Robinson+Cole

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Also admitted in Massachusetts

January 11, 2017

Melanie A. Bachman
Acting Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **Notice of Exempt Modification – Facility Modification**
389 Route 2, Preston, Connecticut

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless ("Cellco") currently maintains twelve (12) wireless telecommunications antennas at the 140-foot level of an existing 147-foot tower at 389 Route 2 in Preston, Connecticut (the "Property"). The tower is owned Global Signal Acquisitions II, LLC ("Global"). Cellco's use of the tower was approved by the Council in 2000. Cellco now intends to replace all of its existing antennas with six (6) model LPA-80080-4CF, 850 MHz antennas; three (3) model SBNHH-1D65A, 700/2100 MHz antennas; and three (3) model SBNHH-1D65A, 1900 MHz antennas, all at the same 140-foot level on the tower. Cellco also intends to install six (6) remote radio heads ("RRHs") and two (2) HYBRIFLEX™ antenna cables. Included in Attachment 1 are specifications for Cellco's replacement antennas, RRHs and HYBRIFLEX™ cables.

Please accept this letter as notification pursuant to R.C.S.A. § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Robert Congdon, First Selectman for the Town of Preston. The Town of Preston is the owner of the Property. A copy of this letter is also being sent to Global, the tower owner.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

1. The proposed modifications will not result in an increase in the height of the existing tower. Cellco's replacement antennas and RRH's will be located at the 140-foot level on the 147-foot tower.

2. The proposed modifications will not involve any change to ground-mounted equipment and, therefore, will not require the extension of the site boundary.

3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The operation of the replacement antennas will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. A cumulative worst-case General Power Density table for Cellco's modified facility is included in Attachment 2.

5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

6. The tower and its foundation, with certain recommendations, can support Cellco's proposed modifications. (*See* Structural Analysis Report included in Attachment 3).

A copy of the Town Assessor's Parcel Map and property owner information is included in Attachment 4

For the foregoing reasons, Cellco respectfully submits that the proposed modifications to the above-referenced telecommunications facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

Kenneth C. Baldwin

Enclosures
Copy to:
Robert Congdon, Preston First Selectman
Global Signal Acquisitions II, LLC
Tim Parks

ATTACHMENT 1

LPA-80080-4CF-EDIN-X

V-Pol | Log Periodic | 80° | 12.5 dBd

Replace "X" with desired electrical downtilt.

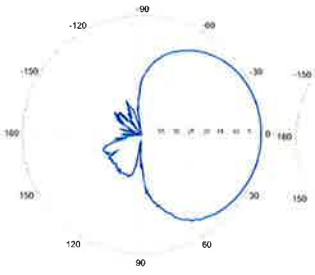
Antenna is also available with NE connector(s). Replace "EDIN" with "NE" in the model number when ordering.

Electrical Characteristics	
Frequency bands	806-960 MHz
Polarization	Vertical
Horizontal beamwidth	80°
Vertical beamwidth	15°
Gain	12.5 dBd (14.6 dBi)
Electrical downtilt (X)	0, 2, 4, 5, 6, 8, 10, 12, 14
Impedance	50Ω
VSWR	≤1.4:1
Upper sidelobe suppression (0°)	-14.2 dB
Front-to-back ratio (+/-30°)	-34.7 dB
Null fill	15% (-16.48 dB)
Input power	500 W
Lightning protection	Direct Ground
Connector(s)	1 Port / EDIN or NE / Female / Center (Back)

Mechanical Characteristics		
Dimensions Length x Width x Depth	1200 x 140 x 335 mm	47.2 x 5.5 x 13.2 in
Depth of antenna with z-bracket	375 mm	14.8 in
Weight without mounting brackets	5.4 kg	12 lbs
Survival wind speed	> 201 km/hr	> 125 mph
Wind area	Front: 0.17 m² Side: 0.40 m²	Front: 1.8 ft² Side: 4.3 ft²
Wind load @ 161 km/hr (100 mph)	Front: 254 N Side: 574 N	Front: 57 lbf Side: 129 lbf

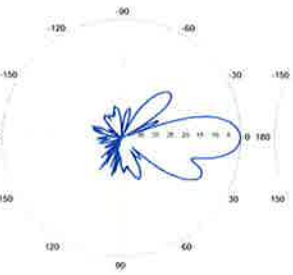
Mounting Options	Part Number	Fits Pipe Diameter	Weight
2-Point Mounting & Downtilt Bracket Kit (0-20°)	21699999	50-102 mm 2.0-4.0 in	5.4 kg 12 lbs
Lock-Down Brace	If the lock-down brace is used, the maximum diameter of the mounting pipe is 88.9 mm or 3.5 in.		

LPA-80080-4CF-EDIN-X



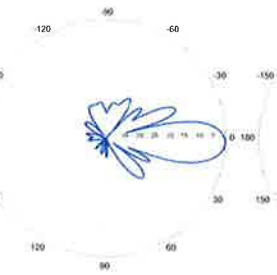
Horizontal

LPA-80080-4CF-EDIN-0



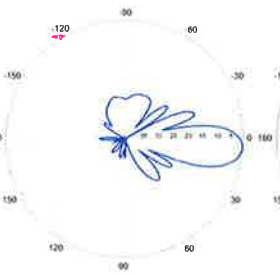
0° | Vertical

LPA-80080-4CF-EDIN-2



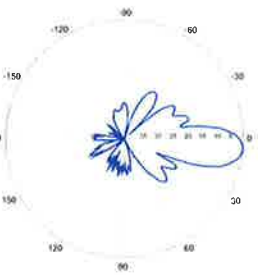
2° | Vertical

LPA-80080-4CF-EDIN-4



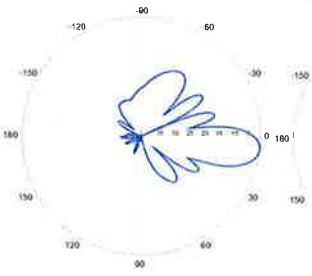
4° | Vertical

LPA-80080-4CF-EDIN-5



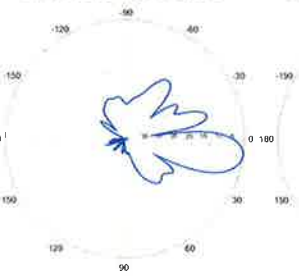
5° | Vertical

LPA-80080-4CF-EDIN-6



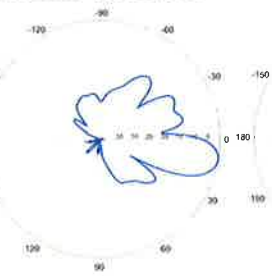
6° | Vertical

LPA-80080-4CF-EDIN-8



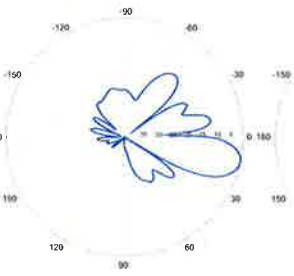
8° | Vertical

LPA-80080-4CF-EDIN-10



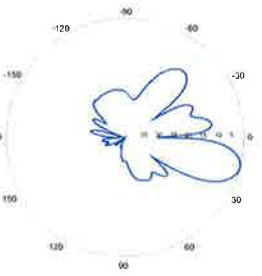
10° | Vertical

LPA-80080-4CF-EDIN-12



12° | Vertical

LPA-80080-4CF-EDIN-14



14° | Vertical

Quoted performance parameters are provided to offer typical or range values only and may vary as a result of normal manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to product may be made without notice.

Product Specifications

COMMSCOPE®

SBNHH-1D65A

Multiband Antenna, 698–896 and 2x 1695–2360 MHz, 65° horizontal beamwidth, internal RET. Both high bands share the same electrical tilt.

- Interleaved dipole technology providing for attractive, low wind load mechanical package

Electrical Specifications

Frequency Band, MHz	698–806	806–896	1695–1880	1850–1990	1920–2200	2300–2360
Gain, dBi	13.4	13.5	16.5	16.7	17.2	17.5
Beamwidth, Horizontal, degrees	66	61	70	65	62	61
Beamwidth, Vertical, degrees	17.6	15.9	7.1	6.6	6.2	5.5
Beam Tilt, degrees	0–18	0–18	0–10	0–10	0–10	0–10
USLS (First Lobe), dB	16	13	13	13	12	12
Front-to-Back Ratio at 180°, dB	25	27	28	28	27	29
Isolation, dB	25	25	25	25	25	25
Isolation, Intersystem, dB	30	30	30	30	30	30
VSWR | Return Loss, dB	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0
PIM, 3rd Order, 2 x 20 W, dBc	-153	-153	-153	-153	-153	-153
Input Power per Port, maximum, watts	350	350	350	350	350	300
Polarization	±45°	±45°	±45°	±45°	±45°	±45°
Impedance	50 ohm	50 ohm	50 ohm	50 ohm	50 ohm	50 ohm

Electrical Specifications, BASTA*

Frequency Band, MHz	698–806	806–896	1695–1880	1850–1990	1920–2200	2300–2360
Gain by all Beam Tilts, average, dBi	13.1	13.1	16.1	16.5	16.7	17.2
Gain by all Beam Tilts Tolerance, dB	±0.5	±0.5	±0.5	±0.3	±0.5	±0.4
	0 ° | 13.4	0 ° | 13.4	0 ° | 16.0	0 ° | 16.3	0 ° | 16.5	0 ° | 17.0
Gain by Beam Tilt, average, dBi	9 ° | 13.1	9 ° | 13.1	5 ° | 16.2	5 ° | 16.5	5 ° | 16.8	5 ° | 17.3
	18 ° | 12.7	18 ° | 12.7	10 ° | 16.1	10 ° | 16.5	10 ° | 16.6	10 ° | 16.9
Beamwidth, Horizontal Tolerance, degrees	±3.1	±5.4	±2.8	±4	±6.6	±4.6
Beamwidth, Vertical Tolerance, degrees	±1.8	±1.4	±0.3	±0.4	±0.5	±0.3
USLS, beampeak to 20° above beampeak, dB	15	14	15	15	15	14
Front-to-Back Total Power at 180° ± 30°, dB	22	21	26	26	24	25
CPR at Boresight, dB	22	16	22	25	21	22
CPR at Sector, dB	10	6	12	8	5	4

* CommScope® supports NGMN recommendations on Base Station Antenna Standards (BASTA). To learn more about the benefits of BASTA, download the whitepaper Time to Raise the Bar on BSAs.

General Specifications

Antenna Type	Sector with internal RET
Band	Multiband
Brand	DualPol®
Operating Frequency Band	1695 – 2360 MHz | 698 – 896 MHz
Performance Note	Outdoor usage

Mechanical Specifications

Color	Light gray
Lightning Protection	dc Ground

Product Specifications

SBNHH-1D65A

Radiator Material	Aluminum | Low loss circuit board
Radome Material	Fiberglass, UV resistant
RF Connector Interface	7-16 DIN Female
RF Connector Location	Bottom
RF Connector Quantity, total	6
Wind Loading, frontal	445.0 N @ 150 km/h 100.0 lbf @ 150 km/h
Wind Loading, lateral	145.0 N @ 150 km/h 32.6 lbf @ 150 km/h
Wind Loading, rear	523.0 N @ 150 km/h 117.6 lbf @ 150 km/h
Wind Speed, maximum	241 km/h | 150 mph

Dimensions

Depth	180.0 mm | 7.1 in
Length	1413.0 mm | 55.6 in
Width	301.0 mm | 11.9 in
Net Weight, without mounting kit	15.2 kg | 33.5 lb

Remote Electrical Tilt (RET) Information

Input Voltage	10–30 Vdc
Internal RET	High band (1) | Low band (1)
Power Consumption, idle state, maximum	2.0 W
Power Consumption, normal conditions, maximum	13.0 W
Protocol	3GPP/AISG 2.0 (Multi-RET)
RET Interface	8-pin DIN Female | 8-pin DIN Male
RET Interface, quantity	1 female | 1 male

Packed Dimensions

Depth	296.0 mm | 11.7 in
Length	1589.0 mm | 62.6 in
Width	390.0 mm | 15.4 in
Shipping Weight	26.1 kg | 57.5 lb

Regulatory Compliance/Certifications

Agency	Classification
RoHS 2011/65/EU	Compliant by Exemption
China RoHS SJ/T 11364-2006	Above Maximum Concentration Value (MCV)
ISO 9001:2008	Designed, manufactured and/or distributed under this quality management system

Included Products

Product Specifications

SBNHH-1D65A

BSAMNT-1 — Wide Profile Antenna Downtilt Mounting Kit for 2.4 - 4.5 in (60 - 115 mm) OD round members. Kit contains one scissor top bracket set and one bottom bracket set.

* Footnotes

Performance Note	Severe environmental conditions may degrade optimum performance

ALCATEL-LUCENT B13 RRH4X30-4R

Alcatel-Lucent B13 Remote Radio Head 4x30-4R is the newest addition of Remote Radio Head to the extended product line of Alcatel-Lucent's distributed Base Station solutions, aimed at facilitating smooth RF site acquisition and related civil engineering.

Supporting 2Tx/4Tx MIMO and 4-way Rx diversity, Alcatel-Lucent B13 RRH4x30-4R allows operators to have a compact radio solution to deploy LTE in the 700U band (700 MHz, 3GPP band 13), providing them with the means to achieve high capacity, high quality and high coverage with minimum site requirements.

The Alcatel-Lucent B13 RRH4x30-4R product has four transmit RF paths, offering the possibility to **select, via software only, 2Tx or 4Tx MIMO configurations** with either 2x60 W or 4x30 W RF output power. It supports also 4-way Rx diversity and up to 10MHz instantaneous bandwidth.

The Alcatel-Lucent B13 RRH4x30-4R is a near zero-footprint solution and operates noise free, simplifying negotiations with site property owners and minimizing environmental impacts.

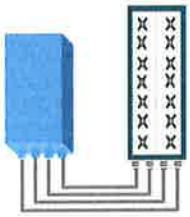
Its compactness and slim design makes the Alcatel-Lucent B13 RRH4x30-4R easy to install close to the antenna: operators can therefore locate this Remote Radio Head where RF design conditions are deemed ideal, minimizing trade-offs between available sites and RF optimum sites, together with reducing the RF feeder needs and installation costs.

FEATURES

- Supporting LTE in 700 MHz band (700U, 3GPP band 13)
- LTE 2Tx or 4Tx MIMO (SW switchable)
- Output power: Up to 2x60W or 4x30W
- 10MHz LTE carrier with 4Rx Diversity
- Convection-cooled (fan-less)
- Supports AISG 2.0 ALD devices (RET, TMA) through RS485 or RF ports

BENEFITS

- Compact to reduce additional footprint when adding LTE in 700U band
- MIMO scheme operation selection (2Tx or 4Tx) by software only
- Improves downlink spectral efficiency through MIMO4
- Increases LTE coverage thanks to 4Rx diversity capability and best in class Rx sensitivity
- Flexible mounting options: Pole or Wall



4x30W with 4T4R
or
2x60W with 2T4R

Can be switched between modes via SW w/o site visit

Alcatel·Lucent

Features & performance	
Number of TX/RX paths	4 duplexed (either 4T4R or 2T4R by SW)
Frequency band	U700 (C) (3GPP bands 13): DL: 746 - 756 MHz / UL: 777 - 787 MHz
Instantaneous bandwidth - #carriers	10MHz – 1 LTE carrier (In 10MHz occupied bandwidth)
LTE carrier bandwidth	10 MHz
RF output power	2x60W or 4x30W (by SW)
Noise figure – RX Diversity scheme	2 dB typ, (<2.5 dB max) – 2 or 4 way Rx diversity
Sizes (HxWxD) in mm (in.) **Volume in L** **Weight in kg (lb) (w/o mounting HW)**	550 x 305 x 230 (21.6" x 12.0" x 9") (with solar shield) 38 (with solar shield) 26 (57.2) (with solar shield)
DC voltage range **DC power consumption**	-40.5 to -57V at full performance, -38 to -57V with relaxation on power consumption 550W typical @100% RF load (In 2Tx or 4TX mode)
Environmental conditions **Wind load (@150km/h or 93mph)**	-40°C (-40°F) /+55°C (+131°F) IP65 Frontal: <200N / Lateral : <150N
Antenna ports	4 ports 7/16 DIN female (50 ohms) VSWR < 1.5
CPRI ports	2 CPRI ports (HW ready for Rate7, 9.8 Gbps) SFP single mode dual fiber
AISG interfaces	1 AISG2.0 output (RS485) Integrated Smart Bias Tees (x2)
Misc. Interfaces	4 external alarms (1 connector) – 4 RF Tx & 4 RF Rx monitor ports - 1 DC connector (2 pins)
Installation conditions	Pole and wall mounting
Regulatory compliance	3GPP 36.141 / 3GPP 36.113 / GR-1089-CORE / GR-3108-CORE / UL 60950-1 / FCC Part 27

ALCATEL-LUCENT B66A RRH4X45

The Alcatel-Lucent B66a Remote Radio Head 4x45 is the newest addition of Remote Radio Head to the extended product line of Alcatel-Lucent's distributed Base Station solutions, aimed at facilitating smooth RF site acquisition and related civil engineering. Its operational range covers beyond that of B4 (AWS) and B10 (AWS+).

Supporting 2Tx/4Tx MIMO and 2-way/4-way Rx diversity, the Alcatel-Lucent B66a RRH4x45 allows operators to have a compact radio solution to deploy LTE in the 2100 band (3GPP band 4, 10, and 66), providing them with the means to achieve high capacity, high quality, high reliability, large instantaneous bandwidth, and high coverage with minimum site requirements.

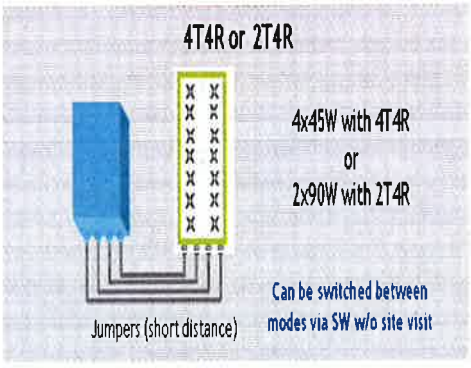
The Alcatel-Lucent B66a RRH4x45 product has four transmit RF paths, offering the possibility to **select, via software only, 2Tx or 4Tx MIMO configurations** with either 2x90W or 4x45W RF output power. It also supports 4-way Rx diversity at the 70 MHz instantaneous bandwidth.

The Alcatel-Lucent B66a RRH4x45 is a compact (near zero-footprint) solution and operates noise free, simplifying negotiations with site property owners and minimizing environmental impacts.

Its compactness and slim design makes the Alcatel-Lucent B66a RRH4x45 easy to install close to the antenna: operators can therefore locate this Remote Radio Head where RF design conditions are deemed ideal, minimizing trade-offs between available sites and RF optimum sites, together with reducing the RF feeder needs and installation costs.

FEATURES

- Supporting LTE in 2110 - 2180 MHz band/DL, 1710-1780MHz/UL (3GPP band 4, 10, and 66a)
- LTE 2Tx or 4Tx MIMO (SW selectable)
- Configuration: 2T2R/2T4R/4T4R
- Output power: Up to 2x90W or 4x45W (SW configurable)
- 70MHz LTE carrier with 4Rx Diversity
- Convection-cooled (fan-less)
- Supports AISG 2.0 ALD devices (RET, TMA) through RS485 or RF ports



BENEFITS

- Compact to reduce additional footprint when adding LTE in AWS 1-3 band
- Selection of MIMO configuration (2Tx or 4Tx) by software only
- Improves downlink spectral efficiency through 4Tx MIMO
- Increases LTE coverage thanks to 4Rx diversity capability and best in class Rx sensitivity
- Flexible mounting options: Pole or Wall

Features & Performance	
Number of TX/RX paths	4 duplexed (either 4T4R or 2T4R selectable by SW)
Frequency band	AWS 1-3, B4/B66a DL: 2110-2180 MHz / UL: 1710-1780 MHz
Instantaneous bandwidth - #carriers	70 MHz – 4 LTE MIMO carriers (in 70 MHz occupied bandwidth)
LTE carrier bandwidth	5, 10, 15, 20 MHz
RF output power	2x90W or 4x45W (selectable by SW)
Noise figure – RX Diversity scheme **Receiver Sensivity (FRC A1-3)**	2 dB typical (<2.5 dB max) – 2 or 4 way Rx diversity -104.5 dBm maximum
Sizes (HxWxD) in mm (in.) **Volume in Liters** **Weight in kg (lb) (w/o mounting HW)**	655x299x182 (25.8x11.8x7.2) (with solar shield) 640x290x160 (25.2x11.4x6.3) (without solar shield) 35.5 (with solar shield) 29.7 (without solar shield) 25.8kg (56.8lb) (with solar shield)
DC voltage range **DC power consumption**	Nominal: -48V, -40.5 to -57V at full performance, -38 to -57V with relaxation on power consumption 750W typical @100% RF load (in 2Tx or 4Tx mode); Add 58W for 2A*29V for AISG
Environmental conditions **Wind load (@150km/h or 93mph)**	-40°C (-40°F) /+55°C (+131°F) UL50E Type 4 Enclosure 250N (56lb) Frontal/150N (34lb) Lateral
Antenna ports	4 ports 4.3-10 female (50 ohms) VSWR < 1.5
CPRI ports	2 CPRI ports (HW ready for Rate 7, 9.8 Gbps) SFP: SMDF (HW supports also SMSF and MMDF)
AISG interfaces	1 AISG 2.0 output (RS485) Integrated Smart Bias Tees (x2)
Misc. Interfaces	4 external alarms (1 connector) 1 DC connector (2 pins)
Installation conditions	Pole and wall mounting
Regulatory compliance	3GPP 36.141 / 3GPP 36.113 / GR-487 / GR-1089-CORE / GR-3108-CORE / UL 60950-1 / FCC Part 27 / FCC Part 15 / GR-3178-CORE

Product Data Sheet HB158-1-08U8-S8J18

HYBRIFLEX™ RRH Hybrid Feeder Cabling Solution, 1-5/8", Single-Mode Fiber

Product Description

RFS' HYBRIFLEX Remote Radio Head (RRH) hybrid feeder cabling solution combines optical fiber and DC power for RRHs in a single lightweight aluminum corrugated cable, making it the world's most innovative solution for RRH deployments.

It was developed to reduce installation complexity and costs at Cellular sites. HYBRIFLEX allows mobile operators deploying an RRH architecture to standardize the RRH installation process and eliminate the need for and cost of cable grounding. HYBRIFLEX combines optical fiber (multi-mode or single-mode) and power in a single corrugated cable. It eliminates the need for junction boxes and can connect multiple RRHs with a single feeder. Standard RFS CELLFLEX® accessories can be used with HYBRIFLEX cable. Both pre-connectorized and on-site options are available.

Figure 1: HYBRIFLEX Series

Features/Benefits

- Aluminum corrugated armor with outstanding bending characteristics – minimizes installation time and enables mechanical protection and shielding
- Same accessories as 1 5/8" coaxial cable
- Outer conductor grounding – Eliminates typical grounding requirements and saves on installation costs
- Lightweight solution and compact design – Decreases tower loading
- Robust cabling – Eliminates need for expensive cable trays and ducts
- Installation of tight bundled fiber optic cable pairs directly to the RRH – Reduces CAPEX and wind load by eliminating need for interconnection
- Optical fiber and power cables housed in single corrugated cable – Saves CAPEX by standardizing RRH cable installation and reducing installation requirements
- Outdoor polyethylene jacket – Ensures long-lasting cable protection

Technical Specifications

Outer Conductor Armor	Corrugated Aluminum	[mm (in)]	46.5 (1.83)
Jacket:	Polyethylene, PE	[mm (in)]	50.3 (1.98)
UV-Protection	Individual and External Jacket		Yes
Weight, Approximate		[kg/m (lb/ft)]	1.9 (1.30)
Minimum Bending Radius, Single Bending		[mm (in)]	200 (8)
Minimum Bending Radius, Repeated Bending		[mm (in)]	500 (20)
Recommended/Maximum Clamp Spacing		[m (ft)]	1.0 / 1.2 (3.25 / 4.0)
DC-Resistance Outer Conductor Armor		[Ω/km (Ω/1000ft)]	068 (0.205)
DC-Resistance Power Cable, 8.4mm²(8AWG)		[Ω/km (Ω/1000ft)]	2.1 (0.307)
Version			Single-mode OM3
Quantity, Fiber Count			16 (8 pairs)
Core/Clad		[µm]	50/125
Primary Coating (Acrylate)		[µm]	245
Buffer Diameter, Nominal		[µm]	900
Secondary Protection, Jacket, Nominal		[mm (in)]	2.0 (0.08)
Minimum Bending Radius		[mm (in)]	104 (4.1)
Insertion Loss @ wavelength 850nm		dB/km	3.0
Insertion Loss @ wavelength 1310nm		dB/km	1.0
Standards (Meets or exceeds)			UL94-V0, UL1666 RoHS Compliant
Size (Power)		[mm² (AWG)]	8.4 (8)
Quantity, Wire Count (Power)			16 (8 pairs)
Size (Alarm)		[mm² (AWG)]	0.8 (18)
Quantity, Wire Count (Alarm)			4 (2 pairs)
Type			UV protected
Strands			19
Primary Jacket Diameter, Nominal		[mm (in)]	6.8 (0.27)
Standards (Meets or exceeds)			NFPA 130, ICEA S-95-658 UL Type XHHW-2, UL 44 UL-LS Limited Smoke, UL VW-1 IEEE-383 (1974), IEEE1202/FT4 RoHS Compliant
Installation Temperature		[°C (°F)]	-40 to +65 (-40 to149)
Operation Temperature		[°C (°F)]	-40 to +65 (-40 to149)

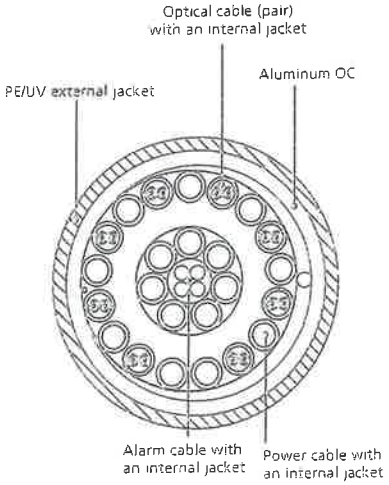


Figure 2: Construction Detail

* This data is provisional and subject to change

ATTACHMENT 2

	General	Power	Density					
Site Name: Preston								
Tower Height: 147'								
CARRIER	**# OF CHAN.**	**WATTS ERP**	**HEIGHT**	**CALC. POWER DENS**	**FREQ.**	**MAX. PERMISS. EXP.**	**FRACTION MPE**	**Total**
*AT&T	2	565	118	880	0.0324	0.5867	0.55%	
*AT&T	2	875	118	1900	0.0502	1.0000	0.50%	
*AT&T	1	283	118	880	0.0081	0.5867	0.14%	
*AT&T	4	525	118	1900	0.0602	1.0000	0.60%	
*AT&T	1	1615	118	734	0.0463	0.4893	0.95%	
*MetroPCS	3	444	110	2140	0.0442	1.0000	0.44%	
*T-Mobile	2	2334	129	2100	0.1110	1.0000	1.11%	
*T-Mobile	1	865	129	700	0.0206	0.4667	0.44%	
*T-Mobile	2	1167	129	1900	0.0555	1.0000	0.55%	
*T-Mobile	2	1167	129	2100	0.0555	1.0000	0.55%	
*Sprint	11	122	148	1960	0.0239	1.0000	0.24%	
Verizon	**11**	**301**	**140**	**0.0607**	**1970**	**1.0000**	**6.07%**	
Verizon	**9**	**262**	**140**	**0.0433**	**869**	**0.5793**	**7.47%**	
Verizon	**1**	**4958**	**140**	**0.0910**	**2145**	**1.0000**	**9.10%**	
Verizon	**1**	**1224**	**140**	**0.0225**	**698**	**0.4973**	**4.52%**	
								33.2%
* Source: Siting Council								

ATTACHMENT 3

December 28, 2016

Charles McGuirt
Crown Castle
3530 Toringdon Way Suite 300
Charlotte, NC 28277
(704) 405-6607

B+T Group
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630
btwo@btgrp.com

Subject:	**Structural Analysis Report**	
Carrier Designation:	***Verizon Wireless* Co-Locate**	
	Carrier Site Number:	117758
	Carrier Site Name:	Preston CT
Crown Castle Designation:	**Crown Castle BU Number:**	876360
	Crown Castle Site Name:	Preston / Town Hall
	Crown Castle JDE Job Number:	396441
	Crown Castle Work Order Number:	1340545
	Crown Castle Application Number:	361416 Rev. 8
Engineering Firm Designation:	**B+T Group Project Number:**	108665.005.01
Site Data:	**389 Rt. 2, Preston, New London County, CT** **Latitude *41° 29' 25.25"*, Longitude *-71° 59' 29.55"*** **147 Foot - Monopole Tower**	

Dear Charles McGuirt,

B+T Group is pleased to submit this **"Structural Analysis Report"** to determine the structural integrity of the above mentioned tower. This analysis has been performed in accordance with the Crown Castle Structural 'Statement of Work' and the terms of Crown Castle Purchase Order Number 984080, in accordance with application 361416, revision 8.

