Robinson+Cole

KENNETH C. BALDWIN

280 Trumbull Street
Hartford, CT 06103-3597
Main (860) 275-8200
Fax (860) 275-8299
kbaldwin@rc.com
Direct (860) 275-8345

Also admitted in Massachusetts
and New York

October 18, 2023

Melanie A. Bachman, Esq.
Executive Director/Staff Attorney
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **Docket No. 494 – Application of Cellco Partnership d/b/a Verizon Wireless ("Cellco") for a Certificate of Environmental Compatibility and Public Need for the Construction, Maintenance and Operation of a Wireless Telecommunications Facility Located off Chestnut Hill Road, Wolcott, Connecticut**

Proposed Equipment Modifications

Dear Attorney. Bachman:

On May 22, 2022, the Council approved Cellco's Development and Management Plan for its Wolcott South Facility approved in Docket No. 494. Construction of the facility has not yet commenced. Due to equipment availability and planned upgrades, Cellco is now seeking Council Staff approval of certain antennas and tower-mounted equipment changes at the Wolcott South Facility.

Attached are relevant documents that demonstrate that the monopole will be structurally capable of supporting these equipment changes. Please contact me if you have any questions or need any additional information.

Sincerely,

Kenneth C. Baldwin

Copy to:
Bryon Morawski
Tim Parks

28062569-v1

valmont
STRUCTURES

October 5th, 2023

Christina Glass
☎ 603-212-6238

Subject: **ANSI/TIA-222-G Monopole Design Criteria**
Site Name: Wolcott South CT, Wolcott, CT– 120' AGL Monopole w Future Extension
Valmont Order No. 537228

Dear Ms. Glass:

The monopole referenced above has been analyzed and meets the design criteria below in accordance with 2022 Connecticut State Buildign Code and ANSI/TIA-222-H standard.

Monopole design criteria:

TIA-222-H & 2022 Connecticut State Buildign Code Including:
125 mph (3 Second Gust) Wind Speed, No Ice
50 mph (3 Second Gust) Wind Speed, 1.0" Ice Thickness
60 mph Basic Wind Speed With No Ice For Twist & Sway
Exposure Category: B
Structure Classification: 2
Topography Category: 3 with crest height 552 ft
Coordinates: N 41.590008°
W -73.008617°

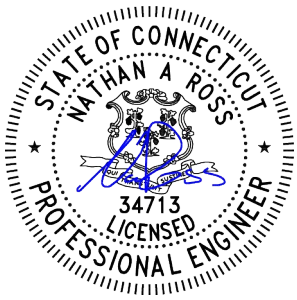
The proposed monopole is structurally adequate to accommodate the following equipment at the 116' AGL elevation:

6 – JAHH-65B-R3B with mounting pipes
3 – MT6413-77A with mounting pipes
3 – RF4461d-13A with mounting pipes
3 – RF4439d-25A
1 – Site Pro 1 12' Low Profile Platform with Handrail mount

If there are any questions concerning the structural analysis, please don't hesitate in contacting me directly at (402) 359-6830 or emailing me at Yatong.Zeng@Valmont.com.

Sincerely,

Yatong Zeng, PE
Design Engineer



Valmont Microflect, LTCS, Valmont Industries, Inc.
3575 25th Street Salem, OR 97302-1123 USA
Toll Free: 800-547-2151 Fax: 503-316-2040 www.valmont.com

Valmont Industries, Inc.
PO Box 358, 28800 Ida Street
Valley, NE 68064 USA
1-800-547-2151

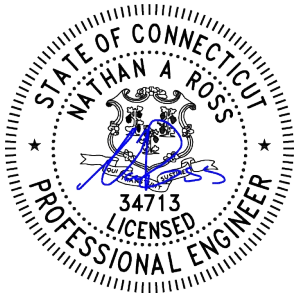
Communication Structure Calculations
for
Verizon Wireless
Wolcott, CT

537228-P1

Friday, 13 October 2023

Prepared By:
Yatong Zeng

Reviewed By:
YZ



Valmont Industries, Inc.
PO Box 358, 28800 Ida Street
Valley, NE 68064 USA
1-800-547-2151

Table Of Contents

Valmont Industries, Inc.
Project Summary
Verizon Wireless
537228

			Anchor Bolts			Shaft Diameters			Weight (lb)								Global Base Reactions For Pole Shaft Governing Load Case				
Structure Identifier	Pole Height (ft)	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 (kips)	Axial (kips)	Max Defl (in)
537228-P1b	139.00	----	60.50	66	16	53.00	53.00	12.93	12445	6176	3776	632	----	----	1701	1636	WIND	60021	50.6	46.3	134

Valmont Industries, Inc.
Project Summary
Verizon Wireless
537228

								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
537228-P1b	65	0.300	18	2.25	66.50	2.75	0.0	51.75	38.92	38.58	20.00	----	----	0.500	0.438	0.375	0.188	----	----

Valmont Industries, Inc.
Project Summary
Verizon Wireless
537228

	Section Data																
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
537228-P1b	53.00	37.48	40.05	28.38	30.50	18.93	18.93	12.93	----	----	----	----	Slip Joint	Slip Joint	Flange		----

Valmont Industries, Inc.
Engineering Data

*** OVERVIEW ***

. Structure design conforms to TIA-222-H including:
  125 mph Wind Speed (3 second gust, 700 year mean recurrence interval)
  50 mph Ice Wind (500 year mean recurrence interval)
  1.00 in ice thickness
  60.0 mph Basic Wind Speed with no ice for twist and sway
  Exposure Category B
  Risk Category II
  Topographic Category 3 (H = 552)
  Site Elevation = 787 (ft) above mean sea level
  Spectral response acceleration at short periods and 1 sec.: Ss = 0.19 & S1 = 0.05
  Site class = D
2. Feedlines are assumed to be placed interior to the pole
3. Total pole height is 140.0 ft agl
4. Elevations are measured from top of base plate (approximately 1.0 ft agl)
5. Future carrier assumed VzW loading as worst-case
6. THEORETICAL 20 FT FALL ZONE (FOR FLANGE CONNECTION @ 119 FT)
7. pole is extendable from 120' AGL to 140' AGL
8. Fall zone only applicable with extension and full design loading

*** Structure Anchorage Information ***

Pole Height (ft):	139.0	Number of Anchor Bolts:	16
Bolt Circle (in):	60.50	Diameter of Anchor Bolts (in):	2.25
Base Shear (lbs):	50638	Length of Anchor Bolts (in):	66.00
Base Vertical (lbs):	48009	Projection Length (in):	12.00
Base Moment (in-kips):	60021	Template OD (in):	64.00

*** Loading Data***

			Without Ice		With Ice	
Qty	Description	ABP Height (ft)	EPA (ft^2)	Weight (lbs)	EPA (ft^2)	Weight (lbs)
3	MT6413-77A (W/PM)	115.00	11.13	255	16.50	510
3	RF4439D-25A (W/PM)	115.00	8.34	312	13.32	528
3	RF4461D-13A	115.00	3.78	240	4.65	303
3	DMP65R-BU8D (W/PM)	105.00	33.48	444	38.88	1020
3	DMP65R-BU8D (W/PM)	95.00	33.48	444	38.85	1020
12	RFV01U-D1A	135.00	15.00	1176	18.48	1428
1	5/8" X 5' LIGHTNING ROD	139.00	0.47	21	2.53	48
12	JAHH-65B-R3B (W/PM)	135.00	83.28	1104	102.72	3768
2	RAYCAP RVZDC-6627-PF-48	135.00	5.92	64	6.92	278
1	12' SP1 LP PLATFORM W/HR	135.00	27.02	1385	38.59	2371
6	JAHH-65B-R3B (W/PM)	115.00	41.64	552	51.30	1878
1	12' SP1 LP PLATFORM W/HR	115.00	27.02	1385	38.54	2366
3	CCI/TPA65R-BU8D (W/PM)	105.00	33.84	351	39.06	1353
6	RAYCAP DC6-48-60-0-8C-EV (W/PM)	105.00	24.36	330	35.28	1278
12	ALCATEL-LUCENT RRU 4449 B13 + B5	105.00	16.32	840	20.40	1500
3	SP1 VFA12-HD	105.00	25.20	1974	60.24	3510
3	CCI/TPA65R-BU8D (W/PM)	95.00	33.84	351	39.03	1350
6	RAYCAP DC6-48-60-0-8C-EV (W/PM)	95.00	24.36	330	35.22	1278
12	ALCATEL-LUCENT RRU 4449 B13 + B5	95.00	16.32	840	20.40	1500
3	SP1 VFA12-HD	95.00	25.20	1974	60.12	3504

BY VALMONT INDUSTRIES FOR: VERIZON WIRELESS 139.0' POLE, SITE: WOLCOTT, CT DATE 10/13/2023
Design Id: 537228-P1b IMPAX 26.2.5.1

*** SUMMARY ***

Design Code: TIA-222-H

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

Height Above Base Plate	139'- 0.00"	Dia. at Top of Baseplate (in)	53.000	Pole Shaft Weight (lbs)	23030
		Top Diameter (in)	12.925		
		Pole Taper (in/ft)	0.30000	Shape:	18 Sides

Connections Between Sections	/First/	/Second/	/Third/
Height Above Ground	51'- 9.00"	85'- 0.00"	119'- 0.00"
Type	Slip Joint	Slip Joint	Flange Joint
Overlap Length (in)	68	55	0
Maximum Axial Force (lbs)	52674	43719	10692

Section Characteristics	/First/	/Second/	/Third/	/Fourth/
Base Diameter (in)	53.000	40.050	30.500	18.925
Top Diameter (in)	37.475	28.375	18.925	12.925
Thickness (in)	0.50000	0.43750	0.37500	0.18750
Length	51'- 9.00"	38'-11.00"	38'- 7.00"	20'- 0.00"
Weight (lbs)	12445	6176	3776	632
Yield Strength (ksi)	65.00	65.00	65.00	65.00
Section Shape	18 Sides	18 Sides	18 Sides	18 Sides

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

	Pt. of Fixity	Governing Level Sec.1	Governing Level Sec.2	Governing Level Sec.3	Governing Level Sec.4	Pole Top
Governing Load Case	WIND	WIND	WIND	WIND	WIND	WIND
Height (ft)	0.00	39.00	51.75	85.00	119.00	139.00
Resultant Moment (in-kips)	60021	37436	30503	13406	2084	2
Shear Force (lbs)	50718	45984	44595	41224	11281	38
Axial Force (lbs)	46219	32755	27516	18682	3811	19
Effective Yield Strength (ksi)	81.49	82.55	82.55	82.55	82.54	82.55
Combined Interaction Value	0.77	0.79	0.85	0.76	0.55	0.00
Total Deflection (in)	0.00	8.61	15.65	46.35	96.84	134.13

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

BY VALMONT INDUSTRIES FOR: VERIZON WIRELESS 139.0' POLE, SITE: WOLCOTT, CT DATE 10/13/2023
Design Id: 537228-P1b IMPAX 26.2.5.1

SUMMARY OF SECTION DIMENSIONS AS DETAILED

Height Above Base Plate 139'- 0.00" Dia. at Top of Baseplate (in) 53.000 Pole Shaft Weight (lbs) 23030

Top Diameter (in) 12.925

Pole Taper (in/ft) 0.30000 Shape: 18 Sides

Connections Between Sections	/First/	/Second/	/Third/
Height Above Ground	51'- 9.00"	85'- 0.00"	119'- 0.00"
Type	Slip Joint	Slip Joint	Flange Joint
Flange Thickness (in)			1.500
Weld Root Gap (in)			0.250

Theoretical Design Section Dimensions	/First/	/Second/	/Third/	/Fourth/
Base Diameter (in)	53.000	40.050	30.500	18.925
Top Diameter (in)	37.475	28.375	18.925	12.925
Thickness (in)	0.50000	0.43750	0.37500	0.18750
Length	51'- 9.00"	38'-11.00"	38'- 7.00"	20'- 0.00"

As Detailed Section Characteristics	/First/	/Second/	/Third/	/Fourth/
BasePlate/Flange thk.at Base (in)	2.750	0.000	0.000	1.500
Weld Root Gap at Base (in)	0.000	0.000	0.000	0.250
Base Diameter (in)	53.000	40.050	30.500	18.881
Top Diameter (in)	37.475	28.375	18.969	12.925
Thickness (in)	0.50000	0.43750	0.37500	0.18750
Length	51'- 9.00"	38'-11.00"	38'- 5.25"	19'-10.25"
Taper (in/ft)	0.30000	0.30000	0.30000	0.30000
Weld Root Gap at Top (in)	0.000	0.000	0.250	0.000
BasePlate/Flange thk. at Top (in)	0.000	0.000	1.500	0.000

Note: Diameter are outside, measured across the flats

BY VALMONT INDUSTRIES FOR: VERIZON WIRELESS 139.0' POLE, SITE: WOLCOTT, CT DATE 10/13/2023
Design Id: 537228-P1b IMPAX 26.2.5.1

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

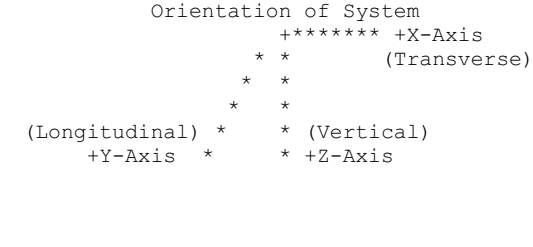
Loading Case Identifier	Moments About X-Axis (in-kips)	Moments About Y-Axis (in-kips)	Moments Resultant (X & Y) (in-kips)	Moments Torsional (in-kips)	Vertical Force (lbs)	Shear In X-Direction (lbs)	Shear In Y-Direction (lbs)	Shear Resultant (X & Y) (lbs)	Notes
WIND	45979	-38581	60021	0	46307	32549	38791	50638	
ICE + WIND	11422	-9584	14910	0	72800	8086	9637	12580	
T+S	9453	-7932	12341	0	37853	6722	8010	10457	
Seismic	1162	-975	1517	0	46908	729	869	1134	
Seismic 2	1148	-963	1498	0	32499	729	869	1134	

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

*** INPUT LOADS ***

Design Code TIA-222-H
Loading Case WIND (1.2 D + 1.0 Wo)

Basic Wind Velocity is 125.00 mph Ice Thickness 0.00
Wind Orientation is 50.0 Degrees Clockwise From +X Axis
Structure Weight Overload Factor is 1.200
Exposure B, Gust Factor 1.10
Risk Category II, Topographic Category 3, Crest Height 552.00 ft
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.00 Degrees
Flange Weight 179 lbs (unfactored) 2 @ 119.0 ft
Elevation of structure base above surrounding terrain = 1.00 ft



Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	EPA (ft^2)	
1	115.00	115.00	0.00	50.00	517	616	306	11.13	3-MT6413-77A
2	115.00	115.00	0.00	50.00	387	462	374	8.34	3-RF4439d-25a
3	115.00	115.00	0.00	50.00	176	209	288	3.78	3-RF4461d-13a
4	105.00	105.00	0.00	50.00	1542	1838	533	33.48	3-DMP65R-BU8D
5	95.00	95.00	0.00	50.00	1526	1819	533	33.48	3-DMP65R-BU8D
6	135.00	135.00	0.00	50.00	705	840	1411	15.00	12-RFV01U-D1A
7	139.00	142.50	0.00	50.00	22	26	25	0.47	1-5/8" x 5' l
8	135.00	135.00	0.00	50.00	3913	4664	1325	83.28	12-JAHH-65B-R3
9	135.00	135.00	0.00	50.00	278	332	77	5.92	2-Raycap RVZD
10	135.00	135.00	0.00	50.00	1270	1513	1662	27.02	1-12' SP1 LP
11	115.00	115.00	0.00	50.00	1934	2305	662	41.64	6-JAHH-65B-R3
12	115.00	115.00	0.00	50.00	1255	1495	1662	27.02	1-12' SP1 LP
13	105.00	105.00	0.00	50.00	1559	1858	421	33.84	3-CCI/TPA65R-
14	105.00	105.00	0.00	50.00	1122	1337	396	24.36	6-Raycap DC6-
15	105.00	105.00	0.00	50.00	752	896	1008	16.32	12-Alcatel-Luc
16	105.00	105.00	0.00	50.00	1161	1383	2369	25.20	3-SP1 VFA12-H
17	95.00	95.00	0.00	50.00	1543	1838	421	33.84	3-CCI/TPA65R-

*** INPUT LOADS ***

Loading Case WIND - Continued

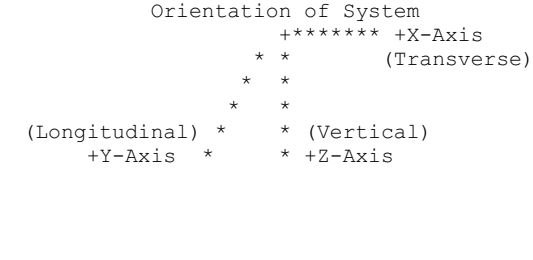
Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Orientation of System Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	EPA (ft^2)	
18	95.00	95.00	0.00	50.00	1110	1323	396	24.36	6-Raycap DC6-
19	95.00	95.00	0.00	50.00	744	887	1008	16.32	12-Alcatel-Luc
20	95.00	95.00	0.00	50.00	1149	1369	2369	25.20	3-SP1 VFA12-H

*** INPUT LOADS ***

Design Code TIA-222-H
Loading Case ICE + WIND (1.2 D + 1.0 Wi + 1.0 Di)

Basic Wind Velocity is 50.00 mph Ice Thickness 1.00
Wind Orientation is 50.0 Degrees Clockwise From +X Axis
Structure Weight Overload Factor is 1.200
Exposure B, Gust Factor 1.10
Risk Category II, Topographic Category 3, Crest Height 552.00 ft
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.00 Degrees
Flange Weight 179 lbs (unfactored) 2 @ 119.0 ft
Elevation of structure base above surrounding terrain = 1.00 ft

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)	EPA (ft^2)	
1	115.00	115.00	0.00	50.00	123	146	612	16.50	3-MT6413-77A
2	115.00	115.00	0.00	50.00	99	118	634	13.32	3-RF4439d-25a
3	115.00	115.00	0.00	50.00	35	41	364	4.65	3-RF4461d-13a
4	105.00	105.00	0.00	50.00	287	341	1224	38.88	3-DMP65R-BU8D
5	95.00	95.00	0.00	50.00	283	338	1224	38.85	3-DMP65R-BU8D
6	135.00	135.00	0.00	50.00	139	166	1714	18.48	12-RFV01U-D1A
7	139.00	142.50	0.00	50.00	19	23	58	2.53	1-5/8" x 5' l
8	135.00	135.00	0.00	50.00	772	920	4522	102.72	12-JAHH-65B-R3
9	135.00	135.00	0.00	50.00	52	62	334	6.92	2-Raycap RVZD
10	135.00	135.00	0.00	50.00	290	346	2845	38.59	1-12' SP1 LP
11	115.00	115.00	0.00	50.00	381	454	2254	51.30	6-JAHH-65B-R3
12	115.00	115.00	0.00	50.00	286	341	2839	38.54	1-12' SP1 LP
13	105.00	105.00	0.00	50.00	288	343	1624	39.06	3-CCI/TPA65R-
14	105.00	105.00	0.00	50.00	260	310	1534	35.28	6-Raycap DC6-
15	105.00	105.00	0.00	50.00	150	179	1800	20.40	12-Alcatel-Luc
16	105.00	105.00	0.00	50.00	444	529	4212	60.24	3-SP1 VFA12-H
17	95.00	95.00	0.00	50.00	285	339	1620	39.03	3-CCI/TPA65R-

*** INPUT LOADS ***

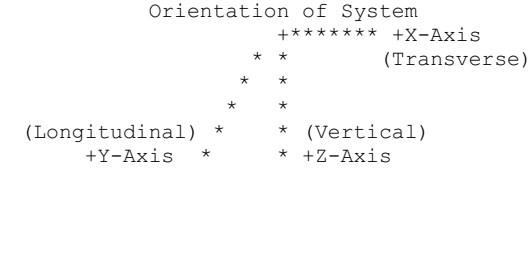
Loading Case ICE + WIND - Continued

Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Orientation of System Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	EPA (ft^2)	
18	95.00	95.00	0.00	50.00	257	306	1534	35.22	6-Raycap DC6-
19	95.00	95.00	0.00	50.00	149	177	1800	20.40	12-Alcatel-Luc
20	95.00	95.00	0.00	50.00	439	523	4205	60.12	3-SP1 VFA12-H

*** INPUT LOADS ***

Design Code TIA-222-H
Loading Case T+S (1.0 D + 1.0 Wo)

Basic Wind Velocity is 60.00 mph Ice Thickness 0.00
Wind Orientation is 50.0 Degrees Clockwise From +X Axis
Structure Weight Overload Factor is 1.000
Exposure B, Gust Factor 1.10
Risk Category II, Topographic Category 3, Crest Height 552.00 ft
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.00 Degrees
Flange Weight 179 lbs (unfactored) 2 @ 119.0 ft
Elevation of structure base above surrounding terrain = 1.00 ft



Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	EPA (ft^2)	
1	115.00	115.00	0.00	50.00	107	127	255	11.13	3-MT6413-77A
2	115.00	115.00	0.00	50.00	80	95	312	8.34	3-RF4439d-25a
3	115.00	115.00	0.00	50.00	36	43	240	3.78	3-RF4461d-13a
4	105.00	105.00	0.00	50.00	318	379	444	33.48	3-DMP65R-BU8D
5	95.00	95.00	0.00	50.00	315	375	444	33.48	3-DMP65R-BU8D
6	135.00	135.00	0.00	50.00	145	173	1176	15.00	12-RFV01U-D1A
7	139.00	142.50	0.00	50.00	5	5	21	0.47	1-5/8" x 5' l
8	135.00	135.00	0.00	50.00	807	961	1104	83.28	12-JAHH-65B-R3
9	135.00	135.00	0.00	50.00	57	68	64	5.92	2-Raycap RVZD
10	135.00	135.00	0.00	50.00	262	312	1385	27.02	1-12' SP1 LP
11	115.00	115.00	0.00	50.00	399	475	552	41.64	6-JAHH-65B-R3
12	115.00	115.00	0.00	50.00	259	308	1385	27.02	1-12' SP1 LP
13	105.00	105.00	0.00	50.00	321	383	351	33.84	3-CCI/TPA65R-
14	105.00	105.00	0.00	50.00	231	276	330	24.36	6-Raycap DC6-
15	105.00	105.00	0.00	50.00	155	185	840	16.32	12-Alcatel-Luc
16	105.00	105.00	0.00	50.00	239	285	1974	25.20	3-SP1 VFA12-H
17	95.00	95.00	0.00	50.00	318	379	351	33.84	3-CCI/TPA65R-

