.00	1.53
65.12	-30.8	-1.8	30.8	1.0	4.90	43.83	0.79	0.04	1.04	44.63	65.00	1.46
60.13	-25.9	-1.5	25.9	0.8	4.47	45.72	0.80	0.04	1.01	46.51	65.00	1.40
55.14	-21.4	-1.2	21.5	0.6	4.04	47.30	0.80	0.04	0.98	48.10	65.00	1.35
50.15	-17.5	-1.0	17.5	0.4	3.61	48.63	0.80	0.03	0.95	49.44	65.00	1.31

Deflections and Stresses for Pole

Loading Case 1 NESC HEAVY *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
45.16	-13.9	-0.8	13.9	0.3	3.18	49.74	0.81	0.03	0.93	50.55	64.32	1.27
40.17	-10.8	-0.6	10.8	0.2	2.76	50.65	0.81	0.03	0.91	51.47	63.36	1.23
35.18	-8.2	-0.5	8.2	0.2	2.33	51.40	0.82	0.03	0.89	52.22	62.41	1.20
32.59	-6.9	-0.4	7.0	0.1	2.12	51.73	0.82	0.03	0.87	52.55	61.91	1.18
30.00	-5.9	-0.3	5.9	0.1	1.90	52.03	0.82	0.03	0.87	52.85	61.41	1.16
30.00	-5.9	-0.3	5.9	0.1	1.90	41.98	0.65	0.02	0.68	42.63	65.00	1.52
25.17	-4.1	-0.2	4.1	0.1	1.58	42.32	0.68	0.02	0.68	42.99	65.00	1.51
25.17	-4.1	-0.2	4.1	0.1	1.58	42.32	0.68	0.02	0.67	43.00	65.00	1.51
20.21	-2.6	-0.1	2.6	0.0	1.26	42.59	0.69	0.02	0.65	43.28	65.00	1.50
15.22	-1.5	-0.1	1.5	0.0	0.94	42.79	0.70	0.02	0.64	43.49	65.00	1.49
10.23	-0.7	0.0	0.7	0.0	0.62	42.94	0.71	0.02	0.63	43.64	65.00	1.49
5.24	-0.2	0.0	0.2	0.0	0.32	43.03	0.72	0.02	0.62	43.74	65.00	1.49
2.62	0.0	0.0	0.0	0.0	0.16	43.05	0.72	0.02	0.61	43.78	65.00	1.48
0.00	0.0	0.0	0.0	0.0	0.00	43.07	0.73	0.02	0.61	43.80	65.00	1.48

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 2 EXTREME WIND

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
125.00	0	0	0	0	0	0	0	0
124.50	0	0	0	0	-17	0	17	15
124.50	0	-7	7	-1	-815	-106	822	716
120.01	-6	41	41	-1	-976	-108	982	852
117.08	-10	77	78	-1	-1084	-108	1090	944
117.08	-10	31	33	-7	-2622	-217	2631	1887
115.02	-15	97	98	-7	-2701	-218	2710	1953
115.02	-15	97	98	-7	-2700	-217	2709	1954
112.53	-22	180	181	-7	-2797	-218	2806	2036
112.53	-22	180	181	-7	-2796	-218	2805	2037
110.03	-28	265	266	-7	-2896	-219	2904	2122
110.03	-28	265	266	-7	-2895	-218	2903	2123
108.08	-34	333	335	-7	-2974	-219	2982	2190
108.08	-34	404	405	0	-4507	-327	4519	3161
105.04	-46	571	573	0	-4634	-328	4645	3268
105.04	-46	571	573	0	-4629	-328	4640	3275
102.55	-56	711	713	0	-4735	-328	4746	3365
102.55	-56	711	713	0	-4730	-328	4741	3373
100.05	-66	854	857	0	-4838	-329	4849	3465
100.05	-66	854	857	0	-4834	-328	4845	3471
99.08	-69	911	913	0	-4877	-329	4888	3507
99.08	-70	851	854	-7	-6401	-436	6416	4484
95.06	-91	1164	1168	-7	-6582	-437	6596	4638
95.06	-91	1164	1168	-7	-6569	-436	6584	4656
92.57	-104	1363	1367	-7	-6684	-437	6698	4754
92.57	-104	1363	1367	-7	-6673	-436	6687	4770
90.07	-117	1564	1569	-7	-6790	-436	6804	4871
90.07	-117	1564	1569	-7	-6778	-435	6792	4888
87.58	-130	1769	1774	-7	-6897	-436	6911	4991
87.58	-130	1769	1774	-7	-6883	-435	6897	5010
85.08	-143	1977	1982	-7	-7005	-436	7018	5115
85.08	-143	1977	1982	-7	-6990	-434	7003	5135
82.58	-156	2188	2194	-7	-7113	-435	7126	5242
82.58	-156	2188	2194	-7	-7097	-434	7111	5263
80.09	-169	2402	2408	-7	-7223	-434	7236	5372
80.09	-169	2402	2408	-7	-7204	-433	7217	5398
77.00	-185	2672	2679	-7	-7362	-434	7375	5535
77.00	-185	2672	2679	-7	-7345	-432	7357	5558
75.10	-195	2841	2848	-7	-7453	-434	7466	5743
75.10	-195	2841	2848	-7	-7439	-433	7452	5761