The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC5: Existing + Proposed Equipment ***Sufficient Capacity**
Note: See Table 1 and Table 2 for the proposed and existing/reserved loading, respectively.

***The structure has sufficient capacity once the loading changes described in the Recommendations section of this report are completed.**

This analysis has been performed in accordance with the 2016 Connecticut State Building Code based upon an ultimate 3-second gust wind speed of 135 mph converted to a nominal 3-second gust wind speed of 105 mph per Section 1609.3 and Appendix N as required for use in the TIA-222-G Standard per Exception #5 of Section 1609.1.1. Exposure Category C with Risk Category II was used in this analysis.

All equipment proposed in this report shall be installed in accordance with the attached drawings for the determined available structural capacity to be effective.

We at *B+T Group* appreciate the opportunity of providing our continuing professional services to you and Crown Castle. If you have any questions or need further assistance on this or any other projects please give us a call.

Respectfully submitted by:
B+T Engineering, Inc.

Krista M. Murphy, E.I.T.
Project Engineer

Chad E. Tuttle, P.E.
Engineer of Record
COA: PEC.0001564 Expires: 02/10/2017

STATE OF CONNECTICUT
CHAD E. TUTTLE
No. 23924
LICENSED
PROFESSIONAL ENGINEER
12/28/16

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 147 ft. Monopole tower designed by Engineered Endeavors, Inc. in May of 2000. The tower was originally designed for a wind speed of 90 mph per TIA/EIA-222-F. This tower has been modified several times in the past and those modifications were incorporated in this analysis.

2) ANALYSIS CRITERIA

The structural analysis was performed for this tower in accordance with the requirements of TIA-222-G Structural Standards for Steel Antenna Towers and Antenna Supporting Structures using a 3-second gust wind speed of 105 mph with no ice, 50 mph with 0.75 inch ice thickness and 60 mph under service loads, exposure category C with topographic category 1 and crest height of 0 feet.

Table 1 - Proposed Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
136.0	138.0	3	Alcatel Lucent	RRH2x60-700	2	1-5/8	--
		3	Alcatel Lucent	RRH4X45-AWS4 B66			
		6	Andrew	SBNHH-1D65A			
		6	Antel	LPA-80080/4CF			
		2	RFS Celwave	DB-B1-6C-12AB-0Z			

Table 2 - Existing and Reserved Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
147.0	147.0	6	Decibel	DB978H90T2E-M	6	1-5/8	1
		1	--	Platform Mount [LP 712-1]			
136.0	138.0	**6**	**Antel**	**LPA-80080/4CF**	--	--	**2**
		3	**RFS Celwave**	**APX75-866514-CT0**			
		6	**RFS Celwave**	**FD9R6004/2C-3L**			
		3	**Rymsa Wireless**	**MG D5-800Tx**			
	136.0	1	--	Platform Mount [LP 601-1]	12	1-5/8	1
129.0	129.0	3	Andrew	LNX-6515DS-VTM	6	1-5/8	1
		3	Ericsson	Ericsson Air 21 B2A B4P			
		3	Ericsson	Ericsson Air 21 B4A B2P			
		3	Ericsson	KRY 112 144/1			
		3	Ericsson	RRUS 11 B12			
		1	--	Platform Mount [LP 714-1]			
120.0	120.0	6	Ericsson	TME-RRUS-11	--	--	1
		1	--	Side Arm Mount [SO 102-3]			
118.0	120.0	3	KMW Comm.	AM-X-WM-17-65-00T	6 3	1-1/4 3/8	1
		6	Powerwave Tech.	LGP21401			
		3	Powerwave Tech.	RA21.7770.00			
	118.0	1	Raycap	DC6-48-60-18-8F			
		1	--	Platform Mount [LP 303-1]			
50.0	51.0	1	Lucent	KS24019-L112A	1	1/2	1
	50.0	1	--	Side Arm Mount [SO 701-1]			

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
45.0	46.0	1	Lucent	KS24019-L112A	1	1/2	1
	45.0	1	--	Side Arm Mount [SO 701-1]			

Notes:
1) Existing Equipment
2) **Equipment To Be Removed; Not Considered in This Analysis**

Table 3 - Design Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
147	147	12	Decibel	DB980	--	--
		1	Generic	Low profile Platform		
137	137	12	Decibel	DB980	--	--
		1	Generic	Low profile Platform		
127	127	12	Decibel	DB980	--	--
		1	Generic	Low profile Platform		

3) ANALYSIS PROCEDURE

Table 4 - Documents Provided

Document	Remarks	Reference	Source
Online Applications	Verizon Wireless Co-Locate Rev# 8	361416	CCI Sites
Tower Manufacturer Drawing	EEI, Job No. 6938	1615372	CCI Sites
Tower Modification Drawing	Vertical Solutions, Project No. 080609.05, Date: 09/26/2008	2331612	CCI Sites
Post Modification Inspection	Vertical Solutions, Project No. 080609.05, Date: 09/26/2008	2331610	CCI Sites
Tower Modification Drawing	PJF, Project No. 37512-2207, Date: 11/06/2012	3846963	CCI Sites
Post Modification Inspection	TEP, Project No. 131001.876360, Date: 04/04/2013	3846952	CCI Sites
Tower Modification Drawing	PJF, Project No. 37515-0448.002.7700, Date: 02/23/2015	5573224	CCI Sites
Post Modification Inspection	FDH, Project No. 15BIUM1500, Date: 11/30/2015	5995667	CCI Sites
Tower Modification Drawing	PJF, Project No. 37515-0448.007.7700, Date: 10/28/2015	5959061	CCI Sites
Post Modification Inspection	ETS, Project No. 151886, Date: 01/26/2016	6072770	CCI Sites
Foundation Drawing	EEI, Job No. 6938	1615411	CCI Sites
Geotech Report	FDH, Project No. 08-01210G	2192501	CCI Sites
Antenna Configurations	Crown CAD Package	Date: 12/09/2016	CCI Sites

3.1) Analysis Method

tnxTower (version 7.0.5.1), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.

3.2) Assumptions

1) Tower and structures were built in accordance with the manufacturer's specifications.
2) The tower and structures have been maintained in accordance with the manufacturer's specification.
3) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.
4) Mount areas and weights are assumed based on photographs provided.

This analysis may be affected if any assumptions are not valid or have been made in error. B+T Group should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 5 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	147 - 120.37	Pole	TP21.98x16.25x0.188	1	-7.234	903.550	56.0	Pass
L2	120.37 - 110.5	Pole	TP23.686x20.906x0.25	2	-11.249	1381.650	74.0	Pass
L3	110.5 - 105	Pole	TP24.852x23.686x0.452	3	-12.258	1479.360	83.8	Pass
L4	105 - 103.5	Pole	TP25.17x24.852x0.701	4	-12.623	2228.660	59.2	Pass
L5	103.5 - 94.16	Pole	TP27.15x25.17x0.469	5	-14.486	1628.810	98.2	Pass
L6	94.16 - 84.91	Pole	TP29.11x27.15x0.577	6	-15.702	2059.120	85.7	Pass
L7	84.91 - 58.58	Pole	TP34.188x27.726x0.596	7	-24.883	2599.220	100.0	Pass
L8	58.58 - 57.25	Pole	TP34.47x34.188x0.643	8	-25.308	2951.390	89.4	Pass
L9	57.25 - 44.41	Pole	TP37.19x34.47x0.635	9	-27.879	3061.020	91.7	Pass
L10	44.41 - 29.583	Pole	TP39.717x35.47x0.666	10	-36.561	3548.040	92.5	Pass
L11	29.583 - 28.5	Pole	TP39.947x39.717x0.746	11	-37.008	3986.130	83.2	Pass
L12	28.5 - 27.5	Pole	TP40.159x39.947x0.711	12	-37.423	3884.240	85.8	Pass
L13	27.5 - 6.917	Pole	TP44.531x40.159x0.673	13	-43.400	3977.720	90.3	Pass
L14	6.917 - 0	Pole	TP46x44.531x0.669	14	-46.072	4071.330	90.8	Pass
							Summary	
						Pole (L7)	100.0	Pass
						RATING =	100.0	Pass

Table 6 - Tower Component Stresses vs. Capacity – LC5

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	Base	77.0	Pass
1	Base Plate	Base	76.1	Pass
1	Base Foundation(Structural)	Base	82.2	Pass
1	Base Foundation (Soil Interaction)	Base	49.9	Pass

Structure Rating (max from all components) =	100.0%

Notes:
1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.

4.1) Recommendations

The tower and foundation have sufficient capacity to carry the existing and proposed loading. In order for the results of this analysis to be considered valid the loading modification listed below must be completed.

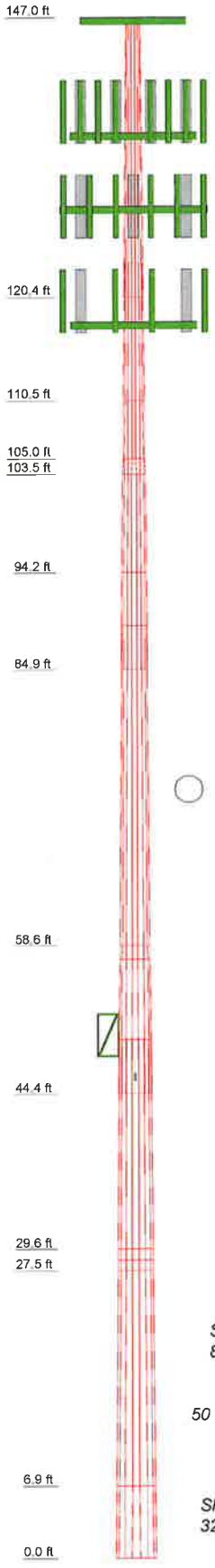
Loading Changes:

1.) Proposed TMEs installed directly behind proposed Andrew SBNHH-1D65A antennas at Level 136 ft.

No structural modifications are required at this time, provided that the above listed changes are implemented.

APPENDIX A

TNXTOWER OUTPUT



Section	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Length (ft)	26.630	13.120	5.500	1.500	9.340	9.250	30.500	1.330	12.840	19.997	1.0023	1.0023	20.583	6.917
Number of Sides	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Thickness (in)	0.188	0.250	0.452	0.701	0.469	0.577	0.596	0.643	0.635	0.666	0.7746	0.7746	0.673	0.669
Socket Length (ft)	3.250					4.170			5.170					
Top Dia (in)	16.250	20.906	23.686	24.852	25.170	27.150	27.726	34.188	34.470	35.470	39.2677	39.2677	40.159	44.531
Bot Dia (in)	21.980	23.686	24.852	25.170	27.150	29.110	34.188	34.470	37.190	39.717	40.2537	40.2537	44.531	46.000
Grade	A572-65				35.913872ksi		35.604024ksi	35.787266ksi	37.397057ksi	37.457041ksi	37.591859ksi	37.591859ksi	38.18006ksi	38.317031ksi
Weight (K)	1.0	0.8	0.6	0.2	1.1	1.5	5.7	0.3	2.9	5.1	0.0	0.0	6.2	2.3

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
(2) DB978H90T2E-M w/ Mount Pipe (E)	147	ERICSSON AIR 21 B4A B2P w/ Mount Pipe (E)	129
(2) DB978H90T2E-M w/ Mount Pipe (E)	147	ERICSSON AIR 21 B4A B2P w/ Mount Pipe (E)	129
(2) DB978H90T2E-M w/ Mount Pipe (E)	147	KRY 112 144/1 (E)	129
		KRY 112 144/1 (E)	129
(2) 4' x 2" Pipe Mount (E)	147	KRY 112 144/1 (E)	129
(2) 4' x 2" Pipe Mount (E)	147	RRUS 11 B12 (E)	129
(2) 4' x 2" Pipe Mount (E)	147	RRUS 11 B12 (E)	129
Climbing Ladder (Flat) (E)	147	RRUS 11 B12 (E)	129
Platform Mount [LP 712-1] (E-Per previous SA)	147	Platform Mount [LP 714-1] (E-14' flat)	129
(2) SBNHH-1D65A w/ Mount Pipe (P)	136	(2) TME-RRUS-11 (E)	120
(2) SBNHH-1D65A w/ Mount Pipe (P)	136	(2) TME-RRUS-11 (E)	120
(2) SBNHH-1D65A w/ Mount Pipe (P)	136	(2) TME-RRUS-11 (E)	120
(2) LPA-80080/4CF w/ Mount Pipe (P)	136	(2) 4' x 2" Pipe Mount (E)	120
(2) LPA-80080/4CF w/ Mount Pipe (P)	136	(2) 4' x 2" Pipe Mount (E)	120
(2) LPA-80080/4CF w/ Mount Pipe (P)	136	(2) 4' x 2" Pipe Mount (E)	120
RRH4X45-AWS4 B66 (P)	136	Side Arm Mount [SO 102-3] (E)	120
RRH4X45-AWS4 B66 (P)	136	AM-X-WM-17-65-00T w/ Mount Pipe (E-Off set per photo)	118
RRH4X45-AWS4 B66 (P)	136	AM-X-WM-17-65-00T w/ Mount Pipe (E)	118
RRH2x60-700 (P)	136		
RRH2x60-700 (P)	136	AM-X-WM-17-65-00T w/ Mount Pipe (E)	118
RRH2x60-700 (P)	136		
(2) DB-B1-6C-12AB-0Z (P)	136	RA21.7770.00 w/ Mount Pipe (E)	118
Platform Mount [LP 601-1] (E)	136	RA21.7770.00 w/ Mount Pipe (E)	118
ERICSSON AIR 21 B2A B4P w/ Mount Pipe (E)	129	RA21.7770.00 w/ Mount Pipe (E)	118
		(2) LGP21401 (E)	118
ERICSSON AIR 21 B2A B4P w/ Mount Pipe (E)	129	(2) LGP21401 (E)	118
		(2) LGP21401 (E)	118
ERICSSON AIR 21 B2A B4P w/ Mount Pipe (E)	129	DC6-48-60-18-8F (E)	118
		Platform Mount [LP 303-1] (E)	118
LNX-6515DS-VTM w/ Mount Pipe (E)	129	KS24019-L112A (E)	50
LNX-6515DS-VTM w/ Mount Pipe (E)	129	Side Arm Mount [SO 701-1] (E)	50
LNX-6515DS-VTM w/ Mount Pipe (E)	129	KS24019-L112A (E)	45
ERICSSON AIR 21 B4A B2P w/ Mount Pipe (E)	129	Side Arm Mount [SO 701-1] (E)	45

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi	37.457041ksi	37 ksi	52 ksi
37.009485ksi	37 ksi	52 ksi	37.591859ksi	38 ksi	53 ksi
35.792528ksi	36 ksi	51 ksi	37.596669ksi	38 ksi	53 ksi
35.913872ksi	36 ksi	51 ksi	38.18006ksi	38 ksi	53 ksi
35.604024ksi	36 ksi	51 ksi	38.317031ksi	38 ksi	53 ksi
35.787266ksi	36 ksi	51 ksi	38.249261ksi	38 ksi	53 ksi
37.397057ksi	37 ksi	52 ksi			

TOWER DESIGN NOTES

1. Tower is located in New London County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-G Standard.
3. Tower designed for a 105 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 50 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Structure Class II.
7. Topographic Category 1 with Crest Height of 0.000 ft
8. TOWER RATING: 100.0%

ALL REACTIONS ARE FACTORED

AXIAL 81 K

SHEAR 8 K — *MOMENT 905 kip-ft*

TORQUE 1 kip-ft
50 mph WIND - 0.750 in ICE

AXIAL 49 K

SHEAR 32 K — *MOMENT 3495 kip-ft*

TORQUE 2 kip-ft
REACTIONS - 105 mph WIND

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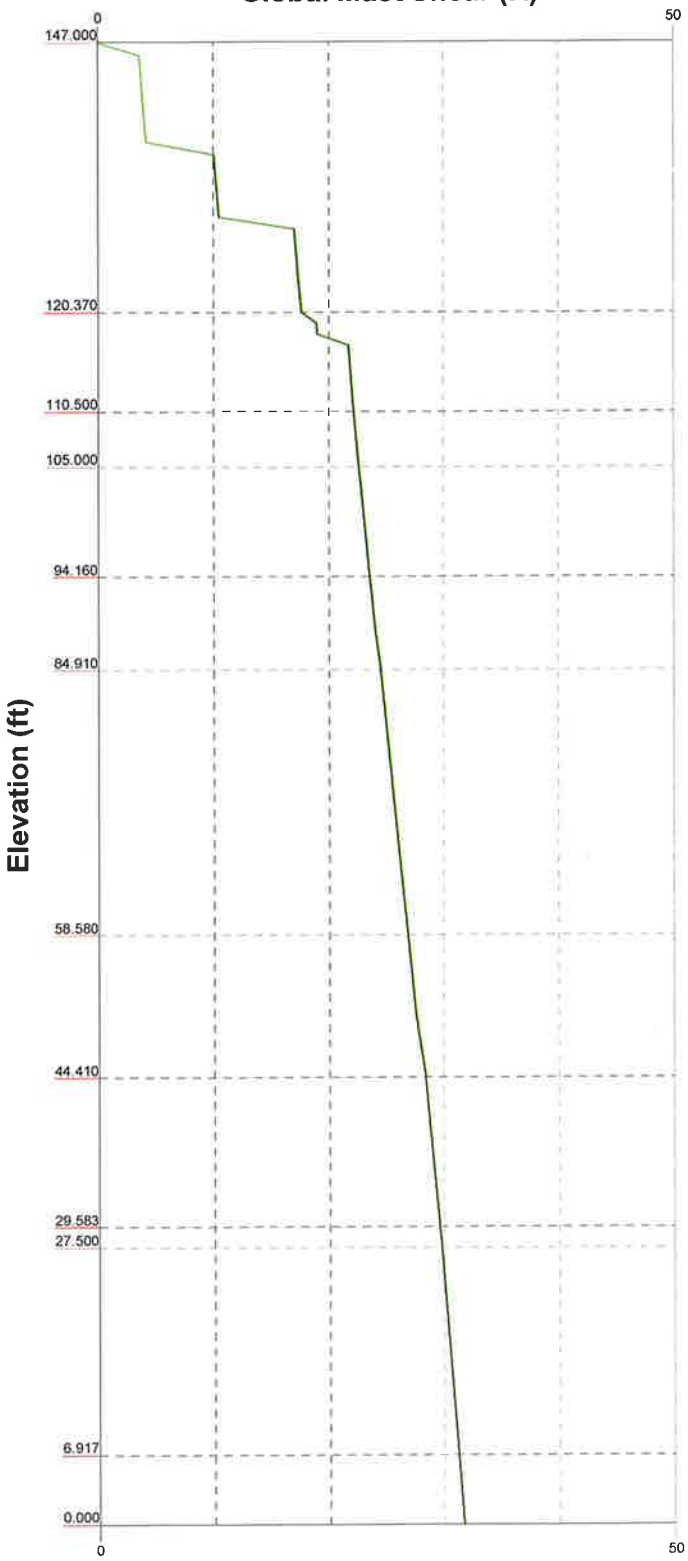
Tulsa
Phone: 918-587-4630
FAX:
B+TLogo

Job: 108665.005.01 - PRESTON / TOWN HALL, CT (BU# 876
Project:
Client: Crown Castel | Drawn by: kmurphy | App'd:
Code: TIA-222-G | Date: 12/28/16 | Scale: NTS
Path: | Dwg No. E-1

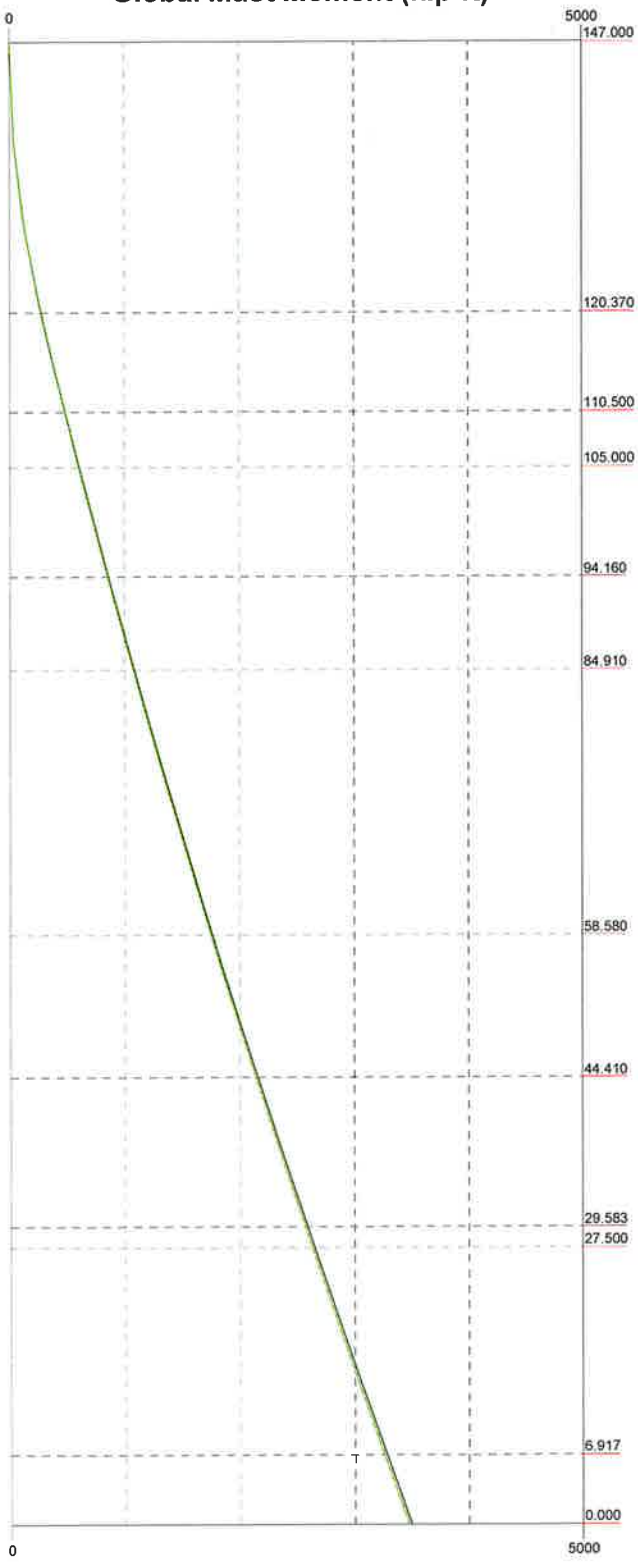
Vx Vz

Mx Mz

Global Mast Shear (K)



Global Mast Moment (kip-ft)