*** INPUT LOADS ***

Loading Case T+S - Continued

Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Orientation of System Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	EPA (ft^2)	
18	95.00	95.00	0.00	50.00	229	273	330	24.36	6-Raycap DC6-
19	95.00	95.00	0.00	50.00	153	183	840	16.32	12-Alcatel-Luc
20	95.00	95.00	0.00	50.00	237	282	1974	25.20	3-SP1 VFA12-H

*** INPUT LOADS ***

Design Code TIA-222-H
Loading Case Seismic (1.2 D + 1.0 Ev + 1.0 Eh)
Seismic analysis following the Equivalent Lateral Force Procedure
Risk Category: II
Site Class: D
Response Acceleration at short periods: 0.19
Response Acceleration at one second: 0.05
The above are used to obtain the acceleration and velocity based site coefficients Fa and Fv
Foundation Rotation of 0.00 Degrees
Flange Weight 179 lbs (unfactored) 2 @ 119.0 ft
Elevation of structure base above surrounding terrain = 1.00 ft

Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	EPA (ft^2)	
1	115.00	115.00	0.00	50.00	0	0	306	11.13	3-MT6413-77A
2	115.00	115.00	0.00	50.00	0	0	374	8.34	3-RF4439d-25a
3	115.00	115.00	0.00	50.00	0	0	288	3.78	3-RF4461d-13a
4	105.00	105.00	0.00	50.00	0	0	533	33.48	3-DMP65R-BU8D
5	95.00	95.00	0.00	50.00	0	0	533	33.48	3-DMP65R-BU8D
6	135.00	135.00	0.00	50.00	0	0	1411	15.00	12-RFV01U-D1A
7	139.00	142.50	0.00	50.00	0	0	25	0.47	1-5/8" x 5' l
8	135.00	135.00	0.00	50.00	0	0	1325	83.28	12-JAHH-65B-R3
9	135.00	135.00	0.00	50.00	0	0	77	5.92	2-Raycap RVZD
10	135.00	135.00	0.00	50.00	0	0	1662	27.02	1-12' SP1 LP
11	115.00	115.00	0.00	50.00	0	0	662	41.64	6-JAHH-65B-R3
12	115.00	115.00	0.00	50.00	0	0	1662	27.02	1-12' SP1 LP
13	105.00	105.00	0.00	50.00	0	0	421	33.84	3-CCI/TPA65R-
14	105.00	105.00	0.00	50.00	0	0	396	24.36	6-Raycap DC6-
15	105.00	105.00	0.00	50.00	0	0	1008	16.32	12-Alcatel-Luc
16	105.00	105.00	0.00	50.00	0	0	2369	25.20	3-SP1 VFA12-H
17	95.00	95.00	0.00	50.00	0	0	421	33.84	3-CCI/TPA65R-

*** INPUT LOADS ***

Loading Case Seismic - Continued

Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Orientation of System Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	EPA (ft^2)	
18	95.00	95.00	0.00	50.00	0	0	396	24.36	6-Raycap DC6-
19	95.00	95.00	0.00	50.00	0	0	1008	16.32	12-Alcatel-Luc
20	95.00	95.00	0.00	50.00	0	0	2369	25.20	3-SP1 VFA12-H

*** INPUT LOADS ***

Design Code TIA-222-H
Loading Case Seismic 2 (0.9 D - 1.0 Ev + 1.0 Eh)
Seismic analysis following the Equivalent Lateral Force Procedure
Risk Category: II
Site Class: D
Response Acceleration at short periods: 0.19
Response Acceleration at one second: 0.05
The above are used to obtain the acceleration and velocity based site coefficients Fa and Fv
Foundation Rotation of 0.00 Degrees
Flange Weight 179 lbs (unfactored) 2 @ 119.0 ft
Elevation of structure base above surrounding terrain = 1.00 ft

Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	EPA (ft^2)	
1	115.00	115.00	0.00	50.00	0	0	230	11.13	3-MT6413-77A
2	115.00	115.00	0.00	50.00	0	0	281	8.34	3-RF4439d-25a
3	115.00	115.00	0.00	50.00	0	0	216	3.78	3-RF4461d-13a
4	105.00	105.00	0.00	50.00	0	0	400	33.48	3-DMP65R-BU8D
5	95.00	95.00	0.00	50.00	0	0	400	33.48	3-DMP65R-BU8D
6	135.00	135.00	0.00	50.00	0	0	1058	15.00	12-RFV01U-D1A
7	139.00	142.50	0.00	50.00	0	0	19	0.47	1-5/8" x 5' l
8	135.00	135.00	0.00	50.00	0	0	994	83.28	12-JAHH-65B-R3
9	135.00	135.00	0.00	50.00	0	0	58	5.92	2-Raycap RVZD
10	135.00	135.00	0.00	50.00	0	0	1247	27.02	1-12' SP1 LP
11	115.00	115.00	0.00	50.00	0	0	497	41.64	6-JAHH-65B-R3
12	115.00	115.00	0.00	50.00	0	0	1247	27.02	1-12' SP1 LP
13	105.00	105.00	0.00	50.00	0	0	316	33.84	3-CCI/TPA65R-
14	105.00	105.00	0.00	50.00	0	0	297	24.36	6-Raycap DC6-
15	105.00	105.00	0.00	50.00	0	0	756	16.32	12-Alcatel-Luc
16	105.00	105.00	0.00	50.00	0	0	1777	25.20	3-SP1 VFA12-H
17	95.00	95.00	0.00	50.00	0	0	316	33.84	3-CCI/TPA65R-

*** INPUT LOADS ***

Loading Case Seismic 2 - Continued

Load Number	Mounting Height	Load Height	Load Eccentricity	Orientation in XY Plane (Degrees)	Orientation of System Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	EPA (ft^2)	
18	95.00	95.00	0.00	50.00	0	0	297	24.36	6-Raycap DC6-
19	95.00	95.00	0.00	50.00	0	0	756	16.32	12-Alcatel-Luc
20	95.00	95.00	0.00	50.00	0	0	1777	25.20	3-SP1 VFA12-H

Equivalent Lateral Force Values for Pole

W = 37,813 lbs
Cs = 0.03
Vs = 1,134 lbs
Sds = 0.20
Ev = 1,533 lbs
Fa = 1.60
Fv = 2.40
k = 2.00
f1 = 0.36 Hz

Distance From Fixity H (ft)	Weight Wx (lbs)	H^k	H^k * Wx	Load Distribution Factor	Lateral Seismic Force Fx (lbs)
139.00	21	19,321.00	405,741	0.0015	2
137.00	107	18,769.00	2,008,816	0.0074	8
135.00	3,729	18,225.00	67,961,025	0.2490	282
134.50	28	18,090.25	511,517	0.0019	2
133.67	19	17,866.78	342,829	0.0013	1
133.33	2	17,777.78	35,556	0.0001	0
131.17	131	17,204.69	2,259,041	0.0083	9
128.38	40	16,480.14	659,140	0.0024	3
127.75	3	16,320.06	48,960	0.0002	0
125.88	126	15,844.52	1,991,392	0.0073	8
123.04	68	15,139.25	1,022,463	0.0037	4
122.08	2	14,904.34	29,809	0.0001	0
120.54	113	14,530.29	1,646,713	0.0060	7
119.00	358	14,161.00	5,069,638	0.0186	21
117.50	229	13,806.25	3,158,425	0.0116	13
116.00	2	13,456.00	26,912	0.0001	0
115.50	79	13,340.25	1,049,690	0.0038	4
115.00	2,744	13,225.00	36,289,400	0.1330	151
114.50	80	13,110.25	1,047,521	0.0038	4
112.46	254	12,646.88	3,212,431	0.0118	13
110.92	3	12,302.51	36,907	0.0001	0
109.96	164	12,090.84	1,979,510	0.0073	8
107.00	356	11,449.00	4,076,460	0.0149	17
105.00	3,939	11,025.00	43,427,475	0.1591	181
104.83	31	10,990.03	335,731	0.0012	1
104.67	4	10,955.11	43,820	0.0002	0
104.33	62	10,885.44	669,480	0.0025	3
101.50	478	10,302.25	4,929,419	0.0181	20
99.00	2	9,801.00	19,602	0.0001	0
97.00	405	9,409.00	3,807,389	0.0140	16
95.00	3,939	9,025.00	35,549,475	0.1303	148
94.50	104	8,930.25	930,541	0.0034	4
93.71	61	8,781.25	538,686	0.0020	2

Equivalent Lateral Force Values for Pole

Distance From Fixity H (ft)	Weight Wx (lbs)	H^k	H^k * Wx	Load Distribution Factor	Lateral Seismic Force Fx (lbs)
93.42	3	8,726.67	26,180	0.0001	0
91.21	478	8,318.96	3,975,506	0.0146	17
88.08	205	7,758.67	1,593,075	0.0058	7
87.17	4	7,598.03	30,392	0.0001	0
86.08	248	7,410.34	1,837,214	0.0067	8
84.50	248	7,140.25	1,772,070	0.0065	7
82.46	782	6,799.38	5,315,717	0.0195	22
80.92	2	6,547.51	13,095	0.0000	0
80.67	129	6,507.11	840,301	0.0031	3
79.71	196	6,353.42	1,247,688	0.0046	5
76.54	704	5,858.63	4,122,280	0.0151	17
74.08	2	5,488.34	10,977	0.0000	0
72.81	377	5,301.66	1,999,649	0.0073	8
70.27	386	4,937.99	1,907,701	0.0070	8
68.42	180	4,680.84	844,418	0.0031	4
67.83	4	4,601.36	18,405	0.0001	0
65.92	606	4,345.01	2,634,479	0.0097	11
62.79	393	3,942.79	1,549,330	0.0057	6
61.58	2	3,792.51	7,585	0.0000	0
60.29	429	3,635.09	1,560,205	0.0057	6
57.17	625	3,268.03	2,043,954	0.0075	8
55.33	2	3,061.78	6,124	0.0000	0
54.67	232	2,988.44	693,790	0.0025	3
52.88	397	2,795.77	1,111,262	0.0041	5
50.42	1,016	2,541.84	2,581,644	0.0095	11
49.08	2	2,409.17	4,818	0.0000	0
47.58	1,168	2,264.17	2,645,541	0.0097	11
45.04	436	2,028.75	885,200	0.0032	4
43.63	159	1,903.14	302,217	0.0011	1
43.25	2	1,870.56	3,741	0.0000	0
41.13	917	1,691.27	1,551,016	0.0057	6
38.00	442	1,444.00	637,799	0.0023	3
37.00	4	1,369.00	5,476	0.0000	0
35.50	675	1,260.25	850,271	0.0031	4
32.38	747	1,048.14	783,339	0.0029	3
30.75	2	945.56	1,891	0.0000	0
29.88	410	892.52	365,496	0.0013	2
26.75	1,076	715.56	769,812	0.0028	3
24.50	2	600.25	1,201	0.0000	0
24.25	122	588.06	71,485	0.0003	0
21.50	1,238	462.25	572,207	0.0021	2
18.63	189	346.89	65,623	0.0002	0
18.25	2	333.06	666	0.0000	0

Equivalent Lateral Force Values for Pole

Distance From Fixity H (ft)	Weight Wx (lbs)	H^k	H^k * Wx	Load Distribution Factor	Lateral Seismic Force Fx (lbs)
16.13	1,089	260.02	283,209	0.0010	1
13.00	523	169.00	88,335	0.0003	0
12.00	2	144.00	288	0.0000	0
10.50	796	110.25	87,779	0.0003	0
6.50	1,359	42.25	57,434	0.0002	0
2.00	1,117	4.00	4,467	0.0000	0

*** 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 4	139.00	12.925	0.1875	68.93	10.39	155	7.58
	135.00	14.125	0.1875	75.33	11.52	203	8.29
	134.00	14.425	0.1875	76.93	11.80	217	8.47
	133.33	14.625	0.1875	78.00	11.99	226	8.59
	129.00	15.925	0.1875	84.93	13.21	293	9.37
	127.75	16.300	0.1875	86.93	13.57	314	9.59
	124.00	17.425	0.1875	92.93	14.62	385	10.26
	122.08	18.000	0.1875	96.00	15.16	425	10.60
	119.00	18.925	0.1875	100.93	16.03	494	11.15
Top of Sect 3	119.00	18.925	0.3750	50.47	7.14	960	22.08
	116.00	19.825	0.3750	52.87	7.56	1106	23.15
	115.00	20.125	0.3750	53.67	7.70	1158	23.51
	114.00	20.425	0.3750	54.47	7.84	1212	23.86
	110.92	21.350	0.3750	56.93	8.28	1387	24.96
	109.00	21.925	0.3750	58.47	8.55	1505	25.65
	105.00	23.125	0.3750	61.67	9.11	1770	27.08
	104.67	23.225	0.3750	61.93	9.16	1794	27.20
	104.00	23.425	0.3750	62.47	9.25	1841	27.43
	99.00	24.925	0.3750	66.47	9.96	2224	29.22
	95.00	26.125	0.3750	69.67	10.52	2567	30.65
	94.00	26.425	0.3750	70.47	10.66	2657	31.00
	93.42	26.600	0.3750	70.93	10.74	2711	31.21
	89.00	27.925	0.3750	74.47	11.37	3143	32.79
	87.17	28.475	0.3750	75.93	11.63	3335	33.44
	85.00	29.125	0.3750	77.67	11.93	3572	34.22
Top of Sect 2	85.00	28.375	0.4375	64.86	9.67	3824	38.79
	84.00	28.675	0.4375	65.54	9.79	3949	39.21
	80.92	29.600	0.4375	67.66	10.17	4350	40.49
Base of Sect 3	80.42	29.750	0.4375	68.00	10.23	4417	40.70
	79.00	30.175	0.4375	68.97	10.40	4612	41.29
	74.08	31.650	0.4375	72.34	10.99	5333	43.34
	71.54	32.413	0.4375	74.09	11.30	5733	44.40
	69.00	33.175	0.4375	75.83	11.61	6153	45.46
	67.83	33.525	0.4375	76.63	11.75	6353	45.94
	64.00	34.675	0.4375	79.26	12.21	7039	47.54
	61.58	35.400	0.4375	80.91	12.50	7495	48.55
	59.00	36.175	0.4375	82.69	12.82	8005	49.62
	55.33	37.275	0.4375	85.20	13.26	8767	51.15

*** 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)
	54.00	37.675	0.4375	86.11	13.42	9056	51.71
	51.75	38.350	0.4375	87.66	13.69	9557	52.64
Top of Sect 1	51.75	37.475	0.5000	74.95	11.45	10132	58.68
	49.08	38.275	0.5000	76.55	11.73	10804	59.95
Base of Sect 2	46.08	39.175	0.5000	78.35	12.05	11595	61.38
	44.00	39.800	0.5000	79.60	12.27	12166	62.37
	43.25	40.025	0.5000	80.05	12.35	12376	62.72
	39.00	41.300	0.5000	82.60	12.80	13613	64.75
	37.00	41.900	0.5000	83.80	13.01	14222	65.70
	34.00	42.800	0.5000	85.60	13.33	15170	67.13
	30.75	43.775	0.5000	87.55	13.67	16243	68.67
	29.00	44.300	0.5000	88.60	13.86	16842	69.51
	24.50	45.650	0.5000	91.30	14.34	18448	71.65
	24.00	45.800	0.5000	91.60	14.39	18632	71.89
	19.00	47.300	0.5000	94.60	14.92	20545	74.27
	18.25	47.525	0.5000	95.05	15.00	20843	74.63
	14.00	48.800	0.5000	97.60	15.45	22584	76.65
	12.00	49.400	0.5000	98.80	15.66	23436	77.60
	9.00	50.300	0.5000	100.60	15.98	24754	79.03
	4.00	51.800	0.5000	103.60	16.50	27059	81.41
Pt of Fixity	0.00	53.000	0.5000	106.00	16.93	29003	83.31

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 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)
139.00	1	-1	2	0	24	29	38	19
135.00	6	-5	7	0	132	157	205	146
135.00	6	-5	7	0	6681	7962	10393	3019
134.00	101	-85	132	0	6709	7995	10437	3054
133.33	165	-139	216	0	6728	8018	10467	3077
133.33	165	-139	216	0	6740	8032	10485	3095
129.00	587	-493	767	0	6869	8186	10686	3276
127.75	710	-596	927	0	6910	8235	10751	3323
127.75	710	-596	927	0	6923	8251	10771	3358
124.00	1085	-911	1417	0	7048	8399	10964	3552
122.08	1280	-1074	1670	0	7121	8486	11078	3632
122.08	1280	-1074	1670	0	7127	8494	11088	3676
119.00	1597	-1340	2084	0	7252	8642	11281	3811
119.00	1597	-1340	2084	0	7281	8677	11327	4281
116.00	1912	-1604	2496	0	7419	8842	11543	4553
116.00	1912	-1604	2496	0	7434	8860	11565	4572
115.00	2019	-1694	2635	0	7482	8917	11640	4666
115.00	2019	-1694	2635	0	11999	14300	18668	7019
114.00	2191	-1838	2859	0	12039	14348	18729	7152
110.92	2725	-2286	3557	0	12196	14534	18973	7454
110.92	2725	-2286	3557	0	12203	14543	18985	7503
109.00	3061	-2568	3995	0	12288	14645	19117	7760
105.00	3770	-3163	4921	0	12511	14910	19463	8184
105.00	3770	-3163	4921	0	18971	22609	29514	11697
104.67	3860	-3239	5040	0	18991	22632	29544	11733
104.67	3860	-3239	5040	0	19009	22655	29573	11750
104.00	4042	-3392	5276	0	19021	22668	29591	11928
99.00	5413	-4542	7066	0	19322	23027	30060	12498
99.00	5413	-4542	7066	0	19295	22994	30017	12672
95.00	6524	-5474	8516	0	19550	23299	30414	13154
95.00	6524	-5474	8516	0	25902	30869	40297	16867
94.00	6895	-5785	9000	0	25956	30933	40380	17036
93.42	7111	-5967	9283	0	25995	30979	40441	17109
93.42	7111	-5967	9283	0	25975	30956	40410	17256
89.00	8762	-7352	11437	0	26223	31252	40797	18015
87.17	9451	-7930	12337	0	26353	31406	40998	18260
87.17	9451	-7930	12337	0	26342	31393	40981	18386
85.00	10269	-8617	13406	0	26498	31579	41224	18682
85.00	10269	-8617	13406	0	26469	31545	41179	18781
84.00	10649	-8935	13901	0	26516	31600	41251	19200

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 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)
80.92	11824	-9921	15435	0	26776	31911	41656	20134
80.92	11824	-9921	15435	0	26759	31890	41630	20243
80.42	12015	-10082	15685	0	26784	31919	41668	20456
79.00	12559	-10538	16394	0	26828	31973	41737	20885
74.08	14459	-12132	18874	0	27209	32427	42330	21726
74.08	14459	-12132	18874	0	27149	32355	42237	21957
71.54	15449	-12963	20167	0	27299	32533	42469	22565
69.00	16445	-13799	21468	0	27466	32732	42729	23142
67.83	16904	-14184	22067	0	27562	32847	42879	23358
67.83	16904	-14184	22067	0	27534	32814	42836	23513
64.00	18422	-15458	24049	0	27786	33114	43228	24430
61.58	19386	-16267	25307	0	27993	33361	43549	24900
61.58	19386	-16267	25307	0	27952	33312	43485	25053
59.00	20423	-17137	26660	0	28105	33494	43724	25755
55.33	21905	-18381	28595	0	28428	33880	44227	26504
55.33	21905	-18381	28595	0	28385	33828	44160	26655
54.00	22448	-18836	29303	0	28463	33921	44280	27039
51.75	23367	-19607	30503	0	28665	34162	44595	27516
51.75	23367	-19607	30503	0	28609	34095	44508	27655
49.08	24463	-20527	31934	0	28873	34409	44918	28873
49.08	24463	-20527	31934	0	28823	34350	44840	29029
46.08	25706	-21570	33557	0	29061	34634	45211	30568
44.00	26575	-22299	34691	0	29217	34820	45454	31167
43.25	26888	-22562	35100	0	29286	34901	45560	31358
43.25	26888	-22562	35100	0	29243	34850	45493	31491
39.00	28677	-24063	37436	0	29558	35226	45984	32755
37.00	29526	-24775	38543	0	29743	35446	46272	33285
37.00	29526	-24775	38543	0	29711	35408	46221	33417
34.00	30806	-25849	40215	0	29912	35648	46536	34386
30.75	32203	-27022	42039	0	30212	36006	47002	35282
30.75	32203	-27022	42039	0	30164	35948	46927	35411
29.00	32960	-27657	43027	0	30250	36050	47060	36056
24.50	34921	-29302	45586	0	30668	36549	47712	37346
24.50	34921	-29302	45586	0	30619	36491	47635	37472
24.00	35140	-29486	45872	0	30600	36467	47605	37749
19.00	37345	-31336	48750	0	31009	36955	48242	39373
18.25	37678	-31616	49185	0	31083	37043	48357	39600
18.25	37678	-31616	49185	0	31035	36986	48282	39718
14.00	39577	-33209	51664	0	31380	37398	48819	41171
12.00	40478	-33965	52840	0	31584	37641	49136	41798

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case 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)
12.00	40478	-33965	52840	0	31536	37584	49062	41914
9.00	41837	-35106	54615	0	31747	37835	49390	43049
4.00	44126	-37026	57603	0	32164	38331	50038	44879
0.00	45979	-38581	60021	0	32601	38852	50718	46219