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 2 EXTREME WIND

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
73.08	-205	3023	3030	-7	-7556	-434	7568	5960
73.08	-205	3023	3030	-7	-7537	-432	7550	5983
70.11	-221	3294	3302	-7	-7665	-431	7677	6182
65.12	-247	3761	3770	-7	-7894	-429	7906	6509
60.13	-272	4243	4251	-7	-8129	-428	8140	6848
55.14	-298	4738	4747	-7	-8367	-426	8378	7199
50.15	-324	5248	5258	-7	-8610	-423	8620	7562
45.16	-349	5772	5783	-7	-8857	-421	8867	7937
40.17	-374	6312	6323	-7	-9109	-419	9118	8323
35.18	-399	6867	6878	-7	-9378	-417	9388	8705
32.59	-412	7161	7173	-7	-9513	-415	9522	8916
30.00	-425	7459	7471	-7	-9681	-415	9690	9095
30.00	-425	7459	7471	-7	-9640	-413	9649	9138
25.17	-449	8028	8040	-7	-9973	-414	9981	9911
25.17	-449	8028	8040	-7	-9919	-411	9927	9965
20.21	-474	8628	8641	-7	-10192	-409	10201	10476
15.22	-498	9248	9262	-7	-10472	-406	10480	11003
10.23	-522	9886	9899	-7	-10755	-403	10763	11544
5.24	-546	10540	10554	-7	-11057	-401	11065	12084
2.62	-559	10891	10905	-7	-11210	-399	11217	12380
0.00	-572	11246	11261	-7	-11398	-399	11405	12648

Deflections and Stresses for Pole

Loading Case 2 EXTREME WIND *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
125.00	-109.0	-6.6	109.2	5.8	7.23	0.00	0.00	0.00	0.00	0.00	65.00	99.90
124.50	-108.3	-6.5	108.5	5.7	7.23	0.00	0.00	0.00	0.00	0.01	65.00	99.90
124.50	-108.3	-6.5	108.5	5.7	7.23	0.22	0.08	0.02	0.20	0.38	65.00	99.90
120.01	-101.5	-6.1	101.7	5.3	7.22	1.19	0.09	0.02	0.23	1.28	65.00	50.64
117.08	-97.1	-5.8	97.3	5.0	7.21	2.10	0.10	0.01	0.25	2.20	65.00	29.58
117.08	-97.1	-5.8	97.3	5.0	7.21	0.90	0.20	0.10	0.65	1.28	65.00	50.95
115.02	-94.0	-5.6	94.2	4.8	7.20	2.56	0.20	0.09	0.65	2.78	65.00	23.40
112.53	-90.3	-5.4	90.4	4.5	7.17	4.45	0.20	0.09	0.66	4.67	65.00	13.92
110.03	-86.6	-5.1	86.7	4.2	7.14	6.23	0.21	0.08	0.66	6.45	65.00	10.08
108.08	-83.7	-4.9	83.8	4.1	7.10	7.55	0.21	0.08	0.66	7.77	65.00	8.37
108.08	-83.7	-4.9	83.8	4.1	7.10	9.11	0.30	0.00	0.88	9.42	65.00	6.90
105.04	-79.2	-4.7	79.3	3.8	7.02	12.16	0.31	0.00	0.88	12.47	65.00	5.21
102.55	-75.6	-4.4	75.7	3.5	6.93	14.48	0.31	0.00	0.88	14.79	65.00	4.40
100.05	-72.0	-4.2	72.1	3.3	6.83	16.64	0.31	0.00	0.88	16.95	65.00	3.83
99.08	-70.6	-4.1	70.7	3.2	6.79	17.44	0.31	0.00	0.88	17.76	65.00	3.66
99.08	-70.6	-4.1	70.7	3.2	6.79	16.33	0.40	0.07	1.22	16.73	65.00	3.88
95.06	-65.0	-3.8	65.1	2.8	6.61	20.85	0.40	0.06	1.21	21.25	65.00	3.06
92.57	-61.6	-3.6	61.7	2.6	6.48	23.40	0.40	0.06	1.20	23.81	65.00	2.73
90.07	-58.2	-3.4	58.3	2.4	6.34	25.79	0.40	0.06	1.19	26.20	65.00	2.48
87.58	-55.0	-3.2	55.1	2.2	6.18	28.03	0.40	0.06	1.19	28.44	65.00	2.29
87.58	-55.0	-3.2	55.1	2.2	6.18	28.03	0.41	0.06	1.18	28.44	65.00	2.29
85.08	-51.8	-3.0	51.9	2.1	6.02	30.13	0.41	0.06	1.18	30.54	65.00	2.13
82.58	-48.7	-2.8	48.8	1.9	5.85	32.09	0.41	0.05	1.17	32.50	65.00	2.00
82.58	-48.7	-2.8	48.8	1.9	5.85	32.09	0.41	0.05	1.17	32.51	65.00	2.00
80.09	-45.7	-2.6	45.8	1.7	5.68	33.94	0.41	0.05	1.17	34.35	65.00	1.89
80.09	-45.7	-2.6	45.8	1.7	5.68	33.94	0.41	0.05	1.16	34.35	65.00	1.89
77.00	-42.1	-2.4	42.2	1.5	5.45	36.07	0.41	0.05	1.16	36.49	65.00	1.78
77.00	-42.1	-2.4	42.2	1.5	5.45	32.13	0.36	0.04	1.01	32.50	65.00	2.00
75.10	-40.0	-2.3	40.1	1.4	5.32	33.22	0.37	0.04	1.01	33.59	65.00	1.94
75.10	-40.0	-2.3	40.1	1.4	5.32	33.22	0.37	0.04	1.01	33.59	65.00	1.93
73.08	-37.8	-2.1	37.8	1.3	5.18	34.32	0.38	0.04	1.01	34.70	65.00	1.87
70.11	-34.6	-1.9	34.7	1.1	4.96	35.85	0.38	0.04	1.00	36.24	65.00	1.79
65.12	-29.7	-1.6	29.7	0.9	4.60	38.20	0.39	0.04	1.00	38.59	65.00	1.68
60.13	-25.1	-1.4	25.1	0.7	4.22	40.29	0.40	0.03	0.99	40.69	65.00	1.60
55.14	-20.9	-1.1	20.9	0.6	3.84	42.18	0.40	0.03	0.98	42.58	65.00	1.53
50.15	-17.1	-0.9	17.1	0.4	3.45	43.87	0.41	0.03	0.98	44.29	65.00	1.47
45.16	-13.7	-0.7	13.7	0.3	3.06	45.41	0.42	0.03	0.98	45.83	64.32	1.40
40.17	-10.7	-0.6	10.7	0.2	2.67	46.81	0.43	0.03	0.97	47.24	63.36	1.34
35.18	-8.1	-0.4	8.1	0.1	2.28	48.08	0.43	0.03	0.97	48.52	62.41	1.29