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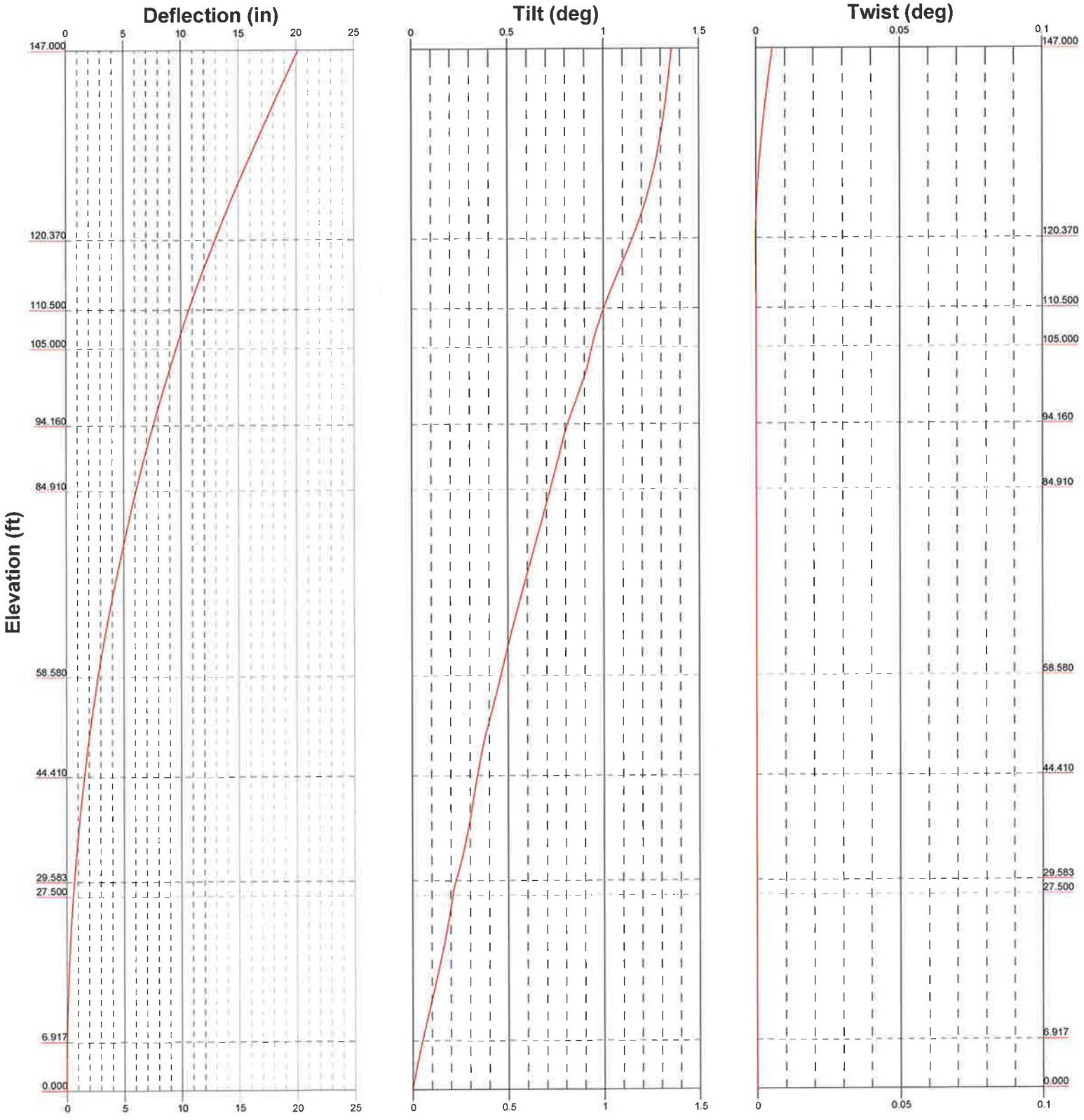
Tulsa
Phone: 918-587-4630
FAX:
B+TLogo

Job: 108665.005.01 - PRESTON / TOWN HALL, CT (BU# 876			
Project:			
Client: Crown Castel	Drawn by: kmurphy	App'd:	
Code: TIA-222-G	Date: 12/28/16	Scale: NTS	
Path:		Dwg No. E-4	

TIA-222-G - Service - 60 mph

Maximum Values



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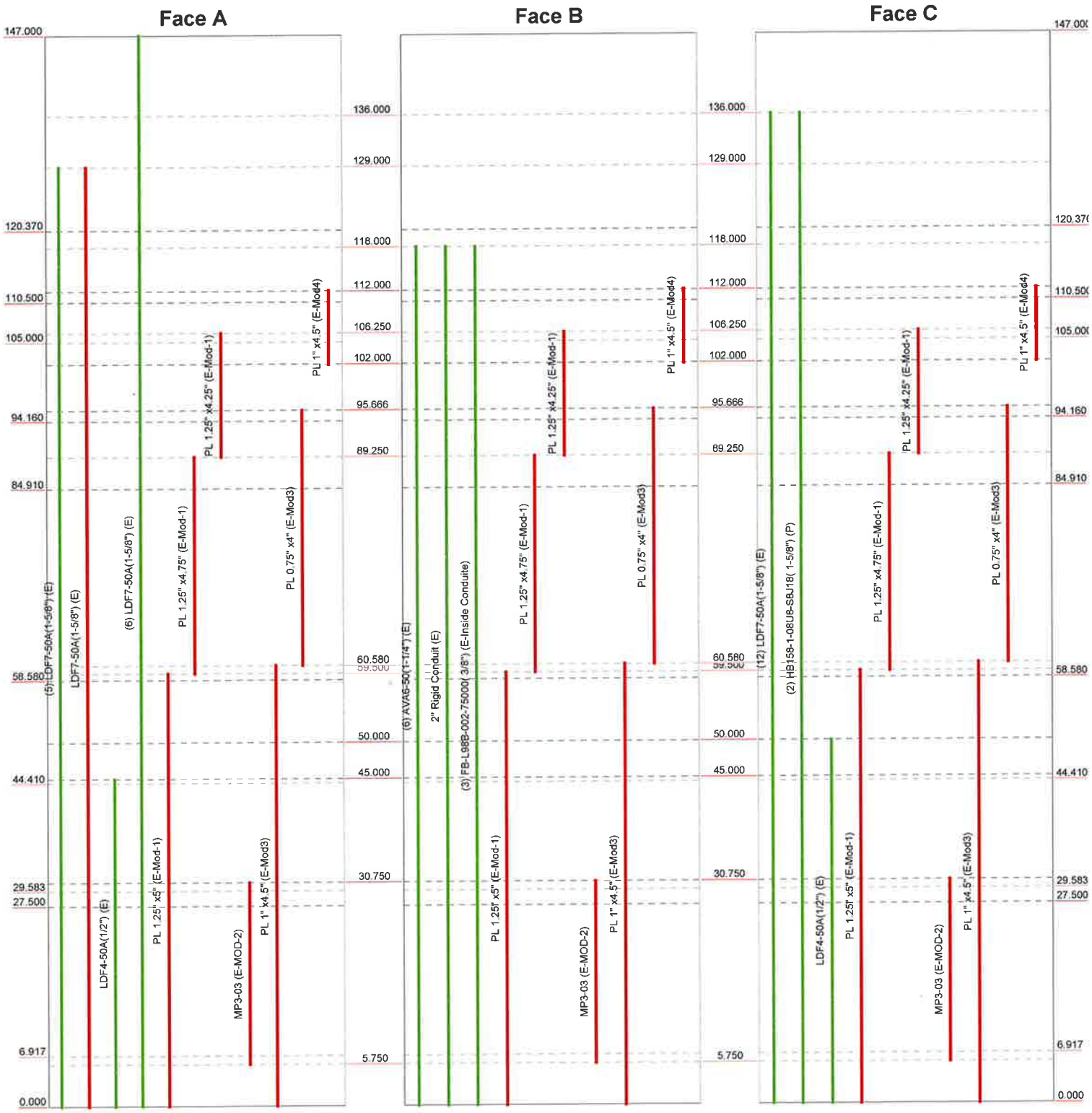
Tulsa
Phone: 918-587-4630
FAX:
B+TLogo

Job: 108665.005.01 - PRESTON / TOWN HALL, CT (BU# 876		
Project:		
Client: Crown Castel	Drawn by: kmurphy	App'd:
Code: TIA-222-G	Date: 12/28/16	Scale: NTS
Path:		Dwg No. E-5

0' - 147'

Round | Flat | App In Face | App Out Face | Truss Leg



B+T Group
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Tulsa
Phone: 918-587-4630
FAX:
B+TLogo

Job: 108665.005.01 - PRESTON / TOWN HALL, CT (BU# 876			
Project:			
Client: Crown Castel	Drawn by: kmurphy	App'd:	
Code: TIA-222-G	Date: 12/28/16	Scale: NTS	
Path:		Dwg No. E-7	

Tower Input Data

There is a pole section.
This tower is designed using the TIA-222-G standard.
The following design criteria apply:

Tower is located in New London County, Connecticut.
Basic wind speed of 105 mph.
Structure Class II.
Exposure Category C.
Topographic Category 1.
Crest Height 0.000 ft.
Nominal ice thickness of 0.750 in.
Ice thickness is considered to increase with height.
Ice density of 56.000 pcf.
A wind speed of 50 mph is used in combination with ice.
Temperature drop of 50.000 °F.
Deflections calculated using a wind speed of 60 mph.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in pole design is 1.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

Consider Moments - Legs	Distribute Leg Loads As Uniform	Use ASCE 10 X-Brace Ly Rules
Consider Moments - Horizontals	Assume Legs Pinned	Calculate Redundant Bracing Forces
Consider Moments - Diagonals	√ Assume Rigid Index Plate	Ignore Redundant Members in FEA
Use Moment Magnification	√ Use Clear Spans For Wind Area	SR Leg Bolts Resist Compression
√ Use Code Stress Ratios	Use Clear Spans For KL/r	All Leg Panels Have Same Allowable
√ Use Code Safety Factors - Guys	Retension Guys To Initial Tension	Offset Girt At Foundation
Escalate Ice	√ Bypass Mast Stability Checks	√ Consider Feed Line Torque
Always Use Max Kz	√ Use Azimuth Dish Coefficients	Include Angle Block Shear Check
Use Special Wind Profile	√ Project Wind Area of Appurt.	Use TIA-222-G Bracing Resist. Exemption
Include Bolts In Member Capacity	Autocalc Torque Arm Areas	Use TIA-222-G Tension Splice Exemption
Leg Bolts Are At Top Of Section	Add IBC .6D+W Combination	Poles
Secondary Horizontal Braces Leg	Sort Capacity Reports By Component	√ Include Shear-Torsion Interaction
Use Diamond Inner Bracing (4 Sided)	Triangulate Diamond Inner Bracing	Always Use Sub-Critical Flow
SR Members Have Cut Ends	Treat Feed Line Bundles As Cylinder	Use Top Mounted Sockets
SR Members Are Concentric		

Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	147.000-120.370	26.630	3.250	18	16.250	21.980	0.188	0.750	A572-65 (65 ksi)
L2	120.370-110.500	13.120	0.000	18	20.906	23.686	0.250	1.000	A572-65 (65 ksi)

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L3	110.500-105.000	5.500	0.000	18	23.686	24.852	0.452	1.806	37.009485ksi (37 ksi)
L4	105.000-103.500	1.500	0.000	18	24.852	25.170	0.701	2.806	35.792528ksi (36 ksi)
L5	103.500-94.160	9.340	0.000	18	25.170	27.150	0.469	1.874	35.913872ksi (36 ksi)
L6	94.160-84.910	9.250	4.170	18	27.150	29.110	0.577	2.306	35.604024ksi (36 ksi)
L7	84.910-58.580	30.500	0.000	18	27.726	34.188	0.596	2.384	35.787266ksi (36 ksi)
L8	58.580-57.250	1.330	0.000	18	34.188	34.470	0.643	2.572	37.397057ksi (37 ksi)
L9	57.250-44.410	12.840	5.170	18	34.470	37.190	0.635	2.541	37.457041ksi (37 ksi)
L10	44.410-29.583	19.997	0.000	18	35.470	39.717	0.666	2.665	37.591859ksi (38 ksi)
L11	29.583-28.500	1.083	0.000	18	39.717	39.947	0.746	2.982	37.596669ksi (38 ksi)
L12	28.500-27.500	1.000	0.000	18	39.947	40.159	0.711	2.843	38.18006ksi (38 ksi)
L13	27.500-6.917	20.583	0.000	18	40.159	44.531	0.673	2.690	38.317031ksi (38 ksi)
L14	6.917-0.000	6.917		18	44.531	46.000	0.669	2.676	38.249261ksi (38 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L1	16.501	9.559	311.591	5.702	8.255	37.746	623.592	4.781	2.530	13.493
	22.319	12.969	778.156	7.736	11.166	69.691	1557.336	6.486	3.538	18.872
L2	21.928	16.390	883.494	7.333	10.620	83.191	1768.151	8.197	3.239	12.958
	24.052	18.597	1290.495	8.320	12.033	107.249	2582.687	9.300	3.729	14.915
L3	24.052	33.301	2271.290	8.248	12.033	188.760	4545.568	16.654	3.374	7.472
	25.235	34.972	2630.577	8.662	12.625	208.365	5264.616	17.489	3.579	7.926
L4	25.235	53.768	3962.043	8.573	12.625	313.829	7929.299	26.889	3.139	4.476
	25.558	54.476	4120.578	8.686	12.786	322.264	8246.578	27.243	3.195	4.555
L5	25.558	36.735	2831.816	8.769	12.786	221.472	5667.359	18.371	3.605	7.695
	27.568	39.679	3568.649	9.472	13.792	258.748	7141.994	19.843	3.954	8.438
L6	27.568	48.628	4338.153	9.433	13.792	314.542	8682.015	24.319	3.764	6.528
	29.559	52.216	5370.900	10.129	14.788	363.196	10748.866	26.113	4.109	7.126
L7	29.051	51.320	4772.323	9.631	14.085	338.825	9550.926	25.665	3.831	6.428
	34.715	63.543	9058.908	11.925	17.367	521.602	18129.736	31.778	4.968	8.336
L8	34.715	68.471	9734.166	11.908	17.367	560.483	19481.140	34.242	4.885	7.596
	35.001	69.047	9981.531	12.008	17.511	570.027	19976.196	34.530	4.935	7.674
L9	35.001	68.220	9866.659	12.011	17.511	563.467	19746.302	34.117	4.949	7.79
	37.764	73.705	12442.961	12.977	18.893	658.618	24902.295	36.860	5.427	8.544
L10	37.132	73.594	11262.264	12.355	18.019	625.036	22539.347	36.804	5.070	7.61
	40.330	82.575	15908.989	13.863	20.176	788.504	31838.912	41.295	5.818	8.732
L11	40.330	92.215	17694.101	13.835	20.176	876.981	35411.485	46.116	5.678	7.616
	40.563	92.759	18009.258	13.916	20.293	887.461	36042.213	46.388	5.719	7.671
L12	40.563	88.528	17218.104	13.929	20.293	848.475	34458.865	44.272	5.780	8.13
	40.779	89.007	17499.234	14.004	20.401	857.768	35021.494	44.512	5.817	8.183
L13	40.779	84.291	16604.257	14.018	20.401	813.898	33230.362	42.153	5.884	8.749
	45.218	93.623	22752.190	15.570	22.622	1005.769	45534.318	46.820	6.654	9.893
L14	45.218	93.125	22635.007	15.571	22.622	1000.588	45299.797	46.571	6.660	9.957

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
	46.710	96.244	24986.433	16.093	23.368	1069.259	50005.745	48.131	6.919	10.343

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 147.000-120.370				1	1	1			
L2 120.370-110.500				1	1	1			
L3 110.500-105.000				1	1	0.944896			
L4 105.000-103.500				1	1	0.904156			
L5 103.500-94.160				1	1	0.940301			
L6 94.160-84.910				1	1	0.932384			
L7 84.910-58.580				1	1	0.951472			
L8 58.580-57.250				1	1	0.944938			
L9 57.250-44.410				1	1	0.948255			
L10 44.410-29.583				1	1	0.958327			
L11 29.583-28.500				1	1	0.950624			
L12 28.500-27.500				1	1	0.993543			
L13 27.500-6.917				1	1	1.0002			
L14 6.917-0.000				1	1	1.03006			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight klf
LDF7-50A(1-5/8") (E) **_** **MOD-01**	A	Surface Ar (CaAa)	129.000 - 0.000	1	1	-0.500 -0.460	1.980		0.001
PL 1.25" x5" (E-Mod-1)	A	Surface Af (CaAa)	59.500 - 0.000	1	1	0.200 0.250	5.000	7.500	0.000
PL 1.25" x5" (E-Mod-1)	B	Surface Af (CaAa)	59.500 - 0.000	1	1	0.200 0.250	5.000	7.500	0.000
PL 1.25" x5" (E-Mod-1) *	C	Surface Af (CaAa)	59.500 - 0.000	1	1	0.200 0.250	5.000	7.500	0.000

Description	Sector	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight klf
PL 1.25" x4.75" (E-Mod-1)	A	Surface Af (CaAa)	89.250 - 59.500	1	1	0.200 0.250	4.750	7.250	0.000
PL 1.25" x4.75" (E-Mod-1)	B	Surface Af (CaAa)	89.250 - 59.500	1	1	0.200 0.250	4.750	7.250	0.000
PL 1.25" x4.75" (E-Mod-1) *	C	Surface Af (CaAa)	89.250 - 59.500	1	1	0.200 0.250	4.750	7.250	0.000
PL 1.25" x4.25" (E-Mod-1)	A	Surface Af (CaAa)	106.250 - 89.250	1	1	0.200 0.250	4.250	6.750	0.000
PL 1.25" x4.25" (E-Mod-1)	B	Surface Af (CaAa)	106.250 - 89.250	1	1	0.200 0.250	4.250	6.750	0.000
PL 1.25" x4.25" (E-Mod-1) *	C	Surface Af (CaAa)	106.250 - 89.250	1	1	0.200 0.250	4.250	6.750	0.000
MOD-02									
MP3-03 (E-MOD-2)	A	Surface Af (CaAa)	30.750 - 5.750	1	1	0.000 0.000	4.060	11.260	0.000
MP3-03 (E-MOD-2)	B	Surface Af (CaAa)	30.750 - 5.750	1	1	0.000 0.000	4.060	11.260	0.000
MP3-03 (E-MOD-2) *	C	Surface Af (CaAa)	30.750 - 5.750	1	1	0.000 0.000	4.060	11.260	0.000
MOD-03									
PL 1" x4.5" (E-Mod3)	A	Surface Af (CaAa)	60.580 - 0.000	1	1	-0.250 -0.200	4.500	6.500	0.000
PL 1" x4.5" (E-Mod3)	B	Surface Af (CaAa)	60.580 - 0.000	1	1	-0.250 -0.200	4.500	6.500	0.000
PL 1" x4.5" (E-Mod3) *	C	Surface Af (CaAa)	60.580 - 0.000	1	1	-0.250 -0.200	4.500	6.500	0.000
PL 0.75" x4" (E-Mod3)	A	Surface Af (CaAa)	95.666 - 60.580	1	1	-0.250 -0.200	4.000	5.500	0.000
PL 0.75" x4" (E-Mod3)	B	Surface Af (CaAa)	95.666 - 60.580	1	1	-0.250 -0.200	4.000	5.500	0.000
PL 0.75" x4" (E-Mod3) *	C	Surface Af (CaAa)	95.666 - 60.580	1	1	-0.250 -0.200	4.000	5.500	0.000
MOD-04									
PL 1" x4.5" (E-Mod4)	A	Surface Af (CaAa)	112.000 - 102.000	1	1	0.000 0.000	4.500	6.500	0.000
PL 1" x4.5" (E-Mod4)	B	Surface Af (CaAa)	112.000 - 102.000	1	1	0.000 0.000	4.500	6.500	0.000
PL 1" x4.5" (E-Mod4) **_**	C	Surface Af (CaAa)	112.000 - 102.000	1	1	0.000 0.000	4.400	6.500	0.000

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight klf
LDF7-50A(1-5/8") (E)	C	No	Inside Pole	136.000 - 0.000	12	No Ice	0.000	0.001
						1/2" Ice	0.000	0.001
						1" Ice	0.000	0.001
HB158-1-08U8-S8J18(1-5/8") (P) **_**	C	No	Inside Pole	136.000 - 0.000	2	No Ice	0.000	0.001
						1/2" Ice	0.000	0.001
						1" Ice	0.000	0.001

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight klf
LDF7-50A(1-5/8") (E)	A	No	Inside Pole	129.000 - 0.000	5	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.001 0.001 0.001
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AVA6-50(1-1/4") (E)	B	No	Inside Pole	118.000 - 0.000	6	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.000 0.000 0.000
2" Rigid Conduit (E)	B	No	Inside Pole	118.000 - 0.000	1	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.003 0.003 0.003
FB-L98B-002-75000(3/8") (E-Inside Conduite)	B	No	Inside Pole	118.000 - 0.000	3	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.000 0.000 0.000
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LDF4-50A(1/2") (E)	C	No	Inside Pole	50.000 - 0.000	1	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.000 0.000 0.000
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LDF4-50A(1/2") (E)	A	No	Inside Pole	45.000 - 0.000	1	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.000 0.000 0.000
LDF7-50A(1-5/8") (E)	A	No	Inside Pole	147.000 - 0.000	6	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.001 0.001 0.001
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Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	147.000-120.370	A	0.000	0.000	1.709	0.000	0.173
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000	0.194
L2	120.370-110.500	A	0.000	0.000	3.079	0.000	0.097
		B	0.000	0.000	1.125	0.000	0.043
		C	0.000	0.000	1.100	0.000	0.123
L3	110.500-105.000	A	0.000	0.000	6.099	0.000	0.054
		B	0.000	0.000	5.010	0.000	0.031
		C	0.000	0.000	4.919	0.000	0.068
L4	105.000-103.500	A	0.000	0.000	2.485	0.000	0.015
		B	0.000	0.000	2.188	0.000	0.009
		C	0.000	0.000	2.163	0.000	0.019
L5	103.500-94.160	A	0.000	0.000	10.594	0.000	0.092
		B	0.000	0.000	8.745	0.000	0.053
		C	0.000	0.000	8.720	0.000	0.116
L6	94.160-84.910	A	0.000	0.000	14.912	0.000	0.091
		B	0.000	0.000	13.080	0.000	0.053
		C	0.000	0.000	13.080	0.000	0.115
L7	84.910-58.580	A	0.000	0.000	43.816	0.000	0.259
		B	0.000	0.000	38.603	0.000	0.149
		C	0.000	0.000	38.603	0.000	0.328
L8	58.580-57.250	A	0.000	0.000	2.369	0.000	0.013

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		B	0.000	0.000	2.106	0.000	0.008
		C	0.000	0.000	2.106	0.000	0.017
L9	57.250-44.410	A	0.000	0.000	22.872	0.000	0.126
		B	0.000	0.000	20.330	0.000	0.073
		C	0.000	0.000	20.330	0.000	0.161
L10	44.410-29.583	A	0.000	0.000	27.201	0.000	0.148
		B	0.000	0.000	24.266	0.000	0.084
		C	0.000	0.000	24.266	0.000	0.187
L11	29.583-28.500	A	0.000	0.000	2.662	0.000	0.011
		B	0.000	0.000	2.448	0.000	0.006
		C	0.000	0.000	2.448	0.000	0.014
L12	28.500-27.500	A	0.000	0.000	2.458	0.000	0.010
		B	0.000	0.000	2.260	0.000	0.006
		C	0.000	0.000	2.260	0.000	0.013
L13	27.500-6.917	A	0.000	0.000	50.593	0.000	0.206
		B	0.000	0.000	46.518	0.000	0.117
		C	0.000	0.000	46.518	0.000	0.259
L14	6.917-0.000	A	0.000	0.000	13.111	0.000	0.069
		B	0.000	0.000	11.742	0.000	0.039
		C	0.000	0.000	11.742	0.000	0.087

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	147.000-120.370	A	1.724	0.000	0.000	4.685	0.000	0.241
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.000	0.194
L2	120.370-110.500	A	1.700	0.000	0.000	6.781	0.000	0.190
		B		0.000	0.000	1.423	0.000	0.058
		C		0.000	0.000	1.407	0.000	0.138
L3	110.500-105.000	A	1.688	0.000	0.000	9.441	0.000	0.164
		B		0.000	0.000	6.495	0.000	0.099
		C		0.000	0.000	6.439	0.000	0.136
L4	105.000-103.500	A	1.683	0.000	0.000	3.783	0.000	0.056
		B		0.000	0.000	2.981	0.000	0.038
		C		0.000	0.000	2.966	0.000	0.048
L5	103.500-94.160	A	1.674	0.000	0.000	17.639	0.000	0.281
		B		0.000	0.000	12.663	0.000	0.172
		C		0.000	0.000	12.648	0.000	0.235
L6	94.160-84.910	A	1.657	0.000	0.000	24.110	0.000	0.335
		B		0.000	0.000	19.213	0.000	0.228
		C		0.000	0.000	19.213	0.000	0.291
L7	84.910-58.580	A	1.620	0.000	0.000	69.999	0.000	0.965
		B		0.000	0.000	56.058	0.000	0.661
		C		0.000	0.000	56.058	0.000	0.839
L8	58.580-57.250	A	1.587	0.000	0.000	3.635	0.000	0.048
		B		0.000	0.000	2.950	0.000	0.033
		C		0.000	0.000	2.950	0.000	0.042
L9	57.250-44.410	A	1.566	0.000	0.000	34.937	0.000	0.455
		B		0.000	0.000	28.373	0.000	0.314
		C		0.000	0.000	28.373	0.000	0.402
L10	44.410-29.583	A	1.517	0.000	0.000	41.498	0.000	0.540
		B		0.000	0.000	33.919	0.000	0.375
		C		0.000	0.000	33.919	0.000	0.477
L11	29.583-28.500	A	1.481	0.000	0.000	3.945	0.000	0.047
		B		0.000	0.000	3.410	0.000	0.036

