April 28, 2021

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

Re:	**Notice of Exempt Modification – Antenna and RRU Add**
Property Address:	**226 Ferry Road, Old Saybrook, CT 06475**
Applicant:	**AT&T Mobility, LLC**

Dear Ms. Bachman:

On behalf of AT&T, please accept this application as notification pursuant to R.C.S.A. §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. §16- 50j-72(b) (2).

AT&T currently maintains a wireless telecommunications facility consisting of nine (9) wireless telecommunication antennas at an antenna center line height of 195-feet on an existing 190-foot lattice utility pole, owned by Eversource Energy at 705 West Johnson Avenue, Cheshire, CT 06410. AT&T now intends to remove six (6) 4' AM-X-CD-14-65-00T-RET KMW Panel Antennas, each currently installed in positions [3+4], and swap these for three (3) 4'5" Andrew NNH4-65A-R6 Panel Antennas, and three (3) 4' CCI DMP65R-BU4DA Panel Antennas, each to be installed in positions [3+4], all sectors. In addition, AT&T intends to remove (3) RRUS. All of the changes will take place on the existing antenna mount. This modification/proposal includes B2, B5, and B12 hardware that is both 4G(LTE) and 5GNR capable through remote software configuration and either or both services may be turned on or off at various times

Attached is a summary of the planned modifications including power density calculations reflecting the change in AT&T's operations at the site. Also included is documentation of the structural sufficiency of the tower to accommodate the revised antenna configuration.

Please accept this letter pursuant to Regulation of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-5I0j-72(b) (2). In accordance with R.C.S.A., a copy of this letter is being sent to Tom Makowicki – Town Building Inspector, Town of Old Saybrook, CT at 302 Main Street, Old Saybrook, CT 06475 and Carl P. Fortuna, Jr. – First Selectman, Town of Old Saybrook, CT at 302 Main Street, Old Saybrook, CT 06475. A copy of this letter is being sent to the property owner, Connecticut Light and Power Co., c/o Eversource Energy at 56 Prospect Street, First Floor, Hartford, CT 06103 and the Tower Owner Eversource Energy at 705 West Johnson Avenue, Cheshire, CT 06410.

The following is a list of subsequent decisions by the Connecticut Siting Council:

- **EM-AT&T-106-161206** - AT&T notice of intent to modify an existing telecommunications facility located at 226 Ferry Road, Old Saybrook, Connecticut.

The planned modifications to AT&T's facility fall squarely within those activities explicitly provided for in R.C.S.A. §16-50j-72(b) (2).

1. The proposed modifications will not result in an increase in the height of the existing tower. AT&T's replacement antennas will be installed at the 195-foot level of the 190-foot lattice utility tower.
2. The proposed modifications will not involve any changes to ground-mounted equipment and, therefore, will not require and extension of the site boundary.
3. The proposed modifications will not increase the noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the modified facility will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. A cumulative worst-case RF

emissions calculation for AT&T's modified facility is provided in the RF Emissions Compliance Report, included in Tab 2.

5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The tower and its foundation can support AT&T's proposed modifications. (See Structural Analysis Report included in Tab 3).

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

Sincerely,

Kristina Cottone

CC w/enclosures:
Tom Makowicki – Town Building Inspector, Town of Old Saybrook, CT
Carl P. Fortuna, Jr. – First Selectman, Town of Old Saybrook, CT
Connecticut Light and Power Co. – Property Owner
Eversource Energy – Tower Owner

TOWN OF OLD SAYBROOK
Land Use Department

302 Main Street • Old Saybrook, Connecticut 06475-1741
Telephone (860) 395-3131 • FAX (860) 395-3125

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

July 8, 2002

Sprint Spectrum, LP d/b/a Sprint PCS
C/o Thomas J. Regan, Esq.
Brown Rudnick Berlack Israels LLP
City Place I, 38th Floor
Hartford, CT 06103

Re: CZC Application #02-142 – Site Plan Review for co-location with telecommunication tower – attach antennas on existing CL&P tower, 226 Ferry Rd., Map 59/Lot 105, MC Zone

Dear Attorney Regan:

At its regularly-scheduled meeting of July 1, 2002, the Old Saybrook Zoning Commission voted to APPROVE above-referenced application with the following stipulations:

1) that Sprint paint tray the same color or lighter than the tower;
2) that the tower be bonded with a $25,000 cash restoration bond

The legal notice of approval will appear in The Hartford Courant on Tuesday, July 9, 2002.

Sincerely,

David H. Wight, Chairman
Old Saybrook Zoning Commission

DHW:cs
xc: C. Sklosdosky

Fed # 06-6002058

226 FERRY RD

Location	226 FERRY RD	**MBLU**	059/ 105/ / /
Acct#	00631700	**Owner**	CONN LIGHT & POWER CO
Assessment	$510,000	**Appraisal**	$728,600
PID	2407	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$180,000	$548,600	$728,600
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$126,000	$384,000	$510,000

Owner of Record

Owner	CONN LIGHT & POWER CO	**Sale Price**	$0
Co-Owner		**Certificate**	
Address	P O BOX 270 HARTFORD, CT 06141-0270	**Book & Page**	0023/0053
		Sale Date	12/29/1922

Ownership History

Ownership History
No Data for Ownership History

Building Information

Building 1 : Section 1

Year Built:
Living Area: 0

Building Attributes	
Field	**Description**
Style	Outbuildings
Model	

Grade:	
Stories:	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure:	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type:	
AC Type:	
Total Bedrooms:	
Total Bthrms:	
Total Half Baths:	
Total Xtra Fixtrs:	
Total Rooms:	
Bath Style:	
Kitchen Style:	
Num Kitchens	
Cndtn	
Usrfld 103	
Usrfld 104	
Usrfld 105	
Usrfld 106	
Usrfld 107	
Num Park	
Fireplaces	
Usrfld 108	
Usrfld 101	
Usrfld 102	
Usrfld 100	
Usrfld 300	
Usrfld 301	

Building Photo

(http://images.vgsi.com/photos/OldSaybrookCTPhotos//default.jpg)

Building Layout

Building Layout

(http://images.vgsi.com/photos/OldSaybrookCTPhotos//Sketches/2407_24

Building Sub-Areas (sq ft)	Legend
No Data for Building Sub-Areas	

Extra Features

Extra Features	Legend

No Data for Extra Features

Land

Land Use

Use Code	4230
Description	ELEC ROW
Zone	MC

Land Line Valuation

Size (Acres)	0.55
Depth	0
Assessed Value	$384,000
Appraised Value	$548,600

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
UTIL	UTILITY BLDG			200.00 UNITS	$180,000	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$180,000	$548,600	$728,600
2016	$180,000	$540,300	$720,300
2015	$180,000	$540,300	$720,300

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$126,000	$384,000	$510,000
2016	$126,000	$378,200	$504,200
2015	$126,000	$378,200	$504,200

PAUL J. FORD & COMPANY

Report Date: April 2, 2020

Client: Smartlink, LLC
85 Rangeway Rd
North Billerica, MA 01862
Attn: Ryan Lynch

Utility Name: Eversource Energy
Structure: Existing 190-ft Transmission Tower #Dist West River X-ing
Carrier-Technology: AT&T – LTE Additional Radio || BWE Tower Top RRH Add
Carrier Site Number: 10035291
Carrier Site Name: OLD SAYBROOK FERRY RD
Mount Type: (3) 10.5 Foot Mount Type
Site Address: 226 Ferry Rd
City, County, State: Old Saybrook, Middlesex County, CT
Latitude, Longitude: 41.319665, -72.351646

PJF Project: A80620-0004.001.6090

Paul J. Ford and Company is pleased to submit this "**Mount Structural Analysis Report**". The purpose of this analysis is to determine if the mount has sufficient capacity to support the equipment described herein. Analysis of the existing supporting tower structure is to be completed by others and therefore is not part of this analysis. Analysis of the antenna mounting system as a tie-off point is not part of this document.

Analysis Criteria:

Reference Standard:	2018 Connecticut State Building Code and Appendix N with the ANSI/TIA-222-G-2005 Standard, "Structural Standard for Antenna Supporting Structures and Antennas", with ANSI/TIA-222-G-1-2007 and ANSI/TIA-222-G-2-2009 Addenda per Exception #5 of Section 1609.1.1.
Ultimate Wind Speed:	135 mph 3-second gust wind speed without ice
Nominal Wind Speed:	105 mph 3-second gust wind speed without ice
Ice Wind Speed:	50 mph 3-second gust wind speed with 075" ice
IBC Site Criteria:	Structure Class III, Topographic Category 1, Exposure Category D

Summary of Analysis Results:

Antenna Mount:	**100.3%**	**SUFFICIENT***

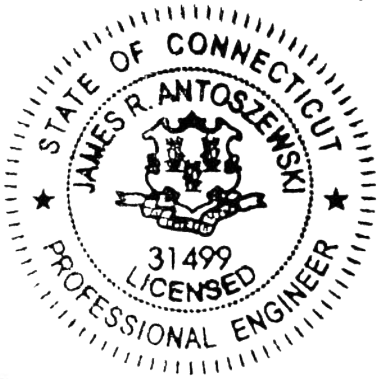
***Sufficient upon completion of the changes listed in the 'Recommendations' section of this report.**

We at Paul J. Ford and Company appreciate the opportunity of providing our continuing professional services to you and Smartlink, LLC. If you have any questions or need further assistance on this or any other projects please give us a call.

Respectfully Submitted by:
Paul J. Ford and Company

Steven Pozz, EI
Structural Designer
spozz@pauljford.com

D.S.



04/03/2020

TABLE OF CONTENTS

1) INTRODUCTION

The existing mounts under consideration are (3) 10.5 Mount Type installed at the 195' elevation on a 190' Transmission Tower. The existing mounts were estimated based on photos and models of previously analyzed mounts of similar type.

Modifications designed by Centek dated 07/13/2018 which consisted of installing reinforcement kit to the existing mounts, were assumed installed and considered in this analysis.

2) ANALYSIS CRITERIA

This analysis has been performed in accordance with the 2018 Connecticut State Building Code and Appendix N based upon an ultimate 3-second gust wind speed of 135 mph converted to a nominal 3-second gust wind speed of 105 mph per section 1609.3.1 as required for use in the ANSI/TIA-222-G-2005 Standard, "Structural Standard for Antenna Supporting Structures and Antennas", with ANSI/TIA-222-G-1-2007 and ANSI/TIA-222-G-2-2009 Addenda per Exception #5 of Section 1609.1.1. and 50 mph with 0.75 inch ice thickness. Structure Class III, Exposure Category D and Topographic Category 1 with a maximum Topographic Factor, Kzt, of 1.00 were used in this analysis.

Table 1 – Equipment Configuration

Mounting Level (feet)	Center Line Elevation (feet)	Quantity	Manufacturer	Model	Status	Mount Type
195	195	3	Commscope	NNH4-65A-R6	Proposed	(3) 10.5' Mount Type
		3	CCI Antennas	DMP65R-BU4DA		
		6	Kaelus	TMA2117F00V1-1		
		6	CCI Antennas	TMABPDB7823VG12A		
		3	KMW Communications	AM-X-CD-14-65-00T-RET	Existing	
		3	Powerwave	TT19-08BP111-001		

3) ANALYSIS PROCEDURE

Table 2 – Documents Provided

Document	Remarks	Reference	Source
Site Photos	Dated 04/02/2015	-	SmartLink
Structural Analysis	Centek, 10/25/2018	18130.00	SmartLink
Radio Frequency Data Sheet	AT&T, 03/05/2020	3546132 Version 2.00	SmartLink

3.1) Analysis Method

RISA-3D (version 17.0.3), a commercially available analysis software package, was used to create a three-dimensional model of the mount and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix C.

3.2) Assumptions

1) *The analysis of the existing transmission tower tower or the effect of the mount attachment to the tower is not within the current scope of work.*
2) *The antenna mounting system was properly fabricated, installed and maintained in good condition, twist free and plumb in accordance with its original design and manufacturer's specifications and all bolts are tightened as specified by the manufacturer and AISC requirements.*
3) *The configuration of antennas, mounts, and other appurtenances are as specified in Table 1.*
4) *All member connections have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report. All U-Bolt connections have been properly tightened. This analysis will be required to be revised if the existing conditions in the field differ from those shown in the above referenced documents or assumed in this analysis. No allowance was made for any damaged, missing, or rusted members.*
5) *Steel grades have been assumed as follows:*
   - *a) Channel, Solid Round, Angle, Plate, Unistrut* — *ASTM A36 (GR 36)*
   - *b) Pipe* — *ASTM A53 (GR 35)*
   - *c) HSS (Rectangular)* — *ASTM 500 (GR B-46)*
   - *d) HSS (Round)* — *ASTM 500 (GR B-42)*
   - *e) Connection Bolts* — *ASTM A325*
   - *f) Threaded Rods* — *ASTM F1554 (GR 36)*
   - *g) U-Bolts* — *SAE J429 (GR2)*
6) *Proposed equipment is to be installed in the locations specified in Appendix A. Any changes to the proposed equipment locations will render this report invalid.*
7) *Mount has been modeled based on the photographs referenced in Table 2. Member information and dimensions not provided have been assumed based on previous experience with similar mounts. No guarantee can be made as to the accuracy of these assumptions without a complete mount mapping.*
8) *Mount modifications are installed in accordance with the reference structural analysis.*

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

4) ANALYSIS RESULTS

Table 3 – Mount Component Capacity

Notes	Component	% Capacity	Pass / Fail
1	Mount Pipes	71.7	Pass
1	Face Horizontal	95.1	Pass
1, 2	Standoff Members	100.3	Pass
1	Support Rails	86.8	Pass
1	Mount to Tower Connection (bolts/welds)	89.6	Pass

Mount Rating (max from all components) =	100.3%

Notes:
1. See additional documentation in "Appendix C – Software analysis Output" for calculations supporting the % capacity consumed.
2. Capacities up to 105% are considered acceptable based on the analysis methods used.

4.1) Recommendations

The mount will have sufficient capacity to carry the proposed loading configuration. In order for the results of the analysis to be considered valid, the modification listed below must be completed.

- Confirm reference mount modifications are installed in conformance with the modification drawings.
- Replace existing mount pipes with 8-ft long, P2.5 STD (2.88" O.D. x 0.189") pipes where required. See Appendix D details.

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

STANDARD CONDITIONS FOR FURNISHING OF PROFESSIONAL ENGINEERING SERVICES ON EXISTING MOUNTS BY PAUL J. FORD AND COMPANY

1) It is the responsibility of the client to ensure that the information provided to Paul J. Ford and Company is accurate and complete. Paul J. Ford and Company will rely on the accuracy and completeness of such information in performing or furnishing services under this project.

2) If the existing conditions are not as represented on the referenced drawings and/or documents, Paul J. Ford and Company should be contacted immediately to evaluate the significance of the deviation.

3) The mount has been analyzed according to the minimum design loads recommended by the Reference Standard. If additional design loads are required, Paul J. Ford and Company should be made aware of this prior to the start of the project.

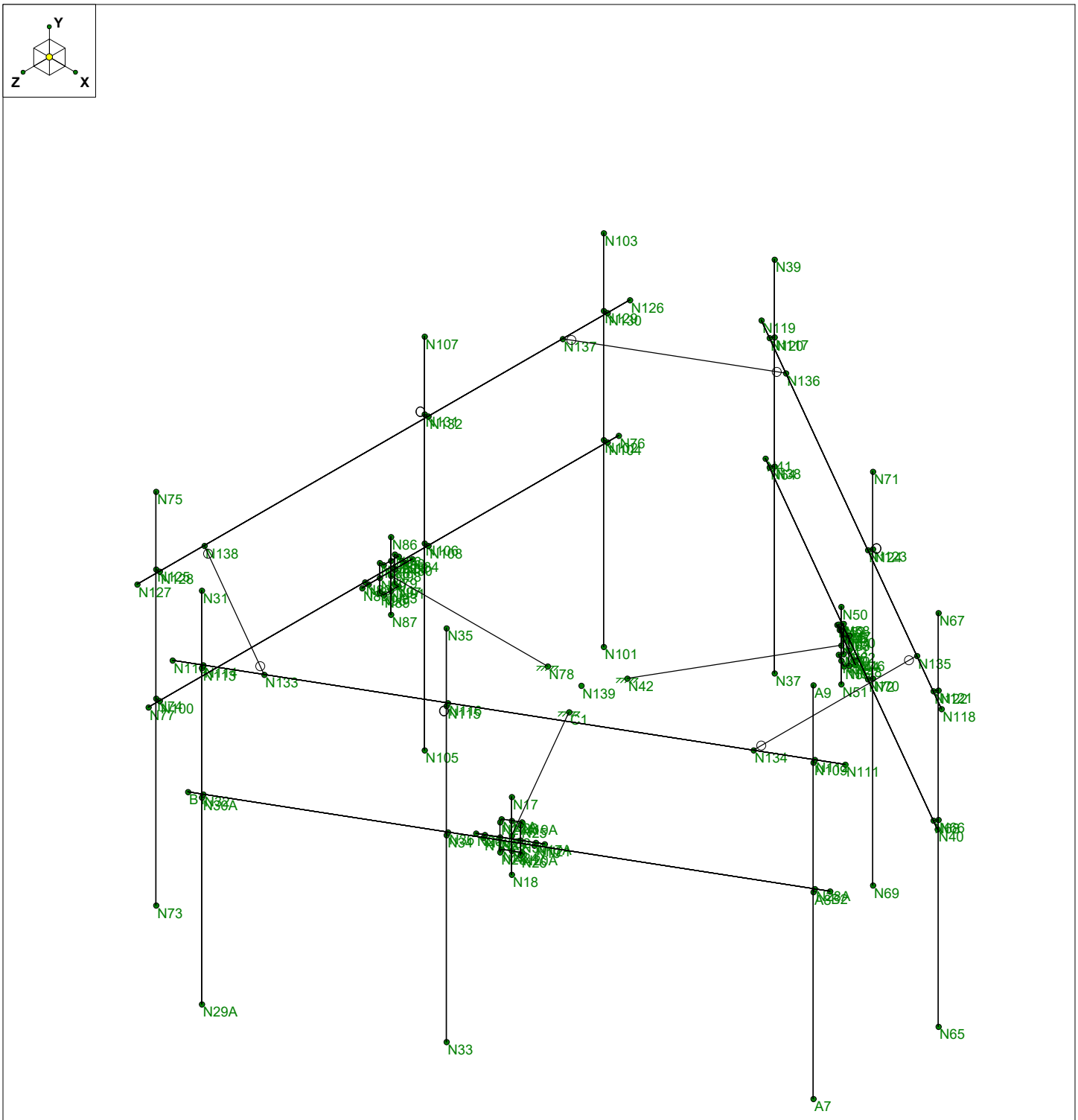
4) The standard of care for all Professional Engineering Services performed or furnished by Paul J. Ford and Company under this project will be the skill and care used by members of the Consultant's profession practicing under similar circumstances at the same time and in the same locality.