Deflections and Stresses for Pole

Loading Case 2 EXTREME WIND *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
32.59	-6.9	-0.4	6.9	0.1	2.08	48.70	0.44	0.02	0.97	49.14	61.91	1.26
30.00	-5.8	-0.3	5.8	0.1	1.87	49.29	0.44	0.02	0.97	49.74	61.41	1.23
30.00	-5.8	-0.3	5.8	0.1	1.87	39.77	0.35	0.02	0.77	40.12	65.00	1.62
25.17	-4.1	-0.2	4.1	0.1	1.57	40.58	0.37	0.02	0.77	40.95	65.00	1.59
20.21	-2.6	-0.1	2.6	0.0	1.25	41.34	0.38	0.02	0.77	41.72	65.00	1.56
15.22	-1.5	-0.1	1.5	0.0	0.94	42.05	0.39	0.02	0.77	42.44	65.00	1.53
10.23	-0.7	0.0	0.7	0.0	0.63	42.71	0.40	0.02	0.77	43.11	65.00	1.51
5.24	-0.2	0.0	0.2	0.0	0.32	43.33	0.41	0.02	0.77	43.74	65.00	1.49
2.62	0.0	0.0	0.0	0.0	0.16	43.64	0.41	0.01	0.77	44.05	65.00	1.48
0.00	0.0	0.0	0.0	0.0	0.00	43.93	0.42	0.01	0.77	44.35	65.00	1.47

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 3 CONCURRENT

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
125.00	0	0	0	0	0	0	0	0
124.50	0	0	0	0	-4	0	4	15
124.50	0	-27	27	-1	-1165	-125	1172	2612
120.01	-7	37	37	-1	-1204	-127	1211	2748
120.01	-7	37	37	-1	-1204	-127	1210	2748
117.08	-11	80	80	-1	-1230	-127	1236	2840
117.08	-12	-100	100	-9	-2663	-259	2675	6161
115.02	-18	-34	38	-9	-2682	-260	2694	6228
115.02	-18	-34	38	-9	-2682	-259	2695	6227
112.53	-26	47	54	-9	-2706	-260	2718	6310
112.53	-26	47	54	-9	-2705	-260	2718	6310
110.03	-34	128	133	-9	-2729	-260	2742	6395
110.03	-34	128	133	-9	-2727	-260	2740	6395
108.08	-40	192	196	-9	-2747	-260	2759	6463
108.08	-40	425	427	0	-4170	-390	4188	9801
105.04	-55	578	580	0	-4201	-391	4219	9909
105.04	-55	578	580	0	-4186	-390	4204	9915
102.55	-66	703	707	0	-4211	-391	4230	10006
102.55	-66	703	707	0	-4196	-389	4214	10013
100.05	-78	829	833	0	-4222	-390	4240	10105
100.05	-78	829	833	0	-4210	-389	4228	10110
99.08	-83	878	882	0	-4220	-389	4238	10147
99.08	-83	653	659	-9	-5614	-516	5638	13496
95.06	-108	925	932	-9	-5657	-518	5681	13651
95.06	-108	925	932	-9	-5628	-514	5651	13663
92.57	-123	1094	1101	-9	-5655	-515	5678	13762
92.57	-123	1094	1101	-9	-5629	-512	5652	13773
90.07	-139	1263	1271	-9	-5656	-512	5680	13874
90.07	-139	1263	1271	-9	-5628	-509	5651	13885
87.58	-154	1432	1440	-9	-5656	-510	5679	13988
87.58	-154	1432	1440	-9	-5625	-506	5647	14001
85.08	-169	1601	1610	-9	-5653	-507	5676	14106
85.08	-169	1601	1610	-9	-5620	-504	5642	14119
82.58	-184	1770	1779	-9	-5648	-504	5671	14226
82.58	-184	1770	1779	-9	-5614	-501	5636	14240
80.09	-199	1938	1948	-9	-5642	-502	5665	14349
80.09	-199	1938	1948	-9	-5602	-497	5624	14365
77.00	-218	2147	2158	-9	-5638	-498	5660	14503
77.00	-218	2147	2158	-9	-5601	-494	5623	14517
75.10	-229	2275	2286	-9	-5631	-496	5653	14703