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		C		0.000	0.000	3.410	0.000	0.043
L12	28.500-27.500	A	1.476	0.000	0.000	3.638	0.000	0.043
		B		0.000	0.000	3.145	0.000	0.033
		C		0.000	0.000	3.145	0.000	0.040
L13	27.500-6.917	A	1.404	0.000	0.000	73.712	0.000	0.844
		B		0.000	0.000	63.857	0.000	0.636
		C		0.000	0.000	63.857	0.000	0.778
L14	6.917-0.000	A	1.196	0.000	0.000	18.356	0.000	0.200
		B		0.000	0.000	15.331	0.000	0.138
		C		0.000	0.000	15.331	0.000	0.186

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	147.000-120.370	-0.097	0.051	-0.216	0.113
L2	120.370-110.500	-0.220	0.112	-0.466	0.242
L3	110.500-105.000	-0.116	0.050	-0.243	0.122
L4	105.000-103.500	-0.089	0.039	-0.180	0.090
L5	103.500-94.160	-0.118	0.060	-0.234	0.122
L6	94.160-84.910	-0.097	0.051	-0.188	0.098
L7	84.910-58.580	-0.101	0.053	-0.199	0.104
L8	58.580-57.250	-0.101	0.053	-0.200	0.105
L9	57.250-44.410	-0.104	0.054	-0.205	0.107
L10	44.410-29.583	-0.106	0.055	-0.209	0.109
L11	29.583-28.500	-0.089	0.046	-0.169	0.088
L12	28.500-27.500	-0.089	0.046	-0.169	0.088
L13	27.500-6.917	-0.092	0.048	-0.173	0.090
L14	6.917-0.000	-0.114	0.059	-0.206	0.108

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L1	5	LDF7-50A(1-5/8")	120.37 - 129.00	1.0000	1.0000
L1	49	PL 1" x4.5"	120.37 - 112.00	1.0000	1.0000
L1	50	PL 1" x4.5"	120.37 - 112.00	1.0000	1.0000
L1	51	PL 1" x4.5"	120.37 - 112.00	1.0000	1.0000
L3	5	LDF7-50A(1-5/8")	105.00 - 110.50	1.0000	1.0000
L3	30	PL 1.25" x4.25"	105.00 - 106.25	1.0000	1.0000
L3	31	PL 1.25" x4.25"	105.00 - 106.25	1.0000	1.0000
L3	32	PL 1.25" x4.25"	105.00 - 106.25	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L3	49	PL 1" x4.5"	105.00 - 110.50	1.0000	1.0000
L3	50	PL 1" x4.5"	105.00 - 110.50	1.0000	1.0000
L3	51	PL 1" x4.5"	105.00 - 110.50	1.0000	1.0000
L4	5	LDF7-50A(1-5/8")	103.50 - 105.00	1.0000	1.0000
L4	30	PL 1.25" x4.25"	103.50 - 105.00	1.0000	1.0000
L4	31	PL 1.25" x4.25"	103.50 - 105.00	1.0000	1.0000
L4	32	PL 1.25" x4.25"	103.50 - 105.00	1.0000	1.0000
L4	49	PL 1" x4.5"	103.50 - 105.00	1.0000	1.0000
L4	50	PL 1" x4.5"	103.50 - 105.00	1.0000	1.0000
L4	51	PL 1" x4.5"	103.50 - 105.00	1.0000	1.0000
L5	5	LDF7-50A(1-5/8")	94.16 - 103.50	1.0000	1.0000
L5	30	PL 1.25" x4.25"	94.16 - 103.50	1.0000	1.0000
L5	31	PL 1.25" x4.25"	94.16 - 103.50	1.0000	1.0000
L5	32	PL 1.25" x4.25"	94.16 - 103.50	1.0000	1.0000
L5	44	PL 0.75" x4"	94.16 - 95.67	1.0000	1.0000
L5	45	PL 0.75" x4"	94.16 - 95.67	1.0000	1.0000
L5	46	PL 0.75" x4"	94.16 - 95.67	1.0000	1.0000
L5	49	PL 1" x4.5"	102.00 - 103.50	1.0000	1.0000
L5	50	PL 1" x4.5"	102.00 - 103.50	1.0000	1.0000
L5	51	PL 1" x4.5"	102.00 - 103.50	1.0000	1.0000
L6	5	LDF7-50A(1-5/8")	84.91 - 94.16	1.0000	1.0000
L6	26	PL 1.25" x4.75"	84.91 - 89.25	1.0000	1.0000
L6	27	PL 1.25" x4.75"	84.91 - 89.25	1.0000	1.0000
L6	28	PL 1.25" x4.75"	84.91 - 89.25	1.0000	1.0000
L6	30	PL 1.25" x4.25"	89.25 - 94.16	1.0000	1.0000
L6	31	PL 1.25" x4.25"	89.25 - 94.16	1.0000	1.0000
L6	32	PL 1.25" x4.25"	89.25 - 94.16	1.0000	1.0000
L6	44	PL 0.75" x4"	84.91 - 94.16	1.0000	1.0000
L6	45	PL 0.75" x4"	84.91 - 94.16	1.0000	1.0000
L6	46	PL 0.75" x4"	84.91 - 94.16	1.0000	1.0000
L6	22	PL 1.25" x5"	84.91 - 59.50	1.0000	1.0000
L6	23	PL 1.25" x5"	84.91 - 59.50	1.0000	1.0000
L6	24	PL 1.25" x5"	84.91 - 59.50	1.0000	1.0000
L6	40	PL 1" x4.5"	84.91 - 60.58	1.0000	1.0000
L6	41	PL 1" x4.5"	84.91 - 60.58	1.0000	1.0000
L6	42	PL 1" x4.5"	84.91 - 60.58	1.0000	1.0000
L8	5	LDF7-50A(1-5/8")	57.25 - 58.58	1.0000	1.0000
L8	22	PL 1.25" x5"	57.25 - 58.58	1.0000	1.0000
L8	23	PL 1.25" x5"	57.25 - 58.58	1.0000	1.0000
L8	24	PL 1.25" x5"	57.25 - 58.58	1.0000	1.0000
L8	40	PL 1" x4.5"	57.25 - 58.58	1.0000	1.0000
L8	41	PL 1" x4.5"	57.25 - 58.58	1.0000	1.0000
L8	42	PL 1" x4.5"	57.25 - 58.58	1.0000	1.0000
L9	5	LDF7-50A(1-5/8")	44.41 - 57.25	1.0000	1.0000
L9	22	PL 1.25" x5"	44.41 - 57.25	1.0000	1.0000
L9	23	PL 1.25" x5"	44.41 - 57.25	1.0000	1.0000
L9	24	PL 1.25" x5"	44.41 - 57.25	1.0000	1.0000
L9	40	PL 1" x4.5"	44.41 - 57.25	1.0000	1.0000
L9	41	PL 1" x4.5"	44.41 - 57.25	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L9	42	PL 1" x4.5"	44.41 - 57.25	1.0000	1.0000
L9	35	MP3-03	44.41 - 30.75	1.0000	1.0000
L9	36	MP3-03	44.41 - 30.75	1.0000	1.0000
L9	37	MP3-03	44.41 - 30.75	1.0000	1.0000
L11	5	LDF7-50A(1-5/8")	28.50 - 29.58	1.0000	1.0000
L11	22	PL 1.25" x5"	28.50 - 29.58	1.0000	1.0000
L11	23	PL 1.25" x5"	28.50 - 29.58	1.0000	1.0000
L11	24	PL 1.25" x5"	28.50 - 29.58	1.0000	1.0000
L11	35	MP3-03	28.50 - 29.58	1.0000	1.0000
L11	36	MP3-03	28.50 - 29.58	1.0000	1.0000
L11	37	MP3-03	28.50 - 29.58	1.0000	1.0000
L11	40	PL 1" x4.5"	28.50 - 29.58	1.0000	1.0000
L11	41	PL 1" x4.5"	28.50 - 29.58	1.0000	1.0000
L11	42	PL 1" x4.5"	28.50 - 29.58	1.0000	1.0000
L12	5	LDF7-50A(1-5/8")	27.50 - 28.50	1.0000	1.0000
L12	22	PL 1.25" x5"	27.50 - 28.50	1.0000	1.0000
L12	23	PL 1.25" x5"	27.50 - 28.50	1.0000	1.0000
L12	24	PL 1.25" x5"	27.50 - 28.50	1.0000	1.0000
L12	35	MP3-03	27.50 - 28.50	1.0000	1.0000
L12	36	MP3-03	27.50 - 28.50	1.0000	1.0000
L12	37	MP3-03	27.50 - 28.50	1.0000	1.0000
L12	40	PL 1" x4.5"	27.50 - 28.50	1.0000	1.0000
L12	41	PL 1" x4.5"	27.50 - 28.50	1.0000	1.0000
L12	42	PL 1" x4.5"	27.50 - 28.50	1.0000	1.0000
L13	5	LDF7-50A(1-5/8")	6.92 - 27.50	1.0000	1.0000
L13	22	PL 1.25" x5"	6.92 - 27.50	1.0000	1.0000
L13	23	PL 1.25" x5"	6.92 - 27.50	1.0000	1.0000
L13	24	PL 1.25" x5"	6.92 - 27.50	1.0000	1.0000
L13	35	MP3-03	6.92 - 27.50	1.0000	1.0000
L13	36	MP3-03	6.92 - 27.50	1.0000	1.0000
L13	37	MP3-03	6.92 - 27.50	1.0000	1.0000
L13	40	PL 1" x4.5"	6.92 - 27.50	1.0000	1.0000
L13	41	PL 1" x4.5"	6.92 - 27.50	1.0000	1.0000
L13	42	PL 1" x4.5"	6.92 - 27.50	1.0000	1.0000
L14	5	LDF7-50A(1-5/8")	0.00 - 6.92	1.0000	1.0000
L14	22	PL 1.25" x5"	0.00 - 6.92	1.0000	1.0000
L14	23	PL 1.25" x5"	0.00 - 6.92	1.0000	1.0000
L14	24	PL 1.25" x5"	0.00 - 6.92	1.0000	1.0000
L14	35	MP3-03	5.75 - 6.92	1.0000	1.0000
L14	36	MP3-03	5.75 - 6.92	1.0000	1.0000
L14	37	MP3-03	5.75 - 6.92	1.0000	1.0000
L14	40	PL 1" x4.5"	0.00 - 6.92	1.0000	1.0000
L14	41	PL 1" x4.5"	0.00 - 6.92	1.0000	1.0000
L14	42	PL 1" x4.5"	0.00 - 6.92	1.0000	1.0000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Offsets: Vert ft	Offsets: Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
(2) DB978H90T2E-M w/	A	From Leg	4.000		0.000	147.000	No Ice	3.221	2.888	0.025

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Mount Pipe			0.000			1/2" Ice	3.594	3.490	0.055
(E)			0.000			1" Ice	3.960	4.103	0.091
(2) DB978H90T2E-M w/	B	From Leg	4.000	0.000	147.000	No Ice	3.221	2.888	0.025
Mount Pipe			0.000			1/2" Ice	3.594	3.490	0.055
(E)			0.000			1" Ice	3.960	4.103	0.091
(2) DB978H90T2E-M w/	C	From Leg	4.000	0.000	147.000	No Ice	3.221	2.888	0.025
Mount Pipe			0.000			1/2" Ice	3.594	3.490	0.055
(E)			0.000			1" Ice	3.960	4.103	0.091
(2) 4' x 2" Pipe Mount	A	From Leg	4.000	0.000	147.000	No Ice	0.785	0.785	0.029
(E)			0.000			1/2" Ice	1.028	1.028	0.035
			0.000			1" Ice	1.281	1.281	0.044
(2) 4' x 2" Pipe Mount	B	From Leg	4.000	0.000	147.000	No Ice	0.785	0.785	0.029
(E)			0.000			1/2" Ice	1.028	1.028	0.035
			0.000			1" Ice	1.281	1.281	0.044
(2) 4' x 2" Pipe Mount	C	From Leg	4.000	0.000	147.000	No Ice	0.785	0.785	0.029
(E)			0.000			1/2" Ice	1.028	1.028	0.035
			0.000			1" Ice	1.281	1.281	0.044
Climbing Ladder (Flat)	C	From Leg	3.000	0.000	147.000	No Ice	5.844	5.844	0.048
(E)			0.000			1/2" Ice	10.300	10.300	0.071
			0.000			1" Ice	14.756	14.756	0.094
Platform Mount [LP 712-1]	C	None		0.000	147.000	No Ice	20.433	24.530	1.335
(E-Per previous SA)						1/2" Ice	29.940	29.940	1.646
						1" Ice	35.350	35.350	1.956
-									
(2) SBNHH-1D65A w/	A	From Leg	4.000	0.000	136.000	No Ice	5.954	5.190	0.061
Mount Pipe			0.000			1/2" Ice	6.390	5.961	0.114
(P)			2.000			1" Ice	6.820	6.658	0.174
(2) SBNHH-1D65A w/	B	From Leg	4.000	0.000	136.000	No Ice	5.954	5.190	0.061
Mount Pipe			0.000			1/2" Ice	6.390	5.961	0.114
(P)			2.000			1" Ice	6.820	6.658	0.174
(2) SBNHH-1D65A w/	C	From Leg	4.000	0.000	136.000	No Ice	5.954	5.190	0.061
Mount Pipe			0.000			1/2" Ice	6.390	5.961	0.114
(P)			2.000			1" Ice	6.820	6.658	0.174
(2) LPA-80080/4CF w/	A	From Leg	4.000	0.000	136.000	No Ice	2.856	6.569	0.030
Mount Pipe			0.000			1/2" Ice	3.220	7.195	0.076
(P)			2.000			1" Ice	3.592	7.837	0.128
(2) LPA-80080/4CF w/	B	From Leg	4.000	0.000	136.000	No Ice	2.856	6.569	0.030
Mount Pipe			0.000			1/2" Ice	3.220	7.195	0.076
(P)			2.000			1" Ice	3.592	7.837	0.128
(2) LPA-80080/4CF w/	C	From Leg	4.000	0.000	136.000	No Ice	2.856	6.569	0.030
Mount Pipe			0.000			1/2" Ice	3.220	7.195	0.076
(P)			2.000			1" Ice	3.592	7.837	0.128
RRH4X45-AWS4 B66	A	From Leg	4.000	0.000	136.000	No Ice	0.000	1.586	0.064
(P)			0.000			1/2" Ice	2.878	1.769	0.084
			2.000			1" Ice	3.104	1.959	0.108
RRH4X45-AWS4 B66	B	From Leg	4.000	0.000	136.000	No Ice	0.000	1.586	0.064
(P)			0.000			1/2" Ice	2.878	1.769	0.084
			2.000			1" Ice	3.104	1.959	0.108
RRH4X45-AWS4 B66	C	From Leg	4.000	0.000	136.000	No Ice	0.000	1.586	0.064
(P)			0.000			1/2" Ice	2.878	1.769	0.084
			2.000			1" Ice	3.104	1.959	0.108
RRH2x60-700	A	From Leg	4.000	0.000	136.000	No Ice	0.000	1.816	0.060
(P)			0.000			1/2" Ice	3.761	2.052	0.083
			2.000			1" Ice	4.029	2.289	0.109
RRH2x60-700	B	From Leg	4.000	0.000	136.000	No Ice	0.000	1.816	0.060
(P)			0.000			1/2" Ice	3.761	2.052	0.083
			2.000			1" Ice	4.029	2.289	0.109

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
RRH2x60-700	C	From Leg	4.000	0.000	136.000	No Ice	0.000	1.816	0.060
(P)			0.000			1/2" Ice	3.761	2.052	0.083
			2.000			1" Ice	4.029	2.289	0.109
(2) DB-B1-6C-12AB-0Z	A	From Leg	4.000	0.000	136.000	No Ice	3.364	2.192	0.021
(P)			0.000			1/2" Ice	3.597	2.395	0.050
			2.000			1" Ice	3.838	2.606	0.082
Platform Mount [LP 601-1]	C	None		0.000	136.000	No Ice	28.470	28.470	1.122
(E)						1/2" Ice	33.590	33.590	1.514
						1" Ice	38.710	38.710	1.905
-									
ERICSSON AIR 21 B2A	A	From Leg	4.000	0.000	129.000	No Ice	6.329	5.642	0.112
B4P w/ Mount Pipe			0.000			1/2" Ice	6.775	6.426	0.169
(E)			0.000			1" Ice	7.214	7.131	0.233
ERICSSON AIR 21 B2A	B	From Leg	4.000	0.000	129.000	No Ice	6.329	5.642	0.112
B4P w/ Mount Pipe			0.000			1/2" Ice	6.775	6.426	0.169
(E)			0.000			1" Ice	7.214	7.131	0.233
ERICSSON AIR 21 B2A	C	From Leg	4.000	0.000	129.000	No Ice	6.329	5.642	0.112
B4P w/ Mount Pipe			0.000			1/2" Ice	6.775	6.426	0.169
(E)			0.000			1" Ice	7.214	7.131	0.233
LNX-6515DS-VTM w/	A	From Leg	4.000	0.000	129.000	No Ice	11.626	9.793	0.074
Mount Pipe			0.000			1/2" Ice	12.346	11.311	0.163
(E)			0.000			1" Ice	13.074	12.854	0.262
LNX-6515DS-VTM w/	B	From Leg	4.000	0.000	129.000	No Ice	11.626	9.793	0.074
Mount Pipe			0.000			1/2" Ice	12.346	11.311	0.163
(E)			0.000			1" Ice	13.074	12.854	0.262
LNX-6515DS-VTM w/	C	From Leg	4.000	0.000	129.000	No Ice	11.626	9.793	0.074
Mount Pipe			0.000			1/2" Ice	12.346	11.311	0.163
(E)			0.000			1" Ice	13.074	12.854	0.262
ERICSSON AIR 21 B4A	A	From Leg	4.000	0.000	129.000	No Ice	6.329	5.642	0.112
B2P w/ Mount Pipe			0.000			1/2" Ice	6.775	6.426	0.169
(E)			0.000			1" Ice	7.214	7.131	0.233
ERICSSON AIR 21 B4A	B	From Leg	4.000	0.000	129.000	No Ice	6.329	5.642	0.112
B2P w/ Mount Pipe			0.000			1/2" Ice	6.775	6.426	0.169
(E)			0.000			1" Ice	7.214	7.131	0.233
ERICSSON AIR 21 B4A	C	From Leg	4.000	0.000	129.000	No Ice	6.329	5.642	0.112
B2P w/ Mount Pipe			0.000			1/2" Ice	6.775	6.426	0.169
(E)			0.000			1" Ice	7.214	7.131	0.233
KRY 112 144/1	A	From Leg	4.000	0.000	129.000	No Ice	0.000	0.175	0.011
(E)			0.000			1/2" Ice	0.426	0.234	0.014
			0.000			1" Ice	0.509	0.301	0.019
KRY 112 144/1	B	From Leg	4.000	0.000	129.000	No Ice	0.000	0.175	0.011
(E)			0.000			1/2" Ice	0.426	0.234	0.014
			0.000			1" Ice	0.509	0.301	0.019
KRY 112 144/1	C	From Leg	4.000	0.000	129.000	No Ice	0.000	0.175	0.011
(E)			0.000			1/2" Ice	0.426	0.234	0.014
			0.000			1" Ice	0.509	0.301	0.019
RRUS 11 B12	A	From Leg	4.000	0.000	129.000	No Ice	2.833	1.182	0.051
(E)			0.000			1/2" Ice	3.043	1.330	0.072
			0.000			1" Ice	3.259	1.485	0.095
RRUS 11 B12	B	From Leg	4.000	0.000	129.000	No Ice	2.833	1.182	0.051
(E)			0.000			1/2" Ice	3.043	1.330	0.072
			0.000			1" Ice	3.259	1.485	0.095
RRUS 11 B12	C	From Leg	4.000	0.000	129.000	No Ice	2.833	1.182	0.051
(E)			0.000			1/2" Ice	3.043	1.330	0.072
			0.000			1" Ice	3.259	1.485	0.095
Platform Mount [LP 714-1]	C	None		0.000	129.000	No Ice	37.470	37.470	1.600
(E-14' flat)						1/2" Ice	44.230	44.230	2.040

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						1" Ice	50.990	50.990	2.480
_									
(2) TME-RRUS-11	A	From Leg	1.000	0.000	120.000	No Ice	2.959	1.665	0.057
(E)			0.000			1/2" Ice	3.226	1.976	0.085
			0.000			1" Ice	3.504	2.304	0.117
(2) TME-RRUS-11	B	From Leg	1.000	0.000	120.000	No Ice	2.959	1.665	0.057
(E)			0.000			1/2" Ice	3.226	1.976	0.085
			0.000			1" Ice	3.504	2.304	0.117
(2) TME-RRUS-11	C	From Leg	1.000	0.000	120.000	No Ice	2.959	1.665	0.057
(E)			0.000			1/2" Ice	3.226	1.976	0.085
			0.000			1" Ice	3.504	2.304	0.117
(2) 4' x 2" Pipe Mount	A	From Leg	1.000	0.000	120.000	No Ice	0.785	0.785	0.029
(E)			0.000			1/2" Ice	1.028	1.028	0.035
			0.000			1" Ice	1.281	1.281	0.044
(2) 4' x 2" Pipe Mount	B	From Leg	1.000	0.000	120.000	No Ice	0.785	0.785	0.029
(E)			0.000			1/2" Ice	1.028	1.028	0.035
			0.000			1" Ice	1.281	1.281	0.044
(2) 4' x 2" Pipe Mount	C	From Leg	1.000	0.000	120.000	No Ice	0.785	0.785	0.029
(E)			0.000			1/2" Ice	1.028	1.028	0.035
			0.000			1" Ice	1.281	1.281	0.044
Side Arm Mount [SO 102-3]	C	None		0.000	120.000	No Ice	3.000	3.000	0.081
(E)						1/2" Ice	3.480	3.480	0.111
						1" Ice	3.960	3.960	0.141
_									
AM-X-WM-17-65-00T w/	A	From Leg	4.000	0.000	118.000	No Ice	3.314	2.732	0.034
Mount Pipe			0.000			1/2" Ice	3.682	3.332	0.064
(E-Off set per photo)			2.000			1" Ice	4.050	3.943	0.099
AM-X-WM-17-65-00T w/	B	From Leg	4.000	0.000	118.000	No Ice	3.314	2.732	0.034
Mount Pipe			0.000			1/2" Ice	3.682	3.332	0.064
(E)			2.000			1" Ice	4.050	3.943	0.099
AM-X-WM-17-65-00T w/	C	From Leg	4.000	0.000	118.000	No Ice	3.314	2.732	0.034
Mount Pipe			0.000			1/2" Ice	3.682	3.332	0.064
(E)			2.000			1" Ice	4.050	3.943	0.099
RA21.7770.00 w/ Mount Pipe	A	From Leg	4.000	0.000	118.000	No Ice	6.766	5.002	0.060
(E)			0.000			1/2" Ice	7.261	5.960	0.114
			2.000			1" Ice	7.735	6.747	0.175
RA21.7770.00 w/ Mount Pipe	B	From Leg	4.000	0.000	118.000	No Ice	6.766	5.002	0.060
(E)			0.000			1/2" Ice	7.261	5.960	0.114
			2.000			1" Ice	7.735	6.747	0.175
RA21.7770.00 w/ Mount Pipe	C	From Leg	4.000	0.000	118.000	No Ice	6.766	5.002	0.060
(E)			0.000			1/2" Ice	7.261	5.960	0.114
			2.000			1" Ice	7.735	6.747	0.175
(2) LGP21401	A	From Leg	4.000	0.000	118.000	No Ice	0.000	1.100	0.014
(E)			0.000			1/2" Ice	1.239	0.274	0.021
			2.000			1" Ice	1.381	0.348	0.030
(2) LGP21401	B	From Leg	4.000	0.000	118.000	No Ice	0.000	1.100	0.014
(E)			0.000			1/2" Ice	1.239	0.274	0.021
			2.000			1" Ice	1.381	0.348	0.030
(2) LGP21401	C	From Leg	4.000	0.000	118.000	No Ice	0.000	1.100	0.014
(E)			0.000			1/2" Ice	1.239	0.274	0.021
			2.000			1" Ice	1.381	0.348	0.030
DC6-48-60-18-8F	A	From Leg	1.000	0.000	118.000	No Ice	0.917	0.917	0.019
(E)			0.000			1/2" Ice	1.458	1.458	0.037
			0.000			1" Ice	1.643	1.643	0.057
Platform Mount [LP 303-1]	C	None		0.000	118.000	No Ice	14.660	14.660	1.250
(E)						1/2" Ice	18.870	18.870	1.481
						1" Ice	23.080	23.080	1.713

Description	Face or Leg	Offset Type	Offsets: Horz Lateral / Vert ft / ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
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KS24019-L112A	C	From Leg	3.000	0.000	50.000	No Ice	0.141	0.141	0.005
(E)			0.000			1/2" Ice	0.198	0.198	0.007
			1.000			1" Ice	0.262	0.262	0.009
Side Arm Mount [SO 701-1]	C	From Leg	1.500	0.000	50.000	No Ice	0.850	1.670	0.065
(E)			0.000			1/2" Ice	1.140	2.340	0.079
			0.000			1" Ice	1.430	3.010	0.093
***									
KS24019-L112A	A	From Leg	3.000	0.000	45.000	No Ice	0.141	0.141	0.005
(E)			0.000			1/2" Ice	0.198	0.198	0.007
			1.000			1" Ice	0.262	0.262	0.009
Side Arm Mount [SO 701-1]	A	From Leg	1.500	0.000	45.000	No Ice	0.850	1.670	0.065
(E)			0.000			1/2" Ice	1.140	2.340	0.079
			0.000			1" Ice	1.430	3.010	0.093
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Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.6 Wind 0 deg - No Ice
3	0.9 Dead+1.6 Wind 0 deg - No Ice
4	1.2 Dead+1.6 Wind 30 deg - No Ice
5	0.9 Dead+1.6 Wind 30 deg - No Ice
6	1.2 Dead+1.6 Wind 60 deg - No Ice
7	0.9 Dead+1.6 Wind 60 deg - No Ice
8	1.2 Dead+1.6 Wind 90 deg - No Ice
9	0.9 Dead+1.6 Wind 90 deg - No Ice
10	1.2 Dead+1.6 Wind 120 deg - No Ice
11	0.9 Dead+1.6 Wind 120 deg - No Ice
12	1.2 Dead+1.6 Wind 150 deg - No Ice
13	0.9 Dead+1.6 Wind 150 deg - No Ice
14	1.2 Dead+1.6 Wind 180 deg - No Ice
15	0.9 Dead+1.6 Wind 180 deg - No Ice
16	1.2 Dead+1.6 Wind 210 deg - No Ice
17	0.9 Dead+1.6 Wind 210 deg - No Ice
18	1.2 Dead+1.6 Wind 240 deg - No Ice
19	0.9 Dead+1.6 Wind 240 deg - No Ice
20	1.2 Dead+1.6 Wind 270 deg - No Ice
21	0.9 Dead+1.6 Wind 270 deg - No Ice
22	1.2 Dead+1.6 Wind 300 deg - No Ice
23	0.9 Dead+1.6 Wind 300 deg - No Ice
24	1.2 Dead+1.6 Wind 330 deg - No Ice
25	0.9 Dead+1.6 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp

