

April 18, 2018

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

Re: **Notice of Exempt Modification – Facility Modification
1081 North Street, Greenwich, Connecticut**

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless (“Cellco”) currently maintains fourteen (14) antennas at the top of an existing 175-foot tower at 1081 North Street in Greenwich, Connecticut (the “Property”). The tower and the Property are owned by Crown Castle (“Crown”). The Council approved Cellco’s use of this tower in 1988 (Docket No. 86). Cellco now intends to remove eight (8) of its existing antennas and install six (6) new antennas (three (3) model JAHH-65B-R3B, 700 MHZ antennas and three (3) model JAHH-65B-R3B, 2100 MHz antennas) all at the same 175-foot level on the tower. Cellco also intends to replace three (3) remote radio heads (“RRHs”) with three (3) newer model RRHs, and install three (3) new RRHs. Included in Attachment 1 are specifications for Cellco’s replacement antennas and RRHs.

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 Peter Tesai, Greenwich’s First Selectman; Katie DeLuca, Director of Planning and Zoning; and Crown, the tower and Property 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 structure. Cellco’s new antennas and RRHs will be attached to its existing antenna platform at the 175-foot level of the tower.

Melanie A. Bachman, Esq.
April 18, 2018
Page 2

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 installation of replacement antennas and RRHs 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 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 can support Cellco's proposed modifications. (See Structural Analysis Report included in Attachment 3).

A copy of the parcel map and Property owner information is included in Attachment 4. A Certificate of Mailing verifying that this filing was sent to municipal officials is included in Attachment 5.

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:

Peter Tesai, First Selectman
Katie DeLuca, Director of Planning and Zoning
Crown Castle
Tim Parks

ATTACHMENT 1



JAHH-65B-R3B

8-port sector antenna, 2x 698–787, 2x 824–894 and 4x 1695–2360 MHz, 65° HPBW, 3x RET and low bands have diplexers. Internal SBT's on first LB(Port 1) and first HB (Port 5).

- Internal SBT on low and high band allow remote RET control from the radio over the RF jumper cable
- One RET for 700MHz, one RET for 850MHz, and one RET for both high bands to ensure same tilt level for 4x Rx or 4x MIMO
- Internal filter on low band and interleaved dipole technology providing for attractive, low wind load mechanical package
- Separate RS-485 RET input/output for low and high band

Electrical Specifications

Frequency Band, MHz	698–787	824–894	1695–1880	1850–1990	1920–2200	2300–2360
Gain, dBi	14.5	15.8	18.0	18.4	18.5	18.8
Beamwidth, Horizontal, degrees	67	65	63	63	65	68
Beamwidth, Vertical, degrees	12.4	10.5	5.7	5.2	4.9	4.4
Beam Tilt, degrees	2–14	2–14	0–10	0–10	0–10	0–10
USLS (First Lobe), dB	18	18	20	20	21	23
Front-to-Back Ratio at 180°, dB	32	34	31	35	36	38
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 at 50°C, maximum, watts	200	200	300	300	300	250
Polarization	±45°	±45°	±45°	±45°	±45°	±45°
Impedance	50 ohm	50 ohm	50 ohm	50 ohm	50 ohm	50 ohm

Electrical Specifications, BASTA*

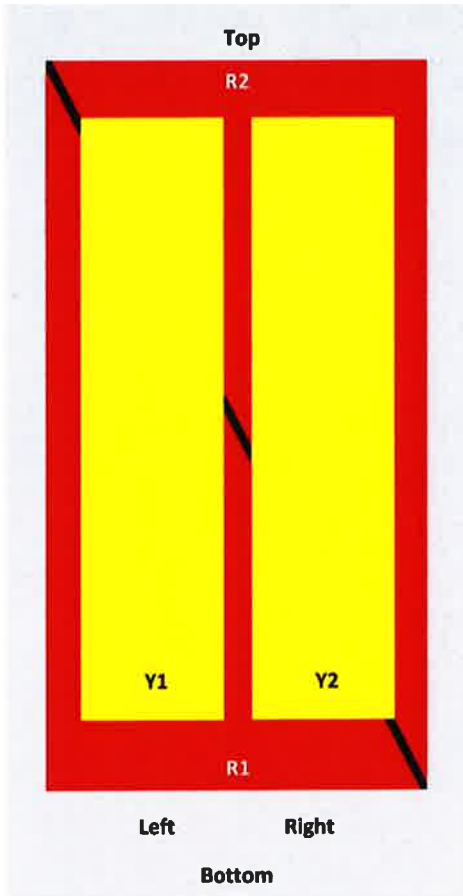
Frequency Band, MHz	698–787	824–894	1695–1880	1850–1990	1920–2200	2300–2360
Gain by all Beam Tilts, average, dBi	14.3	14.9	17.6	18.1	18.2	18.5
Gain by all Beam Tilts Tolerance, dB	±0.3	±0.5	±0.6	±0.4	±0.5	±0.6
Gain by Beam Tilt, average, dBi	2 ° 14.3	2 ° 15.0	0 ° 17.2	0 ° 17.6	0 ° 17.7	0 ° 17.9
	8 ° 14.3	8 ° 14.9	5 ° 17.6	5 ° 18.2	5 ° 18.3	5 ° 18.7
	14 ° 14.3	14 ° 15.4	10 ° 17.6	10 ° 18.2	10 ° 18.3	10 ° 18.7
Beamwidth, Horizontal Tolerance, degrees	±1.2	±1.4	±4	±2.4	±2.9	±2.7
Beamwidth, Vertical Tolerance, degrees	±0.9	±0.5	±0.3	±0.2	±0.3	±0.1
USLS, beampeak to 20° above beampeak, dB	18	17	17	18	19	18
Front-to-Back Total Power at 180° ± 30°, dB	25	24	26	29	27	29
CPR at Boresight, dB	22	23	20	21	21	24
CPR at Sector, dB	11	12	11	11	11	8

* 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.](#)

JAHH-65B-R3B

Array Layout

JAHH-65A-R3B JAHH-65B-R3B JAHH-65C-R3B



Array	Freq (MHz)	Conns	RET (SRET)	AISG RET UID
R1	698-798	1-2	1	ANXXXXXXXXXXXXX1
R2	824-894	3-4	2	ANXXXXXXXXXXXXX2
Y1	1695-2360	5-6	3	ANXXXXXXXXXXXXX3
Y2	1695-2360	7-8		

View from the front of the antenna

(Sizes of colored boxes are not true depictions of array sizes)

General Specifications

Operating Frequency Band	1695 – 2360 MHz 698 – 787 MHz 824 – 894 MHz
Antenna Type	Sector
Band	Multiband
Performance Note	Outdoor usage

Mechanical Specifications

RF Connector Quantity, total	8
RF Connector Quantity, low band	4
RF Connector Quantity, high band	4
RF Connector Interface	4.3-10 Female

JAHH-65BR3B

Color	Light gray
Grounding Type	RF connector body grounded to reflector and mounting bracket
Radiator Material	Aluminum Low loss circuit board
Radome Material	Fiberglass, UV resistant
Reflector Material	Aluminum
RF Connector Location	Bottom
Wind Loading, frontal	301.0 N @ 150 km/h 67.7 lbf @ 150 km/h
Wind Loading, lateral	254.0 N @ 150 km/h 57.1 lbf @ 150 km/h
Wind Loading, maximum	638.0 N @ 150 km/h 143.4 lbf @ 150 km/h
Wind Speed, maximum	241 km/h 150 mph

Dimensions

Length	1828.0 mm 72.0 in
Width	350.0 mm 13.8 in
Depth	208.0 mm 8.2 in
Net Weight, without mounting kit	28.7 kg 63.3 lb

Remote Electrical Tilt (RET) Information

Input Voltage	10–30 Vdc
Internal Bias Tee	Port 1 Port 5
Internal RET	High band (1) Low band (2)
Power Consumption, idle state, maximum	2 W
Power Consumption, normal conditions, maximum	13 W
Protocol	3GPP/AISG 2.0 (Single RET)
RET Interface	8-pin DIN Female 8-pin DIN Male
RET Interface, quantity	2 female 2 male

Packed Dimensions

Length	1975.0 mm 77.8 in
Width	456.0 mm 18.0 in
Depth	357.0 mm 14.1 in
Shipping Weight	42.0 kg 92.6 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



JAHH-65BR3B

Included Products

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.

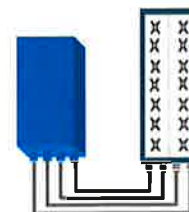


FEATURES

- 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

TECHNICAL SPECIFICATIONS

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
Size (HxWxD) in mm (in.)	550 x 305 x 230 (21.6" x 12.0" x 9") (with solar shield)
Volume in L	38 (with solar shield)
Weight in kg (lb) (w/o mounting HW)	26 (57.2) (with solar shield)
DC voltage range	-40.5 to -57V at full performance, -38 to -57V with relaxation on power consumption
DC power consumption	550W typical @100% RF load (In 2Tx or 4Tx mode)
Environmental conditions	-40°C (-40°F) / +55°C (+131°F) IP65
Wind load (@150km/h or 93mph)	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

www.alcatel-lucent.com Alcatel, Lucent, Alcatel-Lucent and the Alcatel-Lucent logo are trademarks of Alcatel-Lucent. All other trademarks are the property of their respective owners. The information presented is subject to change without notice. Alcatel-Lucent assumes no responsibility for inaccuracies contained herein.
Copyright © 2014 Alcatel-Lucent. All Rights Reserved

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.

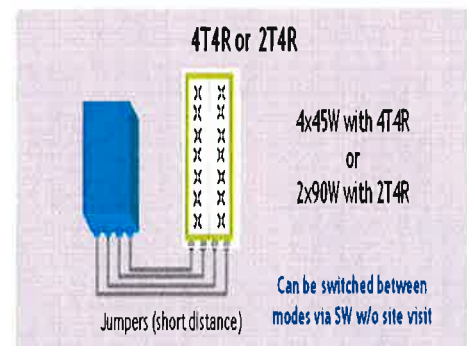
Its compactness and slim design makes the Alcatel-Lucent B66a RRH4x45 easy to install close to the antenna: operators can therefore locate this Remote Radio Head where RF design conditions are deemed ideal, minimizing trade-offs between available sites and RF optimum sites, together with reducing the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



TECHNICAL SPECIFICATIONS

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.)	655x299x182 (25.8x11.8x7.2) (with solar shield) 640x290x160 (25.2x11.4x6.3) (without solar shield)
Volume in Liters	35.5 (with solar shield) 29.7 (without solar shield)
Weight in kg (lb) (w/o mounting HW)	25.8kg (56.8lb) (with solar shield)
DC voltage range	Nominal: -48V, -40.5 to -57V at full performance; -38 to -57V with relaxation on power consumption
DC power consumption	750W typical @100% RF load (in 2Tx or 4Tx mode). Add 58W for 2A*29V for ATSG
Environmental conditions	-40°C (-40°F) / +55°C (+131°F)
Wind load (@150km/h or 93mph)	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)
ATSG interfaces	1 ATSG 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

www.alcatel-lucent.com Alcatel, Lucent, Alcatel-Lucent and the Alcatel-Lucent logo are trademarks of Alcatel-Lucent. All other trademarks are the property of their respective owners. The information presented is subject to change without notice. Alcatel-Lucent assumes no responsibility for inaccuracies contained herein. Copyright © 2016 Alcatel-Lucent. All Rights Reserved

ATTACHMENT 2

		General		Power		Density					
Site Name: Banksville (Greenwich)											
Tower Height: 175Ft.											
CARRIER	# OF CHAN.	WATTS ERP	HEIGHT	CALC. POWER DENS	FREQ.	MAX. PERMISS. EXP.	FRACTION MPE	Total			
*RAM Mobile			120	935	0.0170	0.6233	0.27%				
*Sprint	12	100	152	851	0.0202	0.5673	0.36%				
*Sprint	11	411	152	1962	0.0763	1.0000	0.76%				
*T-Mobile	2	1771	144	2100	0.0669	1.0000	0.67%				
*T-Mobile	1	369	144	700	0.0070	0.4667	0.15%				
*T-Mobile	4	885	144	1900	0.0669	1.0000	0.67%				
*AT&T-UMTS	1	419	167	1900	0.0058	1.0000	0.06%				
*AT&T-WCS-LTE	4	917	167	880	0.0509	0.5867	0.87%				
*AT&T-LTE	2	627	167	1900	0.0174	1.0000	0.17%				
*AT&T-PCS-LTE	4	1194	168	740	0.0654	0.4933	1.33%				
Verizon PCS	0	1802	175	0.0000	1970	1.0000	0.00%				
Verizon Cellular	3	282	175	0.0099	869	0.5793	1.71%				
Verizon AWS	1	7770	175	0.0912	2145	1.0000	9.12%				
Verizon 700	1	2062	175	0.0242	746	0.4973	4.87%				
								21.01%			
* Source: Siting Council											

ATTACHMENT 3



PRACTICAL SOLUTIONS. EXCEPTIONAL SERVICE.

Date: January 23, 2018

Charles McGuirt
Crown Castle
3530 Toringdon Way Suite 300
Charlotte, NC 28277

Tectonic
1279 Route 300
Newburgh, NY 12550
(845) 567-6656

Subject: Structural Analysis Report

Carrier Designation:	Verizon Wireless Co-Locate	
	Carrier Site Number:	N/A
	Carrier Site Name:	Banksville, CT
Crown Castle Designation:	Crown Castle BU Number:	807132
	Crown Castle Site Name:	BRG 133 943050
	Crown Castle JDE Job Number:	480293
	Crown Castle Work Order Number:	1515167
	Crown Castle Application Number:	420539 Rev. 1
Engineering Firm Designation:	Tectonic Project Number:	6500.807132
Site Data:	1081 North Street, Greenwich, Fairfield County, CT	
	Latitude 41° 8' 22.91", Longitude -73° 38' 29.58"	
	175 Foot - Monopole Tower	

Dear Charles McGuirt,

Tectonic Engineering & Surveying Consultants P.C. (Tectonic) 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 1131351, in accordance with application 420539, revision 1.

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 I and Table II for the proposed and existing/reserved loading, respectively.	


This analysis has been performed in accordance with the 2016 Connecticut State Building Code based upon an ultimate 3-second gust wind speed of 120 mph converted to a nominal 3-second gust wind speed of 93 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 a maximum topographic factor, Kzt, of 1.0 and Risk Category II were used in this analysis.

All modifications and 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 Tectonic 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.

Structural analysis prepared by: Ian Marinaccio / VE

Respectfully submitted by:


 Antonio A. Gualtieri, P.E.
 Sr. Vice President




TABLE OF CONTENTS

1) INTRODUCTION

2) ANALYSIS CRITERIA

Table 1 - Proposed Antenna and Cable Information

Table 2 - Existing and Reserved Antenna and Cable Information

Table 3 - Design Antenna and Cable Information

3) ANALYSIS PROCEDURE

Table 4 - Documents Provided

3.1) Analysis Method

3.2) Assumptions

4) ANALYSIS RESULTS

Table 5 - Section Capacity (Summary)

Table 6 – Tower Components vs. Capacity

4.1) Recommendations

5) APPENDIX A

tnxTower Output

6) APPENDIX B

Base Level Drawing

7) APPENDIX C

Additional Calculations

1) INTRODUCTION

This tower is a 175 ft Monopole tower designed by SSI Services, Inc. in October of 2000. The tower was originally designed for a wind speed of 85 mph per TIA/EIA-222-F.

The tower has been reinforced multiple times in the past to accommodate additional loading.

2) ANALYSIS CRITERIA

The structural analysis was performed for this tower in accordance with the requirements of TIA-222-G Structural Standard for Antenna Supporting Structures and Antennas using a 3-second gust wind speed of 93 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.

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
174.0	175.0	3	alcatel lucent	B66A RRH4X45	-	-	-
		3	alcatel lucent	RRH2X60-700			
		6	commscope	JAHH-65B-R3B w/ Mount Pipe			
		1	rfs celwave	DB-C1-12C-24AB-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
174.0	175.0	3	alcatel lucent	RRH2X40-AWS	5 1	1-1/4 1-5/8	2
		3	antel	BCD-HP7WD-NE w/ Mount Pipe			
		6	rfs celwave	FD9R6004/2C-3L			
		1	rfs celwave	DB-T1-6Z-8AB-0Z			
		2	decibel	932DG90T2E-M w/ Mount Pipe			
		3	powerwave technologies	P65.16.XL.2 w/ Mount Pipe			
		3	antel	BXA-171063-12BF-EDIN-X w/ Mount Pipe			
		2	antel	BXA-80080/4CF w/ Mount Pipe			
	2	antel	ADA-85408580CF w/ Mount Pipe	6 1	1-1/4 1-5/8	1	
	174.0	1	crown mounts	LP 601-1			
174.0	1	crown mounts	NA 507-2				

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
162.0	162.0	1	crown mounts	LP 303-1	4 4 1 2	1-1/4 1-5/8 3/8 3/4	1
		3	ericsson	RRUS-11			
		2	kathrein	800 10121 w/ Mount Pipe			
		2	powerwave technologies	7770.00 w/ Mount Pipe			
		8	powerwave technologies	LGP2140X			
		3	powerwave technologies	P65-16-XLH-RR w/ Mount Pipe			
		1	raycap	DC6-48-60-18-8F			
144.0	144.0	3	commscope	SBNHH-1D65A w/ Mount Pipe	1	1-1/4	1
		3	ericsson	RRUS 11 B2			
140.0	140.0	1	crown mounts	PM 601-3	-	-	1
		3	ericsson	RRUS 11 B4			
137.0	137.0	3	ericsson	RRUS 11 B12	-	-	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)
174.0	174.0	9	Allgon	7130.16.05.00	-	-
		2	Swedcom	ALP-9212-M		
166.67	166.67	3	Allgon	7130.16.05.00		
158.0	158.0	9	Swedcom	ALP-E 9011-DIN		
144.0	144.0	3	EMS	RR90-17-02DB		
129.0	129.0	1	Generic	10' Whip Antenna		

3) ANALYSIS PROCEDURE

Table 4 - Documents Provided

Document	Remarks	Reference	Source
4-GEOTECHNICAL REPORTS	FDH Engineering, Inc.	4837566	CCISITES
4-POST-MODIFICATION INSPECTION	B&T Engineering	3279736	CCISITES
4-POST-MODIFICATION INSPECTION	SGS, Inc.	5456964	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	SSI Services, Inc.	1057735	CCISITES
4-TOWER MANUFACTURER DRAWINGS	SSI Services, Inc.	1057736	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	B&T Engineering	3279725	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	Paul J. Ford and Company	4856181	CCISITES

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) The existing baseplate grout has not been considered in this analysis.
- 5) *Tectonic* did not analyze the antenna supporting mounts as part of this analysis report and assumed that they are structurally sufficient. It is the carrier's responsibility to ensure structural compliance of their existing and/or proposed antenna supporting mounts.

This analysis may be affected if any assumptions are not valid or have been made in error. *Tectonic* 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	% Capacity	Pass / Fail
L1	175 - 170	Pole	TP23.025x22.125x0.219	Pole	7.2%	Pass
L2	170 - 165	Pole	TP23.925x23.025x0.219	Pole	14.3%	Pass
L3	165 - 160	Pole	TP24.825x23.925x0.219	Pole	22.5%	Pass
L4	160 - 155	Pole	TP25.725x24.825x0.219	Pole	31.8%	Pass
L5	155 - 150	Pole	TP27.435x25.725x0.219	Pole	40.7%	Pass
L6	150 - 145	Pole	TP27.087x26.187x0.313	Pole	31.0%	Pass
L7	145 - 140	Pole	TP27.987x27.087x0.313	Pole	36.0%	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
L8	140 - 135	Pole	TP28.887x27.987x0.313	Pole	41.3%	Pass
L9	135 - 130	Pole	TP29.787x28.887x0.313	Pole	46.3%	Pass
L10	130 - 125	Pole	TP30.687x29.787x0.313	Pole	51.1%	Pass
L11	125 - 120	Pole	TP31.587x30.687x0.313	Pole	55.7%	Pass
L12	120 - 115	Pole	TP32.487x31.587x0.313	Pole	60.1%	Pass
L13	115 - 110	Pole	TP33.387x32.487x0.313	Pole	64.3%	Pass
L14	110 - 105	Pole	TP34.287x33.387x0.313	Pole	68.3%	Pass
L15	105 - 101	Pole	TP35.997x34.287x0.313	Pole	71.5%	Pass
L16	101 - 94.5	Pole	TP35.551x34.381x0.375	Pole	61.4%	Pass
L17	94.5 - 89.5	Pole	TP36.451x35.551x0.375	Pole	64.2%	Pass
L18	89.5 - 84.5	Pole	TP37.351x36.451x0.375	Pole	66.9%	Pass
L19	84.5 - 83	Pole	TP37.621x37.351x0.375	Pole	67.7%	Pass
L20	83 - 82.75	Pole	TP37.666x37.621x0.375	Pole	67.8%	Pass
L21	82.75 - 77.75	Pole	TP38.566x37.666x0.375	Pole	70.4%	Pass
L22	77.75 - 72.75	Pole	TP39.466x38.566x0.375	Pole	72.9%	Pass
L23	72.75 - 67.75	Pole	TP40.366x39.466x0.375	Pole	75.4%	Pass
L24	67.75 - 65.5	Pole	TP40.771x40.366x0.375	Pole	76.5%	Pass
L25	65.5 - 65.25	Pole	TP40.816x40.771x0.375	Pole	76.6%	Pass
L26	65.25 - 64.08	Pole	TP41.026x40.816x0.375	Pole	77.1%	Pass
L27	64.08 - 63.83	Pole + Reinf.	TP41.071x41.026x0.625	Reinf. 8 Tension Rupture	66.2%	Pass
L28	63.83 - 58.83	Pole + Reinf.	TP41.971x41.071x0.625	Reinf. 8 Tension Rupture	68.2%	Pass
L29	58.83 - 53.83	Pole + Reinf.	TP42.871x41.971x0.625	Reinf. 8 Tension Rupture	70.2%	Pass
L30	53.83 - 53	Pole + Reinf.	TP44.177x42.871x0.6125	Reinf. 8 Tension Rupture	70.5%	Pass
L31	53 - 45.58	Pole + Reinf.	TP43.607x42.272x0.6435	Reinf. 8 Tension Rupture	71.8%	Pass
L32	45.58 - 43.08	Pole + Reinf.	TP44.057x43.607x0.6435	Reinf. 8 Tension Rupture	72.7%	Pass
L33	43.08 - 42.83	Pole + Reinf.	TP44.102x44.057x0.706	Reinf. 8 Tension Rupture	70.3%	Pass
L34	42.83 - 42.41	Pole + Reinf.	TP44.177x44.102x0.706	Reinf. 8 Tension Rupture	70.4%	Pass
L35	42.41 - 42.16	Pole + Reinf.	TP44.222x44.177x0.781	Reinf. 8 Tension Rupture	60.7%	Pass
L36	42.16 - 41.92	Pole + Reinf.	TP44.267x44.222x0.781	Reinf. 8 Tension Rupture	60.8%	Pass
L37	41.92 - 41.67	Pole + Reinf.	TP44.312x44.267x0.681	Reinf. 8 Tension Rupture	69.3%	Pass
L38	41.67 - 36.67	Pole + Reinf.	TP45.212x44.312x0.681	Reinf. 8 Tension Rupture	70.9%	Pass
L39	36.67 - 35.5	Pole + Reinf.	TP45.422x45.212x0.6685	Reinf. 8 Tension Rupture	71.3%	Pass
L40	35.5 - 35.25	Pole + Reinf.	TP45.467x45.422x0.731	Reinf. 7 Tension Rupture	65.6%	Pass
L41	35.25 - 30.25	Pole + Reinf.	TP46.367x45.467x0.7185	Reinf. 7 Tension Rupture	67.1%	Pass
L42	30.25 - 25.25	Pole + Reinf.	TP47.267x46.367x0.706	Reinf. 7 Tension Rupture	68.6%	Pass
L43	25.25 - 20.25	Pole + Reinf.	TP48.167x47.267x0.706	Reinf. 7 Tension Rupture	70.1%	Pass
L44	20.25 - 18.08	Pole + Reinf.	TP48.557x48.167x0.706	Reinf. 7 Tension Rupture	70.7%	Pass
L45	18.08 - 17.82	Pole + Reinf.	TP48.605x48.557x0.706	Reinf. 7 Tension Rupture	70.7%	Pass
L46	17.82 - 17.67	Pole + Reinf.	TP48.632x48.605x0.706	Reinf. 7 Tension Rupture	70.8%	Pass
L47	17.67 - 17	Pole + Reinf.	TP50.027x48.632x0.706	Reinf. 7 Tension Rupture	71.0%	Pass
L48	17 - 8.92	Pole + Reinf.	TP49.395x47.94x0.7255	Reinf. 7 Tension Rupture	71.8%	Pass
L49	8.92 - 7	Pole + Reinf.	TP49.74x49.395x0.7255	Reinf. 7 Tension Rupture	72.3%	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
L50	7 - 6.75	Pole + Reinf.	TP49.785x49.74x0.663	Reinf. 1 Tension Rupture	75.7%	Pass
L51	6.75 - 1.75	Pole + Reinf.	TP50.685x49.785x0.663	Reinf. 1 Tension Rupture	76.8%	Pass
L52	1.75 - 0	Pole + Reinf.	TP51x50.685x0.663	Reinf. 1 Tension Rupture	77.2%	Pass
					Summary	
				Pole	77.1%	Pass
				Reinforcement	77.2%	Pass
				Overall	77.2%	Pass

Table 6 - Tower Component Stresses vs. Capacity – LC5

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	70.3	Pass
1	Base Plate	0	85.7	Pass
1	Base Foundation	0	55.7	Pass
1	Base Foundation Soil Interaction	0	30.9	Pass

Structure Rating (max from all components) =	85.7%
---	--------------

Notes:

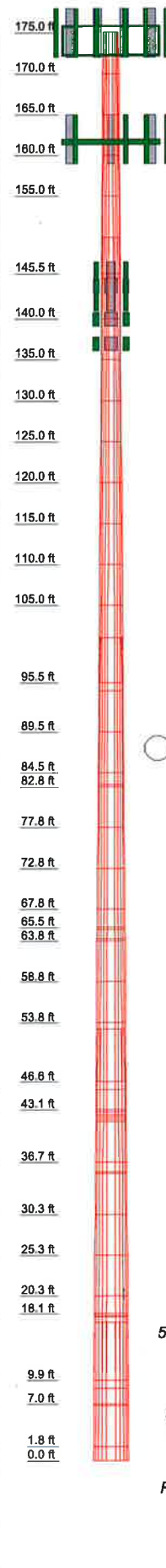
- 1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.

4.1) Recommendations

The tower and its foundation have sufficient capacity to carry the proposed load configuration. No modifications are required at this time.

APPENDIX A
TNXTOWER OUTPUT

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
2	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
3	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
4	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
5	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
6	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
7	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
8	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
9	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
10	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
11	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
12	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
13	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
14	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
15	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
16	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
17	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
18	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
19	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
20	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
21	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
22	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
23	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
24	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
25	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
26	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
27	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
28	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
29	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
30	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
31	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
32	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
33	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
34	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
35	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
36	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
37	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
38	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
39	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
40	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
41	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
42	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
43	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
44	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
45	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
46	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
47	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
48	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
49	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
50	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000
51	1.7500	12	0.6500	7.0833	50.0000	51.0000	0.0000	1.9000



DESIGNED APPURTENANCE LOADING

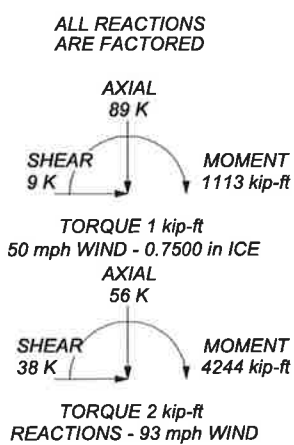
TYPE	ELEVATION	TYPE	ELEVATION
(2) ADA-85408580CF w/ Mount Pipe	174	RRUS-11	162
BXA-80080/4CF w/ Mount Pipe	174	RRUS-11	162
BXA-80080/4CF w/ Mount Pipe	174	RRUS-11	162
(2) JAHH-65B-R3B w/ Mount Pipe	174	(4) LGP2140X	162
(2) JAHH-65B-R3B w/ Mount Pipe	174	(4) LGP2140X	162
(2) JAHH-65B-R3B w/ Mount Pipe	174	DC8-48-60-18-8F	162
DB-C1-12C-24AB-0Z	174	2.375" OD x 5' Mount Pipe	162
RRH2X60-700	174	2.375" OD x 5' Mount Pipe	162
RRH2X60-700	174	(3) 2.375" OD x 5' Mount Pipe	162
RRH2X60-700	174	LP 303-1	162
B66A RRH4X45	174	SBNHH-1D65A w/ Mount Pipe	144
B66A RRH4X45	174	SBNHH-1D65A w/ Mount Pipe	144
B66A RRH4X45	174	SBNHH-1D65A w/ Mount Pipe	144
LP 601-1	174	RRUS 11 B2	144
NA 507-2	174	RRUS 11 B2	144
6' x 2" STD Pipe	174	RRUS 11 B2	144
(2) 6' x 2" STD Pipe	174	RRUS 11 B4	140
(2) 6' x 2" STD Pipe	174	RRUS 11 B4	140
P65-16-XLH-RR w/ Mount Pipe	162	RRUS 11 B4	140
P65-16-XLH-RR w/ Mount Pipe	162	PM 601-3	140
P65-16-XLH-RR w/ Mount Pipe	162	RRUS 11 B12	137
(2) 800 10121 w/ Mount Pipe	162	RRUS 11 B12	137
(2) 7770.00 w/ Mount Pipe	162	RRUS 11 B12	137

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	85 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower is located in Fairfield County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-G Standard.
3. Tower designed for a 93 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 0.0000 ft
8. TOWER RATING: 77.2%



Tectonic
1279 Route 300
Newburgh, NY 12550
Phone: (845) 567-6656
FAX: (845) 567-8703

Job: **6500.807132**
Project: **BU 807132 - BRG 133 943050**
Client: **Crown Castle** | Drawn by: **Ian Mannaccio** | App'd:
Code: **TIA-222-G** | Date: **01/22/18** | Scale: **N**
Path: **G:\Newburgh\Secure\Crown\6500 Crown BU807132\Structural\807132 - Reinforced.rvt** | Dwg No. |

Tower Input Data

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

- 1) Tower is located in Fairfield County, Connecticut.
- 2) Basic wind speed of 93 mph.
- 3) Structure Class II.
- 4) Exposure Category C.
- 5) Topographic Category 1.
- 6) Crest Height 0.0000 ft.
- 7) Nominal ice thickness of 0.7500 in.
- 8) Ice thickness is considered to increase with height.
- 9) Ice density of 56.00 pcf.
- 10) A wind speed of 50 mph is used in combination with ice.
- 11) Temperature drop of 50 °F.
- 12) Deflections calculated using a wind speed of 60 mph.
- 13) TOWER RATING: 77.2%.
- 14) A non-linear (P-delta) analysis was used.
- 15) Pressures are calculated at each section.
- 16) Stress ratio used in pole design is 1.
- 17) Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

- | | | |
|--|--|--|
| Consider Moments - Legs
Consider Moments - Horizontals
Consider Moments - Diagonals
Use Moment Magnification
✓ Use Code Stress Ratios
✓ Use Code Safety Factors - Guys
Escalate Ice
Always Use Max Kz
Use Special Wind Profile

Include Bolts In Member Capacity

Leg Bolts Are At Top Of Section
Secondary Horizontal Braces Leg
Use Diamond Inner Bracing (4 Sided)
SR Members Have Cut Ends
SR Members Are Concentric | Distribute Leg Loads As Uniform
Assume Legs Pinned
✓ Assume Rigid Index Plate
✓ Use Clear Spans For Wind Area
Use Clear Spans For KL/r
Retension Guys To Initial Tension
✓ Bypass Mast Stability Checks
✓ Use Azimuth Dish Coefficients
✓ Project Wind Area of Appurt.

