T-Mobile
Cullen Morgan
Site Acquisition Consultant
750 W Center Street
Suite 301
West Bridgewater, MA 02379
(941)549-7263
cmorgan@clinellc.com

December 30, 2024

Members of the Siting Council
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

RE: NOTICE OF EXEMPT MODIFICATION
37 Carmen Hill Road, Brookfield, CT 06804
Latitude: 41.493432
Longitude: -73.428734
T-Mobile Site #: CT11196A

Dear Members of the Siting Council:

T-Mobile currently maintains twelve (12) antennas at the 280-foot level of the existing 456-foot guyed tower located at 37 Carmen Hill Road, Brookfield, CT 06804. The 456-foot tower is owned by VB-S1 Assets, LLC d/b/a VerticalBridge, and the underlying property is currently owned by American Tower Corporation. T-Mobile now intends to modify their equipment located at the existing telecommunications facility as per the below. All tower-mounted equipment will be installed at the 280-foot level of the tower currently occupied by T-Mobile.

Planned Modifications:

Existing to be Removed:	Install New:	Existing to Remain:
(3) APX16DWV-16DWV-S-E-A20 Antennas	(3) APXVLL19P_43-C-A20 Antennas	(3) APXVAARR24_43-U- NA20 Antennas
(3) AIR32 B66A_B2A Antennas	(3) Radio 4460 B25+B66 RRUs	(3) AIR6488 B41 Antennas
(2) Radio 4415 B25 RRUs	(1) Equipment Cabinets	(3) Radio 4449 B71+B85 RRUs
(1) Equipment Cabinet	(2) 1.99” Hybrid Cables	
(4) 1-5/8” Hybrid Cables		
(12) 1-5/8” Coax Cables		

This facility was approved by the Town of Brookfield Zoning Commission in a Special Permit #SP94-1, issued February 24, 1994, with conditions. We used the information from the previous filing. Please see attached.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies§ 16-SOj-73, or construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.SA. § 16-SOj-73, a copy of this letter is being sent to First Selectman Stephen C. Dunn, chief elected official for the Town of Brookfield, the Town of Brookfield Building Official, Bill Babyak, as well as the Property Owner and the Tower Owner.

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

1. The proposed modifications will not result in an increase in the height of the existing structure.
2. The proposed modifications will not require the extension of the site boundary.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading.

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

Respectfully Submitted,
Cullen Morgan
Site Acquisition Consultant
Centerline Communications, LLC (Agent to T-Mobile)
Mobile: (941) 549-7263
cmorgan@clinellc.com

cc: Stephen C. Dunn, First Selectman – Town of Brookfield Chief Elected Official
Bill Babyak, Building Official – Town of Brookfield Building Official
VB-S1 Assets LLC d/b/a VerticalBridge – Tower Owner
American Tower Corporation – Property Owner

C/O CULLEN MORGAN
941-549-7263
CENTERLINE COMMUNICATIONS LLC
12579 SAGEWOOD DRIVE
VENICE FL 34293

3 LBS **1 OF 1**

SHIP TO:
CONNECTICUT SITING COUNCIL
10 FRANKLIN SQUARE
NEW BRITAIN CT 06051-2655

CT 067 9-06

UPS GROUND
TRACKING #: 1Z 9Y4 503 03 1850 8987

BILLING: P/P

Reference # 1: CT11196A EM

CS 24.9.00. MACNV50 53.0A 12/2024*

TM

CENTERLINE

EXHIBIT A

Letter of Authorization

VB-S1 Assets, LLC

750 Park of Commerce Drive
Suite 200
Boca Raton, FL 33487
561-948-6367
VerticalBridge.com

Date: 11/14/2024

VIA Electronic Mail

T-Mobile Northeast LLC

12920 SE 38th St.
Bellevue, WA, 98006

RE: Agreement dated August 30, 1999
VB Site ID: US-CT-5009 WRKI-FM
Tenant Site ID: Brookfield/Junction Rd/CT11196A

Dear Tenant:

VB-S1 Assets, LLC ("**Vertical Bridge**") is in receipt of your request to make certain modifications to your equipment located on the premises demised or licensed (the "**Premises**") under the agreement referenced above (the "**Agreement**"). Your equipment currently installed on the Premises and the proposed modifications thereto (the "**Equipment Modification**") are described in the Collocation Application attached hereto as Exhibit A and incorporated herein. Vertical Bridge hereby consents to you performing the Equipment Modification in accordance with the terms and conditions of the Agreement, provided that Tenant agrees not to commence any work relative to the Equipment Modification until Vertical Bridge issues Tenant or its representative a Notice to Proceed.

Following the date hereof, all references in the Agreement to Tenant's equipment shall be deemed to refer to the equipment described in the Collocation Application attached hereto as Exhibit A. Except for the modification to the Agreement expressed in the immediately preceding sentence, this letter does not amend, modify or waive any of the rights or obligations of Tenant or Vertical Bridge under the Agreement.

Sincerely,

DocuSigned by:
Cesar Fermin
F93A71DD76784D0...

Cesar Fermin
Director – Lease Administration
VB-S1 Assets, LLC

VB-S1 Assets, LLC

750 Park of Commerce Drive
Suite 200
Boca Raton, FL 33487
561-948-6367
VerticalBridge.com

Exhibit A
See attached Collocation Application

COLOCATION APPLICATION - P-062009
US-CT-5009
Version 1
T-Mobile Northeast LLC

Vertical Bridge REIT, LLC.
750 Park of Commerce Dr, ste 200
Boca Raton, FL 33487

SUMMARY

PRIMARY INFO

Application #:	P-062009
Application Version:	1 (Submitted: 10/17/2024 5:07:00 PM)
Application Type:	Broadband
Application Name:	CT11191A L600/Radio Upgrade
Lease Type:	Amendment
ASR Number:	
Description:	* Swap (6) existing antennas for (6) Proposed antennas, (3) existing RRUs for (3) proposed RRUs, (2) existing Cabinets for (2) proposed cabinets and (2) existing Hybrid Cables for (2) proposed Hybrid Cables * Remove (3) existing Antennas, (6) Existing TMAs, (12) Coax, and (3) Fiber Cables

VERTICAL BRIDGE SITE INFO

VB Site #:	US-CT-5009
VB Site Name:	WRKI-FM
Latitude:	41.49343889
Longitude:	-73.42881667
Structure Type:	Guyed Tower
Structure Height:	496.0600
Site Address:	0.3 Mi. Sse Of Intersection Of Carmen Hill Rd & Se Trail - Brookfield, CT 06804

VERTICAL BRIDGE DEAL TEAM

RLM:	Floyd Jenkins Floyd.Jenkins@verticalbridge.com (301) 667-0069	**LPM:**	Sam Bowden Sam.Bowden@verticalbridge.com	**ROM:**	Gustavo Figueiredo Gustavo.Figueiredo@verticalbridge.com (630) 346-6698

TENANT LEGAL INFO

Tenant Legal Name:	T-Mobile Northeast LLC
State of Registration:	Delaware
Type of Entity:	LLC
Carrier NOC #:	8776115868
Tenant Site #:	CT11196A
Tenant Site Name:	Brookfield/Junction Rd

APPLICANT

Name:	Cullen Morgan
Address:	12579 Sagewood Drive Venice, FL 34293
Phone Number:	(941) 549-7263
Email Address:	cmorgan@clinellc.com

FINAL LEASED RIGHTS CONFIGURATION TOTALS

This is a summary of your remaining existing equipment plus the new equipment.

FINAL EQUIPMENT

QTY	Equipment Type
6	RRU
9	Panel

FINAL LINES

QTY	Line Type
2	Hybrid

FREQUENCY & TECHNOLOGY INFO

COLOCATION APPLICATION - P-062009
US-CT-5009
Version 1
T-Mobile Northeast LLC

Vertical Bridge REIT, LLC.
750 Park of Commerce Dr, ste 200
Boca Raton, FL 33487

Type of Tehnology:	Broadband Wireless
Is TX Frequency Licensed:	Yes
TX Frequency:	617-632, 728-734, 1940-1965, 2130-2155, 2497-2557, 2597-2607 MHz
Is RX Frequency Licensed:	Yes
RX Frequency:	663-678, 698-704, 1730-1755, 1860-1885, 2497-2557, 2597-2607 MHz

MOUNT & STRUCTURAL ANALYSIS

MOUNT ANALYSIS

Provided by Tenant:	Yes
To Be Run by VB:	
Include Mount Mapping:	

STRUCTURAL HARD COPIES

Required:	No
Number of Hard Copies:	

CONTACTS

INVOICE CONTACT

Attention To	Name	Address	Phone Number 1	Phone Number 2	Email 1	Email 2
ATTN: Cullen Morgan	Centerline Communications LLC	350 W Center Street Suite 301 West Bridgewater, MA 02379	(941) 549-7263		cmorgan@clinellc.com	

PO CONTACT

Name	Phone	Email
Cullen Morgan	(941) 549-7263	cmorgan@clinellc.com

LEASING CONTACT

Name	Phone	Email
Mark Richard	(860) 648-1116	Mark.Richard64@t-mobile.com

NOTICE CONTACT

Notice To	Attention To	Name	Address
T-Mobile USA, Inc.	Lease Compliance / CT11196A	T-Mobile USA Inc	12920 SE 38th Street Bellevue, WA 98006

RF CONTACT

Name	Phone	Email
Justin Darrow	(000) 000-0000	justin.darrow@t-mobile.com

COLOCATION APPLICATION - P-062009
US-CT-5009
Version 1
T-Mobile Northeast LLC

Vertical Bridge REIT, LLC.
750 Park of Commerce Dr, ste 200
Boca Raton, FL 33487

TENANT CONSTRUCTION MANAGER CONTACT		
Name	**Phone**	**Email**
Jeff York	(508) 821-6817	jyork@clinellc.com

EMERGENCY CONTACT		
Name	**Phone**	**Email**
Cullen Morgan	(941) 549-7263	cmorgan@clinellc.com

LINE & EQUIPMENT

EXISTING LINE(S)					
Qty	**Line Type**	**Line Diameter(In.)**	**Line Location**	**Comments**	**Remain**
12	Coax	1.625	Exterior		No
5	Hybrid	1.25	Exterior		No

NEW LINE(S)				
Qty	**Line Type**	**Line Diameter(In.)**	**Line Location**	**Comments**
2	Hybrid	2	Exterior	

EXISTING EQUIPMENT											
Qty	**Equipment Type**	**Mount RAD Height**	**Equipment RAD Height (H')**	**Mount Type**	**Manfacturer**	**Model Number**	**Dimensions (H"xW"xD")**	**Weight (Lbs.)**	**Azimuth**	**Comments**	**Remain**
3	Panel	280.00	280.00	T-Arms	RFS	APXVAARR24_43-U- NA20	95.90 x 24.00 x 8.70	128.00	10-130-250		Yes
3	Panel	280.00	280.00	T-Arms	RFS	APX16DWV-16DWV- S-E- A20	55.90 x 13.00 x 3.20	40.70	10-130-250		No
3	Panel	280.00	280.00	T-Arms	Ericsson	AIR 6488 B41	35.20 x 20.50 x 9.40	135.40	10/ 130/ 250		No
3	Panel	280.00	280.00	T-Arms	Ericsson	AIR32 KRD901146/1 B66A_B2A	56.60 x 12.90 x 8.70	132.20	10/ 130/ 250		No
3	TMA	280.00	280.00	T-Arms	Ericsson	KRY 112144	6.10 x 6.90 x 2.80	11.20	10-130-250		No
3	TMA	280.00	280.00	T-Arms	Ericsson	KRY 112 89-4	11.00 x 6.10 x 3.00	15.40	10/ 130/ 250		No
3	RRU	280.00	280.00	T-Arms	Ericsson	Radio 4415 B25	16.54 x 12.76 x 6.30	46.30	10/ 130/ 250		No
3	RRU	280.00	280.00	T-Arms	Ericsson	Radio 4449 B71+B85	17.90 x 13.20 x 10.60	74.90	10/ 130/ 250		Yes

NEW EQUIPMENT

Qty	Equipment Type	Mount RAD Height	Equipment RAD Height (H')	Mount Type	Manfacturer	Model Number	Dimensions (H"xW"xD")	Weight (Lbs.)	Azimuth	Comments
3	Panel	280.00	280.00	T-Arms	RFS	APXVLL19P_43-C- A20	75.80 x 11.30 x 4.60	42.00	10/ 130/ 250	
3	Panel	280.00	280.00	T-Arms	Ericsson	AIR6419 B41	36.30 x 20.90 x 9.00	83.30	10/ 130/ 250	
3	RRU	280.00	280.00	T-Arms	Ericsson	Radio 4460 B25+B66	19.60 x 15.70 x 12.10	109.00	10/ 130/ 250	

EXISTING EQUIPMENT CABINET(S)

Qty of Cabinets	Cabinet Dimensions (H x W x D)	Manfacturer	Comments	Remain
2	57.01 x 51.20 x 27.60	Ericsson	N/A	No
1	63.00 x 25.60 x 25.60	Ericsson	N/A	Yes
1	63.00 x 26.00 x 26.00	Ericsson	N/A	Yes

ADDITIONAL SITE REQUIREMENTS

GROUND & INTERIOR SPACE REQUIREMENTS

Requirement Type	Total Lease Area (L x W)	Cabinet Required	Cabinet Area (L x W)	Shelter Required	Shelter Pad (L x W)	Comments
No Changes						

GENERATOR REQUIREMENTS

Requirement Type	Fuel Type	Kilowatt Size	Pad Dimensions (L x D)	Generator Manufacturer	Fuel Tank Manufacturer	Comments
Not Required						

AC POWER REQUIREMENTS

Meter Type	Additional Details	Comments

BACKHAUL REQUIREMENTS

Requirement Type	Cable Type	Number of Points of Entry	Riser Size (Inches)	Comments
Not Required				

CENTERLINE

EXHIBIT B

Original Facility Approval

TOWN OF BROOKFIELD
ZONING COMMISSION

Permit No.: SP94-1
Page 1 of 4

SPECIAL PERMIT - DESIGN REVIEW APPROVAL

Issued to:

Danbury Broadcasting, Inc.
1004 Federal Road
Brookfield, CT 06804

Owner of Record:

Danbury Broadcasting, Inc.
1004 Federal Road
Brookfield, CT 06804

Location: Lot No. B05013, 39 Carmen Hill Road, Brookfield, Connecticut.

Project Description: Replacement of an existing radio tower.

Permitted Use: Existing/non-conforming
Application Date: 1-12-94
Decision Date: 2-24-94

Zoning District: R-100
Public Hearing Date: 2-10-94
Publication Date: 3-1-94

Approval and Conditions:

This Special Permit is issued pursuant to Title 8, Chapter 124, Sect. 3c of CGS and Chapter 242, Section 301C. of the Code of the Town of Brookfield. It is subject to the General Conditions, Special Stipulations, plans, drawings and documents as set forth hereinafter.

Effectivity: **This approval IS NOT VALID UNTIL:**

A. This document is filed by the record owner of the property with (i) The Town Clerk, and (ii) upon the land records of the Town of Brookfield prior to the commencement of any site work, but in no event later than sixty (60) days from the date hereof.

B. A performance bond in the form of an irrevokable, unconditional, automatically renewable, bank letter of credit in the amount of: $ 7,500 is on file in the Office of the First Selectman, Town of Brookfield, prior to the commencement of any site work, but in no event later than six (6) months from the date hereof.

You are required to PROMPTLY RETURN the following documents to the Office of the Zoning Commission: (1) Certificate of Filing and Recording executed by the Town Clerk, (2) Site Work Bond and Agreement executed by you, (3) A signed copy of this Special Permit acknowledging both receipt hereof and your obligations hereunder.

Attachments (a part of this Special Permit):

(1) General Conditions of Approval, (2) Special Stipulations, (3) Document Listing, (4) Certificate of Filing and Recording, (5) Site Work and Bond Agreement, (6) Acknowledgment copy of Permit

Approval and Certification:

Approved and certified to be a true copy of the Special Permit granted this 24th day of February, 1994 at Brookfield, Connecticut.

E Bolozel for The Brookfield Zoning Commission

Special Permit No. SP94-1

ATTACHMENT No. 1

SPECIAL PERMIT - DESIGN REVIEW APPROVAL

GENERAL CONDITIONS OF APPROVAL

(1) This approval shall be void and of no effect unless construction of all improvements, buildings and structures shown on the site plan is completed within two (2) years of the date of this letter. However, the Commission may extend said two (2) year period up to an additional three (3) years, if the Commission finds exceptional difficulty would result in applying the original two (2) year completion period. Any renewal periods shall be upon the same terms and conditions as originally approved unless modified by the Commission.

(2) If any activity on the site creates an impact upon the inland wetlands of the Town of Brookfield, then this approval is subject to such condition, if any, as may be imposed by the Inland Wetland Commission, Town of Brookfield.

(3) Prior to the construction of any structure(s), water supply or drainage system, or connection to a septic treatment facility or sewer, you shall conform to the requirements placed upon you by the Building Official, Health Department and Water Pollution Control Authority, Town of Brookfield,. Copies of documents reflecting final approval of these systems shall be filed by you with this Commission within fifteen (15) days after such approval is given.

(4) Any additions to the exterior lighting or the parking areas shall require specific approval of the Commission and shall be in accordance with the appropriate requirements of the Zoning Regulations, Town of Brookfield.

(5) If landscaping is required by the Commission per the approved site plan, you shall maintain such landscaping in a healthy growing condition throughout the duration of the use it is intended to serve. The Commission shall require the replacement of any landscaping which does not survive its initial planting.

(6) You are required to meet all the requirements of Section 242-602, "Technical Standards" of the Brookfield Code.

(7) Prior to the occupancy of any structure, you shall conform to such requirements as may be placed upon you by the Fire Marshal and Fire Chief, Town of Brookfield, relative to: emergency vehicle access, building egress, and provisions for an adequate supply of water for fire fighting purposes.

(8) During construction of the project, you shall take such precautions as may be prescribed by the Building Official, the Highway and Police Departments, Town of Brookfield, and the Zoning Commission, so as to protect the general health, safety, and welfare, and to peclude undue nuisance to residents of the general area. Construction trailers, equipment and the like shall be kept to a minimum of twenty-five (25) feet inside the property lines at all times.

SPECIAL PERMIT - DESIGN REVIEW APPROVAL

GENERAL CONDITIONS OF APPROVAL

(9) During construction of the project, the Erosion and Sediment Protection, (ESP), measures must be fully implemented in accordance with the approved plan. This shall apply not only to the installation of the required ESP measures but also to all meaintenance procedures contained in the plan. Status reports on the ESP plan shall be filed with the Z.E.O. on a monthly basis.

(10) Upon application for a Zoning Certificate of Compliance, you must provide a complete set of drawings revised to indicate the true "as built" condition of the project. These drawings shall be submitted in two (2) blue line copies and one (1) reproducible copy. The Zoning Enforcement Officer will then inspect the property to verify that the project has been completed in accordance with this approval. Only then will a Certificate of Compliance be issued. Occupancy shall not be permitted until such certificate is issued.

(11) An "as built" plot plan shall be submitted to the Commission after the foundations and/or footings are poured. This plot plan shall contain all dimensions enabling the locations of the foundations, footings, drainage pipes, catch basins, galleries, underground utility lines, etc., to be compared for conformity to the approved site plan. No further earth covering over or building on these structures may be initiated until the submitted "as built" is approved by the Commission or the Zoning Enforcement Officer. The Commission will interpret failure to comply with this stipulation as grounds to deny any and all requests for subsequent modifications of the original site plan.

Special Permit No. SP94-1 Attachment No. 2

SPECIAL PERMIT - DESIGN REVIEW APPROVAL

SPECIAL STIPULATIONS

1. The bond shall be set at $7,500.

DOCUMENT LISTING

1. Real Estate Impact Study, Proposed Radio Tower Replacement, Prepared by Lesher-Glendinning & Co., Inc./Appraisers & Counselors, P. O. BOX 402, Georgetown, Conn. 06829, Dated 2/8/94.

2. General Arrangement Drawing of WINE/WRKI RADIO, No. E-1, prepared by Stainless, Inc., 3rd St. and Montgomery Ave., North Wales, PA 19454, dated 12/15/93.

3. Site Plan Proposed Radio Tower Replacement, prepared for Danbury Broadcasting, Inc., 39 Carmen Hill Road, by Carroccio-Covill & Associates, Inc., 40 Old New Milford Road, Brookfield, CT 06804, Drawing No. 1465, Sheet 1 of 1, dated 1/24/94.

ZONING COMMISSION

APPLICATION FOR DESIGN REVIEW APPROVAL

NO. SP 94-1

PROJECT DATA

Project Name: Proposed Radio Tower Replacement
Street Address: 39 Carmen Hill Road, Brookfield CT
Zoning District: R-100 Lot No.: B05013
Permitted Use: No; Existing/Non conform Permitted Use No.: N.A.
Acreage: 4.31 Ac Soil Types Present: Cr, Wx
Building Footprint: 1205 S.F. Impervious Area Footprint: 6205 S.F.
Total Building Sq. Ft. 1205 S.F. No. of Stories 1
No. of Occupants: 0 No. of Parking Spaces: 2
No. of Buildings: 2 (1 Building 1 Tower) Flood Plain Designation: N.A.
Wetlands Approval Req'd.? NO Wetlands Approval Obtained? N.A.
Steep Slopes Present? NO On Sewer Line? NO
Fences/Walls Present? YES Wooded Areas Present? YES
Fuel Tank Size: 275 gal. ± Fire Tank Size: N.A.
Phased Construction? NO Adjacent to Residential Zone? YES
Estimated Project Cost: $300,000.00 Estimated Cost of Site Work: $5100.00

Note: Application must be accompanied by all data specified in Section 242-301 C.(3) of the Brookfield Code, the required fee, and an itemized breakdown of site work costs.

APPLICANT DATA

	Owner of Record	Agent/Developer
Name:	Danbury Broadcasting, Inc.	Attorney Ted D. Backer
Street:	c/o 1004 Federal Road	Lee-Farm Corp. Park, 83 Wooster Heights
City/Zip:	Brookfield, CT 06804	Danbury, CT 06813-3499
Phone:	(203) 775-1212	(203) 743-2721

Name of Proposed Occupant: WINE/WRKI Radio Stations (Existing)
Occupant's Products/Services: Broadcast Transmission (Existing)

AUTHORITY OF AGENT

I hereby authorize the above designated Agent/Developer to act in my behalf in all matters related to this application.

Owner of Record's Signature: Danbury Broadcasting, Inc. BY: [signature] Pres. Date: Jan. 12/94

APPLICANT'S REPRESENTATION

I hereby make application for Design Review Approval in accordance with the Zoning Regulations, Town of Brookfield. I agree herewith to hold the Town of Brookfield and its agents harmless for any and all expenses incurred as a result of the applicant/occupant's lack of compliance with the aforementioned regulations and any enforcement action resulting therefrom.

Applicant's Signature Ted D Backer Date: Jan. 12/94

FOR COMMISSION USE

Date Received: 1/13/94 Date Application Accepted: 1/13/94
Fee Calculation: Amount $ 190.00 + 16.00
Hearing set for: 2/10/94 Publication Dates: 1/27 & 2/3 $ 3/4/94
Disposition: approved w/stips. Date: 2/24/94
Bond Posted: Approval Filed:

TOWN OF BROOKFIELD - ZONING COMMISSION

Rev. 4/87

DESIGN REVIEW APPROVAL - CHECKLIST

PROJECT ADDRESS: 39 Carmen Hill Road PROJECT NAME: Danbury Broadcasting, Inc.

PART I - SITE PLAN REQUIRED DATA per Sect. 242-301 C. (3) (a & b)

	SECT. No.	DATA ITEM		SECT. No.	DATA ITEM
(X)	a.	Key Map	(X)	b.7a.	Road and Drives, Configuration
(X)	b.	Four (4) copies of site plan	(NA)	b.7b.	Road/Drives Profiles
(X)	b.	Scale, not greater than 1"=100'	(NA)	b.7c.	Pavement Cross Section
(X)	b.1a.	Project Name	(X)	b.7d.	Walkways, Malls, Paths
(X)	b.1b.	Developer Name	(X)	b.7e.	Entranceways & Exits
(X)	b.1c.	Land Owner of Record	(NA)	b.8a.	Loading & Storage Areas
(X)	b.1d.	Zoning District	(NA)	b.8b.	Refuse Areas & Screening
(NA)	b.1e.	Permitted Use Identification	(X)	b.8c.	Machine & Equipment Areas
(X)	b.1f.	Names, Abutting Property Owners	(X)	b.8d.	Parking Areas, loc.,dim.
(X)	b.1g.	Northpoint	(X)	b.8e.	Total Vehicle Number
(X)	b.1h.	Scale	(NA)	b.8f.	Curbs, Barriers, Wheel Guards
(X)	b.1i.	Date of Preparation	(X)	b.8g.	Dustless Pavement Type
(X)	b.2a.	Boundary Lines	(X)	b.8h.	Catch Basins, loc.,dim.
(X)	b.2b.	Bearings and Distances	(X)	b.8i.	Culverts & Pipe, loc.,dim.
(X)	b.2c.	Total Property Area	(NA)	b.8j.	Parking Area Landscaping
(X)	b.2d.	Easements, purpose,loc.,dim.	(NA)	b.9a.	Open Space, loc.,dim.,type
(X)	b.2e.	Names, Adjourning Streets	(NA)	b.9b.	Recreational Areas
(X)	b.2f.	Dimensions, Adjourning Streets	(NA)	b.10a.	Water Supply Plan
(X)	b.3a.	Buildings & Structures, type,loc.,dim.	(NA)	b.10b.	Sewage Disposal Plan
(X)	b.3b.	Number of Occupants	(NA)	b.10c.	Reserve Areas, Septic
(X)	b.3c.	Distances to Property Lines & Buildings	(NA)	b.10d.	Drainage Plan & Calculations
(X)	b.4a.	Existing Contours @ 2' intervals	(X)	b.10e.	Electric, Phone, Gas Lines
(NA)	b.4b.	Proposed Contours @ 2' intervals	(NA)	b.10f.	Grades/Elevations, Basins/Piping
(X)	b.4c.	Watercourses, Wetlands, Soil Types	(NA)	b.11a.	Signs, description,loc.dim.
(X)	b.4d.	Proposed Site Alterations (fill etc.)	(X)	b.12a.	Walls/Fences, type,loc.,dim.
(X)	b.4e.	Unusual Site Features	(X)	b.12b.	Unique Items, specify
(X)	b.5a.	Erosion & Sedimentation Plans (ESP)	(X)	b.13a.	Technical Data per 242-602 A thru H
(X)	b.5b.	ESP Design & Details	(X)	b.14a.	Prof. Engr. Seal,) 80,000 sq. ft.
(X)	b.5c.	ESP Procedures/Measures/Reports	(X)	b.15a.	Start/Completion Dates
(X)	b.6a.	Trees & Shrubs, Existing/Proposed	(X)	b.15b.	Milestone/Schedule
(X)	b.6b.	Tree/Shrub Names/Type/Size	(X)	b.15c.	Phases of Construction Shown
( )	other	_____	( )	other	_____
( )	other	_____	( )	other	_____

PART II - ARCHITECTURAL REQUIRED DATA per Sect. 242-301 C. (3)

SECT. No.	DATA ITEM	SECT. No.	DATA ITEM
(NA) c.1.	Building Elevations & Floor Plans	(NA) c.5.	Screening Details
(NA) c.2.	Color & Texture of Building Material	(NA) c.6.	Sign Details
(NA) c.3.	Facade & Window Details	(X) c.7.	Lighting Fixture Deails
(NA) c.4.	Roofscape Details	(NA) c.8.	Illumination & Intensity Data

PART III - ADDITIONAL REQUIRED DATA per Sect. 242-301 C. (4). See cited Section to determine applicability.

(NA)	602 F.	Hydrogeological Report	(NA)	501 D2.	Water Retention Plan
(NA)	602 G.	Traffic Report	( )	other	_____
(NA)	502 E.	Spill Containment Plan	( )	other	_____

DESIGN REVIEW APPROVAL - CHECKLIST Danbury Broadcasting, Inc.

PART IV - APPROVAL CRITERIA, STANDARDS, AND REQUIREMENTS (Industrial and Commercial Applications)

SECTION No.	ITEM	STANDARD/REQUIREMENT	PROPOSED	COMMENTS
	GENERAL			
	*******			
501 B.	Permitted use:	identify	N.A.	Existing Non-Conforming
501 C.	Lot Area:	I=80/C=40k sq. ft.	4.31 ac.	Conforms
501 C.	Lot Width:	I=200'/C=150'	295' ±	Conforms
501 C.	Side Yard:	I=50'/C=30'	64' ±	Conforms
501 C.	Rear Yard:	I=50'/C=30'	465' ±	Conforms
501 C.	Building Height:	I=40'/C=30'	250' +/-	Tower to be 499'
501 D.	Land Coverage:	75%	3.3%	
501 D.	Foundation Plantings:	req'd	N.A.	
501 D.	Water Retention Plan:	)50% coverage, req'd	N.A.	
501 E.	Set Back:	100' fm: lot line	N.A.	
501 E.	Set Back (no front parking):	50' fm: lot line	119' ±	Conforms
308 B.	Set Back, watercourse:	25'	N.A.	
308 H.	Residential Buffer:	100' side/rear, 25' front	N.A.	
501 F.	Drive Design:	per Road Ordinance	N.A.	Existing Drives Servicable
501 F.	Pavement:	10"/2"/1 1/2"/1 1/2"	N.A.	Existing Drives Servicable
201 C.	Lot Access:	)50' frontage	YES	300' ± Available
201 C.	R.O.W. Width:	)50'	50' ±	Site is 26'to30' from centerline
201 E.	Pre-existing Lot, Y / N:	prior to 6/60	YES	
309.	Non-conforming status:	See 242-309	YES	Existing Non-Conforming
203 C.	Zoning Boundry Verified:	Y / N	YES	
203 D.	Lot in 2 Districts:	(30' intrusion	NO	
301 C.	Alteration:	(25%/10K sq. ft.	YES	
301 C	Inland Wetland Approval:	rec'd	N.A.	
301 C	Erosion Control Plan:	See 242-602 D.	N.A.	
301 C	Landscape:	adequate	N.A.	
301 C	Drainage:	per Town Engr.	N.A.	
301 C	Height, walls/fences:	(8'	6' ±	Around Tower Base
308 E.	Sight Obstruction, intersect.	(3'h@(20'distance	N.A.	Existing is Adequate
302.	Natural Resources Removal:	See 242-302	N.A.	
303 A.	Fill Impact:	See 242-303 A.	N.A.	
303 B.	Fill, below structures:	See 242-303 B.	N.A.	
303 C.	Burial of Material:	See 242-303 C.	N.A.	
	PARKING			
	*******			
305 C1.	Parking Space Size:	9' x 20' min.	YES	
305 C1.	Pavement Type:	dustless	YES	Existing Bituminous Concrete
305 C1.	Pavement Markings:	req'd	YES	
305 C2.	Off-site Parking	(250' fm: building	N.A.	
305 C3.	Ingress/Egress:	defined drive req'd	YES	Existing Drive Entrance
305 C4.	Aisles:	24'@90 deg.,14'@parallel	YES	24' ± Available
305 C5.	Drive Width:	22'	NO	Intermittent Access:Satisfactory
305 C6.	Set Back, road pavement	20'	YES	Exists
305 C6.	Set Back, buildings	10'	YES	Exists
305 C7.	Walkways:	Commission option	YES	Exists
305 C8.	Curbing, perimeter	6"	NO	Wheel Stops to be Used
305 C9.	Set Back, intersection:	75'	N.A.	
305 C10.	Lighting:	See 242-602 B.	NO	No Parking illumination proposed
305 D.	Parking Space Calculation:	See 242-305 D.	YES	

SECTION No.	ITEM	STANDARD/REQUIREMENT	PROPOSED	COMMENTS
305 E.	Trailers, construction:	water/septic req'd	NO	None Required
305 E.	Trailer, mat'l storage:	60 day permit	NO	None Required
305 G.	Loading Area Calculation:	See 242-305 G.	N.A.	
305 H.	Landscape:	8% of parking area	N.A.	
305 H.	8' Planters:	)50 cars	N.A.	
305 H.	Trees, 2 1/2" @ 3'height:	1 per 12 cars	N.A.	
	PERFORMANCE STANDARDS			
	**********			
602 A.	NOISE:			
602 A2.	Ind'l DbA	Day 65, Night 55	N.A.	
602 A2.	Comm'l DbA	Day 60, Night 50	N.A.	
602 A2.	Resd'l DbA	Day 55, Night 45	N.A.	
602 B.	GLARE:			
602 B2a.	Light Source Visability:	none @ prop. line	YES	Aircraft Warning Lights 242-602 B.2.F.4.
602 B2a.	Foot Candles:	(I/C=1.0, R=.5	YES	
602 B2c.	Upward Angle, no contact:	not permitted	N.A.	
602 B2d.	Signs, flashing, animated:	not permitted	N.A.	
602 C.	WASTEWATER:			
602 C2.	Soil Map Data:	req'd	N.A.	
602 C3.	Test Hole Analysis:	req'd	N.A.	
602 C4.	Discharge Rates:	Table I	N.A.	
602 C6.	Loading Rates:	Table II	N.A.	
602 C.	Sewer, municipal:	WPCA approval req'd	N.A.	
602 D.	EROSION/SEDIMENT PLAN:	See 242-602 D.	YES	See Plans
602 E.	WOODCUTTING:	See 242-602 F.	N.A.	
602 F.	WATERSUPPLY:			
602 F2.	Hydrogeological Report:	)2,500 gpd	N.A.	No new use proposed
602 F3a.	Water Source:	on-site/other	YES	Existing
602 F3b.	Demand/Availability:	in balance	YES	No previous problems reported
602 F3c.	DPUC/DHS Certificate:	)25 persons,15 conc't'ns	N.A.	
602 F3d.	Stand-by Well:	)2,500 gpd	N.A.	
602 F3e.	Yield, multi-well project:	2 x avg daily demand	N.A.	
602 F3f.	Demand, drought periods:	) available supply	N.A.	
602 F3g.	Recharge Provisions:	maximize	N.A.	
602 F3h.	Yield Tests:	36hr/10gpm,72hr/50gpm	N.A.	
602 F3i.	Long Term Supply Reduction:	Not permitted	N.A.	
602 F3j.	Conservation Plan:	)5,000 gpd	N.A.	
602 F3k.	Process Water:	(5,000 gpd	NO	None required
602 F3l.	Location, well sites:	contamination proof	YES	Existing
602 F3m.	Construction Start:	DH appv'l of well/yield	N.A.	
602 F4.	Water Monitoring Program:	case-by-case	N.A.	
602 G.	TRAFFIC:			
602 G2.	Traffic Report:	)50 spaces/100 TPD	N.A.	
602 G3a&f.	Access/Circulation:	avoid queing	YES	Existing Adequate
602 G3b.	Access by resd'l streets:	avoid	YES	Exists
602 G3c.	Access on 2 streets:	use lesser impact steet.	N.A.	Exists
602 G3d.	Street Capacity:	adequate/calculated	N.A.	Use Exists
602 G3e.	Turn Lane/Controls:	case-by-case	N.A.	
602 G3g.	Grade/Algm't/Sight lines:	good engr. practice	YES	Existing Adequate
602 G3h.	Curb Cuts:	minimize	YES	One Existing
602 G3i.	Emergency Access:	req'd	NO	Not Required
602 G3i.	Interconnecting drives:	case-by-case	N.A.	
602 G3i.	Driveway Width:	(30'	20'	At R.O.W. Line
602 G3j.	Shoulder Improvements:	case-by-case	N.A.	
602 G3k.	Level of Service:	(Level "D"	N.A.	

SECTION No.	ITEM	STANDARD/REQUIREMENT	PROPOSED	COMMENTS
602 H.	FIRE PROTECTION:			
602 H2.	Storage Tank, or:	20,000 gal	N.A.	Non-Flammable Alteration
602 H2.	Other Supply, or	20,000 gal	N.A.	Non-Flammable Alteration
602 H2.	Sprinkler	option	N.A.	Non-Flammable Alteration
602 H3.	Location:	per Fire Marshall	N.A.	Non-Flammable Alteration
602 H3.	Fixturing:	per Fire Marshall	N.A.	Non-Flammable Alteration
602 H3.	Alarms/Key Box:	case-by-case	N.A.	Non-Flammable Alteration
301 C.	ENVIRONMENTAL			
	**********			
301 C5b.	Hazardous Material Storage:	case-by-case	N.A.	None Proposed
301 C5c.	Dust:	minimize	N.A.	None Proposed
301 C5c.	Odor:	not noticeable off-prem.	N.A.	None Proposed
301 C5c.	Vibration:	case-by-case	N.A.	None Proposed
	ARCHITECTURAL			
	**********			
301 C5d.	Color:	identify Orange	& White	As Required by FAA & FCC*
301 C5d.	Type/Texture of Siding:	identify	Paint	Smooth Paint on Metal
301 C5d.	Facade/Window Detail:	identify	N.A.	
301 C5d.	Roofscape:	minimize appurtenances	N.A.	
301 C5d.	Screening:	mech. areas req'd	N.A.	
301 C5d.	Lighting:	See 242-602 B.	YES	Per FAA & FCC*
301 C5d.	Area Compatibility:	req'd	N.A.	Replacement of Existing
301 C5d.	Preservation of Site Features:	maximize	YES	Minimal disturbance
301 C5d.	Landscaping, f'n'd'n plantings:	req'd	N.A.	Minimal disturbance
301 C5d.	Overall appearance:	case-by-case	YES	Similar to Existing
301 C5d.	Property Values:	No lessening impact	YES	Similar to Existing

* Federal Aviation Administration
Federal Communications Commission

503.	AQUIFER PROTECTION			
	**********			
503 B.	Prohibited uses:	Salt, hazardous/toxic, land fills, truck terminals, service stations, industrial wastes, metalworking, publishing and reproduction services.		NOT APPLICABLE
503 C.	Water Quality Impact:	not (Fed/State stds.		
503 C.	DH/TE/IWL/PC opinion:	req'd		
503 D.	Data:	See 242-503 D.		
503 D.	Analysis/Compliace Report:	req'd.		
503 E.	Spill Control Plan:	req'd.		
502.	FLOOD PLAIN			
	**********			
502 B.	Mean Flood Elevation at Site:	identify		NOT APPLICABLE
502 B.	Lowest Floor Elevation:	identify		
502 E.	Fill:	See 242-301 C.		
502.	Other Requirements:	See 242-502		

PART V - STIPULATIONS:

PART VI - DISPOSITION: _____ BOND SET @: $_____ BY: _____ DATE: _____

ADJOINING PROPERTY OWNERS
WINE RADIO TOWER SITE
37 TO 41 CARMEN HILL ROAD
BROOKFIELD, CONNECTICUT
DECEMBER 6, 1993

ASSESSOR'S LOT #	OWNER/ADDRESS
B05010	CROWN MEDIA, INC. 1 GALLERIA TOWER 13355 NOEL ROAD SUITE 1500 DALLAS, TEXAS 75240
B05011	DAVID HESAM SAADATMANDI 33 CARMEN HILL ROAD BROOKFIELD, CONNECTICUT 06804
B05012	ROBERT J. & RITA GARRETT 33A CARMEN HILL ROAD BROOKFIELD, CONNECTICUT 06804
B05014	RICHARD & J. PATRICIA ALEXANDER 43 CARMEN HILL ROAD BROOKFIELD, CONNECTICUT 06804
B05020	NORMAN TUCHMANN 46 River Street New Haven, Connecticut 06513

CENTERLINE

EXHIBIT C

Property Card

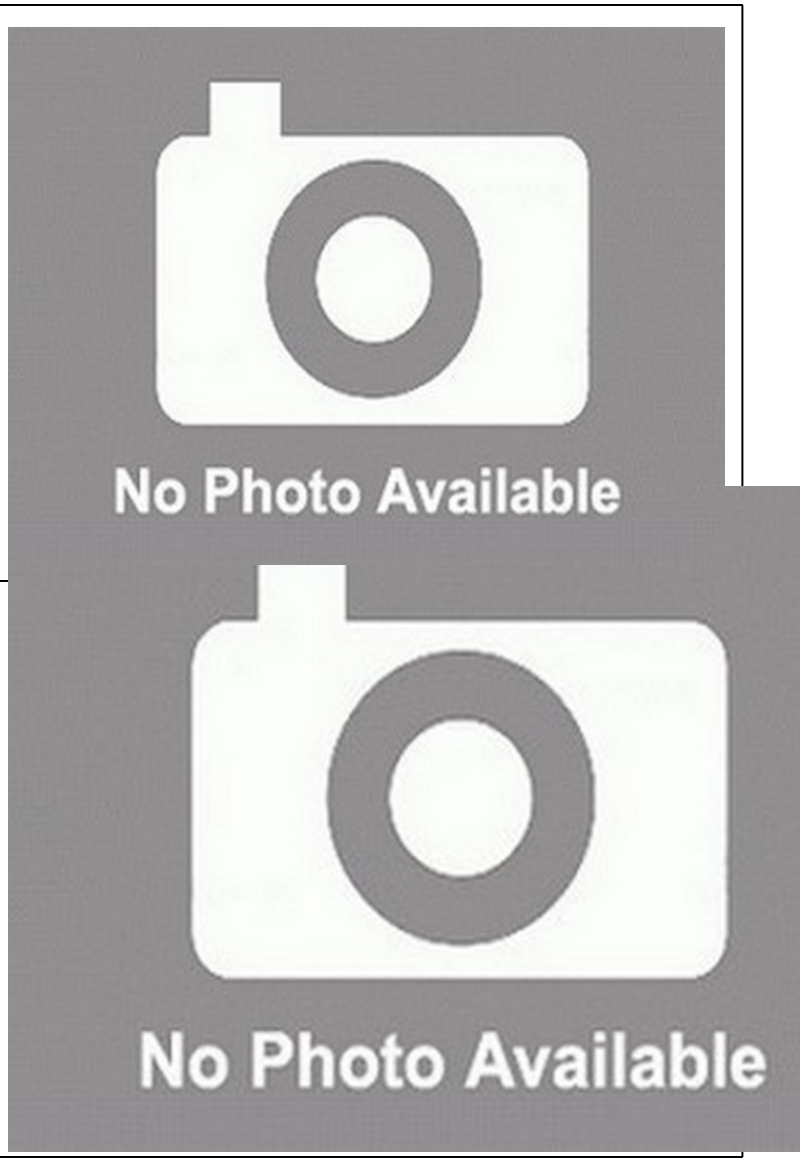
Town of Brookfield, CT

Property Listing Report

Map Block Lot	B05010	Building #	1	Section #	1	Account	02704000

Property Information

Property Location	37 CARMEN HILL RD
Owner	AMERICAN TOWERS LLC
Co-Owner	C/O PROPERTY TAX DEPT
Mailing Address	PO BOX 723597 ATLANTA GA 31139
Land Use	435 Cell Site Vac Lnd
Land Class	I
Zoning Code	R-100
Census Tract	205100010600



Street Index	
Acreage	4
Utilities	UNKNOWN
Lot Setting/Desc	UNKNOWN Level
Additional Info	

Primary Construction Details

Year Built	0
Stories	
Building Style	UNKNOWN
Building Use	Vacant
Building Condition	
Interior Floors 1	
Interior Floors 2	NA
Total Rooms	0
Basement Garages	0
Occupancy	
Building Grade	

Bedrooms	0
Full Bathrooms	0
Half Bathrooms	0
Extra Fixtures	0
Bath Style	NA
Kitchen Style	NA
Roof Style	
Roof Cover	
AC Type	
Fireplaces	0

Exterior Walls	
Exterior Walls 2	NA
Interior Walls	
Interior Walls 2	NA
Heating Type	
Heating Fuel	
Sq. Ft. Basement	
Fin BSMT Quality	
Extra Kitchens	

Report Created On 12/11/2024

Town of Brookfield, CT

Property Listing Report | Map Block Lot B05010 | Building # 1 | Section # 1 | Account 02704000

Valuation Summary

(Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings	0	0
Extras	0	0
Improvements		
Outbuildings	33020	23120
Land	488010	341610
Total	521030	364730

Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
Total Area		0

Outbuilding and Extra Features

Type	Description
Comm Shed	240 S.F.
Comm Shed	500 S.F.
Generator	1 Units
Cell Tower	1 Units

Sales History

Owner of Record	Book/ Page	Sale Date	Sale Price
AMERICAN TOWERS LLC	692/ 597	2014-11-20	352340
FLORIDA TOWER PARTNERS LLC	683/ 643	2014-04-10	525000
CHARTER COMMUNICATIONS ENTERTAINMENT 1LP	313/ 836	1996-11-01	37800

Town of Brookfield, Connecticut - Assessment Parcel Map

Parcel: **B05010** **Address:** 37 CARMEN HILL RD

Approximate Scale:
1 inch = 100 feet

Map Produced December 2023

CENTERLINE

EXHIBIT D

Construction Drawings

SITE NAME: BROOKFIELD/JUNCTION RD.

37 CARMEN HILL ROAD
BROOKFIELD, CT 06804
FAIRFIELD COUNTY

SITE NUMBER: CT11196A

L600_RADIO/EQUIPMENT UPGRADE

RF DESIGN GUIDELINE: 67D5A998E OUTDOOR

T-MOBILE TECHNICIAN SITE SAFETY NOTES

LOCATION	SPECIAL RESTRICTIONS
SECTOR A: ANTENNA/RADIO	ACCESS NOT PERMITTED
SECTOR B: ANTENNA/RADIO	ACCESS NOT PERMITTED
SECTOR C: ANTENNA/RADIO	ACCESS NOT PERMITTED
GPS/LMU:	UNRESTRICTED
RADIO CABINETS:	UNRESTRICTED
PPC DISCONNECT:	UNRESTRICTED
MAIN CIRCUIT D/C:	UNRESTRICTED
NIU/T DEMARC:	UNRESTRICTED
OTHER/SPECIAL:	NONE

GENERAL NOTES

THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF T–MOBILE. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.

THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE T–MOBILE NORTHEAST, LLC REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

PROJECT SUMMARY

SCOPE OF WORK:	UNMANNED TELECOMMUNICATIONS FACILITY T–MOBILE EQUIPMENT MODERNIZATION
ZONING JURISDICTION:	BASED ON INFORMATION PROVIDED BY T–MOBILE, THIS TELECOMMUNICATIONS EQUIPMENT DEPLOYMENT IS AN ELIGIBLE FACILITY UNDER THE TAX RELIEF ACT OF 2012, 47 USC 1455(A), AND IS SUBJECT TO AN EXPEDITED ELIGIBLE FACILITIES REQUEST/REVIEW AND ZONING PRE–EMPTION FOR LOCAL DISCRETIONARY PERMITS (VARIANCE, SPECIAL PERMIT, SITE PLAN REVIEW).
SITE ADDRESS:	37 CARMEN HILL ROAD BROOKFIELD, CT 06804
LATITUDE:	41° 29' 36.39" N / 41.493432° N
LONGITUDE:	73° 25' 43.43" W / –73.428734° W
JURISDICTION:	TOWN OF BROOKFIELD, CT
CURRENT USE:	TELECOMMUNICATIONS FACILITY
PROPOSED USE:	TELECOMMUNICATIONS FACILITY

PROJECT SCOPE OF WORK

- REMOVE (6) ANTENNAS
- REMOVE (6) TMAS
- REMOVE (12) 1–5/8" COAX LINES
- REMOVE (4) 6X12 HYBRID CABLES
- REMOVE (1) 6102 CABINET
- INSTALL (6) NEW ANTENNAS
- INSTALL (3) NEW RADIOS
- INSTALL (2) NEW 6x24 HYBRIDS

APPROVALS

PROJECT MANAGER	DATE
CONSTRUCTION	DATE
RF ENGINEERING	DATE
ZONING / SITE ACQ.	DATE
OPERATIONS	DATE
TOWER OWNER	DATE

72 HOURS

CALL
BEFORE YOU DIG
CALL TOLL FREE 1–800–922–4455
OR CALL 811

UNDERGROUND SERVICE ALERT

DRAWING INDEX

SHEET NO.	DESCRIPTION	REV.
T–1	TITLE SHEET	1
GN–1	GENERAL NOTES	1
A–1	COMPOUND & EQUIPMENT PLANS	1
A–2	ANTENNA PLANS & ELEVATION	1
A–3	TOWER EQUIPMENT DETAILS	1
SN–1	SPECIAL INSPECTIONS NOTES	1
E–1	ONE–LINE DIAGRAM & GROUNDING DETAILS	1

T-MOBILE NORTHEAST LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
OFFICE: (860) 648-1116

CENTERLINE
750 WEST CENTER STREET, SUITE #301
WEST BRIDGEWATER, MA 02379

TEP
TEP OPCO, LLC.
45 BEECHWOOD DR.
NORTH ANDOVER, MA 01845
OFFICE: (978) 557-5553

STATE OF CONNECTICUT
DANIEL P. HAMM
No.24178
LICENSED PROFESSIONAL ENGINEER

CHECKED BY: AT

APPROVED BY: DPH

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	10/11/24	ISSUED FOR CONSTRUCTION	RBK
0	09/03/24	ISSUED FOR REVIEW	RBK

SITE NUMBER:
CT11196A
SITE NAME:
BROOKFIELD/JUNCTION RD.
SITE ADDRESS:
37 CARMEN HILL ROAD
BROOKFIELD, CT 06804
FAIRFIELD COUNTY

SHEET TITLE
TITLE SHEET
(RADIO/EQUIPMENT UPGRADE)

SHEET NUMBER
T-1

GROUNDING NOTES

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.

2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.

3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81 STANDARDS) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.

4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.

5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS AND #2 AWG STRANDED COPPER FOR OUTDOOR BTS.

6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.

7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.

8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO GROUND BAR.

9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.

10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.

11. METAL CONDUIT SHALL BE MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.

12. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/2 IN. OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:

   CONTRACTOR – CENTERLINE
   SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER – T-MOBILE

2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.

3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.

5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.

7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.

9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.

10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.

11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.

13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.

14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.

15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCHUP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.

16. CONSTRUCTION SHALL COMPLY WITH T-MOBILE SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF T-MOBILE SITES."

17. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.

18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.

19. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

20. APPLICABLE BUILDING CODES:
    SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.
    BUILDING CODE: 2021 IBC WITH 2022 CT STATE BUILDING CODES
    ELECTRICAL CODE: NEC 2020, NFPA 70 2020

    SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:

    AMERICAN CONCRETE INSTITUTE (ACI) 318; BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE;

    AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)

    MANUAL OF STEEL CONSTRUCTION, ASD, FOURTEENTH EDITION;

    TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-H, STRUCTURAL STANDARDS FOR STEEL

    EQUIPMENT AND ANTENNA SUPPORTING STRUCTURES; REFER TO ELECTRICAL DRAWINGS FOR SPECIFIC ELECTRICAL STANDARDS.

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

ABBREVIATIONS

AGL	ABOVE GRADE LEVEL	EQ	EQUAL	REQ	REQUIRED
AWG	AMERICAN WIRE GAUGE	GC	GENERAL CONTRACTOR	RF	RADIO FREQUENCY
BBU	BATTERY BACKUP UNIT	GRC	GALVANIZED RIGID CONDUIT	TBD	TO BE DETERMINED
BTCW	BARE TINNED SOLID COPPER WIRE	MGB	MASTER GROUND BAR	TBR	TO BE REMOVED
BGR	BURIED GROUND RING	MIN	MINIMUM	TBRR	TO BE REMOVED AND REPLACED
BTS	BASE TRANSCEIVER STATION	P	PROPOSED	TYP	TYPICAL
E	EXISTING	NTS	NOT TO SCALE	UG	UNDER GROUND
EGB	EQUIPMENT GROUND BAR	RAD	RADIATION CENTER LINE (ANTENNA)	VIF	VERIFY IN FIELD
EGR	EQUIPMENT GROUND RING	REF	REFERENCE		

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750 WEST CENTER STREET, SUITE #301
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TEP
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NORTH ANDOVER, MA 01845
OFFICE: (978) 557-5553

STATE OF CONNECTICUT
DANIEL P. HAMM
No. 24178
LICENSED PROFESSIONAL ENGINEER

CHECKED BY: AT

APPROVED BY: DPH

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	10/11/24	ISSUED FOR CONSTRUCTION	RBK
0	09/03/24	ISSUED FOR REVIEW	RBK

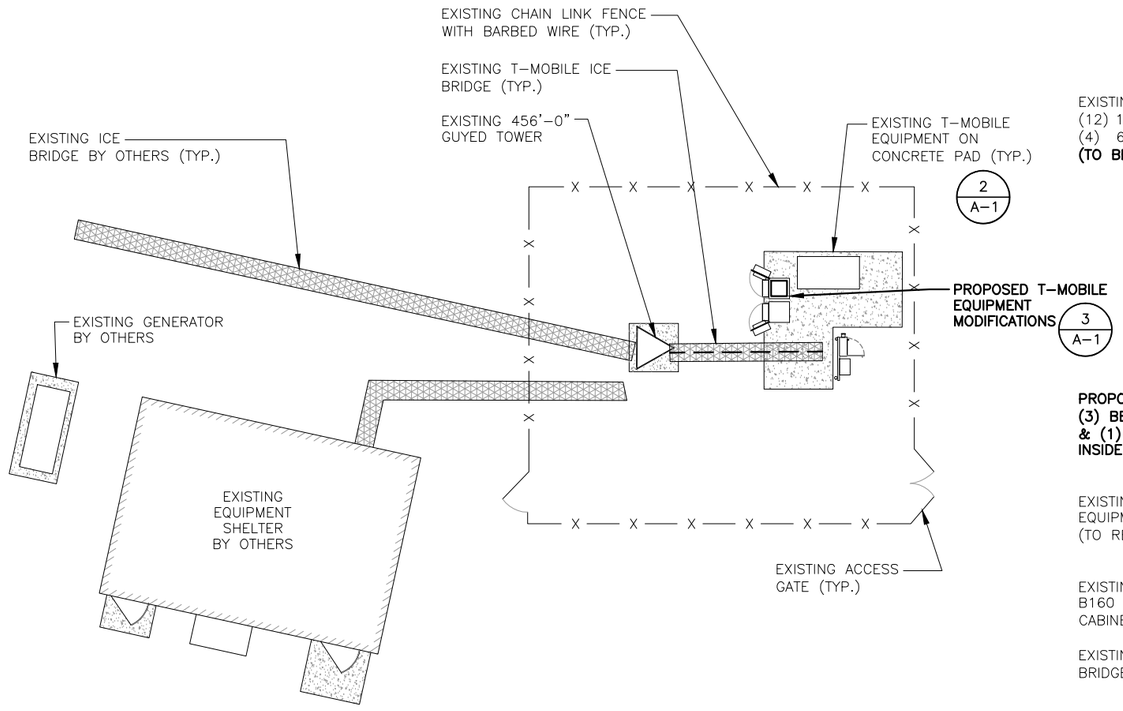
SITE NUMBER:
CT11196A
SITE NAME:
BROOKFIELD/JUNCTION RD.
SITE ADDRESS:
37 CARMEN HILL ROAD
BROOKFIELD, CT 06804
FAIRFIELD COUNTY

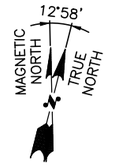
SHEET TITLE
GENERAL NOTES
(RADIO/EQUIPMENT UPGRADE)

SHEET NUMBER
GN-1

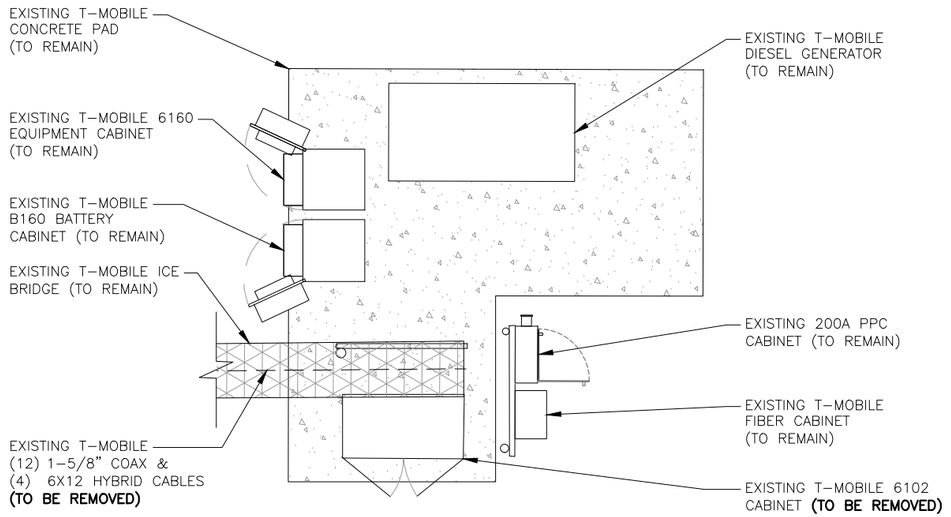
STRUCTURAL NOTES:
PRIOR TO COMMENCING CONSTRUCTION, GC SHALL REFER TO MOUNT ANALYSIS PROVIDED BY TEP (TEP OPCO LLC), DATED: OCTOBER 10, 2024 TO DETERMINE IF THERE ANY SUPPLEMENTAL OR SPECIAL INSTALLATION REQUIREMENTS, OR RELOCATION ARRANGEMENTS.

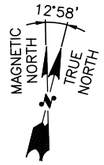
NOTE:
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.



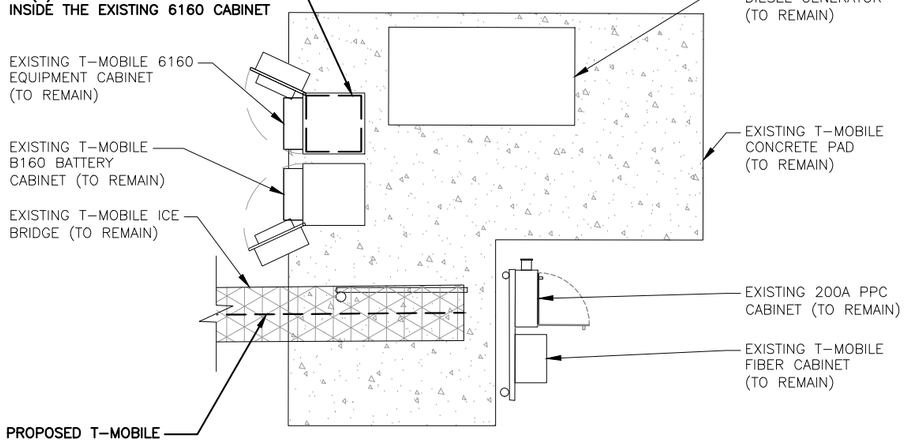


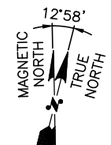
COMPOUND PLAN 1 A-1
22x34 SCALE: 1/8"=1'-0"
11x17 SCALE: 1/16"=1'-0"
0 4'-0" 8'-0" 16'-0" 24'-0"





EXISTING EQUIPMENT PLAN 2 A-1
22x34 SCALE: 3/8"=1'-0"
11x17 SCALE: 3/16"=1'-0"
0 1'-4" 2'-8" 5'-4" 8'-0"





PROPOSED EQUIPMENT PLAN 3 A-1
22x34 SCALE: 3/8"=1'-0"
11x17 SCALE: 3/16"=1'-0"
0 1'-4" 2'-8" 5'-4" 8'-0"

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WEST BRIDGEWATER, MA 02379

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STATE OF CONNECTICUT
DANIEL P. HAMM
No. 24178
LICENSED PROFESSIONAL ENGINEER

CHECKED BY: AT

APPROVED BY: DPH

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SITE NAME:
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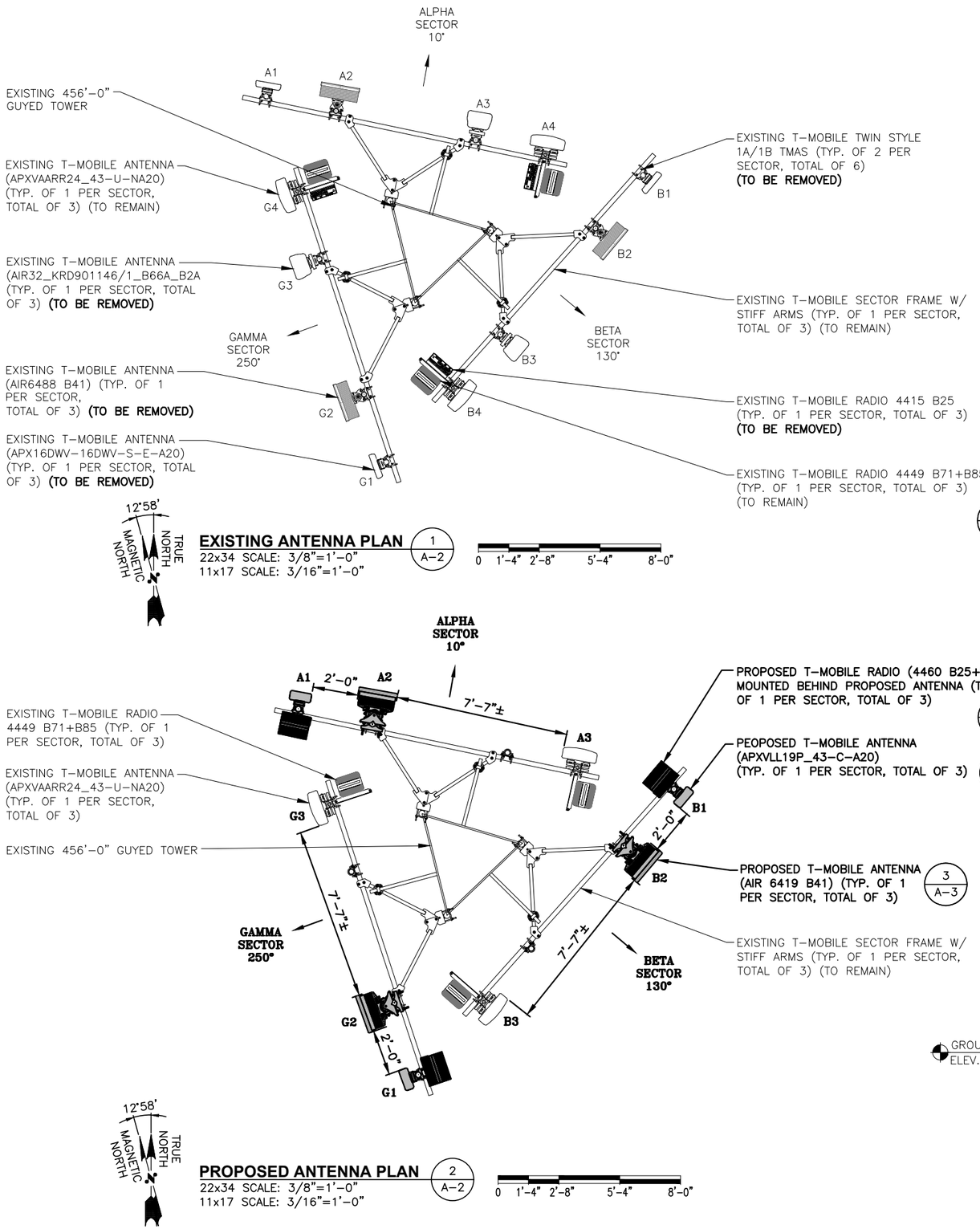
SITE ADDRESS:
37 CARMEN HILL ROAD
BROOKFIELD, CT 06804
FAIRFIELD COUNTY

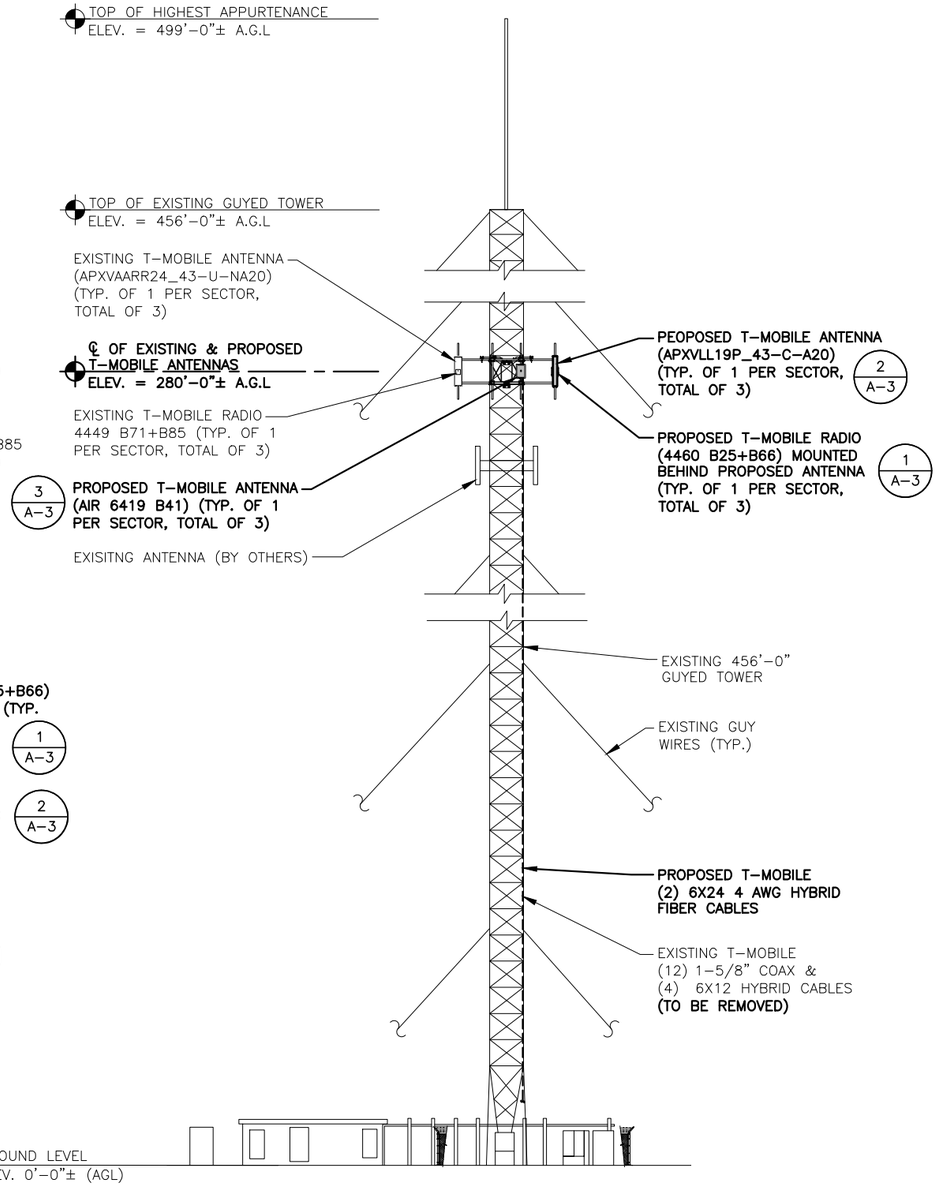
SHEET TITLE
COMPOUND & EQUIPMENT PLANS
(RADIO/EQUIPMENT UPGRADE)

SHEET NUMBER
A-1



NOTE:
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

STRUCTURAL NOTES:
PRIOR TO COMMENCING CONSTRUCTION, GC SHALL REFER TO MOUNT ANALYSIS PROVIDED BY TEP (TEP OPCO LLC), DATED: OCTOBER 10, 2024 TO DETERMINE IF THERE ANY SUPPLEMENTAL OR SPECIAL INSTALLATION REQUIREMENTS, OR RELOCATION ARRANGEMENTS.



ELEVATION 3 A-2
22x34 SCALE: 1/16"=1'-0"
11x17 SCALE: 1/32"=1'-0"
0 2'-8" 5'-4" 10'-8" 16'-0"

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SITE NAME:
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FAIRFIELD COUNTY

SHEET TITLE
ANTENNA PLANS & ELEVATION
(RADIO/EQUIPMENT UPGRADE)

SHEET NUMBER
A-2

FINAL ANTENNA CONFIGURATION

SECTOR MARK	ANTENNA MODEL	TECHNOLOGY	AZIMUTH	E-TILT	M-TILT	ANTENNA CENTERLINE	RADIO	CABLE FEED LINES	CABLE LENGTH
A-1	APXVLL19P_43-C-A20	N1900+L2100+ N1900	10°	–	–	280'-0"±	(1) (P) RADIO 4460 B25+B66	(2) (P) 6X24 #4AWG HYBRID FIBER CABLES	550'±
A-2	AIR 6419 B41	N2500	10°	–	–	280'-0"±	–		
A-3	APXVAARR24_43-U-NA20	L700+N600	10°	–	–	280'-0"±	(1) (E) RADIO 4449 B71+B85		
B-1	APXVLL19P_43-C-A20	N1900+L2100+ N1900	130°	–	–	280'-0"±	(1) (P) RADIO 4460 B25+B66		
B-2	AIR 6419 B41	N2500	130°	–	–	280'-0"±	–		
B-3	APXVAARR24_43-U-NA20	L700+N600	130°	–	–	280'-0"±	(1) (E) RADIO 4449 B71+B85		
C-1	APXVLL19P_43-C-A20	N1900+L2100+ N1900	250°	–	–	280'-0"±	(1) (P) RADIO 4460 B25+B66		
C-2	AIR 6419 B41	N2500	250°	–	–	280'-0"±	–		
C-3	APXVAARR24_43-U-NA20	L700+N600	250°	–	–	280'-0"±	(1) (E) RADIO 4449 B71+B85		

NOTE:
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STRUCTURAL NOTES:
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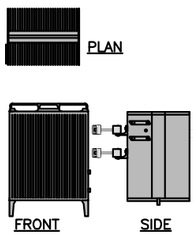
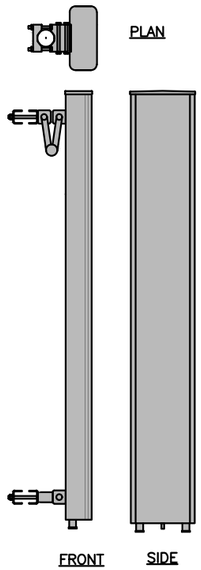
RADIO 4460 B25+B66 DIMENSIONS	
MODEL #	RADIO 4460 B25+B66
MANUF.	ERICSSON
HEIGHT	17.0"
WIDTH	15.1"
DEPTH	11.9"
WEIGHT	104 LBS



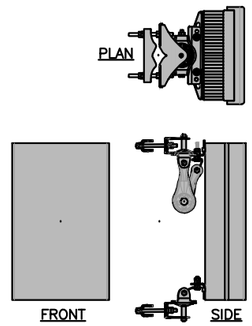
RADIO DETAIL (1 / A-3)
SCALE: N.T.S

L21+N19+L19 ANTENNA DIMENSIONS	
MODEL #	APXVLL19P_43-C-A20 (QUAD)
MANUF.	RFS
HEIGHT	75.8"
WIDTH	11.3"
DEPTH	4.6"
WEIGHT	49.3 LBS

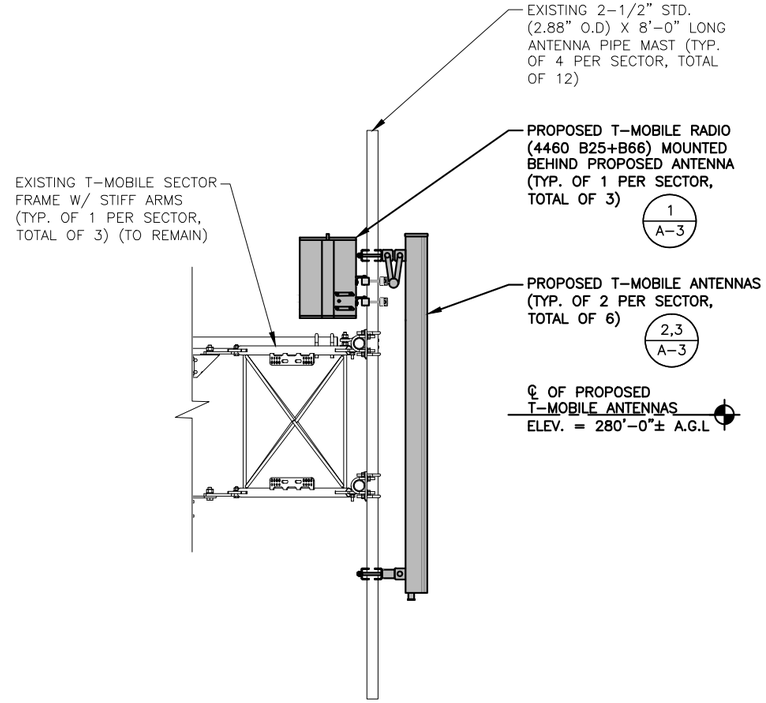


L2100+N1900+L1900 ANTENNA DETAIL (2 / A-3)
SCALE: N.T.S

N25 ANTENNA DIMENSIONS	
MODEL #	AIR 6419 B41
MANUF.	ERICSSON
HEIGHT	34.49"
WIDTH	19.92"
DEPTH	7.99"
WEIGHT	68.34 LBS



N25 ANTENNA DETAIL (3 / A-3)
SCALE: N.T.S



PROPOSED ANTENNA & RADIO MOUNTING DETAIL (4 / A-3)
22x34 SCALE: 3/8"=1'-0"
11x17 SCALE: 3/16"=1'-0"

0 1'-4" 2'-8" 5'-4" 8'-0"

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SITE NUMBER:
CT11196A
SITE NAME:
BROOKFIELD/JUNCTION RD.
SITE ADDRESS:
37 CARMEN HILL ROAD
BROOKFIELD, CT 06804
FAIRFIELD COUNTY

SHEET TITLE
TOWER EQUIPMENT DETAILS
(RADIO/EQUIPMENT UPGRADE)

SHEET NUMBER
A-3

STRUCTURAL NOTES:

1. DESIGN REQUIREMENTS ARE PER STATE BUILDING CODE AND APPLICABLE SUPPLEMENTS, INTERNATIONAL BUILDING CODE, EIA/TIA-222-H STRUCTURAL STANDARDS FOR STEEL ANTENNA, TOWERS AND ANTENNA SUPPORTING STRUCTURES.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE CONSTRUCTION MANAGER AND ENGINEER OF RECORD.
3. DESIGN AND CONSTRUCTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".
4. STRUCTURAL STEEL SHALL CONFORM TO ASTM A992 (Fy=50 ksi), MISCELLANEOUS STEEL SHALL CONFORM TO ASTM A36 UNLESS OTHERWISE INDICATED.
5. STEEL PIPE SHALL CONFORM TO ASTM A500 "COLD-FORMED WELDED & SEAMLESS CARBON STEEL STRUCTURAL TUBING", GRADE B, OR ASTM A53 PIPE STEEL BLACK AND HOT-DIPPED ZINC-COATED WELDED AND SEAMLESS TYPE E OR S, GRADE B. PIPE SIZES INDICATED ARE NOMINAL. ACTUAL OUTSIDE DIAMETER IS LARGER.
6. STRUCTURAL CONNECTION BOLTS SHALL BE HIGH STRENGTH BOLTS (BEARING TYPE) AND CONFORM TO ASTM A325 TYPE-X "HIGH STRENGTH BOLTS FOR STRUCTURAL JOINTS, INCLUDING SUITABLE NUTS AND PLAIN HARDENED WASHERS". ALL BOLTS SHALL BE 3/4" DIA UON.
7. ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS OTHERWISE NOTED.
8. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS OTHERWISE NOTED.
9. FIELD WELDS, DRILL HOLES, SAW CUTS AND ALL DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED WITH AN ORGANIC ZINC REPAIR PAINT COMPLYING WITH REQUIREMENTS OF ASTM A780. GALVANIZING REPAIR PAINT SHALL HAVE 65 PERCENT ZINC BY WEIGHT, ZIRP BY DUNCAN GALVANIZING, GALVA BRIGHT PREMIUM BY CROWN OR EQUAL. THICKNESS OF APPLIED GALVANIZING REPAIR PAINT SHALL BE NOT NOT LESS THAN 4 COATS (ALLOW TIME TO DRY BETWEEN COATS) WITH A RESULTING COATING THICKNESS REQUIRED BY ASTM A123 OR A153 AS APPLICABLE.
10. CONTRACTOR SHALL COMPLY WITH AWS CODE FOR PROCEDURES, APPEARANCE AND QUALITY OF WELDS, AND FOR METHODS USED IN CORRECTING WELDING. ALL WELDERS AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS "STANDARD QUALIFICATION PROCEDURES". ALL WELDING SHALL BE DONE USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND DI.I. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "STEEL CONSTRUCTION MANUAL". 14TH EDITION.
11. INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NON-CONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE CONSTRUCTION MANAGER PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE CONSTRUCTION MANAGER APPROVAL.
12. UNISTRUT SHALL BE FORMED STEEL CHANNEL STRUT FRAMING AS MANUFACTURED BY UNISTRUT CORP., WAYNE, MI OR EQUAL. STRUT MEMBERS SHALL BE 1 5/8"x1 5/8"x12GA, UNLESS OTHERWISE NOTED, AND SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
13. EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HILTI-HIT HY-70 AND OR HY-200 SYSTEMS (AS SPECIFIED IN DWG.) OR ENGINEERS APPROVED EQUAL.
14. EXPANSION BOLTS SHALL CONFORM TO FEDERAL SPECIFICATION FF-S-325, GROUP II, TYPE 4, CLASS I, HILTI KWIK BOLT III OR APPROVED EQUAL. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
15. LUMBER SHALL COMPLY WITH THE REQUIREMENTS OF THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION AND THE NATIONAL FOREST PRODUCTS ASSOCIATION'S NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION. ALL LUMBER SHALL BE PRESSURE TREATED AND SHALL BE STRUCTURAL GRADE NO. 2 OR BETTER.
16. WHERE ROOF PENETRATIONS ARE REQUIRED, THE CONTRACTOR SHALL CONTACT AND COORDINATE RELATED WORK WITH THE BUILDING OWNER AND THE EXISTING ROOF INSTALLER. WORK SHALL BE PERFORMED IN SUCH A MANNER AS TO NOT VOID THE EXISTING ROOF WARRANTY. ROOF SHALL BE WATERTIGHT.
17. ALL FIBERGLASS MEMBERS USED ARE AS MANUFACTURED BY STRONGWELL COMPANY OF BRISTOL, VA 24203. ALL DESIGN CRITERIA FOR THESE MEMBERS IS BASED ON INFORMATION PROVIDED IN THE DESIGN MANUAL. ALL REQUIREMENTS PUBLISHED IN SAID MANUAL MUST BE STRICTLY ADHERED TO.
18. NO MATERIALS TO BE ORDERED AND NO WORK TO BE COMPLETED UNTIL SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED IN WRITING.
19. SUBCONTRACTOR SHALL FIREPROOF ALL STEEL TO PRE-EXISTING CONDITIONS.

SPECIAL INSPECTIONS (REFERENCE IBC CHAPTER 17):

GENERAL: WHERE APPLICATION IS MADE FOR CONSTRUCTION, THE OWNER OR THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE ACTING AS THE OWNER'S AGENT SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PERFORM INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK LISTED IN THE INSPECTION CHECKLIST ABOVE.

THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE AND ENGINEERS OF RECORD INVOLVED IN THE DESIGN OF THE PROJECT ARE PERMITTED TO ACT AS THE APPROVED AGENCY AND THEIR PERSONNEL ARE PERMITTED TO ACT AS THE SPECIAL INSPECTOR FOR THE WORK DESIGNED BY THEM, PROVIDED THOSE PERSONNEL MEET THE QUALIFICATION REQUIREMENTS.

STATEMENT OF SPECIAL INSPECTIONS: THE APPLICANT SHALL SUBMIT A STATEMENT OF SPECIAL INSPECTIONS PREPARED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE IN ACCORDANCE WITH SECTION 107.1 AS A CONDITION FOR ISSUANCE. THIS STATEMENT SHALL BE IN ACCORDANCE WITH SECTION 1705.

REPORT REQUIREMENT: SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THEY ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS SHALL BE SUBMITTED.