Deflections for Pole

Loading Case WIND

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)
139.00	86.2	102.7	134.1	7.6	9.27
135.00	81.2	96.8	126.4	7.0	9.26
135.00	81.2	96.8	126.4	7.0	9.26
134.00	80.0	95.3	124.5	6.8	9.26
133.33	79.2	94.4	123.2	6.7	9.24
133.33	79.2	94.4	123.2	6.7	9.24
129.00	73.9	88.0	114.9	6.1	9.05
127.75	72.3	86.2	112.6	5.9	8.97
127.75	72.3	86.2	112.6	5.9	8.97
124.00	67.9	80.9	105.6	5.3	8.67
122.08	65.7	78.3	102.2	5.1	8.49
122.08	65.7	78.3	102.2	5.1	8.49
119.00	62.2	74.2	96.8	4.7	8.20
119.00	62.2	74.2	96.8	4.7	8.20
116.00	59.0	70.3	91.8	4.3	8.04
116.00	59.0	70.3	91.8	4.3	8.04
115.00	57.9	69.0	90.1	4.2	7.99
115.00	57.9	69.0	90.1	4.2	7.99
114.00	56.8	67.7	88.4	4.1	7.93
110.92	53.6	63.9	83.4	3.7	7.75
110.92	53.6	63.9	83.4	3.7	7.75
109.00	51.6	61.5	80.3	3.5	7.63
105.00	47.6	56.7	74.0	3.1	7.37
105.00	47.6	56.7	74.0	3.1	7.37
104.67	47.3	56.3	73.5	3.1	7.35
104.67	47.3	56.3	73.5	3.1	7.35
104.00	46.6	55.5	72.5	3.0	7.31
99.00	41.8	49.8	65.0	2.6	6.95
99.00	41.8	49.8	65.0	2.6	6.95
95.00	38.2	45.5	59.4	2.2	6.64
95.00	38.2	45.5	59.4	2.2	6.64
94.00	37.3	44.4	58.0	2.1	6.56
93.42	36.8	43.8	57.2	2.1	6.51
93.42	36.8	43.8	57.2	2.1	6.51
89.00	33.0	39.3	51.3	1.8	6.14
87.17	31.5	37.5	49.0	1.6	5.98
87.17	31.5	37.5	49.0	1.6	5.98
85.00	29.8	35.5	46.3	1.5	5.79
85.00	29.8	35.5	46.3	1.5	5.79
84.00	29.0	34.6	45.1	1.4	5.71
80.92	26.7	31.8	41.6	1.3	5.45

Deflections for Pole

Loading Case WIND

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)
80.92	26.7	31.8	41.6	1.3	5.45
80.42	26.3	31.4	41.0	1.2	5.41
79.00	25.3	30.2	39.4	1.2	5.29
74.08	22.0	26.2	34.2	0.9	4.87
74.08	22.0	26.2	34.2	0.9	4.87
71.54	20.3	24.2	31.6	0.8	4.66
69.00	18.8	22.4	29.2	0.7	4.45
67.83	18.1	21.6	28.1	0.7	4.35
67.83	18.1	21.6	28.1	0.7	4.35
64.00	15.9	19.0	24.8	0.6	4.04
61.58	14.6	17.4	22.8	0.5	3.85
61.58	14.6	17.4	22.8	0.5	3.85
59.00	13.3	15.9	20.8	0.4	3.64
55.33	11.6	13.8	18.1	0.4	3.35
55.33	11.6	13.8	18.1	0.4	3.35
54.00	11.0	13.1	17.1	0.3	3.25
51.75	10.1	12.0	15.7	0.3	3.08
51.75	10.1	12.0	15.7	0.3	3.08
49.08	9.0	10.7	14.0	0.2	2.89
49.08	9.0	10.7	14.0	0.2	2.89
46.08	7.9	9.4	12.2	0.2	2.68
44.00	7.1	8.5	11.1	0.2	2.54
43.25	6.9	8.2	10.7	0.2	2.49
43.25	6.9	8.2	10.7	0.2	2.49
39.00	5.5	6.6	8.6	0.1	2.21
37.00	5.0	5.9	7.7	0.1	2.08
37.00	5.0	5.9	7.7	0.1	2.08
34.00	4.2	4.9	6.5	0.1	1.89
30.75	3.4	4.0	5.2	0.1	1.69
30.75	3.4	4.0	5.2	0.1	1.69
29.00	3.0	3.6	4.6	0.0	1.58
24.50	2.1	2.5	3.3	0.0	1.31
24.50	2.1	2.5	3.3	0.0	1.31
24.00	2.0	2.4	3.1	0.0	1.28
19.00	1.3	1.5	1.9	0.0	1.00
18.25	1.2	1.4	1.8	0.0	0.96
18.25	1.2	1.4	1.8	0.0	0.96
14.00	0.7	0.8	1.0	0.0	0.72
12.00	0.5	0.6	0.8	0.0	0.61
12.00	0.5	0.6	0.8	0.0	0.61
9.00	0.3	0.3	0.4	0.0	0.46
4.00	0.1	0.1	0.1	0.0	0.20
0.00	0.0	0.0	0.0	0.0	0.00

Stresses for Pole

Loading Case WIND

Distance From Base (ft)	Nominal Axial Strength (lbs)	Nominal Flexural Strength (in-kips)	Nominal Shear Strength (lbs)	Nominal Torsional Strength (in-kips)	Axial Interaction Term	Flexural Interaction Term	Shear Interaction Term	Torsion Interaction Term	Combined Stress Interaction
139.00	492,709	1,954	147,813	1,875	0.00	0.00	0.00	0.00	0.01
135.00	539,127	2,342	161,738	2,244	0.01	0.00	0.07	0.00	0.01
134.00	550,731	2,445	165,219	2,342	0.01	0.06	0.07	0.00	0.07
133.33	558,467	2,515	167,540	2,408	0.01	0.10	0.07	0.00	0.11
129.00	608,754	2,991	182,626	2,862	0.01	0.28	0.07	0.00	0.30
127.75	623,259	3,136	186,978	2,999	0.01	0.33	0.06	0.00	0.34
124.00	666,776	3,592	200,033	3,433	0.01	0.44	0.06	0.00	0.45
122.08	689,018	3,837	206,706	3,666	0.01	0.48	0.06	0.00	0.49
119.00	724,799	4,248	217,440	4,056	0.01	0.55	0.06	0.00	0.55
119.00	1,435,092	8,244	430,528	7,951	0.00	0.28	0.03	0.00	0.29
116.00	1,504,719	9,072	451,416	8,742	0.00	0.31	0.03	0.00	0.31
115.00	1,527,928	9,357	458,379	9,013	0.01	0.31	0.05	0.00	0.32
114.00	1,551,137	9,646	465,341	9,289	0.01	0.33	0.04	0.00	0.34
110.92	1,622,699	10,565	486,810	10,166	0.01	0.37	0.04	0.00	0.38
109.00	1,667,183	11,157	500,155	10,731	0.01	0.40	0.04	0.00	0.40
105.00	1,760,019	12,445	528,006	11,960	0.01	0.44	0.06	0.00	0.45
104.67	1,767,755	12,556	530,327	12,065	0.01	0.45	0.06	0.00	0.46
104.00	1,783,228	12,779	534,968	12,277	0.01	0.46	0.06	0.00	0.47
99.00	1,899,273	14,510	569,782	13,927	0.01	0.54	0.06	0.00	0.55
95.00	1,992,109	15,974	597,633	15,322	0.01	0.59	0.07	0.00	0.61
94.00	2,015,318	16,351	604,595	15,681	0.01	0.61	0.07	0.00	0.63
93.42	2,028,857	16,573	608,657	15,892	0.01	0.62	0.07	0.00	0.64
89.00	2,131,363	18,302	639,409	17,539	0.01	0.69	0.07	0.00	0.71
87.17	2,173,913	19,045	652,174	18,246	0.01	0.72	0.07	0.00	0.73
85.00	2,224,200	19,943	667,260	19,100	0.01	0.75	0.07	0.00	0.76
85.00	2,521,565	21,914	756,470	21,041	0.01	0.68	0.06	0.00	0.69
84.00	2,548,643	22,391	764,593	21,496	0.01	0.69	0.06	0.00	0.70
80.92	2,632,131	23,893	789,639	22,927	0.01	0.72	0.06	0.00	0.73
80.42	2,645,669	24,141	793,701	23,164	0.01	0.72	0.06	0.00	0.73
79.00	2,684,029	24,852	805,209	23,840	0.01	0.73	0.06	0.00	0.74
74.08	2,817,158	27,397	845,147	26,264	0.01	0.77	0.06	0.00	0.78
71.54	2,885,980	28,761	865,794	27,563	0.01	0.78	0.05	0.00	0.79
69.00	2,954,801	30,158	886,440	28,893	0.01	0.79	0.05	0.00	0.80
67.83	2,986,391	30,811	895,917	29,514	0.01	0.80	0.05	0.00	0.81
64.00	3,090,187	33,004	927,056	31,601	0.01	0.81	0.05	0.00	0.82
61.58	3,155,623	34,426	946,687	32,954	0.01	0.82	0.05	0.00	0.83
59.00	3,225,573	35,978	967,672	34,431	0.01	0.82	0.05	0.00	0.83
55.33	3,324,856	38,241	997,457	36,583	0.01	0.83	0.05	0.00	0.84
54.00	3,360,959	39,081	1,008,288	37,382	0.01	0.83	0.05	0.00	0.84

Stresses for Pole

Loading Case WIND

Distance From Base (ft)	Nominal Axial Strength (lbs)	Nominal Flexural Strength (in-kips)	Nominal Shear Strength (lbs)	Nominal Torsional Strength (in-kips)	Axial Interaction Term	Flexural Interaction Term	Shear Interaction Term	Torsion Interaction Term	Combined Stress Interaction
51.75	3,421,883	40,519	1,026,565	38,749	0.01	0.84	0.05	0.00	0.85
51.75	3,814,019	43,960	1,144,206	42,122	0.01	0.77	0.04	0.00	0.78
49.08	3,896,540	45,896	1,168,962	43,964	0.01	0.77	0.04	0.00	0.78
46.08	3,989,376	48,123	1,196,813	46,084	0.01	0.77	0.04	0.00	0.79
44.00	4,053,845	49,701	1,216,154	47,586	0.01	0.78	0.04	0.00	0.79
43.25	4,077,054	50,275	1,223,116	48,132	0.01	0.78	0.04	0.00	0.79
39.00	4,208,572	53,592	1,262,572	51,288	0.01	0.78	0.04	0.00	0.79
37.00	4,270,463	55,189	1,281,139	52,807	0.01	0.78	0.04	0.00	0.79
34.00	4,363,299	57,630	1,308,990	55,128	0.01	0.78	0.04	0.00	0.79
30.75	4,463,872	60,333	1,339,162	57,699	0.01	0.77	0.04	0.00	0.78
29.00	4,518,026	61,814	1,355,408	59,107	0.01	0.77	0.04	0.00	0.78
24.50	4,657,280	65,705	1,397,184	62,807	0.01	0.77	0.04	0.00	0.78
24.00	4,672,753	66,145	1,401,826	63,225	0.01	0.77	0.04	0.00	0.78
19.00	4,827,480	70,622	1,448,244	67,481	0.01	0.77	0.04	0.00	0.78
18.25	4,850,689	71,306	1,455,207	68,132	0.01	0.77	0.04	0.00	0.78
14.00	4,982,207	75,246	1,494,662	71,876	0.01	0.76	0.04	0.00	0.77
12.00	5,044,098	77,137	1,513,229	73,673	0.01	0.76	0.04	0.00	0.77
9.00	5,136,934	80,017	1,541,080	76,410	0.01	0.76	0.04	0.00	0.77
4.00	5,291,661	84,357	1,587,498	81,082	0.01	0.76	0.04	0.00	0.77
0.00	5,415,442	87,832	1,624,633	84,920	0.01	0.76	0.03	0.00	0.77

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case ICE + 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)
139.00	1	-1	1	0	21	24	32	56
135.00	4	-3	5	0	71	85	111	275
135.00	4	-3	5	0	1565	1865	2434	9603
134.00	26	-22	34	0	1577	1880	2454	9661
133.33	41	-35	54	0	1586	1891	2468	9700
133.33	41	-35	54	0	1584	1887	2464	9704
129.00	141	-118	184	0	1640	1955	2552	9973
127.75	171	-143	223	0	1659	1977	2580	10054
127.75	171	-143	223	0	1654	1971	2573	10060
124.00	261	-219	341	0	1704	2030	2650	10319
122.08	308	-258	402	0	1734	2066	2697	10456
122.08	308	-258	402	0	1727	2058	2687	10461
119.00	385	-323	503	0	1777	2118	2765	10692
119.00	385	-323	503	0	1780	2122	2770	11124
116.00	463	-388	604	0	1834	2186	2853	11494
116.00	463	-388	604	0	1831	2182	2848	11498
115.00	489	-410	638	0	1849	2203	2876	11625
115.00	489	-410	638	0	2918	3478	4540	18274
114.00	531	-446	693	0	2931	3493	4560	18406
110.92	662	-555	864	0	2989	3563	4651	18816
110.92	662	-555	864	0	2982	3554	4639	18823
109.00	744	-624	971	0	3009	3586	4682	19091
105.00	918	-770	1199	0	3090	3682	4807	19667
105.00	918	-770	1199	0	4723	5628	7347	29987
104.67	941	-789	1228	0	4730	5637	7358	30036
104.67	941	-789	1228	0	4727	5633	7354	30042
104.00	986	-827	1287	0	4724	5630	7349	30148
99.00	1327	-1114	1733	0	4830	5756	7514	30921
99.00	1327	-1114	1733	0	4802	5722	7470	30934
95.00	1605	-1346	2095	0	4890	5827	7607	31587
95.00	1605	-1346	2095	0	6475	7717	10073	41909
94.00	1697	-1424	2216	0	6490	7735	10097	42080
93.42	1752	-1470	2287	0	6503	7750	10117	42179
93.42	1752	-1470	2287	0	6479	7721	10080	42192
89.00	2164	-1816	2825	0	6549	7805	10189	42975
87.17	2336	-1960	3050	0	6592	7856	10256	43306
87.17	2336	-1960	3050	0	6571	7831	10223	43319
85.00	2541	-2132	3317	0	6623	7893	10304	43719
85.00	2541	-2132	3317	0	6606	7873	10278	43725
84.00	2635	-2211	3440	0	6613	7881	10288	44118

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case ICE + 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)
80.92	2929	-2458	3823	0	6698	7982	10420	45332
80.92	2929	-2458	3823	0	6679	7959	10390	45342
80.42	2977	-2498	3886	0	6682	7964	10396	45546
79.00	3112	-2612	4063	0	6683	7965	10397	45863
74.08	3587	-3010	4682	0	6806	8111	10589	46955
74.08	3587	-3010	4682	0	6765	8063	10525	46972
71.54	3834	-3217	5005	0	6802	8107	10582	47567
69.00	4082	-3425	5329	0	6847	8160	10652	48173
67.83	4197	-3521	5478	0	6878	8196	10700	48453
67.83	4197	-3521	5478	0	6850	8164	10657	48467
64.00	4575	-3839	5972	0	6916	8242	10759	49418
61.58	4815	-4040	6286	0	6980	8319	10859	50027
61.58	4815	-4040	6286	0	6952	8286	10816	50039
59.00	5073	-4257	6623	0	6987	8327	10870	50715
55.33	5442	-4567	7104	0	7086	8445	11025	51682
55.33	5442	-4567	7104	0	7058	8412	10981	51694
54.00	5577	-4680	7280	0	7075	8432	11007	52059
51.75	5806	-4872	7579	0	7137	8505	11103	52674
51.75	5806	-4872	7579	0	7110	8474	11062	52682
49.08	6079	-5100	7935	0	7190	8569	11186	54207
49.08	6079	-5100	7935	0	7160	8533	11139	54219
46.08	6388	-5360	8338	0	7223	8608	11237	55981
44.00	6604	-5541	8621	0	7265	8658	11302	56639
43.25	6682	-5607	8722	0	7286	8683	11335	56877
43.25	6682	-5607	8722	0	7259	8651	11294	56888
39.00	7127	-5980	9303	0	7343	8751	11424	58271
37.00	7337	-6157	9578	0	7398	8817	11509	58932
37.00	7337	-6157	9578	0	7372	8785	11469	58945
34.00	7655	-6424	9993	0	7422	8845	11546	59962
30.75	8002	-6715	10446	0	7510	8951	11684	61078
30.75	8002	-6715	10446	0	7484	8919	11643	61088
29.00	8190	-6872	10692	0	7500	8938	11667	61708
24.50	8677	-7281	11327	0	7624	9085	11860	63308
24.50	8677	-7281	11327	0	7597	9054	11819	63318
24.00	8731	-7326	11398	0	7583	9038	11798	63507
19.00	9279	-7786	12112	0	7696	9171	11972	65351
18.25	9361	-7855	12220	0	7717	9197	12006	65631
18.25	9361	-7855	12220	0	7692	9167	11967	65641
14.00	9833	-8250	12835	0	7785	9277	12111	67257
12.00	10056	-8438	13127	0	7844	9348	12204	68026

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case ICE + 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)
12.00	10056	-8438	13127	0	7819	9318	12164	68035
9.00	10393	-8721	13568	0	7870	9379	12243	69213
4.00	10962	-9198	14310	0	7980	9510	12414	71202
0.00	11422	-9584	14910	0	8106	9661	12611	72795

Deflections for Pole

Loading Case ICE + WIND

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)
139.00	21.4	25.5	33.3	0.5	2.29
135.00	20.2	24.0	31.4	0.5	2.28
135.00	20.2	24.0	31.4	0.5	2.28
134.00	19.9	23.7	30.9	0.5	2.28
133.33	19.7	23.4	30.6	0.5	2.28
133.33	19.7	23.4	30.6	0.5	2.28
129.00	18.3	21.9	28.5	0.4	2.23
127.75	18.0	21.4	28.0	0.4	2.21
127.75	18.0	21.4	28.0	0.4	2.21
124.00	16.9	20.1	26.3	0.4	2.14
122.08	16.3	19.5	25.4	0.4	2.10
122.08	16.3	19.5	25.4	0.4	2.10
119.00	15.5	18.4	24.1	0.3	2.03
119.00	15.5	18.4	24.1	0.3	2.03
116.00	14.7	17.5	22.8	0.3	1.99
116.00	14.7	17.5	22.8	0.3	1.99
115.00	14.4	17.2	22.4	0.3	1.98
115.00	14.4	17.2	22.4	0.3	1.98
114.00	14.1	16.8	22.0	0.3	1.96
110.92	13.3	15.9	20.7	0.3	1.92
110.92	13.3	15.9	20.7	0.3	1.92
109.00	12.8	15.3	20.0	0.3	1.89
105.00	11.8	14.1	18.4	0.2	1.83
105.00	11.8	14.1	18.4	0.2	1.83
104.67	11.7	14.0	18.3	0.2	1.82
104.67	11.7	14.0	18.3	0.2	1.82
104.00	11.6	13.8	18.0	0.2	1.81
99.00	10.4	12.4	16.2	0.2	1.72
99.00	10.4	12.4	16.2	0.2	1.72
95.00	9.5	11.3	14.8	0.2	1.65
95.00	9.5	11.3	14.8	0.2	1.65
94.00	9.3	11.0	14.4	0.2	1.63
93.42	9.1	10.9	14.2	0.2	1.62
93.42	9.1	10.9	14.2	0.2	1.62
89.00	8.2	9.8	12.8	0.1	1.52
87.17	7.8	9.3	12.2	0.1	1.48
87.17	7.8	9.3	12.2	0.1	1.48
85.00	7.4	8.8	11.5	0.1	1.44
85.00	7.4	8.8	11.5	0.1	1.44
84.00	7.2	8.6	11.2	0.1	1.42
80.92	6.6	7.9	10.3	0.1	1.35

Deflections for Pole

Loading Case ICE + WIND

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)
80.92	6.6	7.9	10.3	0.1	1.35
80.42	6.5	7.8	10.2	0.1	1.34
79.00	6.3	7.5	9.8	0.1	1.31
74.08	5.5	6.5	8.5	0.1	1.21
74.08	5.5	6.5	8.5	0.1	1.21
71.54	5.1	6.0	7.9	0.1	1.16
69.00	4.7	5.6	7.3	0.1	1.11
67.83	4.5	5.4	7.0	0.1	1.08
67.83	4.5	5.4	7.0	0.1	1.08
64.00	4.0	4.7	6.2	0.1	1.00
61.58	3.6	4.3	5.7	0.1	0.96
61.58	3.6	4.3	5.7	0.1	0.96
59.00	3.3	4.0	5.2	0.0	0.90
55.33	2.9	3.4	4.5	0.0	0.83
55.33	2.9	3.4	4.5	0.0	0.83
54.00	2.7	3.3	4.3	0.0	0.81
51.75	2.5	3.0	3.9	0.0	0.77
51.75	2.5	3.0	3.9	0.0	0.77
49.08	2.2	2.7	3.5	0.0	0.72
49.08	2.2	2.7	3.5	0.0	0.72
46.08	2.0	2.3	3.0	0.0	0.67
44.00	1.8	2.1	2.8	0.0	0.63
43.25	1.7	2.0	2.7	0.0	0.62
43.25	1.7	2.0	2.7	0.0	0.62
39.00	1.4	1.6	2.1	0.0	0.55
37.00	1.2	1.5	1.9	0.0	0.52
37.00	1.2	1.5	1.9	0.0	0.52
34.00	1.0	1.2	1.6	0.0	0.47
30.75	0.8	1.0	1.3	0.0	0.42
30.75	0.8	1.0	1.3	0.0	0.42
29.00	0.7	0.9	1.2	0.0	0.39
24.50	0.5	0.6	0.8	0.0	0.33
24.50	0.5	0.6	0.8	0.0	0.33
24.00	0.5	0.6	0.8	0.0	0.32
19.00	0.3	0.4	0.5	0.0	0.25
18.25	0.3	0.3	0.4	0.0	0.24
18.25	0.3	0.3	0.4	0.0	0.24
14.00	0.2	0.2	0.3	0.0	0.18
12.00	0.1	0.1	0.2	0.0	0.15
12.00	0.1	0.1	0.2	0.0	0.15
9.00	0.1	0.1	0.1	0.0	0.11
4.00	0.0	0.0	0.0	0.0	0.05
0.00	0.0	0.0	0.0	0.0	0.00