Comb. No.	Description
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	147 - 120.37	Pole	Max Tension	26	0.000	-0.000	-0.000
			Max. Compression	26	-21.303	0.532	1.119
			Max. Mx	20	-7.260	214.607	0.107
			Max. My	2	-7.234	0.095	216.324
			Max. Vy	20	-17.353	214.607	0.107
			Max. Vx	2	-17.477	0.095	216.324
			Max. Torque	24			1.408
L2	120.37 - 110.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-29.502	0.651	1.296
			Max. Mx	20	-11.273	482.817	0.152
			Max. My	2	-11.249	0.142	486.204
			Max. Vy	20	-22.149	482.817	0.152
			Max. Vx	2	-22.274	0.142	486.204
			Max. Torque	4			1.292
L3	110.5 - 105	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-30.953	0.706	1.283
			Max. Mx	20	-12.281	605.829	0.155
			Max. My	2	-12.258	0.159	609.898
			Max. Vy	20	-22.602	605.829	0.155
			Max. Vx	2	-22.727	0.159	609.898
			Max. Torque	4			1.290
L4	105 - 103.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-31.487	0.719	1.277
			Max. Mx	20	-12.645	639.826	0.156
			Max. My	2	-12.623	0.164	644.082
			Max. Vy	20	-22.742	639.826	0.156
			Max. Vx	2	-22.867	0.164	644.082
			Max. Torque	4			1.289
L5	103.5 - 94.16	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-34.134	0.801	1.234
			Max. Mx	20	-14.506	855.849	0.158
			Max. My	2	-14.486	0.190	861.264
			Max. Vy	20	-23.534	855.849	0.158
			Max. Vx	2	-23.659	0.190	861.264

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Torque	4			1.289
L6	94.16 - 84.91	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-35.901	0.848	1.210
			Max. Mx	20	-15.720	976.522	0.159
			Max. My	2	-15.702	0.203	982.568
			Max. Vy	20	-23.993	976.522	0.159
			Max. Vx	2	-24.118	0.203	982.568
			Max. Torque	4			1.287
L7	84.91 - 58.58	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-48.812	1.158	1.048
			Max. Mx	20	-24.895	1752.313	0.156
			Max. My	2	-24.883	0.276	1762.146
			Max. Vy	20	-26.839	1752.313	0.156
			Max. Vx	2	-26.964	0.276	1762.146
			Max. Torque	4			1.286
L8	58.58 - 57.25	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-49.388	1.172	1.040
			Max. Mx	20	-25.320	1788.069	0.156
			Max. My	2	-25.308	0.278	1798.066
			Max. Vy	20	-26.959	1788.069	0.156
			Max. Vx	2	-27.084	0.278	1798.066
			Max. Torque	4			1.282
L9	57.25 - 44.41	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-52.897	1.630	0.780
			Max. Mx	20	-27.890	1997.605	0.036
			Max. My	2	-27.879	0.519	2008.198
			Max. Vy	20	-27.705	1997.605	0.036
			Max. Vx	2	-27.850	0.519	2008.198
			Max. Torque	14			-1.454
L10	44.41 - 29.583	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-64.431	1.857	1.099
			Max. Mx	20	-36.566	2572.063	0.650
			Max. My	2	-36.561	0.927	2585.154
			Max. Vy	20	-29.615	2572.063	0.650
			Max. Vx	2	-29.718	0.927	2585.154
			Max. Torque	4			1.571
L11	29.583 - 28.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-65.033	1.869	1.093
			Max. Mx	20	-37.014	2604.169	0.669
			Max. My	2	-37.008	0.949	2617.369
			Max. Vy	20	-29.704	2604.169	0.669
			Max. Vx	2	-29.806	0.949	2617.369
			Max. Torque	4			1.569
L12	28.5 - 27.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-65.590	1.880	1.087
			Max. Mx	20	-37.428	2633.900	0.687
			Max. My	2	-37.423	0.969	2647.201
			Max. Vy	20	-29.785	2633.900	0.687
			Max. Vx	2	-29.887	0.969	2647.201
			Max. Torque	4			1.569
L13	27.5 - 6.917	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-77.004	2.109	0.967
			Max. Mx	20	-46.048	3261.381	1.049
			Max. My	2	-46.047	1.382	3276.731
			Max. Vy	20	-31.218	3261.381	1.049
			Max. Vx	2	-31.319	1.382	3276.731
			Max. Torque	4			1.569
L14	6.917 - 0	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-80.797	2.177	0.932
			Max. Mx	20	-49.188	3478.823	1.169
			Max. My	2	-49.188	1.519	3494.849

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vy	20	-31.687	3478.823	1.169
			Max. Vx	2	-31.787	1.519	3494.849
			Max. Torque	4			1.569

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	27	80.797	0.006	8.070
	Max. H_x	20	49.200	31.667	0.018
	Max. H_z	2	49.200	0.018	31.767
	Max. M_x	2	3494.849	0.018	31.767
	Max. M_z	8	3477.622	-31.667	-0.018
	Max. Torsion	4	1.569	-15.818	27.502
	Min. Vert	19	36.900	27.416	-15.868
	Min. H_x	8	49.200	-31.667	-0.018
	Min. H_z	14	49.200	-0.018	-31.767
	Min. M_x	14	-3494.368	-0.018	-31.767
	Min. M_z	20	-3478.823	31.667	0.018
	Min. Torsion	16	-1.555	15.818	-27.502

Tower Mast Reaction Summary

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Dead Only	41.000	0.000	0.000	-0.189	0.478	0.000
1.2 Dead+1.6 Wind 0 deg - No Ice	49.200	-0.018	-31.767	-3494.849	1.519	-1.452
0.9 Dead+1.6 Wind 0 deg - No Ice	36.900	-0.018	-31.767	-3458.649	1.362	-1.447
1.2 Dead+1.6 Wind 30 deg - No Ice	49.200	15.818	-27.502	-3026.206	-1737.693	-1.569
0.9 Dead+1.6 Wind 30 deg - No Ice	36.900	15.818	-27.502	-2994.850	-1719.879	-1.563
1.2 Dead+1.6 Wind 60 deg - No Ice	49.200	27.416	-15.868	-1746.759	-3011.163	-1.260
0.9 Dead+1.6 Wind 60 deg - No Ice	36.900	27.416	-15.868	-1728.632	-2980.192	-1.255
1.2 Dead+1.6 Wind 90 deg - No Ice	49.200	31.667	0.018	0.696	-3477.622	-0.609
0.9 Dead+1.6 Wind 90 deg - No Ice	36.900	31.667	0.018	0.754	-3441.845	-0.606
1.2 Dead+1.6 Wind 120 deg - No Ice	49.200	27.434	15.899	1747.898	-3012.090	0.206
0.9 Dead+1.6 Wind 120 deg - No Ice	36.900	27.434	15.899	1729.889	-2981.116	0.206
1.2 Dead+1.6 Wind 150 deg - No Ice	49.200	15.850	27.520	3026.657	-1739.303	0.960
0.9 Dead+1.6 Wind 150 deg - No Ice	36.900	15.850	27.520	2995.423	-1721.483	0.958
1.2 Dead+1.6 Wind 180 deg -	49.200	0.018	31.767	3494.368	-0.346	1.452

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
No Ice 0.9 Dead+1.6 Wind 180 deg -	36.900	0.018	31.767	3458.295	-0.494	1.447
No Ice 1.2 Dead+1.6 Wind 210 deg -	49.200	-15.818	27.502	3025.738	1738.869	1.555
No Ice 0.9 Dead+1.6 Wind 210 deg -	36.900	-15.818	27.502	2994.506	1720.750	1.550
No Ice 1.2 Dead+1.6 Wind 240 deg -	49.200	-27.416	15.868	1746.296	3012.353	1.246
No Ice 0.9 Dead+1.6 Wind 240 deg -	36.900	-27.416	15.868	1728.291	2981.074	1.241
No Ice 1.2 Dead+1.6 Wind 270 deg -	49.200	-31.667	-0.018	-1.169	3478.823	0.609
No Ice 0.9 Dead+1.6 Wind 270 deg -	36.900	-31.667	-0.018	-1.102	3442.733	0.606
No Ice 1.2 Dead+1.6 Wind 300 deg -	49.200	-27.434	-15.899	-1748.385	3013.287	-0.192
No Ice 0.9 Dead+1.6 Wind 300 deg -	36.900	-27.434	-15.899	-1730.248	2982.003	-0.192
No Ice 1.2 Dead+1.6 Wind 330 deg -	49.200	-15.850	-27.520	-3027.148	1740.486	-0.946
No Ice 0.9 Dead+1.6 Wind 330 deg -	36.900	-15.850	-27.520	-2995.785	1722.359	-0.944
No Ice 1.2 Dead+1.0 Ice+1.0 Temp	80.797	-0.000	-0.000	-0.932	2.177	-0.000
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	80.797	-0.006	-8.070	-903.915	2.653	-0.719
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	80.797	4.024	-6.986	-782.795	-447.569	-0.591
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	80.797	6.976	-4.030	-452.196	-777.242	-0.306
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	80.797	8.059	0.006	-0.711	-898.022	0.062
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	80.797	6.982	4.041	450.687	-777.572	0.413
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	80.797	4.035	6.992	781.047	-448.141	0.654
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	80.797	0.006	8.070	901.839	1.994	0.719
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	80.797	-4.024	6.986	780.722	452.220	0.591
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	80.797	-6.976	4.030	450.121	781.897	0.305
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	80.797	-8.059	-0.006	-1.369	902.679	-0.062
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	80.797	-6.982	-4.041	-452.770	782.225	-0.413
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	80.797	-4.035	-6.992	-783.128	452.788	-0.653
Dead+Wind 0 deg - Service	41.000	-0.003	-5.801	-635.098	0.669	-0.269
Dead+Wind 30 deg - Service	41.000	2.888	-5.022	-549.953	-315.309	-0.289
Dead+Wind 60 deg - Service	41.000	5.006	-2.897	-317.502	-546.667	-0.232
Dead+Wind 90 deg - Service	41.000	5.782	0.003	-0.031	-631.411	-0.112
Dead+Wind 120 deg - Service	41.000	5.009	2.903	317.395	-546.836	0.037
Dead+Wind 150 deg - Service	41.000	2.894	5.025	549.722	-315.603	0.177
Dead+Wind 180 deg - Service	41.000	0.003	5.801	634.697	0.329	0.269
Dead+Wind 210 deg - Service	41.000	-2.888	5.022	549.552	316.307	0.289
Dead+Wind 240 deg - Service	41.000	-5.006	2.897	317.102	547.665	0.232
Dead+Wind 270 deg - Service	41.000	-5.782	-0.003	-0.370	632.410	0.112
Dead+Wind 300 deg - Service	41.000	-5.009	-2.903	-317.796	547.834	-0.037
Dead+Wind 330 deg - Service	41.000	-2.894	-5.025	-550.123	316.601	-0.177

Solution Summary

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
1	0.000	-41.000	0.000	0.000	41.000	0.000	0.000%
2	-0.018	-49.200	-31.767	0.018	49.200	31.767	0.000%
3	-0.018	-36.900	-31.767	0.018	36.900	31.767	0.000%
4	15.818	-49.200	-27.502	-15.818	49.200	27.502	0.000%
5	15.818	-36.900	-27.502	-15.818	36.900	27.502	0.000%
6	27.416	-49.200	-15.868	-27.416	49.200	15.868	0.000%
7	27.416	-36.900	-15.868	-27.416	36.900	15.868	0.000%
8	31.667	-49.200	0.018	-31.667	49.200	-0.018	0.000%
9	31.667	-36.900	0.018	-31.667	36.900	-0.018	0.000%
10	27.434	-49.200	15.899	-27.434	49.200	-15.899	0.000%
11	27.434	-36.900	15.899	-27.434	36.900	-15.899	0.000%
12	15.850	-49.200	27.520	-15.850	49.200	-27.520	0.000%
13	15.850	-36.900	27.520	-15.850	36.900	-27.520	0.000%
14	0.018	-49.200	31.767	-0.018	49.200	-31.767	0.000%
15	0.018	-36.900	31.767	-0.018	36.900	-31.767	0.000%
16	-15.818	-49.200	27.502	15.818	49.200	-27.502	0.000%
17	-15.818	-36.900	27.502	15.818	36.900	-27.502	0.000%
18	-27.416	-49.200	15.868	27.416	49.200	-15.868	0.000%
19	-27.416	-36.900	15.868	27.416	36.900	-15.868	0.000%
20	-31.667	-49.200	-0.018	31.667	49.200	0.018	0.000%
21	-31.667	-36.900	-0.018	31.667	36.900	0.018	0.000%
22	-27.434	-49.200	-15.899	27.434	49.200	15.899	0.000%
23	-27.434	-36.900	-15.899	27.434	36.900	15.899	0.000%
24	-15.850	-49.200	-27.520	15.850	49.200	27.520	0.000%
25	-15.850	-36.900	-27.520	15.850	36.900	27.520	0.000%
26	0.000	-80.797	0.000	0.000	80.797	0.000	0.000%
27	-0.006	-80.797	-8.070	0.006	80.797	8.070	0.000%
28	4.024	-80.797	-6.986	-4.024	80.797	6.986	0.000%
29	6.976	-80.797	-4.030	-6.976	80.797	4.030	0.000%
30	8.059	-80.797	0.006	-8.059	80.797	-0.006	0.000%
31	6.982	-80.797	4.041	-6.982	80.797	-4.041	0.000%
32	4.035	-80.797	6.992	-4.035	80.797	-6.992	0.000%
33	0.006	-80.797	8.070	-0.006	80.797	-8.070	0.000%
34	-4.024	-80.797	6.986	4.024	80.797	-6.986	0.000%
35	-6.976	-80.797	4.030	6.976	80.797	-4.030	0.000%
36	-8.059	-80.797	-0.006	8.059	80.797	0.006	0.000%
37	-6.982	-80.797	-4.041	6.982	80.797	4.041	0.000%
38	-4.035	-80.797	-6.992	4.035	80.797	6.992	0.000%
39	-0.003	-41.000	-5.801	0.003	41.000	5.801	0.000%
40	2.888	-41.000	-5.022	-2.888	41.000	5.022	0.000%
41	5.006	-41.000	-2.897	-5.006	41.000	2.897	0.000%
42	5.782	-41.000	0.003	-5.782	41.000	-0.003	0.000%
43	5.009	-41.000	2.903	-5.009	41.000	-2.903	0.000%
44	2.894	-41.000	5.025	-2.894	41.000	-5.025	0.000%
45	0.003	-41.000	5.801	-0.003	41.000	-5.801	0.000%
46	-2.888	-41.000	5.022	2.888	41.000	-5.022	0.000%
47	-5.006	-41.000	2.897	5.006	41.000	-2.897	0.000%
48	-5.782	-41.000	-0.003	5.782	41.000	0.003	0.000%
49	-5.009	-41.000	-2.903	5.009	41.000	2.903	0.000%
50	-2.894	-41.000	-5.025	2.894	41.000	5.025	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	5	0.00000001	0.00008214
3	Yes	5	0.00000001	0.00003587
4	Yes	6	0.00000001	0.00009011
5	Yes	5	0.00000001	0.00086456
6	Yes	6	0.00000001	0.00009409
7	Yes	5	0.00000001	0.00090335
8	Yes	4	0.00000001	0.00077392
9	Yes	4	0.00000001	0.00042895
10	Yes	6	0.00000001	0.00009266
11	Yes	5	0.00000001	0.00088943
12	Yes	6	0.00000001	0.00009087
13	Yes	5	0.00000001	0.00087188
14	Yes	5	0.00000001	0.00008084
15	Yes	5	0.00000001	0.00003679
16	Yes	6	0.00000001	0.00009476
17	Yes	5	0.00000001	0.00090946
18	Yes	6	0.00000001	0.00009059
19	Yes	5	0.00000001	0.00086930
20	Yes	4	0.00000001	0.00079860
21	Yes	4	0.00000001	0.00044556
22	Yes	6	0.00000001	0.00009197
23	Yes	5	0.00000001	0.00088252
24	Yes	6	0.00000001	0.00009395
25	Yes	5	0.00000001	0.00090146
26	Yes	4	0.00000001	0.00002405
27	Yes	5	0.00000001	0.00093709
28	Yes	6	0.00000001	0.00012906
29	Yes	6	0.00000001	0.00013031
30	Yes	5	0.00000001	0.00092300
31	Yes	6	0.00000001	0.00012990
32	Yes	6	0.00000001	0.00012807
33	Yes	5	0.00000001	0.00093021
34	Yes	6	0.00000001	0.00013118
35	Yes	6	0.00000001	0.00012929
36	Yes	5	0.00000001	0.00092929
37	Yes	6	0.00000001	0.00013003
38	Yes	6	0.00000001	0.00013256
39	Yes	4	0.00000001	0.00010397
40	Yes	4	0.00000001	0.00041958
41	Yes	4	0.00000001	0.00047735
42	Yes	4	0.00000001	0.00007565
43	Yes	4	0.00000001	0.00045290
44	Yes	4	0.00000001	0.00042779
45	Yes	4	0.00000001	0.00010368
46	Yes	4	0.00000001	0.00048947
47	Yes	4	0.00000001	0.00042520
48	Yes	4	0.00000001	0.00007590
49	Yes	4	0.00000001	0.00044421
50	Yes	4	0.00000001	0.00047588

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	147 - 120.37	20.170	39	1.356	0.006
L2	123.62 - 110.5	13.769	39	1.197	0.002
L3	110.5 - 105	10.706	39	1.002	0.001
L4	105 - 103.5	9.588	39	0.938	0.001
L5	103.5 - 94.16	9.295	39	0.927	0.001
L6	94.16 - 84.91	7.593	39	0.813	0.001
L7	89.08 - 58.58	6.756	39	0.760	0.001
L8	58.58 - 57.25	2.794	39	0.464	0.000
L9	57.25 - 44.41	2.667	39	0.451	0.000
L10	49.58 - 29.583	1.999	39	0.380	0.000
L11	29.583 - 28.5	0.694	39	0.228	0.000
L12	28.5 - 27.5	0.643	39	0.220	0.000
L13	27.5 - 6.917	0.598	39	0.212	0.000
L14	6.917 - 0	0.037	39	0.051	0.000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
147.000	(2) DB978H90T2E-M w/ Mount Pipe	39	20.170	1.356	0.006	21056
136.000	(2) SBNHH-1D65A w/ Mount Pipe	39	17.070	1.307	0.004	9571
129.000	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	39	15.166	1.255	0.003	5848
120.000	(2) TME-RRUS-11	39	12.871	1.146	0.002	4087
118.000	AM-X-WM-17-65-00T w/ Mount Pipe	39	12.391	1.116	0.002	3887
50.000	KS24019-L112A	39	2.033	0.384	0.000	8021
45.000	KS24019-L112A	39	1.644	0.342	0.000	8024

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	147 - 120.37	110.861	2	7.462	0.034
L2	123.62 - 110.5	75.733	2	6.585	0.012
L3	110.5 - 105	58.911	2	5.516	0.007
L4	105 - 103.5	52.764	2	5.167	0.006
L5	103.5 - 94.16	51.153	2	5.102	0.006
L6	94.16 - 84.91	41.790	2	4.476	0.004
L7	89.08 - 58.58	37.186	2	4.187	0.004
L8	58.58 - 57.25	15.383	2	2.554	0.002
L9	57.25 - 44.41	14.681	2	2.486	0.002
L10	49.58 - 29.583	11.005	2	2.094	0.002
L11	29.583 - 28.5	3.819	2	1.255	0.001
L12	28.5 - 27.5	3.539	2	1.211	0.001
L13	27.5 - 6.917	3.290	2	1.168	0.001
L14	6.917 - 0	0.202	2	0.280	0.000

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
147.000	(2) DB978H90T2E-M w/ Mount Pipe	2	110.861	7.462	0.034	3963
136.000	(2) SBNHH-1D65A w/ Mount Pipe	2	93.850	7.189	0.022	1800
129.000	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	2	83.402	6.906	0.015	1098
120.000	(2) TME-RRUS-11	2	70.802	6.309	0.010	763
118.000	AM-X-WM-17-65-00T w/ Mount Pipe	2	68.166	6.143	0.010	724
50.000	KS24019-L112A	2	11.192	2.115	0.002	1460
45.000	KS24019-L112A	2	9.049	1.882	0.001	1460

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L1	147 - 145.769	TP21.98x16.25x0.188	26.630	0.000	0.0	9.717	-1.662	721.907	0.002
	145.769 - 144.539					9.874	-1.723	733.614	0.002
	144.539 - 143.308					10.032	-1.784	745.321	0.002
	143.308 - 142.078					10.189	-1.846	757.028	0.002
	142.078 - 140.847					10.347	-1.909	768.735	0.002
	140.847 - 139.617					10.505	-1.972	780.442	0.003
	139.617 - 138.386					10.662	-2.037	792.149	0.003
	138.386 - 137.156					10.820	-2.103	803.856	0.003
	137.156 - 135.925					10.977	-3.941	815.563	0.005
	135.925 - 134.695					11.135	-4.007	827.270	0.005
	134.695 - 133.464					11.292	-4.081	836.582	0.005
	133.464 - 132.234					11.450	-4.157	845.243	0.005
	132.234 - 131.003					11.608	-4.234	853.822	0.005
	131.003 - 129.773					11.765	-4.314	862.317	0.005
	129.773 - 128.542					11.923	-6.844	870.729	0.008
	128.542 - 127.312					12.080	-6.937	879.059	0.008
	127.312 - 126.081					12.238	-7.033	887.306	0.008
	126.081 -					12.396	-7.132	895.469	0.008

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
	124.851								
	124.851 - 123.62					12.553	-7.234	903.550	0.008
	123.62 - 120.37					12.969	-3.340	924.494	0.004
L2	123.62 - 120.37	TP23.686x20.906x0.25	13.120	0.000	0.0	16.937	-4.344	1258.320	0.003
	120.37 - 119.273					17.121	-8.409	1272.030	0.007
	119.273 - 118.177					17.306	-8.542	1285.730	0.007
	118.177 - 117.08					17.490	-10.363	1299.430	0.008
	117.08 - 115.983					17.675	-10.504	1313.130	0.008
	115.983 - 114.887					17.859	-10.649	1326.840	0.008
	114.887 - 113.79					18.044	-10.796	1340.540	0.008
	113.79 - 112.693					18.228	-10.945	1354.240	0.008
	112.693 - 111.597					18.412	-11.096	1367.940	0.008
	111.597 - 110.5					18.597	-11.249	1381.650	0.008
L3	110.5 - 109.4	TP24.852x23.686x0.452	5.500	0.000	0.0	33.635	-11.455	1422.820	0.008
	109.4 - 108.3					33.969	-11.653	1436.960	0.008
	108.3 - 107.2					34.303	-11.852	1451.090	0.008
	107.2 - 106.1					34.638	-12.054	1465.230	0.008
	106.1 - 105					34.972	-12.258	1479.360	0.008
L4	105 - 103.5 (4)	TP25.17x24.852x0.701	1.500	0.000	0.0	54.476	-12.623	2228.660	0.006
L5	103.5 - 102.462	TP27.15x25.17x0.469	9.340	0.000	0.0	37.062	-12.823	1521.390	0.008
	102.462 - 101.424					37.389	-13.025	1534.820	0.008
	101.424 - 100.387					37.717	-13.229	1548.250	0.009
	100.387 - 99.3489					38.044	-13.434	1561.680	0.009
	99.3489 - 98.3111					38.371	-13.641	1575.100	0.009
	98.3111 - 97.2733					38.698	-13.850	1588.530	0.009
	97.2733 - 96.2356					39.025	-14.060	1601.960	0.009
	96.2356 - 95.1978					39.352	-14.272	1615.390	0.009
	95.1978 - 94.16					39.679	-14.486	1628.810	0.009
L6	94.16 - 93.144	TP29.11x27.15x0.577	9.250	0.000	0.0	49.022	-14.728	1994.980	0.007
	93.144 - 92.128					49.416	-14.969	2011.010	0.007
	92.128 - 91.112					49.810	-15.211	2027.050	0.008
	91.112 - 90.096					50.204	-15.456	2043.080	0.008
	90.096 - 89.08					50.598	-15.702	2059.120	0.008
	89.08 - 84.91					52.216	-8.714	2124.940	0.004
L7	89.08 - 84.91	TP34.188x27.726x0.596 4.8.2 (1.00 CR) - 7/19	30.500	0.000	0.0	52.991	-8.793	2167.590	0.004