SPECIAL INSPECTION CHECKLIST

BEFORE CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
N/A	ENGINEER OF RECORD APPROVED SHOP DRAWINGS [1]
N/A	MATERIAL SPECIFICATIONS REPORT [2]
N/A	FABRICATOR NDE INSPECTION
N/A	PACKING SLIPS [3]
ADDITIONAL TESTING AND INSPECTIONS:	
DURING CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	STEEL INSPECTIONS
N/A	HIGH STRENGTH BOLT INSPECTIONS
N/A	HIGH WIND ZONE INSPECTIONS [4]
N/A	FOUNDATION INSPECTIONS
N/A	CONCRETE COMP. STRENGTH, SLUMP TESTS AND PLACEMENT
N/A	POST INSTALLED ANCHOR VERIFICATION [5]
N/A	GROUT VERIFICATION
N/A	CERTIFIED WELD INSPECTION
N/A	EARTHWORK: LIFT AND DENSITY
N/A	ON SITE COLD GALVANIZING VERIFICATION
N/A	GUY WIRE TENSION REPORT
ADDITIONAL TESTING AND INSPECTIONS:	
AFTER CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	MODIFICATION INSPECTOR REDLINE OR RECORD DRAWINGS [6]
N/A	POST INSTALLED ANCHOR PULL-OUT TESTING
REQUIRED	PHOTOGRAPHS
ADDITIONAL TESTING AND INSPECTIONS:	

NOTES:

1. REQUIRED FOR ANY NEW SHOP FABRICATED FRP OR STEEL.
2. PROVIDED BY MANUFACTURER, REQUIRED IF HIGH STRENGTH BOLTS OR STEEL.
3. PROVIDED BY GENERAL CONTRACTOR; PROOF OF MATERIALS.
4. HIGH WIND ZONE INSPECTION CATB 120MPH OR CAT C,D 110MPH INSPECT FRAMING OF WALLS, ANCHORING, FASTENING SCHEDULE.
5. ADHESIVE FOR REBAR AND ANCHORS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ACI 355.4 AND ICC-ES AC308 FOR CRACKED CONCRETE AND SEISMIC APPLICATIONS. DESIGN ADHESIVE BOND STRENGTH HAS BEEN BASED ON ACI 355.4 TEMPERATURE CATEGORY B WITH INSTALLATIONS INTO DRY HOLES DRILLED USING A CARBIDE BIT INTO CRACKED CONCRETE THAT HAS CURED FOR AT LEAST 21 DAYS. ADHESIVE ANCHORS REQUIRING CERTIFIED INSTALLATIONS SHALL BE INSTALLED BY A CERTIFIED ADHESIVE ANCHOR INSTALLER PER ACI 318-11 D.9.2.2. INSTALLATIONS REQUIRING CERTIFIED INSTALLERS SHALL BE INSPECTED PER ACI 318-11 D.8.2.4.
6. AS REQUIRED; FOR ANY FIELD CHANGES TO THE ITEMS IN THIS TABLE.

NOTES:

1. ALL CONNECTIONS TO BE SHOP WELDED & FIELD BOLTED USING 3/4"ø A325-X BOLTS, UNLESS OTHERWISE NOTIFIED.
2. SHOP DRAWING ENGINEER REVIEW & APPROVAL REQUIRED BEFORE ORDERING MATERIAL.
3. SHOP DRAWING ENGINEER REVIEW & APPROVAL REQUIRED PRIOR TO STEEL FABRICATION.
4. VERIFICATION OF EXISTING ROOF CONSTRUCTION IS REQUIRED PRIOR TO THE INSTALLATION OF THE ROOF PLATFORM. ENGINEER OF RECORD IS TO APPROVE EXISTING CONDITIONS IN ORDER TO MOVE FORWARD.
5. CENTERLINE OF PROPOSED STEEL PLATFORM SUPPORT COLUMNS TO BE CENTRALLY LOCATED OVER THE EXISTING BUILDING COLUMNS.
6. EXISTING BRICK MASONRY COLUMNS/BEARING TO BE REPAIRED/REPLACED AT ALL PROPOSED PLATFORM SUPPORT POINTS. ENGINEER OF RECORD TO REVIEW AND APPROVE.

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STATE OF CONNECTICUT
DANIEL P. HAMM
No.24178
LICENSED PROFESSIONAL ENGINEER

CHECKED BY: AT

APPROVED BY: DPH

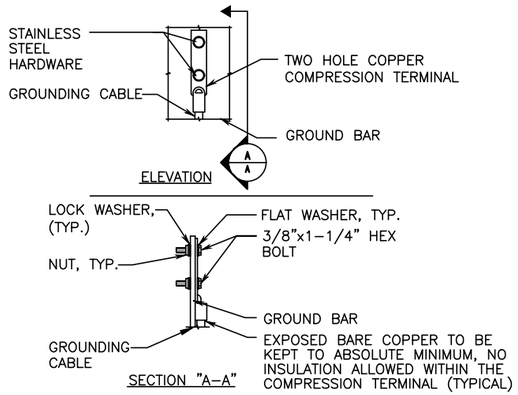
SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	10/11/24	ISSUED FOR CONSTRUCTION	RBK
0	09/03/24	ISSUED FOR REVIEW	RBK

SITE NUMBER:
CT11196A
SITE NAME:
BROOKFIELD/JUNCTION RD.
SITE ADDRESS:
37 CARMEN HILL ROAD
BROOKFIELD, CT 06804
FAIRFIELD COUNTY

SHEET TITLE
SPECIAL INSPECTIONS NOTES
(RADIO/EQUIPMENT UPGRADE)

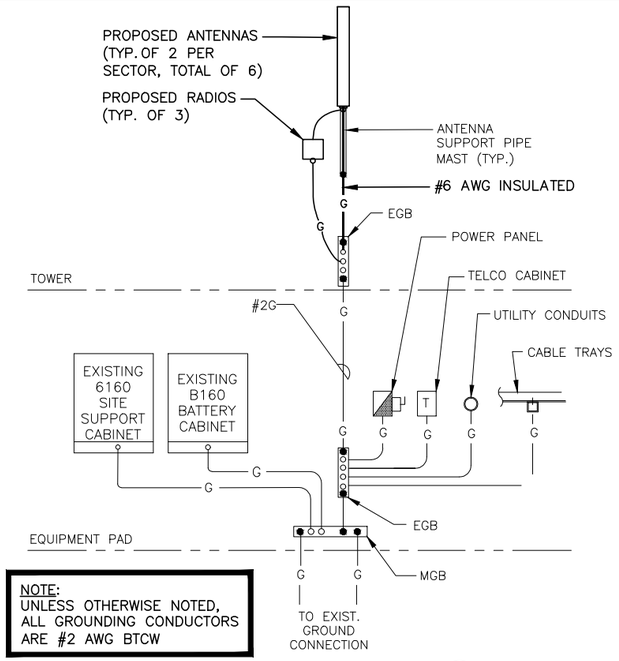
SHEET NUMBER
SN-1



NOTES:
1. "DOUBLING UP" OR "STACKING " OF CONNECTION IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.
3. CADWELD DOWNLEADS FROM UPPER AGB/EGB, LOWER EGB, AND MGB.

TYPICAL GROUND BAR CONNECTION DETAIL 1 E-1

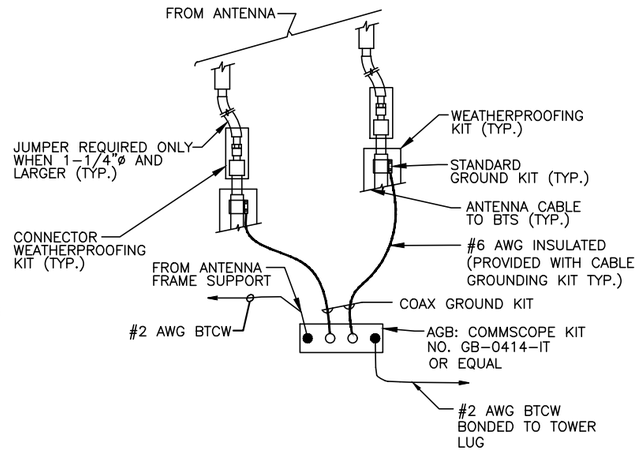
SCALE: N.T.S



NOTE:
UNLESS OTHERWISE NOTED, ALL GROUNDING CONDUCTORS ARE #2 AWG BTCW

GROUNDING RISER DIAGRAM 2 E-1

SCALE: N.T.S

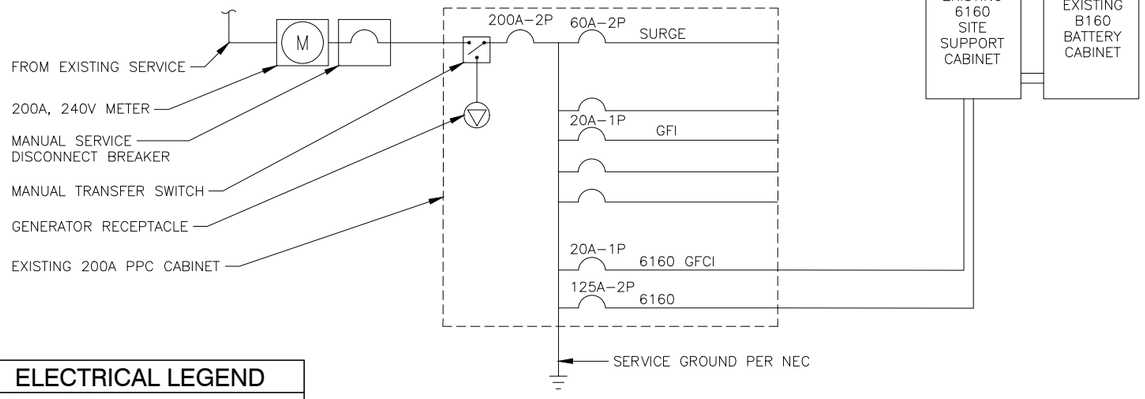


NOTE:
INSTALL CABLE GROUND KIT ABOVE HORIZONTAL BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO AGB/EGB.

TOWER TOP CABLE GROUNDING DETAIL 3 E-1

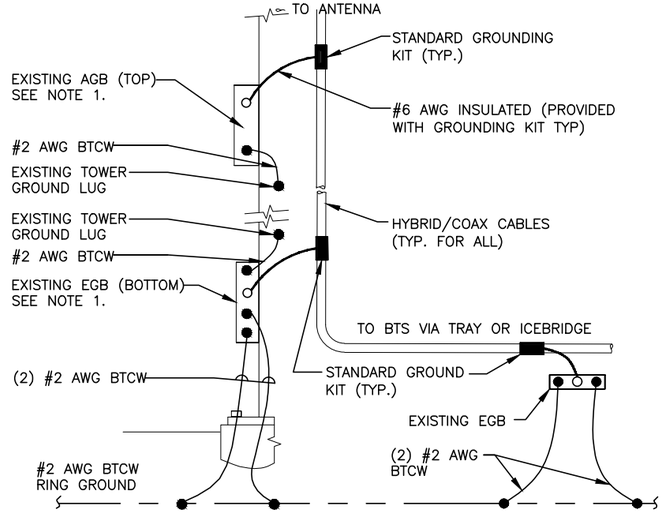
SCALE: N.T.S

NOTE:
G.C. TO VERIFY THAT THE EXISTING CONDUITS AND WIRE SIZES ARE ADEQUATE FOR THE PROPOSED LOADING AND INCLUDE ELECTRICAL UPGRADES IN THE SCOPE OF WORK AS REQUIRED.



ONE LINE POWER DIAGRAM 4 E-1

SCALE: N.T.S



NOTES:
1. NUMBER OF GROUND BARS MAY VARY DEPENDING ON THE TYPE OF TOWER. ANTENNA LOCATION AND CONNECTION ORIENTATION. PROVIDE ADDITIONAL AGB/EGB AS REQUIRED.
2. A SEPARATE GROUND BAR TO BE USED FOR GPS ANTENNA IF REQUIRED.

TOWER BOTTOM CABLE GROUNDING DETAIL 5 E-1

SCALE: N.T.S

ELECTRICAL LEGEND

A	AMPERE
V	VOLT
KWH	KILOWATT - HOUR
C	CONDUIT
GRC	GALVANIZED RIGID CONDUIT
BTCW	BARE TINNED (SOLID) COPPER WIRE (#2 AWG, UNLESS NOTES OTHERWISE)
G	GROUND
MGB	GROUND
MGB	MASTER GROUND BAR — ○ MECHANICAL CONNECTION ● CADWELD CONNECTION
AGB/EGB	EQUIPMENT GROUND BAR/ANTENNA GROUND BAR
G	GROUND COPPER WIRE, SIZE AS NOTED
	EXPOSED WIRING
	INSULATED GROUNDING CONDUCTOR(#6 AWG STRANDED, UNLESS NOTED OTHERWISE)
	5/8"x8' COPPER CLAD STAINLESS STEEL GROUND ROD
	● EXOTHERMIC (CAD WELD) OR ○ MECHANICAL (COMPRESSION TYPE) CONNECTION
PPC	POWER PROTECTION CABINET
	OMNI-DIRECTIONAL ELECTRONIC MARKER SYSTEM (EMS) BALL

ELECTRICAL & GROUNDING NOTES

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.
2. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.
3. THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATION INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.
4. GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.
5. ELECTRICAL AND TELCO WIRING OUTSIDE A BUILDING AND EXPOSED TO WEATHER SHALL BE IN WATER TIGHT GALVANIZED RIGID STEEL CONDUITS OR SCHEDULE 80 PVC (AS PERMITTED BY CODE) AND WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.
6. RIGID STEEL CONDUITS SHALL BE GROUNDED AT BOTH ENDS.
7. ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THIN INSULATION.
8. RUN ELECTRICAL CONDUIT OR CABLE BETWEEN ELECTRICAL ROOM AND PROPOSED CELL SITE POWER PEDESTAL AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE. COORDINATE INSTALLATION WITH UTILITY COMPANY.
9. RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND PROPOSED CELL SITE TELCO CABINET AND BTS CABINET AS INDICATED ON DRAWING A-1. PROVIDE FULL LENGTH PULL ROPE IN INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE AT EACH END.
10. ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
11. GROUNDING SHALL COMPLY WITH NEC ART. 250.
12. GROUND COAXIAL CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURERS COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.
13. USE #6 COPPER STRANDED WIRE WITH GREEN COLOR INSULATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) AND #2 SOLID TINNED BARE COPPER WIRE FOR BELOW GRADE GROUNDING AS INDICATED ON THE DRAWING.
14. ALL GROUND CONNECTIONS TO BE BURNDY HYGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.
15. ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT AT RIGHT ANGLE. ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #6 WIRE CAN BE BENT AT 6" RADIUS WHEN NECESSARY. BOND ANY METAL OBJECTS WITHIN 7 FEET OF PROPOSED EQUIPMENT OR CABINET TO MASTER GROUND BAR.
16. CONNECTIONS TO MGB SHALL BE ARRANGED IN THREE MAIN GROUPS: SURGE PRODUCERS (COAXIAL CABLE GROUND KITS, TELCO AND POWER PANEL GROUND); (GROUNDING ELECTRODE RING OR BUILDING STEEL); NON-SURGING OBJECTS (EGB GROUND IN BTS UNIT).
17. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.
18. APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.
19. BOND ANTENNA MOUNTING BRACKETS, COAXIAL CABLE GROUND KITS, AND ALNA TO EGB PLACED NEAR THE ANTENNA LOCATION.
20. BOND ANTENNA EGB'S AND MGB TO WATER MAIN.
21. TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION.
22. BOND ANY METAL OBJECTS WITHIN 7 FEET OF PROPOSED EQUIPMENT OR CABINET TO MASTER GROUND BAR.
23. VERIFY PROPOSED SERVICE UPGRADE WITH LOCAL UTILITY COMPANY PRIOR TO CONSTRUCTION.

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STATE OF CONNECTICUT
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CHECKED BY: AT

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SUBMITTALS

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SHEET TITLE
ONE-LINE DIAGRAM & GROUNDING DETAILS
(RADIO/EQUIPMENT UPGRADE)

SHEET NUMBER
E-1

CENTERLINE

EXHIBIT E

Structural Analysis Report

Date: **November 13, 2024**

Aaron Gooden
Vertical Bridge
750 Park of Commerce Drive, Suite 200
Boca Raton, FL 33487

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

Subject:	**Structural Analysis Report**	
Carrier Designation:	***T-Mobile Northeast LLC* Co-Locate**	
	Site Number:	CT11196A
	Site Name:	Brookfield/Junction Rd
Vertical Bridge Designation:	**Site Number:**	US-CT-5009
	Site Name:	WRKI-FM
	Application Number:	P-062009 Version. 1
Engineering Firm Designation:	**Project Number:**	173454.001.01.0001
Site Data:	**37 Carmen Hill Road, Brookfield, Fairfield County, CT 06804** **Latitude *41° 29' 36.38"*, Longitude *-73° 25' 43.74"*** **492 Foot - Guyed Tower**	

We are pleased to submit this **"Structural Analysis Report"** to determine the structural integrity of the above-mentioned tower.

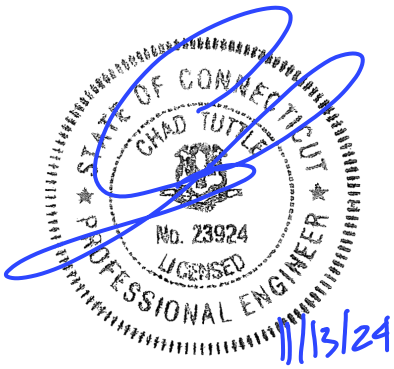
The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

Proposed Equipment Configuration **Sufficient Capacity - 85.7%**

The jurisdiction has adopted the 2022 Connecticut State Building Code. This analysis has been performed in accordance with the TIA-222-H Standard.

Structural analysis prepared by: Randall Ashworth, EIT

Respectfully submitted by: B+T Engineering, Inc.
COA: PEC.0001564; Expires: 02/10/2025



Chad E. Tuttle, P.E.

tnxTower Report - version 8.2.4.3

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 492 ft Guyed tower.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	115 mph
Exposure Category:	C
Topographic Factor:	1
Ice Thickness:	1 in
Wind Speed with Ice:	50 mph
Seismic Ss:	0.21
Seismic S1:	0.055
Service Wind Speed:	60 mph

Table 1 - Proposed Equipment Configuration

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
280.0	280.0	**3**	**Ericsson**	**Radio 4460 B25+B66**	**2**	**2**
		3	**Ericsson**	**AIR6419 B41**		
		3	**RFS Celwave**	**APXVLL19P_43-C-A20_TMO**		
		3	RFS Celwave	APXVAARR24_43-U-NA20		
		3	Ericsson	Radio 4449 B71+B85		
		3	Site Pro 1	VFA14-HD Sector Frames		

Note: Proposed equipment shown in bold.

Table 2 - Other Considered Equipment

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
471.0	471.0	1	Generic	2 Bay FM Antenna	1	3
453.0	453.0	1	Generic	3' Yagi	1	7/8
450.0	450.0	1	Generic	Antenna Mount	1	3
		1	ERI	ALP 8W LPTV Antenna		
435.0	435.0	1	Generic	6' Grid Dish	2	7/8
351.0	351.0	1	Generic	3' Dish w/ Radomes	1	5/8
339.0	339.0	1	Generic	3' Grid Dish	1	7/8
302.0	302.0	1	Generic	2' Standoff	1	1-1/4
		1	Generic	6' Omni		
300.0	300.0	1	Kathrein	CA5-FM/CP/RM	1	7/8
247.0	247.0	1	Generic	8' Grid Dish	1	7/8
239.0	239.0	1	Generic	8' Grid Dish	1	7/8
225.0	225.0	3	Commscope	MTC3975083	1	1-5/8
		1	PCTEL	GPSGL-TMG-SPI-40NCB		
		3	Fujitsu	TA08025-B604		
		3	Fujitsu	TA08025-B605		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
		3	JMA Wireless	MX08FRO665-21		
		1	Raycap	RDIDC-9181-PF-48		
165.0	165.0	3	Ericsson	4415 B30	6 2	5/8 3/8
		3	Ericsson	4449		
		3	Ericsson	8843		
		3	Ericsson	RRUS-4483		
		3	Ericsson	RRUS E2		
		1	--	Ice Bridge (2'x2')		
		3	--	Sector Frames		
		3	CCI Antennas	HPA65R-BU8A		
		6	CCI Antennas	TPA65R-BU8DA-K		
		3	Raycap	DC6-48-60-0-8C-EV		
138.0	138.0	1	Generic	10' Dipole	1	7/8
		1	Generic	3' Standoff		
125.0	125.0	1	Generic	10' Dipole	1	7/8
		1	Generic	3' Standoff		
108.0	108.0	1	Generic	10' Dipole	1	7/8
		1	Generic	3' Standoff		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Remarks	Reference	Source
Tower Data	Structural Analysis by Cellsite Solutions, LLC Deal No. P-026804	Date: 01/03/2023	Vertical Bridge
Modification Data	Tower Modification Drawing by ETS, Job No. 192640.14	Date: 05/10/2019	Vertical Bridge
Post Modification Data	Post Modification Inspection by ETS, Job No. 195666	Date: 10/31/2019	Vertical Bridge
Foundation Data	Foundation Mapping by Structural Components, Job No. 160244	Date: 04/07/2016	Vertical Bridge
Soil Properties	Geotechnical Report by Delta Oaks Group Job No. GEO16-00237-03	Date: 04/11/2016	Vertical Bridge
Loading	CD by TEP	Date: 10/11/2024	Vertical Bridge
	Mount Analysis by TEP, Project No. 68462.992463	Date: 10/10/2024	Vertical Bridge
	Structural Analysis by Cellsite Solutions, LLC Deal No. P-026804	Date: 01/03/2023	Vertical Bridge
	Collocation Application P-062009	Date: 10/17/2024	Vertical Bridge

3.1) Analysis Method

tnxTower (version 8.2.4.3), 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) The tower and structures were maintained in accordance with the - TIA-222 standard.
2) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.
3) Guy wires at 100ft and 164ft were replaced but their modification drawings were not available. Sizes of these guy wires were considered based on TIA guy wire inspection completed in 2023.

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

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	492 - 477	Pole	P8x.406	1	-0.694	330.222	8.6	Pass
L2	477 - 457	Pole	P8x.406	2	-1.688	330.222	39.3	Pass
T1	457 - 452	Leg	2 1/4	4	-21.991	77.870	28.2	Pass
T2	452 - 442	Leg	2 1/4	19	-34.966	123.621	28.3	Pass
T3	442 - 422	Leg	2 1/4	37	-36.375	105.060	34.6	Pass
T4	422 - 402	Leg	2 1/4	70	-33.166	105.060	31.6	Pass
T5	402 - 382	Leg	2 1/4	103	-47.132	105.060	44.9	Pass
T6	382 - 362	Leg	2 1/4	136	-51.471	105.060	49.0	Pass
T7	362 - 342	Leg	2 1/4	169	-51.552	105.060	49.1	Pass
T8	342 - 322	Leg	2 1/4	201	-65.358	105.060	62.2	Pass
T9	322 - 302	Leg	2 1/2	234	-71.209	143.512	49.6	Pass
T10	302 - 282	Leg	2 1/2	268	-72.076	143.512	50.2	Pass
T11	282 - 262	Leg	2 3/4	300	-87.284	187.145	46.6 47.7 (b)	Pass
T12	262 - 242	Leg	2 3/4	335	-85.601	187.145	45.7 46.7 (b)	Pass
T13	242 - 222	Leg	2 3/4	366	-103.985	187.145	55.6 56.8 (b)	Pass
T14	222 - 202	Leg	3	399	-123.737	235.765	52.5 66.5 (b)	Pass
T15	202 - 182	Leg	3	432	-125.467	235.765	53.2 68.5 (b)	Pass
T16	182 - 162	Leg	3	465	-137.971	235.765	58.5 75.4 (b)	Pass
T17	162 - 142	Leg	3	498	-135.139	235.765	57.3 71.1 (b)	Pass
T18	142 - 122	Leg	3	533	-136.717	235.765	58.0 74.7 (b)	Pass
T19	122 - 114	Leg	3	566	-143.411	235.765	60.8	Pass
T20	114 - 110	Leg	3	581	-147.315	235.765	62.5	Pass
T21	110 - 106	Leg	3	590	-152.077	235.765	64.5	Pass
T22	106 - 102	Leg	3	599	-156.848	235.765	66.5 85.7 (b)	Pass
T23	102 - 82	Leg	3	608	-157.852	235.765	67.0 79.0 (b)	Pass
T24	82 - 62	Leg	3	640	-142.382	235.765	60.4 75.7 (b)	Pass
T25	62 - 42	Leg	3	674	-140.391	235.765	59.5 74.5 (b)	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
T26	42 - 22	Leg	3	706	-133.978	235.765	56.8 70.6 (b)	Pass
T27	22 - 2	Leg	3	740	-130.357	235.765	55.3 70.8 (b)	Pass
T1	457 - 452	Diagonal	L2 1/2x2x3/16	13	-5.516	14.318	38.5	Pass
T2	452 - 442	Diagonal	L2x2x1/4	35	-2.397	13.063	18.3 20.9 (b)	Pass
T3	442 - 422	Diagonal	L2x2x1/4	42	-2.312	10.958	21.1	Pass
T4	422 - 402	Diagonal	L2x2x1/4	76	-3.904	10.958	35.6	Pass
T5	402 - 382	Diagonal	L2x2x1/4	115	-5.216	10.958	47.6	Pass
T6	382 - 362	Diagonal	L2x2x1/4	167	-3.200	10.958	29.2	Pass
T7	362 - 342	Diagonal	L2x2x1/4	175	-3.235	10.958	29.5	Pass
T8	342 - 322	Diagonal	L2x2x1/4	209	-4.987	10.958	45.5	Pass
T9	322 - 302	Diagonal	L1 3/4x1 3/4x3/16	266	-4.707	5.664	83.1	Pass
T10	302 - 282	Diagonal	L2x2x1/4	299	-2.547	11.086	23.0	Pass
T11	282 - 262	Diagonal	L2 1/2x2 1/2x3/8	313	-8.674	32.063	27.1 62.8 (b)	Pass
T12	262 - 242	Diagonal	L2x2x1/4	365	-2.526	11.216	22.5	Pass
T13	242 - 222	Diagonal	L2x2x1/4	373	-7.061	11.216	63.0	Pass
T14	222 - 202	Diagonal	L2 1/2x2 1/2x3/8	424	-8.624	32.415	26.6 62.5 (b)	Pass
T15	202 - 182	Diagonal	L2x2x1/4	439	-3.293	11.255	29.3	Pass
T16	182 - 162	Diagonal	L2x2x1/4	484	-4.634	11.255	41.2	Pass
T17	162 - 142	Diagonal	L2x2x1/4	528	-3.758	11.255	33.4	Pass
T18	142 - 122	Diagonal	L2x2x1/4	538	-5.047	11.255	44.8	Pass
T19	122 - 114	Diagonal	L2x2x1/4	571	-6.042	11.255	53.7	Pass
T20	114 - 110	Diagonal	L2x2x1/4	586	-6.289	11.255	55.9	Pass
T21	110 - 106	Diagonal	L1 3/4x1 3/4x3/16 w/ L2x2x1/4	595	-7.012	27.415	25.6 50.8 (b)	Pass
T22	106 - 102	Diagonal	L1 3/4x1 3/4x3/16 w/ L2x2x1/4	604	-7.223	27.415	26.3 52.3 (b)	Pass
T23	102 - 82	Diagonal	L2x2x1/4	636	-5.270	11.255	46.8	Pass
T24	82 - 62	Diagonal	L2x2x1/4	671	-3.809	11.255	33.8	Pass
T25	62 - 42	Diagonal	L2x2x1/4	678	-4.943	11.255	43.9	Pass
T26	42 - 22	Diagonal	L2x2x1/4	729	-4.364	11.255	38.8	Pass
T27	22 - 2	Diagonal	L2x2x1/4	748	-3.802	11.255	33.8	Pass
T2	452 - 442	Horizontal	L2x2x3/16	24	-0.680	15.292	4.4 8.6 (b)	Pass
T3	442 - 422	Horizontal	L2x2x3/16	45	-0.807	15.292	5.3 10.3 (b)	Pass
T4	422 - 402	Horizontal	L2x2x3/16	78	-0.736	15.292	4.8 9.3 (b)	Pass
T5	402 - 382	Horizontal	L2x2x3/16	123	-1.046	15.292	6.8 13.3 (b)	Pass
T6	382 - 362	Horizontal	L2x2x3/16	144	-1.142	15.292	7.5 14.5 (b)	Pass
T7	362 - 342	Horizontal	L2x2x3/16	177	-1.144	15.292	7.5 14.5 (b)	Pass
T8	342 - 322	Horizontal	L2x2x3/16	224	-1.451	15.292	9.5 18.4 (b)	Pass
T9	322 - 302	Horizontal	L2x2x3/16	243	-1.464	15.350	9.5 18.6 (b)	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
T10	302 - 282	Horizontal	L2x2x3/16	277	-1.481	15.350	9.7 18.8 (b)	Pass
T11	282 - 262	Horizontal	L2x2x3/16	323	-1.677	15.408	10.9 21.3 (b)	Pass
T12	262 - 242	Horizontal	L2x2x3/16	349	-1.644	15.408	10.7 20.9 (b)	Pass
T13	242 - 222	Horizontal	L2x2x3/16	381	-1.998	15.408	13.0 25.4 (b)	Pass
T14	222 - 202	Horizontal	L2x2x3/16	408	-2.238	15.466	14.5 28.4 (b)	Pass
T15	202 - 182	Horizontal	L2x2x3/16	443	-2.270	15.466	14.7 28.8 (b)	Pass
T16	182 - 162	Horizontal	L2x2x3/16	480	-2.496	15.466	16.1 31.7 (b)	Pass
T17	162 - 142	Horizontal	L2x2x3/16	513	-2.445	15.466	15.8 31.0 (b)	Pass
T18	142 - 122	Horizontal	L2x2x3/16	541	-2.473	15.466	16.0 31.4 (b)	Pass
T19	122 - 114	Horizontal	L2x2x3/16	574	-2.594	15.466	16.8 32.9 (b)	Pass
T20	114 - 110	Horizontal	L2x2x3/16	583	-2.665	15.466	17.2 33.8 (b)	Pass
T21	110 - 106	Horizontal	L2x2x3/16	592	-2.751	15.466	17.8 34.9 (b)	Pass
T22	106 - 102	Horizontal	L2x2x3/16	602	-2.837	15.466	18.3 36.0 (b)	Pass
T23	102 - 82	Horizontal	L2x2x3/16	616	-2.856	15.466	18.5 36.3 (b)	Pass
T24	82 - 62	Horizontal	L2x2x3/16	649	-2.576	15.466	16.7 32.7 (b)	Pass
T25	62 - 42	Horizontal	L2x2x3/16	683	-2.540	15.466	16.4 32.3 (b)	Pass
T26	42 - 22	Horizontal	L2x2x3/16	720	-2.424	15.466	15.7 30.8 (b)	Pass
T27	22 - 2	Horizontal	L2x2x3/16	757	-2.358	15.466	15.2 29.9 (b)	Pass
T2	452 - 442	Top Girt	L2x2x3/16	11	1.794	18.739	9.6 22.8 (b)	Pass
T3	442 - 422	Top Girt	L2x2x3/16	39	-0.807	15.292	5.3 10.3 (b)	Pass
T4	422 - 402	Top Girt	L2x2x3/16	72	-0.807	15.292	5.3 10.3 (b)	Pass
T5	402 - 382	Top Girt	L2x2x3/16	105	-1.046	15.292	6.8 13.3 (b)	Pass
T6	382 - 362	Top Girt	L2x2x3/16	138	-1.142	15.292	7.5 14.5 (b)	Pass
T7	362 - 342	Top Girt	L2x2x3/16	171	-1.144	15.292	7.5 14.5 (b)	Pass
T8	342 - 322	Top Girt	L2x2x3/16	204	-1.451	15.292	9.5 18.4 (b)	Pass
T9	322 - 302	Top Girt	L2x2x3/16	237	-1.464	15.350	9.5 18.6 (b)	Pass
T10	302 - 282	Top Girt	L2x2x3/16	271	-1.481	15.350	9.7 18.8 (b)	Pass
T11	282 - 262	Top Girt	L2x2x3/16	303	-1.677	15.408	10.9 21.3 (b)	Pass
T12	262 - 242	Top Girt	L2x2x3/16	336	-1.677	15.408	10.9 21.3 (b)	Pass
T13	242 - 222	Top Girt	L2x2x3/16	369	-1.998	15.408	13.0 25.4 (b)	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
T14	222 - 202	Top Girt	L2x2x3/16	402	-2.238	15.466	14.5 28.4 (b)	Pass
T15	202 - 182	Top Girt	L2x2x3/16	437	-2.270	15.466	14.7 28.8 (b)	Pass
T16	182 - 162	Top Girt	L2x2x3/16	468	-2.496	15.466	16.1 31.7 (b)	Pass
T17	162 - 142	Top Girt	L2x2x3/16	501	-2.496	15.466	16.1 31.7 (b)	Pass
T18	142 - 122	Top Girt	L2x2x3/16	535	-2.473	15.466	16.0 31.4 (b)	Pass
T19	122 - 114	Top Girt	L2x2x3/16	568	-2.594	15.466	16.8 32.9 (b)	Pass
T24	82 - 62	Top Girt	L2x2x3/16	643	-2.856	15.466	18.5 36.3 (b)	Pass
T25	62 - 42	Top Girt	L2x2x3/16	676	-2.576	15.466	16.7 32.7 (b)	Pass
T26	42 - 22	Top Girt	L2x2x3/16	710	-2.540	15.466	16.4 32.3 (b)	Pass
T27	22 - 2	Top Girt	L2x2x3/16	741	-2.424	15.466	15.7 30.8 (b)	Pass
T27	22 - 2	Bottom Girt	L2x2x3/16	745	-2.358	15.321	15.4 40.4 (b)	Pass
T1	457 - 452	Guy A@457	1	776	33.965	62.700	54.2	Pass
T5	402 - 382	Guy A@386	1	779	35.046	62.700	55.9	Pass
T8	342 - 322	Guy A@326	7/8	782	27.741	47.820	58.0	Pass
T11	282 - 262	Guy A@266	7/8	785	28.191	47.820	59.0	Pass
T14	222 - 202	Guy A@214	7/8	788	25.315	47.820	52.9	Pass
T16	182 - 162	Guy A@166	7/8	791	24.618	47.820	51.5	Pass
T23	102 - 82	Guy A@102	11/16	794	13.687	29.400	46.6	Pass
T25	62 - 42	Guy A@50	1/2	797	5.967	16.140	37.0	Pass
T1	457 - 452	Guy B@457	1	775	34.764	62.700	55.4	Pass
T5	402 - 382	Guy B@386	1	778	36.384	62.700	58.0	Pass
T8	342 - 322	Guy B@326	7/8	781	28.887	47.820	60.4	Pass
T11	282 - 262	Guy B@266	7/8	784	29.295	47.820	61.3	Pass
T14	222 - 202	Guy B@214	7/8	787	26.431	47.820	55.3	Pass
T16	182 - 162	Guy B@166	7/8	790	25.384	47.820	53.1	Pass
T23	102 - 82	Guy B@102	11/16	793	13.950	29.400	47.5	Pass
T25	62 - 42	Guy B@50	1/2	796	6.019	16.140	37.3	Pass
T1	457 - 452	Guy C@457	1	774	34.502	62.700	55.0	Pass
T5	402 - 382	Guy C@386	1	777	36.035	62.700	57.5	Pass
T8	342 - 322	Guy C@326	7/8	780	28.669	47.820	60.0	Pass
T11	282 - 262	Guy C@266	7/8	783	29.374	47.820	61.4	Pass
T14	222 - 202	Guy C@214	7/8	786	26.493	47.820	55.4	Pass
T16	182 - 162	Guy C@166	7/8	789	25.802	47.820	54.0	Pass
T23	102 - 82	Guy C@102	11/16	792	14.124	29.400	48.0	Pass
T25	62 - 42	Guy C@50	1/2	795	6.111	16.140	37.9	Pass
T1	457 - 452	Top Guy Pull-Off@457	2L2 1/2x2 1/2x3/8x1/4	8	0.000	91.758	0.2	Pass
T5	402 - 382	Top Guy Pull-Off@386	2L2 1/2x2 1/2x3/8x1/4	113	7.289	91.758	7.9 11.2 (b)	Pass
T8	342 - 322	Top Guy Pull-	2L2 1/2x2 1/2x3/8x1/4	211	6.862	91.758	7.5	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
		Off@326					10.6 (b)	
T11	282 - 262	Top Guy Pull-Off@266	2L2 1/2x2 1/2x3/8x1/4	311	8.421	91.758	9.2 13.0 (b)	Pass
T14	222 - 202	Top Guy Pull-Off@214	2L2 1/2x2 1/2x3/8x1/4	421	7.870	91.758	8.6 12.1 (b)	Pass
T16	182 - 162	Top Guy Pull-Off@166	2L2 1/2x2 1/2x3/8x1/4	475	9.373	91.758	10.2 14.4 (b)	Pass
T23	102 - 82	Top Guy Pull-Off@102	2L2 1/2x2 1/2x3/8x1/4	610	6.745	91.758	7.4 10.4 (b)	Pass
T25	62 - 42	Top Guy Pull-Off@50	2L2 1/2x2 1/2x3/8x1/4	687	3.965	91.758	4.3 6.1 (b)	Pass
							Summary	
						Pole (L2)	39.3	Pass
						Leg (T22)	85.7	Pass
						Diagonal (T9)	83.1	Pass
						Horizontal (T23)	36.3	Pass
						Top Girt (T24)	36.3	Pass
						Bottom Girt (T27)	40.4	Pass
						Guy A (T11)	59.0	Pass
						Guy B (T11)	61.3	Pass
						Guy C (T11)	61.4	Pass
						Top Guy Pull-Off (T16)	14.4	Pass
						Bolt Checks	85.7	Pass
						Rating =	85.7	Pass

Table 5 - Tower Component Stresses vs. Capacity

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Base Foundation (Structure)	Base	15.4	Pass
1	Base Foundation (Soil Interaction)	Base	21.9	Pass
1	Inner Guy Anchor Foundation (Soil Interaction)	Base	49.4	Pass
1	Outer Guy Anchor Foundation (Soil Interaction)	Base	23.3	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

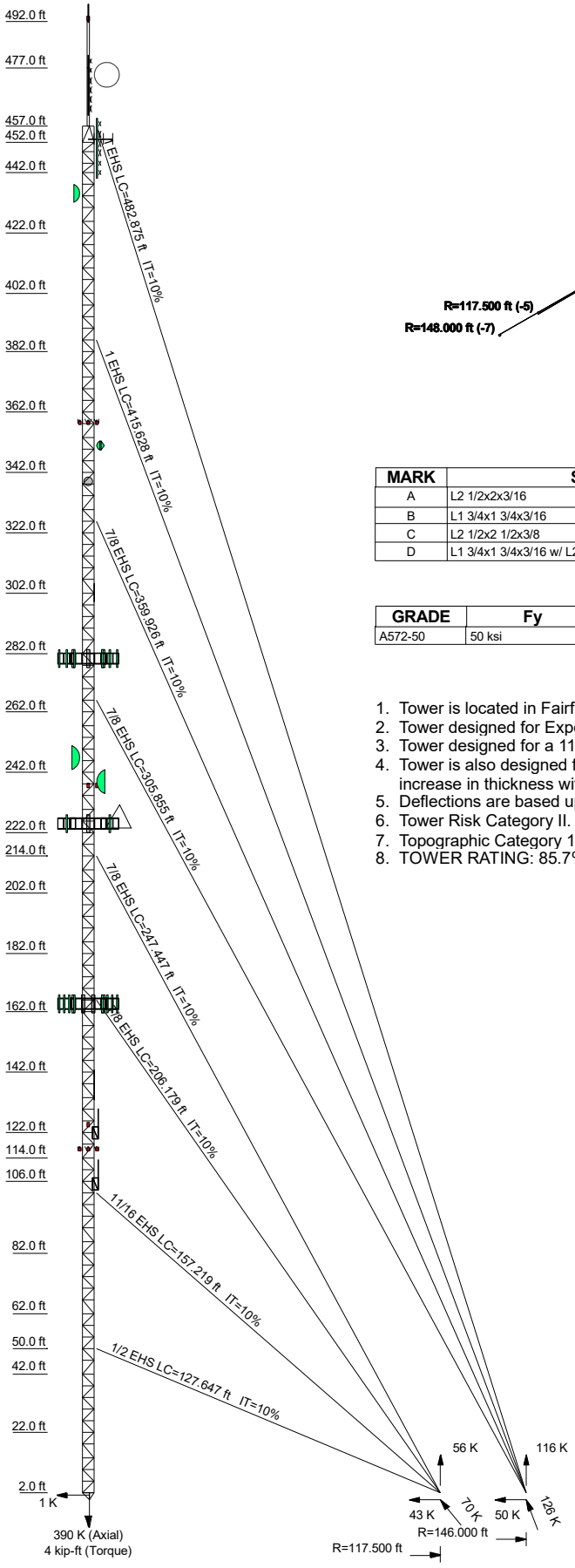
The tower and its base and anchor foundations have sufficient capacity to carry the proposed load configuration. No modifications are required at this time.

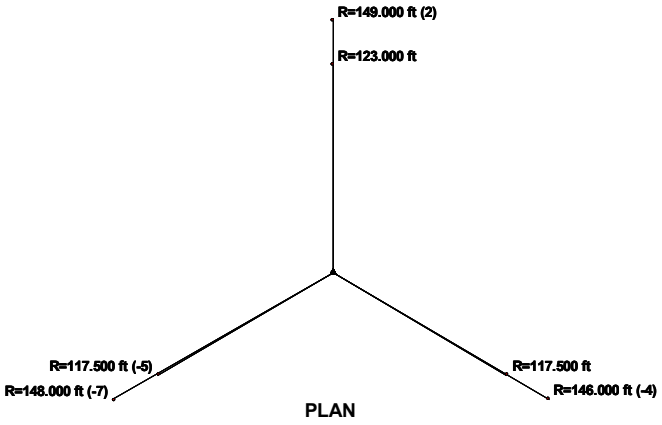
Diagonal Modifications from 102ft-110ft considered in this SA are based on previous SA's. Photos suggest that the diagonal modifications might not be present. Measure the dimensions of the diagonal members to verify if they match the expected specifications for this section (102ft-110ft).

APPENDIX A

TNXTOWER OUTPUT

Section	T27	T26	T25	T24	T23	‡22	‡21	‡20	T19	T18	T17	T16	T15	T14	T13	T12	T11	T10	T9	T8	T7	T6	T5	T4	T3	T2	T1	L2	L1
Legs					SR 3											SR 2 3/4		SR 2 1/2					SR 2 1/4					P8x.406	
Leg Grade														A572-50														A53-B-35	
Diagonals	L2x2x1/4			L2x2x1/4				D		L2x2x1/4			C		L2x2x1/4		C	L2x2x1/4	B				L2x2x1/4		A	N.A.	
Diagonal Grade														A36														N.A.	
Top Girts		L2x2x3/16			N.A.												L2x2x3/16				N.A.							N.A.	
Bottom Girts								E								N.A.													
Horizontals														L2x2x3/16														N.A.	
Top Guy Pull-Offs	N.A.		F	N.A.		F				N.A.		F	N.A.	F	N.A.		F	N.A.		F	N.A.		F	N.A.		F	N.A.		
Face Width (ft)														4														0.71875	
# Panels @ (ft)	1.9	1.9	2.0	1.9	2.0	0.4	0.4	0.4	0.7	1.9	1.9	2.0	1.9	110 @ 4	1.6	1.6	2.0	1.4	1.3	1.3	1.2	1.2	1.3	1.2	1.2	0.6	0.4	N.A.	0.5
Weight (K)	39.1	1.9	2.0	1.9	2.0	0.4	0.4	0.4	0.7	1.9	1.9	2.0	1.9	2.2	1.6	1.6	2.0	1.4	1.3	1.3	1.2	1.2	1.3	1.2	1.2	0.6	0.4	0.7	0.5





SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	L2 1/2x2x3/16	E	L2x2x3/16
B	L1 3/4x1 3/4x3/16	F	2L2 1/2x2 1/2x3/8x1/4
C	L2 1/2x2 1/2x3/8	G	1 @ 5
D	L1 3/4x1 3/4x3/16 w/ L2x2x1/4	H	3 @ 3.33333

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi	A36	36 ksi	58 ksi

TOWER DESIGN NOTES

1. Tower is located in Fairfield County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-H Standard.
3. Tower designed for a 115 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.000 ft
8. TOWER RATING: 85.7%

ALL REACTIONS ARE FACTORED

B+T Group
1717 S Boulder Ave, Suite 300
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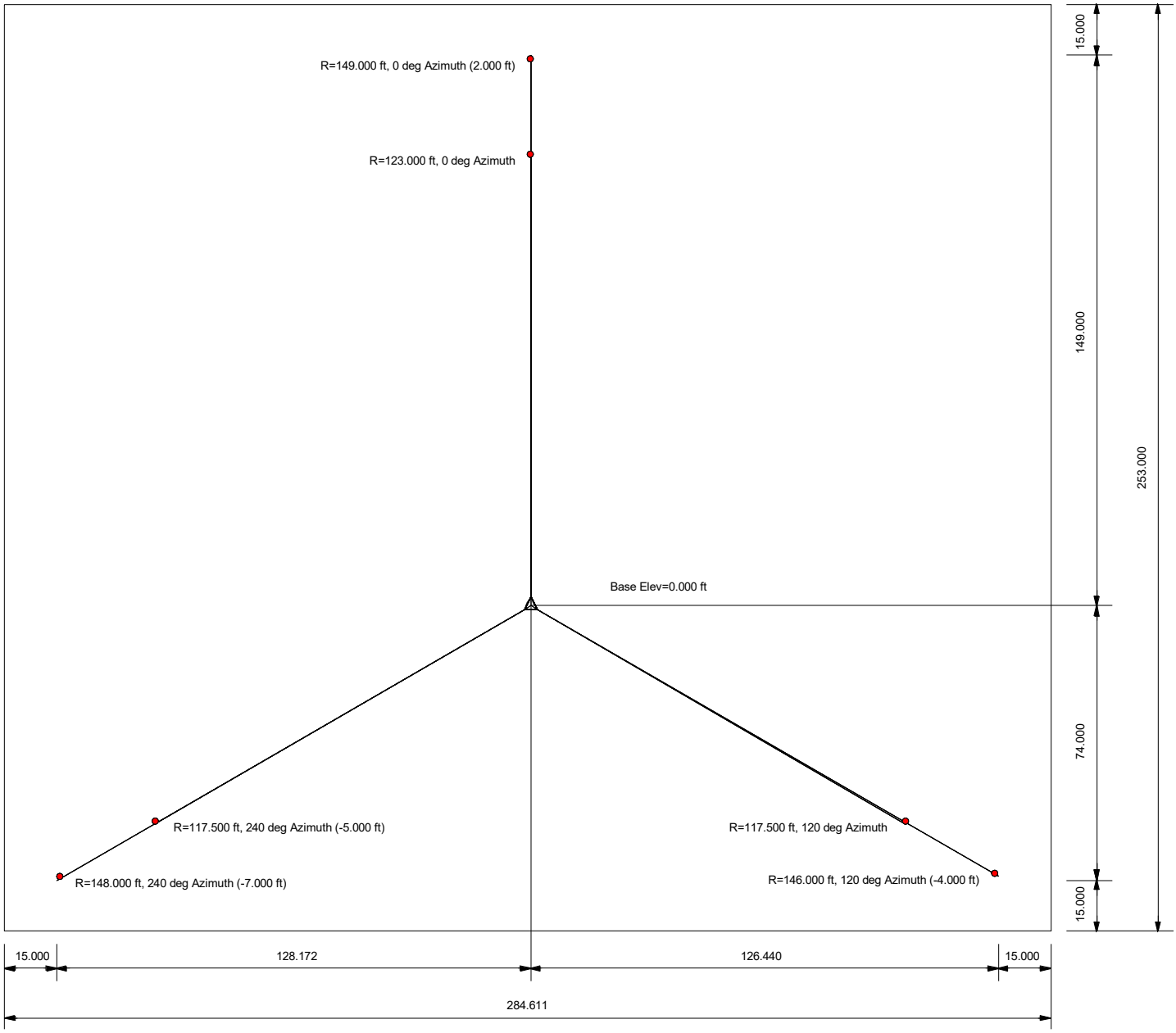
Phone: (918) 587-4630
FAX: (918) 295-0265

Job: 173454.001.01.0001 - WRKI-FM, CT (Site# US-CT-5009)			
Project:			
Client: Vertical Bridge	Drawn by: randall.ashworth	App'd:	
Code: TIA-222-H	Date: 11/13/24	Scale: NTS	
Path: S:\Projects\Vertical Bridge\173454_US-CT-5009_WRKI-FM\Engineering\tnxTower\001_01_0001\173454_001_01_0001_WRKI-FM_CT.eri		Dwg No. E-1	

Plot Plan
Total Area - 1.65 Acres



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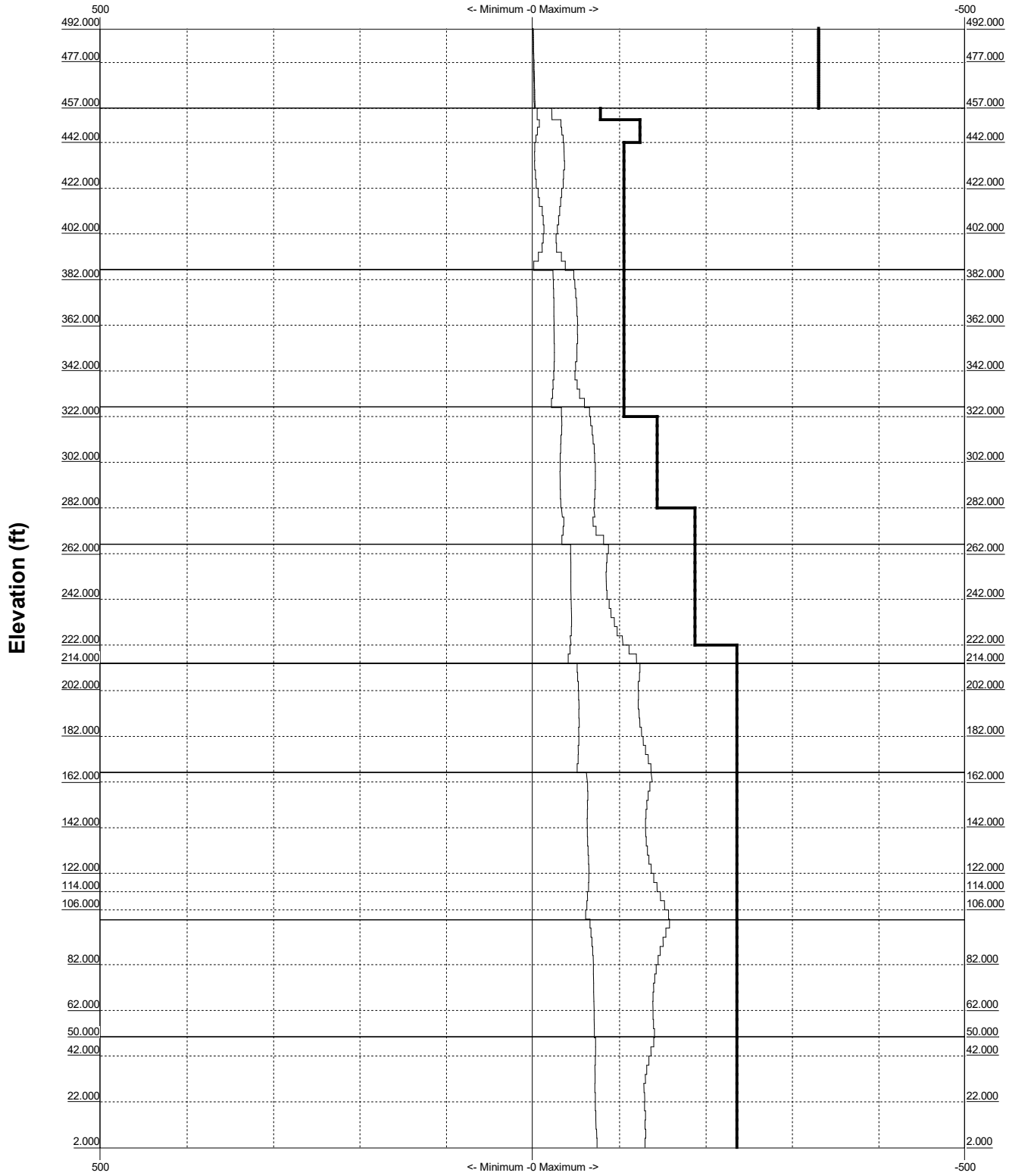
Code: TIA-222-H	Date: 11/13/24	Scale: NTS	
Path: S:\Projects\Vertical Bridge\173454_US-CT-5009_WRKI-FM\Engineering\tnxTower\001_01_000\173454_001_01_0001_WRKI-FM_CT.eri		Dwg No. E-2	

TIA-222-H - 115 mph/50 mph 1.000 in Ice Exposure C

Leg Capacity ——— **Leg Compression (K)**



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Project:		
Client: Vertical Bridge	Drawn by: randall.ashworth	App'd:
Code: TIA-222-H	Date: 11/13/24	Scale: NTS
Path: S:\Projects\Vertical Bridge\173454_US-CT-5009_WRKI-FM\Engineering\tnxTower\001_01_000\173454_001_01_0001_WRKI-FM_CT.eri		Dwg No. E-3

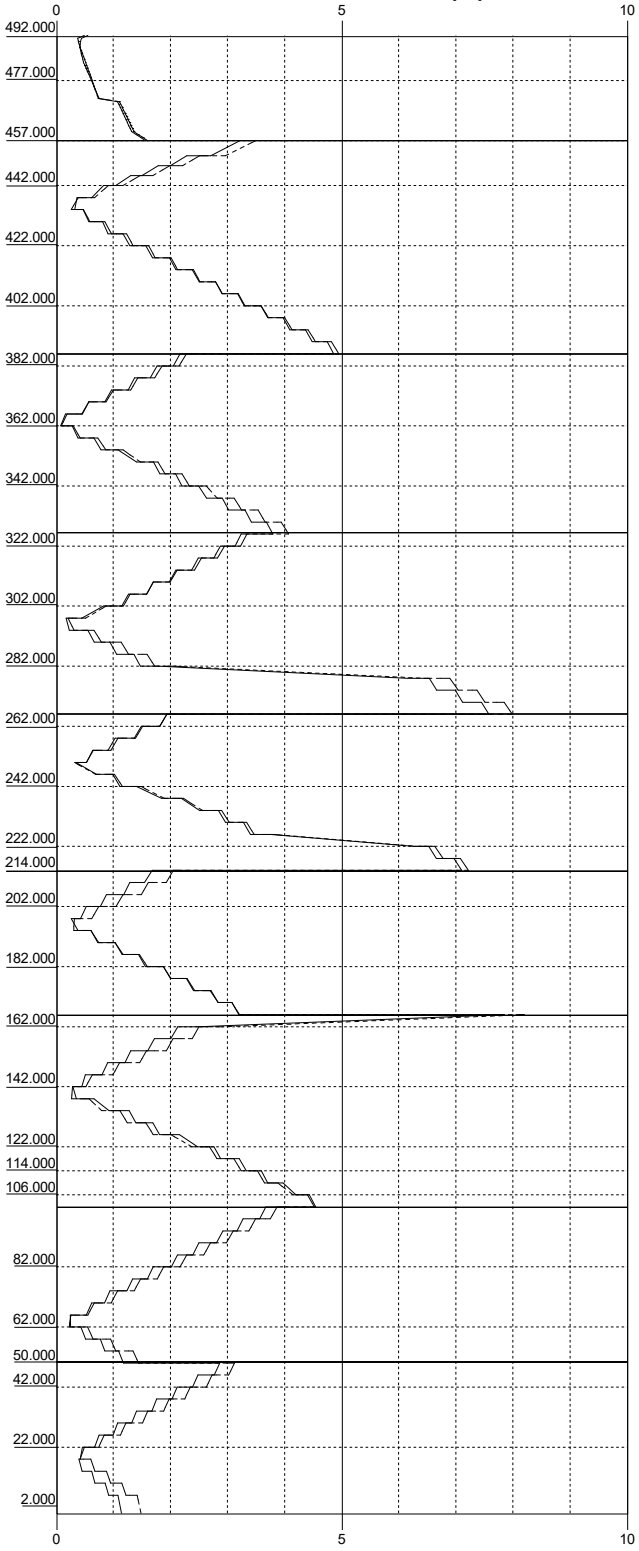
TIA-222-H - 115 mph/50 mph 1.000 in Ice Exposure C

Vx Vz

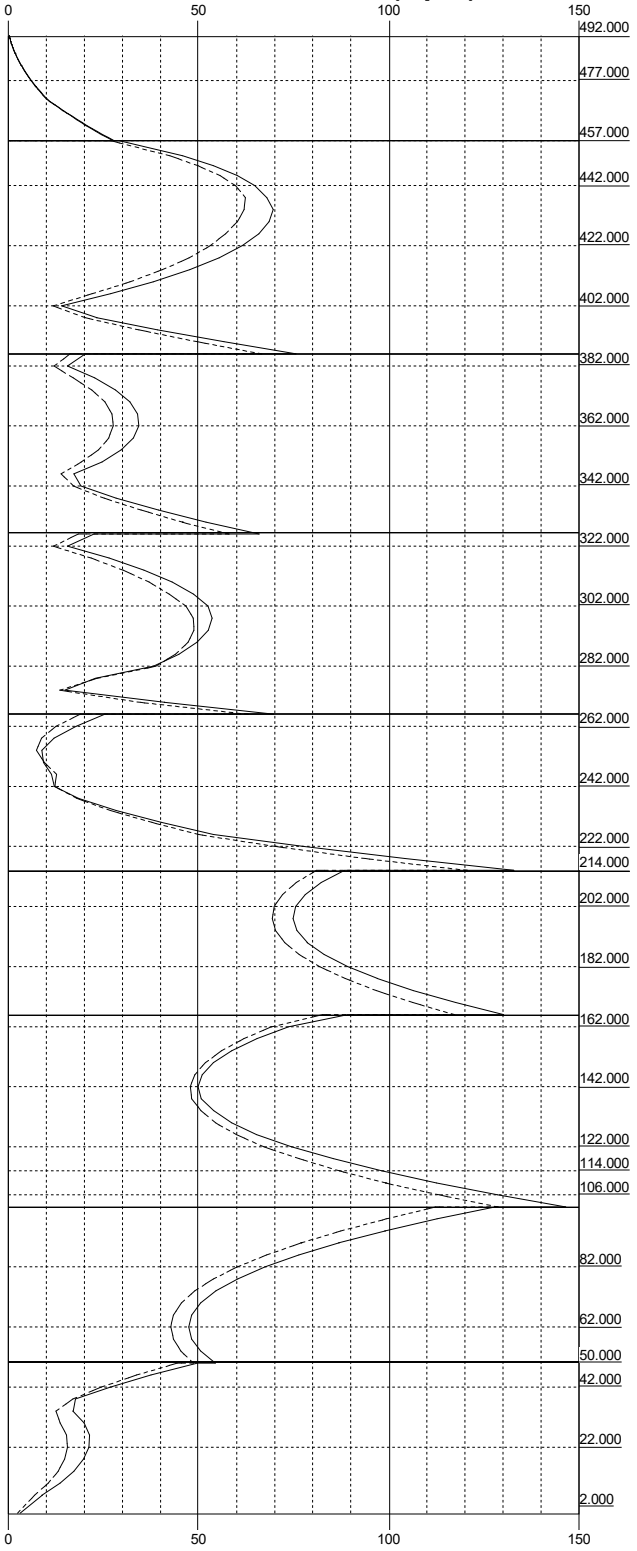
Maximum Values

Mx Mz

Global Mast Shear (K)



Global Mast Moment (kip-ft)



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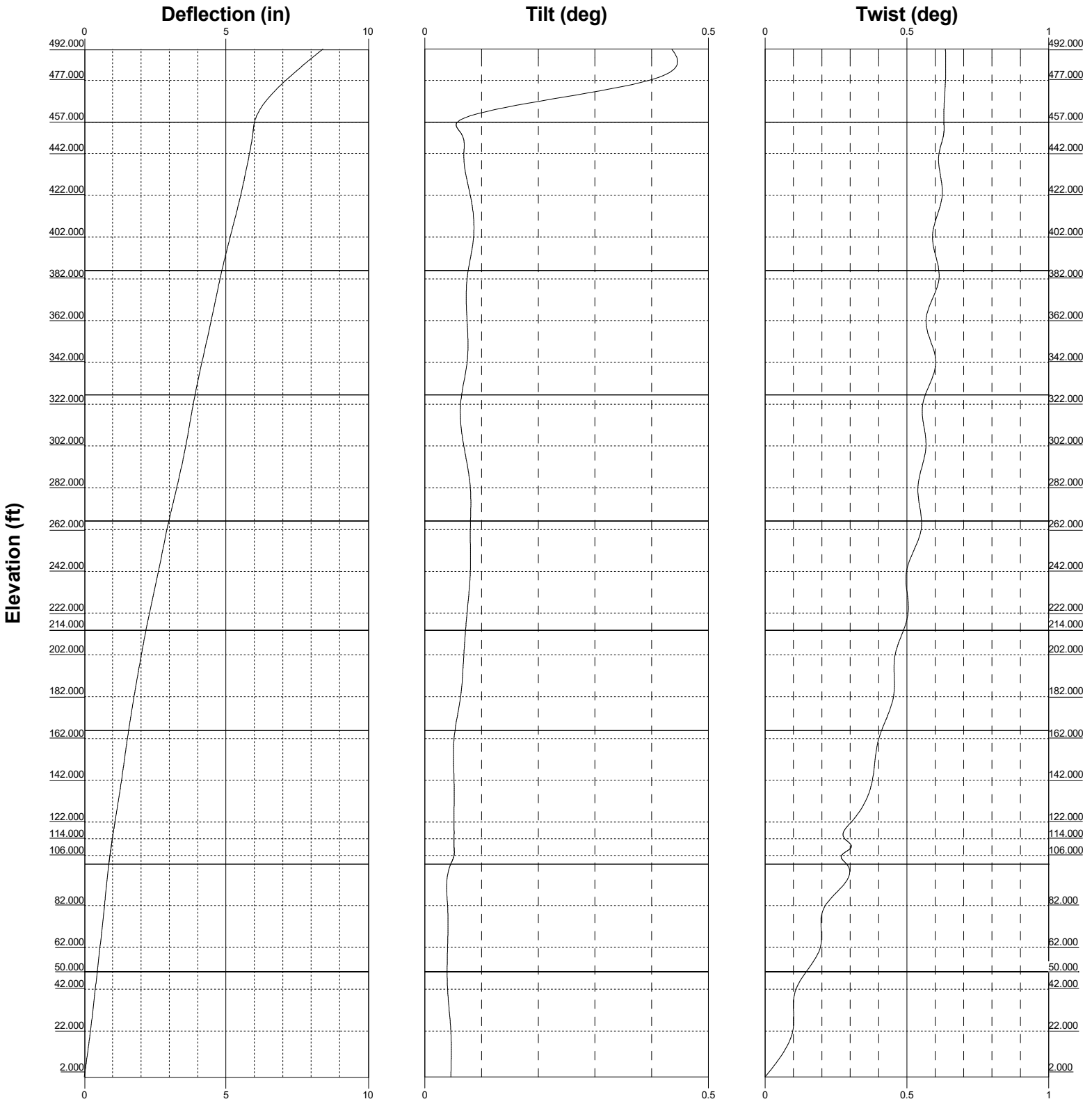
Project:			
Client: Vertical Bridge	Drawn by: randall.ashworth	App'd:	
Code: TIA-222-H	Date: 11/13/24	Scale: NTS	
Path: S:\Projects\Vertical Bridge\173454_US-CT-5009_WRKI-FM\Engineering\tnxTower\001_01_000\173454_001_01_0001_WRKI-FM_CT.eri		Dwg No. E-4	

TIA-222-H - Service - 60 mph

Maximum Values



B+T GRP

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Job: *173454.001.01.0001 - WRKI-FM, CT (Site# US-CT-5009)*			
Project:			
Client: Vertical Bridge	Drawn by: randall.ashworth	App'd:	
Code: TIA-222-H	Date: 11/13/24	Scale: NTS	
Path: S:\Projects\Vertical Bridge\173454_US-CT-5009_WRKI-FM\Engineering\tnxTower\001_01_0001\173454_001_01_0001_WRKI-FM_CT.eri		Dwg No. E-5	

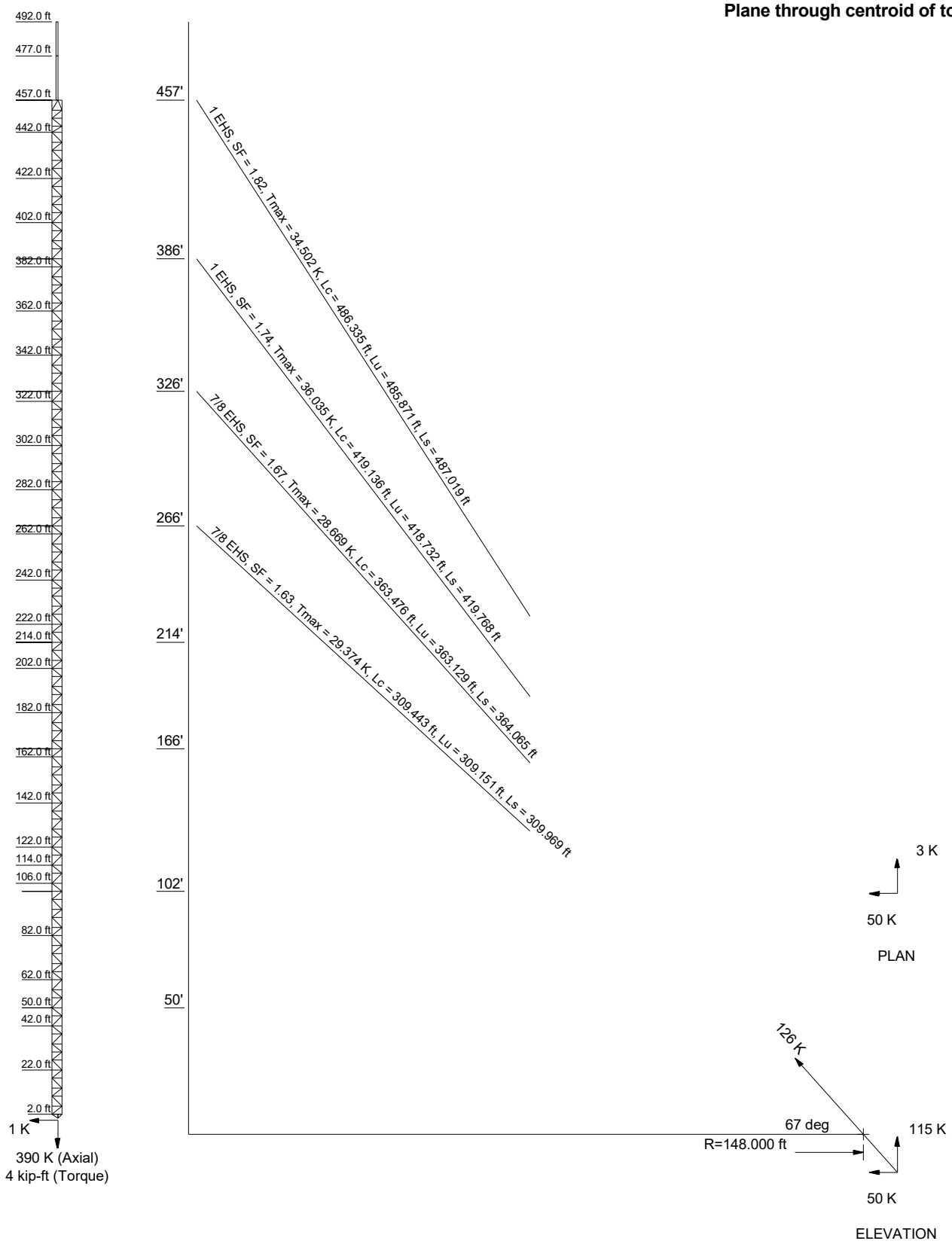
Guy Tensions and Tower Reactions

TIA-222-H - 115 mph/50 mph 1.000 in Ice Exposure C

Maximum Values

Anchor 'C'@148 ft Azimuth 240 deg Elev -7 ft

Plane through centroid of tower



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Job: 173454.001.01.0001 - WRKI-FM, CT (Site# US-CT-5009)			
Project:			
Client: Vertical Bridge	Drawn by: randall.ashworth	App'd:	
Code: TIA-222-H	Date: 11/13/24	Scale: NTS	
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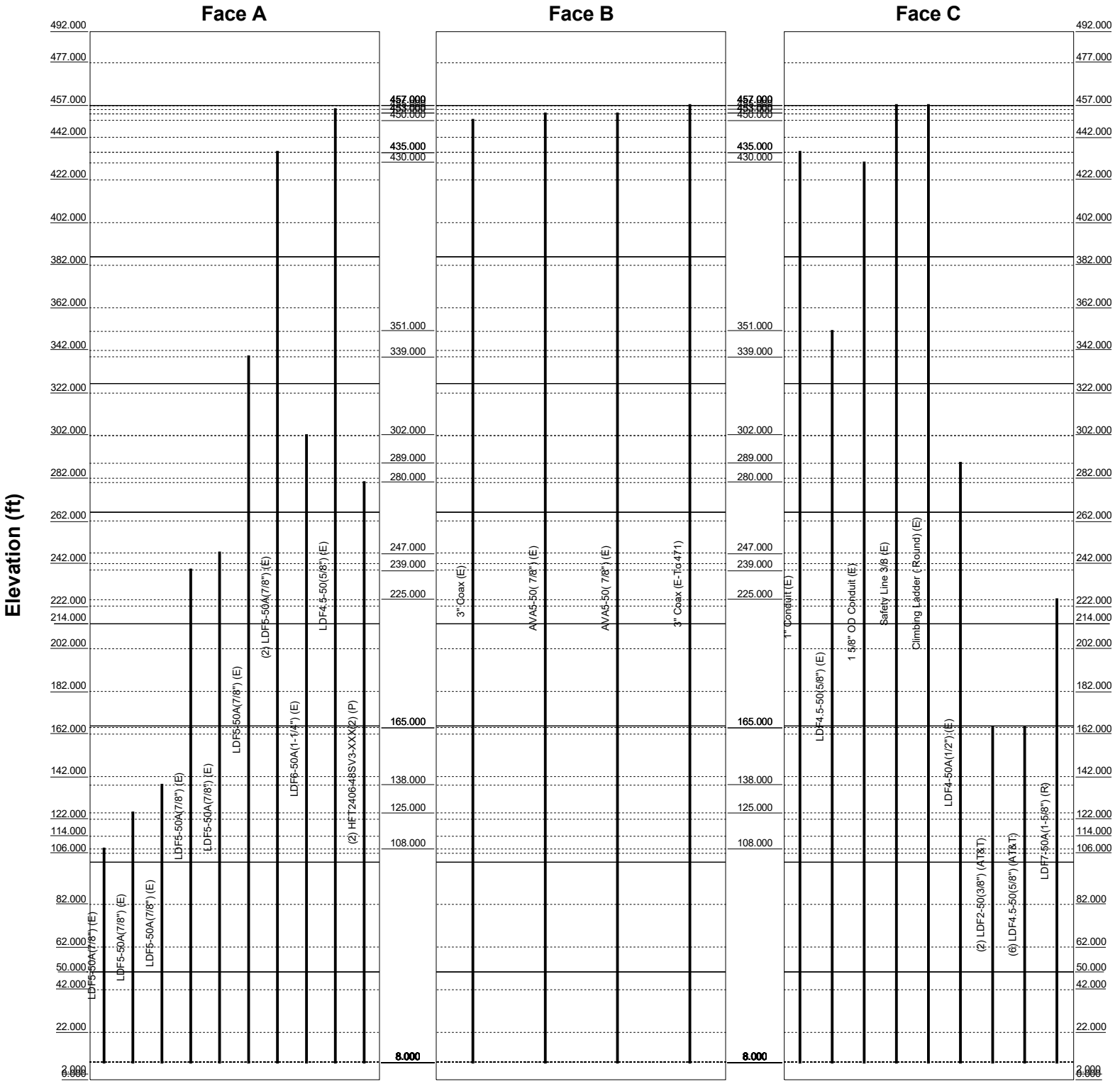
Feed Line Distribution Chart
0' - 492'

Round ___ Flat ----- App In Face — . — . — App Out Face — .. — Truss Leg



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Project:			
Client: Vertical Bridge	Drawn by: randall.ashworth	App'd:	
Code: TIA-222-H	Date: 11/13/24	Scale: NTS	
Path: S:\Projects\Vertical Bridge\173454_US-CT-5009_WRKI-FM\Engineering\tnxTower\001_01_0001\173454_001_01_0001_WRKI-FM_CT.eri		Dwg No. E-7	

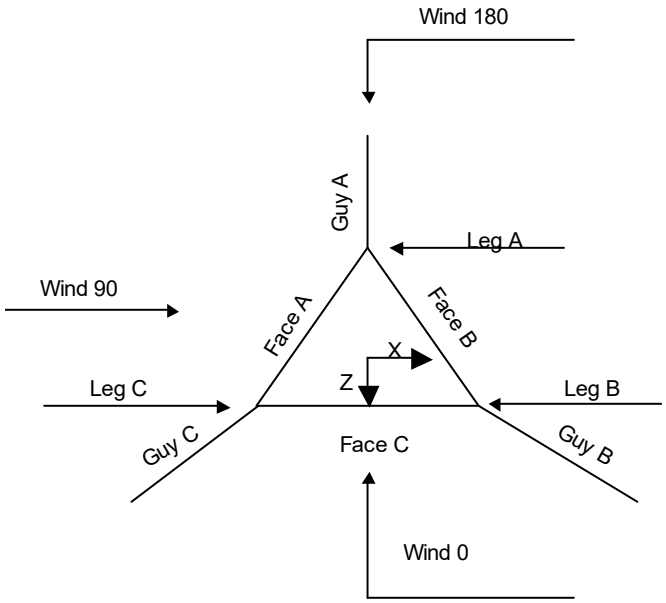
Tower Input Data

The main tower is a 3x guyed tower with an overall height of 492.000 ft above the ground line.
The base of the tower is set at an elevation of 0.000 ft above the ground line.
The face width of the tower is 4.000 ft at the top and 4.000 ft at the base.
An index plate is provided at the 3x guyed -tower connection.
There is a pole section.
This tower is designed using the TIA-222-H standard.
The following design criteria apply:

Tower is located in Fairfield County, Connecticut.
Tower base elevation above sea level: 720.000 ft.
Basic wind speed of 115 mph.
Risk Category II.
Exposure Category C.
Simplified Topographic Factor Procedure for wind speed-up calculations is used.
Topographic Category: 1.
Crest Height: 0.000 ft.
Nominal ice thickness of 1.000 in.
Ice thickness is considered to increase with height.
Ice density of 56.000 pcf.
A wind speed of 50 mph is used in combination with ice.
Temperature drop of 50.000 °F.
Deflections calculated using a wind speed of 60 mph.
I-Beam base is 2.000 ft above the pivot.
Pressures are calculated at each section.
Stress ratio used in pole design is 1.
Stress ratio used in tower member design is 1.
Safety factor used in guy design is 1.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

Consider Moments - Legs	Assume Legs Pinned	√ Calculate Redundant Bracing Forces
Consider Moments - Horizontals	√ Assume Rigid Index Plate	Ignore Redundant Members in FEA
Consider Moments - Diagonals	√ Use Clear Spans For Wind Area	√ SR Leg Bolts Resist Compression
Use Moment Magnification	√ Use Clear Spans For KL/r	All Leg Panels Have Same Allowable
√ Use Code Stress Ratios	√ Retension Guys To Initial Tension	Offset Girt At Foundation
√ Use Code Safety Factors - Guys	√ Bypass Mast Stability Checks	√ Consider Feed Line Torque
Escalate Ice	√ Use Azimuth Dish Coefficients	√ Include Angle Block Shear Check
Always Use Max Kz	√ Project Wind Area of Appurtenances	Use TIA-222-H Bracing Resist. Exemption
Use Special Wind Profile	Alternative Appurt. EPA Calculation	Use TIA-222-H Tension Splice Exemption
√ Include Bolts In Member Capacity	√ Autocalc Torque Arm Areas	Poles
Leg Bolts Are At Top Of Section	Add IBC .6D+W Combination	Include Shear-Torsion Interaction
√ Secondary Horizontal Braces Leg	√ Sort Capacity Reports By Component	Always Use Sub-Critical Flow
Use Diamond Inner Bracing (4 Sided)	Triangulate Diamond Inner Bracing	Use Top Mounted Sockets
√ SR Members Have Cut Ends	Treat Feed Line Bundles As Cylinder	Pole Without Linear Attachments
SR Members Are Concentric	Ignore KL/ry For 60 Deg. Angle Legs	Pole With Shroud Or No Appurtenances
Distribute Leg Loads As Uniform	Use ASCE 10 X-Brace Ly Rules	Outside and Inside Corner Radii Are Known



Corner & Starmount Guyed Tower

Pole Section Geometry

Section	Elevation ft	Section Length ft	Pole Size	Pole Grade	Socket Length ft
L1	492.000-477.000	15.000	P8x.406	A53-B-35 (35 ksi)	
L2	477.000-457.000	20.000	P8x.406	A53-B-35 (35 ksi)	

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 492.000-477.000				1	1	1			
L2 477.000-457.000				1	1	1			

Tower Section Geometry

Tower Section	Tower Elevation ft	Assembly Database	Description	Section Width ft	Number of Sections	Section Length ft
T1	457.000-452.000			4.000	1	5.000
T2	452.000-442.000			4.000	1	10.000
T3	442.000-422.000			4.000	1	20.000
T4	422.000-402.000			4.000	1	20.000
T5	402.000-382.000			4.000	1	20.000
T6	382.000-362.000			4.000	1	20.000
T7	362.000-342.000			4.000	1	20.000
T8	342.000-322.000			4.000	1	20.000
T9	322.000-302.000			4.000	1	20.000
T10	302.000-282.000			4.000	1	20.000
T11	282.000-262.000			4.000	1	20.000
T12	262.000-242.000			4.000	1	20.000
T13	242.000-222.000			4.000	1	20.000
T14	222.000-202.000			4.000	1	20.000
T15	202.000-182.000			4.000	1	20.000
T16	182.000-162.000			4.000	1	20.000
T17	162.000-142.000			4.000	1	20.000
T18	142.000-122.000			4.000	1	20.000
T19	122.000-114.000			4.000	1	8.000
T20	114.000-110.000			4.000	1	4.000
T21	110.000-106.000			4.000	1	4.000
T22	106.000-102.000			4.000	1	4.000
T23	102.000-82.000			4.000	1	20.000
T24	82.000-62.000			4.000	1	20.000
T25	62.000-42.000			4.000	1	20.000
T26	42.000-22.000			4.000	1	20.000
T27	22.000-2.000			4.000	1	20.000

Tower Section Geometry *(cont'd)*

Tower Section	Tower Elevation ft	Diagonal Spacing ft	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset in	Bottom Girt Offset in
T1	457.000-452.000	5.000	K Brace Down	No	Yes	0.000	0.000
T2	452.000-442.000	3.333	K Brace Left	No	Yes	0.000	0.000
T3	442.000-422.000	4.000	K Brace Right	No	Yes	0.000	0.000
T4	422.000-402.000	4.000	K Brace Left	No	Yes	0.000	0.000
T5	402.000-382.000	4.000	K Brace Right	No	Yes	0.000	0.000
T6	382.000-362.000	4.000	K Brace Left	No	Yes	0.000	0.000
T7	362.000-342.000	4.000	K Brace Right	No	Yes	0.000	0.000
T8	342.000-322.000	4.000	K Brace Left	No	Yes	0.000	0.000
T9	322.000-302.000	4.000	K Brace Right	No	Yes	0.000	0.000
T10	302.000-282.000	4.000	K Brace Left	No	Yes	0.000	0.000
T11	282.000-262.000	4.000	K Brace Right	No	Yes	0.000	0.000
T12	262.000-242.000	4.000	K Brace Left	No	Yes	0.000	0.000
T13	242.000-222.000	4.000	K Brace Right	No	Yes	0.000	0.000
T14	222.000-202.000	4.000	K Brace Left	No	Yes	0.000	0.000
T15	202.000-182.000	4.000	K Brace Right	No	Yes	0.000	0.000
T16	182.000-162.000	4.000	K Brace Left	No	Yes	0.000	0.000
T17	162.000-142.000	4.000	K Brace Right	No	Yes	0.000	0.000
T18	142.000-122.000	4.000	K Brace Left	No	Yes	0.000	0.000