Stresses for Pole

Loading Case ICE + WIND

Distance From Base (ft)	Nominal Axial Strength (lbs)	Nominal Flexural Strength (in-kips)	Nominal Shear Strength (lbs)	Nominal Torsional Strength (in-kips)	Axial Interaction Term	Flexural Interaction Term	Shear Interaction Term	Torsion Interaction Term	Combined Stress Interaction
139.00	492,709	1,954	147,813	1,875	0.00	0.00	0.00	0.00	0.01
135.00	539,127	2,342	161,738	2,244	0.02	0.00	0.02	0.00	0.02
134.00	550,731	2,445	165,219	2,342	0.02	0.02	0.02	0.00	0.04
133.33	558,467	2,515	167,540	2,408	0.02	0.02	0.02	0.00	0.04
129.00	608,754	2,991	182,626	2,862	0.02	0.07	0.02	0.00	0.09
127.75	623,259	3,136	186,978	2,999	0.02	0.08	0.02	0.00	0.10
124.00	666,776	3,592	200,033	3,433	0.02	0.11	0.01	0.00	0.12
122.08	689,018	3,837	206,706	3,666	0.02	0.12	0.01	0.00	0.13
119.00	724,799	4,248	217,440	4,056	0.02	0.13	0.01	0.00	0.15
119.00	1,435,092	8,244	430,528	7,951	0.01	0.07	0.01	0.00	0.08
116.00	1,504,719	9,072	451,416	8,742	0.01	0.07	0.01	0.00	0.08
115.00	1,527,928	9,357	458,379	9,013	0.01	0.08	0.01	0.00	0.09
114.00	1,551,137	9,646	465,341	9,289	0.01	0.08	0.01	0.00	0.09
110.92	1,622,699	10,565	486,810	10,166	0.01	0.09	0.01	0.00	0.10
109.00	1,667,183	11,157	500,155	10,731	0.01	0.10	0.01	0.00	0.11
105.00	1,760,019	12,445	528,006	11,960	0.02	0.11	0.02	0.00	0.13
104.67	1,767,755	12,556	530,327	12,065	0.02	0.11	0.02	0.00	0.13
104.00	1,783,228	12,779	534,968	12,277	0.02	0.11	0.02	0.00	0.13
99.00	1,899,273	14,510	569,782	13,927	0.02	0.13	0.01	0.00	0.15
95.00	1,992,109	15,974	597,633	15,322	0.02	0.15	0.02	0.00	0.17
94.00	2,015,318	16,351	604,595	15,681	0.02	0.15	0.02	0.00	0.17
93.42	2,028,857	16,573	608,657	15,892	0.02	0.15	0.02	0.00	0.18
89.00	2,131,363	18,302	639,409	17,539	0.02	0.17	0.02	0.00	0.19
87.17	2,173,913	19,045	652,174	18,246	0.02	0.18	0.02	0.00	0.20
85.00	2,224,200	19,943	667,260	19,100	0.02	0.18	0.02	0.00	0.21
85.00	2,521,565	21,914	756,470	21,041	0.02	0.17	0.02	0.00	0.19
84.00	2,548,643	22,391	764,593	21,496	0.02	0.17	0.01	0.00	0.19
80.92	2,632,131	23,893	789,639	22,927	0.02	0.18	0.01	0.00	0.20
80.42	2,645,669	24,141	793,701	23,164	0.02	0.18	0.01	0.00	0.20
79.00	2,684,029	24,852	805,209	23,840	0.02	0.18	0.01	0.00	0.20
74.08	2,817,158	27,397	845,147	26,264	0.02	0.19	0.01	0.00	0.21
71.54	2,885,980	28,761	865,794	27,563	0.02	0.19	0.01	0.00	0.21
69.00	2,954,801	30,158	886,440	28,893	0.02	0.20	0.01	0.00	0.21
67.83	2,986,391	30,811	895,917	29,514	0.02	0.20	0.01	0.00	0.22
64.00	3,090,187	33,004	927,056	31,601	0.02	0.20	0.01	0.00	0.22
61.58	3,155,623	34,426	946,687	32,954	0.02	0.20	0.01	0.00	0.22
59.00	3,225,573	35,978	967,672	34,431	0.02	0.20	0.01	0.00	0.22
55.33	3,324,856	38,241	997,457	36,583	0.02	0.21	0.01	0.00	0.22
54.00	3,360,959	39,081	1,008,288	37,382	0.02	0.21	0.01	0.00	0.22

Stresses for Pole

Loading Case ICE + WIND

Distance From Base (ft)	Nominal Axial Strength (lbs)	Nominal Flexural Strength (in-kips)	Nominal Shear Strength (lbs)	Nominal Torsional Strength (in-kips)	Axial Interaction Term	Flexural Interaction Term	Shear Interaction Term	Torsion Interaction Term	Combined Stress Interaction
51.75	3,421,883	40,519	1,026,565	38,749	0.02	0.21	0.01	0.00	0.23
51.75	3,814,019	43,960	1,144,206	42,122	0.02	0.19	0.01	0.00	0.21
49.08	3,896,540	45,896	1,168,962	43,964	0.02	0.19	0.01	0.00	0.21
46.08	3,989,376	48,123	1,196,813	46,084	0.02	0.19	0.01	0.00	0.21
44.00	4,053,845	49,701	1,216,154	47,586	0.02	0.19	0.01	0.00	0.21
43.25	4,077,054	50,275	1,223,116	48,132	0.02	0.19	0.01	0.00	0.21
39.00	4,208,572	53,592	1,262,572	51,288	0.02	0.19	0.01	0.00	0.21
37.00	4,270,463	55,189	1,281,139	52,807	0.02	0.19	0.01	0.00	0.21
34.00	4,363,299	57,630	1,308,990	55,128	0.02	0.19	0.01	0.00	0.21
30.75	4,463,872	60,333	1,339,162	57,699	0.02	0.19	0.01	0.00	0.21
29.00	4,518,026	61,814	1,355,408	59,107	0.02	0.19	0.01	0.00	0.21
24.50	4,657,280	65,705	1,397,184	62,807	0.02	0.19	0.01	0.00	0.21
24.00	4,672,753	66,145	1,401,826	63,225	0.02	0.19	0.01	0.00	0.21
19.00	4,827,480	70,622	1,448,244	67,481	0.02	0.19	0.01	0.00	0.21
18.25	4,850,689	71,306	1,455,207	68,132	0.02	0.19	0.01	0.00	0.21
14.00	4,982,207	75,246	1,494,662	71,876	0.01	0.19	0.01	0.00	0.20
12.00	5,044,098	77,137	1,513,229	73,673	0.01	0.19	0.01	0.00	0.20
9.00	5,136,934	80,017	1,541,080	76,410	0.01	0.19	0.01	0.00	0.20
4.00	5,291,661	84,357	1,587,498	81,082	0.01	0.19	0.01	0.00	0.20
0.00	5,415,442	87,832	1,624,633	84,920	0.01	0.19	0.01	0.00	0.20

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case T+S

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)
139.00	0	0	0	0	5	6	8	21
135.00	1	-1	2	0	27	32	42	128
135.00	1	-1	2	0	1377	1641	2142	3789
134.00	21	-18	27	0	1383	1648	2151	3817
133.33	34	-29	45	0	1387	1653	2157	3837
133.33	34	-29	45	0	1389	1655	2161	3839
129.00	121	-102	158	0	1415	1686	2201	3971
127.75	146	-123	191	0	1424	1697	2215	4011
127.75	146	-123	191	0	1426	1699	2218	4016
124.00	224	-188	292	0	1451	1729	2257	4143
122.08	264	-221	344	0	1466	1747	2281	4211
122.08	264	-221	344	0	1467	1748	2282	4215
119.00	329	-276	429	0	1492	1779	2322	4328
119.00	329	-276	429	0	1497	1784	2329	4688
116.00	394	-330	514	0	1525	1817	2372	4916
116.00	394	-330	514	0	1528	1821	2377	4919
115.00	416	-349	542	0	1538	1832	2392	4998
115.00	416	-349	542	0	2467	2940	3838	7702
114.00	451	-378	589	0	2475	2949	3850	7783
110.92	561	-471	732	0	2506	2987	3899	8037
110.92	561	-471	732	0	2508	2988	3901	8042
109.00	630	-528	822	0	2524	3009	3927	8209
105.00	775	-651	1012	0	2569	3062	3997	8564
105.00	775	-651	1012	0	3898	4645	6064	12452
104.67	794	-666	1037	0	3902	4650	6070	12483
104.67	794	-666	1037	0	3905	4654	6076	12487
104.00	831	-698	1085	0	3907	4657	6079	12553
99.00	1113	-934	1453	0	3968	4729	6173	13031
99.00	1113	-934	1453	0	3962	4722	6164	13041
95.00	1341	-1125	1751	0	4014	4784	6244	13445
95.00	1341	-1125	1751	0	5319	6339	8275	17341
94.00	1417	-1189	1850	0	5330	6352	8292	17448
93.42	1462	-1226	1908	0	5338	6361	8304	17509
93.42	1462	-1226	1908	0	5334	6356	8298	17518
89.00	1800	-1511	2350	0	5384	6416	8376	18004
87.17	1942	-1630	2535	0	5410	6447	8416	18209
87.17	1942	-1630	2535	0	5408	6445	8413	18218
85.00	2110	-1771	2754	0	5439	6482	8462	18466
85.00	2110	-1771	2754	0	5434	6476	8453	18470
84.00	2188	-1836	2856	0	5443	6486	8467	18723

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case T+S

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)
80.92	2429	-2038	3171	0	5495	6548	8548	19505
80.92	2429	-2038	3171	0	5491	6544	8543	19512
80.42	2468	-2071	3222	0	5496	6550	8551	19643
79.00	2580	-2165	3368	0	5506	6561	8565	19848
74.08	2970	-2492	3877	0	5583	6653	8685	20551
74.08	2970	-2492	3877	0	5571	6640	8668	20563
71.54	3173	-2662	4142	0	5602	6677	8716	20947
69.00	3377	-2834	4409	0	5637	6718	8769	21338
67.83	3472	-2913	4532	0	5656	6741	8799	21518
67.83	3472	-2913	4532	0	5651	6735	8792	21528
64.00	3783	-3174	4939	0	5704	6797	8873	22143
61.58	3981	-3340	5197	0	5746	6847	8939	22536
61.58	3981	-3340	5197	0	5738	6839	8927	22544
59.00	4194	-3519	5475	0	5771	6877	8978	22981
55.33	4498	-3774	5872	0	5837	6956	9080	23606
55.33	4498	-3774	5872	0	5829	6947	9068	23615
54.00	4610	-3868	6017	0	5846	6967	9094	23851
51.75	4798	-4026	6264	0	5887	7016	9158	24249
51.75	4798	-4026	6264	0	5877	7004	9143	24255
49.08	5023	-4215	6558	0	5930	7067	9225	25270
49.08	5023	-4215	6558	0	5921	7057	9212	25279
46.08	5279	-4429	6891	0	5971	7115	9289	26453
44.00	5457	-4579	7124	0	6003	7154	9339	26892
43.25	5522	-4633	7208	0	6017	7171	9361	27051
43.25	5522	-4633	7208	0	6010	7162	9350	27059
39.00	5889	-4942	7688	0	6076	7242	9453	27983
37.00	6064	-5088	7916	0	6114	7286	9512	28424
37.00	6064	-5088	7916	0	6109	7281	9504	28434
34.00	6327	-5309	8259	0	6153	7332	9572	29115
30.75	6614	-5550	8635	0	6214	7405	9667	29863
30.75	6614	-5550	8635	0	6206	7396	9655	29870
29.00	6770	-5681	8838	0	6226	7420	9686	30286
24.50	7174	-6019	9364	0	6311	7522	9819	31362
24.50	7174	-6019	9364	0	6303	7512	9806	31369
24.00	7219	-6057	9423	0	6302	7510	9804	31496
19.00	7673	-6438	10016	0	6388	7613	9938	32740
18.25	7741	-6496	10106	0	6403	7631	9961	32929
18.25	7741	-6496	10106	0	6395	7622	9949	32936
14.00	8133	-6824	10617	0	6469	7709	10064	34031
12.00	8318	-6980	10859	0	6511	7759	10129	34554

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case T+S

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)
12.00	8318	-6980	10859	0	6503	7750	10117	34561
9.00	8599	-7215	11225	0	6550	7806	10190	35365
4.00	9071	-7612	11841	0	6640	7913	10330	36732
0.00	9453	-7932	12341	0	6730	8021	10470	37849

Deflections for Pole

Loading Case T+S

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)
139.00	17.8	21.2	27.6	0.3	1.90
135.00	16.7	19.9	26.0	0.3	1.90
135.00	16.7	19.9	26.0	0.3	1.90
134.00	16.5	19.6	25.6	0.3	1.90
133.33	16.3	19.4	25.4	0.3	1.90
133.33	16.3	19.4	25.4	0.3	1.90
129.00	15.2	18.1	23.7	0.3	1.86
127.75	14.9	17.7	23.2	0.3	1.84
127.75	14.9	17.7	23.2	0.3	1.84
124.00	14.0	16.7	21.7	0.2	1.78
122.08	13.5	16.1	21.0	0.2	1.75
122.08	13.5	16.1	21.0	0.2	1.75
119.00	12.8	15.3	19.9	0.2	1.68
119.00	12.8	15.3	19.9	0.2	1.68
116.00	12.1	14.5	18.9	0.2	1.65
116.00	12.1	14.5	18.9	0.2	1.65
115.00	11.9	14.2	18.5	0.2	1.64
115.00	11.9	14.2	18.5	0.2	1.64
114.00	11.7	13.9	18.2	0.2	1.63
110.92	11.0	13.1	17.2	0.2	1.59
110.92	11.0	13.1	17.2	0.2	1.59
109.00	10.6	12.7	16.5	0.2	1.57
105.00	9.8	11.7	15.2	0.2	1.51
105.00	9.8	11.7	15.2	0.2	1.51
104.67	9.7	11.6	15.1	0.1	1.51
104.67	9.7	11.6	15.1	0.1	1.51
104.00	9.6	11.4	14.9	0.1	1.50
99.00	8.6	10.2	13.4	0.1	1.43
99.00	8.6	10.2	13.4	0.1	1.43
95.00	7.8	9.4	12.2	0.1	1.36
95.00	7.8	9.4	12.2	0.1	1.36
94.00	7.7	9.1	11.9	0.1	1.35
93.42	7.6	9.0	11.8	0.1	1.34
93.42	7.6	9.0	11.8	0.1	1.34
89.00	6.8	8.1	10.6	0.1	1.26
87.17	6.5	7.7	10.1	0.1	1.23
87.17	6.5	7.7	10.1	0.1	1.23
85.00	6.1	7.3	9.5	0.1	1.19
85.00	6.1	7.3	9.5	0.1	1.19
84.00	6.0	7.1	9.3	0.1	1.17
80.92	5.5	6.5	8.5	0.1	1.12

Deflections for Pole

Loading Case T+S

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)
80.92	5.5	6.5	8.5	0.1	1.12
80.42	5.4	6.5	8.4	0.1	1.11
79.00	5.2	6.2	8.1	0.1	1.09
74.08	4.5	5.4	7.0	0.1	1.00
74.08	4.5	5.4	7.0	0.1	1.00
71.54	4.2	5.0	6.5	0.0	0.96
69.00	3.9	4.6	6.0	0.0	0.91
67.83	3.7	4.4	5.8	0.0	0.89
67.83	3.7	4.4	5.8	0.0	0.89
64.00	3.3	3.9	5.1	0.0	0.83
61.58	3.0	3.6	4.7	0.0	0.79
61.58	3.0	3.6	4.7	0.0	0.79
59.00	2.7	3.3	4.3	0.0	0.75
55.33	2.4	2.8	3.7	0.0	0.69
55.33	2.4	2.8	3.7	0.0	0.69
54.00	2.3	2.7	3.5	0.0	0.67
51.75	2.1	2.5	3.2	0.0	0.63
51.75	2.1	2.5	3.2	0.0	0.63
49.08	1.8	2.2	2.9	0.0	0.59
49.08	1.8	2.2	2.9	0.0	0.59
46.08	1.6	1.9	2.5	0.0	0.55
44.00	1.5	1.7	2.3	0.0	0.52
43.25	1.4	1.7	2.2	0.0	0.51
43.25	1.4	1.7	2.2	0.0	0.51
39.00	1.1	1.4	1.8	0.0	0.45
37.00	1.0	1.2	1.6	0.0	0.43
37.00	1.0	1.2	1.6	0.0	0.43
34.00	0.9	1.0	1.3	0.0	0.39
30.75	0.7	0.8	1.1	0.0	0.35
30.75	0.7	0.8	1.1	0.0	0.35
29.00	0.6	0.7	1.0	0.0	0.32
24.50	0.4	0.5	0.7	0.0	0.27
24.50	0.4	0.5	0.7	0.0	0.27
24.00	0.4	0.5	0.6	0.0	0.26
19.00	0.3	0.3	0.4	0.0	0.21
18.25	0.2	0.3	0.4	0.0	0.20
18.25	0.2	0.3	0.4	0.0	0.20
14.00	0.1	0.2	0.2	0.0	0.15
12.00	0.1	0.1	0.2	0.0	0.13
12.00	0.1	0.1	0.2	0.0	0.13
9.00	0.1	0.1	0.1	0.0	0.09
4.00	0.0	0.0	0.0	0.0	0.04
0.00	0.0	0.0	0.0	0.0	0.00

Stresses for Pole

Loading Case T+S

Distance From Base (ft)	Nominal Axial Strength (lbs)	Nominal Flexural Strength (in-kips)	Nominal Shear Strength (lbs)	Nominal Torsional Strength (in-kips)	Axial Interaction Term	Flexural Interaction Term	Shear Interaction Term	Torsion Interaction Term	Combined Stress Interaction
139.00	492,709	1,954	147,813	1,875	0.00	0.00	0.00	0.00	0.01
135.00	539,127	2,342	161,738	2,244	0.01	0.00	0.01	0.00	0.01
134.00	550,731	2,445	165,219	2,342	0.01	0.01	0.01	0.00	0.02
133.33	558,467	2,515	167,540	2,408	0.01	0.02	0.01	0.00	0.03
129.00	608,754	2,991	182,626	2,862	0.01	0.06	0.01	0.00	0.07
127.75	623,259	3,136	186,978	2,999	0.01	0.07	0.01	0.00	0.08
124.00	666,776	3,592	200,033	3,433	0.01	0.09	0.01	0.00	0.10
122.08	689,018	3,837	206,706	3,666	0.01	0.10	0.01	0.00	0.11
119.00	724,799	4,248	217,440	4,056	0.01	0.11	0.01	0.00	0.12
119.00	1,435,092	8,244	430,528	7,951	0.00	0.06	0.01	0.00	0.06
116.00	1,504,719	9,072	451,416	8,742	0.00	0.06	0.01	0.00	0.07
115.00	1,527,928	9,357	458,379	9,013	0.01	0.06	0.01	0.00	0.07
114.00	1,551,137	9,646	465,341	9,289	0.01	0.07	0.01	0.00	0.07
110.92	1,622,699	10,565	486,810	10,166	0.01	0.08	0.01	0.00	0.08
109.00	1,667,183	11,157	500,155	10,731	0.01	0.08	0.01	0.00	0.09
105.00	1,760,019	12,445	528,006	11,960	0.01	0.09	0.01	0.00	0.10
104.67	1,767,755	12,556	530,327	12,065	0.01	0.09	0.01	0.00	0.10
104.00	1,783,228	12,779	534,968	12,277	0.01	0.09	0.01	0.00	0.10
99.00	1,899,273	14,510	569,782	13,927	0.01	0.11	0.01	0.00	0.12
95.00	1,992,109	15,974	597,633	15,322	0.01	0.12	0.02	0.00	0.13
94.00	2,015,318	16,351	604,595	15,681	0.01	0.13	0.02	0.00	0.14
93.42	2,028,857	16,573	608,657	15,892	0.01	0.13	0.02	0.00	0.14
89.00	2,131,363	18,302	639,409	17,539	0.01	0.14	0.01	0.00	0.15
87.17	2,173,913	19,045	652,174	18,246	0.01	0.15	0.01	0.00	0.16
85.00	2,224,200	19,943	667,260	19,100	0.01	0.15	0.01	0.00	0.16
85.00	2,521,565	21,914	756,470	21,041	0.01	0.14	0.01	0.00	0.15
84.00	2,548,643	22,391	764,593	21,496	0.01	0.14	0.01	0.00	0.15
80.92	2,632,131	23,893	789,639	22,927	0.01	0.15	0.01	0.00	0.16
80.42	2,645,669	24,141	793,701	23,164	0.01	0.15	0.01	0.00	0.16
79.00	2,684,029	24,852	805,209	23,840	0.01	0.15	0.01	0.00	0.16
74.08	2,817,158	27,397	845,147	26,264	0.01	0.16	0.01	0.00	0.17
71.54	2,885,980	28,761	865,794	27,563	0.01	0.16	0.01	0.00	0.17
69.00	2,954,801	30,158	886,440	28,893	0.01	0.16	0.01	0.00	0.17
67.83	2,986,391	30,811	895,917	29,514	0.01	0.16	0.01	0.00	0.17
64.00	3,090,187	33,004	927,056	31,601	0.01	0.17	0.01	0.00	0.17
61.58	3,155,623	34,426	946,687	32,954	0.01	0.17	0.01	0.00	0.18
59.00	3,225,573	35,978	967,672	34,431	0.01	0.17	0.01	0.00	0.18
55.33	3,324,856	38,241	997,457	36,583	0.01	0.17	0.01	0.00	0.18
54.00	3,360,959	39,081	1,008,288	37,382	0.01	0.17	0.01	0.00	0.18