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
	84.91 - 83.5242	4.8.2 (1.00 CR) - 7/18				53.546	-17.875	2190.310	0.008
	83.5242 - 82.1384	4.8.2 (1.00 CR) - 7/17				54.102	-18.237	2213.020	0.008
	82.1384 - 80.7526	4.8.2 (1.00 CR) - 7/16				54.657	-18.603	2235.740	0.008
	80.7526 - 79.3668	4.8.2 (1.00 CR) - 7/15				55.213	-18.971	2258.460	0.008
	79.3668 - 77.9811	4.8.2 (1.00 CR) - 7/14				55.768	-19.343	2281.180	0.008
	77.9811 - 76.5953	4.8.2 (1.00 CR) - 7/13				56.323	-19.718	2303.890	0.009
	76.5953 - 75.2095	4.8.2 (1.00 CR) - 7/12				56.879	-20.096	2326.610	0.009
	75.2095 - 73.8237	4.8.2 (1.00 CR) - 7/11				57.434	-20.478	2349.330	0.009
	73.8237 - 72.4379	4.8.2 (1.00 CR) - 7/10				57.989	-20.862	2372.040	0.009
	72.4379 - 71.0521	4.8.2 (1.00 CR) - 7/9				58.545	-21.250	2394.760	0.009
	71.0521 - 69.6663	4.8.2 (1.00 CR) - 7/8				59.100	-21.641	2417.480	0.009
	69.6663 - 68.2805	4.8.2 (1.00 CR) - 7/7				59.655	-22.035	2440.200	0.009
	68.2805 - 66.8947	4.8.2 (1.00 CR) - 7/6				60.211	-22.433	2462.910	0.009
	66.8947 - 65.5089	4.8.2 (1.00 CR) - 7/5				60.766	-22.833	2485.630	0.009
	65.5089 - 64.1232	4.8.2 (1.00 CR) - 7/4				61.321	-23.237	2508.350	0.009
	64.1232 - 62.7374	4.8.2 (1.00 CR) - 7/3				61.877	-23.644	2531.060	0.009
	62.7374 - 61.3516	4.8.2 (1.00 CR) - 7/2				62.432	-24.054	2553.780	0.009
	61.3516 - 59.9658	4.8.2 (1.00 CR) - 7				62.988	-24.467	2576.500	0.009
	59.9658 - 58.58	4.8.2 (1.00 CR) - 7				63.543	-24.883	2599.220	0.010
L8	58.58 - 57.25 (8)	TP34.47x34.188x0.643	1.330	0.000	0.0	69.047	-25.308	2951.390	0.009
L9	57.25 -	TP37.19x34.47x0.635	12.840	0.000	0.0	68.688	-25.660	2940.790	0.009

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
	56.1543								
	56.1543 - 55.0586					69.157	-26.011	2960.830	0.009
	55.0586 - 53.9629					69.625	-26.365	2980.860	0.009
	53.9629 - 52.8671					70.093	-26.720	3000.900	0.009
	52.8671 - 51.7714					70.561	-27.077	3020.940	0.009
	51.7714 - 50.6757					71.029	-27.437	3040.980	0.009
	50.6757 - 49.58					71.497	-27.879	3061.020	0.009
	49.58 - 44.41					73.705	-15.407	3155.570	0.005
L10	49.58 - 44.41	TP39.717x35.47x0.666	19.997	0.000	0.0	75.916	-15.717	3261.920	0.005
	44.41 - 43.3509					76.392	-31.518	3282.360	0.010
	43.3509 - 42.2919					76.867	-31.894	3302.800	0.010
	42.2919 - 41.2328					77.343	-32.271	3323.230	0.010
	41.2328 - 40.1737					77.819	-32.651	3343.670	0.010
	40.1737 - 39.1146					78.294	-33.033	3364.110	0.010
	39.1146 - 38.0556					78.770	-33.417	3384.550	0.010
	38.0556 - 36.9965					79.245	-33.803	3404.980	0.010
	36.9965 - 35.9374					79.721	-34.191	3425.420	0.010
	35.9374 - 34.8784					80.197	-34.581	3445.860	0.010
	34.8784 - 33.8193					80.673	-34.973	3466.290	0.010
	33.8193 - 32.7602					81.148	-35.367	3486.730	0.010
	32.7602 - 31.7011					81.624	-35.763	3507.170	0.010
	31.7011 - 30.6421					82.099	-36.161	3527.610	0.010
	30.6421 - 29.583					82.575	-36.561	3548.040	0.010
L11	29.583 - 28.5 (11)	TP39.947x39.717x0.746	1.083	0.000	0.0	92.759	-37.008	3986.130	0.009
L12	28.5 - 27.5 (12)	TP40.159x39.947x0.711	1.000	0.000	0.0	89.007	-37.423	3884.240	0.010
L13	27.5 - 26.4708	TP44.531x40.159x0.673	20.583	0.000	0.0	84.757	-37.834	3712.060	0.010
	26.4708 - 25.4417					85.224	-38.249	3732.500	0.010
	25.4417 - 24.4126					85.690	-38.665	3752.930	0.010
	24.4126 - 23.3834					86.157	-39.084	3773.370	0.010
	23.3834 - 22.3543					86.624	-39.504	3793.810	0.010
	22.3543 - 21.3251					87.090	-39.927	3814.240	0.010
	21.3251 - 20.296					87.557	-40.351	3834.680	0.011
	20.296 -					88.023	-40.777	3855.110	0.011

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
	19.2668								
	19.2668 - 18.2376					88.490	-41.206	3875.550	0.011
	18.2376 - 17.2085					88.957	-41.636	3895.980	0.011
	17.2085 - 16.1793					89.423	-42.068	3916.420	0.011
	16.1793 - 15.1502					89.890	-42.502	3936.850	0.011
	15.1502 - 14.121					90.356	-42.939	3957.290	0.011
	14.121 - 13.0919					90.823	-43.377	3977.720	0.011
	13.0919 - 12.0627					90.823	-43.400	3977.720	0.011
	12.0627 - 11.0336					91.290	-43.840	3998.160	0.011
	11.0336 - 10.0045					91.756	-44.282	4018.590	0.011
	10.0045 - 8.9753					92.223	-44.726	4039.030	0.011
	8.9753 - 7.94615					92.689	-45.172	4059.460	0.011
	7.94615 - 6.917					93.156	-45.620	4079.900	0.011
L14	6.917 - 5.76417	TP46x44.531x0.669	6.917	0.000	0.0	93.125	-46.072	4071.330	0.011
	5.76417 - 4.61133					93.645	-46.589	4094.050	0.011
	4.61133 - 3.4585					94.165	-47.109	4116.780	0.011
	3.4585 - 2.30567					94.685	-47.631	4139.510	0.012
	2.30567 - 1.15283					95.204	-48.156	4162.240	0.012
	1.15283 - 0					95.724	-48.683	4184.960	0.012

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	147 - 145.769	TP21.98x16.25x0.188	4.626	241.507	0.019	0.000	241.507	0.000
	145.769 - 144.539		9.137	249.448	0.037	0.000	249.448	0.000
	144.539 - 143.308		13.747	257.518	0.053	0.000	257.518	0.000
	143.308 - 142.078		18.456	265.717	0.069	0.000	265.717	0.000
	142.078 - 140.847		23.267	274.043	0.085	0.000	274.043	0.000
	140.847 - 139.617		28.181	282.499	0.100	0.000	282.499	0.000
	139.617 - 138.386		33.199	291.082	0.114	0.000	291.082	0.000
	138.386 -		38.322	299.795	0.128	0.000	299.795	0.000

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
	137.156							
	137.156 - 135.925		51.429	308.637	0.167	0.000	308.637	0.000
	135.925 - 134.695		63.951	317.606	0.201	0.000	317.606	0.000
	134.695 - 133.464		76.590	325.771	0.235	0.000	325.771	0.000
	133.464 - 132.234		89.337	333.782	0.268	0.000	333.782	0.000
	132.234 - 131.003		102.192	341.854	0.299	0.000	341.854	0.000
	131.003 - 129.773		115.156	349.987	0.329	0.000	349.987	0.000
	129.773 - 128.542		131.189	358.179	0.366	0.000	358.179	0.000
	128.542 - 127.312		152.313	366.428	0.416	0.000	366.428	0.000
	127.312 - 126.081		173.543	374.735	0.463	0.000	374.735	0.000
	126.081 - 124.851		194.881	383.096	0.509	0.000	383.096	0.000
	124.851 - 123.62		216.324	391.511	0.553	0.000	391.511	0.000
	123.62 - 120.37		121.483	413.983	0.293	0.000	413.983	0.000
L2	123.62 - 120.37	TP23.686x20.906x0.25	152.067	550.192	0.276	0.000	550.192	0.000
	120.37 - 119.273		293.913	562.310	0.523	0.000	562.310	0.000
	119.273 - 118.177		314.802	574.560	0.548	0.000	574.560	0.000
	118.177 - 117.08		341.217	586.942	0.581	0.000	586.942	0.000
	117.08 - 115.983		365.173	599.456	0.609	0.000	599.456	0.000
	115.983 - 114.887		389.212	612.102	0.636	0.000	612.102	0.000
	114.887 - 113.79		413.335	624.880	0.661	0.000	624.880	0.000
	113.79 - 112.693		437.541	637.790	0.686	0.000	637.790	0.000
	112.693 - 111.597		461.831	650.832	0.710	0.000	650.832	0.000
	111.597 - 110.5		486.204	664.006	0.732	0.000	664.006	0.000
L3	110.5 - 109.4	TP24.852x23.686x0.452	510.743	678.957	0.752	0.000	678.957	0.000
	109.4 - 108.3		535.381	692.643	0.773	0.000	692.643	0.000
	108.3 - 107.2		560.119	706.465	0.793	0.000	706.465	0.000
	107.2 - 106.1		584.958	720.423	0.812	0.000	720.423	0.000
	106.1 - 105		609.898	734.518	0.830	0.000	734.518	0.000
L4	105 - 103.5 (4)	TP25.17x24.852x0.701	644.082	1098.675	0.586	0.000	1098.675	0.000
L5	103.5 - 102.462	TP27.15x25.17x0.469	667.850	771.288	0.866	0.000	771.288	0.000
	102.462 - 101.424		691.708	785.090	0.881	0.000	785.090	0.000
	101.424 - 100.387		715.658	799.013	0.896	0.000	799.013	0.000
	100.387 - 99.3489		739.697	813.059	0.910	0.000	813.059	0.000
	99.3489 -		763.827	827.228	0.923	0.000	827.228	0.000

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
	98.3111							
	98.3111 - 97.2733		788.048	841.517	0.936	0.000	841.517	0.000
	97.2733 - 96.2356		812.362	855.933	0.949	0.000	855.933	0.000
	96.2356 - 95.1978		836.767	870.467	0.961	0.000	870.467	0.000
	95.1978 - 94.16		861.267	885.125	0.973	0.000	885.125	0.000
L6	94.16 - 93.144	TP29.11x27.15x0.577	885.342	1084.242	0.817	0.000	1084.242	0.000
	93.144 - 92.128		909.508	1101.933	0.825	0.000	1101.933	0.000
	92.128 - 91.112		933.767	1119.758	0.834	0.000	1119.758	0.000
	91.112 - 90.096		958.117	1137.733	0.842	0.000	1137.733	0.000
	90.096 - 89.08		982.567	1155.850	0.850	0.000	1155.850	0.000
	89.08 - 84.91		548.309	1231.700	0.445	0.000	1231.700	0.000
L7	89.08 - 84.91	TP34.188x27.726x0.596	535.788	1232.250	0.435	0.000	1232.250	0.000
	84.91 - 83.5242		1118.250	1258.483	0.889	0.000	1258.483	0.000
	83.5242 - 82.1384		1152.575	1284.992	0.897	0.000	1284.992	0.000
	82.1384 - 80.7526		1187.058	1311.783	0.905	0.000	1311.783	0.000
	80.7526 - 79.3668		1221.717	1338.850	0.913	0.000	1338.850	0.000
	79.3668 - 77.9811		1256.542	1366.192	0.920	0.000	1366.192	0.000
	77.9811 - 76.5953		1291.533	1393.808	0.927	0.000	1393.808	0.000
	76.5953 - 75.2095		1326.700	1421.700	0.933	0.000	1421.700	0.000
	75.2095 - 73.8237		1362.033	1449.875	0.939	0.000	1449.875	0.000
	73.8237 - 72.4379		1397.533	1478.325	0.945	0.000	1478.325	0.000
	72.4379 - 71.0521		1433.208	1507.050	0.951	0.000	1507.050	0.000
	71.0521 - 69.6663		1469.058	1536.050	0.956	0.000	1536.050	0.000
	69.6663 - 68.2805		1505.083	1565.325	0.962	0.000	1565.325	0.000
	68.2805 - 66.8947		1541.283	1594.875	0.966	0.000	1594.875	0.000
	66.8947 - 65.5089		1577.650	1624.708	0.971	0.000	1624.708	0.000
	65.5089 - 64.1232		1614.200	1654.817	0.975	0.000	1654.817	0.000
	64.1232 - 62.7374		1650.917	1685.200	0.980	0.000	1685.200	0.000
	62.7374 - 61.3516		1687.817	1715.858	0.984	0.000	1715.858	0.000
	61.3516 - 59.9658		1724.892	1746.792	0.987	0.000	1746.792	0.000
	59.9658 - 58.58		1762.150	1778.000	0.991	0.000	1778.000	0.000
L8	58.58 - 57.25 (8)	TP34.47x34.188x0.643	1798.067	2030.475	0.886	0.000	2030.475	0.000
L9	57.25 -	TP37.19x34.47x0.635	1827.775	2038.267	0.897	0.000	2038.267	0.000

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
	56.1543							
	56.1543 - 55.0586		1857.600	2066.392	0.899	0.000	2066.392	0.000
	55.0586 - 53.9629		1887.517	2094.717	0.901	0.000	2094.717	0.000
	53.9629 - 52.8671		1917.550	2123.233	0.903	0.000	2123.233	0.000
	52.8671 - 51.7714		1947.692	2151.942	0.905	0.000	2151.942	0.000
	51.7714 - 50.6757		1977.933	2180.842	0.907	0.000	2180.842	0.000
	50.6757 - 49.58		2008.200	2209.933	0.909	0.000	2209.933	0.000
	49.58 - 44.41		1081.167	2349.808	0.460	0.000	2349.808	0.000
L10	49.58 - 44.41	TP39.717x35.47x0.666	1072.758	2382.833	0.450	0.000	2382.833	0.000
	44.41 - 43.3509		2184.125	2413.058	0.905	0.000	2413.058	0.000
	43.3509 - 42.2919		2214.417	2443.475	0.906	0.000	2443.475	0.000
	42.2919 - 41.2328		2244.800	2474.083	0.907	0.000	2474.083	0.000
	41.2328 - 40.1737		2275.275	2504.883	0.908	0.000	2504.883	0.000
	40.1737 - 39.1146		2305.842	2535.867	0.909	0.000	2535.867	0.000
	39.1146 - 38.0556		2336.508	2567.050	0.910	0.000	2567.050	0.000
	38.0556 - 36.9965		2367.258	2598.417	0.911	0.000	2598.417	0.000
	36.9965 - 35.9374		2398.108	2629.975	0.912	0.000	2629.975	0.000
	35.9374 - 34.8784		2429.050	2661.725	0.913	0.000	2661.725	0.000
	34.8784 - 33.8193		2460.083	2693.667	0.913	0.000	2693.667	0.000
	33.8193 - 32.7602		2491.208	2725.800	0.914	0.000	2725.800	0.000
	32.7602 - 31.7011		2522.433	2758.125	0.915	0.000	2758.125	0.000
	31.7011 - 30.6421		2553.742	2790.633	0.915	0.000	2790.633	0.000
	30.6421 - 29.583		2585.150	2823.342	0.916	0.000	2823.342	0.000
L11	29.583 - 28.5 (11)	TP39.947x39.717x0.746	2617.367	3178.075	0.824	0.000	3178.075	0.000
L12	28.5 - 27.5 (12)	TP40.159x39.947x0.711	2647.200	3119.400	0.849	0.000	3119.400	0.000
L13	27.5 - 26.4708	TP44.531x40.159x0.673	2677.983	3003.733	0.892	0.000	3003.733	0.000
	26.4708 - 25.4417		2708.833	3037.175	0.892	0.000	3037.175	0.000
	25.4417 - 24.4126		2739.758	3070.800	0.892	0.000	3070.800	0.000
	24.4126 - 23.3834		2770.758	3104.608	0.892	0.000	3104.608	0.000
	23.3834 - 22.3543		2801.833	3138.608	0.893	0.000	3138.608	0.000
	22.3543 - 21.3251		2832.975	3172.783	0.893	0.000	3172.783	0.000
	21.3251 - 20.296		2864.192	3207.150	0.893	0.000	3207.150	0.000
	20.296 -		2895.483	3241.700	0.893	0.000	3241.700	0.000

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
	19.2668							
	19.2668 - 18.2376		2926.850	3276.442	0.893	0.000	3276.442	0.000
	18.2376 - 17.2085		2958.292	3311.358	0.893	0.000	3311.358	0.000
	17.2085 - 16.1793		2989.800	3346.467	0.893	0.000	3346.467	0.000
	16.1793 - 15.1502		3021.392	3381.758	0.893	0.000	3381.758	0.000
	15.1502 - 14.121		3053.050	3417.233	0.893	0.000	3417.233	0.000
	14.121 - 13.0919		3084.783	3452.892	0.893	0.000	3452.892	0.000
	13.0919 - 12.0627		3084.783	3452.892	0.893	0.000	3452.892	0.000
	12.0627 - 11.0336		3116.592	3488.742	0.893	0.000	3488.742	0.000
	11.0336 - 10.0045		3148.467	3524.775	0.893	0.000	3524.775	0.000
	10.0045 - 8.9753		3180.425	3560.992	0.893	0.000	3560.992	0.000
	8.9753 - 7.94615		3212.450	3597.392	0.893	0.000	3597.392	0.000
	7.94615 - 6.917		3244.558	3633.975	0.893	0.000	3633.975	0.000
L14	6.917 - 5.76417	TP46x44.531x0.669	3276.733	3645.383	0.899	0.000	3645.383	0.000
	5.76417 - 4.61133		3312.858	3686.508	0.899	0.000	3686.508	0.000
	4.61133 - 3.4585		3349.083	3727.858	0.898	0.000	3727.858	0.000
	3.4585 - 2.30567		3385.392	3769.442	0.898	0.000	3769.442	0.000
	2.30567 - 1.15283		3421.783	3811.250	0.898	0.000	3811.250	0.000
	1.15283 - 0		3458.275	3853.292	0.897	0.000	3853.292	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	147 - 145.769	TP21.98x16.25x0.188	3.626	360.954	0.010	0.000	483.603	0.000
	145.769 - 144.539		3.706	366.807	0.010	0.000	499.506	0.000
	144.539 - 143.308		3.787	372.661	0.010	0.000	515.666	0.000
	143.308 - 142.078		3.868	378.514	0.010	0.000	532.083	0.000
	142.078 - 140.847		3.951	384.367	0.010	0.000	548.758	0.000
	140.847 - 139.617		4.035	390.221	0.010	0.000	565.689	0.000
	139.617 - 138.386		4.120	396.074	0.010	0.000	582.878	0.000
	138.386 -		4.207	401.928	0.010	0.000	600.324	0.000

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
	137.156							
	137.156 - 135.925		10.112	407.781	0.025	1.407	618.028	0.002
	135.925 - 134.695		10.229	413.635	0.025	1.219	635.988	0.002
	134.695 - 133.464		10.317	418.291	0.025	1.219	652.339	0.002
	133.464 - 132.234		10.405	422.622	0.025	1.218	668.380	0.002
	132.234 - 131.003		10.494	426.911	0.025	1.218	684.544	0.002
	131.003 - 129.773		10.583	431.158	0.025	1.218	700.830	0.002
	129.773 - 128.542		17.128	435.365	0.039	1.218	717.233	0.002
	128.542 - 127.312		17.215	439.529	0.039	1.218	733.753	0.002
	127.312 - 126.081		17.302	443.653	0.039	1.218	750.386	0.002
	126.081 - 124.851		17.389	447.735	0.039	1.217	767.129	0.002
	124.851 - 123.62		17.477	451.775	0.039	1.217	783.979	0.002
	123.62 - 120.37		7.953	462.247	0.017	0.540	828.980	0.001
L2	123.62 - 120.37	TP23.686x20.906x0.25	9.803	629.162	0.016	0.677	1101.733	0.001
	120.37 - 119.273		19.015	636.014	0.030	1.216	1125.992	0.001
	119.273 - 118.177		19.095	642.865	0.030	1.216	1150.525	0.001
	118.177 - 117.08		21.815	649.716	0.034	1.216	1175.317	0.001
	117.08 - 115.983		21.892	656.567	0.033	1.216	1200.375	0.001
	115.983 - 114.887		21.969	663.419	0.033	1.215	1225.700	0.001
	114.887 - 113.79		22.046	670.270	0.033	1.215	1251.292	0.001
	113.79 - 112.693		22.122	677.121	0.033	1.215	1277.142	0.001
	112.693 - 111.597		22.198	683.972	0.032	1.214	1303.258	0.001
	111.597 - 110.5		22.274	690.824	0.032	1.214	1329.633	0.001
L3	110.5 - 109.4	TP24.852x23.686x0.452	22.360	711.412	0.031	1.214	1359.575	0.001
	109.4 - 108.3		22.452	718.480	0.031	1.214	1386.983	0.001
	108.3 - 107.2		22.543	725.547	0.031	1.213	1414.658	0.001
	107.2 - 106.1		22.635	732.614	0.031	1.213	1442.608	0.001
	106.1 - 105		22.727	739.682	0.031	1.213	1470.833	0.001
L4	105 - 103.5 (4)	TP25.17x24.852x0.701	22.867	1114.330	0.021	1.213	2200.033	0.001
L5	103.5 - 102.462	TP27.15x25.17x0.469	22.954	760.697	0.030	1.213	1544.467	0.001
	102.462 - 101.424		23.042	767.411	0.030	1.212	1572.100	0.001
	101.424 - 100.387		23.129	774.124	0.030	1.212	1599.983	0.001
	100.387 - 99.3489		23.217	780.838	0.030	1.212	1628.108	0.001
	99.3489 -		23.305	787.552	0.030	1.212	1656.483	0.001

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
	98.3111							
	98.3111 - 97.2733		23.393	794.265	0.029	1.212	1685.100	0.001
	97.2733 - 96.2356		23.482	800.979	0.029	1.211	1713.958	0.001
	96.2356 - 95.1978		23.570	807.693	0.029	1.211	1743.067	0.001
	95.1978 - 94.16		23.659	814.407	0.029	1.211	1772.417	0.001
L6	94.16 - 93.144	TP29.11x27.15x0.577	23.749	997.488	0.024	1.211	2171.142	0.001
	93.144 - 92.128		23.841	1005.510	0.024	1.211	2206.558	0.001
	92.128 - 91.112		23.933	1013.520	0.024	1.211	2242.258	0.001
	91.112 - 90.096		24.025	1021.540	0.024	1.210	2278.250	0.001
	90.096 - 89.08		24.118	1029.560	0.023	1.210	2314.525	0.001
	89.08 - 84.91		12.540	1062.470	0.012	0.612	2466.417	0.000
L7	89.08 - 84.91	TP34.188x27.726x0.596	12.065	1083.790	0.011	0.598	2467.508	0.000
	84.91 - 83.5242		24.719	1095.150	0.023	1.210	2520.042	0.000
	83.5242 - 82.1384		24.840	1106.510	0.022	1.209	2573.133	0.000
	82.1384 - 80.7526		24.961	1117.870	0.022	1.209	2626.775	0.000
	80.7526 - 79.3668		25.083	1129.230	0.022	1.209	2680.975	0.000
	79.3668 - 77.9811		25.205	1140.590	0.022	1.209	2735.725	0.000
	77.9811 - 76.5953		25.327	1151.950	0.022	1.209	2791.025	0.000
	76.5953 - 75.2095		25.450	1163.300	0.022	1.208	2846.883	0.000
	75.2095 - 73.8237		25.574	1174.660	0.022	1.208	2903.300	0.000
	73.8237 - 72.4379		25.698	1186.020	0.022	1.208	2960.258	0.000
	72.4379 - 71.0521		25.822	1197.380	0.022	1.208	3017.783	0.000
	71.0521 - 69.6663		25.947	1208.740	0.021	1.208	3075.850	0.000
	69.6663 - 68.2805		26.073	1220.100	0.021	1.207	3134.475	0.000
	68.2805 - 66.8947		26.199	1231.460	0.021	1.207	3193.658	0.000
	66.8947 - 65.5089		26.325	1242.810	0.021	1.207	3253.392	0.000
	65.5089 - 64.1232		26.452	1254.170	0.021	1.207	3313.675	0.000
	64.1232 - 62.7374		26.579	1265.530	0.021	1.207	3374.517	0.000
	62.7374 - 61.3516		26.707	1276.890	0.021	1.207	3435.908	0.000
	61.3516 - 59.9658		26.835	1288.250	0.021	1.206	3497.858	0.000
	59.9658 - 58.58		26.964	1299.610	0.021	1.206	3560.358	0.000
L8	58.58 - 57.25 (8)	TP34.47x34.188x0.643	27.084	1475.690	0.018	1.206	4065.925	0.000
L9	57.25 -	TP37.19x34.47x0.635	27.178	1470.390	0.018	1.206	4081.517	0.000