Tower Section	Tower Elevation ft	Diagonal Spacing ft	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset in	Bottom Girt Offset in
T19	122.000-114.000	4.000	K Brace Left	No	Yes	0.000	0.000
T20	114.000-110.000	4.000	K Brace Right	No	Yes	0.000	0.000
T21	110.000-106.000	4.000	K Brace Left	No	Yes	0.000	0.000
T22	106.000-102.000	4.000	K Brace Right	No	Yes	0.000	0.000
T23	102.000-82.000	4.000	K Brace Left	No	Yes	0.000	0.000
T24	82.000-62.000	4.000	K Brace Right	No	Yes	0.000	0.000
T25	62.000-42.000	4.000	K Brace Left	No	Yes	0.000	0.000
T26	42.000-22.000	4.000	K Brace Right	No	Yes	0.000	0.000
T27	22.000-2.000	4.000	K Brace Left	No	Yes	0.000	0.000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T1 457.000-452.000	Solid Round	2 1/4	A572-50 (50 ksi)	Single Angle	L2 1/2x2x3/16	A36 (36 ksi)
T2 452.000-442.000	Solid Round	2 1/4	A572-50 (50 ksi)	Single Angle	L2x2x1/4	A36 (36 ksi)
T3 442.000-422.000	Solid Round	2 1/4	A572-50 (50 ksi)	Single Angle	L2x2x1/4	A36 (36 ksi)
T4 422.000-402.000	Solid Round	2 1/4	A572-50 (50 ksi)	Single Angle	L2x2x1/4	A36 (36 ksi)
T5 402.000-382.000	Solid Round	2 1/4	A572-50 (50 ksi)	Single Angle	L2x2x1/4	A36 (36 ksi)
T6 382.000-362.000	Solid Round	2 1/4	A572-50 (50 ksi)	Single Angle	L2x2x1/4	A36 (36 ksi)
T7 362.000-342.000	Solid Round	2 1/4	A572-50 (50 ksi)	Single Angle	L2x2x1/4	A36 (36 ksi)
T8 342.000-322.000	Solid Round	2 1/4	A572-50 (50 ksi)	Single Angle	L2x2x1/4	A36 (36 ksi)
T9 322.000-302.000	Solid Round	2 1/2	A572-50 (50 ksi)	Single Angle	L1 3/4x1 3/4x3/16	A36 (36 ksi)
T10 302.000-282.000	Solid Round	2 1/2	A572-50 (50 ksi)	Single Angle	L2x2x1/4	A36 (36 ksi)
T11 282.000-262.000	Solid Round	2 3/4	A572-50 (50 ksi)	Single Angle	L2 1/2x2 1/2x3/8	A36 (36 ksi)
T12 262.000-242.000	Solid Round	2 3/4	A572-50 (50 ksi)	Single Angle	L2x2x1/4	A36 (36 ksi)
T13 242.000-222.000	Solid Round	2 3/4	A572-50 (50 ksi)	Single Angle	L2x2x1/4	A36 (36 ksi)
T14 222.000-202.000	Solid Round	3	A572-50 (50 ksi)	Single Angle	L2 1/2x2 1/2x3/8	A36 (36 ksi)
T15 202.000-182.000	Solid Round	3	A572-50 (50 ksi)	Equal Angle	L2x2x1/4	A36 (36 ksi)
T16 182.000-162.000	Solid Round	3	A572-50 (50 ksi)	Equal Angle	L2x2x1/4	A36 (36 ksi)
T17 162.000-142.000	Solid Round	3	A572-50 (50 ksi)	Equal Angle	L2x2x1/4	A36 (36 ksi)
T18 142.000-122.000	Solid Round	3	A572-50 (50 ksi)	Equal Angle	L2x2x1/4	A36 (36 ksi)
T19 122.000-114.000	Solid Round	3	A572-50 (50 ksi)	Equal Angle	L2x2x1/4	A36 (36 ksi)
T20 114.000-110.000	Solid Round	3	A572-50 (50 ksi)	Equal Angle	L2x2x1/4	A36 (36 ksi)
T21 110.000-106.000	Solid Round	3	A572-50 (50 ksi)	Arbitrary Shape	L1 3/4x1 3/4x3/16 w/ L2x2x1/4	A36 (36 ksi)

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T22 106.000-102.000	Solid Round	3	A572-50 (50 ksi)	Arbitrary Shape	L1 3/4x1 3/4x3/16 w/ L2x2x1/4	A36 (36 ksi)
T23 102.000-82.000	Solid Round	3	A572-50 (50 ksi)	Equal Angle	L2x2x1/4	A36 (36 ksi)
T24 82.000-62.000	Solid Round	3	A572-50 (50 ksi)	Equal Angle	L2x2x1/4	A36 (36 ksi)
T25 62.000-42.000	Solid Round	3	A572-50 (50 ksi)	Equal Angle	L2x2x1/4	A36 (36 ksi)
T26 42.000-22.000	Solid Round	3	A572-50 (50 ksi)	Equal Angle	L2x2x1/4	A36 (36 ksi)
T27 22.000-2.000	Solid Round	3	A572-50 (50 ksi)	Equal Angle	L2x2x1/4	A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T1 457.000-452.000	Channel	C6x10.5	A36 (36 ksi)	Single Angle	L2x2x3/16	A36 (36 ksi)
T2 452.000-442.000	Single Angle	L2x2x3/16	A36 (36 ksi)	Single Angle		A36 (36 ksi)
T3 442.000-422.000	Single Angle	L2x2x3/16	A36 (36 ksi)	Single Angle		A36 (36 ksi)
T4 422.000-402.000	Single Angle	L2x2x3/16	A36 (36 ksi)	Single Angle		A36 (36 ksi)
T5 402.000-382.000	Single Angle	L2x2x3/16	A36 (36 ksi)	Single Angle		A36 (36 ksi)
T6 382.000-362.000	Single Angle	L2x2x3/16	A36 (36 ksi)	Single Angle		A36 (36 ksi)
T7 362.000-342.000	Single Angle	L2x2x3/16	A36 (36 ksi)	Single Angle		A36 (36 ksi)
T8 342.000-322.000	Single Angle	L2x2x3/16	A36 (36 ksi)	Single Angle		A36 (36 ksi)
T9 322.000-302.000	Single Angle	L2x2x3/16	A36 (36 ksi)	Single Angle		A36 (36 ksi)
T10 302.000-282.000	Single Angle	L2x2x3/16	A36 (36 ksi)	Single Angle		A36 (36 ksi)
T11 282.000-262.000	Single Angle	L2x2x3/16	A36 (36 ksi)	Single Angle		A36 (36 ksi)
T12 262.000-242.000	Single Angle	L2x2x3/16	A36 (36 ksi)	Single Angle		A36 (36 ksi)
T13 242.000-222.000	Single Angle	L2x2x3/16	A36 (36 ksi)	Single Angle		A36 (36 ksi)
T14 222.000-202.000	Single Angle	L2x2x3/16	A36 (36 ksi)	Single Angle		A36 (36 ksi)
T15 202.000-182.000	Single Angle	L2x2x3/16	A36 (36 ksi)	Single Angle		A36 (36 ksi)
T16 182.000-162.000	Single Angle	L2x2x3/16	A36 (36 ksi)	Single Angle		A36 (36 ksi)
T17 162.000-142.000	Single Angle	L2x2x3/16	A36 (36 ksi)	Single Angle		A36 (36 ksi)
T18 142.000-122.000	Single Angle	L2x2x3/16	A36 (36 ksi)	Single Angle		A36 (36 ksi)
T19 122.000-114.000	Single Angle	L2x2x3/16	A36 (36 ksi)	Single Angle		A36 (36 ksi)

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T23 102.000-82.000	Single Angle	L2x2x3/16	A36 (36 ksi)	Single Angle		A36 (36 ksi)
T24 82.000-62.000	Single Angle	L2x2x3/16	A36 (36 ksi)	Single Angle		A36 (36 ksi)
T25 62.000-42.000	Single Angle	L2x2x3/16	A36 (36 ksi)	Single Angle		A36 (36 ksi)
T26 42.000-22.000	Single Angle	L2x2x3/16	A36 (36 ksi)	Single Angle		A36 (36 ksi)
T27 22.000-2.000	Single Angle	L2x2x3/16	A36 (36 ksi)	Single Angle	L2x2x3/16	A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
T1 457.000-452.000	None	Solid Round		A572-50 (50 ksi)	Single Angle	L2x2x3/16	A36 (36 ksi)
T2 452.000-442.000	None	Solid Round		A572-50 (50 ksi)	Single Angle	L2x2x3/16	A36 (36 ksi)
T3 442.000-422.000	None	Solid Round		A572-50 (50 ksi)	Single Angle	L2x2x3/16	A36 (36 ksi)
T4 422.000-402.000	None	Solid Round		A572-50 (50 ksi)	Single Angle	L2x2x3/16	A36 (36 ksi)
T5 402.000-382.000	None	Solid Round		A572-50 (50 ksi)	Single Angle	L2x2x3/16	A36 (36 ksi)
T6 382.000-362.000	None	Solid Round		A572-50 (50 ksi)	Single Angle	L2x2x3/16	A36 (36 ksi)
T7 362.000-342.000	None	Solid Round		A572-50 (50 ksi)	Single Angle	L2x2x3/16	A36 (36 ksi)
T8 342.000-322.000	None	Solid Round		A572-50 (50 ksi)	Single Angle	L2x2x3/16	A36 (36 ksi)
T9 322.000-302.000	None	Solid Round		A572-50 (50 ksi)	Single Angle	L2x2x3/16	A36 (36 ksi)
T10 302.000-282.000	None	Solid Round		A572-50 (50 ksi)	Single Angle	L2x2x3/16	A36 (36 ksi)
T11 282.000-262.000	None	Solid Round		A572-50 (50 ksi)	Single Angle	L2x2x3/16	A36 (36 ksi)
T12 262.000-242.000	None	Solid Round		A572-50 (50 ksi)	Single Angle	L2x2x3/16	A36 (36 ksi)
T13 242.000-222.000	None	Solid Round		A572-50 (50 ksi)	Single Angle	L2x2x3/16	A36 (36 ksi)
T14 222.000-202.000	None	Solid Round		A572-50 (50 ksi)	Single Angle	L2x2x3/16	A36 (36 ksi)
T15 202.000-182.000	None	Solid Round		A572-50 (50 ksi)	Single Angle	L2x2x3/16	A36 (36 ksi)
T16 182.000-162.000	None	Solid Round		A572-50 (50 ksi)	Single Angle	L2x2x3/16	A36 (36 ksi)
T17 162.000-142.000	None	Solid Round		A572-50 (50 ksi)	Single Angle	L2x2x3/16	A36 (36 ksi)
T18 142.000-122.000	None	Solid Round		A572-50 (50 ksi)	Single Angle	L2x2x3/16	A36 (36 ksi)
T19 122.000-114.000	None	Solid Round		A572-50 (50 ksi)	Single Angle	L2x2x3/16	A36 (36 ksi)
T20	None	Solid Round		A572-50	Single Angle	L2x2x3/16	A36

Tower Elevation ft	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
114.000-110.000				(50 ksi)			(36 ksi)
T21	None	Solid Round		A572-50	Single Angle	L2x2x3/16	A36
110.000-106.000				(50 ksi)			(36 ksi)
T22	None	Solid Round		A572-50	Single Angle	L2x2x3/16	A36
106.000-102.000				(50 ksi)			(36 ksi)
T23	None	Solid Round		A572-50	Single Angle	L2x2x3/16	A36
102.000-82.000				(50 ksi)			(36 ksi)
T24	None	Solid Round		A572-50	Single Angle	L2x2x3/16	A36
82.000-62.000				(50 ksi)			(36 ksi)
T25	None	Solid Round		A572-50	Single Angle	L2x2x3/16	A36
62.000-42.000				(50 ksi)			(36 ksi)
T26	None	Solid Round		A572-50	Single Angle	L2x2x3/16	A36
42.000-22.000				(50 ksi)			(36 ksi)
T27 22.000-2.000	None	Solid Round		A572-50	Single Angle	L2x2x3/16	A36
				(50 ksi)			(36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
T1	0.000	0.000	A36	1	1	1	36.000	36.000	36.000
457.000-452.000			(36 ksi)						
T2	0.000	0.000	A36	1	1	1	36.000	36.000	36.000
452.000-442.000			(36 ksi)						
T3	0.000	0.000	A36	1	1	1	36.000	36.000	36.000
442.000-422.000			(36 ksi)						
T4	0.000	0.000	A36	1	1	1	36.000	36.000	36.000
422.000-402.000			(36 ksi)						
T5	0.000	0.000	A36	1	1	1	36.000	36.000	36.000
402.000-382.000			(36 ksi)						
T6	0.000	0.000	A36	1	1	1	36.000	36.000	36.000
382.000-362.000			(36 ksi)						
T7	0.000	0.000	A36	1	1	1	36.000	36.000	36.000
362.000-342.000			(36 ksi)						
T8	0.000	0.000	A36	1	1	1	36.000	36.000	36.000
342.000-322.000			(36 ksi)						
T9	0.000	0.000	A36	1	1	1	36.000	36.000	36.000
322.000-302.000			(36 ksi)						
T10	0.000	0.000	A36	1	1	1	36.000	36.000	36.000
302.000-282.000			(36 ksi)						
T11	0.000	0.000	A36	1	1	1	36.000	36.000	36.000
282.000-262.000			(36 ksi)						

Tower Elevation ft	Gusset Area (per face) ft²	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
T12 262.000-242.000	0.000	0.000	A36 (36 ksi)	1	1	1	36.000	36.000	36.000
T13 242.000-222.000	0.000	0.000	A36 (36 ksi)	1	1	1	36.000	36.000	36.000
T14 222.000-202.000	0.000	0.000	A36 (36 ksi)	1	1	1	36.000	36.000	36.000
T15 202.000-182.000	0.000	0.000	A36 (36 ksi)	1	1	1	36.000	36.000	36.000
T16 182.000-162.000	0.000	0.000	A36 (36 ksi)	1	1	1	36.000	36.000	36.000
T17 162.000-142.000	0.000	0.000	A36 (36 ksi)	1	1	1	36.000	36.000	36.000
T18 142.000-122.000	0.000	0.000	A36 (36 ksi)	1	1	1	36.000	36.000	36.000
T19 122.000-114.000	0.000	0.000	A36 (36 ksi)	1	1	1	36.000	36.000	36.000
T20 114.000-110.000	0.000	0.000	A36 (36 ksi)	1	1	1	36.000	36.000	36.000
T21 110.000-106.000	0.000	0.000	A36 (36 ksi)	1	1	1	36.000	36.000	36.000
T22 106.000-102.000	0.000	0.000	A36 (36 ksi)	1	1	1	36.000	36.000	36.000
T23 102.000-82.000	0.000	0.000	A36 (36 ksi)	1	1	1	36.000	36.000	36.000
T24 82.000-62.000	0.000	0.000	A36 (36 ksi)	1	1	1	36.000	36.000	36.000
T25 62.000-42.000	0.000	0.000	A36 (36 ksi)	1	1	1	36.000	36.000	36.000
T26 42.000-22.000	0.000	0.000	A36 (36 ksi)	1	1	1	36.000	36.000	36.000
T27 22.000-2.000	0.000	0.000	A36 (36 ksi)	1	1	1	36.000	36.000	36.000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X Y	K Brace Diags X Y	Single Diags X Y	Girts X Y	Horiz. X Y	Sec. Horiz. X Y	Inner Brace X Y
T1	Yes	Yes	1	1	1	1	1	1	1	1

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X Y	K Brace Diags X Y	Single Diags X Y	Girts X Y	Horiz. X Y	Sec. Horiz. X Y	Inner Brace X Y
457.000-452.000				1	1	1	1	1	1	1
T2	Yes	Yes	1	1	1	1	1	1	1	1
452.000-442.000				1	1	1	1	1	1	1
T3	Yes	Yes	1	1	1	1	1	1	1	1
442.000-422.000				1	1	1	1	1	1	1
T4	Yes	Yes	1	1	1	1	1	1	1	1
422.000-402.000				1	1	1	1	1	1	1
T5	Yes	Yes	1	1	1	1	1	1	1	1
402.000-382.000				1	1	1	1	1	1	1
T6	Yes	Yes	1	1	1	1	1	1	1	1
382.000-362.000				1	1	1	1	1	1	1
T7	Yes	Yes	1	1	1	1	1	1	1	1
362.000-342.000				1	1	1	1	1	1	1
T8	Yes	Yes	1	1	1	1	1	1	1	1
342.000-322.000				1	1	1	1	1	1	1
T9	Yes	Yes	1	1	1	1	1	1	1	1
322.000-302.000				1	1	1	1	1	1	1
T10	Yes	Yes	1	1	1	1	1	1	1	1
302.000-282.000				1	1	1	1	1	1	1
T11	Yes	Yes	1	1	1	1	1	1	1	1
282.000-262.000				1	1	1	1	1	1	1
T12	Yes	Yes	1	1	1	1	1	1	1	1
262.000-242.000				1	1	1	1	1	1	1
T13	Yes	Yes	1	1	1	1	1	1	1	1
242.000-222.000				1	1	1	1	1	1	1
T14	Yes	Yes	1	1	1	1	1	1	1	1
222.000-202.000				1	1	1	1	1	1	1
T15	Yes	Yes	1	1	1	1	1	1	1	1
202.000-182.000				1	1	1	1	1	1	1
T16	Yes	Yes	1	1	1	1	1	1	1	1
182.000-162.000				1	1	1	1	1	1	1
T17	Yes	Yes	1	1	1	1	1	1	1	1
162.000-142.000				1	1	1	1	1	1	1
T18	Yes	Yes	1	1	1	1	1	1	1	1
142.000-122.000				1	1	1	1	1	1	1
T19	Yes	Yes	1	1	1	1	1	1	1	1
122.000-114.000				1	1	1	1	1	1	1
T20	Yes	Yes	1	1	1	1	1	1	1	1
114.000-110.000				1	1	1	1	1	1	1

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X Y	K Brace Diags X Y	Single Diags X Y	Girts X Y	Horiz. X Y	Sec. Horiz. X Y	Inner Brace X Y
T21 110.000-106.000	Yes	Yes	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T22 106.000-102.000	Yes	Yes	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T23 102.000-82.000	Yes	Yes	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T24 82.000-62.000	Yes	Yes	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T25 62.000-42.000	Yes	Yes	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T26 42.000-22.000	Yes	Yes	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T27 22.000-2.000	Yes	Yes	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1

[1]*Note: K factors are applied to member segment lengths. K-braces without inner supporting members will have the K factor in the out-of-plane direction applied to the overall length.*

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Net Width Deduct in	Leg U	Diagonal Net Width Deduct in	Diagonal U	Top Girt Net Width Deduct in	Top Girt U	Bottom Girt Net Width Deduct in	Bottom Girt U	Mid Girt Net Width Deduct in	Mid Girt U	Long Horizontal Net Width Deduct in	Long Horizontal U	Short Horizontal Net Width Deduct in	Short Horizontal U
T1 457.000-452.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T2 452.000-442.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T3 442.000-422.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T4 422.000-402.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T5 402.000-382.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T6 382.000-362.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T7 362.000-342.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T8 342.000-322.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75

Tower Elevation ft	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T9 322.000-302.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T10 302.000-282.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T11 282.000-262.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T12 262.000-242.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T13 242.000-222.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T14 222.000-202.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T15 202.000-182.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T16 182.000-162.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T17 162.000-142.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T18 142.000-122.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T19 122.000-114.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T20 114.000-110.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T21 110.000-106.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T22 106.000-102.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T23 102.000-82.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T24 82.000-62.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T25 62.000-42.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T26 42.000-22.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T27 22.000-2.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75

Tower Elevation ft	Redundant Horizontal		Redundant Diagonal		Redundant Sub-Diagonal		Redundant Sub-Horizontal		Redundant Vertical		Redundant Hip		Redundant Hip Diagonal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T1 457.000-452.000	0.000	0.75 (1)	0.000	0.75 (1)	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75 (1)	0.000	0.75 (1)
	0.000	0.75 (2)	0.000	0.75 (2)							0.000	0.75 (2)	0.000	0.75 (2)
	0.000	0.75 (3)	0.000	0.75 (3)							0.000	0.75 (3)	0.000	0.75 (3)
	0.000	0.75 (4)	0.000	0.75 (4)							0.000	0.75 (4)	0.000	0.75 (4)
T2 452.000-442.000	0.000	0.75 (1)	0.000	0.75 (1)	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75 (1)	0.000	0.75 (1)
	0.000	0.75 (2)	0.000	0.75 (2)							0.000	0.75 (2)	0.000	0.75 (2)
	0.000	0.75 (3)	0.000	0.75 (3)							0.000	0.75 (3)	0.000	0.75 (3)
	0.000	0.75 (4)	0.000	0.75 (4)							0.000	0.75 (4)	0.000	0.75 (4)
T3 442.000-422.000	0.000	0.75 (1)	0.000	0.75 (1)	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75 (1)	0.000	0.75 (1)
	0.000	0.75 (2)	0.000	0.75 (2)							0.000	0.75 (2)	0.000	0.75 (2)
	0.000	0.75 (3)	0.000	0.75 (3)							0.000	0.75 (3)	0.000	0.75 (3)
	0.000	0.75 (4)	0.000	0.75 (4)							0.000	0.75 (4)	0.000	0.75 (4)
T4 422.000-402.000	0.000	0.75 (1)	0.000	0.75 (1)	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75 (1)	0.000	0.75 (1)
	0.000	0.75 (2)	0.000	0.75 (2)							0.000	0.75 (2)	0.000	0.75 (2)
	0.000	0.75 (3)	0.000	0.75 (3)							0.000	0.75 (3)	0.000	0.75 (3)
	0.000	0.75 (4)	0.000	0.75 (4)							0.000	0.75 (4)	0.000	0.75 (4)
T5 402.000-382.000	0.000	0.75 (1)	0.000	0.75 (1)	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75 (1)	0.000	0.75 (1)
	0.000	0.75 (2)	0.000	0.75 (2)							0.000	0.75 (2)	0.000	0.75 (2)
	0.000	0.75 (3)	0.000	0.75 (3)							0.000	0.75 (3)	0.000	0.75 (3)
	0.000	0.75 (4)	0.000	0.75 (4)							0.000	0.75 (4)	0.000	0.75 (4)
T6 382.000-362.000	0.000	0.75 (1)	0.000	0.75 (1)	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75 (1)	0.000	0.75 (1)
	0.000	0.75 (2)	0.000	0.75 (2)							0.000	0.75 (2)	0.000	0.75 (2)
	0.000	0.75 (3)	0.000	0.75 (3)							0.000	0.75 (3)	0.000	0.75 (3)
	0.000	0.75 (4)	0.000	0.75 (4)							0.000	0.75 (4)	0.000	0.75 (4)
T7 362.000-342.000	0.000	0.75 (1)	0.000	0.75 (1)	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75 (1)	0.000	0.75 (1)

Tower Elevation ft	Redundant Horizontal		Redundant Diagonal		Redundant Sub-Diagonal		Redundant Sub-Horizontal		Redundant Vertical		Redundant Hip		Redundant Hip Diagonal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
	0.000	0.75 (2)	0.000	0.75 (2)							0.000	0.75 (2)	0.000	0.75 (2)
	0.000	0.75 (3)	0.000	0.75 (3)							0.000	0.75 (3)	0.000	0.75 (3)
	0.000	0.75 (4)	0.000	0.75 (4)							0.000	0.75 (4)	0.000	0.75 (4)
T8 342.000-322.000	0.000	0.75 (1)	0.000	0.75 (1)	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75 (1)	0.000	0.75 (1)
	0.000	0.75 (2)	0.000	0.75 (2)							0.000	0.75 (2)	0.000	0.75 (2)
	0.000	0.75 (3)	0.000	0.75 (3)							0.000	0.75 (3)	0.000	0.75 (3)
	0.000	0.75 (4)	0.000	0.75 (4)							0.000	0.75 (4)	0.000	0.75 (4)
T9 322.000-302.000	0.000	0.75 (1)	0.000	0.75 (1)	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75 (1)	0.000	0.75 (1)
	0.000	0.75 (2)	0.000	0.75 (2)							0.000	0.75 (2)	0.000	0.75 (2)
	0.000	0.75 (3)	0.000	0.75 (3)							0.000	0.75 (3)	0.000	0.75 (3)
	0.000	0.75 (4)	0.000	0.75 (4)							0.000	0.75 (4)	0.000	0.75 (4)
T10 302.000-282.000	0.000	0.75 (1)	0.000	0.75 (1)	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75 (1)	0.000	0.75 (1)
	0.000	0.75 (2)	0.000	0.75 (2)							0.000	0.75 (2)	0.000	0.75 (2)
	0.000	0.75 (3)	0.000	0.75 (3)							0.000	0.75 (3)	0.000	0.75 (3)
	0.000	0.75 (4)	0.000	0.75 (4)							0.000	0.75 (4)	0.000	0.75 (4)
T11 282.000-262.000	0.000	0.75 (1)	0.000	0.75 (1)	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75 (1)	0.000	0.75 (1)
	0.000	0.75 (2)	0.000	0.75 (2)							0.000	0.75 (2)	0.000	0.75 (2)
	0.000	0.75 (3)	0.000	0.75 (3)							0.000	0.75 (3)	0.000	0.75 (3)
	0.000	0.75 (4)	0.000	0.75 (4)							0.000	0.75 (4)	0.000	0.75 (4)
T12 262.000-242.000	0.000	0.75 (1)	0.000	0.75 (1)	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75 (1)	0.000	0.75 (1)
	0.000	0.75 (2)	0.000	0.75 (2)							0.000	0.75 (2)	0.000	0.75 (2)
	0.000	0.75 (3)	0.000	0.75 (3)							0.000	0.75 (3)	0.000	0.75 (3)
	0.000	0.75 (4)	0.000	0.75 (4)							0.000	0.75 (4)	0.000	0.75 (4)
T13 242.000-222.000	0.000	0.75 (1)	0.000	0.75 (1)	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75 (1)	0.000	0.75 (1)
	0.000	0.75 (2)	0.000	0.75 (2)							0.000	0.75 (2)	0.000	0.75 (2)

Tower Elevation ft	Redundant Horizontal		Redundant Diagonal		Redundant Sub-Diagonal		Redundant Sub-Horizontal		Redundant Vertical		Redundant Hip		Redundant Hip Diagonal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
	0.000	0.75 (3)	0.000	0.75 (3)							0.000	0.75 (3)	0.000	0.75 (3)
	0.000	0.75 (4)	0.000	0.75 (4)							0.000	0.75 (4)	0.000	0.75 (4)
T14 222.000-202.000	0.000	0.75 (1)	0.000	0.75 (1)	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75 (1)	0.000	0.75 (1)
	0.000	0.75 (2)	0.000	0.75 (2)							0.000	0.75 (2)	0.000	0.75 (2)
	0.000	0.75 (3)	0.000	0.75 (3)							0.000	0.75 (3)	0.000	0.75 (3)
	0.000	0.75 (4)	0.000	0.75 (4)							0.000	0.75 (4)	0.000	0.75 (4)
T15 202.000-182.000	0.000	0.75 (1)	0.000	0.75 (1)	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75 (1)	0.000	0.75 (1)
	0.000	0.75 (2)	0.000	0.75 (2)							0.000	0.75 (2)	0.000	0.75 (2)
	0.000	0.75 (3)	0.000	0.75 (3)							0.000	0.75 (3)	0.000	0.75 (3)
	0.000	0.75 (4)	0.000	0.75 (4)							0.000	0.75 (4)	0.000	0.75 (4)
T16 182.000-162.000	0.000	0.75 (1)	0.000	0.75 (1)	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75 (1)	0.000	0.75 (1)
	0.000	0.75 (2)	0.000	0.75 (2)							0.000	0.75 (2)	0.000	0.75 (2)
	0.000	0.75 (3)	0.000	0.75 (3)							0.000	0.75 (3)	0.000	0.75 (3)
	0.000	0.75 (4)	0.000	0.75 (4)							0.000	0.75 (4)	0.000	0.75 (4)
T17 162.000-142.000	0.000	0.75 (1)	0.000	0.75 (1)	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75 (1)	0.000	0.75 (1)
	0.000	0.75 (2)	0.000	0.75 (2)							0.000	0.75 (2)	0.000	0.75 (2)
	0.000	0.75 (3)	0.000	0.75 (3)							0.000	0.75 (3)	0.000	0.75 (3)
	0.000	0.75 (4)	0.000	0.75 (4)							0.000	0.75 (4)	0.000	0.75 (4)
T18 142.000-122.000	0.000	0.75 (1)	0.000	0.75 (1)	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75 (1)	0.000	0.75 (1)
	0.000	0.75 (2)	0.000	0.75 (2)							0.000	0.75 (2)	0.000	0.75 (2)
	0.000	0.75 (3)	0.000	0.75 (3)							0.000	0.75 (3)	0.000	0.75 (3)
	0.000	0.75 (4)	0.000	0.75 (4)							0.000	0.75 (4)	0.000	0.75 (4)
T19 122.000-114.000	0.000	0.75 (1)	0.000	0.75 (1)	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75 (1)	0.000	0.75 (1)
	0.000	0.75 (2)	0.000	0.75 (2)							0.000	0.75 (2)	0.000	0.75 (2)
	0.000	0.75 (3)	0.000	0.75 (3)							0.000	0.75 (3)	0.000	0.75 (3)

Tower Elevation ft	Redundant Horizontal		Redundant Diagonal		Redundant Sub-Diagonal		Redundant Sub-Horizontal		Redundant Vertical		Redundant Hip		Redundant Hip Diagonal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
	0.000	0.75 (4)	0.000	0.75 (4)							0.000	0.75 (4)	0.000	0.75 (4)
T20 114.000-110.000	0.000	0.75 (1)	0.000	0.75 (1)	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75 (1)	0.000	0.75 (1)
	0.000	0.75 (2)	0.000	0.75 (2)							0.000	0.75 (2)	0.000	0.75 (2)
	0.000	0.75 (3)	0.000	0.75 (3)							0.000	0.75 (3)	0.000	0.75 (3)
	0.000	0.75 (4)	0.000	0.75 (4)							0.000	0.75 (4)	0.000	0.75 (4)
T21 110.000-106.000	0.000	0.75 (1)	0.000	0.75 (1)	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75 (1)	0.000	0.75 (1)
	0.000	0.75 (2)	0.000	0.75 (2)							0.000	0.75 (2)	0.000	0.75 (2)
	0.000	0.75 (3)	0.000	0.75 (3)							0.000	0.75 (3)	0.000	0.75 (3)
	0.000	0.75 (4)	0.000	0.75 (4)							0.000	0.75 (4)	0.000	0.75 (4)
T22 106.000-102.000	0.000	0.75 (1)	0.000	0.75 (1)	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75 (1)	0.000	0.75 (1)
	0.000	0.75 (2)	0.000	0.75 (2)							0.000	0.75 (2)	0.000	0.75 (2)
	0.000	0.75 (3)	0.000	0.75 (3)							0.000	0.75 (3)	0.000	0.75 (3)
	0.000	0.75 (4)	0.000	0.75 (4)							0.000	0.75 (4)	0.000	0.75 (4)
T23 102.000-82.000	0.000	0.75 (1)	0.000	0.75 (1)	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75 (1)	0.000	0.75 (1)
	0.000	0.75 (2)	0.000	0.75 (2)							0.000	0.75 (2)	0.000	0.75 (2)
	0.000	0.75 (3)	0.000	0.75 (3)							0.000	0.75 (3)	0.000	0.75 (3)
	0.000	0.75 (4)	0.000	0.75 (4)							0.000	0.75 (4)	0.000	0.75 (4)
T24 82.000-62.000	0.000	0.75 (1)	0.000	0.75 (1)	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75 (1)	0.000	0.75 (1)
	0.000	0.75 (2)	0.000	0.75 (2)							0.000	0.75 (2)	0.000	0.75 (2)
	0.000	0.75 (3)	0.000	0.75 (3)							0.000	0.75 (3)	0.000	0.75 (3)
	0.000	0.75 (4)	0.000	0.75 (4)							0.000	0.75 (4)	0.000	0.75 (4)
T25 62.000-42.000	0.000	0.75 (1)	0.000	0.75 (1)	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75 (1)	0.000	0.75 (1)
	0.000	0.75 (2)	0.000	0.75 (2)							0.000	0.75 (2)	0.000	0.75 (2)
	0.000	0.75 (3)	0.000	0.75 (3)							0.000	0.75 (3)	0.000	0.75 (3)
	0.000	0.75 (4)	0.000	0.75 (4)							0.000	0.75 (4)	0.000	0.75 (4)
T26 42.000-22.000	0.000	0.75 (1)	0.000	0.75 (1)	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75 (1)	0.000	0.75 (1)

Tower Elevation ft	Redundant Horizontal		Redundant Diagonal		Redundant Sub-Diagonal		Redundant Sub-Horizontal		Redundant Vertical		Redundant Hip		Redundant Hip Diagonal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
	0.000	0.75 (2)	0.000	0.75 (2)							0.000	0.75 (2)	0.000	0.75 (2)
	0.000	0.75 (3)	0.000	0.75 (3)							0.000	0.75 (3)	0.000	0.75 (3)
	0.000	0.75 (4)	0.000	0.75 (4)							0.000	0.75 (4)	0.000	0.75 (4)
T27 22.000-2.000	0.000	0.75 (1)	0.000	0.75 (1)	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75 (1)	0.000	0.75 (1)
	0.000	0.75 (2)	0.000	0.75 (2)							0.000	0.75 (2)	0.000	0.75 (2)
	0.000	0.75 (3)	0.000	0.75 (3)							0.000	0.75 (3)	0.000	0.75 (3)
	0.000	0.75 (4)	0.000	0.75 (4)							0.000	0.75 (4)	0.000	0.75 (4)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T1 457.000-452.000	Flange	0.750 A325N	0	0.625 A325N	2	0.625 A325N	2	0.625 A325N	1	0.625 A325N	0	0.625 A325N	3	0.625 A325N	0
T2 452.000-442.000	Flange	0.625 A325N	0	0.625 A325N	1	0.625 A325N	1	0.625 A325N	1	0.625 A325N	0	0.625 A325N	1	0.625 A325N	0
T3 442.000-422.000	Flange	0.625 A325N	3	0.625 A325N	1	0.625 A325N	1	0.625 A325N	1	0.625 A325N	0	0.625 A325N	1	0.625 A325N	0
T4 422.000-402.000	Flange	0.625 A325N	3	0.625 A325N	1	0.625 A325N	1	0.625 A325N	1	0.625 A325N	0	0.625 A325N	1	0.625 A325N	0
T5 402.000-382.000	Flange	0.625 A325N	3	0.625 A325N	1	0.625 A325N	1	0.625 A325N	1	0.625 A325N	0	0.625 A325N	1	0.625 A325N	0
T6 382.000-362.000	Flange	0.625 A325N	3	0.625 A325N	1	0.625 A325N	1	0.625 A325N	1	0.625 A325N	0	0.625 A325N	1	0.625 A325N	0
T7 362.000-342.000	Flange	0.625 A325N	3	0.625 A325N	1	0.625 A325N	1	0.625 A325N	1	0.625 A325N	0	0.625 A325N	1	0.625 A325N	0

Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T8 342.000-322.000	Flange	0.625 A325N	3	0.625 A325N	1	0.625 A325N	1	0.625 A325N	1	0.625 A325N	0	0.625 A325N	1	0.625 A325N	0
T9 322.000-302.000	Flange	0.625 A325N	3	0.625 A325N	1	0.625 A325N	1	0.625 A325N	1	0.625 A325N	0	0.625 A325N	1	0.625 A325N	0
T10 302.000-282.000	Flange	0.625 A325N	3	0.625 A325N	1	0.625 A325N	1	0.625 A325N	1	0.625 A325N	0	0.625 A325N	1	0.625 A325N	0
T11 282.000-262.000	Flange	0.625 A325N	3	0.625 A325N	1	0.625 A325N	1	0.625 A325N	1	0.625 A325N	0	0.625 A325N	1	0.625 A325N	0
T12 262.000-242.000	Flange	0.625 A325N	3	0.625 A325N	1	0.625 A325N	1	0.625 A325N	1	0.625 A325N	0	0.625 A325N	1	0.625 A325N	0
T13 242.000-222.000	Flange	0.625 A325N	3	0.625 A325N	1	0.625 A325N	1	0.625 A325N	1	0.625 A325N	0	0.625 A325N	1	0.625 A325N	0
T14 222.000-202.000	Flange	0.625 A325N	3	0.625 A325N	1	0.625 A325N	1	0.625 A325N	1	0.625 A325N	0	0.625 A325N	1	0.625 A325N	0
T15 202.000-182.000	Flange	0.625 A325N	3	0.625 A325N	1	0.625 A325N	1	0.625 A325N	1	0.625 A325N	0	0.625 A325N	1	0.625 A325N	0
T16 182.000-162.000	Flange	0.625 A325N	3	0.625 A325N	1	0.625 A325N	1	0.625 A325N	1	0.625 A325N	0	0.625 A325N	1	0.625 A325N	0
T17 162.000-142.000	Flange	0.625 A325N	3	0.625 A325N	1	0.625 A325N	1	0.625 A325N	1	0.625 A325N	0	0.625 A325N	1	0.625 A325N	0
T18 142.000-122.000	Flange	0.625 A325N	3	0.625 A325N	1	0.625 A325N	1	0.625 A325N	1	0.625 A325N	0	0.625 A325N	1	0.625 A325N	0
T19 122.000-114.000	Flange	0.625 A325N	0	0.625 A325N	1	0.625 A325N	1	0.625 A325N	1	0.625 A325N	0	0.625 A325N	1	0.625 A325N	0
T20 114.000-110.000	Flange	0.625 A325N	0	0.625 A325N	1	0.625 A325N	1	0.000 A325N	0	0.625 A325N	0	0.625 A325N	1	0.625 A325N	0
T21 110.000-106.000	Flange	0.625 A325N	0	0.625 A325N	1	0.625 A325N	1	0.000 A325N	1	0.625 A325N	0	0.625 A325N	1	0.625 A325N	0
T22 106.000-102.000	Flange	0.625 A325N	3	0.625 A325N	1	0.625 A325N	1	0.625 A325N	1	0.625 A325N	0	0.625 A325N	1	0.625 A325N	0
T23 102.000-82.000	Flange	0.625 A325N	3	0.625 A325N	1	0.625 A325N	1	0.625 A325N	1	0.625 A325N	0	0.625 A325N	1	0.625 A325N	0
T24 82.000-62.000	Flange	0.625 A325N	3	0.625 A325N	1	0.625 A325N	1	0.625 A325N	1	0.625 A325N	0	0.625 A325N	1	0.625 A325N	0
T25 62.000-42.000	Flange	0.625 A325N	3	0.625 A325N	1	0.625 A325N	1	0.625 A325N	1	0.625 A325N	0	0.625 A325N	1	0.625 A325N	0
T26 42.000-22.000	Flange	0.625 A325N	3	0.625 A325N	1	0.625 A325N	1	0.625 A325N	1	0.625 A325N	0	0.625 A325N	1	0.625 A325N	0
T27 22.000-2.000	Flange	0.625 A325N	3	0.625 A325N	1	0.625 A325N	1	0.625 A325N	1	0.625 A325N	0	0.625 A325N	1	0.625 A325N	0

Guy Data

Guy Elevation ft	Guy Grade		Guy Size	Initial Tension K	%	Guy Modulus ksi	Guy Weight plf	L_u ft	Anchor Radius ft	Anchor Azimuth Adj. °	Anchor Elevation ft	End Fitting Efficiency %
457	EHS	A	1	10.450	10%	24000.000	2.100	477.715	149.000	0.000	2.000	100%
		B	1	10.450	10%	24000.000	2.100	482.524	146.000	0.000	-4.000	100%
		C	1	10.450	10%	24000.000	2.100	485.982	148.000	0.000	-7.000	100%
386	EHS	A	1	10.450	10%	24000.000	2.100	410.769	149.000	0.000	2.000	100%
		B	1	10.450	10%	24000.000	2.100	415.329	146.000	0.000	-4.000	100%
		C	1	10.450	10%	24000.000	2.100	418.834	148.000	0.000	-7.000	100%
326	EHS	A	7/8	7.970	10%	24000.000	1.581	355.407	149.000	0.000	2.000	100%
		B	7/8	7.970	10%	24000.000	1.581	359.669	146.000	0.000	-4.000	100%
		C	7/8	7.970	10%	24000.000	1.581	363.216	148.000	0.000	-7.000	100%
266	EHS	A	7/8	7.970	10%	24000.000	1.581	301.803	149.000	0.000	2.000	100%
		B	7/8	7.970	10%	24000.000	1.581	305.637	146.000	0.000	-4.000	100%
		C	7/8	7.970	10%	24000.000	1.581	309.223	148.000	0.000	-7.000	100%
214	EHS	A	7/8	7.970	10%	24000.000	1.581	245.511	123.000	0.000	0.000	100%
		B	7/8	7.970	10%	24000.000	1.581	242.858	117.500	0.000	0.000	100%
		C	7/8	7.970	10%	24000.000	1.581	247.269	117.500	0.000	-5.000	100%
166	EHS	A	7/8	7.970	10%	24000.000	1.581	205.091	123.000	0.000	0.000	100%
		B	7/8	7.970	10%	24000.000	1.581	201.907	117.500	0.000	0.000	100%
		C	7/8	7.970	10%	24000.000	1.581	206.032	117.500	0.000	-5.000	100%
102	EHS	A	11/16	4.900	10%	24000.000	0.950	157.907	123.000	0.000	0.000	100%
		B	11/16	4.900	10%	24000.000	0.950	153.750	117.500	0.000	0.000	100%
		C	11/16	4.900	10%	24000.000	0.950	157.107	117.500	0.000	-5.000	100%
50	EHS	A	1/2	2.690	10%	23000.000	0.517	130.538	123.000	0.000	0.000	100%
		B	1/2	2.690	10%	23000.000	0.517	125.478	117.500	0.000	0.000	100%
		C	1/2	2.690	10%	23000.000	0.517	127.550	117.500	0.000	-5.000	100%

Guy Data *(cont'd)*

Guy Elevation ft	Mount Type	Torque-Arm Spread ft	Torque-Arm Leg Angle °	Torque-Arm Style	Torque-Arm Grade	Torque-Arm Type	Torque-Arm Size
457	Corner						
386	Corner						
326	Corner						
266	Corner						
214	Corner						
166	Corner						
102	Corner						
50	Corner						

Guy Data *(cont'd)*

Guy Elevation ft	Diagonal Grade	Diagonal Type	Upper Diagonal Size	Lower Diagonal Size	Is Strap.	Pull-Off Grade	Pull-Off Type	Pull-Off Size
457.000	A572-50	Solid Round			No	A36	Double Equal	2L2 1/2x2

Guy Elevation ft	Diagonal Grade	Diagonal Type	Upper Diagonal Size	Lower Diagonal Size	Is Strap.	Pull-Off Grade	Pull-Off Type	Pull-Off Size
	(50 ksi)					(36 ksi)	Angle	1/2x3/8x1/4
386.000	A572-50 (50 ksi)	Solid Round			No	A36 (36 ksi)	Double Equal Angle	2L2 1/2x2 1/2x3/8x1/4
326.000	A572-50 (50 ksi)	Solid Round			No	A36 (36 ksi)	Double Equal Angle	2L2 1/2x2 1/2x3/8x1/4
266.000	A572-50 (50 ksi)	Solid Round			No	A36 (36 ksi)	Double Equal Angle	2L2 1/2x2 1/2x3/8x1/4
214.000	A572-50 (50 ksi)	Solid Round			No	A36 (36 ksi)	Double Equal Angle	2L2 1/2x2 1/2x3/8x1/4
166.000	A572-50 (50 ksi)	Solid Round			No	A36 (36 ksi)	Double Equal Angle	2L2 1/2x2 1/2x3/8x1/4
102.000	A572-50 (50 ksi)	Solid Round			No	A36 (36 ksi)	Double Equal Angle	2L2 1/2x2 1/2x3/8x1/4
50.000	A572-50 (50 ksi)	Solid Round			No	A36 (36 ksi)	Double Equal Angle	2L2 1/2x2 1/2x3/8x1/4

Guy Data *(cont'd)*

Guy Elevation ft	Cable Weight A K	Cable Weight B K	Cable Weight C K	Cable Weight D K	Tower Intercept A ft	Tower Intercept B ft	Tower Intercept C ft	Tower Intercept D ft
457	1.003	1.013	1.021		21.947 8.1 sec/pulse	22.378 8.2 sec/pulse	22.693 8.2 sec/pulse	
386	0.863	0.872	0.880		16.338 7.0 sec/pulse	16.693 7.1 sec/pulse	16.971 7.1 sec/pulse	
326	0.562	0.569	0.574		12.148 6.0 sec/pulse	12.434 6.1 sec/pulse	12.677 6.1 sec/pulse	
266	0.477	0.483	0.489		8.811 5.1 sec/pulse	9.031 5.2 sec/pulse	9.242 5.2 sec/pulse	
214	0.388	0.384	0.391		5.859 4.2 sec/pulse	5.733 4.1 sec/pulse	5.940 4.2 sec/pulse	
166	0.324	0.319	0.326		4.108 3.5 sec/pulse	3.981 3.4 sec/pulse	4.143 3.5 sec/pulse	
102	0.150	0.146	0.149		2.395 2.7 sec/pulse	2.271 2.6 sec/pulse	2.370 2.7 sec/pulse	
50	0.067	0.065	0.066		1.631 2.2 sec/pulse	1.507 2.1 sec/pulse	1.556 2.2 sec/pulse	

Guy Data *(cont'd)*

	Torque Arm	Pull Off	Diagonal

Guy Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K_x	K_y	K_x	K_y	K_x	K_y
457	No	No			1	1	1	1
386	No	No			1	1	1	1
326	No	No			1	1	1	1
266	No	No			1	1	1	1
214	No	No			1	1	1	1
166	No	No			1	1	1	1
102	No	No			1	1	1	1
50	No	No			1	1	1	1

Guy Data *(cont'd)*

Guy Elevation ft	Torque-Arm				Pull Off				Diagonal			
	Bolt Size in	Number	Net Width Deduct in	U	Bolt Size in	Number	Net Width Deduct in	U	Bolt Size in	Number	Net Width Deduct in	U
457	0.000 A325N	0	0.000	1	0.750 A325N	2	0.000	0.75	0.625 A325N	0	0.000	0.75
386	0.000 A325N	0	0.000	1	0.750 A325N	2	0.000	0.75	0.625 A325N	0	0.000	0.75
326	0.000 A325N	0	0.000	1	0.750 A325N	2	0.000	0.75	0.625 A325N	0	0.000	0.75
266	0.000 A325N	0	0.000	1	0.750 A325N	2	0.000	0.75	0.625 A325N	0	0.000	0.75
214	0.000 A325N	0	0.000	1	0.750 A325N	2	0.000	0.75	0.625 A325N	0	0.000	0.75
166	0.000 A325N	0	0.000	1	0.750 A325N	2	0.000	0.75	0.625 A325N	0	0.000	0.75
102	0.000 A325N	0	0.000	1	0.750 A325N	2	0.000	0.75	0.625 A325N	0	0.000	0.75
50	0.000 A325N	0	0.000	1	0.750 A325N	2	0.000	0.75	0.625 A325N	0	0.000	0.75

Guy Pressures

Guy Elevation ft	Guy Location	z ft	q_z ksf	q_z Ice ksf	Ice Thickness in
457	A	229.500	0.042	0.008	1.214
	B	226.500	0.042	0.008	1.212
	C	225.000	0.042	0.008	1.212
386	A	194.000	0.041	0.008	1.194
	B	191.000	0.041	0.008	1.192
	C	189.500	0.041	0.008	1.191
326	A	164.000	0.039	0.007	1.174
	B	161.000	0.039	0.007	1.172
	C	159.500	0.039	0.007	1.171
266	A	134.000	0.038	0.007	1.150
	B	131.000	0.038	0.007	1.148
	C	129.500	0.037	0.007	1.147
214	A	107.000	0.036	0.007	1.125
	B	107.000	0.036	0.007	1.125
	C	104.500	0.036	0.007	1.122

Guy Elevation ft	Guy Location	z ft	q_z ksf	q_z Ice ksf	Ice Thickness in
166	A	83.000	0.034	0.006	1.097
	B	83.000	0.034	0.006	1.097
	C	80.500	0.034	0.006	1.093
102	A	51.000	0.031	0.006	1.044
	B	51.000	0.031	0.006	1.044
	C	48.500	0.030	0.006	1.039
50	A	25.000	0.027	0.005	0.973
	B	25.000	0.027	0.005	0.973
	C	22.500	0.026	0.005	0.962

Guy-Mast Forces (Excluding Wind) - No Ice

Guy Elevation ft	Guy Location	Chord Angle °	Guy Tension Top / Bottom K	F_x K	F_y K	F_z K	M_x kip-ft	M_y kip-ft	M_z kip-ft
457	A	72.131	11.405 10.450	0.000	10.901	-3.351	-25.176	0.000	0.000
	B	72.688	11.417 10.450	2.816	10.945	1.626	12.638	0.000	-21.889
	C	72.568	11.424 10.450	-2.835	10.944	1.637	12.638	-0.000	21.889
			Sum:	**-0.020**	32.791	**-0.088**	**0.100**	0.000	-0.000
386	A	69.093	11.256 10.450	0.000	10.569	-3.871	-24.409	0.000	0.000
	B	69.774	11.268 10.450	3.249	10.625	1.876	12.269	0.000	-21.251
	C	69.660	11.275 10.450	-3.268	10.624	1.887	12.268	-0.000	21.249
			Sum:	**-0.019**	31.819	**-0.108**	**0.128**	0.000	**-0.002**
326	A	65.641	8.482 7.970	0.000	7.774	-3.391	-17.954	0.000	0.000
	B	66.470	8.491 7.970	2.844	7.830	1.642	9.042	0.000	-15.661
	C	66.370	8.496 7.970	-2.857	7.830	1.649	9.041	-0.000	15.659
			Sum:	**-0.012**	23.434	**-0.100**	**0.128**	0.000	**-0.002**
266	A	60.941	8.387 7.970	0.000	7.387	-3.971	-17.060	0.000	0.000
	B	61.979	8.397 7.970	3.328	7.465	1.922	8.620	0.000	-14.931
	C	61.913	8.401 7.970	-3.337	7.466	1.926	8.621	-0.000	14.932
			Sum:	**-0.008**	22.319	**-0.123**	**0.181**	0.000	0.001
214	A	60.578	8.308 7.970	0.000	7.283	-3.997	-16.820	0.000	0.000
	B	61.708	8.308 7.970	3.340	7.359	1.928	8.497	0.000	-14.717
	C	62.256	8.316 7.970	-3.282	7.402	1.895	8.547	-0.000	14.804
			Sum:	**0.058**	22.044	**-0.174**	**0.224**	0.000	**0.087**
166	A	53.981	8.232 7.970	0.000	6.714	-4.763	-15.506	0.000	0.000
	B	55.242	8.232 7.970	3.999	6.815	2.309	7.869	0.000	-13.630
	C	56.035	8.240 7.970	-3.921	6.885	2.264	7.950	-0.000	13.770

Guy Elevation	Guy Location	Chord Angle	Guy Tension Top Bottom K	F_x	F_y	F_z	M_x	M_y	M_z
ft		°		K	K	K	kip-ft	kip-ft	kip-ft
			Sum:	**0.078**	20.414	**-0.190**	**0.313**	0.000	**0.140**
102	A	40.202	4.997 4.900	0.000	3.269	-3.779	-7.550	0.000	0.000
	B	41.525	4.997 4.900	3.208	3.353	1.852	3.872	0.000	-6.707
	C	42.889	5.002 4.900	-3.141	3.444	1.813	3.977	-0.000	6.888
			Sum:	**0.067**	10.067	**-0.113**	**0.299**	0.000	**0.181**
50	A	22.503	2.716 2.690	0.000	1.068	-2.497	-2.467	0.000	0.000
	B	23.464	2.716 2.690	2.147	1.109	1.240	1.280	0.000	-2.217
	C	25.523	2.718 2.690	-2.113	1.198	1.220	1.383	-0.000	2.396
			Sum:	**0.034**	3.375	**-0.037**	**0.197**	0.000	**0.179**

Guy-Mast Forces (Excluding Wind) - Ice

Guy Elevation	Guy Location	Chord Angle	Guy Tension Top Bottom K	F_x	F_y	F_z	M_x	M_y	M_z
ft		°		K	K	K	kip-ft	kip-ft	kip-ft
457	A	72.131	17.740 15.292	0.000	17.004	-5.057	-39.268	0.000	0.000
	B	72.688	17.726 15.249	4.240	17.036	2.448	19.672	0.000	-34.073
	C	72.568	17.756 15.264	-4.274	17.056	2.468	19.694	-0.000	34.112
			Sum:	**-0.034**	51.096	**-0.142**	**0.098**	0.000	**0.039**
386	A	69.093	17.426 15.393	0.000	16.416	-5.847	-37.912	0.000	0.000
	B	69.774	17.413 15.350	4.897	16.469	2.827	19.017	0.000	-32.938
	C	69.660	17.441 15.365	-4.930	16.486	2.846	19.036	-0.000	32.972
			Sum:	**-0.033**	49.371	**-0.173**	**0.141**	0.000	**0.034**
326	A	65.641	13.433 11.969	0.000	12.372	-5.231	-28.572	0.000	0.000
	B	66.470	13.415 11.928	4.374	12.428	2.526	14.350	0.000	-24.855
	C	66.370	13.441 11.942	-4.399	12.445	2.540	14.370	-0.000	24.889
			Sum:	**-0.025**	37.245	**-0.166**	**0.148**	0.000	**0.034**
266	A	60.941	13.195 12.027	0.000	11.691	-6.119	-26.999	0.000	0.000
	B	61.979	13.179 11.987	5.114	11.782	2.953	13.605	0.000	-23.564
	C	61.913	13.204 12.000	-5.133	11.799	2.963	13.624	-0.000	23.598
			Sum:	**-0.019**	35.272	**-0.203**	**0.230**	0.000	**0.034**
214	A	60.578	12.764 11.839	0.000	11.245	-6.039	-25.970	0.000	0.000
	B	61.708	12.718	5.027	11.316	2.902	13.067	0.000	-22.633

Guy Elevation	Guy Location	Chord Angle	Guy Tension Top Bottom K	F_x	F_y	F_z	M_x	M_y	M_z
ft		°		K	K	K	kip-ft	kip-ft	kip-ft
			11.793						
	C	62.256	12.729	-4.938	11.380	2.851	13.141	-0.000	22.761
			11.783						
			Sum:	**0.090**	33.942	**-0.286**	**0.238**	0.000	**0.128**
166	A	53.981	12.580	0.000	10.324	-7.188	-23.841	0.000	0.000
			11.879						
	B	55.242	12.538	6.015	10.439	3.473	12.054	0.000	-20.877
			11.838						
	C	56.035	12.547	-5.894	10.541	3.403	12.171	-0.000	21.082
			11.828						
			Sum:	**0.121**	31.303	**-0.313**	**0.384**	0.000	**0.204**
102	A	40.202	7.837	0.000	5.203	-5.860	-12.017	0.000	0.000
			7.514						
	B	41.525	7.795	4.948	5.304	2.857	6.124	0.000	-10.607
			7.473						
	C	42.889	7.799	-4.840	5.440	2.794	6.281	-0.000	10.879
			7.463						
			Sum:	**0.108**	15.947	**-0.209**	**0.388**	0.000	**0.272**
50	A	22.503	4.376	0.000	1.801	-3.988	-4.159	0.000	0.000
			4.263						
	B	23.464	4.340	3.401	1.848	1.964	2.133	0.000	-3.695
			4.227						
	C	25.523	4.335	-3.338	1.984	1.927	2.291	-0.000	3.968
			4.212						
			Sum:	**0.063**	5.632	**-0.097**	**0.265**	0.000	**0.273**

Guy-Mast Forces (Excluding Wind) - Service

Guy Elevation	Guy Location	Chord Angle	Guy Tension Top Bottom K	F_x	F_y	F_z	M_x	M_y	M_z
ft		°		K	K	K	kip-ft	kip-ft	kip-ft
457	A	72.131	11.405	0.000	10.901	-3.351	-25.176	0.000	0.000
			10.450						
	B	72.688	11.417	2.816	10.945	1.626	12.638	0.000	-21.889
			10.450						
	C	72.568	11.424	-2.835	10.944	1.637	12.638	-0.000	21.889
			10.450						
			Sum:	**-0.020**	32.791	**-0.088**	**0.100**	0.000	-0.000
386	A	69.093	11.256	0.000	10.569	-3.871	-24.409	0.000	0.000
			10.450						
	B	69.774	11.268	3.249	10.625	1.876	12.269	0.000	-21.251
			10.450						
	C	69.660	11.275	-3.268	10.624	1.887	12.268	-0.000	21.249
			10.450						
			Sum:	**-0.019**	31.819	**-0.108**	**0.128**	0.000	**-0.002**
326	A	65.641	8.482	0.000	7.774	-3.391	-17.954	0.000	0.000
			7.970						
	B	66.470	8.491	2.844	7.830	1.642	9.042	0.000	-15.661
			7.970						
	C	66.370	8.496	-2.857	7.830	1.649	9.041	-0.000	15.659
			7.970						
			Sum:	**-0.012**	23.434	**-0.100**	**0.128**	0.000	**-0.002**

Guy Elevation	Guy Location	Chord Angle	Guy Tension Top / Bottom	F_x	F_y	F_z	M_x	M_y	M_z
ft		°	K	K	K	K	kip-ft	kip-ft	kip-ft
266	A	60.941	8.387 / 7.970	0.000	7.387	-3.971	-17.060	0.000	0.000
	B	61.979	8.397 / 7.970	3.328	7.465	1.922	8.620	0.000	-14.931
	C	61.913	8.401 / 7.970	-3.337	7.466	1.926	8.621	-0.000	14.932
			Sum:	**-0.008**	22.319	**-0.123**	**0.181**	0.000	0.001
214	A	60.578	8.308 / 7.970	0.000	7.283	-3.997	-16.820	0.000	0.000
	B	61.708	8.308 / 7.970	3.340	7.359	1.928	8.497	0.000	-14.717
	C	62.256	8.316 / 7.970	-3.282	7.402	1.895	8.547	-0.000	14.804
			Sum:	**0.058**	22.044	**-0.174**	**0.224**	0.000	**0.087**
166	A	53.981	8.232 / 7.970	0.000	6.714	-4.763	-15.506	0.000	0.000
	B	55.242	8.232 / 7.970	3.999	6.815	2.309	7.869	0.000	-13.630
	C	56.035	8.240 / 7.970	-3.921	6.885	2.264	7.950	-0.000	13.770
			Sum:	**0.078**	20.414	**-0.190**	**0.313**	0.000	**0.140**
102	A	40.202	4.997 / 4.900	0.000	3.269	-3.779	-7.550	0.000	0.000
	B	41.525	4.997 / 4.900	3.208	3.353	1.852	3.872	0.000	-6.707
	C	42.889	5.002 / 4.900	-3.141	3.444	1.813	3.977	-0.000	6.888
			Sum:	**0.067**	10.067	**-0.113**	**0.299**	0.000	**0.181**
50	A	22.503	2.716 / 2.690	0.000	1.068	-2.497	-2.467	0.000	0.000
	B	23.464	2.716 / 2.690	2.147	1.109	1.240	1.280	0.000	-2.217
	C	25.523	2.718 / 2.690	-2.113	1.198	1.220	1.383	-0.000	2.396
			Sum:	**0.034**	3.375	**-0.037**	**0.197**	0.000	**0.179**

Guy-Tensioning Information

Guy Elevation		H	V	Temperature At Time Of Tensioning: 0 F Initial Tension	0 F Intercept	20 F Initial Tension	20 F Intercept	40 F Initial Tension	40 F Intercept	60 F Initial Tension	60 F Intercept	80 F Initial Tension	80 F Intercept	100 F Initial Tension	100 F Intercept	120 F Initial Tension	120 F Intercept
ft		ft	ft	K	ft	K	ft	K	ft	K	ft	K	ft	K	ft	K	ft
457	A	146.69	455.00	10.940	21.00	10.776	21.31	10.613	21.62	10.450	21.95	10.288	22.28	10.127	22.62	9.966	22.97
	B	143.69	461.00	10.912	21.46	10.757	21.76	10.603	22.07	10.450	22.38	10.297	22.70	10.145	23.03	9.993	23.36
	C	145.69	464.00	10.917	21.76	10.761	22.06	10.605	22.37	10.450	22.69	10.295	23.02	10.141	23.36	9.988	23.70
386	A	146.69	384.00	11.113	15.39	10.891	15.70	10.670	16.01	10.450	16.34	10.231	16.68	10.014	17.03	9.798	17.39
	B	143.69	390.00	11.074	15.78	10.865	16.07	10.657	16.38	10.450	16.69	10.244	17.02	10.039	17.35	9.835	17.70
	C	145.69	393.00	11.079	16.04	10.869	16.34	10.659	16.65	10.450	16.97	10.242	17.30	10.036	17.65	9.830	18.01
326	A	146.69	324.00	8.648	11.22	8.421	11.51	8.195	11.82	7.970	12.15	7.747	12.49	7.525	12.85	7.306	13.22
	B	143.69	330.00	8.607	11.54	8.394	11.82	8.181	12.12	7.970	12.43	7.760	12.76	7.552	13.10	7.345	13.46
	C	145.69	333.00	8.611	11.76	8.396	12.05	8.182	12.36	7.970	12.68	7.759	13.01	7.549	13.36	7.341	13.73
266	A	146.69	264.00	8.913	7.90	8.596	8.18	8.282	8.49	7.970	8.81	7.661	9.16	7.356	9.53	7.055	9.93
	B	143.69	270.00	8.854	8.15	8.557	8.42	8.262	8.72	7.970	9.03	7.680	9.36	7.393	9.72	7.109	10.10
	C	145.69	273.00	8.856	8.34	8.559	8.62	8.263	8.92	7.970	9.24	7.680	9.58	7.392	9.95	7.108	10.33
214	A	120.69	214.00	8.957	5.22	8.626	5.42	8.297	5.63	7.970	5.86	7.646	6.10	7.324	6.37	7.005	6.65
	B	115.19	214.00	8.892	5.15	8.583	5.33	8.276	5.52	7.970	5.73	7.666	5.96	7.365	6.20	7.066	6.45
	C	115.19	219.00	8.859	5.35	8.561	5.54	8.265	5.73	7.970	5.94	7.677	6.16	7.386	6.40	7.097	6.66

Guy Elevation ft		H ft	V ft	Temperature At Time Of Tensioning: 0 F Initial Tension K	0 F Intercept ft	20 F Initial Tension K	20 F Intercept ft	40 F Initial Tension K	40 F Intercept ft	60 F Initial Tension K	60 F Intercept ft	80 F Initial Tension K	80 F Intercept ft	100 F Initial Tension K	100 F Intercept ft	120 F Initial Tension K	120 F Intercept ft
166	A	120.69	166.00	9.386	3.49	8.910	3.68	8.439	3.88	7.970	4.11	7.506	4.36	7.049	4.64	6.598	4.95
	B	115.19	166.00	9.308	3.42	8.859	3.59	8.413	3.77	7.970	3.98	7.531	4.21	7.100	4.46	6.672	4.74
	C	115.19	171.00	9.254	3.58	8.823	3.75	8.395	3.94	7.970	4.14	7.548	4.37	7.131	4.62	6.719	4.90
102	A	120.69	102.00	6.370	1.85	5.875	2.00	5.384	2.18	4.900	2.40	4.424	2.65	3.959	2.96	3.511	3.33
	B	115.19	102.00	6.317	1.76	5.840	1.91	5.368	2.07	4.900	2.27	4.440	2.50	3.989	2.78	3.552	3.12
	C	115.19	107.00	6.256	1.86	5.800	2.00	5.348	2.17	4.900	2.37	4.459	2.60	4.026	2.88	3.606	3.21
50	A	120.69	50.00	3.800	1.16	3.426	1.28	3.056	1.44	2.690	1.63	2.332	1.88	1.987	2.21	1.663	2.63
	B	115.19	50.00	3.787	1.07	3.418	1.19	3.052	1.33	2.690	1.51	2.335	1.74	1.991	2.03	1.667	2.43
	C	115.19	55.00	3.751	1.12	3.394	1.23	3.040	1.38	2.690	1.56	2.346	1.78	2.013	2.08	1.697	2.46

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight klf
3" Coax (E)	B	No	No	Ar (CaAa)	450.000 - 8.000	-1.000	-0.3	1	1	0.850 0.750	3.010		0.002
AVA5-50(7/8") (E)	B	No	No	Ar (CaAa)	453.000 - 8.000	-1.000	-0.2	1	1	0.850 0.750	1.102		0.000
1" Conduit (E) *	C	No	No	Ar (CaAa)	435.000 - 8.000	-1.000	-0.25	1	1	0.850 0.750	1.163		0.001
AVA5-50(7/8") (E) *	B	No	No	Ar (CaAa)	453.000 - 8.000	-1.000	-0.15	1	1	0.850 0.750	1.102		0.000
LDF4.5-50(5/ 8") (E) *	C	No	No	Ar (CaAa)	351.000 - 8.000	-1.000	0	1	1	0.850 0.750	0.865		0.000
1 5/8" OD Conduit (E) *	C	No	No	Ar (CaAa)	430.000 - 8.000	-1.000	0.4	1	1	0.500	1.625		0.001
LDF5-50A(7/ 8") (E) *	A	No	No	Ar (CaAa)	108.000 - 8.000	-1.000	0.28	1	1	0.500	1.090		0.000
LDF5-50A(7/ 8") (E) *	A	No	No	Ar (CaAa)	125.000 - 8.000	-1.000	0.39	1	1	0.500	1.090		0.000
LDF5-50A(7/ 8") (E) *	A	No	No	Ar (CaAa)	138.000 - 8.000	-1.000	0.34	1	1	0.500	1.090		0.000
LDF5-50A(7/ 8") (E) *	A	No	No	Ar (CaAa)	239.000 - 8.000	-1.000	0.31	1	1	0.500	1.090		0.000
LDF5-50A(7/ 8") (E) *	A	No	No	Ar (CaAa)	247.000 - 8.000	-1.000	0.365	1	1	0.500	1.090		0.000
LDF5-50A(7/	A	No	No	Ar (CaAa)	339.000 -	-1.000	0.41	1	1	0.500	1.090		0.000

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight klf
8") (E) *					8.000								
LDF5-50A(7/8") (E) *	A	No	No	Ar (CaAa)	435.000 - 8.000	-1.000	0.45	2	2	0.500	1.090		0.000
LDF6-50A(1-1/4") (E) *	A	No	No	Ar (CaAa)	302.000 - 8.000	0.000	0.35	1	1	0.850 0.750	1.550		0.001
Safety Line 3/8 (E)	C	No	No	Ar (CaAa)	457.000 - 8.000	-3.500	0.35	1	1	0.375	0.375		0.000
Climbing Ladder (Round) (E) *	C	No	No	Ar (CaAa)	457.000 - 8.000	-3.500	0.355	1	1	2.340	2.340		0.005
LDF4.5-50(5/8") (E) *	A	No	No	Ar (CaAa)	455.000 - 8.000	0.000	0	1	1	0.500	0.865		0.000
LDF4-50A(1/2") (E) * *	C	No	No	Ar (CaAa)	289.000 - 8.000	-1.000	0.35	1	1	0.630	0.630		0.000
HFT2406-48S V3-XXX(2) (P) * *	A	No	No	Ar (CaAa)	280.000 - 8.000	0.000	0.25	2	2	0.850 0.750	2.000		0.003
LDF2-50(3/8") (AT&T)	C	No	No	Ar (CaAa)	165.000 - 8.000	0.000	0.4	2	2	0.500	0.440		0.000
LDF4.5-50(5/8") (AT&T) *	C	No	No	Ar (CaAa)	165.000 - 8.000	0.000	0.1	6	3	0.500	0.865		0.000
LDF7-50A(1-5/8") (R) *	C	No	No	Ar (CaAa)	225.000 - 8.000	0.000	0	1	1	1.980	1.980		0.001
3" Coax (E-To 471) *	B	No	No	Ar (CaAa)	457.000 - 8.000	0.000	0.4	1	1	0.850 0.750	3.010		0.002

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	C_AA_A ft^2/ft	Weight klf
*								

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	492.000-477.000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000	0.000
L2	477.000-457.000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000	0.000
T1	457.000-452.000	A	0.000	0.000	0.260	0.000	0.000
		B	0.000	0.000	1.725	0.000	0.009
		C	0.000	0.000	1.357	0.000	0.027
T2	452.000-442.000	A	0.000	0.000	0.865	0.000	0.002
		B	0.000	0.000	7.622	0.000	0.038
		C	0.000	0.000	2.715	0.000	0.055
T3	442.000-422.000	A	0.000	0.000	4.564	0.000	0.012
		B	0.000	0.000	16.448	0.000	0.083
		C	0.000	0.000	8.242	0.000	0.125
T4	422.000-402.000	A	0.000	0.000	6.090	0.000	0.016
		B	0.000	0.000	16.448	0.000	0.083
		C	0.000	0.000	11.006	0.000	0.139
T5	402.000-382.000	A	0.000	0.000	6.090	0.000	0.016
		B	0.000	0.000	16.448	0.000	0.083
		C	0.000	0.000	11.006	0.000	0.139
T6	382.000-362.000	A	0.000	0.000	6.090	0.000	0.016
		B	0.000	0.000	16.448	0.000	0.083
		C	0.000	0.000	11.006	0.000	0.139
T7	362.000-342.000	A	0.000	0.000	6.090	0.000	0.016
		B	0.000	0.000	16.448	0.000	0.083
		C	0.000	0.000	11.784	0.000	0.141
T8	342.000-322.000	A	0.000	0.000	7.943	0.000	0.022
		B	0.000	0.000	16.448	0.000	0.083
		C	0.000	0.000	12.736	0.000	0.142
T9	322.000-302.000	A	0.000	0.000	8.270	0.000	0.023
		B	0.000	0.000	16.448	0.000	0.083
		C	0.000	0.000	12.736	0.000	0.142
T10	302.000-282.000	A	0.000	0.000	11.370	0.000	0.036
		B	0.000	0.000	16.448	0.000	0.083
		C	0.000	0.000	13.177	0.000	0.143
T11	282.000-262.000	A	0.000	0.000	18.570	0.000	0.148
		B	0.000	0.000	16.448	0.000	0.083
		C	0.000	0.000	13.996	0.000	0.145
T12	262.000-242.000	A	0.000	0.000	19.915	0.000	0.162
		B	0.000	0.000	16.448	0.000	0.083
		C	0.000	0.000	13.996	0.000	0.145
T13	242.000-222.000	A	0.000	0.000	23.403	0.000	0.172
		B	0.000	0.000	16.448	0.000	0.083
		C	0.000	0.000	14.590	0.000	0.148
T14	222.000-202.000	A	0.000	0.000	23.730	0.000	0.173
		B	0.000	0.000	16.448	0.000	0.083
		C	0.000	0.000	17.956	0.000	0.162
T15	202.000-182.000	A	0.000	0.000	23.730	0.000	0.173
		B	0.000	0.000	16.448	0.000	0.083
		C	0.000	0.000	17.956	0.000	0.162
T16	182.000-162.000	A	0.000	0.000	23.730	0.000	0.173
		B	0.000	0.000	16.448	0.000	0.083
		C	0.000	0.000	19.777	0.000	0.165

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
T17	162.000-142.000	A	0.000	0.000	23.730	0.000	0.173
		B	0.000	0.000	16.448	0.000	0.083
		C	0.000	0.000	30.096	0.000	0.183
T18	142.000-122.000	A	0.000	0.000	25.801	0.000	0.179
		B	0.000	0.000	16.448	0.000	0.083
		C	0.000	0.000	30.096	0.000	0.183
T19	122.000-114.000	A	0.000	0.000	11.236	0.000	0.075
		B	0.000	0.000	6.579	0.000	0.033
		C	0.000	0.000	12.038	0.000	0.073
T20	114.000-110.000	A	0.000	0.000	5.618	0.000	0.037
		B	0.000	0.000	3.290	0.000	0.017
		C	0.000	0.000	6.019	0.000	0.037
T21	110.000-106.000	A	0.000	0.000	5.836	0.000	0.038
		B	0.000	0.000	3.290	0.000	0.017
		C	0.000	0.000	6.019	0.000	0.037
T22	106.000-102.000	A	0.000	0.000	6.054	0.000	0.039
		B	0.000	0.000	3.290	0.000	0.017
		C	0.000	0.000	6.019	0.000	0.037
T23	102.000-82.000	A	0.000	0.000	30.270	0.000	0.193
		B	0.000	0.000	16.448	0.000	0.083
		C	0.000	0.000	30.096	0.000	0.183
T24	82.000-62.000	A	0.000	0.000	30.270	0.000	0.193
		B	0.000	0.000	16.448	0.000	0.083
		C	0.000	0.000	30.096	0.000	0.183
T25	62.000-42.000	A	0.000	0.000	30.270	0.000	0.193
		B	0.000	0.000	16.448	0.000	0.083
		C	0.000	0.000	30.096	0.000	0.183
T26	42.000-22.000	A	0.000	0.000	30.270	0.000	0.193
		B	0.000	0.000	16.448	0.000	0.083
		C	0.000	0.000	30.096	0.000	0.183
T27	22.000-2.000	A	0.000	0.000	21.189	0.000	0.135
		B	0.000	0.000	11.514	0.000	0.058
		C	0.000	0.000	21.067	0.000	0.128

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	492.000-477.000	A	1.308	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.000	0.000
L2	477.000-457.000	A	1.303	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.000	0.000
T1	457.000-452.000	A	1.300	0.000	0.000	1.039	0.000	0.011
		B		0.000	0.000	3.545	0.000	0.051
		C		0.000	0.000	3.957	0.000	0.070
T2	452.000-442.000	A	1.298	0.000	0.000	3.460	0.000	0.036
		B		0.000	0.000	17.485	0.000	0.237
		C		0.000	0.000	7.906	0.000	0.139
T3	442.000-422.000	A	1.293	0.000	0.000	17.340	0.000	0.154
		B		0.000	0.000	37.141	0.000	0.507
		C		0.000	0.000	24.020	0.000	0.380
T4	422.000-402.000	A	1.287	0.000	0.000	22.893	0.000	0.197
		B		0.000	0.000	37.043	0.000	0.504
		C		0.000	0.000	31.601	0.000	0.474
T5	402.000-382.000	A	1.281	0.000	0.000	22.823	0.000	0.195

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		B		0.000	0.000	36.941	0.000	0.501
		C		0.000	0.000	31.499	0.000	0.472
T6	382.000-362.000	A	1.274	0.000	0.000	22.750	0.000	0.194
		B		0.000	0.000	36.834	0.000	0.498
		C		0.000	0.000	31.392	0.000	0.469
T7	362.000-342.000	A	1.267	0.000	0.000	22.673	0.000	0.193
		B		0.000	0.000	36.721	0.000	0.495
		C		0.000	0.000	34.338	0.000	0.498
T8	342.000-322.000	A	1.260	0.000	0.000	28.728	0.000	0.258
		B		0.000	0.000	36.603	0.000	0.491
		C		0.000	0.000	37.930	0.000	0.532
T9	322.000-302.000	A	1.252	0.000	0.000	29.694	0.000	0.268
		B		0.000	0.000	36.478	0.000	0.488
		C		0.000	0.000	37.774	0.000	0.529
T10	302.000-282.000	A	1.244	0.000	0.000	37.645	0.000	0.364
		B		0.000	0.000	36.346	0.000	0.484
		C		0.000	0.000	39.790	0.000	0.546
T11	282.000-262.000	A	1.235	0.000	0.000	56.775	0.000	0.627
		B		0.000	0.000	36.205	0.000	0.480
		C		0.000	0.000	43.632	0.000	0.580
T12	262.000-242.000	A	1.225	0.000	0.000	60.447	0.000	0.671
		B		0.000	0.000	36.055	0.000	0.476
		C		0.000	0.000	43.406	0.000	0.575
T13	242.000-222.000	A	1.215	0.000	0.000	71.443	0.000	0.785
		B		0.000	0.000	35.893	0.000	0.472
		C		0.000	0.000	44.487	0.000	0.586
T14	222.000-202.000	A	1.204	0.000	0.000	72.130	0.000	0.789
		B		0.000	0.000	35.719	0.000	0.467
		C		0.000	0.000	51.680	0.000	0.674
T15	202.000-182.000	A	1.193	0.000	0.000	71.728	0.000	0.781
		B		0.000	0.000	35.529	0.000	0.462
		C		0.000	0.000	51.348	0.000	0.667
T16	182.000-162.000	A	1.180	0.000	0.000	71.287	0.000	0.772
		B		0.000	0.000	35.320	0.000	0.456
		C		0.000	0.000	55.553	0.000	0.697
T17	162.000-142.000	A	1.165	0.000	0.000	70.797	0.000	0.762
		B		0.000	0.000	35.088	0.000	0.450
		C		0.000	0.000	80.843	0.000	0.901
T18	142.000-122.000	A	1.149	0.000	0.000	76.681	0.000	0.817
		B		0.000	0.000	34.827	0.000	0.443
		C		0.000	0.000	80.158	0.000	0.887
T19	122.000-114.000	A	1.136	0.000	0.000	33.304	0.000	0.352
		B		0.000	0.000	13.849	0.000	0.175
		C		0.000	0.000	31.848	0.000	0.351
T20	114.000-110.000	A	1.130	0.000	0.000	16.602	0.000	0.175
		B		0.000	0.000	6.906	0.000	0.087
		C		0.000	0.000	15.874	0.000	0.174
T21	110.000-106.000	A	1.126	0.000	0.000	17.237	0.000	0.181
		B		0.000	0.000	6.892	0.000	0.087
		C		0.000	0.000	15.840	0.000	0.174
T22	106.000-102.000	A	1.122	0.000	0.000	17.866	0.000	0.187
		B		0.000	0.000	6.879	0.000	0.086
		C		0.000	0.000	15.804	0.000	0.173
T23	102.000-82.000	A	1.108	0.000	0.000	88.704	0.000	0.922
		B		0.000	0.000	34.175	0.000	0.426
		C		0.000	0.000	78.447	0.000	0.854
T24	82.000-62.000	A	1.081	0.000	0.000	87.476	0.000	0.898
		B		0.000	0.000	33.746	0.000	0.415
		C		0.000	0.000	77.320	0.000	0.832
T25	62.000-42.000	A	1.047	0.000	0.000	85.891	0.000	0.867
		B		0.000	0.000	33.192	0.000	0.401

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		C		0.000	0.000	75.866	0.000	0.804
T26	42.000-22.000	A	0.997	0.000	0.000	83.620	0.000	0.824
		B		0.000	0.000	32.399	0.000	0.381
		C		0.000	0.000	73.784	0.000	0.766
T27	22.000-2.000	A	0.904	0.000	0.000	55.552	0.000	0.523
		B		0.000	0.000	21.636	0.000	0.241
		C		0.000	0.000	48.912	0.000	0.487

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	492.000-477.000	0.000	0.000	0.000	0.000
L2	477.000-457.000	0.000	0.000	0.000	0.000
T1	457.000-452.000	0.477	1.167	-0.303	1.321
T2	452.000-442.000	0.822	-0.739	0.149	-1.100
T3	442.000-422.000	0.757	-1.459	0.145	-1.896
T4	422.000-402.000	0.401	-1.437	-0.246	-1.838
T5	402.000-382.000	0.398	-1.428	-0.244	-1.833
T6	382.000-362.000	0.401	-1.437	-0.243	-1.838
T7	362.000-342.000	0.397	-1.305	-0.237	-1.580
T8	342.000-322.000	0.366	-1.620	-0.249	-2.026
T9	322.000-302.000	0.366	-1.717	-0.252	-2.159
T10	302.000-282.000	0.127	-2.306	-0.605	-2.811
T11	282.000-262.000	-0.406	-3.152	-1.238	-3.506
T12	262.000-242.000	-0.473	-3.482	-1.298	-3.822
T13	242.000-222.000	-0.539	-3.930	-1.354	-4.532
T14	222.000-202.000	-0.505	-3.244	-1.284	-3.890
T15	202.000-182.000	-0.525	-3.351	-1.304	-3.951
T16	182.000-162.000	-0.615	-3.175	-1.438	-3.723
T17	162.000-142.000	-1.099	-2.315	-2.162	-2.573
T18	142.000-122.000	-1.119	-2.633	-2.160	-3.036
T19	122.000-114.000	-1.127	-2.998	-2.139	-3.556
T20	114.000-110.000	-1.127	-2.998	-2.137	-3.556
T21	110.000-106.000	-1.150	-3.129	-2.144	-3.740
T22	106.000-102.000	-1.173	-3.258	-2.165	-3.918
T23	102.000-82.000	-1.169	-3.247	-2.171	-3.911
T24	82.000-62.000	-1.173	-3.259	-2.166	-3.915
T25	62.000-42.000	-1.169	-3.247	-2.149	-3.906
T26	42.000-22.000	-1.173	-3.259	-2.135	-3.909
T27	22.000-2.000	-0.969	-2.711	-1.814	-3.392

Note: For pole sections, center of pressure calculations do not consider feed line shielding.