✓ Autocalc Torque Arm Areas

Add IBC .6D+W Combination
Sort Capacity Reports By Component
Triangulate Diamond Inner Bracing
Treat Feed Line Bundles As Cylinder | Use ASCE 10 X-Brace Ly Rules
Calculate Redundant Bracing Forces
Ignore Redundant Members in FEA
SR Leg Bolts Resist Compression
All Leg Panels Have Same Allowable
Offset Girt At Foundation
✓ Consider Feed Line Torque
Include Angle Block Shear Check
Use TIA-222-G Bracing Resist.
Exemption
Use TIA-222-G Tension Splice
Exemption

<div style="background-color: #e0e0e0; padding: 2px; text-align: center;">Poles</div> ✓ Include Shear-Torsion Interaction
Always Use Sub-Critical Flow
Use Top Mounted Sockets |
|--|--|--|

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	175.0000- 170.0000	5.0000	0.00	12	22.1250	23.0250	0.2190	0.8760	A572-65 (65 ksi)
L2	170.0000- 165.0000	5.0000	0.00	12	23.0250	23.9250	0.2190	0.8760	A572-65 (65 ksi)
L3	165.0000- 160.0000	5.0000	0.00	12	23.9250	24.8250	0.2190	0.8760	A572-65 (65 ksi)
L4	160.0000- 155.0000	5.0000	0.00	12	24.8250	25.7250	0.2190	0.8760	A572-65 (65 ksi)
L5	155.0000-	9.5000	4.50	12	25.7250	27.4350	0.2190	0.8760	A572-65

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
L6	145.5000- 145.0000	5.0000	0.00	12	26.1870	27.0870	0.3130	1.2520	(65 ksi) A572-65
L7	145.0000- 140.0000	5.0000	0.00	12	27.0870	27.9870	0.3130	1.2520	(65 ksi) A572-65
L8	140.0000- 135.0000	5.0000	0.00	12	27.9870	28.8870	0.3130	1.2520	(65 ksi) A572-65
L9	135.0000- 130.0000	5.0000	0.00	12	28.8870	29.7870	0.3130	1.2520	(65 ksi) A572-65
L10	130.0000- 125.0000	5.0000	0.00	12	29.7870	30.6870	0.3130	1.2520	(65 ksi) A572-65
L11	125.0000- 120.0000	5.0000	0.00	12	30.6870	31.5870	0.3130	1.2520	(65 ksi) A572-65
L12	120.0000- 115.0000	5.0000	0.00	12	31.5870	32.4870	0.3130	1.2520	(65 ksi) A572-65
L13	115.0000- 110.0000	5.0000	0.00	12	32.4870	33.3870	0.3130	1.2520	(65 ksi) A572-65
L14	110.0000- 105.0000	5.0000	0.00	12	33.3870	34.2870	0.3130	1.2520	(65 ksi) A572-65
L15	105.0000- 95.5000	9.5000	5.50	12	34.2870	35.9970	0.3130	1.2520	(65 ksi) A572-65
L16	95.5000- 94.5000	6.5000	0.00	12	34.3810	35.5510	0.3750	1.5000	(65 ksi) A572-65
L17	94.5000- 89.5000	5.0000	0.00	12	35.5510	36.4511	0.3750	1.5000	(65 ksi) A572-65
L18	89.5000- 84.5000	5.0000	0.00	12	36.4511	37.3511	0.3750	1.5000	(65 ksi) A572-65
L19	84.5000- 83.0000	1.5000	0.00	12	37.3511	37.6211	0.3750	1.5000	(65 ksi) A572-65
L20	83.0000- 82.7500	0.2500	0.00	12	37.6211	37.6661	0.3750	1.5000	(65 ksi) A572-65
L21	82.7500- 77.7500	5.0000	0.00	12	37.6661	38.5662	0.3750	1.5000	(65 ksi) A572-65
L22	77.7500- 72.7500	5.0000	0.00	12	38.5662	39.4662	0.3750	1.5000	(65 ksi) A572-65
L23	72.7500- 67.7500	5.0000	0.00	12	39.4662	40.3662	0.3750	1.5000	(65 ksi) A572-65
L24	67.7500- 65.5000	2.2500	0.00	12	40.3662	40.7713	0.3750	1.5000	(65 ksi) A572-65
L25	65.5000- 65.2500	0.2500	0.00	12	40.7713	40.8163	0.3750	1.5000	(65 ksi) A572-65
L26	65.2500- 64.0833	1.1667	0.00	12	40.8163	41.0263	0.3750	1.5000	(65 ksi) A572-65
L27	64.0833- 63.8333	0.2500	0.00	12	41.0263	41.0713	0.6250	2.5000	(65 ksi) A572-65
L28	63.8333- 58.8333	5.0000	0.00	12	41.0713	41.9713	0.6250	2.5000	(65 ksi) A572-65
L29	58.8333- 53.8333	5.0000	0.00	12	41.9713	42.8713	0.6250	2.5000	(65 ksi) A572-65
L30	53.8333- 46.5800	7.2533	6.42	12	42.8713	44.1770	0.6125	2.4500	(65 ksi) A572-65
L31	46.5800- 45.5800	7.4167	0.00	12	42.2720	43.6071	0.6435	2.5740	(65 ksi) A572-65
L32	45.5800- 43.0833	2.4967	0.00	12	43.6071	44.0565	0.6435	2.5740	(65 ksi) A572-65
L33	43.0833- 42.8333	0.2500	0.00	12	44.0565	44.1015	0.7060	2.8240	(65 ksi) A572-65
L34	42.8333- 42.4133	0.4200	0.00	12	44.1015	44.1771	0.7060	2.8240	(65 ksi) A572-65
L35	42.4133- 42.1633	0.2500	0.00	12	44.1771	44.2221	0.7810	3.1240	(65 ksi) A572-65
L36	42.1633- 41.9167	0.2467	0.00	12	44.2221	44.2665	0.7810	3.1240	(65 ksi) A572-65
L37	41.9167- 41.6667	0.2500	0.00	12	44.2665	44.3115	0.6810	2.7240	(65 ksi) A572-65
L38	41.6667- 36.6667	5.0000	0.00	12	44.3115	45.2116	0.6810	2.7240	(65 ksi) A572-65
L39	36.6667- 35.5000	1.1667	0.00	12	45.2116	45.4216	0.6685	2.6740	(65 ksi) A572-65

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
L40	35.5000- 35.2500	0.2500	0.00	12	45.4216	45.4666	0.7310	2.9240	A572-65 (65 ksi)
L41	35.2500- 30.2500	5.0000	0.00	12	45.4666	46.3667	0.7185	2.8740	A572-65 (65 ksi)
L42	30.2500- 25.2500	5.0000	0.00	12	46.3667	47.2668	0.7060	2.8240	A572-65 (65 ksi)
L43	25.2500- 20.2500	5.0000	0.00	12	47.2668	48.1668	0.7060	2.8240	A572-65 (65 ksi)
L44	20.2500- 18.0833	2.1667	0.00	12	48.1668	48.5569	0.7060	2.8240	A572-65 (65 ksi)
L45	18.0833- 17.8167	0.2667	0.00	12	48.5569	48.6049	0.7060	2.8240	A572-65 (65 ksi)
L46	17.8167- 17.6667	0.1500	0.00	12	48.6049	48.6319	0.7060	2.8240	A572-65 (65 ksi)
L47	17.6667- 9.9167	7.7500	7.08	12	48.6319	50.0270	0.7060	2.8240	A572-65 (65 ksi)
L48	9.9167-8.9167	8.0833	0.00	12	47.9399	49.3949	0.7255	2.9020	A572-65 (65 ksi)
L49	8.9167-7.0000	1.9167	0.00	12	49.3949	49.7400	0.7255	2.9020	A572-65 (65 ksi)
L50	7.0000-6.7500	0.2500	0.00	12	49.7400	49.7850	0.6630	2.6520	A572-65 (65 ksi)
L51	6.7500-1.7500	5.0000	0.00	12	49.7850	50.6850	0.6630	2.6520	A572-65 (65 ksi)
L52	1.7500-0.0000	1.7500		12	50.6850	51.0000	0.6630	2.6520	A572-65 (65 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	I/Q in ²	w in	w/t
L1	22.9055	15.4477	946.1831	7.8423	11.4608	82.5586	1917.2235	7.6029	5.3426	24.395
	23.8372	16.0823	1067.6608	8.1645	11.9270	89.5167	2163.3702	7.9152	5.5838	25.497
L2	23.8372	16.0823	1067.6608	8.1645	11.9270	89.5167	2163.3702	7.9152	5.5838	25.497
	24.7690	16.7170	1199.1148	8.4867	12.3932	96.7563	2429.7318	8.2276	5.8250	26.598
L3	24.7690	16.7170	1199.1148	8.4867	12.3932	96.7563	2429.7318	8.2276	5.8250	26.598
	25.7007	17.3517	1340.9389	8.8089	12.8594	104.2773	2717.1058	8.5400	6.0662	27.699
L4	25.7007	17.3517	1340.9389	8.8089	12.8594	104.2773	2717.1058	8.5400	6.0662	27.699
	26.6325	17.9863	1493.5267	9.1311	13.3256	112.0799	3026.2901	8.8523	6.3074	28.801
L5	26.6325	17.9863	1493.5267	9.1311	13.3256	112.0799	3026.2901	8.8523	6.3074	28.801
	28.4028	19.1922	1814.5077	9.7433	14.2113	127.6804	3676.6846	9.4458	6.7657	30.893
L6	27.9494	26.0774	2228.3165	9.2629	13.5649	164.2712	4515.1734	12.8345	6.1793	19.742
	28.0425	26.9844	2469.0276	9.5851	14.0311	175.9686	5002.9192	13.2809	6.4205	20.513
L7	28.0425	26.9844	2469.0276	9.5851	14.0311	175.9686	5002.9192	13.2809	6.4205	20.513
	28.9743	27.8915	2726.4778	9.9073	14.4973	188.0684	5524.5833	13.7274	6.6617	21.283
L8	28.9743	27.8915	2726.4778	9.9073	14.4973	188.0684	5524.5833	13.7274	6.6617	21.283
	29.9060	28.7986	3001.2300	10.2295	14.9635	200.5705	6081.3057	14.1738	6.9029	22.054
L9	29.9060	28.7986	3001.2300	10.2295	14.9635	200.5705	6081.3057	14.1738	6.9029	22.054
	30.8378	29.7057	3293.8468	10.5517	15.4297	213.4749	6674.2266	14.6202	7.1441	22.825
L10	30.8378	29.7057	3293.8468	10.5517	15.4297	213.4749	6674.2266	14.6202	7.1441	22.825
	31.7695	30.6127	3604.8909	10.8739	15.8959	226.7817	7304.4863	15.0667	7.3853	23.595
L11	31.7695	30.6127	3604.8909	10.8739	15.8959	226.7817	7304.4863	15.0667	7.3853	23.595
	32.7013	31.5198	3934.9250	11.1961	16.3621	240.4907	7973.2248	15.5131	7.6265	24.366
L12	32.7013	31.5198	3934.9250	11.1961	16.3621	240.4907	7973.2248	15.5131	7.6265	24.366
	33.6330	32.4269	4284.5117	11.5183	16.8283	254.6021	8681.5823	15.9595	7.8677	25.136
L13	33.6330	32.4269	4284.5117	11.5183	16.8283	254.6021	8681.5823	15.9595	7.8677	25.136
	34.5648	33.3340	4654.2138	11.8405	17.2945	269.1158	9430.6989	16.4060	8.1089	25.907
L14	34.5648	33.3340	4654.2138	11.8405	17.2945	269.1158	9430.6989	16.4060	8.1089	25.907
	35.4965	34.2410	5044.5939	12.1627	17.7607	284.0318	10221.714	16.8524	8.3501	26.678
L15	35.4965	34.2410	5044.5939	12.1627	17.7607	284.0318	10221.714	16.8524	8.3501	26.678
	37.2668	35.9645	5845.2993	12.7749	18.6464	313.4806	11844.161	17.7006	8.8084	28.142
L16	36.6188	41.0622	6060.9366	12.1741	17.8094	340.3231	12281.100	20.2096	8.2091	21.891

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	I/Q in ²	w in	w/t
	36.8052	42.4751	6708.3269	12.5930	18.4154	364.2773	13592.889	20.9049	8.5227	22.727
L17	36.8052	42.4751	6708.3269	12.5930	18.4154	364.2773	13592.889	20.9049	8.5227	22.727
	37.7369	43.5619	7236.5452	12.9152	18.8817	383.2579	14663.202	21.4398	8.7639	23.37
L18	37.7369	43.5619	7236.5452	12.9152	18.8817	383.2579	14663.202	21.4398	8.7639	23.37
	38.6687	44.6487	7791.7884	13.2375	19.3479	402.7205	15788.275	21.9747	9.0051	24.014
L19	38.6687	44.6487	7791.7884	13.2375	19.3479	402.7205	15788.275	21.9747	9.0051	24.014
	38.9483	44.9747	7963.7320	13.3341	19.4877	408.6533	16136.680	22.1352	9.0775	24.207
L20	38.9483	44.9747	7963.7320	13.3341	19.4877	408.6533	16136.680	22.1352	9.0775	24.207
	38.9949	45.0290	7992.6329	13.3502	19.5111	409.6463	16195.241	22.1619	9.0895	24.239
L21	38.9949	45.0290	7992.6329	13.3502	19.5111	409.6463	16195.241	22.1619	9.0895	24.239
	39.9266	46.1158	8585.4292	13.6724	19.9773	429.7597	17396.407	22.6968	9.3307	24.882
L22	39.9266	46.1158	8585.4292	13.6724	19.9773	429.7597	17396.407	22.6968	9.3307	24.882
	40.8584	47.2026	9206.8348	13.9947	20.4435	450.3552	18655.543	23.2317	9.5719	25.525
L23	40.8584	47.2026	9206.8348	13.9947	20.4435	450.3552	18655.543	23.2317	9.5719	25.525
	41.7902	48.2894	9857.5240	14.3169	20.9097	471.4327	19974.016	23.7666	9.8132	26.168
L24	41.7902	48.2894	9857.5240	14.3169	20.9097	471.4327	19974.016	23.7666	9.8132	26.168
	42.2095	48.7785	10160.067	14.4619	21.1195	481.0749	20587.051	24.0073	9.9217	26.458
L25	42.2095	48.7785	10160.067	14.4619	21.1195	481.0749	20587.051	24.0073	9.9217	26.458
	42.2561	48.8328	10194.060	14.4780	21.1428	482.1523	20655.930	24.0340	9.9338	26.49
L26	42.2561	48.8328	10194.060	14.4780	21.1428	482.1523	20655.930	24.0340	9.9338	26.49
	42.4735	49.0864	10353.697	14.5532	21.2516	487.1960	20979.398	24.1588	9.9900	26.64
L27	42.4735	49.0864	10353.697	14.5532	21.2516	487.1960	20979.398	24.1588	9.9900	26.64
	42.5201	81.3076	16939.747	14.4637	21.2516	797.1043	34324.521	40.0171	9.3200	14.912
L28	42.5201	81.3076	16939.747	14.4637	21.2516	797.1043	34324.521	40.0171	9.3200	14.912
	42.5201	81.3981	16996.416	14.4798	21.2749	798.8945	34439.348	40.0617	9.3321	14.931
L29	42.5201	81.3981	16996.416	14.4798	21.2749	798.8945	34439.348	40.0617	9.3321	14.931
	43.4519	83.2094	18156.498	14.8020	21.7411	835.1218	36789.989	40.9532	9.5733	15.317
L30	43.4519	83.2094	18156.498	14.8020	21.7411	835.1218	36789.989	40.9532	9.5733	15.317
	44.3837	85.0208	19368.202	15.1242	22.2074	872.1525	39245.229	41.8446	9.8145	15.703
L31	44.3837	85.0208	19368.202	15.1242	22.2074	872.1525	39245.229	41.8446	9.8145	15.703
	44.3837	83.3450	18997.691	15.1287	22.2074	855.4684	38494.473	41.0199	9.8480	16.078
L32	44.3837	83.3450	18997.691	15.1287	22.2074	855.4684	38494.473	41.0199	9.8480	16.078
	45.7354	85.9201	20813.547	15.5961	22.8837	909.5365	42173.890	42.2873	10.1979	16.65
L33	45.7354	85.9201	20813.547	15.5961	22.8837	909.5365	42173.890	42.2873	10.1979	16.65
	44.9590	86.2571	19079.244	14.9030	21.8969	871.3228	38659.721	42.4531	9.6043	14.925
L34	44.9590	86.2571	19079.244	14.9030	21.8969	871.3228	38659.721	42.4531	9.6043	14.925
	45.1454	89.0235	20974.484	15.3810	22.5885	928.5487	42499.991	43.8147	9.9621	15.481
L35	45.1454	89.0235	20974.484	15.3810	22.5885	928.5487	42499.991	43.8147	9.9621	15.481
	45.6106	89.9548	21639.629	15.5419	22.8213	948.2221	43847.756	44.2730	10.0826	15.668
L36	45.6106	89.9548	21639.629	15.5419	22.8213	948.2221	43847.756	44.2730	10.0826	15.668
	45.6106	98.5496	23638.989	15.5195	22.8213	1035.8316	47899.002	48.5031	9.9151	14.044
L37	45.6106	98.5496	23638.989	15.5195	22.8213	1035.8316	47899.002	48.5031	9.9151	14.044
	45.6572	98.6519	23712.687	15.5356	22.8446	1038.0006	48048.334	48.5535	9.9271	14.061
L38	45.6572	98.6519	23712.687	15.5356	22.8446	1038.0006	48048.334	48.5535	9.9271	14.061

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
L34	45.6572	98.6519	23712.687 8	15.5356	22.8446	1038.0006	48048.334 2	48.5535	9.9271	14.061
	45.7355	98.8237	23836.844 9	15.5627	22.8837	1041.6497	48299.910 3	48.6380	9.9474	14.09
L35	45.7355	109.1334	26232.840 5	15.5358	22.8837	1146.3526	53154.847 0	53.7121	9.7464	12.479
	45.7821	109.2466	26314.539 2	15.5519	22.9071	1148.7526	53320.390 6	53.7678	9.7584	12.495
L36	45.7821	109.2466	26314.539 2	15.5519	22.9071	1148.7526	53320.390 6	53.7678	9.7584	12.495
	45.8281	109.3583	26395.314 6	15.5678	22.9301	1151.1229	53484.063 4	53.8228	9.7703	12.51
L37	45.8281	95.5752	23174.779 6	15.6036	22.9301	1010.6726	46958.386 4	47.0392	10.0383	14.741
	45.8747	95.6739	23246.640 3	15.6197	22.9534	1012.7768	47103.995 8	47.0878	10.0504	14.758
L38	45.8747	95.6739	23246.640 3	15.6197	22.9534	1012.7768	47103.995 8	47.0878	10.0504	14.758
	46.8065	97.6476	24715.222 6	15.9420	23.4196	1055.3218	50079.741 7	48.0592	10.2916	15.113
L39	46.8065	95.8821	24282.002 6	15.9464	23.4196	1036.8236	49201.920 5	47.1903	10.3251	15.445
	47.0239	96.3342	24627.088 4	16.0216	23.5284	1046.6964	49901.157 7	47.4128	10.3814	15.529
L40	47.0239	105.1937	26816.878 2	15.9992	23.5284	1139.7665	54338.265 6	51.7731	10.2139	13.973
	47.0705	105.2996	26897.974 1	16.0154	23.5517	1142.0816	54502.588 0	51.8253	10.2260	13.989
L41	47.0705	103.5279	26460.190 5	16.0198	23.5517	1123.4934	53615.519 7	50.9533	10.2595	14.279
	48.0023	105.6103	28089.203 1	16.3421	24.0179	1169.5089	56916.340 9	51.9782	10.5007	14.615
L42	48.0023	103.8014	27623.205 3	16.3465	24.0179	1150.1068	55972.103 0	51.0879	10.5342	14.921
	48.9342	105.8475	29289.164 7	16.6688	24.4842	1196.2482	59347.788 3	52.0949	10.7754	15.263
L43	48.9342	105.8475	29289.164 7	16.6688	24.4842	1196.2482	59347.788 3	52.0949	10.7754	15.263
	49.8660	107.8937	31020.795 3	16.9910	24.9504	1243.2972	62856.541 4	53.1020	11.0166	15.604
L44	49.8660	107.8937	31020.795 3	16.9910	24.9504	1243.2972	62856.541 4	53.1020	11.0166	15.604
	50.2698	108.7804	31791.882 9	17.1306	25.1525	1263.9670	64418.974 0	53.5384	11.1212	15.752
L45	50.2698	108.7804	31791.882 9	17.1306	25.1525	1263.9670	64418.974 0	53.5384	11.1212	15.752
	50.3195	108.8895	31887.659 8	17.1478	25.1773	1266.5228	64613.043 9	53.5921	11.1340	15.771
L46	50.3195	108.8895	31887.659 8	17.1478	25.1773	1266.5228	64613.043 9	53.5921	11.1340	15.771
	50.3474	108.9509	31941.618 7	17.1575	25.1913	1267.9615	64722.379 4	53.6223	11.1413	15.781
L47	50.3474	108.9509	31941.618 7	17.1575	25.1913	1267.9615	64722.379 4	53.6223	11.1413	15.781
	51.7918	112.1224	34813.055 6	17.6569	25.9140	1343.4080	70540.688 9	55.1832	11.5152	16.31
L48	50.9511	110.2980	31383.581 3	16.9028	24.8329	1263.7922	63591.644 2	54.2853	10.9036	15.029
	51.1374	113.6972	34375.449 8	17.4237	25.5866	1343.4952	69653.980 9	55.9583	11.2935	15.567
L49	51.1374	113.6972	34375.449 8	17.4237	25.5866	1343.4952	69653.980 9	55.9583	11.2935	15.567
	51.4946	114.5032	35111.696 2	17.5472	25.7653	1362.7514	71145.815 7	56.3550	11.3860	15.694
L50	51.4946	104.7724	32209.813 8	17.5696	25.7653	1250.1239	65265.815 2	51.5658	11.5535	17.426
	51.5412	104.8685	32298.500 3	17.5857	25.7886	1252.4329	65445.518 1	51.6131	11.5655	17.444
L51	51.5412	104.8685	32298.500 3	17.5857	25.7886	1252.4329	65445.518 1	51.6131	11.5655	17.444

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	I/Q in ²	w in	w/t
	52.4730	106.7899	34106.583	17.9079	26.2548	1299.0597	69109.185	52.5588	11.8067	17.808
L52	52.4730	106.7899	34106.583	17.9079	26.2548	1299.0597	69109.185	52.5588	11.8067	17.808
	52.7991	107.4624	34755.003	18.0206	26.4180	1315.5804	70423.059	52.8897	11.8912	17.935

Tower Elevation ft	Gusset Area (per face) ft ²	Gusset Thickness in	Gusset Grade	Adjust. Factor A _r	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 175.0000-170.0000				1	1	1			
L2 170.0000-165.0000				1	1	1			
L3 165.0000-160.0000				1	1	1			
L4 160.0000-155.0000				1	1	1			
L5 155.0000-145.5000				1	1	1			
L6 145.5000-145.0000				1	1	1			
L7 145.0000-140.0000				1	1	1			
L8 140.0000-135.0000				1	1	1			
L9 135.0000-130.0000				1	1	1			
L10 130.0000-125.0000				1	1	1			
L11 125.0000-120.0000				1	1	1			
L12 120.0000-115.0000				1	1	1			
L13 115.0000-110.0000				1	1	1			
L14 110.0000-105.0000				1	1	1			
L15 105.0000-95.5000				1	1	1			
L16 95.5000-94.5000				1	1	1			
L17 94.5000-89.5000				1	1	1			
L18 89.5000-84.5000				1	1	1			
L19 84.5000-83.0000				1	1	1			
L20 83.0000-82.7500				1	1	1			
L21 82.7500-77.7500				1	1	1			
L22 77.7500-72.7500				1	1	1			
L23 72.7500-67.7500				1	1	1			
L24 67.7500-65.5000				1	1	1			
L25 65.5000-65.2500				1	1	1			

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adj. Factor A _r	Adj. Factor A _r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals	Double Angle Stitch Bolt Spacing Horizontals	Double Angle Stitch Bolt Spacing Redundants
ft	ft ²	in					in	in	in
L26 65.2500-64.0833				1	1	1			
L27 64.0833-63.8333				1	1	0.977594			
L28 63.8333-58.8333				1	1	0.969374			
L29 58.8333-53.8333				1	1	0.961505			
L30 53.8333-46.5800				1	1	0.979528			
L31 46.5800-45.5800				1	1	0.976272			
L32 45.5800-43.0833				1	1	0.972697			
L33 43.0833-42.8333				1	1	1.00225			
L34 42.8333-42.4133				1	1	1.00151			
L35 42.4133-42.1633				1	1	0.958287			
L36 42.1633-41.9167				1	1	0.957839			
L37 41.9167-41.6667				1	1	0.965767			
L38 41.6667-36.6667				1	1	0.958297			
L39 36.6667-35.5000				1	1	0.974212			
L40 35.5000-35.2500				1	1	0.952453			
L41 35.2500-30.2500				1	1	0.960793			
L42 30.2500-25.2500				1	1	0.969756			
L43 25.2500-20.2500				1	1	0.962271			
L44 20.2500-18.0833				1	1	0.959115			
L45 18.0833-17.8167				1	1	0.95873			
L46 17.8167-17.6667				1	1	0.958514			
L47 17.6667-9.9167				1	1	0.957556			
L48 9.9167-8.9167				1	1	1.04284			
L49 8.9167-7.0000				1	1	1.03975			
L50 7.0000-6.7500				1	1	1.05829			
L51 6.7500-1.7500				1	1	1.05113			
L52 1.7500-0.0000				1	1	1.04869			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Component Type	Placement	Total Number	Number Per Row	Start/End Position	Width or Diameter	Perimeter	Weight
	r		ft				r	r	klf
							in	in	

1 1/4" Flat Reinforcement	A	Surface Af	20.5000 - 0.0000	1	1	0.000	6.5000	15.5000	0.00

Description	Section	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight klf
1 1/4" Flat Reinforcement	B	(CaAa) Surface Af (CaAa)	35.5000 - 0.0000	1	1	0.000 0.000	6.5000	15.5000	0.00
1 1/4" Flat Reinforcement	C	(CaAa) Surface Af (CaAa)	35.5000 - 0.0000	1	1	0.000 0.000	6.5000	15.5000	0.00
1" Flat Reinforcement	A	(CaAa) Surface Af (CaAa)	85.0000 - 35.5000	1	1	0.000 0.000	6.0000	14.0000	0.00
1" Flat Reinforcement	B	(CaAa) Surface Af (CaAa)	85.0000 - 35.5000	1	1	0.000 0.000	6.0000	14.0000	0.00
1" Flat Reinforcement	C	(CaAa) Surface Af (CaAa)	85.0000 - 35.5000	1	1	0.000 0.000	6.0000	14.0000	0.00
MP3-05	A	(CaAa) Surface Af (CaAa)	45.5000 - 0.0000	1	1	0.000 0.000	5.3300	14.8400	0.00
MP3-05	B	(CaAa) Surface Af (CaAa)	45.5000 - 0.0000	1	1	0.000 0.000	5.3300	14.8400	0.00
MP3-05	C	(CaAa) Surface Af (CaAa)	45.5000 - 0.0000	1	1	0.000 0.000	5.3300	14.8400	0.00
MP3-04	A	(CaAa) Surface Af (CaAa)	65.5000 - 45.5000	1	1	0.000 0.000	4.7800	12.7800	0.00
MP3-04	B	(CaAa) Surface Af (CaAa)	65.5000 - 45.5000	1	1	0.000 0.000	4.7800	12.7800	0.00
MP3-04	C	(CaAa) Surface Af (CaAa)	65.5000 - 45.5000	1	1	0.000 0.000	4.7800	12.7800	0.00
LDF7-50A(1-5/8)	A	(CaAa) Surface Ar (CaAa)	162.0000 - 0.0000	4	3	0.000 0.200	1.9800		0.00

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C _A A _A ft ² /ft	Weight klf
** LDF6-50A(1-1/4)	C	No	Inside Pole	174.0000 - 0.0000	6	No Ice	0.0000	0.00
						1/2" Ice	0.0000	0.00
						1" Ice	0.0000	0.00
LDF7-50A(1-5/8)	C	No	Inside Pole	174.0000 - 0.0000	1	No Ice	0.0000	0.00
						1/2" Ice	0.0000	0.00
						1" Ice	0.0000	0.00
** LDF6-50A(1-1/4)	C	No	Inside Pole	162.0000 - 0.0000	4	No Ice	0.0000	0.00
						1/2" Ice	0.0000	0.00
						1" Ice	0.0000	0.00
FB-L98B-002-75000(3/8)	C	No	Inside Pole	162.0000 - 0.0000	1	No Ice	0.0000	0.00
						1/2" Ice	0.0000	0.00
						1" Ice	0.0000	0.00
WR-VG86ST-BRD(3/4)	C	No	Inside Pole	162.0000 - 0.0000	2	No Ice	0.0000	0.00
						1/2" Ice	0.0000	0.00
						1" Ice	0.0000	0.00
2" Rigid Conduit	C	No	Inside Pole	162.0000 - 0.0000	1	No Ice	0.0000	0.00
						1/2" Ice	0.0000	0.00
						1" Ice	0.0000	0.00
* MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	A	No	Inside Pole	144.0000 - 0.0000	1	No Ice	0.0000	0.00
						1/2" Ice	0.0000	0.00
						1" Ice	0.0000	0.00

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
L1	175.0000-	A	0.000	0.000	0.000	0.000	0.00

Tower Section n	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
	170.0000	B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.02
L2	170.0000-165.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.02
L3	165.0000-160.0000	A	0.000	0.000	1.188	0.000	0.01
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.03
L4	160.0000-155.0000	A	0.000	0.000	2.970	0.000	0.02
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.05
L5	155.0000-145.5000	A	0.000	0.000	5.643	0.000	0.03
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.10
L6	145.5000-145.0000	A	0.000	0.000	0.297	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.01
L7	145.0000-140.0000	A	0.000	0.000	2.970	0.000	0.02
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.05
L8	140.0000-135.0000	A	0.000	0.000	2.970	0.000	0.02
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.05
L9	135.0000-130.0000	A	0.000	0.000	2.970	0.000	0.02
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.05
L10	130.0000-125.0000	A	0.000	0.000	2.970	0.000	0.02
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.05
L11	125.0000-120.0000	A	0.000	0.000	2.970	0.000	0.02
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.05
L12	120.0000-115.0000	A	0.000	0.000	2.970	0.000	0.02
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.05
L13	115.0000-110.0000	A	0.000	0.000	2.970	0.000	0.02
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.05
L14	110.0000-105.0000	A	0.000	0.000	2.970	0.000	0.02
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.05
L15	105.0000-95.5000	A	0.000	0.000	5.643	0.000	0.04
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.10
L16	95.5000-94.5000	A	0.000	0.000	0.594	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.01
L17	94.5000-89.5000	A	0.000	0.000	2.970	0.000	0.02
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.05
L18	89.5000-84.5000	A	0.000	0.000	3.470	0.000	0.02
		B	0.000	0.000	0.500	0.000	0.00
		C	0.000	0.000	0.500	0.000	0.05
L19	84.5000-83.0000	A	0.000	0.000	2.391	0.000	0.01
		B	0.000	0.000	1.500	0.000	0.00
		C	0.000	0.000	1.500	0.000	0.02
L20	83.0000-82.7500	A	0.000	0.000	0.399	0.000	0.00
		B	0.000	0.000	0.250	0.000	0.00
		C	0.000	0.000	0.250	0.000	0.00
L21	82.7500-77.7500	A	0.000	0.000	7.970	0.000	0.02
		B	0.000	0.000	5.000	0.000	0.00
		C	0.000	0.000	5.000	0.000	0.05
L22	77.7500-72.7500	A	0.000	0.000	7.970	0.000	0.02
		B	0.000	0.000	5.000	0.000	0.00
		C	0.000	0.000	5.000	0.000	0.05
L23	72.7500-67.7500	A	0.000	0.000	7.970	0.000	0.02
		B	0.000	0.000	5.000	0.000	0.00
		C	0.000	0.000	5.000	0.000	0.05
L24	67.7500-65.5000	A	0.000	0.000	3.587	0.000	0.01

Tower Sectio n	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
		B	0.000	0.000	2.250	0.000	0.00
		C	0.000	0.000	2.250	0.000	0.02
L25	65.5000-65.2500	A	0.000	0.000	0.598	0.000	0.00
		B	0.000	0.000	0.449	0.000	0.00
		C	0.000	0.000	0.449	0.000	0.00
L26	65.2500-64.0833	A	0.000	0.000	2.789	0.000	0.00
		B	0.000	0.000	2.096	0.000	0.00
		C	0.000	0.000	2.096	0.000	0.01
L27	64.0833-63.8333	A	0.000	0.000	0.598	0.000	0.00
		B	0.000	0.000	0.449	0.000	0.00
		C	0.000	0.000	0.449	0.000	0.00
L28	63.8333-58.8333	A	0.000	0.000	11.953	0.000	0.02
		B	0.000	0.000	8.983	0.000	0.00
		C	0.000	0.000	8.983	0.000	0.05
L29	58.8333-53.8333	A	0.000	0.000	11.953	0.000	0.02
		B	0.000	0.000	8.983	0.000	0.00
		C	0.000	0.000	8.983	0.000	0.05
L30	53.8333-46.5800	A	0.000	0.000	17.340	0.000	0.03
		B	0.000	0.000	13.032	0.000	0.00
		C	0.000	0.000	13.032	0.000	0.08
L31	46.5800-45.5800	A	0.000	0.000	2.391	0.000	0.00
		B	0.000	0.000	1.797	0.000	0.00
		C	0.000	0.000	1.797	0.000	0.01
L32	45.5800-43.0833	A	0.000	0.000	6.190	0.000	0.01
		B	0.000	0.000	4.707	0.000	0.00
		C	0.000	0.000	4.707	0.000	0.03
L33	43.0833-42.8333	A	0.000	0.000	0.621	0.000	0.00
		B	0.000	0.000	0.472	0.000	0.00
		C	0.000	0.000	0.472	0.000	0.00
L34	42.8333-42.4133	A	0.000	0.000	1.043	0.000	0.00
		B	0.000	0.000	0.793	0.000	0.00
		C	0.000	0.000	0.793	0.000	0.00
L35	42.4133-42.1633	A	0.000	0.000	0.621	0.000	0.00
		B	0.000	0.000	0.472	0.000	0.00
		C	0.000	0.000	0.472	0.000	0.00
L36	42.1633-41.9167	A	0.000	0.000	0.612	0.000	0.00
		B	0.000	0.000	0.466	0.000	0.00
		C	0.000	0.000	0.466	0.000	0.00
L37	41.9167-41.6667	A	0.000	0.000	0.621	0.000	0.00
		B	0.000	0.000	0.472	0.000	0.00
		C	0.000	0.000	0.472	0.000	0.00
L38	41.6667-36.6667	A	0.000	0.000	12.412	0.000	0.02
		B	0.000	0.000	9.442	0.000	0.00
		C	0.000	0.000	9.442	0.000	0.05
L39	36.6667-35.5000	A	0.000	0.000	2.896	0.000	0.00
		B	0.000	0.000	2.203	0.000	0.00
		C	0.000	0.000	2.203	0.000	0.01
L40	35.5000-35.2500	A	0.000	0.000	0.371	0.000	0.00
		B	0.000	0.000	0.493	0.000	0.00
		C	0.000	0.000	0.493	0.000	0.00
L41	35.2500-30.2500	A	0.000	0.000	7.412	0.000	0.02
		B	0.000	0.000	9.858	0.000	0.00
		C	0.000	0.000	9.858	0.000	0.05
L42	30.2500-25.2500	A	0.000	0.000	7.412	0.000	0.02
		B	0.000	0.000	9.858	0.000	0.00
		C	0.000	0.000	9.858	0.000	0.05
L43	25.2500-20.2500	A	0.000	0.000	7.683	0.000	0.02
		B	0.000	0.000	9.858	0.000	0.00
		C	0.000	0.000	9.858	0.000	0.05
L44	20.2500-18.0833	A	0.000	0.000	5.559	0.000	0.01
		B	0.000	0.000	4.272	0.000	0.00
		C	0.000	0.000	4.272	0.000	0.02
L45	18.0833-17.8167	A	0.000	0.000	0.684	0.000	0.00
		B	0.000	0.000	0.526	0.000	0.00
		C	0.000	0.000	0.526	0.000	0.00
L46	17.8167-17.6667	A	0.000	0.000	0.385	0.000	0.00
		B	0.000	0.000	0.296	0.000	0.00
		C	0.000	0.000	0.296	0.000	0.00
L47	17.6667-9.9167	A	0.000	0.000	19.884	0.000	0.03

Tower Section n	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
L48	9.9167-8.9167	B	0.000	0.000	15.280	0.000	0.00
		C	0.000	0.000	15.280	0.000	0.08
		A	0.000	0.000	2.566	0.000	0.00
L49	8.9167-7.0000	B	0.000	0.000	1.972	0.000	0.00
		C	0.000	0.000	1.972	0.000	0.01
		A	0.000	0.000	4.918	0.000	0.01
L50	7.0000-6.7500	B	0.000	0.000	3.779	0.000	0.00
		C	0.000	0.000	3.779	0.000	0.02
		A	0.000	0.000	0.641	0.000	0.00
L51	6.7500-1.7500	B	0.000	0.000	0.493	0.000	0.00
		C	0.000	0.000	0.493	0.000	0.00
		A	0.000	0.000	12.828	0.000	0.02
L52	1.7500-0.0000	B	0.000	0.000	9.858	0.000	0.00
		C	0.000	0.000	9.858	0.000	0.05
		A	0.000	0.000	4.490	0.000	0.01
		B	0.000	0.000	3.450	0.000	0.00
		C	0.000	0.000	3.450	0.000	0.02