5) All Services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. Paul J. Ford and Company is not responsible for the conclusions, opinions and/or recommendations made by others based on the information supplied herein.

****

APPENDIX A

WIRE FRAME AND RENDERED MODELS



Envelope Only Solution

Paul J. Ford and Company	Eversource - CTL02042	SK - 1
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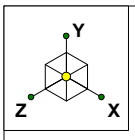
80620-0004.001.6090		80620-0004.001.6090_Wind Load....



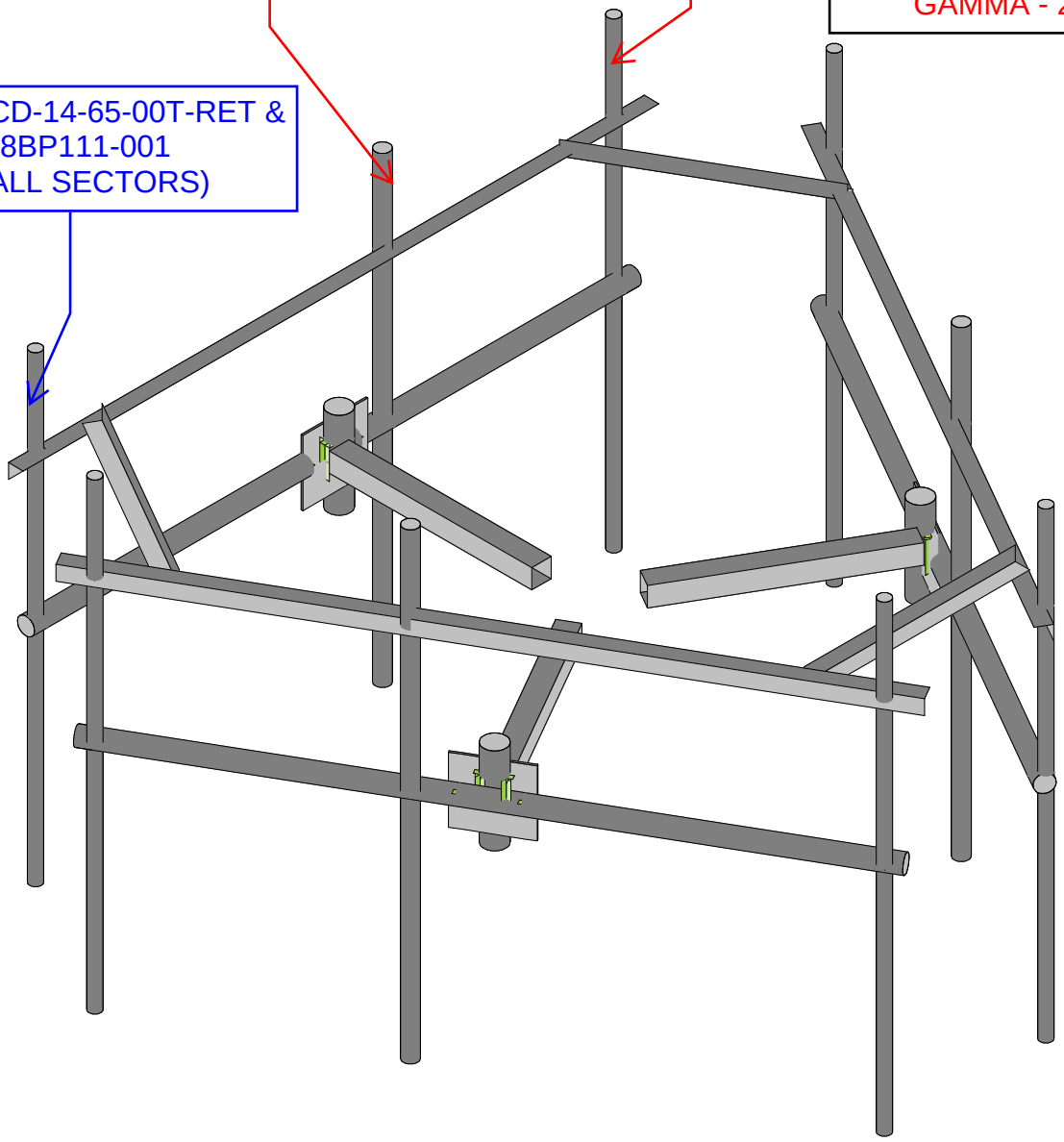
(1) NNH4-65A-R6 &
(2) TMA211F00V1-1
(TYP ON ALL SECTORS)

(1) DMP65r-BU4DA &
(2) TMABPDB7823VG12A
(TYP ON ALL SECTORS)

LEGEND
EXISTING: BLUE
PROPOSED: RED

AZIMUTHS BY SECTOR:
ALPHA - 23°
BETA - 143°
GAMMA - 253°

(1) AM-X-CD-14-65-00T-RET &
(1) TT19-08BP111-001
(TYP ON ALL SECTORS)



NOTES:
1) A 6" VERTICAL TOLERANCE FOR PROPOSED EQUIPMENT IS ACCEPTABLE.
2) CONTRACTOR TO VERIFY LOCATION OF EXISTING EQUIPMENT PRIOR TO INSTALLATION OF PROPOSED EQUIPMENT. NOTIFY EOR FOR ANY DEVIATIONS.
3) INSTALL SHALL NOT CAUSE HARM TO THE STRUCTURE, CLIMBING FACILITY, SAFETY CLIMB OR ANY SYSTEM INSTALLED ON THE STRUCTURE.

Envelope Only Solution

Paul J. Ford and Company	Eversource - CTL02042	SK - 2
STP		Apr 2, 2020 at 12:25 PM
80620-0004.001.6090		80620-0004.001.6090_Wind Load....

APPENDIX B

SOFTWARE INPUT CALCULATIONS

WIND PRESSURE CALCULATIONS:

Known Values & Parameters

$V_{ult} := 130 \cdot mph$	Ultimate Wind Speed
$V_{nom} := 105 \cdot mph$	Nominal Wind Speed
$Exposure := \text{“D”}$	Exposure Category
$z := 195\ ft$	Elevation of Interest
$V_{ice} := 50 \cdot mph$	Ice Wind Speed
$ti := 0.75 \cdot in$	Design Ice Thickness

Calculate the Velocity Pressure Coefficient (Kz)

$$z_g := \begin{cases} 1200\ ft & Exposure = \text{“B”} \\ 900\ ft & Exposure = \text{“C”} \\ 700\ ft & Exposure = \text{“D”} \\ 0\ ft & \text{else} \end{cases} \qquad \alpha := \begin{cases} 7 & Exposure = \text{“B”} \\ 9.5 & Exposure = \text{“C”} \\ 11.5 & Exposure = \text{“D”} \\ 0 & \text{else} \end{cases} \qquad K_{z\_min} := \begin{cases} 0.7 & Exposure = \text{“B”} \\ 0.85 & Exposure = \text{“C”} \\ 1.03 & Exposure = \text{“D”} \\ 0 & \text{else} \end{cases}$$

$$K_z := min\left(2.01, \max\left(K_{z\_min}, 2.01\left(\frac{z}{z_g}\right)^{\frac{2}{\alpha}}\right)\right) = 1.609$$

List Out the Know Kzt, Ks, Kd, I Values — Section 2.6.6.4 of TIA-222-G

$K_{zt} := 1$

$K_s := 1$

$K_d := .95$

Structure Class= 3, $I := 1.15$, $Ii := 1.25$

Solve for the Wind Pressure (qz)

$$q_z := 0.00256 \cdot K_z \cdot K_{zt} \cdot K_d \cdot I \cdot \left(\frac{V_{nom}}{mph}\right)^2 \cdot psf = 49.625\ psf$$ Section 2.6.5.2 & Section 2.6.6.4 of TIA-222-G

Solve for the Ice Wind Pressure (qzi)

$$q_{zi} := 0.00256 \cdot K_z \cdot K_{zt} \cdot K_d \cdot \left(\frac{V_{ice}}{mph}\right)^2 \cdot psf = 9.785\ psf$$ Section 2.6.5.2 & Section 2.6.6.4 of TIA-222-G

Solve for the Escalated Ice Thickness (tiz)

$$Kiz := \left(\frac{z}{33}\right)^{.1} \cdot \left(\frac{1}{ft^{0.1}}\right) = 1.194$$

$$tiz := 2 \cdot ti \cdot Ii \cdot Kiz \cdot \left(K_{zt}\right)^{0.35} = 2.24\ in$$

APPURTENANCE/MOUNT MEMBER FORCE CALCULATIONS:

Apputenance Wind Force Calculation:

(1) KMA AM-X-CD-14-65-00T-RET Dimensions & Weight (Flat Panel), $H1 := 48 \cdot in$, $W1 := 11.8 \cdot in$, $D1 := 5.9\ in$, $Dl1 := 36.4 \cdot lbf$

Normal Aspect Ratio, $An1 := \frac{H1}{W1} = 4.068$

Normal Force Coefficient, $Can1 :=$

$$\begin{cases} 1.2 & \text{if } An1 \le 2.5 \\ 2.0 & \text{else if } An1 \ge 25 \\ 1.2 + \left(\frac{An1 - 2.5}{(22.5)}\right) & \text{else if } 2.5 < An1 < 7 \\ 1.4 + \left(\frac{An1 - 7}{(30)}\right) & \text{else if } 7 < An1 < 25 \\ 1.4 & \text{else if } An1 = 7 \end{cases}$$

Table 2-8 of TIA-222-G

$Can1 = 1.27$

Normal Effective Projected Area, $EPAn1 := Can1 \cdot H1 \cdot W1 = 4.994\ ft^2$

Gust Effect Factor, $Gh := 1.00$

Equipment Normal Force, $Fan1 := EPAn1 \cdot Gh \cdot q_z = 247.833\ lbf$

Transverse Aspect Ratio, $At1 := \frac{H1}{D1} = 8.14$

Transverse Force Coefficient,

$Cat1 :=$

$$\begin{cases} 1.2 & \text{if } At1 \le 2.5 \\ 2.0 & \text{else if } At1 \ge 25 \\ 1.2 + \left(\frac{At1 - 2.5}{(22.5)}\right) & \text{else if } 2.5 < At1 < 7 \\ 1.4 + \left(\frac{At1 - 7}{(30)}\right) & \text{else if } 7 < At1 < 25 \\ 1.4 & \text{else if } At1 = 7 \end{cases}$$

$Cat1 = 1.44$

Table 2-8 of TIA-222-G

Transverse Effective Projected Area, $EPAt1 := Cat1 \cdot H1 \cdot D1 = 2.828\ ft^2$

Gust Effect Factor, $Gh := 1.00$

Equipment Tangential Force, $Fat1 := EPAt1 \cdot Gh \cdot q_z = 140.329\ lbf$

Apputenance Ice Wind Force Calculation:

(1) - (1) KMA AM-X-CD-14-65-00T-RET Dimensions & Weight (Flat Panel), $H1 := 48 \cdot in$, $W1 := 11.8 \cdot in$, $D1 := 5.9\ in$, $Dl1 := 36.4 \cdot lbf$

Largest out-to-out dimension of member, $Dc1 := \sqrt{W1^2 + D1^2} = 13.193\ in$

Cross-Sectional Area of Ice at Height z, $Aiz1 := \pi \cdot tiz \cdot (Dc1 + tiz) = 0.754\ ft^2$

Ice Density, $IceDensity := 56\ pcf$

Equipment Ice Weight, $Dli1 := H1 \cdot Aiz1 \cdot IceDensity = 168.896\ lbf$

Normal Ice Aspect Ratio, $Ani1 := \frac{H1 + 2\,(tiz)}{W1 + 2\,(tiz)} = 3.224$

Normal Ice Force Coefficient, $Cani1 := \begin{cases} 1.2 & \text{if } Ani1 \le 2.5 \\ 2.0 & \text{else if } Ani1 \ge 25 \\ 1.2 + \left(\frac{Ani1 - 2.5}{(22.5)}\right) & \text{else if } 2.5 < Ani1 < 7 \\ 1.4 + \left(\frac{Ani1 - 7}{(30)}\right) & \text{else if } 7 < Ani1 < 25 \\ 1.4 & \text{else if } Ani1 = 7 \end{cases} = 1.232$

$Cani1 = 1.232$ Table 2-8 of TIA-222-G

Normal Ice Effective Projected Area, $EPAni1 := Cani1 \cdot (H1 + 2\,(tiz)) \cdot (W1 + 2\,(tiz)) = 7.31\ ft^2$

Gust Effect Factor, $Gh := 1.00$

Equipment Normal Ice Force, $Fani1 := EPAni1 \cdot Gh \cdot q_{zi} = 71.53\ lbf$

Transverse Aspect Ratio, $Ati1 := \frac{H1 + 2\,(tiz)}{D1 + 2\,(tiz)} = 5.056$

Transverse Force Coefficient, $Cati1 := \begin{cases} 1.2 & \text{if } Ati1 \le 2.5 \\ 2.0 & \text{else if } Ati1 \ge 25 \\ 1.2 + \left(\frac{Ati1 - 2.5}{(22.5)}\right) & \text{else if } 2.5 < Ati1 < 7 \\ 1.4 + \left(\frac{Ati1 - 7}{(30)}\right) & \text{else if } 7 < Ati1 < 25 \\ 1.4 & \text{else if } Ati1 = 7 \end{cases}$

$Cati1 = 1.314$ Table 2-8 of TIA-222-G

Transverse Effective Projected Area, $EPAti1 := Cati1 \cdot (H1 + 2\,(tiz)) \cdot (D1 + 2\,(tiz)) = 4.969\ ft^2$

Gust Effect Factor, $Gh := 1.00$

Equipment Tangential Force, $Fat1 := EPAti1 \cdot Gh \cdot q_{zi} = 48.62\ lbf$

Apputenance Wind Force Calculation:

(2) - Commscope NNH-65A-R6(Flat Panel), $H2 := 55.1 \cdot in$, $W2 := 19.6 \cdot in$, $D2 := 7.8\ in$, $Dl2 := 86.5 \cdot lbf$

Normal Aspect Ratio, $An2 := \frac{H2}{W2} = 2.811$

Normal Force Coefficient, $Can2 :=$ if $An2 \le 2.5$ | 1.2 | else if $An2 \ge 25$ | 2.0 | else if $2.5 < An2 < 7$ | $1.2 + \left(\frac{An2 - 2.5}{(22.5)}\right)$ | else if $7 < An2 < 25$ | $1.4 + \left(\frac{An2 - 7}{(30)}\right)$ | else if $An2 = 7$ | 1.4

$Can2 = 1.214$ Table 2-8 of TIA-222-G

Normal Effective Projected Area, $EPAn2 := Can2 \cdot H2 \cdot W2 = 9.103\ ft^2$

Gust Effect Factor, $Gh := 1.00$

Equipment Normal Force, $Fan2 := EPAn2 \cdot Gh \cdot q_z = 451.759\ lbf$

Transverse Aspect Ratio, $At2 := \frac{H2}{D2} = 7.064$

Transverse Force Coefficient, $Cat2 :=$ if $At2 \le 2.5$ | 1.2 | else if $At2 \ge 25$ | 2.0 | else if $2.5 < At2 < 7$ | $1.2 + \left(\frac{At2 - 2.5}{(22.5)}\right)$ | else if $7 < At2 < 25$ | $1.4 + \left(\frac{At2 - 7}{(30)}\right)$ | else if $At2 = 7$ | 1.4

$Cat1 = 1.438$ Table 2-8 of TIA-222-G

Tangential Effective Projected Area, $EPAt2 := Cat2 \cdot H2 \cdot D2 = 4.185\ ft^2$

Gust Effect Factor, $Gh := 1.00$

Equipment Tangential Force, $Fat2 := EPAt2 \cdot Gh \cdot q_z = 207.672\ lbf$

Apputenance Ice Wind Force Example Calculation:

(2) - Commscope NNH-65A-R6(Flat Panel), $H2 := 55.1 \cdot in$, $W2 := 19.6 \cdot in$, $D2 := 7.8\ in$, $Dl2 := 86.5 \cdot lbf$

Largest out-to-out dimension of member, $Dc2 := \sqrt{W2^2 + D2^2} = 21.095\ in$

Cross-Sectional Area of Ice at Height z, $Aiz2 := \pi \cdot tiz \cdot (Dc2 + tiz) = 1.14\ ft^2$

Ice Density, $IceDensity := 56\ pcf$

Equipment Ice Weight, $Dli2 := H2 \cdot Aiz2 \cdot IceDensity = 293.156\ lbf$

Normal Ice Aspect Ratio, $Ani2 := \frac{H2 + 2\,(tiz)}{W2 + 2\,(tiz)} = 2.474$

Normal Ice Force Coefficient, $Cani2 :=$ if $Ani2 \le 2.5$ | 1.2 ; else if $Ani2 \ge 25$ | 2.0 ; else if $2.5 < Ani2 < 7$ | $1.2 + \left(\frac{Ani2 - 2.5}{(22.5)}\right)$; else if $7 < Ani2 < 25$ | $1.4 + \left(\frac{Ani2 - 7}{(30)}\right)$; else if $Ani2 = 7$ | 1.4

$Cani2 = 1.2$ Table 2-8 of TIA-222-G

Normal Ice Effective Projected Area, $EPAni2 := Cani2 \cdot (H2 + 2\,(tiz)) \cdot (W2 + 2\,(tiz)) = 11.955\ ft^2$

Gust Effect Factor, $Gh := 1.00$

Equipment Normal Ice Force, $Fani2 := EPAni2 \cdot Gh \cdot q_{zi} = 116.982\ lbf$

Transverse Aspect Ratio, $Ati2 := \frac{H2 + 2\,(tiz)}{D2 + 2\,(tiz)} = 4.852$

Transverse Force Coefficient, $Cati2 :=$ if $Ati2 \le 2.5$ | 1.2 ; else if $Ati2 \ge 25$ | 2.0 ; else if $2.5 < Ati2 < 7$ | $1.2 + \left(\frac{Ati2 - 2.5}{(22.5)}\right)$; else if $7 < Ati2 < 25$ | $1.4 + \left(\frac{Ati2 - 7}{(30)}\right)$; else if $Ati2 = 7$ | 1.4

$Cati2 = 1.305$ Table 2-8 of TIA-222-G

Transverse Effective Projected Area, $EPAti2 := Cati2 \cdot (H2 + 2\,(tiz)) \cdot (D2 + 2\,(tiz)) = 6.628\ ft^2$

Gust Effect Factor, $Gh := 1.00$

Equipment Tangential Force, $Fat2 := EPAti2 \cdot Gh \cdot q_{zi} = 64.851\ lbf$

Apputenance Wind Force Calculation:

(3) - CCI Antenna DMP65R-BU4DA (Flat Panel), $H3 := 48 \cdot in$, $W3 := 20.7 \cdot in$, $D3 := 7.7\ in$, $Dl3 := 76.2 \cdot lbf$

Normal Aspect Ratio, $An3 := \frac{H3}{W3} = 2.319$

Normal Force Coefficient, $Can3 :=$

$$\begin{cases} 1.2 & \text{if } An3 \le 2.5 \\ 2.0 & \text{else if } An3 \ge 25 \\ 1.2 + \left(\frac{An3 - 2.5}{(22.5)}\right) & \text{else if } 2.5 < An3 < 7 \\ 1.4 + \left(\frac{An3 - 7}{(30)}\right) & \text{else if } 7 < An3 < 25 \\ 1.4 & \text{else if } An3 = 7 \end{cases}$$

$Can3 = 1.2$ Table 2-8 of TIA-222-G

Normal Effective Projected Area, $EPAn3 := Can3 \cdot H3 \cdot W3 = 8.28\ ft^2$

Gust Effect Factor, $Gh := 1.00$

Equipment Normal Force, $Fan3 := EPAn3 \cdot Gh \cdot q_z = 410.898\ lbf$

Transverse Aspect Ratio, $At3 := \frac{H3}{D3} = 6.234$

Transverse Force Coefficient, $Cat3 :=$

$$\begin{cases} 1.2 & \text{if } At3 \le 2.5 \\ 2.0 & \text{else if } At3 \ge 25 \\ 1.2 + \left(\frac{At3 - 2.5}{(22.5)}\right) & \text{else if } 2.5 < At3 < 7 \\ 1.4 + \left(\frac{At3 - 7}{(30)}\right) & \text{else if } 7 < At3 < 25 \\ 1.4 & \text{else if } At3 = 7 \end{cases}$$

$Cat1 = 1.438$ Table 2-8 of TIA-222-G

Transverse Effective Projected Area, $EPAt3 := Cat3 \cdot H3 \cdot D3 = 3.506\ ft^2$

Gust Effect Factor, $Gh := 1.00$

Equipment Tangential Force, $Fat3 := EPAt3 \cdot Gh \cdot q_z = 173.983\ lbf$

Appurtenance Ice Wind Force Example Calculation:

((3) - CCI Antenna DMP65R-BU4DA (Flat Panel), $H3 := 48 \cdot in$, $W3 := 20.7 \cdot in$, $D3 := 7.7\ in$, $Dl3 := 76.2 \cdot lbf$

Largest out-to-out dimension of member, $Dc3 := \sqrt{W3^2 + D3^2} = 22.086\ in$

Cross-Sectional Area of Ice at Height z, $Aiz3 := \pi \cdot tiz \cdot (Dc3 + tiz) = 1.188\ ft^2$

Ice Density, $IceDensity := 56\ pcf$

Equipment Ice Weight, $Dli3 := H3 \cdot Aiz3 \cdot IceDensity = 266.223\ lbf$

Normal Ice Aspect Ratio, $Ani3 := \frac{H3 + 2\,(tiz)}{W3 + 2\,(tiz)} = 2.084$

Normal Ice Force Coefficient, $Cani3 :=$

$$\begin{cases} 1.2 & \text{if } Ani3 \le 2.5 \\ 2.0 & \text{else if } Ani3 \ge 25 \\ 1.2 + \left(\frac{Ani3 - 2.5}{(22.5)}\right) & \text{else if } 2.5 < Ani3 < 7 \\ 1.4 + \left(\frac{Ani3 - 7}{(30)}\right) & \text{else if } 7 < Ani3 < 25 \\ 1.4 & \text{else if } Ani3 = 7 \end{cases}$$

$Cani3 = 1.2$ Table 2-8 of TIA-222-G

Normal Ice Effective Projected Area, $EPAni3 := Cani3 \cdot (H3 + 2\,(tiz)) \cdot (W3 + 2\,(tiz)) = 11.011\ ft^2$

Gust Effect Factor, $Gh := 1.00$

Equipment Normal Ice Force, $Fani3 := EPAni3 \cdot Gh \cdot q_{zi} = 107.748\ lbf$

Transverse Aspect Ratio, $Ati3 := \frac{H3 + 2\,(tiz)}{D3 + 2\,(tiz)} = 4.309$

Transverse Force Coefficient, $Cati3 :=$

$$\begin{cases} 1.2 & \text{if } Ati3 \le 2.5 \\ 2.0 & \text{else if } Ati3 \ge 25 \\ 1.2 + \left(\frac{Ati3 - 2.5}{(22.5)}\right) & \text{else if } 2.5 < Ati3 < 7 \\ 1.4 + \left(\frac{Ati3 - 7}{(30)}\right) & \text{else if } 7 < Ati3 < 25 \\ 1.4 & \text{else if } Ati3 = 7 \end{cases}$$

$Cati3 = 1.28$ Table 2-8 of TIA-222-G

Transverse Effective Projected Area, $EPAti3 := Cati3 \cdot (H3 + 2\,(tiz)) \cdot (D3 + 2\,(tiz)) = 5.683\ ft^2$

Gust Effect Factor, $Gh := 1.00$

Equipment Tangential Force, $Fat3 := EPAti3 \cdot Gh \cdot q_{zi} = 55.609\ lbf$

Appurtenance Wind Force Calculation:

(4) - Powerwave TT19-08BP111-001(Flat Panel), $H4 := 9.9 \cdot in$, $W4 := 6.7 \cdot in$, $D4 := 5.4\ in$, $Dl4 := 16 \cdot lbf$

Normal Aspect Ratio, $An4 := \frac{H4}{W4} = 1.478$

Normal Force Coefficient, $Can4 :=$

$$\begin{cases} 1.2 & \text{if } An4 \le 2.5 \\ 2.0 & \text{else if } An4 \ge 25 \\ 1.2 + \left(\frac{An4 - 2.5}{(22.5)}\right) & \text{else if } 2.5 < An4 < 7 \\ 1.4 + \left(\frac{An4 - 7}{(30)}\right) & \text{else if } 7 < An4 < 25 \\ 1.4 & \text{else if } An4 = 7 \end{cases}$$

$Can4 = 1.2$ Table 2-8 of TIA-222-G

Normal Effective Projected Area, $EPAn4 := Can4 \cdot H4 \cdot W4 = 0.553\ ft^2$

Gust Effect Factor, $Gh := 1.00$

Equipment Normal Force, $Fan4 := EPAn4 \cdot Gh \cdot q_z = 27.43\ lbf$

Transverse Aspect Ratio, $At4 := \frac{H4}{D4} = 1.833$

Transverse Force Coefficient, $Cat4 :=$

$$\begin{cases} 1.2 & \text{if } At4 \le 2.5 \\ 2.0 & \text{else if } At4 \ge 25 \\ 1.2 + \left(\frac{At4 - 2.5}{(22.5)}\right) & \text{else if } 2.5 < At4 < 7 \\ 1.4 + \left(\frac{At4 - 7}{(30)}\right) & \text{else if } 7 < At4 < 25 \\ 1.4 & \text{else if } At4 = 7 \end{cases}$$

$Cat4 = 1.2$ Table 2-8 of TIA-222-G

Transverse Effective Projected Area, $EPAt4 := Cat4 \cdot H4 \cdot D4 = 0.446\ ft^2$

Gust Effect Factor, $Gh := 1.00$

Equipment Tangential Force, $Fat4 := EPAt4 \cdot Gh \cdot q_z = 22.108\ lbf$

Apputenance Ice Wind Force Example Calculation:

(4) - Powerwave TT19-08BP111-001(Flat Panel), $H4 := 9.9 \cdot in$, $W4 := 6.7 \cdot in$, $D4 := 5.4\ in$, $Dl4 := 16 \cdot lbf$

Largest out-to-out dimension of member, $Dc4 := \sqrt{W4^2 + D4^2} = 8.605\ in$

Cross-Sectional Area of Ice at Height z, $Aiz4 := \pi \cdot tiz \cdot (Dc4 + tiz) = 0.53\ ft^2$

Ice Density, $IceDensity := 56\ pcf$

Equipment Ice Weight, $Dli4 := H4 \cdot Aiz4 \cdot IceDensity = 24.479\ lbf$

Normal Ice Aspect Ratio, $Ani4 := \frac{H4 + 2\,(tiz)}{W4 + 2\,(tiz)} = 1.286$

Normal Ice Force Coefficient, $Cani4 :=$

if $Ani4 \le 2.5$
  1.2
else if $Ani4 \ge 25$
  2.0
else if $2.5 < Ani4 < 7$
  $1.2 + \left(\frac{Ani4 - 2.5}{(22.5)}\right)$
else if $7 < Ani4 < 25$
  $1.4 + \left(\frac{Ani4 - 7}{(30)}\right)$
else if $Ani4 = 7$
  1.4

$Cani4 = 1.2$ Table 2-8 of TIA-222-G

Normal Ice Effective Projected Area, $EPAni4 := Cani4 \cdot (H4 + 2\,(tiz)) \cdot (W4 + 2\,(tiz)) = 1.34\ ft^2$

Gust Effect Factor, $Gh := 1.00$

Equipment Normal Ice Force, $Fani4 := EPAni4 \cdot Gh \cdot q_{zi} = 13.107\ lbf$

Transverse Aspect Ratio, $Ati4 := \frac{H4 + 2\,(tiz)}{D4 + 2\,(tiz)} = 1.456$

Transverse Force Coefficient, $Cati4 :=$

if $Ati4 \le 2.5$
  1.2
else if $Ati4 \ge 25$
  2.0
else if $2.5 < Ati4 < 7$
  $1.2 + \left(\frac{Ati4 - 2.5}{(22.5)}\right)$
else if $7 < Ati4 < 25$
  $1.4 + \left(\frac{Ati4 - 7}{(30)}\right)$
else if $Ati4 = 7$
  1.4

$Cati4 = 1.2$ Table 2-8 of TIA-222-G

Transverse Effective Projected Area, $EPAti4 := Cati4 \cdot (H4 + 2\,(tiz)) \cdot (D4 + 2\,(tiz)) = 1.184\ ft^2$

Gust Effect Factor, $Gh := 1.00$

Equipment Tangential Force, $Fat4 := EPAti4 \cdot Gh \cdot q_{zi} = 11.583\ lbf$

Apputenance Wind Force Calculation:

(5) - Kaelus TMA211F00V1-1 (Flat Panel), $H5 := 8.46 \cdot in$, $W5 := 4.21 \cdot in$, $D5 := 11.81\ in$, $Dl5 := 17.6 \cdot lbf$

Normal Aspect Ratio, $An5 := \frac{H5}{W5} = 2.01$

Normal Force Coefficient, $Can5 :=$

$$\begin{cases} 1.2 & \text{if } An5 \le 2.5 \\ 2.0 & \text{else if } An5 \ge 25 \\ 1.2 + \left(\frac{An5 - 2.5}{(22.5)}\right) & \text{else if } 2.5 < An5 < 7 \\ 1.4 + \left(\frac{An5 - 7}{(30)}\right) & \text{else if } 7 < An5 < 25 \\ 1.4 & \text{else if } An5 = 7 \end{cases}$$

$Can5 = 1.2$ Table 2-8 of TIA-222-G

Normal Effective Projected Area, $EPAn5 := Can5 \cdot H5 \cdot W5 = 0.297\ ft^2$

Gust Effect Factor, $Gh := 1.00$

Equipment Normal Force, $Fan5 := EPAn5 \cdot Gh \cdot q_z = 14.729\ lbf$

Transverse Aspect Ratio, $At5 := \frac{H5}{D5} = 0.716$

Transverse Force Coefficient, $Cat5 :=$

$$\begin{cases} 1.2 & \text{if } At5 \le 2.5 \\ 2.0 & \text{else if } At5 \ge 25 \\ 1.2 + \left(\frac{At5 - 2.5}{(22.5)}\right) & \text{else if } 2.5 < At5 < 7 \\ 1.4 + \left(\frac{At5 - 7}{(30)}\right) & \text{else if } 7 < At5 < 25 \\ 1.4 & \text{else if } At5 = 7 \end{cases}$$

$Cat5 = 1.2$ Table 2-8 of TIA-222-G

Transverse Effective Projected Area, $EPAt5 := Cat5 \cdot H5 \cdot D5 = 0.833\ ft^2$

Gust Effect Factor, $Gh := 1.00$

Equipment Tangential Force, $Fat5 := EPAt5 \cdot Gh \cdot q_z = 41.318\ lbf$

Apputenance Ice Wind Force Example Calculation:

((5) - Kaelus TMA211F00V1-1 (Flat Panel), $H5 := 8.46 \cdot in$, $W5 := 4.21 \cdot in$, $D5 := 11.81\ in$, $Dl5 := 17.6 \cdot lbf$

Largest out-to-out dimension of member, $Dc5 := \sqrt{W5^2 + D5^2} = 12.538\ in$

Cross-Sectional Area of Ice at Height z, $Aiz5 := \pi \cdot tiz \cdot (Dc5 + tiz) = 0.722\ ft^2$

Ice Density, $IceDensity := 56\ pcf$

Equipment Ice Weight, $Dli5 := H5 \cdot Aiz5 \cdot IceDensity = 28.505\ lbf$

Normal Ice Aspect Ratio, $Ani5 := \frac{H5 + 2\,(tiz)}{W5 + 2\,(tiz)} = 1.489$

Normal Ice Force Coefficient, $Cani5 :=$

$$\begin{cases} \text{if } Ani5 \le 2.5 \\ \quad 1.2 \\ \text{else if } Ani5 \ge 25 \\ \quad 2.0 \\ \text{else if } 2.5 < Ani5 < 7 \\ \quad 1.2 + \left(\frac{Ani5 - 2.5}{(22.5)}\right) \\ \text{else if } 7 < Ani5 < 25 \\ \quad 1.4 + \left(\frac{Ani5 - 7}{(30)}\right) \\ \text{else if } Ani5 = 7 \\ \quad 1.4 \end{cases}$$

$Cani5 = 1.2$ Table 2-8 of TIA-222-G

Normal Ice Effective Projected Area, $EPAni5 := Cani5 \cdot (H5 + 2\,(tiz)) \cdot (W5 + 2\,(tiz)) = 0.937\ ft^2$

Gust Effect Factor, $Gh := 1.00$

Equipment Normal Ice Force, $Fani5 := EPAni5 \cdot Gh \cdot q_{zi} = 9.168\ lbf$

Transverse Aspect Ratio, $Ati5 := \frac{H5 + 2\,(tiz)}{D5 + 2\,(tiz)} = 0.794$

Transverse Force Coefficient, $Cati5 :=$

$$\begin{cases} \text{if } Ati5 \le 2.5 \\ \quad 1.2 \\ \text{else if } Ati5 \ge 25 \\ \quad 2.0 \\ \text{else if } 2.5 < Ati5 < 7 \\ \quad 1.2 + \left(\frac{Ati5 - 2.5}{(22.5)}\right) \\ \text{else if } 7 < Ati5 < 25 \\ \quad 1.4 + \left(\frac{Ati5 - 7}{(30)}\right) \\ \text{else if } Ati5 = 7 \\ \quad 1.4 \end{cases}$$

$Cati5 = 1.2$ Table 2-8 of TIA-222-G

Transverse Effective Projected Area, $EPAti5 := Cati5 \cdot (H5 + 2\,(tiz)) \cdot (D5 + 2\,(tiz)) = 1.756\ ft^2$

Gust Effect Factor, $Gh := 1.00$

Equipment Tangential Force, $Fat5 := EPAti5 \cdot Gh \cdot q_{zi} = 17.186\ lbf$

Apputenance Wind Force Calculation:

(6) - CCI TMABPDB7823VG12A (Flat Panel), $H6 := 10.63 \cdot in$, $W6 := 11.024 \cdot in$, $D6 := 3.72\ in$, $Dl6 := 22 \cdot lbf$

Normal Aspect Ratio, $An6 := \frac{H6}{W6} = 0.964$

Normal Force Coefficient, $Can6 :=$

$$\begin{cases} 1.2 & \text{if } An6 \le 2.5 \\ 2.0 & \text{else if } An6 \ge 25 \\ 1.2 + \left(\frac{An6 - 2.5}{(22.5)}\right) & \text{else if } 2.5 < An6 < 7 \\ 1.4 + \left(\frac{An6 - 7}{(30)}\right) & \text{else if } 7 < An6 < 25 \\ 1.4 & \text{else if } An6 = 7 \end{cases}$$

$Can6 = 1.2$ Table 2-8 of TIA-222-G

Normal Effective Projected Area, $EPAn6 := Can6 \cdot H6 \cdot W6 = 0.977\ ft^2$

Gust Effect Factor, $Gh := 1.00$

Equipment Normal Force, $Fan6 := EPAn6 \cdot Gh \cdot q_z = 48.461\ lbf$

Transverse Aspect Ratio, $At6 := \frac{H6}{D6} = 2.858$

Transverse Force Coefficient, $Cat6 :=$

$$\begin{cases} 1.2 & \text{if } At6 \le 2.5 \\ 2.0 & \text{else if } At6 \ge 25 \\ 1.2 + \left(\frac{At6 - 2.5}{(22.5)}\right) & \text{else if } 2.5 < At6 < 7 \\ 1.4 + \left(\frac{At6 - 7}{(30)}\right) & \text{else if } 7 < At6 < 25 \\ 1.4 & \text{else if } At6 = 7 \end{cases}$$

$Cat6 = 1.216$ Table 2-8 of TIA-222-G

Transverse Effective Projected Area, $EPAt6 := Cat6 \cdot H6 \cdot D6 = 0.334\ ft^2$

Gust Effect Factor, $Gh := 1.00$

Equipment Tangential Force, $Fat6 := EPAt6 \cdot Gh \cdot q_z = 16.57\ lbf$

Apputenance Ice Wind Force Example Calculation:

(6) - CCI TMABPDB7823VG12A (Flat Panel), $H6 := 10.63 \cdot in$, $W6 := 11.024 \cdot in$, $D6 := 3.72\ in$, $Dl6 := 22 \cdot lbf$

Largest out-to-out dimension of member, $Dc6 := \sqrt{W6^2 + D6^2} = 11.635\ in$

Cross-Sectional Area of Ice at Height z, $Aiz6 := \pi \cdot tiz \cdot (Dc6 + tiz) = 0.678\ ft^2$

Ice Density, $IceDensity := 56\ pcf$

Equipment Ice Weight, $Dli6 := H6 \cdot Aiz6 \cdot IceDensity = 33.627\ lbf$

Normal Ice Aspect Ratio, $Ani6 := \frac{H6 + 2\,(tiz)}{W6 + 2\,(tiz)} = 0.975$

Normal Ice Force Coefficient, $Cani6 :=$

$$\begin{cases} \text{if } Ani6 \le 2.5 \\ \quad 1.2 \\ \text{else if } Ani6 \ge 25 \\ \quad 2.0 \\ \text{else if } 2.5 < Ani6 < 7 \\ \quad 1.2 + \left(\frac{Ani6 - 2.5}{(22.5)}\right) \\ \text{else if } 7 < Ani6 < 25 \\ \quad 1.4 + \left(\frac{Ani6 - 7}{(30)}\right) \\ \text{else if } Ani6 = 7 \\ \quad 1.4 \end{cases}$$