Stresses for Pole

Loading Case T+S

Distance From Base (ft)	Nominal Axial Strength (lbs)	Nominal Flexural Strength (in-kips)	Nominal Shear Strength (lbs)	Nominal Torsional Strength (in-kips)	Axial Interaction Term	Flexural Interaction Term	Shear Interaction Term	Torsion Interaction Term	Combined Stress Interaction
51.75	3,421,883	40,519	1,026,565	38,749	0.01	0.17	0.01	0.00	0.18
51.75	3,814,019	43,960	1,144,206	42,122	0.01	0.16	0.01	0.00	0.17
49.08	3,896,540	45,896	1,168,962	43,964	0.01	0.16	0.01	0.00	0.17
46.08	3,989,376	48,123	1,196,813	46,084	0.01	0.16	0.01	0.00	0.17
44.00	4,053,845	49,701	1,216,154	47,586	0.01	0.16	0.01	0.00	0.17
43.25	4,077,054	50,275	1,223,116	48,132	0.01	0.16	0.01	0.00	0.17
39.00	4,208,572	53,592	1,262,572	51,288	0.01	0.16	0.01	0.00	0.17
37.00	4,270,463	55,189	1,281,139	52,807	0.01	0.16	0.01	0.00	0.17
34.00	4,363,299	57,630	1,308,990	55,128	0.01	0.16	0.01	0.00	0.17
30.75	4,463,872	60,333	1,339,162	57,699	0.01	0.16	0.01	0.00	0.17
29.00	4,518,026	61,814	1,355,408	59,107	0.01	0.16	0.01	0.00	0.17
24.50	4,657,280	65,705	1,397,184	62,807	0.01	0.16	0.01	0.00	0.17
24.00	4,672,753	66,145	1,401,826	63,225	0.01	0.16	0.01	0.00	0.17
19.00	4,827,480	70,622	1,448,244	67,481	0.01	0.16	0.01	0.00	0.17
18.25	4,850,689	71,306	1,455,207	68,132	0.01	0.16	0.01	0.00	0.17
14.00	4,982,207	75,246	1,494,662	71,876	0.01	0.16	0.01	0.00	0.16
12.00	5,044,098	77,137	1,513,229	73,673	0.01	0.16	0.01	0.00	0.16
9.00	5,136,934	80,017	1,541,080	76,410	0.01	0.16	0.01	0.00	0.16
4.00	5,291,661	84,357	1,587,498	81,082	0.01	0.16	0.01	0.00	0.16
0.00	5,415,442	87,832	1,624,633	84,920	0.01	0.16	0.01	0.00	0.16

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case Seismic

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)
139.00	0	0	0	0	1	1	2	26
135.00	0	0	0	0	7	8	11	159
135.00	0	0	0	0	202	241	314	4783
134.00	3	-3	4	0	203	242	316	4818
133.33	5	-4	7	0	204	243	318	4842
133.33	5	-4	7	0	204	243	318	4845
129.00	18	-15	23	0	211	251	327	5008
127.75	22	-18	28	0	212	253	330	5057
127.75	22	-18	28	0	212	253	330	5061
124.00	33	-28	43	0	218	259	338	5217
122.08	39	-33	51	0	220	263	343	5301
122.08	39	-33	51	0	220	262	342	5303
119.00	49	-41	64	0	225	268	350	5444
119.00	49	-41	64	0	239	285	372	5888
116.00	60	-50	78	0	248	296	386	6172
116.00	60	-50	78	0	248	296	386	6174
115.00	63	-53	82	0	251	299	391	6272
115.00	63	-53	82	0	356	425	554	9675
114.00	68	-57	89	0	359	428	558	9774
110.92	84	-71	110	0	368	439	573	10089
110.92	84	-71	110	0	368	438	572	10093
109.00	94	-79	123	0	373	444	580	10296
105.00	116	-97	152	0	385	459	599	10738
105.00	116	-97	152	0	511	609	795	15624
104.67	119	-99	155	0	512	610	797	15662
104.67	119	-99	155	0	512	610	797	15667
104.00	123	-104	161	0	513	611	798	15743
99.00	161	-135	210	0	527	629	821	16336
99.00	161	-135	210	0	526	627	818	16339
95.00	191	-160	249	0	537	640	835	16841
95.00	191	-160	249	0	640	763	996	21727
94.00	200	-168	261	0	643	766	1000	21856
93.42	206	-173	268	0	644	768	1002	21932
93.42	206	-173	268	0	643	766	1000	21936
89.00	247	-207	322	0	653	778	1016	22529
87.17	264	-221	344	0	657	784	1023	22784
87.17	264	-221	344	0	656	782	1021	22789
85.00	284	-238	371	0	662	789	1030	23096
85.00	284	-238	371	0	661	787	1028	23097
84.00	294	-246	383	0	665	792	1034	23404

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case Seismic

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)
80.92	323	-271	422	0	681	811	1059	24374
80.92	323	-271	422	0	680	810	1057	24377
80.42	328	-275	428	0	681	812	1060	24537
79.00	342	-287	447	0	683	814	1063	24781
74.08	391	-328	510	0	695	829	1082	25654
74.08	391	-328	510	0	693	826	1078	25656
71.54	416	-349	543	0	697	831	1085	26124
69.00	441	-370	576	0	702	836	1092	26604
67.83	453	-380	591	0	704	839	1096	26827
67.83	453	-380	591	0	703	838	1093	26832
64.00	492	-413	642	0	709	845	1103	27585
61.58	516	-433	674	0	713	850	1110	28072
61.58	516	-433	674	0	712	848	1107	28075
59.00	543	-455	708	0	714	851	1111	28607
55.33	580	-487	758	0	721	859	1121	29383
55.33	580	-487	758	0	719	857	1119	29386
54.00	594	-498	775	0	720	858	1120	29674
51.75	617	-518	806	0	723	862	1125	30167
51.75	617	-518	806	0	722	860	1123	30167
49.08	645	-541	842	0	730	870	1135	31427
49.08	645	-541	842	0	728	867	1132	31429
46.08	676	-568	883	0	734	875	1143	32879
44.00	698	-586	912	0	736	877	1145	33420
43.25	706	-593	922	0	737	879	1147	33617
43.25	706	-593	922	0	736	877	1144	33620
39.00	751	-630	980	0	738	880	1149	34758
37.00	772	-648	1008	0	740	882	1152	35306
37.00	772	-648	1008	0	739	880	1149	35311
34.00	804	-675	1049	0	739	881	1150	36148
30.75	838	-703	1094	0	742	884	1154	37075
30.75	838	-703	1094	0	740	882	1152	37077
29.00	857	-719	1119	0	740	881	1151	37586
24.50	905	-759	1181	0	742	884	1155	38920
24.50	905	-759	1181	0	740	882	1152	38923
24.00	910	-763	1188	0	739	881	1150	39074
19.00	963	-808	1257	0	739	881	1150	40609
18.25	971	-815	1267	0	739	881	1150	40844
18.25	971	-815	1267	0	738	879	1148	40846
14.00	1016	-852	1326	0	737	878	1146	42198
12.00	1037	-870	1353	0	737	878	1147	42846

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case Seismic

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)
12.00	1037	-870	1353	0	735	876	1144	42849
9.00	1068	-896	1394	0	733	874	1141	43837
4.00	1121	-940	1463	0	731	871	1136	45523
0.00	1162	-975	1517	0	731	871	1137	46908

BY VALMONT INDUSTRIES FOR: VERIZON WIRELESS 139.0' POLE, SITE: WOLCOTT, CT DATE 10/13/2023
Design Id: 537228-P1b IMPAX 26.2.5.1

Deflections for Pole

Loading Case Seismic

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)
139.00	2.3	2.8	3.6	0.0	0.26
135.00	2.2	2.6	3.4	0.0	0.26
135.00	2.2	2.6	3.4	0.0	0.26
134.00	2.1	2.6	3.3	0.0	0.26
133.33	2.1	2.5	3.3	0.0	0.26
133.33	2.1	2.5	3.3	0.0	0.26
129.00	2.0	2.4	3.1	0.0	0.25
127.75	1.9	2.3	3.0	0.0	0.25
127.75	1.9	2.3	3.0	0.0	0.25
124.00	1.8	2.2	2.8	0.0	0.24
122.08	1.7	2.1	2.7	0.0	0.23
122.08	1.7	2.1	2.7	0.0	0.23
119.00	1.7	2.0	2.6	0.0	0.22
119.00	1.7	2.0	2.6	0.0	0.22
116.00	1.6	1.9	2.4	0.0	0.22
116.00	1.6	1.9	2.4	0.0	0.22
115.00	1.5	1.8	2.4	0.0	0.22
115.00	1.5	1.8	2.4	0.0	0.22
114.00	1.5	1.8	2.3	0.0	0.22
110.92	1.4	1.7	2.2	0.0	0.21
110.92	1.4	1.7	2.2	0.0	0.21
109.00	1.4	1.6	2.1	0.0	0.21
105.00	1.3	1.5	1.9	0.0	0.20
105.00	1.3	1.5	1.9	0.0	0.20
104.67	1.2	1.5	1.9	0.0	0.20
104.67	1.2	1.5	1.9	0.0	0.20
104.00	1.2	1.5	1.9	0.0	0.20
99.00	1.1	1.3	1.7	0.0	0.19
99.00	1.1	1.3	1.7	0.0	0.19
95.00	1.0	1.2	1.6	0.0	0.18
95.00	1.0	1.2	1.6	0.0	0.18
94.00	1.0	1.2	1.5	0.0	0.17
93.42	1.0	1.1	1.5	0.0	0.17
93.42	1.0	1.1	1.5	0.0	0.17
89.00	0.9	1.0	1.3	0.0	0.16
87.17	0.8	1.0	1.3	0.0	0.16
87.17	0.8	1.0	1.3	0.0	0.16
85.00	0.8	0.9	1.2	0.0	0.15
85.00	0.8	0.9	1.2	0.0	0.15
84.00	0.8	0.9	1.2	0.0	0.15
80.92	0.7	0.8	1.1	0.0	0.14

Deflections for Pole

Loading Case Seismic

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)
80.92	0.7	0.8	1.1	0.0	0.14
80.42	0.7	0.8	1.1	0.0	0.14
79.00	0.7	0.8	1.0	0.0	0.14
74.08	0.6	0.7	0.9	0.0	0.13
74.08	0.6	0.7	0.9	0.0	0.13
71.54	0.5	0.6	0.8	0.0	0.12
69.00	0.5	0.6	0.8	0.0	0.12
67.83	0.5	0.6	0.7	0.0	0.11
67.83	0.5	0.6	0.7	0.0	0.11
64.00	0.4	0.5	0.6	0.0	0.11
61.58	0.4	0.5	0.6	0.0	0.10
61.58	0.4	0.5	0.6	0.0	0.10
59.00	0.3	0.4	0.5	0.0	0.09
55.33	0.3	0.4	0.5	0.0	0.09
55.33	0.3	0.4	0.5	0.0	0.09
54.00	0.3	0.3	0.4	0.0	0.08
51.75	0.3	0.3	0.4	0.0	0.08
51.75	0.3	0.3	0.4	0.0	0.08
49.08	0.2	0.3	0.4	0.0	0.07
49.08	0.2	0.3	0.4	0.0	0.07
46.08	0.2	0.2	0.3	0.0	0.07
44.00	0.2	0.2	0.3	0.0	0.07
43.25	0.2	0.2	0.3	0.0	0.06
43.25	0.2	0.2	0.3	0.0	0.06
39.00	0.1	0.2	0.2	0.0	0.06
37.00	0.1	0.2	0.2	0.0	0.05
37.00	0.1	0.2	0.2	0.0	0.05
34.00	0.1	0.1	0.2	0.0	0.05
30.75	0.1	0.1	0.1	0.0	0.04
30.75	0.1	0.1	0.1	0.0	0.04
29.00	0.1	0.1	0.1	0.0	0.04
24.50	0.1	0.1	0.1	0.0	0.03
24.50	0.1	0.1	0.1	0.0	0.03
24.00	0.1	0.1	0.1	0.0	0.03
19.00	0.0	0.0	0.0	0.0	0.03
18.25	0.0	0.0	0.0	0.0	0.02
18.25	0.0	0.0	0.0	0.0	0.02
14.00	0.0	0.0	0.0	0.0	0.02
12.00	0.0	0.0	0.0	0.0	0.02
12.00	0.0	0.0	0.0	0.0	0.02
9.00	0.0	0.0	0.0	0.0	0.01
4.00	0.0	0.0	0.0	0.0	0.01
0.00	0.0	0.0	0.0	0.0	0.00

Stresses for Pole

Loading Case Seismic

Distance From Base (ft)	Nominal Axial Strength (lbs)	Nominal Flexural Strength (in-kips)	Nominal Shear Strength (lbs)	Nominal Torsional Strength (in-kips)	Axial Interaction Term	Flexural Interaction Term	Shear Interaction Term	Torsion Interaction Term	Combined Stress Interaction
139.00	492,709	1,954	147,813	1,875	0.00	0.00	0.00	0.00	0.01
135.00	539,127	2,342	161,738	2,244	0.01	0.00	0.00	0.00	0.01
134.00	550,731	2,445	165,219	2,342	0.01	0.00	0.00	0.00	0.01
133.33	558,467	2,515	167,540	2,408	0.01	0.00	0.00	0.00	0.01
129.00	608,754	2,991	182,626	2,862	0.01	0.01	0.00	0.00	0.02
127.75	623,259	3,136	186,978	2,999	0.01	0.01	0.00	0.00	0.02
124.00	666,776	3,592	200,033	3,433	0.01	0.01	0.00	0.00	0.02
122.08	689,018	3,837	206,706	3,666	0.01	0.01	0.00	0.00	0.02
119.00	724,799	4,248	217,440	4,056	0.01	0.02	0.00	0.00	0.03
119.00	1,435,092	8,244	430,528	7,951	0.00	0.01	0.00	0.00	0.01
116.00	1,504,719	9,072	451,416	8,742	0.00	0.01	0.00	0.00	0.01
115.00	1,527,928	9,357	458,379	9,013	0.01	0.01	0.00	0.00	0.02
114.00	1,551,137	9,646	465,341	9,289	0.01	0.01	0.00	0.00	0.02
110.92	1,622,699	10,565	486,810	10,166	0.01	0.01	0.00	0.00	0.02
109.00	1,667,183	11,157	500,155	10,731	0.01	0.01	0.00	0.00	0.02
105.00	1,760,019	12,445	528,006	11,960	0.01	0.01	0.00	0.00	0.02
104.67	1,767,755	12,556	530,327	12,065	0.01	0.01	0.00	0.00	0.02
104.00	1,783,228	12,779	534,968	12,277	0.01	0.01	0.00	0.00	0.02
99.00	1,899,273	14,510	569,782	13,927	0.01	0.02	0.00	0.00	0.03
95.00	1,992,109	15,974	597,633	15,322	0.01	0.02	0.00	0.00	0.03
94.00	2,015,318	16,351	604,595	15,681	0.01	0.02	0.00	0.00	0.03
93.42	2,028,857	16,573	608,657	15,892	0.01	0.02	0.00	0.00	0.03
89.00	2,131,363	18,302	639,409	17,539	0.01	0.02	0.00	0.00	0.03
87.17	2,173,913	19,045	652,174	18,246	0.01	0.02	0.00	0.00	0.03
85.00	2,224,200	19,943	667,260	19,100	0.01	0.02	0.00	0.00	0.03
85.00	2,521,565	21,914	756,470	21,041	0.01	0.02	0.00	0.00	0.03
84.00	2,548,643	22,391	764,593	21,496	0.01	0.02	0.00	0.00	0.03
80.92	2,632,131	23,893	789,639	22,927	0.01	0.02	0.00	0.00	0.03
80.42	2,645,669	24,141	793,701	23,164	0.01	0.02	0.00	0.00	0.03
79.00	2,684,029	24,852	805,209	23,840	0.01	0.02	0.00	0.00	0.03
74.08	2,817,158	27,397	845,147	26,264	0.01	0.02	0.00	0.00	0.03
71.54	2,885,980	28,761	865,794	27,563	0.01	0.02	0.00	0.00	0.03
69.00	2,954,801	30,158	886,440	28,893	0.01	0.02	0.00	0.00	0.03
67.83	2,986,391	30,811	895,917	29,514	0.01	0.02	0.00	0.00	0.03
64.00	3,090,187	33,004	927,056	31,601	0.01	0.02	0.00	0.00	0.03
61.58	3,155,623	34,426	946,687	32,954	0.01	0.02	0.00	0.00	0.03
59.00	3,225,573	35,978	967,672	34,431	0.01	0.02	0.00	0.00	0.03
55.33	3,324,856	38,241	997,457	36,583	0.01	0.02	0.00	0.00	0.03
54.00	3,360,959	39,081	1,008,288	37,382	0.01	0.02	0.00	0.00	0.03

Stresses for Pole

Loading Case Seismic

Distance From Base (ft)	Nominal Axial Strength (lbs)	Nominal Flexural Strength (in-kips)	Nominal Shear Strength (lbs)	Nominal Torsional Strength (in-kips)	Axial Interaction Term	Flexural Interaction Term	Shear Interaction Term	Torsion Interaction Term	Combined Stress Interaction
51.75	3,421,883	40,519	1,026,565	38,749	0.01	0.02	0.00	0.00	0.03
51.75	3,814,019	43,960	1,144,206	42,122	0.01	0.02	0.00	0.00	0.03
49.08	3,896,540	45,896	1,168,962	43,964	0.01	0.02	0.00	0.00	0.03
46.08	3,989,376	48,123	1,196,813	46,084	0.01	0.02	0.00	0.00	0.03
44.00	4,053,845	49,701	1,216,154	47,586	0.01	0.02	0.00	0.00	0.03
43.25	4,077,054	50,275	1,223,116	48,132	0.01	0.02	0.00	0.00	0.03
39.00	4,208,572	53,592	1,262,572	51,288	0.01	0.02	0.00	0.00	0.03
37.00	4,270,463	55,189	1,281,139	52,807	0.01	0.02	0.00	0.00	0.03
34.00	4,363,299	57,630	1,308,990	55,128	0.01	0.02	0.00	0.00	0.03
30.75	4,463,872	60,333	1,339,162	57,699	0.01	0.02	0.00	0.00	0.03
29.00	4,518,026	61,814	1,355,408	59,107	0.01	0.02	0.00	0.00	0.03
24.50	4,657,280	65,705	1,397,184	62,807	0.01	0.02	0.00	0.00	0.03
24.00	4,672,753	66,145	1,401,826	63,225	0.01	0.02	0.00	0.00	0.03
19.00	4,827,480	70,622	1,448,244	67,481	0.01	0.02	0.00	0.00	0.03
18.25	4,850,689	71,306	1,455,207	68,132	0.01	0.02	0.00	0.00	0.03
14.00	4,982,207	75,246	1,494,662	71,876	0.01	0.02	0.00	0.00	0.03
12.00	5,044,098	77,137	1,513,229	73,673	0.01	0.02	0.00	0.00	0.03
9.00	5,136,934	80,017	1,541,080	76,410	0.01	0.02	0.00	0.00	0.03
4.00	5,291,661	84,357	1,587,498	81,082	0.01	0.02	0.00	0.00	0.03
0.00	5,415,442	87,832	1,624,633	84,920	0.01	0.02	0.00	0.00	0.03

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case Seismic 2

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)
139.00	0	0	0	0	1	1	2	18
135.00	0	0	0	0	7	8	11	110
135.00	0	0	0	0	197	235	307	3314
134.00	3	-3	4	0	199	237	309	3338
133.33	5	-4	7	0	200	238	311	3354
133.33	5	-4	7	0	200	238	311	3356
129.00	18	-15	23	0	206	246	321	3469
127.75	21	-18	28	0	208	248	323	3503
127.75	21	-18	28	0	208	248	323	3506
124.00	33	-27	43	0	213	254	332	3614
122.08	38	-32	50	0	216	257	336	3672
122.08	38	-32	50	0	216	257	336	3674
119.00	48	-40	63	0	220	263	343	3771
119.00	48	-40	63	0	234	279	365	4079
116.00	58	-49	76	0	243	290	379	4275
116.00	58	-49	76	0	243	290	378	4277
115.00	62	-52	81	0	246	293	383	4345
115.00	62	-52	81	0	349	416	543	6703
114.00	67	-56	87	0	351	419	547	6771
110.92	83	-69	108	0	361	430	561	6990
110.92	83	-69	108	0	360	429	561	6992
109.00	93	-78	121	0	365	436	569	7133
105.00	114	-95	148	0	377	449	587	7439
105.00	114	-95	148	0	500	596	778	10824
104.67	116	-97	152	0	501	597	780	10850
104.67	116	-97	152	0	501	597	780	10853
104.00	121	-101	158	0	502	599	781	10906
99.00	157	-132	205	0	516	615	803	11317
99.00	157	-132	205	0	515	614	801	11319
95.00	187	-157	244	0	526	627	818	11667
95.00	187	-157	244	0	627	747	975	15052
94.00	196	-165	256	0	629	750	979	15142
93.42	201	-169	263	0	631	752	981	15194
93.42	201	-169	263	0	630	750	980	15197
89.00	241	-203	315	0	640	763	995	15608
87.17	258	-217	337	0	644	768	1003	15784
87.17	258	-217	337	0	644	767	1001	15788
85.00	278	-234	363	0	649	773	1010	16001
85.00	278	-234	363	0	648	773	1008	16001
84.00	288	-241	375	0	652	778	1015	16214