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 3 CONCURRENT

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
75.10	-229	2275	2286	-9	-5603	-493	5624	14714
73.08	-241	2411	2423	-9	-5634	-494	5656	14913
73.08	-241	2411	2423	-9	-5598	-490	5619	14927
70.11	-258	2611	2624	-9	-5574	-485	5595	15109
65.12	-287	2947	2961	-9	-5558	-479	5578	15414
60.13	-316	3281	3296	-9	-5540	-473	5560	15728
55.14	-344	3615	3631	-9	-5521	-466	5540	16052
50.15	-372	3947	3965	-9	-5501	-459	5520	16385
45.16	-400	4279	4297	-9	-5481	-452	5499	16728
40.17	-427	4609	4629	-9	-5460	-446	5478	17079
35.18	-454	4938	4958	-9	-5459	-440	5477	17433
32.59	-467	5108	5129	-9	-5448	-437	5466	17624
30.00	-481	5278	5300	-9	-5482	-437	5499	17804
30.00	-481	5278	5300	-9	-5426	-432	5443	17821
25.17	-506	5595	5617	-9	-5499	-433	5516	18594
25.17	-506	5595	5617	-9	-5429	-427	5446	18615
20.21	-531	5919	5943	-9	-5423	-421	5440	19091
15.22	-557	6246	6271	-9	-5418	-415	5434	19581
10.23	-582	6573	6598	-9	-5412	-409	5428	20083
5.24	-606	6899	6925	-9	-5423	-405	5438	20592
2.62	-619	7070	7097	-9	-5420	-401	5435	20867
0.00	-631	7241	7268	-9	-5455	-401	5469	21135

Deflections and Stresses for Pole

Loading Case 3 CONCURRENT *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
125.00	-79.5	-7.5	79.8	3.3	5.42	0.00	0.00	0.00	0.00	0.00	65.00	99.90
124.50	-78.9	-7.5	79.3	3.2	5.42	0.00	0.00	0.00	0.00	0.00	65.00	99.90
124.50	-78.9	-7.5	79.3	3.2	5.42	0.83	0.30	0.02	0.29	1.15	65.00	56.76
120.01	-73.9	-7.0	74.2	3.0	5.42	1.08	0.30	0.02	0.28	1.38	65.00	47.07
117.08	-70.6	-6.6	70.9	2.8	5.40	2.17	0.30	0.02	0.28	2.47	65.00	26.30
117.08	-70.6	-6.6	70.9	2.8	5.40	2.71	0.65	0.12	0.68	3.40	65.00	19.14
115.02	-68.2	-6.4	68.5	2.7	5.41	0.97	0.64	0.11	0.67	1.85	65.00	35.07
112.53	-65.4	-6.1	65.7	2.5	5.41	1.30	0.63	0.11	0.66	2.07	65.00	31.33
110.03	-62.6	-5.8	62.9	2.4	5.40	3.15	0.63	0.10	0.64	3.79	65.00	17.16
108.08	-60.4	-5.6	60.7	2.3	5.38	4.48	0.62	0.10	0.63	5.11	65.00	12.72
108.08	-60.4	-5.6	60.7	2.3	5.38	9.61	0.94	0.00	0.82	10.56	65.00	6.16
105.04	-57.1	-5.3	57.3	2.1	5.29	12.35	0.93	0.00	0.80	13.28	65.00	4.89
102.55	-54.3	-5.0	54.6	2.0	5.20	14.38	0.92	0.00	0.78	15.30	65.00	4.25
100.05	-51.7	-4.8	51.9	1.8	5.11	16.23	0.91	0.00	0.77	17.14	65.00	3.79
99.08	-50.6	-4.7	50.9	1.8	5.07	16.90	0.90	0.00	0.76	17.81	65.00	3.65
99.08	-50.6	-4.7	50.9	1.8	5.07	12.68	1.20	0.08	1.09	13.89	65.00	4.68
95.06	-46.5	-4.3	46.6	1.6	4.92	16.74	1.17	0.08	1.06	17.91	65.00	3.63
92.57	-43.9	-4.0	44.1	1.5	4.82	18.97	1.16	0.07	1.04	20.14	65.00	3.23
92.57	-43.9	-4.0	44.1	1.5	4.82	18.97	1.16	0.07	1.03	20.14	65.00	3.23
90.07	-41.4	-3.8	41.6	1.3	4.70	21.02	1.14	0.07	1.02	22.17	65.00	2.93
90.07	-41.4	-3.8	41.6	1.3	4.70	21.02	1.15	0.07	1.01	22.17	65.00	2.93
87.58	-39.0	-3.6	39.2	1.2	4.58	22.90	1.13	0.07	0.99	24.03	65.00	2.70
85.08	-36.7	-3.4	36.8	1.1	4.45	24.61	1.12	0.07	0.97	25.73	65.00	2.53
82.58	-34.4	-3.1	34.6	1.0	4.31	26.18	1.11	0.06	0.95	27.29	65.00	2.38
80.09	-32.2	-2.9	32.3	0.9	4.17	27.61	1.10	0.06	0.93	28.71	65.00	2.26
77.00	-29.6	-2.7	29.7	0.8	3.98	29.22	1.08	0.06	0.91	30.31	65.00	2.14
77.00	-29.6	-2.7	29.7	0.8	3.98	26.03	0.95	0.05	0.79	26.98	65.00	2.41
75.10	-28.0	-2.6	28.1	0.8	3.88	26.82	0.95	0.05	0.78	27.77	65.00	2.34
73.08	-26.4	-2.4	26.5	0.7	3.76	27.60	0.95	0.05	0.77	28.55	65.00	2.28
70.11	-24.1	-2.2	24.2	0.6	3.59	28.65	0.94	0.05	0.75	29.59	65.00	2.20
65.12	-20.6	-1.9	20.6	0.5	3.30	30.17	0.92	0.04	0.72	31.10	65.00	2.09
60.13	-17.3	-1.6	17.3	0.4	3.01	31.43	0.91	0.04	0.69	32.34	65.00	2.01
55.14	-14.3	-1.3	14.3	0.3	2.72	32.45	0.90	0.04	0.67	33.36	65.00	1.95
50.15	-11.6	-1.0	11.7	0.2	2.42	33.29	0.89	0.04	0.64	34.18	65.00	1.90
45.16	-9.2	-0.8	9.3	0.2	2.13	33.95	0.88	0.03	0.62	34.84	64.32	1.85
40.17	-7.2	-0.6	7.2	0.1	1.84	34.48	0.88	0.03	0.60	35.36	63.36	1.79
35.18	-5.4	-0.5	5.4	0.1	1.56	34.88	0.87	0.03	0.58	35.75	62.41	1.75
32.59	-4.6	-0.4	4.6	0.1	1.41	35.05	0.87	0.03	0.57	35.92	61.91	1.72
30.00	-3.9	-0.3	3.9	0.1	1.27	35.19	0.86	0.03	0.57	36.06	61.41	1.70