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T1	2	AVA5-50(7/8")	452.00 - 453.00	0.6000	0.5448
T1	5	AVA5-50(7/8")	452.00 - 453.00	0.6000	0.5448
T1	27	Safety Line 3/8	452.00 - 457.00	0.6000	0.5448
T1	28	Climbing Ladder (Round)	452.00 - 457.00	0.6000	0.5448
T1	30	LDF4.5-50(5/8")	452.00 - 455.00	0.6000	0.5448
T1	52	3" Coax	452.00 - 457.00	0.6000	0.5448
T2	1	3" Coax	442.00 - 450.00	0.6000	0.5877
T2	2	AVA5-50(7/8")	442.00 - 452.00	0.6000	0.5877
T2	5	AVA5-50(7/8")	442.00 - 452.00	0.6000	0.5877
T2	27	Safety Line 3/8	442.00 - 452.00	0.6000	0.5877
T2	28	Climbing Ladder (Round)	442.00 - 452.00	0.6000	0.5877
T2	30	LDF4.5-50(5/8")	442.00 - 452.00	0.6000	0.5877
T2	52	3" Coax	442.00 - 452.00	0.6000	0.5877
T3	1	3" Coax	422.00 - 442.00	0.6000	0.6000
T3	2	AVA5-50(7/8")	422.00 - 442.00	0.6000	0.6000
T3	3	1" Conduit	422.00 - 435.00	0.6000	0.6000
T3	5	AVA5-50(7/8")	422.00 - 442.00	0.6000	0.6000
T3	9	1 5/8" OD Conduit	422.00 - 430.00	0.6000	0.6000
T3	23	LDF5-50A(7/8")	422.00 - 435.00	0.6000	0.6000
T3	27	Safety Line 3/8	422.00 - 442.00	0.6000	0.6000
T3	28	Climbing Ladder (Round)	422.00 - 442.00	0.6000	0.6000
T3	30	LDF4.5-50(5/8")	422.00 - 442.00	0.6000	0.6000
T3	52	3" Coax	422.00 - 442.00	0.6000	0.6000
T4	1	3" Coax	402.00 - 422.00	0.6000	0.6000
T4	2	AVA5-50(7/8")	402.00 - 422.00	0.6000	0.6000
T4	3	1" Conduit	402.00 - 422.00	0.6000	0.6000
T4	5	AVA5-50(7/8")	402.00 - 422.00	0.6000	0.6000
T4	9	1 5/8" OD Conduit	402.00 - 422.00	0.6000	0.6000
T4	23	LDF5-50A(7/8")	402.00 - 422.00	0.6000	0.6000
T4	27	Safety Line 3/8	402.00 - 422.00	0.6000	0.6000
T4	28	Climbing Ladder (Round)	402.00 - 422.00	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T4	30	LDF4.5-50(5/8")	402.00 - 422.00	0.6000	0.6000
T4	52	3" Coax	402.00 - 422.00	0.6000	0.6000
T5	1	3" Coax	382.00 - 402.00	0.6000	0.6000
T5	2	AVA5-50(7/8")	382.00 - 402.00	0.6000	0.6000
T5	3	1" Conduit	382.00 - 402.00	0.6000	0.6000
T5	5	AVA5-50(7/8")	382.00 - 402.00	0.6000	0.6000
T5	9	1 5/8" OD Conduit	382.00 - 402.00	0.6000	0.6000
T5	23	LDF5-50A(7/8")	382.00 - 402.00	0.6000	0.6000
T5	27	Safety Line 3/8	382.00 - 402.00	0.6000	0.6000
T5	28	Climbing Ladder (Round)	382.00 - 402.00	0.6000	0.6000
T5	30	LDF4.5-50(5/8")	382.00 - 402.00	0.6000	0.6000
T5	52	3" Coax	382.00 - 402.00	0.6000	0.6000
T6	1	3" Coax	362.00 - 382.00	0.6000	0.6000
T6	2	AVA5-50(7/8")	362.00 - 382.00	0.6000	0.6000
T6	3	1" Conduit	362.00 - 382.00	0.6000	0.6000
T6	5	AVA5-50(7/8")	362.00 - 382.00	0.6000	0.6000
T6	9	1 5/8" OD Conduit	362.00 - 382.00	0.6000	0.6000
T6	23	LDF5-50A(7/8")	362.00 - 382.00	0.6000	0.6000
T6	27	Safety Line 3/8	362.00 - 382.00	0.6000	0.6000
T6	28	Climbing Ladder (Round)	362.00 - 382.00	0.6000	0.6000
T6	30	LDF4.5-50(5/8")	362.00 - 382.00	0.6000	0.6000
T6	52	3" Coax	362.00 - 382.00	0.6000	0.6000
T7	1	3" Coax	342.00 - 362.00	0.6000	0.6000
T7	2	AVA5-50(7/8")	342.00 - 362.00	0.6000	0.6000
T7	3	1" Conduit	342.00 - 362.00	0.6000	0.6000
T7	5	AVA5-50(7/8")	342.00 - 362.00	0.6000	0.6000
T7	7	LDF4.5-50(5/8")	342.00 - 351.00	0.6000	0.6000
T7	9	1 5/8" OD Conduit	342.00 - 362.00	0.6000	0.6000
T7	23	LDF5-50A(7/8")	342.00 - 362.00	0.6000	0.6000
T7	27	Safety Line 3/8	342.00 - 362.00	0.6000	0.6000
T7	28	Climbing Ladder (Round)	342.00 - 362.00	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T7	30	LDF4.5-50(5/8")	342.00 - 362.00	0.6000	0.6000
T7	52	3" Coax	342.00 - 362.00	0.6000	0.6000
T8	1	3" Coax	322.00 - 342.00	0.6000	0.6000
T8	2	AVA5-50(7/8")	322.00 - 342.00	0.6000	0.6000
T8	3	1" Conduit	322.00 - 342.00	0.6000	0.6000
T8	5	AVA5-50(7/8")	322.00 - 342.00	0.6000	0.6000
T8	7	LDF4.5-50(5/8")	322.00 - 342.00	0.6000	0.6000
T8	9	1 5/8" OD Conduit	322.00 - 342.00	0.6000	0.6000
T8	21	LDF5-50A(7/8")	322.00 - 339.00	0.6000	0.6000
T8	23	LDF5-50A(7/8")	322.00 - 342.00	0.6000	0.6000
T8	27	Safety Line 3/8	322.00 - 342.00	0.6000	0.6000
T8	28	Climbing Ladder (Round)	322.00 - 342.00	0.6000	0.6000
T8	30	LDF4.5-50(5/8")	322.00 - 342.00	0.6000	0.6000
T8	52	3" Coax	322.00 - 342.00	0.6000	0.6000
T9	1	3" Coax	302.00 - 322.00	0.6000	0.6000
T9	2	AVA5-50(7/8")	302.00 - 322.00	0.6000	0.6000
T9	3	1" Conduit	302.00 - 322.00	0.6000	0.6000
T9	5	AVA5-50(7/8")	302.00 - 322.00	0.6000	0.6000
T9	7	LDF4.5-50(5/8")	302.00 - 322.00	0.6000	0.6000
T9	9	1 5/8" OD Conduit	302.00 - 322.00	0.6000	0.6000
T9	21	LDF5-50A(7/8")	302.00 - 322.00	0.6000	0.6000
T9	23	LDF5-50A(7/8")	302.00 - 322.00	0.6000	0.6000
T9	27	Safety Line 3/8	302.00 - 322.00	0.6000	0.6000
T9	28	Climbing Ladder (Round)	302.00 - 322.00	0.6000	0.6000
T9	30	LDF4.5-50(5/8")	302.00 - 322.00	0.6000	0.6000
T9	52	3" Coax	302.00 - 322.00	0.6000	0.6000
T10	1	3" Coax	282.00 - 302.00	0.6000	0.6000
T10	2	AVA5-50(7/8")	282.00 - 302.00	0.6000	0.6000
T10	3	1" Conduit	282.00 - 302.00	0.6000	0.6000
T10	5	AVA5-50(7/8")	282.00 - 302.00	0.6000	0.6000
T10	7	LDF4.5-50(5/8")	282.00 - 302.00	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T10	9	1 5/8" OD Conduit	282.00 - 302.00	0.6000	0.6000
T10	21	LDF5-50A(7/8")	282.00 - 302.00	0.6000	0.6000
T10	23	LDF5-50A(7/8")	282.00 - 302.00	0.6000	0.6000
T10	25	LDF6-50A(1-1/4")	282.00 - 302.00	0.6000	0.6000
T10	27	Safety Line 3/8	282.00 - 302.00	0.6000	0.6000
T10	28	Climbing Ladder (Round)	282.00 - 302.00	0.6000	0.6000
T10	30	LDF4.5-50(5/8")	282.00 - 302.00	0.6000	0.6000
T10	32	LDF4-50A(1/2")	282.00 - 289.00	0.6000	0.6000
T10	52	3" Coax	282.00 - 302.00	0.6000	0.6000
T11	1	3" Coax	262.00 - 282.00	0.6000	0.5984
T11	2	AVA5-50(7/8")	262.00 - 282.00	0.6000	0.5984
T11	3	1" Conduit	262.00 - 282.00	0.6000	0.5984
T11	5	AVA5-50(7/8")	262.00 - 282.00	0.6000	0.5984
T11	7	LDF4.5-50(5/8")	262.00 - 282.00	0.6000	0.5984
T11	9	1 5/8" OD Conduit	262.00 - 282.00	0.6000	0.5984
T11	21	LDF5-50A(7/8")	262.00 - 282.00	0.6000	0.5984
T11	23	LDF5-50A(7/8")	262.00 - 282.00	0.6000	0.5984
T11	25	LDF6-50A(1-1/4")	262.00 - 282.00	0.6000	0.5984
T11	27	Safety Line 3/8	262.00 - 282.00	0.6000	0.5984
T11	28	Climbing Ladder (Round)	262.00 - 282.00	0.6000	0.5984
T11	30	LDF4.5-50(5/8")	262.00 - 282.00	0.6000	0.5984
T11	32	LDF4-50A(1/2")	262.00 - 282.00	0.6000	0.5984
T11	42	HFT2406-48SV3-XXX(2)	262.00 - 280.00	0.6000	0.5984
T11	52	3" Coax	262.00 - 282.00	0.6000	0.5984
T12	1	3" Coax	242.00 - 262.00	0.6000	0.6000
T12	2	AVA5-50(7/8")	242.00 - 262.00	0.6000	0.6000
T12	3	1" Conduit	242.00 - 262.00	0.6000	0.6000
T12	5	AVA5-50(7/8")	242.00 - 262.00	0.6000	0.6000
T12	7	LDF4.5-50(5/8")	242.00 - 262.00	0.6000	0.6000
T12	9	1 5/8" OD Conduit	242.00 - 262.00	0.6000	0.6000
T12	19	LDF5-50A(7/8")	242.00 - 247.00	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T12	21	LDF5-50A(7/8")	242.00 - 262.00	0.6000	0.6000
T12	23	LDF5-50A(7/8")	242.00 - 262.00	0.6000	0.6000
T12	25	LDF6-50A(1-1/4")	242.00 - 262.00	0.6000	0.6000
T12	27	Safety Line 3/8	242.00 - 262.00	0.6000	0.6000
T12	28	Climbing Ladder (Round)	242.00 - 262.00	0.6000	0.6000
T12	30	LDF4.5-50(5/8")	242.00 - 262.00	0.6000	0.6000
T12	32	LDF4-50A(1/2")	242.00 - 262.00	0.6000	0.6000
T12	42	HFT2406-48SV3-XXX(2)	242.00 - 262.00	0.6000	0.6000
T12	52	3" Coax	242.00 - 262.00	0.6000	0.6000
T13	1	3" Coax	222.00 - 242.00	0.6000	0.6000
T13	2	AVA5-50(7/8")	222.00 - 242.00	0.6000	0.6000
T13	3	1" Conduit	222.00 - 242.00	0.6000	0.6000
T13	5	AVA5-50(7/8")	222.00 - 242.00	0.6000	0.6000
T13	7	LDF4.5-50(5/8")	222.00 - 242.00	0.6000	0.6000
T13	9	1 5/8" OD Conduit	222.00 - 242.00	0.6000	0.6000
T13	17	LDF5-50A(7/8")	222.00 - 239.00	0.6000	0.6000
T13	19	LDF5-50A(7/8")	222.00 - 242.00	0.6000	0.6000
T13	21	LDF5-50A(7/8")	222.00 - 242.00	0.6000	0.6000
T13	23	LDF5-50A(7/8")	222.00 - 242.00	0.6000	0.6000
T13	25	LDF6-50A(1-1/4")	222.00 - 242.00	0.6000	0.6000
T13	27	Safety Line 3/8	222.00 - 242.00	0.6000	0.6000
T13	28	Climbing Ladder (Round)	222.00 - 242.00	0.6000	0.6000
T13	30	LDF4.5-50(5/8")	222.00 - 242.00	0.6000	0.6000
T13	32	LDF4-50A(1/2")	222.00 - 242.00	0.6000	0.6000
T13	42	HFT2406-48SV3-XXX(2)	222.00 - 242.00	0.6000	0.6000
T13	50	LDF7-50A(1-5/8")	222.00 - 225.00	0.6000	0.6000
T13	52	3" Coax	222.00 - 242.00	0.6000	0.6000
T14	1	3" Coax	202.00 - 222.00	0.6000	0.5965
T14	2	AVA5-50(7/8")	202.00 - 222.00	0.6000	0.5965
T14	3	1" Conduit	202.00 - 222.00	0.6000	0.5965
T14	5	AVA5-50(7/8")	202.00 - 222.00	0.6000	0.5965

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T14	7	LDF4.5-50(5/8")	202.00 - 222.00	0.6000	0.5965
T14	9	1 5/8" OD Conduit	202.00 - 222.00	0.6000	0.5965
T14	17	LDF5-50A(7/8")	202.00 - 222.00	0.6000	0.5965
T14	19	LDF5-50A(7/8")	202.00 - 222.00	0.6000	0.5965
T14	21	LDF5-50A(7/8")	202.00 - 222.00	0.6000	0.5965
T14	23	LDF5-50A(7/8")	202.00 - 222.00	0.6000	0.5965
T14	25	LDF6-50A(1-1/4")	202.00 - 222.00	0.6000	0.5965
T14	27	Safety Line 3/8	202.00 - 222.00	0.6000	0.5965
T14	28	Climbing Ladder (Round)	202.00 - 222.00	0.6000	0.5965
T14	30	LDF4.5-50(5/8")	202.00 - 222.00	0.6000	0.5965
T14	32	LDF4-50A(1/2")	202.00 - 222.00	0.6000	0.5965
T14	42	HFT2406-48SV3-XXX(2)	202.00 - 222.00	0.6000	0.5965
T14	50	LDF7-50A(1-5/8")	202.00 - 222.00	0.6000	0.5965
T14	52	3" Coax	202.00 - 222.00	0.6000	0.5965
T15	1	3" Coax	182.00 - 202.00	0.6000	0.6000
T15	2	AVA5-50(7/8")	182.00 - 202.00	0.6000	0.6000
T15	3	1" Conduit	182.00 - 202.00	0.6000	0.6000
T15	5	AVA5-50(7/8")	182.00 - 202.00	0.6000	0.6000
T15	7	LDF4.5-50(5/8")	182.00 - 202.00	0.6000	0.6000
T15	9	1 5/8" OD Conduit	182.00 - 202.00	0.6000	0.6000
T15	17	LDF5-50A(7/8")	182.00 - 202.00	0.6000	0.6000
T15	19	LDF5-50A(7/8")	182.00 - 202.00	0.6000	0.6000
T15	21	LDF5-50A(7/8")	182.00 - 202.00	0.6000	0.6000
T15	23	LDF5-50A(7/8")	182.00 - 202.00	0.6000	0.6000
T15	25	LDF6-50A(1-1/4")	182.00 - 202.00	0.6000	0.6000
T15	27	Safety Line 3/8	182.00 - 202.00	0.6000	0.6000
T15	28	Climbing Ladder (Round)	182.00 - 202.00	0.6000	0.6000
T15	30	LDF4.5-50(5/8")	182.00 - 202.00	0.6000	0.6000
T15	32	LDF4-50A(1/2")	182.00 - 202.00	0.6000	0.6000
T15	42	HFT2406-48SV3-XXX(2)	182.00 - 202.00	0.6000	0.6000
T15	50	LDF7-50A(1-5/8")	182.00 - 202.00	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T15	52	3" Coax	182.00 - 202.00	0.6000	0.6000
T16	1	3" Coax	162.00 - 182.00	0.6000	0.6000
T16	2	AVA5-50(7/8")	162.00 - 182.00	0.6000	0.6000
T16	3	1" Conduit	162.00 - 182.00	0.6000	0.6000
T16	5	AVA5-50(7/8")	162.00 - 182.00	0.6000	0.6000
T16	7	LDF4.5-50(5/8")	162.00 - 182.00	0.6000	0.6000
T16	9	1 5/8" OD Conduit	162.00 - 182.00	0.6000	0.6000
T16	17	LDF5-50A(7/8")	162.00 - 182.00	0.6000	0.6000
T16	19	LDF5-50A(7/8")	162.00 - 182.00	0.6000	0.6000
T16	21	LDF5-50A(7/8")	162.00 - 182.00	0.6000	0.6000
T16	23	LDF5-50A(7/8")	162.00 - 182.00	0.6000	0.6000
T16	25	LDF6-50A(1-1/4")	162.00 - 182.00	0.6000	0.6000
T16	27	Safety Line 3/8	162.00 - 182.00	0.6000	0.6000
T16	28	Climbing Ladder (Round)	162.00 - 182.00	0.6000	0.6000
T16	30	LDF4.5-50(5/8")	162.00 - 182.00	0.6000	0.6000
T16	32	LDF4-50A(1/2")	162.00 - 182.00	0.6000	0.6000
T16	42	HFT2406-48SV3-XXX(2)	162.00 - 182.00	0.6000	0.6000
T16	47	LDF2-50(3/8")	162.00 - 165.00	0.6000	0.6000
T16	48	LDF4.5-50(5/8")	162.00 - 165.00	0.6000	0.6000
T16	50	LDF7-50A(1-5/8")	162.00 - 182.00	0.6000	0.6000
T16	52	3" Coax	162.00 - 182.00	0.6000	0.6000
T17	1	3" Coax	142.00 - 162.00	0.6000	0.6000
T17	2	AVA5-50(7/8")	142.00 - 162.00	0.6000	0.6000
T17	3	1" Conduit	142.00 - 162.00	0.6000	0.6000
T17	5	AVA5-50(7/8")	142.00 - 162.00	0.6000	0.6000
T17	7	LDF4.5-50(5/8")	142.00 - 162.00	0.6000	0.6000
T17	9	1 5/8" OD Conduit	142.00 - 162.00	0.6000	0.6000
T17	17	LDF5-50A(7/8")	142.00 - 162.00	0.6000	0.6000
T17	19	LDF5-50A(7/8")	142.00 - 162.00	0.6000	0.6000
T17	21	LDF5-50A(7/8")	142.00 - 162.00	0.6000	0.6000
T17	23	LDF5-50A(7/8")	142.00 - 162.00	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T17	25	LDF6-50A(1-1/4")	142.00 - 162.00	0.6000	0.6000
T17	27	Safety Line 3/8	142.00 - 162.00	0.6000	0.6000
T17	28	Climbing Ladder (Round)	142.00 - 162.00	0.6000	0.6000
T17	30	LDF4.5-50(5/8")	142.00 - 162.00	0.6000	0.6000
T17	32	LDF4-50A(1/2")	142.00 - 162.00	0.6000	0.6000
T17	42	HFT2406-48SV3-XXX(2)	142.00 - 162.00	0.6000	0.6000
T17	47	LDF2-50(3/8")	142.00 - 162.00	0.6000	0.6000
T17	48	LDF4.5-50(5/8")	142.00 - 162.00	0.6000	0.6000
T17	50	LDF7-50A(1-5/8")	142.00 - 162.00	0.6000	0.6000
T17	52	3" Coax	142.00 - 162.00	0.6000	0.6000
T18	1	3" Coax	122.00 - 142.00	0.6000	0.6000
T18	2	AVA5-50(7/8")	122.00 - 142.00	0.6000	0.6000
T18	3	1" Conduit	122.00 - 142.00	0.6000	0.6000
T18	5	AVA5-50(7/8")	122.00 - 142.00	0.6000	0.6000
T18	7	LDF4.5-50(5/8")	122.00 - 142.00	0.6000	0.6000
T18	9	1 5/8" OD Conduit	122.00 - 142.00	0.6000	0.6000
T18	13	LDF5-50A(7/8")	122.00 - 125.00	0.6000	0.6000
T18	15	LDF5-50A(7/8")	122.00 - 138.00	0.6000	0.6000
T18	17	LDF5-50A(7/8")	122.00 - 142.00	0.6000	0.6000
T18	19	LDF5-50A(7/8")	122.00 - 142.00	0.6000	0.6000
T18	21	LDF5-50A(7/8")	122.00 - 142.00	0.6000	0.6000
T18	23	LDF5-50A(7/8")	122.00 - 142.00	0.6000	0.6000
T18	25	LDF6-50A(1-1/4")	122.00 - 142.00	0.6000	0.6000
T18	27	Safety Line 3/8	122.00 - 142.00	0.6000	0.6000
T18	28	Climbing Ladder (Round)	122.00 - 142.00	0.6000	0.6000
T18	30	LDF4.5-50(5/8")	122.00 - 142.00	0.6000	0.6000
T18	32	LDF4-50A(1/2")	122.00 - 142.00	0.6000	0.6000
T18	42	HFT2406-48SV3-XXX(2)	122.00 - 142.00	0.6000	0.6000
T18	47	LDF2-50(3/8")	122.00 - 142.00	0.6000	0.6000
T18	48	LDF4.5-50(5/8")	122.00 - 142.00	0.6000	0.6000
T18	50	LDF7-50A(1-5/8")	122.00 - 142.00	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T18	52	3" Coax	122.00 - 142.00	0.6000	0.6000
T19	1	3" Coax	114.00 - 122.00	0.6000	0.6000
T19	2	AVA5-50(7/8")	114.00 - 122.00	0.6000	0.6000
T19	3	1" Conduit	114.00 - 122.00	0.6000	0.6000
T19	5	AVA5-50(7/8")	114.00 - 122.00	0.6000	0.6000
T19	7	LDF4.5-50(5/8")	114.00 - 122.00	0.6000	0.6000
T19	9	1 5/8" OD Conduit	114.00 - 122.00	0.6000	0.6000
T19	13	LDF5-50A(7/8")	114.00 - 122.00	0.6000	0.6000
T19	15	LDF5-50A(7/8")	114.00 - 122.00	0.6000	0.6000
T19	17	LDF5-50A(7/8")	114.00 - 122.00	0.6000	0.6000
T19	19	LDF5-50A(7/8")	114.00 - 122.00	0.6000	0.6000
T19	21	LDF5-50A(7/8")	114.00 - 122.00	0.6000	0.6000
T19	23	LDF5-50A(7/8")	114.00 - 122.00	0.6000	0.6000
T19	25	LDF6-50A(1-1/4")	114.00 - 122.00	0.6000	0.6000
T19	27	Safety Line 3/8	114.00 - 122.00	0.6000	0.6000
T19	28	Climbing Ladder (Round)	114.00 - 122.00	0.6000	0.6000
T19	30	LDF4.5-50(5/8")	114.00 - 122.00	0.6000	0.6000
T19	32	LDF4-50A(1/2")	114.00 - 122.00	0.6000	0.6000
T19	42	HFT2406-48SV3-XXX(2)	114.00 - 122.00	0.6000	0.6000
T19	47	LDF2-50(3/8")	114.00 - 122.00	0.6000	0.6000
T19	48	LDF4.5-50(5/8")	114.00 - 122.00	0.6000	0.6000
T19	50	LDF7-50A(1-5/8")	114.00 - 122.00	0.6000	0.6000
T19	52	3" Coax	114.00 - 122.00	0.6000	0.6000
T20	1	3" Coax	110.00 - 114.00	0.6000	0.6000
T20	2	AVA5-50(7/8")	110.00 - 114.00	0.6000	0.6000
T20	3	1" Conduit	110.00 - 114.00	0.6000	0.6000
T20	5	AVA5-50(7/8")	110.00 - 114.00	0.6000	0.6000
T20	7	LDF4.5-50(5/8")	110.00 - 114.00	0.6000	0.6000
T20	9	1 5/8" OD Conduit	110.00 - 114.00	0.6000	0.6000
T20	13	LDF5-50A(7/8")	110.00 - 114.00	0.6000	0.6000
T20	15	LDF5-50A(7/8")	110.00 - 114.00	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T20	17	LDF5-50A(7/8")	110.00 - 114.00	0.6000	0.6000
T20	19	LDF5-50A(7/8")	110.00 - 114.00	0.6000	0.6000
T20	21	LDF5-50A(7/8")	110.00 - 114.00	0.6000	0.6000
T20	23	LDF5-50A(7/8")	110.00 - 114.00	0.6000	0.6000
T20	25	LDF6-50A(1-1/4")	110.00 - 114.00	0.6000	0.6000
T20	27	Safety Line 3/8	110.00 - 114.00	0.6000	0.6000
T20	28	Climbing Ladder (Round)	110.00 - 114.00	0.6000	0.6000
T20	30	LDF4.5-50(5/8")	110.00 - 114.00	0.6000	0.6000
T20	32	LDF4-50A(1/2")	110.00 - 114.00	0.6000	0.6000
T20	42	HFT2406-48SV3-XXX(2)	110.00 - 114.00	0.6000	0.6000
T20	47	LDF2-50(3/8")	110.00 - 114.00	0.6000	0.6000
T20	48	LDF4.5-50(5/8")	110.00 - 114.00	0.6000	0.6000
T20	50	LDF7-50A(1-5/8")	110.00 - 114.00	0.6000	0.6000
T20	52	3" Coax	110.00 - 114.00	0.6000	0.6000
T21	1	3" Coax	106.00 - 110.00	0.6000	0.6000
T21	2	AVA5-50(7/8")	106.00 - 110.00	0.6000	0.6000
T21	3	1" Conduit	106.00 - 110.00	0.6000	0.6000
T21	5	AVA5-50(7/8")	106.00 - 110.00	0.6000	0.6000
T21	7	LDF4.5-50(5/8")	106.00 - 110.00	0.6000	0.6000
T21	9	1 5/8" OD Conduit	106.00 - 110.00	0.6000	0.6000
T21	11	LDF5-50A(7/8")	106.00 - 108.00	0.6000	0.6000
T21	13	LDF5-50A(7/8")	106.00 - 110.00	0.6000	0.6000
T21	15	LDF5-50A(7/8")	106.00 - 110.00	0.6000	0.6000
T21	17	LDF5-50A(7/8")	106.00 - 110.00	0.6000	0.6000
T21	19	LDF5-50A(7/8")	106.00 - 110.00	0.6000	0.6000
T21	21	LDF5-50A(7/8")	106.00 - 110.00	0.6000	0.6000
T21	23	LDF5-50A(7/8")	106.00 - 110.00	0.6000	0.6000
T21	25	LDF6-50A(1-1/4")	106.00 - 110.00	0.6000	0.6000
T21	27	Safety Line 3/8	106.00 - 110.00	0.6000	0.6000
T21	28	Climbing Ladder (Round)	106.00 - 110.00	0.6000	0.6000
T21	30	LDF4.5-50(5/8")	106.00 - 110.00	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T21	32	LDF4-50A(1/2")	106.00 - 110.00	0.6000	0.6000
T21	42	HFT2406-48SV3-XXX(2)	106.00 - 110.00	0.6000	0.6000
T21	47	LDF2-50(3/8")	106.00 - 110.00	0.6000	0.6000
T21	48	LDF4.5-50(5/8")	106.00 - 110.00	0.6000	0.6000
T21	50	LDF7-50A(1-5/8")	106.00 - 110.00	0.6000	0.6000
T21	52	3" Coax	106.00 - 110.00	0.6000	0.6000
T22	1	3" Coax	102.00 - 106.00	0.6000	0.6000
T22	2	AVA5-50(7/8")	102.00 - 106.00	0.6000	0.6000
T22	3	1" Conduit	102.00 - 106.00	0.6000	0.6000
T22	5	AVA5-50(7/8")	102.00 - 106.00	0.6000	0.6000
T22	7	LDF4.5-50(5/8")	102.00 - 106.00	0.6000	0.6000
T22	9	1 5/8" OD Conduit	102.00 - 106.00	0.6000	0.6000
T22	11	LDF5-50A(7/8")	102.00 - 106.00	0.6000	0.6000
T22	13	LDF5-50A(7/8")	102.00 - 106.00	0.6000	0.6000
T22	15	LDF5-50A(7/8")	102.00 - 106.00	0.6000	0.6000
T22	17	LDF5-50A(7/8")	102.00 - 106.00	0.6000	0.6000
T22	19	LDF5-50A(7/8")	102.00 - 106.00	0.6000	0.6000
T22	21	LDF5-50A(7/8")	102.00 - 106.00	0.6000	0.6000
T22	23	LDF5-50A(7/8")	102.00 - 106.00	0.6000	0.6000
T22	25	LDF6-50A(1-1/4")	102.00 - 106.00	0.6000	0.6000
T22	27	Safety Line 3/8	102.00 - 106.00	0.6000	0.6000
T22	28	Climbing Ladder (Round)	102.00 - 106.00	0.6000	0.6000
T22	30	LDF4.5-50(5/8")	102.00 - 106.00	0.6000	0.6000
T22	32	LDF4-50A(1/2")	102.00 - 106.00	0.6000	0.6000
T22	42	HFT2406-48SV3-XXX(2)	102.00 - 106.00	0.6000	0.6000
T22	47	LDF2-50(3/8")	102.00 - 106.00	0.6000	0.6000
T22	48	LDF4.5-50(5/8")	102.00 - 106.00	0.6000	0.6000
T22	50	LDF7-50A(1-5/8")	102.00 - 106.00	0.6000	0.6000
T22	52	3" Coax	102.00 - 106.00	0.6000	0.6000
T23	1	3" Coax	82.00 - 102.00	0.6000	0.6000
T23	2	AVA5-50(7/8")	82.00 - 102.00	0.6000	0.6000
T23	3	1" Conduit	82.00 - 102.00	0.6000	0.6000
T23	5	AVA5-50(7/8")	82.00 - 102.00	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T23	7	LDF4.5-50(5/8")	82.00 - 102.00	0.6000	0.6000
T23	9	1 5/8" OD Conduit	82.00 - 102.00	0.6000	0.6000
T23	11	LDF5-50A(7/8")	82.00 - 102.00	0.6000	0.6000
T23	13	LDF5-50A(7/8")	82.00 - 102.00	0.6000	0.6000
T23	15	LDF5-50A(7/8")	82.00 - 102.00	0.6000	0.6000
T23	17	LDF5-50A(7/8")	82.00 - 102.00	0.6000	0.6000
T23	19	LDF5-50A(7/8")	82.00 - 102.00	0.6000	0.6000
T23	21	LDF5-50A(7/8")	82.00 - 102.00	0.6000	0.6000
T23	23	LDF5-50A(7/8")	82.00 - 102.00	0.6000	0.6000
T23	25	LDF6-50A(1-1/4")	82.00 - 102.00	0.6000	0.6000
T23	27	Safety Line 3/8	82.00 - 102.00	0.6000	0.6000
T23	28	Climbing Ladder (Round)	82.00 - 102.00	0.6000	0.6000
T23	30	LDF4.5-50(5/8")	82.00 - 102.00	0.6000	0.6000
T23	32	LDF4-50A(1/2")	82.00 - 102.00	0.6000	0.6000
T23	42	HFT2406-48SV3-XXX(2)	82.00 - 102.00	0.6000	0.6000
T23	47	LDF2-50(3/8")	82.00 - 102.00	0.6000	0.6000
T23	48	LDF4.5-50(5/8")	82.00 - 102.00	0.6000	0.6000
T23	50	LDF7-50A(1-5/8")	82.00 - 102.00	0.6000	0.6000
T23	52	3" Coax	82.00 - 102.00	0.6000	0.6000
T24	1	3" Coax	62.00 - 82.00	0.6000	0.6000
T24	2	AVA5-50(7/8")	62.00 - 82.00	0.6000	0.6000
T24	3	1" Conduit	62.00 - 82.00	0.6000	0.6000
T24	5	AVA5-50(7/8")	62.00 - 82.00	0.6000	0.6000
T24	7	LDF4.5-50(5/8")	62.00 - 82.00	0.6000	0.6000
T24	9	1 5/8" OD Conduit	62.00 - 82.00	0.6000	0.6000
T24	11	LDF5-50A(7/8")	62.00 - 82.00	0.6000	0.6000
T24	13	LDF5-50A(7/8")	62.00 - 82.00	0.6000	0.6000
T24	15	LDF5-50A(7/8")	62.00 - 82.00	0.6000	0.6000
T24	17	LDF5-50A(7/8")	62.00 - 82.00	0.6000	0.6000
T24	19	LDF5-50A(7/8")	62.00 - 82.00	0.6000	0.6000
T24	21	LDF5-50A(7/8")	62.00 - 82.00	0.6000	0.6000
T24	23	LDF5-50A(7/8")	62.00 - 82.00	0.6000	0.6000
T24	25	LDF6-50A(1-1/4")	62.00 - 82.00	0.6000	0.6000
T24	27	Safety Line 3/8	62.00 - 82.00	0.6000	0.6000
T24	28	Climbing Ladder (Round)	62.00 - 82.00	0.6000	0.6000
T24	30	LDF4.5-50(5/8")	62.00 - 82.00	0.6000	0.6000
T24	32	LDF4-50A(1/2")	62.00 - 82.00	0.6000	0.6000
T24	42	HFT2406-48SV3-XXX(2)	62.00 - 82.00	0.6000	0.6000
T24	47	LDF2-50(3/8")	62.00 - 82.00	0.6000	0.6000
T24	48	LDF4.5-50(5/8")	62.00 - 82.00	0.6000	0.6000
T24	50	LDF7-50A(1-5/8")	62.00 - 82.00	0.6000	0.6000
T24	52	3" Coax	62.00 - 82.00	0.6000	0.6000
T25	1	3" Coax	42.00 - 62.00	0.6000	0.6000
T25	2	AVA5-50(7/8")	42.00 - 62.00	0.6000	0.6000
T25	3	1" Conduit	42.00 - 62.00	0.6000	0.6000
T25	5	AVA5-50(7/8")	42.00 - 62.00	0.6000	0.6000
T25	7	LDF4.5-50(5/8")	42.00 - 62.00	0.6000	0.6000
T25	9	1 5/8" OD Conduit	42.00 - 62.00	0.6000	0.6000
T25	11	LDF5-50A(7/8")	42.00 - 62.00	0.6000	0.6000
T25	13	LDF5-50A(7/8")	42.00 - 62.00	0.6000	0.6000
T25	15	LDF5-50A(7/8")	42.00 - 62.00	0.6000	0.6000
T25	17	LDF5-50A(7/8")	42.00 - 62.00	0.6000	0.6000
T25	19	LDF5-50A(7/8")	42.00 - 62.00	0.6000	0.6000
T25	21	LDF5-50A(7/8")	42.00 - 62.00	0.6000	0.6000
T25	23	LDF5-50A(7/8")	42.00 - 62.00	0.6000	0.6000
T25	25	LDF6-50A(1-1/4")	42.00 - 62.00	0.6000	0.6000
T25	27	Safety Line 3/8	42.00 - 62.00	0.6000	0.6000
T25	28	Climbing Ladder (Round)	42.00 - 62.00	0.6000	0.6000
T25	30	LDF4.5-50(5/8")	42.00 - 62.00	0.6000	0.6000
T25	32	LDF4-50A(1/2")	42.00 - 62.00	0.6000	0.6000
T25	42	HFT2406-48SV3-XXX(2)	42.00 - 62.00	0.6000	0.6000
T25	47	LDF2-50(3/8")	42.00 - 62.00	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T25	48	LDF4.5-50(5/8")	42.00 - 62.00	0.6000	0.6000
T25	50	LDF7-50A(1-5/8")	42.00 - 62.00	0.6000	0.6000
T25	52	3" Coax	42.00 - 62.00	0.6000	0.6000
T26	1	3" Coax	22.00 - 42.00	0.6000	0.6000
T26	2	AVA5-50(7/8")	22.00 - 42.00	0.6000	0.6000
T26	3	1" Conduit	22.00 - 42.00	0.6000	0.6000
T26	5	AVA5-50(7/8")	22.00 - 42.00	0.6000	0.6000
T26	7	LDF4.5-50(5/8")	22.00 - 42.00	0.6000	0.6000
T26	9	1 5/8" OD Conduit	22.00 - 42.00	0.6000	0.6000
T26	11	LDF5-50A(7/8")	22.00 - 42.00	0.6000	0.6000
T26	13	LDF5-50A(7/8")	22.00 - 42.00	0.6000	0.6000
T26	15	LDF5-50A(7/8")	22.00 - 42.00	0.6000	0.6000
T26	17	LDF5-50A(7/8")	22.00 - 42.00	0.6000	0.6000
T26	19	LDF5-50A(7/8")	22.00 - 42.00	0.6000	0.6000
T26	21	LDF5-50A(7/8")	22.00 - 42.00	0.6000	0.6000
T26	23	LDF5-50A(7/8")	22.00 - 42.00	0.6000	0.6000
T26	25	LDF6-50A(1-1/4")	22.00 - 42.00	0.6000	0.6000
T26	27	Safety Line 3/8	22.00 - 42.00	0.6000	0.6000
T26	28	Climbing Ladder (Round)	22.00 - 42.00	0.6000	0.6000
T26	30	LDF4.5-50(5/8")	22.00 - 42.00	0.6000	0.6000
T26	32	LDF4-50A(1/2")	22.00 - 42.00	0.6000	0.6000
T26	42	HFT2406-48SV3-XXX(2)	22.00 - 42.00	0.6000	0.6000
T26	47	LDF2-50(3/8")	22.00 - 42.00	0.6000	0.6000
T26	48	LDF4.5-50(5/8")	22.00 - 42.00	0.6000	0.6000
T26	50	LDF7-50A(1-5/8")	22.00 - 42.00	0.6000	0.6000
T26	52	3" Coax	22.00 - 42.00	0.6000	0.6000
T27	1	3" Coax	8.00 - 22.00	0.6000	0.6000
T27	2	AVA5-50(7/8")	8.00 - 22.00	0.6000	0.6000
T27	3	1" Conduit	8.00 - 22.00	0.6000	0.6000
T27	5	AVA5-50(7/8")	8.00 - 22.00	0.6000	0.6000
T27	7	LDF4.5-50(5/8")	8.00 - 22.00	0.6000	0.6000
T27	9	1 5/8" OD Conduit	8.00 - 22.00	0.6000	0.6000
T27	11	LDF5-50A(7/8")	8.00 - 22.00	0.6000	0.6000
T27	13	LDF5-50A(7/8")	8.00 - 22.00	0.6000	0.6000
T27	15	LDF5-50A(7/8")	8.00 - 22.00	0.6000	0.6000
T27	17	LDF5-50A(7/8")	8.00 - 22.00	0.6000	0.6000
T27	19	LDF5-50A(7/8")	8.00 - 22.00	0.6000	0.6000
T27	21	LDF5-50A(7/8")	8.00 - 22.00	0.6000	0.6000
T27	23	LDF5-50A(7/8")	8.00 - 22.00	0.6000	0.6000
T27	25	LDF6-50A(1-1/4")	8.00 - 22.00	0.6000	0.6000
T27	27	Safety Line 3/8	8.00 - 22.00	0.6000	0.6000
T27	28	Climbing Ladder (Round)	8.00 - 22.00	0.6000	0.6000
T27	30	LDF4.5-50(5/8")	8.00 - 22.00	0.6000	0.6000
T27	32	LDF4-50A(1/2")	8.00 - 22.00	0.6000	0.6000
T27	42	HFT2406-48SV3-XXX(2)	8.00 - 22.00	0.6000	0.6000
T27	47	LDF2-50(3/8")	8.00 - 22.00	0.6000	0.6000
T27	48	LDF4.5-50(5/8")	8.00 - 22.00	0.6000	0.6000
T27	50	LDF7-50A(1-5/8")	8.00 - 22.00	0.6000	0.6000
T27	52	3" Coax	8.00 - 22.00	0.6000	0.6000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Offsets: Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Lightning Rod 5/8" x 6' (E)	C	None			0.000	495.000	No Ice	0.375	0.375	0.006
							1/2" Ice	0.989	0.989	0.010
							1" Ice	1.619	1.619	0.019
Flash Beacon Lighting (E)	C	None			0.000	492.500	No Ice	2.700	2.700	0.050
							1/2" Ice	3.100	3.100	0.070
							1" Ice	3.500	3.500	0.090
Flash Beacon Lighting (E)	A	From Leg	1.000	0.000	0.000	237.000	No Ice	2.700	2.700	0.050
			0.000				1/2" Ice	3.100	3.100	0.070
			0.000				1" Ice	3.500	3.500	0.090
Flash Beacon Lighting (E)	B	From Leg	1.000	0.000	0.000	237.000	No Ice	2.700	2.700	0.050
			0.000				1/2" Ice	3.100	3.100	0.070
			0.000				1" Ice	3.500	3.500	0.090
Flash Beacon Lighting (E)	A	From Leg	1.000	0.000	0.000	124.000	No Ice	2.700	2.700	0.050
			0.000				1/2" Ice	3.100	3.100	0.070
			0.000				1" Ice	3.500	3.500	0.090
Side Lighting (E)	A	From Leg	1.000	0.000	0.000	358.000	No Ice	0.105	0.105	0.005
			0.000				1/2" Ice	0.170	0.170	0.007
			0.000				1" Ice	0.233	0.233	0.010
Side Lighting (E)	B	From Leg	1.000	0.000	0.000	358.000	No Ice	0.105	0.105	0.005
			0.000				1/2" Ice	0.170	0.170	0.007
			0.000				1" Ice	0.233	0.233	0.010
Side Lighting (E)	C	From Leg	1.000	0.000	0.000	358.000	No Ice	0.105	0.105	0.005
			0.000				1/2" Ice	0.170	0.170	0.007
			0.000				1" Ice	0.233	0.233	0.010
Side Lighting (E)	A	From Leg	1.000	0.000	0.000	116.000	No Ice	0.111	0.111	0.005
			0.000				1/2" Ice	0.170	0.170	0.007
			0.000				1" Ice	0.233	0.233	0.010
Side Lighting (E)	B	From Leg	1.000	0.000	0.000	116.000	No Ice	0.111	0.111	0.005
			0.000				1/2" Ice	0.170	0.170	0.007
			0.000				1" Ice	0.233	0.233	0.010
Side Lighting (E)	C	From Leg	1.000	0.000	0.000	116.000	No Ice	0.111	0.111	0.005
			0.000				1/2" Ice	0.170	0.170	0.007
			0.000				1" Ice	0.233	0.233	0.010
*										
2 Bay FM Antenna (E)	A	From Leg	2.000	0.000	0.000	471.000	No Ice	5.000	5.000	0.050
			0.000				1/2" Ice	8.000	8.000	0.090
			0.000				1" Ice	11.000	11.000	0.130
*										
ERI ALP 8W LPTV Antenna (E-EGOT)	B	From Leg	2.000	0.000	0.000	460.000 - 440.000	No Ice	22.000	22.000	0.300
			0.000				1/2" Ice	28.000	28.000	0.420
			0.000				1" Ice	34.000	34.000	0.540
Antenna Mount (E-EGOT)	B	From Leg	1.000	0.000	0.000	460.000 - 440.000	No Ice	5.000	5.000	0.120
			0.000				1/2" Ice	7.000	7.000	0.180
			0.000				1" Ice	9.000	9.000	0.240
*										
3' Yagi (E)	A	From Leg	2.000	0.000	0.000	453.000	No Ice	2.080	2.080	0.030
			0.000				1/2" Ice	3.790	3.790	0.050
			0.000				1" Ice	5.500	5.500	0.070
*										
6' Omni (E)	A	From Leg	2.000	0.000	0.000	302.000	No Ice	2.250	2.250	0.010
			0.000				1/2" Ice	2.619	2.619	0.029
			0.000				1" Ice	2.998	2.998	0.052
2' Side arm (E)	A	From Leg	1.000	0.000	0.000	302.000	No Ice	0.500	0.500	0.025
			0.000				1/2" Ice	0.625	0.625	0.033
			0.000				1" Ice	0.750	0.750	0.040
*										
Kathrein CA5-FM/CP/RM	C	From Leg	1.500	0.000	0.000	300.000	No Ice	4.500	3.500	0.018

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Offsets: Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
(E)			0.000				1/2" Ice	5.500	4.400	0.023
			0.000				1" Ice	6.500	5.300	0.029
*										
APXVAARR24_43-U-NA20 _TIA w/ Mount Pipe	A	From Leg	4.000		0.000	280.000	No Ice	20.480	11.024	0.161
			0.000				1/2" Ice	21.231	12.550	0.297
(E)			0.000				1" Ice	21.990	14.099	0.444
APXVAARR24_43-U-NA20 _TIA w/ Mount Pipe	B	From Leg	4.000		0.000	280.000	No Ice	20.480	11.024	0.161
			0.000				1/2" Ice	21.231	12.550	0.297
(E)			0.000				1" Ice	21.990	14.099	0.444
APXVAARR24_43-U-NA20 _TIA w/ Mount Pipe	C	From Leg	4.000		0.000	280.000	No Ice	20.480	11.024	0.161
			0.000				1/2" Ice	21.231	12.550	0.297
(E)			0.000				1" Ice	21.990	14.099	0.444
Radio 4449 B71+B85	A	From Leg	4.000		0.000	280.000	No Ice	1.970	1.587	0.073
(E)			0.000				1/2" Ice	2.147	1.749	0.093
			0.000				1" Ice	2.331	1.918	0.116
Radio 4449 B71+B85	B	From Leg	4.000		0.000	280.000	No Ice	1.970	1.587	0.073
(E)			0.000				1/2" Ice	2.147	1.749	0.093
			0.000				1" Ice	2.331	1.918	0.116
Radio 4449 B71+B85	C	From Leg	4.000		0.000	280.000	No Ice	1.970	1.587	0.073
(E)			0.000				1/2" Ice	2.147	1.749	0.093
			0.000				1" Ice	2.331	1.918	0.116
APXVLL19P_43-C-A20_TM O_TIA w/ Mount Pipe	A	From Leg	4.000		0.000	280.000	No Ice	8.488	5.893	0.075
			0.000				1/2" Ice	9.065	7.114	0.138
(P)			0.000				1" Ice	9.615	8.088	0.209
APXVLL19P_43-C-A20_TM O_TIA w/ Mount Pipe	B	From Leg	4.000		0.000	280.000	No Ice	8.488	5.893	0.075
			0.000				1/2" Ice	9.065	7.114	0.138
(P)			0.000				1" Ice	9.615	8.088	0.209
APXVLL19P_43-C-A20_TM O_TIA w/ Mount Pipe	C	From Leg	4.000		0.000	280.000	No Ice	8.488	5.893	0.075
			0.000				1/2" Ice	9.065	7.114	0.138
(P)			0.000				1" Ice	9.615	8.088	0.209
AIR6419 B41 w/ Mount Pipe	A	From Leg	4.000		0.000	280.000	No Ice	6.267	3.009	0.083
(P)			0.000				1/2" Ice	6.645	3.489	0.131
			0.000				1" Ice	7.032	3.985	0.184
AIR6419 B41 w/ Mount Pipe	B	From Leg	4.000		0.000	280.000	No Ice	6.267	3.009	0.083
(P)			0.000				1/2" Ice	6.645	3.489	0.131
			0.000				1" Ice	7.032	3.985	0.184
AIR6419 B41 w/ Mount Pipe	C	From Leg	4.000		0.000	280.000	No Ice	6.267	3.009	0.083
(P)			0.000				1/2" Ice	6.645	3.489	0.131
			0.000				1" Ice	7.032	3.985	0.184
4460 B25/B66	A	From Leg	4.000		0.000	280.000	No Ice	2.569	1.972	0.109
(P)			0.000				1/2" Ice	2.768	2.151	0.135
			0.000				1" Ice	2.976	2.338	0.163
4460 B25/B66	B	From Leg	4.000		0.000	280.000	No Ice	2.569	1.972	0.109
(P)			0.000				1/2" Ice	2.768	2.151	0.135
			0.000				1" Ice	2.976	2.338	0.163
4460 B25/B66	C	From Leg	4.000		0.000	280.000	No Ice	2.569	1.972	0.109
(P)			0.000				1/2" Ice	2.768	2.151	0.135
			0.000				1" Ice	2.976	2.338	0.163
10' x 2" Mount Pipe	A	From Leg	4.000		0.000	280.000	No Ice	2.375	2.375	0.037
(E)			0.000				1/2" Ice	3.403	3.403	0.054
			0.000				1" Ice	4.448	4.448	0.079
10' x 2" Mount Pipe	B	From Leg	4.000		0.000	280.000	No Ice	2.375	2.375	0.037
(E)			0.000				1/2" Ice	3.403	3.403	0.054
			0.000				1" Ice	4.448	4.448	0.079
10' x 2" Mount Pipe	C	From Leg	4.000		0.000	280.000	No Ice	2.375	2.375	0.037
(E)			0.000				1/2" Ice	3.403	3.403	0.054
			0.000				1" Ice	4.448	4.448	0.079

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Offsets: Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Sector Mount [SM 504-3]	C	None			0.000	280.000	No Ice	31.050	31.050	1.708
(E)							1/2" Ice	43.830	43.830	2.326
							1" Ice	56.440	56.440	3.143
*										
*										
MX08FRO665-21_TIA w/	A	From Leg	4.000		0.000	225.000	No Ice	12.726	7.529	0.108
Mount Pipe			0.000				1/2" Ice	13.327	8.715	0.200
(R)			0.000				1" Ice	13.893	9.615	0.301
MX08FRO665-21_TIA w/	B	From Leg	4.000		0.000	225.000	No Ice	12.726	7.529	0.108
Mount Pipe			0.000				1/2" Ice	13.327	8.715	0.200
(R)			0.000				1" Ice	13.893	9.615	0.301
MX08FRO665-21_TIA w/	C	From Leg	4.000		0.000	225.000	No Ice	12.726	7.529	0.108
Mount Pipe			0.000				1/2" Ice	13.327	8.715	0.200
(R)			0.000				1" Ice	13.893	9.615	0.301
TA08025-B605	A	From Leg	4.000		0.000	225.000	No Ice	1.964	1.129	0.075
(R)			0.000				1/2" Ice	2.138	1.267	0.093
			0.000				1" Ice	2.320	1.411	0.114
TA08025-B605	B	From Leg	4.000		0.000	225.000	No Ice	1.964	1.129	0.075
(R)			0.000				1/2" Ice	2.138	1.267	0.093
			0.000				1" Ice	2.320	1.411	0.114
TA08025-B605	C	From Leg	4.000		0.000	225.000	No Ice	1.964	1.129	0.075
(R)			0.000				1/2" Ice	2.138	1.267	0.093
			0.000				1" Ice	2.320	1.411	0.114
TA08025-B604	A	From Leg	4.000		0.000	225.000	No Ice	1.964	0.981	0.064
(R)			0.000				1/2" Ice	2.138	1.112	0.081
			0.000				1" Ice	2.320	1.250	0.100
TA08025-B604	B	From Leg	4.000		0.000	225.000	No Ice	1.964	0.981	0.064
(R)			0.000				1/2" Ice	2.138	1.112	0.081
			0.000				1" Ice	2.320	1.250	0.100
TA08025-B604	A	From Leg	4.000		0.000	225.000	No Ice	1.964	0.981	0.064
(R)			0.000				1/2" Ice	2.138	1.112	0.081
			0.000				1" Ice	2.320	1.250	0.100
RDIDC-9181-PF-48	C	From Leg	4.000		0.000	225.000	No Ice	2.012	1.168	0.022
(R)			0.000				1/2" Ice	2.189	1.311	0.040
			0.000				1" Ice	2.373	1.461	0.060
GPSGL-TMG-SPI-40NCB	C	From Leg	4.000		0.000	225.000	No Ice	0.146	0.133	0.001
(R)			0.000				1/2" Ice	0.197	0.183	0.002
			0.000				1" Ice	0.248	0.233	0.005
(2) 8' x 2.375" Mount Pipe	A	From Leg	4.000		0.000	225.000	No Ice	1.900	1.900	0.061
(E)			0.000				1/2" Ice	2.728	2.728	0.075
			0.000				1" Ice	3.401	3.401	0.095
(2) 8' x 2.375" Mount Pipe	B	From Leg	4.000		0.000	225.000	No Ice	1.900	1.900	0.061
(E)			0.000				1/2" Ice	2.728	2.728	0.075
			0.000				1" Ice	3.401	3.401	0.095
(2) 8' x 2.375" Mount Pipe	C	From Leg	4.000		0.000	225.000	No Ice	1.900	1.900	0.061
(E)			0.000				1/2" Ice	2.728	2.728	0.075
			0.000				1" Ice	3.401	3.401	0.095
Commscope MTC3975083	C	None			0.000	225.000	No Ice	23.850	23.850	1.260
(R)							1/2" Ice	34.120	34.120	1.803
							1" Ice	44.390	44.390	2.345
*										
(2) TPA65R-BU8DA-K_TIA	A	From Leg	4.000		0.000	165.000	No Ice	18.109	10.260	0.135
w/ Mount Pipe			0.000				1/2" Ice	18.843	11.781	0.256
(R)			0.000				1" Ice	19.586	13.327	0.388
(2) TPA65R-BU8DA-K_TIA	B	From Leg	4.000		0.000	165.000	No Ice	18.109	10.260	0.135
w/ Mount Pipe			0.000				1/2" Ice	18.843	11.781	0.256
(R)			0.000				1" Ice	19.586	13.327	0.388

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
(2) TPA65R-BU8DA-K_TIA w/ Mount Pipe (R)	C	From Leg	4.000 0.000 0.000	0.000	165.000	No Ice 1/2" Ice 1" Ice	18.109 18.843 19.586	10.260 11.781 13.327	0.135 0.256 0.388
HPA65R-BU8A_TIA w/ Mount Pipe (R)	A	From Leg	4.000 0.000 0.000	0.000	165.000	No Ice 1/2" Ice 1" Ice	11.471 12.189 12.916	10.182 11.703 13.248	0.087 0.177 0.278
HPA65R-BU8A_TIA w/ Mount Pipe (R)	B	From Leg	4.000 0.000 0.000	0.000	165.000	No Ice 1/2" Ice 1" Ice	11.471 12.189 12.916	10.182 11.703 13.248	0.087 0.177 0.278
HPA65R-BU8A_TIA w/ Mount Pipe (R)	C	From Leg	4.000 0.000 0.000	0.000	165.000	No Ice 1/2" Ice 1" Ice	11.471 12.189 12.916	10.182 11.703 13.248	0.087 0.177 0.278
Ericsson 8843 (15x13.1x10.9) (R)	A	From Leg	4.000 0.000 0.000	0.000	165.000	No Ice 1/2" Ice 1" Ice	1.637 1.797 1.965	1.363 1.510 1.665	0.071 0.089 0.109
Ericsson 8843 (15x13.1x10.9) (R)	B	From Leg	4.000 0.000 0.000	0.000	165.000	No Ice 1/2" Ice 1" Ice	1.637 1.797 1.965	1.363 1.510 1.665	0.071 0.089 0.109
Ericsson 8843 (15x13.1x10.9) (R)	C	From Leg	4.000 0.000 0.000	0.000	165.000	No Ice 1/2" Ice 1" Ice	1.637 1.797 1.965	1.363 1.510 1.665	0.071 0.089 0.109
RRUS E2 B29 (R)	A	From Leg	4.000 0.000 0.000	0.000	165.000	No Ice 1/2" Ice 1" Ice	3.145 3.365 3.592	1.285 1.438 1.600	0.060 0.083 0.110
RRUS E2 B29 (R)	B	From Leg	4.000 0.000 0.000	0.000	165.000	No Ice 1/2" Ice 1" Ice	3.145 3.365 3.592	1.285 1.438 1.600	0.060 0.083 0.110
RRUS E2 B29 (R)	C	From Leg	4.000 0.000 0.000	0.000	165.000	No Ice 1/2" Ice 1" Ice	3.145 3.365 3.592	1.285 1.438 1.600	0.060 0.083 0.110
Ericsson 4415 B30 (16.5x13.4x5.9) (R)	A	From Leg	4.000 0.000 0.000	0.000	165.000	No Ice 1/2" Ice 1" Ice	1.843 2.012 2.190	0.820 0.943 1.075	0.046 0.060 0.077
Ericsson 4415 B30 (16.5x13.4x5.9) (R)	B	From Leg	4.000 0.000 0.000	0.000	165.000	No Ice 1/2" Ice 1" Ice	1.843 2.012 2.190	0.820 0.943 1.075	0.046 0.060 0.077
Ericsson 4415 B30 (16.5x13.4x5.9) (R)	C	From Leg	4.000 0.000 0.000	0.000	165.000	No Ice 1/2" Ice 1" Ice	1.843 2.012 2.190	0.820 0.943 1.075	0.046 0.060 0.077
Ericsson 4449 (18x13.2x9.4) (R)	A	From Leg	4.000 0.000 0.000	0.000	165.000	No Ice 1/2" Ice 1" Ice	1.980 2.157 2.341	1.410 1.566 1.729	0.070 0.089 0.110
Ericsson 4449 (18x13.2x9.4) (R)	B	From Leg	4.000 0.000 0.000	0.000	165.000	No Ice 1/2" Ice 1" Ice	1.980 2.157 2.341	1.410 1.566 1.729	0.070 0.089 0.110
Ericsson 4449 (18x13.2x9.4) (R)	C	From Leg	4.000 0.000 0.000	0.000	165.000	No Ice 1/2" Ice 1" Ice	1.980 2.157 2.341	1.410 1.566 1.729	0.070 0.089 0.110
Ericsson RRUS-4483 (15x13.2x9) (R)	A	From Leg	4.000 0.000 0.000	0.000	165.000	No Ice 1/2" Ice 1" Ice	1.650 1.810 1.978	1.125 1.262 1.406	0.072 0.088 0.106
Ericsson RRUS-4483 (15x13.2x9) (R)	B	From Leg	4.000 0.000 0.000	0.000	165.000	No Ice 1/2" Ice 1" Ice	1.650 1.810 1.978	1.125 1.262 1.406	0.072 0.088 0.106
Ericsson RRUS-4483 (15x13.2x9) (R)	C	From Leg	4.000 0.000 0.000	0.000	165.000	No Ice 1/2" Ice 1" Ice	1.650 1.810 1.978	1.125 1.262 1.406	0.072 0.088 0.106

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
DC6-48-60-0-8C-EV	A	From Leg	1.000	0.000	165.000	No Ice	2.736	4.783	0.026
(R)			0.000			1/2" Ice	2.962	5.063	0.063
			0.000			1" Ice	3.195	5.350	0.104
DC6-48-60-0-8C-EV	B	From Leg	1.000	0.000	165.000	No Ice	2.736	4.783	0.026
(R)			0.000			1/2" Ice	2.962	5.063	0.063
			0.000			1" Ice	3.195	5.350	0.104
DC6-48-60-0-8C-EV	C	From Leg	1.000	0.000	165.000	No Ice	2.736	4.783	0.026
(R)			0.000			1/2" Ice	2.962	5.063	0.063
			0.000			1" Ice	3.195	5.350	0.104
Ice Bridge (2'x2')	C	From Leg	1.000	0.000	165.000	No Ice	2.850	3.000	0.030
(R)			0.000			1/2" Ice	3.500	4.000	0.045
			0.000			1" Ice	4.150	5.000	0.060
Sector Frames	C	None		0.000	165.000	No Ice	30.000	30.000	1.000
(R)						1/2" Ice	35.000	35.000	1.250
						1" Ice	40.000	40.000	1.500
*									
10' Dipole	A	From Leg	1.500	0.000	138.000	No Ice	3.000	3.000	0.030
(E)			0.000			1/2" Ice	4.000	4.000	0.055
			0.000			1" Ice	5.000	5.000	0.080
3' Side Arm	A	From Leg	1.500	0.000	138.000	No Ice	0.450	2.750	0.040
(E)			0.000			1/2" Ice	0.570	3.860	0.060
			0.000			1" Ice	0.690	4.970	0.080
*									
10' Dipole	B	From Face	1.500	0.000	125.000	No Ice	3.000	3.000	0.030
(E)			0.000			1/2" Ice	4.000	4.000	0.055
			0.000			1" Ice	5.000	5.000	0.080
3' Side Arm	B	From Leg	1.500	0.000	125.000	No Ice	0.450	2.750	0.040
(E)			0.000			1/2" Ice	0.570	3.860	0.060
			0.000			1" Ice	0.690	4.970	0.080
*									
10' Dipole	B	From Face	1.500	0.000	108.000	No Ice	3.000	3.000	0.030
(E)			0.000			1/2" Ice	4.000	4.000	0.055
			0.000			1" Ice	5.000	5.000	0.080
3' Side Arm	B	From Leg	1.500	0.000	108.000	No Ice	0.450	2.750	0.040
(E)			0.000			1/2" Ice	0.570	3.860	0.060
			0.000			1" Ice	0.690	4.970	0.080
*									

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft^2	Weight K
6' Grid Dish	C	Grid	From	1.000	0.000		435.000	6.000	No Ice	11.000	0.250
(E)			Leg	0.000					1/2" Ice	14.000	0.399
				0.000					1" Ice	18.000	0.548
*											
3' Dish w/ Radomes	B	Paraboloid w/Radome	From	1.000	0.000		351.000	3.000	No Ice	7.069	0.035
(E)			Leg	0.000					1/2" Ice	7.467	0.073

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft²	Weight K
				0.000					1" Ice	7.865	0.112
*											
3' Grid Dish (E)	A	Grid	From Leg	1.000 0.000 0.000	0.000		339.000	3.000	No Ice 1/2" Ice 1" Ice	2.830 7.467 12.103	0.030 0.068 0.107
*											
8' Grid Dish (E)	C	Grid	From Leg	1.000 0.000 0.000	0.000		247.000	8.000	No Ice 1/2" Ice 1" Ice	20.106 23.000 25.894	0.140 0.320 0.590
*											
8' Grid Dish (E)	B	Grid	From Leg	1.000 0.000 0.000	0.000		239.000	8.000	No Ice 1/2" Ice 1" Ice	20.106 23.000 25.894	0.140 0.320 0.590
*											

Load Combinations

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

Comb. No.	Description
38	Dead+Wind 330 deg - Service+Guy

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	492 - 477	Pole	Max Tension	13	0.008	0.277	0.040
			Max. Compression	14	-1.021	-0.012	-0.037
			Max. Mx	5	-0.693	-5.964	0.412
			Max. My	8	-0.694	-0.276	-6.070
			Max. Vy	6	0.635	-5.027	-2.645
			Max. Vx	9	0.618	2.593	-5.479
			Max. Torque	7			-0.000
L2	477 - 457	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-2.504	-0.325	0.041
			Max. Mx	5	-1.686	-27.568	2.035
			Max. My	8	-1.689	-0.872	-27.860
			Max. Vy	5	1.565	-27.568	2.035
			Max. Vx	8	1.602	-0.872	-27.860
			Max. Torque	5			0.787
T1	457 - 452	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	11	-21.991	0.049	-0.038
			Max. Mx	5	-9.210	-0.158	0.045
			Max. My	2	-20.750	-0.065	0.200
			Max. Vy	4	-0.129	-0.151	0.122
			Max. Vx	2	0.179	-0.065	0.200
		Diagonal	Max Tension	9	0.357	0.000	0.000
			Max. Compression	11	-5.516	0.000	0.000
			Max. Mx	17	-3.254	-0.014	0.000
			Max. My	25	-2.257	0.000	0.000
			Max. Vy	17	-0.011	0.000	0.000
			Max. Vx	25	-0.000	0.000	0.000
		Guy A	Bottom Tension	8	33.020		
			Top Tension	8	33.965		
			Top Cable Vert	8	32.555		
			Top Cable Norm	8	9.686		
			Top Cable Tan	8	0.001		
			Bot Cable Vert	8	-31.075		
			Bot Cable Norm	8	11.166		
			Bot Cable Tan	8	0.001		
		Guy B	Bottom Tension	11	33.811		
			Top Tension	11	34.764		
			Top Cable Vert	11	33.379		
			Top Cable Norm	11	9.714		
			Top Cable Tan	11	0.250		
			Bot Cable Vert	11	-31.955		
			Bot Cable Norm	11	11.032		
			Bot Cable Tan	11	0.585		
		Guy C	Bottom Tension	4	33.539		
			Top Tension	4	34.502		
			Top Cable Vert	4	33.141		
			Top Cable Norm	4	9.596		
			Top Cable Tan	4	0.001		
			Bot Cable Vert	4	-31.646		
			Bot Cable Norm	4	11.106		
			Bot Cable Tan	4	0.001		
		Top Guy Pull-Off	Max Tension	10	0.000	0.004	-0.044
			Max. Compression	10	-0.000	-0.018	0.044

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	7	0.000	-0.111	0.027
			Max. My	10	-0.000	-0.018	0.044
			Max. Vy	7	0.070	-0.111	0.027
			Max. Vx	10	0.022	0.004	-0.044
T2	452 - 442	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	11	-34.966	-0.052	0.124
			Max. Mx	9	-32.846	-0.157	-0.025
			Max. My	10	-30.733	0.075	-0.151
			Max. Vy	7	-0.136	-0.151	-0.000
			Max. Vx	2	-0.159	-0.105	0.145
		Diagonal	Max Tension	3	2.190	0.000	0.000
			Max. Compression	9	-2.397	0.000	0.000
			Max. Mx	17	-0.060	-0.027	0.000
			Max. My	13	0.545	0.000	0.000
			Max. Vy	17	0.021	0.000	0.000
			Max. Vx	13	-0.000	0.000	0.000
		Horizontal	Max Tension	9	0.416	0.000	0.000
			Max. Compression	10	-0.193	0.000	0.000
			Max. Mx	23	0.065	-0.019	0.000
			Max. My	13	-0.108	0.000	-0.000
			Max. Vy	23	-0.019	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
		Top Girt	Max Tension	9	1.794	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	23	1.090	-0.019	0.000
			Max. My	13	1.599	0.000	-0.000
			Max. Vy	23	-0.019	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
T3	442 - 422	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	11	-36.375	0.051	-0.132
			Max. Mx	9	-35.111	0.174	-0.001
			Max. My	6	-32.326	-0.076	-0.159
			Max. Vy	9	-0.166	0.174	-0.001
			Max. Vx	8	0.164	-0.046	-0.125
		Diagonal	Max Tension	8	1.964	0.000	0.000
			Max. Compression	4	-2.312	0.000	0.000
			Max. Mx	17	0.730	-0.029	0.000
			Max. My	13	-0.191	0.000	0.000
			Max. Vy	17	0.021	0.000	0.000
			Max. Vx	13	-0.000	0.000	0.000
		Horizontal	Max Tension	8	0.371	0.000	0.000
			Max. Compression	2	-0.175	0.000	0.000
			Max. Mx	23	0.125	-0.019	0.000
			Max. My	13	0.236	0.000	-0.000
			Max. Vy	23	-0.019	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
		Top Girt	Max Tension	3	0.423	0.000	0.000
			Max. Compression	10	-0.183	0.000	0.000
			Max. Mx	23	0.096	-0.019	0.000
			Max. My	7	-0.124	0.000	-0.000
			Max. Vy	23	-0.019	0.000	0.000
			Max. Vx	7	0.000	0.000	0.000
T4	422 - 402	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	13	-33.166	-0.085	0.118
			Max. Mx	10	-30.303	-0.154	-0.018
			Max. My	6	-31.557	0.065	0.144
			Max. Vy	6	0.097	-0.150	0.016
			Max. Vx	2	-0.085	-0.077	0.132
		Diagonal	Max Tension	4	3.532	0.000	0.000
			Max. Compression	8	-3.904	0.000	0.000
			Max. Mx	17	1.195	-0.029	0.000

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. My	13	-0.860	0.000	0.000
			Max. Vy	17	0.021	0.000	0.000
			Max. Vx	13	-0.000	0.000	0.000
		Horizontal	Max Tension	11	0.267	0.000	0.000
			Max. Compression	6	-0.060	0.000	0.000
			Max. Mx	14	0.080	-0.019	0.000
			Max. My	13	-0.026	0.000	-0.000
			Max. Vy	14	0.019	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
		Top Girt	Max Tension	5	0.264	0.000	0.000
			Max. Compression	2	-0.055	0.000	0.000
			Max. Mx	14	0.077	-0.019	0.000
			Max. My	13	-0.030	0.000	-0.000
			Max. Vy	14	0.019	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
T5	402 - 382	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	2	-47.132	0.125	-0.228
			Max. Mx	11	-44.677	0.263	-0.015
			Max. My	2	-47.071	-0.090	0.252
			Max. Vy	11	0.148	0.263	-0.015
			Max. Vx	2	0.142	-0.090	0.252
		Diagonal	Max Tension	13	4.825	0.000	0.000
			Max. Compression	7	-5.216	0.000	0.000
			Max. Mx	17	1.652	-0.029	0.000
			Max. My	13	-1.510	0.000	0.000
			Max. Vy	17	0.021	0.000	0.000
			Max. Vx	13	-0.000	0.000	0.000
		Horizontal	Max Tension	12	0.266	0.000	0.000
			Max. Compression	6	-0.044	0.000	0.000
			Max. Mx	14	0.087	-0.019	0.000
			Max. My	13	-0.021	0.000	-0.000
			Max. Vy	14	0.019	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
		Top Girt	Max Tension	12	0.263	0.000	0.000
			Max. Compression	6	-0.047	0.000	0.000
			Max. Mx	14	0.083	-0.019	0.000
			Max. My	13	0.249	0.000	-0.000
			Max. Vy	14	0.019	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
		Guy A	Bottom Tension	7	34.250		
			Top Tension	7	35.046		
			Top Cable Vert	7	32.928		
			Top Cable Norm	7	11.998		
			Top Cable Tan	7	0.171		
			Bot Cable Vert	7	-31.674		
			Bot Cable Norm	7	13.021		
			Bot Cable Tan	7	0.507		
		Guy B	Bottom Tension	11	35.577		
			Top Tension	11	36.384		
			Top Cable Vert	11	34.319		
			Top Cable Norm	11	12.083		
			Top Cable Tan	11	0.170		
			Bot Cable Vert	11	-33.062		
			Bot Cable Norm	11	13.128		
			Bot Cable Tan	11	0.515		
		Guy C	Bottom Tension	5	35.221		
			Top Tension	5	36.035		
			Top Cable Vert	5	33.971		
			Top Cable Norm	5	12.021		
			Top Cable Tan	5	0.178		
			Bot Cable Vert	5	-32.703		

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Bot Cable Norm	5	13.070		
			Bot Cable Tan	5	0.511		
		Top Guy Pull-Off	Max Tension	5	7.289	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	14	2.545	0.049	0.000
			Max. My	13	1.835	0.000	0.000
			Max. Vy	14	-0.049	0.000	0.000
			Max. Vx	13	-0.000	0.000	0.000
T6	382 - 362	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	2	-51.471	-0.155	0.246
			Max. Mx	10	-48.448	0.288	0.004
			Max. My	10	-50.744	0.136	-0.253
			Max. Vy	6	-0.163	-0.287	0.008
			Max. Vx	2	-0.143	-0.155	0.246
		Diagonal	Max Tension	3	2.658	0.000	0.000
			Max. Compression	9	-3.200	0.000	0.000
			Max. Mx	17	-0.362	-0.029	0.000
			Max. My	13	-0.154	0.000	0.000
			Max. Vy	17	0.021	0.000	0.000
			Max. Vx	13	-0.000	0.000	0.000
		Horizontal	Max Tension	12	0.341	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	14	0.150	-0.019	0.000
			Max. My	13	0.049	0.000	-0.000
			Max. Vy	14	0.019	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
		Top Girt	Max Tension	5	0.281	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	14	0.131	-0.019	0.000
			Max. My	13	0.053	0.000	-0.000
			Max. Vy	14	0.019	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
T7	362 - 342	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	2	-51.552	-0.157	0.267
			Max. Mx	6	-49.435	-0.306	-0.006
			Max. My	10	-50.812	0.168	-0.274
			Max. Vy	6	0.207	-0.306	-0.006
			Max. Vx	9	0.199	0.150	-0.260
		Diagonal	Max Tension	10	2.567	0.000	0.000
			Max. Compression	2	-3.235	0.000	0.000
			Max. Mx	17	-0.327	-0.029	0.000
			Max. My	13	-0.808	0.000	0.000
			Max. Vy	17	0.020	0.000	0.000
			Max. Vx	13	-0.000	0.000	0.000
		Horizontal	Max Tension	11	0.431	0.000	0.000
			Max. Compression	2	-0.080	0.000	0.000
			Max. Mx	14	0.157	-0.019	0.000
			Max. My	13	-0.053	0.000	-0.000
			Max. Vy	14	0.019	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
		Top Girt	Max Tension	12	0.343	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	14	0.152	-0.019	0.000
			Max. My	13	0.338	0.000	-0.000
			Max. Vy	14	0.019	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
T8	342 - 322	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	2	-65.358	-0.182	-0.327
			Max. Mx	10	-61.338	0.395	0.001
			Max. My	2	-41.006	0.144	0.354
			Max. Vy	6	-0.215	-0.392	-0.049

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vx	2	0.190	0.144	0.353
		Diagonal	Max Tension	3	4.313	0.000	0.000
			Max. Compression	9	-4.987	0.000	0.000
			Max. Mx	25	0.667	-0.029	0.000
			Max. My	13	-1.123	0.000	0.000
			Max. Vy	25	0.020	0.000	0.000
			Max. Vx	13	-0.000	0.000	0.000
		Horizontal	Max Tension	12	0.365	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	14	0.173	-0.018	0.000
			Max. My	13	0.061	0.000	-0.000
			Max. Vy	14	-0.018	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
		Top Girt	Max Tension	7	0.344	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	14	0.158	-0.018	0.000
			Max. My	13	0.045	0.000	-0.000
			Max. Vy	14	-0.018	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
		Guy A	Bottom Tension	7	27.235		
			Top Tension	7	27.741		
			Top Cable Vert	7	25.427		
			Top Cable Norm	7	11.090		
			Top Cable Tan	7	0.116		
			Bot Cable Vert	7	-24.549		
			Bot Cable Norm	7	11.788		
			Bot Cable Tan	7	0.370		
		Guy B	Bottom Tension	11	28.372		
			Top Tension	11	28.887		
			Top Cable Vert	11	26.631		
			Top Cable Norm	11	11.189		
			Top Cable Tan	11	0.117		
			Bot Cable Vert	11	-25.751		
			Bot Cable Norm	11	11.905		
			Bot Cable Tan	11	0.375		
		Guy C	Bottom Tension	5	28.150		
			Top Tension	5	28.669		
			Top Cable Vert	5	26.415		
			Top Cable Norm	5	11.141		
			Top Cable Tan	5	0.122		
			Bot Cable Vert	5	-25.526		
			Bot Cable Norm	5	11.862		
			Bot Cable Tan	5	0.374		
		Top Guy Pull-Off	Max Tension	11	6.862	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	14	2.407	0.048	0.000
			Max. My	13	6.373	0.000	0.000
			Max. Vy	14	-0.048	0.000	0.000
			Max. Vx	13	-0.000	0.000	0.000
T9	322 - 302	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	6	-71.209	0.204	0.393
			Max. Mx	10	-70.685	-0.471	-0.015
			Max. My	10	-71.122	0.222	-0.426
			Max. Vy	10	0.252	0.450	0.016
			Max. Vx	2	-0.220	0.247	0.400
		Diagonal	Max Tension	9	3.957	0.000	0.000
			Max. Compression	3	-4.707	0.000	0.000
			Max. Mx	25	-0.796	-0.023	0.000
			Max. My	25	-0.420	0.000	0.000
			Max. Vy	25	0.017	0.000	0.000
			Max. Vx	25	-0.000	0.000	0.000

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
		Horizontal	Max Tension	11	0.484	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	19	0.297	-0.018	0.000
			Max. My	13	0.162	0.000	-0.000
			Max. Vy	19	0.018	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
		Top Girt	Max Tension	11	0.376	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	14	0.207	-0.018	0.000
			Max. My	13	0.373	0.000	-0.000
			Max. Vy	14	0.018	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
T10	302 - 282	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	2	-72.076	-0.255	0.416
			Max. Mx	10	-69.562	0.816	-0.187
			Max. My	2	-71.100	-0.265	0.807
			Max. Vy	10	-0.366	0.816	-0.187
			Max. Vx	2	-0.349	-0.265	0.807
		Diagonal	Max Tension	3	1.566	0.000	0.000
			Max. Compression	9	-2.547	0.000	0.000
			Max. Mx	25	0.135	-0.028	0.000
			Max. My	13	-1.003	0.000	0.000
			Max. Vy	25	0.020	0.000	0.000
			Max. Vx	13	-0.000	0.000	0.000
		Horizontal	Max Tension	8	0.549	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	14	0.263	-0.018	0.000
			Max. My	13	0.362	0.000	-0.000
			Max. Vy	14	0.018	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
		Top Girt	Max Tension	4	0.588	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	14	0.257	-0.018	0.000
			Max. My	13	0.118	0.000	-0.000
			Max. Vy	14	0.018	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
T11	282 - 262	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	10	-87.284	0.341	0.575
			Max. Mx	5	-65.033	1.183	-0.479
			Max. My	13	-64.266	-0.106	-1.150
			Max. Vy	11	-0.967	0.759	-0.532
			Max. Vx	3	-1.035	0.072	0.934
		Diagonal	Max Tension	13	7.414	0.000	0.000
			Max. Compression	7	-8.674	0.000	0.000
			Max. Mx	25	0.414	-0.040	0.000
			Max. My	13	-2.620	0.000	0.001
			Max. Vy	25	0.029	0.000	0.000
			Max. Vx	13	-0.000	0.000	0.000
		Horizontal	Max Tension	3	1.634	0.000	0.000
			Max. Compression	13	-0.823	0.000	0.000
			Max. Mx	25	0.200	-0.018	0.000
			Max. My	13	-0.823	0.000	-0.000
			Max. Vy	25	-0.018	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
		Top Girt	Max Tension	13	1.501	0.000	0.000
			Max. Compression	7	-0.774	0.000	0.000
			Max. Mx	14	0.310	-0.018	0.000
			Max. My	13	1.501	0.000	-0.000
			Max. Vy	14	-0.018	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
		Guy A	Bottom Tension	7	27.779		

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Top Tension	7	28.191		
			Top Cable Vert	7	24.790		
			Top Cable Norm	7	13.424		
			Top Cable Tan	7	0.076		
			Bot Cable Vert	7	-24.031		
			Bot Cable Norm	7	13.932		
			Bot Cable Tan	7	0.309		
		Guy B	Bottom Tension	11	28.874		
			Top Tension	11	29.295		
			Top Cable Vert	11	26.000		
			Top Cable Norm	11	13.499		
			Top Cable Tan	11	0.079		
			Bot Cable Vert	11	-25.237		
			Bot Cable Norm	11	14.025		
			Bot Cable Tan	11	0.311		
		Guy C	Bottom Tension	5	28.948		
			Top Tension	5	29.374		
			Top Cable Vert	5	26.055		
			Top Cable Norm	5	13.563		
			Top Cable Tan	5	0.082		
			Bot Cable Vert	5	-25.284		
			Bot Cable Norm	5	14.093		
			Bot Cable Tan	5	0.311		
		Top Guy Pull-Off	Max Tension	5	8.421	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	14	3.036	0.048	0.000
			Max. My	13	1.579	0.000	0.000
			Max. Vy	14	-0.048	0.000	0.000
			Max. Vx	13	-0.000	0.000	0.000
T12	262 - 242	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	2	-85.601	0.673	0.022
			Max. Mx	10	-81.205	0.708	-0.040
			Max. My	2	-82.033	0.333	0.658
			Max. Vy	2	0.458	-0.708	0.029
			Max. Vx	2	-0.486	0.333	0.658
		Diagonal	Max Tension	4	1.142	0.000	0.000
			Max. Compression	8	-2.526	0.000	0.000
			Max. Mx	25	-1.228	-0.028	0.000
			Max. My	13	0.522	0.000	0.000
			Max. Vy	25	0.020	0.000	0.000
			Max. Vx	13	-0.000	0.000	0.000
		Horizontal	Max Tension	3	0.862	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	19	0.450	-0.018	0.000
			Max. My	13	0.342	0.000	-0.000
			Max. Vy	19	0.018	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
		Top Girt	Max Tension	5	0.624	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	14	0.404	-0.018	0.000
			Max. My	13	0.360	0.000	-0.000
			Max. Vy	14	0.018	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
T13	242 - 222	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	10	-103.985	0.625	0.539
			Max. Mx	6	-76.971	-0.959	-0.197
			Max. My	2	-77.279	0.296	0.919
			Max. Vy	10	0.906	0.871	-0.169
			Max. Vx	2	0.917	-0.293	0.817
		Diagonal	Max Tension	7	5.401	0.000	0.000
			Max. Compression	13	-7.061	0.000	0.000

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	25	-0.358	-0.028	0.000
			Max. My	13	-0.876	0.000	0.000
			Max. Vy	25	0.020	0.000	0.000
			Max. Vx	13	-0.000	0.000	0.000
		Horizontal	Max Tension	9	1.450	0.000	0.000
			Max. Compression	3	-0.394	0.000	0.000
			Max. Mx	14	0.427	-0.018	0.000
			Max. My	13	0.058	0.000	-0.000
			Max. Vy	14	0.018	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
		Top Girt	Max Tension	13	0.725	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	14	0.421	-0.018	0.000
			Max. My	13	0.724	0.000	-0.000
			Max. Vy	14	0.018	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
T14	222 - 202	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	10	-123.737	-0.506	-0.883
			Max. Mx	2	-121.615	1.016	0.011
			Max. My	2	-70.426	0.333	0.950
			Max. Vy	2	0.507	-1.004	0.058
			Max. Vx	6	-0.469	0.318	-0.945
		Diagonal	Max Tension	13	6.791	0.000	0.000
			Max. Compression	13	-8.624	0.000	0.000
			Max. Mx	25	1.328	-0.040	0.000
			Max. My	13	-2.381	0.000	0.000
			Max. Vy	25	0.028	0.000	0.000
			Max. Vx	13	-0.000	0.000	0.000
		Horizontal	Max Tension	6	0.905	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	14	0.548	-0.018	0.000
			Max. My	13	0.651	0.000	-0.000
			Max. Vy	14	-0.018	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
		Top Girt	Max Tension	7	1.042	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	25	0.450	-0.018	0.000
			Max. My	13	0.094	0.000	-0.000
			Max. Vy	25	-0.018	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
		Guy A	Bottom Tension	7	24.980		
			Top Tension	7	25.315		
			Top Cable Vert	7	22.168		
			Top Cable Norm	7	12.224		
			Top Cable Tan	7	0.058		
			Bot Cable Vert	7	-21.560		
			Bot Cable Norm	7	12.615		
			Bot Cable Tan	7	0.240		
		Guy B	Bottom Tension	11	26.097		
			Top Tension	11	26.431		
			Top Cable Vert	11	23.381		
			Top Cable Norm	11	12.327		
			Top Cable Tan	11	0.058		
			Bot Cable Vert	11	-22.783		
			Bot Cable Norm	11	12.725		
			Bot Cable Tan	11	0.238		
		Guy C	Bottom Tension	5	26.151		
			Top Tension	5	26.493		
			Top Cable Vert	5	23.554		
			Top Cable Norm	5	12.129		
			Top Cable Tan	5	0.060		