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
	56.1543							
	56.1543 - 55.0586		27.275	1480.410	0.018	1.206	4137.842	0.000
	55.0586 - 53.9629		27.372	1490.430	0.018	1.206	4194.558	0.000
	53.9629 - 52.8671		27.470	1500.450	0.018	1.206	4251.658	0.000
	52.8671 - 51.7714		27.568	1510.470	0.018	1.205	4309.142	0.000
	51.7714 - 50.6757		27.666	1520.490	0.018	1.205	4367.017	0.000
	50.6757 - 49.58		27.850	1530.510	0.018	1.454	4425.275	0.000
	49.58 - 44.41		14.453	1577.790	0.009	0.730	4705.367	0.000
L10	49.58 - 44.41	TP39.717x35.47x0.666	14.056	1630.960	0.009	0.724	4771.500	0.000
	44.41 - 43.3509		28.574	1641.180	0.017	1.454	4832.025	0.000
	43.3509 - 42.2919		28.661	1651.400	0.017	1.454	4892.933	0.000
	42.2919 - 41.2328		28.748	1661.620	0.017	1.453	4954.217	0.000
	41.2328 - 40.1737		28.836	1671.840	0.017	1.453	5015.892	0.000
	40.1737 - 39.1146		28.923	1682.050	0.017	1.453	5077.942	0.000
	39.1146 - 38.0556		29.011	1692.270	0.017	1.453	5140.375	0.000
	38.0556 - 36.9965		29.099	1702.490	0.017	1.453	5203.192	0.000
	36.9965 - 35.9374		29.186	1712.710	0.017	1.453	5266.392	0.000
	35.9374 - 34.8784		29.275	1722.930	0.017	1.453	5329.967	0.000
	34.8784 - 33.8193		29.363	1733.150	0.017	1.453	5393.925	0.000
	33.8193 - 32.7602		29.451	1743.370	0.017	1.453	5458.267	0.000
	32.7602 - 31.7011		29.540	1753.580	0.017	1.453	5522.992	0.000
	31.7011 - 30.6421		29.629	1763.800	0.017	1.453	5588.092	0.000
	30.6421 - 29.583		29.718	1774.020	0.017	1.453	5653.583	0.000
L11	29.583 - 28.5 (11)	TP39.947x39.717x0.746	29.807	1993.060	0.015	1.453	6363.917	0.000
L12	28.5 - 27.5 (12)	TP40.159x39.947x0.711	29.887	1942.120	0.015	1.452	6246.433	0.000
L13	27.5 - 26.4708	TP44.531x40.159x0.673	29.959	1856.030	0.016	1.452	6014.817	0.000
	26.4708 - 25.4417		30.031	1866.250	0.016	1.452	6081.783	0.000
	25.4417 - 24.4126		30.102	1876.470	0.016	1.452	6149.108	0.000
	24.4126 - 23.3834		30.173	1886.690	0.016	1.452	6216.817	0.000
	23.3834 - 22.3543		30.244	1896.900	0.016	1.452	6284.891	0.000
	22.3543 - 21.3251		30.316	1907.120	0.016	1.452	6353.333	0.000
	21.3251 - 20.296		30.387	1917.340	0.016	1.452	6422.150	0.000
	20.296 -		30.458	1927.560	0.016	1.452	6491.333	0.000

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
	19.2668							
	19.2668 - 18.2376		30.530	1937.770	0.016	1.452	6560.891	0.000
	18.2376 - 17.2085		30.601	1947.990	0.016	1.452	6630.817	0.000
	17.2085 - 16.1793		30.673	1958.210	0.016	1.452	6701.117	0.000
	16.1793 - 15.1502		30.744	1968.430	0.016	1.452	6771.783	0.000
	15.1502 - 14.121		30.816	1978.640	0.016	1.452	6842.825	0.000
	14.121 - 13.0919		30.888	1988.860	0.016	1.452	6914.233	0.000
	13.0919 - 12.0627		30.959	1999.080	0.015	1.452	6914.233	0.000
	12.0627 - 11.0336		31.031	2009.300	0.015	1.452	6986.017	0.000
	11.0336 - 10.0045		31.103	2019.510	0.015	1.452	7058.167	0.000
	10.0045 - 8.9753		31.175	2029.730	0.015	1.452	7130.691	0.000
	8.9753 - 7.94615		31.247	2039.950	0.015	1.452	7203.583	0.000
	7.94615 - 6.917		31.319	2050.170	0.015	1.452	7276.841	0.000
L14	6.917 - 5.76417	TP46x44.531x0.669	31.398	2047.030	0.015	1.452	7299.691	0.000
	5.76417 - 4.61133		31.476	2058.390	0.015	1.452	7382.033	0.000
	4.61133 - 3.4585		31.554	2069.750	0.015	1.452	7464.833	0.000
	3.4585 - 2.30567		31.631	2081.120	0.015	1.452	7548.100	0.000
	2.30567 - 1.15283		31.709	2092.480	0.015	1.452	7631.825	0.000
	1.15283 - 0		31.787	2103.850	0.015	1.452	7716.017	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	147 - 145.769	0.002	0.019	0.000	0.010	0.000	0.022 ✔	1.000	4.8.2 ✔
	145.769 - 144.539	0.002	0.037	0.000	0.010	0.000	0.039 ✔	1.000	4.8.2 ✔
	144.539 - 143.308	0.002	0.053	0.000	0.010	0.000	0.056 ✔	1.000	4.8.2 ✔
	143.308 - 142.078	0.002	0.069	0.000	0.010	0.000	0.072 ✔	1.000	4.8.2 ✔
	142.078 - 140.847	0.002	0.085	0.000	0.010	0.000	0.087 ✔	1.000	4.8.2 ✔
	140.847 - 139.617	0.003	0.100	0.000	0.010	0.000	0.102 ✔	1.000	4.8.2 ✔

Section No.	Elevation ft	Ratio $P_u/\phi P_n$	Ratio $M_{ux}/\phi M_{nx}$	Ratio $M_{uy}/\phi M_{ny}$	Ratio $V_u/\phi V_n$	Ratio $T_u/\phi T_n$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
	139.617 - 138.386	0.003	0.114	0.000	0.010	0.000	0.117 ✔	1.000	4.8.2 ✔
	138.386 - 137.156	0.003	0.128	0.000	0.010	0.000	0.131 ✔	1.000	4.8.2 ✔
	137.156 - 135.925	0.005	0.167	0.000	0.025	0.002	0.172 ✔	1.000	4.8.2 ✔
	135.925 - 134.695	0.005	0.201	0.000	0.025	0.002	0.207 ✔	1.000	4.8.2 ✔
	134.695 - 133.464	0.005	0.235	0.000	0.025	0.002	0.241 ✔	1.000	4.8.2 ✔
	133.464 - 132.234	0.005	0.268	0.000	0.025	0.002	0.273 ✔	1.000	4.8.2 ✔
	132.234 - 131.003	0.005	0.299	0.000	0.025	0.002	0.305 ✔	1.000	4.8.2 ✔
	131.003 - 129.773	0.005	0.329	0.000	0.025	0.002	0.335 ✔	1.000	4.8.2 ✔
	129.773 - 128.542	0.008	0.366	0.000	0.039	0.002	0.376 ✔	1.000	4.8.2 ✔
	128.542 - 127.312	0.008	0.416	0.000	0.039	0.002	0.425 ✔	1.000	4.8.2 ✔
	127.312 - 126.081	0.008	0.463	0.000	0.039	0.002	0.473 ✔	1.000	4.8.2 ✔
	126.081 - 124.851	0.008	0.509	0.000	0.039	0.002	0.518 ✔	1.000	4.8.2 ✔
	124.851 - 123.62	0.008	0.553	0.000	0.039	0.002	0.562 ✔	1.000	4.8.2 ✔
	123.62 - 120.37	0.004	0.293	0.000	0.017	0.001	0.297 ✔	1.000	4.8.2 ✔
L2	123.62 - 120.37	0.003	0.276	0.000	0.016	0.001	0.280 ✔	1.000	4.8.2 ✔
	120.37 - 119.273	0.007	0.523	0.000	0.030	0.001	0.530 ✔	1.000	4.8.2 ✔
	119.273 - 118.177	0.007	0.548	0.000	0.030	0.001	0.555 ✔	1.000	4.8.2 ✔
	118.177 - 117.08	0.008	0.581	0.000	0.034	0.001	0.591 ✔	1.000	4.8.2 ✔
	117.08 - 115.983	0.008	0.609	0.000	0.033	0.001	0.618 ✔	1.000	4.8.2 ✔
	115.983 - 114.887	0.008	0.636	0.000	0.033	0.001	0.645 ✔	1.000	4.8.2 ✔
	114.887 - 113.79	0.008	0.661	0.000	0.033	0.001	0.671 ✔	1.000	4.8.2 ✔
	113.79 - 112.693	0.008	0.686	0.000	0.033	0.001	0.695 ✔	1.000	4.8.2 ✔
	112.693 - 111.597	0.008	0.710	0.000	0.032	0.001	0.719 ✔	1.000	4.8.2 ✔
	111.597 - 110.5	0.008	0.732	0.000	0.032	0.001	0.741 ✔	1.000	4.8.2 ✔
L3	110.5 - 109.4	0.008	0.752	0.000	0.031	0.001	0.761 ✔	1.000	4.8.2 ✔
	109.4 - 108.3	0.008	0.773	0.000	0.031	0.001	0.782 ✔	1.000	4.8.2 ✔

Section No.	Elevation ft	Ratio P_u / ϕP_n	Ratio M_{ux} / ϕM_{nx}	Ratio M_{uy} / ϕM_{ny}	Ratio V_u / ϕV_n	Ratio T_u / ϕT_n	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
	108.3 - 107.2	0.008	0.793	0.000	0.031	0.001	0.802 ✔	1.000	4.8.2 ✔
	107.2 - 106.1	0.008	0.812	0.000	0.031	0.001	0.821 ✔	1.000	4.8.2 ✔
	106.1 - 105	0.008	0.830	0.000	0.031	0.001	0.840 ✔	1.000	4.8.2 ✔
L4	105 - 103.5 (4)	0.006	0.586	0.000	0.021	0.001	0.592 ✔	1.000	4.8.2 ✔
L5	103.5 - 102.462	0.008	0.866	0.000	0.030	0.001	0.875 ✔	1.000	4.8.2 ✔
	102.462 - 101.424	0.008	0.881	0.000	0.030	0.001	0.890 ✔	1.000	4.8.2 ✔
	101.424 - 100.387	0.009	0.896	0.000	0.030	0.001	0.905 ✔	1.000	4.8.2 ✔
	100.387 - 99.3489	0.009	0.910	0.000	0.030	0.001	0.919 ✔	1.000	4.8.2 ✔
	99.3489 - 98.3111	0.009	0.923	0.000	0.030	0.001	0.933 ✔	1.000	4.8.2 ✔
	98.3111 - 97.2733	0.009	0.936	0.000	0.029	0.001	0.946 ✔	1.000	4.8.2 ✔
	97.2733 - 96.2356	0.009	0.949	0.000	0.029	0.001	0.959 ✔	1.000	4.8.2 ✔
	96.2356 - 95.1978	0.009	0.961	0.000	0.029	0.001	0.971 ✔	1.000	4.8.2 ✔
	95.1978 - 94.16	0.009	0.973	0.000	0.029	0.001	0.983 ✔	1.000	4.8.2 ✔
L6	94.16 - 93.144	0.007	0.817	0.000	0.024	0.001	0.825 ✔	1.000	4.8.2 ✔
	93.144 - 92.128	0.007	0.825	0.000	0.024	0.001	0.833 ✔	1.000	4.8.2 ✔
	92.128 - 91.112	0.008	0.834	0.000	0.024	0.001	0.842 ✔	1.000	4.8.2 ✔
	91.112 - 90.096	0.008	0.842	0.000	0.024	0.001	0.850 ✔	1.000	4.8.2 ✔
	90.096 - 89.08	0.008	0.850	0.000	0.023	0.001	0.858 ✔	1.000	4.8.2 ✔
	89.08 - 84.91	0.004	0.445	0.000	0.012	0.000	0.449 ✔	1.000	4.8.2 ✔
L7	89.08 - 84.91	0.004	0.435	0.000	0.011	0.000	0.439 ✔	1.000	4.8.2 ✔
	84.91 - 83.5242	0.008	0.889	0.000	0.023	0.000	0.897 ✔	1.000	4.8.2 ✔
	83.5242 - 82.1384	0.008	0.897	0.000	0.022	0.000	0.906 ✔	1.000	4.8.2 ✔
	82.1384 - 80.7526	0.008	0.905	0.000	0.022	0.000	0.914 ✔	1.000	4.8.2 ✔
	80.7526 - 79.3668	0.008	0.913	0.000	0.022	0.000	0.921 ✔	1.000	4.8.2 ✔
	79.3668 - 77.9811	0.008	0.920	0.000	0.022	0.000	0.929 ✔	1.000	4.8.2 ✔
	77.9811 - 76.5953	0.009	0.927	0.000	0.022	0.000	0.936 ✔	1.000	4.8.2 ✔

Section No.	Elevation ft	Ratio $P_u/\phi P_n$	Ratio $M_{ux}/\phi M_{nx}$	Ratio $M_{uy}/\phi M_{ny}$	Ratio $V_u/\phi V_n$	Ratio $T_u/\phi T_n$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
	76.5953 - 75.2095	0.009	0.933	0.000	0.022	0.000	0.942 ✓	1.000	4.8.2 ✓
	75.2095 - 73.8237	0.009	0.939	0.000	0.022	0.000	0.949 ✓	1.000	4.8.2 ✓
	73.8237 - 72.4379	0.009	0.945	0.000	0.022	0.000	0.955 ✓	1.000	4.8.2 ✓
	72.4379 - 71.0521	0.009	0.951	0.000	0.022	0.000	0.960 ✓	1.000	4.8.2 ✓
	71.0521 - 69.6663	0.009	0.956	0.000	0.021	0.000	0.966 ✓	1.000	4.8.2 ✓
	69.6663 - 68.2805	0.009	0.962	0.000	0.021	0.000	0.971 ✓	1.000	4.8.2 ✓
	68.2805 - 66.8947	0.009	0.966	0.000	0.021	0.000	0.976 ✓	1.000	4.8.2 ✓
	66.8947 - 65.5089	0.009	0.971	0.000	0.021	0.000	0.981 ✓	1.000	4.8.2 ✓
	65.5089 - 64.1232	0.009	0.975	0.000	0.021	0.000	0.985 ✓	1.000	4.8.2 ✓
	64.1232 - 62.7374	0.009	0.980	0.000	0.021	0.000	0.989 ✓	1.000	4.8.2 ✓
	62.7374 - 61.3516	0.009	0.984	0.000	0.021	0.000	0.994 ✓	1.000	4.8.2 ✓
	61.3516 - 59.9658	0.009	0.987	0.000	0.021	0.000	0.997 ✓	1.000	4.8.2 ✓
	59.9658 - 58.58	0.010	0.991	0.000	0.021	0.000	1.001 ✗	1.000	4.8.2 ✗
L8	58.58 - 57.25 (8)	0.009	0.886	0.000	0.018	0.000	0.894 ✓	1.000	4.8.2 ✓
L9	57.25 - 56.1543	0.009	0.897	0.000	0.018	0.000	0.906 ✓	1.000	4.8.2 ✓
	56.1543 - 55.0586	0.009	0.899	0.000	0.018	0.000	0.908 ✓	1.000	4.8.2 ✓
	55.0586 - 53.9629	0.009	0.901	0.000	0.018	0.000	0.910 ✓	1.000	4.8.2 ✓
	53.9629 - 52.8671	0.009	0.903	0.000	0.018	0.000	0.912 ✓	1.000	4.8.2 ✓
	52.8671 - 51.7714	0.009	0.905	0.000	0.018	0.000	0.914 ✓	1.000	4.8.2 ✓
	51.7714 - 50.6757	0.009	0.907	0.000	0.018	0.000	0.916 ✓	1.000	4.8.2 ✓
	50.6757 - 49.58	0.009	0.909	0.000	0.018	0.000	0.918 ✓	1.000	4.8.2 ✓
	49.58 - 44.41	0.005	0.460	0.000	0.009	0.000	0.465 ✓	1.000	4.8.2 ✓
L10	49.58 - 44.41	0.005	0.450	0.000	0.009	0.000	0.455 ✓	1.000	4.8.2 ✓
	44.41 - 43.3509	0.010	0.905	0.000	0.017	0.000	0.915 ✓	1.000	4.8.2 ✓
	43.3509 - 42.2919	0.010	0.906	0.000	0.017	0.000	0.916 ✓	1.000	4.8.2 ✓
	42.2919 - 41.2328	0.010	0.907	0.000	0.017	0.000	0.917 ✓	1.000	4.8.2 ✓

Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
	41.2328 - 40.1737	0.010	0.908	0.000	0.017	0.000	0.918 ✔	1.000	4.8.2 ✔
	40.1737 - 39.1146	0.010	0.909	0.000	0.017	0.000	0.919 ✔	1.000	4.8.2 ✔
	39.1146 - 38.0556	0.010	0.910	0.000	0.017	0.000	0.920 ✔	1.000	4.8.2 ✔
	38.0556 - 36.9965	0.010	0.911	0.000	0.017	0.000	0.921 ✔	1.000	4.8.2 ✔
	36.9965 - 35.9374	0.010	0.912	0.000	0.017	0.000	0.922 ✔	1.000	4.8.2 ✔
	35.9374 - 34.8784	0.010	0.913	0.000	0.017	0.000	0.923 ✔	1.000	4.8.2 ✔
	34.8784 - 33.8193	0.010	0.913	0.000	0.017	0.000	0.924 ✔	1.000	4.8.2 ✔
	33.8193 - 32.7602	0.010	0.914	0.000	0.017	0.000	0.924 ✔	1.000	4.8.2 ✔
	32.7602 - 31.7011	0.010	0.915	0.000	0.017	0.000	0.925 ✔	1.000	4.8.2 ✔
	31.7011 - 30.6421	0.010	0.915	0.000	0.017	0.000	0.926 ✔	1.000	4.8.2 ✔
	30.6421 - 29.583	0.010	0.916	0.000	0.017	0.000	0.926 ✔	1.000	4.8.2 ✔
L11	29.583 - 28.5 (11)	0.009	0.824	0.000	0.015	0.000	0.833 ✔	1.000	4.8.2 ✔
L12	28.5 - 27.5 (12)	0.010	0.849	0.000	0.015	0.000	0.859 ✔	1.000	4.8.2 ✔
L13	27.5 - 26.4708	0.010	0.892	0.000	0.016	0.000	0.902 ✔	1.000	4.8.2 ✔
	26.4708 - 25.4417	0.010	0.892	0.000	0.016	0.000	0.902 ✔	1.000	4.8.2 ✔
	25.4417 - 24.4126	0.010	0.892	0.000	0.016	0.000	0.903 ✔	1.000	4.8.2 ✔
	24.4126 - 23.3834	0.010	0.892	0.000	0.016	0.000	0.903 ✔	1.000	4.8.2 ✔
	23.3834 - 22.3543	0.010	0.893	0.000	0.016	0.000	0.903 ✔	1.000	4.8.2 ✔
	22.3543 - 21.3251	0.010	0.893	0.000	0.016	0.000	0.904 ✔	1.000	4.8.2 ✔
	21.3251 - 20.296	0.011	0.893	0.000	0.016	0.000	0.904 ✔	1.000	4.8.2 ✔
	20.296 - 19.2668	0.011	0.893	0.000	0.016	0.000	0.904 ✔	1.000	4.8.2 ✔
	19.2668 - 18.2376	0.011	0.893	0.000	0.016	0.000	0.904 ✔	1.000	4.8.2 ✔
	18.2376 - 17.2085	0.011	0.893	0.000	0.016	0.000	0.904 ✔	1.000	4.8.2 ✔
	17.2085 - 16.1793	0.011	0.893	0.000	0.016	0.000	0.904 ✔	1.000	4.8.2 ✔
	16.1793 - 15.1502	0.011	0.893	0.000	0.016	0.000	0.904 ✔	1.000	4.8.2 ✔
	15.1502 - 14.121	0.011	0.893	0.000	0.016	0.000	0.905 ✔	1.000	4.8.2 ✔

Section No.	Elevation ft	Ratio P_u / ϕP_n	Ratio M_{ux} / ϕM_{nx}	Ratio M_{uy} / ϕM_{ny}	Ratio V_u / ϕV_n	Ratio T_u / ϕT_n	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
	14.121 - 13.0919	0.011	0.893	0.000	0.016	0.000	0.905 ✔	1.000	4.8.2 ✔
	13.0919 - 12.0627	0.011	0.893	0.000	0.015	0.000	0.905 ✔	1.000	4.8.2 ✔
	12.0627 - 11.0336	0.011	0.893	0.000	0.015	0.000	0.905 ✔	1.000	4.8.2 ✔
	11.0336 - 10.0045	0.011	0.893	0.000	0.015	0.000	0.905 ✔	1.000	4.8.2 ✔
	10.0045 - 8.9753	0.011	0.893	0.000	0.015	0.000	0.904 ✔	1.000	4.8.2 ✔
	8.9753 - 7.94615	0.011	0.893	0.000	0.015	0.000	0.904 ✔	1.000	4.8.2 ✔
	7.94615 - 6.917	0.011	0.893	0.000	0.015	0.000	0.904 ✔	1.000	4.8.2 ✔
L14	6.917 - 5.76417	0.011	0.899	0.000	0.015	0.000	0.910 ✔	1.000	4.8.2 ✔
	5.76417 - 4.61133	0.011	0.899	0.000	0.015	0.000	0.910 ✔	1.000	4.8.2 ✔
	4.61133 - 3.4585	0.011	0.898	0.000	0.015	0.000	0.910 ✔	1.000	4.8.2 ✔
	3.4585 - 2.30567	0.012	0.898	0.000	0.015	0.000	0.910 ✔	1.000	4.8.2 ✔
	2.30567 - 1.15283	0.012	0.898	0.000	0.015	0.000	0.910 ✔	1.000	4.8.2 ✔
	1.15283 - 0	0.012	0.897	0.000	0.015	0.000	0.909 ✔	1.000	4.8.2 ✔

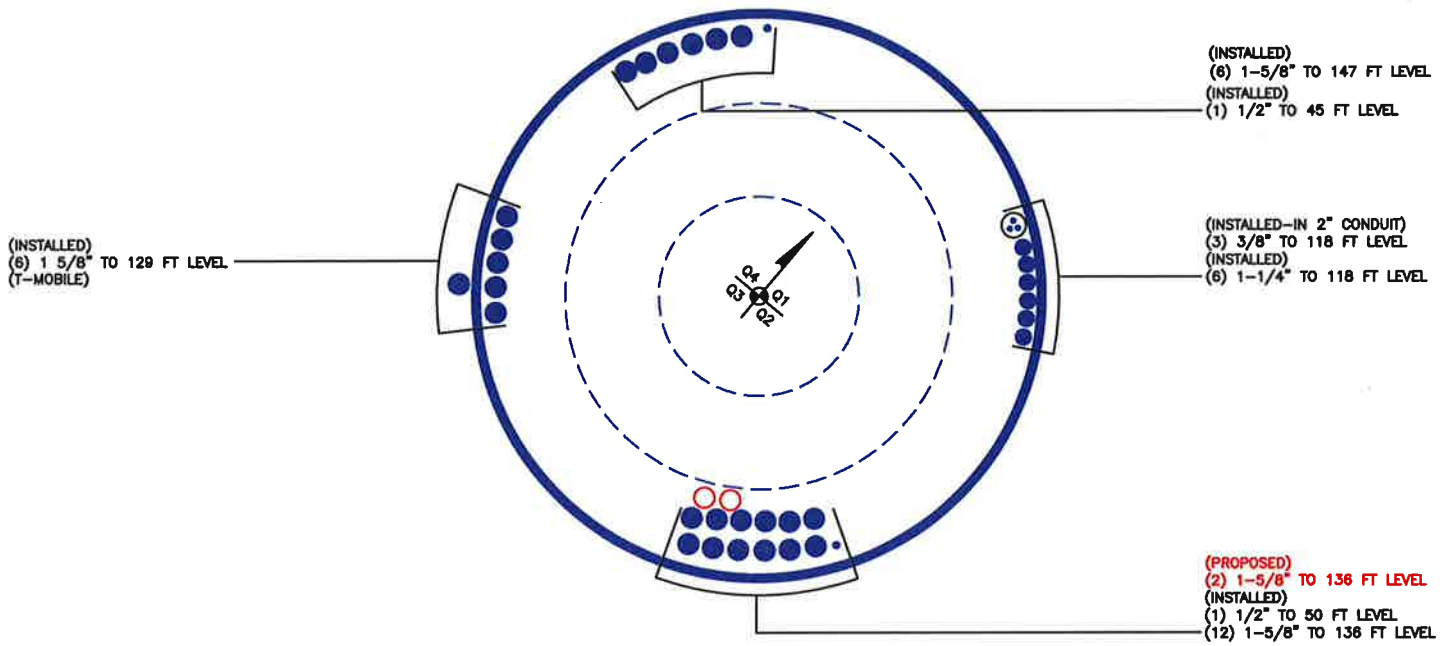
Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	147 - 120.37	Pole	TP21.98x16.25x0.188	1	-7.234	903.550	56.0	Pass
L2	120.37 - 110.5	Pole	TP23.686x20.906x0.25	2	-11.249	1381.650	74.0	Pass
L3	110.5 - 105	Pole	TP24.852x23.686x0.452	3	-12.258	1479.360	83.8	Pass
L4	105 - 103.5	Pole	TP25.17x24.852x0.701	4	-12.623	2228.660	59.2	Pass
L5	103.5 - 94.16	Pole	TP27.15x25.17x0.469	5	-14.486	1628.810	98.2	Pass
L6	94.16 - 84.91	Pole	TP29.11x27.15x0.577	6	-15.702	2059.120	85.7	Pass
L7	84.91 - 58.58	Pole	TP34.188x27.726x0.596	7	-24.883	2599.220	100.0	Pass
L8	58.58 - 57.25	Pole	TP34.47x34.188x0.643	8	-25.308	2951.390	89.4	Pass
L9	57.25 - 44.41	Pole	TP37.19x34.47x0.635	9	-27.879	3061.020	91.7	Pass
L10	44.41 - 29.583	Pole	TP39.717x35.47x0.666	10	-36.561	3548.040	92.5	Pass
L11	29.583 - 28.5	Pole	TP39.947x39.717x0.746	11	-37.008	3986.130	83.2	Pass
L12	28.5 - 27.5	Pole	TP40.159x39.947x0.711	12	-37.423	3884.240	85.8	Pass
L13	27.5 - 6.917	Pole	TP44.531x40.159x0.673	13	-43.400	3977.720	90.3	Pass
L14	6.917 - 0	Pole	TP46x44.531x0.669	14	-46.072	4071.330	90.8	Pass
							Summary	
						Pole (L7)	100.0	Pass
						RATING =	**100.0**	**Pass**

Program Version 7.0.5.1

APPENDIX B

BASE LEVEL DRAWING



BUSINESS UNIT: 876360

APPENDIX C

ADDITIONAL CALCULATIONS

Reinforcement 1

Bottom	Top	QTY	Type	Position	Gap	Ten/Comp
0	6.917	5	PL1.25x5	F	0	T&C
6.917	27.5	3	PL1.25x5	F	0	T&C
27.5	57.25	3	PL1.25x5	F	0	T&C
57.25	87.25	3	PL1.25x4.75	F	0	T&C
87.25	105	3	PL1.25x4.25	F	0	T&C
				F	0	T&C
				F	0	T&C
				F	0	T&C
				F	0	T&C