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section n	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
L1	175.0000-170.0000	A	1.770	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.02
L2	170.0000-165.0000	A	1.765	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.02
L3	165.0000-160.0000	A	1.759	0.000	0.000	2.365	0.000	0.04
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.03
L4	160.0000-155.0000	A	1.754	0.000	0.000	5.905	0.000	0.10
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.05
L5	155.0000-145.5000	A	1.745	0.000	0.000	11.199	0.000	0.19
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.10
L6	145.5000-145.0000	A	1.740	0.000	0.000	0.589	0.000	0.01
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.01
L7	145.0000-140.0000	A	1.736	0.000	0.000	5.883	0.000	0.10
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.05
L8	140.0000-135.0000	A	1.730	0.000	0.000	5.875	0.000	0.10
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.05
L9	135.0000-130.0000	A	1.724	0.000	0.000	5.867	0.000	0.10
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.05
L10	130.0000-125.0000	A	1.717	0.000	0.000	5.859	0.000	0.10
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.05
L11	125.0000-120.0000	A	1.710	0.000	0.000	5.850	0.000	0.10
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.05
L12	120.0000-115.0000	A	1.703	0.000	0.000	5.841	0.000	0.10
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.05
L13	115.0000-110.0000	A	1.696	0.000	0.000	5.832	0.000	0.10
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.05
L14	110.0000-105.0000	A	1.688	0.000	0.000	5.823	0.000	0.10
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.05
L15	105.0000-	A	1.676	0.000	0.000	11.035	0.000	0.19

Tower Section	Tower Elevation	Face or Leg	Ice Thickness	A _R	A _F	C _{AA} In Face	C _{AA} Out Face	Weight
n	ft		in	ft ²	ft ²	ft ²	ft ²	K
	95.5000	B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.10
L16	95.5000-94.5000	A	1.667	0.000	0.000	1.162	0.000	0.02
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.01
L17	94.5000-89.5000	A	1.662	0.000	0.000	5.790	0.000	0.10
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.05
L18	89.5000-84.5000	A	1.653	0.000	0.000	6.444	0.000	0.10
		B		0.000	0.000	0.665	0.000	0.01
		C		0.000	0.000	0.665	0.000	0.06
L19	84.5000-83.0000	A	1.646	0.000	0.000	3.725	0.000	0.05
		B		0.000	0.000	1.994	0.000	0.02
		C		0.000	0.000	1.994	0.000	0.04
L20	83.0000-82.7500	A	1.645	0.000	0.000	0.621	0.000	0.01
		B		0.000	0.000	0.332	0.000	0.00
		C		0.000	0.000	0.332	0.000	0.01
L21	82.7500-77.7500	A	1.639	0.000	0.000	12.401	0.000	0.16
		B		0.000	0.000	6.639	0.000	0.06
		C		0.000	0.000	6.639	0.000	0.12
L22	77.7500-72.7500	A	1.629	0.000	0.000	12.377	0.000	0.16
		B		0.000	0.000	6.629	0.000	0.06
		C		0.000	0.000	6.629	0.000	0.12
L23	72.7500-67.7500	A	1.618	0.000	0.000	12.352	0.000	0.16
		B		0.000	0.000	6.618	0.000	0.06
		C		0.000	0.000	6.618	0.000	0.12
L24	67.7500-65.5000	A	1.609	0.000	0.000	5.550	0.000	0.07
		B		0.000	0.000	2.974	0.000	0.03
		C		0.000	0.000	2.974	0.000	0.05
L25	65.5000-65.2500	A	1.606	0.000	0.000	0.896	0.000	0.01
		B		0.000	0.000	0.610	0.000	0.01
		C		0.000	0.000	0.610	0.000	0.01
L26	65.2500-64.0833	A	1.604	0.000	0.000	4.179	0.000	0.05
		B		0.000	0.000	2.845	0.000	0.03
		C		0.000	0.000	2.845	0.000	0.04
L27	64.0833-63.8333	A	1.603	0.000	0.000	0.895	0.000	0.01
		B		0.000	0.000	0.609	0.000	0.01
		C		0.000	0.000	0.609	0.000	0.01
L28	63.8333-58.8333	A	1.596	0.000	0.000	17.882	0.000	0.21
		B		0.000	0.000	12.175	0.000	0.12
		C		0.000	0.000	12.175	0.000	0.17
L29	58.8333-53.8333	A	1.582	0.000	0.000	17.839	0.000	0.21
		B		0.000	0.000	12.148	0.000	0.12
		C		0.000	0.000	12.148	0.000	0.17
L30	53.8333-46.5800	A	1.564	0.000	0.000	25.792	0.000	0.30
		B		0.000	0.000	17.570	0.000	0.17
		C		0.000	0.000	17.570	0.000	0.25
L31	46.5800-45.5800	A	1.551	0.000	0.000	3.556	0.000	0.04
		B		0.000	0.000	2.422	0.000	0.02
		C		0.000	0.000	2.422	0.000	0.03
L32	45.5800-43.0833	A	1.545	0.000	0.000	9.068	0.000	0.11
		B		0.000	0.000	6.250	0.000	0.06
		C		0.000	0.000	6.250	0.000	0.09
L33	43.0833-42.8333	A	1.540	0.000	0.000	0.908	0.000	0.01
		B		0.000	0.000	0.626	0.000	0.01
		C		0.000	0.000	0.626	0.000	0.01
L34	42.8333-42.4133	A	1.539	0.000	0.000	1.525	0.000	0.02
		B		0.000	0.000	1.052	0.000	0.01
		C		0.000	0.000	1.052	0.000	0.01
L35	42.4133-42.1633	A	1.538	0.000	0.000	0.908	0.000	0.01
		B		0.000	0.000	0.626	0.000	0.01
		C		0.000	0.000	0.626	0.000	0.01
L36	42.1633-41.9167	A	1.537	0.000	0.000	0.895	0.000	0.01
		B		0.000	0.000	0.617	0.000	0.01
		C		0.000	0.000	0.617	0.000	0.01
L37	41.9167-41.6667	A	1.536	0.000	0.000	0.907	0.000	0.01
		B		0.000	0.000	0.626	0.000	0.01
		C		0.000	0.000	0.626	0.000	0.01
L38	41.6667-36.6667	A	1.526	0.000	0.000	18.113	0.000	0.21

Tower Section	Tower Elevation	Face or Leg	Ice Thickness	A _R	A _F	C _{AA} In Face	C _{AA} Out Face	Weight
n	ft		in	ft ²	ft ²	ft ²	ft ²	K
		B		0.000	0.000	12.493	0.000	0.12
		C		0.000	0.000	12.493	0.000	0.17
L39	36.6667-35.5000	A	1.513	0.000	0.000	4.217	0.000	0.05
		B		0.000	0.000	2.909	0.000	0.03
		C		0.000	0.000	2.909	0.000	0.04
L40	35.5000-35.2500	A	1.510	0.000	0.000	0.578	0.000	0.01
		B		0.000	0.000	0.644	0.000	0.01
		C		0.000	0.000	0.644	0.000	0.01
L41	35.2500-30.2500	A	1.499	0.000	0.000	11.527	0.000	0.15
		B		0.000	0.000	12.856	0.000	0.12
		C		0.000	0.000	12.856	0.000	0.18
L42	30.2500-25.2500	A	1.474	0.000	0.000	11.471	0.000	0.15
		B		0.000	0.000	12.807	0.000	0.12
		C		0.000	0.000	12.807	0.000	0.17
L43	25.2500-20.2500	A	1.445	0.000	0.000	11.749	0.000	0.15
		B		0.000	0.000	12.749	0.000	0.12
		C		0.000	0.000	12.749	0.000	0.17
L44	20.2500-18.0833	A	1.421	0.000	0.000	7.881	0.000	0.09
		B		0.000	0.000	5.503	0.000	0.05
		C		0.000	0.000	5.503	0.000	0.07
L45	18.0833-17.8167	A	1.411	0.000	0.000	0.968	0.000	0.01
		B		0.000	0.000	0.676	0.000	0.01
		C		0.000	0.000	0.676	0.000	0.01
L46	17.8167-17.6667	A	1.410	0.000	0.000	0.545	0.000	0.01
		B		0.000	0.000	0.380	0.000	0.00
		C		0.000	0.000	0.380	0.000	0.00
L47	17.6667-9.9167	A	1.374	0.000	0.000	27.959	0.000	0.30
		B		0.000	0.000	19.541	0.000	0.17
		C		0.000	0.000	19.541	0.000	0.25
L48	9.9167-8.9167	A	1.323	0.000	0.000	3.608	0.000	0.04
		B		0.000	0.000	2.521	0.000	0.02
		C		0.000	0.000	2.521	0.000	0.03
L49	8.9167-7.0000	A	1.301	0.000	0.000	6.823	0.000	0.07
		B		0.000	0.000	4.777	0.000	0.04
		C		0.000	0.000	4.777	0.000	0.06
L50	7.0000-6.7500	A	1.282	0.000	0.000	0.887	0.000	0.01
		B		0.000	0.000	0.621	0.000	0.00
		C		0.000	0.000	0.621	0.000	0.01
L51	6.7500-1.7500	A	1.222	0.000	0.000	17.542	0.000	0.17
		B		0.000	0.000	12.302	0.000	0.09
		C		0.000	0.000	12.302	0.000	0.15
L52	1.7500-0.0000	A	1.043	0.000	0.000	5.937	0.000	0.05
		B		0.000	0.000	4.181	0.000	0.03
		C		0.000	0.000	4.181	0.000	0.05

Feed Line Center of Pressure

Section	Elevation	CP _x	CP _z	CP _x Ice	CP _z Ice
	ft	in	in	in	in
L1	175.0000-170.0000	0.0000	0.0000	0.0000	0.0000
L2	170.0000-165.0000	0.0000	0.0000	0.0000	0.0000
L3	165.0000-160.0000	-0.2698	-0.2429	-0.3997	-0.3599
L4	160.0000-155.0000	-0.5814	-0.5235	-0.7390	-0.6654
L5	155.0000-145.5000	-0.5837	-0.5255	-0.7521	-0.6772
L6	145.5000-145.0000	-0.5844	-0.5262	-0.7567	-0.6813
L7	145.0000-140.0000	-0.5852	-0.5269	-0.7611	-0.6853
L8	140.0000-	-0.5866	-0.5282	-0.7693	-0.6927

Section	Elevation ft	CP _x in	CP _z in	CP _x Ice in	CP _z Ice in
L9	135.0000-130.0000	-0.5879	-0.5294	-0.7772	-0.6998
L10	130.0000-125.0000	-0.5892	-0.5305	-0.7847	-0.7066
L11	125.0000-120.0000	-0.5904	-0.5316	-0.7920	-0.7131
L12	120.0000-115.0000	-0.5915	-0.5326	-0.7990	-0.7194
L13	115.0000-110.0000	-0.5926	-0.5336	-0.8057	-0.7255
L14	110.0000-105.0000	-0.5936	-0.5345	-0.8121	-0.7312
L15	105.0000-95.5000	-0.5951	-0.5358	-0.8210	-0.7392
L16	95.5000-94.5000	-0.5954	-0.5361	-0.8232	-0.7413
L17	94.5000-89.5000	-0.5960	-0.5366	-0.8260	-0.7438
L18	89.5000-84.5000	-0.5529	-0.4979	-0.7730	-0.6960
L19	84.5000-83.0000	-0.3349	-0.3016	-0.4773	-0.4298
L20	83.0000-82.7500	-0.3355	-0.3021	-0.4783	-0.4307
L21	82.7500-77.7500	-0.3373	-0.3037	-0.4815	-0.4335
L22	77.7500-72.7500	-0.3407	-0.3068	-0.4873	-0.4388
L23	72.7500-67.7500	-0.3440	-0.3097	-0.4930	-0.4439
L24	67.7500-65.5000	-0.3464	-0.3119	-0.4970	-0.4475
L25	65.5000-65.2500	-0.2598	-0.2340	-0.3688	-0.3320
L26	65.2500-64.0833	-0.2603	-0.2344	-0.3694	-0.3327
L27	64.0833-63.8333	-0.2607	-0.2348	-0.3701	-0.3333
L28	63.8333-58.8333	-0.2623	-0.2362	-0.3727	-0.3355
L29	58.8333-53.8333	-0.2654	-0.2389	-0.3774	-0.3398
L30	53.8333-46.5800	-0.2690	-0.2422	-0.3830	-0.3448
L31	46.5800-45.5800	-0.2690	-0.2422	-0.3830	-0.3448
L32	45.5800-43.0833	-0.2629	-0.2367	-0.3764	-0.3390
L33	43.0833-42.8333	-0.2634	-0.2372	-0.3774	-0.3398
L34	42.8333-42.4133	-0.2636	-0.2374	-0.3777	-0.3401
L35	42.4133-42.1633	-0.2638	-0.2376	-0.3780	-0.3403
L36	42.1633-41.9167	-0.2640	-0.2377	-0.3782	-0.3405
L37	41.9167-41.6667	-0.2641	-0.2378	-0.3784	-0.3407
L38	41.6667-36.6667	-0.2656	-0.2392	-0.3806	-0.3427
L39	36.6667-35.5000	-0.2674	-0.2408	-0.3832	-0.3450
L40	35.5000-35.2500	0.2942	0.0756	0.1519	-0.0477
L41	35.2500-30.2500	0.2961	0.0762	0.1536	-0.0475
L42	30.2500-25.2500	0.2996	0.0773	0.1567	-0.0470
L43	25.2500-20.2500	0.2711	0.0605	0.1296	-0.0630
L44	20.2500-18.0833	-0.2703	-0.2434	-0.3886	-0.3499
L45	18.0833-17.8167	-0.2709	-0.2440	-0.3893	-0.3506
L46	17.8167-17.6667	-0.2711	-0.2441	-0.3895	-0.3507
L47	17.6667-9.9167	-0.2732	-0.2459	-0.3917	-0.3527
L48	9.9167-8.9167	-0.2731	-0.2459	-0.3916	-0.3526
L49	8.9167-7.0000	-0.2739	-0.2466	-0.3901	-0.3513
L50	7.0000-6.7500	-0.2744	-0.2471	-0.3903	-0.3514
L51	6.7500-1.7500	-0.2758	-0.2483	-0.3902	-0.3514
L52	1.7500-0.0000	-0.2775	-0.2499	-0.3858	-0.3474

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L3	21	LDF7-50A(1-5/8)	160.00 - 162.00	1.0000	1.0000
L4	21	LDF7-50A(1-5/8)	155.00 - 160.00	1.0000	1.0000
L5	21	LDF7-50A(1-5/8)	145.50 - 155.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L7	21	LDF7-50A(1-5/8)	140.00 - 145.00	1.0000	1.0000
L8	21	LDF7-50A(1-5/8)	135.00 - 140.00	1.0000	1.0000
L9	21	LDF7-50A(1-5/8)	130.00 - 135.00	1.0000	1.0000
L10	21	LDF7-50A(1-5/8)	125.00 - 130.00	1.0000	1.0000
L11	21	LDF7-50A(1-5/8)	120.00 - 125.00	1.0000	1.0000
L12	21	LDF7-50A(1-5/8)	115.00 - 120.00	1.0000	1.0000
L13	21	LDF7-50A(1-5/8)	110.00 - 115.00	1.0000	1.0000
L14	21	LDF7-50A(1-5/8)	105.00 - 110.00	1.0000	1.0000
L15	21	LDF7-50A(1-5/8)	95.50 - 105.00	1.0000	1.0000
L17	21	LDF7-50A(1-5/8)	89.50 - 94.50	1.0000	1.0000
L18	5	1" Flat Reinforcement	84.50 - 85.00	1.0000	1.0000
L18	6	1" Flat Reinforcement	84.50 - 85.00	1.0000	1.0000
L18	7	1" Flat Reinforcement	84.50 - 85.00	1.0000	1.0000
L18	21	LDF7-50A(1-5/8)	84.50 - 89.50	1.0000	1.0000
L19	5	1" Flat Reinforcement	83.00 - 84.50	1.0000	1.0000
L19	6	1" Flat Reinforcement	83.00 - 84.50	1.0000	1.0000
L19	7	1" Flat Reinforcement	83.00 - 84.50	1.0000	1.0000
L19	21	LDF7-50A(1-5/8)	83.00 - 84.50	1.0000	1.0000
L20	5	1" Flat Reinforcement	82.75 - 83.00	1.0000	1.0000
L20	6	1" Flat Reinforcement	82.75 - 83.00	1.0000	1.0000
L20	7	1" Flat Reinforcement	82.75 - 83.00	1.0000	1.0000
L20	21	LDF7-50A(1-5/8)	82.75 - 83.00	1.0000	1.0000
L21	5	1" Flat Reinforcement	77.75 - 82.75	1.0000	1.0000
L21	6	1" Flat Reinforcement	77.75 - 82.75	1.0000	1.0000
L21	7	1" Flat Reinforcement	77.75 - 82.75	1.0000	1.0000
L21	21	LDF7-50A(1-5/8)	77.75 - 82.75	1.0000	1.0000
L22	5	1" Flat Reinforcement	72.75 - 77.75	1.0000	1.0000
L22	6	1" Flat Reinforcement	72.75 - 77.75	1.0000	1.0000
L22	7	1" Flat Reinforcement	72.75 - 77.75	1.0000	1.0000
L22	21	LDF7-50A(1-5/8)	72.75 - 77.75	1.0000	1.0000
L23	5	1" Flat Reinforcement	67.75 - 72.75	1.0000	1.0000
L23	6	1" Flat Reinforcement	67.75 - 72.75	1.0000	1.0000
L23	7	1" Flat Reinforcement	67.75 - 72.75	1.0000	1.0000
L23	21	LDF7-50A(1-5/8)	67.75 - 72.75	1.0000	1.0000
L24	5	1" Flat Reinforcement	65.50 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L24	6	1" Flat Reinforcement	67.75 65.50 -	1.0000	1.0000
L24	7	1" Flat Reinforcement	67.75 65.50 -	1.0000	1.0000
L24	21	LDF7-50A(1-5/8)	67.75 65.50 -	1.0000	1.0000
L25	5	1" Flat Reinforcement	67.75 65.25 -	1.0000	1.0000
L25	6	1" Flat Reinforcement	65.50 65.25 -	1.0000	1.0000
L25	7	1" Flat Reinforcement	65.50 65.25 -	1.0000	1.0000
L25	11	MP3-04	65.50 65.25 -	1.0000	1.0000
L25	12	MP3-04	65.50 65.25 -	1.0000	1.0000
L25	13	MP3-04	65.50 65.25 -	1.0000	1.0000
L25	21	LDF7-50A(1-5/8)	65.50 65.25 -	1.0000	1.0000
L26	5	1" Flat Reinforcement	65.50 64.08 -	1.0000	1.0000
L26	6	1" Flat Reinforcement	65.25 64.08 -	1.0000	1.0000
L26	7	1" Flat Reinforcement	65.25 64.08 -	1.0000	1.0000
L26	11	MP3-04	65.25 64.08 -	1.0000	1.0000
L26	12	MP3-04	65.25 64.08 -	1.0000	1.0000
L26	13	MP3-04	65.25 64.08 -	1.0000	1.0000
L26	21	LDF7-50A(1-5/8)	65.25 64.08 -	1.0000	1.0000
L27	5	1" Flat Reinforcement	65.25 63.83 -	1.0000	1.0000
L27	6	1" Flat Reinforcement	64.08 63.83 -	1.0000	1.0000
L27	7	1" Flat Reinforcement	64.08 63.83 -	1.0000	1.0000
L27	11	MP3-04	64.08 63.83 -	1.0000	1.0000
L27	12	MP3-04	64.08 63.83 -	1.0000	1.0000
L27	13	MP3-04	64.08 63.83 -	1.0000	1.0000
L27	21	LDF7-50A(1-5/8)	64.08 63.83 -	1.0000	1.0000
L28	5	1" Flat Reinforcement	64.08 58.83 -	1.0000	1.0000
L28	6	1" Flat Reinforcement	63.83 58.83 -	1.0000	1.0000
L28	7	1" Flat Reinforcement	63.83 58.83 -	1.0000	1.0000
L28	11	MP3-04	63.83 58.83 -	1.0000	1.0000
L28	12	MP3-04	63.83 58.83 -	1.0000	1.0000
L28	13	MP3-04	63.83 58.83 -	1.0000	1.0000
L28	21	LDF7-50A(1-5/8)	63.83 58.83 -	1.0000	1.0000
L29	5	1" Flat Reinforcement	63.83 53.83 -	1.0000	1.0000
L29	6	1" Flat Reinforcement	58.83 53.83 -	1.0000	1.0000
L29	7	1" Flat Reinforcement	58.83 53.83 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L29	11	MP3-04	53.83 - 58.83	1.0000	1.0000
L29	12	MP3-04	53.83 - 58.83	1.0000	1.0000
L29	13	MP3-04	53.83 - 58.83	1.0000	1.0000
L29	21	LDF7-50A(1-5/8)	53.83 - 58.83	1.0000	1.0000
L30	5	1" Flat Reinforcement	46.58 - 53.83	1.0000	1.0000
L30	6	1" Flat Reinforcement	46.58 - 53.83	1.0000	1.0000
L30	7	1" Flat Reinforcement	46.58 - 53.83	1.0000	1.0000
L30	11	MP3-04	46.58 - 53.83	1.0000	1.0000
L30	12	MP3-04	46.58 - 53.83	1.0000	1.0000
L30	13	MP3-04	46.58 - 53.83	1.0000	1.0000
L30	21	LDF7-50A(1-5/8)	46.58 - 53.83	1.0000	1.0000
L32	5	1" Flat Reinforcement	43.08 - 45.58	1.0000	1.0000
L32	6	1" Flat Reinforcement	43.08 - 45.58	1.0000	1.0000
L32	7	1" Flat Reinforcement	43.08 - 45.58	1.0000	1.0000
L32	8	MP3-05	43.08 - 45.50	1.0000	1.0000
L32	9	MP3-05	43.08 - 45.50	1.0000	1.0000
L32	10	MP3-05	43.08 - 45.50	1.0000	1.0000
L32	11	MP3-04	45.50 - 45.58	1.0000	1.0000
L32	12	MP3-04	45.50 - 45.58	1.0000	1.0000
L32	13	MP3-04	45.50 - 45.58	1.0000	1.0000
L32	21	LDF7-50A(1-5/8)	43.08 - 45.58	1.0000	1.0000
L33	5	1" Flat Reinforcement	42.83 - 43.08	1.0000	1.0000
L33	6	1" Flat Reinforcement	42.83 - 43.08	1.0000	1.0000
L33	7	1" Flat Reinforcement	42.83 - 43.08	1.0000	1.0000
L33	8	MP3-05	42.83 - 43.08	1.0000	1.0000
L33	9	MP3-05	42.83 - 43.08	1.0000	1.0000
L33	10	MP3-05	42.83 - 43.08	1.0000	1.0000
L33	21	LDF7-50A(1-5/8)	42.83 - 43.08	1.0000	1.0000
L34	5	1" Flat Reinforcement	42.41 - 42.83	1.0000	1.0000
L34	6	1" Flat Reinforcement	42.41 - 42.83	1.0000	1.0000
L34	7	1" Flat Reinforcement	42.41 - 42.83	1.0000	1.0000
L34	8	MP3-05	42.41 - 42.83	1.0000	1.0000
L34	9	MP3-05	42.41 - 42.83	1.0000	1.0000
L34	10	MP3-05	42.41 - 42.83	1.0000	1.0000
L34	21	LDF7-50A(1-5/8)	42.41 - 42.83	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
			42.83		
L35	5	1" Flat Reinforcement	42.16 - 42.41	1.0000	1.0000
L35	6	1" Flat Reinforcement	42.16 - 42.41	1.0000	1.0000
L35	7	1" Flat Reinforcement	42.16 - 42.41	1.0000	1.0000
L35	8	MP3-05	42.16 - 42.41	1.0000	1.0000
L35	9	MP3-05	42.16 - 42.41	1.0000	1.0000
L35	10	MP3-05	42.16 - 42.41	1.0000	1.0000
L35	21	LDF7-50A(1-5/8)	42.16 - 42.41	1.0000	1.0000
L36	5	1" Flat Reinforcement	41.92 - 42.16	1.0000	1.0000
L36	6	1" Flat Reinforcement	41.92 - 42.16	1.0000	1.0000
L36	7	1" Flat Reinforcement	41.92 - 42.16	1.0000	1.0000
L36	8	MP3-05	41.92 - 42.16	1.0000	1.0000
L36	9	MP3-05	41.92 - 42.16	1.0000	1.0000
L36	10	MP3-05	41.92 - 42.16	1.0000	1.0000
L36	21	LDF7-50A(1-5/8)	41.92 - 42.16	1.0000	1.0000
L37	5	1" Flat Reinforcement	41.67 - 41.92	1.0000	1.0000
L37	6	1" Flat Reinforcement	41.67 - 41.92	1.0000	1.0000
L37	7	1" Flat Reinforcement	41.67 - 41.92	1.0000	1.0000
L37	8	MP3-05	41.67 - 41.92	1.0000	1.0000
L37	9	MP3-05	41.67 - 41.92	1.0000	1.0000
L37	10	MP3-05	41.67 - 41.92	1.0000	1.0000
L37	21	LDF7-50A(1-5/8)	41.67 - 41.92	1.0000	1.0000
L38	5	1" Flat Reinforcement	36.67 - 41.67	1.0000	1.0000
L38	6	1" Flat Reinforcement	36.67 - 41.67	1.0000	1.0000
L38	7	1" Flat Reinforcement	36.67 - 41.67	1.0000	1.0000
L38	8	MP3-05	36.67 - 41.67	1.0000	1.0000
L38	9	MP3-05	36.67 - 41.67	1.0000	1.0000
L38	10	MP3-05	36.67 - 41.67	1.0000	1.0000
L38	21	LDF7-50A(1-5/8)	36.67 - 41.67	1.0000	1.0000
L39	5	1" Flat Reinforcement	35.50 - 36.67	1.0000	1.0000
L39	6	1" Flat Reinforcement	35.50 - 36.67	1.0000	1.0000
L39	7	1" Flat Reinforcement	35.50 - 36.67	1.0000	1.0000
L39	8	MP3-05	35.50 - 36.67	1.0000	1.0000
L39	9	MP3-05	35.50 - 36.67	1.0000	1.0000
L39	10	MP3-05	35.50 - 36.67	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _e No Ice	K _e Ice
L39	21	LDF7-50A(1-5/8)	35.50 - 36.67	1.0000	1.0000
L40	3	1 1/4" Flat Reinforcement	35.25 - 35.50	1.0000	1.0000
L40	4	1 1/4" Flat Reinforcement	35.25 - 35.50	1.0000	1.0000
L40	8	MP3-05	35.25 - 35.50	1.0000	1.0000
L40	9	MP3-05	35.25 - 35.50	1.0000	1.0000
L40	10	MP3-05	35.25 - 35.50	1.0000	1.0000
L40	21	LDF7-50A(1-5/8)	35.25 - 35.50	1.0000	1.0000
L41	3	1 1/4" Flat Reinforcement	30.25 - 35.25	1.0000	1.0000
L41	4	1 1/4" Flat Reinforcement	30.25 - 35.25	1.0000	1.0000
L41	8	MP3-05	30.25 - 35.25	1.0000	1.0000
L41	9	MP3-05	30.25 - 35.25	1.0000	1.0000
L41	10	MP3-05	30.25 - 35.25	1.0000	1.0000
L41	21	LDF7-50A(1-5/8)	30.25 - 35.25	1.0000	1.0000
L42	3	1 1/4" Flat Reinforcement	25.25 - 30.25	1.0000	1.0000
L42	4	1 1/4" Flat Reinforcement	25.25 - 30.25	1.0000	1.0000
L42	8	MP3-05	25.25 - 30.25	1.0000	1.0000
L42	9	MP3-05	25.25 - 30.25	1.0000	1.0000
L42	10	MP3-05	25.25 - 30.25	1.0000	1.0000
L42	21	LDF7-50A(1-5/8)	25.25 - 30.25	1.0000	1.0000
L43	2	1 1/4" Flat Reinforcement	20.25 - 20.50	1.0000	1.0000
L43	3	1 1/4" Flat Reinforcement	20.25 - 25.25	1.0000	1.0000
L43	4	1 1/4" Flat Reinforcement	20.25 - 25.25	1.0000	1.0000
L43	8	MP3-05	20.25 - 25.25	1.0000	1.0000
L43	9	MP3-05	20.25 - 25.25	1.0000	1.0000
L43	10	MP3-05	20.25 - 25.25	1.0000	1.0000
L43	21	LDF7-50A(1-5/8)	20.25 - 25.25	1.0000	1.0000
L44	2	1 1/4" Flat Reinforcement	18.08 - 20.25	1.0000	1.0000
L44	3	1 1/4" Flat Reinforcement	18.08 - 20.25	1.0000	1.0000
L44	4	1 1/4" Flat Reinforcement	18.08 - 20.25	1.0000	1.0000
L44	8	MP3-05	18.08 - 20.25	1.0000	1.0000
L44	9	MP3-05	18.08 - 20.25	1.0000	1.0000
L44	10	MP3-05	18.08 - 20.25	1.0000	1.0000
L44	21	LDF7-50A(1-5/8)	18.08 - 20.25	1.0000	1.0000
L45	2	1 1/4" Flat Reinforcement	17.82 - 18.08	1.0000	1.0000
L45	3	1 1/4" Flat Reinforcement	17.82 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
			18.08		
L45	4	1 1/4" Flat Reinforcement	17.82 - 18.08	1.0000	1.0000
L45	8	MP3-05	17.82 - 18.08	1.0000	1.0000
L45	9	MP3-05	17.82 - 18.08	1.0000	1.0000
L45	10	MP3-05	17.82 - 18.08	1.0000	1.0000
L45	21	LDF7-50A(1-5/8)	17.82 - 18.08	1.0000	1.0000
L46	2	1 1/4" Flat Reinforcement	17.67 - 17.82	1.0000	1.0000
L46	3	1 1/4" Flat Reinforcement	17.67 - 17.82	1.0000	1.0000
L46	4	1 1/4" Flat Reinforcement	17.67 - 17.82	1.0000	1.0000
L46	8	MP3-05	17.67 - 17.82	1.0000	1.0000
L46	9	MP3-05	17.67 - 17.82	1.0000	1.0000
L46	10	MP3-05	17.67 - 17.82	1.0000	1.0000
L46	21	LDF7-50A(1-5/8)	17.67 - 17.82	1.0000	1.0000
L47	2	1 1/4" Flat Reinforcement	9.92 - 17.67	1.0000	1.0000
L47	3	1 1/4" Flat Reinforcement	9.92 - 17.67	1.0000	1.0000
L47	4	1 1/4" Flat Reinforcement	9.92 - 17.67	1.0000	1.0000
L47	8	MP3-05	9.92 - 17.67	1.0000	1.0000
L47	9	MP3-05	9.92 - 17.67	1.0000	1.0000
L47	10	MP3-05	9.92 - 17.67	1.0000	1.0000
L47	21	LDF7-50A(1-5/8)	9.92 - 17.67	1.0000	1.0000
L49	2	1 1/4" Flat Reinforcement	7.00 - 8.92	1.0000	1.0000
L49	3	1 1/4" Flat Reinforcement	7.00 - 8.92	1.0000	1.0000
L49	4	1 1/4" Flat Reinforcement	7.00 - 8.92	1.0000	1.0000
L49	8	MP3-05	7.00 - 8.92	1.0000	1.0000
L49	9	MP3-05	7.00 - 8.92	1.0000	1.0000
L49	10	MP3-05	7.00 - 8.92	1.0000	1.0000
L49	21	LDF7-50A(1-5/8)	7.00 - 8.92	1.0000	1.0000
L50	2	1 1/4" Flat Reinforcement	6.75 - 7.00	1.0000	1.0000
L50	3	1 1/4" Flat Reinforcement	6.75 - 7.00	1.0000	1.0000
L50	4	1 1/4" Flat Reinforcement	6.75 - 7.00	1.0000	1.0000
L50	8	MP3-05	6.75 - 7.00	1.0000	1.0000
L50	9	MP3-05	6.75 - 7.00	1.0000	1.0000
L50	10	MP3-05	6.75 - 7.00	1.0000	1.0000
L50	21	LDF7-50A(1-5/8)	6.75 - 7.00	1.0000	1.0000
L51	2	1 1/4" Flat Reinforcement	1.75 - 6.75	1.0000	1.0000
L51	3	1 1/4" Flat Reinforcement	1.75 - 6.75	1.0000	1.0000
L51	4	1 1/4" Flat Reinforcement	1.75 - 6.75	1.0000	1.0000
L51	8	MP3-05	1.75 - 6.75	1.0000	1.0000
L51	9	MP3-05	1.75 - 6.75	1.0000	1.0000
L51	10	MP3-05	1.75 - 6.75	1.0000	1.0000
L51	21	LDF7-50A(1-5/8)	1.75 - 6.75	1.0000	1.0000
L52	2	1 1/4" Flat Reinforcement	0.00 - 1.75	1.0000	1.0000
L52	3	1 1/4" Flat Reinforcement	0.00 - 1.75	1.0000	1.0000
L52	4	1 1/4" Flat Reinforcement	0.00 - 1.75	1.0000	1.0000
L52	8	MP3-05	0.00 - 1.75	1.0000	1.0000
L52	9	MP3-05	0.00 - 1.75	1.0000	1.0000
L52	10	MP3-05	0.00 - 1.75	1.0000	1.0000
L52	21	LDF7-50A(1-5/8)	0.00 - 1.75	1.0000	1.0000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _A A _A Front	C _A A _A Side	Weight
			Horz	Lateral Vert					
							ft ²	ft ²	K
(2) ADA-85408580CF w/ Mount Pipe	A	From Leg	4.0000	0.00	174.0000	No Ice	4.9453	3.4238	0.03
			0.00			1/2"	5.3243	4.0221	0.07
			1.00			Ice	5.7120	4.6369	0.12
BXA-80080/4CF w/ Mount Pipe	B	From Leg	4.0000	0.00	174.0000	No Ice	5.0367	4.0332	0.03
			0.00			1/2"	5.4214	4.6550	0.08
			1.00			Ice	5.8135	5.2815	0.13
BXA-80080/4CF w/ Mount Pipe	C	From Leg	4.0000	0.00	174.0000	No Ice	5.0367	4.0332	0.03
			0.00			1/2"	5.4214	4.6550	0.08
			1.00			Ice	5.8135	5.2815	0.13
(2) JAHH-65B-R3B w/ Mount Pipe	A	From Leg	4.0000	0.00	174.0000	No Ice	9.3508	7.6458	0.09
			0.00			1/2"	9.9205	8.8331	0.17
			1.00			Ice	10.4552	9.7341	0.25
(2) JAHH-65B-R3B w/ Mount Pipe	B	From Leg	4.0000	0.00	174.0000	No Ice	9.3508	7.6458	0.09
			0.00			1/2"	9.9205	8.8331	0.17
			1.00			Ice	10.4552	9.7341	0.25
(2) JAHH-65B-R3B w/ Mount Pipe	C	From Leg	4.0000	0.00	174.0000	No Ice	9.3508	7.6458	0.09
			0.00			1/2"	9.9205	8.8331	0.17
			1.00			Ice	10.4552	9.7341	0.25
DB-C1-12C-24AB-0Z	A	From Leg	4.0000	0.00	174.0000	No Ice	4.0563	3.0975	0.03
			0.00			1/2"	4.3155	3.3351	0.07
			1.00			Ice	4.5822	3.5801	0.11
RRH2X60-700	A	From Leg	4.0000	0.00	174.0000	No Ice	3.5002	1.8157	0.06
			0.00			1/2"	3.7609	2.0519	0.08
			1.00			Ice	4.0285	2.2894	0.11
RRH2X60-700	B	From Leg	4.0000	0.00	174.0000	No Ice	3.5002	1.8157	0.06
			0.00			1/2"	3.7609	2.0519	0.08
			1.00			Ice	4.0285	2.2894	0.11
RRH2X60-700	C	From Leg	4.0000	0.00	174.0000	No Ice	3.5002	1.8157	0.06
			0.00			1/2"	3.7609	2.0519	0.08
			1.00			Ice	4.0285	2.2894	0.11
B66A RRH4X45	A	From Leg	4.0000	0.00	174.0000	No Ice	2.5800	1.6296	0.06
			0.00			1/2"	2.7937	1.8106	0.08
			1.00			Ice	3.0148	1.9986	0.10
B66A RRH4X45	B	From Leg	4.0000	0.00	174.0000	No Ice	2.5800	1.6296	0.06
			0.00			1/2"	2.7937	1.8106	0.08
			1.00			Ice	3.0148	1.9986	0.10
B66A RRH4X45	C	From Leg	4.0000	0.00	174.0000	No Ice	2.5800	1.6296	0.06
			0.00			1/2"	2.7937	1.8106	0.08
			1.00			Ice	3.0148	1.9986	0.10
LP 601-1	C	None		0.00	174.0000	No Ice	28.4700	28.4700	1.12
						1/2"	33.5900	33.5900	1.51
						Ice	38.7100	38.7100	1.91
NA 507-2	C	None		0.00	174.0000	No Ice	11.1000	11.1000	0.43
						1/2"	14.3000	14.3000	0.58
						Ice	17.5000	17.5000	0.74
6' x 2" STD Pipe	A	From Leg	4.0000	0.00	174.0000	No Ice	1.4250	1.4250	0.02
			0.00			1/2"	1.9250	1.9250	0.03
			0.00			Ice	2.2939	2.2939	0.05
(2) 6' x 2" STD Pipe	B	From Leg	4.0000	0.00	174.0000	No Ice	1.4250	1.4250	0.02
						1/2"			
						Ice			