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Bot Cable Vert	5	-22.948		
			Bot Cable Norm	5	12.537		
			Bot Cable Tan	5	0.241		
		Top Guy Pull-Off	Max Tension	11	7.870	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	25	2.335	0.047	0.000
			Max. My	13	7.462	0.000	0.000
			Max. Vy	25	-0.047	0.000	0.000
			Max. Vx	13	-0.000	0.000	0.000
T15	202 - 182	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	10	-125.467	0.534	0.800
			Max. Mx	2	-120.596	0.969	0.050
			Max. My	10	-121.775	-0.457	-0.877
			Max. Vy	2	0.481	-0.961	0.053
			Max. Vx	10	-0.436	-0.457	-0.877
		Diagonal	Max Tension	7	1.265	0.000	0.000
			Max. Compression	13	-3.293	0.000	0.000
			Max. Mx	25	-1.179	-0.027	0.000
			Max. My	13	0.153	0.000	0.000
			Max. Vy	25	0.019	0.000	0.000
			Max. Vx	13	-0.000	0.000	0.000
		Horizontal	Max Tension	6	0.862	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	25	0.608	-0.018	0.000
			Max. My	13	0.554	0.000	-0.000
			Max. Vy	25	-0.018	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
		Top Girt	Max Tension	10	0.880	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	25	0.631	-0.018	0.000
			Max. My	13	0.864	0.000	-0.000
			Max. Vy	25	-0.018	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
T16	182 - 162	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	10	-137.971	-0.324	-1.057
			Max. Mx	6	-84.845	-1.559	-0.474
			Max. My	2	-84.421	0.363	1.591
			Max. Vy	11	1.837	1.241	-0.726
			Max. Vx	2	1.919	0.363	1.591
		Diagonal	Max Tension	13	2.670	0.000	0.000
			Max. Compression	7	-4.634	0.000	0.000
			Max. Mx	25	-0.007	-0.027	0.000
			Max. My	13	-0.564	0.000	0.000
			Max. Vy	25	0.019	0.000	0.000
			Max. Vx	13	-0.000	0.000	0.000
		Horizontal	Max Tension	10	0.949	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	25	0.630	-0.017	0.000
			Max. My	13	0.492	0.000	-0.000
			Max. Vy	25	0.017	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
		Top Girt	Max Tension	6	0.855	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	25	0.611	-0.017	0.000
			Max. My	13	0.555	0.000	-0.000
			Max. Vy	25	0.017	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
		Guy A	Bottom Tension	7	24.358		
			Top Tension	7	24.618		
			Top Cable Vert	7	20.025		
			Top Cable Norm	7	14.320		

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Top Cable Tan	7	0.041		
			Bot Cable Vert	7	-19.516		
			Bot Cable Norm	7	14.573		
			Bot Cable Tan	7	0.183		
		Guy B	Bottom Tension	13	25.124		
			Top Tension	13	25.384		
			Top Cable Vert	13	20.959		
			Top Cable Norm	13	14.320		
			Top Cable Tan	13	0.034		
			Bot Cable Vert	13	-20.459		
			Bot Cable Norm	13	14.580		
			Bot Cable Tan	13	0.189		
		Guy C	Bottom Tension	5	25.533		
			Top Tension	5	25.802		
			Top Cable Vert	5	21.502		
			Top Cable Norm	5	14.261		
			Top Cable Tan	5	0.045		
			Bot Cable Vert	5	-20.994		
			Bot Cable Norm	5	14.532		
			Bot Cable Tan	5	0.182		
		Top Guy Pull-Off	Max Tension	11	9.373	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	25	2.642	0.047	0.000
			Max. My	13	7.011	0.000	0.000
			Max. Vy	25	-0.047	0.000	0.000
			Max. Vx	13	-0.000	0.000	0.000
T17	162 - 142	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	10	-135.139	0.539	0.930
			Max. Mx	10	-105.225	1.205	-0.202
			Max. My	2	-104.066	-0.440	1.127
			Max. Vy	10	0.577	1.205	-0.202
			Max. Vx	2	0.527	-0.440	1.127
		Diagonal	Max Tension	7	1.772	0.000	0.000
			Max. Compression	13	-3.758	0.000	0.000
			Max. Mx	25	-1.666	-0.027	0.000
			Max. My	13	1.486	0.000	0.000
			Max. Vy	25	0.019	0.000	0.000
			Max. Vx	13	-0.000	0.000	0.000
		Horizontal	Max Tension	13	0.956	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	25	0.699	-0.017	0.000
			Max. My	13	0.732	0.000	-0.000
			Max. Vy	25	0.017	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
		Top Girt	Max Tension	9	1.406	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	25	0.630	-0.017	0.000
			Max. My	13	1.387	0.000	-0.000
			Max. Vy	25	0.017	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
T18	142 - 122	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	2	-136.717	1.114	0.062
			Max. Mx	2	-136.717	1.114	0.062
			Max. My	2	-106.924	-0.470	0.987
			Max. Vy	10	0.634	1.046	-0.073
			Max. Vx	10	-0.552	-0.514	-0.932
		Diagonal	Max Tension	13	2.716	0.000	0.000
			Max. Compression	7	-5.047	0.000	0.000
			Max. Mx	26	-0.206	-0.027	0.000
			Max. My	13	0.573	0.000	0.000
			Max. Vy	26	0.019	0.000	0.000

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vx	13	-0.000	0.000	0.000
		Horizontal	Max Tension	11	1.052	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	25	0.718	-0.017	0.000
			Max. My	13	0.651	0.000	-0.000
			Max. Vy	15	0.017	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
		Top Girt	Max Tension	3	0.946	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	25	0.694	-0.017	0.000
			Max. My	13	0.647	0.000	-0.000
			Max. Vy	14	0.017	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
T19	122 - 114	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	2	-143.411	1.133	0.047
			Max. Mx	2	-143.411	1.133	0.047
			Max. My	10	-142.815	-0.533	-0.997
			Max. Vy	2	-0.567	-1.121	0.046
			Max. Vx	6	-0.502	0.516	-0.985
		Diagonal	Max Tension	13	3.679	0.000	0.000
			Max. Compression	7	-6.042	0.000	0.000
			Max. Mx	16	0.123	-0.026	0.000
			Max. My	13	-0.597	0.000	0.000
			Max. Vy	16	0.019	0.000	0.000
			Max. Vx	13	-0.000	0.000	0.000
		Horizontal	Max Tension	2	0.946	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	21	0.711	-0.017	0.000
			Max. My	13	0.673	0.000	-0.000
			Max. Vy	21	0.017	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
		Top Girt	Max Tension	13	0.997	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	21	0.704	-0.017	0.000
			Max. My	13	0.997	0.000	-0.000
			Max. Vy	21	0.017	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
T20	114 - 110	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	2	-147.315	-1.169	0.120
			Max. Mx	6	-104.591	-1.181	-0.148
			Max. My	6	-146.998	0.500	-1.098
			Max. Vy	2	0.579	-1.169	0.120
			Max. Vx	6	0.529	0.500	-1.098
		Diagonal	Max Tension	7	4.055	0.000	0.000
			Max. Compression	13	-6.289	0.000	0.000
			Max. Mx	16	0.451	-0.026	0.000
			Max. My	7	-0.768	0.000	-0.000
			Max. Vy	16	0.019	0.000	0.000
			Max. Vx	7	0.000	0.000	0.000
		Horizontal	Max Tension	10	0.947	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	21	0.740	-0.017	0.000
			Max. My	13	0.916	0.000	-0.000
			Max. Vy	21	-0.017	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
T21	110 - 106	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	2	-152.077	1.250	0.035
			Max. Mx	2	-152.077	1.250	0.035
			Max. My	6	-150.132	0.500	-1.098
			Max. Vy	2	-0.629	1.250	0.035
			Max. Vx	6	-0.572	0.500	-1.098

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
		Diagonal	Max Tension	13	4.547	0.000	0.000
			Max. Compression	7	-7.012	0.000	0.000
			Max. Mx	26	0.520	0.028	0.000
			Max. My	13	-1.010	0.000	-0.000
			Max. Vy	26	-0.020	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
		Horizontal	Max Tension	7	1.036	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	21	0.747	-0.017	0.000
			Max. My	13	0.618	0.000	-0.000
			Max. Vy	21	0.017	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
T22	106 - 102	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	2	-156.848	-1.256	0.242
			Max. Mx	2	-156.848	-1.256	0.242
			Max. My	2	-98.467	0.450	1.206
			Max. Vy	2	0.630	-1.256	0.242
			Max. Vx	6	0.571	0.402	-1.180
		Diagonal	Max Tension	7	4.941	0.000	0.000
			Max. Compression	13	-7.223	0.000	0.000
			Max. Mx	16	0.724	0.028	0.000
			Max. My	7	-1.022	0.000	0.000
			Max. Vy	16	-0.020	0.000	0.000
			Max. Vx	7	-0.000	0.000	0.000
		Horizontal	Max Tension	2	0.968	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	21	0.766	-0.017	0.000
			Max. My	7	0.735	0.000	-0.000
			Max. Vy	21	0.017	0.000	0.000
			Max. Vx	7	0.000	0.000	0.000
T23	102 - 82	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	2	-157.852	1.223	0.019
			Max. Mx	2	-157.725	-1.256	0.242
			Max. My	2	-106.856	0.450	1.206
			Max. Vy	2	-0.623	-1.256	0.242
			Max. Vx	6	-0.570	0.402	-1.180
		Diagonal	Max Tension	12	2.914	0.000	0.000
			Max. Compression	6	-5.270	0.000	0.000
			Max. Mx	16	-1.879	-0.026	0.000
			Max. My	13	2.289	0.000	0.000
			Max. Vy	16	0.018	0.000	0.000
			Max. Vx	13	-0.000	0.000	0.000
		Horizontal	Max Tension	6	0.991	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	15	0.816	-0.016	0.000
			Max. My	13	0.697	0.000	-0.000
			Max. Vy	15	0.016	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
		Guy A	Bottom Tension	7	13.591		
			Top Tension	7	13.687		
			Top Cable Vert	7	8.910		
			Top Cable Norm	7	10.390		
			Top Cable Tan	7	0.029		
			Bot Cable Vert	7	-8.669		
			Bot Cable Norm	7	10.467		
			Bot Cable Tan	7	0.078		
		Guy B	Bottom Tension	13	13.854		
			Top Tension	13	13.950		
			Top Cable Vert	13	9.319		
			Top Cable Norm	13	10.381		
			Top Cable Tan	13	0.026		

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Bot Cable Vert	13	-9.082		
			Bot Cable Norm	13	10.461		
			Bot Cable Tan	13	0.079		
		Guy C	Bottom Tension	5	14.023		
			Top Tension	5	14.124		
			Top Cable Vert	5	9.683		
			Top Cable Norm	5	10.282		
			Top Cable Tan	5	0.032		
			Bot Cable Vert	5	-9.441		
			Bot Cable Norm	5	10.369		
			Bot Cable Tan	5	0.076		
		Top Guy Pull-Off	Max Tension	11	6.745	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	21	2.924	0.046	0.000
			Max. My	13	6.708	0.000	0.000
			Max. Vy	21	-0.046	0.000	0.000
			Max. Vx	13	-0.000	0.000	0.000
T24	82 - 62	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	6	-142.382	0.552	-1.023
			Max. Mx	2	-142.242	1.171	0.044
			Max. My	10	-140.573	-0.553	-1.025
			Max. Vy	2	0.589	-1.171	0.032
			Max. Vx	10	-0.517	-0.553	-1.025
		Diagonal	Max Tension	7	1.482	0.000	0.000
			Max. Compression	13	-3.809	0.000	0.000
			Max. Mx	16	-0.416	-0.025	0.000
			Max. My	13	1.178	0.000	0.000
			Max. Vy	16	0.018	0.000	0.000
			Max. Vx	13	-0.000	0.000	0.000
		Horizontal	Max Tension	10	0.986	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	14	0.769	-0.016	0.000
			Max. My	13	0.721	0.000	-0.000
			Max. Vy	15	0.016	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
		Top Girt	Max Tension	10	0.981	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	21	0.768	-0.016	0.000
			Max. My	7	0.707	0.000	-0.000
			Max. Vy	21	0.016	0.000	0.000
			Max. Vx	7	0.000	0.000	0.000
T25	62 - 42	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	2	-140.391	1.201	0.151
			Max. Mx	10	-120.392	1.248	-0.100
			Max. My	2	-121.818	-0.547	1.131
			Max. Vy	10	0.618	1.248	-0.100
			Max. Vx	2	0.549	-0.547	1.131
		Diagonal	Max Tension	6	2.538	0.000	0.000
			Max. Compression	6	-4.943	0.000	0.000
			Max. Mx	16	-0.077	-0.025	0.000
			Max. My	13	0.374	0.000	0.000
			Max. Vy	16	0.018	0.000	0.000
			Max. Vx	13	-0.000	0.000	0.000
		Horizontal	Max Tension	10	0.996	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	23	0.824	-0.016	0.000
			Max. My	13	0.778	0.000	-0.000
			Max. Vy	21	0.016	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
		Top Girt	Max Tension	6	0.983	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	14	0.771	-0.016	0.000
			Max. My	13	0.729	0.000	-0.000
			Max. Vy	21	0.016	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
		Guy A	Bottom Tension	8	5.941		
			Top Tension	8	5.967		
			Top Cable Vert	8	2.320		
			Top Cable Norm	8	5.498		
			Top Cable Tan	8	0.000		
			Bot Cable Vert	8	-2.232		
			Bot Cable Norm	8	5.506		
			Bot Cable Tan	8	0.000		
		Guy B	Bottom Tension	12	5.993		
			Top Tension	12	6.019		
			Top Cable Vert	12	2.431		
			Top Cable Norm	12	5.506		
			Top Cable Tan	12	0.001		
			Bot Cable Vert	12	-2.346		
			Bot Cable Norm	12	5.515		
			Bot Cable Tan	12	0.001		
		Guy C	Bottom Tension	4	6.083		
			Top Tension	4	6.111		
			Top Cable Vert	4	2.668		
			Top Cable Norm	4	5.498		
			Top Cable Tan	4	0.001		
			Bot Cable Vert	4	-2.579		
			Bot Cable Norm	4	5.509		
			Bot Cable Tan	4	0.001		
		Top Guy Pull-Off	Max Tension	13	3.965	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	23	3.428	0.044	0.000
			Max. My	7	3.822	0.000	0.000
			Max. Vy	21	-0.044	0.000	0.000
			Max. Vx	7	-0.000	0.000	0.000
T26	42 - 22	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	6	-133.978	0.571	-1.012
			Max. Mx	2	-133.720	1.175	0.029
			Max. My	2	-125.034	-0.556	1.032
			Max. Vy	10	0.601	1.167	-0.014
			Max. Vx	2	0.526	0.573	1.023
		Diagonal	Max Tension	6	2.046	0.000	0.000
			Max. Compression	6	-4.364	0.000	0.000
			Max. Mx	16	-0.349	-0.024	0.000
			Max. My	24	-1.769	0.000	0.000
			Max. Vy	16	0.017	0.000	0.000
			Max. Vx	24	-0.000	0.000	0.000
		Horizontal	Max Tension	10	0.996	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	23	0.857	-0.015	0.000
			Max. My	13	0.750	0.000	-0.000
			Max. Vy	23	0.015	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
		Top Girt	Max Tension	10	1.004	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	23	0.852	-0.015	0.000
			Max. My	7	0.723	0.000	-0.000
			Max. Vy	23	0.015	0.000	0.000
			Max. Vx	7	0.000	0.000	0.000
T27	22 - 2	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	6	-130.357	-1.092	0.160
			Max. Mx	10	-129.472	1.258	-0.546

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. My	13	-121.466	-0.127	1.298
			Max. Vy	10	-0.618	1.258	-0.546
			Max. Vx	10	-0.594	0.436	-1.065
		Diagonal	Max Tension	12	1.539	0.000	0.000
			Max. Compression	7	-3.802	0.000	0.000
			Max. Mx	16	0.120	-0.023	0.000
			Max. My	10	-0.020	0.000	0.000
			Max. Vy	16	0.016	0.000	0.000
			Max. Vx	10	-0.000	0.000	0.000
		Horizontal	Max Tension	10	1.092	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	23	0.813	-0.014	0.000
			Max. My	13	0.786	0.000	-0.000
			Max. Vy	23	-0.014	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
		Top Girt	Max Tension	2	0.989	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	23	0.843	-0.014	0.000
			Max. My	13	0.761	0.000	-0.000
			Max. Vy	23	-0.014	0.000	0.000
			Max. Vx	13	0.000	0.000	0.000
		Bottom Girt	Max Tension	6	2.759	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	14	2.301	-0.014	0.000
			Max. Vy	14	-0.014	0.000	0.000
		Base Beam	Max Tension	6	38.269	-106.104	0.107
			Max. Compression	2	-116.778	-0.020	-0.126
			Max. Mx	2	-41.667	-109.862	0.219
			Max. My	7	-38.189	-100.657	2.002
			Max. Vy	2	-41.667	-109.862	0.219
			Max. Vx	7	0.929	-100.657	2.002

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Guy C @ 148 ft Elev -7 ft Azimuth 240 deg	Max. Vert	23	-10.487	-3.785	2.186
	Max. H_x	10	-11.601	-2.223	1.287
	Max. H_z	3	-113.449	-41.763	26.171
	Min. Vert	5	-115.183	-44.227	23.481
	Min. H_x	5	-115.183	-44.227	23.481
	Min. H_z	9	-14.944	-4.200	1.033
Guy B @ 146 ft Elev -4 ft Azimuth 120 deg	Max. Vert	19	-10.455	3.730	2.154
	Max. H_x	11	-116.004	44.272	23.499
	Max. H_z	13	-114.965	42.107	26.399
	Min. Vert	11	-116.004	44.272	23.499
	Min. H_x	6	-11.605	2.202	1.273
	Min. H_z	7	-14.893	4.147	1.008
Guy A @ 149 ft Elev 2 ft Azimuth 0 deg	Max. Vert	15	-9.538	0.000	-4.167
	Max. H_x	11	-62.459	2.966	-26.685

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
	Max. H_z	2	-10.780	0.001	-2.426
	Min. Vert	7	-111.142	-1.762	-49.749
	Min. H_x	5	-62.178	-2.960	-26.569
	Min. H_z	7	-111.142	-1.762	-49.749
Guy C @ 117.5 ft Elev -5 ft Azimuth 240 deg	Max. Vert	10	-1.891	-0.854	0.493
	Max. H_x	10	-1.891	-0.854	0.493
	Max. H_z	3	-54.815	-36.227	21.529
	Min. Vert	5	-55.900	-37.351	20.958
	Min. H_x	5	-55.900	-37.351	20.958
	Min. H_z	10	-1.891	-0.854	0.493
Guy B @ 117.5 ft Elev 0 ft Azimuth 120 deg	Max. Vert	6	-1.687	0.785	0.453
	Max. H_x	11	-54.415	37.407	21.004
	Max. H_z	13	-54.488	37.084	22.037
	Min. Vert	13	-54.488	37.084	22.037
	Min. H_x	6	-1.687	0.785	0.453
	Min. H_z	6	-1.687	0.785	0.453
Guy A @ 123 ft Elev 0 ft Azimuth 0 deg	Max. Vert	2	-1.521	-0.000	-0.881
	Max. H_x	11	-27.498	0.937	-22.564
	Max. H_z	2	-1.521	-0.000	-0.881
	Min. Vert	7	-51.935	-0.528	-43.069
	Min. H_x	5	-27.378	-0.942	-22.491
	Min. H_z	7	-51.935	-0.528	-43.069
Mast	Max. Vert	2	389.934	0.052	-0.806
	Max. H_x	6	387.741	0.696	0.271
	Max. H_z	11	358.843	-0.274	0.503
	Max. M_x	1	0.000	-0.006	-0.022
	Max. M_z	1	0.000	-0.006	-0.022
	Max. Torsion	7	4.442	0.573	-0.186
	Min. Vert	1	223.777	-0.006	-0.022
	Min. H_x	10	386.390	-0.607	0.277
	Min. H_z	2	389.934	0.052	-0.806
	Min. M_x	1	0.000	-0.006	-0.022
	Min. M_z	1	0.000	-0.006	-0.022
	Min. Torsion	13	-4.211	0.369	-0.533

Tower Mast Reaction Summary

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Dead Only	223.777	0.006	0.022	0.000	0.000	-0.064
1.2 Dead+1.0 Wind 0 deg - No Ice+1.0 Guy	389.934	-0.052	0.806	0.000	0.000	-0.362
1.2 Dead+1.0 Wind 30 deg - No Ice+1.0 Guy	357.391	0.276	0.569	0.000	0.000	-4.022
1.2 Dead+1.0 Wind 60 deg - No Ice+1.0 Guy	319.164	0.350	-0.180	0.000	0.000	-3.783
1.2 Dead+1.0 Wind 90 deg - No Ice+1.0 Guy	358.879	-0.375	-0.495	0.000	0.000	-2.562
1.2 Dead+1.0 Wind 120 deg - No Ice+1.0 Guy	387.741	-0.696	-0.271	0.000	0.000	-3.854

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
1.2 Dead+1.0 Wind 150 deg - No Ice+1.0 Guy	355.676	-0.573	0.186	0.000	0.000	-4.442
1.2 Dead+1.0 Wind 180 deg - No Ice+1.0 Guy	316.736	0.024	0.616	0.000	0.000	-0.075
1.2 Dead+1.0 Wind 210 deg - No Ice+1.0 Guy	353.289	0.528	0.173	0.000	0.000	3.700
1.2 Dead+1.0 Wind 240 deg - No Ice+1.0 Guy	386.390	0.607	-0.277	0.000	0.000	3.299
1.2 Dead+1.0 Wind 270 deg - No Ice+1.0 Guy	358.843	0.274	-0.503	0.000	0.000	2.319
1.2 Dead+1.0 Wind 300 deg - No Ice+1.0 Guy	320.000	-0.416	-0.242	0.000	0.000	4.049
1.2 Dead+1.0 Wind 330 deg - No Ice+1.0 Guy	359.937	-0.369	0.533	0.000	0.000	4.211
1.2 Dead+1.0 Ice+1.0 Temp+Guy	333.023	0.025	0.062	0.000	0.000	-0.097
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp+1.0 Guy	340.974	0.020	-0.229	0.000	0.000	-0.743
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp+1.0 Guy	347.827	0.140	-0.173	0.000	0.000	-1.673
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp+1.0 Guy	351.609	0.225	-0.057	0.000	0.000	-2.267
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp+1.0 Guy	347.856	0.281	0.079	0.000	0.000	-2.562
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp+1.0 Guy	341.049	0.272	0.229	0.000	0.000	-2.251
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp+1.0 Guy	347.575	0.170	0.323	0.000	0.000	-0.896
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp+1.0 Guy	351.198	0.031	0.343	0.000	0.000	0.643
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp+1.0 Guy	347.472	-0.107	0.309	0.000	0.000	1.711
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp+1.0 Guy	340.855	-0.211	0.216	0.000	0.000	2.227
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp+1.0 Guy	348.014	-0.237	0.067	0.000	0.000	2.229
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp+1.0 Guy	352.005	-0.197	-0.076	0.000	0.000	1.737
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp+1.0 Guy	348.120	-0.109	-0.189	0.000	0.000	0.537
Dead+Wind 0 deg - Service+Guy	226.020	0.001	-0.287	0.000	0.000	0.076
Dead+Wind 30 deg - Service+Guy	226.988	0.128	-0.214	0.000	0.000	-1.255
Dead+Wind 60 deg - Service+Guy	227.900	0.216	-0.106	0.000	0.000	-1.127
Dead+Wind 90 deg - Service+Guy	227.285	0.261	0.029	0.000	0.000	-0.773
Dead+Wind 120 deg - Service+Guy	226.545	0.256	0.179	0.000	0.000	-1.424
Dead+Wind 150 deg - Service+Guy	227.691	0.145	0.272	0.000	0.000	-1.639
Dead+Wind 180 deg - Service+Guy	228.533	0.010	0.297	0.000	0.000	-0.149
Dead+Wind 210 deg - Service+Guy	227.771	-0.121	0.257	0.000	0.000	1.105
Dead+Wind 240 deg - Service+Guy	226.754	-0.235	0.169	0.000	0.000	1.023
Dead+Wind 270 deg - Service+Guy	227.586	-0.252	0.020	0.000	0.000	0.649
Dead+Wind 300 deg -	228.217	-0.215	-0.117	0.000	0.000	1.240

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Service+Guy Dead+Wind 330 deg - Service+Guy	227.204	-0.130	-0.230	0.000	0.000	1.525

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX K	PY K	PZ K	PX K	PY K	PZ K	% Error
1	0.000	-69.151	0.000	0.002	69.151	-0.019	0.028%
2	-0.001	-80.863	-82.981	-0.001	80.848	82.519	0.398%
3	39.882	-80.657	-68.963	-39.927	80.647	68.585	0.336%
4	69.037	-80.455	-39.765	-68.803	80.448	39.552	0.279%
5	80.965	-80.688	0.010	-80.660	80.678	0.208	0.328%
6	72.275	-80.915	41.610	-71.879	80.900	-41.392	0.389%
7	40.501	-80.696	70.118	-40.169	80.687	-69.983	0.313%
8	-0.052	-80.467	79.730	0.010	80.460	-79.428	0.270%
9	-39.917	-80.673	68.943	39.585	80.664	-68.809	0.315%
10	-71.929	-80.875	41.409	71.531	80.860	-41.193	0.391%
11	-81.042	-80.642	0.038	80.727	80.632	0.186	0.338%
12	-69.541	-80.415	-39.996	69.281	80.407	39.816	0.279%
13	-40.622	-80.634	-70.137	40.666	80.624	69.756	0.336%
14	0.000	-172.225	0.000	-0.013	172.225	-0.053	0.032%
15	0.192	-172.373	-35.288	-0.189	172.373	35.230	0.033%
16	17.591	-172.218	-29.909	-17.565	172.217	29.824	0.051%
17	30.162	-172.073	-17.374	-30.077	172.072	17.317	0.059%
18	35.189	-172.240	-0.262	-35.100	172.239	0.276	0.051%
19	31.119	-172.402	17.591	-31.065	172.402	-17.568	0.033%
20	17.447	-172.247	30.340	-17.390	172.246	-30.282	0.046%
21	-0.030	-172.084	34.641	0.023	172.083	-34.546	0.054%
22	-17.257	-172.232	29.979	17.195	172.231	-29.921	0.048%
23	-30.609	-172.377	17.518	30.555	172.376	-17.493	0.034%
24	-35.136	-172.211	-0.136	35.046	172.210	0.155	0.052%
25	-30.496	-172.048	-17.532	30.407	172.047	17.480	0.059%
26	-17.673	-172.204	-30.272	17.645	172.203	30.185	0.052%
27	-0.000	-69.206	-22.690	-0.002	69.206	22.635	0.075%
28	10.909	-69.148	-18.864	-10.871	69.148	18.817	0.083%
29	18.884	-69.094	-10.877	-18.832	69.093	10.842	0.086%
30	22.144	-69.157	0.003	-22.086	69.157	-0.018	0.083%
31	19.765	-69.219	11.379	-19.720	69.219	-11.358	0.068%
32	11.077	-69.159	19.178	-11.059	69.159	-19.127	0.074%
33	-0.014	-69.097	21.808	0.012	69.097	-21.754	0.075%
34	-10.918	-69.153	18.858	10.896	69.153	-18.808	0.076%
35	-19.671	-69.208	11.325	19.611	69.208	-11.300	0.089%
36	-22.165	-69.144	0.010	22.105	69.144	-0.025	0.086%
37	-19.021	-69.083	-10.940	18.966	69.082	10.907	0.088%
38	-11.110	-69.142	-19.183	11.069	69.142	19.137	0.085%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	18	0.00094771	0.00001859

2	Yes	105	0.00098508	0.00039224
3	Yes	99	0.00099560	0.00033770
4	Yes	29	0.00096637	0.00022929
5	Yes	95	0.00098010	0.00033232
6	Yes	100	0.00099520	0.00038823
7	Yes	95	0.00098492	0.00032195
8	Yes	25	0.00097976	0.00022422
9	Yes	96	0.00098321	0.00032419
10	Yes	101	0.00099239	0.00039130
11	Yes	95	0.00099984	0.00034238
12	Yes	29	0.00097316	0.00023322
13	Yes	99	0.00099306	0.00033797
14	Yes	15	0.00097873	0.00003979
15	Yes	51	0.00098132	0.00008606
16	Yes	70	0.00097115	0.00010389
17	Yes	61	0.00099030	0.00011963
18	Yes	68	0.00097680	0.00010612
19	Yes	56	0.00096625	0.00008468
20	Yes	68	0.00096623	0.00009666
21	Yes	59	0.00099951	0.00011163
22	Yes	69	0.00099598	0.00010023
23	Yes	55	0.00097946	0.00008543
24	Yes	69	0.00098575	0.00010763
25	Yes	61	0.00097989	0.00012000
26	Yes	69	0.00098722	0.00010573
27	Yes	13	0.00093073	0.00011972
28	Yes	20	0.00096539	0.00005059
29	Yes	23	0.00098488	0.00005582
30	Yes	20	0.00094738	0.00004911
31	Yes	14	0.00094861	0.00012505
32	Yes	20	0.00095645	0.00006285
33	Yes	23	0.00096524	0.00005208
34	Yes	20	0.00096064	0.00004854
35	Yes	12	0.00096734	0.00008380
36	Yes	20	0.00096667	0.00005119
37	Yes	23	0.00099502	0.00005843
38	Yes	20	0.00098632	0.00006954

Maximum Tower Deflections - Service Wind

Section No.	*Elevation* ft	*Horz. Deflection* in	*Gov. Load Comb.*	*Tilt* °	*Twist* °
L1	492 - 477	8.416	37	0.435	0.636
L2	477 - 457	7.105	37	0.395	0.636
T1	457 - 452	6.003	37	0.060	0.629
T2	452 - 442	5.949	37	0.061	0.630
T3	442 - 422	5.826	37	0.067	0.616
T4	422 - 402	5.516	37	0.083	0.623
T5	402 - 382	5.144	37	0.088	0.589
T6	382 - 362	4.786	37	0.076	0.615
T7	362 - 342	4.474	37	0.076	0.569
T8	342 - 322	4.148	37	0.076	0.600
T9	322 - 302	3.843	37	0.065	0.553
T10	302 - 282	3.578	37	0.071	0.565
T11	282 - 262	3.259	37	0.081	0.537
T12	262 - 242	2.915	29	0.079	0.549
T13	242 - 222	2.617	29	0.080	0.500
T14	222 - 202	2.297	29	0.077	0.506
T15	202 - 182	2.012	29	0.067	0.457

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T16	182 - 162	1.754	29	0.061	0.454
T17	162 - 142	1.521	29	0.051	0.398
T18	142 - 122	1.312	29	0.052	0.377
T19	122 - 114	1.082	29	0.054	0.304
T20	114 - 110	0.989	27	0.052	0.283
T21	110 - 106	0.946	27	0.051	0.301
T22	106 - 102	0.904	27	0.049	0.270
T23	102 - 82	0.865	27	0.046	0.289
T24	82 - 62	0.712	27	0.040	0.211
T25	62 - 42	0.553	27	0.039	0.193
T26	42 - 22	0.388	27	0.040	0.107
T27	22 - 2	0.217	27	0.044	0.098

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
495.000	Lightning Rod 5/8" x 6'	37	8.416	0.435	0.636	25377
492.500	Flash Beacon Lighting	37	8.416	0.435	0.636	25377
471.000	2 Bay FM Antenna	37	6.653	0.290	0.633	4800
460.000	ERI ALP 8W LPTV Antenna	37	6.079	0.084	0.629	2723
457.000	Guy	37	6.003	0.060	0.629	3118
455.000	ERI ALP 8W LPTV Antenna	37	5.975	0.056	0.630	5033
453.000	3' Yagi	37	5.957	0.059	0.630	17911
450.000	ERI ALP 8W LPTV Antenna	37	5.929	0.064	0.628	18020
445.000	ERI ALP 8W LPTV Antenna	37	5.868	0.067	0.620	31316
440.000	ERI ALP 8W LPTV Antenna	37	5.797	0.068	0.615	110887
435.000	6' Grid Dish	37	5.724	0.071	0.616	90055
386.000	Guy	37	4.853	0.078	0.615	64545
358.000	Side Lighting	37	4.410	0.077	0.573	132674
351.000	3' Dish w/ Radomes	37	4.296	0.078	0.590	560013
339.000	3' Grid Dish	37	4.099	0.075	0.594	115591
326.000	Guy	37	3.900	0.067	0.549	69494
302.000	6' Omni	37	3.578	0.071	0.565	58712
300.000	Kathrein CA5-FM/CP/RM	37	3.549	0.072	0.564	57007
280.000	APXVAARR24_43-U-NA20_TIA w/ Mount Pipe	37	3.224	0.081	0.534	137909
266.000	Guy	29	2.978	0.080	0.548	118044
247.000	8' Grid Dish	29	2.692	0.080	0.500	134324
239.000	8' Grid Dish	29	2.570	0.080	0.493	103010
237.000	Flash Beacon Lighting	29	2.538	0.080	0.489	138784
225.000	MX08FRO665-21_TIA w/ Mount Pipe	29	2.344	0.078	0.507	96747
214.000	Guy	29	2.178	0.073	0.484	91077
166.000	Guy	29	1.565	0.053	0.400	107938
165.000	(2) TPA65R-BU8DA-K_TIA w/ Mount Pipe	29	1.554	0.052	0.401	105921
138.000	10' Dipole	29	1.268	0.053	0.371	116809
125.000	10' Dipole	29	1.117	0.054	0.307	296975
124.000	Flash Beacon Lighting	29	1.106	0.054	0.300	335043
116.000	Side Lighting	27	1.011	0.053	0.307	428939
108.000	10' Dipole	27	0.925	0.050	0.272	91102
102.000	Guy	27	0.865	0.046	0.289	46909
50.000	Guy	27	0.454	0.039	0.135	Inf

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	492 - 477	61.463	2	1.522	1.631
L2	477 - 457	56.849	2	1.403	1.631
T1	457 - 452	52.504	2	0.487	1.607
T2	452 - 442	52.031	2	0.496	1.611
T3	442 - 422	51.021	2	0.531	1.585
T4	422 - 402	48.715	2	0.614	1.578
T5	402 - 382	46.073	2	0.662	1.504
T6	382 - 362	43.361	2	0.642	1.532
T7	362 - 342	40.688	2	0.671	1.458
T8	342 - 322	37.820	2	0.696	1.506
T9	322 - 302	34.913	2	0.678	1.438
T10	302 - 282	32.056	2	0.715	1.460
T11	282 - 262	28.943	2	0.765	1.438
T12	262 - 242	25.691	2	0.756	1.435
T13	242 - 222	22.543	2	0.749	1.357
T14	222 - 202	19.403	2	0.718	1.340
T15	202 - 182	16.517	2	0.655	1.254
T16	182 - 162	13.876	2	0.600	1.213
T17	162 - 142	11.495	2	0.529	1.104
T18	142 - 122	9.391	2	0.488	1.008
T19	122 - 114	7.406	2	0.448	0.845
T20	114 - 110	6.656	2	0.424	0.786
T21	110 - 106	6.295	2	0.409	0.796
T22	106 - 102	5.951	2	0.392	0.745
T23	102 - 82	5.621	2	0.373	0.759
T24	82 - 62	4.262	2	0.307	0.581
T25	62 - 42	3.077	2	0.270	0.487
T26	42 - 22	2.032	2	0.238	0.292
T27	22 - 2	1.081	2	0.232	0.217

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
495.000	Lightning Rod 5/8" x 6'	2	61.463	1.522	1.631	8646
492.500	Flash Beacon Lighting	2	61.463	1.522	1.631	8646
471.000	2 Bay FM Antenna	2	55.208	1.114	1.622	1668
460.000	ERI ALP 8W LPTV Antenna	2	52.906	0.553	1.606	956
457.000	Guy	2	52.504	0.487	1.607	1098
455.000	ERI ALP 8W LPTV Antenna	2	52.298	0.479	1.610	1788
453.000	3' Yagi	2	52.119	0.489	1.611	6683
450.000	ERI ALP 8W LPTV Antenna	2	51.846	0.507	1.609	5696
445.000	ERI ALP 8W LPTV Antenna	2	51.342	0.524	1.594	8710
440.000	ERI ALP 8W LPTV Antenna	2	50.804	0.537	1.582	18775
435.000	6' Grid Dish	2	50.249	0.555	1.580	16556
386.000	Guy	2	43.897	0.645	1.533	20027
358.000	Side Lighting	2	40.130	0.679	1.464	18296
351.000	3' Dish w/ Radomes	2	39.131	0.691	1.492	30393
339.000	3' Grid Dish	2	37.381	0.694	1.495	33085
326.000	Guy	2	35.487	0.679	1.431	19222

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
302.000	6' Omni	2	32.056	0.715	1.460	13557
300.000	Kathrein CA5-FM/CP/RM	2	31.758	0.722	1.460	13367
280.000	APXVAARR24_43-U-NA20_TIA w/ Mount Pipe	2	28.619	0.766	1.434	33719
266.000	Guy	2	26.335	0.759	1.434	28044
247.000	8' Grid Dish	2	23.328	0.751	1.357	49811
239.000	8' Grid Dish	2	22.069	0.747	1.345	40037
237.000	Flash Beacon Lighting	2	21.751	0.745	1.332	65237
225.000	MX08FRO665-21_TIA w/ Mount Pipe	2	19.863	0.725	1.344	16291
214.000	Guy	2	18.213	0.694	1.296	15284
166.000	Guy	2	11.947	0.542	1.114	14395
165.000	(2) TPA65R-BU8DA-K_TIA w/ Mount Pipe	2	11.832	0.538	1.113	14226
138.000	10' Dipole	2	8.985	0.481	0.988	58422
125.000	10' Dipole	2	7.695	0.455	0.850	29012
124.000	Flash Beacon Lighting	2	7.598	0.453	0.840	27947
116.000	Side Lighting	2	6.840	0.430	0.831	21034
108.000	10' Dipole	2	6.121	0.401	0.743	12677
102.000	Guy	2	5.621	0.373	0.759	8494
50.000	Guy	2	2.433	0.245	0.357	34869

Bolt Design Data

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load per Bolt K	Ratio Load / Allowable	Allowable Ratio	Criteria
T1	457	Diagonal	A325N	0.625	2	2.758	13.050	0.211 ✔	1	Member Bearing
		Top Guy Pull-Off@457	A325N	0.750	2	0.000	32.477	0.000 ✔	1	Member Block Shear
T2	452	Diagonal	A325N	0.625	1	2.190	10.500	0.209 ✔	1	Member Block Shear
		Horizontal	A325N	0.625	1	0.680	7.875	0.086 ✔	1	Member Block Shear
		Top Girt	A325N	0.625	1	1.794	7.875	0.228 ✔	1	Member Block Shear
T3	442	Leg	A325N	0.625	3	3.874	20.340	0.190 ✔	1	Bolt Tension
		Diagonal	A325N	0.625	1	1.964	10.500	0.187 ✔	1	Member Block Shear
		Horizontal	A325N	0.625	1	0.807	7.875	0.103 ✔	1	Member Block Shear
		Top Girt	A325N	0.625	1	0.807	7.875	0.103 ✔	1	Member Block Shear
T4	422	Leg	A325N	0.625	3	3.131	20.340	0.154 ✔	1	Bolt Tension
		Diagonal	A325N	0.625	1	3.532	10.500	0.336 ✔	1	Member Block Shear
		Horizontal	A325N	0.625	1	0.736	7.875	0.093 ✔	1	Member Block Shear
		Top Girt	A325N	0.625	1	0.807	7.875	0.103 ✔	1	Member Block Shear
T5	402	Leg	A325N	0.625	3	5.237	20.340	0.257 ✔	1	Bolt Tension
		Diagonal	A325N	0.625	1	4.825	10.500	0.460 ✔	1	Member Block Shear

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load per Bolt K	Ratio Load / Allowable	Allowable Ratio	Criteria
		Horizontal	A325N	0.625	1	1.046	7.875	0.133 ✔	1	Member Block Shear
		Top Girt	A325N	0.625	1	1.046	7.875	0.133 ✔	1	Member Block Shear
		Top Guy Pull-Off@386	A325N	0.750	2	3.645	32.477	0.112 ✔	1	Member Block Shear
T6	382	Leg	A325N	0.625	3	5.719	20.340	0.281 ✔	1	Bolt Tension
		Diagonal	A325N	0.625	1	2.658	10.500	0.253 ✔	1	Member Block Shear
		Horizontal	A325N	0.625	1	1.142	7.875	0.145 ✔	1	Member Block Shear
		Top Girt	A325N	0.625	1	1.142	7.875	0.145 ✔	1	Member Block Shear
T7	362	Leg	A325N	0.625	3	5.467	20.340	0.269 ✔	1	Bolt Tension
		Diagonal	A325N	0.625	1	2.567	10.500	0.244 ✔	1	Member Block Shear
		Horizontal	A325N	0.625	1	1.144	7.875	0.145 ✔	1	Member Block Shear
		Top Girt	A325N	0.625	1	1.144	7.875	0.145 ✔	1	Member Block Shear
T8	342	Leg	A325N	0.625	3	7.262	20.340	0.357 ✔	1	Bolt Tension
		Diagonal	A325N	0.625	1	4.313	10.500	0.411 ✔	1	Member Block Shear
		Horizontal	A325N	0.625	1	1.451	7.875	0.184 ✔	1	Member Block Shear
		Top Girt	A325N	0.625	1	1.451	7.875	0.184 ✔	1	Member Block Shear
		Top Guy Pull-Off@326	A325N	0.750	2	3.431	32.477	0.106 ✔	1	Member Block Shear
T9	322	Leg	A325N	0.625	3	7.912	20.340	0.389 ✔	1	Bolt Tension
		Diagonal	A325N	0.625	1	3.957	6.855	0.577 ✔	1	Member Block Shear
		Horizontal	A325N	0.625	1	1.464	7.875	0.186 ✔	1	Member Block Shear
		Top Girt	A325N	0.625	1	1.464	7.875	0.186 ✔	1	Member Block Shear
T10	302	Leg	A325N	0.625	3	7.900	20.340	0.388 ✔	1	Bolt Tension
		Diagonal	A325N	0.625	1	2.547	13.806	0.184 ✔	1	Bolt Shear
		Horizontal	A325N	0.625	1	1.481	7.875	0.188 ✔	1	Member Block Shear
		Top Girt	A325N	0.625	1	1.481	7.875	0.188 ✔	1	Member Block Shear
T11	282	Leg	A325N	0.625	3	9.698	20.340	0.477 ✔	1	Bolt Tension
		Diagonal	A325N	0.625	1	8.674	13.806	0.628 ✔	1	Bolt Shear
		Horizontal	A325N	0.625	1	1.677	7.875	0.213 ✔	1	Member Block Shear
		Top Girt	A325N	0.625	1	1.677	7.875	0.213 ✔	1	Member Block Shear
		Top Guy Pull-Off@266	A325N	0.750	2	4.211	32.477	0.130 ✔	1	Member Block Shear
T12	262	Leg	A325N	0.625	3	9.508	20.340	0.467 ✔	1	Bolt Tension
		Diagonal	A325N	0.625	1	2.526	13.806	0.183 ✔	1	Bolt Shear
		Horizontal	A325N	0.625	1	1.644	7.875	0.209 ✔	1	Member Block Shear

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load per Bolt K	Ratio Load / Allowable	Allowable Ratio	Criteria
		Top Girt	A325N	0.625	1	1.677	7.875	0.213 ✔	1	Member Block Shear
T13	242	Leg	A325N	0.625	3	11.554	20.340	0.568 ✔	1	Bolt Tension
		Diagonal	A325N	0.625	1	5.401	10.500	0.514 ✔	1	Member Block Shear
		Horizontal	A325N	0.625	1	1.998	7.875	0.254 ✔	1	Member Block Shear
		Top Girt	A325N	0.625	1	1.998	7.875	0.254 ✔	1	Member Block Shear
T14	222	Leg	A325N	0.625	3	13.519	20.340	0.665 ✔	1	Bolt Tension
		Diagonal	A325N	0.625	1	8.624	13.806	0.625 ✔	1	Bolt Shear
		Horizontal	A325N	0.625	1	2.238	7.875	0.284 ✔	1	Member Block Shear
		Top Girt	A325N	0.625	1	2.238	7.875	0.284 ✔	1	Member Block Shear
		Top Guy Pull-Off@214	A325N	0.750	2	3.935	32.477	0.121 ✔	1	Member Block Shear
T15	202	Leg	A325N	0.625	3	13.941	20.340	0.685 ✔	1	Bolt Tension
		Diagonal	A325N	0.625	1	3.293	13.806	0.239 ✔	1	Bolt Shear
		Horizontal	A325N	0.625	1	2.270	7.875	0.288 ✔	1	Member Block Shear
		Top Girt	A325N	0.625	1	2.270	7.875	0.288 ✔	1	Member Block Shear
T16	182	Leg	A325N	0.625	3	15.330	20.340	0.754 ✔	1	Bolt Tension
		Diagonal	A325N	0.625	1	4.634	13.806	0.336 ✔	1	Bolt Shear
		Horizontal	A325N	0.625	1	2.496	7.875	0.317 ✔	1	Member Block Shear
		Top Girt	A325N	0.625	1	2.496	7.875	0.317 ✔	1	Member Block Shear
		Top Guy Pull-Off@166	A325N	0.750	2	4.687	32.477	0.144 ✔	1	Member Block Shear
T17	162	Leg	A325N	0.625	3	14.456	20.340	0.711 ✔	1	Bolt Tension
		Diagonal	A325N	0.625	1	3.758	13.806	0.272 ✔	1	Bolt Shear
		Horizontal	A325N	0.625	1	2.445	7.875	0.310 ✔	1	Member Block Shear
		Top Girt	A325N	0.625	1	2.496	7.875	0.317 ✔	1	Member Block Shear
T18	142	Leg	A325N	0.625	3	15.191	20.340	0.747 ✔	1	Bolt Tension
		Diagonal	A325N	0.625	1	5.047	13.806	0.366 ✔	1	Bolt Shear
		Horizontal	A325N	0.625	1	2.473	7.875	0.314 ✔	1	Member Block Shear
		Top Girt	A325N	0.625	1	2.473	7.875	0.314 ✔	1	Member Block Shear
T19	122	Diagonal	A325N	0.625	1	6.042	13.806	0.438 ✔	1	Bolt Shear
		Horizontal	A325N	0.625	1	2.594	7.875	0.329 ✔	1	Member Block Shear
		Top Girt	A325N	0.625	1	2.594	7.875	0.329 ✔	1	Member Block Shear
T20	114	Diagonal	A325N	0.625	1	6.289	13.806	0.456 ✔	1	Bolt Shear
		Horizontal	A325N	0.625	1	2.665	7.875	0.338 ✔	1	Member Block Shear
T21	110	Diagonal	A325N	0.625	1	7.012	13.806	0.508 ✔	1	Bolt Shear

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load per Bolt K	Ratio Load / Allowable	Allowable Ratio	Criteria
		Horizontal	A325N	0.625	1	2.751	7.875	0.349 ✔	1	Member Block Shear
T22	106	Leg	A325N	0.625	3	17.428	20.340	0.857 ✔	1	Bolt Tension
		Diagonal	A325N	0.625	1	7.223	13.806	0.523 ✔	1	Bolt Shear
		Horizontal	A325N	0.625	1	2.837	7.875	0.360 ✔	1	Member Block Shear
T23	102	Leg	A325N	0.625	3	16.074	20.340	0.790 ✔	1	Bolt Tension
		Diagonal	A325N	0.625	1	5.270	13.806	0.382 ✔	1	Bolt Shear
		Horizontal	A325N	0.625	1	2.856	7.875	0.363 ✔	1	Member Block Shear
		Top Guy Pull-Off@102	A325N	0.750	2	3.372	32.477	0.104 ✔	1	Member Block Shear
T24	82	Leg	A325N	0.625	3	15.396	20.340	0.757 ✔	1	Bolt Tension
		Diagonal	A325N	0.625	1	3.809	13.806	0.276 ✔	1	Bolt Shear
		Horizontal	A325N	0.625	1	2.576	7.875	0.327 ✔	1	Member Block Shear
		Top Girt	A325N	0.625	1	2.856	7.875	0.363 ✔	1	Member Block Shear
T25	62	Leg	A325N	0.625	3	15.163	20.340	0.745 ✔	1	Bolt Tension
		Diagonal	A325N	0.625	1	4.943	13.806	0.358 ✔	1	Bolt Shear
		Horizontal	A325N	0.625	1	2.540	7.875	0.323 ✔	1	Member Block Shear
		Top Girt	A325N	0.625	1	2.576	7.875	0.327 ✔	1	Member Block Shear
		Top Guy Pull-Off@50	A325N	0.750	2	1.983	32.477	0.061 ✔	1	Member Block Shear
T26	42	Leg	A325N	0.625	3	14.353	20.340	0.706 ✔	1	Bolt Tension
		Diagonal	A325N	0.625	1	4.364	13.806	0.316 ✔	1	Bolt Shear
		Horizontal	A325N	0.625	1	2.424	7.875	0.308 ✔	1	Member Block Shear
		Top Girt	A325N	0.625	1	2.540	7.875	0.323 ✔	1	Member Block Shear
T27	22	Leg	A325N	0.625	3	14.398	20.340	0.708 ✔	1	Bolt Tension
		Diagonal	A325N	0.625	1	3.802	13.806	0.275 ✔	1	Bolt Shear
		Horizontal	A325N	0.625	1	2.358	7.875	0.299 ✔	1	Member Block Shear
		Top Girt	A325N	0.625	1	2.424	7.875	0.308 ✔	1	Member Block Shear
		Bottom Girt	A325N	0.625	1	2.759	6.831	0.404 ✔	1	Member Block Shear

Guy Design Data

Section No.	Elevation ft	Size	Initial Tension K	Breaking Load K	Actual T_u K	Allowable ϕT_n K	Required S.F.	Actual S.F.
T1	457.000 (A) (776)	1 EHS	10.450	104.500	33.965	62.700	1.000	1.846 ✔

Section No.	Elevation ft	Size	Initial Tension K	Breaking Load K	Actual T_u K	Allowable ϕT_n K	Required S.F.	Actual S.F.
	457.000 (B) (775)	1 EHS	10.450	104.500	34.764	62.700	1.000	1.804 ✔
	457.000 (C) (774)	1 EHS	10.450	104.500	34.502	62.700	1.000	1.817 ✔
T5	386.000 (A) (779)	1 EHS	10.450	104.500	35.046	62.700	1.000	1.789 ✔
	386.000 (B) (778)	1 EHS	10.450	104.500	36.384	62.700	1.000	1.723 ✔
	386.000 (C) (777)	1 EHS	10.450	104.500	36.035	62.700	1.000	1.740 ✔
T8	326.000 (A) (782)	7/8 EHS	7.970	79.700	27.741	47.820	1.000	1.724 ✔
	326.000 (B) (781)	7/8 EHS	7.970	79.700	28.887	47.820	1.000	1.655 ✔
	326.000 (C) (780)	7/8 EHS	7.970	79.700	28.669	47.820	1.000	1.668 ✔
T11	266.000 (A) (785)	7/8 EHS	7.970	79.700	28.191	47.820	1.000	1.696 ✔
	266.000 (B) (784)	7/8 EHS	7.970	79.700	29.295	47.820	1.000	1.632 ✔
	266.000 (C) (783)	7/8 EHS	7.970	79.700	29.374	47.820	1.000	1.628 ✔
T14	214.000 (A) (788)	7/8 EHS	7.970	79.700	25.315	47.820	1.000	1.889 ✔
	214.000 (B) (787)	7/8 EHS	7.970	79.700	26.431	47.820	1.000	1.809 ✔
	214.000 (C) (786)	7/8 EHS	7.970	79.700	26.493	47.820	1.000	1.805 ✔
T16	166.000 (A) (791)	7/8 EHS	7.970	79.700	24.618	47.820	1.000	1.942 ✔
	166.000 (B) (790)	7/8 EHS	7.970	79.700	25.384	47.820	1.000	1.884 ✔
	166.000 (C) (789)	7/8 EHS	7.970	79.700	25.802	47.820	1.000	1.853 ✔
T23	102.000 (A) (794)	11/16 EHS	4.900	49.000	13.687	29.400	1.000	2.148 ✔
	102.000 (B) (793)	11/16 EHS	4.900	49.000	13.950	29.400	1.000	2.107 ✔
	102.000 (C) (792)	11/16 EHS	4.900	49.000	14.124	29.400	1.000	2.082 ✔
T25	50.000 (A) (797)	1/2 EHS	2.690	26.900	5.967	16.140	1.000	2.705 ✔
	50.000 (B) (796)	1/2 EHS	2.690	26.900	6.019	16.140	1.000	2.681 ✔
	50.000 (C) (795)	1/2 EHS	2.690	26.900	6.111	16.140	1.000	2.641 ✔

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L1	492 - 477 (1)	P8x.406	15.000	0.000	0.0	10.483	-0.694	330.222	0.002
L2	477 - 457 (2)	P8x.406	20.000	0.000	0.0	10.483	-1.688	330.222	0.005

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	492 - 477 (1)	P8x.406	6.076	72.052	0.084	0.000	72.052	0.000
L2	477 - 457 (2)	P8x.406	27.913	72.052	0.387	0.000	72.052	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	492 - 477 (1)	P8x.406	0.653	99.067	0.007	0.000	71.585	0.000
L2	477 - 457 (2)	P8x.406	1.593	99.067	0.016	0.472	71.585	0.007

Pole Interaction Design Data

Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	492 - 477 (1)	0.002	0.084	0.000	0.007	0.000	0.086 ✔	1.000	✔
L2	477 - 457 (2)	0.005	0.387	0.000	0.016	0.007	0.393 ✔	1.000	✔

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	457 - 452	2 1/4	5.000	5.000	106.7 K=1.00	3.976	-21.991	77.870	0.282 [1]
T2	452 - 442	2 1/4	10.000	3.333	71.1 K=1.00	3.976	-34.966	123.621	0.283 [1]
T3	442 - 422	2 1/4	20.000	4.000	85.3	3.976	-36.375	105.060	0.346 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T4	422 - 402	2 1/4	20.000	4.000	K=1.00 85.3	3.976	-33.166	105.060	0.316 [1]
T5	402 - 382	2 1/4	20.000	4.000	K=1.00 85.3	3.976	-47.132	105.060	0.449 [1]
T6	382 - 362	2 1/4	20.000	4.000	K=1.00 85.3	3.976	-51.471	105.060	0.490 [1]
T7	362 - 342	2 1/4	20.000	4.000	K=1.00 85.3	3.976	-51.552	105.060	0.491 [1]
T8	342 - 322	2 1/4	20.000	4.000	K=1.00 85.3	3.976	-65.358	105.060	0.622 [1]
T9	322 - 302	2 1/2	20.000	4.000	K=1.00 76.8	4.909	-71.209	143.512	0.496 [1]
T10	302 - 282	2 1/2	20.000	4.000	K=1.00 76.8	4.909	-72.076	143.512	0.502 [1]
T11	282 - 262	2 3/4	20.000	4.000	K=1.00 69.8	5.940	-87.284	187.145	0.466 [1]
T12	262 - 242	2 3/4	20.000	4.000	K=1.00 69.8	5.940	-85.601	187.145	0.457 [1]
T13	242 - 222	2 3/4	20.000	4.000	K=1.00 69.8	5.940	-103.985	187.145	0.556 [1]
T14	222 - 202	3	20.000	4.000	K=1.00 64.0	7.069	-123.737	235.765	0.525 [1]
T15	202 - 182	3	20.000	4.000	K=1.00 64.0	7.069	-125.467	235.765	0.532 [1]
T16	182 - 162	3	20.000	4.000	K=1.00 64.0	7.069	-137.971	235.765	0.585 [1]
T17	162 - 142	3	20.000	4.000	K=1.00 64.0	7.069	-135.139	235.765	0.573 [1]
T18	142 - 122	3	20.000	4.000	K=1.00 64.0	7.069	-136.717	235.765	0.580 [1]
T19	122 - 114	3	8.000	4.000	K=1.00 64.0	7.069	-143.411	235.765	0.608 [1]
T20	114 - 110	3	4.000	4.000	K=1.00 64.0	7.069	-147.315	235.765	0.625 [1]
T21	110 - 106	3	4.000	4.000	K=1.00 64.0	7.069	-152.077	235.765	0.645 [1]
T22	106 - 102	3	4.000	4.000	K=1.00 64.0	7.069	-156.848	235.765	0.665 [1]
T23	102 - 82	3	20.000	4.000	K=1.00 64.0	7.069	-157.852	235.765	0.670 [1]
T24	82 - 62	3	20.000	4.000	K=1.00 64.0	7.069	-142.382	235.765	0.604 [1]
T25	62 - 42	3	20.000	4.000	K=1.00 64.0	7.069	-140.391	235.765	0.595 [1]
T26	42 - 22	3	20.000	4.000	K=1.00 64.0	7.069	-133.978	235.765	0.568 [1]
T27	22 - 2	3	20.000	4.000	K=1.00 64.0	7.069	-130.357	235.765	0.553 [1]
					K=1.00				

[1] $P_u / \phi P_n$ controls

Leg Bending Design Data (Compression)

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 $\frac{M_{uy}}{\phi M_{ny}}$
T1	457 - 452	2 1/4	0.000	7.119	0.000	0.000	7.119	0.000
T2	452 - 442	2 1/4	0.000	7.119	0.000	0.000	7.119	0.000
T3	442 - 422	2 1/4	0.000	7.119	0.000	0.000	7.119	0.000
T4	422 - 402	2 1/4	0.000	7.119	0.000	0.000	7.119	0.000
T5	402 - 382	2 1/4	0.000	7.119	0.000	0.000	7.119	0.000
T6	382 - 362	2 1/4	0.000	7.119	0.000	0.000	7.119	0.000
T7	362 - 342	2 1/4	0.000	7.119	0.000	0.000	7.119	0.000
T8	342 - 322	2 1/4	0.000	7.119	0.000	0.000	7.119	0.000
T9	322 - 302	2 1/2	0.000	9.766	0.000	0.000	9.766	0.000
T10	302 - 282	2 1/2	0.000	9.766	0.000	0.000	9.766	0.000
T11	282 - 262	2 3/4	0.000	12.998	0.000	0.000	12.998	0.000
T12	262 - 242	2 3/4	0.000	12.998	0.000	0.000	12.998	0.000
T13	242 - 222	2 3/4	0.000	12.998	0.000	0.000	12.998	0.000
T14	222 - 202	3	0.000	16.875	0.000	0.000	16.875	0.000
T15	202 - 182	3	0.000	16.875	0.000	0.000	16.875	0.000
T16	182 - 162	3	0.000	16.875	0.000	0.000	16.875	0.000
T17	162 - 142	3	0.000	16.875	0.000	0.000	16.875	0.000
T18	142 - 122	3	0.000	16.875	0.000	0.000	16.875	0.000
T19	122 - 114	3	0.000	16.875	0.000	0.000	16.875	0.000
T20	114 - 110	3	0.000	16.875	0.000	0.000	16.875	0.000
T21	110 - 106	3	0.000	16.875	0.000	0.000	16.875	0.000
T22	106 - 102	3	0.000	16.875	0.000	0.000	16.875	0.000
T23	102 - 82	3	0.000	16.875	0.000	0.000	16.875	0.000
T24	82 - 62	3	0.000	16.875	0.000	0.000	16.875	0.000
T25	62 - 42	3	0.000	16.875	0.000	0.000	16.875	0.000
T26	42 - 22	3	0.000	16.875	0.000	0.000	16.875	0.000
T27	22 - 2	3	0.000	16.875	0.000	0.000	16.875	0.000

Leg Interaction Design Data (Compression)

Section No.	Elevation ft	Size	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
T1	457 - 452	2 1/4	0.282	0.000	0.000	0.282 [1]	1.000	✔
T2	452 - 442	2 1/4	0.283	0.000	0.000	0.283 [1]	1.000	✔
T3	442 - 422	2 1/4	0.346	0.000	0.000	0.346 [1]	1.000	✔
T4	422 - 402	2 1/4	0.316	0.000	0.000	0.316 [1]	1.000	✔
T5	402 - 382	2 1/4	0.449	0.000	0.000	0.449 [1]	1.000	✔
T6	382 - 362	2 1/4	0.490	0.000	0.000	0.490 [1]	1.000	✔
T7	362 - 342	2 1/4	0.491	0.000	0.000	0.491 [1]	1.000	✔
T8	342 - 322	2 1/4	0.622	0.000	0.000	0.622 [1]	1.000	✔
T9	322 - 302	2 1/2	0.496	0.000	0.000	0.496 [1]	1.000	✔
T10	302 - 282	2 1/2	0.502	0.000	0.000	0.502 [1]	1.000	✔

Section No.	Elevation ft	Size	Ratio $P_u / \phi P_n$	Ratio $M_{ux} / \phi M_{nx}$	Ratio $M_{uy} / \phi M_{ny}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
T11	282 - 262	2 3/4	0.466	0.000	0.000	0.466 [1]	1.000	✔
T12	262 - 242	2 3/4	0.457	0.000	0.000	0.457 [1]	1.000	✔
T13	242 - 222	2 3/4	0.556	0.000	0.000	0.556 [1]	1.000	✔
T14	222 - 202	3	0.525	0.000	0.000	0.525 [1]	1.000	✔
T15	202 - 182	3	0.532	0.000	0.000	0.532 [1]	1.000	✔
T16	182 - 162	3	0.585	0.000	0.000	0.585 [1]	1.000	✔
T17	162 - 142	3	0.573	0.000	0.000	0.573 [1]	1.000	✔
T18	142 - 122	3	0.580	0.000	0.000	0.580 [1]	1.000	✔
T19	122 - 114	3	0.608	0.000	0.000	0.608 [1]	1.000	✔
T20	114 - 110	3	0.625	0.000	0.000	0.625 [1]	1.000	✔
T21	110 - 106	3	0.645	0.000	0.000	0.645 [1]	1.000	✔
T22	106 - 102	3	0.665	0.000	0.000	0.665 [1]	1.000	✔
T23	102 - 82	3	0.670	0.000	0.000	0.670 [1]	1.000	✔
T24	82 - 62	3	0.604	0.000	0.000	0.604 [1]	1.000	✔
T25	62 - 42	3	0.595	0.000	0.000	0.595 [1]	1.000	✔
T26	42 - 22	3	0.568	0.000	0.000	0.568 [1]	1.000	✔
T27	22 - 2	3	0.553	0.000	0.000	0.553 [1]	1.000	✔

[1] $P_u / \phi P_n$ controls

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $P_u / \phi P_n$
T1	457 - 452	L2 1/2x2x3/16	5.385	4.685	127.2 K=0.97	0.809	-5.516	14.318	0.385 [1] ✔
T2	452 - 442	L2x2x1/4	5.207	4.671	143.4 K=1.00	0.938	-2.397	13.063	0.183 [1] ✔
T3	442 - 422	L2x2x1/4	5.657	5.100	156.5 K=1.00	0.938	-2.312	10.958	0.211 [1] ✔
T4	422 - 402	L2x2x1/4	5.657	5.100	156.5 K=1.00	0.938	-3.904	10.958	0.356 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T5	402 - 382	L2x2x1/4	5.657	5.100	156.5 K=1.00	0.938	-5.216	10.958	0.476 [1]
T6	382 - 362	L2x2x1/4	5.657	5.100	156.5 K=1.00	0.938	-3.200	10.958	0.292 [1]
T7	362 - 342	L2x2x1/4	5.657	5.100	156.5 K=1.00	0.938	-3.235	10.958	0.295 [1]
T8	342 - 322	L2x2x1/4	5.657	5.100	156.5 K=1.00	0.938	-4.987	10.958	0.455 [1]
T9	322 - 302	L1 3/4x1 3/4x3/16	5.657	5.071	177.2 K=1.00	0.621	-4.707	5.664	0.831 [1]
T10	302 - 282	L2x2x1/4	5.657	5.071	155.6 K=1.00	0.938	-2.547	11.086	0.230 [1]
T11	282 - 262	L2 1/2x2 1/2x3/8	5.657	5.041	124.2 K=1.00	1.730	-8.674	32.063	0.271 [1]
T12	262 - 242	L2x2x1/4	5.657	5.041	154.7 K=1.00	0.938	-2.526	11.216	0.225 [1]
T13	242 - 222	L2x2x1/4	5.657	5.041	154.7 K=1.00	0.938	-7.061	11.216	0.630 [1]
T14	222 - 202	L2 1/2x2 1/2x3/8	5.657	5.012	123.5 K=1.00	1.730	-8.624	32.415	0.266 [1]
T15	202 - 182	L2x2x1/4	5.657	5.032	154.4 K=1.00	0.938	-3.293	11.255	0.293 [1]
T16	182 - 162	L2x2x1/4	5.657	5.032	154.4 K=1.00	0.938	-4.634	11.255	0.412 [1]
T17	162 - 142	L2x2x1/4	5.657	5.032	154.4 K=1.00	0.938	-3.758	11.255	0.334 [1]
T18	142 - 122	L2x2x1/4	5.657	5.032	154.4 K=1.00	0.938	-5.047	11.255	0.448 [1]
T19	122 - 114	L2x2x1/4	5.657	5.032	154.4 K=1.00	0.938	-6.042	11.255	0.537 [1]
T20	114 - 110	L2x2x1/4	5.657	5.032	154.4 K=1.00	0.938	-6.289	11.255	0.559 [1]
T21	110 - 106	L1 3/4x1 3/4x3/16 w/ L2x2x1/4	5.657	5.303	108.4 K=1.00	1.571	-7.012	27.415	0.256 [1]
T22	106 - 102	L1 3/4x1 3/4x3/16 w/ L2x2x1/4	5.657	5.303	108.4 K=1.00	1.571	-7.223	27.415	0.263 [1]
T23	102 - 82	L2x2x1/4	5.657	5.032	154.4 K=1.00	0.938	-5.270	11.255	0.468 [1]
T24	82 - 62	L2x2x1/4	5.657	5.032	154.4 K=1.00	0.938	-3.809	11.255	0.338 [1]
T25	62 - 42	L2x2x1/4	5.657	5.032	154.4 K=1.00	0.938	-4.943	11.255	0.439 [1]
T26	42 - 22	L2x2x1/4	5.657	5.032	154.4 K=1.00	0.938	-4.364	11.255	0.388 [1]
T27	22 - 2	L2x2x1/4	5.657	5.032	154.4 K=1.00	0.938	-3.802	11.255	0.338 [1]

[1] P_u / ϕP_n controls

Horizontal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T2	452 - 442	L2x2x3/16	4.000	3.521	113.6 K=1.06	0.715	-0.680	15.292	0.044 [1] ✓
T3	442 - 422	L2x2x3/16	4.000	3.521	113.6 K=1.06	0.715	-0.807	15.292	0.053 [1] ✓
T4	422 - 402	L2x2x3/16	4.000	3.521	113.6 K=1.06	0.715	-0.736	15.292	0.048 [1] ✓
T5	402 - 382	L2x2x3/16	4.000	3.521	113.6 K=1.06	0.715	-1.046	15.292	0.068 [1] ✓
T6	382 - 362	L2x2x3/16	4.000	3.521	113.6 K=1.06	0.715	-1.142	15.292	0.075 [1] ✓
T7	362 - 342	L2x2x3/16	4.000	3.521	113.6 K=1.06	0.715	-1.144	15.292	0.075 [1] ✓
T8	342 - 322	L2x2x3/16	4.000	3.521	113.6 K=1.06	0.715	-1.451	15.292	0.095 [1] ✓
T9	322 - 302	L2x2x3/16	4.000	3.500	113.3 K=1.06	0.715	-1.464	15.350	0.095 [1] ✓
T10	302 - 282	L2x2x3/16	4.000	3.500	113.3 K=1.06	0.715	-1.481	15.350	0.097 [1] ✓
T11	282 - 262	L2x2x3/16	4.000	3.479	113.0 K=1.07	0.715	-1.677	15.408	0.109 [1] ✓
T12	262 - 242	L2x2x3/16	4.000	3.479	113.0 K=1.07	0.715	-1.644	15.408	0.107 [1] ✓
T13	242 - 222	L2x2x3/16	4.000	3.479	113.0 K=1.07	0.715	-1.998	15.408	0.130 [1] ✓
T14	222 - 202	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.715	-2.238	15.466	0.145 [1] ✓
T15	202 - 182	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.715	-2.270	15.466	0.147 [1] ✓
T16	182 - 162	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.715	-2.496	15.466	0.161 [1] ✓
T17	162 - 142	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.715	-2.445	15.466	0.158 [1] ✓
T18	142 - 122	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.715	-2.473	15.466	0.160 [1] ✓
T19	122 - 114	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.715	-2.594	15.466	0.168 [1] ✓
T20	114 - 110	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.715	-2.665	15.466	0.172 [1] ✓
T21	110 - 106	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.715	-2.751	15.466	0.178 [1] ✓
T22	106 - 102	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.715	-2.837	15.466	0.183 [1] ✓
T23	102 - 82	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.715	-2.856	15.466	0.185 [1] ✓
T24	82 - 62	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.715	-2.576	15.466	0.167 [1] ✓
T25	62 - 42	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.715	-2.540	15.466	0.164 [1] ✓
T26	42 - 22	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.715	-2.424	15.466	0.157 [1] ✓

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T27	22 - 2	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.715	-2.358	15.466	0.152 [1] ✔

[1] P_u / ϕP_n controls

Top Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T2	452 - 442	L2x2x3/16	4.000	3.521	113.6 K=1.06	0.715	-0.680	15.292	0.044 [1] ✔
T3	442 - 422	L2x2x3/16	4.000	3.521	113.6 K=1.06	0.715	-0.807	15.292	0.053 [1] ✔
T4	422 - 402	L2x2x3/16	4.000	3.521	113.6 K=1.06	0.715	-0.807	15.292	0.053 [1] ✔
T5	402 - 382	L2x2x3/16	4.000	3.521	113.6 K=1.06	0.715	-1.046	15.292	0.068 [1] ✔
T6	382 - 362	L2x2x3/16	4.000	3.521	113.6 K=1.06	0.715	-1.142	15.292	0.075 [1] ✔
T7	362 - 342	L2x2x3/16	4.000	3.521	113.6 K=1.06	0.715	-1.144	15.292	0.075 [1] ✔
T8	342 - 322	L2x2x3/16	4.000	3.521	113.6 K=1.06	0.715	-1.451	15.292	0.095 [1] ✔
T9	322 - 302	L2x2x3/16	4.000	3.500	113.3 K=1.06	0.715	-1.464	15.350	0.095 [1] ✔
T10	302 - 282	L2x2x3/16	4.000	3.500	113.3 K=1.06	0.715	-1.481	15.350	0.097 [1] ✔
T11	282 - 262	L2x2x3/16	4.000	3.479	113.0 K=1.07	0.715	-1.677	15.408	0.109 [1] ✔
T12	262 - 242	L2x2x3/16	4.000	3.479	113.0 K=1.07	0.715	-1.677	15.408	0.109 [1] ✔
T13	242 - 222	L2x2x3/16	4.000	3.479	113.0 K=1.07	0.715	-1.998	15.408	0.130 [1] ✔
T14	222 - 202	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.715	-2.238	15.466	0.145 [1] ✔
T15	202 - 182	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.715	-2.270	15.466	0.147 [1] ✔
T16	182 - 162	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.715	-2.496	15.466	0.161 [1] ✔
T17	162 - 142	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.715	-2.496	15.466	0.161 [1] ✔
T18	142 - 122	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.715	-2.473	15.466	0.160 [1] ✔
T19	122 - 114	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.715	-2.594	15.466	0.168 [1] ✔
T24	82 - 62	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.715	-2.856	15.466	0.185 [1] ✔
T25	62 - 42	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.715	-2.576	15.466	0.167 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T26	42 - 22	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.715	-2.540	15.466	0.164 [1]
T27	22 - 2	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.715	-2.424	15.466	0.157 [1]

[1] P_u / ϕP_n controls

Bottom Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T27	22 - 2	L2x2x3/16	4.000	3.510	113.5 K=1.06	0.715	-2.358	15.321	0.154 [1]

[1] P_u / ϕP_n controls

Top Guy Pull-Off Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	457 - 452	2L2 1/2x2 1/2x3/8x1/4 ai/ri > 0.75(KL/r)o - 8	4.000	3.813	60.7 K=1.00	3.469	-0.000	109.425	0.000 [1]

[1] P_u / ϕP_n controls

Tension Checks

Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	457 - 452	L2 1/2x2x3/16	5.385	4.685	102.7	0.501	0.357	21.806	0.016 [1]
T2	452 - 442	L2x2x1/4	5.207	4.671	97.8	0.563	2.190	24.485	0.089 [1]
T3	442 - 422	L2x2x1/4	5.657	5.100	106.2	0.563	1.964	24.485	0.080 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T4	422 - 402	L2x2x1/4	5.657	5.100	106.2	0.563	3.532	24.485	0.144 [1] ✔
T5	402 - 382	L2x2x1/4	5.657	5.100	106.2	0.563	4.825	24.485	0.197 [1] ✔
T6	382 - 362	L2x2x1/4	5.657	5.100	106.2	0.563	2.658	24.485	0.109 [1] ✔
T7	362 - 342	L2x2x1/4	5.657	5.100	106.2	0.563	2.567	24.485	0.105 [1] ✔
T8	342 - 322	L2x2x1/4	5.657	5.100	106.2	0.563	4.313	24.485	0.176 [1] ✔
T9	322 - 302	L1 3/4x1 3/4x3/16	5.657	5.071	119.8	0.360	3.957	15.675	0.252 [1] ✔
T10	302 - 282	L2x2x1/4	5.657	5.071	105.7	0.563	1.566	24.485	0.064 [1] ✔
T11	282 - 262	L2 1/2x2 1/2x3/8	5.657	5.041	85.0	1.087	7.414	47.266	0.157 [1] ✔
T12	262 - 242	L2x2x1/4	5.657	5.041	105.1	0.563	1.142	24.485	0.047 [1] ✔
T13	242 - 222	L2x2x1/4	5.657	5.041	105.1	0.563	5.401	24.485	0.221 [1] ✔
T14	222 - 202	L2 1/2x2 1/2x3/8	5.657	5.012	84.5	1.087	6.791	47.266	0.144 [1] ✔
T15	202 - 182	L2x2x1/4	5.657	5.032	104.5	0.563	1.265	24.485	0.052 [1] ✔
T16	182 - 162	L2x2x1/4	5.657	5.032	104.5	0.563	2.670	24.485	0.109 [1] ✔
T17	162 - 142	L2x2x1/4	5.657	5.032	104.5	0.563	1.772	24.485	0.072 [1] ✔
T18	142 - 122	L2x2x1/4	5.657	5.032	104.5	0.563	2.716	24.485	0.111 [1] ✔
T19	122 - 114	L2x2x1/4	5.657	5.032	104.5	0.563	3.679	24.485	0.150 [1] ✔
T20	114 - 110	L2x2x1/4	5.657	5.032	104.5	0.563	4.055	24.485	0.166 [1] ✔
T21	110 - 106	L1 3/4x1 3/4x3/16 w/ L2x2x1/4	5.657	5.303	108.4	1.571	4.547	50.900	0.089 [1] ✔
T22	106 - 102	L1 3/4x1 3/4x3/16 w/ L2x2x1/4	5.657	5.303	108.4	1.571	4.941	50.900	0.097 [1] ✔
T23	102 - 82	L2x2x1/4	5.657	5.032	104.5	0.563	2.914	24.485	0.119 [1] ✔
T24	82 - 62	L2x2x1/4	5.657	5.032	104.5	0.563	1.482	24.485	0.061 [1] ✔
T25	62 - 42	L2x2x1/4	5.657	5.032	104.5	0.563	2.538	24.485	0.104 [1] ✔
T26	42 - 22	L2x2x1/4	5.657	5.032	104.5	0.563	2.046	24.485	0.084 [1] ✔
T27	22 - 2	L2x2x1/4	5.657	5.032	104.5	0.563	1.539	24.485	0.063 [1] ✔

[1] $P_u / \phi P_n$ controls

Horizontal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T2	452 - 442	L2x2x3/16	4.000	3.521	74.1	0.431	0.680	18.739	0.036 [1] ✔
T3	442 - 422	L2x2x3/16	4.000	3.521	74.1	0.431	0.807	18.739	0.043 [1] ✔
T4	422 - 402	L2x2x3/16	4.000	3.521	74.1	0.431	0.736	18.739	0.039 [1] ✔
T5	402 - 382	L2x2x3/16	4.000	3.521	74.1	0.431	1.046	18.739	0.056 [1] ✔
T6	382 - 362	L2x2x3/16	4.000	3.521	74.1	0.431	1.142	18.739	0.061 [1] ✔
T7	362 - 342	L2x2x3/16	4.000	3.521	74.1	0.431	1.144	18.739	0.061 [1] ✔
T8	342 - 322	L2x2x3/16	4.000	3.521	74.1	0.431	1.451	18.739	0.077 [1] ✔
T9	322 - 302	L2x2x3/16	4.000	3.500	73.7	0.431	1.464	18.739	0.078 [1] ✔
T10	302 - 282	L2x2x3/16	4.000	3.500	73.7	0.431	1.481	18.739	0.079 [1] ✔
T11	282 - 262	L2x2x3/16	4.000	3.479	73.3	0.431	1.677	18.739	0.089 [1] ✔
T12	262 - 242	L2x2x3/16	4.000	3.479	73.3	0.431	1.644	18.739	0.088 [1] ✔
T13	242 - 222	L2x2x3/16	4.000	3.479	73.3	0.431	1.998	18.739	0.107 [1] ✔
T14	222 - 202	L2x2x3/16	4.000	3.458	72.9	0.431	2.238	18.739	0.119 [1] ✔
T15	202 - 182	L2x2x3/16	4.000	3.458	72.9	0.431	2.270	18.739	0.121 [1] ✔
T16	182 - 162	L2x2x3/16	4.000	3.458	72.9	0.431	2.496	18.739	0.133 [1] ✔
T17	162 - 142	L2x2x3/16	4.000	3.458	72.9	0.431	2.445	18.739	0.130 [1] ✔
T18	142 - 122	L2x2x3/16	4.000	3.458	72.9	0.431	2.473	18.739	0.132 [1] ✔
T19	122 - 114	L2x2x3/16	4.000	3.458	72.9	0.431	2.594	18.739	0.138 [1] ✔
T20	114 - 110	L2x2x3/16	4.000	3.458	72.9	0.431	2.665	18.739	0.142 [1] ✔
T21	110 - 106	L2x2x3/16	4.000	3.458	72.9	0.431	2.751	18.739	0.147 [1] ✔
T22	106 - 102	L2x2x3/16	4.000	3.458	72.9	0.431	2.837	18.739	0.151 [1] ✔
T23	102 - 82	L2x2x3/16	4.000	3.458	72.9	0.431	2.856	18.739	0.152 [1] ✔
T24	82 - 62	L2x2x3/16	4.000	3.458	72.9	0.431	2.576	18.739	0.137 [1] ✔
T25	62 - 42	L2x2x3/16	4.000	3.458	72.9	0.431	2.540	18.739	0.136 [1] ✔
T26	42 - 22	L2x2x3/16	4.000	3.458	72.9	0.431	2.424	18.739	0.129 [1] ✔

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T27	22 - 2	L2x2x3/16	4.000	3.458	72.9	0.431	2.358	18.739	0.126 [1]

[1] P_u / ϕP_n controls

Top Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T2	452 - 442	L2x2x3/16	4.000	3.521	74.1	0.431	1.794	18.739	0.096 [1]
T3	442 - 422	L2x2x3/16	4.000	3.521	74.1	0.431	0.807	18.739	0.043 [1]
T4	422 - 402	L2x2x3/16	4.000	3.521	74.1	0.431	0.807	18.739	0.043 [1]
T5	402 - 382	L2x2x3/16	4.000	3.521	74.1	0.431	1.046	18.739	0.056 [1]
T6	382 - 362	L2x2x3/16	4.000	3.521	74.1	0.431	1.142	18.739	0.061 [1]
T7	362 - 342	L2x2x3/16	4.000	3.521	74.1	0.431	1.144	18.739	0.061 [1]
T8	342 - 322	L2x2x3/16	4.000	3.521	74.1	0.431	1.451	18.739	0.077 [1]
T9	322 - 302	L2x2x3/16	4.000	3.500	73.7	0.431	1.464	18.739	0.078 [1]
T10	302 - 282	L2x2x3/16	4.000	3.500	73.7	0.431	1.481	18.739	0.079 [1]
T11	282 - 262	L2x2x3/16	4.000	3.479	73.3	0.431	1.677	18.739	0.089 [1]
T12	262 - 242	L2x2x3/16	4.000	3.479	73.3	0.431	1.677	18.739	0.089 [1]
T13	242 - 222	L2x2x3/16	4.000	3.479	73.3	0.431	1.998	18.739	0.107 [1]
T14	222 - 202	L2x2x3/16	4.000	3.458	72.9	0.431	2.238	18.739	0.119 [1]
T15	202 - 182	L2x2x3/16	4.000	3.458	72.9	0.431	2.270	18.739	0.121 [1]
T16	182 - 162	L2x2x3/16	4.000	3.458	72.9	0.431	2.496	18.739	0.133 [1]
T17	162 - 142	L2x2x3/16	4.000	3.458	72.9	0.431	2.496	18.739	0.133 [1]
T18	142 - 122	L2x2x3/16	4.000	3.458	72.9	0.431	2.473	18.739	0.132 [1]
T19	122 - 114	L2x2x3/16	4.000	3.458	72.9	0.431	2.594	18.739	0.138 [1]
T24	82 - 62	L2x2x3/16	4.000	3.458	72.9	0.431	2.856	18.739	0.152 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T25	62 - 42	L2x2x3/16	4.000	3.458	72.9	0.431	2.576	18.739	0.137 [1] ✔
T26	42 - 22	L2x2x3/16	4.000	3.458	72.9	0.431	2.540	18.739	0.136 [1] ✔
T27	22 - 2	L2x2x3/16	4.000	3.458	72.9	0.431	2.424	18.739	0.129 [1] ✔