Deflections and Stresses for Pole

Loading Case 3 CONCURRENT *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
30.00	-3.9	-0.3	3.9	0.1	1.27	28.39	0.68	0.02	0.44	29.08	65.00	2.24
25.17	-2.7	-0.2	2.7	0.0	1.05	28.53	0.69	0.02	0.44	29.23	65.00	2.22
25.17	-2.7	-0.2	2.7	0.0	1.05	28.53	0.70	0.02	0.43	29.23	65.00	2.22
20.21	-1.7	-0.2	1.7	0.0	0.83	28.62	0.69	0.02	0.42	29.32	65.00	2.22
15.22	-1.0	-0.1	1.0	0.0	0.62	28.67	0.69	0.02	0.41	29.36	65.00	2.21
10.23	-0.4	0.0	0.4	0.0	0.41	28.67	0.69	0.02	0.40	29.36	65.00	2.21
5.24	-0.1	0.0	0.1	0.0	0.21	28.63	0.69	0.02	0.39	29.32	65.00	2.22
2.62	0.0	0.0	0.0	0.0	0.10	28.60	0.70	0.02	0.38	29.29	65.00	2.22
0.00	0.0	0.0	0.0	0.0	0.00	28.56	0.70	0.02	0.38	29.25	65.00	2.22

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 4 DEFLECTION

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
125.00	0	0	0	0	0	0	0	0
124.50	0	0	0	0	-1	0	1	15
124.50	0	-5	5	1	-110	99	147	513
120.01	5	1	5	1	-118	98	154	650
117.08	9	5	10	1	-124	98	158	742
117.08	8	-40	41	-5	-339	-4	339	1586
115.02	8	-32	33	-5	-343	-4	343	1653
112.53	8	-21	23	-5	-348	-5	348	1736
110.03	8	-11	13	-5	-354	-5	354	1821
108.08	8	-2	8	-5	-358	-5	358	1889
108.08	7	55	56	2	-573	-107	583	2745
105.04	4	76	76	2	-579	-108	589	2853
102.55	0	94	94	2	-584	-108	594	2944
102.55	0	94	94	2	-584	-108	594	2945
100.05	-3	111	111	2	-590	-108	600	3038
100.05	-3	111	111	2	-589	-108	599	3038
99.08	-4	118	118	2	-591	-108	601	3074
99.08	-5	62	62	-5	-805	-211	832	3931
95.06	-15	101	102	-5	-815	-211	842	4086
95.06	-15	101	102	-5	-814	-211	841	4086
92.57	-21	125	127	-5	-820	-211	847	4185
92.57	-21	125	127	-5	-819	-211	846	4186
90.07	-27	150	152	-5	-825	-211	852	4287
90.07	-27	150	152	-5	-824	-211	851	4287
87.58	-34	175	178	-5	-831	-211	857	4390
87.58	-34	175	178	-5	-829	-211	856	4391
85.08	-40	199	203	-5	-836	-211	862	4496
85.08	-40	199	203	-5	-835	-211	861	4496
82.58	-46	225	229	-5	-841	-211	867	4603
82.58	-46	225	229	-5	-840	-211	866	4604
80.09	-53	250	255	-5	-846	-211	872	4713
80.09	-53	250	255	-5	-845	-211	870	4713
77.00	-61	281	288	-5	-853	-211	879	4852
77.00	-61	281	288	-5	-851	-211	877	4852
75.10	-65	301	308	-5	-858	-211	883	5038
75.10	-65	301	308	-5	-857	-211	882	5038
73.08	-71	322	329	-5	-864	-212	889	5238
73.08	-71	322	329	-5	-862	-211	887	5238
70.11	-78	352	361	-5	-867	-211	893	5399
65.12	-91	405	415	-5	-878	-210	903	5676