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case Seismic 2

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)
80.92	317	-266	413	0	668	796	1039	16886
80.92	317	-266	413	0	667	795	1038	16888
80.42	322	-270	420	0	669	797	1041	16999
79.00	335	-281	437	0	671	800	1044	17168
74.08	383	-321	500	0	683	814	1063	17773
74.08	383	-321	500	0	682	812	1060	17775
71.54	408	-342	532	0	686	818	1068	18099
69.00	433	-363	565	0	691	823	1075	18431
67.83	444	-373	580	0	693	826	1079	18586
67.83	444	-373	580	0	692	825	1077	18589
64.00	482	-405	630	0	699	833	1087	19111
61.58	507	-425	661	0	703	838	1094	19448
61.58	507	-425	661	0	702	837	1092	19450
59.00	533	-447	695	0	705	840	1097	19819
55.33	570	-478	744	0	711	847	1106	20357
55.33	570	-478	744	0	710	846	1105	20359
54.00	583	-489	761	0	711	848	1106	20558
51.75	606	-509	791	0	714	851	1112	20900
51.75	606	-509	791	0	713	850	1110	20900
49.08	634	-532	827	0	721	859	1122	21773
49.08	634	-532	827	0	720	858	1120	21775
46.08	665	-558	868	0	726	866	1130	22779
44.00	686	-576	896	0	728	868	1133	23154
43.25	694	-582	906	0	729	869	1135	23290
43.25	694	-582	906	0	728	868	1133	23292
39.00	739	-620	964	0	732	872	1138	24081
37.00	760	-637	991	0	733	874	1141	24460
37.00	760	-637	991	0	732	873	1139	24464
34.00	791	-664	1033	0	734	874	1141	25044
30.75	825	-692	1077	0	736	877	1145	25686
30.75	825	-692	1077	0	735	876	1143	25688
29.00	844	-708	1101	0	735	875	1143	26040
24.50	891	-748	1163	0	737	878	1147	26964
24.50	891	-748	1163	0	736	877	1145	26966
24.00	896	-752	1170	0	735	876	1143	27071
19.00	949	-796	1239	0	735	876	1144	28135
18.25	957	-803	1249	0	736	877	1144	28297
18.25	957	-803	1249	0	735	875	1143	28299
14.00	1001	-840	1307	0	734	875	1142	29235
12.00	1022	-858	1335	0	734	875	1143	29685

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case Seismic 2

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)
12.00	1022	-858	1335	0	733	874	1141	29686
9.00	1054	-884	1376	0	732	872	1139	30371
4.00	1106	-928	1444	0	730	870	1136	31539
0.00	1148	-963	1498	0	730	870	1136	32499

Deflections for Pole

Loading Case Seismic 2

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)
139.00	2.3	2.7	3.5	0.0	0.25
135.00	2.1	2.6	3.3	0.0	0.25
135.00	2.1	2.6	3.3	0.0	0.25
134.00	2.1	2.5	3.3	0.0	0.25
133.33	2.1	2.5	3.2	0.0	0.25
133.33	2.1	2.5	3.2	0.0	0.25
129.00	1.9	2.3	3.0	0.0	0.25
127.75	1.9	2.3	3.0	0.0	0.24
127.75	1.9	2.3	3.0	0.0	0.24
124.00	1.8	2.1	2.8	0.0	0.23
122.08	1.7	2.0	2.7	0.0	0.23
122.08	1.7	2.0	2.7	0.0	0.23
119.00	1.6	1.9	2.5	0.0	0.22
119.00	1.6	1.9	2.5	0.0	0.22
116.00	1.5	1.8	2.4	0.0	0.22
116.00	1.5	1.8	2.4	0.0	0.22
115.00	1.5	1.8	2.3	0.0	0.21
115.00	1.5	1.8	2.3	0.0	0.21
114.00	1.5	1.8	2.3	0.0	0.21
110.92	1.4	1.7	2.2	0.0	0.21
110.92	1.4	1.7	2.2	0.0	0.21
109.00	1.3	1.6	2.1	0.0	0.20
105.00	1.2	1.5	1.9	0.0	0.20
105.00	1.2	1.5	1.9	0.0	0.20
104.67	1.2	1.5	1.9	0.0	0.19
104.67	1.2	1.5	1.9	0.0	0.19
104.00	1.2	1.4	1.9	0.0	0.19
99.00	1.1	1.3	1.7	0.0	0.18
99.00	1.1	1.3	1.7	0.0	0.18
95.00	1.0	1.2	1.5	0.0	0.17
95.00	1.0	1.2	1.5	0.0	0.17
94.00	1.0	1.1	1.5	0.0	0.17
93.42	0.9	1.1	1.5	0.0	0.17
93.42	0.9	1.1	1.5	0.0	0.17
89.00	0.8	1.0	1.3	0.0	0.16
87.17	0.8	1.0	1.3	0.0	0.16
87.17	0.8	1.0	1.3	0.0	0.16
85.00	0.8	0.9	1.2	0.0	0.15
85.00	0.8	0.9	1.2	0.0	0.15
84.00	0.7	0.9	1.2	0.0	0.15
80.92	0.7	0.8	1.1	0.0	0.14

Deflections for Pole

Loading Case Seismic 2

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)
80.92	0.7	0.8	1.1	0.0	0.14
80.42	0.7	0.8	1.0	0.0	0.14
79.00	0.6	0.8	1.0	0.0	0.14
74.08	0.6	0.7	0.9	0.0	0.13
74.08	0.6	0.7	0.9	0.0	0.13
71.54	0.5	0.6	0.8	0.0	0.12
69.00	0.5	0.6	0.7	0.0	0.11
67.83	0.5	0.5	0.7	0.0	0.11
67.83	0.5	0.5	0.7	0.0	0.11
64.00	0.4	0.5	0.6	0.0	0.10
61.58	0.4	0.4	0.6	0.0	0.10
61.58	0.4	0.4	0.6	0.0	0.10
59.00	0.3	0.4	0.5	0.0	0.09
55.33	0.3	0.4	0.5	0.0	0.09
55.33	0.3	0.4	0.5	0.0	0.09
54.00	0.3	0.3	0.4	0.0	0.08
51.75	0.3	0.3	0.4	0.0	0.08
51.75	0.3	0.3	0.4	0.0	0.08
49.08	0.2	0.3	0.4	0.0	0.07
49.08	0.2	0.3	0.4	0.0	0.07
46.08	0.2	0.2	0.3	0.0	0.07
44.00	0.2	0.2	0.3	0.0	0.06
43.25	0.2	0.2	0.3	0.0	0.06
43.25	0.2	0.2	0.3	0.0	0.06
39.00	0.1	0.2	0.2	0.0	0.06
37.00	0.1	0.1	0.2	0.0	0.05
37.00	0.1	0.1	0.2	0.0	0.05
34.00	0.1	0.1	0.2	0.0	0.05
30.75	0.1	0.1	0.1	0.0	0.04
30.75	0.1	0.1	0.1	0.0	0.04
29.00	0.1	0.1	0.1	0.0	0.04
24.50	0.1	0.1	0.1	0.0	0.03
24.50	0.1	0.1	0.1	0.0	0.03
24.00	0.1	0.1	0.1	0.0	0.03
19.00	0.0	0.0	0.0	0.0	0.03
18.25	0.0	0.0	0.0	0.0	0.02
18.25	0.0	0.0	0.0	0.0	0.02
14.00	0.0	0.0	0.0	0.0	0.02
12.00	0.0	0.0	0.0	0.0	0.02
12.00	0.0	0.0	0.0	0.0	0.02
9.00	0.0	0.0	0.0	0.0	0.01
4.00	0.0	0.0	0.0	0.0	0.00
0.00	0.0	0.0	0.0	0.0	0.00

Stresses for Pole

Loading Case Seismic 2

Distance From Base (ft)	Nominal Axial Strength (lbs)	Nominal Flexural Strength (in-kips)	Nominal Shear Strength (lbs)	Nominal Torsional Strength (in-kips)	Axial Interaction Term	Flexural Interaction Term	Shear Interaction Term	Torsion Interaction Term	Combined Stress Interaction
139.00	492,709	1,954	147,813	1,875	0.00	0.00	0.00	0.00	0.01
135.00	539,127	2,342	161,738	2,244	0.01	0.00	0.00	0.00	0.01
134.00	550,731	2,445	165,219	2,342	0.01	0.00	0.00	0.00	0.01
133.33	558,467	2,515	167,540	2,408	0.01	0.00	0.00	0.00	0.01
129.00	608,754	2,991	182,626	2,862	0.01	0.01	0.00	0.00	0.01
127.75	623,259	3,136	186,978	2,999	0.01	0.01	0.00	0.00	0.02
124.00	666,776	3,592	200,033	3,433	0.01	0.01	0.00	0.00	0.02
122.08	689,018	3,837	206,706	3,666	0.01	0.01	0.00	0.00	0.02
119.00	724,799	4,248	217,440	4,056	0.01	0.02	0.00	0.00	0.02
119.00	1,435,092	8,244	430,528	7,951	0.00	0.01	0.00	0.00	0.01
116.00	1,504,719	9,072	451,416	8,742	0.00	0.01	0.00	0.00	0.01
115.00	1,527,928	9,357	458,379	9,013	0.00	0.01	0.00	0.00	0.01
114.00	1,551,137	9,646	465,341	9,289	0.00	0.01	0.00	0.00	0.01
110.92	1,622,699	10,565	486,810	10,166	0.00	0.01	0.00	0.00	0.02
109.00	1,667,183	11,157	500,155	10,731	0.00	0.01	0.00	0.00	0.02
105.00	1,760,019	12,445	528,006	11,960	0.01	0.01	0.00	0.00	0.02
104.67	1,767,755	12,556	530,327	12,065	0.01	0.01	0.00	0.00	0.02
104.00	1,783,228	12,779	534,968	12,277	0.01	0.01	0.00	0.00	0.02
99.00	1,899,273	14,510	569,782	13,927	0.01	0.02	0.00	0.00	0.02
95.00	1,992,109	15,974	597,633	15,322	0.01	0.02	0.00	0.00	0.03
94.00	2,015,318	16,351	604,595	15,681	0.01	0.02	0.00	0.00	0.03
93.42	2,028,857	16,573	608,657	15,892	0.01	0.02	0.00	0.00	0.03
89.00	2,131,363	18,302	639,409	17,539	0.01	0.02	0.00	0.00	0.03
87.17	2,173,913	19,045	652,174	18,246	0.01	0.02	0.00	0.00	0.03
85.00	2,224,200	19,943	667,260	19,100	0.01	0.02	0.00	0.00	0.03
85.00	2,521,565	21,914	756,470	21,041	0.01	0.02	0.00	0.00	0.03
84.00	2,548,643	22,391	764,593	21,496	0.01	0.02	0.00	0.00	0.03
80.92	2,632,131	23,893	789,639	22,927	0.01	0.02	0.00	0.00	0.03
80.42	2,645,669	24,141	793,701	23,164	0.01	0.02	0.00	0.00	0.03
79.00	2,684,029	24,852	805,209	23,840	0.01	0.02	0.00	0.00	0.03
74.08	2,817,158	27,397	845,147	26,264	0.01	0.02	0.00	0.00	0.03
71.54	2,885,980	28,761	865,794	27,563	0.01	0.02	0.00	0.00	0.03
69.00	2,954,801	30,158	886,440	28,893	0.01	0.02	0.00	0.00	0.03
67.83	2,986,391	30,811	895,917	29,514	0.01	0.02	0.00	0.00	0.03
64.00	3,090,187	33,004	927,056	31,601	0.01	0.02	0.00	0.00	0.03
61.58	3,155,623	34,426	946,687	32,954	0.01	0.02	0.00	0.00	0.03
59.00	3,225,573	35,978	967,672	34,431	0.01	0.02	0.00	0.00	0.03
55.33	3,324,856	38,241	997,457	36,583	0.01	0.02	0.00	0.00	0.03
54.00	3,360,959	39,081	1,008,288	37,382	0.01	0.02	0.00	0.00	0.03

Stresses for Pole

Loading Case Seismic 2

Distance From Base (ft)	Nominal Axial Strength (lbs)	Nominal Flexural Strength (in-kips)	Nominal Shear Strength (lbs)	Nominal Torsional Strength (in-kips)	Axial Interaction Term	Flexural Interaction Term	Shear Interaction Term	Torsion Interaction Term	Combined Stress Interaction
51.75	3,421,883	40,519	1,026,565	38,749	0.01	0.02	0.00	0.00	0.03
51.75	3,814,019	43,960	1,144,206	42,122	0.01	0.02	0.00	0.00	0.03
49.08	3,896,540	45,896	1,168,962	43,964	0.01	0.02	0.00	0.00	0.03
46.08	3,989,376	48,123	1,196,813	46,084	0.01	0.02	0.00	0.00	0.03
44.00	4,053,845	49,701	1,216,154	47,586	0.01	0.02	0.00	0.00	0.03
43.25	4,077,054	50,275	1,223,116	48,132	0.01	0.02	0.00	0.00	0.03
39.00	4,208,572	53,592	1,262,572	51,288	0.01	0.02	0.00	0.00	0.03
37.00	4,270,463	55,189	1,281,139	52,807	0.01	0.02	0.00	0.00	0.03
34.00	4,363,299	57,630	1,308,990	55,128	0.01	0.02	0.00	0.00	0.03
30.75	4,463,872	60,333	1,339,162	57,699	0.01	0.02	0.00	0.00	0.03
29.00	4,518,026	61,814	1,355,408	59,107	0.01	0.02	0.00	0.00	0.03
24.50	4,657,280	65,705	1,397,184	62,807	0.01	0.02	0.00	0.00	0.03
24.00	4,672,753	66,145	1,401,826	63,225	0.01	0.02	0.00	0.00	0.03
19.00	4,827,480	70,622	1,448,244	67,481	0.01	0.02	0.00	0.00	0.03
18.25	4,850,689	71,306	1,455,207	68,132	0.01	0.02	0.00	0.00	0.03
14.00	4,982,207	75,246	1,494,662	71,876	0.01	0.02	0.00	0.00	0.03
12.00	5,044,098	77,137	1,513,229	73,673	0.01	0.02	0.00	0.00	0.03
9.00	5,136,934	80,017	1,541,080	76,410	0.01	0.02	0.00	0.00	0.03
4.00	5,291,661	84,357	1,587,498	81,082	0.01	0.02	0.00	0.00	0.03
0.00	5,415,442	87,832	1,624,633	84,920	0.01	0.02	0.00	0.00	0.03

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

F L A N G E A N A L Y S I S

FLANGE FOR THE C - D JOINT : CONTROLLING LOAD CASE WIND

Input Data

Applied Reactions

Resultant Moment	=	2,084	in-kips
Torsion	=	0	in-kips
Resultant Shear	=	11,281	lbs
Axial	=	-3,811	lbs

Bolts

Number of Bolts	=	24	
Bolt Diameter	=	0.50	in
Bolt Material	=	A325	
Bolt Circle	=	22.50	in

Flange

Outside Diameter	=	25.00	in
Thickness	=	1.500	in
Yield Strength	=	50	ksi
Tensile Strength	=	65	ksi
Valmont Material Spec.	=	S-56	

Tube

No. of sides	=	18	
Design Diameter	=	18.925	in
Detailed "C" Sect. Dia	=	18.969	in
Detailed "D" Sect. Dia	=	18.881	in
Thickness	=	0.3750	in
Yield	=	65	ksi

Results

Bolts

Maximum Bolt Axial Force	=	12,284	lbs
Maximum Bolt Shear	=	470	lbs
Tensile Strength	=	120	ksi
Axial Capacity	=	12,780	lbs
Axial Stress	=	87	ksi
Shear Capacity	=	6,627	lbs
Shear Stress	=	2,394	psi
Combined Stress Ratio	=	0.93	

Flange

Weight	=	156	lbs
Controlling Stress	=	Shear	
Maximum Stress Ratio	=	0.24	
Bending Stress Ratio	=	0.22	
Shear Stress Ratio	=	0.49	
Bearing Stress Ratio	=	0.22	

*** BOLT COORDINATES ***

BOLT NO.	X-COORD	Y-COORD		BOLT NO.	X-COORD	Y-COORD
1	11.25	0.00	*	2	10.87	2.91
3	9.74	5.63	*	4	7.96	7.96
5	5.63	9.74	*	6	2.91	10.87
7	0.00	11.25	*			

NUMBER OF BOLTS	DIAMETER (IN.)	LENGTH (IN.)	WEIGHT (KIPS)	SHIPPED AS	PROJECTION LENGTH (IN.)	GALVANIZED LENGTH (IN.)	THREAD SIZE
16	2.250	66.00	1.64	BOLTS, TEMPLATES	12.00	66.00	4.5-UNC-2A

STEEL SPEC. VALMONT	STEEL SPECIF.	MAXIMUM BOLT FORCE (KIPS)	MAXIMUM BOLT SHEAR FORCE (KIPS)	NOMINAL STRENGTH (KIPS)	STRESS AREA (SQ. IN.)	INTERACTION VALUE	CONFIGURATION OF BOTTOM END
S23	A615	201.69	3.16	268.65	3.25	0.75	THREADED WITH HEAVY HEX HEAD NUT

*** BOLT COORDINATES (IN.) ***

BOLT NO.	X-COORD	Y-COORD	*	BOLT NO.	X-COORD	Y-COORD
1	30.250	0.000	*	2	27.947	11.576
3	21.390	21.390	*	4	11.576	27.947
5	0.000	30.250	*			

MAX. BOLT CIRCLE = 60.50 IN. TEMPLATE DIAMETER = 64.00 IN.

*** BASE PLATE CHARACTERISTICS GOVERNED BY LOADING CASE WIND ***

BASE PLATE DIAMETER (IN.)	BASE PLATE THICKNESS (IN.)	ACTUAL WEIGHT (KIPS)	RAW MATERIAL WEIGHT (KIPS)	POLE DIAM. (MAJOR DIAM.) (IN.)
66.50	2.75	1.70	3.50	53.00

EFFECTIVE PLATE WIDTH (IN.)	PLASTIC SECTION MOD. (CU. IN.)	MOMENT IN BASE PLATE (IN. -K)	PLASTIC MOMENT (IN. -K)	FACTORED RESISTING MOM. (IN. -K)
10.41	19.67	756.34	983.74	885.37

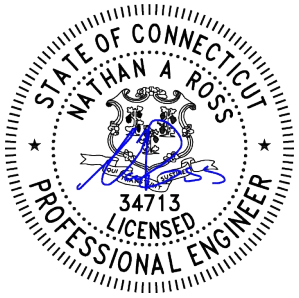
STEEL SPECIF. VALMONT	STEEL SPECIF. OTHER	EFFECTIVE YIELD STRESS (KSI)	STRESS RATIO
S56	A572	50	0.85

** LOADS AT POLE BASE IN THE GLOBAL COORDINATE SYSTEM ********** LOADING CASES **********

LOADING CASE IDENTIFICATION	WIND	ICE + WIND	T+S	Seismic	Seismic 2	]MAX CRITERION-	LOAD CASE
MOMENT ABT. X-AXIS (IN-KIP)	45978	11421	9453	1162	1147	]MOMENT ABT. X	WIND
MOMENT ABT. Y-AXIS (IN-KIP)	-38580	-9584	-7932	-975	-963	]MOMENT ABT. Y	WIND
SHEAR FORCE (LB.)	50637	12579	10456	1134	1134	]RES. MOMENT	WIND
VERTICAL FORCE (LB.)	46307	72800	37852	46908	32499	]SHEAR FORCE	WIND
						]BOLT FORCE	WIND
						]BOLT TENSION	WIND

Valmont Structures
28800 Ida Street
Vally, NE 68064
(402) 359-2201
Engineer:YZ
Reviewed by:YZ

Slab Foundation
Design Calculations



Valmont Order Number: 537228
Customer: Verizon Wireless
Site: Wolcott, CT
Pole Height: 139 ft (140 ft agl)

Inputs

Site Information

Customer:	Verizon Wireless		
Site:	Wolcott		
Project Number:	537228		
State Abbreviation:	CT		
Soil Parameters Based On:	Geotechnical Report		
Select Soil Type:			
Soil Report Name & Project Number:	S.W. Cole Report Number 21-1434 S dated 11/10/2021		
Design Date:	10/13/2023		
Engineer:	YZ		
Reviewed By:	YZ		
Select Design Code:	TIA 222 H		

Design Requirements

Seismic Design Category:	B		
Ground Water Depth:	99	ft	99 ft Represents
Frost Depth:	4	ft	no Groundwater.
Clear Cover (Pad)	3	in	
Clear Cover (Pedestal):	4	in	

Structure Properties

Type:	Pole	
Height:	139	ft
Bolt Circle:	60.5	in
Number of Bolts:	16	
Bolt Diameter:	2.25	in
Bolt Projection:	12	in
Bolt Length:	66	in
Embedment Plate Diameter:	64	in

Reactions

Foundation Maximum Stress:	100.00%	
Moment:	60020.946	in*kips
Global Shear:	50.638	kips
Axial:	48.009	kips
Torsion:	0.000	ft*kips

Material Properties

Anchor Bolt Grade:	A615 Gr75	
Anchor Bolt Allowable Rupture:	100	ksi
Anchor Bolt Allowable Yield:	75	ksi
Concrete Type:	Normal	
Unit Weight of Concrete:	150	pcf
Concrete Compressive Strength:	4500	psi
Reinforcement Yield Strength:	60	ksi
Reinforcement Modulus of Elasticity:	29000	ksi

Bearing Capacity (ksf)	Allowable or Ult?	Safety Factor if Allowable	Backfill Weight (pcf)	Cohesion (ksf)	Internal Friction Angle (deg)	Sliding Friction	Passive Pressure (ksf)	Allowable or Ult?	Safety Factor if Allowable
5.00	Allowable	2.00	125.00	0.00	0.00	0.40	0.00	Ultimate	1.00

Net

valmont STRUCTURES

Pad and Pier Data Entry & Calculations

Soil Information	
Soil Parameters Based On:	**Geotechnical Report**
Geotechnical Report Information:	**S.W. Cole Report Number 21-1434 S dated 11/10/2021**

Reactions		
Structure Type	**Pole**	
Axial:	**48.009**	kips
Global Shear	**50.638**	kips
Moment	**5001.746**	ft-kips
Torsion	**0.000**	ft-kips
Bolt Circle	**60.5**	in
Bolt Length	**66**	in
Bolt Projection	**12**	in

Enter Foundation Size		
Concrete Slab Only?	N	(Enter "Y" if there is no pier)
Pedestal Diameter	**7.00**	ft
Pedestal Shape	**CIRCULAR**	
Pedestal Extension Above Grade	**0.50**	ft
Depth to Bottom of Slab	**5.50**	ft
Height of Pedestal	**3.50**	ft
Slab Width	**25.00**	ft
Slab Thickness	**2.50**	ft

Enter Rebar Size & Quantity	
Pad Rebar Size (Top)	7
Pad Rebar Quantity (Top)	**22**
Pad Rebar Size (Bottom)	8
Pad Rebar Quantity (Bottom)	**42**
Pedestal Vertical Rebar Size	9
Pedestal Vertical Rebar Quantity	**36**
Pedestal Tie Rebar Size	4
Pedestal Tie Rebar Quantity	**5**