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft	C _A A _A Front ft ²	C _A A _A Side ft ²	Weight K	
			0.00			1/2"	1.9250	1.9250	0.03
			0.00			Ice	2.2939	2.2939	0.05
(2) 6' x 2" STD Pipe	C	From Leg	4.0000	0.00	174.0000	1" Ice			
			0.00			No Ice	1.4250	1.4250	0.02
			0.00			1/2"	1.9250	1.9250	0.03
			0.00			Ice	2.2939	2.2939	0.05
						1" Ice			

P65-16-XLH-RR w/ Mount Pipe	A	From Leg	4.0000	0.00	162.0000	No Ice	8.3708	6.3625	0.08
			0.00			1/2"	8.9314	7.5378	0.14
			0.00			Ice	9.4571	8.4270	0.22
						1" Ice			
P65-16-XLH-RR w/ Mount Pipe	B	From Leg	4.0000	0.00	162.0000	No Ice	8.3708	6.3625	0.08
			0.00			1/2"	8.9314	7.5378	0.14
			0.00			Ice	9.4571	8.4270	0.22
						1" Ice			
P65-16-XLH-RR w/ Mount Pipe	C	From Leg	4.0000	0.00	162.0000	No Ice	8.3708	6.3625	0.08
			0.00			1/2"	8.9314	7.5378	0.14
			0.00			Ice	9.4571	8.4270	0.22
						1" Ice			
(2) 800 10121 w/ Mount Pipe	A	From Leg	4.0000	0.00	162.0000	No Ice	5.1615	3.3447	0.05
			0.00			1/2"	5.5141	3.7297	0.08
			0.00			Ice	5.8737	4.1319	0.12
						1" Ice			
(2) 7770.00 w/ Mount Pipe	B	From Leg	4.0000	0.00	162.0000	No Ice	5.7460	4.2543	0.06
			0.00			1/2"	6.1791	5.0137	0.10
			0.00			Ice	6.6067	5.7109	0.16
						1" Ice			
RRUS-11	A	From Leg	4.0000	0.00	162.0000	No Ice	2.7845	1.1872	0.05
			0.00			1/2"	2.9919	1.3342	0.07
			0.00			Ice	3.2066	1.4897	0.09
						1" Ice			
RRUS-11	B	From Leg	4.0000	0.00	162.0000	No Ice	2.7845	1.1872	0.05
			0.00			1/2"	2.9919	1.3342	0.07
			0.00			Ice	3.2066	1.4897	0.09
						1" Ice			
RRUS-11	C	From Leg	4.0000	0.00	162.0000	No Ice	2.7845	1.1872	0.05
			0.00			1/2"	2.9919	1.3342	0.07
			0.00			Ice	3.2066	1.4897	0.09
						1" Ice			
(4) LGP2140X	A	From Leg	4.0000	0.00	162.0000	No Ice	1.0800	0.3580	0.01
			0.00			1/2"	1.2137	0.4536	0.02
			0.00			Ice	1.3548	0.5563	0.03
						1" Ice			
(4) LGP2140X	B	From Leg	4.0000	0.00	162.0000	No Ice	1.0800	0.3580	0.01
			0.00			1/2"	1.2137	0.4536	0.02
			0.00			Ice	1.3548	0.5563	0.03
						1" Ice			
DC6-48-60-18-8F	C	From Leg	4.0000	0.00	162.0000	No Ice	0.9167	0.9167	0.02
			0.00			1/2"	1.4583	1.4583	0.04
			0.00			Ice	1.6431	1.6431	0.06
						1" Ice			
2.375" OD x 5' Mount Pipe	A	From Leg	4.0000	0.00	162.0000	No Ice	1.1875	1.1875	0.02
			0.00			1/2"	1.4956	1.4956	0.03
			0.00			Ice	1.8071	1.8071	0.04
						1" Ice			
2.375" OD x 5' Mount Pipe	B	From Leg	4.0000	0.00	162.0000	No Ice	1.1875	1.1875	0.02
			0.00			1/2"	1.4956	1.4956	0.03
			0.00			Ice	1.8071	1.8071	0.04
						1" Ice			
(3) 2.375" OD x 5' Mount Pipe	C	From Leg	4.0000	0.00	162.0000	No Ice	1.1875	1.1875	0.02
			0.00			1/2"	1.4956	1.4956	0.03
			0.00			Ice	1.8071	1.8071	0.04
						1" Ice			
LP 303-1	C	None		0.00	162.0000	No Ice	14.6600	14.6600	1.25

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft	C _A A _A Front ft ²	C _A A _A Side ft ²	Weight K	
						1/2"	18.8700	18.8700	1.48
						Ice	23.0800	23.0800	1.71
						1" Ice			

SBNHH-1D65A w/ Mount Pipe	A	From Leg	1.0000 0.00 0.00	0.00	144.0000	No Ice	6.1203	5.1900	0.05
						1/2"	6.5579	5.9608	0.11
						Ice	6.9901	6.6576	0.17
						1" Ice			
SBNHH-1D65A w/ Mount Pipe	B	From Leg	1.0000 0.00 0.00	0.00	144.0000	No Ice	6.1203	5.1900	0.05
						1/2"	6.5579	5.9608	0.11
						Ice	6.9901	6.6576	0.17
						1" Ice			
SBNHH-1D65A w/ Mount Pipe	C	From Leg	1.0000 0.00 0.00	0.00	144.0000	No Ice	6.1203	5.1900	0.05
						1/2"	6.5579	5.9608	0.11
						Ice	6.9901	6.6576	0.17
						1" Ice			
RRUS 11 B2	A	From Leg	1.0000 0.00 0.00	0.00	144.0000	No Ice	2.8333	1.1821	0.05
						1/2"	3.0426	1.3299	0.07
						Ice	3.2593	1.4848	0.10
						1" Ice			
RRUS 11 B2	B	From Leg	1.0000 0.00 0.00	0.00	144.0000	No Ice	2.8333	1.1821	0.05
						1/2"	3.0426	1.3299	0.07
						Ice	3.2593	1.4848	0.10
						1" Ice			
RRUS 11 B2	C	From Leg	1.0000 0.00 0.00	0.00	144.0000	No Ice	2.8333	1.1821	0.05
						1/2"	3.0426	1.3299	0.07
						Ice	3.2593	1.4848	0.10
						1" Ice			
RRUS 11 B4	A	From Leg	1.0000 0.00 0.00	0.00	140.0000	No Ice	2.8333	1.1821	0.05
						1/2"	3.0426	1.3299	0.07
						Ice	3.2593	1.4848	0.10
						1" Ice			
RRUS 11 B4	B	From Leg	1.0000 0.00 0.00	0.00	140.0000	No Ice	2.8333	1.1821	0.05
						1/2"	3.0426	1.3299	0.07
						Ice	3.2593	1.4848	0.10
						1" Ice			
RRUS 11 B4	C	From Leg	1.0000 0.00 0.00	0.00	140.0000	No Ice	2.8333	1.1821	0.05
						1/2"	3.0426	1.3299	0.07
						Ice	3.2593	1.4848	0.10
						1" Ice			
RRUS 11 B12	A	From Leg	1.0000 0.00 0.00	0.00	137.0000	No Ice	2.8333	1.1821	0.05
						1/2"	3.0426	1.3299	0.07
						Ice	3.2593	1.4848	0.10
						1" Ice			
RRUS 11 B12	B	From Leg	1.0000 0.00 0.00	0.00	137.0000	No Ice	2.8333	1.1821	0.05
						1/2"	3.0426	1.3299	0.07
						Ice	3.2593	1.4848	0.10
						1" Ice			
RRUS 11 B12	C	From Leg	1.0000 0.00 0.00	0.00	137.0000	No Ice	2.8333	1.1821	0.05
						1/2"	3.0426	1.3299	0.07
						Ice	3.2593	1.4848	0.10
						1" Ice			
PM 601-3	C	None		0.00	140.0000	No Ice	4.3900	4.3900	0.20
						1/2"	5.4800	5.4800	0.24
						Ice	6.5700	6.5700	0.28
						1" Ice			

Tower Pressures - No Ice

G_H = 1.100

Section Elevation	z	K _Z	q _z	A _G	F a c e	A _F	A _R	A _{leg}	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
ft	ft		ksf	ft ²		ft ²	ft ²	ft ²		ft ²	ft ²
L1 175.0000- 170.0000	172.4834	1.42	0.030	9.738	A	0.000	9.738	9.738	100.00	0.000	0.000
					B	0.000	9.738		100.00	0.000	0.000
					C	0.000	9.738		100.00	0.000	0.000
L2 170.0000- 165.0000	167.4840	1.411	0.030	10.126	A	0.000	10.126	10.126	100.00	0.000	0.000
					B	0.000	10.126		100.00	0.000	0.000
					C	0.000	10.126		100.00	0.000	0.000
L3 165.0000- 160.0000	162.4846	1.402	0.029	10.515	A	0.000	10.515	10.515	100.00	1.188	0.000
					B	0.000	10.515		100.00	0.000	0.000
					C	0.000	10.515		100.00	0.000	0.000
L4 160.0000- 155.0000	157.4852	1.393	0.029	10.903	A	0.000	10.903	10.903	100.00	2.970	0.000
					B	0.000	10.903		100.00	0.000	0.000
					C	0.000	10.903		100.00	0.000	0.000
L5 155.0000- 145.5000	150.1991	1.379	0.029	21.785	A	0.000	21.785	21.785	100.00	5.643	0.000
					B	0.000	21.785		100.00	0.000	0.000
					C	0.000	21.785		100.00	0.000	0.000
L6 145.5000- 145.0000	145.2499	1.369	0.029	1.166	A	0.000	1.166	1.166	100.00	0.297	0.000
					B	0.000	1.166		100.00	0.000	0.000
					C	0.000	1.166		100.00	0.000	0.000
L7 145.0000- 140.0000	142.4864	1.364	0.029	11.879	A	0.000	11.879	11.879	100.00	2.970	0.000
					B	0.000	11.879		100.00	0.000	0.000
					C	0.000	11.879		100.00	0.000	0.000
L8 140.0000- 135.0000	137.4868	1.353	0.028	12.267	A	0.000	12.267	12.267	100.00	2.970	0.000
					B	0.000	12.267		100.00	0.000	0.000
					C	0.000	12.267		100.00	0.000	0.000
L9 135.0000- 130.0000	132.4872	1.343	0.028	12.655	A	0.000	12.655	12.655	100.00	2.970	0.000
					B	0.000	12.655		100.00	0.000	0.000
					C	0.000	12.655		100.00	0.000	0.000
L10 130.0000- 125.0000	127.4876	1.332	0.028	13.043	A	0.000	13.043	13.043	100.00	2.970	0.000
					B	0.000	13.043		100.00	0.000	0.000
					C	0.000	13.043		100.00	0.000	0.000
L11 125.0000- 120.0000	122.4880	1.321	0.028	13.431	A	0.000	13.431	13.431	100.00	2.970	0.000
					B	0.000	13.431		100.00	0.000	0.000
					C	0.000	13.431		100.00	0.000	0.000
L12 120.0000- 115.0000	117.4883	1.309	0.028	13.820	A	0.000	13.820	13.820	100.00	2.970	0.000
					B	0.000	13.820		100.00	0.000	0.000
					C	0.000	13.820		100.00	0.000	0.000
L13 115.0000- 110.0000	112.4886	1.297	0.027	14.208	A	0.000	14.208	14.208	100.00	2.970	0.000
					B	0.000	14.208		100.00	0.000	0.000
					C	0.000	14.208		100.00	0.000	0.000
L14 110.0000- 105.0000	107.4889	1.285	0.027	14.596	A	0.000	14.596	14.596	100.00	2.970	0.000
					B	0.000	14.596		100.00	0.000	0.000
					C	0.000	14.596		100.00	0.000	0.000
L15 105.0000- 95.5000	100.2115	1.266	0.027	28.802	A	0.000	28.802	28.802	100.00	5.643	0.000
					B	0.000	28.802		100.00	0.000	0.000
					C	0.000	28.802		100.00	0.000	0.000
L16 95.5000- 94.5000	94.9996	1.252	0.026	3.059	A	0.000	3.059	3.059	100.00	0.594	0.000
					B	0.000	3.059		100.00	0.000	0.000
					C	0.000	3.059		100.00	0.000	0.000
L17 94.5000- 89.5000	91.9896	1.244	0.026	15.530	A	0.000	15.530	15.530	100.00	2.970	0.000
					B	0.000	15.530		100.00	0.000	0.000
					C	0.000	15.530		100.00	0.000	0.000
L18 89.5000- 84.5000	86.9898	1.229	0.026	15.918	A	0.000	15.918	15.918	100.00	3.470	0.000
					B	0.000	15.918		100.00	0.500	0.000
					C	0.000	15.918		100.00	0.500	0.000
L19 84.5000- 83.0000	83.7491	1.219	0.026	4.851	A	0.000	4.851	4.851	100.00	2.391	0.000
					B	0.000	4.851		100.00	1.500	0.000
					C	0.000	4.851		100.00	1.500	0.000
L20 83.0000- 82.7500	82.8750	1.217	0.026	0.812	A	0.000	0.812	0.812	100.00	0.399	0.000
					B	0.000	0.812		100.00	0.250	0.000
					C	0.000	0.812		100.00	0.250	0.000
L21 82.7500- 77.7500	80.2402	1.208	0.025	16.442	A	0.000	16.442	16.442	100.00	7.970	0.000
					B	0.000	16.442		100.00	5.000	0.000
					C	0.000	16.442		100.00	5.000	0.000
L22 77.7500- 72.7500	75.2404	1.192	0.025	16.830	A	0.000	16.830	16.830	100.00	7.970	0.000
					B	0.000	16.830		100.00	5.000	0.000
					C	0.000	16.830		100.00	5.000	0.000

Section Elevation	z	K _z	q _z	A _G	F a c e	A _F	A _R	A _{leg}	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
ft	ft		ksf	ft ²		ft ²	ft ²	ft ²		ft ²	ft ²
L23 72.7500- 67.7500	70.2406	1.175	0.025	17.218	A	0.000	17.218	17.218	100.00	7.970	0.000
					B	0.000	17.218		100.00	5.000	0.000
					C	0.000	17.218		100.00	5.000	0.000
L24 67.7500- 65.5000	66.6231	1.162	0.024	7.875	A	0.000	7.875	7.875	100.00	3.587	0.000
					B	0.000	7.875		100.00	2.250	0.000
					C	0.000	7.875		100.00	2.250	0.000
L25 65.5000- 65.2500	65.3750	1.157	0.024	0.880	A	0.000	0.880	0.880	100.00	0.598	0.000
					B	0.000	0.880		100.00	0.449	0.000
					C	0.000	0.880		100.00	0.449	0.000
L26 65.2500- 64.0833	64.6662	1.155	0.024	4.119	A	0.000	4.119	4.119	100.00	2.789	0.000
					B	0.000	4.119		100.00	2.096	0.000
					C	0.000	4.119		100.00	2.096	0.000
L27 64.0833- 63.8333	63.9583	1.152	0.024	0.885	A	0.000	0.885	0.885	100.00	0.598	0.000
					B	0.000	0.885		100.00	0.449	0.000
					C	0.000	0.885		100.00	0.449	0.000
L28 63.8333- 58.8333	61.3243	1.142	0.024	17.911	A	0.000	17.911	17.911	100.00	11.953	0.000
					B	0.000	17.911		100.00	8.983	0.000
					C	0.000	17.911		100.00	8.983	0.000
L29 58.8333- 53.8333	56.3245	1.122	0.024	18.299	A	0.000	18.299	18.299	100.00	11.953	0.000
					B	0.000	18.299		100.00	8.983	0.000
					C	0.000	18.299		100.00	8.983	0.000
L30 53.8333- 46.5800	50.1885	1.095	0.023	27.236	A	0.000	27.236	27.236	100.00	17.340	0.000
					B	0.000	27.236		100.00	13.032	0.000
					C	0.000	27.236		100.00	13.032	0.000
L31 46.5800- 45.5800	46.0797	1.075	0.023	3.754	A	0.000	3.754	3.754	100.00	2.391	0.000
					B	0.000	3.754		100.00	1.797	0.000
					C	0.000	3.754		100.00	1.797	0.000
L32 45.5800- 43.0833	44.3295	1.066	0.022	9.441	A	0.000	9.441	9.441	100.00	6.190	0.000
					B	0.000	9.441		100.00	4.707	0.000
					C	0.000	9.441		100.00	4.707	0.000
L33 43.0833- 42.8333	42.9583	1.059	0.022	0.951	A	0.000	0.951	0.951	100.00	0.621	0.000
					B	0.000	0.951		100.00	0.472	0.000
					C	0.000	0.951		100.00	0.472	0.000
L34 42.8333- 42.4133	42.6233	1.058	0.022	1.599	A	0.000	1.599	1.599	100.00	1.043	0.000
					B	0.000	1.599		100.00	0.793	0.000
					C	0.000	1.599		100.00	0.793	0.000
L35 42.4133- 42.1633	42.2883	1.056	0.022	0.953	A	0.000	0.953	0.953	100.00	0.621	0.000
					B	0.000	0.953		100.00	0.472	0.000
					C	0.000	0.953		100.00	0.472	0.000
L36 42.1633- 41.9167	42.0400	1.055	0.022	0.942	A	0.000	0.942	0.942	100.00	0.612	0.000
					B	0.000	0.942		100.00	0.466	0.000
					C	0.000	0.942		100.00	0.466	0.000
L37 41.9167- 41.6667	41.7916	1.053	0.022	0.955	A	0.000	0.955	0.955	100.00	0.621	0.000
					B	0.000	0.955		100.00	0.472	0.000
					C	0.000	0.955		100.00	0.472	0.000
L38 41.6667- 36.6667	39.1583	1.039	0.022	19.309	A	0.000	19.309	19.309	100.00	12.412	0.000
					B	0.000	19.309		100.00	9.442	0.000
					C	0.000	19.309		100.00	9.442	0.000
L39 36.6667- 35.5000	36.0829	1.021	0.021	4.561	A	0.000	4.561	4.561	100.00	2.896	0.000
					B	0.000	4.561		100.00	2.203	0.000
					C	0.000	4.561		100.00	2.203	0.000
L40 35.5000- 35.2500	35.3750	1.017	0.021	0.980	A	0.000	0.980	0.980	100.00	0.371	0.000
					B	0.000	0.980		100.00	0.493	0.000
					C	0.000	0.980		100.00	0.493	0.000
L41 35.2500- 30.2500	32.7418	1.001	0.021	19.807	A	0.000	19.807	19.807	100.00	7.412	0.000
					B	0.000	19.807		100.00	9.858	0.000
					C	0.000	19.807		100.00	9.858	0.000
L42 30.2500- 25.2500	27.7420	0.966	0.020	20.195	A	0.000	20.195	20.195	100.00	7.412	0.000
					B	0.000	20.195		100.00	9.858	0.000
					C	0.000	20.195		100.00	9.858	0.000
L43 25.2500- 20.2500	22.7421	0.927	0.019	20.583	A	0.000	20.583	20.583	100.00	7.683	0.000
					B	0.000	20.583		100.00	9.858	0.000
					C	0.000	20.583		100.00	9.858	0.000
L44 20.2500- 18.0833	19.1652	0.894	0.019	9.040	A	0.000	9.040	9.040	100.00	5.559	0.000
					B	0.000	9.040		100.00	4.272	0.000
					C	0.000	9.040		100.00	4.272	0.000
L45 18.0833- 17.8167	17.9500	0.882	0.019	1.118	A	0.000	1.118	1.118	100.00	0.684	0.000
					B	0.000	1.118		100.00	0.526	0.000

Section Elevation ft	z ft	K _z	q _z ksf	A _G ft ²	F a c e	A _F ft ²	A _R ft ²	A _{leg} ft ²	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
L46 17.8167-17.6667	17.7417	0.879	0.018	0.629	C	0.000	1.118	0.629	100.00	0.526	0.000
					A	0.000	0.629		100.00	0.385	0.000
					B	0.000	0.629		100.00	0.296	0.000
L47 17.6667-9.9167	13.7734	0.85	0.018	32.982	C	0.000	0.629	32.982	100.00	0.296	0.000
					A	0.000	32.982		100.00	19.884	0.000
					B	0.000	32.982		100.00	15.280	0.000
L48 9.9167-8.9167	9.4164	0.85	0.018	4.254	C	0.000	32.982	4.254	100.00	15.280	0.000
					A	0.000	4.254		100.00	2.566	0.000
					B	0.000	4.254		100.00	1.972	0.000
L49 8.9167-7.0000	7.9572	0.85	0.018	8.196	C	0.000	4.254	8.196	100.00	1.972	0.000
					A	0.000	8.196		100.00	4.918	0.000
					B	0.000	8.196		100.00	3.779	0.000
L50 7.0000-6.7500	6.8750	0.85	0.018	1.073	C	0.000	8.196	1.073	100.00	3.779	0.000
					A	0.000	1.073		100.00	0.641	0.000
					B	0.000	1.073		100.00	0.493	0.000
L51 6.7500-1.7500	4.2425	0.85	0.018	21.670	C	0.000	1.073	21.670	100.00	0.493	0.000
					A	0.000	21.670		100.00	12.828	0.000
					B	0.000	21.670		100.00	9.858	0.000
L52 1.7500-0.0000	0.8741	0.85	0.018	7.676	C	0.000	21.670	7.676	100.00	9.858	0.000
					A	0.000	7.676		100.00	4.490	0.000
					B	0.000	7.676		100.00	3.450	0.000
					C	0.000	7.676		100.00	3.450	0.000

Tower Pressure - With Ice

$G_H = 1.100$

Section Elevation ft	z ft	K _z	q _z ksf	t _z in	A _G ft ²	F a c e	A _F ft ²	A _R ft ²	A _{leg} ft ²	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
L1 175.0000-170.0000	172.4834	1.42	0.009	1.7698	11.213	A	0.000	11.213	11.213	100.00	0.000	0.000
						B	0.000	11.213		100.00	0.000	0.000
						C	0.000	11.213		100.00	0.000	0.000
L2 170.0000-165.0000	167.4840	1.411	0.009	1.7646	11.597	A	0.000	11.597	11.597	100.00	0.000	0.000
						B	0.000	11.597		100.00	0.000	0.000
						C	0.000	11.597		100.00	0.000	0.000
L3 165.0000-160.0000	162.4846	1.402	0.009	1.7592	11.981	A	0.000	11.981	11.981	100.00	2.365	0.000
						B	0.000	11.981		100.00	0.000	0.000
						C	0.000	11.981		100.00	0.000	0.000
L4 160.0000-155.0000	157.4852	1.393	0.008	1.7537	12.364	A	0.000	12.364	12.364	100.00	5.905	0.000
						B	0.000	12.364		100.00	0.000	0.000
						C	0.000	12.364		100.00	0.000	0.000
L5 155.0000-145.5000	150.1991	1.379	0.008	1.7454	24.548	A	0.000	24.548	24.548	100.00	11.199	0.000
						B	0.000	24.548		100.00	0.000	0.000
						C	0.000	24.548		100.00	0.000	0.000
L6 145.5000-145.0000	145.2499	1.369	0.008	1.7396	1.312	A	0.000	1.312	1.312	100.00	0.589	0.000
						B	0.000	1.312		100.00	0.000	0.000
						C	0.000	1.312		100.00	0.000	0.000
L7 145.0000-140.0000	142.4864	1.364	0.008	1.7363	13.325	A	0.000	13.325	13.325	100.00	5.883	0.000
						B	0.000	13.325		100.00	0.000	0.000
						C	0.000	13.325		100.00	0.000	0.000
L8 140.0000-135.0000	137.4868	1.353	0.008	1.7301	13.708	A	0.000	13.708	13.708	100.00	5.875	0.000
						B	0.000	13.708		100.00	0.000	0.000
						C	0.000	13.708		100.00	0.000	0.000
L9 135.0000-130.0000	132.4872	1.343	0.008	1.7237	14.091	A	0.000	14.091	14.091	100.00	5.867	0.000
						B	0.000	14.091		100.00	0.000	0.000
						C	0.000	14.091		100.00	0.000	0.000
L10 130.0000-125.0000	127.4876	1.332	0.008	1.7171	14.474	A	0.000	14.474	14.474	100.00	5.859	0.000
						B	0.000	14.474		100.00	0.000	0.000
						C	0.000	14.474		100.00	0.000	0.000
L11 125.0000-120.0000	122.4880	1.321	0.008	1.7102	14.857	A	0.000	14.857	14.857	100.00	5.850	0.000
						B	0.000	14.857		100.00	0.000	0.000
						C	0.000	14.857		100.00	0.000	0.000
L12 120.0000-	117.4883	1.309	0.008	1.7031	15.239	A	0.000	15.239	15.239	100.00	5.841	0.000

Section Elevation	z	K _z	q _z	t _z	A _G	F a c e	A _F	A _R	A _{leg}	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
ft	ft		ksf	in	ft ²		ft ²	ft ²	ft ²		ft ²	ft ²
115.0000						B	0.000	15.239		100.00	0.000	0.000
						C	0.000	15.239		100.00	0.000	0.000
L13	115.0000-	1.297	0.008	1.6957	15.621	A	0.000	15.621	15.621	100.00	5.832	0.000
	110.0000					B	0.000	15.621		100.00	0.000	0.000
						C	0.000	15.621		100.00	0.000	0.000
L14	110.0000-	1.285	0.008	1.6880	16.003	A	0.000	16.003	16.003	100.00	5.823	0.000
	105.0000					B	0.000	16.003		100.00	0.000	0.000
						C	0.000	16.003		100.00	0.000	0.000
L15	105.0000-	1.266	0.008	1.6762	31.456	A	0.000	31.456	31.456	100.00	11.035	0.000
	95.5000					B	0.000	31.456		100.00	0.000	0.000
						C	0.000	31.456		100.00	0.000	0.000
L16	95.5000-	1.252	0.008	1.6673	3.339	A	0.000	3.339	3.339	100.00	1.162	0.000
	94.5000					B	0.000	3.339		100.00	0.000	0.000
						C	0.000	3.339		100.00	0.000	0.000
L17	94.5000-	1.244	0.008	1.6619	16.915	A	0.000	16.915	16.915	100.00	5.790	0.000
	89.5000					B	0.000	16.915		100.00	0.000	0.000
						C	0.000	16.915		100.00	0.000	0.000
L18	89.5000-	1.229	0.007	1.6527	17.295	A	0.000	17.295	17.295	100.00	6.444	0.000
	84.5000					B	0.000	17.295		100.00	0.665	0.000
						C	0.000	17.295		100.00	0.665	0.000
L19	84.5000-	1.219	0.007	1.6464	5.263	A	0.000	5.263	5.263	100.00	3.725	0.000
	83.0000					B	0.000	5.263		100.00	1.994	0.000
						C	0.000	5.263		100.00	1.994	0.000
L20	83.0000-	1.217	0.007	1.6447	0.880	A	0.000	0.880	0.880	100.00	0.621	0.000
	82.7500					B	0.000	0.880		100.00	0.332	0.000
						C	0.000	0.880		100.00	0.332	0.000
L21	82.7500-	1.208	0.007	1.6394	17.808	A	0.000	17.808	17.808	100.00	12.401	0.000
	77.7500					B	0.000	17.808		100.00	6.639	0.000
						C	0.000	17.808		100.00	6.639	0.000
L22	77.7500-	1.192	0.007	1.6289	18.188	A	0.000	18.188	18.188	100.00	12.377	0.000
	72.7500					B	0.000	18.188		100.00	6.629	0.000
						C	0.000	18.188		100.00	6.629	0.000
L23	72.7500-	1.175	0.007	1.6177	18.567	A	0.000	18.567	18.567	100.00	12.352	0.000
	67.7500					B	0.000	18.567		100.00	6.618	0.000
						C	0.000	18.567		100.00	6.618	0.000
L24	67.7500-	1.162	0.007	1.6092	8.478	A	0.000	8.478	8.478	100.00	5.550	0.000
	65.5000					B	0.000	8.478		100.00	2.974	0.000
						C	0.000	8.478		100.00	2.974	0.000
L25	65.5000-	1.157	0.007	1.6061	0.947	A	0.000	0.947	0.947	100.00	0.896	0.000
	65.2500					B	0.000	0.947		100.00	0.610	0.000
						C	0.000	0.947		100.00	0.610	0.000
L26	65.2500-	1.155	0.007	1.6044	4.431	A	0.000	4.431	4.431	100.00	4.179	0.000
	64.0833					B	0.000	4.431		100.00	2.845	0.000
						C	0.000	4.431		100.00	2.845	0.000
L27	64.0833-	1.152	0.007	1.6026	0.952	A	0.000	0.952	0.952	100.00	0.895	0.000
	63.8333					B	0.000	0.952		100.00	0.609	0.000
						C	0.000	0.952		100.00	0.609	0.000
L28	63.8333-	1.142	0.007	1.5959	19.241	A	0.000	19.241	19.241	100.00	17.882	0.000
	58.8333					B	0.000	19.241		100.00	12.175	0.000
						C	0.000	19.241		100.00	12.175	0.000
L29	58.8333-	1.122	0.007	1.5824	19.618	A	0.000	19.618	19.618	100.00	17.839	0.000
	53.8333					B	0.000	19.618		100.00	12.148	0.000
						C	0.000	19.618		100.00	12.148	0.000
L30	53.8333-	1.095	0.007	1.5642	29.127	A	0.000	29.127	29.127	100.00	25.792	0.000
	46.5800					B	0.000	29.127		100.00	17.570	0.000
						C	0.000	29.127		100.00	17.570	0.000
L31	46.5800-	1.075	0.007	1.5509	4.015	A	0.000	4.015	4.015	100.00	3.556	0.000
	45.5800					B	0.000	4.015		100.00	2.422	0.000
						C	0.000	4.015		100.00	2.422	0.000
L32	45.5800-	1.066	0.006	1.5449	10.084	A	0.000	10.084	10.084	100.00	9.068	0.000
	43.0833					B	0.000	10.084		100.00	6.250	0.000
						C	0.000	10.084		100.00	6.250	0.000
L33	43.0833-	1.059	0.006	1.5401	1.015	A	0.000	1.015	1.015	100.00	0.908	0.000
	42.8333					B	0.000	1.015		100.00	0.626	0.000
						C	0.000	1.015		100.00	0.626	0.000
L34	42.8333-	1.058	0.006	1.5389	1.707	A	0.000	1.707	1.707	100.00	1.525	0.000
	42.4133					B	0.000	1.707		100.00	1.052	0.000
						C	0.000	1.707		100.00	1.052	0.000