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 4 DEFLECTION

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
60.13	-103	458	469	-5	-888	-210	913	5963
55.14	-116	511	524	-5	-899	-209	923	6259
50.15	-128	566	580	-5	-909	-209	933	6565
45.16	-141	621	636	-5	-920	-208	943	6880
40.17	-153	676	693	-5	-930	-207	953	7205
35.18	-166	732	751	-5	-942	-207	964	7540
32.59	-172	762	781	-5	-947	-206	969	7717
30.00	-179	791	811	-5	-956	-206	978	7896
30.00	-179	791	811	-5	-952	-205	974	7897
25.17	-191	847	868	-5	-971	-206	993	8671
25.17	-191	847	868	-5	-966	-205	988	8671
20.21	-203	905	928	-5	-978	-204	999	9127
15.22	-215	964	988	-5	-989	-203	1010	9598
10.23	-227	1024	1049	-5	-1001	-202	1021	10081
5.24	-239	1084	1110	-5	-1014	-201	1034	10576
2.62	-246	1116	1143	-5	-1020	-200	1040	10841
0.00	-252	1149	1176	-5	-1030	-200	1049	11109

Deflections and Stresses for Pole

Loading Case 4 DEFLECTION *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
125.00	-11.5	-2.5	11.7	0.1	0.75	0.00	0.00	0.00	0.00	0.00	65.00	99.90
124.50	-11.4	-2.5	11.6	0.1	0.75	0.00	0.00	0.00	0.00	0.00	65.00	99.90
124.50	-11.4	-2.5	11.6	0.1	0.75	0.16	0.06	0.02	0.05	0.23	65.00	99.90
120.01	-10.7	-2.3	10.9	0.1	0.75	0.16	0.07	0.01	0.05	0.23	65.00	99.90
117.08	-10.2	-2.2	10.5	0.1	0.75	0.27	0.08	0.01	0.05	0.35	65.00	99.90
117.08	-10.2	-2.2	10.5	0.1	0.75	1.11	0.17	0.06	0.13	1.28	65.00	50.85
115.02	-9.9	-2.2	10.2	0.1	0.76	0.85	0.17	0.06	0.13	1.02	65.00	63.51
112.53	-9.5	-2.1	9.8	0.1	0.76	0.56	0.17	0.06	0.13	0.74	65.00	88.06
110.03	-9.1	-2.0	9.4	0.1	0.76	0.31	0.18	0.05	0.12	0.49	65.00	99.90
108.08	-8.8	-2.0	9.0	0.1	0.76	0.19	0.18	0.05	0.12	0.37	65.00	99.90
108.08	-8.8	-2.0	9.0	0.1	0.76	1.26	0.26	0.03	0.14	1.53	65.00	42.35
105.04	-8.4	-1.9	8.6	0.1	0.75	1.61	0.27	0.02	0.14	1.88	65.00	34.50
102.55	-8.0	-1.8	8.2	0.1	0.74	1.87	0.27	0.02	0.13	2.15	65.00	30.30
100.05	-7.6	-1.7	7.8	0.1	0.73	2.14	0.27	0.02	0.13	2.41	65.00	26.93
99.08	-7.5	-1.7	7.6	0.1	0.72	2.24	0.27	0.02	0.13	2.51	65.00	25.86
99.08	-7.5	-1.7	7.6	0.1	0.72	1.18	0.35	0.05	0.19	1.53	65.00	42.47
95.06	-6.9	-1.5	7.0	0.1	0.71	1.84	0.35	0.04	0.19	2.19	65.00	29.72
92.57	-6.5	-1.5	6.7	0.1	0.70	2.20	0.35	0.04	0.18	2.55	65.00	25.45
90.07	-6.2	-1.4	6.3	0.1	0.68	2.54	0.35	0.04	0.18	2.89	65.00	22.46
87.58	-5.8	-1.3	6.0	0.1	0.67	2.85	0.36	0.04	0.18	3.21	65.00	20.26
85.08	-5.5	-1.2	5.6	0.1	0.65	3.14	0.36	0.04	0.17	3.50	65.00	18.57
82.58	-5.1	-1.2	5.3	0.1	0.63	3.41	0.36	0.03	0.17	3.77	65.00	17.24
80.09	-4.8	-1.1	4.9	0.1	0.62	3.66	0.36	0.03	0.17	4.02	65.00	16.17
77.00	-4.4	-1.0	4.6	0.0	0.59	3.94	0.36	0.03	0.16	4.31	65.00	15.10
77.00	-4.4	-1.0	4.6	0.0	0.59	3.51	0.32	0.03	0.14	3.83	65.00	16.98
75.10	-4.2	-0.9	4.3	0.0	0.58	3.65	0.32	0.03	0.14	3.98	65.00	16.34
73.08	-4.0	-0.9	4.1	0.0	0.56	3.80	0.33	0.03	0.14	4.13	65.00	15.74
70.11	-3.6	-0.8	3.7	0.0	0.54	3.99	0.34	0.03	0.14	4.33	65.00	15.02
65.12	-3.1	-0.7	3.2	0.0	0.50	4.28	0.34	0.02	0.13	4.62	65.00	14.06
60.13	-2.6	-0.6	2.7	0.0	0.46	4.53	0.35	0.02	0.13	4.88	65.00	13.32
55.14	-2.2	-0.5	2.2	0.0	0.42	4.75	0.35	0.02	0.13	5.10	65.00	12.74
50.15	-1.8	-0.4	1.8	0.0	0.37	4.94	0.36	0.02	0.12	5.29	65.00	12.28
45.16	-1.4	-0.3	1.5	0.0	0.33	5.10	0.36	0.02	0.12	5.46	64.32	11.78
40.17	-1.1	-0.2	1.1	0.0	0.29	5.24	0.37	0.02	0.12	5.61	63.36	11.30
35.18	-0.8	-0.2	0.9	0.0	0.24	5.36	0.38	0.02	0.11	5.73	62.41	10.89
32.59	-0.7	-0.2	0.7	0.0	0.22	5.41	0.38	0.02	0.11	5.79	61.91	10.69
30.00	-0.6	-0.1	0.6	0.0	0.20	5.46	0.38	0.02	0.11	5.85	61.41	10.51
30.00	-0.6	-0.1	0.6	0.0	0.20	4.41	0.30	0.01	0.09	4.71	65.00	13.80
25.17	-0.4	-0.1	0.4	0.0	0.17	4.47	0.32	0.01	0.09	4.80	65.00	13.55