Rebar Spacing		Min. Rebar
Top	3 ≤ 13.1 ≤ 17.1	14
	✓	✓
Bottom	3 ≤ 6.1 ≤ 17	11
	✓	✓
Vertical	3 ≤ 5.3 ≤ 16.9	28
	✓	✓
Ties	3 ≤ 14 ≤ 18.048	4
	✓	✓

Select Design Options		
Excess Reinforcement Reduction (ACI 318-14 25.4.10)	☑	(Not permitted for Seismic Design Category D, E, or F, 25.4.10.2(e))
Eccentricity Using Working Loads?	☑	(For REV G or REV H Only)
Working Load Conversion Factor	**1.35**	
Top and Bottom Rebar Same?	☐	
Check if Eccentricity is Within Kern?	☐	
Check Diagonal Bearing Pressure?	☑	(Required for TIA-H. Optional for Other Codes)

Site Information			
Customer:	**Verizon Wireless**	Site:	**Wolcott, CT**
Project Number:	**537228**		

Soil & Concrete Properties		
Allowable Net Soil Bearing Capacity	**5.00**	ksf
Water Depth	**99.00**	ft
Depth of Fill	**3.00**	ft
Backfill Weight Above Water, γ	**125.00**	pcf
Backfill Weight Below Water	**62.60**	pcf
Concrete Weight Above Water	**150.00**	pcf

valmont STRUCTURES

Concrete Weight Below Water	**87.60**	pcf
Cohesion	**0.00**	ksf
Internal Friction Angle	**0.00**	deg
Passive Pressure	**0.00**	ksf
Sliding Friction	**0.40**	
Frost Depth	**4.00**	ft
Concrete Design Strength	**4500.00**	psi

Foundation Calculations			
Structural Code:	**TIA-222-H**	**Concrete Code:**	**ACI 318-14**

Concrete & Soil Weight		
Pedestal Volume	**134.696**	ft^3
Pedestal Weight (total weight above & below water)	**20.204**	kips
Slab Volume	**1562.500**	ft^3
Slab Weight	**234.375**	kips
Total Concrete Weight	**254.579**	kips
Soil Weight Above Footing	**219.943**	kips
Total Concrete Volume	**62.86**	cubic yards

Sliding Resistance		
Passive Pressre Coefficient, Kp	**1.00**	
Passive Pressure Top	**0.50**	ksf
Passive Pressure Bottom	**0.69**	ksf
Average Passive Pressure	**0.59**	ksf
Shear Depth	**1.50**	ft2
Shear Area	**37.50**	ft^2
Resisting Weight (Factored)	**463.08**	kips
Ultimate Shear Resistance	**207.50**	kips
Nominal Shear Resistance	**155.62**	kips
Shear Demand	**50.64**	kips
Check for Sliding	✓	
Stress Ratio	**32.54%**	

Overturning Resistance		
From Weight	**5788.46**	ft-kips
From Passive Pressure	**11.13**	ft-kips
From Soil Wedge	**0.00**	ft-kips
Total Resisting Moment (Factored)	**5796.81**	ft-kips
Moment Resistance Demand	**5305.57196**	ft-kips
Check for Overturning Resistance	✓	
Stress Ratio	**91.53%**	

Bearing Resistance (Parallel Direction)		
Slab Area	**625.0000**	ft^2
Section Modulus of Slab	**2604.1667**	ft^3
Kern Limit	**4.1667**	ft
Total Weight (LC 0.9D)	**463.0768**	kips
Eccentricity (LC 0.9D)	**8.4868**	ft
Maximum Toe Pressure (LC 0.9D)	**3.0376**	ksf
Minimum Toe Pressure (LC 0.9D)	**-1.0371**	ksf
Adjusted Toe Pressure (if E > Kern) (LC 0.9D)	**4.1540**	ksf

Total Weight (LC 1.2D)	**617.4358**	kips	
Eccentricity (LC 1.2D)	**6.3651**	ft	
Maximum Toe Pressure (LC 1.2D)	**3.3710**	ksf	
Minimum Toe Pressure (LC 1.2D)	**-0.7037**	ksf	
Adjusted Toe Pressure (if E > Kern) (LC 1.2D)	**3.6232**	ksf	

Bearing Resistance (Diagonal Direction)			
Kern Limit	**4.1667**	ft	
Moment of Inertia of Mat	**32552.0833**	ft^4	
Total Weight (LC 0.9D)	**463.0768**	kips	
Eccentricity (LC 0.9D)	**8.4868**	ft	
Bearing at A	**2.8752**	ksf	
Bearing at B	**0.7409**	ksf	
Bearing at C	**-1.3933**	ksf	
Bearing at D	**0.7409**	ksf	
Initial Location of NA from C	**11.5407**	ft	
Calculated Location of NA from C	**16.9712**	ft	
Length of Line GH	**33.9424**	ft	
Length of EG & HJ	**1.4130**	ft	
Length of BG & HD	**0.9991**	ft	
Length of EJ	**36.7683**	ft	
Height for EAJ	**18.3842**	ft	
Height for EBG & HDJ	**0.7065**	ft	
MOI for EAJ	**19038.0796**	ft^4	
MOI for EBG & HDJ	**0.0415**	ft^4	
MOI for ABGHDA	**19037.9965**	ft^4	
Distance to Point Load from EJ	**9.1933**	ft	
Effective Length in Bearing Along AB & AD	**25.0000**	ft	
Volume of Pressure Envelope for ABD	**461.1417**	kips	
Volume of Pressure Envelope for GIKH	**1.8942**	kips	
Volume of Pressure Envelope for BIG & DKH	**0.02628368**	kips	
Total Volume of Pressure Envelope	**463.0885**	kips	
Difference in Weight	**0.0000**	kips	OK
Adjusted Bearing at A	**4.1110**	ksf	
Adjusted Bearing at B &D	**0.1580**	ksf	
Maximum Diagonal Bearing Pressure (LC 0.9D)	**5.5498**	ksf	
Total Weight (LC 1.2D)	**617.4358**	kips	
Eccentricity (LC 1.2D)	**6.3651**	ft	
Bearing at A	**3.1221**	ksf	
Bearing at B	**0.9879**	ksf	
Bearing at C	**-1.1463**	ksf	
Bearing at D	**0.9879**	ksf	
Initial Location of NA from C	**9.4951**	ft	
Calculated Location of NA from C	**12.2607**	ft	
Length of Line GH	**24.5214**	ft	
Length of EG & HJ	**10.8339**	ft	
Length of BG & HD	**7.6608**	ft	
Length of EJ	**46.1893**	ft	
Height for EAJ	**23.0946**	ft	
Height for EBG & HDJ	**5.4170**	ft	
MOI for EAJ	**47412.5925**	ft^4	
MOI for EBG & HDJ	**143.5077**	ft^4	

valmont STRUCTURES

MOI for ABGHDA	**47125.5770**	ft^4	
Distance to Point Load from EJ	**11.7821**	ft	
Effective Length in Bearing Along AB & AD	**25.0000**	ft	
Volume of Pressure Envelope for ABD	**545.5721**	kips	
Volume of Pressure Envelope for GIKH	**55.5375**	kips	
Volume of Pressure Envelope for BIG & DKH	**8.1791**	kips	
Total Volume of Pressure Envelope	**617.4677**	kips	
Difference in Weight	**0.0000**	kips	OK
Adjusted Bearing at A	**3.5651**	ksf	
Adjusted Bearing at B &D	**0.8362**	ksf	
Maximum Diagonal Bearing Pressure (LC 1.2D)	**4.8129**	ksf	
IS ECCENTRICITY WITHIN 45% OF FOUNDATION WIDTH	**YES**		
Maximum Bearing Pressure	**5.5498**		
Ultimate Gross Bearing Pressure	**10.6875**	ksf	
Factored Bearing Pressure	**8.0156**	ksf	
Check Bearing Capacity	✓		
Stress Ratio	**69.24%**		

Concrete One Way Shear Strength		
Pad Rebar Size (Top)	**7**	
Pad Rebar Diameter (Top)	**0.875**	in
Pad Single Rebar Area (Top)	**0.601**	in^2
Pad Rebar Size (Bottom)	**8**	
Pad Rebar Diameter (Bottom)	**1.000**	in
Pad Single Rebar Area (Bottom)	**0.785**	in^2
Effective Depth (dc)	**26.5000**	in
Distance from Edge of Pad to Column Face	**108.0000**	in
Distance from Edge of Pad to DC	**81.5000**	in
Bearing Slope (LC 0.9D)	**0.3450**	kcf
Shear Demand (LC 0.9D)	**506.3769**	kips
Bearing Slope (LC 1.2D)	**0.1969**	kcf
Shear Demand (LC 1.2D)	**501.6762**	kips
Shear Resistance (per ACI 318-14 22.5.5.1)	**799.9533**	kips
Check One Way Shear	✓	
Stress Ratio	**63.30%**	

Concrete Two Way Shear Strength		
Equivalent Column Width (PER ACI 318-14 8.10.1.3 & 22.6.4.1.2)	**74.4431**	in
Mat Effective Width in Bearing (LC 0.9D)	**12.0395**	ft
Mat Effective Width in Bearing (LC 1.2D)	**18.4046**	ft
Critical Section Properties		
Critical Section Length (b1)	**100.9431**	in
Critical Section Length (b2)	**100.9431**	in
Critical Section Perimeter (b0)	**403.7722**	in
Centroid of Critical Section (c)	**50.4715**	in
Slab Moment (Msc)	**5178.9776**	ft-kips
Polar MOI of Critical Section (Jc)	**18484303.2630**	in^4

valmont STRUCTURES

Fraction of Moment Transferred by Flexure	**0.6000**	
Fraction of Moment Transferred by Eccentricy of Shear	**0.4000**	
Bearing Slope (LC 0.9D)	**0.3450**	kcf
Average Bearing Pressure at Centroid (LC 0.9D)	**0.0000**	ksf
Bearing Slope (LC 1.2D)	**0.1969**	kcf
Average Bearing Pressure at Centroid (LC 1.2D)	**1.1624**	ksf
Shear Force at Centroid	**72.2538**	kips
Shear Stress at Centroid	**74.6307**	psi
Available Shear (PER ACI 318-14 22.6.5.2)	**201.2461**	psi
Check Two Way Shear for Interior Column	✓	
Stress Ratio	**37.08%**	
Critical Section Reinforcement Design		
Effective Beam Width for Resisting Flexure	**14.5000**	ft
Moment Transferred by Flexure	**3107.3866**	ft-kips
ACI Factor per Table 22.2.2.4.3 ($ß_1$)	**0.8250**	
Area of Steel Required	**26.0577**	in^2
Depth of Stress Block	**2.3491**	in
Area of Steel Required in Effective Width	**24.5397**	in^2
Area of Steel Required in Entire Mat (One Way)	**42.3097**	in^2
Area of Steel Provided in Bottom	**46.2158**	in^2
Check Two Way Shear Reinforcement	✓	
Stress Ratio	**91.55%**	

Pad Flexure / Reinforcement Design		
Bottom Rebar		
Bearing Pressure at Critical Section (LC 0.9D)	**1.0487**	ksf
Factored Bearing Moment (LC 0.9D)	**3157.9042**	ft-kips
Bearing Pressure at Critical Section (LC 1.2D)	**1.8514**	ksf
Factored Bearing Moment (LC 1.2D)	**3070.4888**	ft-kips
Area of Rebar Steel Provided in Bottom	**32.9867**	in^2
Depth of Stress Block	**1.7248**	in^2
Nominal Flexural Strength	**4228.5024**	ft-kips
Depth to Neutral Axis	**2.0907**	in
Steel Strain	**0.0350**	in/in
Strength Reduction Factor per ACI 21.2.2	**0.90**	
Factored Flexural Strength	**3805.6521**	ft-kips
Check Bottom Rebar Flexural Strength	✓	
Stress Ratio	**82.98%**	
Top Rebar		
Factored Moment from Dead Weight (LC 0.9D)	**683.4375**	ft-kips
Factored Moment from Dead Weight (LC 1.2D)	**911.2500**	ft-kips
Area of Rebar Steel Provided in Top	**13.2291**	in^2
Depth of Stress Block	**0.6917**	in^2
Nominal Flexural Strength	**1729.9723**	ft-kips
Depth to Neutral Axis	**0.8384**	in
Steel Strain	**0.0918**	in/in

valmont STRUCTURES

Strength Reduction Factor per ACI 21.2.2	**0.90**		
Factored Flexural Strength	**1556.9751**	ft-kips	
Check Top Rebar Flexural Strength	✓		
Stress Ratio	**58.53%**		

Pad Min. Rebar & Spacing Requirements			
Minimum Reinforcement Ratio for Slabs	**0.0018**		PER ACI 318-14 (7.6.1.1, 24.4.3.2)
Minimum Reinforcement Ratio for Beams	**0.0034**		PER ACI 318-14 (9.6.1.2)
Minimum Reinforcement Area Required	**8.1000**	in^2	
Area of Rebar Steel Provided in Top	**13.2291**	in^2	
Check Minimum Rebar Area in Top	✓		
Stress Ratio	**61.23%**		
Area of Rebar Steel Provided in Bottom	**32.9867**	in^2	
Check Minimum Rebar Area in Bottom	✓		
Stress Ratio	**24.56%**		
Minimum Rebar Clear Spacing	**3.0000**	in	Minimum clear spacing per ACI 318-14 (25.2.1) is smaller of 1 in, 1 rebar diameter, or 4/3 * maximum coarse aggregate diameter using 3 in here as minimum.
Maximum Rebar Center to Center Spacing	**18.0000**	in	PER ACI 318-14 (8.7.2)
Rebar Clear Spacing in Top	**13.0833**	in	
Check Rebar Clear Spacing in Top	✓		
Rebar Clear Spacing in Bottom	**6.1463**	in	
Check Rebar Clear Spacing in Bottom	✓		

Pad Rebar Development Length Requirements per ACI 318-14 25.4.2			
Modification Factors per ACI 318-14 Table 25.4.2.4			
Normal vs. Light Weight	**1**		
Epoxy Coating	**1.0**		Adjust per ACI for epoxy coated rebar if used.
Size (Top)	**0.8**		
Size (Bottom)	**1.0**		
Casting Position (Top)	**1.3**		
Casting Position (Bottom)	**1.0**		
Spacing / Cover (Top)	**2.5**		
Spacing / Cover (Bottom)	**2.5**		
Excess Reinforcement Ratio (Top)	**0.585**		PER ACI 318-14 25.4.10.1
Excess Reinforcement Ratio (Bottom)	**0.246**		
Development Length Demand (Top)	**14.2910**	in	
Development Length Demand (Bottom)	**12.0000**	in	
Length Available (Top & Bottom)	**105.0000**		
Check Length (Top)	✓		
Check Length (Bottom)	✓		

Pedestal Design		
Pedestal Min. Rebar & Spacing Requirements		
Pedestal Vertical Rebar Size	**9**	
Pedestal Vertical Rebar Diameter	**1.128**	in

valmont STRUCTURES

Pedestal Vertical Single Rebar Area	**0.999**	in^2	
Pedestal Vertical Total Rebar Area Provided	**35.976**	in^2	
Minimum Rebar Ratio for Pedestals	**0.005**		PER ACI 318-14 16.3.4
Pedestal Vertical Total Rebar Area Required	**27.709**	in^2	
Check Pier Vertical Rebar Area	✓		
Rebar Cage Diameter (to Center of Vertical Bars)	**73.872**	in	
Pedestal Vertical Rebar Clear Spacing	**5.319**	in	
Check Pier Vertical Rebar Spacing	✓		
Pedestal Tie Rebar Size	**4**	in	
Pedestal Tie Rebar Diameter	**0.500**	in	
Pedestal Tie Rebar Area	**0.196**	in^2	
Pedestal Tie Quantity Provided	**5**		
Maximum Tie Spacing	**18.048**		PER ACI 318-14 25.7.2
Minimum Tie Quantity Required	**4.000**		Includes 1 additional at the top below the first tie
Check Tie Spacing & Quantity	✓		
Pedestal Compression Capacity			
Maximum Axial Compressive Strength	**14254.708**	kips	PER ACI 318-14 Table 21.2.1 & 22.4.2.2
Check Pedestal Compression Capacity	✓		
Stress Ratio	**0.34%**		

Pedestal Shear Capacity			
Cross Section Diameter, Bw	**84.000**	in	
Distance from Extreme Compression Fiber to Centroid of Longitudinal Reinforcement	**67.200**	in	PER ACI 318-14 22.5.2.2
Factored Concrete Shear Capacity, Vc	**570.047**	kips	PER ACI 318-14 22.5.6.1 - PHI = 0.75
Check Cross Section Dimensions	**OK**		PER ACI 318-14 22.5.1.2
Shear Reinforcement Required	**0.000**	kips	PER ACI 318-14 22.5.10.1
Spacing of Shear Reinforcement Required	**NA**	in	PER ACI 318-14 22.5.10.5.3
Check Pedestal Shear Capacity	✓		
Stress Ratio	**8.88%**		

Pedestal Moment Capacity		
Pedestal Applied Moment	**5178.978**	ft-kips
Pedestal Factored Moment Capacity	**5821.081**	ft-kips
Check Pedestal Capacity	✓	
Stress Ratio	**88.97%**	

Pedestal Vertical Rebar Development Length Requirements			
Normal vs. Light Weight	**1**		
Epoxy Coating	**1.0**		
Casting Position	**1.0**		
Size	**1.0**		
Spacing Cover	**2.5**		
Confining Reinforcement (Compression)	**1.0**		PER ACI 318-14 TABLE 25.4.9.3
Confining Reinforcement (Hooks)	**1.0**		PER ACI 318-14 TABLE 25.4.3.2

valmont STRUCTURES

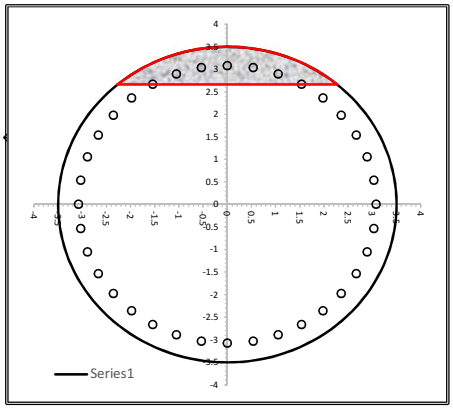
Bar Size & Clear Cover	**0.7**		PER ACI 318-14 TABLE 25.4.3.2
Excess Reinforcement Ratio	**0.7702**		PER ACI 318-14 25.4.10.1
Development Length Demand (Tension)	**23.31**	in	PER ACI 318-14 25.4.2
Development Length Demand (Compression)	**15.64**	in	PER ACI 318-14 25.4.9.2
Development Length Demand (Hook)	**10.88**	in	
Length Available in Pedestal	**39.00**	in	
Check Vertical Bar in Pedestal (Tension)	✓		
Check Vertical Bar in Pedestal (Compression)	✓		
Length Available in Pad	**27.00**	in	
Check Vertical Bar in Pad (Tension)	✓		
Check Vertical bar in Pad (Compression)	✓		
Check Hook	✓		

Pedestal Torsional Capacity			
Pier Cross Section Area, Acp	**5541.769**	in^2	
Pier Perimeter	**263.894**	in	
Threshold Torsion	**494.446**	ft-kips	PER ACI 318-14 22.7.4
Consider Torsion Effects?	**N**		
Web Width Bw	**84.000**	in	
Distance from Extreme Compression Fiber to Centroid of Longitudinal Reinforcement Diameter	**67.200**	in	
Perimeter Along Center of Transverse Rebar, ph	**237.190**	in	
Area Enclosed by Transverse Rebar, Aoh	**4476.966**	in^2	
Ao	**3805.421**	in^2	
Tie Spacing as Provided, s	**14.000**	in	
Nominal Torsional Strength	**533.709**	ft-kips	
Factored Torsional Strength	**400.282**	ft-kips	
Cross Section Limits for Solid Sections	**OK**		PER ACI 318-14 22.7.7.1
Check Torsional Strength	✓		PER ACI 318-14 22.7.6
Stress Ratio	**0.00%**		
Anchor Steel Length Check			
Anchor Bolt Embedment in Concrete	**54.000**	in	
Available Development Length	**45.818**	in	Note: assumes embedment plate is 2 in above bottom of anchor bolt.
Required Development Length (Tension)	**23.312**	in	
Check Anchor Bolt Engagement	✓		
Minimum Anchor Bolt Embedment per TIA-222-H 9.6	**13.372**	in	
Check Anchor Bolt Length	✓		