$Cani6 = 1.2$ Table 2-8 of TIA-222-G

Normal Ice Effective Projected Area, $EPAni6 := Cani6 \cdot (H6 + 2\,(tiz)) \cdot (W6 + 2\,(tiz)) = 1.952\ ft^2$

Gust Effect Factor, $Gh := 1.00$

Equipment Normal Ice Force, $Fani6 := EPAni6 \cdot Gh \cdot q_{zi} = 19.1\ lbf$

Transverse Aspect Ratio, $Ati6 := \frac{H6 + 2\,(tiz)}{D6 + 2\,(tiz)} = 1.843$

Transverse Force Coefficient, $Cati6 :=$

$$\begin{cases} \text{if } Ati6 \le 2.5 \\ \quad 1.2 \\ \text{else if } Ati6 \ge 25 \\ \quad 2.0 \\ \text{else if } 2.5 < Ati6 < 7 \\ \quad 1.2 + \left(\frac{Ati6 - 2.5}{(22.5)}\right) \\ \text{else if } 7 < Ati6 < 25 \\ \quad 1.4 + \left(\frac{Ati6 - 7}{(30)}\right) \\ \text{else if } Ati6 = 7 \\ \quad 1.4 \end{cases}$$

$Cati6 = 1.2$ Table 2-8 of TIA-222-G

Transverse Effective Projected Area, $EPAti6 := Cati6 \cdot (H6 + 2\,(tiz)) \cdot (D6 + 2\,(tiz)) = 1.032\ ft^2$

Gust Effect Factor, $Gh := 1.00$

Equipment Tangential Force, $Fat6 := EPAti6 \cdot Gh \cdot q_{zi} = 10.101\ lbf$

General Information for use in Risa-3D

Risa-3D Basic Load Cases	Description
1	Dead
2	Live
3	Wind 0
6	Wind 90
9	Ice Load
10	Ice 0
13	Ice 90

Where:
BLC = Basic Load Case
D = Dead Load
Di = Dead Load of Ice
W = Wind Load
Wi = Wind Load w/ Ice

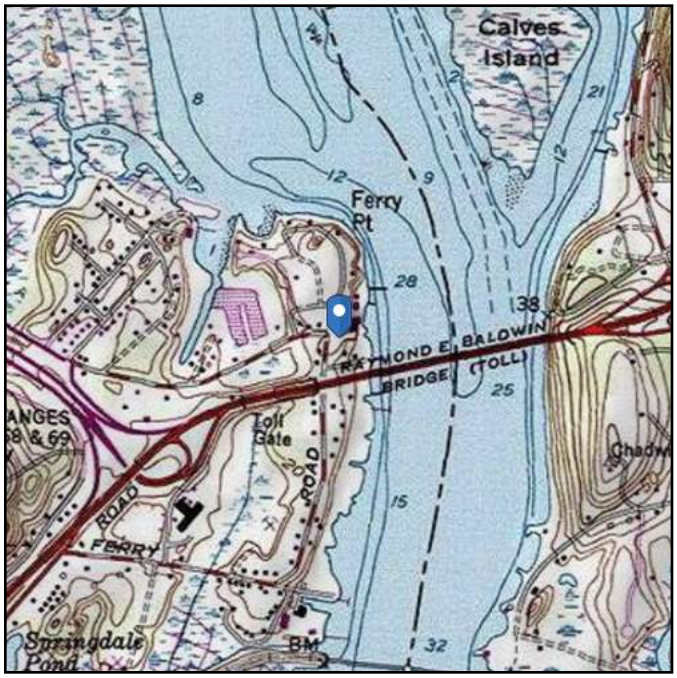
Load Combination	Description	Wind Factor	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	1.2D + 1.6W (0)	1.6	Y	1	1.2	3	1.6				
2	1.2D + 1.6W (30)	1.6	Y	1	1.2	3	1.39	4	0.8		
3	1.2D + 1.6W (60)	1.6	Y	1	1.2	3	0.8	4	1.39		
4	1.2D + 1.6W (90)	1.6	Y	1	1.2	4	1.6				
5	1.2D + 1.6W (120)	1.6	Y	1	1.2	3	-0.8	4	1.39		
6	1.2D + 1.6W (150)	1.6	Y	1	1.2	3	-1.39	4	0.8		
7	1.2D + 1.6W (180)	1.6	Y	1	1.2	3	-1.6				
8	1.2D + 1.6W (210)	1.6	Y	1	1.2	3	-1.39	4	-0.8		
9	1.2D + 1.6W (240)	1.6	Y	1	1.2	3	-0.8	4	-1.39		
10	1.2D + 1.6W (270	1.6	Y	1	1.2	4	-1.6				
11	1.2D + 1.6W (300)	1.6	Y	1	1.2	3	0.8	4	-1.39		
12	1.2D + 1.6W (330)	1.6	Y	1	1.2	3	1.39	4	-0.8		
13	1.2D+1.0Di+1.0Wi (0)	1.0	Y	1	1.2	9	1.0	10	1.0		
14	1.2D+1.0Di+1.0Wi (30)	1.0	Y	1	1.2	9	1.0	10	0.866	13	0.5
15	1.2D+1.0Di+1.0Wi (60)	1.0	Y	1	1.2	9	1.0	10	0.5	13	0.866
16	1.2D+1.0Di+1.0Wi (90)	1.0	Y	1	1.2	9	1.0	13	1.0		
17	1.2D+1.0Di+1.0Wi (120)	1.0	Y	1	1.2	9	1.0	10	-0.5	13	0.866
18	1.2D+1.0Di+1.0Wi (150)	1.0	Y	1	1.2	9	1.0	10	-0.866	13	0.5
19	1.2D+1.0Di+1.0Wi (180)	1.0	Y	1	1.2	9	1.0	10	-1.0		
20	1.2D+1.0Di+1.0Wi (210)	1.0	Y	1	1.2	9	1.0	10	-0.866	13	-0.5
21	1.2D+1.0Di+1.0Wi (240)	1.0	Y	1	1.2	9	1.0	10	-0.5	13	-0.866
22	1.2D+1.0Di+1.0Wi (270)	1.0	Y	1	1.2	9	1.0	13	-1.0		
23	1.2D+1.0Di+1.0Wi (300)	1.0	Y	1	1.2	9	1.0	10	0.5	13	-0.866
24	1.2D+1.0Di+1.0Wi (330)	1.0	Y	1	1.2	9	1.0	10	0.866	13	-0.5
25	1.2D+1.6Wi (0) Service Wind	1.0	Y	1	1.2	3	0.8				

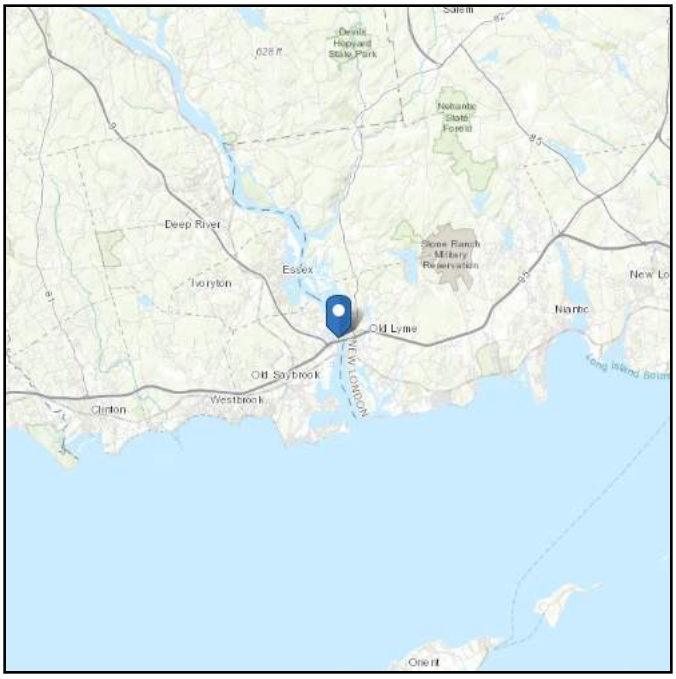
ASCE 7 Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-10
Risk Category: II
Soil Class: D - Stiff Soil

Elevation: 32.65 ft (NAVD 88)
Latitude: 41.319665
Longitude: -72.351646





Wind

Results:

Wind Speed:	132 Vmph
10-year MRI	79 Vmph
25-year MRI	89 Vmph
50-year MRI	98 Vmph
100-year MRI	107 Vmph

135 per Jurisdiction

Data Source: ASCE/SEI 7-10, Fig. 26.5-1A and Figs. CC-1–CC-4, incorporating errata of March 12, 2014

Date Accessed: Thu Apr 02 2020

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 7-10 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is in a hurricane-prone region as defined in ASCE/SEI 7-10 Section 26.2. Glazed openings shall be protected against wind-borne debris as specified in Section 26.10.3.

Mountainous terrain, gorges, ocean promontories, and special wind regions should be examined for unusual wind conditions.

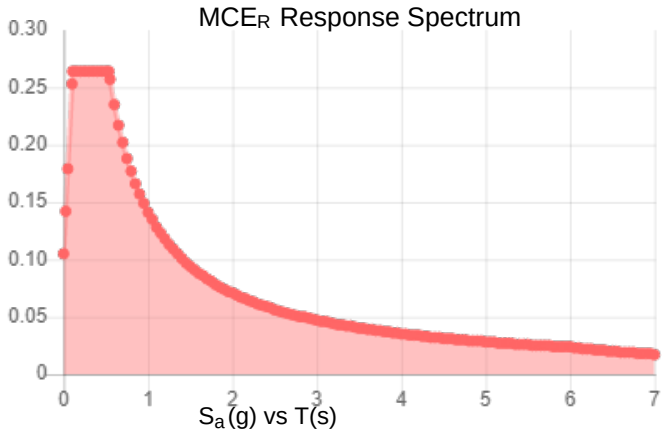
Seismic

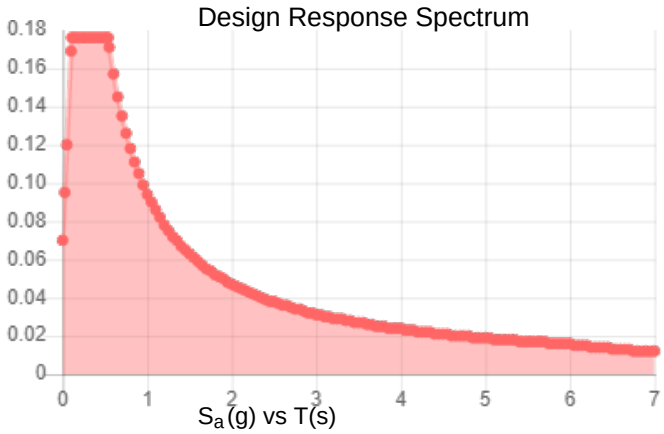
Site Soil Class: D - Stiff Soil

Results:

S_S :	0.165	S_{DS} :	0.176
S_1 :	0.059	S_{D1} :	0.094
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.083
S_{MS} :	0.264	PGA_M :	0.132
S_{M1} :	0.141	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B





Data Accessed: Thu Apr 02 2020

Date Source: USGS Seismic Design Maps based on ASCE/SEI 7-10, incorporating Supplement 1 and errata of March 31, 2013, and ASCE/SEI 7-10 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-10 Ch. 21 are available from USGS.

Ice

Results:

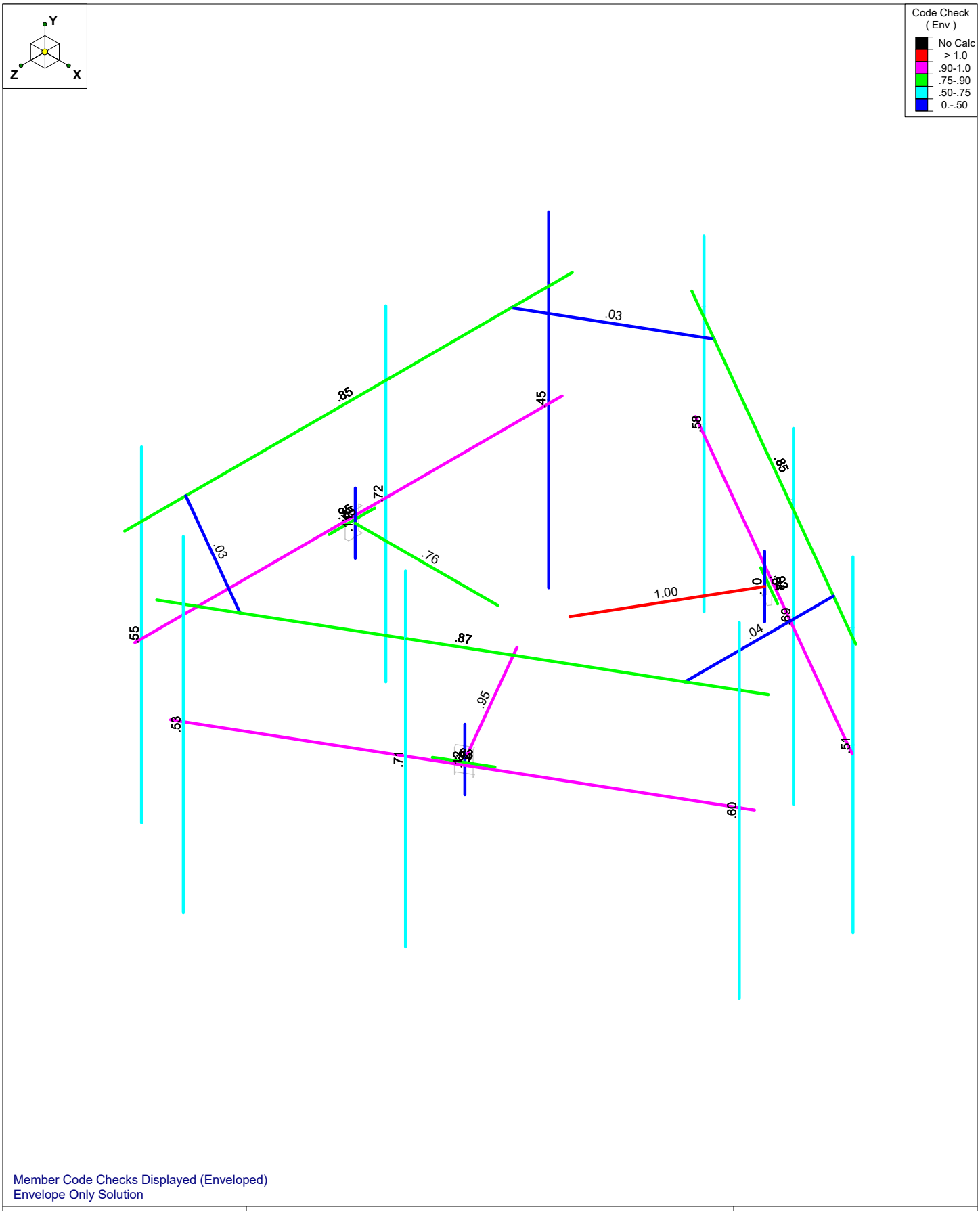
Ice Thickness:	0.75 in.
Concurrent Temperature:	15 F
Gust Speed:	50 mph
Data Source:	Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8
Date Accessed:	Thu Apr 02 2020

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 50-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.