Deflections and Stresses for Pole

Loading Case 4 DEFLECTION *** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Applied Bending Stress (ksi)	Applied Axial Stress (ksi)	Applied Torsion Stress (ksi)	Applied Shear Stress (ksi)	Applied Combined Stress (ksi)	Allowable Stress (ksi)	Allowable Divided by Combined
20.21	-0.3	-0.1	0.3	0.0	0.13	4.53	0.33	0.01	0.08	4.86	65.00	13.37
15.22	-0.2	0.0	0.2	0.0	0.10	4.58	0.34	0.01	0.08	4.92	65.00	13.21
10.23	-0.1	0.0	0.1	0.0	0.07	4.62	0.35	0.01	0.08	4.97	65.00	13.08
5.24	0.0	0.0	0.0	0.0	0.03	4.66	0.36	0.01	0.08	5.01	65.00	12.97
2.62	0.0	0.0	0.0	0.0	0.02	4.67	0.36	0.01	0.08	5.03	65.00	12.91
0.00	0.0	0.0	0.0	0.0	0.00	4.69	0.37	0.01	0.08	5.05	65.00	12.87

MINIMUM DEFLECTION RATIO // DEFLECTION LIMIT / DEFLECTION // IS

Valmont Industries, Inc. Arm Design Data (Version 26.2.5.1) Date: 30 January 2024
Title: 4' CON ARM Time: 09:19

----- ARM SHAFT DESIGN GOVERNED BY LOADING CASE 3 CONCURRENT @ 117.08 FEET & 0.0 Degrees -----

DISTANCE (ARM BASE TO ARM TIP) HORIZONTAL "DESIGN"	** RISE ** "DESIGN"	AS DETAILED	DIAMETER ACROSS FLATS BASE	TIP	THICKNESS	SHAPE	YIELD STRESS (PSI)	WEIGHT
4'- 0.00"	4.00"	6.00"	7.50"	4.500"	0.188"	6 sides	65000.	50. LBS

********** POINT OF MINIMUM SAFETY FACTOR **********

Weld Type	Backup Ring	DISTANCE FROM BASE	MOMENT OF INERTIA	AREA	STRESS	SAFETY FACTOR
PJP	No	0.0 FT	35.3 IN**4	4.7 IN**2	19912. PSI	3.26

----- BOLT DESIGN GOVERNED BY LOADING CASE 3 CONCURRENT @ 117.08 FEET & 0.0 Degrees -----

NUMBER PER ARM	TYPE	THREADS	DIAMETER	LENGTH	GROSS AREA	********** SHEAR ON BOLT ********** MAX. FORCE	MAX. STRESS	ALLOW. STRESS	SAFETY FACTOR
4	A325	8-UNC	1.000"	3.00"	0.79 IN**2	15150. LBS	19290. PSI	54000. PSI	2.80

----- BRACKET DESIGN GOVERNED BY LOADING CASE 3 CONCURRENT @ 117.08 FEET & 0.0 Degrees -----

HEIGHT	INSIDE WIDTH LEG TO LEG	THICKNESS	WEIGHT	** BOLT HOLES ** NO. PER SIDE	DIAMETER	***** STRESSES ***** MAXIMUM	ALLOWABLE	SAFETY FACTOR	MINIMUM POLE DIAMETER (ID)
10.00"	8.50"	0.500"	23. LBS	2	1.13"	29568. PSI	80000. PSI	2.71	9.38"