1

Reinforcement 2

Bottom	Top	QTY	Type	Position	Gap	Ten/Comp
6.917	29.583	3	MP303	F	0	T&C
				F	0	T&C
				F	0	T&C
				F	0	T&C
				F	0	T&C
				F	0	T&C
				F	0	T&C
				F	0	T&C
				F	0	T&C

Reinforcement 3

Bottom	Top	QTY	Type	Position	Gap	Ten/Comp
0	28.5	3	PL1x4.5	F	0	T&C
28.5	58.58	3	PL1x4.5	F	0	T&C
58.58	94.16	3	PL0.75x4	F	0	T&C
103.5	110.5	3	PL1x4.5	F	0	T&C
				F	0	T&C
				F	0	T&C
				F	0	T&C
				F	0	T&C
				F	0	T&C

Bottom Elevation	Top Elevation	Original Thickness	Original Yield Stress	Original Ultimate Stress	Reinforced Shaft Capacity	Reinf. 1 QTY	Reinf. 1 Type	Rein. 1 Capacity	Reinf. 2 QTY	Reinf. 2 Type	Rein. 2 Capacity	Reinf. 3 QTY	Reinf. 3 Type	Rein. 3 Capacity	Control Stress Ratio	Top Height	Section Length	Lap Splice	# of Sides	Top Diameter	Bottom Diameter	Equivalent Shaft Thickness	Equivalent Shaft Fy	Equivalent Weight Mult.		Bottom Elevation Failure	Top Elevation Failure	Section Failure %
120.3700	147.0000	0.1875	65	80	56.0%										**56.0%**	147.0000	26.6300	3.2500	18	16.2500	21.9800	0.1875	65.0	1.00	1			
110.5000	123.6200	0.2500	65	80	74.0%										**74.0%**	123.6200	13.1200	0.0000	18	20.9057	23.6864	0.2500	65.0	1.00	2			
105.0000	110.5000	0.2500	65	80	80.2%							3	PL1x4.5	83.8%	**83.8%**	110.5000	5.5000	0.0000	18	23.6864	24.8521	0.4516	36.1	0.94	3			
103.5000	105.0000	0.2500	65	80	41.4%	3	PL1.25x4.25	59.2%				3	PL1x4.5	53.8%	**59.2%**	105.0000	1.5000	0.0000	18	24.8521	25.1700	0.7014	34.9	0.90	4			
94.1600	103.5000	0.2500	65	80	68.4%	3	PL1.25x4.25	98.2%							**98.2%**	103.5000	9.3400	0.0000	18	25.1700	27.1495	0.4685	35.1	0.94	5			
84.9100	94.1600	0.2500	65	80	59.4%	3	PL1.25x4.25	79.8%				3	PL0.75x4	85.7%	**85.7%**	94.1600	9.2500	4.1700	18	27.1495	29.1100	0.5766	34.8	0.93	6			
58.5800	89.0800	0.3125	65	80	69.5%	3	PL1.25x4.75	88.8%				3	PL0.75x4	100.0%	**100.0%**	89.0800	30.5000	0.0000	18	27.7262	34.1879	0.5960	34.9	0.95	7			
57.2500	58.5800	0.3125	65	80	65.0%	3	PL1.25x4.75	82.9%				3	PL1x4.5	89.4%	**89.4%**	58.5800	1.3300	0.0000	18	34.1879	34.4697	0.6431	36.5	0.94	8			
44.4100	57.2500	0.3125	65	80	66.8%	3	PL1.25x5	83.5%				3	PL1x4.5	91.7%	**91.7%**	57.2500	12.8400	5.1700	18	34.4697	37.1900	0.6353	36.5	0.95	9			
29.5830	49.5800	0.3750	65	80	67.5%	3	PL1.25x5	84.2%				3	PL1x4.5	92.5%	**92.5%**	49.5800	19.9970	0.0000	18	35.4697	39.7169	0.6662	36.6	0.96	10			
28.5000	29.5830	0.3750	65	80	60.9%	3	PL1.25x5	75.7%	3	MP303	68.1%	3	PL1x4.5	83.2%	**83.2%**	29.5830	1.0830	0.0000	18	39.7169	39.9469	0.7455	36.6	0.95	11			
27.5000	28.5000	0.3750	65	80	66.6%	3	PL1.25x5	80.2%	3	MP303	77.1%	3	PL1x4.5	85.8%	**85.8%**	28.5000	1.0000	0.0000	18	39.9469	40.1593	0.7109	38.4	0.99	12			
6.9170	27.5000	0.3750	65	80	70.3%	3	PL1.25x5	84.6%	3	MP303	81.0%	3	PL1x4.5	90.3%	**90.3%**	27.5000	20.5830	0.0000	18	40.1593	44.5309	0.6725	38.4	1.00	13			
0.0000	6.9170	0.3750	65	80	69.0%	5	PL1.25x5	90.8%				3	PL1x4.5	86.4%	**90.8%**	6.9170	6.9170	0.0000	18	44.5309	46.0000	0.6689	37.6	1.03	14			
																									15			
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Reinforced Pole Stress
and Effective Thickness Check

[illegible]

Rein1

Bottom	Top	Qty	Model	Position	T or T&C
0	6.917	5	PL1.25x5	F	T&C
6.917	27.5	3	PL1.25x5	F	T&C
27.5	57.25	3	PL1.25x5	F	T&C
57.25	87.25	3	L1.25x4.75	F	T&C
87.25	105	3	L1.25x4.25	F	T&C
				F	T&C
				F	T&C
				F	T&C
				F	T&C

Flats (Used for relative orientation only. Actual flat numbers may vary.)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	1				1		1		1				1				
	1						1						1				
	1						1						1				
	1						1						1				
	1						1						1				

Rein2

Bottom	Top	Qty	Model	Position	T or T&C
6.917	29.583	3	MP303	F	T&C
				F	T&C
				F	T&C
				F	T&C
				F	T&C
				F	T&C
				F	T&C
				F	T&C
				F	T&C

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
				1						1						1	

Rein3

Bottom	Top	Qty	Model	Position	T or T&C
0	28.5	3	PL1x4.5	F	T&C
28.5	58.58	3	PL1x4.5	F	T&C
58.58	94.16	3	PL0.75x4	F	T&C
103.5	110.5	3	PL1x4.5	F	T&C
				F	T&C
				F	T&C
				F	T&C
				F	T&C
				F	T&C

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1						1								1			
1						1						1					
1						1						1					
1						1						1					

Reinforcement Capacity

AeroSolutions LLC
Optimizing Your Tower Infrastructure
5500 Flatirons Parkway, Suite 100
Boulder, CO 80301
720-304-6882

Dimensions and Properties														Compression				Axial				
																		ASD-9			LRFD	
Model	Weight (lb/ft)	Area (in²)	Moment of Inertia (in⁴)	Moment of Inertia (in⁴)	Centroid from Mating Edge (in)	Centroid from Bolt Hole Center (in)	Web Thickness (in)	Width (in)	Flange Width (in)	Flange Thickness (in)	Hole Diameter (in)	Yield Stress (ksi)	Ultimate Stress (ksi)	Slender. Ratio Coefficient	Unbraced Length (in)	Slender. Ratio Coefficient	Unbraced Length (in)	Allowable Axial (kip)	Allowable Axial w/ increase (kip)	Governing Axial	Design Axial Strength (kip)	Governing Axial
MP303	9.9	2.92	0.66	6.57	0.59	0	0.30	4.06	1.57	0.64	1.21875	65	80	0.80	18	1.00	18	96.4	128.6	Rupture	144.7	Rupture
PL1.25x4.25	18.1	5.31	0.69	8.00	0.625	0	1.25	4.25	0	0	1.21875	65	80	0.80	21	1.00	21	148.4	197.9	Rupture	222.7	Rupture
PL1.25x4.75	20.2	5.94	0.77	11.16	0.625	0	1.25	4.75	0	0	1.21875	65	80	0.80	18	1.00	18	173.4	231.3	Rupture	260.2	Rupture
PL1.25x5	21.3	6.25	0.81	13.02	0.625	0	1.25	5	0	0	1.21875	65	80	0.80	18	1.00	18	185.9	247.9	Rupture	278.9	Rupture
PL1x4.5	15.3	4.50	0.38	7.59	0.5	0	1	4.5	0	0	1.21875	65	80	0.80	20	1.00	20	128.8	171.7	Rupture	193.1	Rupture
PL0.75x4	10.2	3.00	0.14	4.00	0.375	0	0.75	4	0	0	1.21875	65	80	0.80	16	1.00	16	81.6	108.8	Rupture	122.3	Rupture

Anchor Rod Information for TIA/EIA-222-F and TIA-222-G-2

Site Information	
ID:	876360
Name:	PRESTON - TOWN HALL
App. #:	361416 Revision # 8

AeroSolutions LLC
Optimizing Your Tower Infrastructure

Base Reactions		
Moment:	3495	ft-kip
Axial:	49	kip
Shear:	32	kip
Base Plate Type:	Circular	

Design Information	
TIA Code:	G
ASIF:	1.000
Failure:	100%
eta Factor:	0.50

Original Anchor Rod Data		
Quantity:	12	
Diameter:	2.25	in
Material:	A615 GR 75	
Bolt Circle:	55.0	in
Bolt Spacing:		in
Bolt Group Area:	47.71	in^2
Bolt Group MOIx:	18041	in^4

Reactions Seen by Original AR Group		
Moment:	2621.1	kip-ft
Axial:	49.2	kip
Shear:	31.8	kip

Original AR Capacity Check		
Combined Load:	200.0	kip
Allowable load:	259.8	kip
AR Capacity:	77.0%	Pass

First Added Anchor Rod Data		
Quantity:	4	
Diameter:	2.25	in
Material:	A615 GR 75	
Bolt Circle:	55.0	in
Bolt Group Area:	15.90	in^2
Bolt Group MOIx:	6014	in^4

Reactions Seen by First Added AR Group		
Moment:	873.7	kip-ft
Axial:	0.0	kip
Shear:	0.0	kip

First Added AR Capacity Check		
Combined Load:	190.6	kip
Allowable load:	259.8	kip
AR Capacity:	73.4%	Pass

Second Added Anchor Rod Data		
Quantity:		
Diameter:		in
Material:		
Bolt Circle:		in
Bolt Group Area:	0.00	in^2
Bolt Group MOIx:	0	in^4

Reactions Seen by Second Added AR Group		
Moment:	0.0	kip-ft
Axial:	0.0	kip
Shear:	0.0	kip

Second Added AR Capacity Check		
Combined Load:	0.0	kip
Allowable load:	0.0	kip
AR Capacity:	0.0%	

Third Added Anchor Rod Data		
Quantity:		
Diameter:		in
Material:		
Bolt Circle:		in
Bolt Group Area:	0.00	in^2
Bolt Group MOIx:	0	in^4

Reactions Seen by Second Added AR Group		
Moment:	0.0	kip-ft
Axial:	0.0	kip
Shear:	0.0	kip

Second Added AR Capacity Check		
Combined Load:	0.0	kip
Allowable load:	0.0	kip
AR Capacity:	0.0%	

Rev.4.1

Stiffened or Unstiffened, Ungrouted, Circular Base Plate - Any Rod Material

TIA Rev G

Assumption: Clear space between bottom of leveling nut and top of concrete **not** exceeding (1)*(Rod Diameter)

Site Data

BU#: *876360*
Site Name: *PRESTON - TOWN HALL*
App #: *361416 Revision # 8*

Pole Manufacturer:	*Other*

Anchor Rod Data		
Qty:	12	
Diam:	2.25	in
Rod Material:	A615-J	
Strength (Fu):	100	ksi
Yield (Fy):	75	ksi
Bolt Circle:	55	in

Plate Data		
Diam:	61	in
Thick:	1.75	in
Grade:	60	ksi
Single-Rod B-eff:	12.17	in

Stiffener Data (Welding at both sides)		
Config:	0	*
Weld Type:		
Groove Depth:		in **
Groove Angle:		degrees
Fillet H. Weld:		<-- Disregard
Fillet V. Weld:		in
Width:		in
Height:		in
Thick:		in
Notch:		in
Grade:		ksi
Weld str.:		ksi

Pole Data		
Diam:	46	in
Thick:	0.375	in
Grade:	65	ksi
# of Sides:	18	"0" IF Round
Fu	80	ksi
Reinf. Fillet Weld	0	"0" if None

Reactions		
Mu:	2621.137	ft-kips
Axial, Pu:	49.1876	kips
Shear, Vu:	31.78681	kips
Eta Factor, ɳ	0.5	TIA G (Fig. 4-4)

If No stiffeners, Criteria:	AISC LRFD	<-Only Applcable to Unstiffened Cases

Anchor Rod Results

Max Rod (Cu+ Vu/ɳ):	200.0 Kips	Non-Rigid
Allowable Axial, Φ*Fu*Anet:	260.0 Kips	AISC LRFD
Anchor Rod Stress Ratio:	76.9% Pass	φ*Tn

Non-Rigid
AISC LRFD
φ*Fy
Y.L. Length: 30.15

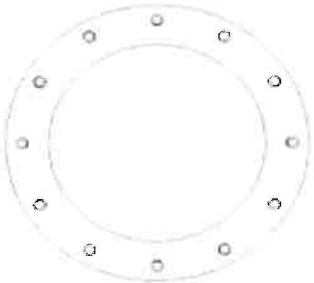
n/a

Stiffener Results

Horizontal Weld :	n/a
Vertical Weld:	n/a
Plate Flex+Shear, fb/Fb+(fv/Fv)^2:	n/a
Plate Tension+Shear, ft/Ft+(fv/Fv)'	n/a
Plate Comp. (AISC Bracket):	n/a

Pole Results

Pole Punching Shear Check: n/a



* 0 = none, 1 = every bolt, 2 = every 2 bolts, 3 = 2 per bolt

** Note: for complete joint penetration groove welds the groove depth must be exactly 1/2 the stiffener thickness for calculation purposes

Stiffened or Unstiffened, Ungrouted, Circular Base Plate - Any Rod Material

TIA Rev G

Assumption: Clear space between bottom of leveling nut and top of concrete **not** exceeding (1)*(Rod Diameter)

Site Data

BU#: *876360*
Site Name: *PRESTON - TOWN HALL*
App #: *361416 Revision # 6*

Pole Manufacturer:	*Other*

Reactions		
Mu:	5240.162	ft-kips
Axial, Pu:	99.2976	kips
Shear, Vu:	68.94681	kips
Eta Factor, η	0.5	TIA G (Fig. 4-4)

If No stiffeners, Criteria:	AISC LRFD	<-Only Applcable to Unstiffened Cases

Anchor Rod Data	
	24
	2.25
	A615-J
	100
	29
	56

Diam:	61	in
Thick:	1.75	in
Grade:	60	ksi
Single-Rod B-eff:	6.08	in

Stiffened
AISC LRFD
φ*Tn

Pass

Base Plate Results Flexural Check

Base Plate Stress:	41.1 ksi	
Allowable Plate Stress:	54.0 ksi	
Base Plate Stress Ratio:	76.1% Pass	

Stiffened
AISC LRFD
φ*Fy
Y.L. Length: N/A, Roark

Stiffener Data (Welding at both sides)

Config:	1	*
Weld Type:	Both	
Groove Depth:	0.5	in **
Groove Angle:	45	degrees
Fillet H. Weld:	0.5	in
Fillet V. Weld:	0.375	in
Width:	6	in
Height:	14	in
Thick:	1	in
Notch:	0.75	in
Grade:	65	ksi
Weld str.:	80	ksi

Stiffener Results

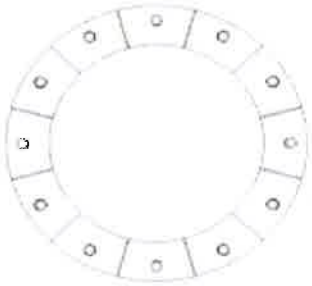
Horizontal Weld :	58.1% Pass
Vertical Weld:	73.0% Pass
Plate Flex+Shear, fb/Fb+(fv/Fv)^2:	24.2% Pass
Plate Tension+Shear, ft/Ft+(fv/Fv)^	58.5% Pass
Plate Comp. (AISC Bracket):	65.7% Pass

Pole Results

Pole Punching Shear Check:	29.9% Pass

Pole Data

Diam:	46	in
Thick:	0.375	in
Grade:	65	ksi
# of Sides:	18	"0" IF Round
Fu	80	ksi
Reinf. Fillet Weld	0	"0" if None



* 0 = none, 1 = every bolt, 2 = every 2 bolts, 3 = 2 per bolt

** Note: for complete joint penetration groove welds the groove depth must be exactly 1/2 the stiffener thickness for calculation purposes

PROJECT	**876360 - Preston / Town Hall, CT**		
SUBJECT	**Foundation Analysis**		
DATE	**12/28/16**	PAGE 1	OF 1

B+T GRP
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630

Monopole Pad & Pier Foundation Analysis

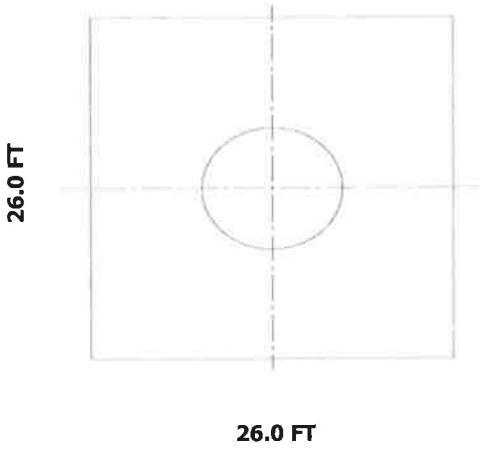
Rev. Type: G

Design Loads:

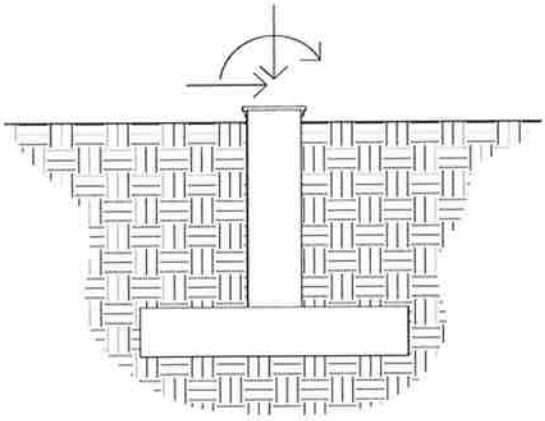
	Input factored loads	
Shear:	32.0	kips
Moment:	3,495.0	ft-kips
Tower Height:	147.0	ft
Tower Weight:	49.0	kips

Pad & Pier Dimensions / Properties:

Pole Diameter at Base:	46.00	in
Bearing Depth:	6.0	ft
Pad Width:	26.0	ft
Neglected Depth:	2.0	ft
Thickness:	3.0	ft
Pier Diameter:	7.0	ft
Pier Height Above Grade:	1.0	ft
BP Dist. Above Pier:	3.0	in
Clear Cover:	3.0	in
Pier Rebar Size:	8	
Pier Rebar Quanity:	33	
Pad Rebar Size:	8	
Pad Rebar Quanity:	26	
Pier Tie Size:	4	
Tie Quanity:	5	
Rebar Yield Strength:	60000	psi
Concrete Strength:	4000	psi
Concrete Unit Weight:	0.15	kcf



Elevation Overview



Soil Data:

	Allowable Values	
Soil Unit Weight:	0.127	kcf
Ult. Bearing Capacity:	15.000	ksf
Angle of Friction:	40.000	deg
Cohesion:	0.000	ksf
Passive Pressure:	0.000	ksf
Base Friction:	0.300	

Summary of Results

Req'd Pier Diam.	OK
Overturning	49.9%
Shear Capacity	21.2%
Bearing	18.3%
Pad Shear - 1-way	35.9%
Pad Shear - 2-way	4.0%
Pad Moment Capacity	42.2%
Pier Moment Capacity	82.2%

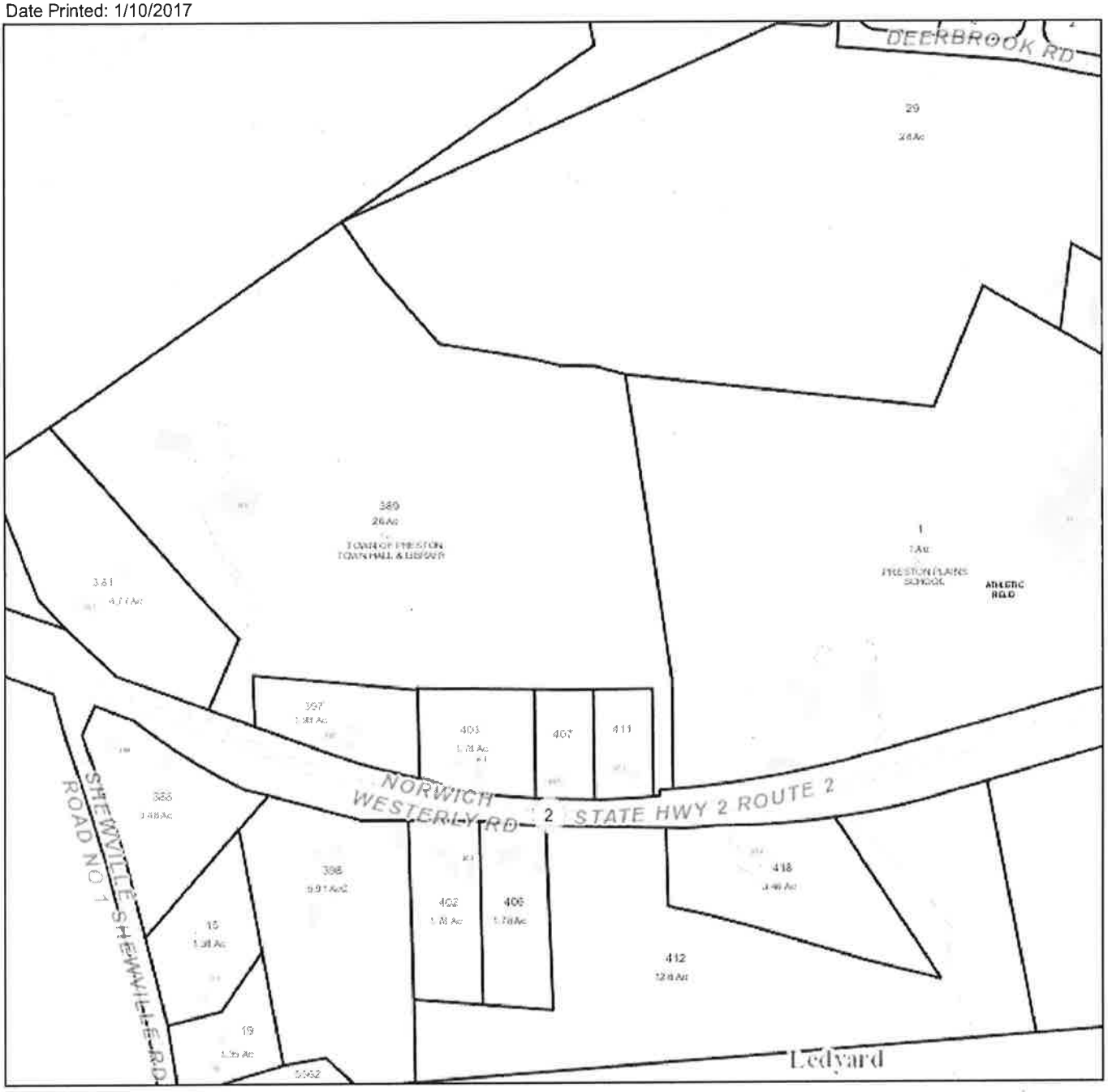
** Notes:

ATTACHMENT 4

Town of Preston

Geographic Information System (GIS)

Date Printed: 1/10/2017



MAP DISCLAIMER - NOTICE OF LIABILITY

This map is for assessment purposes only. It is not for legal description or conveyances. All information is subject to verification by any user. The Town of Preston and its mapping contractors assume no legal responsibility for the information contained herein.

Approximate Scale: 1 inch = 400 feet

0 400 Feet

N W E S

Town of Preston
Property Listing Report

Parcel ID 24-0-2-389

Account 00173000

Property Information

Owner	PRESTON TOWN OF
Address	389 ROUTE 2
Mailing Address	389 ROUTE 2 PRESTON , CT 06365
Land Use	9035 - MUN TOWN MDL-96
Land Class	E

Census Tract	7001
Neighborhood	8000
Zoning	R-C
Acreage	25.86
Utilities	Well,Septic
Lot Setting/ Desc	Rural / Low

Photo

No Photo Available

PARCEL VALUATIONS (Assessed value = 70% of Appraised Value)

	Appraised	Assessed
Buildings	459200	321400
Outbuildings	12900	9100
Improvements	477300	334100
Extras	5200	3600
Land	438450	306800
Total	915750	640900
Previous		

Construction Details

Year Built	1974
Stories	1
Building Style	City/Town Hall
Building Use	Comm/Ind
Building Condition	Average
Total Rooms	
Bedrooms	
Full Bathrooms	3
Half Bathrooms	
Bath Style	
Kitchen Style	
Roof Style	Gable/Hip
Roof Cover	Asph/F Gls/Cmp

EXTERIOR WALLS:	
Primary	Brick/Masonry
Secondary	
INTERIOR WALLS:	
Primary	Drywall/Sheet
Secondary	
FLOORS:	
Primary	Inlaid Sht Gds
Secondary	
HEATING/AC:	
Heating Type	Electr Basebrd
Heating Fuel	Electric
AC Type	None

BUILDING AREA:	
Effective Building Area	
Gross Building Area	7056
Total Living Area	5292

SALES HISTORY:	
Sale Date	9/26/1973
Sale Price	17500
Book/ Page	56/ 174

Report Created On 1/10/2017