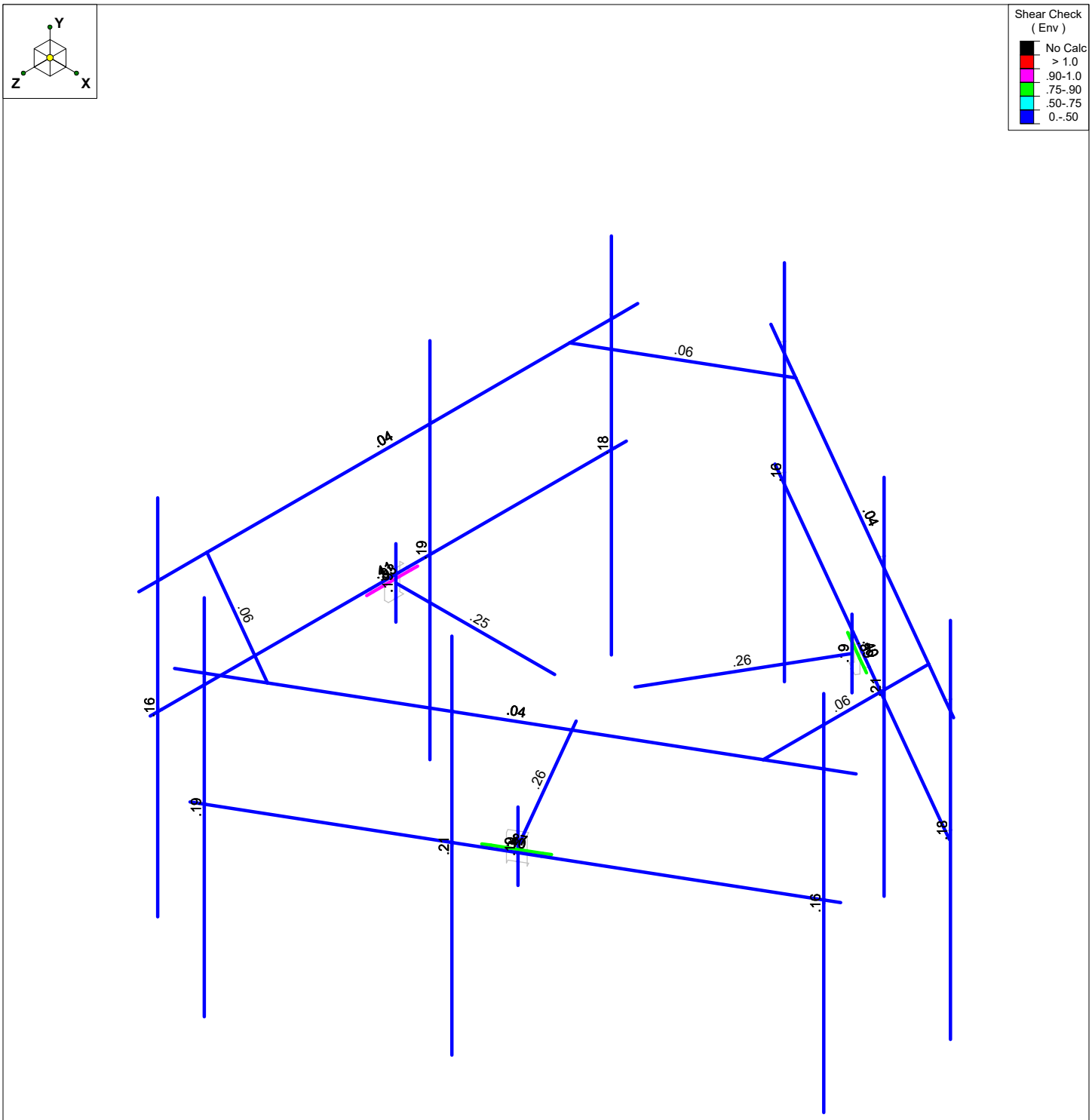
APPENDIX C

SOFTWARE ANALYSIS OUTPUT



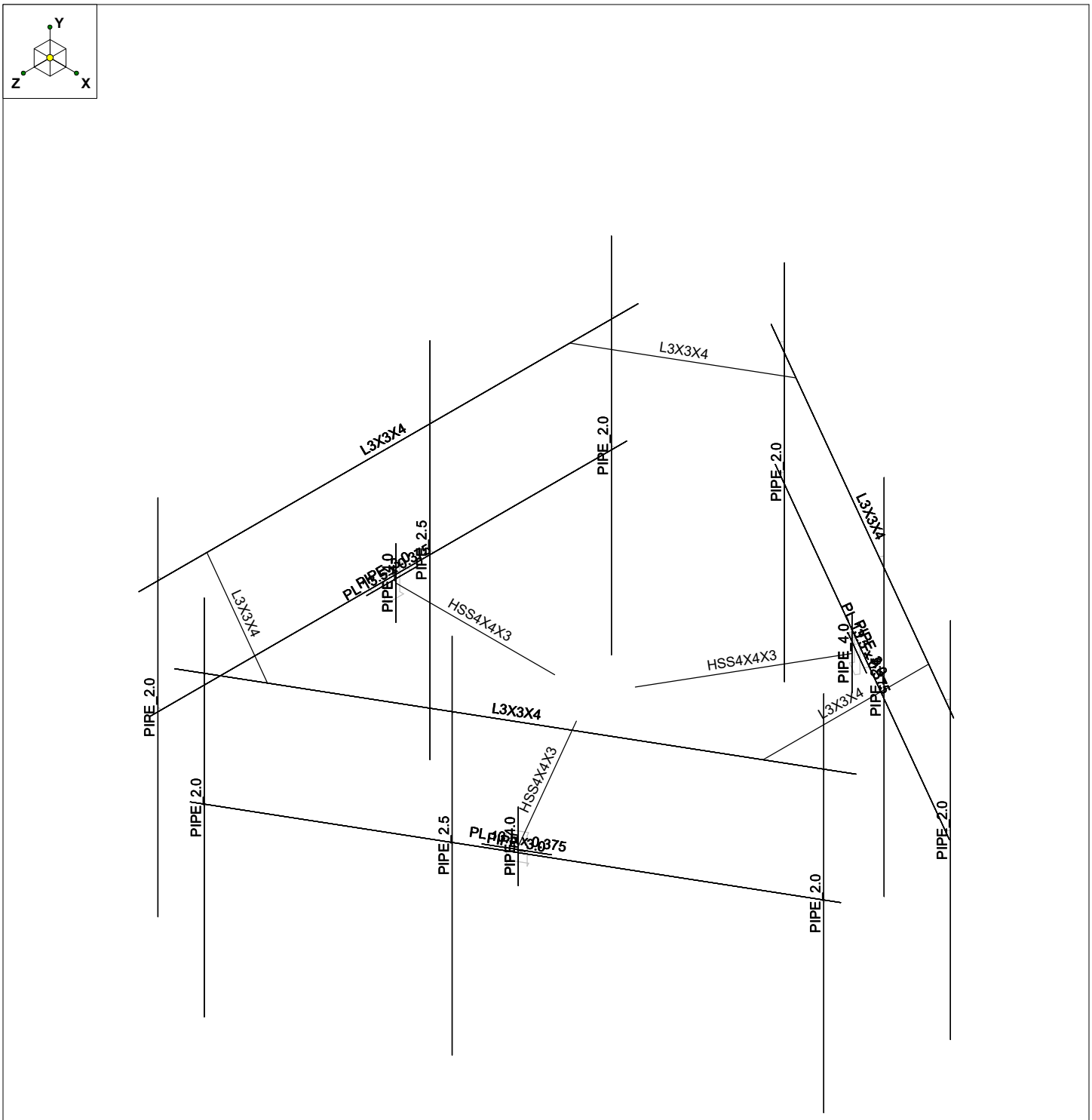
Member Code Checks Displayed (Enveloped)
Envelope Only Solution

Paul J. Ford and Company	Eversource - CTL02042	SK - 3
STP		Apr 2, 2020 at 12:26 PM
80620-0004.001.6090		80620-0004.001.6090_Wind Load....



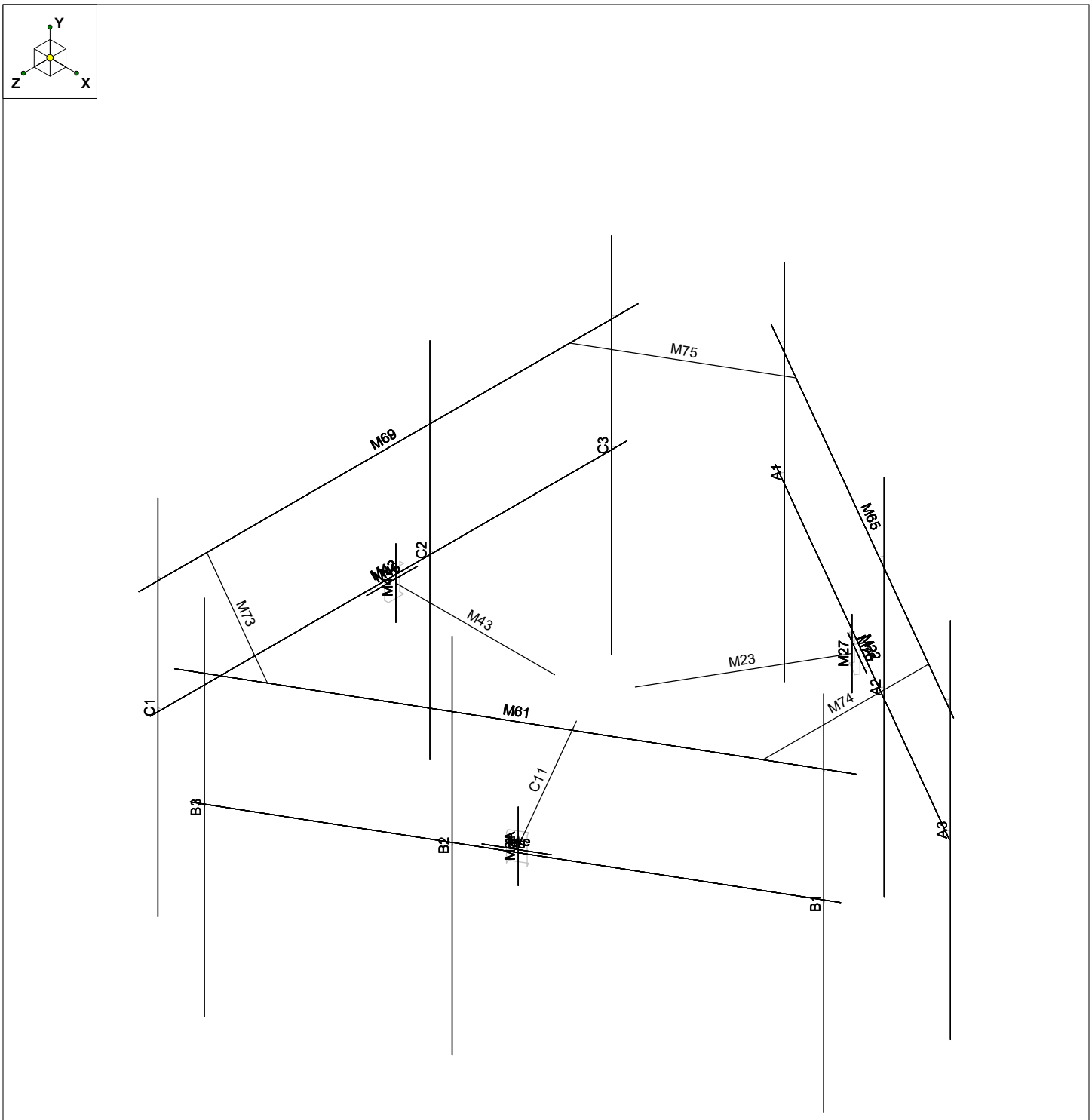
Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

Paul J. Ford and Company	Eversource - CTL02042	SK - 4
STP		Apr 2, 2020 at 12:26 PM
80620-0004.001.6090		80620-0004.001.6090_Wind Load. ...



Envelope Only Solution

Paul J. Ford and Company	Eversource - CTL02042	SK - 5
STP		Apr 2, 2020 at 12:26 PM
80620-0004.001.6090		80620-0004.001.6090_Wind Load....



Envelope Only Solution

Paul J. Ford and Company	Eversource - CTL02042	SK - 6
STP		Apr 2, 2020 at 12:26 PM
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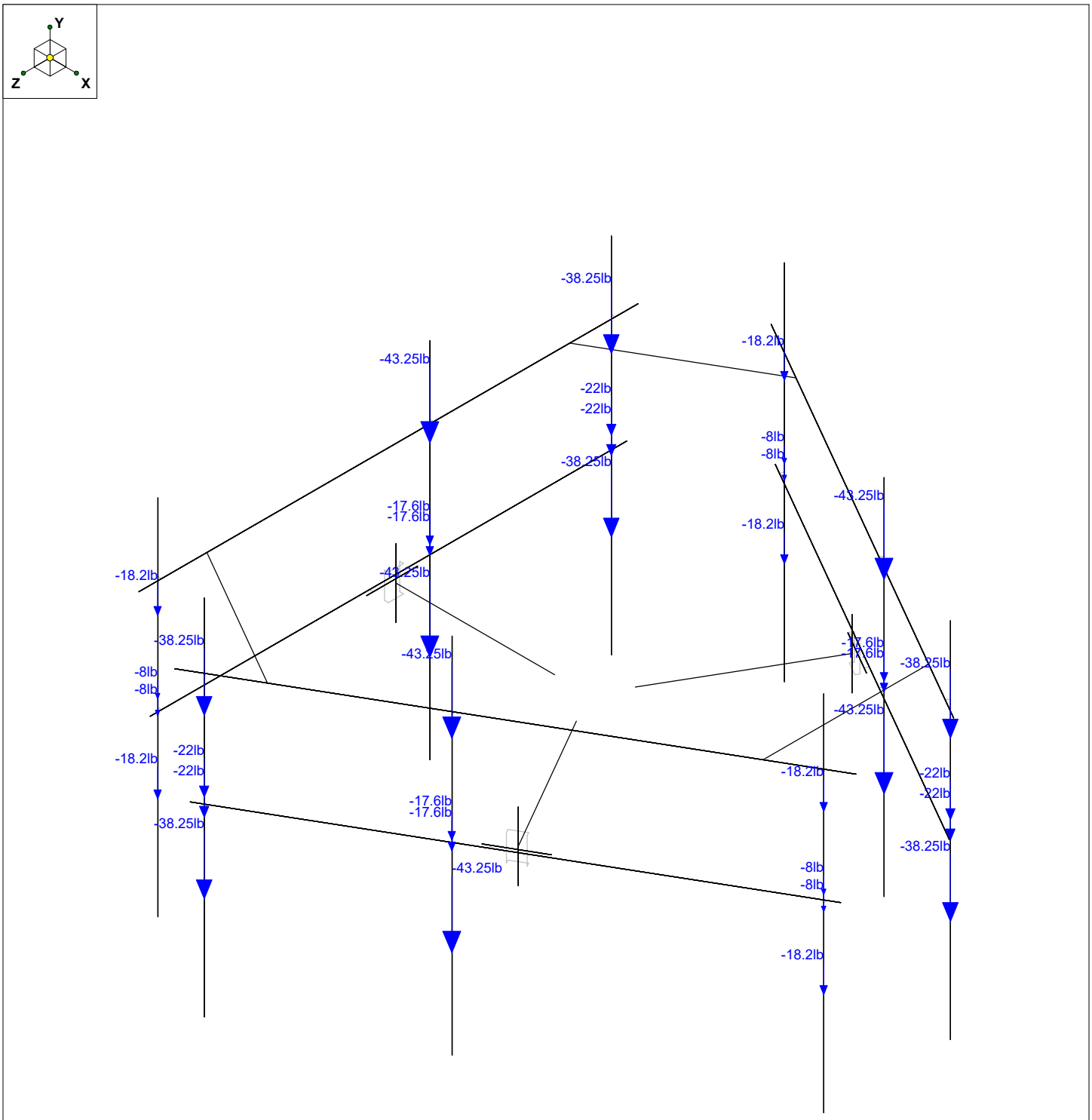
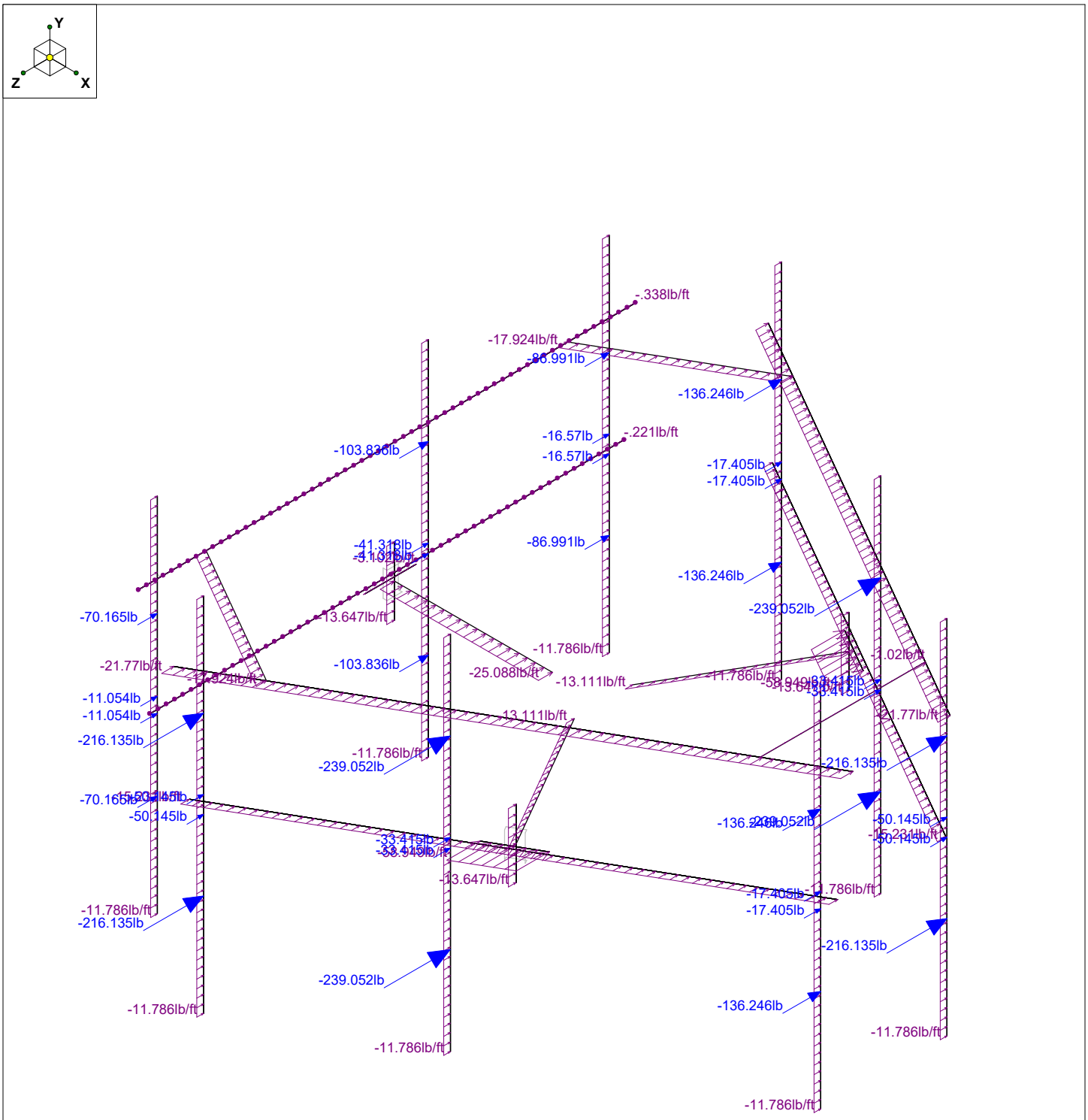


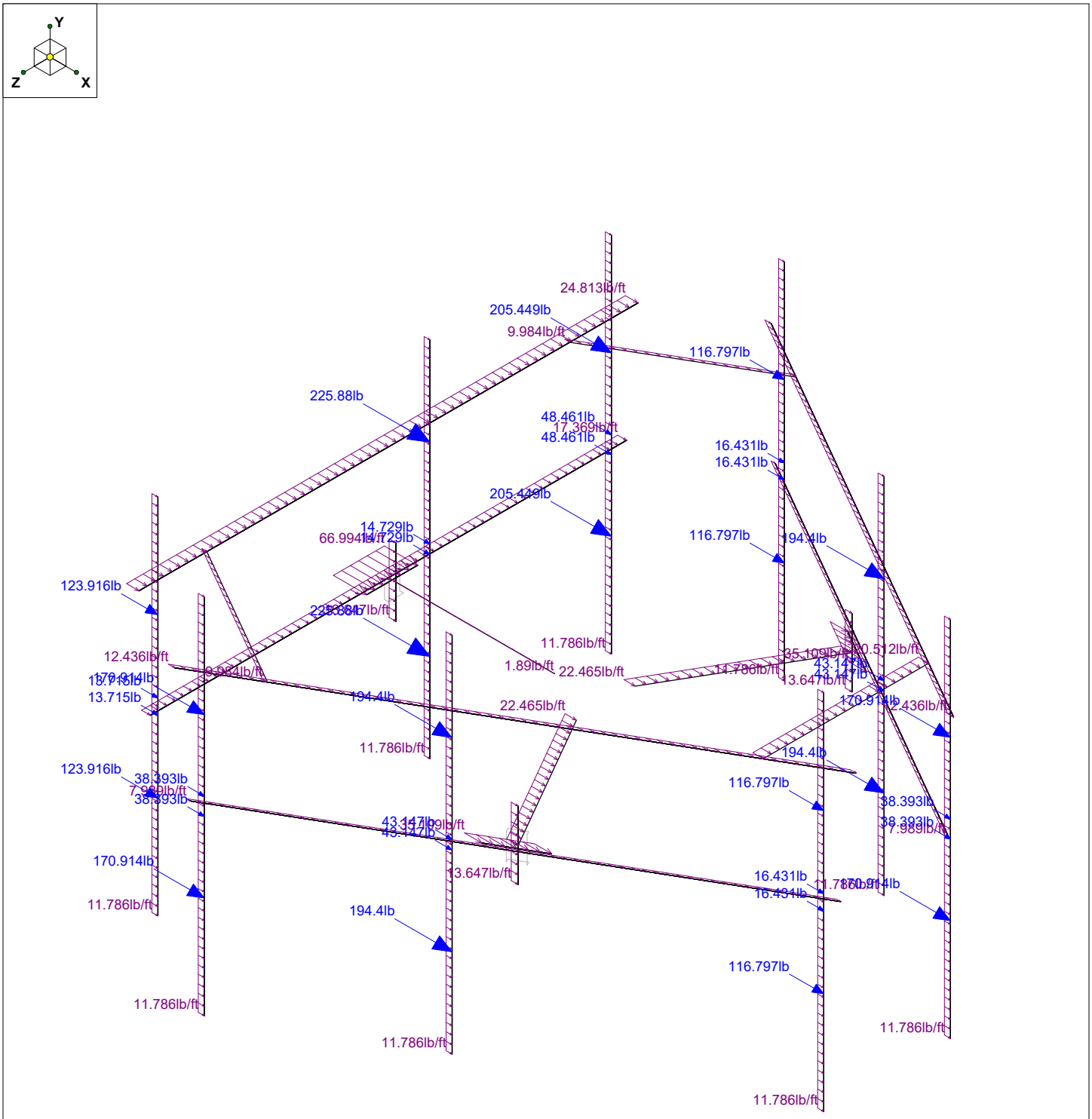
Loads: BLC 1, Dead
Envelope Only Solution

Paul J. Ford and Company	Eversource - CTL02042	SK - 7
STP		Apr 2, 2020 at 12:26 PM
80620-0004.001.6090		80620-0004.001.6090_Wind Load....