Section Elevation	z	K _z	q _z	t _z	A _G	F a c e	A _F	A _R	A _{leg}	Leg %	C _A A _A In Face	C _A A _A Out Face
ft	ft		ksf	in	ft ²		ft ²	ft ²	ft ²		ft ²	ft ²
L35 42.4133-42.1633	42.2883	1.056	0.006	1.5377	1.017	A	0.000	1.017	1.017	100.00	0.908	0.000
						B	0.000	1.017		100.00	0.626	0.000
						C	0.000	1.017		100.00	0.626	0.000
L36 42.1633-41.9167	42.0400	1.055	0.006	1.5368	1.005	A	0.000	1.005	1.005	100.00	0.895	0.000
						B	0.000	1.005		100.00	0.617	0.000
						C	0.000	1.005		100.00	0.617	0.000
L37 41.9167-41.6667	41.7916	1.053	0.006	1.5359	1.019	A	0.000	1.019	1.019	100.00	0.907	0.000
						B	0.000	1.019		100.00	0.626	0.000
						C	0.000	1.019		100.00	0.626	0.000
L38 41.6667-36.6667	39.1583	1.039	0.006	1.5259	20.580	A	0.000	20.580	20.580	100.00	18.113	0.000
						B	0.000	20.580		100.00	12.493	0.000
						C	0.000	20.580		100.00	12.493	0.000
L39 36.6667-35.5000	36.0829	1.021	0.006	1.5135	4.855	A	0.000	4.855	4.855	100.00	4.217	0.000
						B	0.000	4.855		100.00	2.909	0.000
						C	0.000	4.855		100.00	2.909	0.000
L40 35.5000-35.2500	35.3750	1.017	0.006	1.5105	1.043	A	0.000	1.043	1.043	100.00	0.578	0.000
						B	0.000	1.043		100.00	0.644	0.000
						C	0.000	1.043		100.00	0.644	0.000
L41 35.2500-30.2500	32.7418	1.001	0.006	1.4988	21.056	A	0.000	21.056	21.056	100.00	11.527	0.000
						B	0.000	21.056		100.00	12.856	0.000
						C	0.000	21.056		100.00	12.856	0.000
L42 30.2500-25.2500	27.7420	0.966	0.006	1.4742	21.424	A	0.000	21.424	21.424	100.00	11.471	0.000
						B	0.000	21.424		100.00	12.807	0.000
						C	0.000	21.424		100.00	12.807	0.000
L43 25.2500-20.2500	22.7421	0.927	0.006	1.4452	21.788	A	0.000	21.788	21.788	100.00	11.749	0.000
						B	0.000	21.788		100.00	12.749	0.000
						C	0.000	21.788		100.00	12.749	0.000
L44 20.2500-18.0833	19.1652	0.894	0.005	1.4207	9.553	A	0.000	9.553	9.553	100.00	7.881	0.000
						B	0.000	9.553		100.00	5.503	0.000
						C	0.000	9.553		100.00	5.503	0.000
L45 18.0833-17.8167	17.9500	0.882	0.005	1.4114	1.180	A	0.000	1.180	1.180	100.00	0.968	0.000
						B	0.000	1.180		100.00	0.676	0.000
						C	0.000	1.180		100.00	0.676	0.000
L46 17.8167-17.6667	17.7417	0.879	0.005	1.4097	0.664	A	0.000	0.664	0.664	100.00	0.545	0.000
						B	0.000	0.664		100.00	0.380	0.000
						C	0.000	0.664		100.00	0.380	0.000
L47 17.6667-9.9167	13.7734	0.85	0.005	1.3745	34.758	A	0.000	34.758	34.758	100.00	27.959	0.000
						B	0.000	34.758		100.00	19.541	0.000
						C	0.000	34.758		100.00	19.541	0.000
L48 9.9167-8.9167	9.4164	0.85	0.005	1.3232	4.483	A	0.000	4.483	4.483	100.00	3.608	0.000
						B	0.000	4.483		100.00	2.521	0.000
						C	0.000	4.483		100.00	2.521	0.000
L49 8.9167-7.0000	7.9572	0.85	0.005	1.3011	8.612	A	0.000	8.612	8.612	100.00	6.823	0.000
						B	0.000	8.612		100.00	4.777	0.000
						C	0.000	8.612		100.00	4.777	0.000
L50 7.0000-6.7500	6.8750	0.85	0.005	1.2822	1.127	A	0.000	1.127	1.127	100.00	0.887	0.000
						B	0.000	1.127		100.00	0.621	0.000
						C	0.000	1.127		100.00	0.621	0.000
L51 6.7500-1.7500	4.2425	0.85	0.005	1.2218	22.688	A	0.000	22.688	22.688	100.00	17.542	0.000
						B	0.000	22.688		100.00	12.302	0.000
						C	0.000	22.688		100.00	12.302	0.000
L52 1.7500-0.0000	0.8741	0.85	0.005	1.0433	7.980	A	0.000	7.980	7.980	100.00	5.937	0.000
						B	0.000	7.980		100.00	4.181	0.000
						C	0.000	7.980		100.00	4.181	0.000

Tower Pressure - Service

G_H = 1.100

Section Elevation	z	K _z	q _z	A _G	F a c e	A _F	A _R	A _{leg}	Leg %	C _A A _A In Face	C _A A _A Out Face
ft	ft		ksf	ft ²		ft ²	ft ²	ft ²		ft ²	ft ²

Section Elevation ft	z ft	K _Z	q _z ksf	A _G ft ²	F a c e	A _F ft ²	A _R ft ²	A _{leg} ft ²	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
L1 175.0000- 170.0000	172.4834	1.42	0.011	9.738	A	0.000	9.738	9.738	100.00	0.000	0.000
					B	0.000	9.738		100.00	0.000	0.000
					C	0.000	9.738		100.00	0.000	0.000
L2 170.0000- 165.0000	167.4840	1.411	0.011	10.126	A	0.000	10.126	10.126	100.00	0.000	0.000
					B	0.000	10.126		100.00	0.000	0.000
					C	0.000	10.126		100.00	0.000	0.000
L3 165.0000- 160.0000	162.4846	1.402	0.011	10.515	A	0.000	10.515	10.515	100.00	1.188	0.000
					B	0.000	10.515		100.00	0.000	0.000
					C	0.000	10.515		100.00	0.000	0.000
L4 160.0000- 155.0000	157.4852	1.393	0.011	10.903	A	0.000	10.903	10.903	100.00	2.970	0.000
					B	0.000	10.903		100.00	0.000	0.000
					C	0.000	10.903		100.00	0.000	0.000
L5 155.0000- 145.5000	150.1991	1.379	0.011	21.785	A	0.000	21.785	21.785	100.00	5.643	0.000
					B	0.000	21.785		100.00	0.000	0.000
					C	0.000	21.785		100.00	0.000	0.000
L6 145.5000- 145.0000	145.2499	1.369	0.011	1.166	A	0.000	1.166	1.166	100.00	0.297	0.000
					B	0.000	1.166		100.00	0.000	0.000
					C	0.000	1.166		100.00	0.000	0.000
L7 145.0000- 140.0000	142.4864	1.364	0.011	11.879	A	0.000	11.879	11.879	100.00	2.970	0.000
					B	0.000	11.879		100.00	0.000	0.000
					C	0.000	11.879		100.00	0.000	0.000
L8 140.0000- 135.0000	137.4868	1.353	0.011	12.267	A	0.000	12.267	12.267	100.00	2.970	0.000
					B	0.000	12.267		100.00	0.000	0.000
					C	0.000	12.267		100.00	0.000	0.000
L9 135.0000- 130.0000	132.4872	1.343	0.011	12.655	A	0.000	12.655	12.655	100.00	2.970	0.000
					B	0.000	12.655		100.00	0.000	0.000
					C	0.000	12.655		100.00	0.000	0.000
L10 130.0000- 125.0000	127.4876	1.332	0.010	13.043	A	0.000	13.043	13.043	100.00	2.970	0.000
					B	0.000	13.043		100.00	0.000	0.000
					C	0.000	13.043		100.00	0.000	0.000
L11 125.0000- 120.0000	122.4880	1.321	0.010	13.431	A	0.000	13.431	13.431	100.00	2.970	0.000
					B	0.000	13.431		100.00	0.000	0.000
					C	0.000	13.431		100.00	0.000	0.000
L12 120.0000- 115.0000	117.4883	1.309	0.010	13.820	A	0.000	13.820	13.820	100.00	2.970	0.000
					B	0.000	13.820		100.00	0.000	0.000
					C	0.000	13.820		100.00	0.000	0.000
L13 115.0000- 110.0000	112.4886	1.297	0.010	14.208	A	0.000	14.208	14.208	100.00	2.970	0.000
					B	0.000	14.208		100.00	0.000	0.000
					C	0.000	14.208		100.00	0.000	0.000
L14 110.0000- 105.0000	107.4889	1.285	0.010	14.596	A	0.000	14.596	14.596	100.00	2.970	0.000
					B	0.000	14.596		100.00	0.000	0.000
					C	0.000	14.596		100.00	0.000	0.000
L15 105.0000- 95.5000	100.2115	1.266	0.010	28.802	A	0.000	28.802	28.802	100.00	5.643	0.000
					B	0.000	28.802		100.00	0.000	0.000
					C	0.000	28.802		100.00	0.000	0.000
L16 95.5000- 94.5000	94.9996	1.252	0.010	3.059	A	0.000	3.059	3.059	100.00	0.594	0.000
					B	0.000	3.059		100.00	0.000	0.000
					C	0.000	3.059		100.00	0.000	0.000
L17 94.5000- 89.5000	91.9896	1.244	0.010	15.530	A	0.000	15.530	15.530	100.00	2.970	0.000
					B	0.000	15.530		100.00	0.000	0.000
					C	0.000	15.530		100.00	0.000	0.000
L18 89.5000- 84.5000	86.9898	1.229	0.010	15.918	A	0.000	15.918	15.918	100.00	3.470	0.000
					B	0.000	15.918		100.00	0.500	0.000
					C	0.000	15.918		100.00	0.500	0.000
L19 84.5000- 83.0000	83.7491	1.219	0.010	4.851	A	0.000	4.851	4.851	100.00	2.391	0.000
					B	0.000	4.851		100.00	1.500	0.000
					C	0.000	4.851		100.00	1.500	0.000
L20 83.0000- 82.7500	82.8750	1.217	0.010	0.812	A	0.000	0.812	0.812	100.00	0.399	0.000
					B	0.000	0.812		100.00	0.250	0.000
					C	0.000	0.812		100.00	0.250	0.000
L21 82.7500- 77.7500	80.2402	1.208	0.009	16.442	A	0.000	16.442	16.442	100.00	7.970	0.000
					B	0.000	16.442		100.00	5.000	0.000
					C	0.000	16.442		100.00	5.000	0.000
L22 77.7500- 72.7500	75.2404	1.192	0.009	16.830	A	0.000	16.830	16.830	100.00	7.970	0.000
					B	0.000	16.830		100.00	5.000	0.000
					C	0.000	16.830		100.00	5.000	0.000
L23 72.7500- 67.7500	70.2406	1.175	0.009	17.218	A	0.000	17.218	17.218	100.00	7.970	0.000
					B	0.000	17.218		100.00	5.000	0.000

Section Elevation ft	z ft	K _z	q _z ksf	A _G ft ²	F a c e	A _F ft ²	A _R ft ²	A _{leg} ft ²	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
L24 67.7500- 65.5000	66.6231	1.162	0.009	7.875	C	0.000	17.218	7.875	100.00	5.000	0.000
					A	0.000	7.875		100.00	3.587	0.000
					B	0.000	7.875		100.00	2.250	0.000
L25 65.5000- 65.2500	65.3750	1.157	0.009	0.880	C	0.000	7.875	0.880	100.00	2.250	0.000
					A	0.000	0.880		100.00	0.598	0.000
					B	0.000	0.880		100.00	0.449	0.000
L26 65.2500- 64.0833	64.6662	1.155	0.009	4.119	C	0.000	0.880	4.119	100.00	0.449	0.000
					A	0.000	4.119		100.00	2.789	0.000
					B	0.000	4.119		100.00	2.096	0.000
L27 64.0833- 63.8333	63.9583	1.152	0.009	0.885	C	0.000	4.119	0.885	100.00	2.096	0.000
					A	0.000	0.885		100.00	0.598	0.000
					B	0.000	0.885		100.00	0.449	0.000
L28 63.8333- 58.8333	61.3243	1.142	0.009	17.911	C	0.000	0.885	17.911	100.00	0.449	0.000
					A	0.000	17.911		100.00	11.953	0.000
					B	0.000	17.911		100.00	8.983	0.000
L29 58.8333- 53.8333	56.3245	1.122	0.009	18.299	C	0.000	17.911	18.299	100.00	8.983	0.000
					A	0.000	18.299		100.00	11.953	0.000
					B	0.000	18.299		100.00	8.983	0.000
L30 53.8333- 46.5800	50.1885	1.095	0.009	27.236	C	0.000	18.299	27.236	100.00	8.983	0.000
					A	0.000	27.236		100.00	17.340	0.000
					B	0.000	27.236		100.00	13.032	0.000
L31 46.5800- 45.5800	46.0797	1.075	0.008	3.754	C	0.000	27.236	3.754	100.00	13.032	0.000
					A	0.000	3.754		100.00	2.391	0.000
					B	0.000	3.754		100.00	1.797	0.000
L32 45.5800- 43.0833	44.3295	1.066	0.008	9.441	C	0.000	3.754	9.441	100.00	1.797	0.000
					A	0.000	9.441		100.00	6.190	0.000
					B	0.000	9.441		100.00	4.707	0.000
L33 43.0833- 42.8333	42.9583	1.059	0.008	0.951	C	0.000	9.441	0.951	100.00	4.707	0.000
					A	0.000	0.951		100.00	0.621	0.000
					B	0.000	0.951		100.00	0.472	0.000
L34 42.8333- 42.4133	42.6233	1.058	0.008	1.599	C	0.000	0.951	1.599	100.00	0.472	0.000
					A	0.000	1.599		100.00	1.043	0.000
					B	0.000	1.599		100.00	0.793	0.000
L35 42.4133- 42.1633	42.2883	1.056	0.008	0.953	C	0.000	1.599	0.953	100.00	0.793	0.000
					A	0.000	0.953		100.00	0.621	0.000
					B	0.000	0.953		100.00	0.472	0.000
L36 42.1633- 41.9167	42.0400	1.055	0.008	0.942	C	0.000	0.953	0.942	100.00	0.472	0.000
					A	0.000	0.942		100.00	0.612	0.000
					B	0.000	0.942		100.00	0.466	0.000
L37 41.9167- 41.6667	41.7916	1.053	0.008	0.955	C	0.000	0.942	0.955	100.00	0.466	0.000
					A	0.000	0.955		100.00	0.621	0.000
					B	0.000	0.955		100.00	0.472	0.000
L38 41.6667- 36.6667	39.1583	1.039	0.008	19.309	C	0.000	0.955	19.309	100.00	0.472	0.000
					A	0.000	19.309		100.00	12.412	0.000
					B	0.000	19.309		100.00	9.442	0.000
L39 36.6667- 35.5000	36.0829	1.021	0.008	4.561	C	0.000	19.309	4.561	100.00	9.442	0.000
					A	0.000	4.561		100.00	2.896	0.000
					B	0.000	4.561		100.00	2.203	0.000
L40 35.5000- 35.2500	35.3750	1.017	0.008	0.980	C	0.000	4.561	0.980	100.00	2.203	0.000
					A	0.000	0.980		100.00	0.371	0.000
					B	0.000	0.980		100.00	0.493	0.000
L41 35.2500- 30.2500	32.7418	1.001	0.008	19.807	C	0.000	0.980	19.807	100.00	0.493	0.000
					A	0.000	19.807		100.00	7.412	0.000
					B	0.000	19.807		100.00	9.858	0.000
L42 30.2500- 25.2500	27.7420	0.966	0.008	20.195	C	0.000	19.807	20.195	100.00	9.858	0.000
					A	0.000	20.195		100.00	7.412	0.000
					B	0.000	20.195		100.00	9.858	0.000
L43 25.2500- 20.2500	22.7421	0.927	0.007	20.583	C	0.000	20.195	20.583	100.00	9.858	0.000
					A	0.000	20.583		100.00	7.683	0.000
					B	0.000	20.583		100.00	9.858	0.000
L44 20.2500- 18.0833	19.1652	0.894	0.007	9.040	C	0.000	20.583	9.040	100.00	9.858	0.000
					A	0.000	9.040		100.00	5.559	0.000
					B	0.000	9.040		100.00	4.272	0.000
L45 18.0833- 17.8167	17.9500	0.882	0.007	1.118	C	0.000	9.040	1.118	100.00	4.272	0.000
					A	0.000	1.118		100.00	0.684	0.000
					B	0.000	1.118		100.00	0.526	0.000
L46 17.8167-	17.7417	0.879	0.007	0.629	C	0.000	1.118	0.629	100.00	0.526	0.000
					A	0.000	0.629		100.00	0.385	0.000

Section Elevation ft	z ft	K _z	q _z ksf	A _G ft ²	F a c e	A _F ft ²	A _R ft ²	A _{leg} ft ²	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
17.6667					B	0.000	0.629		100.00	0.296	0.000
					C	0.000	0.629		100.00	0.296	0.000
L47 17.6667-9.9167	13.7734	0.85	0.007	32.982	A	0.000	32.982	32.982	100.00	19.884	0.000
					B	0.000	32.982		100.00	15.280	0.000
					C	0.000	32.982		100.00	15.280	0.000
L48 9.9167-8.9167	9.4164	0.85	0.007	4.254	A	0.000	4.254	4.254	100.00	2.566	0.000
					B	0.000	4.254		100.00	1.972	0.000
					C	0.000	4.254		100.00	1.972	0.000
L49 8.9167-7.0000	7.9572	0.85	0.007	8.196	A	0.000	8.196	8.196	100.00	4.918	0.000
					B	0.000	8.196		100.00	3.779	0.000
					C	0.000	8.196		100.00	3.779	0.000
L50 7.0000-6.7500	6.8750	0.85	0.007	1.073	A	0.000	1.073	1.073	100.00	0.641	0.000
					B	0.000	1.073		100.00	0.493	0.000
					C	0.000	1.073		100.00	0.493	0.000
L51 6.7500-1.7500	4.2425	0.85	0.007	21.670	A	0.000	21.670	21.670	100.00	12.828	0.000
					B	0.000	21.670		100.00	9.858	0.000
					C	0.000	21.670		100.00	9.858	0.000
L52 1.7500-0.0000	0.8741	0.85	0.007	7.676	A	0.000	7.676	7.676	100.00	4.490	0.000
					B	0.000	7.676		100.00	3.450	0.000
					C	0.000	7.676		100.00	3.450	0.000

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
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

Comb. No.	Description
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	175 - 170	Pole	Max Tension	39	0.00	0.00	-0.00
			Max. Compression	26	-8.68	-0.01	1.50
			Max. Mx	20	-2.69	34.87	0.12
			Max. My	2	-2.65	-0.00	35.92
			Max. Vy	8	7.81	-34.87	0.10
			Max. Vx	2	-7.97	-0.00	35.92
			Max. Torque	8			1.19
L2	170 - 165	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-9.32	-0.02	1.52
			Max. Mx	8	-3.00	-75.31	0.11
			Max. My	2	-2.96	0.00	77.17
			Max. Vy	8	8.37	-75.31	0.11
			Max. Vx	2	-8.54	0.00	77.17
			Max. Torque	8			1.19
L3	165 - 160	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-15.69	-2.16	2.19
			Max. Mx	8	-5.44	-125.94	0.04
			Max. My	2	-5.38	-0.16	128.59
			Max. Vy	8	12.36	-125.94	0.04
			Max. Vx	2	-12.67	-0.16	128.59
			Max. Torque	22			-1.94
L4	160 - 155	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-16.51	-2.08	2.31
			Max. Mx	8	-5.85	-189.17	-0.47
			Max. My	2	-5.79	0.40	193.44
			Max. Vy	8	12.95	-189.17	-0.47
			Max. Vx	2	-13.27	0.40	193.44
			Max. Torque	22			-1.94
L5	155 - 145.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-17.36	-1.99	2.43
			Max. Mx	8	-6.29	-255.39	-0.99
			Max. My	2	-6.23	0.95	261.29
			Max. Vy	8	13.55	-255.39	-0.99
			Max. Vx	2	-13.87	0.95	261.29
			Max. Torque	22			-1.94
L6	145.5 - 145	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-19.01	-1.91	2.54
			Max. Mx	8	-7.23	-324.84	-1.51
			Max. My	2	-7.17	1.51	332.36
			Max. Vy	8	14.23	-324.84	-1.51
			Max. Vx	2	-14.55	1.51	332.36
			Max. Torque	22			-1.94
L7	145 - 140	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-21.35	-1.82	2.66
			Max. Mx	8	-8.12	-401.42	-2.03
			Max. My	2	-8.06	2.07	410.57
			Max. Vy	8	15.84	-401.42	-2.03
			Max. Vx	2	-16.16	2.07	410.57
			Max. Torque	22			-1.94
L8	140 - 135	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-23.70	-1.72	2.79

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L9	135 - 130	Pole	Max. Mx	8	-9.30	-485.20	-2.55
			Max. My	2	-9.24	2.63	495.99
			Max. Vy	8	17.24	-485.20	-2.55
			Max. Vx	2	-17.56	2.63	495.99
			Max. Torque	22			-1.94
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-24.80	-1.63	2.91
			Max. Mx	8	-10.00	-572.99	-3.08
			Max. My	2	-9.94	3.20	585.44
			Max. Vy	8	17.89	-572.99	-3.08
L10	130 - 125	Pole	Max. Vx	2	-18.22	3.20	585.44
			Max. Torque	22			-1.94
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-25.93	-1.53	3.04
			Max. Mx	8	-10.72	-664.06	-3.60
			Max. My	2	-10.66	3.77	678.16
			Max. Vy	8	18.55	-664.06	-3.60
			Max. Vx	2	-18.88	3.77	678.16
			Max. Torque	22			-1.94
			Max Tension	1	0.00	0.00	0.00
L11	125 - 120	Pole	Max. Compression	26	-27.08	-1.42	3.17
			Max. Mx	8	-11.47	-758.44	-4.13
			Max. My	2	-11.42	4.34	774.19
			Max. Vy	8	19.22	-758.44	-4.13
			Max. Vx	2	-19.54	4.34	774.19
			Max. Torque	22			-1.94
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-28.26	-1.32	3.30
			Max. Mx	8	-12.25	-856.17	-4.66
			Max. My	2	-12.20	4.91	873.57
L12	120 - 115	Pole	Max. Vy	8	19.89	-856.17	-4.66
			Max. Vx	2	-20.21	4.91	873.57
			Max. Torque	22			-1.94
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-29.47	-1.21	3.43
			Max. Mx	8	-13.06	-957.26	-5.18
			Max. My	2	-13.01	5.48	976.31
			Max. Vy	8	20.57	-957.26	-5.18
			Max. Vx	2	-20.89	5.48	976.31
			Max. Torque	22			-1.93
L13	115 - 110	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-30.70	-1.09	3.55
			Max. Mx	8	-13.89	-1061.74	-5.71
			Max. My	2	-13.84	6.05	1082.45
			Max. Vy	8	21.25	-1061.74	-5.71
			Max. Vx	2	-21.57	6.05	1082.45
			Max. Torque	22			-1.93
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-31.71	-1.00	3.66
			Max. Mx	8	-14.58	-1147.76	-6.13
L14	110 - 105	Pole	Max. My	2	-14.53	6.51	1169.80
			Max. Vy	8	21.79	-1147.76	-6.13
			Max. Vx	2	-22.11	6.51	1169.80
			Max. Torque	22			-1.93
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-34.76	-0.84	3.83
			Max. Mx	8	-16.62	-1292.62	-6.81
			Max. My	2	-16.57	7.26	1316.82
			Max. Vy	8	22.79	-1292.62	-6.81
			Max. Vx	2	-23.12	7.26	1316.82
L15	105 - 95.5	Pole	Max. Torque	22			-1.93
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-36.20	-0.73	3.96
			Max. Mx	8	-17.65	-1408.24	-7.34
			Max. My	2	-17.61	7.84	1434.09
			Max. Vy	8	23.48	-1408.24	-7.34
			Max. Vx	2	-23.80	7.84	1434.09
			Max. Torque	22			-1.93
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-38.20	-0.63	4.09
L16	95.5 - 94.5	Pole	Max. Mx	8	-18.56	-1589.76	-8.19
			Max. My	2	-18.51	8.19	1511.82
			Max. Vy	8	25.48	-1589.76	-8.19
			Max. Vx	2	-25.80	8.19	1511.82
			Max. Torque	22			-1.93
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-40.20	-0.53	4.26
			Max. Mx	8	-19.67	-1704.24	-8.81
			Max. My	2	-19.63	8.81	1589.76
			Max. Vy	8	26.60	-1704.24	-8.81
L17	94.5 - 89.5	Pole	Max. Vx	2	-26.92	8.81	1589.76
			Max. Torque	22			-1.93
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-42.20	-0.43	4.43
			Max. Mx	8	-20.74	-1816.76	-9.43
			Max. My	2	-20.70	9.43	1675.82
			Max. Vy	8	27.63	-1816.76	-9.43
			Max. Vx	2	-27.95	9.43	1675.82
			Max. Torque	22			-1.93
			Max Tension	1	0.00	0.00	0.00
L18	89.5 - 84.5	Pole	Max. Compression	26	-44.20	-0.33	4.60
			Max Tension	1	0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L19	84.5 - 83	Pole	Max. Compression	26	-37.68	-0.60	4.09
			Max. Mx	8	-18.71	-1527.30	-7.87
			Max. My	2	-18.68	8.41	1554.81
			Max. Vy	8	24.17	-1527.30	-7.87
			Max. Vx	2	-24.49	8.41	1554.81
			Max. Torque	22			-1.93
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-38.19	-0.57	4.13
			Max. Mx	8	-19.03	-1563.69	-8.03
			Max. My	2	-19.00	8.58	1591.70
L20	83 - 82.75	Pole	Max. Vy	8	24.38	-1563.69	-8.03
			Max. Vx	2	-24.71	8.58	1591.70
			Max. Torque	22			-1.93
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-38.27	-0.56	4.14
			Max. Mx	8	-19.10	-1569.79	-8.05
			Max. My	2	-19.07	8.61	1597.88
			Max. Vy	8	24.41	-1569.79	-8.05
			Max. Vx	2	-24.73	8.61	1597.88
			Max. Torque	22			-1.93
L21	82.75 - 77.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-39.97	-0.43	4.25
			Max. Mx	8	-20.20	-1693.50	-8.58
			Max. My	2	-20.16	9.19	1723.25
			Max. Vy	8	25.10	-1693.50	-8.58
			Max. Vx	2	-25.42	9.19	1723.25
			Max. Torque	22			-1.93
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-41.69	-0.31	4.37
			Max. Mx	8	-21.33	-1820.64	-9.10
L22	77.75 - 72.75	Pole	Max. My	2	-21.30	9.76	1852.04
			Max. Vy	20	-25.79	1820.35	10.69
			Max. Vx	2	-26.11	9.76	1852.04
			Max. Torque	22			-1.93
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-43.44	-0.18	4.48
			Max. Mx	8	-22.49	-1951.20	-9.62
			Max. My	2	-22.46	10.34	1984.25
			Max. Vy	20	-26.47	1950.97	11.26
			Max. Vx	2	-26.79	10.34	1984.25
L23	72.75 - 67.75	Pole	Max. Torque	22			-1.93
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-44.24	-0.12	4.54
			Max. Mx	8	-23.02	-2011.07	-9.86
			Max. My	2	-23.00	10.60	2044.86
			Max. Vy	20	-26.78	2010.86	11.52
			Max. Vx	2	-27.10	10.60	2044.86
			Max. Torque	22			-1.93
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-44.33	-0.11	4.54
L24	67.75 - 65.5	Pole	Max. Mx	8	-23.09	-2017.76	-9.88
			Max. My	2	-23.07	10.63	2051.63
			Max. Vy	20	-26.80	2017.55	11.55
			Max. Vx	2	-27.12	10.63	2051.63
			Max. Torque	22			-1.93
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-44.79	-0.08	4.57
			Max. Mx	8	-23.36	-2049.11	-10.00
			Max. My	2	-23.33	10.76	2083.37
			Max. Vy	20	-26.97	2048.92	11.68
L25	65.5 - 65.25	Pole	Max. Vx	2	-27.29	10.76	2083.37
			Max. Torque	22			-1.93
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-44.92	-0.08	4.58
			Max. Mx	8	-23.36	-2049.11	-10.00
			Max. My	2	-23.33	10.76	2083.37
			Max. Vy	20	-26.97	2048.92	11.68
			Max. Vx	2	-27.29	10.76	2083.37
			Max. Torque	22			-1.93
			Max Tension	1	0.00	0.00	0.00
L26	65.25 - 64.0833	Pole	Max. Compression	26	-44.79	-0.08	4.57
			Max. Mx	8	-23.36	-2049.11	-10.00
			Max. My	2	-23.33	10.76	2083.37
			Max. Vy	20	-26.97	2048.92	11.68
			Max. Vx	2	-27.29	10.76	2083.37
			Max. Torque	22			-1.93
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-44.92	-0.08	4.58
			Max. Mx	8	-23.36	-2049.11	-10.00
			Max. My	2	-23.33	10.76	2083.37
L27	64.0833 - 63.8333	Pole	Max. Vy	20	-26.97	2048.92	11.68
			Max. Vx	2	-27.29	10.76	2083.37
			Max. Torque	22			-1.93
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-44.92	-0.08	4.58
			Max. Mx	8	-23.36	-2049.11	-10.00
			Max. My	2	-23.33	10.76	2083.37
			Max. Vy	20	-26.97	2048.92	11.68
			Max. Vx	2	-27.29	10.76	2083.37
			Max. Torque	22			-1.93

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L28	63.8333 - 58.8333	Pole	Max. Mx	8	-23.46	-2055.85	-10.03
			Max. My	2	-23.44	10.79	2090.19
			Max. Vy	20	-27.00	2055.66	11.71
			Max. Vx	2	-27.31	10.79	2090.19
			Max. Torque	22			-1.93
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-47.50	0.05	4.69
			Max. Mx	8	-25.23	-2192.63	-10.55
			Max. My	2	-25.21	11.36	2228.61
			Max. Vy	20	-27.74	2192.50	12.29
L29	58.8333 - 53.8333	Pole	Max. Vx	2	-28.06	11.36	2228.61
			Max. Torque	22			-1.93
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-50.11	0.19	4.81
			Max. Mx	8	-27.03	-2333.07	-11.06
			Max. My	2	-27.01	11.93	2370.70
			Max. Vy	20	-28.47	2333.00	12.86
			Max. Vx	2	-28.79	11.93	2370.70
			Max. Torque	22			-1.93
			Max Tension	1	0.00	0.00	0.00
L30	53.8333 - 46.58	Pole	Max. Compression	26	-50.55	0.21	4.83
			Max. Mx	8	-27.34	-2356.93	-11.15
			Max. My	2	-27.32	12.03	2394.83
			Max. Vy	20	-28.59	2356.86	12.95
			Max. Vx	2	-28.90	12.03	2394.83
			Max. Torque	22			-1.93
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-57.29	0.41	5.01
			Max. Mx	20	-32.28	2573.29	13.81
			Max. My	2	-32.26	12.88	2613.61
L31	46.58 - 45.58	Pole	Max. Vy	20	-29.76	2573.29	13.81
			Max. Vx	2	-30.08	12.88	2613.61
			Max. Torque	22			-1.92
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-58.66	0.48	5.07
			Max. Mx	20	-33.25	2648.01	14.09
			Max. My	2	-33.23	13.16	2689.12
			Max. Vy	20	-30.11	2648.01	14.09
			Max. Vx	2	-30.43	13.16	2689.12
			Max. Torque	22			-1.92
L32	45.58 - 43.0833	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-58.81	0.49	5.08
			Max. Mx	20	-33.36	2655.54	14.12
			Max. My	2	-33.35	13.19	2696.73
			Max. Vy	20	-30.13	2655.54	14.12
			Max. Vx	2	-30.45	13.19	2696.73
			Max. Torque	22			-1.92
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-59.06	0.50	5.09
			Max. Mx	20	-33.55	2668.21	14.17
L33	43.0833 - 42.8333	Pole	Max. My	2	-33.53	13.24	2709.53
			Max. Vy	20	-30.19	2668.21	14.17
			Max. Vx	2	-30.51	13.24	2709.53
			Max. Torque	22			-1.92
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-59.22	0.50	5.10
			Max. Mx	20	-33.66	2675.76	14.20
			Max. My	2	-33.65	13.27	2717.16
			Max. Vy	20	-30.23	2675.76	14.20
			Max. Vx	2	-30.54	13.27	2717.16
L34	42.8333 - 42.4133	Pole	Max. Torque	22			-1.92
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-59.22	0.50	5.10
			Max. Mx	20	-33.66	2675.76	14.20
			Max. My	2	-33.65	13.27	2717.16
			Max. Vy	20	-30.23	2675.76	14.20
			Max. Vx	2	-30.54	13.27	2717.16
			Max. Torque	22			-1.92
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-59.22	0.50	5.10
L35	42.4133 - 42.1633	Pole	Max. Mx	20	-33.66	2675.76	14.20
			Max. My	2	-33.65	13.27	2717.16
			Max. Vy	20	-30.23	2675.76	14.20
			Max. Vx	2	-30.54	13.27	2717.16
			Max. Torque	22			-1.92

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L36	42.1633 - 41.9167	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-59.37	0.51	5.10
			Max. Mx	20	-33.77	2683.22	14.22
			Max. My	2	-33.76	13.30	2724.70
			Max. Vy	20	-30.26	2683.22	14.22
			Max. Vx	2	-30.58	13.30	2724.70
			Max. Torque	22			-1.92
L37	41.9167 - 41.6667	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-59.51	0.52	5.11
			Max. Mx	20	-33.88	2690.79	14.25
			Max. My	2	-33.86	13.33	2732.35
			Max. Vy	20	-30.30	2690.79	14.25
			Max. Vx	2	-30.61	13.33	2732.35
			Max. Torque	22			-1.92
L38	41.6667 - 36.6667	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-62.36	0.65	5.23
			Max. Mx	20	-35.92	2843.99	14.83
			Max. My	2	-35.91	13.90	2887.13
			Max. Vy	20	-30.99	2843.99	14.83
			Max. Vx	2	-31.30	13.90	2887.13
			Max. Torque	22			-1.92
L39	36.6667 - 35.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-63.03	0.68	5.26
			Max. Mx	20	-36.41	2880.23	14.96
			Max. My	2	-36.39	14.03	2923.73
			Max. Vy	20	-31.14	2880.23	14.96
			Max. Vx	2	-31.46	14.03	2923.73
			Max. Torque	22			-1.92
L40	35.5 - 35.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-63.18	0.69	5.26
			Max. Mx	20	-36.52	2888.02	14.99
			Max. My	2	-36.51	14.06	2931.60
			Max. Vy	20	-31.17	2888.02	14.99
			Max. Vx	2	-31.48	14.06	2931.60
			Max. Torque	22			-1.92
L41	35.25 - 30.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-66.14	0.72	5.32
			Max. Mx	20	-38.73	3045.54	15.56
			Max. My	2	-38.72	14.63	3090.69
			Max. Vy	20	-31.84	3045.54	15.56
			Max. Vx	2	-32.16	14.63	3090.69
			Max. Torque	22			-1.92
L42	30.25 - 25.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-69.11	0.75	5.39
			Max. Mx	20	-40.97	3206.33	16.13
			Max. My	2	-40.96	15.20	3253.06
			Max. Vy	20	-32.49	3206.33	16.13
			Max. Vx	2	-32.80	15.20	3253.06
			Max. Torque	22			-1.92
L43	25.25 - 20.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-72.10	0.79	5.45
			Max. Mx	20	-43.24	3370.27	16.69
			Max. My	2	-43.23	15.77	3418.56
			Max. Vy	20	-33.10	3370.27	16.69
			Max. Vx	2	-33.41	15.77	3418.56
			Max. Torque	22			-1.92
L44	20.25 - 18.0833	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-73.43	0.85	5.51
			Max. Mx	20	-44.24	3442.25	16.94
			Max. My	2	-44.23	16.02	3491.22
			Max. Vy	20	-33.36	3442.25	16.94