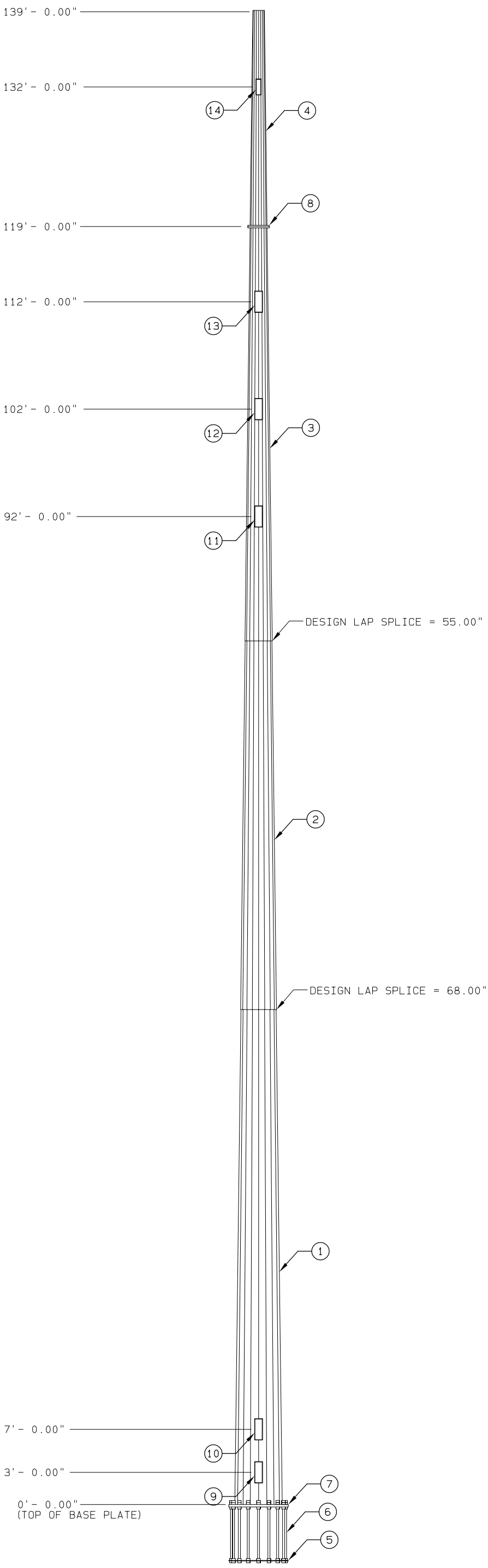
valmont STRUCTURES

MAXIMUM FACTORED MOMENT OF A CIRCULAR SECTION

Axial Load (Negative for Compression)	-48.009	kips
Limiting Compressive Strain	0.003	in/in
Reinforcement Yield Strain	0.00207	in/in
Pier Diameter	7.00	ft
Vertical Rebar Diameter	1.128	in
Vertical Rebar Quantity	36	
Vertical Rebar Area	0.9993	in^2
Tie Rebar Diameter	0.500	in
Concrete Clear Cover	4.0	in
Rebar Cage Diameter (to Center of Vertical Bars)	73.9	in
Concrete Compressive Strength	4500	psi
Distance from Extreme Edge to Neutral Axis	12.2	in
ACI Factor per Table 22.2.2.4.3 ($ß_1$)	0.825	
Depth of Equivalent Stress Block	10.1	in
Distrance from Centroid to Neutral Axis	29.8	in
Angle from Centroid to Compression Zone	40.5	deg
Area of Concrete in Compression	375.5	in^2
Distance from Centroid of Concrete in Compression to Centroid of Pier	36.0	in
Concrete Compression Force	1409.6	kips
Total Reinforcement Forces	-1361.6	kips
Axial Load	-48.0	kips
Sum of Axial Forces	-1409.6	kips
Sum of Forces in Concrete	0.000	kips
Moment of Concrete in Compression	4229.9	ft-kips
Total Reinforcement Moment	2237.9	ft-kips
Nominal Strength of Column	6467.9	ft-kips
Tensile Strain in Extreme Layer of Reinforcement	-0.0164	in/in
ACI Strength Reduction Factor	0.90	
Factored Moment Strength of Column	5821.1	ft-kips

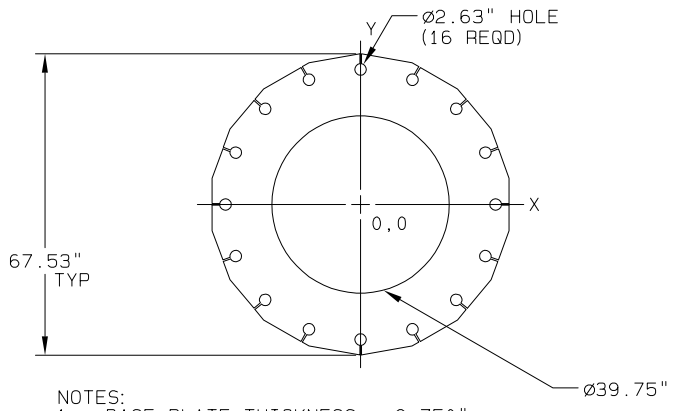


OK



ITEM ID	NO. REQD	FEATURES	UNIT WEIGHT (LBS)	WEIGHT (LBS)
1	1	SECTION A VALMONT S-22 0.500" THK (A572 GR65)	12,445	12,445
2	1	SECTION B VALMONT S-22 0.438" THK (A572 GR65)	6,176	6,176
3	1	SECTION C VALMONT S-22 0.375" THK (A572 GR65)	3,776	3,776
4	1	SECTION D VALMONT S-22 0.188" THK (A572 GR65)	632	632
5	1	BOTTOM CAGE PLATE	121	121
6	16	2.25" ANCHOR BOLT, LENGTH=5.50' A615 GR75	103	1,637
7	1	BASE PLATE VALMONT S-56 2.750" THK (A572 GR50)	1,701	1,701
8	2	FLANGE PLATE	157	313
	1	TOP CAGE PLATE (REMOVE BEFORE SETTING POLE)	158	158
	24	BOLT 0.50" DIA		
	1	SAFETY CLIMBING CABLE (LENGTH = 129.00')	99	99
	3	GROUNDING LUG	2	6
		GALVANIZING	374	374
	162	STEP AND CLIP (VALMONT STANDARD)	1	162
9	2	HAND HOLE HVY (9" x 24")	52	104
10	2	HAND HOLE HVY (9" x 24")	52	104
11	3	HAND HOLE HVY (9" x 24")	52	156
12	3	HAND HOLE HVY (9" x 24")	52	156
13	3	HAND HOLE HVY (9" x 24")	52	156
14	3	HAND HOLE STD (6" x 18")	18	54
	1	POLE CAP	11	11

HOLE COORDS (INCHES)	
X-COORD	Y-COORD
30.25	0.00
27.95	11.58
21.39	21.39
11.58	27.95
0.00	30.25



NOTES:
1. BASE PLATE THICKNESS = 2.750"
2. BASE PLATE ALLOWABLE STRESS (KSI) = 50
3. ANGLES ARE MEASURED CLOCKWISE FROM 0 DEGREES
4. BOLT CIRCLE DIAMETER = 60.50"
5. CAGE TEMPLATE DIAMETER = 64.00"

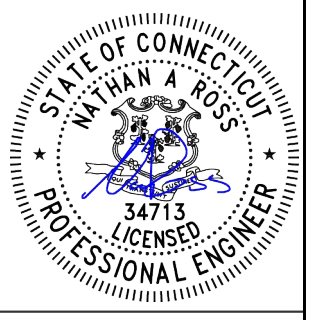
BASE PLATE / ANCHORAGE CHARACTERISTICS

NOTES:

1. FACTORED BASE REACTIONS
   MOMENT = 60,021 IN-KIPS
   SHEAR = 50,638 #
   VERTICAL = 48,009 #
2. GALVANIZED PER ASTM A-123.
3. DESIGN CRITERIA: TIA-222-H
4. THIS STRUCTURE HAS BEEN DESIGNED FOR THE FOLLOWING LOADING:
   EXPOSURE CATEGORY = B
   TOPOGRAPHY CATEGORY = 3
   RISK CATEGORY = II
   HEIGHT OF CREST = 552 FT
   SITE ELEVATION = 787 FT
   EARTHQUAKE SPECTRAL RESPONSE ACCELERATION AT SHORT PERIODS SS = 0.19
   EARTHQUAKE SPECTRAL RESPONSE ACCELERATION AT ONE SECOND S1 = 0.05
   EARTHQUAKE SITE CLASS = D
   WIND LOAD CASES ARE BASED ON 3 SECOND GUST AND 700 YEAR MRI
   A. CASE 1: WIND = 125 MPH WIND SPEED
   B. CASE 2: WIND = 50 MPH ICE AND WIND SPEED
      DESIGN ICE THICKNESS = 1.00 IN
   C. CASE 3: WIND = 60 MPH WIND SPEED
   D. CASE 4: SEISMIC
   E. CASE 5: SEISMIC
   F. EQUIPMENT

DESCRIPTION	ABP MTG HT. (FT)	ABP CENTROID HT. (FT)	WITHOUT ICE EPA (FT**2)	WITHOUT ICE WT (LBS)	WITH ICE EPA (FT**2)	WITH ICE WT (LBS)
3-MT6413-77A (W/PM)	115.00	115.00	11.12	256	16.50	509
3-RF4439D-25A (W/PM)	115.00	115.00	8.33	313	13.32	527
3-RF4461D-13A	115.00	115.00	3.79	240	4.66	303
3-DMP65R-BU8D (W/PM)	105.00	105.00	33.47	445	38.87	1021
3-DMP65R-BU8D (W/PM)	95.00	95.00	33.47	445	38.86	1020
12-RFV01U-D1A	135.00	135.00	15.02	1176	18.48	1428
1-5/8" X 5' LIGHTNING ROD LIGH	139.00	142.50	0.47	21	2.53	48
12-JAHH-65B-R3B ANDREW (W/PM)	135.00	135.00	83.24	1107	102.71	3764
2-RAYCAP RVZDC-6627-PF-48 AMPS	135.00	135.00	5.91	64	6.93	278
1-12' SP1 LP PLATFORM W/HR MOU	135.00	135.00	27.02	1385	38.59	2371
6-JAHH-65B-R3B ANDREW (W/PM)	115.00	115.00	41.62	554	51.32	1876
1-12' SP1 LP PLATFORM W/HR MOU	115.00	115.00	27.02	1385	38.54	2366
3-CCI/TPA65R-BU8D UNKNOWN (W/P	105.00	105.00	33.83	352	39.06	1354
6-RAYCAP DC6-48-60-0-8C-EV AMP	105.00	105.00	24.34	332	35.27	1282
12-ALCATEL-LUCENT RRU 4449 B13	105.00	105.00	16.27	840	20.37	1505
3-SP1 VFA12-HD MOUNTS	105.00	105.00	25.20	1974	60.25	3511
3-CCI/TPA65R-BU8D UNKNOWN (W/P	95.00	95.00	33.83	352	39.04	1350
6-RAYCAP DC6-48-60-0-8C-EV AMP	95.00	95.00	24.34	332	35.24	1278
12-ALCATEL-LUCENT RRU 4449 B13	95.00	95.00	16.27	840	20.36	1502
3-SP1 VFA12-HD MOUNTS	95.00	95.00	25.20	1974	60.12	3505

5. FEEDLINES ARE PLACED INTERIOR TO THE POLE SHAFT (UNLESS NOTED OTHERWISE)
6. TOTAL POLE HEIGHT IS 140 FT AGL
7. ELEVATIONS ARE MEASURED FROM TOP OF BASE PLATE (APPROX. 1 FT AGL)
8. 18 SIDED SHAFT
9. FUTURE CARRIER ASSUMED VZW LOADING AS WORST-CASE
10. THEORETICAL 20 FT FALL ZONE (FOR FLANGE CONNECTION @ 119 FT)
11. POLE IS EXTENDABLE FROM 120' AGL TO 140' AGL
12. FALL ZONE ONLY APPLICABLE WITH EXTENSION AND FULL DESIGN LOADING
13. ALTHOUGH RARE, VIBRATIONS SEVERE ENOUGH TO CAUSE DAMAGE CAN OCCASIONALLY OCCUR IN STRUCTURES OF ALL TYPES. BECAUSE THEY ARE INFLUENCED BY MANY INTERACTING VARIABLES, VIBRATIONS ARE GENERALLY UNPREDICTABLE. THE USER'S MAINTENANCE PROGRAM SHOULD INCLUDE OBSERVATION FOR EXCESSIVE VIBRATION AND EXAMINATION FOR ANY STRUCTURAL DAMAGE OR BOLT LOOSENING. THE VALMONT WARRANTY SPECIFICALLY EXCLUDES FATIGUE FAILURE OR SIMILAR



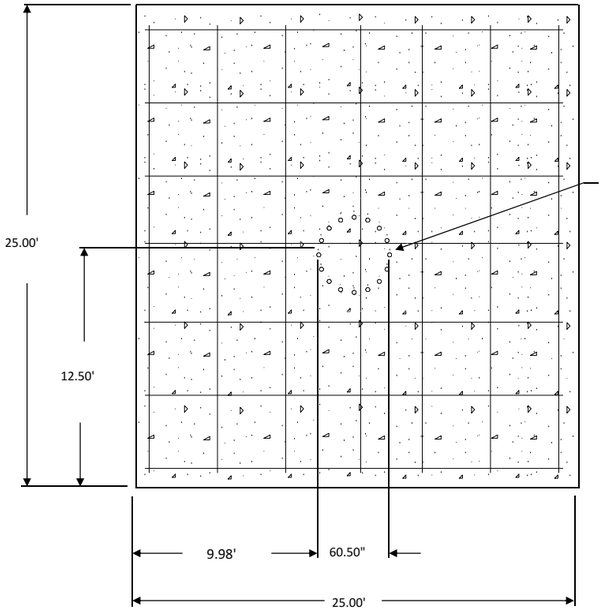
SECTION INFORMATION					
ITEM ID	LENGTH	BASE OD	TOP OD	THK	MATL
1	51'- 9.00"	53.00"	37.48"	0.500"	A572 65 KSI
2	38'-11.00"	40.05"	28.38"	0.438"	A572 65 KSI
3	38'- 7.00"	30.50"	18.93"	0.375"	A572 65 KSI
4	20'- 0.00"	18.93"	12.93"	0.188"	A572 65 KSI

REV ID	DATE	REV BY	DESCRIPTION
	10/4/23	YZ	RFDS updated
	4/27/23	YZ	RRU changes

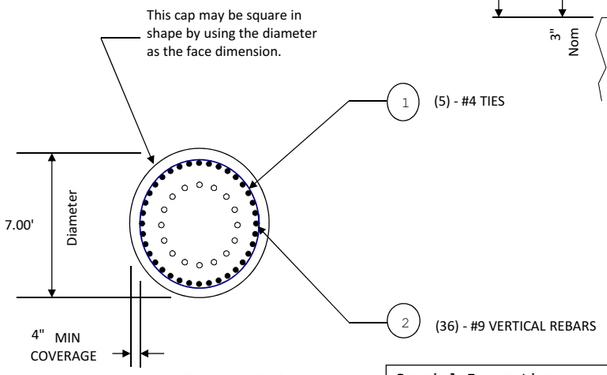
ORDER	PROJECT	FILE ID	SCALE	DATE	ENGR
537228		537228-P1b	NONE	10/13/23	YZ70

DESCRIPTION
VERIZON WIRELESS 139.0' POLE, SITE: WOLCOTT, CT

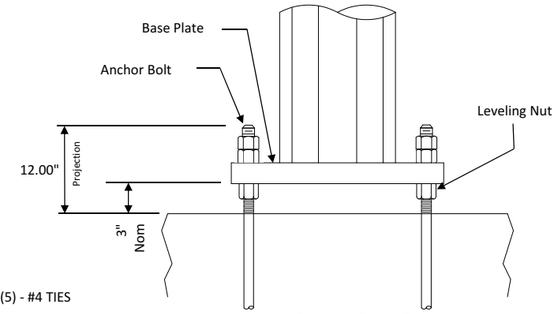
valmont



Section A-A
No Scale

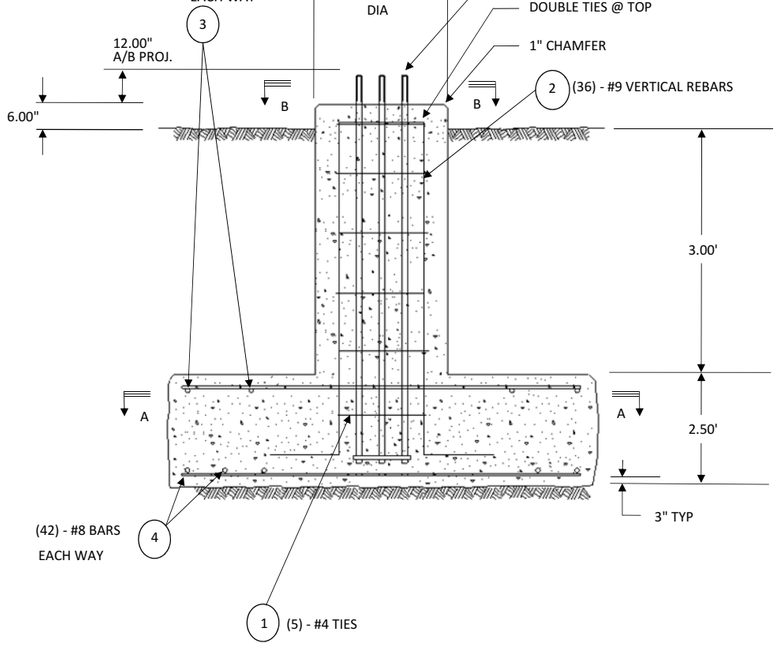


Section B-B
No Scale



Anchor Bolt Elevation
(No Scale)

Note:
Extreme care should be taken to ensure that all leveling nuts are level with respect to each other prior to erection of the structure. Anchor bolts shall extend through the top nut completely, fully engaging all nut threads. Distance from top of concrete and bottom of leveling nut shall not exceed the diameter of the anchor bolt.

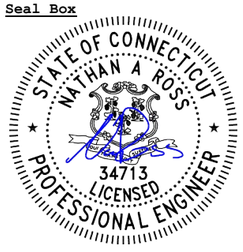


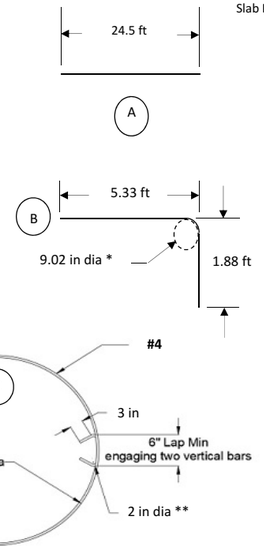
ELEVATION
No Scale

Special Inspection

1. Inspection of reinforcing steel and placement (periodic).
2. Inspection of anchor bolts cast in concrete (periodic).
3. Verifying use of required mix design (periodic).
4. At the time fresh concrete is sampled to fabricate specimens for strength tests; perform slump and air content tests and determine temperature of concrete (continuous).
5. Inspection of concrete placement for proper application techniques (continuous).
6. Inspect formwork for shape, location, and dimensions of the concrete member being formed (periodic).
7. Verify materials below shallow foundation are adequate to achieve the design bearing capacity (periodic).
8. Verify excavations are extended to proper depth and have reached proper material (periodic).
9. Perform classification and testing of compacted fill materials (periodic).
10. Verify use of proper materials, densities, and lift thicknesses during placement and compaction of compacted fill (continuous).

Seal Box





Note: adjacent circular ties shall not engage the same longitudinal bar with end hook anchorages (stagger hook location).

General Notes: Slab Foundation

1. Prior to excavation, check the area for underground facilities.
2. All reinforcing shall be deformed bars conforming to ASTM A615 Grade 60 (60,000 psi min. yield) and shall be provided by the foundation contractor.
3. All concrete shall have a minimum compressive strength of 4500 psi @ 28 days. The requirement for the concrete shall be as given in the ACI "Building Code Requirements for Reinforced Concrete", ACI 318, the latest edition.
4. Trowel top of foundation smooth.
5. Concrete shall be placed against undisturbed soil to the depth indicated on the foundation drawing. The portion above grade shall be formed. If an area is excavated beyond the limits shown, this volume shall be filled with concrete or formed. After the forms are removed, the excess excavation shall be replaced and compacted.
6. Ground water was not encountered below grade during boring.
7. Foundation design based on Ultimate vert. bearing pressure of 10000 psf.
8. Concrete is assumed to weigh 150 pcf.
9. Estimated concrete volume = **62.86 cubic yards total.**
10. Design Based on the following loads from installation drawing for order No: 537228.

Factored Moment = 5002 FT-KIPS **Overturning Safety Factor = 1.09**
Factored Download = 48.0 KIPS **Max. Toe Bearing Pressure = 5.55 ksf**
Factored Shear = 50.6 KIPS

11. Backfill should be compacted to a density of 125 pcf.
12. Anchor bolts to be ASTM A615 Gr75.
13. Reference: geotechnical report S.W. Cole Report Number 21-1434 S dated 11/10/2021
14. Foundation designed to not exceed 100% of monopole's capacity.
15. Foundation to be beared on at least 6 inch compacted crushed stone, overlying compacted bedrock.
16. Existing organics, topsoil, roots, subsoil and deleterious material must be removed from beneath the foundation.

Reinforcement Steel Schedule

-	Type	Rebar Size	Rebar Spacing	Weight (lbs)	Qty
Cap Ties	1	C	#4	Equal	72	5
Cap Vertical Rebar	2	B	#9	-----	848	36
Slab Top Steel	3	A	#7	13.96 in	2203	44
Slab Bottom Steel	4	A	#8	7.15 in	5495	84
Total Steel Weight for Complete Foundation Installation =					8618	

Grade 60 Rebar

Size	Wt/ft	6db (in)	d* (in)	d** (in)
#3	0.38	2.25	2.25	1.50
#4	0.67	3.00	3.00	2.00
#5	1.04	3.75	3.75	2.50
#6	1.50	4.50	4.50	4.50
#7	2.04	5.25	5.25	4.25
#8	2.67	6.00	6.00	6.00
#9	3.40	6.77	9.50	-
#10	4.30	7.62	10.75	-
#11	5.31	8.46	12.00	-

* Refers to ACI standard hook detail chart
** Refers to ACI stirrup hook detail chart

Rebar Lap Splice

Rebar Size	Rebar Grade	Specified Concrete Strength	Overlap (inches) Vert & Ties	Bottom Horiz	Top Horiz
#3	60	4500 psi	13	15	21
#4	60	4500 psi	18	20	29
#5	60	4500 psi	22	26	36
#6	60	4500 psi	26	33	46
#7	60	4500 psi	38	45	62
#8	60	4500 psi	43	59	82
#9	60	4500 psi	49	74	104
#10	60	4500 psi	58	95	132
#11	60	4500 psi	71	116	163

Splicing is an alternative to specified material listed in rebar schedule.
Lap Splice may be used on ties when Seismic Hook not required.

Rev	Description	Date	By/Ck
A	RRU changes	4/24/23	YZ
B	RFDS updated	10/4/23	YZ

valmont STRUCTURES
28800 Ida Street
Vally, NE 68064
(402) 359-2201

By:	YZ	Slab Foundation Layout	
Check:	YZ	Customer: Verizon Wireless	
Date:	10/13/23	Site: Wolcott, CT	
Project #537228	SIZE - B	**Drawing No. CT537228FS**	Sheet 1 of 1