Loads: BLC 3, Wind 0
Envelope Only Solution

Paul J. Ford and Company	Eversource - CTL02042	SK - 8
STP		Apr 2, 2020 at 12:26 PM
80620-0004.001.6090		80620-0004.001.6090_Wind Load....



Loads: BLC 6, Wind 90
Envelope Only Solution

Paul J. Ford and Company	Eversource - CTL02042	SK - 9
STP		Apr 2, 2020 at 12:26 PM
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(Global) Model Settings

Display Sections for Member Calcs	5
Max Internal Sections for Member Calcs	97
Include Shear Deformation?	Yes
Increase Nailing Capacity for Wind?	Yes
Include Warping?	Yes
Trans Load Btwn Intersecting Wood Wall?	Yes
Area Load Mesh (in^2)	144
Merge Tolerance (in)	.12
P-Delta Analysis Tolerance	0.50%
Include P-Delta for Walls?	Yes
Automatically Iterate Stiffness for Walls?	No
Max Iterations for Wall Stiffness	3
Gravity Acceleration (in/sec^2)	386.4
Wall Mesh Size (in)	12
Eigensolution Convergence Tol. (1.E-)	4
Vertical Axis	Y
Global Member Orientation Plane	XZ
Static Solver	Sparse Accelerated
Dynamic Solver	Accelerated Solver

Hot Rolled Steel Code	AISC 14th(360-10): LRFD
Adjust Stiffness?	Yes(Iterative)
RISAConnection Code	None
Cold Formed Steel Code	None
Wood Code	None
Wood Temperature	< 100F
Concrete Code	None
Masonry Code	None
Aluminum Code	None - Building
Stainless Steel Code	None

Number of Shear Regions	4
Region Spacing Increment (in)	4
Biaxial Column Method	Exact Integration
Parme Beta Factor (PCA)	.65
Concrete Stress Block	Rectangular
Use Cracked Sections?	No
Use Cracked Sections Slab?	Yes
Bad Framing Warnings?	No
Unused Force Warnings?	No
Min 1 Bar Diam. Spacing?	No
Concrete Rebar Set	REBAR_SET_ASTMA615
Min % Steel for Column	1
Max % Steel for Column	0

(Global) Model Settings, Continued

Seismic Code	None
Seismic Base Elevation (in)	Not Entered
Add Base Weight?	No
Ct X	0
Ct Z	0
T X (sec)	Not Entered
T Z (sec)	Not Entered
R X	1
R Z	1

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (/1E..	Density[k/ft...	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
2	A500 Gr.46	29000	11154	.3	.65	.49	46	1.4	58	1.3
3	A53 Gr. B (35 ksi)	29000	11154	.3	.65	.49	35	1.5	60	1.2

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	B1	A7	A9			PIPE_2.0	None	None	A53 Gr. B ...	Typical
2	fds	B1	B2			PIPE_3.0	None	None	A53 Gr. B ...	Typical
3	C11	C1	C2			HSS4X4X3	None	None	A500 Gr.46	Typical
4	M7A	N18A	N16			RIGID	None	None	RIGID	Typical
5	M8	N19	N17A			RIGID	None	None	RIGID	Typical
6	awe	N20	N21		180	PL 13.5 x 0.375	None	None	A36 Gr.36	Typical
7	M8A	N18	N17			PIPE_4.0	None	None	A53 Gr. B ...	Typical
8	M9	N21A	N19A			RIGID	None	None	RIGID	Typical
9	M10	N22	N20A			RIGID	None	None	RIGID	Typical
10	M11	N27A	N21A			RIGID	None	None	RIGID	Typical
11	M12	N25	N19A			RIGID	None	None	RIGID	Typical
12	M13	N26	N20A			RIGID	None	None	RIGID	Typical
13	M14	N28	N22			RIGID	None	None	RIGID	Typical
14	M15	N28	N27A			RIGID	None	None	RIGID	Typical
15	M16	N26	N25			RIGID	None	None	RIGID	Typical
16	M16A	A8	N28A			RIGID	None	None	RIGID	Typical
17	B3	N29A	N31			PIPE_2.0	None	None	A53 Gr. B ...	Typical
18	q	N30A	N32			RIGID	None	None	RIGID	Typical
19	B2	N33	N35			PIPE_2.5	None	None	A53 Gr. B ...	Typical
20	M20	N34	N36			RIGID	None	None	RIGID	Typical
21	A1	N37	N39			PIPE_2.0	None	None	A53 Gr. B ...	Typical
22	M22	N40	N41			PIPE_3.0	None	None	A53 Gr. B ...	Typical
23	M23	N42	N43			HSS4X4X3	None	None	A500 Gr.46	Typical
24	M24	N46	N44			RIGID	None	None	RIGID	Typical
25	M25	N47	N45			RIGID	None	None	RIGID	Typical
26	M26	N48	N49		180	PL 13.5 x 0.375	None	None	A36 Gr.36	Typical
27	M27	N51	N50			PIPE_4.0	None	None	A53 Gr. B ...	Typical
28	M28	N54	N52			RIGID	None	None	RIGID	Typical
29	M29	N55	N53			RIGID	None	None	RIGID	Typical
30	M30	N60	N54			RIGID	None	None	RIGID	Typical
31	M31	N58	N52			RIGID	None	None	RIGID	Typical
32	M32	N59	N53			RIGID	None	None	RIGID	Typical
33	M33	N61	N55			RIGID	None	None	RIGID	Typical
34	M34	N61	N60			RIGID	None	None	RIGID	Typical
35	M35	N59	N58			RIGID	None	None	RIGID	Typical
36	M36	N38	N64			RIGID	None	None	RIGID	Typical
37	A3	N65	N67			PIPE_2.0	None	None	A53 Gr. B ...	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
38	M38	N66	N68			RIGID	None	None	RIGID	Typical
39	A2	N69	N71			PIPE 2.5	None	None	A53 Gr. B ...	Typical
40	M40	N70	N72			RIGID	None	None	RIGID	Typical
41	C1	N73	N75			PIPE 2.0	None	None	A53 Gr. B ...	Typical
42	M42	N76	N77			PIPE 3.0	None	None	A53 Gr. B ...	Typical
43	M43	N78	N79			HSS4X4X3	None	None	A500 Gr.46	Typical
44	M44	N82	N80			RIGID	None	None	RIGID	Typical
45	M45	N83	N81			RIGID	None	None	RIGID	Typical
46	M46	N84	N85		180	PL 13.5 x 0.375	None	None	A36 Gr.36	Typical
47	M47	N87	N86			PIPE 4.0	None	None	A53 Gr. B ...	Typical
48	M48	N90	N88			RIGID	None	None	RIGID	Typical
49	M49	N91	N89			RIGID	None	None	RIGID	Typical
50	M50	N96	N90			RIGID	None	None	RIGID	Typical
51	M51	N94	N88			RIGID	None	None	RIGID	Typical
52	M52	N95	N89			RIGID	None	None	RIGID	Typical
53	M53	N97	N91			RIGID	None	None	RIGID	Typical
54	M54	N97	N96			RIGID	None	None	RIGID	Typical
55	M55	N95	N94			RIGID	None	None	RIGID	Typical
56	M56	N74	N100			RIGID	None	None	RIGID	Typical
57	C3	N101	N103			PIPE 2.0	None	None	A53 Gr. B ...	Typical
58	M58	N102	N104			RIGID	None	None	RIGID	Typical
59	C2	N105	N107			PIPE 2.5	None	None	A53 Gr. B ...	Typical
60	M60	N106	N108			RIGID	None	None	RIGID	Typical
61	M61	N110	N111		180	L3X3X4	None	None	A36 Gr.36	Typical
62	M62	N109	N112			RIGID	None	None	RIGID	Typical
63	M63	N113	N114			RIGID	None	None	RIGID	Typical
64	M64	N115	N116			RIGID	None	None	RIGID	Typical
65	M65	N118	N119		180	L3X3X4	None	None	A36 Gr.36	Typical
66	M66	N117	N120			RIGID	None	None	RIGID	Typical
67	M67	N121	N122			RIGID	None	None	RIGID	Typical
68	M68	N123	N124			RIGID	None	None	RIGID	Typical
69	M69	N126	N127		180	L3X3X4	None	None	A36 Gr.36	Typical
70	M70	N125	N128			RIGID	None	None	RIGID	Typical
71	M71	N129	N130			RIGID	None	None	RIGID	Typical
72	M72	N131	N132			RIGID	None	None	RIGID	Typical
73	M73	N133	N138		270	L3X3X4	None	None	A36 Gr.36	Typical
74	M74	N135	N134		270	L3X3X4	None	None	A36 Gr.36	Typical
75	M75	N137	N136		270	L3X3X4	None	None	A36 Gr.36	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
1	B1						Yes	** NA **			None
2	fds						Yes	** NA **			None
3	C11						Yes	** NA **			None
4	M7A						Yes	** NA **		Exclude	None
5	M8						Yes	** NA **		Exclude	None
6	awe						Yes	** NA **			None
7	M8A						Yes	** NA **			None
8	M9						Yes	** NA **			None
9	M10						Yes	** NA **			None
10	M11						Yes	** NA **			None
11	M12						Yes	** NA **			None
12	M13						Yes	** NA **			None
13	M14						Yes	** NA **			None
14	M15						Yes	** NA **			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
15	M16						Yes	** NA **			None
16	M16A						Yes	** NA **			None
17	B3						Yes	** NA **			None
18	q						Yes	** NA **			None
19	B2						Yes	** NA **			None
20	M20						Yes	** NA **			None
21	A1						Yes	** NA **			None
22	M22						Yes	** NA **			None
23	M23						Yes	** NA **			None
24	M24						Yes	** NA **		Exclude	None
25	M25						Yes	** NA **		Exclude	None
26	M26						Yes	** NA **			None
27	M27						Yes	** NA **			None
28	M28						Yes	** NA **			None
29	M29						Yes	** NA **			None
30	M30						Yes	** NA **			None
31	M31						Yes	** NA **			None
32	M32						Yes	** NA **			None
33	M33						Yes	** NA **			None
34	M34						Yes	** NA **			None
35	M35						Yes	** NA **			None
36	M36						Yes	** NA **			None
37	A3						Yes	** NA **			None
38	M38						Yes	** NA **			None
39	A2						Yes	** NA **			None
40	M40						Yes	** NA **			None
41	C1						Yes	** NA **			None
42	M42						Yes	** NA **			None
43	M43						Yes	** NA **			None
44	M44						Yes	** NA **		Exclude	None
45	M45						Yes	** NA **		Exclude	None
46	M46						Yes	** NA **			None
47	M47						Yes	** NA **			None
48	M48						Yes	** NA **			None
49	M49						Yes	** NA **			None
50	M50						Yes	** NA **			None
51	M51						Yes	** NA **			None
52	M52						Yes	** NA **			None
53	M53						Yes	** NA **			None
54	M54						Yes	** NA **			None
55	M55						Yes	** NA **			None
56	M56						Yes	** NA **			None
57	C3						Yes	** NA **			None
58	M58						Yes	** NA **			None
59	C2						Yes	** NA **			None
60	M60						Yes	** NA **			None
61	M61						Yes	** NA **			None
62	M62						Yes	** NA **			None
63	M63						Yes	** NA **			None
64	M64		OOOXOO				Yes	** NA **			None
65	M65						Yes	** NA **			None
66	M66						Yes	** NA **			None
67	M67						Yes	** NA **			None
68	M68		OOOXOO				Yes	** NA **			None
69	M69						Yes	** NA **			None
70	M70						Yes	** NA **			None
71	M71						Yes	** NA **			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
72	M72		OOOXOO				Yes	** NA **			None
73	M73	BenPIN	BenPIN				Yes	** NA **			None
74	M74	BenPIN	BenPIN				Yes	** NA **			None
75	M75	BenPIN	BenPIN				Yes	** NA **			None

Hot Rolled Steel Design Parameters

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torqu...	Kyy	Kzz	Cb	Function
1	B1	PIPE_2.0	96			Lbyy						Lateral
2	fds	PIPE_3.0	126			Lbyy						Lateral
3	C11	HSS4X4X3	42			Lbyy						Lateral
4	awe	PL 13.5 x 0....	13.5									Lateral
5	M8A	PIPE_4.0	18									Lateral
6	B3	PIPE_2.0	96			Lbyy						Lateral
7	B2	PIPE_2.5	96			Lbyy						Lateral
8	A1	PIPE_2.0	96			Lbyy						Lateral
9	M22	PIPE_3.0	126			Lbyy						Lateral
10	M23	HSS4X4X3	42			Lbyy						Lateral
11	M26	PL 13.5 x 0....	13.5									Lateral
12	M27	PIPE_4.0	18									Lateral
13	A3	PIPE_2.0	96			Lbyy						Lateral
14	A2	PIPE_2.5	96			Lbyy						Lateral
15	C1	PIPE_2.0	96			Lbyy						Lateral
16	M42	PIPE_3.0	126			Lbyy						Lateral
17	M43	HSS4X4X3	42			Lbyy						Lateral
18	M46	PL 13.5 x 0....	13.5									Lateral
19	M47	PIPE_4.0	18									Lateral
20	C3	PIPE_2.0	96			Lbyy						Lateral
21	C2	PIPE_2.5	96			Lbyy						Lateral
22	M61	L3X3X4	132			Lbyy						Lateral
23	M65	L3X3X4	132			Lbyy						Lateral
24	M69	L3X3X4	132			Lbyy						Lateral
25	M73	L3X3X4	43.799									Lateral
26	M74	L3X3X4	43.799									Lateral
27	M75	L3X3X4	43.799									Lateral

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
1	Dead	None		-1.1			36			
2	Live	None								
3	Wind 0	None					72	54		
6	Wind 90	None					72	54		
9	Ice Load	None					36	27		
10	Ice 0	None					72	54		
13	Ice 90	None					72	54		

Load Combinations

	Description	Solve	PDelta	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1	1.2D + 1.6W (0 deg)	Yes	Y		1	1.2	3	1.6	6																	
2	1.2D + 1.6W (30 deg)	Yes	Y		1	1.2	3	1.39	6	.8																
3	1.2D + 1.6W (60 deg)	Yes	Y		1	1.2	3	.8	6	1.39																
4	1.2D + 1.6W (90 deg)	Yes	Y		1	1.2	3		6	1.6																
5	1.2D + 1.6W (120 deg)	Yes	Y		1	1.2	3	-.8	6	1.39																

Load Combinations (Continued)

	Description	Solve	PDelta	S	B	Fa	B	Fa	B	Fa	B	Fa	B	Fa	B	Fa	B	Fa	B	Fa	B	Fa	B	Fa	B	Fa
6	1.2D + 1.6W (150 deg)	Yes	Y		1	1.2	3	-1....	6	.8																
7	1.2D + 1.6W (180 deg)	Yes	Y		1	1.2	3	-1.6	6																	
8	1.2D + 1.6W (210 deg)	Yes	Y		1	1.2	3	-1....	6	-.8																
9	1.2D + 1.6W (240 deg)	Yes	Y		1	1.2	3	-.8	6	-1....																
10	1.2D + 1.6W (270 deg)	Yes	Y		1	1.2	3		6	-1.6																
11	1.2D + 1.6W (300 deg)	Yes	Y		1	1.2	3	.8	6	-1....																
12	1.2D + 1.6W (330 deg)	Yes	Y		1	1.2	3	1.39	6	-.8																
13	1.2D + 1.0Di + 1.0Wi (0 deg)	Yes	Y		1	1.2	9	1	10	1	13															
14	1.2D + 1.0Di + 1.0Wi (30 deg)	Yes	Y		1	1.2	9	1	10	.87	13	.5														
15	1.2D + 1.0Di + 1.0Wi (60 deg)	Yes	Y		1	1.2	9	1	10	.5	13	.87														
16	1.2D + 1.0Di + 1.0Wi (90 deg)	Yes	Y		1	1.2	9	1	10		13	1														
17	1.2D + 1.0Di + 1.0Wi (120 d...	Yes	Y		1	1.2	9	1	10	-.5	13	.87														
18	1.2D + 1.0Di + 1.0Wi (150 d...	Yes	Y		1	1.2	9	1	10	-.87	13	.5														
19	1.2D + 1.0Di + 1.0Wi (180 d...	Yes	Y		1	1.2	9	1	10	-1	13															
20	1.2D + 1.0Di + 1.0Wi (210 d...	Yes	Y		1	1.2	9	1	10	-.87	13	-.5														
21	1.2D + 1.0Di + 1.0Wi (240 d...	Yes	Y		1	1.2	9	1	10	-.5	13	-.87														
22	1.2D + 1.0Di + 1.0Wi (270 d...	Yes	Y		1	1.2	9	1	10		13	-1														
23	1.2D + 1.0Di + 1.0Wi (300 d...	Yes	Y		1	1.2	9	1	10	.5	13	-.87														
24	1.2D + 1.0Di + 1.0Wi (330 d...	Yes	Y		1	1.2	9	1	10	.87	13	-.5														
25	1.2D + 1.6Wi (0) Service Wind	Yes	Y		1	1.2	3	.58																		