[1] P_u / ϕP_n controls

Bottom Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T27	22 - 2	L2x2x3/16	4.000	3.510	72.9	0.431	2.759	18.739	0.147 [1] ✔

[1] P_u / ϕP_n controls

Top Guy Pull-Off Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	457 - 452	2L2 1/2x2 1/2x3/8x1/4	4.000	3.813	39.3	2.109	0.000	91.758	0.000 [1] ✔
T5	402 - 382	ai/ri > 0.75(KL/r)o - 8 2L2 1/2x2 1/2x3/8x1/4	4.000	3.000	60.7	2.109	7.289	91.758	0.079 [1] ✔
T8	342 - 322	ai/ri > (KL/r)o - 113 2L2 1/2x2 1/2x3/8x1/4	4.000	3.000	60.7	2.109	6.862	91.758	0.075 [1] ✔
T11	282 - 262	ai/ri > (KL/r)o - 211 2L2 1/2x2 1/2x3/8x1/4	4.000	3.000	60.1	2.109	8.421	91.758	0.092 [1] ✔
T14	222 - 202	ai/ri > (KL/r)o - 311 2L2 1/2x2 1/2x3/8x1/4	4.000	3.000	59.7	2.109	7.870	91.758	0.086 [1] ✔
T16	182 - 162	ai/ri > (KL/r)o - 421 2L2 1/2x2 1/2x3/8x1/4	4.000	3.000	59.7	2.109	9.373	91.758	0.102 [1] ✔
T23	102 - 82	ai/ri > (KL/r)o - 475 2L2 1/2x2 1/2x3/8x1/4	4.000	3.000	59.7	2.109	6.745	91.758	0.074 [1] ✔
T25	62 - 42	ai/ri > (KL/r)o - 610 2L2 1/2x2 1/2x3/8x1/4	4.000	3.000	59.7	2.109	3.965	91.758	0.043 [1] ✔

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
		ai/ri > (KL/r)o - 687							

[1] P_u / ϕP_n controls

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	492 - 477	Pole	P8x.406	1	-0.694	330.222	8.6	Pass
L2	477 - 457	Pole	P8x.406	2	-1.688	330.222	39.3	Pass
T1	457 - 452	Leg	2 1/4	4	-21.991	77.870	28.2	Pass
T2	452 - 442	Leg	2 1/4	19	-34.966	123.621	28.3	Pass
T3	442 - 422	Leg	2 1/4	37	-36.375	105.060	34.6	Pass
T4	422 - 402	Leg	2 1/4	70	-33.166	105.060	31.6	Pass
T5	402 - 382	Leg	2 1/4	103	-47.132	105.060	44.9	Pass
T6	382 - 362	Leg	2 1/4	136	-51.471	105.060	49.0	Pass
T7	362 - 342	Leg	2 1/4	169	-51.552	105.060	49.1	Pass
T8	342 - 322	Leg	2 1/4	201	-65.358	105.060	62.2	Pass
T9	322 - 302	Leg	2 1/2	234	-71.209	143.512	49.6	Pass
T10	302 - 282	Leg	2 1/2	268	-72.076	143.512	50.2	Pass
T11	282 - 262	Leg	2 3/4	300	-87.284	187.145	46.6 47.7 (b)	Pass
T12	262 - 242	Leg	2 3/4	335	-85.601	187.145	45.7 46.7 (b)	Pass
T13	242 - 222	Leg	2 3/4	366	-103.985	187.145	55.6 56.8 (b)	Pass
T14	222 - 202	Leg	3	399	-123.737	235.765	52.5 66.5 (b)	Pass
T15	202 - 182	Leg	3	432	-125.467	235.765	53.2 68.5 (b)	Pass
T16	182 - 162	Leg	3	465	-137.971	235.765	58.5 75.4 (b)	Pass
T17	162 - 142	Leg	3	498	-135.139	235.765	57.3 71.1 (b)	Pass
T18	142 - 122	Leg	3	533	-136.717	235.765	58.0 74.7 (b)	Pass
T19	122 - 114	Leg	3	566	-143.411	235.765	60.8	Pass
T20	114 - 110	Leg	3	581	-147.315	235.765	62.5	Pass
T21	110 - 106	Leg	3	590	-152.077	235.765	64.5	Pass
T22	106 - 102	Leg	3	599	-156.848	235.765	66.5 85.7 (b)	Pass
T23	102 - 82	Leg	3	608	-157.852	235.765	67.0 79.0 (b)	Pass
T24	82 - 62	Leg	3	640	-142.382	235.765	60.4 75.7 (b)	Pass
T25	62 - 42	Leg	3	674	-140.391	235.765	59.5 74.5 (b)	Pass
T26	42 - 22	Leg	3	706	-133.978	235.765	56.8 70.6 (b)	Pass
T27	22 - 2	Leg	3	740	-130.357	235.765	55.3 70.8 (b)	Pass
T1	457 - 452	Diagonal	L2 1/2x2x3/16	13	-5.516	14.318	38.5	Pass
T2	452 - 442	Diagonal	L2x2x1/4	35	-2.397	13.063	18.3 20.9 (b)	Pass
T3	442 - 422	Diagonal	L2x2x1/4	42	-2.312	10.958	21.1	Pass
T4	422 - 402	Diagonal	L2x2x1/4	76	-3.904	10.958	35.6	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T5	402 - 382	Diagonal	L2x2x1/4	115	-5.216	10.958	47.6	Pass
T6	382 - 362	Diagonal	L2x2x1/4	167	-3.200	10.958	29.2	Pass
T7	362 - 342	Diagonal	L2x2x1/4	175	-3.235	10.958	29.5	Pass
T8	342 - 322	Diagonal	L2x2x1/4	209	-4.987	10.958	45.5	Pass
T9	322 - 302	Diagonal	L1 3/4x1 3/4x3/16	266	-4.707	5.664	83.1	Pass
T10	302 - 282	Diagonal	L2x2x1/4	299	-2.547	11.086	23.0	Pass
T11	282 - 262	Diagonal	L2 1/2x2 1/2x3/8	313	-8.674	32.063	27.1	Pass
							62.8 (b)	
T12	262 - 242	Diagonal	L2x2x1/4	365	-2.526	11.216	22.5	Pass
T13	242 - 222	Diagonal	L2x2x1/4	373	-7.061	11.216	63.0	Pass
T14	222 - 202	Diagonal	L2 1/2x2 1/2x3/8	424	-8.624	32.415	26.6	Pass
							62.5 (b)	
T15	202 - 182	Diagonal	L2x2x1/4	439	-3.293	11.255	29.3	Pass
T16	182 - 162	Diagonal	L2x2x1/4	484	-4.634	11.255	41.2	Pass
T17	162 - 142	Diagonal	L2x2x1/4	528	-3.758	11.255	33.4	Pass
T18	142 - 122	Diagonal	L2x2x1/4	538	-5.047	11.255	44.8	Pass
T19	122 - 114	Diagonal	L2x2x1/4	571	-6.042	11.255	53.7	Pass
T20	114 - 110	Diagonal	L2x2x1/4	586	-6.289	11.255	55.9	Pass
T21	110 - 106	Diagonal	L1 3/4x1 3/4x3/16 w/ L2x2x1/4	595	-7.012	27.415	25.6	Pass
							50.8 (b)	
T22	106 - 102	Diagonal	L1 3/4x1 3/4x3/16 w/ L2x2x1/4	604	-7.223	27.415	26.3	Pass
							52.3 (b)	
T23	102 - 82	Diagonal	L2x2x1/4	636	-5.270	11.255	46.8	Pass
T24	82 - 62	Diagonal	L2x2x1/4	671	-3.809	11.255	33.8	Pass
T25	62 - 42	Diagonal	L2x2x1/4	678	-4.943	11.255	43.9	Pass
T26	42 - 22	Diagonal	L2x2x1/4	729	-4.364	11.255	38.8	Pass
T27	22 - 2	Diagonal	L2x2x1/4	748	-3.802	11.255	33.8	Pass
T2	452 - 442	Horizontal	L2x2x3/16	24	-0.680	15.292	4.4	Pass
							8.6 (b)	
T3	442 - 422	Horizontal	L2x2x3/16	45	-0.807	15.292	5.3	Pass
							10.3 (b)	
T4	422 - 402	Horizontal	L2x2x3/16	78	-0.736	15.292	4.8	Pass
							9.3 (b)	
T5	402 - 382	Horizontal	L2x2x3/16	123	-1.046	15.292	6.8	Pass
							13.3 (b)	
T6	382 - 362	Horizontal	L2x2x3/16	144	-1.142	15.292	7.5	Pass
							14.5 (b)	
T7	362 - 342	Horizontal	L2x2x3/16	177	-1.144	15.292	7.5	Pass
							14.5 (b)	
T8	342 - 322	Horizontal	L2x2x3/16	224	-1.451	15.292	9.5	Pass
							18.4 (b)	
T9	322 - 302	Horizontal	L2x2x3/16	243	-1.464	15.350	9.5	Pass
							18.6 (b)	
T10	302 - 282	Horizontal	L2x2x3/16	277	-1.481	15.350	9.7	Pass
							18.8 (b)	
T11	282 - 262	Horizontal	L2x2x3/16	323	-1.677	15.408	10.9	Pass
							21.3 (b)	
T12	262 - 242	Horizontal	L2x2x3/16	349	-1.644	15.408	10.7	Pass
							20.9 (b)	
T13	242 - 222	Horizontal	L2x2x3/16	381	-1.998	15.408	13.0	Pass
							25.4 (b)	
T14	222 - 202	Horizontal	L2x2x3/16	408	-2.238	15.466	14.5	Pass
							28.4 (b)	
T15	202 - 182	Horizontal	L2x2x3/16	443	-2.270	15.466	14.7	Pass
							28.8 (b)	
T16	182 - 162	Horizontal	L2x2x3/16	480	-2.496	15.466	16.1	Pass
							31.7 (b)	
T17	162 - 142	Horizontal	L2x2x3/16	513	-2.445	15.466	15.8	Pass
							31.0 (b)	
T18	142 - 122	Horizontal	L2x2x3/16	541	-2.473	15.466	16.0	Pass
							31.4 (b)	

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T19	122 - 114	Horizontal	L2x2x3/16	574	-2.594	15.466	16.8 32.9 (b)	Pass
T20	114 - 110	Horizontal	L2x2x3/16	583	-2.665	15.466	17.2 33.8 (b)	Pass
T21	110 - 106	Horizontal	L2x2x3/16	592	-2.751	15.466	17.8 34.9 (b)	Pass
T22	106 - 102	Horizontal	L2x2x3/16	602	-2.837	15.466	18.3 36.0 (b)	Pass
T23	102 - 82	Horizontal	L2x2x3/16	616	-2.856	15.466	18.5 36.3 (b)	Pass
T24	82 - 62	Horizontal	L2x2x3/16	649	-2.576	15.466	16.7 32.7 (b)	Pass
T25	62 - 42	Horizontal	L2x2x3/16	683	-2.540	15.466	16.4 32.3 (b)	Pass
T26	42 - 22	Horizontal	L2x2x3/16	720	-2.424	15.466	15.7 30.8 (b)	Pass
T27	22 - 2	Horizontal	L2x2x3/16	757	-2.358	15.466	15.2 29.9 (b)	Pass
T2	452 - 442	Top Girt	L2x2x3/16	11	1.794	18.739	9.6 22.8 (b)	Pass
T3	442 - 422	Top Girt	L2x2x3/16	39	-0.807	15.292	5.3 10.3 (b)	Pass
T4	422 - 402	Top Girt	L2x2x3/16	72	-0.807	15.292	5.3 10.3 (b)	Pass
T5	402 - 382	Top Girt	L2x2x3/16	105	-1.046	15.292	6.8 13.3 (b)	Pass
T6	382 - 362	Top Girt	L2x2x3/16	138	-1.142	15.292	7.5 14.5 (b)	Pass
T7	362 - 342	Top Girt	L2x2x3/16	171	-1.144	15.292	7.5 14.5 (b)	Pass
T8	342 - 322	Top Girt	L2x2x3/16	204	-1.451	15.292	9.5 18.4 (b)	Pass
T9	322 - 302	Top Girt	L2x2x3/16	237	-1.464	15.350	9.5 18.6 (b)	Pass
T10	302 - 282	Top Girt	L2x2x3/16	271	-1.481	15.350	9.7 18.8 (b)	Pass
T11	282 - 262	Top Girt	L2x2x3/16	303	-1.677	15.408	10.9 21.3 (b)	Pass
T12	262 - 242	Top Girt	L2x2x3/16	336	-1.677	15.408	10.9 21.3 (b)	Pass
T13	242 - 222	Top Girt	L2x2x3/16	369	-1.998	15.408	13.0 25.4 (b)	Pass
T14	222 - 202	Top Girt	L2x2x3/16	402	-2.238	15.466	14.5 28.4 (b)	Pass
T15	202 - 182	Top Girt	L2x2x3/16	437	-2.270	15.466	14.7 28.8 (b)	Pass
T16	182 - 162	Top Girt	L2x2x3/16	468	-2.496	15.466	16.1 31.7 (b)	Pass
T17	162 - 142	Top Girt	L2x2x3/16	501	-2.496	15.466	16.1 31.7 (b)	Pass
T18	142 - 122	Top Girt	L2x2x3/16	535	-2.473	15.466	16.0 31.4 (b)	Pass
T19	122 - 114	Top Girt	L2x2x3/16	568	-2.594	15.466	16.8 32.9 (b)	Pass
T24	82 - 62	Top Girt	L2x2x3/16	643	-2.856	15.466	18.5 36.3 (b)	Pass
T25	62 - 42	Top Girt	L2x2x3/16	676	-2.576	15.466	16.7 32.7 (b)	Pass
T26	42 - 22	Top Girt	L2x2x3/16	710	-2.540	15.466	16.4 32.3 (b)	Pass
T27	22 - 2	Top Girt	L2x2x3/16	741	-2.424	15.466	15.7	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
							30.8 (b)	
T27	22 - 2	Bottom Girt	L2x2x3/16	745	-2.358	15.321	15.4	Pass
							40.4 (b)	
T1	457 - 452	Guy A@457	1	776	33.965	62.700	54.2	Pass
T5	402 - 382	Guy A@386	1	779	35.046	62.700	55.9	Pass
T8	342 - 322	Guy A@326	7/8	782	27.741	47.820	58.0	Pass
T11	282 - 262	Guy A@266	7/8	785	28.191	47.820	59.0	Pass
T14	222 - 202	Guy A@214	7/8	788	25.315	47.820	52.9	Pass
T16	182 - 162	Guy A@166	7/8	791	24.618	47.820	51.5	Pass
T23	102 - 82	Guy A@102	11/16	794	13.687	29.400	46.6	Pass
T25	62 - 42	Guy A@50	1/2	797	5.967	16.140	37.0	Pass
T1	457 - 452	Guy B@457	1	775	34.764	62.700	55.4	Pass
T5	402 - 382	Guy B@386	1	778	36.384	62.700	58.0	Pass
T8	342 - 322	Guy B@326	7/8	781	28.887	47.820	60.4	Pass
T11	282 - 262	Guy B@266	7/8	784	29.295	47.820	61.3	Pass
T14	222 - 202	Guy B@214	7/8	787	26.431	47.820	55.3	Pass
T16	182 - 162	Guy B@166	7/8	790	25.384	47.820	53.1	Pass
T23	102 - 82	Guy B@102	11/16	793	13.950	29.400	47.5	Pass
T25	62 - 42	Guy B@50	1/2	796	6.019	16.140	37.3	Pass
T1	457 - 452	Guy C@457	1	774	34.502	62.700	55.0	Pass
T5	402 - 382	Guy C@386	1	777	36.035	62.700	57.5	Pass
T8	342 - 322	Guy C@326	7/8	780	28.669	47.820	60.0	Pass
T11	282 - 262	Guy C@266	7/8	783	29.374	47.820	61.4	Pass
T14	222 - 202	Guy C@214	7/8	786	26.493	47.820	55.4	Pass
T16	182 - 162	Guy C@166	7/8	789	25.802	47.820	54.0	Pass
T23	102 - 82	Guy C@102	11/16	792	14.124	29.400	48.0	Pass
T25	62 - 42	Guy C@50	1/2	795	6.111	16.140	37.9	Pass
T1	457 - 452	Top Guy Pull-Off@457	2L2 1/2x2 1/2x3/8x1/4	8	0.000	91.758	0.2	Pass
T5	402 - 382	Top Guy Pull-Off@386	2L2 1/2x2 1/2x3/8x1/4	113	7.289	91.758	7.9	Pass
							11.2 (b)	
T8	342 - 322	Top Guy Pull-Off@326	2L2 1/2x2 1/2x3/8x1/4	211	6.862	91.758	7.5	Pass
							10.6 (b)	
T11	282 - 262	Top Guy Pull-Off@266	2L2 1/2x2 1/2x3/8x1/4	311	8.421	91.758	9.2	Pass
							13.0 (b)	
T14	222 - 202	Top Guy Pull-Off@214	2L2 1/2x2 1/2x3/8x1/4	421	7.870	91.758	8.6	Pass
							12.1 (b)	
T16	182 - 162	Top Guy Pull-Off@166	2L2 1/2x2 1/2x3/8x1/4	475	9.373	91.758	10.2	Pass
							14.4 (b)	
T23	102 - 82	Top Guy Pull-Off@102	2L2 1/2x2 1/2x3/8x1/4	610	6.745	91.758	7.4	Pass
							10.4 (b)	
T25	62 - 42	Top Guy Pull-Off@50	2L2 1/2x2 1/2x3/8x1/4	687	3.965	91.758	4.3	Pass
							6.1 (b)	
							Summary	
							Pole (L2) 39.3	Pass
							Leg (T22) 85.7	Pass
							Diagonal (T9) 83.1	Pass
							Horizontal (T23) 36.3	Pass
							Top Girt (T24) 36.3	Pass
							Bottom Girt (T27) 40.4	Pass
							Guy A (T11) 59.0	Pass
							Guy B (T11) 61.3	Pass
							Guy C (T11) 61.4	Pass
							Top Guy Pull-Off (T16) 14.4	Pass
							Bolt Checks 85.7	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
						RATING =	**85.7**	**Pass**

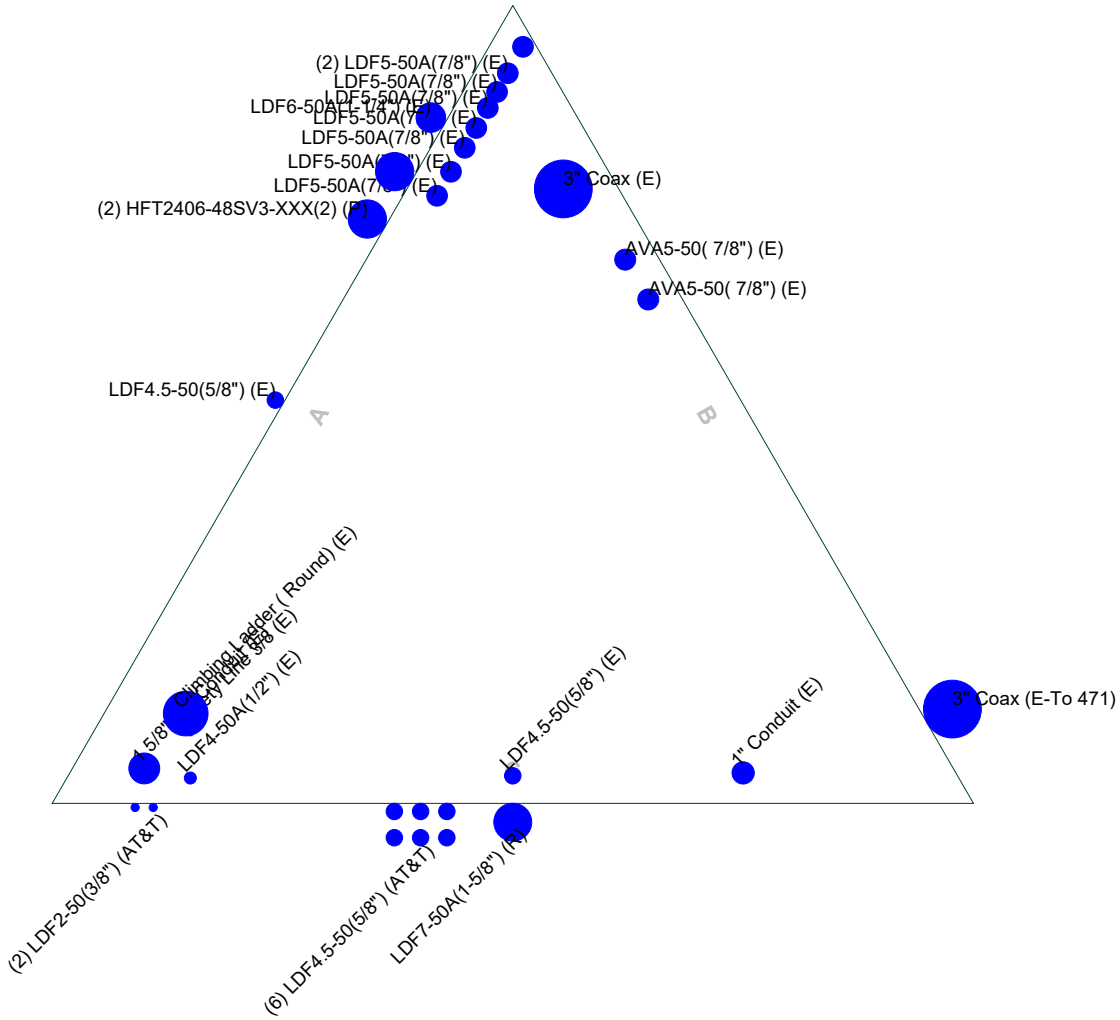
Program Version 8.2.4.3

APPENDIX B

BASE LEVEL DRAWING

Feed Line Plan

Round Flat App In Face App Out Face



B+T GRP
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Phone: (918) 587-4630
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Job: *173454.001.01.0001 - WRKI-FM, CT (Site# US-CT-500*			
Project:			
Client: Vertical Bridge	Drawn by: Deepak	App'd:	
Code: TIA-222-H	Date: 11/13/24	Scale: NTS	
Path: G:\10-26-2024--ON HOLD\173454_US-CT-5009_WRKI-FM---Deepak---G---FDN QCD\tnxTower\173454_001_01_0001_WRKI-FM_CT.eri		Dwg No. E-7	

APPENDIX C

ADDITIONAL CALCULATIONS

Pier and Pad Foundation

Site #	US-CT-5009
Site Name:	WRKI-FM, CT
Project #	173454.001.01.000

TIA-222 Revision:	H
Tower Type:	Guyed

Top & Bot. Pad Rein. Different?:	☐
Block Foundation?:	☐
Rectangular Pad?:	☐

Superstructure Analysis Reactions		
Compression, P_{comp}:	390	kips
Base Shear, Vu_comp:	1	kips
Moment, M_u:	0	ft-kips
Tower Height, **H**:	492	ft
BP Dist. Above Fdn, bp_{dist}:	1	in
Bolt Circle / Bearing Plate Width, **BC**:		in

Pier Properties		
Pier Shape:	Square	
Pier Diameter, **dpier**:	6	ft
Ext. Above Grade, **E**:	0.5	ft
Pier Rebar Size, **Sc**:	7	
Pier Rebar Quantity, **mc**:	34	
Pier Tie/Spiral Size, **St**:	3	
Pier Tie/Spiral Quantity, **mt**:	8	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, cc_{pier}:	3	in

Pad Properties		
Depth, **D**:	8.5	ft
Pad Width, W_1:	14	ft
Pad Thickness, **T**:	3	ft
Pad Rebar Size (Bottom dir. 2), Sp_2:	7	
Pad Rebar Quantity (Bottom dir. 2), mp_2:	18	
Pad Clear Cover, cc_{pad}:	3	in

Material Properties		
Rebar Grade, **Fy**:	60	ksi
Concrete Compressive Strength, **F'c**:	3	ksi
Dry Concrete Density, δc:	150	pcf

Soil Properties		
Total Soil Unit Weight, γ:	110	pcf
Ultimate Net Bearing, Qnet:	24.210	ksf
Cohesion, **Cu**:	0.000	ksf
Friction Angle, φ:	28	degrees
SPT Blow Count, N_{blows}:		
Base Friction, μ:	0.3	
Neglected Depth, **N**:	3.33	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, **gw**:	8	ft

Foundation Analysis Checks	Capacity	Demand	Rating	Check
Lateral (Sliding) (kips)	151.28	1.00	**0.7%**	**Pass**
Bearing Pressure (ksf)	15.07	3.30	**21.9%**	**Pass**
*Overturning (kip*ft)*	3023.85	9.08	**0.3%**	**Pass**
*Pier Flexure (Comp.) (kip*ft)*	3502.12	6.00	**0.2%**	**Pass**
Pier Compression (kip)	17184.96	428.88	**2.5%**	**Pass**
*Pad Flexure (kip*ft)*	1503.26	231.88	**15.4%**	**Pass**
Pad Shear - 1-way (kips)	437.37	39.44	**9.0%**	**Pass**
Pad Shear - 2-way (Comp) (ksi)	0.164	0.017	**10.3%**	**Pass**
*Flexural 2-way (Comp) (kip*ft)*	3006.51	3.60	**0.1%**	**Pass**

0.5% min steel assumed

Structural Rating:	**15.4%**
Soil Rating:	**21.9%**

0.18% min steel assumed

<--Toggle between Gross and Net

Version 5.0.3

Guyed Anchor Block Foundation

Checks capacity of anchor blocks for a guyed tower.

Site #	US-CT-5009	
Site Name:	WRKI-FM, CT	
Project #	173454.001.01.0001	
Location:		*Inner A B3*
TIA-222 Revision:	H	

Design Reactions		
Shear, **S**:	43.00	kips
Uplift, **Ua**:	56.00	kips
Resultant Force, **Rf**:	70.60	kips
Tower Height, **H**:	492.00	ft
Guy Anchor Radius, **R**:	117.50	ft
Resultant Angle to Horizontal, **θ**:	52.5	deg

Guy Anchor Properties		
Depth to Bottom of Deadman, **Da**:	11	ft
Anchor Width, **Wa**:	6.5	ft
Anchor Thickness, **Ta**:	3	ft
Anchor Length, **La**:	22	ft
Concrete Volume, **Vc**:	15.9	yd^3
Toe Width, **toe**:		ft

Material Properties		
Wt. Avg.Concrete Density, **δx**:	0.088	kcf

Design Checks	**Capacity**	**Demand**	**Rating**	**Check**
Lateral Capacity (kips):	124.01	43.00	**34.7%**	**Pass**
Uplift Capacity (kips):	270.06	56.00	**20.7%**	**Pass**

Anchor Shaft Rating:	**N/A**
Structural Rating:	**N/A**
Soil Rating:	**34.7%**

Neglect Depth, **Neg**:	3.3	ft
Groundwater Level, **gw**:	6	ft

Soil Properties:			**No. of Soil Layers:**	5		
Layer	**φ, deg**	**cu, ksf**	**δ, pcf**	**d, ft**	**Ultimate fs (ksf)**	**N (blows/ft)**
1	0	0.000	105	2.00	0.000	
2	0	0.000	120	3.30	0.000	
3	0	3.750	120	4.00		
4	0	1.000	105	6.00		
5	0	0.500	43	11.00		

*key: φ = *Internal Angle of Friction*
cu = Cohesion / Undrained Shear Strength
δ = *Buoyant Soil Unit Weight*
d = Depth to Bottom of Layer
Ultimate fs = Geotechnical Report-provided skin friction / adhesion
N = SPT Blow Count

Guyed Anchor Block Foundation

Checks capacity of anchor blocks for a guyed tower.

Site #	US-CT-5009	
Site Name:	WRKI-FM, CT	
Project #	173454.001.01.0001	
Location:		*Inner B B2*
TIA-222 Revision:	H	

Design Reactions		
Shear, **S**:	43.00	kips
Uplift, **Ua**:	56.00	kips
Resultant Force, **Rf**:	70.60	kips
Tower Height, **H**:	492.00	ft
Guy Anchor Radius, **R**:	117.50	ft
Resultant Angle to Horizontal, **θ**:	52.5	deg

Guy Anchor Properties		
Depth to Bottom of Deadman, **Da**:	11.33	ft
Anchor Width, **Wa**:	5	ft
Anchor Thickness, **Ta**:	2.33	ft
Anchor Length, **La**:	15.33	ft
Concrete Volume, **Vc**:	6.6	yd^3
Toe Width, **toe**:		ft

Material Properties		
Wt. Avg.Concrete Density, **δx**:	0.088	kcf

Design Checks	**Capacity**	**Demand**	**Rating**	**Check**
Lateral Capacity (kips):	87.02	43.00	**49.4%**	**Pass**
Uplift Capacity (kips):	137.17	56.00	**40.8%**	**Pass**

Anchor Shaft Rating:	**N/A**
Structural Rating:	**N/A**
Soil Rating:	**49.4%**

Neglect Depth, **Neg**:	3.3	ft
Groundwater Level, **gw**:	4	ft

Soil Properties: **No. of Soil Layers:** 5

Layer	**φ, deg**	**cu, ksf**	**δ, pcf**	**d, ft**	**Ultimate fs (ksf)**	**N (blows/ft)**
1	0	0.000	105	3.30	0.000	
2	0	0.000	105	4.00	0.000	
3	0	1.250	48	6.00		
4	0	0.400	43	8.00		
5	0	0.750	43	11.33		

*key: φ = *Internal Angle of Friction*
cu = Cohesion / Undrained Shear Strength
δ = *Buoyant Soil Unit Weight*
d = Depth to Bottom of Layer
Ultimate fs = Geotechnical Report-provided skin friction / adhesion
N = SPT Blow Count

Guyed Anchor Block Foundation

Checks capacity of anchor blocks for a guyed tower.

Site #	US-CT-5009	
Site Name:	WRKI-FM, CT	
Project #	173454.001.01.0001	
Location:		*Inner C B4*
TIA-222 Revision:	H	

Design Reactions		
Shear, **S**:	43.00	kips
Uplift, **Ua**:	56.00	kips
Resultant Force, **Rf**:	70.60	kips
Tower Height, **H**:	492.00	ft
Guy Anchor Radius, **R**:	117.50	ft
Resultant Angle to Horizontal, **θ**:	52.5	deg

Guy Anchor Properties		
Depth to Bottom of Deadman, **Da**:	9.5	ft
Anchor Width, **Wa**:	4.5	ft
Anchor Thickness, **Ta**:	2.5	ft
Anchor Length, **La**:	15	ft
Concrete Volume, **Vc**:	6.3	yd^3
Toe Width, **toe**:		ft

Material Properties		
Wt. Avg.Concrete Density, **δx**:	0.088	kcf

Design Checks	**Capacity**	**Demand**	**Rating**	**Check**
Lateral Capacity (kips):	151.61	43.00	**28.4%**	**Pass**
Uplift Capacity (kips):	116.43	56.00	**48.1%**	**Pass**

Anchor Shaft Rating:	**N/A**
Structural Rating:	**N/A**
Soil Rating:	**48.1%**

Neglect Depth, **Neg**:	3.3	ft
Groundwater Level, **gw**:	4	ft

Soil Properties:			**No. of Soil Layers:**	5		
Layer	**φ, deg**	**cu, ksf**	**δ, pcf**	**d, ft**	**Ultimate fs (ksf)**	**N (blows/ft)**
1	0	0.000	105	2.00	0.000	
2	0	0.000	105	3.30	0.000	
3	0	0.500	105	4.00		
4	0	0.300	38	6.00		
5	0	1.500	48	9.50		

*key: φ = *Internal Angle of Friction*
cu = Cohesion / Undrained Shear Strength
δ = *Buoyant Soil Unit Weight*
d = Depth to Bottom of Layer
Ultimate fs = Geotechnical Report-provided skin friction / adhesion
N = SPT Blow Count

Guyed Anchor Block Foundation

Checks capacity of anchor blocks for a guyed tower.

Site #	US-CT-5009	
Site Name:	WRKI-FM, CT	
Project #	173454.001.01.0001	
Location:		*Outer A B3*
TIA-222 Revision:	H	

Design Reactions		
Shear, **S**:	50.00	kips
Uplift, **Ua**:	116.00	kips
Resultant Force, **Rf**:	126.32	kips
Tower Height, **H**:	492.00	ft
Guy Anchor Radius, **R**:	146.00	ft
Resultant Angle to Horizontal, **θ**:	66.7	deg

Guy Anchor Properties		
Depth to Bottom of Deadman, **Da**:	11.5	ft
Anchor Width, **Wa**:	11	ft
Anchor Thickness, **Ta**:	4.5	ft
Anchor Length, **La**:	28	ft
Concrete Volume, **Vc**:	51.3	yd^3
Toe Width, **toe**:		ft

Material Properties		
Wt. Avg.Concrete Density, **δx**:	0.088	kcf

Design Checks	**Capacity**	**Demand**	**Rating**	**Check**
Lateral Capacity (kips):	241.68	50.00	**20.7%**	**Pass**
Uplift Capacity (kips):	498.79	116.00	**23.3%**	**Pass**

Anchor Shaft Rating:	**N/A**
Structural Rating:	**N/A**
Soil Rating:	**23.3%**

Neglect Depth, **Neg**:	3.3	ft
Groundwater Level, **gw**:	6	ft

Soil Properties: — **No. of Soil Layers:** 5

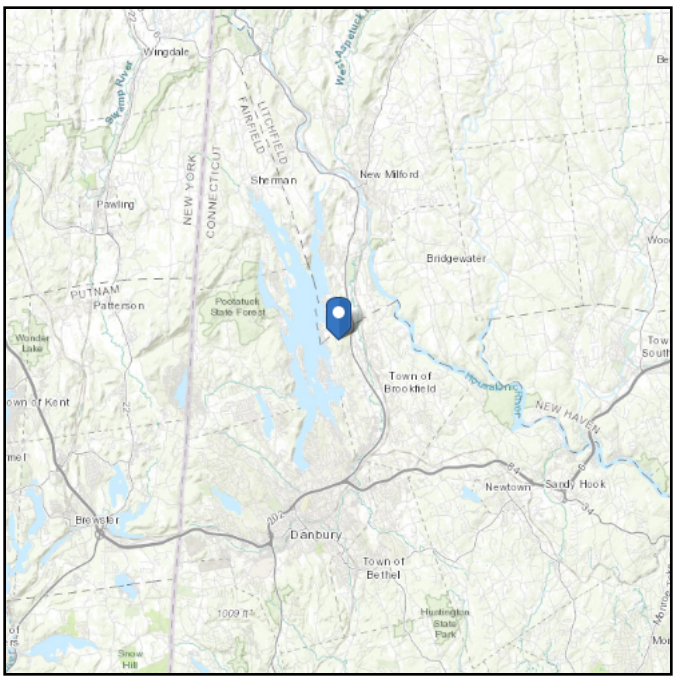
Layer	φ, deg	cu, ksf	δ, pcf	d, ft	Ultimate fs (ksf)	N (blows/ft)
1	0	0.000	105	2.00	0.000	
2	0	0.000	120	3.30	0.000	
3	0	3.750	120	4.00		
4	0	1.000	105	6.00		
5	0	0.500	43	11.50		

*key: φ = *Internal Angle of Friction*
cu = Cohesion / Undrained Shear Strength
δ = *Buoyant Soil Unit Weight*
d = Depth to Bottom of Layer
Ultimate fs = Geotechnical Report-provided skin friction / adhesion
N = SPT Blow Count

ASCE Hazards Report

Address:
No Address at This Location

Standard:	ASCE/SEI 7-16	**Latitude:**	41.4934
Risk Category:	II	**Longitude:**	-73.4288
Soil Class:	D - Default (see Section 11.4.3)	**Elevation:**	719.719606938507 ft (NAVD 88)



Wind

Results:

Wind Speed	115 Vmph
10-year MRI	75 Vmph
25-year MRI	84 Vmph
50-year MRI	89 Vmph
100-year MRI	95 Vmph

Data Source:	ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed:	Fri Oct 25 2024

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-16 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is not in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2.

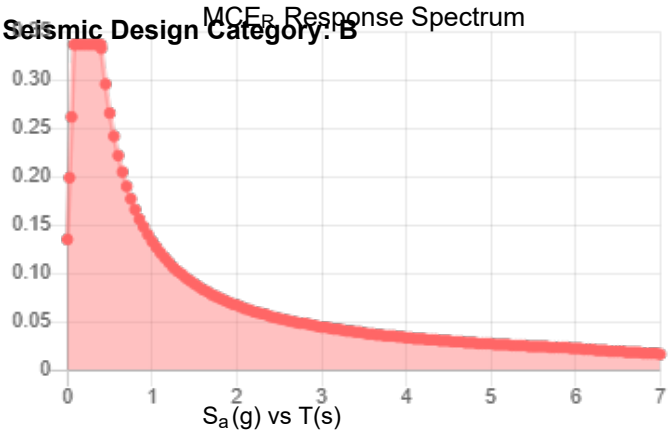
Seismic

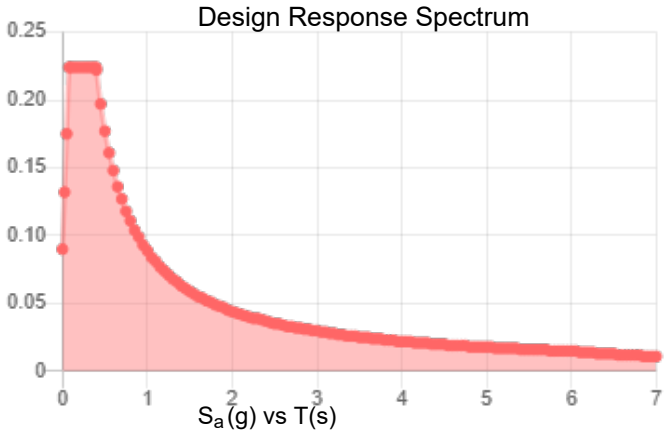
Site Soil Class: D - Default (see Section 11.4.3)

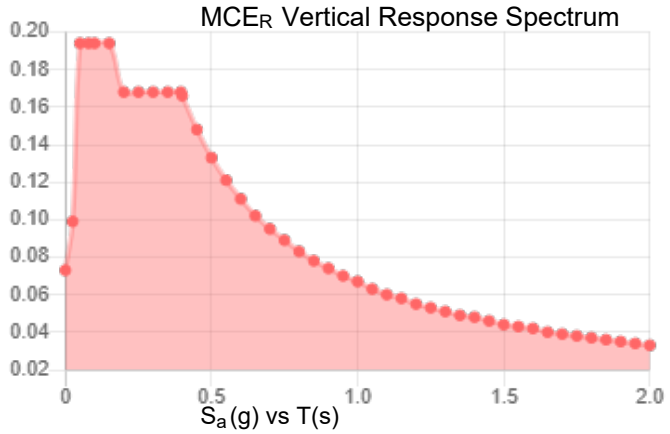
Results:

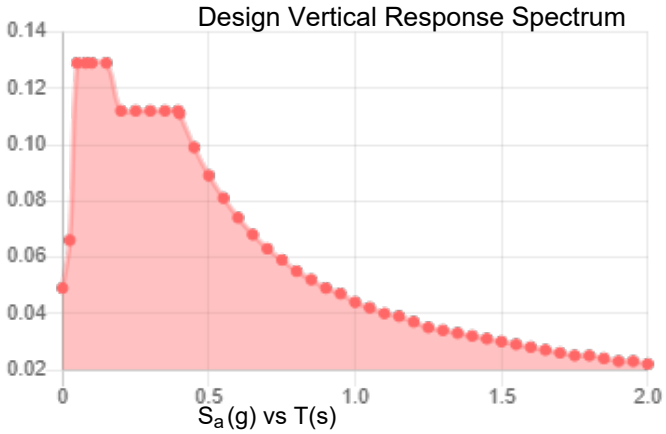
S_S :	0.21	S_{D1} :	0.089
S_1 :	0.055	T_L :	6
F_a :	1.6	PGA :	0.119
F_v :	2.4	PGA_M :	0.186
S_{MS} :	0.337	F_{PGA} :	1.562
S_{M1} :	0.133	I_e :	1
S_{DS} :	0.224	C_v :	0.721

Seismic Design Category: B









Data Accessed: **Fri Oct 25 2024**

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness:	1.00 in.
Concurrent Temperature:	15 F
Gust Speed	50 mph
Data Source:	Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8
Date Accessed:	Fri Oct 25 2024

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 500-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Site #:	US-CT-5009	Structure:	A
Site Name:	WRKI-FM, CT		

Location

	Decimal Degrees		Deg	Min	Sec
Lat:	41.493439	+	41	29	36.38
Long:	-73.428817	-	73	25	43.74

Code and Site Parameters

Seismic Design Code:	TIA-222-H-1	
Site Soil:	D (Default)	Default
Risk Category:	II	

USGS Seismic Reference			
	S_S:	0.2100	g
	S_1:	0.0550	g
	T_L:	6	s

Seismic Design Category Determination

Importance Factor, I_e:	1	
Acceleration-based site coefficient, F_a:	1.6000	
Velocity-based site coefficient, F_v:	2.4000	
Design spectral response acceleration short period, S_{DS}:	0.2240	g
Design spectral response acceleration 1 s period, S_{D1}:	0.0880	g
T_s:	0.3929	
Seismic Design Category Based on S_{DS}:	B	
Seismic Design Category Based on S_{D1}:	B	
Seismic Design Category Based on S_1:	N/A	
Controlling Seismic Design Category:	B	

Site #:	US-CT-5009	Structure:	A
Site Name:	WRKI-FM, CT		

Tower Details

Tower Type:	Guyed Tower		
Height, h:	492	ft	
Effective Seismic Weight, W:	24.22	kips	
Amplification Factor, A_s:	1.0		2.7.8.1

Seismic Base Shear

Response Modification Factor, R:	3		
C_g:	176.5		
K_g:	0.0082		
F_a:	2.9202	hz	
Approximate Fundamental Period Guyed Towers, T_a:	0.3424	s	2.7.7.1.3.4
Seismic Response Coefficient, C_s	0.0747		2.7.7.1.1
Seismic Response Coefficient Max 1, C_{smax}	0.0857		2.7.7.1.1
Seismic Response Coefficient Max 2, C_{smax}	N/A		2.7.7.1.1
Seismic Response Coefficient Min 1, C_{smin}	0.0300		2.7.7.1.1
Seismic Response Coefficient Min 2, C_{smin}	N/A		2.7.7.1.1
Controlling Seismic Response Coefficient, C_{sc}	0.0747		
Seismic Base Shear, V	1.809	kips	2.7.7.1.1

Vertical Distribution Factors

Period Related Exponent, k:	1.000
Sum of $w_i h_i^k$	14540.19

Tower Section Loads								
Section Number	Length	Top Height	Mid Height, h_x	Section Weight, w_x	$w_x h_x^k$	C_{vx}	F_{xh}	F_{xv}
1	15.00	492.00	484.50	0.535083	259.25	0.0178	0.0322	0.0240
2	20.00	477.00	467.00	0.713445	333.18	0.0229	0.0414	0.0320
3	5.00	457.00	454.50	0.433534	197.04	0.0136	0.0245	0.0194
4	10.00	452.00	447.00	0.643053	287.44	0.0198	0.0358	0.0288
5	20.00	442.00	432.00	1.228599	530.75	0.0365	0.0660	0.0550
6	20.00	422.00	412.00	1.228599	506.18	0.0348	0.0630	0.0550
7	20.00	402.00	392.00	1.341044	525.69	0.0362	0.0654	0.0601
8	20.00	382.00	372.00	1.228599	457.04	0.0314	0.0569	0.0550
9	20.00	362.00	352.00	1.228599	432.47	0.0297	0.0538	0.0550
10	20.00	342.00	332.00	1.341044	445.23	0.0306	0.0554	0.0601
11	20.00	322.00	312.00	1.327516	414.18	0.0285	0.0515	0.0595
12	20.00	302.00	292.00	1.419018	414.35	0.0285	0.0515	0.0636
13	20.00	282.00	272.00	1.970604	536.00	0.0369	0.0667	0.0883
14	20.00	262.00	252.00	1.629481	410.63	0.0282	0.0511	0.0730
15	20.00	242.00	232.00	1.629481	378.04	0.0260	0.0470	0.0730
16	20.00	222.00	212.00	2.201111	466.64	0.0321	0.0580	0.0986
17	20.00	202.00	192.00	1.859988	357.12	0.0246	0.0444	0.0833
18	20.00	182.00	172.00	1.972433	339.26	0.0233	0.0422	0.0884
19	20.00	162.00	152.00	1.859988	282.72	0.0194	0.0352	0.0833
20	20.00	142.00	132.00	1.859988	245.52	0.0169	0.0305	0.0833
21	8.00	122.00	118.00	0.743995	87.79	0.0060	0.0109	0.0333
22	4.00	114.00	112.00	0.371998	41.66	0.0029	0.0052	0.0167
23	4.00	110.00	108.00	0.408551	44.12	0.0030	0.0055	0.0183
24	4.00	106.00	104.00	0.408551	42.49	0.0029	0.0053	0.0183
25	20.00	102.00	92.00	1.972433	181.46	0.0125	0.0226	0.0884
26	20.00	82.00	72.00	1.859988	133.92	0.0092	0.0167	0.0833
27	20.00	62.00	52.00	1.972433	102.57	0.0071	0.0128	0.0884
28	20.00	42.00	32.00	1.859988	59.52	0.0041	0.0074	0.0833
29	20.00	22.00	12.00	1.889184	22.67	0.0016	0.0028	0.0846
			Sum	0.0000	8534.94			

Guy Loads						
Guy Attachment Elevation, h_x	Total Guy Weight	Effective Guy Weight, w_x	$w_x h_x^k$	C_{vx}	F_{xh}	F_{xv}
457.00	3.0371	1.5185	693.97	0.0477	0.0863	0.0680
386.00	2.6144	1.3072	504.57	0.0347	0.0628	0.0586
326.00	1.7048	0.8524	277.88	0.0191	0.0346	0.0382
266.00	1.4492	0.7246	192.75	0.0133	0.0240	0.0325
214.00	1.1630	0.5815	124.45	0.0086	0.0155	0.0261
166.00	0.9692	0.4846	80.44	0.0055	0.0100	0.0217
102.00	0.4453	0.2227	22.71	0.0016	0.0028	0.0100
50.00	0.1983	0.0992	4.96	0.0003	0.0006	0.0044
Sum	11.5813	5.7907	1901.73			

Discrete Loads						
Name	h_x	w_x	$w_x h_x^k$	C_{vx}	F_{xh}	F_{xv}
tower mounts Lightning Rod 5/8" x 6'	495.00	0.0060	2.97	0.0002	0.0004	0.0003
miscl Flash Beacon Lighting	492.50	0.0500	24.63	0.0017	0.0031	0.0022
miscl Flash Beacon Lighting	237.00	0.0500	11.85	0.0008	0.0015	0.0022
miscl Flash Beacon Lighting	237.00	0.0500	11.85	0.0008	0.0015	0.0022
miscl Flash Beacon Lighting	124.00	0.0500	6.20	0.0004	0.0008	0.0022
miscl Side Lighting	358.00	0.0050	1.79	0.0001	0.0002	0.0002
miscl Side Lighting	358.00	0.0050	1.79	0.0001	0.0002	0.0002
miscl Side Lighting	358.00	0.0050	1.79	0.0001	0.0002	0.0002
miscl Side Lighting	116.00	0.0050	0.58	0.0000	0.0001	0.0002
miscl Side Lighting	116.00	0.0050	0.58	0.0000	0.0001	0.0002
miscl Side Lighting	116.00	0.0050	0.58	0.0000	0.0001	0.0002
2 Bay FM Antenna	471.00	0.0500	23.55	0.0016	0.0029	0.0022
ERI ALP 8W LPTV Antenna	450.00	0.3000	135.00	0.0093	0.0168	0.0134
Antenna Mount	450.00	0.1200	54.00	0.0037	0.0067	0.0054
3' Yagi	453.00	0.0300	13.59	0.0009	0.0017	0.0013
6' Omni	302.00	0.0100	3.02	0.0002	0.0004	0.0004
2' Side arm	302.00	0.0250	7.55	0.0005	0.0009	0.0011
Kathrein CA5-FM/CP/RM	300.00	0.0180	5.40	0.0004	0.0007	0.0008
rfs celwave APXVAARR24_43-U-NA20_TIA w/ Mount Pipe	280.00	0.1610	45.08	0.0031	0.0056	0.0072
rfs celwave APXVAARR24_43-U-NA20_TIA w/ Mount Pipe	280.00	0.1610	45.08	0.0031	0.0056	0.0072
rfs celwave APXVAARR24_43-U-NA20_TIA w/ Mount Pipe	280.00	0.1610	45.08	0.0031	0.0056	0.0072
Radio 4449 B71+B85	280.00	0.0730	20.44	0.0014	0.0025	0.0033
Radio 4449 B71+B85	280.00	0.0730	20.44	0.0014	0.0025	0.0033
Radio 4449 B71+B85	280.00	0.0730	20.44	0.0014	0.0025	0.0033
rfs celwave APXVLL19P_43-C-A20_TMO_TIA w/ Mount Pipe	280.00	0.0750	21.00	0.0014	0.0026	0.0034
rfs celwave APXVLL19P_43-C-A20_TMO_TIA w/ Mount Pipe	280.00	0.0750	21.00	0.0014	0.0026	0.0034
rfs celwave APXVLL19P_43-C-A20_TMO_TIA w/ Mount Pipe	280.00	0.0750	21.00	0.0014	0.0026	0.0034
ericsson AIR6419 B41 w/ Mount Pipe	280.00	0.0830	23.24	0.0016	0.0029	0.0037
ericsson AIR6419 B41 w/ Mount Pipe	280.00	0.0830	23.24	0.0016	0.0029	0.0037
ericsson AIR6419 B41 w/ Mount Pipe	280.00	0.0830	23.24	0.0016	0.0029	0.0037
ericsson 4460 B25/B66	280.00	0.1090	30.52	0.0021	0.0038	0.0049
ericsson 4460 B25/B66	280.00	0.1090	30.52	0.0021	0.0038	0.0049
ericsson 4460 B25/B66	280.00	0.1090	30.52	0.0021	0.0038	0.0049
tower mounts 10' x 2" Mount Pipe	280.00	0.0370	10.36	0.0007	0.0013	0.0017
tower mounts 10' x 2" Mount Pipe	280.00	0.0370	10.36	0.0007	0.0013	0.0017
tower mounts 10' x 2" Mount Pipe	280.00	0.0370	10.36	0.0007	0.0013	0.0017
tower mounts Sector Mount [SM 504-3]	280.00	1.7079	478.21	0.0329	0.0595	0.0765
jma wireless MX08FRO665-21_TIA w/ Mount Pipe	225.00	0.1080	24.30	0.0017	0.0030	0.0048
jma wireless MX08FRO665-21_TIA w/ Mount Pipe	225.00	0.1080	24.30	0.0017	0.0030	0.0048
jma wireless MX08FRO665-21_TIA w/ Mount Pipe	225.00	0.1080	24.30	0.0017	0.0030	0.0048
fujitsu TA08025-B605	225.00	0.0750	16.88	0.0012	0.0021	0.0034
fujitsu TA08025-B605	225.00	0.0750	16.88	0.0012	0.0021	0.0034
fujitsu TA08025-B605	225.00	0.0750	16.88	0.0012	0.0021	0.0034
fujitsu TA08025-B604	225.00	0.0640	14.40	0.0010	0.0018	0.0029
fujitsu TA08025-B604	225.00	0.0640	14.40	0.0010	0.0018	0.0029
fujitsu TA08025-B604	225.00	0.0640	14.40	0.0010	0.0018	0.0029
raycap RDIDC-9181-PF-48	225.00	0.0220	4.95	0.0003	0.0006	0.0010
GPSGL-TMG-SPI-40NCB	225.00	0.0010	0.23	0.0000	0.0000	0.0000
(2) tower mounts 8' x 2.375" Mount Pipe	225.00	0.1220	27.45	0.0019	0.0034	0.0055
(2) tower mounts 8' x 2.375" Mount Pipe	225.00	0.1220	27.45	0.0019	0.0034	0.0055
(2) tower mounts 8' x 2.375" Mount Pipe	225.00	0.1220	27.45	0.0019	0.0034	0.0055
Commscope MTC3975083	225.00	1.2600	283.50	0.0195	0.0353	0.0564
(2) cci antennas TPA65R-BU8DA-K_TIA w/ Mount Pipe	165.00	0.2700	44.55	0.0031	0.0055	0.0121
(2) cci antennas TPA65R-BU8DA-K_TIA w/ Mount Pipe	165.00	0.2700	44.55	0.0031	0.0055	0.0121
(2) cci antennas TPA65R-BU8DA-K_TIA w/ Mount Pipe	165.00	0.2700	44.55	0.0031	0.0055	0.0121
cci antennas HPA65R-BU8A_TIA w/ Mount Pipe	165.00	0.0870	14.36	0.0010	0.0018	0.0039
cci antennas HPA65R-BU8A_TIA w/ Mount Pipe	165.00	0.0870	14.36	0.0010	0.0018	0.0039
cci antennas HPA65R-BU8A_TIA w/ Mount Pipe	165.00	0.0870	14.36	0.0010	0.0018	0.0039
Ericsson 8843 (15x13.1x10.9)	165.00	0.0710	11.72	0.0008	0.0015	0.0032
Ericsson 8843 (15x13.1x10.9)	165.00	0.0710	11.72	0.0008	0.0015	0.0032
Ericsson 8843 (15x13.1x10.9)	165.00	0.0710	11.72	0.0008	0.0015	0.0032
RRUS E2 B29	165.00	0.0600	9.90	0.0007	0.0012	0.0027
RRUS E2 B29	165.00	0.0600	9.90	0.0007	0.0012	0.0027
RRUS E2 B29	165.00	0.0600	9.90	0.0007	0.0012	0.0027
Ericsson 4415 B30 (16.5x13.4x5.9)	165.00	0.0460	7.59	0.0005	0.0009	0.0021
Ericsson 4415 B30 (16.5x13.4x5.9)	165.00	0.0460	7.59	0.0005	0.0009	0.0021
Ericsson 4415 B30 (16.5x13.4x5.9)	165.00	0.0460	7.59	0.0005	0.0009	0.0021
Ericsson 4449 (18x13.2x9.4)	165.00	0.0700	11.55	0.0008	0.0014	0.0031
Ericsson 4449 (18x13.2x9.4)	165.00	0.0700	11.55	0.0008	0.0014	0.0031
Ericsson 4449 (18x13.2x9.4)	165.00	0.0700	11.55	0.0008	0.0014	0.0031
Ericsson RRUS-4483 (15x13.2x9)	165.00	0.0720	11.88	0.0008	0.0015	0.0032
Ericsson RRUS-4483 (15x13.2x9)	165.00	0.0720	11.88	0.0008	0.0015	0.0032
Ericsson RRUS-4483 (15x13.2x9)	165.00	0.0720	11.88	0.0008	0.0015	0.0032
raycap DC6-48-60-0-8C-EV	165.00	0.0260	4.29	0.0003	0.0005	0.0012
raycap DC6-48-60-0-8C-EV	165.00	0.0260	4.29	0.0003	0.0005	0.0012
raycap DC6-48-60-0-8C-EV	165.00	0.0260	4.29	0.0003	0.0005	0.0012
Ice Bridge (2'x2')	165.00	0.0300	4.95	0.0003	0.0006	0.0013
Sector Frames	165.00	1.0000	165.00	0.0113	0.0205	0.0448
10' Dipole	138.00	0.0300	4.14	0.0003	0.0005	0.0013
3' Side Arm	138.00	0.0400	5.52	0.0004	0.0007	0.0018
10' Dipole	125.00	0.0300	3.75	0.0003	0.0005	0.0013

3' Side Arm	125.00	0.0400	5.00	0.0003	0.0006	0.0018
10' Dipole	108.00	0.0300	3.24	0.0002	0.0004	0.0013
3' Side Arm	108.00	0.0400	4.32	0.0003	0.0005	0.0018
6' Grid Dish	435.00	0.2500	108.75	0.0075	0.0135	0.0112
3' Dish w/ Radomes	351.00	0.0350	12.29	0.0008	0.0015	0.0016
3' Grid Dish	339.00	0.0300	10.17	0.0007	0.0013	0.0013
8' Grid Dish	247.00	0.1400	34.58	0.0024	0.0043	0.0063
8' Grid Dish	239.00	0.1400	33.46	0.0023	0.0042	0.0063
	Sum	10.4419	2517.25			

Linear Loads								
Name	Start Height	End Height	h_x	w_x	$w_x h_x^k$	C_{vx}	F_{xh}	F_{xv}
3" Coax From 8 to 450	442.00	450.00	446.00	0.0142	6.35	0.0004	0.0008	0.0006
3" Coax From 8 to 450	422.00	442.00	432.00	0.0356	15.38	0.0011	0.0019	0.0016
3" Coax From 8 to 450	402.00	422.00	412.00	0.0356	14.67	0.0010	0.0018	0.0016
3" Coax From 8 to 450	382.00	402.00	392.00	0.0356	13.96	0.0010	0.0017	0.0016
3" Coax From 8 to 450	362.00	382.00	372.00	0.0356	13.24	0.0009	0.0016	0.0016
3" Coax From 8 to 450	342.00	362.00	352.00	0.0356	12.53	0.0009	0.0016	0.0016
3" Coax From 8 to 450	322.00	342.00	332.00	0.0356	11.82	0.0008	0.0015	0.0016
3" Coax From 8 to 450	302.00	322.00	312.00	0.0356	11.11	0.0008	0.0014	0.0016
3" Coax From 8 to 450	282.00	302.00	292.00	0.0356	10.40	0.0007	0.0013	0.0016
3" Coax From 8 to 450	262.00	282.00	272.00	0.0356	9.68	0.0007	0.0012	0.0016
3" Coax From 8 to 450	242.00	262.00	252.00	0.0356	8.97	0.0006	0.0011	0.0016
3" Coax From 8 to 450	222.00	242.00	232.00	0.0356	8.26	0.0006	0.0010	0.0016
3" Coax From 8 to 450	202.00	222.00	212.00	0.0356	7.55	0.0005	0.0009	0.0016
3" Coax From 8 to 450	182.00	202.00	192.00	0.0356	6.84	0.0005	0.0009	0.0016
3" Coax From 8 to 450	162.00	182.00	172.00	0.0356	6.12	0.0004	0.0008	0.0016
3" Coax From 8 to 450	142.00	162.00	152.00	0.0356	5.41	0.0004	0.0007	0.0016
3" Coax From 8 to 450	122.00	142.00	132.00	0.0356	4.70	0.0003	0.0006	0.0016
3" Coax From 8 to 450	114.00	122.00	118.00	0.0142	1.68	0.0001	0.0002	0.0006
3" Coax From 8 to 450	110.00	114.00	112.00	0.0071	0.80	0.0001	0.0001	0.0003
3" Coax From 8 to 450	106.00	110.00	108.00	0.0071	0.77	0.0001	0.0001	0.0003
3" Coax From 8 to 450	102.00	106.00	104.00	0.0071	0.74	0.0001	0.0001	0.0003
3" Coax From 8 to 450	82.00	102.00	92.00	0.0356	3.28	0.0002	0.0004	0.0016
3" Coax From 8 to 450	62.00	82.00	72.00	0.0356	2.56	0.0002	0.0003	0.0016
3" Coax From 8 to 450	42.00	62.00	52.00	0.0356	1.85	0.0001	0.0002	0.0016
3" Coax From 8 to 450	22.00	42.00	32.00	0.0356	1.14	0.0001	0.0001	0.0016
3" Coax From 8 to 450	8.00	22.00	15.00	0.0249	0.37	0.0000	0.0000	0.0011
andrew AVA5-50(7/8") From 8 to 453	452.00	453.00	452.50	0.0003	0.14	0.0000	0.0000	0.0000
andrew AVA5-50(7/8") From 8 to 453	442.00	452.00	447.00	0.0030	1.34	0.0001	0.0002	0.0001
andrew AVA5-50(7/8") From 8 to 453	422.00	442.00	432.00	0.0060	2.59	0.0002	0.0003	0.0003
andrew AVA5-50(7/8") From 8 to 453	402.00	422.00	412.00	0.0060	2.47	0.0002	0.0003	0.0003
andrew AVA5-50(7/8") From 8 to 453	382.00	402.00	392.00	0.0060	2.35	0.0002	0.0003	0.0003
andrew AVA5-50(7/8") From 8 to 453	362.00	382.00	372.00	0.0060	2.23	0.0002	0.0003	0.0003
andrew AVA5-50(7/8") From 8 to 453	342.00	362.00	352.00	0.0060	2.11	0.0001	0.0003	0.0003
andrew AVA5-50(7/8") From 8 to 453	322.00	342.00	332.00	0.0060	1.99	0.0001	0.0002	0.0003
andrew AVA5-50(7/8") From 8 to 453	302.00	322.00	312.00	0.0060	1.87	0.0001	0.0002	0.0003
andrew AVA5-50(7/8") From 8 to 453	282.00	302.00	292.00	0.0060	1.75	0.0001	0.0002	0.0003
andrew AVA5-50(7/8") From 8 to 453	262.00	282.00	272.00	0.0060	1.63	0.0001	0.0002	0.0003
andrew AVA5-50(7/8") From 8 to 453	242.00	262.00	252.00	0.0060	1.51	0.0001	0.0002	0.0003
andrew AVA5-50(7/8") From 8 to 453	222.00	242.00	232.00	0.0060	1.39	0.0001	0.0002	0.0003
andrew AVA5-50(7/8") From 8 to 453	202.00	222.00	212.00	0.0060	1.27	0.0001	0.0002	0.0003
andrew AVA5-50(7/8") From 8 to 453	182.00	202.00	192.00	0.0060	1.15	0.0001	0.0001	0.0003
andrew AVA5-50(7/8") From 8 to 453	162.00	182.00	172.00	0.0060	1.03	0.0001	0.0001	0.0003
andrew AVA5-50(7/8") From 8 to 453	142.00	162.00	152.00	0.0060	0.91	0.0001	0.0001	0.0003
andrew AVA5-50(7/8") From 8 to 453	122.00	142.00	132.00	0.0060	0.79	0.0001	0.0001	0.0003
andrew AVA5-50(7/8") From 8 to 453	114.00	122.00	118.00	0.0024	0.28	0.0000	0.0000	0.0001
andrew AVA5-50(7/8") From 8 to 453	110.00	114.00	112.00	0.0012	0.13	0.0000	0.0000	0.0001
andrew AVA5-50(7/8") From 8 to 453	106.00	110.00	108.00	0.0012	0.13	0.0000	0.0000	0.0001
andrew AVA5-50(7/8") From 8 to 453	102.00	106.00	104.00	0.0012	0.12	0.0000	0.0000	0.0001
andrew AVA5-50(7/8") From 8 to 453	82.00	102.00	92.00	0.0060	0.55	0.0000	0.0001	0.0003
andrew AVA5-50(7/8") From 8 to 453	62.00	82.00	72.00	0.0060	0.43	0.0000	0.0001	0.0003
andrew AVA5-50(7/8") From 8 to 453	42.00	62.00	52.00	0.0060	0.31	0.0000	0.0000	0.0003
andrew AVA5-50(7/8") From 8 to 453	22.00	42.00	32.00	0.0060	0.19	0.0000	0.0000	0.0003
andrew AVA5-50(7/8") From 8 to 453	8.00	22.00	15.00	0.0042	0.06	0.0000	0.0000	0.0002
1" Conduit From 8 to 435	422.00	435.00	428.50	0.0087	3.73	0.0003	0.0005	0.0004
1" Conduit From 8 to 435	402.00	422.00	412.00	0.0134	5.52	0.0004	0.0007	0.0006
1" Conduit From 8 to 435	382.00	402.00	392.00	0.0134	5.25	0.0004	0.0007	0.0006
1" Conduit From 8 to 435	362.00	382.00	372.00	0.0134	4.98	0.0003	0.0006	0.0006
1" Conduit From 8 to 435	342.00	362.00	352.00	0.0134	4.72	0.0003	0.0006	0.0006
1" Conduit From 8 to 435	322.00	342.00	332.00	0.0134	4.45	0.0003	0.0006	0.0006
1" Conduit From 8 to 435	302.00	322.00	312.00	0.0134	4.18	0.0003	0.0005	0.0006
1" Conduit From 8 to 435	282.00	302.00	292.00	0.0134	3.91	0.0003	0.0005	0.0006
1" Conduit From 8 to 435	262.00	282.00	272.00	0.0134	3.64	0.0003	0.0005	0.0006
1" Conduit From 8 to 435	242.00	262.00	252.00	0.0134	3.38	0.0002	0.0004	0.0006
1" Conduit From 8 to 435	222.00	242.00	232.00	0.0134	3.11	0.0002	0.0004	0.0006
1" Conduit From 8 to 435	202.00	222.00	212.00	0.0134	2.84	0.0002	0.0004	0.0006
1" Conduit From 8 to 435	182.00	202.00	192.00	0.0134	2.57	0.0002	0.0003	0.0006
1" Conduit From 8 to 435	162.00	182.00	172.00	0.0134	2.30	0.0002	0.0003	0.0006
1" Conduit From 8 to 435	142.00	162.00	152.00	0.0134	2.04	0.0001	0.0003	0.0006
1" Conduit From 8 to 435	122.00	142.00	132.00	0.0134	1.77	0.0001	0.0002	0.0006
1" Conduit From 8 to 435	114.00	122.00	118.00	0.0054	0.63	0.0000	0.0001	0.0002
1" Conduit From 8 to 435	110.00	114.00	112.00	0.0027	0.30	0.0000	0.0000	0.0001
1" Conduit From 8 to 435	106.00	110.00	108.00	0.0027	0.29	0.0000	0.0000	0.0001
1" Conduit From 8 to 435	102.00	106.00	104.00	0.0027	0.28	0.0000	0.0000	0.0001
1" Conduit From 8 to 435	82.00	102.00	92.00	0.0134	1.23	0.0001	0.0002	0.0006
1" Conduit From 8 to 435	62.00	82.00	72.00	0.0134	0.96	0.0001	0.0001	0.0006
1" Conduit From 8 to 435	42.00	62.00	52.00	0.0134	0.70	0.0000	0.0001	0.0006
1" Conduit From 8 to 435	22.00	42.00	32.00	0.0134	0.43	0.0000	0.0001	0.0006
1" Conduit From 8 to 435	8.00	22.00	15.00	0.0094	0.14	0.0000	0.0000	0.0004
andrew AVA5-50(7/8") From 8 to 453	452.00	453.00	452.50	0.0003	0.14	0.0000	0.0000	0.0000
andrew AVA5-50(7/8") From 8 to 453	442.00	452.00	447.00	0.0030	1.34	0.0001	0.0002	0.0001
andrew AVA5-50(7/8") From 8 to 453	422.00	442.00	432.00	0.0060	2.59	0.0002	0.0003	0.0003

andrew AVA5-50(7/8") From 8 to 453	402.00	422.00	412.00	0.0060	2.47	0.0002	0.0003	0.0003
andrew AVA5-50(7/8") From 8 to 453	382.00	402.00	392.00	0.0060	2.35	0.0002	0.0003	0.0003
andrew AVA5-50(7/8") From 8 to 453	362.00	382.00	372.00	0.0060	2.23	0.0002	0.0003	0.0003
andrew AVA5-50(7/8") From 8 to 453	342.00	362.00	352.00	0.0060	2.11	0.0001	0.0003	0.0003
andrew AVA5-50(7/8") From 8 to 453	322.00	342.00	332.00	0.0060	1.99	0.0001	0.0002	0.0003
andrew AVA5-50(7/8") From 8 to 453	302.00	322.00	312.00	0.0060	1.87	0.0001	0.0002	0.0003
andrew AVA5-50(7/8") From 8 to 453	282.00	302.00	292.00	0.0060	1.75	0.0001	0.0002	0.0003
andrew AVA5-50(7/8") From 8 to 453	262.00	282.00	272.00	0.0060	1.63	0.0001	0.0002	0.0003
andrew AVA5-50(7/8") From 8 to 453	242.00	262.00	252.00	0.0060	1.51	0.0001	0.0002	0.0003
andrew AVA5-50(7/8") From 8 to 453	222.00	242.00	232.00	0.0060	1.39	0.0001	0.0002	0.0003
andrew AVA5-50(7/8") From 8 to 453	202.00	222.00	212.00	0.0060	1.27	0.0001	0.0002	0.0003
andrew AVA5-50(7/8") From 8 to 453	182.00	202.00	192.00	0.0060	1.15	0.0001	0.0001	0.0003
andrew AVA5-50(7/8") From 8 to 453	162.00	182.00	172.00	0.0060	1.03	0.0001	0.0001	0.0003
andrew AVA5-50(7/8") From 8 to 453	142.00	162.00	152.00	0.0060	0.91	0.0001	0.0001	0.0003
andrew AVA5-50(7/8") From 8 to 453	122.00	142.00	132.00	0.0060	0.79	0.0001	0.0001	0.0003
andrew AVA5-50(7/8") From 8 to 453	114.00	122.00	118.00	0.0024	0.28	0.0000	0.0000	0.0001
andrew AVA5-50(7/8") From 8 to 453	110.00	114.00	112.00	0.0012	0.13	0.0000	0.0000	0.0001
andrew AVA5-50(7/8") From 8 to 453	106.00	110.00	108.00	0.0012	0.13	0.0000	0.0000	0.0001
andrew AVA5-50(7/8") From 8 to 453	102.00	106.00	104.00	0.0012	0.12	0.0000	0.0000	0.0001
andrew AVA5-50(7/8") From 8 to 453	82.00	102.00	92.00	0.0060	0.55	0.0000	0.0001	0.0003
andrew AVA5-50(7/8") From 8 to 453	62.00	82.00	72.00	0.0060	0.43	0.0000	0.0001	0.0003
andrew AVA5-50(7/8") From 8 to 453	42.00	62.00	52.00	0.0060	0.31	0.0000	0.0000	0.0003
andrew AVA5-50(7/8") From 8 to 453	22.00	42.00	32.00	0.0060	0.19	0.0000	0.0000	0.0003
andrew AVA5-50(7/8") From 8 to 453	8.00	22.00	15.00	0.0042	0.06	0.0000	0.0000	0.0002
andrew LDF4.5-50(5/8") From 8 to 351	342.00	351.00	346.50	0.0014	0.47	0.0000	0.0001	0.0001
andrew LDF4.5-50(5/8") From 8 to 351	322.00	342.00	332.00	0.0030	1.00	0.0001	0.0001	0.0001
andrew LDF4.5-50(5/8") From 8 to 351	302.00	322.00	312.00	0.0030	0.94	0.0001	0.0001	0.0001
andrew LDF4.5-50(5/8") From 8 to 351	282.00	302.00	292.00	0.0030	0.88	0.0001	0.0001	0.0001
andrew LDF4.5-50(5/8") From 8 to 351	262.00	282.00	272.00	0.0030	0.82	0.0001	0.0001	0.0001
andrew LDF4.5-50(5/8") From 8 to 351	242.00	262.00	252.00	0.0030	0.76	0.0001	0.0001	0.0001
andrew LDF4.5-50(5/8") From 8 to 351	222.00	242.00	232.00	0.0030	0.70	0.0000	0.0001	0.0001
andrew LDF4.5-50(5/8") From 8 to 351	202.00	222.00	212.00	0.0030	0.64	0.0000	0.0001	0.0001
andrew LDF4.5-50(5/8") From 8 to 351	182.00	202.00	192.00	0.0030	0.58	0.0000	0.0001	0.0001
andrew LDF4.5-50(5/8") From 8 to 351	162.00	182.00	172.00	0.0030	0.52	0.0000	0.0001	0.0001
andrew LDF4.5-50(5/8") From 8 to 351	142.00	162.00	152.00	0.0030	0.46	0.0000	0.0001	0.0001
andrew LDF4.5-50(5/8") From 8 to 351	122.00	142.00	132.00	0.0030	0.40	0.0000	0.0000	0.0001
andrew LDF4.5-50(5/8") From 8 to 351	114.00	122.00	118.00	0.0012	0.14	0.0000	0.0000	0.0001
andrew LDF4.5-50(5/8") From 8 to 351	110.00	114.00	112.00	0.0006	0.07	0.0000	0.0000	0.0000
andrew LDF4.5-50(5/8") From 8 to 351	106.00	110.00	108.00	0.0006	0.06	0.0000	0.0000	0.0000
andrew LDF4.5-50(5/8") From 8 to 351	102.00	106.00	104.00	0.0006	0.06	0.0000	0.0000	0.0000
andrew LDF4.5-50(5/8") From 8 to 351	82.00	102.00	92.00	0.0030	0.28	0.0000	0.0000	0.0001
andrew LDF4.5-50(5/8") From 8 to 351	62.00	82.00	72.00	0.0030	0.22	0.0000	0.0000	0.0001
andrew LDF4.5-50(5/8") From 8 to 351	42.00	62.00	52.00	0.0030	0.16	0.0000	0.0000	0.0001
andrew LDF4.5-50(5/8") From 8 to 351	22.00	42.00	32.00	0.0030	0.10	0.0000	0.0000	0.0001
andrew LDF4.5-50(5/8") From 8 to 351	8.00	22.00	15.00	0.0021	0.03	0.0000	0.0000	0.0001
1 5/8" OD Conduit From 8 to 430	422.00	430.00	426.00	0.0066	2.79	0.0002	0.0003	0.0003
1 5/8" OD Conduit From 8 to 430	402.00	422.00	412.00	0.0164	6.76	0.0005	0.0008	0.0007
1 5/8" OD Conduit From 8 to 430	382.00	402.00	392.00	0.0164	6.43	0.0004	0.0008	0.0007
1 5/8" OD Conduit From 8 to 430	362.00	382.00	372.00	0.0164	6.10	0.0004	0.0008	0.0007
1 5/8" OD Conduit From 8 to 430	342.00	362.00	352.00	0.0164	5.77	0.0004	0.0007	0.0007
1 5/8" OD Conduit From 8 to 430	322.00	342.00	332.00	0.0164	5.44	0.0004	0.0007	0.0007
1 5/8" OD Conduit From 8 to 430	302.00	322.00	312.00	0.0164	5.12	0.0004	0.0006	0.0007
1 5/8" OD Conduit From 8 to 430	282.00	302.00	292.00	0.0164	4.79	0.0003	0.0006	0.0007
1 5/8" OD Conduit From 8 to 430	262.00	282.00	272.00	0.0164	4.46	0.0003	0.0006	0.0007
1 5/8" OD Conduit From 8 to 430	242.00	262.00	252.00	0.0164	4.13	0.0003	0.0005	0.0007
1 5/8" OD Conduit From 8 to 430	222.00	242.00	232.00	0.0164	3.80	0.0003	0.0005	0.0007
1 5/8" OD Conduit From 8 to 430	202.00	222.00	212.00	0.0164	3.48	0.0002	0.0004	0.0007
1 5/8" OD Conduit From 8 to 430	182.00	202.00	192.00	0.0164	3.15	0.0002	0.0004	0.0007
1 5/8" OD Conduit From 8 to 430	162.00	182.00	172.00	0.0164	2.82	0.0002	0.0004	0.0007
1 5/8" OD Conduit From 8 to 430	142.00	162.00	152.00	0.0164	2.49	0.0002	0.0003	0.0007
1 5/8" OD Conduit From 8 to 430	122.00	142.00	132.00	0.0164	2.16	0.0001	0.0003	0.0007
1 5/8" OD Conduit From 8 to 430	114.00	122.00	118.00	0.0066	0.77	0.0001	0.0001	0.0003
1 5/8" OD Conduit From 8 to 430	110.00	114.00	112.00	0.0033	0.37	0.0000	0.0000	0.0001
1 5/8" OD Conduit From 8 to 430	106.00	110.00	108.00	0.0033	0.35	0.0000	0.0000	0.0001
1 5/8" OD Conduit From 8 to 430	102.00	106.00	104.00	0.0033	0.34	0.0000	0.0000	0.0001
1 5/8" OD Conduit From 8 to 430	82.00	102.00	92.00	0.0164	1.51	0.0001	0.0002	0.0007
1 5/8" OD Conduit From 8 to 430	62.00	82.00	72.00	0.0164	1.18	0.0001	0.0001	0.0007
1 5/8" OD Conduit From 8 to 430	42.00	62.00	52.00	0.0164	0.85	0.0001	0.0001	0.0007
1 5/8" OD Conduit From 8 to 430	22.00	42.00	32.00	0.0164	0.52	0.0000	0.0001	0.0007
1 5/8" OD Conduit From 8 to 430	8.00	22.00	15.00	0.0115	0.17	0.0000	0.0000	0.0005
andrew LDF5-50A(7/8") From 8 to 108	106.00	108.00	107.00	0.0007	0.07	0.0000	0.0000	0.0000
andrew LDF5-50A(7/8") From 8 to 108	102.00	106.00	104.00	0.0013	0.14	0.0000	0.0000	0.0001
andrew LDF5-50A(7/8") From 8 to 108	82.00	102.00	92.00	0.0066	0.61	0.0000	0.0001	0.0003
andrew LDF5-50A(7/8") From 8 to 108	62.00	82.00	72.00	0.0066	0.48	0.0000	0.0001	0.0003
andrew LDF5-50A(7/8") From 8 to 108	42.00	62.00	52.00	0.0066	0.34	0.0000	0.0000	0.0003
andrew LDF5-50A(7/8") From 8 to 108	22.00	42.00	32.00	0.0066	0.21	0.0000	0.0000	0.0003
andrew LDF5-50A(7/8") From 8 to 108	8.00	22.00	15.00	0.0046	0.07	0.0000	0.0000	0.0002
andrew LDF5-50A(7/8") From 8 to 125	122.00	125.00	123.50	0.0010	0.12	0.0000	0.0000	0.0000
andrew LDF5-50A(7/8") From 8 to 125	114.00	122.00	118.00	0.0026	0.31	0.0000	0.0000	0.0001
andrew LDF5-50A(7/8") From 8 to 125	110.00	114.00	112.00	0.0013	0.15	0.0000	0.0000	0.0001
andrew LDF5-50A(7/8") From 8 to 125	106.00	110.00	108.00	0.0013	0.14	0.0000	0.0000	0.0001
andrew LDF5-50A(7/8") From 8 to 125	102.00	106.00	104.00	0.0013	0.14	0.0000	0.0000	0.0001
andrew LDF5-50A(7/8") From 8 to 125	82.00	102.00	92.00	0.0066	0.61	0.0000	0.0001	0.0003
andrew LDF5-50A(7/8") From 8 to 125	62.00	82.00	72.00	0.0066	0.48	0.0000	0.0001	0.0003
andrew LDF5-50A(7/8") From 8 to 125	42.00	62.00	52.00	0.0066	0.34	0.0000	0.0000	0.0003