Sectio n No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L45	18.0833 - 17.8167	Pole	Max. Vx	2	-33.67	16.02	3491.22
			Max. Torque	22			-1.92
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-73.59	0.85	5.51
			Max. Mx	20	-44.37	3451.15	16.97
			Max. My	2	-44.36	16.05	3500.20
			Max. Vy	20	-33.38	3451.15	16.97
L46	17.8167 - 17.6667	Pole	Max. Vx	2	-33.69	16.05	3500.20
			Max. Torque	22			-1.92
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-73.68	0.86	5.52
			Max. Mx	20	-44.44	3456.16	16.98
			Max. My	2	-44.43	16.07	3505.25
			Max. Vy	20	-33.40	3456.16	16.98
L47	17.6667 - 9.91667	Pole	Max. Vx	2	-33.71	16.07	3505.25
			Max. Torque	22			-1.92
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-74.09	0.88	5.53
			Max. Mx	20	-44.74	3478.45	17.06
			Max. My	2	-44.73	16.14	3527.75
			Max. Vy	20	-33.48	3478.45	17.06
L48	9.91667 - 8.91667	Pole	Max. Vx	2	-33.79	16.14	3527.75
			Max. Torque	22			-1.92
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-83.08	1.10	5.73
			Max. Mx	20	-51.88	3753.20	17.97
			Max. My	2	-51.87	17.06	3805.01
			Max. Vy	20	-34.49	3753.20	17.97
L49	8.91667 - 7	Pole	Max. Vx	2	-34.80	17.06	3805.01
			Max. Torque	22			-1.92
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-84.34	1.15	5.78
			Max. Mx	20	-52.86	3819.50	18.19
			Max. My	2	-52.86	17.28	3871.90
			Max. Vy	20	-34.71	3819.50	18.19
L50	7 - 6.75	Pole	Max. Vx	2	-35.02	17.28	3871.90
			Max. Torque	22			-1.92
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-84.50	1.15	5.78
			Max. Mx	20	-53.00	3828.18	18.21
			Max. My	2	-53.00	17.31	3880.66
			Max. Vy	20	-34.72	3828.18	18.21
L51	6.75 - 1.75	Pole	Max. Vx	2	-35.03	17.31	3880.66
			Max. Torque	22			-1.92
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-87.59	1.28	5.89
			Max. Mx	20	-55.45	4003.10	18.77
			Max. My	2	-55.45	17.87	4057.12
			Max. Vy	20	-35.26	4003.10	18.77
L52	1.75 - 0	Pole	Max. Vx	2	-35.57	17.87	4057.12
			Max. Torque	22			-1.92
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-88.64	1.32	5.93
			Max. Mx	20	-56.32	4064.95	18.97
			Max. My	2	-56.32	18.07	4119.51
			Max. Vy	20	-35.46	4064.95	18.97
			Max. Vx	2	-35.76	18.07	4119.51
			Max. Torque	22			-1.92

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	28	88.64	-4.62	8.07
	Max. H _x	20	56.33	35.43	0.11
	Max. H _z	2	56.33	0.11	35.73
	Max. M _x	2	4119.51	0.11	35.73
	Max. M _z	8	4064.36	-35.43	-0.11
	Max. Torsion	10	1.92	-30.73	-17.96
	Min. Vert	11	42.25	-30.73	-17.96
	Min. H _x	8	56.33	-35.43	-0.11
	Min. H _z	14	56.33	-0.11	-35.73
	Min. M _x	14	-4117.07	-0.11	-35.73
	Min. M _z	20	-4064.95	35.43	0.11
	Min. Torsion	22	-1.92	30.73	17.96

Tower Mast Reaction Summary

Load Combination	Vertical	Shear _x	Shear _z	Overturing Moment, M _x	Overturing Moment, M _z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
Dead Only	46.95	0.00	0.00	-0.97	0.26	0.00
1.2 Dead+1.6 Wind 0 deg - No Ice	56.33	-0.11	-35.73	-4119.51	18.07	1.24
0.9 Dead+1.6 Wind 0 deg - No Ice	42.25	-0.11	-35.73	-4082.99	17.81	1.23
1.2 Dead+1.6 Wind 30 deg - No Ice	56.33	18.66	-32.70	-3691.90	-2093.33	0.32
0.9 Dead+1.6 Wind 30 deg - No Ice	42.25	18.66	-32.70	-3659.46	-2075.25	0.31
1.2 Dead+1.6 Wind 60 deg - No Ice	56.33	31.12	-18.06	-2085.20	-3580.39	-0.69
0.9 Dead+1.6 Wind 60 deg - No Ice	42.25	31.12	-18.06	-2066.59	-3549.09	-0.68
1.2 Dead+1.6 Wind 90 deg - No Ice	56.33	35.43	0.11	16.55	-4064.36	-1.50
0.9 Dead+1.6 Wind 90 deg - No Ice	42.25	35.43	0.11	16.68	-4028.79	-1.49
1.2 Dead+1.6 Wind 120 deg - No Ice	56.33	30.73	17.96	2073.38	-3528.56	-1.92
0.9 Dead+1.6 Wind 120 deg - No Ice	42.25	30.73	17.96	2055.43	-3497.69	-1.90
1.2 Dead+1.6 Wind 150 deg - No Ice	56.33	17.81	31.00	3574.21	-2047.28	-1.82
0.9 Dead+1.6 Wind 150 deg - No Ice	42.25	17.81	31.00	3543.08	-2029.38	-1.80
1.2 Dead+1.6 Wind 180 deg - No Ice	56.33	0.11	35.73	4117.07	-17.45	-1.24
0.9 Dead+1.6 Wind 180 deg - No Ice	42.25	0.11	35.73	4081.18	-17.34	-1.22
1.2 Dead+1.6 Wind 210 deg - No Ice	56.33	-18.66	32.70	3689.46	2093.93	-0.33
0.9 Dead+1.6 Wind 210 deg - No Ice	42.25	-18.66	32.70	3657.66	2075.70	-0.32
1.2 Dead+1.6 Wind 240 deg - No Ice	56.33	-31.12	18.06	2082.78	3580.98	0.68
0.9 Dead+1.6 Wind 240 deg - No Ice	42.25	-31.12	18.06	2064.80	3549.54	0.67
1.2 Dead+1.6 Wind 270 deg - No Ice	56.33	-35.43	-0.11	-18.97	4064.95	1.50
0.9 Dead+1.6 Wind 270 deg - No Ice	42.25	-35.43	-0.11	-18.47	4029.24	1.49
1.2 Dead+1.6 Wind 300 deg - No Ice	56.33	-30.73	-17.96	-2075.79	3529.17	1.92
0.9 Dead+1.6 Wind 300 deg - No Ice	42.25	-30.73	-17.96	-2057.21	3498.15	1.91
1.2 Dead+1.6 Wind 330 deg - No Ice	56.33	-17.81	-31.00	-3576.63	2047.90	1.83

Load Combination	Vertical	Shear _x	Shear _z	Overturing Moment, M _x	Overturing Moment, M _z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
0.9 Dead+1.6 Wind 330 deg - No Ice	42.25	-17.81	-31.00	-3544.87	2029.85	1.81
1.2 Dead+1.0 Ice+1.0 Temp	88.64	0.00	-0.00	-5.93	1.32	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	88.64	-0.01	-8.86	-1100.99	3.84	0.40
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	88.64	4.62	-8.07	-968.58	-547.81	0.15
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	88.64	7.62	-4.42	-551.38	-936.80	-0.14
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	88.64	8.80	0.01	-3.59	-1083.37	-0.39
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	88.64	7.63	4.44	543.52	-939.29	-0.53
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	88.64	4.41	7.68	943.37	-543.18	-0.54
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	88.64	0.01	8.86	1088.81	-1.16	-0.40
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	88.64	-4.62	8.07	956.39	550.49	-0.15
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	88.64	-7.62	4.42	539.20	939.47	0.14
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	88.64	-8.80	-0.01	-8.59	1086.04	0.39
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	88.64	-7.63	-4.44	-555.71	941.97	0.53
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	88.64	-4.41	-7.68	-955.55	545.85	0.54
Dead+Wind 0 deg - Service	46.95	-0.02	-8.32	-955.48	4.36	0.29
Dead+Wind 30 deg - Service	46.95	4.34	-7.61	-856.45	-485.03	0.07
Dead+Wind 60 deg - Service	46.95	7.24	-4.20	-484.01	-829.63	-0.16
Dead+Wind 90 deg - Service	46.95	8.25	0.02	3.10	-941.75	-0.35
Dead+Wind 120 deg - Service	46.95	7.15	4.18	479.79	-817.60	-0.45
Dead+Wind 150 deg - Service	46.95	4.14	7.22	827.64	-474.31	-0.43
Dead+Wind 180 deg - Service	46.95	0.02	8.32	953.46	-3.87	-0.29
Dead+Wind 210 deg - Service	46.95	-4.34	7.61	854.43	485.52	-0.08
Dead+Wind 240 deg - Service	46.95	-7.24	4.20	481.98	830.13	0.16
Dead+Wind 270 deg - Service	46.95	-8.25	-0.02	-5.13	942.24	0.35
Dead+Wind 300 deg - Service	46.95	-7.15	-4.18	-481.81	818.10	0.45
Dead+Wind 330 deg - Service	46.95	-4.14	-7.22	-829.66	474.81	0.43

Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
1	0.00	-46.95	0.00	0.00	46.95	0.00	0.000%
2	-0.11	-56.33	-35.73	0.11	56.33	35.73	0.000%
3	-0.11	-42.25	-35.73	0.11	42.25	35.73	0.000%
4	18.66	-56.33	-32.70	-18.66	56.33	32.70	0.000%
5	18.66	-42.25	-32.70	-18.66	42.25	32.70	0.000%
6	31.12	-56.33	-18.06	-31.12	56.33	18.06	0.000%
7	31.12	-42.25	-18.06	-31.12	42.25	18.06	0.000%
8	35.43	-56.33	0.11	-35.43	56.33	-0.11	0.000%
9	35.43	-42.25	0.11	-35.43	42.25	-0.11	0.000%
10	30.73	-56.33	17.96	-30.73	56.33	-17.96	0.000%
11	30.73	-42.25	17.96	-30.73	42.25	-17.96	0.000%
12	17.81	-56.33	31.00	-17.81	56.33	-31.00	0.000%
13	17.81	-42.25	31.00	-17.81	42.25	-31.00	0.000%

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
14	0.11	-56.33	35.73	-0.11	56.33	-35.73	0.000%
15	0.11	-42.25	35.73	-0.11	42.25	-35.73	0.000%
16	-18.66	-56.33	32.70	18.66	56.33	-32.70	0.000%
17	-18.66	-42.25	32.70	18.66	42.25	-32.70	0.000%
18	-31.12	-56.33	18.06	31.12	56.33	-18.06	0.000%
19	-31.12	-42.25	18.06	31.12	42.25	-18.06	0.000%
20	-35.43	-56.33	-0.11	35.43	56.33	0.11	0.000%
21	-35.43	-42.25	-0.11	35.43	42.25	0.11	0.000%
22	-30.73	-56.33	-17.96	30.73	56.33	17.96	0.000%
23	-30.73	-42.25	-17.96	30.73	42.25	17.96	0.000%
24	-17.81	-56.33	-31.00	17.81	56.33	31.00	0.000%
25	-17.81	-42.25	-31.00	17.81	42.25	31.00	0.000%
26	0.00	-88.64	0.00	-0.00	88.64	0.00	0.000%
27	-0.01	-88.64	-8.86	0.01	88.64	8.86	0.000%
28	4.62	-88.64	-8.07	-4.62	88.64	8.07	0.000%
29	7.62	-88.64	-4.42	-7.62	88.64	4.42	0.000%
30	8.80	-88.64	0.01	-8.80	88.64	-0.01	0.000%
31	7.63	-88.64	4.44	-7.63	88.64	-4.44	0.000%
32	4.41	-88.64	7.68	-4.41	88.64	-7.68	0.000%
33	0.01	-88.64	8.86	-0.01	88.64	-8.86	0.000%
34	-4.62	-88.64	8.07	4.62	88.64	-8.07	0.000%
35	-7.62	-88.64	4.42	7.62	88.64	-4.42	0.000%
36	-8.80	-88.64	-0.01	8.80	88.64	0.01	0.000%
37	-7.63	-88.64	-4.44	7.63	88.64	4.44	0.000%
38	-4.41	-88.64	-7.68	4.41	88.64	7.68	0.000%
39	-0.02	-46.95	-8.32	0.02	46.95	8.32	0.000%
40	4.34	-46.95	-7.61	-4.34	46.95	7.61	0.000%
41	7.24	-46.95	-4.20	-7.24	46.95	4.20	0.000%
42	8.25	-46.95	0.02	-8.25	46.95	-0.02	0.000%
43	7.15	-46.95	4.18	-7.15	46.95	-4.18	0.000%
44	4.14	-46.95	7.22	-4.14	46.95	-7.22	0.000%
45	0.02	-46.95	8.32	-0.02	46.95	-8.32	0.000%
46	-4.34	-46.95	7.61	4.34	46.95	-7.61	0.000%
47	-7.24	-46.95	4.20	7.24	46.95	-4.20	0.000%
48	-8.25	-46.95	-0.02	8.25	46.95	0.02	0.000%
49	-7.15	-46.95	-4.18	7.15	46.95	4.18	0.000%
50	-4.14	-46.95	-7.22	4.14	46.95	7.22	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	0.00017536
3	Yes	5	0.00000001	0.00006951
4	Yes	6	0.00000001	0.00023617
5	Yes	6	0.00000001	0.00006782
6	Yes	6	0.00000001	0.00023603
7	Yes	6	0.00000001	0.00006829
8	Yes	5	0.00000001	0.00021632
9	Yes	5	0.00000001	0.00008936
10	Yes	6	0.00000001	0.00022264
11	Yes	6	0.00000001	0.00006414
12	Yes	6	0.00000001	0.00023888
13	Yes	6	0.00000001	0.00006958
14	Yes	5	0.00000001	0.00029499
15	Yes	5	0.00000001	0.00012401
16	Yes	6	0.00000001	0.00023306
17	Yes	6	0.00000001	0.00006684
18	Yes	6	0.00000001	0.00022980
19	Yes	6	0.00000001	0.00006622
20	Yes	5	0.00000001	0.00034054
21	Yes	5	0.00000001	0.00014522
22	Yes	6	0.00000001	0.00023862
23	Yes	6	0.00000001	0.00006960

24	Yes	6	0.00000001	0.00022338
25	Yes	6	0.00000001	0.00006425
26	Yes	4	0.00000001	0.00068422
27	Yes	6	0.00000001	0.00075272
28	Yes	6	0.00000001	0.00081050
29	Yes	6	0.00000001	0.00080230
30	Yes	6	0.00000001	0.00073900
31	Yes	6	0.00000001	0.00079447
32	Yes	6	0.00000001	0.00079902
33	Yes	6	0.00000001	0.00073828
34	Yes	6	0.00000001	0.00079346
35	Yes	6	0.00000001	0.00078777
36	Yes	6	0.00000001	0.00073579
37	Yes	6	0.00000001	0.00080511
38	Yes	6	0.00000001	0.00080819
39	Yes	4	0.00000001	0.00072531
40	Yes	5	0.00000001	0.00011739
41	Yes	5	0.00000001	0.00011651
42	Yes	4	0.00000001	0.00074905
43	Yes	5	0.00000001	0.00010335
44	Yes	5	0.00000001	0.00012066
45	Yes	4	0.00000001	0.00074530
46	Yes	5	0.00000001	0.00011347
47	Yes	5	0.00000001	0.00010922
48	Yes	4	0.00000001	0.00077425
49	Yes	5	0.00000001	0.00012054
50	Yes	5	0.00000001	0.00010437

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	175 - 170	29.12	40	1.61	0.01
L2	170 - 165	27.44	40	1.61	0.01
L3	165 - 160	25.77	40	1.59	0.00
L4	160 - 155	24.11	40	1.56	0.00
L5	155 - 145.5	22.50	40	1.53	0.00
L6	150 - 145	20.92	40	1.48	0.00
L7	145 - 140	19.39	40	1.45	0.00
L8	140 - 135	17.89	40	1.40	0.00
L9	135 - 130	16.45	40	1.35	0.00
L10	130 - 125	15.06	40	1.30	0.00
L11	125 - 120	13.74	40	1.24	0.00
L12	120 - 115	12.48	40	1.17	0.00
L13	115 - 110	11.28	40	1.10	0.00
L14	110 - 105	10.16	40	1.04	0.00
L15	105 - 95.5	9.12	40	0.96	0.00
L16	101 - 94.5	8.33	40	0.91	0.00
L17	94.5 - 89.5	7.13	40	0.86	0.00
L18	89.5 - 84.5	6.27	40	0.79	0.00
L19	84.5 - 83	5.47	40	0.72	0.00
L20	83 - 82.75	5.25	40	0.70	0.00
L21	82.75 - 77.75	5.21	40	0.70	0.00
L22	77.75 - 72.75	4.51	40	0.63	0.00
L23	72.75 - 67.75	3.88	40	0.57	0.00
L24	67.75 - 65.5	3.33	40	0.50	0.00
L25	65.5 - 65.25	3.10	40	0.47	0.00
L26	65.25 - 64.0833	3.07	40	0.47	0.00
L27	64.0833 - 63.8333	2.96	40	0.45	0.00
L28	63.8333 - 58.8333	2.94	40	0.45	0.00
L29	58.8333 - 53.8333	2.49	40	0.41	0.00
L30	53.8333 - 46.58	2.09	40	0.37	0.00
L31	52.9967 - 45.58	2.02	40	0.36	0.00
L32	45.58 - 43.0833	1.49	40	0.32	0.00

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L33	43.0833 - 42.8333	1.33	40	0.30	0.00
L34	42.8333 - 42.4133	1.31	40	0.30	0.00
L35	42.4133 - 42.1633	1.28	40	0.30	0.00
L36	42.1633 - 41.9167	1.27	40	0.30	0.00
L37	41.9167 - 41.6667	1.25	40	0.29	0.00
L38	41.6667 - 36.6667	1.24	40	0.29	0.00
L39	36.6667 - 35.5	0.95	40	0.25	0.00
L40	35.5 - 35.25	0.89	40	0.24	0.00
L41	35.25 - 30.25	0.88	40	0.24	0.00
L42	30.25 - 25.25	0.65	40	0.20	0.00
L43	25.25 - 20.25	0.45	40	0.17	0.00
L44	20.25 - 18.0833	0.30	40	0.13	0.00
L45	18.0833 - 17.8167	0.24	40	0.11	0.00
L46	17.8167 - 17.6667	0.24	40	0.11	0.00
L47	17.6667 - 9.91667	0.23	40	0.11	0.00
L48	17 - 8.91667	0.22	40	0.10	0.00
L49	8.91667 - 7	0.07	40	0.07	0.00
L50	7 - 6.75	0.04	40	0.06	0.00
L51	6.75 - 1.75	0.04	40	0.05	0.00
L52	1.75 - 0	0.00	40	0.01	0.00

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
174.0000	(2) ADA-85408580CF w/ Mount Pipe	40	28.79	1.61	0.01	25775
162.0000	P65-16-XLH-RR w/ Mount Pipe	40	24.77	1.57	0.00	10553
144.0000	SBNHH-1D65A w/ Mount Pipe	40	19.09	1.44	0.00	7255
140.0000	RRUS 11 B4	40	17.89	1.40	0.00	5763
137.0000	RRUS 11 B12	40	17.02	1.37	0.00	5374

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	175 - 170	125.32	4	6.94	0.02
L2	170 - 165	118.09	4	6.92	0.02
L3	165 - 160	110.91	4	6.85	0.02
L4	160 - 155	103.82	4	6.74	0.02
L5	155 - 145.5	96.88	4	6.58	0.02
L6	150 - 145	90.12	4	6.37	0.01
L7	145 - 140	83.52	4	6.26	0.01
L8	140 - 135	77.09	4	6.06	0.01
L9	135 - 130	70.88	4	5.83	0.01
L10	130 - 125	64.91	4	5.59	0.01
L11	125 - 120	59.21	4	5.33	0.01
L12	120 - 115	53.78	4	5.05	0.01
L13	115 - 110	48.65	4	4.77	0.01
L14	110 - 105	43.83	4	4.47	0.01

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L15	105 - 95.5	39.31	4	4.16	0.00
L16	101 - 94.5	35.93	4	3.92	0.00
L17	94.5 - 89.5	30.74	4	3.70	0.00
L18	89.5 - 84.5	27.02	4	3.41	0.00
L19	84.5 - 83	23.60	4	3.12	0.00
L20	83 - 82.75	22.64	4	3.04	0.00
L21	82.75 - 77.75	22.48	4	3.02	0.00
L22	77.75 - 72.75	19.46	4	2.74	0.00
L23	72.75 - 67.75	16.75	4	2.45	0.00
L24	67.75 - 65.5	14.35	4	2.15	0.00
L25	65.5 - 65.25	13.36	4	2.02	0.00
L26	65.25 - 64.0833	13.26	4	2.01	0.00
L27	64.0833 - 63.8333	12.77	4	1.94	0.00
L28	63.8333 - 58.8333	12.67	4	1.93	0.00
L29	58.8333 - 53.8333	10.74	4	1.75	0.00
L30	53.8333 - 46.58	9.00	4	1.58	0.00
L31	52.9967 - 45.58	8.72	4	1.55	0.00
L32	45.58 - 43.0833	6.43	4	1.39	0.00
L33	43.0833 - 42.8333	5.72	4	1.30	0.00
L34	42.8333 - 42.4133	5.65	4	1.30	0.00
L35	42.4133 - 42.1633	5.54	4	1.28	0.00
L36	42.1633 - 41.9167	5.47	4	1.28	0.00
L37	41.9167 - 41.6667	5.41	4	1.27	0.00
L38	41.6667 - 36.6667	5.34	4	1.26	0.00
L39	36.6667 - 35.5	4.11	4	1.09	0.00
L40	35.5 - 35.25	3.85	4	1.05	0.00
L41	35.25 - 30.25	3.80	4	1.04	0.00
L42	30.25 - 25.25	2.79	4	0.88	0.00
L43	25.25 - 20.25	1.95	4	0.72	0.00
L44	20.25 - 18.0833	1.29	4	0.56	0.00
L45	18.0833 - 17.8167	1.05	4	0.49	0.00
L46	17.8167 - 17.6667	1.02	4	0.48	0.00
L47	17.6667 - 9.91667	1.01	4	0.47	0.00
L48	17 - 8.91667	0.94	4	0.45	0.00
L49	8.91667 - 7	0.29	4	0.31	0.00
L50	7 - 6.75	0.18	4	0.24	0.00
L51	6.75 - 1.75	0.17	4	0.24	0.00
L52	1.75 - 0	0.01	4	0.06	0.00

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
174.0000	(2) ADA-85408580CF w/ Mount Pipe	4	123.88	6.94	0.02	6253
162.0000	P65-16-XLH-RR w/ Mount Pipe	4	106.65	6.79	0.02	2533
144.0000	SBNHH-1D65A w/ Mount Pipe	4	82.22	6.23	0.01	1724
140.0000	RRUS 11 B4	4	77.09	6.06	0.01	1367
137.0000	RRUS 11 B12	4	73.33	5.93	0.01	1274

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L _v ft	Kl/r	A in ²	P _u K	φP _n K	Ratio P _u / φP _n
L1	175 - 170 (1)	TP23.025x22.125x0.219	5.0000	0.0000	0.0	16.0823	-2.65	1113.16	0.002
L2	170 - 165 (2)	TP23.925x23.025x0.219	5.0000	0.0000	0.0	16.7170	-2.96	1139.01	0.003
L3	165 - 160 (3)	TP24.825x23.925x0.219	5.0000	0.0000	0.0	17.3517	-5.38	1163.50	0.005
L4	160 - 155 (4)	TP25.725x24.825x0.219	5.0000	0.0000	0.0	17.9863	-5.79	1186.61	0.005
L5	155 - 145.5 (5)	TP27.435x25.725x0.219	9.5000	0.0000	0.0	18.6210	-6.23	1208.35	0.005
L6	145.5 - 145 (6)	TP27.087x26.187x0.313	5.0000	0.0000	0.0	26.9844	-7.17	1989.02	0.004
L7	145 - 140 (7)	TP27.987x27.087x0.313	5.0000	0.0000	0.0	27.8915	-8.06	2045.90	0.004
L8	140 - 135 (8)	TP28.887x27.987x0.313	5.0000	0.0000	0.0	28.7986	-9.20	2090.65	0.004
L9	135 - 130 (9)	TP29.787x28.887x0.313	5.0000	0.0000	0.0	29.7057	-9.89	2134.03	0.005
L10	130 - 125 (10)	TP30.687x29.787x0.313	5.0000	0.0000	0.0	30.6127	-10.61	2176.04	0.005
L11	125 - 120 (11)	TP31.587x30.687x0.313	5.0000	0.0000	0.0	31.5198	-11.36	2216.67	0.005
L12	120 - 115 (12)	TP32.487x31.587x0.313	5.0000	0.0000	0.0	32.4269	-12.14	2255.93	0.005
L13	115 - 110 (13)	TP33.387x32.487x0.313	5.0000	0.0000	0.0	33.3340	-12.94	2293.82	0.006
L14	110 - 105 (14)	TP34.287x33.387x0.313	5.0000	0.0000	0.0	34.2410	-13.78	2330.34	0.006
L15	105 - 95.5 (15)	TP35.997x34.287x0.313	9.5000	0.0000	0.0	34.9667	-14.47	2358.57	0.006
L16	95.5 - 94.5 (16)	TP35.551x34.381x0.375	6.5000	0.0000	0.0	42.4751	-16.51	3055.43	0.005
L17	94.5 - 89.5 (17)	TP36.451x35.551x0.375	5.0000	0.0000	0.0	43.5619	-17.55	3106.10	0.006
L18	89.5 - 84.5 (18)	TP37.351x36.451x0.375	5.0000	0.0000	0.0	44.6487	-18.62	3155.41	0.006
L19	84.5 - 83 (19)	TP37.621x37.351x0.375	1.5000	0.0000	0.0	44.9747	-18.94	3169.93	0.006
L20	83 - 82.75 (20)	TP37.666x37.621x0.375	0.2500	0.0000	0.0	45.0290	-19.01	3172.34	0.006
L21	82.75 - 77.75 (21)	TP38.566x37.666x0.375	5.0000	0.0000	0.0	46.1158	-20.11	3219.79	0.006
L22	77.75 - 72.75 (22)	TP39.466x38.566x0.375	5.0000	0.0000	0.0	47.2026	-21.25	3265.86	0.007
L23	72.75 - 67.75 (23)	TP40.366x39.466x0.375	5.0000	0.0000	0.0	48.2894	-22.41	3310.57	0.007
L24	67.75 - 65.5 (24)	TP40.771x40.366x0.375	2.2500	0.0000	0.0	48.7785	-22.95	3330.24	0.007
L25	65.5 - 65.25 (25)	TP40.816x40.771x0.375	0.2500	0.0000	0.0	48.8328	-23.02	3332.40	0.007
L26	65.25 - 64.0833 (26)	TP41.026x40.816x0.375	1.1667	0.0000	0.0	49.0864	-23.29	3342.48	0.007
L27	64.0833 - 63.8333 (27)	TP41.071x41.026x0.625	0.2500	0.0000	0.0	81.3981	-23.39	5999.86	0.004
L28	63.8333 - 58.8333 (28)	TP41.971x41.071x0.625	5.0000	0.0000	0.0	83.2094	-25.16	6133.37	0.004
L29	58.8333 - 53.8333 (29)	TP42.871x41.971x0.625	5.0000	0.0000	0.0	85.0208	-26.96	6266.88	0.004
L30	53.8333 - 46.58 (30)	TP44.177x42.871x0.6125	7.2533	0.0000	0.0	83.6420	-27.27	6165.26	0.004

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio
									P _u φP _n
L31	46.58 - 45.58 (31)	TP43.6071x42.272x0.643 5	7.4167	0.0000	0.0	89.023 5	-32.22	6561.92	0.005
L32	45.58 - 43.0833 (32)	TP44.0565x43.6071x0.64 35	2.4967	0.0000	0.0	89.954 8	-33.18	6630.57	0.005
L33	43.0833 - 42.8333 (33)	TP44.1015x44.0565x0.70 6	0.2500	0.0000	0.0	98.651 9	-33.30	7271.63	0.005
L34	42.8333 - 42.4133 (34)	TP44.1771x44.1015x0.70 6	0.4200	0.0000	0.0	98.823 7	-33.48	7284.30	0.005
L35	42.4133 - 42.1633 (35)	TP44.2221x44.1771x0.78 1	0.2500	0.0000	0.0	109.24 70	-33.60	8052.57	0.004
L36	42.1633 - 41.9167 (36)	TP44.2665x44.2221x0.78 1	0.2467	0.0000	0.0	109.35 80	-33.71	8060.80	0.004
L37	41.9167 - 41.6667 (37)	TP44.3115x44.2665x0.68 1	0.2500	0.0000	0.0	95.673 9	-33.82	7052.12	0.005
L38	41.6667 - 36.6667 (38)	TP45.2116x44.3115x0.68 1	5.0000	0.0000	0.0	97.647 6	-35.87	7197.60	0.005
L39	36.6667 - 35.5 (39)	TP45.4216x45.2116x0.66 85	1.1667	0.0000	0.0	96.334 2	-36.35	7100.80	0.005
L40	35.5 - 35.25 (40)	TP45.4666x45.4216x0.73 1	0.2500	0.0000	0.0	105.30 00	-36.47	7761.63	0.005
L41	35.25 - 30.25 (41)	TP46.3667x45.4666x0.71 85	5.0000	0.0000	0.0	105.61 00	-38.68	7784.54	0.005
L42	30.25 - 25.25 (42)	TP47.2668x46.3667x0.70 6	5.0000	0.0000	0.0	105.84 80	-40.93	7802.02	0.005
L43	25.25 - 20.25 (43)	TP48.1668x47.2668x0.70 6	5.0000	0.0000	0.0	107.89 40	-43.21	7952.84	0.005
L44	20.25 - 18.0833 (44)	TP48.5569x48.1668x0.70 6	2.1667	0.0000	0.0	108.78 00	-44.21	8018.20	0.006
L45	18.0833 - 17.8167 (45)	TP48.6049x48.5569x0.70 6	0.2667	0.0000	0.0	108.88 90	-44.34	8026.24	0.006
L46	17.8167 - 17.6667 (46)	TP48.6319x48.6049x0.70 6	0.1500	0.0000	0.0	108.95 10	-44.41	8030.77	0.006
L47	17.6667 - 9.91667 (47)	TP50.027x48.6319x0.706 40	7.7500	0.0000	0.0	109.22 40	-44.71	8050.88	0.006
L48	9.91667 - 8.91667 (48)	TP49.3949x47.9399x0.72 55	8.0833	0.0000	0.0	113.69 70	-51.86	8380.62	0.006
L49	8.91667 - 7 (49)	TP49.74x49.3949x0.7255 30	1.9167	0.0000	0.0	114.50 30	-52.85	8440.03	0.006
L50	7 - 6.75 (50)	TP49.785x49.74x0.663 80	0.2500	0.0000	0.0	104.86 80	-52.99	7729.86	0.007
L51	6.75 - 1.75 (51)	TP50.685x49.785x0.663 00	5.0000	0.0000	0.0	106.79 00	-55.45	7871.49	0.007
L52	1.75 - 0 (52)	TP51x50.685x0.663 20	1.7500	0.0000	0.0	107.46 20	-56.31	7921.06	0.007

Pole Bending Design Data

Section No.	Elevation ft	Size	M _{ux}	φM _{nx}	Ratio	M _{uy}	φM _{ny}	Ratio
			kip-ft	kip-ft	$\frac{M_{ux}}{\phi M_{nx}}$	kip-ft	kip-ft	$\frac{M_{uy}}{\phi M_{ny}}$
L1	175 - 170 (1)	TP23.025x22.125x0.219	35.92	516.33	0.070	0.00	516.33	0.000
L2	170 - 165 (2)	TP23.925x23.025x0.219	77.17	549.37	0.140	0.00	549.37	0.000
L3	165 - 160 (3)	TP24.825x23.925x0.219	128.59	582.68	0.221	0.00	582.68	0.000
L4	160 - 155 (4)	TP25.725x24.825x0.219	193.44	616.19	0.314	0.00	616.19	0.000
L5	155 - 145.5 (5)	TP27.435x25.725x0.219	261.29	649.80	0.402	0.00	649.80	0.000
L6	145.5 - 145 (6)	TP27.087x26.187x0.313	332.36	1080.88	0.307	0.00	1080.88	0.000
L7	145 - 140 (7)	TP27.987x27.087x0.313	410.58	1149.60	0.357	0.00	1149.60	0.000
L8	140 - 135 (8)	TP28.887x27.987x0.313	496.37	1213.38	0.409	0.00	1213.38	0.000
L9	135 - 130 (9)	TP29.787x28.887x0.313	587.04	1277.98	0.459	0.00	1277.98	0.000
L10	130 - 125 (10)	TP30.687x29.787x0.313	681.27	1343.35	0.507	0.00	1343.35	0.000
L11	125 - 120 (11)	TP31.587x30.687x0.313	779.05	1409.40	0.553	0.00	1409.40	0.000
L12	120 - 115 (12)	TP32.487x31.587x0.313	880.39	1476.05	0.596	0.00	1476.05	0.000
L13	115 - 110 (13)	TP33.387x32.487x0.313	985.28	1543.23	0.638	0.00	1543.23	0.000