Member Distributed Loads (BLC 3 : Wind 0)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[in,%]	End Location[in,%]
1	B1	Z	-11.786	-11.786	0	0
2	B1	X	0	0	0	0
3	fds	Z	-15.231	-15.231	0	0
4	fds	X	0	0	0	0
5	C11	Z	-13.111	-13.111	0	0
6	C11	X	0	0	0	0
7	awe	Z	-58.949	-58.949	0	0
8	awe	X	0	0	0	0
9	M8A	Z	-13.647	-13.647	0	0
10	M8A	X	0	0	0	0
11	B3	Z	-11.786	-11.786	0	0
12	B3	X	0	0	0	0
13	B2	Z	-11.786	-11.786	0	0
14	B2	X	0	0	0	0
15	A1	Z	-11.786	-11.786	0	0
16	A1	X	0	0	0	0
17	M22	Z	-15.231	-15.231	0	0
18	M22	X	0	0	0	0
19	M23	Z	-13.111	-13.111	0	0
20	M23	X	0	0	0	0
21	M26	Z	-58.949	-58.949	0	0
22	M26	X	0	0	0	0
23	M27	Z	-13.647	-13.647	0	0
24	M27	X	0	0	0	0
25	A3	Z	-11.786	-11.786	0	0
26	A3	X	0	0	0	0
27	A2	Z	-11.786	-11.786	0	0
28	A2	X	0	0	0	0
29	C1	Z	-11.786	-11.786	0	0
30	C1	X	0	0	0	0
31	M42	Z	-.221	-.221	0	0
32	M42	X	0	0	0	0

Member Distributed Loads (BLC 3 : Wind 0) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[in,%]	End Location[in,%]
33	M43	Z	-25.088	-25.088	0	0
34	M43	X	0	0	0	0
35	M46	Z	-3.102	-3.102	0	0
36	M46	X	0	0	0	0
37	M47	Z	-13.647	-13.647	0	0
38	M47	X	0	0	0	0
39	C3	Z	-11.786	-11.786	0	0
40	C3	X	0	0	0	0
41	C2	Z	-11.786	-11.786	0	0
42	C2	X	0	0	0	0
43	M61	Z	-21.77	-21.77	0	0
44	M61	X	0	0	0	0
45	M65	Z	-21.77	-21.77	0	0
46	M65	X	0	0	0	0
47	M69	Z	-.338	-.338	0	0
48	M69	X	0	0	0	0
49	M73	Z	-17.924	-17.924	0	0
50	M73	X	0	0	0	0
51	M74	Z	-1.02	-1.02	0	0
52	M74	X	0	0	0	0
53	M75	Z	-17.924	-17.924	0	0
54	M75	X	0	0	0	0

Member Distributed Loads (BLC 6 : Wind 90)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[in,%]	End Location[in,%]
1	B1	Z	0	0	0	0
2	B1	X	11.786	11.786	0	0
3	fds	Z	0	0	0	0
4	fds	X	7.989	7.989	0	0
5	C11	Z	0	0	0	0
6	C11	X	22.465	22.465	0	0
7	awe	Z	0	0	0	0
8	awe	X	35.109	35.109	0	0
9	M8A	Z	0	0	0	0
10	M8A	X	13.647	13.647	0	0
11	B3	Z	0	0	0	0
12	B3	X	11.786	11.786	0	0
13	B2	Z	0	0	0	0
14	B2	X	11.786	11.786	0	0
15	A1	Z	0	0	0	0
16	A1	X	11.786	11.786	0	0
17	M22	Z	0	0	0	0
18	M22	X	7.989	7.989	0	0
19	M23	Z	0	0	0	0
20	M23	X	22.465	22.465	0	0
21	M26	Z	0	0	0	0
22	M26	X	35.109	35.109	0	0
23	M27	Z	0	0	0	0
24	M27	X	13.647	13.647	0	0
25	A3	Z	0	0	0	0
26	A3	X	11.786	11.786	0	0
27	A2	Z	0	0	0	0
28	A2	X	11.786	11.786	0	0
29	C1	Z	0	0	0	0
30	C1	X	11.786	11.786	0	0
31	M42	Z	0	0	0	0

Member Distributed Loads (BLC 6 : Wind 90) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[in,%]	End Location[in,%]
32	M42	X	17.369	17.369	0	0
33	M43	Z	0	0	0	0
34	M43	X	1.89	1.89	0	0
35	M46	Z	0	0	0	0
36	M46	X	66.994	66.994	0	0
37	M47	Z	0	0	0	0
38	M47	X	13.647	13.647	0	0
39	C3	Z	0	0	0	0
40	C3	X	11.786	11.786	0	0
41	C2	Z	0	0	0	0
42	C2	X	11.786	11.786	0	0
43	M61	Z	0	0	0	0
44	M61	X	12.436	12.436	0	0
45	M65	Z	0	0	0	0
46	M65	X	12.436	12.436	0	0
47	M69	Z	0	0	0	0
48	M69	X	24.813	24.813	0	0
49	M73	Z	0	0	0	0
50	M73	X	9.984	9.984	0	0
51	M74	Z	0	0	0	0
52	M74	X	20.512	20.512	0	0
53	M75	Z	0	0	0	0
54	M75	X	9.984	9.984	0	0

Member Distributed Loads (BLC 9 : Ice Load)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[in,%]	End Location[in,%]
1	B1	Y	-12.626	-12.626	0	0
2	fds	Y	-15.704	-15.704	0	0
3	C11	Y	-21.605	-21.605	0	0
4	awe	Y	-43.079	-43.079	0	0
5	M8A	Y	-18.44	-18.44	0	0
6	B3	Y	-12.626	-12.626	0	0
7	B2	Y	-12.626	-12.626	0	0
8	A1	Y	-12.626	-12.626	0	0
9	M22	Y	-15.704	-15.704	0	0
10	M23	Y	-21.605	-21.605	0	0
11	M26	Y	-43.079	-43.079	0	0
12	M27	Y	-18.44	-18.44	0	0
13	A3	Y	-12.626	-12.626	0	0
14	A2	Y	-12.626	-12.626	0	0
15	C1	Y	-12.626	-12.626	0	0
16	M42	Y	-15.704	-15.704	0	0
17	M43	Y	-21.605	-21.605	0	0
18	M46	Y	-43.079	-43.079	0	0
19	M47	Y	-18.44	-18.44	0	0
20	C3	Y	-12.626	-12.626	0	0
21	C2	Y	-12.626	-12.626	0	0
22	M61	Y	-17.736	-17.736	0	0
23	M65	Y	-17.736	-17.736	0	0
24	M69	Y	-17.736	-17.736	0	0
25	M73	Y	-17.736	-17.736	0	0
26	M74	Y	-17.736	-17.736	0	0
27	M75	Y	-17.736	-17.736	0	0

Member Distributed Loads (BLC 10 : Ice 0)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[in,%]	End Location[in,%]

Member Distributed Loads (BLC 10 : Ice 0) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[in,%]	End Location[in,%]
1	B1	Z	-5.676	-5.676	0	0
2	B1	X	0	0	0	0
3	fds	Z	-5.818	-5.818	0	0
4	fds	X	0	0	0	0
5	C11	Z	-6.289	-6.289	0	0
6	C11	X	0	0	0	0
7	awe	Z	-23.453	-23.453	0	0
8	awe	X	0	0	0	0
9	M8A	Z	-6.401	-6.401	0	0
10	M8A	X	0	0	0	0
11	B3	Z	-5.676	-5.676	0	0
12	B3	X	0	0	0	0
13	B2	Z	-5.676	-5.676	0	0
14	B2	X	0	0	0	0
15	A1	Z	-5.676	-5.676	0	0
16	A1	X	0	0	0	0
17	M22	Z	-5.818	-5.818	0	0
18	M22	X	0	0	0	0
19	M23	Z	-6.289	-6.289	0	0
20	M23	X	0	0	0	0
21	M26	Z	-23.453	-23.453	0	0
22	M26	X	0	0	0	0
23	M27	Z	-6.401	-6.401	0	0
24	M27	X	0	0	0	0
25	A3	Z	-5.676	-5.676	0	0
26	A3	X	0	0	0	0
27	A2	Z	-5.676	-5.676	0	0
28	A2	X	0	0	0	0
29	C1	Z	-5.676	-5.676	0	0
30	C1	X	0	0	0	0
31	M42	Z	-.227	-.227	0	0
32	M42	X	0	0	0	0
33	M43	Z	-10.196	-10.196	0	0
34	M43	X	0	0	0	0
35	M46	Z	-6.608	-6.608	0	0
36	M46	X	0	0	0	0
37	M47	Z	-6.401	-6.401	0	0
38	M47	X	0	0	0	0
39	C3	Z	-5.676	-5.676	0	0
40	C3	X	0	0	0	0
41	C2	Z	-5.676	-5.676	0	0
42	C2	X	0	0	0	0
43	M61	Z	-9.634	-9.634	0	0
44	M61	X	0	0	0	0
45	M65	Z	-9.634	-9.634	0	0
46	M65	X	0	0	0	0
47	M69	Z	-.415	-.415	0	0
48	M69	X	0	0	0	0
49	M73	Z	-8.623	-8.623	0	0
50	M73	X	0	0	0	0
51	M74	Z	-1.25	-1.25	0	0
52	M74	X	0	0	0	0
53	M75	Z	-8.623	-8.623	0	0
54	M75	X	0	0	0	0

Member Distributed Loads (BLC 13 : Ice 90)

Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[in,%]	End Location[in,%]

Member Distributed Loads (BLC 13 : Ice 90) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[in,%]	End Location[in,%]
1	B1	Z	0	0	0	0
2	B1	X	5.676	5.676	0	0
3	fds	Z	0	0	0	0
4	fds	X	3.085	3.085	0	0
5	C11	Z	0	0	0	0
6	C11	X	9.683	9.683	0	0
7	awe	Z	0	0	0	0
8	awe	X	17.193	17.193	0	0
9	M8A	Z	0	0	0	0
10	M8A	X	6.401	6.401	0	0
11	B3	Z	0	0	0	0
12	B3	X	5.676	5.676	0	0
13	B2	Z	0	0	0	0
14	B2	X	5.676	5.676	0	0
15	A1	Z	0	0	0	0
16	A1	X	5.676	5.676	0	0
17	M22	Z	0	0	0	0
18	M22	X	3.085	3.085	0	0
19	M23	Z	0	0	0	0
20	M23	X	9.683	9.683	0	0
21	M26	Z	0	0	0	0
22	M26	X	17.193	17.193	0	0
23	M27	Z	0	0	0	0
24	M27	X	6.401	6.401	0	0
25	A3	Z	0	0	0	0
26	A3	X	5.676	5.676	0	0
27	A2	Z	0	0	0	0
28	A2	X	5.676	5.676	0	0
29	C1	Z	0	0	0	0
30	C1	X	5.676	5.676	0	0
31	M42	Z	0	0	0	0
32	M42	X	6.79	6.79	0	0
33	M43	Z	0	0	0	0
34	M43	X	1.675	1.675	0	0
35	M46	Z	0	0	0	0
36	M46	X	23.43	23.43	0	0
37	M47	Z	0	0	0	0
38	M47	X	6.401	6.401	0	0
39	C3	Z	0	0	0	0
40	C3	X	5.676	5.676	0	0
41	C2	Z	0	0	0	0
42	C2	X	5.676	5.676	0	0
43	M61	Z	0	0	0	0
44	M61	X	5.177	5.177	0	0
45	M65	Z	0	0	0	0
46	M65	X	5.177	5.177	0	0
47	M69	Z	0	0	0	0
48	M69	X	11.192	11.192	0	0
49	M73	Z	0	0	0	0
50	M73	X	5.418	5.418	0	0
51	M74	Z	0	0	0	0
52	M74	X	9.248	9.248	0	0
53	M75	Z	0	0	0	0
54	M75	X	5.418	5.418	0	0

Member Point Loads (BLC 1 : Dead)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[in,%]
1	B3	Y	-22	50.315
2	B3	Y	-22	45.685
3	B2	Y	-17.6	49.23
4	B2	Y	-17.6	46.77
5	B1	Y	-8	49.95
6	B1	Y	-8	46.05
7	B3	Y	-38.25	69
8	B3	Y	-38.25	27
9	B2	Y	-43.25	72.55
10	B2	Y	-43.25	23.45
11	B1	Y	-18.2	69
12	B1	Y	-18.2	27
13	A3	Y	-22	50.315
14	A3	Y	-22	45.685
15	A2	Y	-17.6	49.23
16	A2	Y	-17.6	46.77
17	A1	Y	-8	49.95
18	A1	Y	-8	46.05
19	A3	Y	-38.25	69
20	A3	Y	-38.25	27
21	A2	Y	-43.25	72.55
22	A2	Y	-43.25	23.45
23	A1	Y	-18.2	69
24	A1	Y	-18.2	27
25	C3	Y	-22	50.315
26	C3	Y	-22	45.685
27	C2	Y	-17.6	49.23
28	C2	Y	-17.6	46.77
29	C1	Y	-8	49.95
30	C1	Y	-8	46.05
31	C3	Y	-38.25	69
32	C3	Y	-38.25	27
33	C2	Y	-43.25	72.55
34	C2	Y	-43.25	23.45
35	C1	Y	-18.2	69
36	C1	Y	-18.2	27

Member Point Loads (BLC 3 : Wind 0)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[in,%]
1	B3	Z	-50.145	50.315
2	B3	Z	-50.145	45.685
3	B3	X	0	50.315
4	B3	X	0	45.685
5	B2	Z	-33.415	49.23
6	B2	Z	-33.415	46.77
7	B2	X	0	49.23
8	B2	X	0	46.77
9	B1	Z	-17.405	49.95
10	B1	Z	-17.405	46.05
11	B1	X	0	49.95
12	B1	X	0	46.05
13	B3	Z	-216.135	69
14	B3	Z	-216.135	27
15	B3	X	0	69
16	B3	X	0	27

Member Point Loads (BLC 3 : Wind 0) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[in,%]
17	B2	Z	-239.052	72.55
18	B2	Z	-239.052	23.45
19	B2	X	0	72.55
20	B2	X	0	23.45
21	B1	Z	-136.246	69
22	B1	Z	-136.246	27
23	B1	X	0	69
24	B1	X	0	27
25	A3	Z	-50.145	50.315
26	A3	Z	-50.145	45.685
27	A3	X	0	50.315
28	A3	X	0	45.685
29	A2	Z	-33.415	49.23
30	A2	Z	-33.415	46.77
31	A2	X	0	49.23
32	A2	X	0	46.77
33	A1	Z	-17.405	49.95
34	A1	Z	-17.405	46.05
35	A1	X	0	49.95
36	A1	X	0	46.05
37	A3	Z	-216.135	69
38	A3	Z	-216.135	27
39	A3	X	0	69
40	A3	X	0	27
41	A2	Z	-239.052	72.55
42	A2	Z	-239.052	23.45
43	A2	X	0	72.55
44	A2	X	0	23.45
45	A1	Z	-136.246	69
46	A1	Z	-136.246	27
47	A1	X	0	69
48	A1	X	0	27
49	C3	Z	-16.57	50.315
50	C3	Z	-16.57	45.685
51	C3	X	0	50.315
52	C3	X	0	45.685
53	C2	Z	-41.318	49.23
54	C2	Z	-41.318	46.77
55	C2	X	0	49.23
56	C2	X	0	46.77
57	C1	Z	-11.054	49.95
58	C1	Z	-11.054	46.05
59	C1	X	0	49.95
60	C1	X	0	46.05
61	C3	Z	-86.991	69
62	C3	Z	-86.991	27
63	C3	X	0	69
64	C3	X	0	27
65	C2	Z	-103.836	72.55
66	C2	Z	-103.836	23.45
67	C2	X	0	72.55
68	C2	X	0	23.45
69	C1	Z	-70.165	69
70	C1	Z	-70.165	27
71	C1	X	0	69
72	C1	X	0	27

Member Point Loads (BLC 6 : Wind 90)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[in,%]
1	B3	Z	0	50.315
2	B3	Z	0	45.685
3	B3	X	38.393	50.315
4	B3	X	38.393	45.685
5	B2	Z	0	49.23
6	B2	Z	0	46.77
7	B2	X	43.147	49.23
8	B2	X	43.147	46.77
9	B1	Z	0	49.95
10	B1	Z	0	46.05
11	B1	X	16.431	49.95
12	B1	X	16.431	46.05
13	B3	Z	0	69
14	B3	Z	0	27
15	B3	X	170.914	69
16	B3	X	170.914	27
17	B2	Z	0	72.55
18	B2	Z	0	23.45
19	B2	X	194.4	72.55
20	B2	X	194.4	23.45
21	B1	Z	0	69
22	B1	Z	0	27
23	B1	X	116.797	69
24	B1	X	116.797	27
25	A3	Z	0	50.315
26	A3	Z	0	45.685
27	A3	X	38.393	50.315
28	A3	X	38.393	45.685
29	A2	Z	0	49.23
30	A2	Z	0	46.77
31	A2	X	43.147	49.23
32	A2	X	43.147	46.77
33	A1	Z	0	49.95
34	A1	Z	0	46.05
35	A1	X	16.431	49.95
36	A1	X	16.431	46.05
37	A3	Z	0	69
38	A3	Z	0	27
39	A3	X	170.914	69
40	A3	X	170.914	27
41	A2	Z	0	72.55
42	A2	Z	0	23.45
43	A2	X	194.4	72.55
44	A2	X	194.4	23.45
45	A1	Z	0	69
46	A1	Z	0	27
47	A1	X	116.797	69
48	A1	X	116.797	27
49	C3	Z	0	50.315
50	C3	Z	0	45.685
51	C3	X	48.461	50.315
52	C3	X	48.461	45.685
53	C2	Z	0	49.23
54	C2	Z	0	46.77
55	C2	X	14.729	49.23
56	C2	X	14.729	46.77
57	C1	Z	0	49.95

Member Point Loads (BLC 6 : Wind 90) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[in,%]
58	C1	Z	0	46.05
59	C1	X	13.715	49.95
60	C1	X	13.715	46.05
61	C3	Z	0	69
62	C3	Z	0	27
63	C3	X	205.449	69
64	C3	X	205.449	27
65	C2	Z	0	72.55
66	C2	Z	0	23.45
67	C2	X	225.88	72.55
68	C2	X	225.88	23.45
69	C1	Z	0	69
70	C1	Z	0	27
71	C1	X	123.916	69
72	C1	X	123.916	27