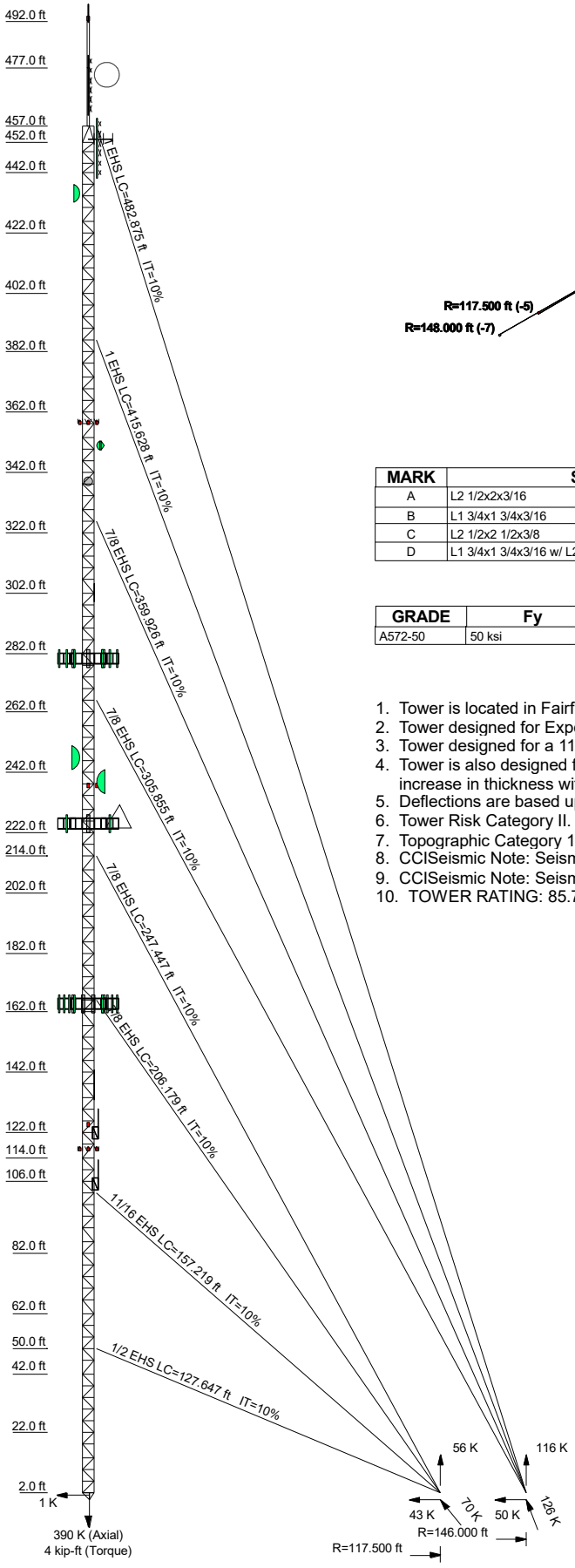
andrew LDF5-50A(7/8") From 8 to 125	22.00	42.00	32.00	0.0066	0.21	0.0000	0.0000	0.0003
andrew LDF5-50A(7/8") From 8 to 125	8.00	22.00	15.00	0.0046	0.07	0.0000	0.0000	0.0002
andrew LDF5-50A(7/8") From 8 to 138	122.00	138.00	130.00	0.0053	0.69	0.0000	0.0001	0.0002
andrew LDF5-50A(7/8") From 8 to 138	114.00	122.00	118.00	0.0026	0.31	0.0000	0.0000	0.0001
andrew LDF5-50A(7/8") From 8 to 138	110.00	114.00	112.00	0.0013	0.15	0.0000	0.0000	0.0001
andrew LDF5-50A(7/8") From 8 to 138	106.00	110.00	108.00	0.0013	0.14	0.0000	0.0000	0.0001
andrew LDF5-50A(7/8") From 8 to 138	102.00	106.00	104.00	0.0013	0.14	0.0000	0.0000	0.0001
andrew LDF5-50A(7/8") From 8 to 138	82.00	102.00	92.00	0.0066	0.61	0.0000	0.0001	0.0003
andrew LDF5-50A(7/8") From 8 to 138	62.00	82.00	72.00	0.0066	0.48	0.0000	0.0001	0.0003
andrew LDF5-50A(7/8") From 8 to 138	42.00	62.00	52.00	0.0066	0.34	0.0000	0.0000	0.0003
andrew LDF5-50A(7/8") From 8 to 138	22.00	42.00	32.00	0.0066	0.21	0.0000	0.0000	0.0003
andrew LDF5-50A(7/8") From 8 to 138	8.00	22.00	15.00	0.0046	0.07	0.0000	0.0000	0.0002
andrew LDF5-50A(7/8") From 8 to 239	222.00	239.00	230.50	0.0056	1.29	0.0001	0.0002	0.0003
andrew LDF5-50A(7/8") From 8 to 239	202.00	222.00	212.00	0.0066	1.40	0.0001	0.0002	0.0003
andrew LDF5-50A(7/8") From 8 to 239	182.00	202.00	192.00	0.0066	1.27	0.0001	0.0002	0.0003
andrew LDF5-50A(7/8") From 8 to 239	162.00	182.00	172.00	0.0066	1.14	0.0001	0.0001	0.0003
andrew LDF5-50A(7/8") From 8 to 239	142.00	162.00	152.00	0.0066	1.00	0.0001	0.0001	0.0003
andrew LDF5-50A(7/8") From 8 to 239	122.00	142.00	132.00	0.0066	0.87	0.0001	0.0001	0.0003
andrew LDF5-50A(7/8") From 8 to 239	114.00	122.00	118.00	0.0026	0.31	0.0000	0.0000	0.0001
andrew LDF5-50A(7/8") From 8 to 239	110.00	114.00	112.00	0.0013	0.15	0.0000	0.0000	0.0001
andrew LDF5-50A(7/8") From 8 to 239	106.00	110.00	108.00	0.0013	0.14	0.0000	0.0000	0.0001
andrew LDF5-50A(7/8") From 8 to 239	102.00	106.00	104.00	0.0013	0.14	0.0000	0.0000	0.0001
andrew LDF5-50A(7/8") From 8 to 239	82.00	102.00	92.00	0.0066	0.61	0.0000	0.0001	0.0003
andrew LDF5-50A(7/8") From 8 to 239	62.00	82.00	72.00	0.0066	0.48	0.0000	0.0001	0.0003
andrew LDF5-50A(7/8") From 8 to 239	42.00	62.00	52.00	0.0066	0.34	0.0000	0.0000	0.0003
andrew LDF5-50A(7/8") From 8 to 239	22.00	42.00	32.00	0.0066	0.21	0.0000	0.0000	0.0003
andrew LDF5-50A(7/8") From 8 to 239	8.00	22.00	15.00	0.0046	0.07	0.0000	0.0000	0.0002
andrew LDF5-50A(7/8") From 8 to 247	242.00	247.00	244.50	0.0017	0.40	0.0000	0.0001	0.0001
andrew LDF5-50A(7/8") From 8 to 247	222.00	242.00	232.00	0.0066	1.53	0.0001	0.0002	0.0003
andrew LDF5-50A(7/8") From 8 to 247	202.00	222.00	212.00	0.0066	1.40	0.0001	0.0002	0.0003
andrew LDF5-50A(7/8") From 8 to 247	182.00	202.00	192.00	0.0066	1.27	0.0001	0.0002	0.0003
andrew LDF5-50A(7/8") From 8 to 247	162.00	182.00	172.00	0.0066	1.14	0.0001	0.0001	0.0003
andrew LDF5-50A(7/8") From 8 to 247	142.00	162.00	152.00	0.0066	1.00	0.0001	0.0001	0.0003
andrew LDF5-50A(7/8") From 8 to 247	122.00	142.00	132.00	0.0066	0.87	0.0001	0.0001	0.0003
andrew LDF5-50A(7/8") From 8 to 247	114.00	122.00	118.00	0.0026	0.31	0.0000	0.0000	0.0001
andrew LDF5-50A(7/8") From 8 to 247	110.00	114.00	112.00	0.0013	0.15	0.0000	0.0000	0.0001
andrew LDF5-50A(7/8") From 8 to 247	106.00	110.00	108.00	0.0013	0.14	0.0000	0.0000	0.0001
andrew LDF5-50A(7/8") From 8 to 247	102.00	106.00	104.00	0.0013	0.14	0.0000	0.0000	0.0001
andrew LDF5-50A(7/8") From 8 to 247	82.00	102.00	92.00	0.0066	0.61	0.0000	0.0001	0.0003
andrew LDF5-50A(7/8") From 8 to 247	62.00	82.00	72.00	0.0066	0.48	0.0000	0.0001	0.0003
andrew LDF5-50A(7/8") From 8 to 247	42.00	62.00	52.00	0.0066	0.34	0.0000	0.0000	0.0003
andrew LDF5-50A(7/8") From 8 to 247	22.00	42.00	32.00	0.0066	0.21	0.0000	0.0000	0.0003
andrew LDF5-50A(7/8") From 8 to 247	8.00	22.00	15.00	0.0046	0.07	0.0000	0.0000	0.0002
andrew LDF5-50A(7/8") From 8 to 339	322.00	339.00	330.50	0.0056	1.85	0.0001	0.0002	0.0003
andrew LDF5-50A(7/8") From 8 to 339	302.00	322.00	312.00	0.0066	2.06	0.0001	0.0003	0.0003
andrew LDF5-50A(7/8") From 8 to 339	282.00	302.00	292.00	0.0066	1.93	0.0001	0.0002	0.0003
andrew LDF5-50A(7/8") From 8 to 339	262.00	282.00	272.00	0.0066	1.80	0.0001	0.0002	0.0003
andrew LDF5-50A(7/8") From 8 to 339	242.00	262.00	252.00	0.0066	1.66	0.0001	0.0002	0.0003
andrew LDF5-50A(7/8") From 8 to 339	222.00	242.00	232.00	0.0066	1.53	0.0001	0.0002	0.0003
andrew LDF5-50A(7/8") From 8 to 339	202.00	222.00	212.00	0.0066	1.40	0.0001	0.0002	0.0003
andrew LDF5-50A(7/8") From 8 to 339	182.00	202.00	192.00	0.0066	1.27	0.0001	0.0002	0.0003
andrew LDF5-50A(7/8") From 8 to 339	162.00	182.00	172.00	0.0066	1.14	0.0001	0.0001	0.0003
andrew LDF5-50A(7/8") From 8 to 339	142.00	162.00	152.00	0.0066	1.00	0.0001	0.0001	0.0003
andrew LDF5-50A(7/8") From 8 to 339	122.00	142.00	132.00	0.0066	0.87	0.0001	0.0001	0.0003
andrew LDF5-50A(7/8") From 8 to 339	114.00	122.00	118.00	0.0026	0.31	0.0000	0.0000	0.0001
andrew LDF5-50A(7/8") From 8 to 339	110.00	114.00	112.00	0.0013	0.15	0.0000	0.0000	0.0001
andrew LDF5-50A(7/8") From 8 to 339	106.00	110.00	108.00	0.0013	0.14	0.0000	0.0000	0.0001
andrew LDF5-50A(7/8") From 8 to 339	102.00	106.00	104.00	0.0013	0.14	0.0000	0.0000	0.0001
andrew LDF5-50A(7/8") From 8 to 339	82.00	102.00	92.00	0.0066	0.61	0.0000	0.0001	0.0003
andrew LDF5-50A(7/8") From 8 to 339	62.00	82.00	72.00	0.0066	0.48	0.0000	0.0001	0.0003
andrew LDF5-50A(7/8") From 8 to 339	42.00	62.00	52.00	0.0066	0.34	0.0000	0.0000	0.0003
andrew LDF5-50A(7/8") From 8 to 339	22.00	42.00	32.00	0.0066	0.21	0.0000	0.0000	0.0003
andrew LDF5-50A(7/8") From 8 to 339	8.00	22.00	15.00	0.0046	0.07	0.0000	0.0000	0.0002
(2) andrew LDF5-50A(7/8") From 8 to 435	422.00	435.00	428.50	0.0086	3.68	0.0003	0.0005	0.0004
(2) andrew LDF5-50A(7/8") From 8 to 435	402.00	422.00	412.00	0.0132	5.44	0.0004	0.0007	0.0006
(2) andrew LDF5-50A(7/8") From 8 to 435	382.00	402.00	392.00	0.0132	5.17	0.0004	0.0006	0.0006
(2) andrew LDF5-50A(7/8") From 8 to 435	362.00	382.00	372.00	0.0132	4.91	0.0003	0.0006	0.0006
(2) andrew LDF5-50A(7/8") From 8 to 435	342.00	362.00	352.00	0.0132	4.65	0.0003	0.0006	0.0006
(2) andrew LDF5-50A(7/8") From 8 to 435	322.00	342.00	332.00	0.0132	4.38	0.0003	0.0005	0.0006
(2) andrew LDF5-50A(7/8") From 8 to 435	302.00	322.00	312.00	0.0132	4.12	0.0003	0.0005	0.0006
(2) andrew LDF5-50A(7/8") From 8 to 435	282.00	302.00	292.00	0.0132	3.85	0.0003	0.0005	0.0006
(2) andrew LDF5-50A(7/8") From 8 to 435	262.00	282.00	272.00	0.0132	3.59	0.0002	0.0004	0.0006
(2) andrew LDF5-50A(7/8") From 8 to 435	242.00	262.00	252.00	0.0132	3.33	0.0002	0.0004	0.0006
(2) andrew LDF5-50A(7/8") From 8 to 435	222.00	242.00	232.00	0.0132	3.06	0.0002	0.0004	0.0006
(2) andrew LDF5-50A(7/8") From 8 to 435	202.00	222.00	212.00	0.0132	2.80	0.0002	0.0003	0.0006
(2) andrew LDF5-50A(7/8") From 8 to 435	182.00	202.00	192.00	0.0132	2.53	0.0002	0.0003	0.0006
(2) andrew LDF5-50A(7/8") From 8 to 435	162.00	182.00	172.00	0.0132	2.27	0.0002	0.0003	0.0006
(2) andrew LDF5-50A(7/8") From 8 to 435	142.00	162.00	152.00	0.0132	2.01	0.0001	0.0002	0.0006
(2) andrew LDF5-50A(7/8") From 8 to 435	122.00	142.00	132.00	0.0132	1.74	0.0001	0.0002	0.0006
(2) andrew LDF5-50A(7/8") From 8 to 435	114.00	122.00	118.00	0.0053	0.62	0.0000	0.0001	0.0002
(2) andrew LDF5-50A(7/8") From 8 to 435	110.00	114.00	112.00	0.0026	0.30	0.0000	0.0000	0.0001
(2) andrew LDF5-50A(7/8") From 8 to 435	106.00	110.00	108.00	0.0026	0.29	0.0000	0.0000	0.0001
(2) andrew LDF5-50A(7/8") From 8 to 435	102.00	106.00	104.00	0.0026	0.27	0.0000	0.0000	0.0001
(2) andrew LDF5-50A(7/8") From 8 to 435	82.00	102.00	92.00	0.0132	1.21	0.0001	0.0002	0.0006
(2) andrew LDF5-50A(7/8") From 8 to 435	62.00	82.00	72.00	0.0132	0.95	0.0001	0.0001	0.0006

(2) andrew LDF5-50A(7/8") From 8 to 435	42.00	62.00	52.00	0.0132	0.69	0.0000	0.0001	0.0006
(2) andrew LDF5-50A(7/8") From 8 to 435	22.00	42.00	32.00	0.0132	0.42	0.0000	0.0001	0.0006
(2) andrew LDF5-50A(7/8") From 8 to 435	8.00	22.00	15.00	0.0092	0.14	0.0000	0.0000	0.0004
andrew LDF6-50A(1-1/4") From 8 to 302	282.00	302.00	292.00	0.0132	3.85	0.0003	0.0005	0.0006
andrew LDF6-50A(1-1/4") From 8 to 302	262.00	282.00	272.00	0.0132	3.59	0.0002	0.0004	0.0006
andrew LDF6-50A(1-1/4") From 8 to 302	242.00	262.00	252.00	0.0132	3.33	0.0002	0.0004	0.0006
andrew LDF6-50A(1-1/4") From 8 to 302	222.00	242.00	232.00	0.0132	3.06	0.0002	0.0004	0.0006
andrew LDF6-50A(1-1/4") From 8 to 302	202.00	222.00	212.00	0.0132	2.80	0.0002	0.0003	0.0006
andrew LDF6-50A(1-1/4") From 8 to 302	182.00	202.00	192.00	0.0132	2.53	0.0002	0.0003	0.0006
andrew LDF6-50A(1-1/4") From 8 to 302	162.00	182.00	172.00	0.0132	2.27	0.0002	0.0003	0.0006
andrew LDF6-50A(1-1/4") From 8 to 302	142.00	162.00	152.00	0.0132	2.01	0.0001	0.0002	0.0006
andrew LDF6-50A(1-1/4") From 8 to 302	122.00	142.00	132.00	0.0132	1.74	0.0001	0.0002	0.0006
andrew LDF6-50A(1-1/4") From 8 to 302	114.00	122.00	118.00	0.0053	0.62	0.0000	0.0001	0.0002
andrew LDF6-50A(1-1/4") From 8 to 302	110.00	114.00	112.00	0.0026	0.30	0.0000	0.0000	0.0001
andrew LDF6-50A(1-1/4") From 8 to 302	106.00	110.00	108.00	0.0026	0.29	0.0000	0.0000	0.0001
andrew LDF6-50A(1-1/4") From 8 to 302	102.00	106.00	104.00	0.0026	0.27	0.0000	0.0000	0.0001
andrew LDF6-50A(1-1/4") From 8 to 302	82.00	102.00	92.00	0.0132	1.21	0.0001	0.0002	0.0006
andrew LDF6-50A(1-1/4") From 8 to 302	62.00	82.00	72.00	0.0132	0.95	0.0001	0.0001	0.0006
andrew LDF6-50A(1-1/4") From 8 to 302	42.00	62.00	52.00	0.0132	0.69	0.0000	0.0001	0.0006
andrew LDF6-50A(1-1/4") From 8 to 302	22.00	42.00	32.00	0.0132	0.42	0.0000	0.0001	0.0006
andrew LDF6-50A(1-1/4") From 8 to 302	8.00	22.00	15.00	0.0092	0.14	0.0000	0.0000	0.0004
miscl Safety Line 3/8 From 8 to 457	452.00	457.00	454.50	0.0011	0.50	0.0000	0.0001	0.0000
miscl Safety Line 3/8 From 8 to 457	442.00	452.00	447.00	0.0022	0.98	0.0001	0.0001	0.0001
miscl Safety Line 3/8 From 8 to 457	422.00	442.00	432.00	0.0044	1.90	0.0001	0.0002	0.0002
miscl Safety Line 3/8 From 8 to 457	402.00	422.00	412.00	0.0044	1.81	0.0001	0.0002	0.0002
miscl Safety Line 3/8 From 8 to 457	382.00	402.00	392.00	0.0044	1.72	0.0001	0.0002	0.0002
miscl Safety Line 3/8 From 8 to 457	362.00	382.00	372.00	0.0044	1.64	0.0001	0.0002	0.0002
miscl Safety Line 3/8 From 8 to 457	342.00	362.00	352.00	0.0044	1.55	0.0001	0.0002	0.0002
miscl Safety Line 3/8 From 8 to 457	322.00	342.00	332.00	0.0044	1.46	0.0001	0.0002	0.0002
miscl Safety Line 3/8 From 8 to 457	302.00	322.00	312.00	0.0044	1.37	0.0001	0.0002	0.0002
miscl Safety Line 3/8 From 8 to 457	282.00	302.00	292.00	0.0044	1.28	0.0001	0.0002	0.0002
miscl Safety Line 3/8 From 8 to 457	262.00	282.00	272.00	0.0044	1.20	0.0001	0.0001	0.0002
miscl Safety Line 3/8 From 8 to 457	242.00	262.00	252.00	0.0044	1.11	0.0001	0.0001	0.0002
miscl Safety Line 3/8 From 8 to 457	222.00	242.00	232.00	0.0044	1.02	0.0001	0.0001	0.0002
miscl Safety Line 3/8 From 8 to 457	202.00	222.00	212.00	0.0044	0.93	0.0001	0.0001	0.0002
miscl Safety Line 3/8 From 8 to 457	182.00	202.00	192.00	0.0044	0.84	0.0001	0.0001	0.0002
miscl Safety Line 3/8 From 8 to 457	162.00	182.00	172.00	0.0044	0.76	0.0001	0.0001	0.0002
miscl Safety Line 3/8 From 8 to 457	142.00	162.00	152.00	0.0044	0.67	0.0000	0.0001	0.0002
miscl Safety Line 3/8 From 8 to 457	122.00	142.00	132.00	0.0044	0.58	0.0000	0.0001	0.0002
miscl Safety Line 3/8 From 8 to 457	114.00	122.00	118.00	0.0018	0.21	0.0000	0.0000	0.0001
miscl Safety Line 3/8 From 8 to 457	110.00	114.00	112.00	0.0009	0.10	0.0000	0.0000	0.0000
miscl Safety Line 3/8 From 8 to 457	106.00	110.00	108.00	0.0009	0.10	0.0000	0.0000	0.0000
miscl Safety Line 3/8 From 8 to 457	102.00	106.00	104.00	0.0009	0.09	0.0000	0.0000	0.0000
miscl Safety Line 3/8 From 8 to 457	82.00	102.00	92.00	0.0044	0.40	0.0000	0.0001	0.0002
miscl Safety Line 3/8 From 8 to 457	62.00	82.00	72.00	0.0044	0.32	0.0000	0.0000	0.0002
miscl Safety Line 3/8 From 8 to 457	42.00	62.00	52.00	0.0044	0.23	0.0000	0.0000	0.0002
miscl Safety Line 3/8 From 8 to 457	22.00	42.00	32.00	0.0044	0.14	0.0000	0.0000	0.0002
miscl Safety Line 3/8 From 8 to 457	8.00	22.00	15.00	0.0031	0.05	0.0000	0.0000	0.0001
miscl Climbing Ladder (Round) From 8 to 457	452.00	457.00	454.50	0.0263	11.95	0.0008	0.0015	0.0012
miscl Climbing Ladder (Round) From 8 to 457	442.00	452.00	447.00	0.0526	23.51	0.0016	0.0029	0.0024
miscl Climbing Ladder (Round) From 8 to 457	422.00	442.00	432.00	0.1052	45.45	0.0031	0.0057	0.0047
miscl Climbing Ladder (Round) From 8 to 457	402.00	422.00	412.00	0.1052	43.34	0.0030	0.0054	0.0047
miscl Climbing Ladder (Round) From 8 to 457	382.00	402.00	392.00	0.1052	41.24	0.0028	0.0051	0.0047
miscl Climbing Ladder (Round) From 8 to 457	362.00	382.00	372.00	0.1052	39.13	0.0027	0.0049	0.0047
miscl Climbing Ladder (Round) From 8 to 457	342.00	362.00	352.00	0.1052	37.03	0.0025	0.0046	0.0047
miscl Climbing Ladder (Round) From 8 to 457	322.00	342.00	332.00	0.1052	34.93	0.0024	0.0043	0.0047
miscl Climbing Ladder (Round) From 8 to 457	302.00	322.00	312.00	0.1052	32.82	0.0023	0.0041	0.0047
miscl Climbing Ladder (Round) From 8 to 457	282.00	302.00	292.00	0.1052	30.72	0.0021	0.0038	0.0047
miscl Climbing Ladder (Round) From 8 to 457	262.00	282.00	272.00	0.1052	28.61	0.0020	0.0036	0.0047
miscl Climbing Ladder (Round) From 8 to 457	242.00	262.00	252.00	0.1052	26.51	0.0018	0.0033	0.0047
miscl Climbing Ladder (Round) From 8 to 457	222.00	242.00	232.00	0.1052	24.41	0.0017	0.0030	0.0047
miscl Climbing Ladder (Round) From 8 to 457	202.00	222.00	212.00	0.1052	22.30	0.0015	0.0028	0.0047
miscl Climbing Ladder (Round) From 8 to 457	182.00	202.00	192.00	0.1052	20.20	0.0014	0.0025	0.0047
miscl Climbing Ladder (Round) From 8 to 457	162.00	182.00	172.00	0.1052	18.09	0.0012	0.0023	0.0047
miscl Climbing Ladder (Round) From 8 to 457	142.00	162.00	152.00	0.1052	15.99	0.0011	0.0020	0.0047
miscl Climbing Ladder (Round) From 8 to 457	122.00	142.00	132.00	0.1052	13.89	0.0010	0.0017	0.0047
miscl Climbing Ladder (Round) From 8 to 457	114.00	122.00	118.00	0.0421	4.97	0.0003	0.0006	0.0019
miscl Climbing Ladder (Round) From 8 to 457	110.00	114.00	112.00	0.0210	2.36	0.0002	0.0003	0.0009
miscl Climbing Ladder (Round) From 8 to 457	106.00	110.00	108.00	0.0210	2.27	0.0002	0.0003	0.0009
miscl Climbing Ladder (Round) From 8 to 457	102.00	106.00	104.00	0.0210	2.19	0.0002	0.0003	0.0009
miscl Climbing Ladder (Round) From 8 to 457	82.00	102.00	92.00	0.1052	9.68	0.0007	0.0012	0.0047
miscl Climbing Ladder (Round) From 8 to 457	62.00	82.00	72.00	0.1052	7.57	0.0005	0.0009	0.0047
miscl Climbing Ladder (Round) From 8 to 457	42.00	62.00	52.00	0.1052	5.47	0.0004	0.0007	0.0047
miscl Climbing Ladder (Round) From 8 to 457	22.00	42.00	32.00	0.1052	3.37	0.0002	0.0004	0.0047
miscl Climbing Ladder (Round) From 8 to 457	8.00	22.00	15.00	0.0736	1.10	0.0001	0.0001	0.0033
andrew LDF4.5-50(5/8") From 8 to 455	452.00	455.00	453.50	0.0005	0.20	0.0000	0.0000	0.0000
andrew LDF4.5-50(5/8") From 8 to 455	442.00	452.00	447.00	0.0015	0.67	0.0000	0.0001	0.0001
andrew LDF4.5-50(5/8") From 8 to 455	422.00	442.00	432.00	0.0030	1.30	0.0001	0.0002	0.0001
andrew LDF4.5-50(5/8") From 8 to 455	402.00	422.00	412.00	0.0030	1.24	0.0001	0.0002	0.0001
andrew LDF4.5-50(5/8") From 8 to 455	382.00	402.00	392.00	0.0030	1.18	0.0001	0.0001	0.0001
andrew LDF4.5-50(5/8") From 8 to 455	362.00	382.00	372.00	0.0030	1.12	0.0001	0.0001	0.0001
andrew LDF4.5-50(5/8") From 8 to 455	342.00	362.00	352.00	0.0030	1.06	0.0001	0.0001	0.0001
andrew LDF4.5-50(5/8") From 8 to 455	322.00	342.00	332.00	0.0030	1.00	0.0001	0.0001	0.0001
andrew LDF4.5-50(5/8") From 8 to 455	302.00	322.00	312.00	0.0030	0.94	0.0001	0.0001	0.0001
andrew LDF4.5-50(5/8") From 8 to 455	282.00	302.00	292.00	0.0030	0.88	0.0001	0.0001	0.0001

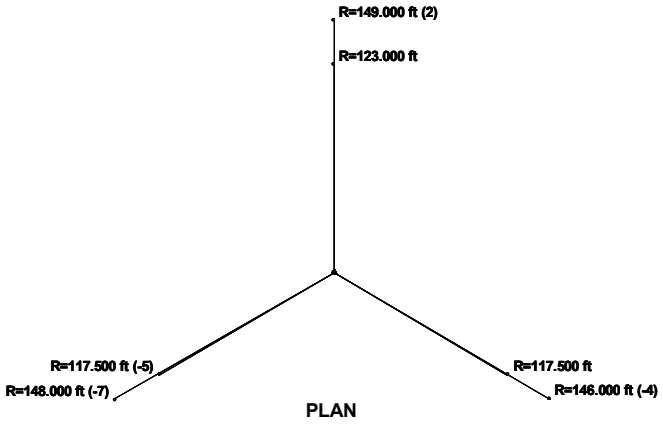
andrew LDF4.5-50(5/8") From 8 to 455	262.00	282.00	272.00	0.0030	0.82	0.0001	0.0001	0.0001
andrew LDF4.5-50(5/8") From 8 to 455	242.00	262.00	252.00	0.0030	0.76	0.0001	0.0001	0.0001
andrew LDF4.5-50(5/8") From 8 to 455	222.00	242.00	232.00	0.0030	0.70	0.0000	0.0001	0.0001
andrew LDF4.5-50(5/8") From 8 to 455	202.00	222.00	212.00	0.0030	0.64	0.0000	0.0001	0.0001
andrew LDF4.5-50(5/8") From 8 to 455	182.00	202.00	192.00	0.0030	0.58	0.0000	0.0001	0.0001
andrew LDF4.5-50(5/8") From 8 to 455	162.00	182.00	172.00	0.0030	0.52	0.0000	0.0001	0.0001
andrew LDF4.5-50(5/8") From 8 to 455	142.00	162.00	152.00	0.0030	0.46	0.0000	0.0001	0.0001
andrew LDF4.5-50(5/8") From 8 to 455	122.00	142.00	132.00	0.0030	0.40	0.0000	0.0000	0.0001
andrew LDF4.5-50(5/8") From 8 to 455	114.00	122.00	118.00	0.0012	0.14	0.0000	0.0000	0.0001
andrew LDF4.5-50(5/8") From 8 to 455	110.00	114.00	112.00	0.0006	0.07	0.0000	0.0000	0.0000
andrew LDF4.5-50(5/8") From 8 to 455	106.00	110.00	108.00	0.0006	0.06	0.0000	0.0000	0.0000
andrew LDF4.5-50(5/8") From 8 to 455	102.00	106.00	104.00	0.0006	0.06	0.0000	0.0000	0.0000
andrew LDF4.5-50(5/8") From 8 to 455	82.00	102.00	92.00	0.0030	0.28	0.0000	0.0000	0.0001
andrew LDF4.5-50(5/8") From 8 to 455	62.00	82.00	72.00	0.0030	0.22	0.0000	0.0000	0.0001
andrew LDF4.5-50(5/8") From 8 to 455	42.00	62.00	52.00	0.0030	0.16	0.0000	0.0000	0.0001
andrew LDF4.5-50(5/8") From 8 to 455	22.00	42.00	32.00	0.0030	0.10	0.0000	0.0000	0.0001
andrew LDF4.5-50(5/8") From 8 to 455	8.00	22.00	15.00	0.0021	0.03	0.0000	0.0000	0.0001
andrew LDF4-50A(1/2") From 8 to 289	282.00	289.00	285.50	0.0011	0.30	0.0000	0.0000	0.0000
andrew LDF4-50A(1/2") From 8 to 289	262.00	282.00	272.00	0.0030	0.82	0.0001	0.0001	0.0001
andrew LDF4-50A(1/2") From 8 to 289	242.00	262.00	252.00	0.0030	0.76	0.0001	0.0001	0.0001
andrew LDF4-50A(1/2") From 8 to 289	222.00	242.00	232.00	0.0030	0.70	0.0000	0.0001	0.0001
andrew LDF4-50A(1/2") From 8 to 289	202.00	222.00	212.00	0.0030	0.64	0.0000	0.0001	0.0001
andrew LDF4-50A(1/2") From 8 to 289	182.00	202.00	192.00	0.0030	0.58	0.0000	0.0001	0.0001
andrew LDF4-50A(1/2") From 8 to 289	162.00	182.00	172.00	0.0030	0.52	0.0000	0.0001	0.0001
andrew LDF4-50A(1/2") From 8 to 289	142.00	162.00	152.00	0.0030	0.46	0.0000	0.0001	0.0001
andrew LDF4-50A(1/2") From 8 to 289	122.00	142.00	132.00	0.0030	0.40	0.0000	0.0000	0.0001
andrew LDF4-50A(1/2") From 8 to 289	114.00	122.00	118.00	0.0012	0.14	0.0000	0.0000	0.0001
andrew LDF4-50A(1/2") From 8 to 289	110.00	114.00	112.00	0.0006	0.07	0.0000	0.0000	0.0000
andrew LDF4-50A(1/2") From 8 to 289	106.00	110.00	108.00	0.0006	0.06	0.0000	0.0000	0.0000
andrew LDF4-50A(1/2") From 8 to 289	102.00	106.00	104.00	0.0006	0.06	0.0000	0.0000	0.0000
andrew LDF4-50A(1/2") From 8 to 289	82.00	102.00	92.00	0.0030	0.28	0.0000	0.0000	0.0001
andrew LDF4-50A(1/2") From 8 to 289	62.00	82.00	72.00	0.0030	0.22	0.0000	0.0000	0.0001
andrew LDF4-50A(1/2") From 8 to 289	42.00	62.00	52.00	0.0030	0.16	0.0000	0.0000	0.0001
andrew LDF4-50A(1/2") From 8 to 289	22.00	42.00	32.00	0.0030	0.10	0.0000	0.0000	0.0001
andrew LDF4-50A(1/2") From 8 to 289	8.00	22.00	15.00	0.0021	0.03	0.0000	0.0000	0.0001
(2) commscope HFT2406-48SV3-XXX(2) From 8 to 280	262.00	280.00	271.00	0.1116	30.24	0.0021	0.0038	0.0050
(2) commscope HFT2406-48SV3-XXX(2) From 8 to 280	242.00	262.00	252.00	0.1240	31.25	0.0021	0.0039	0.0056
(2) commscope HFT2406-48SV3-XXX(2) From 8 to 280	222.00	242.00	232.00	0.1240	28.77	0.0020	0.0036	0.0056
(2) commscope HFT2406-48SV3-XXX(2) From 8 to 280	202.00	222.00	212.00	0.1240	26.29	0.0018	0.0033	0.0056
(2) commscope HFT2406-48SV3-XXX(2) From 8 to 280	182.00	202.00	192.00	0.1240	23.81	0.0016	0.0030	0.0056
(2) commscope HFT2406-48SV3-XXX(2) From 8 to 280	162.00	182.00	172.00	0.1240	21.33	0.0015	0.0027	0.0056
(2) commscope HFT2406-48SV3-XXX(2) From 8 to 280	142.00	162.00	152.00	0.1240	18.85	0.0013	0.0023	0.0056
(2) commscope HFT2406-48SV3-XXX(2) From 8 to 280	122.00	142.00	132.00	0.1240	16.37	0.0011	0.0020	0.0056
(2) commscope HFT2406-48SV3-XXX(2) From 8 to 280	114.00	122.00	118.00	0.0496	5.85	0.0004	0.0007	0.0022
(2) commscope HFT2406-48SV3-XXX(2) From 8 to 280	110.00	114.00	112.00	0.0248	2.78	0.0002	0.0003	0.0011
(2) commscope HFT2406-48SV3-XXX(2) From 8 to 280	106.00	110.00	108.00	0.0248	2.68	0.0002	0.0003	0.0011
(2) commscope HFT2406-48SV3-XXX(2) From 8 to 280	102.00	106.00	104.00	0.0248	2.58	0.0002	0.0003	0.0011
(2) commscope HFT2406-48SV3-XXX(2) From 8 to 280	82.00	102.00	92.00	0.1240	11.41	0.0008	0.0014	0.0056
(2) commscope HFT2406-48SV3-XXX(2) From 8 to 280	62.00	82.00	72.00	0.1240	8.93	0.0006	0.0011	0.0056
(2) commscope HFT2406-48SV3-XXX(2) From 8 to 280	42.00	62.00	52.00	0.1240	6.45	0.0004	0.0008	0.0056
(2) commscope HFT2406-48SV3-XXX(2) From 8 to 280	22.00	42.00	32.00	0.1240	3.97	0.0003	0.0005	0.0056
(2) commscope HFT2406-48SV3-XXX(2) From 8 to 280	8.00	22.00	15.00	0.0868	1.30	0.0001	0.0002	0.0039
(2) andrew LDF2-50(3/8") From 8 to 165	162.00	165.00	163.50	0.0005	0.08	0.0000	0.0000	0.0000
(2) andrew LDF2-50(3/8") From 8 to 165	142.00	162.00	152.00	0.0032	0.49	0.0000	0.0001	0.0001
(2) andrew LDF2-50(3/8") From 8 to 165	122.00	142.00	132.00	0.0032	0.42	0.0000	0.0001	0.0001
(2) andrew LDF2-50(3/8") From 8 to 165	114.00	122.00	118.00	0.0013	0.15	0.0000	0.0000	0.0001
(2) andrew LDF2-50(3/8") From 8 to 165	110.00	114.00	112.00	0.0006	0.07	0.0000	0.0000	0.0000
(2) andrew LDF2-50(3/8") From 8 to 165	106.00	110.00	108.00	0.0006	0.07	0.0000	0.0000	0.0000
(2) andrew LDF2-50(3/8") From 8 to 165	102.00	106.00	104.00	0.0006	0.07	0.0000	0.0000	0.0000
(2) andrew LDF2-50(3/8") From 8 to 165	82.00	102.00	92.00	0.0032	0.29	0.0000	0.0000	0.0001
(2) andrew LDF2-50(3/8") From 8 to 165	62.00	82.00	72.00	0.0032	0.23	0.0000	0.0000	0.0001
(2) andrew LDF2-50(3/8") From 8 to 165	42.00	62.00	52.00	0.0032	0.17	0.0000	0.0000	0.0001
(2) andrew LDF2-50(3/8") From 8 to 165	22.00	42.00	32.00	0.0032	0.10	0.0000	0.0000	0.0001
(2) andrew LDF2-50(3/8") From 8 to 165	8.00	22.00	15.00	0.0022	0.03	0.0000	0.0000	0.0001
(6) andrew LDF4.5-50(5/8") From 8 to 165	162.00	165.00	163.50	0.0027	0.44	0.0000	0.0001	0.0001
(6) andrew LDF4.5-50(5/8") From 8 to 165	142.00	162.00	152.00	0.0180	2.74	0.0002	0.0003	0.0008
(6) andrew LDF4.5-50(5/8") From 8 to 165	122.00	142.00	132.00	0.0180	2.38	0.0002	0.0003	0.0008
(6) andrew LDF4.5-50(5/8") From 8 to 165	114.00	122.00	118.00	0.0072	0.85	0.0001	0.0001	0.0003
(6) andrew LDF4.5-50(5/8") From 8 to 165	110.00	114.00	112.00	0.0036	0.40	0.0000	0.0001	0.0002
(6) andrew LDF4.5-50(5/8") From 8 to 165	106.00	110.00	108.00	0.0036	0.39	0.0000	0.0000	0.0002
(6) andrew LDF4.5-50(5/8") From 8 to 165	102.00	106.00	104.00	0.0036	0.37	0.0000	0.0000	0.0002
(6) andrew LDF4.5-50(5/8") From 8 to 165	82.00	102.00	92.00	0.0180	1.66	0.0001	0.0002	0.0008
(6) andrew LDF4.5-50(5/8") From 8 to 165	62.00	82.00	72.00	0.0180	1.30	0.0001	0.0002	0.0008
(6) andrew LDF4.5-50(5/8") From 8 to 165	42.00	62.00	52.00	0.0180	0.94	0.0001	0.0001	0.0008
(6) andrew LDF4.5-50(5/8") From 8 to 165	22.00	42.00	32.00	0.0180	0.58	0.0000	0.0001	0.0008
(6) andrew LDF4.5-50(5/8") From 8 to 165	8.00	22.00	15.00	0.0126	0.19	0.0000	0.0000	0.0006
andrew LDF7-50A(1-5/8") From 8 to 225	222.00	225.00	223.50	0.0025	0.55	0.0000	0.0001	0.0001
andrew LDF7-50A(1-5/8") From 8 to 225	202.00	222.00	212.00	0.0164	3.48	0.0002	0.0004	0.0007
andrew LDF7-50A(1-5/8") From 8 to 225	182.00	202.00	192.00	0.0164	3.15	0.0002	0.0004	0.0007
andrew LDF7-50A(1-5/8") From 8 to 225	162.00	182.00	172.00	0.0164	2.82	0.0002	0.0004	0.0007
andrew LDF7-50A(1-5/8") From 8 to 225	142.00	162.00	152.00	0.0164	2.49	0.0002	0.0003	0.0007
andrew LDF7-50A(1-5/8") From 8 to 225	122.00	142.00	132.00	0.0164	2.16	0.0001	0.0003	0.0007
andrew LDF7-50A(1-5/8") From 8 to 225	114.00	122.00	118.00	0.0066	0.77	0.0001	0.0001	0.0003
andrew LDF7-50A(1-5/8") From 8 to 225	110.00	114.00	112.00	0.0033	0.37	0.0000	0.0000	0.0001
andrew LDF7-50A(1-5/8") From 8 to 225	106.00	110.00	108.00	0.0033	0.35	0.0000	0.0000	0.0001

andrew LDF7-50A(1-5/8") From 8 to 225	102.00	106.00	104.00	0.0033	0.34	0.0000	0.0000	0.0001
andrew LDF7-50A(1-5/8") From 8 to 225	82.00	102.00	92.00	0.0164	1.51	0.0001	0.0002	0.0007
andrew LDF7-50A(1-5/8") From 8 to 225	62.00	82.00	72.00	0.0164	1.18	0.0001	0.0001	0.0007
andrew LDF7-50A(1-5/8") From 8 to 225	42.00	62.00	52.00	0.0164	0.85	0.0001	0.0001	0.0007
andrew LDF7-50A(1-5/8") From 8 to 225	22.00	42.00	32.00	0.0164	0.52	0.0000	0.0001	0.0007
andrew LDF7-50A(1-5/8") From 8 to 225	8.00	22.00	15.00	0.0115	0.17	0.0000	0.0000	0.0005
3" Coax From 8 to 457	452.00	457.00	454.50	0.0089	4.05	0.0003	0.0005	0.0004
3" Coax From 8 to 457	442.00	452.00	447.00	0.0178	7.96	0.0005	0.0010	0.0008
3" Coax From 8 to 457	422.00	442.00	432.00	0.0356	15.38	0.0011	0.0019	0.0016
3" Coax From 8 to 457	402.00	422.00	412.00	0.0356	14.67	0.0010	0.0018	0.0016
3" Coax From 8 to 457	382.00	402.00	392.00	0.0356	13.96	0.0010	0.0017	0.0016
3" Coax From 8 to 457	362.00	382.00	372.00	0.0356	13.24	0.0009	0.0016	0.0016
3" Coax From 8 to 457	342.00	362.00	352.00	0.0356	12.53	0.0009	0.0016	0.0016
3" Coax From 8 to 457	322.00	342.00	332.00	0.0356	11.82	0.0008	0.0015	0.0016
3" Coax From 8 to 457	302.00	322.00	312.00	0.0356	11.11	0.0008	0.0014	0.0016
3" Coax From 8 to 457	282.00	302.00	292.00	0.0356	10.40	0.0007	0.0013	0.0016
3" Coax From 8 to 457	262.00	282.00	272.00	0.0356	9.68	0.0007	0.0012	0.0016
3" Coax From 8 to 457	242.00	262.00	252.00	0.0356	8.97	0.0006	0.0011	0.0016
3" Coax From 8 to 457	222.00	242.00	232.00	0.0356	8.26	0.0006	0.0010	0.0016
3" Coax From 8 to 457	202.00	222.00	212.00	0.0356	7.55	0.0005	0.0009	0.0016
3" Coax From 8 to 457	182.00	202.00	192.00	0.0356	6.84	0.0005	0.0009	0.0016
3" Coax From 8 to 457	162.00	182.00	172.00	0.0356	6.12	0.0004	0.0008	0.0016
3" Coax From 8 to 457	142.00	162.00	152.00	0.0356	5.41	0.0004	0.0007	0.0016
3" Coax From 8 to 457	122.00	142.00	132.00	0.0356	4.70	0.0003	0.0006	0.0016
3" Coax From 8 to 457	114.00	122.00	118.00	0.0142	1.68	0.0001	0.0002	0.0006
3" Coax From 8 to 457	110.00	114.00	112.00	0.0071	0.80	0.0001	0.0001	0.0003
3" Coax From 8 to 457	106.00	110.00	108.00	0.0071	0.77	0.0001	0.0001	0.0003
3" Coax From 8 to 457	102.00	106.00	104.00	0.0071	0.74	0.0001	0.0001	0.0003
3" Coax From 8 to 457	82.00	102.00	92.00	0.0356	3.28	0.0002	0.0004	0.0016
3" Coax From 8 to 457	62.00	82.00	72.00	0.0356	2.56	0.0002	0.0003	0.0016
3" Coax From 8 to 457	42.00	62.00	52.00	0.0356	1.85	0.0001	0.0002	0.0016
3" Coax From 8 to 457	22.00	42.00	32.00	0.0356	1.14	0.0001	0.0001	0.0016
3" Coax From 8 to 457	8.00	22.00	15.00	0.0249	0.37	0.0000	0.0000	0.0011
			Sum	7.9917	1586.27			

Section	T27	T26	T25	T24	T23	#20	#21	#22	T19	T18	T17	T16	T15	T14	T13	T12	T11	T10	T9	T8	T7	T6	T5	T4	T3	T2	T1	L2	L1
Legs									SR 3							SR 2 3/4			SR 2 1/2				SR 2 1/4					P8x.406	
Leg Grade																A572-50													A53-B-35	
Diagonals	L2x2x1/4					D					L2x2x1/4			C	L2x2x1/4		C	L2x2x1/4	B		L2x2x1/4					A		N.A.	
Diagonal Grade															A36													N.A.	
Top Girts	L2x2x3/16				N.A.												L2x2x3/16				N.A.								N.A.	
Bottom Girts		E														N.A.														
Horizontals															L2x2x3/16													N.A.	
Top Guy Pull-Offs	N.A.		F	N.A.	F					N.A.		F	N.A.	F		N.A.	F	N.A.		F	N.A.		F		N.A.		F	N.A.	
Face Width (ft)															4													0.71875	
# Panels @ (ft)	1.9	1.9	2.0	1.9	2.0	0.4	0.4	0.4	0.7	1.9	1.9	2.0	1.9	2.2	110 @ 4	1.6	2.0	1.4	1.3	1.3	1.2	1.2	1.3	1.2	1.2	0.6	0.4	N.A.	0.5
Weight (K)	39.1																												



ALL REACTIONS ARE FACTORED



PLAN

SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	L2 1/2x2x3/16	E	L2x2x3/16
B	L1 3/4x1 3/4x3/16	F	2L2 1/2x2 1/2x3/8x1/4
C	L2 1/2x2 1/2x3/8	G	1 @ 5
D	L1 3/4x1 3/4x3/16 w/ L2x2x1/4	H	3 @ 3.33333

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi	A36	36 ksi	58 ksi

TOWER DESIGN NOTES

1. Tower is located in Fairfield County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-H Standard.
3. Tower designed for a 115 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.000 ft
8. CCISeismic Note: Seismic loads generated by CCISeismic 4.0.2
9. CCISeismic Note: Seismic calculations are in accordance with TIA-222-H-1
10. TOWER RATING: 85.7%

B+T Group
1717 S Boulder Ave, Suite 300
Tulsa, OK 74119
Phone: (918) 587-4630
FAX: (918) 295-0265

Job: 173454.001.01.0001 - WRKI-FM, CT (Site# US-CT-5009)			
Project:			
Client: Vertical Bridge	Drawn by: randall.ashworth	App'd:	
Code: TIA-222-H	Date: 11/13/24	Scale: NTS	
Path:		Dwg No. E-1	

COLOCATION APPLICATION - P-062009
US-CT-5009
Version 1
T-Mobile Northeast LLC

Vertical Bridge REIT, LLC.
750 Park of Commerce Dr, ste 200
Boca Raton, FL 33487

SUMMARY

PRIMARY INFO

Application #:	P-062009
Application Version:	1 (Submitted: 10/17/2024 5:07:00 PM)
Application Type:	Broadband
Application Name:	CT11191A L600/Radio Upgrade
Lease Type:	Amendment
ASR Number:	
Description:	* Swap (6) existing antennas for (6) Proposed antennas, (3) existing RRUs for (3) proposed RRUs, (2) existing Cabinets for (2) proposed cabinets and (2) existing Hybrid Cables for (2) proposed Hybrid Cables * Remove (3) existing Antennas, (6) Existing TMAs, (12) Coax, and (3) Fiber Cables

VERTICAL BRIDGE SITE INFO

VB Site #:	US-CT-5009
VB Site Name:	WRKI-FM
Latitude:	41.49343889
Longitude:	-73.42881667
Structure Type:	Guyed Tower
Structure Height:	496.0600
Site Address:	0.3 Mi. Sse Of Intersection Of Carmen Hill Rd & Se Trail - Brookfield, CT 06804

VERTICAL BRIDGE DEAL TEAM

RLM:	Floyd Jenkins Floyd.Jenkins@verticalbridge.com (301) 667-0069	**LPM:**	Sam Bowden Sam.Bowden@verticalbridge.com	**ROM:**	Gustavo Figueiredo Gustavo.Figueiredo@verticalbridge.com (630) 346-6698

TENANT LEGAL INFO

Tenant Legal Name:	T-Mobile Northeast LLC
State of Registration:	Delaware
Type of Entity:	LLC
Carrier NOC #:	8776115868
Tenant Site #:	CT11196A
Tenant Site Name:	Brookfield/Junction Rd

APPLICANT

Name:	Cullen Morgan
Address:	12579 Sagewood Drive Venice, FL 34293
Phone Number:	(941) 549-7263
Email Address:	cmorgan@clinellc.com

FINAL LEASED RIGHTS CONFIGURATION TOTALS

This is a summary of your remaining existing equipment plus the new equipment.

FINAL EQUIPMENT

QTY	Equipment Type
6	RRU
9	Panel

FINAL LINES

QTY	Line Type
2	Hybrid

FREQUENCY & TECHNOLOGY INFO

Type of Tehnology:	Broadband Wireless
Is TX Frequency Licensed:	Yes
TX Frequency:	617-632, 728-734, 1940-1965, 2130-2155, 2497-2557, 2597-2607 MHz
Is RX Frequency Licensed:	Yes
RX Frequency:	663-678, 698-704, 1730-1755, 1860-1885, 2497-2557, 2597-2607 MHz

MOUNT & STRUCTURAL ANALYSIS

MOUNT ANALYSIS

Provided by Tenant:	Yes
To Be Run by VB:	
Include Mount Mapping:	

STRUCTURAL HARD COPIES

Required:	No
Number of Hard Copies:	

CONTACTS

INVOICE CONTACT

Attention To	Name	Address	Phone Number 1	Phone Number 2	Email 1	Email 2
ATTN: Cullen Morgan	Centerline Communications LLC	350 W Center Street Suite 301 West Bridgewater, MA 02379	(941) 549-7263		cmorgan@clinellc.com	

PO CONTACT

Name	Phone	Email
Cullen Morgan	(941) 549-7263	cmorgan@clinellc.com

LEASING CONTACT

Name	Phone	Email
Mark Richard	(860) 648-1116	Mark.Richard64@t-mobile.com

NOTICE CONTACT

Notice To	Attention To	Name	Address
T-Mobile USA, Inc.	Lease Compliance / CT11196A	T-Mobile USA Inc	12920 SE 38th Street Bellevue, WA 98006

RF CONTACT

Name	Phone	Email
Justin Darrow	(000) 000-0000	justin.darrow@t-mobile.com

TENANT CONSTRUCTION MANAGER CONTACT		
Name	**Phone**	**Email**
Jeff York	(508) 821-6817	jyork@clinellc.com

EMERGENCY CONTACT		
Name	**Phone**	**Email**
Cullen Morgan	(941) 549-7263	cmorgan@clinellc.com

LINE & EQUIPMENT

EXISTING LINE(S)

Qty	Line Type	Line Diameter(In.)	Line Location	Comments	Remain
12	Coax	1.625	Exterior		No
5	Hybrid	1.25	Exterior		No

NEW LINE(S)

Qty	Line Type	Line Diameter(In.)	Line Location	Comments
2	Hybrid	2	Exterior	

EXISTING EQUIPMENT

Qty	Equipment Type	Mount RAD Height	Equipment RAD Height (H')	Mount Type	Manfacturer	Model Number	Dimensions (H"xW"xD")	Weight (Lbs.)	Azimuth	Comments	Remain
3	Panel	280.00	280.00	T-Arms	RFS	APXVAARR24_43-U- NA20	55.90 x 24.00 x 8.70	128.00	10-130-250		Yes
3	Panel	280.00	280.00	T-Arms	RFS	APX16DWV-16DWV- S-E- A20	55.90 x 13.00 x 3.20	40.70	10-130-250		No
3	Panel	280.00	280.00	T-Arms	Ericsson	AIR 6488 B41	35.20 x 20.50 x 9.40	135.40	10/ 130/ 250		No
3	Panel	280.00	280.00	T-Arms	Ericsson	AIR32 KRD901146/1 B66A_B2A	56.60 x 12.90 x 8.70	132.20	10/ 130/ 250		No
3	TMA	280.00	280.00	T-Arms	Ericsson	KRY 112144	6.10 x 6.90 x 2.80	11.20	10-130-250		No
3	TMA	280.00	280.00	T-Arms	Ericsson	KRY 112 89-4	11.00 x 6.10 x 3.00	15.40	10/ 130/ 250		No
3	RRU	280.00	280.00	T-Arms	Ericsson	Radio 4415 B25	16.54 x 12.76 x 6.30	46.30	10/ 130/ 250		No
3	RRU	280.00	280.00	T-Arms	Ericsson	Radio 4449 B71+B85	17.90 x 13.20 x 10.60	74.90	10/ 130/ 250		Yes

NEW EQUIPMENT

Qty	Equipment Type	Mount RAD Height	Equipment RAD Height (H')	Mount Type	Manfacturer	Model Number	Dimensions (H"xW"xD")	Weight (Lbs.)	Azimuth	Comments
3	Panel	280.00	280.00	T-Arms	RFS	APXVLL19P_43-C- A20	75.80 x 11.30 x 4.60	42.00	10/ 130/ 250	
3	Panel	280.00	280.00	T-Arms	Ericsson	AIR6419 B41	36.30 x 20.90 x 9.00	83.30	10/ 130/ 250	
3	RRU	280.00	280.00	T-Arms	Ericsson	Radio 4460 B25+B66	19.60 x 15.70 x 12.10	109.00	10/ 130/ 250	

EXISTING EQUIPMENT CABINET(S)

Qty of Cabinets	Cabinet Dimensions (H x W x D)	Manfacturer	Comments	Remain
2	57.01 x 51.20 x 27.60	Ericsson	N/A	No
1	63.00 x 25.60 x 25.60	Ericsson	N/A	Yes
1	63.00 x 26.00 x 26.00	Ericsson	N/A	Yes

ADDITIONAL SITE REQUIREMENTS

GROUND & INTERIOR SPACE REQUIREMENTS

Requirement Type	Total Lease Area (L x W)	Cabinet Required	Cabinet Area (L x W)	Shelter Required	Shelter Pad (L x W)	Comments
No Changes						

GENERATOR REQUIREMENTS

Requirement Type	Fuel Type	Kilowatt Size	Pad Dimensions (L x D)	Generator Manufacturer	Fuel Tank Manufacturer	Comments
Not Required						

AC POWER REQUIREMENTS

Meter Type	Additional Details	Comments

BACKHAUL REQUIREMENTS

Requirement Type	Cable Type	Number of Points of Entry	Riser Size (Inches)	Comments
Not Required				

CENTERLINE

EXHIBIT F

Mount Analysis Report

October 10, 2024

Centerline Communications
750 West Center Street, Suite #301
West Bridgewater, MA 02379

RE:		
	T-Mobile Site Number:	CT11196A
	TEP Project Number:	68462.992463
	T-Mobile Site Name:	BROOKFIELD/JUNCTION RD.
	Site Address:	37 Carmen Hill Road Brookfield, CT 06804

To Whom It May Concern:

TEP has been authorized by Centerline Communications to perform a mount analysis on the existing T-Mobile antenna/RRH mounts to determine their capability of supporting the following additional loading:

- (3) APXVAARR24_43-U-NA20 Antennas (95.9"x24.0"x8.7" – Wt. = 128 lbs. /each)
- (3) 4449 B71+B85 RRH's (17.9"x13.2"x9.5" – Wt. = 71 lbs. /each)
- **(3) APXVLL19P_43-C-A20 Antennas (75.8"x11.3"x4.6" – Wt. = 51 lbs. /each)**
- **(3) AIR6419 B41 Antennas (34.5"x19.9"x8.0" – Wt. = 69 lbs. /each)**
- **(3) 4460 B25+B66 RRH's (17.0"x15.1"x11.9" – Wt. = 104 lbs. /each)**

**Proposed equipment shown in bold*

Mount fabrication drawings prepared by SitePro1 P/N VFA14-HD, dated August 4, 2017, were used to perform this analysis. This office did not conduct a site visit of the above site. Post-install photos of the previous installation were provided by Centerline.

Mount Analysis Methods:

- This analysis was conducted in accordance with EIA/TIA-222-H, Structural Standards for Steel Antenna Towers and Antenna Supporting Structures and the International Building Code 2021 with 2022 Connecticut State Building Code.
- TEP considers this mount to be asymmetrical and has applied wind loads in 30 degree increments all around the mount. Per TIA-222-H and Appendix P of the Connecticut State Building Code, the max basic wind speed for this site is equal to 120 mph with a max basic wind speed with ice of 50 mph and a max ice thickness of 1.0 in. An escalated ice thickness of 1.24 in was used for this analysis.
- TEP considers this site to be exposure category C; tower is located near large, flat, open, terrain/grasslands.
- TEP considers this site to be topographic category 1; tower is located on flat terrain or the bottom of a hill or ridge.
- TEP considers this site to have a spectral response acceleration parameter at short periods, S_S, of 0.210 and a spectral response acceleration parameter at a period of 1 second, S_1, of 0.055.
- The mount has been analyzed with load combinations consisting of 500 lbs live load using a service wind speed of 30 mph wind on the worst case antenna. Analysis performed on each antenna pipe to determine worst case location; worst case location was antenna position 4.
- The mount has been analyzed with load combinations consisting of a 250 lbs live load in a worst case location on the mount.
- The existing mounts are secured to the existing guyed tower with threaded rods and steel plates tightened around the tower leg. TEP considers the threaded rods as the governing connection members.

Based on our evaluation, we have determined that the existing mounts **ARE CAPABLE** of supporting the proposed installation.

	Component	Controlling Load Case	Stress Ratio	Pass/Fail
Existing Mount Rating	45	LC7	84%	**PASS**

Reference Documents:

- Fabrication drawings prepared by SitePro1 P/N VFA14-HD, dated August 4, 2017.

This determination was based on the following limitations and assumptions:

1. TEP is not responsible for any modifications completed prior to and hereafter which TEP was not directly involved.
2. All structural members and their connections are assumed to be in good condition and are free from defects with no deterioration to its member capacities.
3. All antennas, coax cables and waveguide cables are assumed to be properly installed and supported as per the manufacturer's requirements.
4. The existing mounts have been adequately secured to the tower structure per the mount manufacturer's specifications.
5. All components pertaining to T-Mobile's mounts must be tightened and re-plumbed prior to the installation of new appurtenances.
6. TEP performed a localized analysis on the mount itself and not on the supporting tower structure.

Please feel free to contact our office should you have any questions.

Respectfully Submitted,
TEP

Michael Cabral
Director

Daniel P. Hamm, PE
Vice President

FIELD PHOTOS:

(TEP OPCO, LLC)

Wind & Ice
Calculations

Date: 10/10/2024
Project Name: BROOKFIELD/JUNCTION RD.
Project No.: CT11196A
Designed By: KM **Checked By:** MSC

2.6.5.2 Velocity Pressure Coeff:

$K_z = 2.01\,(z/z_g)^{2/\alpha}$

z=	280	(ft)
z_g=	900	(ft)
α=	9.5	

K_z= 1.572

Kzmin ≤ Kz ≤ 2.01

Table 2-4

Exposure	Z_g	α	K_{zmin}	K_c
B	1200 ft	7.0	0.70	0.9
C	900 ft	9.5	0.85	1.0
D	700 ft	11.5	1.03	1.1

2.6.6.2 Topographic Factor:

Table 2-5

Topo. Category	K_t	f
2	0.43	1.25
3	0.53	2.0
4	0.72	1.5

$K_{zt} = [1+(K_c\,K_t/K_h)]^2$ $K_h = e^{(f*z/H)}$

K_{zt}= 1

(If Category 1 then K_{zt}=1.0)

Category= **1**

K_h=	1	
K_c=	1.0	(from Table 2-4)
K_t=	0	(from Table 2-5)
f=	0	(from Table 2-5)
z=	280	
z_s=	722	(Mean elevation of base of structure above sea level)
H=	0	(Ht. of the crest above surrounding terrain)
K_{zt}=	1.00	(from 2.6.6.2.1)
K_e=	0.97	(from 2.6.8)

2.6.10 Design Ice Thickness

Max Ice Thickness = t_i =	1.00	in
Importance Factor = I=	1.00	(from Table 2-3)
K_{iz} =	1.24	(from Sec. 2.6.10)

$t_{iz} = t_i * I * K_{iz} * (K_{zt})^{0.35}$ t_{iz} = 1.24 in

Date: 10/10/2024
Project Name: BROOKFIELD/JUNCTION RD.
Project No.: CT11196A
Designed By: KM Checked By: MSC

2.6.9 Gust Effect Factor

2.6.9.1 Self Supporting Lattice Structures

G_h = 1.0 Latticed Structures > 600 ft

G_h = 0.85 Latticed Structures 450 ft or less

G_h = 0.85 + 0.15 [h/150 - 3.0] h= ht. of structure

h=	456	G_h=	0.86
2.6.9.2 Guyed Masts		G_h=	0.85
2.6.9.3 Pole Structures		G_h=	1.1
2.6.9 Appurtenances		G_h=	1.0

2.6.9.4 Structures Supported on Other Structures

(Cantilivered tubular or latticed spines, pole, structures on buildings (ht. : width ratio > 5)

G_h=	1.35	**Gh=**	**1.00**

2.6.11.2 Design Wind Force on Appurtenances

$F = q_z * G_h * (EPA)_A$

$q_z = 0.00256 * K_z * K_{zt} * K_s * K_e * K_d * V_{max}^2$

		K_z=	1.57	(from 2.6.5.2)
		K_{zt}=	1.00	(from 2.6.6.2.1)
		K_s=	1.00	(from 2.6.7)
		K_e=	0.97	(from 2.6.8)
q_z=	**47.99**	K_d=	0.85	(from Table 2-2)
$q_{z\ (ice)}$=	**8.33**	V_{max}=	120	mph (Ultimate Wind Speed)
$q_{z\ (30)}$=	**3.00**	$V_{max\ (ice)}$=	50	mph
		V_{30}=	30	mph

Table 2-2

Structure Type	Wind Direction Probability Factor, Kd
Latticed structures with triangular, square or rectangular cross sections	0.85
Tubular pole structures, latticed structures with other cross sections, appurtenances	0.95
Tubular pole structures supporting antennas enclosed within a cylindrical shroud	1.00

Date: 10/10/2024
Project Name: BROOKFIELD/JUNCTION RD.
Project No.: CT11196A
Designed By: KM Checked By: MSC

Determine Ca:

Table 2-9

Force Coefficients (Ca) for Appurtenances				
Member Type		Aspect Ratio ≤ 2.5	Aspect Ratio = 7	Aspect Ratio ≥ 25
		Ca	Ca	Ca
Flat		1.2	1.4	2.0
Square/Rectangular HSS		1.2 - 2.8(r_s) ≥ 0.85	1.4 - 4.0(r_s) ≥ 0.90	2.0 - 6.0(r_s) ≥ 1.25
Round	**C < 39** (Subcritical)	0.7	0.8	1.2
	39 ≤ C ≤ 78 (Transitional)	$4.14/(C^{0.485})$	$3.66/(C^{0.415})$	$46.8/(C^{1.0})$
	C > 78 (Supercritical)	0.5	0.6	0.6

Aspect Ratio is the overall length/width ratio in the plane normal to the wind direction.
(Aspect ratio is independent of the spacing between support points of a linear appurtenance,

Note: Linear interpolation may be used for aspect ratios other than those shown.

Ice Thickness = **1.24** in | **Angle =** **0 (deg)** | **Equivalent Angle =** **180 (deg)**

Appurtenances	Height	Width	Depth	Flat Area	Aspect Ratio	Ca	Force (lbs)	Force (lbs) (w/ Ice)	Force (lbs) (30 mph)
APXVLL19P_43-C-A20 Antenna	75.8	11.3	4.6	5.95	6.71	1.39	**396**	**87**	**25**
AIR6419 B41 Antenna	34.5	19.9	8.0	4.77	1.73	1.20	**275**	**57**	**17**
APXVAARR24_43-U-NA20 Antenna	95.9	24.0	8.7	15.98	4.00	1.27	**971**	**191**	**61**
4460 B25+B66 RRH	17.0	15.1	11.9	1.78	1.13	1.20	**103**	**24**	**6**
4460 B25+B66 RRH (Shielded)	17.0	3.8	11.9	0.45	4.47	1.29	**28**	**9**	**2**
4449 B71+B85 RRH	17.9	13.2	9.5	1.64	1.36	1.20	**94**	**22**	**6**
4449 B71+B85 RRH (Shielded)	17.9	0.0	9.5	0.00	0.00	1.20	**0**	**4**	**0**
PL 11-1/4x5/8	0.6	12.0		0.05	0.05	2.00	**5**		
PL 3-1/2x5/8	0.6	12.0		0.05	0.05	2.00	**5**		
2-1/2" Pipe	2.9	12.0		0.24	0.24	1.20	**14**		
2" Pipe	2.4	12.0		0.20	0.20	1.20	**11**		
3/4" Round Bar	0.8	12.0		0.06	0.06	1.20	**4**		
5/8" Round Bar	0.6	12.0		0.05	0.05	1.20	**3**		

Date: 10/10/2024
Project Name: BROOKFIELD/JUNCTION RD.
Project No.: CT11196A
Designed By: KM Checked By: MSC

WIND LOADS

Angle =	30	(deg)	Ice Thickness =	1.24	in.	Equivalent Angle =	210	(deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Aspect Ratio (normal)	Aspect Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
APXVLL19P_43-C-A20 Antenna	75.8	11.3	4.6	5.95	2.42	6.71	16.48	1.39	1.72	396	199	347
AIR6419 B41 Antenna	34.5	19.9	8.0	4.77	1.92	1.73	4.31	1.20	1.28	275	118	235
APXVAARR24_43-U-NA20 Antenna	95.9	24.0	8.7	15.98	5.79	4.00	11.02	1.27	1.53	971	427	835
4460 B25+B66 RRH	17.0	15.1	11.9	1.78	1.40	1.13	1.43	1.20	1.20	103	81	97
4460 B25+B66 RRH (Shielded)	17.0	7.6	11.9	0.89	1.40	2.25	1.43	1.20	1.20	51	81	59
4449 B71+B85 RRH	17.9	13.2	9.5	1.64	1.18	1.36	1.88	1.20	1.20	94	68	88
4449 B71+B85 RRH (Shielded)	17.9	6.6	9.5	0.82	1.18	2.71	1.88	1.21	1.20	48	68	53

WIND LOADS WITH ICE:

APXVLL19P_43-C-A20 Antenna	78.3	13.8	7.1	7.49	3.85	5.68	11.06	1.34	1.54	84	49	75
AIR6419 B41 Antenna	37.0	22.4	10.5	5.75	2.69	1.65	3.53	1.20	1.25	57	28	50
APXVAARR24_43-U-NA20 Antenna	98.4	26.5	11.2	18.09	7.64	3.72	8.80	1.25	1.46	189	93	165
4460 B25+B66 RRH	19.5	17.6	14.4	2.38	1.94	1.11	1.35	1.20	1.20	24	19	23
4460 B25+B66 RRH (Shielded)	19.5	8.8	14.4	1.19	1.94	2.22	1.35	1.20	1.20	12	19	14
4449 B71+B85 RRH	20.4	15.7	12.0	2.22	1.69	1.30	1.70	1.20	1.20	22	17	21
4449 B71+B85 RRH (Shielded)	20.4	7.8	12.0	1.11	1.69	2.60	1.70	1.20	1.20	11	17	13

WIND LOADS AT 30 MPH:

APXVLL19P_43-C-A20 Antenna	75.8	11.3	4.6	5.95	2.42	6.71	16.48	1.39	1.72	25	12	22
AIR6419 B41 Antenna	34.5	19.9	8.0	4.77	1.92	1.73	4.31	1.20	1.28	17	7	15
APXVAARR24_43-U-NA20 Antenna	95.9	24.0	8.7	15.98	5.79	4.00	11.02	1.27	1.53	61	27	52
4460 B25+B66 RRH	17.0	15.1	11.9	1.78	1.40	1.13	1.43	1.20	1.20	6	5	6
4460 B25+B66 RRH (Shielded)	17.0	7.6	11.9	0.89	1.40	2.25	1.43	1.20	1.20	3	5	4
4449 B71+B85 RRH	17.9	13.2	9.5	1.64	1.18	1.36	1.88	1.20	1.20	6	4	5
4449 B71+B85 RRH (Shielded)	17.9	6.6	9.5	0.82	1.18	2.71	1.88	1.21	1.20	3	4	3

Date: 10/10/2024
Project Name: BROOKFIELD/JUNCTION RD.
Project No.: CT11196A
Designed By: KM Checked By: MSC

WIND LOADS

Angle =	60	(deg)	Ice Thickness =	1.24	in.	Equivalent Angle =	240	(deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Aspect Ratio (normal)	Aspect Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
APXVLL19P_43-C-A20 Antenna	75.8	11.3	4.6	5.95	2.42	6.71	16.48	1.39	1.72	396	199	249
AIR6419 B41 Antenna	34.5	19.9	8.0	4.77	1.92	1.73	4.31	1.20	1.28	275	118	157
APXVAARR24_43-U-NA20 Antenna	95.9	24.0	8.7	15.98	5.79	4.00	11.02	1.27	1.53	971	427	563
4460 B25+B66 RRH	17.0	15.1	11.9	1.78	1.40	1.13	1.43	1.20	1.20	103	81	86
4460 B25+B66 RRH (Shielded)	17.0	11.3	11.9	1.34	1.40	1.50	1.43	1.20	1.20	77	81	80
4449 B71+B85 RRH	17.9	13.2	9.5	1.64	1.18	1.36	1.88	1.20	1.20	94	68	75
4449 B71+B85 RRH (Shielded)	17.9	9.9	9.5	1.23	1.18	1.81	1.88	1.20	1.20	71	68	69

WIND LOADS WITH ICE:

APXVLL19P_43-C-A20 Antenna	78.3	13.8	7.1	7.49	3.85	5.68	11.06	1.34	1.54	84	49	58
AIR6419 B41 Antenna	37.0	22.4	10.5	5.75	2.69	1.65	3.53	1.20	1.25	57	28	35
APXVAARR24_43-U-NA20 Antenna	98.4	26.5	11.2	18.09	7.64	3.72	8.80	1.25	1.46	189	93	117
4460 B25+B66 RRH	19.5	17.6	14.4	2.38	1.94	1.11	1.35	1.20	1.20	24	19	21
4460 B25+B66 RRH (Shielded)	19.5	13.2	14.4	1.78	1.94	1.48	1.35	1.20	1.20	18	19	19
4449 B71+B85 RRH	20.4	15.7	12.0	2.22	1.69	1.30	1.70	1.20	1.20	22	17	18
4449 B71+B85 RRH (Shielded)	20.4	11.8	12.0	1.66	1.69	1.73	1.70	1.20	1.20	17	17	17

WIND LOADS AT 30 MPH:

APXVLL19P_43-C-A20 Antenna	75.8	11.3	4.6	5.95	2.42	6.71	16.48	1.39	1.72	25	12	16
AIR6419 B41 Antenna	34.5	19.9	8.0	4.77	1.92	1.73	4.31	1.20	1.28	17	7	10
APXVAARR24_43-U-NA20 Antenna	95.9	24.0	8.7	15.98	5.79	4.00	11.02	1.27	1.53	61	27	35
4460 B25+B66 RRH	17.0	15.1	11.9	1.78	1.40	1.13	1.43	1.20	1.20	6	5	5
4460 B25+B66 RRH (Shielded)	17.0	11.3	11.9	1.34	1.40	1.50	1.43	1.20	1.20	5	5	5
4449 B71+B85 RRH	17.9	13.2	9.5	1.64	1.18	1.36	1.88	1.20	1.20	6	4	5
4449 B71+B85 RRH (Shielded)	17.9	9.9	9.5	1.23	1.18	1.81	1.88	1.20	1.20	4	4	4

Date: 10/10/2024
Project Name: BROOKFIELD/JUNCTION RD.
Project No.: CT11196A
Designed By: KM Checked By: MSC

WIND LOADS

Angle =	90	(deg)	Ice Thickness =	1.24	in.	Equivalent Angle =	270	(deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Aspect Ratio (normal)	Aspect Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
APXVLL19P_43-C-A20 Antenna	75.8	11.3	4.6	5.95	2.42	6.71	16.48	1.39	1.72	396	199	199
AIR6419 B41 Antenna	34.5	19.9	8.0	4.77	1.92	1.73	4.31	1.20	1.28	275	118	118
APXVAARR24_43-U-NA20 Antenna	95.9	24.0	8.7	15.98	5.79	4.00	11.02	1.27	1.53	971	427	427
4460 B25+B66 RRH	17.0	15.1	11.9	1.78	1.40	1.13	1.43	1.20	1.20	103	81	81
4460 B25+B66 RRH (Shielded)	17.0	3.8	11.9	0.45	1.40	4.47	1.43	1.29	1.20	28	81	81
4449 B71+B85 RRH	17.9	13.2	9.5	1.64	1.18	1.36	1.88	1.20	1.20	94	68	68
4449 B71+B85 RRH (Shielded)	17.9	0.0	9.5	0.00	1.18	0.00	1.88	1.20	1.20	0	68	68

WIND LOADS WITH ICE:

APXVLL19P_43-C-A20 Antenna	78.3	13.8	7.1	7.49	3.85	5.68	11.06	1.34	1.54	84	49	49
AIR6419 B41 Antenna	37.0	22.4	10.5	5.75	2.69	1.65	3.53	1.20	1.25	57	28	28
APXVAARR24_43-U-NA20 Antenna	98.4	26.5	11.2	18.09	7.64	3.72	8.80	1.25	1.46	189	93	93
4460 B25+B66 RRH	19.5	17.6	14.4	2.38	1.94	1.11	1.35	1.20	1.20	24	19	19
4460 B25+B66 RRH (Shielded)	19.5	6.3	14.4	0.85	1.94	3.10	1.35	1.23	1.20	9	19	19
4449 B71+B85 RRH	20.4	15.7	12.0	2.22	1.69	1.30	1.70	1.20	1.20	22	17	17
4449 B71+B85 RRH (Shielded)	20.4	2.5	12.0	0.35	1.69	8.23	1.70	1.44	1.20	4	17	17

WIND LOADS AT 30 MPH:

APXVLL19P_43-C-A20 Antenna	75.8	11.3	4.6	5.95	2.42	6.71	16.48	1.39	1.72	25	12	12
AIR6419 B41 Antenna	34.5	19.9	8.0	4.77	1.92	1.73	4.31	1.20	1.28	17	7	7
APXVAARR24_43-U-NA20 Antenna	95.9	24.0	8.7	15.98	5.79	4.00	11.02	1.27	1.53	61	27	27
4460 B25+B66 RRH	17.0	15.1	11.9	1.78	1.40	1.13	1.43	1.20	1.20	6	5	5
4460 B25+B66 RRH (Shielded)	17.0	3.8	11.9	0.45	1.40	4.47	1.43	1.29	1.20	2	5	5
4449 B71+B85 RRH	17.9	13.2	9.5	1.64	1.18	1.36	1.88	1.20	1.20	6	4	4
4449 B71+B85 RRH (Shielded)	17.9	0.0	9.5	0.00	1.18	0.00	1.88	1.20	1.20	0	4	4

Date: 10/10/2024
Project Name: BROOKFIELD/JUNCTION RD.
Project No.: CT11196A
Designed By: KM Checked By: MSC

WIND LOADS

Angle =	120	(deg)	Ice Thickness =	1.24	in.	Equivalent Angle =	300	(deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Aspect Ratio (normal)	Aspect Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
APXVLL19P_43-C-A20 Antenna	75.8	11.3	4.6	5.95	2.42	6.71	16.48	1.39	1.72	396	199	249
AIR6419 B41 Antenna	34.5	19.9	8.0	4.77	1.92	1.73	4.31	1.20	1.28	275	118	157
APXVAARR24_43-U-NA20 Antenna	95.9	24.0	8.7	15.98	5.79	4.00	11.02	1.27	1.53	971	427	563
4460 B25+B66 RRH	17.0	15.1	11.9	1.78	1.40	1.13	1.43	1.20	1.20	103	81	86
4460 B25+B66 RRH (Shielded)	17.0	11.3	11.9	1.34	1.40	1.50	1.43	1.20	1.20	77	81	80
4449 B71+B85 RRH	17.9	13.2	9.5	1.64	1.18	1.36	1.88	1.20	1.20	94	68	75
4449 B71+B85 RRH (Shielded)	17.9	9.9	9.5	1.23	1.18	1.81	1.88	1.20	1.20	71	68	69

WIND LOADS WITH ICE:

APXVLL19P_43-C-A20 Antenna	78.3	13.8	7.1	7.49	3.85	5.68	11.06	1.34	1.54	84	49	58
AIR6419 B41 Antenna	37.0	22.4	10.5	5.75	2.69	1.65	3.53	1.20	1.25	57	28	35
APXVAARR24_43-U-NA20 Antenna	98.4	26.5	11.2	18.09	7.64	3.72	8.80	1.25	1.46	189	93	117
4460 B25+B66 RRH	19.5	17.6	14.4	2.38	1.94	1.11	1.35	1.20	1.20	24	19	21
4460 B25+B66 RRH (Shielded)	19.5	13.2	14.4	1.78	1.94	1.48	1.35	1.20	1.20	18	19	19
4449 B71+B85 RRH	20.4	15.7	12.0	2.22	1.69	1.30	1.70	1.20	1.20	22	17	18
4449 B71+B85 RRH (Shielded)	20.4	11.8	12.0	1.66	1.69	1.73	1.70	1.20	1.20	17	17	17

WIND LOADS AT 30 MPH:

APXVLL19P_43-C-A20 Antenna	75.8	11.3	4.6	5.95	2.42	6.71	16.48	1.39	1.72	25	12	16
AIR6419 B41 Antenna	34.5	19.9	8.0	4.77	1.92	1.73	4.31	1.20	1.28	17	7	10
APXVAARR24_43-U-NA20 Antenna	95.9	24.0	8.7	15.98	5.79	4.00	11.02	1.27	1.53	61	27	35
4460 B25+B66 RRH	17.0	15.1	11.9	1.78	1.40	1.13	1.43	1.20	1.20	6	5	5
4460 B25+B66 RRH (Shielded)	17.0	11.3	11.9	1.34	1.40	1.50	1.43	1.20	1.20	5	5	5
4449 B71+B85 RRH	17.9	13.2	9.5	1.64	1.18	1.36	1.88	1.20	1.20	6	4	5
4449 B71+B85 RRH (Shielded)	17.9	9.9	9.5	1.23	1.18	1.81	1.88	1.20	1.20	4	4	4

Date: 10/10/2024
Project Name: BROOKFIELD/JUNCTION RD.
Project No.: CT11196A
Designed By: KM Checked By: MSC

WIND LOADS

Angle =	150	(deg)	Ice Thickness =	1.24	in.	Equivalent Angle =	330	(deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Aspect Ratio (normal)	Aspect Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
APXVLL19P_43-C-A20 Antenna	75.8	11.3	4.6	5.95	2.42	6.71	16.48	1.39	1.72	396	199	347
AIR6419 B41 Antenna	34.5	19.9	8.0	4.77	1.92	1.73	4.31	1.20	1.28	275	118	235
APXVAARR24_43-U-NA20 Antenna	95.9	24.0	8.7	15.98	5.79	4.00	11.02	1.27	1.53	971	427	835
4460 B25+B66 RRH	17.0	15.1	11.9	1.78	1.40	1.13	1.43	1.20	1.20	103	81	97
4460 B25+B66 RRH (Shielded)	17.0	7.6	11.9	0.89	1.40	2.25	1.43	1.20	1.20	51	81	59
4449 B71+B85 RRH	17.9	13.2	9.5	1.64	1.18	1.36	1.88	1.20	1.20	94	68	88
4449 B71+B85 RRH (Shielded)	17.9	6.6	9.5	0.82	1.18	2.71	1.88	1.21	1.20	48	68	53

WIND LOADS WITH ICE:

APXVLL19P_43-C-A20 Antenna	78.3	13.8	7.1	7.49	3.85	5.68	11.06	1.34	1.54	84	49	75
AIR6419 B41 Antenna	37.0	22.4	10.5	5.75	2.69	1.65	3.53	1.20	1.25	57	28	50
APXVAARR24_43-U-NA20 Antenna	98.4	26.5	11.2	18.09	7.64	3.72	8.80	1.25	1.46	189	93	165
4460 B25+B66 RRH	19.5	17.6	14.4	2.38	1.94	1.11	1.35	1.20	1.20	24	19	23
4460 B25+B66 RRH (Shielded)	19.5	8.8	14.4	1.19	1.94	2.22	1.35	1.20	1.20	12	19	14
4449 B71+B85 RRH	20.4	15.7	12.0	2.22	1.69	1.30	1.70	1.20	1.20	22	17	21
4449 B71+B85 RRH (Shielded)	20.4	7.8	12.0	1.11	1.69	2.60	1.70	1.20	1.20	11	17	13

WIND LOADS AT 30 MPH:

APXVLL19P_43-C-A20 Antenna	75.8	11.3	4.6	5.95	2.42	6.71	16.48	1.39	1.72	25	12	22
AIR6419 B41 Antenna	34.5	19.9	8.0	4.77	1.92	1.73	4.31	1.20	1.28	17	7	15
APXVAARR24_43-U-NA20 Antenna	95.9	24.0	8.7	15.98	5.79	4.00	11.02	1.27	1.53	61	27	52
4460 B25+B66 RRH	17.0	15.1	11.9	1.78	1.40	1.13	1.43	1.20	1.20	6	5	6
4460 B25+B66 RRH (Shielded)	17.0	7.6	11.9	0.89	1.40	2.25	1.43	1.20	1.20	3	5	4
4449 B71+B85 RRH	17.9	13.2	9.5	1.64	1.18	1.36	1.88	1.20	1.20	6	4	5
4449 B71+B85 RRH (Shielded)	17.9	6.6	9.5	0.82	1.18	2.71	1.88	1.21	1.20	3	4	3

Date: 10/10/2024
Project Name: BROOKFIELD/JUNCTION RD.
Project No.: CT11196A
Designed By: KM **Checked By:** MSC

ICE WEIGHT CALCULATIONS

Thickness of ice: 1.24 in.
Density of ice: 56 pcf

APXVLL19P_43-C-A20 Antenna

Weight of ice based on total radial SF area:

Height (in):	75.8	
Width (in):	11.3	
Depth (in):	4.6	
Total weight of ice on object:		129 lbs
Weight of object:	51.0 lbs	
Combined weight of ice and object:		180 lbs

AIR6419 B41 Antenna

Weight of ice based on total radial SF area:

Height (in):	34.5	
Width (in):	19.9	
Depth (in):	8.0	
Total weight of ice on object:		99 lbs
Weight of object:	69.0 lbs	
Combined weight of ice and object:		168 lbs

APXVAARR24_43-U-NA20 Antenna

Weight of ice based on total radial SF area:

Height (in):	95.9	
Width (in):	24.0	
Depth (in):	8.7	
Total weight of ice on object:		324 lbs
Weight of object:	128.0 lbs	
Combined weight of ice and object:		452 lbs

4460 B25+B66 RRH

Weight of ice based on total radial SF area:

Height (in):	17.0	
Width (in):	15.1	
Depth (in):	11.9	
Total weight of ice on object:		44 lbs
Weight of object:	104.0 lbs	
Combined weight of ice and object:		148 lbs

4449 B71+B85 RRH

Weight of ice based on total radial SF area:

Height (in):	17.9	
Width (in):	13.2	
Depth (in):	9.5	
Total weight of ice on object:		40 lbs
Weight of object:	71.0 lbs	
Combined weight of ice and object:		111 lbs

PL 11-1/4x5/8

Weight of ice based on total radial SF area:

Height (in):	11.25	
Width (in):	0.625	
Per foot weight of ice on object:		19 plf

PL 3-1/2x5/8

Weight of ice based on total radial SF area:

Height (in):	3.5	
Width (in):	0.625	
Per foot weight of ice on object:		7 plf

2-1/2" Pipe

Per foot weight of ice:

diameter (in):	2.88	
Per foot weight of ice on object:		6 plf

2" Pipe

Per foot weight of ice:

diameter (in):	2.38	
Per foot weight of ice on object:		5 plf

3/4" Round Bar

Per foot weight of ice:

diameter (in):	0.75	
Per foot weight of ice on object:		3 plf

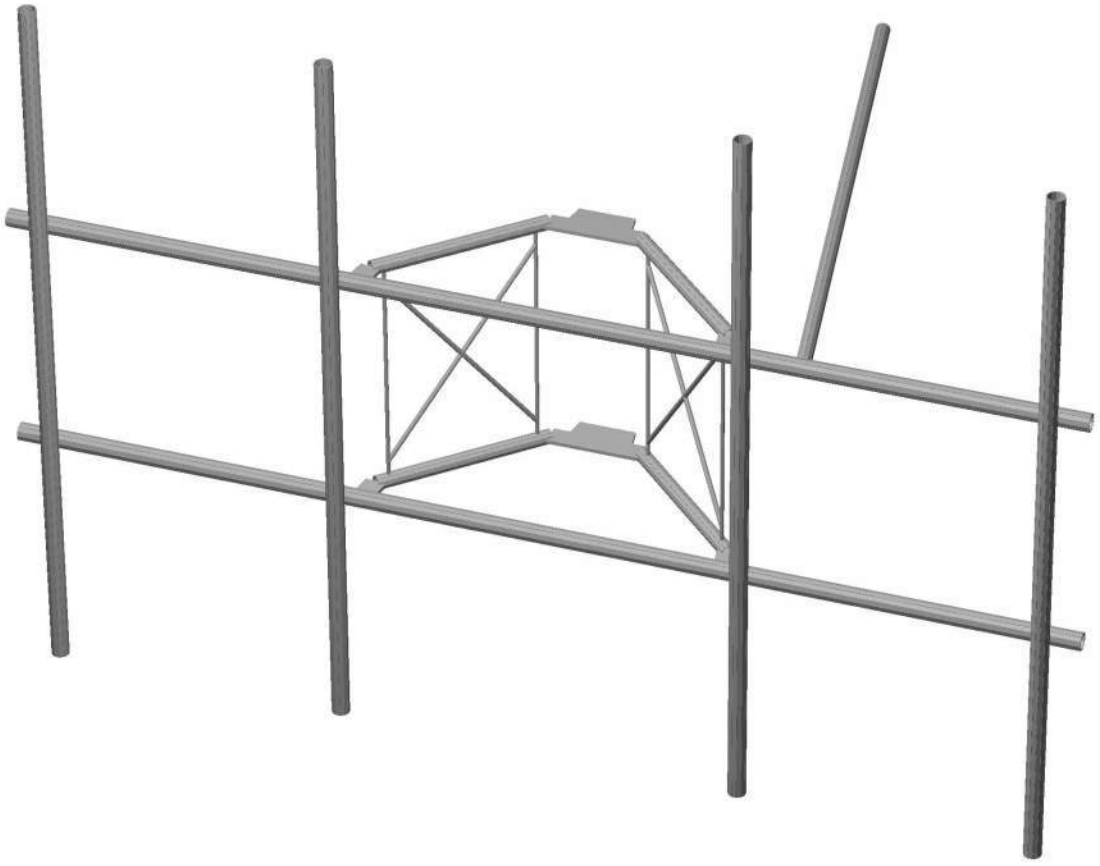
5/8" Round Bar

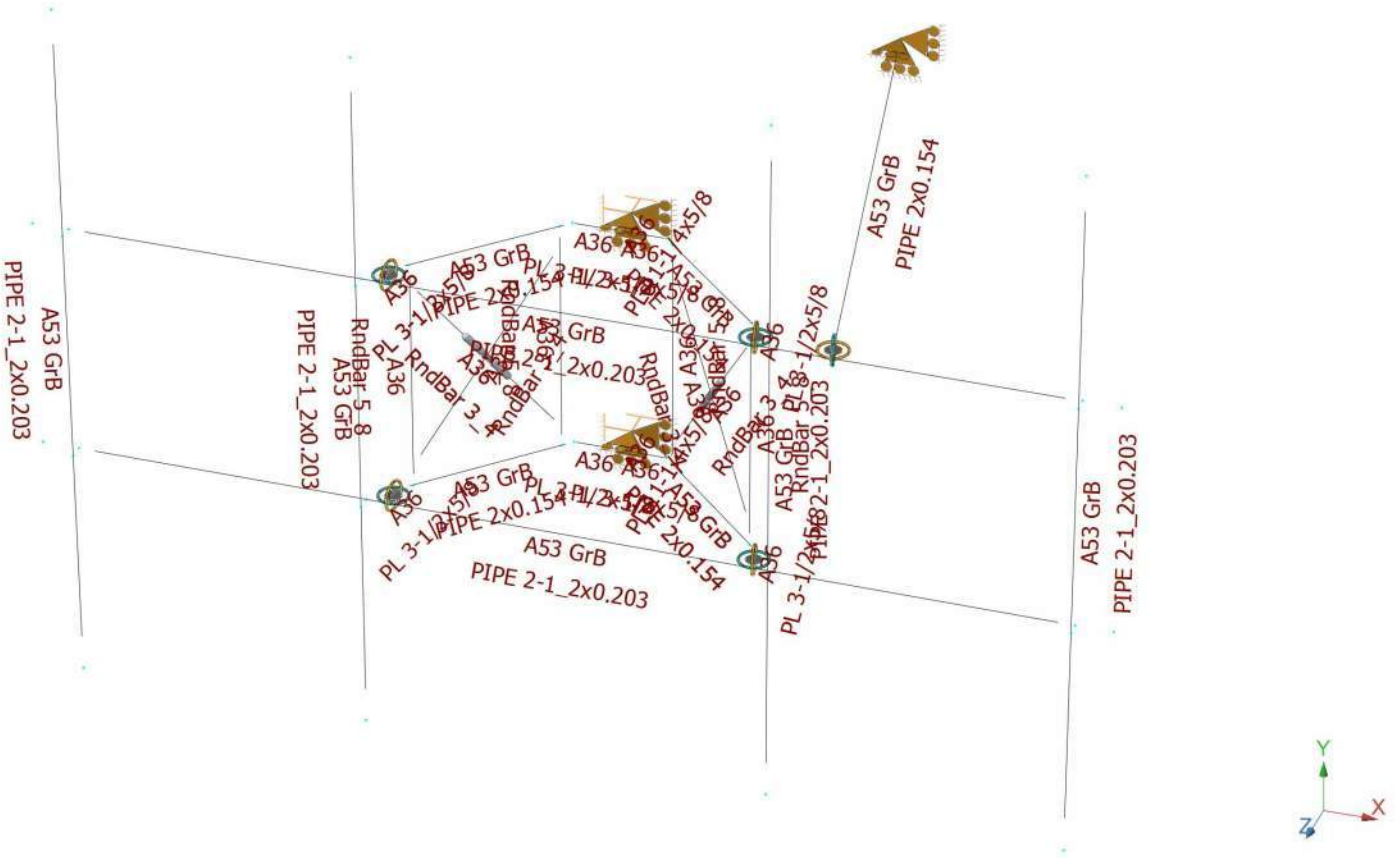
Per foot weight of ice:

diameter (in):	0.625	
Per foot weight of ice on object:		3 plf

(TEP OPCO, LLC)

Antenna Mount Calculations


Y
X
Z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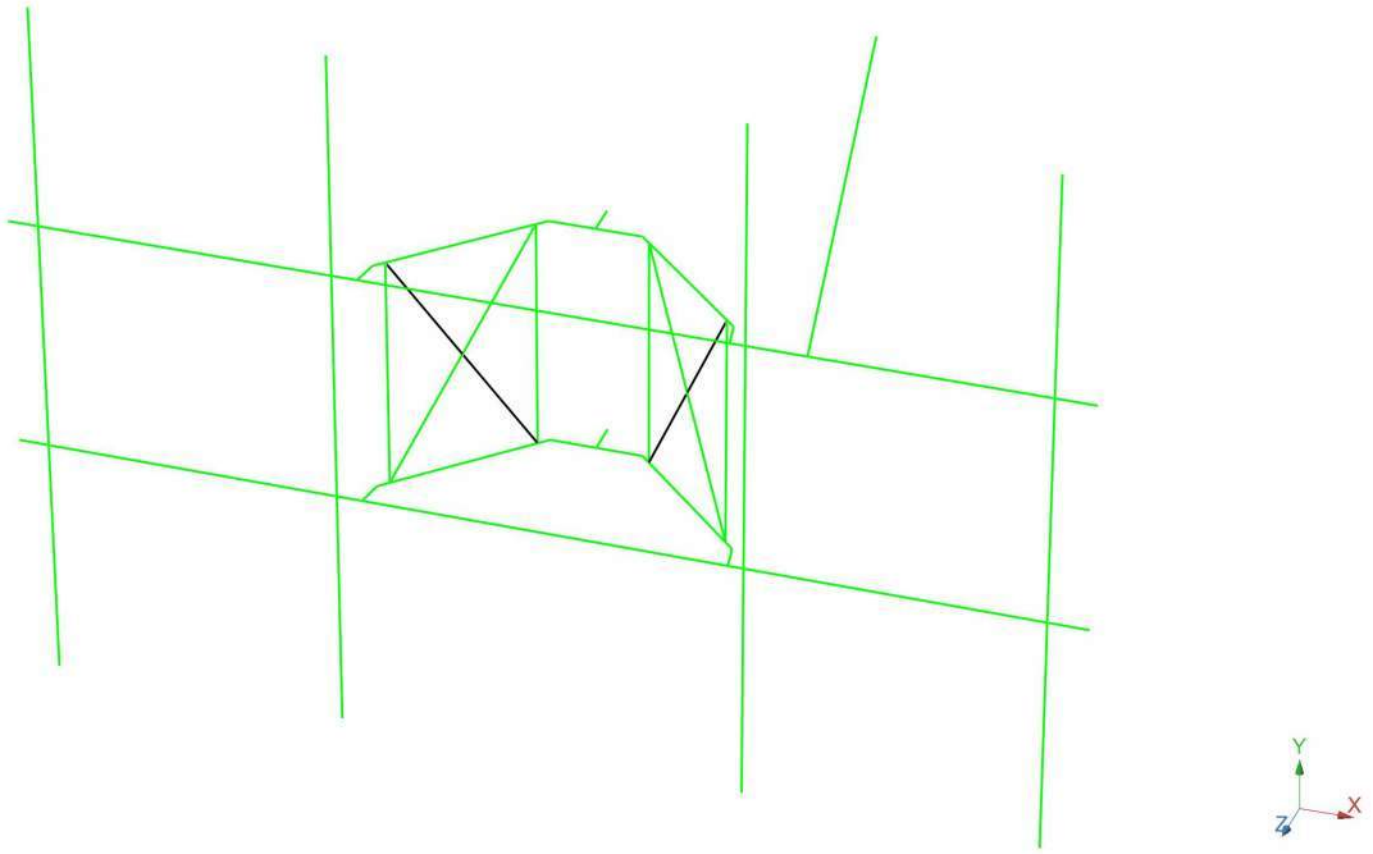
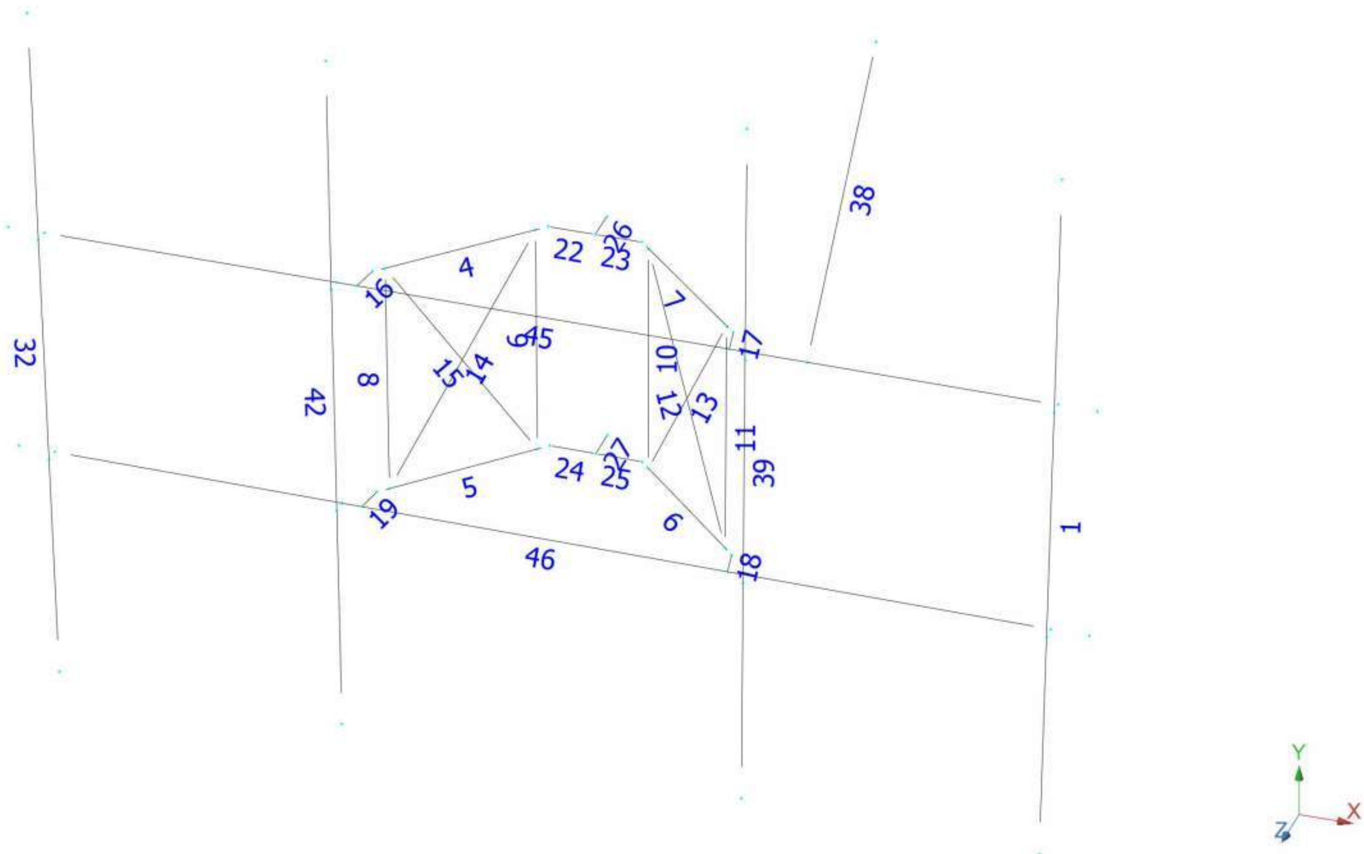
PIPE 2x0.154
A53 GrB
PIPE 2-1_2x0.203
A53 GrB
PIPE 2-1_2x0.203
A53 GrB
PIPE 2-1_2x0.203
A53 GrB
PIPE 2x0.154
A53 GrB
PIPE 2-1_2x0.203
A36
PL 3-1/2x5/8
RndBar 5/8
Y
X
Z


Design status
Not designed
Error on design
Design O.K.
With warnings
Y
X
Z

RAM® Elements
CONNECT Edition

Current Date: 10/8/2024 1:18 PM
Units system: English



RAM® Elements
CONNECT Edition

Current Date: 10/10/2024 11:34 AM
Units system: English

Load data

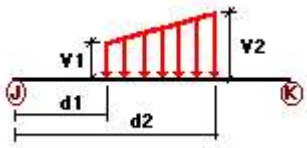
GLOSSARY

Comb : Indicates if load condition is a load combination

Load Conditions

Condition	Description	Comb.	Category
D	Dead Load	No	DL
Wo	Wind Load (NO ICE)	No	WIND
W30	WL 30deg	No	WIND
W60	WL 60deg	No	WIND
W90	WL 90deg	No	WIND
W120	WL 120deg	No	WIND
W150	WL 150deg	No	WIND
Di	Ice Load	No	LL
WI0	WL ICE 0deg	No	WIND
WI30	WL ICE 30deg	No	WIND
WI60	WL ICE 60deg	No	WIND
WI90	WL ICE 90deg	No	WIND
WI120	WL ICE 120deg	No	WIND
WI150	WL ICE 150deg	No	WIND
WL0	WL 30 mph 0deg	No	WIND
WL30	WL 30 mph 30deg	No	WIND
WL60	WL 30 mph 60deg	No	WIND
WL90	WL 30 mph 90deg	No	WIND
WL120	WL 30 mph 120deg	No	WIND
WL150	WL 30 mph 150deg	No	WIND
LL1	250 lb Live Load Center of Mount	No	LL
LL2	250 lb Live Load Right End of Mount	No	LL
LL3	250 lb Live Load Left End of Mount	No	LL
LLa1	500 lb Live Load Antenna 1	No	LL
LLa2	500 lb Live Load Antenna 2	No	LL
LLa3	500 lb Live Load Antenna 3	No	LL
LLa4	500 lb Live Load Antenna 4	No	LL

Distributed force on members



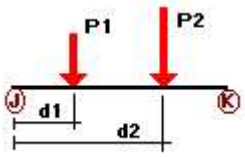
Condition	Member	Dir1	Val1 [Kip/ft]	Val2 [Kip/ft]	Dist1 [ft]	%	Dist2 [ft]	%
Wo	1	z	-0.014	-0.014	70.00	Yes	100.00	Yes
		z	-0.014	-0.014	0.00	No	5.00	Yes
	4	z	-0.011	-0.011	0.00	No	100.00	Yes
	5	z	-0.011	-0.011	0.00	No	100.00	Yes
	6	z	-0.011	-0.011	0.00	No	100.00	Yes
	7	z	-0.011	-0.011	0.00	No	100.00	Yes
	8	z	-0.003	-0.003	0.00	No	100.00	Yes
	9	z	-0.003	-0.003	0.00	No	100.00	Yes
	10	z	-0.003	-0.003	0.00	No	100.00	Yes
	11	z	-0.003	-0.003	0.00	No	100.00	Yes
	12	z	-0.004	-0.004	0.00	No	100.00	Yes
	13	z	-0.004	-0.004	0.00	No	100.00	Yes
	14	z	-0.004	-0.004	0.00	No	100.00	Yes
	15	z	-0.004	-0.004	0.00	No	100.00	Yes
	16	z	-0.005	-0.005	0.00	No	100.00	Yes
	17	z	-0.005	-0.005	0.00	No	100.00	Yes
	18	z	-0.005	-0.005	0.00	No	100.00	Yes
	19	z	-0.005	-0.005	0.00	No	100.00	Yes
	22	z	-0.005	-0.005	0.00	No	100.00	Yes
	23	z	-0.005	-0.005	0.00	No	100.00	Yes
	24	z	-0.005	-0.005	0.00	No	100.00	Yes
	25	z	-0.005	-0.005	0.00	No	100.00	Yes
	32	z	-0.014	-0.014	85.00	Yes	100.00	Yes
	38	z	-0.011	-0.011	0.00	No	100.00	Yes
	39	z	-0.014	-0.014	50.00	Yes	100.00	Yes
		z	-0.014	-0.014	0.00	No	15.00	Yes
	42	z	-0.014	-0.014	0.00	No	100.00	Yes
	45	z	-0.014	-0.014	0.00	No	100.00	Yes
	46	z	-0.014	-0.014	0.00	No	100.00	Yes
W30	1	z	-0.014	-0.014	0.00	No	100.00	Yes
	4	z	-0.011	-0.011	0.00	No	100.00	Yes
	5	z	-0.011	-0.011	0.00	No	100.00	Yes
	6	z	-0.011	-0.011	0.00	No	100.00	Yes
	7	z	-0.011	-0.011	0.00	No	100.00	Yes
	8	z	-0.003	-0.003	0.00	No	100.00	Yes
	9	z	-0.003	-0.003	0.00	No	100.00	Yes
	10	z	-0.003	-0.003	0.00	No	100.00	Yes
	11	z	-0.003	-0.003	0.00	No	100.00	Yes
	12	z	-0.004	-0.004	0.00	No	100.00	Yes
	13	z	-0.004	-0.004	0.00	No	100.00	Yes
	14	z	-0.004	-0.004	0.00	No	100.00	Yes
	15	z	-0.004	-0.004	0.00	No	100.00	Yes
	16	z	-0.005	-0.005	0.00	No	100.00	Yes
	17	z	-0.005	-0.005	0.00	No	100.00	Yes
	18	z	-0.005	-0.005	0.00	No	100.00	Yes
	19	z	-0.005	-0.005	0.00	No	100.00	Yes
	22	z	-0.005	-0.005	0.00	No	100.00	Yes
	23	z	-0.005	-0.005	0.00	No	100.00	Yes
	24	z	-0.005	-0.005	0.00	No	100.00	Yes
	25	z	-0.005	-0.005	0.00	No	100.00	Yes
	26	z	-0.005	-0.005	0.00	No	100.00	Yes
	27	z	-0.005	-0.005	0.00	No	100.00	Yes
	32	z	-0.014	-0.014	0.00	No	100.00	Yes
	38	z	-0.011	-0.011	0.00	No	100.00	Yes
	39	z	-0.014	-0.014	0.00	No	100.00	Yes
	42	z	-0.014	-0.014	0.00	No	100.00	Yes
	45	z	-0.014	-0.014	0.00	No	100.00	Yes
	46	z	-0.014	-0.014	0.00	No	100.00	Yes
W60	1	x	-0.014	-0.014	0.00	No	100.00	Yes
	4	x	-0.011	-0.011	0.00	No	100.00	Yes

	5	x	-0.011	-0.011	0.00	No	100.00	Yes
	6	x	-0.011	-0.011	0.00	No	100.00	Yes
	7	x	-0.011	-0.011	0.00	No	100.00	Yes
	8	x	-0.003	-0.003	0.00	No	100.00	Yes
	9	x	-0.003	-0.003	0.00	No	100.00	Yes
	10	x	-0.003	-0.003	0.00	No	100.00	Yes
	11	x	-0.003	-0.003	0.00	No	100.00	Yes
	12	x	-0.004	-0.004	0.00	No	100.00	Yes
	13	x	-0.004	-0.004	0.00	No	100.00	Yes
	14	x	-0.004	-0.004	0.00	No	100.00	Yes
	15	x	-0.004	-0.004	0.00	No	100.00	Yes
	16	x	-0.005	-0.005	0.00	No	100.00	Yes
	17	x	-0.005	-0.005	0.00	No	100.00	Yes
	18	x	-0.005	-0.005	0.00	No	100.00	Yes
	19	x	-0.005	-0.005	0.00	No	100.00	Yes
	22	x	-0.005	-0.005	0.00	No	100.00	Yes
	23	x	-0.005	-0.005	0.00	No	100.00	Yes
	24	x	-0.005	-0.005	0.00	No	100.00	Yes
	25	x	-0.005	-0.005	0.00	No	100.00	Yes
	26	x	-0.005	-0.005	0.00	No	100.00	Yes
	27	x	-0.005	-0.005	0.00	No	100.00	Yes
	32	x	-0.014	-0.014	0.00	No	100.00	Yes
	38	x	-0.011	-0.011	0.00	No	100.00	Yes
	39	x	-0.014	-0.014	0.00	No	100.00	Yes
	42	x	-0.014	-0.014	0.00	No	100.00	Yes
	45	x	-0.014	-0.014	0.00	No	100.00	Yes
	46	x	-0.014	-0.014	0.00	No	100.00	Yes
W90	1	x	-0.014	-0.014	0.00	No	100.00	Yes
	4	x	-0.011	-0.011	0.00	No	100.00	Yes
	5	x	-0.011	-0.011	0.00	No	100.00	Yes
	6	x	-0.011	-0.011	0.00	No	100.00	Yes
	7	x	-0.011	-0.011	0.00	No	100.00	Yes
	8	x	-0.003	-0.003	0.00	No	100.00	Yes
	9	x	-0.003	-0.003	0.00	No	100.00	Yes
	10	x	-0.003	-0.003	0.00	No	100.00	Yes
	11	x	-0.003	-0.003	0.00	No	100.00	Yes
	12	x	-0.004	-0.004	0.00	No	100.00	Yes
	13	x	-0.004	-0.004	0.00	No	100.00	Yes
	14	x	-0.004	-0.004	0.00	No	100.00	Yes
	15	x	-0.004	-0.004	0.00	No	100.00	Yes
	16	x	-0.005	-0.005	0.00	No	100.00	Yes
	17	x	-0.005	-0.005	0.00	No	100.00	Yes
	18	x	-0.005	-0.005	0.00	No	100.00	Yes
	19	x	-0.005	-0.005	0.00	No	100.00	Yes
	22	x	-0.005	-0.005	0.00	No	100.00	Yes
	23	x	-0.005	-0.005	0.00	No	100.00	Yes
	24	x	-0.005	-0.005	0.00	No	100.00	Yes
	25	x	-0.005	-0.005	0.00	No	100.00	Yes
	26	x	-0.005	-0.005	0.00	No	100.00	Yes
	27	x	-0.005	-0.005	0.00	No	100.00	Yes
	32	x	-0.014	-0.014	0.00	No	100.00	Yes
	38	x	-0.011	-0.011	0.00	No	100.00	Yes
	39	x	-0.014	-0.014	0.00	No	100.00	Yes
	42	x	-0.014	-0.014	0.00	No	100.00	Yes
W120	1	x	-0.014	-0.014	0.00	No	100.00	Yes
	4	x	-0.011	-0.011	0.00	No	100.00	Yes
	5	x	-0.011	-0.011	0.00	No	100.00	Yes
	6	x	-0.011	-0.011	0.00	No	100.00	Yes
	7	x	-0.011	-0.011	0.00	No	100.00	Yes
	8	x	-0.003	-0.003	0.00	No	100.00	Yes

	9	x	-0.003	-0.003	0.00	No	100.00	Yes
	10	x	-0.003	-0.003	0.00	No	100.00	Yes
	11	x	-0.003	-0.003	0.00	No	100.00	Yes
	12	x	-0.004	-0.004	0.00	No	100.00	Yes
	13	x	-0.004	-0.004	0.00	No	100.00	Yes
	14	x	-0.004	-0.004	0.00	No	100.00	Yes
	15	x	-0.004	-0.004	0.00	No	100.00	Yes
	16	x	-0.005	-0.005	0.00	No	100.00	Yes
	17	x	-0.005	-0.005	0.00	No	100.00	Yes
	18	x	-0.005	-0.005	0.00	No	100.00	Yes
	19	x	-0.005	-0.005	0.00	No	100.00	Yes
	22	x	-0.005	-0.005	0.00	No	100.00	Yes
	23	x	-0.005	-0.005	0.00	No	100.00	Yes
	24	x	-0.005	-0.005	0.00	No	100.00	Yes
	25	x	-0.005	-0.005	0.00	No	100.00	Yes
	26	x	-0.005	-0.005	0.00	No	100.00	Yes
	27	x	-0.005	-0.005	0.00	No	100.00	Yes
	32	x	-0.014	-0.014	0.00	No	100.00	Yes
	38	x	-0.011	-0.011	0.00	No	100.00	Yes
	39	x	-0.014	-0.014	0.00	No	100.00	Yes
	42	x	-0.014	-0.014	0.00	No	100.00	Yes
	45	x	-0.014	-0.014	0.00	No	100.00	Yes
	46	x	-0.014	-0.014	0.00	No	100.00	Yes
W150	1	z	0.014	0.014	0.00	No	100.00	Yes
	4	z	0.011	0.011	0.00	No	100.00	Yes
	5	z	0.011	0.011	0.00	No	100.00	Yes
	6	z	0.011	0.011	0.00	No	100.00	Yes
	7	z	0.011	0.011	0.00	No	100.00	Yes
	8	z	0.003	0.003	0.00	No	100.00	Yes
	9	z	0.003	0.003	0.00	No	100.00	Yes
	10	z	0.003	0.003	0.00	No	100.00	Yes
	11	z	0.003	0.003	0.00	No	100.00	Yes
	12	z	0.004	0.004	0.00	No	100.00	Yes
	13	z	0.004	0.004	0.00	No	100.00	Yes
	14	z	0.004	0.004	0.00	No	100.00	Yes
	15	z	0.004	0.004	0.00	No	100.00	Yes
	16	z	0.005	0.005	0.00	No	100.00	Yes
	17	z	0.005	0.005	0.00	No	100.00	Yes
	18	z	0.005	0.005	0.00	No	100.00	Yes
	19	z	0.005	0.005	0.00	No	100.00	Yes
	22	z	0.005	0.005	0.00	No	100.00	Yes
	23	z	0.005	0.005	0.00	No	100.00	Yes
	24	z	0.005	0.005	0.00	No	100.00	Yes
	25	z	0.005	0.005	0.00	No	100.00	Yes
	26	z	0.005	0.005	0.00	No	100.00	Yes
	27	z	0.005	0.005	0.00	No	100.00	Yes
	32	z	0.014	0.014	0.00	No	100.00	Yes
	38	z	0.011	0.011	0.00	No	100.00	Yes
	39	z	0.014	0.014	0.00	No	100.00	Yes
	42	z	0.014	0.014	0.00	No	100.00	Yes
	45	z	0.014	0.014	0.00	No	100.00	Yes
	46	z	0.014	0.014	0.00	No	100.00	Yes
Di	1	y	-0.006	-0.006	0.00	No	100.00	Yes
	4	y	-0.005	-0.005	0.00	No	100.00	Yes
	5	y	-0.005	-0.005	0.00	No	100.00	Yes
	6	y	-0.005	-0.005	0.00	No	100.00	Yes
	7	y	-0.005	-0.005	0.00	No	100.00	Yes
	8	y	-0.003	-0.003	0.00	No	100.00	Yes
	9	y	-0.003	-0.003	0.00	No	100.00	Yes
	10	y	-0.003	-0.003	0.00	No	100.00	Yes

11	y	-0.003	-0.003	0.00	No	100.00	Yes
12	y	-0.003	-0.003	0.00	No	100.00	Yes
13	y	-0.003	-0.003	0.00	No	100.00	Yes
14	y	-0.003	-0.003	0.00	No	100.00	Yes
15	y	-0.003	-0.003	0.00	No	100.00	Yes
16	y	-0.007	-0.007	0.00	No	100.00	Yes
17	y	-0.007	-0.007	0.00	No	100.00	Yes
18	y	-0.007	-0.007	0.00	No	100.00	Yes
19	y	-0.007	-0.007	0.00	No	100.00	Yes
22	y	-0.007	-0.007	0.00	No	100.00	Yes
23	y	-0.007	-0.007	0.00	No	100.00	Yes
24	y	-0.007	-0.007	0.00	No	100.00	Yes
25	y	-0.007	-0.007	0.00	No	100.00	Yes
26	y	-0.019	-0.019	0.00	No	100.00	Yes
27	y	-0.019	-0.019	0.00	No	100.00	Yes
32	y	-0.006	-0.006	0.00	No	100.00	Yes
38	y	-0.005	-0.005	0.00	No	100.00	Yes
39	y	-0.006	-0.006	0.00	No	100.00	Yes
42	y	-0.006	-0.006	0.00	No	100.00	Yes
45	y	-0.006	-0.006	0.00	No	100.00	Yes
46	y	-0.006	-0.006	0.00	No	100.00	Yes

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [ft]	%
D	1	y	-0.026	1.25	No
		y	-0.026	6.50	No
		y	-0.104	2.50	No
	32	y	-0.064	0.75	No
		y	-0.064	7.75	No
		y	-0.071	2.50	No
	39	y	-0.035	2.25	No
		y	-0.035	4.25	No
Wo	1	z	-0.198	1.25	No
		z	-0.198	6.50	No
		z	-0.028	2.50	No
	32	z	-0.486	0.75	No
		z	-0.486	7.75	No
	39	z	-0.138	2.25	No
		z	-0.138	4.25	No
W30	1	3	-0.174	1.25	No
		3	-0.174	6.50	No
		3	-0.059	2.50	No
	32	3	-0.418	0.75	No
		3	-0.418	7.75	No
		3	-0.053	2.50	No
	39	3	-0.118	2.25	No
		3	-0.118	4.25	No
W60	1	3	-0.125	1.25	No

		3	-0.125	6.50	No
		3	-0.08	2.50	No
	32	3	-0.282	0.75	No
		3	-0.282	7.75	No
		3	-0.069	2.50	No
	39	3	-0.079	2.25	No
		3	-0.079	4.25	No
W90	1	x	-0.10	1.25	No
		x	-0.10	6.50	No
		x	-0.081	2.50	No
	32	x	-0.214	0.75	No
		x	-0.214	7.75	No
		x	-0.068	2.50	No
	39	x	-0.059	2.25	No
		x	-0.059	4.25	No
W120	1	2	-0.125	1.25	No
		2	-0.125	6.50	No
		2	-0.08	2.50	No
	32	2	-0.282	0.75	No
		2	-0.282	7.75	No
		2	-0.069	2.50	No
	39	2	-0.079	2.25	No
		2	-0.079	4.25	No
W150	1	2	-0.174	1.25	No
		2	-0.174	6.50	No
		2	-0.059	2.50	No
	32	2	-0.418	0.75	No
		2	-0.418	7.75	No
		2	-0.053	2.50	No
	39	2	-0.118	2.25	No
		2	-0.118	4.25	No
Di	1	y	-0.065	1.25	No
		y	-0.065	6.50	No
		y	-0.044	2.50	No
	32	y	-0.162	0.75	No
		y	-0.162	7.75	No
		y	-0.04	2.50	No
	39	y	-0.05	2.25	No
		y	-0.05	4.25	No
WI0	1	z	-0.044	1.25	No
		z	-0.044	6.50	No
		z	-0.009	2.50	No
	32	z	-0.096	0.75	No
		z	-0.096	7.75	No
		z	-0.004	2.50	No
	39	z	-0.029	2.25	No
		z	-0.029	4.25	No
WI30	1	3	-0.038	1.25	No
		3	-0.038	6.50	No
		3	-0.014	2.50	No
	32	3	-0.083	0.75	No
		3	-0.083	7.75	No
		3	-0.013	2.50	No
	39	3	-0.025	2.25	No
		3	-0.025	4.25	No
WI60	1	3	-0.029	1.25	No
		3	-0.029	6.50	No
		3	-0.019	2.50	No
	32	3	-0.059	0.75	No
		3	-0.059	7.75	No

		3	-0.017	2.50	No
	39	3	-0.018	2.25	No
		3	-0.018	4.25	No
WI90	1	x	-0.025	1.25	No
		x	-0.025	6.50	No
		x	-0.019	2.50	No
	32	x	-0.047	0.75	No
		x	-0.047	7.75	No
		x	-0.017	2.50	No
	39	x	-0.014	2.25	No
		x	-0.014	4.25	No
WI120	1	2	-0.029	1.25	No
		2	-0.029	6.50	No
		2	-0.019	2.50	No
	32	2	-0.059	0.75	No
		2	-0.059	7.75	No
		2	-0.017	2.50	No
	39	2	-0.018	2.25	No
		2	-0.018	4.25	No
WI150	1	2	-0.038	1.25	No
		2	-0.038	6.50	No
		2	-0.014	2.50	No
	32	2	-0.083	0.75	No
		2	-0.083	7.75	No
		2	-0.013	2.50	No
	39	2	-0.025	2.25	No
		2	-0.025	4.25	No
WL0	1	z	-0.013	1.25	No
		z	-0.013	6.50	No
		z	-0.002	2.50	No
	32	z	-0.031	0.75	No
		z	-0.031	7.75	No
	39	z	-0.009	2.25	No
		z	-0.009	4.25	No
WL30	1	3	-0.011	1.25	No
		3	-0.011	6.50	No
		3	-0.004	2.50	No
	32	3	-0.026	0.75	No
		3	-0.026	7.75	No
		3	-0.003	2.50	No
	39	3	-0.008	2.25	No
		3	-0.008	4.25	No
WL60	1	3	-0.008	1.25	No
		3	-0.008	6.50	No
		3	-0.005	2.50	No
	32	3	-0.018	0.75	No
		3	-0.018	7.75	No
		3	-0.004	2.50	No
	39	3	-0.005	2.25	No
		3	-0.005	4.25	No
WL90	1	x	-0.006	1.25	No
		x	-0.006	6.50	No
		x	-0.005	2.50	No
	32	x	-0.014	0.75	No
		x	-0.014	7.75	No
		x	-0.004	2.50	No
	39	x	-0.004	2.25	No
		x	-0.004	4.25	No
WL120	1	2	-0.008	1.25	No
		2	-0.008	6.50	No

		2	-0.005	2.50	No
	32	2	-0.018	0.75	No
		2	-0.018	7.75	No
		2	-0.004	2.50	No
	39	2	-0.005	2.25	No
		2	-0.005	4.25	No
WL150	1	2	-0.011	1.25	No
		2	-0.011	6.50	No
		2	-0.004	2.50	No
	32	2	-0.026	0.75	No
		2	-0.026	7.75	No
		2	-0.003	2.50	No
	39	2	-0.008	2.25	No
		2	-0.008	4.25	No
LL1	45	y	-0.25	50.00	Yes
LL2	45	y	-0.25	100.00	Yes
LL3	45	y	-0.25	0.00	Yes
LLa1	1	y	-0.50	50.00	Yes
LLa2	39	y	-0.50	50.00	Yes
LLa3	42	y	-0.50	50.00	Yes
LLa4	32	y	-0.50	50.00	Yes

Self weight multipliers for load conditions

Condition	Description	Self weight multiplier			
		Comb.	MultX	MultY	MultZ
D	Dead Load	No	0.00	-1.00	0.00
Wo	Wind Load (NO ICE)	No	0.00	0.00	0.00
W30	WL 30deg	No	0.00	0.00	0.00
W60	WL 60deg	No	0.00	0.00	0.00
W90	WL 90deg	No	0.00	0.00	0.00
W120	WL 120deg	No	0.00	0.00	0.00
W150	WL 150deg	No	0.00	0.00	0.00
Di	Ice Load	No	0.00	0.00	0.00
WI0	WL ICE 0deg	No	0.00	0.00	0.00
WI30	WL ICE 30deg	No	0.00	0.00	0.00
WI60	WL ICE 60deg	No	0.00	0.00	0.00
WI90	WL ICE 90deg	No	0.00	0.00	0.00
WI120	WL ICE 120deg	No	0.00	0.00	0.00
WI150	WL ICE 150deg	No	0.00	0.00	0.00
WL0	WL 30 mph 0deg	No	0.00	0.00	0.00
WL30	WL 30 mph 30deg	No	0.00	0.00	0.00
WL60	WL 30 mph 60deg	No	0.00	0.00	0.00
WL90	WL 30 mph 90deg	No	0.00	0.00	0.00
WL120	WL 30 mph 120deg	No	0.00	0.00	0.00
WL150	WL 30 mph 150deg	No	0.00	0.00	0.00
LL1	250 lb Live Load Center of Mount	No	0.00	0.00	0.00
LL2	250 lb Live Load Right End of Mount	No	0.00	0.00	0.00
LL3	250 lb Live Load Left End of Mount	No	0.00	0.00	0.00
LLa1	500 lb Live Load Antenna 1	No	0.00	0.00	0.00
LLa2	500 lb Live Load Antenna 2	No	0.00	0.00	0.00
LLa3	500 lb Live Load Antenna 3	No	0.00	0.00	0.00
LLa4	500 lb Live Load Antenna 4	No	0.00	0.00	0.00

RAM® Elements
CONNECT Edition

Current Date: 10/10/2024 11:35 AM
Units system: English

Steel Code Check

Report: Summary - Group by member

Load conditions to be included in design :

LC1=1.2D+Wo
LC2=1.2D+W30
LC3=1.2D+W60
LC4=1.2D+W90
LC5=1.2D+W120
LC6=1.2D+W150
LC7=1.2D-Wo
LC8=1.2D-W30
LC9=1.2D-W60
LC10=1.2D-W90
LC11=1.2D-W120
LC12=1.2D-W150
LC13=0.9D+Wo
LC14=0.9D+W30
LC15=0.9D+W60
LC16=0.9D+W90
LC17=0.9D+W120
LC18=0.9D+W150
LC19=0.9D-Wo
LC20=0.9D-W30
LC21=0.9D-W60
LC22=0.9D-W90
LC23=0.9D-W120
LC24=0.9D-W150
LC25=1.2D+Di+WI0
LC26=1.2D+Di+WI30
LC27=1.2D+Di+WI60
LC28=1.2D+Di+WI90
LC29=1.2D+Di+WI120
LC30=1.2D+Di+WI150
LC31=1.2D+Di-WI0
LC32=1.2D+Di-WI30
LC33=1.2D+Di-WI60
LC34=1.2D+Di-WI90
LC35=1.2D+Di-WI120
LC36=1.2D+Di-WI150
LC37=1.2D+1.6LL1
LC38=1.2D+1.6LL2
LC39=1.2D+1.6LL3
LC40=1.2D+WL0+1.6LLa1
LC41=1.2D+WL30+1.6LLa1
LC42=1.2D+WL60+1.6LLa1
LC43=1.2D+WL90+1.6LLa1
LC44=1.2D+WL120+1.6LLa1
LC45=1.2D+WL150+1.6LLa1
LC46=1.2D-WL0+1.6LLa1
LC47=1.2D-WL30+1.6LLa1
LC48=1.2D-WL60+1.6LLa1
LC49=1.2D-WL90+1.6LLa1
LC50=1.2D-WL120+1.6LLa1
LC51=1.2D-WL150+1.6LLa1
LC52=1.2D+WL0+1.6LLa2
LC53=1.2D+WL30+1.6LLa2
LC54=1.2D+WL60+1.6LLa2

LC55=1.2D+WL90+1.6LLa2
LC56=1.2D+WL120+1.6LLa2
LC57=1.2D+WL150+1.6LLa2
LC58=1.2D-WL0+1.6LLa2
LC59=1.2D-WL30+1.6LLa2
LC60=1.2D-WL60+1.6LLa2
LC61=1.2D-WL90+1.6LLa2
LC62=1.2D-WL120+1.6LLa2
LC63=1.2D-WL150+1.6LLa2
LC64=1.2D+WL0+1.6LLa3
LC65=1.2D+WL30+1.6LLa3
LC66=1.2D+WL60+1.6LLa3
LC67=1.2D+WL90+1.6LLa3
LC68=1.2D+WL120+1.6LLa3
LC69=1.2D+WL150+1.6LLa3
LC70=1.2D-WL0+1.6LLa3
LC71=1.2D-WL30+1.6LLa3
LC72=1.2D-WL60+1.6LLa3
LC73=1.2D-WL90+1.6LLa3
LC74=1.2D-WL120+1.6LLa3
LC75=1.2D-WL150+1.6LLa3
LC76=1.2D+WL0+1.6LLa4
LC77=1.2D+WL30+1.6LLa4
LC78=1.2D+WL60+1.6LLa4
LC79=1.2D+WL90+1.6LLa4
LC80=1.2D+WL120+1.6LLa4
LC81=1.2D+WL150+1.6LLa4
LC82=1.2D-WL0+1.6LLa4
LC83=1.2D-WL30+1.6LLa4
LC84=1.2D-WL60+1.6LLa4
LC85=1.2D-WL90+1.6LLa4
LC86=1.2D-WL120+1.6LLa4
LC87=1.2D-WL150+1.6LLa4

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	PIPE 2-1_2x0.203	**1**	LC47 at 33.33%	0.38	OK	
		32	LC7 at 31.25%	0.46	OK	
		39	LC47 at 33.33%	0.25	OK	
		42	LC76 at 33.33%	0.25	OK	
		45	LC7 at 32.81%	**0.84**	**OK**	
		46	LC7 at 32.14%	0.63	OK	
	PIPE 2x0.154	**4**	LC7 at 93.75%	0.38	OK	
		5	LC76 at 93.75%	0.24	OK	
		6	LC1 at 93.75%	0.26	OK	
		7	LC8 at 100.00%	**0.39**	**OK**	
		38	LC9 at 50.00%	0.13	OK	
	PL 11-1/4x5/8	**26**	LC32 at 100.00%	**0.20**	**OK**	
		27	LC32 at 100.00%	0.11	OK	
	PL 3-1/2x5/8	**16**	LC82 at 100.00%	0.35	OK	
		17	LC47 at 100.00%	0.35	OK	
		18	LC41 at 100.00%	0.43	OK	
		19	LC82 at 100.00%	0.44	OK	
		22	LC82 at 100.00%	**0.55**	**OK**	
		23	LC47 at 0.00%	0.55	OK	
		24	LC82 at 100.00%	0.53	OK	
		25	LC45 at 0.00%	0.52	OK	
	RndBar 3_4	**12**	LC47 at 0.00%	0.28	OK	
		13	LC40 at 0.00%	**0.30**	**With warnings**	
		14	LC81 at 100.00%	0.28	OK	
		15	LC76 at 100.00%	0.29	With warnings	

RndBar 5_8	**8**	LC76 at 87.50%	0.52	OK
	9	LC82 at 87.50%	**0.53**	**OK**
	10	LC40 at 87.50%	0.53	OK
	11	LC40 at 87.50%	0.53	OK

RAM® Elements
CONNECT Edition

Current Date: 10/10/2024 11:35 AM
Units system: English

Geometry data

GLOSSARY

Cb22, Cb33	: Moment gradient coefficients
Cm22, Cm33	: Coefficients applied to bending term in interaction formula
d0	: Tapered member section depth at J end of member
DJX	: Rigid end offset distance measured from J node in axis X
DJY	: Rigid end offset distance measured from J node in axis Y
DJZ	: Rigid end offset distance measured from J node in axis Z
DKX	: Rigid end offset distance measured from K node in axis X
DKY	: Rigid end offset distance measured from K node in axis Y
DKZ	: Rigid end offset distance measured from K node in axis Z
dL	: Tapered member section depth at K end of member
Ig factor	: Inertia reduction factor (Effective Inertia/Gross Inertia) for reinforced concrete members
K22	: Effective length factor about axis 2
K33	: Effective length factor about axis 3
L22	: Member length for calculation of axial capacity
L33	: Member length for calculation of axial capacity
LB pos	: Lateral unbraced length of the compression flange in the positive side of local axis 2
LB neg	: Lateral unbraced length of the compression flange in the negative side of local axis 2
RX	: Rotation about X
RY	: Rotation about Y
RZ	: Rotation about Z
TO	: 1 = Tension only member 0 = Normal member
TX	: Translation in X
TY	: Translation in Y
TZ	: Translation in Z

Nodes

Node	X [ft]	Y [ft]	Z [ft]	Rigid Floor
1	0.00	0.00	2.00	0
2	-0.6362	0.00	2.4783	0
3	0.00	-3.3333	2.00	0
4	-0.6362	-3.3333	2.4783	0
5	0.6362	-3.3333	2.4783	0
6	0.6362	0.00	2.4783	0
7	6.75	-6.6667	4.83	0
8	6.75	3.3333	4.83	0
9	-6.75	0.00	4.63	0
10	6.75	0.00	4.63	0
11	-6.75	-3.3333	4.63	0
12	6.75	-3.3333	4.63	0
13	-2.4126	0.00	4.2374	0
14	-2.4126	-3.3333	4.2374	0
15	2.4126	-3.3333	4.2374	0
16	2.4126	0.00	4.2374	0
17	-2.2835	0.00	4.1096	0
18	-2.2835	-3.3333	4.1096	0
19	-0.7653	0.00	2.6062	0
20	-0.7653	-3.3333	2.6062	0
21	0.7653	0.00	2.6062	0
22	0.7653	-3.3333	2.6062	0
23	2.2835	0.00	4.1096	0

24	2.2835	-3.3333	4.1096	0
25	-2.4792	0.00	4.63	0
26	2.4792	0.00	4.63	0
27	2.4792	-3.3333	4.63	0
28	-2.4792	-3.3333	4.63	0
29	6.75	0.00	4.83	0
30	6.75	-3.3333	4.83	0
31	0.00	0.00	2.4783	0
32	0.00	-3.3333	2.4783	0
41	-6.75	-6.6667	4.83	0
42	-6.75	3.3333	4.83	0
43	-6.75	0.00	4.83	0
44	-6.75	-3.3333	4.83	0
51	3.50	0.00	4.63	0
52	2.00	0.00	-3.50	0
53	2.75	-6.6667	4.83	0
54	2.75	3.3333	4.83	0
55	2.75	0.00	4.63	0
56	2.75	-3.3333	4.63	0
57	2.75	0.00	4.83	0
58	2.75	-3.3333	4.83	0
59	-2.75	-6.6667	4.83	0
60	-2.75	3.3333	4.83	0
61	-2.75	0.00	4.63	0
62	-2.75	-3.3333	4.63	0
63	-2.75	0.00	4.83	0
64	-2.75	-3.3333	4.83	0
65	7.25	0.00	4.63	0
66	-7.25	0.00	4.63	0
67	-7.25	-3.3333	4.63	0
68	7.25	-3.3333	4.63	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
1	1	1	1	1	0	1
3	1	1	1	1	0	1
52	1	1	1	0	0	0

Members

Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	lg factor
1	8	7		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
4	13	2		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
5	14	4		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
6	15	5		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
7	16	6		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
8	17	18		RndBar 5_8	A36	0.00	0.00	0.00
9	19	20		RndBar 5_8	A36	0.00	0.00	0.00
10	21	22		RndBar 5_8	A36	0.00	0.00	0.00

11	23	24	RndBar 5_8	A36	0.00	0.00	0.00
12	21	24	RndBar 3_4	A36	0.00	0.00	0.00
13	22	23	RndBar 3_4	A36	0.00	0.00	0.00
14	18	19	RndBar 3_4	A36	0.00	0.00	0.00
15	17	20	RndBar 3_4	A36	0.00	0.00	0.00
16	13	25	PL 3-1/2x5/8	A36	0.00	0.00	0.00
17	16	26	PL 3-1/2x5/8	A36	0.00	0.00	0.00
18	15	27	PL 3-1/2x5/8	A36	0.00	0.00	0.00
19	14	28	PL 3-1/2x5/8	A36	0.00	0.00	0.00
22	2	31	PL 3-1/2x5/8	A36	0.00	0.00	0.00
23	31	6	PL 3-1/2x5/8	A36	0.00	0.00	0.00
24	4	32	PL 3-1/2x5/8	A36	0.00	0.00	0.00
25	32	5	PL 3-1/2x5/8	A36	0.00	0.00	0.00
26	31	1	PL 11-1/4x5/8	A36	11.25	9.25	0.00
27	32	3	PL 11-1/4x5/8	A36	11.25	9.25	0.00
32	42	41	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
38	52	51	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
39	54	53	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
42	60	59	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
45	66	65	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
46	67	68	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00

Orientation of local axes

Member	Rotation [Deg]	Axes23	NX	NY	NZ
1	315.00	0	0.00	0.00	0.00
8	0.00	2	0.00	0.00	1.00
9	0.00	2	0.00	0.00	1.00
10	0.00	2	0.00	0.00	1.00
11	0.00	2	0.00	0.00	1.00
16	90.00	0	0.00	0.00	0.00
17	90.00	0	0.00	0.00	0.00
18	90.00	0	0.00	0.00	0.00
19	90.00	0	0.00	0.00	0.00
22	90.00	0	0.00	0.00	0.00
23	90.00	0	0.00	0.00	0.00
24	90.00	0	0.00	0.00	0.00
25	90.00	0	0.00	0.00	0.00
26	90.00	0	0.00	0.00	0.00
27	90.00	0	0.00	0.00	0.00
32	315.00	0	0.00	0.00	0.00
39	315.00	0	0.00	0.00	0.00
42	315.00	0	0.00	0.00	0.00

Rigid end offsets

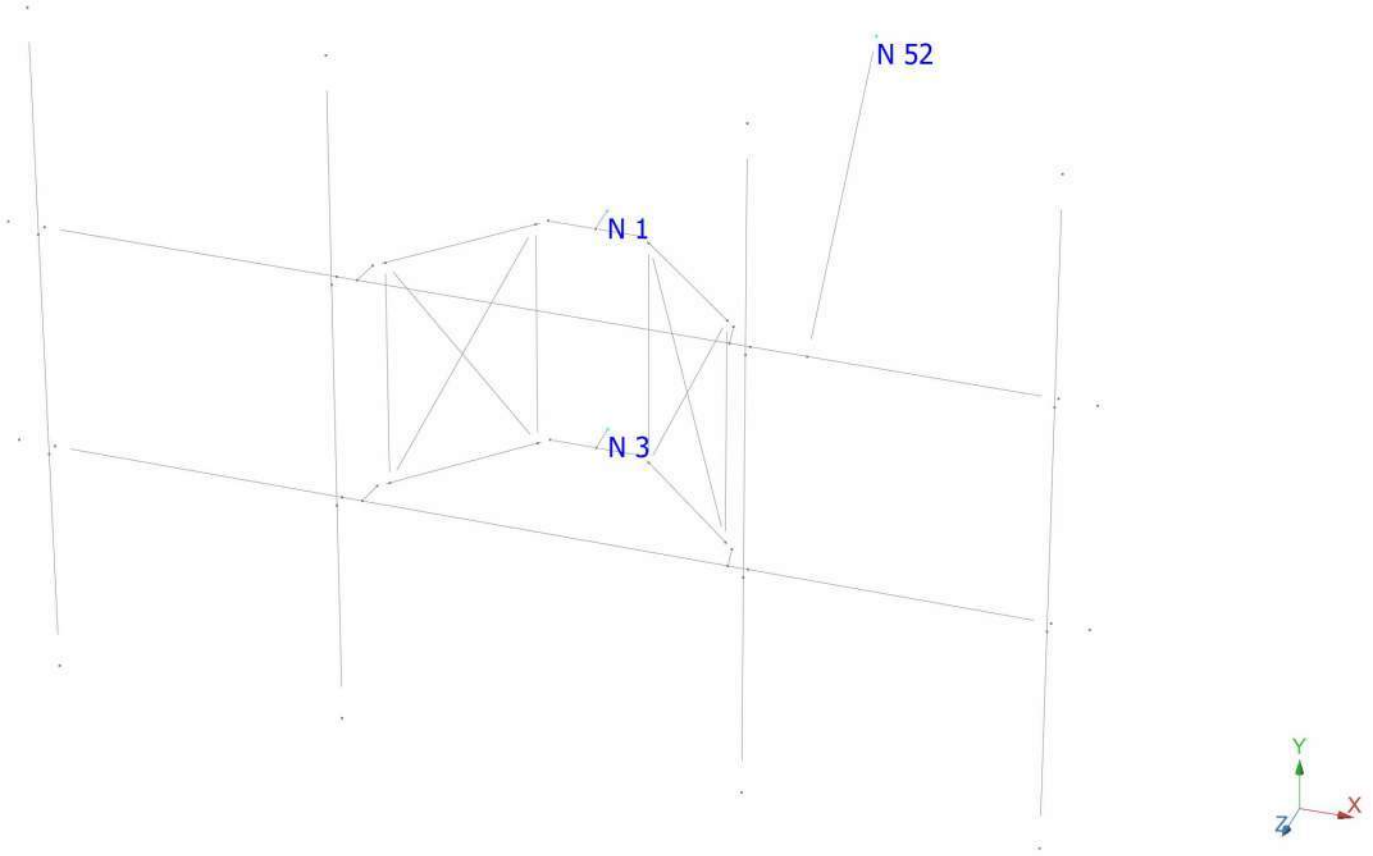
Member	DJX [in]	DJY [in]	DJZ [in]	DKX [in]	DKY [in]	DKZ [in]
12	0.00	-3.50	0.00	0.00	3.50	0.00
13	0.00	3.50	0.00	0.00	-3.50	0.00
14	0.00	3.50	0.00	0.00	-3.50	0.00
15	0.00	-3.50	0.00	0.00	3.50	0.00
26	0.00	-0.625	0.00	0.00	-0.625	0.00
27	0.00	-0.625	0.00	0.00	-0.625	0.00

Hinges

Member	Node-J				Node-K				TOR	AXL	Axial rigidity
	M33	M22	V3	V2	M33	M22	V3	V2			
13	0	0	0	0	0	0	0	0	0	0	Tension only
15	0	0	0	0	0	0	0	0	0	0	Tension only
16	1	1	0	0	0	0	0	0	0	0	Full
17	1	1	0	0	0	0	0	0	0	0	Full
18	1	1	0	0	0	0	0	0	0	0	Full
19	1	1	0	0	0	0	0	0	0	0	Full
38	0	0	0	0	1	1	0	0	0	0	Full

(TEP OPCO, LLC)

Connection Calculations


N 52
N 1
N 3
Y
X
Z

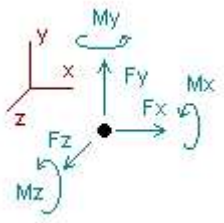
RAM® Elements
CONNECT Edition

Current Date: 10/10/2024 11:35 AM
Units system: English

Analysis result

Envelope for nodal reactions

Note.- **Ic** is the controlling load condition



Direction of positive forces and moments

Envelope of nodal reactions for :

LC1=1.2D+Wo
LC2=1.2D+W30
LC3=1.2D+W60
LC4=1.2D+W90
LC5=1.2D+W120
LC6=1.2D+W150
LC7=1.2D-Wo
LC8=1.2D-W30
LC9=1.2D-W60
LC10=1.2D-W90
LC11=1.2D-W120
LC12=1.2D-W150
LC13=0.9D+Wo
LC14=0.9D+W30
LC15=0.9D+W60
LC16=0.9D+W90
LC17=0.9D+W120
LC18=0.9D+W150
LC19=0.9D-Wo
LC20=0.9D-W30
LC21=0.9D-W60
LC22=0.9D-W90
LC23=0.9D-W120
LC24=0.9D-W150
LC25=1.2D+Di+WI0
LC26=1.2D+Di+WI30
LC27=1.2D+Di+WI60
LC28=1.2D+Di+WI90
LC29=1.2D+Di+WI120
LC30=1.2D+Di+WI150
LC31=1.2D+Di-WI0
LC32=1.2D+Di-WI30
LC33=1.2D+Di-WI60
LC34=1.2D+Di-WI90
LC35=1.2D+Di-WI120
LC36=1.2D+Di-WI150
LC37=1.2D+1.6LL1
LC38=1.2D+1.6LL2
LC39=1.2D+1.6LL3
LC40=1.2D+WL0+1.6LLa1
LC41=1.2D+WL30+1.6LLa1
LC42=1.2D+WL60+1.6LLa1

LC43=1.2D+WL90+1.6LLa1
LC44=1.2D+WL120+1.6LLa1
LC45=1.2D+WL150+1.6LLa1
LC46=1.2D-WL0+1.6LLa1
LC47=1.2D-WL30+1.6LLa1
LC48=1.2D-WL60+1.6LLa1
LC49=1.2D-WL90+1.6LLa1
LC50=1.2D-WL120+1.6LLa1
LC51=1.2D-WL150+1.6LLa1
LC52=1.2D+WL0+1.6LLa2
LC53=1.2D+WL30+1.6LLa2
LC54=1.2D+WL60+1.6LLa2
LC55=1.2D+WL90+1.6LLa2
LC56=1.2D+WL120+1.6LLa2
LC57=1.2D+WL150+1.6LLa2
LC58=1.2D-WL0+1.6LLa2
LC59=1.2D-WL30+1.6LLa2
LC60=1.2D-WL60+1.6LLa2
LC61=1.2D-WL90+1.6LLa2
LC62=1.2D-WL120+1.6LLa2
LC63=1.2D-WL150+1.6LLa2
LC64=1.2D+WL0+1.6LLa3
LC65=1.2D+WL30+1.6LLa3
LC66=1.2D+WL60+1.6LLa3
LC67=1.2D+WL90+1.6LLa3
LC68=1.2D+WL120+1.6LLa3
LC69=1.2D+WL150+1.6LLa3
LC70=1.2D-WL0+1.6LLa3
LC71=1.2D-WL30+1.6LLa3
LC72=1.2D-WL60+1.6LLa3
LC73=1.2D-WL90+1.6LLa3
LC74=1.2D-WL120+1.6LLa3
LC75=1.2D-WL150+1.6LLa3
LC76=1.2D+WL0+1.6LLa4
LC77=1.2D+WL30+1.6LLa4
LC78=1.2D+WL60+1.6LLa4
LC79=1.2D+WL90+1.6LLa4
LC80=1.2D+WL120+1.6LLa4
LC81=1.2D+WL150+1.6LLa4
LC82=1.2D-WL0+1.6LLa4
LC83=1.2D-WL30+1.6LLa4
LC84=1.2D-WL60+1.6LLa4
LC85=1.2D-WL90+1.6LLa4
LC86=1.2D-WL120+1.6LLa4
LC87=1.2D-WL150+1.6LLa4

		Forces						Moments					
Node		**Fx** [Kip]	**lc**	**Fy** [Kip]	**lc**	**Fz** [Kip]	**lc**	**Mx** [Kip*ft]	**lc**	**My** [Kip*ft]	**lc**	**Mz** [Kip*ft]	**lc**
1	Max	1.542	LC77	1.209	LC26	2.542	LC14	-0.08297	LC20	0.00000	LC1	0.28383	LC41
	Min	-1.509	LC47	0.438	LC20	-3.893	LC8	-0.38729	LC26	0.00000	LC1	-0.28505	LC83
3	Max	1.444	LC45	0.889	LC32	1.589	LC1	-0.12330	LC15	0.00000	LC1	0.29839	LC40
	Min	-1.478	LC87	0.311	LC14	-0.268	LC19	-0.33867	LC32	0.00000	LC1	-0.30123	LC82
52	Max	0.304	LC8	0.038	LC26	1.784	LC9	0.00000	LC1	0.00000	LC1	0.00000	LC1
	Min	-0.294	LC2	0.012	LC21	-1.759	LC3	0.00000	LC1	0.00000	LC1	0.00000	LC1

Date: 10/10/2024
Project Name: BROOKFIELD/JUNCTION RD.
Project No.: CT11196A
Designed By: KM **Checked By:** MSC

CHECK THREADED ROD CONNECTION CAPACITY → EXISTING ANCHORS

Reference: AISC Steel Construction Manual 14th Edition (ASD)

Bolt Type = A36 5/8" Threaded Rod

Allowable Tensile Load =

F_{Tall} = 6673 lbs.

Allowable Shear Load =

F_{vall} = 4004 lbs.

CONNECTION PLATE CONFIGURATION (4-ROD)

$N_{ROD\ ROWS}$	=	2	rows	d_Y	=	3.5 in	(Min.)
N_{RODS}	=	2	rods/row	d_X	=	9.5 in	(Min.)

TENSILE FORCES

Moment in X axis:	387 lb-ft.	(See Bentley Output)	
Couple Reaction from M_X:	1327 lbs.		
Moment in Y axis:	0 lb-ft.	(See Bentley Output)	
Couple Reaction from M_Y:	0 lbs.		
Reaction in Z direction:	3893 lbs.	(See Bentley Output)	
Resultant per rod:	1637 lbs.		

SHEAR FORCES

Moment in Z axis:	285 lb-ft.	(See Bentley Output)	
Couple Reaction from M_Z:	360 lbs.		
Reaction in X direction:	1542 lbs.	(See Bentley Output)	
Reaction in Y direction:	1209 lbs.	(See Bentley Output)	
Resultant per rod:	670 lbs.		

Tension Design Load / Rods =

f_t= 1636.75 lbs. < 6672.8 lbs. **Therefore, OK !**

Shear Design Load / Rods =

f_v= 669.86 lbs. < 4003.7 lbs. **Therefore, OK !**

CHECK COMBINED TENSION AND SHEAR

f_t / F_T	+	f_v / F_V	≤	1.0			
0.245	+	0.167	=	0.413	<	1.0	**Therefore, OK !**

CENTERLINE

EXHIBIT G

Power Density/RF Emissions Report

Radio Frequency Exposure Analysis Report

December 12, 2024

T-Mobile

Site Name: Brookfield/Junction Rd.
Site ID: CT11196A
Site Address: 37 Carmen Hill Road, Brookfield, CT 06804

Michael Fischer, P.E.
Registered Professional Engineer (Electrical)
Connecticut License Number 33928
Expires January 31, 2025

Signed 12 December 2024

Site Compliance Summary

T-Mobile Compliance Status:	Compliant
Cumulative Calculated Power Density (Ground Level):	0.93004 µW/cm^2
Cumulative General Population % MPE (Ground Level):	0.22131%

December 12, 2024

T-Mobile
Attn: Adam Sullivan
15 Commerce Way, Suite B
Norton, MA 02379

RF Exposure Analysis for Site: **Brookfield/Junction Rd.**

Centerline was contracted to analyze the proposed T-Mobile facility at **37 Carmen Hill Road, Brookfield, CT 06804** for the purpose of determining whether the predictive exposure from the proposed facility is within specified federal limits.

All information used in this report was analyzed as a percentage of the Maximum Permissible Exposure (% MPE) limits as detailed in 47 CFR § 1.1310 as well as Federal Communications Commission (FCC) OET Bulletin 65 Edition 97-01. The FCC MPE limits are typically expressed in units of milliwatts per square centimeter (mW/cm^2) or microwatts per square centimeter ($\mu W/cm^2$). The exposure limits vary depending upon the frequencies being utilized. The General Population/Uncontrolled MPE limit (in mW/cm^2) for frequencies between 300 and 1500 is defined as frequency (in MHz) divided by 1500 ($f_{MHz}/1500$). Frequencies between 1500 and 100,000 MHz have a General Population/Uncontrolled MPE limit of 1 mW/cm^2 (1000 $\mu W/cm^2$). The calculated power density at each sample point divided by the limit at each calculated frequency provides a result in % MPE. Summing the calculated % MPE from all contributors provides a cumulative % MPE at a particular sample point. Wireless carriers use different frequency bands with varying MPE limits; therefore, it is useful to report results in terms of % MPE as opposed to power density.

All results were compared to the FCC radio frequency exposure rules as detailed in 47 CFR § 1.1307(b) to determine compliance with the MPE limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general population may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general population would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/ controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits, as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means. Additional details can be found in FCC OET 65.

Calculation Methodology

Centerline has performed theoretical modeling of the site using a software tool, RoofMaster®, which incorporates calculation methodologies detailed in FCC OET 65. RoofMaster® uses a cylindrical model for conservative power density predictions within the near field of the antenna where the antenna pattern has not truly formed yet. Within this area power density values tend to decrease based upon an inverse distance function. At the point where it is appropriate for modeling to change from near-field calculations to far-field calculations, the power decreases inversely with the square of the distance. The modeling is based on worst-case assumptions in terms of transmitter power and duty cycle. No losses were included in the power calculations unless they were specifically provided for the project.

In OET 65, a far field model is presented to calculate the spatial peak power density. The RoofMaster® implementation of this model incorporates antenna manufacturer's horizontal and vertical pattern data to determine the power density in all directions. This model yields the power density at a single point in space. In order to determine the spatial power density for comparison to the FCC limits, the average of several points calculated within the human profile (0-6') must be conducted. RoofMaster® calculates seven power density values between 0-6' above the specified study plane and performs a linear spatial average.

Data & Results

The following table details the antennas and operating parameters for the T-Mobile antenna system as well as any other antenna systems at the site. This is based on antenna information provided by the client and data compiled from other sources where necessary. The data below was input into Roofmaster® to perform the theoretical exposure calculations at ground level.

The theoretical calculations performed in Roofmaster® determine the cumulative exposure at all sample points at ground level (0-6' spatial average). The results from highest cumulative sample point at ground level surrounding the site are displayed in the table below. The contribution from directional antennas to the maximum cumulative totals varies greatly depending on location; therefore, the contribution from one antenna sector at the highest calculated exposure point may be greater or less than other sectors since sectorized directional antennas are pointed in different directions and there is not much overlapping exposure.

The contribution to the cumulative power density and % MPE for each antenna/frequency band is listed in the table(s) below. The cumulative power density and cumulative % MPE are displayed at the bottom of the table(s) below.

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Maximum Calculated Cumulative Power Density (Location: approximately 11' north of site)

Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/ Channel (watts)	ERP (watts)	Calculated Power Density (μW/cm²)	General Population MPE Limit (μW/cm²)	General Population % MPE
T-Mobile A 1	RFS APXVLL19P_43-C-A20	1900	16.24	280.00	4.00	80.00	13463.25	0.04384	1000.00	0.00438
T-Mobile A 1	RFS APXVLL19P_43-C-A20	2100	17.33	280.00	4.00	60.00	12978.10	0.03294	1000.00	0.00329
T-Mobile A 2	ERICSSON SON_AIR6419	2500	15.55	280.00	2.00	40.00	2153.53	0.01097	1000.00	0.00110
T-Mobile A 2	ERICSSON SON_AIR6419	2500	22.05	280.00	2.00	120.00	28858.42	0.15422	1000.00	0.01542
T-Mobile A 3	RFS APXVAARR24_43-U-NA20	700	13.17	280.00	4.00	40.00	3319.86	0.01857	466.67	0.00398
T-Mobile A 3	RFS APXVAARR24_43-U-NA20	600	13.09	280.00	4.00	40.00	3259.27	0.01656	400.00	0.00414
T-Mobile B 4	RFS APXVLL19P_43-C-A20	1900	16.24	280.00	4.00	80.00	13463.25	0.00012	1000.00	0.00001
T-Mobile B 4	RFS APXVLL19P_43-C-A20	2100	17.33	280.00	4.00	60.00	12978.10	0.00004	1000.00	0.00000
T-Mobile B 5	ERICSSON SON_AIR6419	2500	15.55	280.00	2.00	40.00	2153.53	0.00002	1000.00	0.00000
T-Mobile B 5	ERICSSON SON_AIR6419	2500	22.05	280.00	2.00	120.00	28858.42	0.00146	1000.00	0.00015
T-Mobile B 6	RFS APXVAARR24_43-U-NA20	700	13.17	280.00	4.00	40.00	3319.86	0.00003	466.67	0.00001
T-Mobile B 6	RFS APXVAARR24_43-U-NA20	600	13.09	280.00	4.00	40.00	3259.27	0.00004	400.00	0.00001
T-Mobile C 7	RFS APXVLL19P_43-C-A20	1900	16.24	280.00	4.00	40.00	6731.63	0.00005	1000.00	0.00001
T-Mobile C 7	RFS APXVLL19P_43-C-A20	1900	16.24	280.00	4.00	40.00	6731.63	0.00005	1000.00	0.00001
T-Mobile C 7	RFS APXVLL19P_43-C-A20	2100	17.33	280.00	4.00	60.00	12978.10	0.00005	1000.00	0.00001
T-Mobile C 8	ERICSSON SON_AIR6419	2500	15.55	280.00	2.00	40.00	2153.53	0.00002	1000.00	0.00000
T-Mobile C 8	ERICSSON SON_AIR6419	2500	22.05	280.00	2.00	120.00	28858.42	0.00247	1000.00	0.00025
T-Mobile C 9	RFS APXVAARR24_43-U-NA20	700	13.17	280.00	4.00	40.00	3319.86	0.00018	466.67	0.00004
T-Mobile C 9	RFS APXVAARR24_43-U-NA20	600	13.09	280.00	4.00	40.00	3259.27	0.00005	400.00	0.00001
AT&T A 10	CCI HPA65R-BU8A	700	15.30	165.00	2.00	40.00	2710.75	0.02603	466.67	0.00558
AT&T A 10	CCI HPA65R-BU8A	2300	16.40	165.00	4.00	25.00	4365.16	0.03595	1000.00	0.00360
AT&T A 11	CCI TPA65R-BU8D	700	13.05	165.00	4.00	40.00	807.35	0.05583	466.67	0.01196
AT&T A 11	CCI TPA65R-BU8D	850	13.15	165.00	4.00	40.00	826.15	0.05015	566.67	0.00885
AT&T A 12	CCI TPA65R-BU8D	1900	14.35	165.00	4.00	40.00	1089.08	0.05430	1000.00	0.00543
AT&T A 12	CCI TPA65R-BU8D	2100	15.25	165.00	4.00	40.00	1339.86	0.05418	1000.00	0.00542
AT&T B 13	CCI HPA65R-BU8A	700	15.30	165.00	2.00	40.00	1355.38	0.00007	466.67	0.00002
AT&T B 13	CCI HPA65R-BU8A	2300	16.40	165.00	4.00	25.00	1091.29	0.00001	1000.00	0.00000
AT&T B 14	CCI TPA65R-BU8D	700	13.05	165.00	4.00	40.00	807.35	0.00010	466.67	0.00002
AT&T B 14	CCI TPA65R-BU8D	850	13.15	165.00	4.00	40.00	826.15	0.00002	566.67	0.00000
AT&T B 15	CCI TPA65R-BU8D	1900	14.35	165.00	4.00	40.00	1089.08	0.00004	1000.00	0.00000
AT&T B 15	CCI TPA65R-BU8D	2100	15.25	165.00	4.00	40.00	1339.86	0.00010	1000.00	0.00001
AT&T C 16	CCI HPA65R-BU8A	700	15.30	165.00	2.00	40.00	1355.38	0.00003	466.67	0.00001
AT&T C 16	CCI HPA65R-BU8A	2300	16.40	165.00	4.00	25.00	1091.29	0.00001	1000.00	0.00000
AT&T C 17	CCI TPA65R-BU8D	700	13.05	165.00	4.00	40.00	807.35	0.00014	466.67	0.00003
AT&T C 17	CCI TPA65R-BU8D	850	13.15	165.00	4.00	40.00	826.15	0.00002	566.67	0.00000
AT&T C 18	CCI TPA65R-BU8D	1900	14.35	165.00	4.00	40.00	1089.08	0.00004	1000.00	0.00000
AT&T C 18	CCI TPA65R-BU8D	2100	15.25	165.00	4.00	40.00	1339.86	0.00002	1000.00	0.00000
Dish A 19	JMA MX08FRO665-21	700	12.05	225.00	4.00	30.00	480.97	0.03406	466.67	0.00730

Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/ Channel (watts)	ERP (watts)	Calculated Power Density (µW/cm²)	General Population MPE Limit (µW/cm²)	General Population % MPE
Dish A 19	JMA MX08FRO665-21	2000	15.75	225.00	4.00	40.00	1503.35	0.03472	1000.00	0.00347
Dish A 19	JMA MX08FRO665-21	2100	16.75	225.00	4.00	40.00	1892.61	0.03237	1000.00	0.00324
Dish B 20	JMA MX08FRO665-21	700	12.05	225.00	4.00	30.00	480.97	0.00008	466.67	0.00002
Dish B 20	JMA MX08FRO665-21	2000	15.75	225.00	4.00	40.00	1503.35	0.00000	1000.00	0.00000
Dish B 20	JMA MX08FRO665-21	2100	16.75	225.00	4.00	40.00	1892.61	0.00000	1000.00	0.00000
Dish C 21	JMA MX08FRO665-21	700	12.05	225.00	4.00	30.00	480.97	0.00004	466.67	0.00001
Dish C 21	JMA MX08FRO665-21	2000	15.75	225.00	4.00	40.00	1503.35	0.00001	1000.00	0.00000
Dish C 21	JMA MX08FRO665-21	2100	16.75	225.00	4.00	40.00	1892.61	0.00002	1000.00	0.00000
Unknown 22	GENERIC 2Bay Omni	100	1.49	471.00	1.00	21000.00	29595.06	0.22643	200.00	0.11322
Unknown 23	GENERIC YAGI 3.5FT	450	12.10	453.00	1.00	10.00	162.18	0.00072	300.00	0.00024
Unknown 24	GENERIC 8BAY OMNI	100	7.04	450.00	1.00	5650.00	28579.09	0.01022	200.00	0.00511
Unknown 25	GENERIC MICROWAVE 6FT	6000	38.65	435.00	1.00	0.10	732.82	0.00000	1000.00	0.00000
Unknown 26	GENERIC MICROWAVE 3FT	18000	39.45	351.00	1.00	0.10	881.05	0.00000	1000.00	0.00000
Unknown 27	GENERIC MICROWAVE 3FT	18000	39.45	339.00	1.00	0.10	881.05	0.00000	1000.00	0.00000
Unknown 28	GENERIC OMNI 6FT	850	5.96	302.00	1.00	25.00	98.61	0.00056	566.67	0.00010
Unknown 29	GENERIC YAGI 6FT	100	9.10	300.00	1.00	250.00	2032.08	0.02493	200.00	0.01246
Unknown 30	GENERIC MICROWAVE 8FT	10000	41.35	247.00	1.00	0.10	1364.58	0.00000	1000.00	0.00000
Unknown 31	GENERIC MICROWAVE 8FT	10000	41.35	239.00	1.00	0.10	1364.58	0.00000	1000.00	0.00000
Unknown 32	GENERIC OMNI 9.5FT	450	5.96	138.00	1.00	25.00	98.61	0.00182	300.00	0.00061
Unknown 33	GENERIC OMNI 9.5FT	450	5.96	125.00	1.00	25.00	98.61	0.00226	300.00	0.00075
Unknown 34	GENERIC OMNI 9.5FT	450	5.96	108.00	1.00	25.00	98.61	0.00308	300.00	0.00103
							Cumulative Power Density:	**0.93004 µW/cm²**	**Cumulative % MPE:**	**0.22131%**

Summary

The theoretical calculations performed for this analysis yielded cumulative power density totals in all areas at ground level that are within the allowable federal limits for public exposure to RF energy. Therefore, the site is **compliant** with FCC rules and regulations.

Katrina Styx
RF EME Technical Writer II
Centerline

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EXHIBIT H

Mailing Receipts/Proof of Notice

Subject: UPS Delivery Notification, Tracking Number 1Z9Y45030333534125
Date: Friday, December 20, 2024 at 9:49:34 AM Eastern Standard Time
From: UPS <pkginfo@ups.com>
To: Cullen Morgan <CMORGAN@CLINELLC.COM>

Hello, your package has been delivered.

Delivery Date: Friday, 12/20/2024
Delivery Time: 9:47 AM
Signed by: DONNA

CENTERLINE SITE ACQUISITION

Tracking Number:	1Z9Y45030333534125
Ship To:	TOWN OF BROOKFIELD 100 POCONO ROAD BROOKFIELD, CT 068043322 US
Number of Packages:	1
UPS Service:	UPS Ground
Package Weight:	1.5 LBS
Reference Number:	CT11196A TOWN

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Subject: UPS Delivery Notification, Tracking Number 1Z9Y45030330578343
Date: Wednesday, December 18, 2024 at 10:44:54 AM Eastern Standard Time
From: UPS <pkginfo@ups.com>
To: Cullen Morgan <CMORGAN@CLINELLC.COM>

Hello, your package has been delivered.

Delivery Date: Wednesday, 12/18/2024
Delivery Time: 10:43 AM
Left At: INSIDE DELIV
Signed by: GINA

CENTERLINE SITE ACQUISITION

Tracking Number:	1Z9Y45030330578343
Ship To:	VB-S1 ASSETS LLC 750 PARK OF COMMERCE DRIVE SUITE 200 BOCA RATON, FL 334873650 US
Number of Packages:	1
UPS Service:	UPS Ground
Package Weight:	1.5 LBS
Reference Number:	CT11196A TOWER

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Read Compass Online

Subject: UPS Delivery Notification, Tracking Number 1Z9Y45030327909732
Date: Monday, December 23, 2024 at 12:02:52 PM Eastern Standard Time
From: UPS <pkginfo@ups.com>
To: Cullen Morgan <CMORGAN@CLINELLC.COM>

Hello, your package has been delivered.

Delivery Date: Monday, 12/23/2024
Delivery Time: 12:00 PM
Left At: INSIDE DELIV
Signed by: DONNA

CENTERLINE SITE ACQUISITION

Tracking Number:	1Z9Y45030327909732
Ship To:	AMERICAN TOWER CORPORATION 10 PRESIDENTIAL WAY WOBURN, MA 018011053 US
Number of Packages:	1
UPS Service:	UPS Ground
Package Weight:	1.5 LBS
Reference Number:	CT11196A PROP

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