Section No.	Elevation ft	Size	M_{ux}	ϕM_{nx}	Ratio	M_{uy} kip-ft	ϕM_{ny}	Ratio
			kip-ft	kip-ft	$\frac{M_{ux}}{\phi M_{nx}}$		kip-ft	$\frac{M_{uy}}{\phi M_{ny}}$
L14	110 - 105 (14)	TP34.287x33.387x0.313	1093.72	1610.86	0.679	0.00	1610.86	0.000
L15	105 - 95.5 (15)	TP35.997x34.287x0.313	1182.99	1665.24	0.710	0.00	1665.24	0.000
L16	95.5 - 94.5 (16)	TP35.551x34.381x0.375	1333.28	2183.68	0.611	0.00	2183.68	0.000
L17	94.5 - 89.5 (17)	TP36.4511x35.551x0.375	1453.16	2277.29	0.638	0.00	2277.29	0.000
L18	89.5 - 84.5 (18)	TP37.3511x36.4511x0.375	1576.55	2371.75	0.665	0.00	2371.75	0.000
L19	84.5 - 83 (19)	TP37.6211x37.3511x0.375	1614.27	2400.24	0.673	0.00	2400.24	0.000
L20	83 - 82.75 (20)	TP37.6661x37.6211x0.375	1620.58	2405.00	0.674	0.00	2405.00	0.000
L21	82.75 - 77.75 (21)	TP38.5662x37.6661x0.375	1748.91	2500.47	0.699	0.00	2500.47	0.000
L22	77.75 - 72.75 (22)	TP39.4662x38.5662x0.375	1880.93	2596.60	0.724	0.00	2596.60	0.000
L23	72.75 - 67.75 (23)	TP40.3662x39.4662x0.375	2016.59	2693.32	0.749	0.00	2693.32	0.000
L24	67.75 - 65.5 (24)	TP40.7713x40.3662x0.375	2078.82	2737.02	0.760	0.00	2737.02	0.000
L25	65.5 - 65.25 (25)	TP40.8163x40.7713x0.375	2085.78	2741.88	0.761	0.00	2741.88	0.000
L26	65.25 - 64.0833 (26)	TP41.0263x40.8163x0.375	2118.40	2764.58	0.766	0.00	2764.58	0.000
L27	64.0833 - 63.8333 (27)	TP41.0713x41.0263x0.62	2125.42	4907.21	0.433	0.00	4907.21	0.000
L28	63.8333 - 58.8333 (28)	TP41.9713x41.0713x0.62	2268.00	5129.73	0.442	0.00	5129.73	0.000
L29	58.8333 - 53.8333 (29)	TP42.8713x41.9713x0.62	2414.83	5357.20	0.451	0.00	5357.20	0.000
L30	53.8333 - 46.58 (30)	TP44.177x42.8713x0.612	2439.82	5292.50	0.461	0.00	5292.50	0.000
L31	46.58 - 45.58 (31)	TP43.6071x42.272x0.643	2666.76	5703.61	0.468	0.00	5703.61	0.000
L32	45.58 - 43.0833 (32)	TP44.0565x43.6071x0.64	2745.29	5824.45	0.471	0.00	5824.45	0.000
L33	43.0833 - 42.8333 (33)	TP44.1015x44.0565x0.70	2753.22	6375.92	0.432	0.00	6375.92	0.000
L34	42.8333 - 42.4133 (34)	TP44.1771x44.1015x0.70	2766.54	6398.33	0.432	0.00	6398.33	0.000
L35	42.4133 - 42.1633 (35)	TP44.2221x44.1771x0.78	2774.49	7056.22	0.393	0.00	7056.22	0.000
L36	42.1633 - 41.9167 (36)	TP44.2665x44.2221x0.78	2782.34	7070.77	0.393	0.00	7070.77	0.000
L37	41.9167 - 41.6667 (37)	TP44.3115x44.2665x0.68	2790.31	6220.98	0.449	0.00	6220.98	0.000
L38	41.6667 - 36.6667 (38)	TP45.2116x44.3115x0.68	2951.75	6482.32	0.455	0.00	6482.32	0.000
L39	36.6667 - 35.5 (39)	TP45.4216x45.2116x0.66	2989.98	6429.33	0.465	0.00	6429.33	0.000
L40	35.5 - 35.25 (40)	TP45.4666x45.4216x0.73	2998.21	7015.23	0.427	0.00	7015.23	0.000
L41	35.25 - 30.25 (41)	TP46.3667x45.4666x0.71	3164.54	7183.71	0.441	0.00	7183.71	0.000
L42	30.25 - 25.25 (42)	TP47.2668x46.3667x0.70	3334.42	7347.96	0.454	0.00	7347.96	0.000
L43	25.25 - 20.25 (43)	TP48.1668x47.2668x0.70	3507.68	7636.95	0.459	0.00	7636.95	0.000
L44	20.25 - 18.0833 (44)	TP48.5569x48.1668x0.70	3583.81	7763.92	0.462	0.00	7763.92	0.000
L45	18.0833 - 17.8167 (45)	TP48.6049x48.5569x0.70	3593.22	7779.62	0.462	0.00	7779.62	0.000
L46	17.8167 - 17.6667 (46)	TP48.6319x48.6049x0.70	3598.52	7788.45	0.462	0.00	7788.45	0.000
L47	17.6667 - 9.91667 (47)	TP50.027x48.6319x0.706	3622.10	7827.79	0.463	0.00	7827.79	0.000
L48	9.91667 - 8.91667 (48)	TP49.3949x47.9399x0.72	3913.14	8252.42	0.474	0.00	8252.42	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 $\frac{M_{uy}}{\phi M_{ny}}$
L49	8.91667 - 7 (49)	TP49.74x49.3949x0.7255	3983.46	8370.67	0.476	0.00	8370.67	0.000
L50	7 - 6.75 (50)	TP49.785x49.74x0.663	3992.67	7693.07	0.519	0.00	7693.07	0.000
L51	6.75 - 1.75 (51)	TP50.685x49.785x0.663	4178.36	7979.47	0.524	0.00	7979.47	0.000
L52	1.75 - 0 (52)	TP51x50.685x0.663	4244.07	8080.95	0.525	0.00	8080.95	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	175 - 170 (1)	TP23.025x22.125x0.219	7.97	553.91	0.014	0.00	1046.96	0.000
L2	170 - 165 (2)	TP23.925x23.025x0.219	8.54	566.98	0.015	0.00	1113.96	0.000
L3	165 - 160 (3)	TP24.825x23.925x0.219	12.67	581.75	0.022	1.25	1181.50	0.001
L4	160 - 155 (4)	TP25.725x24.825x0.219	13.27	593.30	0.022	1.25	1249.43	0.001
L5	155 - 145.5 (5)	TP27.435x25.725x0.219	13.87	604.17	0.023	1.25	1317.60	0.001
L6	145.5 - 145 (6)	TP27.087x26.187x0.313	14.55	994.51	0.015	1.25	2191.70	0.001
L7	145 - 140 (7)	TP27.987x27.087x0.313	16.16	1022.95	0.016	1.25	2331.03	0.001
L8	140 - 135 (8)	TP28.887x27.987x0.313	17.78	1045.32	0.017	0.32	2460.35	0.000
L9	135 - 130 (9)	TP29.787x28.887x0.313	18.49	1067.01	0.017	0.32	2591.36	0.000
L10	130 - 125 (10)	TP30.687x29.787x0.313	19.21	1088.02	0.018	0.32	2723.90	0.000
L11	125 - 120 (11)	TP31.587x30.687x0.313	19.92	1108.34	0.018	0.32	2857.82	0.000
L12	120 - 115 (12)	TP32.487x31.587x0.313	20.63	1127.97	0.018	0.32	2992.97	0.000
L13	115 - 110 (13)	TP33.387x32.487x0.313	21.34	1146.91	0.019	0.32	3129.19	0.000
L14	110 - 105 (14)	TP34.287x33.387x0.313	22.05	1165.17	0.019	0.32	3266.32	0.000
L15	105 - 95.5 (15)	TP35.997x34.287x0.313	22.60	1179.28	0.019	0.32	3376.59	0.000
L16	95.5 - 94.5 (16)	TP35.551x34.381x0.375	23.63	1527.72	0.015	0.32	4427.82	0.000
L17	94.5 - 89.5 (17)	TP36.4511x35.551x0.375	24.34	1553.05	0.016	0.32	4617.64	0.000
L18	89.5 - 84.5 (18)	TP37.3511x36.4511x0.375	25.04	1577.70	0.016	0.32	4809.18	0.000
L19	84.5 - 83 (19)	TP37.6211x37.3511x0.375	25.27	1584.96	0.016	0.32	4866.94	0.000
L20	83 - 82.75 (20)	TP37.6661x37.6211x0.375	25.30	1586.17	0.016	0.32	4876.58	0.000
L21	82.75 - 77.75 (21)	TP38.5662x37.6661x0.375	26.05	1609.89	0.016	0.32	5070.17	0.000
L22	77.75 - 72.75 (22)	TP39.4662x38.5662x0.375	26.78	1632.93	0.016	0.32	5265.10	0.000
L23	72.75 - 67.75 (23)	TP40.3662x39.4662x0.375	27.51	1655.28	0.017	0.32	5461.23	0.000
L24	67.75 - 65.5 (24)	TP40.7713x40.3662x0.375	27.83	1665.12	0.017	0.32	5549.82	0.000
L25	65.5 - 65.25 (25)	TP40.8163x40.7713x0.375	27.86	1666.20	0.017	0.32	5559.68	0.000
L26	65.25 - 64.0833 (26)	TP41.0263x40.8163x0.375	28.06	1671.24	0.017	0.32	5605.71	0.000
L27	64.0833 - 63.8333 (27)	TP41.0713x41.0263x0.625	28.09	2999.93	0.009	0.32	9950.25	0.000
L28	63.8333 - 58.8333 (28)	TP41.9713x41.0713x0.625	28.95	3066.68	0.009	0.32	10401.50	0.000
L29	58.8333 - 53.8333 (29)	TP42.8713x41.9713x0.625	29.80	3133.44	0.010	0.32	10862.75	0.000
L30	53.8333 - 46.58 (30)	TP44.177x42.8713x0.6125	29.93	3082.63	0.010	0.32	10731.58	0.000
L31	46.58 - 45.58 (31)	TP43.6071x42.272x0.6435	31.26	3280.96	0.010	0.32	11565.17	0.000
L32	45.58 - 43.0833 (32)	TP44.0565x43.6071x0.6435	31.67	3315.28	0.010	0.32	11810.17	0.000
L33	43.0833 -	TP44.1015x44.0565x0.70	31.70	3635.81	0.009	0.32	12928.33	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 $\frac{T_u}{\phi T_n}$
L34	42.8333 (33)	6						
	42.8333 - 42.4133 (34)	TP44.1771x44.1015x0.70	31.77	3642.15	0.009	0.32	12973.83	0.000
L35	42.4133 - 42.1633 (35)	6						
	42.1633 - 41.9167 (36)	TP44.2221x44.1771x0.78	31.81	4026.28	0.008	0.32	14307.83	0.000
L36	41.9167 - 41.6667 (37)	1						
	41.6667 - 36.6667 (38)	TP44.2665x44.2221x0.78	31.85	4030.40	0.008	0.32	14337.33	0.000
L37	36.6667 - 35.5 (39)	1						
	35.5 - 30.25 (40)	TP44.3115x44.2665x0.68	31.89	3526.06	0.009	0.32	12614.17	0.000
L38	30.25 - 25.25 (41)	1						
	25.25 - 20.25 (42)	TP45.2116x44.3115x0.68	32.70	3598.80	0.009	0.32	13144.08	0.000
L39	20.25 - 18.0833 (44)	1						
	18.0833 - 17.8167 (45)	TP45.4216x45.2116x0.66	32.88	3550.40	0.009	0.32	13036.67	0.000
L40	17.8167 - 17.6667 (46)	85						
	17.6667 - 9.91667 (47)	TP45.4666x45.4216x0.73	32.91	3880.82	0.008	0.32	14224.75	0.000
L41	9.91667 - 8.91667 (48)	1						
	8.91667 - 7 (49)	TP46.3667x45.4666x0.71	33.64	3892.27	0.009	0.32	14566.33	0.000
L42	7 - 6.75 (50)	85						
	6.75 - 1.75 (51)	TP47.2668x46.3667x0.70	34.33	3901.01	0.009	0.32	14899.33	0.000
L43	1.75 - 0 (52)	6						
		TP48.1668x47.2668x0.70	34.99	3976.42	0.009	0.32	15485.33	0.000
L44		6						
		TP48.5569x48.1668x0.70	35.29	4009.10	0.009	0.32	15742.83	0.000
L45		6						
		TP48.6049x48.5569x0.70	35.32	4013.12	0.009	0.32	15774.67	0.000
L46		6						
		TP48.6319x48.6049x0.70	35.34	4015.38	0.009	0.32	15792.58	0.000
L47		6						
		TP50.027x48.6319x0.706	35.43	4025.44	0.009	0.32	15872.33	0.000
L48		6						
		TP49.3949x47.9399x0.72	36.58	4190.31	0.009	0.32	16733.33	0.000
L49		55						
		TP49.74x49.3949x0.7255	36.83	4220.01	0.009	0.32	16973.17	0.000
L50		663						
		TP49.785x49.74x0.663	36.84	3864.93	0.010	0.32	15599.17	0.000
L51		663						
		TP50.685x49.785x0.663	37.46	3935.74	0.010	0.32	16179.92	0.000
L52		663						
		TP51x50.685x0.663	37.68	3960.53	0.010	0.32	16385.67	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Ratio P_u	Ratio M_{ux}	Ratio M_{uy}	Ratio V_u	Ratio T_u	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
		ϕP_n	ϕM_{nx}	ϕM_{ny}	ϕV_n	ϕT_n			
L1	175 - 170 (1)	0.002	0.070	0.000	0.014	0.000	0.072	1.000	4.8.2
L2	170 - 165 (2)	0.003	0.140	0.000	0.015	0.000	0.143	1.000	4.8.2
L3	165 - 160 (3)	0.005	0.221	0.000	0.022	0.001	0.226	1.000	4.8.2
L4	160 - 155 (4)	0.005	0.314	0.000	0.022	0.001	0.319	1.000	4.8.2
L5	155 - 145.5 (5)	0.005	0.402	0.000	0.023	0.001	0.408	1.000	4.8.2
L6	145.5 - 145 (6)	0.004	0.307	0.000	0.015	0.001	0.311	1.000	4.8.2
L7	145 - 140 (7)	0.004	0.357	0.000	0.016	0.001	0.361	1.000	4.8.2
L8	140 - 135 (8)	0.004	0.409	0.000	0.017	0.000	0.414	1.000	4.8.2
L9	135 - 130 (9)	0.005	0.459	0.000	0.017	0.000	0.464	1.000	4.8.2
L10	130 - 125 (10)	0.005	0.507	0.000	0.018	0.000	0.512	1.000	4.8.2
L11	125 - 120 (11)	0.005	0.553	0.000	0.018	0.000	0.558	1.000	4.8.2
L12	120 - 115 (12)	0.005	0.596	0.000	0.018	0.000	0.602	1.000	4.8.2
L13	115 - 110 (13)	0.006	0.638	0.000	0.019	0.000	0.644	1.000	4.8.2
L14	110 - 105 (14)	0.006	0.679	0.000	0.019	0.000	0.685	1.000	4.8.2
L15	105 - 95.5 (15)	0.006	0.710	0.000	0.019	0.000	0.717	1.000	4.8.2
L16	95.5 - 94.5 (16)	0.005	0.611	0.000	0.015	0.000	0.616	1.000	4.8.2

Section No.	Elevation ft	Ratio	Ratio	Ratio	Ratio	Ratio	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
		P_u	M_{ux}	M_{uy}	V_u	T_u			
		ϕP_n	ϕM_{nx}	ϕM_{ny}	ϕV_n	ϕT_n			
L17	94.5 - 89.5 (17)	0.006	0.638	0.000	0.016	0.000	0.644	1.000	4.8.2
L18	89.5 - 84.5 (18)	0.006	0.665	0.000	0.016	0.000	0.671	1.000	4.8.2
L19	84.5 - 83 (19)	0.006	0.673	0.000	0.016	0.000	0.679	1.000	4.8.2
L20	83 - 82.75 (20)	0.006	0.674	0.000	0.016	0.000	0.680	1.000	4.8.2
L21	82.75 - 77.75 (21)	0.006	0.699	0.000	0.016	0.000	0.706	1.000	4.8.2
L22	77.75 - 72.75 (22)	0.007	0.724	0.000	0.016	0.000	0.731	1.000	4.8.2
L23	72.75 - 67.75 (23)	0.007	0.749	0.000	0.017	0.000	0.756	1.000	4.8.2
L24	67.75 - 65.5 (24)	0.007	0.760	0.000	0.017	0.000	0.767	1.000	4.8.2
L25	65.5 - 65.25 (25)	0.007	0.761	0.000	0.017	0.000	0.768	1.000	4.8.2
L26	65.25 - 64.0833 (26)	0.007	0.766	0.000	0.017	0.000	0.774	1.000	4.8.2
L27	64.0833 - 63.8333 (27)	0.004	0.433	0.000	0.009	0.000	0.437	1.000	4.8.2
L28	63.8333 - 58.8333 (28)	0.004	0.442	0.000	0.009	0.000	0.446	1.000	4.8.2
L29	58.8333 - 53.8333 (29)	0.004	0.451	0.000	0.010	0.000	0.455	1.000	4.8.2
L30	53.8333 - 46.58 (30)	0.004	0.461	0.000	0.010	0.000	0.466	1.000	4.8.2
L31	46.58 - 45.58 (31)	0.005	0.468	0.000	0.010	0.000	0.473	1.000	4.8.2
L32	45.58 - 43.0833 (32)	0.005	0.471	0.000	0.010	0.000	0.476	1.000	4.8.2
L33	43.0833 - 42.8333 (33)	0.005	0.432	0.000	0.009	0.000	0.436	1.000	4.8.2
L34	42.8333 - 42.4133 (34)	0.005	0.432	0.000	0.009	0.000	0.437	1.000	4.8.2
L35	42.4133 - 42.1633 (35)	0.004	0.393	0.000	0.008	0.000	0.397	1.000	4.8.2
L36	42.1633 - 41.9167 (36)	0.004	0.393	0.000	0.008	0.000	0.398	1.000	4.8.2
L37	41.9167 - 41.6667 (37)	0.005	0.449	0.000	0.009	0.000	0.453	1.000	4.8.2
L38	41.6667 - 36.6667 (38)	0.005	0.455	0.000	0.009	0.000	0.460	1.000	4.8.2
L39	36.6667 - 35.5 (39)	0.005	0.465	0.000	0.009	0.000	0.470	1.000	4.8.2
L40	35.5 - 35.25 (40)	0.005	0.427	0.000	0.008	0.000	0.432	1.000	4.8.2
L41	35.25 - 30.25 (41)	0.005	0.441	0.000	0.009	0.000	0.446	1.000	4.8.2
L42	30.25 - 25.25 (42)	0.005	0.454	0.000	0.009	0.000	0.459	1.000	4.8.2
L43	25.25 - 20.25 (43)	0.005	0.459	0.000	0.009	0.000	0.465	1.000	4.8.2
L44	20.25 - 18.0833 (44)	0.006	0.462	0.000	0.009	0.000	0.467	1.000	4.8.2
L45	18.0833 - 17.8167 (45)	0.006	0.462	0.000	0.009	0.000	0.467	1.000	4.8.2
L46	17.8167 - 17.6667 (46)	0.006	0.462	0.000	0.009	0.000	0.468	1.000	4.8.2
L47	17.6667 - 9.91667 (47)	0.006	0.463	0.000	0.009	0.000	0.468	1.000	4.8.2
L48	9.91667 - 8.91667 (48)	0.006	0.474	0.000	0.009	0.000	0.480	1.000	4.8.2
L49	8.91667 - 7 (49)	0.006	0.476	0.000	0.009	0.000	0.482	1.000	4.8.2
L50	7 - 6.75 (50)	0.007	0.519	0.000	0.010	0.000	0.526	1.000	4.8.2
L51	6.75 - 1.75 (51)	0.007	0.524	0.000	0.010	0.000	0.531	1.000	4.8.2
L52	1.75 - 0 (52)	0.007	0.525	0.000	0.010	0.000	0.532	1.000	4.8.2

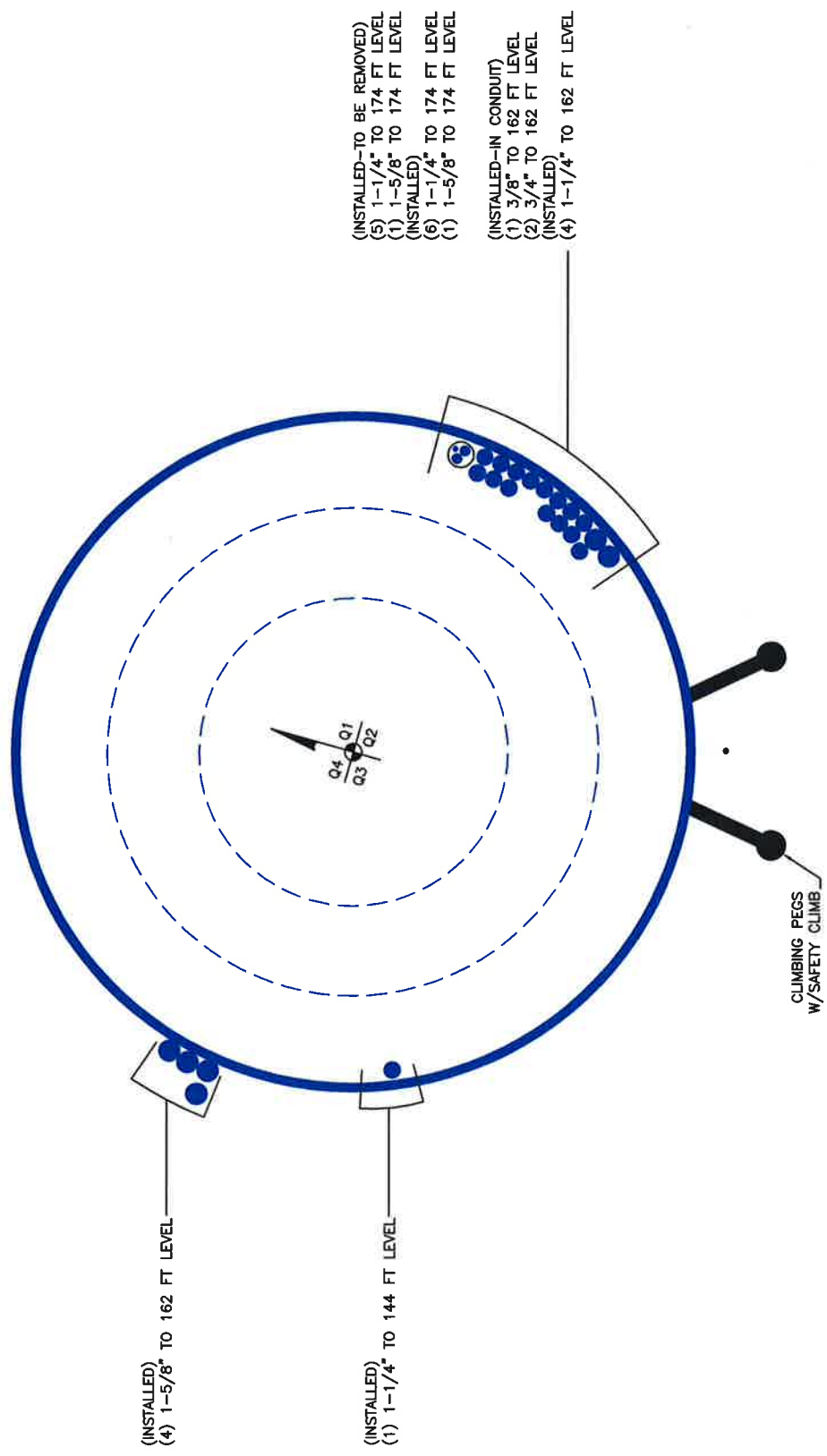
Section No.	Elevation ft	Ratio	Ratio	Ratio	Ratio	Ratio	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
		P_u	M_{ux}	M_{uy}	V_u	T_u			
		ϕP_n	ϕM_{nx}	ϕM_{ny}	ϕV_n	ϕT_n			

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	175 - 170	Pole	TP23.025x22.125x0.219	1	-2.65	1113.16	7.2	Pass
L2	170 - 165	Pole	TP23.925x23.025x0.219	2	-2.96	1139.01	14.3	Pass
L3	165 - 160	Pole	TP24.825x23.925x0.219	3	-5.38	1163.50	22.6	Pass
L4	160 - 155	Pole	TP25.725x24.825x0.219	4	-5.79	1186.61	31.9	Pass
L5	155 - 145.5	Pole	TP27.435x25.725x0.219	5	-6.23	1208.35	40.8	Pass
L6	145.5 - 145	Pole	TP27.087x26.187x0.313	6	-7.17	1989.02	31.1	Pass
L7	145 - 140	Pole	TP27.987x27.087x0.313	7	-8.06	2045.90	36.1	Pass
L8	140 - 135	Pole	TP28.887x27.987x0.313	8	-9.20	2090.65	41.4	Pass
L9	135 - 130	Pole	TP29.787x28.887x0.313	9	-9.89	2134.03	46.4	Pass
L10	130 - 125	Pole	TP30.687x29.787x0.313	10	-10.61	2176.04	51.2	Pass
L11	125 - 120	Pole	TP31.587x30.687x0.313	11	-11.36	2216.67	55.8	Pass
L12	120 - 115	Pole	TP32.487x31.587x0.313	12	-12.14	2255.93	60.2	Pass
L13	115 - 110	Pole	TP33.387x32.487x0.313	13	-12.94	2293.82	64.4	Pass
L14	110 - 105	Pole	TP34.287x33.387x0.313	14	-13.78	2330.34	68.5	Pass
L15	105 - 95.5	Pole	TP35.997x34.287x0.313	15	-14.47	2358.57	71.7	Pass
L16	95.5 - 94.5	Pole	TP35.551x34.381x0.375	16	-16.51	3055.43	61.6	Pass
L17	94.5 - 89.5	Pole	TP36.451x35.551x0.375	17	-17.55	3106.10	64.4	Pass
L18	89.5 - 84.5	Pole	TP37.351x36.451x0.375	18	-18.62	3155.41	67.1	Pass
L19	84.5 - 83	Pole	TP37.621x37.351x0.375	19	-18.94	3169.93	67.9	Pass
L20	83 - 82.75	Pole	TP37.6661x37.621x0.375	20	-19.01	3172.34	68.0	Pass
L21	82.75 - 77.75	Pole	TP38.5662x37.6661x0.375	21	-20.11	3219.79	70.6	Pass
L22	77.75 - 72.75	Pole	TP39.4662x38.5662x0.375	22	-21.25	3265.86	73.1	Pass
L23	72.75 - 67.75	Pole	TP40.3662x39.4662x0.375	23	-22.41	3310.57	75.6	Pass
L24	67.75 - 65.5	Pole	TP40.7713x40.3662x0.375	24	-22.95	3330.24	76.7	Pass
L25	65.5 - 65.25	Pole	TP40.8163x40.7713x0.375	25	-23.02	3332.40	76.8	Pass
L26	65.25 - 64.0833	Pole	TP41.0263x40.8163x0.375	26	-23.29	3342.48	77.4	Pass
L27	64.0833 - 63.8333	Pole	TP41.0713x41.0263x0.625	27	-23.39	5999.86	43.7	Pass
L28	63.8333 - 58.8333	Pole	TP41.9713x41.0713x0.625	28	-25.16	6133.37	44.6	Pass
L29	58.8333 - 53.8333	Pole	TP42.8713x41.9713x0.625	29	-26.96	6266.88	45.5	Pass
L30	53.8333 - 46.58	Pole	TP44.177x42.8713x0.6125	30	-27.27	6165.26	46.6	Pass
L31	46.58 - 45.58	Pole	TP43.6071x42.272x0.6435	31	-32.22	6561.92	47.3	Pass
L32	45.58 - 43.0833	Pole	TP44.0565x43.6071x0.6435	32	-33.18	6630.57	47.6	Pass
L33	43.0833 - 42.8333	Pole	TP44.1015x44.0565x0.706	33	-33.30	7271.63	43.6	Pass
L34	42.8333 - 42.4133	Pole	TP44.1771x44.1015x0.706	34	-33.48	7284.30	43.7	Pass
L35	42.4133 - 42.1633	Pole	TP44.2221x44.1771x0.781	35	-33.60	8052.57	39.7	Pass
L36	42.1633 - 41.9167	Pole	TP44.2665x44.2221x0.781	36	-33.71	8060.80	39.8	Pass
L37	41.9167 - 41.6667	Pole	TP44.3115x44.2665x0.681	37	-33.82	7052.12	45.3	Pass
L38	41.6667 - 36.6667	Pole	TP45.2116x44.3115x0.681	38	-35.87	7197.60	46.0	Pass
L39	36.6667 - 35.5	Pole	TP45.4216x45.2116x0.6685	39	-36.35	7100.80	47.0	Pass
L40	35.5 - 35.25	Pole	TP45.4666x45.4216x0.731	40	-36.47	7761.63	43.2	Pass
L41	35.25 - 30.25	Pole	TP46.3667x45.4666x0.7185	41	-38.68	7784.54	44.6	Pass
L42	30.25 - 25.25	Pole	TP47.2668x46.3667x0.706	42	-40.93	7802.02	45.9	Pass
L43	25.25 - 20.25	Pole	TP48.1668x47.2668x0.706	43	-43.21	7952.84	46.5	Pass
L44	20.25 - 18.0833	Pole	TP48.5569x48.1668x0.706	44	-44.21	8018.20	46.7	Pass
L45	18.0833 - 17.8167	Pole	TP48.6049x48.5569x0.706	45	-44.34	8026.24	46.7	Pass
L46	17.8167 - 17.6667	Pole	TP48.6319x48.6049x0.706	46	-44.41	8030.77	46.8	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	θP_{allow} K	% Capacity	Pass Fail	
L47	17.6667 - 9.91667	Pole	TP50.027x48.6319x0.706	47	-44.71	8050.88	46.8	Pass	
L48	9.91667 - 8.91667	Pole	TP49.3949x47.9399x0.7255	48	-51.86	8380.62	48.0	Pass	
L49	8.91667 - 7	Pole	TP49.74x49.3949x0.7255	49	-52.85	8440.03	48.2	Pass	
L50	7 - 6.75	Pole	TP49.785x49.74x0.663	50	-52.99	7729.86	52.6	Pass	
L51	6.75 - 1.75	Pole	TP50.685x49.785x0.663	51	-55.45	7871.49	53.1	Pass	
L52	1.75 - 0	Pole	TP51x50.685x0.663	52	-56.31	7921.06	53.2	Pass	
							Summary		
							Pole (L26)	77.4	Pass
							RATING =	77.4	Pass

APPENDIX B
BASE LEVEL DRAWING



BUSINESS UNIT: 807132 TOWER ID: C_BASELEVEL

APPENDIX C
ADDITIONAL CALCULATIONS

Pole Geometry

	Pole Height Above Base (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Bend Radius (in)	Pole Material
1	175	29.5	4.5	12	22.125	27.435	0.219	0.876	A572-65
2	150	54.5	5.5	12	26.19	35.997	0.313	1.252	A572-65
3	101	54.42	6.41667	12	34.38	44.177	0.375	1.5	A572-65
4	52.99667	43.08	7.08333	12	42.27	50.027	0.406	1.624	A572-65
5	17	17	0	12	47.94	51	0.438	1.752	A572-65

Reinforcement Configuration

	Bottom Effective Elevation (ft)	Top Effective Elevation (ft)	Type	Model	Number	1	2	3	4	5	6	7	8	9	10	11	12
1	0	18.08333333	channel	MP3-05 (1.1875")	3		x				x						
2	17.91666667	43.08333333	channel	MP3-05 (1.1875")	2			x									x
3	17.91666667	42.41333333	channel	MP3-05 (1.1875")	1							x					
4	41.91666667	64.08333333	channel	MP3-04 (1.1875")	3		x			x							
5	0	17	plate	CCI-AFP-065125	1												x
6	7	35.5	plate	CCI-AFP-065125	1												x
7	0	35.5	plate	CCI-AFP-065125	2			x									
8	35.5	65.5	plate	CCI-AFP-060100	3				x								x
9	65.5	83	plate	CCI-AFP-060100	3					x							x
10																	

Reinforcement Details

	B (in)	H (in)	Gross Area (in ²)	Pole Face to Centroid (in)	Bottom Termination Length (in)	Top Termination Length (in)	L _b (in)	Net Area (in ²)	Bolt Hole Size (in)	Reinforcement Material
1	5.33	2.09	5.65	0.79	29.000	29.000	18.000	5.025	1.1875	A572-65
2	5.33	2.09	5.65	0.79	29.000	29.000	18.000	5.025	1.1875	A572-65
3	5.33	2.09	5.65	0.79	29.000	29.000	18.000	5.025	1.1875	A572-65
4	4.78	1.61	4.13	0.61	17.000	17.000	18.000	3.593	1.1875	A572-65
5	6.5	1.25	8.125	0.625	42.000	42.000	19.000	6.563	1.1875	A572-65
6	6.5	1.25	8.125	0.625	42.000	42.000	19.000	6.563	1.1875	A572-65
7	6.5	1.25	8.125	0.625	42.000	42.000	19.000	6.563	1.1875	A572-65
8	6	1	6	0.5	30.000	30.000	16.000	4.750	1.1875	A572-65
9	6	1	6	0.5	30.000	30.000	16.000	4.750	1.1875	A572-65

TNX Geometry Input

Increment (ft): 5

	Section Height (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (In)	Bottom Diameter (In)	Wall Thickness (In)	Tapered Pole Grade	Weight Multiplier
1	175 - 170	5		12	22.125	23.025	0.219	A572-65	1.000
2	170 - 165	5		12	23.025	23.925	0.219	A572-65	1.000
3	165 - 160	5		12	23.925	24.825	0.219	A572-65	1.000
4	160 - 155	5		12	24.825	25.725	0.219	A572-65	1.000
5	155 - 150	9.5	4.5	12	25.725	27.435	0.219	A572-65	1.000
6	150 - 145	5		12	26.187	27.087	0.313	A572-65	1.000
7	145 - 140	5		12	27.087	27.987	0.313	A572-65	1.000
8	140 - 135	5		12	27.987	28.887	0.313	A572-65	1.000
9	135 - 130	5		12	28.887	29.787	0.313	A572-65	1.000
10	130 - 125	5		12	29.787	30.687	0.313	A572-65	1.000
11	125 - 120	5		12	30.687	31.587	0.313	A572-65	1.000
12	120 - 115	5		12	31.587	32.487	0.313	A572-65	1.000
13	115 - 110	5		12	32.487	33.387	0.313	A572-65	1.000
14	110 - 105	5		12	33.387	34.287	0.313	A572-65	1.000
15	105 - 101	9.5	5.5	12	34.287	35.997	0.313	A572-65	1.000
16	101 - 94.5	6.5		12	34.381	35.551	0.375	A572-65	1.000
17	94.5 - 89.5	5		12	35.551	36.451	0.375	A572-65	1.000
18	89.5 - 84.5	5		12	36.451	37.351	0.375	A572-65	1.000
19	84.5 - 83	1.5		12	37.351	37.621	0.375	A572-65	1.000
20	83 - 82.75	0.25		12	37.621	37.666	0.375	A572-65	1.000
21	82.75 - 77.75	5		12	37.666	38.566	0.375	A572-65	1.000
22	77.75 - 72.75	5		12	38.566	39.466	0.375	A572-65	1.000
23	72.75 - 67.75	5		12	39.466	40.366	0.375	A572-65	1.000
24	67.75 - 65.5	2.25		12	40.366	40.771	0.375	A572-65	1.000
25	65.5 - 65.25	0.25		12	40.771	40.816	0.375	A572-65	1.000
26	65.25 - 64.0833	1.166666667		12	40.816	41.026	0.375	A572-65	1.000
27	64.0833 - 63.8333	0.25		12	41.026	41.071	0.625	A572-65	0.978
28	63.8333 - 58.8333	5		12	41.071	41.971	0.625	A572-65	0.969
29	58.8333 - 53.8333	5		12	41.971	42.871	0.625	A572-65	0.962
30	53.8333 - 52.9967	7.253333333	6.41667	12	42.871	44.177	0.6125	A572-65	0.980
31	52.9967 - 45.58	7.41667		12	42.272	43.607	0.6435	A572-65	0.976
32	45.58 - 43.0833	2.496666667		12	43.607	44.057	0.6435	A572-65	0.973
33	43.0833 - 42.8333	0.25		12	44.057	44.102	0.706	A572-65	1.002
34	42.8333 - 42.4133	0.42		12	44.102	44.177	0.706	A572-65	1.002
35	42.4133 - 42.1633	0.25		12	44.177	44.222	0.781	A572-65	0.958
36	42.1633 - 41.9167	0.246666667		12	44.222	44.267	0.781	A572-65	0.958
37	41.9167 - 41.6667	0.25		12	44.267	44.312	0.681	A572-65	0.966
38	41.6667 - 36.6667	5		12	44.312	45.212	0.681	A572-65	0.958
39	36.6667 - 35.5	1.166666667		12	45.212	45.422	0.6685	A572-65	0.974
40	35.5 - 35.25	0.25		12	45.422	45.467	0.731	A572-65	0.952
41	35.25 - 30.25	5		12	45.467	46.367	0.7185	A572-65	0.961
42	30.25 - 25.25	5		12	46.367	47.267	0.706	A572-65	0.970
43	25.25 - 20.25	5		12	47.267	48.167	0.706	A572-65	0.962
44	20.25 - 18.0833	2.166666667		12	48.167	48.557	0.706	A572-65	0.959
45	18.0833 - 17.8167	0.266666667		12	48.557	48.605	0.706	A572-65	0.959
46	17.8167 - 17.6667	0.15		12	48.605	48.632	0.706	A572-65	0.959
47	17.6667 - 17	7.749996667	7.08333	12	48.632	50.027	0.706	A572-65	0.958
48	17 - 8.91667	8.08333		12	47.940	49.395	0.7255	A572-65	1.043
49	8.91667 - 7	1.91667		12	49.395	49.740	0.7255	A572-65	1.040
50	7 - 6.75	0.25		12	49.740	49.785	0.663	A572-65	1.058
51	6.75 - 1.75	5		12	49.785	50.685	0.663	A572-65	1.051
52	1.75 - 0	1.75		12	50.685	51.000	0.663	A572-65	1.049