BOLT LOCATIONS (VERTICALLY, FROM REFERENCE LINE) : 0.00" 6.00"

----- VANG DESIGN GOVERNED BY LOADING CASE 3 CONCURRENT @ 117.08 FEET & 0.0 Degrees -----

HEIGHT	OUTSIDE VANG SPACING	THICKNESS	***** STRESSES ***** MAXIMUM	ALLOWABLE	SAFETY FACTOR	********** WELD ********** ALLOWABLE	THROAT REQ'D	FILLET OVERLAY
10.00"	8.38"	0.500"	12758. PSI	37700. PSI	2.96	36000. PSI	0.03"	_____

----- LOADING CASES CONSIDERED: 1 NESC HEAVY 2 EXTREME WIND 3 CONCURRENT 4 DEFLECTION

----- INSTANCES CONSIDERED: 117.08 FT. @ 0.0 Deg.

----- CONTROLLING or SPECIFIED LOADING -----

LOADING IDENTIFIER:	3 CONCURRENT
MOUNTING HEIGHT (FEET):	117.08
ORIENTATION:	0.0
ACCUMULATED FORCES (LBS)	
TRANSVERSE:	-1100
LONGITUDINAL:	-100
VERTICAL- incl. Arm Wt.:	3449
BASE MOMENT (IN-KIP) ABOUT:	
LOCAL X-AXIS:	160
LOCAL Y-AXIS:	-5
DEFLECTION (INCHES) IN:	
LOCAL X-DIRECTION:	0.0
LOCAL Y-DIRECTION:	0.2

----- ARM SHAFT DESIGN GOVERNED BY LOADING CASE 3 CONCURRENT @ 108.08 FEET & 180.0 Degrees -----

DISTANCE (ARM BASE TO ARM TIP) HORIZONTAL "DESIGN"	** RISE ** "DESIGN"	AS DETAILED	DIAMETER ACROSS FLATS BASE	TIP	THICKNESS	SHAPE	YIELD STRESS (PSI)	WEIGHT
5'- 0.00"	4.00"	6.50"	7.50"	4.500"	0.188"	6 sides	65000.	62. LBS

********** POINT OF MINIMUM SAFETY FACTOR **********

Weld Type	Backup Ring	DISTANCE FROM BASE	MOMENT OF INERTIA	AREA	STRESS	SAFETY FACTOR
PJP	No	0.0 FT	35.3 IN**4	4.7 IN**2	25971. PSI	2.50

----- BOLT DESIGN GOVERNED BY LOADING CASE 3 CONCURRENT @ 108.08 FEET & 180.0 Degrees -----

NUMBER PER ARM	TYPE	THREADS	DIAMETER	LENGTH	GROSS AREA	********** SHEAR ON BOLT ********** MAX. FORCE	MAX. STRESS	ALLOW. STRESS	SAFETY FACTOR
4	A325	8-UNC	1.000"	3.00"	0.79 IN**2	19408. LBS	24712. PSI	54000. PSI	2.19

----- BRACKET DESIGN GOVERNED BY LOADING CASE 3 CONCURRENT @ 108.08 FEET & 180.0 Degrees -----

HEIGHT	INSIDE WIDTH LEG TO LEG	THICKNESS	WEIGHT	** BOLT HOLES ** NO. PER SIDE	DIAMETER	***** STRESSES ***** MAXIMUM	ALLOWABLE	SAFETY FACTOR	MINIMUM POLE DIAMETER (ID)
10.00"	8.50"	0.500"	23. LBS	2	1.13"	38081. PSI	80000. PSI	2.10	9.38"

BOLT LOCATIONS (VERTICALLY, FROM REFERENCE LINE) : 0.00" 6.00"

----- VANG DESIGN GOVERNED BY LOADING CASE 3 CONCURRENT @ 108.08 FEET & 180.0 Degrees -----

HEIGHT	OUTSIDE VANG SPACING	THICKNESS	***** STRESSES ***** MAXIMUM	ALLOWABLE	SAFETY FACTOR	********** WELD ********** ALLOWABLE	THROAT REQ'D	FILLET OVERLAY
10.00"	8.38"	0.500"	16344. PSI	37700. PSI	2.31	36000. PSI	0.04"	_____

----- LOADING CASES CONSIDERED: 1 NESC HEAVY 2 EXTREME WIND 3 CONCURRENT 4 DEFLECTION

----- INSTANCES CONSIDERED: 108.08 FT. @ 180.0 Deg. 99.08 FT. @ 0.0 Deg.

----- CONTROLLING or SPECIFIED LOADING -----

LOADING IDENTIFIER:	3 CONCURRENT	3 CONCURRENT
MOUNTING HEIGHT (FEET):	108.08	99.08
ORIENTATION:	180.0	0.0
ACCUMULATED FORCES (LBS)		
TRANSVERSE:	1100	-1100
LONGITUDINAL:	100	-100
VERTICAL- incl. Arm Wt.:	3463	3461
BASE MOMENT (IN-KIP) ABOUT:		
LOCAL X-AXIS:	210	201
LOCAL Y-AXIS:	6	-6
DEFLECTION (INCHES) IN:		
LOCAL X-DIRECTION:	0.0	0.0
LOCAL Y-DIRECTION:	0.4	0.3