TNX Section Forces

Increment (ft):		5	TNX Output		
	Section Height (ft)	P _u (K)	M _{ux} (kip-ft)	V _u (K)	
1	175 - 170	2.65	35.92	7.97	
2	170 - 165	2.96	77.17	8.54	
3	165 - 160	5.38	128.59	12.67	
4	160 - 155	5.79	193.44	13.27	
5	155 - 150	6.23	261.29	13.87	
6	150 - 145	7.17	332.36	14.55	
7	145 - 140	8.06	410.58	16.16	
8	140 - 135	9.20	496.37	17.78	
9	135 - 130	9.89	587.04	18.49	
10	130 - 125	10.61	681.27	19.21	
11	125 - 120	11.36	779.06	19.92	
12	120 - 115	12.14	880.39	20.63	
13	115 - 110	12.94	985.29	21.34	
14	110 - 105	13.78	#####	22.05	
15	105 - 101	14.47	#####	22.60	
16	101 - 94.5	16.51	#####	23.63	
17	94.5 - 89.5	17.55	#####	24.34	
18	89.5 - 84.5	18.62	#####	25.04	
19	84.5 - 83	18.94	#####	25.27	
20	83 - 82.75	19.01	#####	25.30	
21	82.75 - 77.75	20.11	#####	26.05	
22	77.75 - 72.75	21.25	#####	26.78	
23	72.75 - 67.75	22.41	#####	27.51	
24	67.75 - 65.5	22.95	#####	27.83	
25	65.5 - 65.25	23.02	#####	27.86	
26	65.25 - 64.08333	23.29	#####	28.06	
27	64.08333 - 63.83333	23.39	#####	28.09	
28	63.83333 - 58.83333	25.16	#####	28.95	
29	58.83333 - 53.83333	26.96	#####	29.80	
30	53.83333 - 52.99667	27.27	#####	29.93	
31	52.99667 - 45.58	32.22	#####	31.26	
32	45.58 - 43.08333	33.18	#####	31.67	
33	43.08333 - 42.83333	33.30	#####	31.70	
34	42.83333 - 42.41333	33.48	#####	31.77	
35	42.41333 - 42.16333	33.60	#####	31.81	
36	42.16333 - 41.91667	33.71	#####	31.85	
37	41.91667 - 41.66667	33.82	#####	31.89	
38	41.66667 - 36.66667	35.87	#####	32.70	
39	36.66667 - 35.5	36.35	#####	32.88	
40	35.5 - 35.25	36.47	#####	32.91	
41	35.25 - 30.25	38.68	#####	33.64	
42	30.25 - 25.25	40.93	#####	34.33	
43	25.25 - 20.25	43.21	#####	34.99	
44	20.25 - 18.08333	44.21	#####	35.29	
45	18.08333 - 17.81667	44.34	#####	35.32	
46	17.81667 - 17.66667	44.41	#####	35.34	
47	17.66667 - 17	44.71	#####	35.43	
48	17 - 8.91667	51.86	#####	36.58	
49	8.91667 - 7	52.85	#####	36.83	
50	7 - 6.75	52.99	#####	36.84	
51	6.75 - 1.75	55.45	#####	37.46	
52	1.75 - 0	56.31	#####	37.68	

Analysis Results

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
175 - 170	Pole	TP23.025x22.125x0.219	Pole	7.2%	Pass
170 - 165	Pole	TP23.925x23.025x0.219	Pole	14.3%	Pass
165 - 160	Pole	TP24.825x23.925x0.219	Pole	22.5%	Pass
160 - 155	Pole	TP25.725x24.825x0.219	Pole	31.8%	Pass
155 - 150	Pole	TP27.435x25.725x0.219	Pole	40.7%	Pass
150 - 145	Pole	TP27.087x26.187x0.313	Pole	31.0%	Pass
145 - 140	Pole	TP27.987x27.087x0.313	Pole	36.0%	Pass
140 - 135	Pole	TP28.887x27.987x0.313	Pole	41.3%	Pass
135 - 130	Pole	TP29.787x28.887x0.313	Pole	46.3%	Pass
130 - 125	Pole	TP30.687x29.787x0.313	Pole	51.1%	Pass
125 - 120	Pole	TP31.587x30.687x0.313	Pole	55.7%	Pass
120 - 115	Pole	TP32.487x31.587x0.313	Pole	60.1%	Pass
115 - 110	Pole	TP33.387x32.487x0.313	Pole	64.3%	Pass
110 - 105	Pole	TP34.287x33.387x0.313	Pole	68.3%	Pass
105 - 101	Pole	TP35.997x34.287x0.313	Pole	71.5%	Pass
101 - 94.5	Pole	TP35.551x34.381x0.375	Pole	61.4%	Pass
94.5 - 89.5	Pole	TP36.451x35.551x0.375	Pole	64.2%	Pass
89.5 - 84.5	Pole	TP37.351x36.451x0.375	Pole	66.9%	Pass
84.5 - 83	Pole	TP37.621x37.351x0.375	Pole	67.7%	Pass
83 - 82.75	Pole	TP37.666x37.621x0.375	Pole	67.8%	Pass
82.75 - 77.75	Pole	TP38.566x37.666x0.375	Pole	70.4%	Pass
77.75 - 72.75	Pole	TP39.466x38.566x0.375	Pole	72.9%	Pass
72.75 - 67.75	Pole	TP40.366x39.466x0.375	Pole	75.4%	Pass
67.75 - 65.5	Pole	TP40.771x40.366x0.375	Pole	76.5%	Pass
65.5 - 65.25	Pole	TP40.816x40.771x0.375	Pole	76.6%	Pass
65.25 - 64.08	Pole	TP41.026x40.816x0.375	Pole	77.1%	Pass
64.08 - 63.83	Pole + Reinf.	TP41.071x41.026x0.625	Reinf. 8 Tension Rupture	66.2%	Pass
63.83 - 58.83	Pole + Reinf.	TP41.971x41.071x0.625	Reinf. 8 Tension Rupture	68.2%	Pass
58.83 - 53.83	Pole + Reinf.	TP42.871x41.971x0.625	Reinf. 8 Tension Rupture	70.2%	Pass
53.83 - 53	Pole + Reinf.	TP44.177x42.871x0.6125	Reinf. 8 Tension Rupture	70.5%	Pass
53 - 45.58	Pole + Reinf.	TP43.607x42.272x0.6435	Reinf. 8 Tension Rupture	71.8%	Pass
45.58 - 43.08	Pole + Reinf.	TP44.057x43.607x0.6435	Reinf. 8 Tension Rupture	72.7%	Pass
43.08 - 42.83	Pole + Reinf.	TP44.102x44.057x0.706	Reinf. 8 Tension Rupture	70.3%	Pass
42.83 - 42.41	Pole + Reinf.	TP44.177x44.102x0.706	Reinf. 8 Tension Rupture	70.4%	Pass
42.41 - 42.16	Pole + Reinf.	TP44.222x44.177x0.781	Reinf. 8 Tension Rupture	60.7%	Pass
42.16 - 41.92	Pole + Reinf.	TP44.267x44.222x0.781	Reinf. 8 Tension Rupture	60.8%	Pass
41.92 - 41.67	Pole + Reinf.	TP44.312x44.267x0.681	Reinf. 8 Tension Rupture	69.3%	Pass
41.67 - 36.67	Pole + Reinf.	TP45.212x44.312x0.681	Reinf. 8 Tension Rupture	70.9%	Pass
36.67 - 35.5	Pole + Reinf.	TP45.422x45.212x0.6685	Reinf. 8 Tension Rupture	71.3%	Pass
35.5 - 35.25	Pole + Reinf.	TP45.467x45.422x0.731	Reinf. 7 Tension Rupture	65.6%	Pass
35.25 - 30.25	Pole + Reinf.	TP46.367x45.467x0.7185	Reinf. 7 Tension Rupture	67.1%	Pass
30.25 - 25.25	Pole + Reinf.	TP47.267x46.367x0.706	Reinf. 7 Tension Rupture	68.6%	Pass
25.25 - 20.25	Pole + Reinf.	TP48.167x47.267x0.706	Reinf. 7 Tension Rupture	70.1%	Pass
20.25 - 18.08	Pole + Reinf.	TP48.557x48.167x0.706	Reinf. 7 Tension Rupture	70.7%	Pass
18.08 - 17.82	Pole + Reinf.	TP48.605x48.557x0.706	Reinf. 7 Tension Rupture	70.7%	Pass
17.82 - 17.67	Pole + Reinf.	TP48.632x48.605x0.706	Reinf. 7 Tension Rupture	70.8%	Pass
17.67 - 17	Pole + Reinf.	TP50.027x48.632x0.706	Reinf. 7 Tension Rupture	71.0%	Pass
17 - 8.92	Pole + Reinf.	TP49.395x47.94x0.7255	Reinf. 7 Tension Rupture	71.8%	Pass
8.92 - 7	Pole + Reinf.	TP49.74x49.395x0.7255	Reinf. 7 Tension Rupture	72.3%	Pass
7 - 6.75	Pole + Reinf.	TP49.785x49.74x0.663	Reinf. 1 Tension Rupture	75.7%	Pass
6.75 - 1.75	Pole + Reinf.	TP50.685x49.785x0.663	Reinf. 1 Tension Rupture	76.8%	Pass
1.75 - 0	Pole + Reinf.	TP51x50.685x0.663	Reinf. 1 Tension Rupture	77.2%	Pass
				Summary	
			Pole	77.1%	Pass
			Reinforcement	77.2%	Pass
			Overall	77.2%	Pass

Additional Calculations

Section Elevation (ft)	Moment of Inertia (in ⁴)			Area (in ²)			% Capacity									
	Pole	Reinf.	Total	Pole	Reinf.	Total	Pole	R1	R2	R3	R4	R5	R6	R7	R8	R9
175 - 170	1069	n/a	1069	16.06	n/a	16.06	7.2%									
170 - 165	1201	n/a	1201	16.69	n/a	16.69	14.3%									
165 - 160	1343	n/a	1343	17.33	n/a	17.33	22.5%									
160 - 155	1496	n/a	1496	17.96	n/a	17.96	31.8%									
155 - 150	1659	n/a	1659	18.59	n/a	18.59	40.7%									
150 - 145	2472	n/a	2472	26.95	n/a	26.95	31.0%									
145 - 140	2730	n/a	2730	27.85	n/a	27.85	36.0%									
140 - 135	3005	n/a	3005	28.76	n/a	28.76	41.3%									
135 - 130	3298	n/a	3298	29.66	n/a	29.66	46.3%									
130 - 125	3610	n/a	3610	30.57	n/a	30.57	51.1%									
125 - 120	3940	n/a	3940	31.47	n/a	31.47	55.7%									
120 - 115	4290	n/a	4290	32.38	n/a	32.38	60.1%									
115 - 110	4660	n/a	4660	33.29	n/a	33.29	64.3%									
110 - 105	5051	n/a	5051	34.19	n/a	34.19	68.3%									
105 - 101	5379	n/a	5379	34.92	n/a	34.92	71.5%									
101 - 94.5	6717	n/a	6717	42.41	n/a	42.41	61.4%									
94.5 - 89.5	7246	n/a	7246	43.50	n/a	43.50	64.2%									
89.5 - 84.5	7802	n/a	7802	44.58	n/a	44.58	66.9%									
84.5 - 83	7975	n/a	7975	44.91	n/a	44.91	67.7%									
83 - 82.75	8003	n/a	8003	44.96	n/a	44.96	67.8%									
82.75 - 77.75	8597	n/a	8597	46.05	n/a	46.05	70.4%									
77.75 - 72.75	9219	n/a	9219	47.14	n/a	47.14	72.9%									
72.75 - 67.75	9871	n/a	9871	48.22	n/a	48.22	75.4%									
67.75 - 65.5	10174	n/a	10174	48.71	n/a	48.71	76.5%									
65.5 - 65.25	10208	n/a	10208	48.76	n/a	48.76	76.6%									
65.25 - 64.08	10368	n/a	10368	49.02	n/a	49.02	77.1%									
64.08 - 63.83	10402	6787	17189	49.07	30.39	79.46	45.3%				63.2%				66.2%	
63.83 - 58.83	11108	7078	18186	50.16	30.39	80.55	47.1%				65.1%				68.2%	
58.83 - 53.83	11844	7376	19220	51.24	30.39	81.63	48.0%				66.9%				70.2%	
53.83 - 53	11971	7426	19397	51.42	30.39	81.81	49.2%				67.2%				70.5%	
53 - 45.58	13472	7624	21096	56.40	30.39	86.79	48.8%				68.5%				71.8%	
45.58 - 43.08	13897	7777	21674	56.98	30.39	87.37	49.6%				69.3%				72.7%	
43.08 - 42.83	14020	9583	23603	57.04	41.69	98.73	49.1%		56.4%		62.0%				70.3%	
42.83 - 42.41	14093	9615	23708	57.14	41.69	98.83	49.2%		56.5%		62.1%				70.4%	
42.41 - 42.16	14056	12290	26345	57.20	47.34	104.54	41.5%		56.4%	56.4%	57.9%				60.7%	
42.16 - 41.92	14099	12313	26412	57.26	47.34	104.60	41.6%		56.5%	56.5%	58.0%				60.8%	
41.92 - 41.67	14142	9120	23262	57.32	34.95	92.27	47.4%		64.4%	64.4%					69.3%	
41.67 - 36.67	15030	9482	24512	58.49	34.95	93.44	49.0%		65.9%	65.9%					70.9%	
36.67 - 35.5	15242	9568	24810	58.77	34.95	93.72	49.3%		66.3%	66.3%					71.3%	
35.5 - 35.25	15288	11395	26682	58.82	41.33	100.15	46.1%		61.8%	61.8%			65.6%	65.6%		
35.25 - 30.25	16222	11834	28057	60.00	41.33	101.32	47.6%		63.3%	63.3%						
30.25 - 25.25	17194	12283	29477	61.17	41.33	102.50	49.1%		64.7%	64.7%			68.6%	68.6%		
25.25 - 20.25	18204	12739	30943	62.35	41.33	103.67	50.6%		66.0%	66.0%			70.1%	70.1%		
20.25 - 18.08	18654	12940	31593	62.86	41.33	104.18	51.2%		66.6%	66.6%			70.7%	70.7%		
18.08 - 17.82	18709	12964	31674	62.92	41.33	104.25	51.3%	66.7%					70.7%	70.7%		
17.82 - 17.67	18741	12978	31719	62.96	41.33	104.28	51.4%	66.7%					70.8%	70.8%		
17.67 - 17	18881	13040	31922	63.11	41.33	104.44	51.6%	66.9%					71.0%	71.0%		
17 - 8.92	21153	13439	34593	68.95	49.45	118.40	51.9%	64.0%			58.8%	61.9%	71.8%			
8.92 - 7	21604	13621	35225	69.43	49.45	118.88	52.4%	64.4%			59.2%	62.4%	72.3%			
7 - 6.75	21694	10865	32559	69.50	41.33	110.82	57.0%	75.7%			70.2%		73.2%			
6.75 - 1.75	22902	11249	34150	70.76	41.33	112.09	58.3%	76.8%			71.3%		74.4%			
1.75 - 0	23335	11385	34719	71.21	41.33	112.53	58.8%	77.2%			71.7%		74.8%			

Note: Section capacity checked in 5 degree increments.

ANCHOR BOLTS - Distribution of Base Reactions			
Base Reactions:		Combined MOI 34122.87 in ⁴	
Moment	4244 k-ft		
Axial	56 k		
Shear	38 k		
Original Bolts		Reinforcing Bolts	
Quantity	16	Quantity	4
Diameter	2.25 in	Diameter	2 in
Material	A615 Gr 75	Material	A193 B7
Fy	75 ksi	Fy	105 ksi
Fu	100 ksi	Fu	125 ksi
Bolt Circle	59.3 in	Bolt Circle	62.5 in
Bolt Group MOI	27984 in ⁴	Bolt Group MOI	6139 in ⁴
<u>Reactions Taken by Bolt Group</u>		<u>Reactions Taken by Bolt Group</u>	
Moment	3480.46 k-ft	Moment	763.54 k-ft
Axial	44.80 k	Axial	11.20 k
Shear	30.40 k	Shear	7.60 k

Moment of Inertia Values from AutoCAD

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#: 807132
Site Name: BRG 133 943050
App #: 420539 Rev 1
Pole Manufacturer: Other

Reactions		
Mu:	3480.4596	ft-kips
Axial, Pu:	44.80	kips
Shear, Vu:	30.40	kips
Eta Factor, η	0.5	TIA G (Fig. 4-4)

Original Anchor Rod Data

Qty:	16	
Diam:	2.25	in
Rod Material:	A615-J	
Strength (Fu):	100	ksi
Yield (Fy):	75	ksi
Bolt Circle:	59.3	in

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

Original Anchor Rod Results

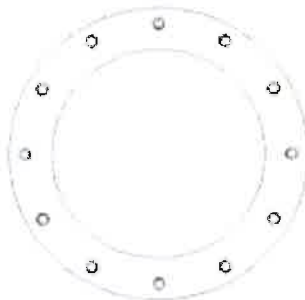
Max Rod ($C_u + V_u/\eta$): **182.7 Kips***
 Allowable Axial, $\Phi * F_u * A_{net}$: 260.0 Kips
 Anchor Rod Stress Ratio: 70.3% **Pass**

Non-Rigid
AISC LRFD
$\phi * T_n$

***Use Max Rod force for Baseplate check**

Pole Data

Diam:	51	in
Thick:	0.4375	in
Grade:	65	ksi
# of Sides:	12	"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

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#:	807132
Site Name:	BRG 133 943050
App #:	420539 Rev 1
Pole Manufacturer:	Other

Reactions		
Mu:	763.54	ft-kips
Axial, Pu:	11.20	kips
Shear, Vu:	7.60	kips
Eta Factor, η	0.5	TIA G (Fig. 4-4)

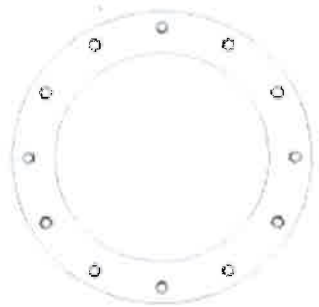
Reinforced Anchor Rod Data		
Qty:	4	
Diam:	2.25	in
Rod Material:	Other	
Strength (Fu):	125	ksi
Yield (Fy):	105	ksi
Bolt Circle:	62.5	in

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

Reinforced Anchor Rod Results
 Max Rod (Cu+ Vu/η): 153.2 Kips
 Allowable Axial, Φ*Fu*Anet: 325.0 Kips
 Anchor Rod Stress Ratio: 47.1% **Pass**

Non-Rigid
AISC LRFD
φ*Tn

Pole Data		
Diam:	51	in
Thick:	0.4375	in
Grade:	65	ksi
# of Sides:	12	"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

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#:	807132
Site Name:	BRG 133 943050
App #:	420539 Rev 1
Pole Manufacturer:	Other

Effective Anchor Rod Data	
Qty:	32 (for spacing)
Diam:	2.25 in
Rod Material:	A615-J
Strength (Fu):	100 ksi
Yield (Fy):	75 ksi
Bolt Circle:	59.3 in

Plate Data	
Diam:	63.5 in
Thick:	2.75 in
Grade:	60 ksi
Single-Rod B-eff:	5.12 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
Clear Space between Stiffeners (b):	in

Pole Data	
Diam:	51 in
Thick:	0.4375 in
Grade:	65 ksi
# of Sides:	12 "0" IF Round
Fu	80 ksi
Reinf. Fillet Weld	0 "0" if None

Reactions	
Mu:	7075 ft-kips
Axial, Pu:	44.00 kips
Shear, Vu:	37.00 kips
Eta Factor, η	0.5 TIA G (Fig. 4-4)

*Adjust Moment for Max Rod force

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

Effective Rod Results

Max Rod (Cu+ Vu/η): **182.7 Kips**

Rigid
AISC LRFD
φ*Tn

Base Plate Results

Base Plate Stress: 46.3 ksi
 Allowable Plate Stress: 54.0 ksi
 Base Plate Stress Ratio: 85.7% **Pass**

Flexural Check

Rigid
AISC LRFD
φ*Fy
Y.L. Length: 30.26

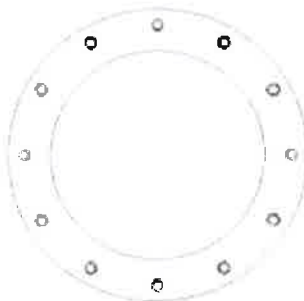
n/a

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)^2: 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

ROCK ANCHOR FOUNDATION CALCULATION

Tower Loads	
Axial Load	56 kips
Uplift	0 kips
Shear	38 kips
Moment	4244 kip-ft

Rock Anchor (Embedded Rebar)	
Quantity	24
Bar Diameter	1.75 inch
Grout Diameter	3.50 inch
Pile Group Area (A_{group})	230.9 inch ²
Pile Group Moment of Inertia	160376 inch ⁴
Distance to Extreme Fiber	39.00 inch
Estimated Effective Anchor Embedment	15.00 ft
Ultimate Strength	90 ksi
Allowable Grout Strength	50 psi*

*Includes FS of 4

Pad and Pier Information

Section	Length (ft)	Width (ft)	Height (ft)	Area (ft ²)	Volume (ft ³)	Weight (kips)
Pier						
Round or Square?		7.00	10.50	-	404.09	60.61
Concrete Unit Weight		150				
Pad						
	0.00	0.00	0.00	0.00	0.00	0.00
Soil						
Unit Weight		110.0				
Depth to Footing		0.00			0.00	0.00
Ultimate Bearing Pressure		54.60				
					Total Weight	60.61

Loads acting on base	
Moment	4643 kip-ft
Moment Due to Shear	399 kip-ft
Total Axial Load	117 kips

Force acting on the anchor	
Tension Force/Anchor	35 kips
Max. Anchor Tension	31 kips

Foundation Capacity	
Anchor Tension Capacity	122 kips
Bond Strength	99 kips
	25.1%
	30.9%

Moment Capacity of Drilled Concrete Shaft (Caisson) for TIA Rev F or G

Note: Shaft assumed to have ties, not spiral, transverse reinforcing

Site Data

BU#: 807132
 Site Name: BRG 133 943050
 App #: 420539 Rev 1

Loads Already Factored	
For M (WL):	1.00
For P (DL):	1.00

Pier Properties	
Concrete:	
Pier Diameter =	7.0 ft
Concrete Area =	5541.8 in ²
Reinforcement:	
Clear Cover to Tie=	3.00 in
Horiz. Tie Bar Size=	6
Vert. Cage Diameter =	6.23 ft
Vert. Cage Diameter =	74.81 in
Vertical Bar Size =	14
Bar Diameter =	1.69 in
Bar Area =	2.25 in ²
Number of Bars =	24
As Total=	54 in ²
A s / Aconc, Rho:	0.0097 0.97%

ACI 10.5 , ACI 21.10.4, and IBC 1810.
 Min As for Flexural, Tension Controlled, Shafts:
 $(3) * (\text{sqrt}(f_c) / F_y) = 0.0032$
 $200 / F_y = 0.0033$

Minimum Rho Check:

Actual Req'd Min. Rho: 0.33% Flexural
 Provided Rho: 0.97% **OK**

Ref. Shaft Max Axial Capacities, ϕ Max(Pn or Tn):		
Max Pu = ($\phi=0.65$) Pn.		
Pn per ACI 318 (10-2)	11387.18	kips
at Mu=($\phi=0.65$) Mn=	6915.95	ft-kips
Max Tu, ($\phi=0.9$) Tn =	2916	kips
at Mu= $\phi=(0.90)$ Mn=	0.00	ft-kips

Maximum Shaft Superimposed Forces		
TIA Revision:	G	
Max. Factored Shaft Mu:	4643	ft-kips (* Note)
Max. Factored Shaft Pu:	56	kips
Max Axial Force Type:	Comp.	

(* Note: Max Shaft Superimposed Moment does not necessarily equal to the shaft top reaction moment

Shaft Factored Loads		
Load Factor		
1.00	Mu:	4643 ft-kips
1.00	Pu:	56 kips

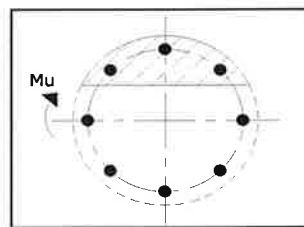
Material Properties		
Concrete Comp. strength, f_c =	4000	psi
Reinforcement yield strength, F_y =	60	ksi
Reinforcing Modulus of Elasticity, E =	29000	ksi
Reinforcement yield strain =	0.00207	
Limiting compressive strain =	0.003	
ACI 318 Code		
Select Analysis ACI Code=	2008	

Solve (Run)

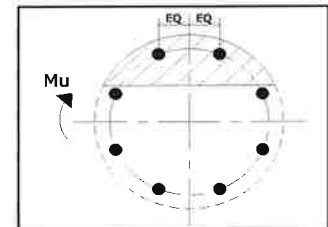
<-- Press Upon Completing All Input

Results:

Governing Orientation Case: 1



Case 1



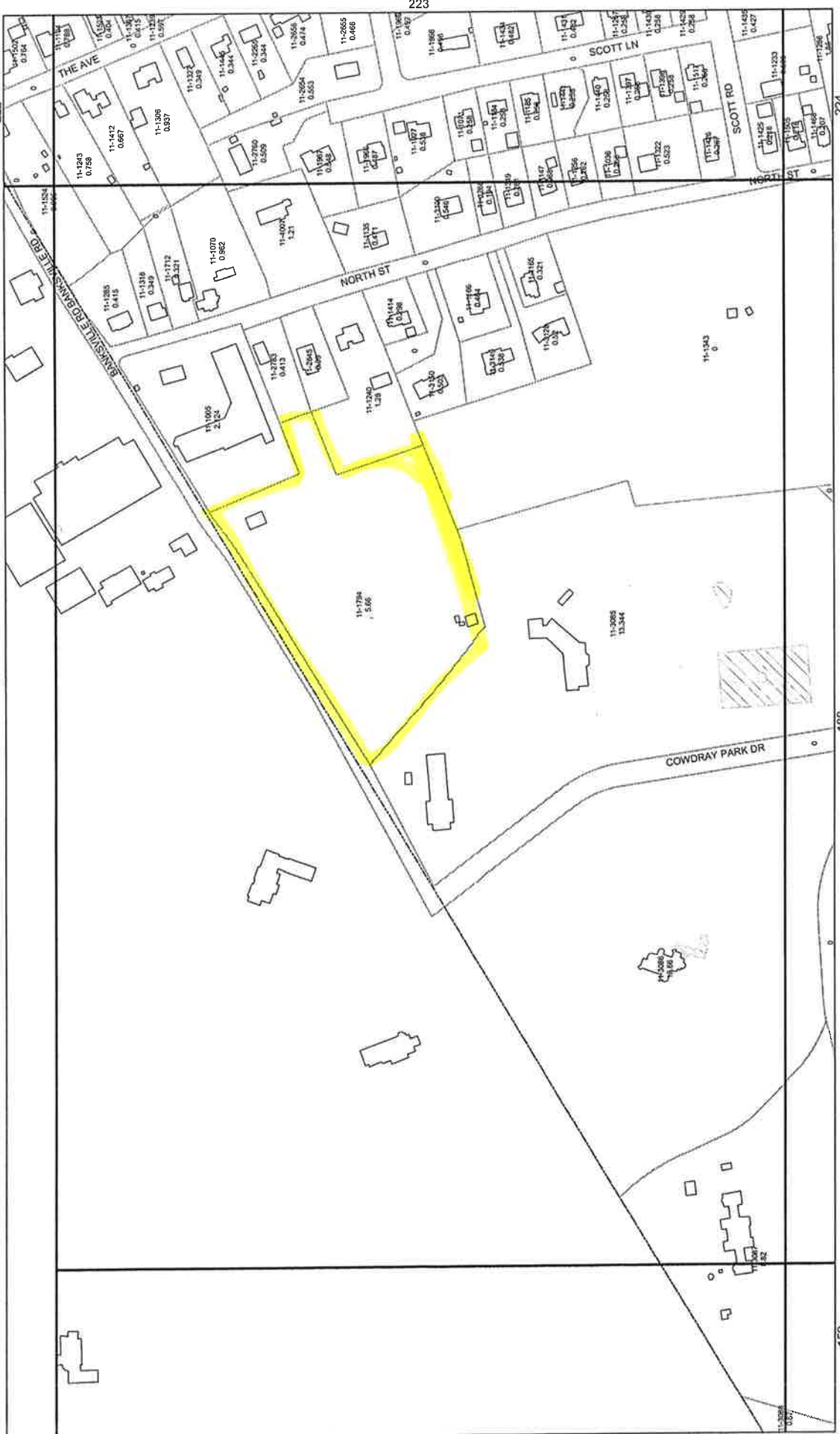
Case 2

Dist. From Edge to Neutral Axis: 15.12 in
 Extreme Steel Strain, ϵ_t : 0.0128
 $\epsilon_t > 0.0050$, Tension Controlled
 Reduction Factor, ϕ : 0.900

Output Note: Negative Pu=Tension
 For Axial Compression, ϕ Pn = Pu: 50.40 kips
 Drilled Shaft Moment Capacity, ϕ Mn: 8338.47 ft-kips
 Drilled Shaft Superimposed Mu: 4643.00 ft-kips

(Mu/ ϕ Mn, Drilled Shaft Flexure CSR: 55.7%)

ATTACHMENT 4



TOWN OF GREENWICH TAX MAP 187 VOL 3

This map was produced from the Town of Greenwich Geographic Information System. The Town expressly disclaims any liability that may result from the use of this map. Aerial: 4/2/08, Data: 10/1/08, Map: 7/20/09, Copyright © 2005 by the Town of Greenwich.



ADMINISTRATIVE INFORMATION

PARCEL NUMBER 11-1794
CROWN ATLANTIC COMPANY LLC
4017 WASHINGTON ROAD
MCMURRAY, PA 15317
LOT NO 52B & 52C NORTH ST W 113

Tax ID 1877/017

TRANSFER OF OWNERSHIP

Printed 03/06/2018 Card No. 1 of 1

Parent Parcel Number
Property Address NORTH STREET 1081
Neighborhood 2900 BANKSVILLE
Property Class 270 Telecommunications

Table with columns: Date, Transferor, Recipient, Bk/Pg. Includes dates from 04/19/1999 to 04/21/1983 and various parcel numbers.

COMMERCIAL

TAXING DISTRICT INFORMATION

Jurisdiction 57 Greenwich, CT

Area 001
Corporation 057
District 11
Section & Plat 399
Routing Number 5830W0113

VALUATION RECORD

Table with columns: Assessment Year, 2005 Reval, 2010 Reval, 2015 Prelim, 2015 Final, 2016 List, 2017 List. Includes VALUATION and 70% Assessed rows.

Site Description

Topography:

Public Utilities: Electric
Street or Road:

Neighborhood:

Zoning: RA-4 Single Family 4

Legal Acres: 5.6600

LAND DATA AND CALCULATIONS

Table with columns: Rating, Measured, Table, Prod. Factor, Soil ID, Acrage, Depth Factor, Actual Effective, Effective, Depth, Square Feet, Base Rate, Adjusted Rate, Extended Value, Influence Factor, Value.

BP14: 14-1010 nvc \$29,000 demo house 2016 GL
GEN: Boarded up dwlg depr @ 95% and telecommunications tower w/ ancillary improvements. Real estate owner owns tower.
LAND: V2068 PZ33 9/14/90 30k+- sf sold to 11-1240 reducing acreage to 5.66+-acres.

Supplemental Cards

TRUE TAX VALUE 2071800

Permit Number, FilingDate, Est. Cost Field Visit, Est. SqFt

Supplemental Cards
TOTAL LAND VALUE 2071800

ATTACHMENT 5



Certificate of Mailing — Firm

Name and Address of Sender

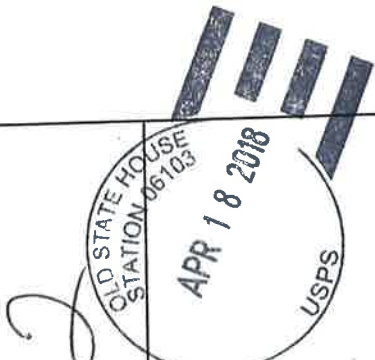
Kenneth C. Baldwin, Esq.
Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103

TOTAL NO.
of Pieces Listed by Sender

TOTAL NO.
of Pieces Received at Post Office™

Affix Stamp Here
Postmark with Date of Receipt.

neopost
04/18/2018
US POSTAGE \$002.38
ZIP 06103
041L12203380



Postmaster, per (name of receiving employee)

RD

USPS® Tracking Number
Firm-specific Identifier

Address
(Name, Street, City, State, and ZIP Code™)

Postage

Fee

Special Handling

Parcel Airlift

1. Peter Tesai, First Selectman
Town of Greenwich
101 Field Point Road
Greenwich, CT 06830

2. Kaitie DeLarea, Director of Planning and Zoning
Town of Greenwich
101 Field Point Road
Greenwich, CT 06830

3.

4.

5.

6.