Member Point Loads (BLC 9 : Ice Load)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[in,%]
1	B3	Y	-33.627	50.315
2	B3	Y	-33.627	45.685
3	B2	Y	-28.505	49.23
4	B2	Y	-28.505	46.77
5	B1	Y	-12.24	49.95
6	B1	Y	-12.24	46.05
7	B3	Y	-133.112	69
8	B3	Y	-133.112	27
9	B2	Y	-146.578	72.55
10	B2	Y	-146.578	23.45
11	B1	Y	-84.448	69
12	B1	Y	-84.448	27
13	A3	Y	-33.627	50.315
14	A3	Y	-33.627	45.685
15	A2	Y	-28.505	49.23
16	A2	Y	-28.505	46.77
17	A1	Y	-12.24	49.95
18	A1	Y	-12.24	46.05
19	A3	Y	-133.112	69
20	A3	Y	-133.112	27
21	A2	Y	-146.578	72.55
22	A2	Y	-146.578	23.45
23	A1	Y	-84.448	69
24	A1	Y	-84.448	27
25	C3	Y	-33.627	50.315
26	C3	Y	-33.627	45.685
27	C2	Y	-28.505	49.23
28	C2	Y	-28.505	46.77
29	C1	Y	-12.24	49.95
30	C1	Y	-12.24	46.05
31	C3	Y	-133.112	69
32	C3	Y	-133.112	27
33	C2	Y	-146.578	72.55
34	C2	Y	-146.578	23.45
35	C1	Y	-84.448	69
36	C1	Y	-84.448	27

Member Point Loads (BLC 10 : Ice 0)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[in,%]
1	B3	Z	-21.592	50.315
2	B3	Z	-21.592	45.685
3	B3	X	0	50.315
4	B3	X	0	45.685
5	B2	Z	-16.533	49.23
6	B2	Z	-16.533	46.77
7	B2	X	0	49.23
8	B2	X	0	46.77
9	B1	Z	-8.572	49.95
10	B1	Z	-8.572	46.05
11	B1	X	0	49.95
12	B1	X	0	46.05
13	B3	Z	-59.686	69
14	B3	Z	-59.686	27
15	B3	X	0	69
16	B3	X	0	27
17	B2	Z	-65.568	72.55
18	B2	Z	-65.568	23.45
19	B2	X	0	72.55
20	B2	X	0	23.45
21	B1	Z	-41.606	69
22	B1	Z	-41.606	27
23	B1	X	0	69
24	B1	X	0	27
25	A3	Z	-21.592	50.315
26	A3	Z	-21.592	45.685
27	A3	X	0	50.315
28	A3	X	0	45.685
29	A2	Z	-16.533	49.23
30	A2	Z	-16.533	46.77
31	A2	X	0	49.23
32	A2	X	0	46.77
33	A1	Z	-8.572	49.95
34	A1	Z	-8.572	46.05
35	A1	X	0	49.95
36	A1	X	0	46.05
37	A3	Z	-59.686	69
38	A3	Z	-59.686	27
39	A3	X	0	69
40	A3	X	0	27
41	A2	Z	-65.568	72.55
42	A2	Z	-65.568	23.45
43	A2	X	0	72.55
44	A2	X	0	23.45
45	A1	Z	-41.606	69
46	A1	Z	-41.606	27
47	A1	X	0	69
48	A1	X	0	27
49	C3	Z	-10.101	50.315
50	C3	Z	-10.101	45.685
51	C3	X	0	50.315
52	C3	X	0	45.685
53	C2	Z	-17.186	49.23
54	C2	Z	-17.186	46.77
55	C2	X	0	49.23
56	C2	X	0	46.77
57	C1	Z	-5.792	49.95

Member Point Loads (BLC 10 : Ice 0) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[in,%]
58	C1	Z	-5.792	46.05
59	C1	X	0	49.95
60	C1	X	0	46.05
61	C3	Z	-27.805	69
62	C3	Z	-27.805	27
63	C3	X	0	69
64	C3	X	0	27
65	C2	Z	-32.426	72.55
66	C2	Z	-32.426	23.45
67	C2	X	0	72.55
68	C2	X	0	23.45
69	C1	Z	-24.31	69
70	C1	Z	-24.31	27
71	C1	X	0	69
72	C1	X	0	27

Member Point Loads (BLC 13 : Ice 90)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[in,%]
1	B3	Z	0	50.315
2	B3	Z	0	45.685
3	B3	X	18.298	50.315
4	B3	X	18.298	45.685
5	B2	Z	0	49.23
6	B2	Z	0	46.77
7	B2	X	19.468	49.23
8	B2	X	19.468	46.77
9	B1	Z	0	49.95
10	B1	Z	0	46.05
11	B1	X	8.293	49.95
12	B1	X	8.293	46.05
13	B3	Z	0	69
14	B3	Z	0	27
15	B3	X	49.505	69
16	B3	X	49.505	27
17	B2	Z	0	72.55
18	B2	Z	0	23.45
19	B2	X	55.337	72.55
20	B2	X	55.337	23.45
21	B1	Z	0	69
22	B1	Z	0	27
23	B1	X	37.413	69
24	B1	X	37.413	27
25	A3	Z	0	50.315
26	A3	Z	0	45.685
27	A3	X	18.298	50.315
28	A3	X	18.298	45.685
29	A2	Z	0	49.23
30	A2	Z	0	46.77
31	A2	X	19.468	49.23
32	A2	X	19.468	46.77
33	A1	Z	0	49.95
34	A1	Z	0	46.05
35	A1	X	8.293	49.95
36	A1	X	8.293	46.05
37	A3	Z	0	69
38	A3	Z	0	27

Member Point Loads (BLC 13 : Ice 90) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[in,%]
39	A3	X	49.505	69
40	A3	X	49.505	27
41	A2	Z	0	72.55
42	A2	Z	0	23.45
43	A2	X	55.337	72.55
44	A2	X	55.337	23.45
45	A1	Z	0	69
46	A1	Z	0	27
47	A1	X	37.413	69
48	A1	X	37.413	27
49	C3	Z	0	50.315
50	C3	Z	0	45.685
51	C3	X	19.1	50.315
52	C3	X	19.1	45.685
53	C2	Z	0	49.23
54	C2	Z	0	46.77
55	C2	X	9.168	49.23
56	C2	X	9.168	46.77
57	C1	Z	0	49.95
58	C1	Z	0	46.05
59	C1	X	6.554	49.95
60	C1	X	6.554	46.05
61	C3	Z	0	69
62	C3	Z	0	27
63	C3	X	53.874	69
64	C3	X	53.874	27
65	C2	Z	0	72.55
66	C2	Z	0	23.45
67	C2	X	58.491	72.55
68	C2	X	58.491	23.45
69	C1	Z	0	69
70	C1	Z	0	27
71	C1	X	35.765	69
72	C1	X	35.765	27

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	C1	max	2820.406	10	2521.635	23	3912.935	1	-.753	1	9.243	9	2.703	16
2		min	-2695.056	4	757.132	5	-3695.446	7	-8.29	19	-9.267	3	.475	10
3	N42	max	3129.716	10	2521.214	18	3350.509	1	6.487	14	9.675	5	5.795	15
4		min	-3007.122	4	760.414	1	-3565.278	7	.745	8	-9.7	11	.614	9
5	N78	max	3421.461	10	2521.231	15	1686.855	1	1.778	23	5.231	1	-.883	5
6		min	-3669.369	4	758.76	9	-1689.564	7	.14	4	-5.236	7	-8.522	22
7	Totals:	max	9371.583	10	7559.106	23	8950.299	1						
8		min	-9371.547	4	2289.441	5	-8950.288	7						

Envelope AISC 14th(360-10): LRFD Steel Code Checks

	Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc...	...	L...	phi*Pn...	phi*Pn...	phi*Mn...	phi*Mn...	...	Eqn
1	M23	HSS4X4X3	1.003	0	5	.258	0	y	17	10167...	106812	12.662	12.662	1...	H1-1b
2	C11	HSS4X4X3	.954	0	9	.263	0	y	20	10167...	106812	12.662	12.662	1...	H1-1b
3	M42	PIPE_3.0	.951	57.75	4	.407	57.75		5	36138.4	65205	5.749	5.749	2...	H3-6
4	fds	PIPE_3.0	.942	57.75	1	.398	57.75		1	36138.4	65205	5.749	5.749	2...	H3-6
5	M22	PIPE_3.0	.930	59.063	2	.403	57.75		9	36138.4	65205	5.749	5.749	4...	H1-1a
6	M61	L3X3X4	.868	55	12	.042	125...	z	12	6389.49	46656	1.688	2.974	1...	H2-1

Envelope AISC 14th(360-10): LRFD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc...	...	L...	phi*Pn...	phi*Pn...	phi*Mn...	phi*Mn...	...	Eqn
7	M69	L3X3X4	.855	55	4	.043	125...	z	4	6389.49	46656	1.688	2.972	1...	H2-1
8	M46	PL 13.5 x ...	.853	4.641	4	.931	4.641	y	5	49516...	164025	1.281	46.132	1...	H1-1a
9	M65	L3X3X4	.847	55	8	.044	125...	z	8	6389.49	46656	1.688	2.96	1...	H2-1
10	M26	PL 13.5 x ...	.837	4.641	8	.895	4.641	y	9	49516...	164025	1.281	46.132	1...	H1-1a
11	awe	PL 13.5 x ...	.834	4.641	1	.870	4.641	y	12	49516...	164025	1.281	46.132	1...	H1-1a
12	M43	HSS4X4X3	.760	0	13	.252	0	y	23	10167...	106812	12.662	12.662	1...	H1-1b
13	C2	PIPE_2.5	.717	48	4	.188	48		4	30038...	50715	3.596	3.596	1...	H1-1b
14	B2	PIPE_2.5	.707	48	12	.207	48		11	30038...	50715	3.596	3.596	1...	H1-1b
15	A2	PIPE_2.5	.692	48	8	.206	48		7	30038...	50715	3.596	3.596	1...	H1-1b
16	B1	PIPE_2.0	.596	48	11	.157	48		12	14916...	32130	1.872	1.872	1...	H1-1b
17	A1	PIPE_2.0	.584	48	7	.165	48		8	14916...	32130	1.872	1.872	2...	H1-1b
18	C1	PIPE_2.0	.547	48	4	.160	48		4	14916...	32130	1.872	1.872	1...	H1-1b
19	B3	PIPE_2.0	.532	48	2	.189	48		1	14916...	32130	1.872	1.872	1...	H1-1b
20	A3	PIPE_2.0	.514	48	11	.176	48		8	14916...	32130	1.872	1.872	1...	H1-1b
21	C3	PIPE_2.0	.453	48	4	.181	48		4	14916...	32130	1.872	1.872	1...	H1-1b
22	M8A	PIPE_4.0	.116	9	7	.191	9		7	92571...	93240	10.631	10.631	1...	H1-1b
23	M47	PIPE_4.0	.107	9	4	.195	9		4	92571...	93240	10.631	10.631	1...	H1-1b
24	M27	PIPE_4.0	.103	9	3	.188	9		8	92571...	93240	10.631	10.631	1...	H1-1b
25	M74	L3X3X4	.043	21.899	10	.055	43....	z	14	34733...	46656	1.688	3.594	1...	H2-1
26	M75	L3X3X4	.034	21.899	7	.059	43....	z	21	34733...	46656	1.688	3.594	1...	H2-1
27	M73	L3X3X4	.033	21.899	14	.063	43....	y	6	34733...	46656	1.688	3.594	1...	H2-1

Date: 03/25/2020
Engineer: STP

Mount-To-Tower Connection
Check Calculations:

Loads: LC13 (Z-Direction = Axial/Torque Loads)

$Px := .432 \cdot kip$,
$Py := 2.52 \cdot kip$,
$Pz := .372 \cdot kip$,
$Mx := 98.712 \cdot kip \cdot in$,
$My := 16.5 \cdot kip \cdot in$,
$Mz := 20.712 \cdot kip \cdot in$

Bolt & Plate Check Inputs:

$BoltQuantity := 4$,
$PlateWidth := 9 \cdot in$,
$PlateDepth := 9 \cdot in$,
Plate Edge Distance to Bolts, $ed := 1 \cdot in$
$BoltDiameter := 0.625 \cdot in$,
Nominal Capacity Tensile Strength, $BoltFnt := 90 \cdot ksi$,
Nominal Bolt Shear Strength (threads in shear plane) $BoltFnv := 54 \cdot ksi$

Rectangular Weld Check Inputs:

$TubeWidth := 4 \cdot in$
$TubeDepth := 4 \cdot in$,
Assumed Weld Fillet Size, $Fillet := 0.1875 \cdot in$,
Weld Electrode Strength, $Exx := 70 \cdot ksi$

Bolt Centroids, Moment of Inertias, & Polar Moment of Inertias from Center of Plate:

Bolt 1, $dx1 := ed - \frac{PlateWidth}{2} = -3.5\ in$

$dy1 := ed - \frac{PlateDepth}{2} = -3.5\ in$

$Ix1 := dy1^2 = 12.25\ in^2$
$Iy1 := dx1^2 = 12.25\ in^2$
$Ixy1 := dx1 \cdot dy1 = 12.25\ in^2$

Bolt 2, $dx2 := ed - \frac{PlateWidth}{2} = -3.5\ in$

$dy2 := \frac{PlateDepth}{2} - ed = 3.5\ in$

$Ix2 := dy2^2 = 12.25\ in^2$
$Iy2 := dx2^2 = 12.25\ in^2$
$Ixy2 := dx2 \cdot dy2 = -12.25\ in^2$

Bolt 3, $dx3 := \frac{PlateWidth}{2} - ed = 3.5\ in$

$dy3 := \frac{PlateDepth}{2} - ed = 3.5\ in$

$Ix3 := dy3^2 = 12.25\ in^2$

$Iy3 := dx3^2 = 12.25\ in^2$

$Ixy3 := dx3 \cdot dy3 = 12.25\ in^2$

Bolt 4, $dx4 := \frac{PlateWidth}{2} - ed = 3.5\ in$

$dy4 := ed - \frac{PlateDepth}{2} = -3.5\ in$

$Ix4 := dy4^2 = 12.25\ in^2$

$Iy4 := dx4^2 = 12.25\ in^2$

$Ixy4 := dx4 \cdot dy4 = -12.25\ in^2$

Total Ix, Iy, and Ixy

$TOTALIx := Ix1 + Ix2 + Ix3 + Ix4 = 49\ in^2$

$TOTALIy := Iy1 + Iy2 + Iy3 + Iy4 = 49\ in^2$

$TOTALIxy := Ixy1 + Ixy2 + Ixy3 + Ixy4 = 0\ in^2$

Bolt Tension Forces:

$$T1 := \left| \frac{Pz}{BoltQuantity} - \left(\frac{(Mx \cdot TOTALIy + My \cdot TOTALIxy)}{(TOTALIx \cdot TOTALIy) - (TOTALIxy^2)} \right) \cdot (dx1) + \left(\frac{(My \cdot TOTALIx) + (Mx \cdot TOTALIxy)}{(TOTALIx \cdot TOTALIy) - (TOTALIxy^2)} \right) \cdot dy1 \right| = 5.965\ kip$$

$$T2 := \left| \frac{Pz}{BoltQuantity} - \left(\frac{(Mx \cdot TOTALIy + My \cdot TOTALIxy)}{(TOTALIx \cdot TOTALIy) - (TOTALIxy^2)} \right) \cdot (dx2) + \left(\frac{(My \cdot TOTALIx) + (Mx \cdot TOTALIxy)}{(TOTALIx \cdot TOTALIy) - (TOTALIxy^2)} \right) \cdot dy2 \right| = 8.322\ kip$$

$$T3 := \left| \frac{Pz}{BoltQuantity} - \left(\frac{(Mx \cdot TOTALIy + My \cdot TOTALIxy)}{(TOTALIx \cdot TOTALIy) - (TOTALIxy^2)} \right) \cdot (dx3) + \left(\frac{(My \cdot TOTALIx) + (Mx \cdot TOTALIxy)}{(TOTALIx \cdot TOTALIy) - (TOTALIxy^2)} \right) \cdot dy3 \right| = 5.779\ kip$$

$$T4 := \left| \frac{Pz}{BoltQuantity} - \left(\frac{(Mx \cdot TOTALIy + My \cdot TOTALIxy)}{(TOTALIx \cdot TOTALIy) - (TOTALIxy^2)} \right) \cdot (dx4) + \left(\frac{(My \cdot TOTALIx) + (Mx \cdot TOTALIxy)}{(TOTALIx \cdot TOTALIy) - (TOTALIxy^2)} \right) \cdot dy4 \right| = 8.136\ kip$$

Bolt Resistance Factor, $\phi := 0.75$

Factored Tensile Bolt Capacity: $\phi Ft := \phi \cdot BoltFnt \cdot \left(\left(\frac{\pi}{4} \right) \cdot BoltDiameter^2 \right) = 20.71\ kip$

$$MaxBoltTensileCapacity := \frac{\max(T1, T2, T3, T4)}{\phi Ft} = 40.188\%$$

Bolt Shear Forces:

$$V1 := \sqrt{\left(\frac{Px}{BoltQuantity} - \frac{Mz \cdot dy1}{TOTALIx + TOTALIy}\right)^2 + \left(\frac{Py}{BoltQuantity} - \frac{Mz \cdot dx1}{TOTALIx + TOTALIy}\right)^2} = 1.611\ kip$$

$$V2 := \sqrt{\left(\frac{Px}{BoltQuantity} - \frac{Mz \cdot dy2}{TOTALIx + TOTALIy}\right)^2 + \left(\frac{Py}{BoltQuantity} - \frac{Mz \cdot dx2}{TOTALIx + TOTALIy}\right)^2} = 1.508\ kip$$

$$V3 := \sqrt{\left(\frac{Px}{BoltQuantity} - \frac{Mz \cdot dy3}{TOTALIx + TOTALIy}\right)^2 + \left(\frac{Py}{BoltQuantity} - \frac{Mz \cdot dx3}{TOTALIx + TOTALIy}\right)^2} = 0.641\ kip$$

$$V4 := \sqrt{\left(\frac{Px}{BoltQuantity} - \frac{Mz \cdot dy4}{TOTALIx + TOTALIy}\right)^2 + \left(\frac{Py}{BoltQuantity} - \frac{Mz \cdot dx4}{TOTALIx + TOTALIy}\right)^2} = 0.855\ kip$$

Bolt Resistance Factor, $\phi := 0.75$

Factored Shear Bolt Capacity: $\phi Fv := \phi \cdot BoltFnv \cdot \left(\left(\frac{\pi}{4}\right) \cdot BoltDiameter^2\right) = 12.43\ kip$

$$MaxBoltShearCapacity := \frac{\max(V1, V2, V3, V4)}{\phi Fv} = 12.964\%$$

NOTE: TENSION REDUCTION NOT REQUIRED IF TENSION OR SHEAR CAPACITY <30%

Weld Check:

Section Modulus per inch of weld,

$$Sx := (TubeWidth \cdot TubeDepth) + \frac{TubeDepth^2}{3} = 21.333\ in^2$$

$$Sy := (TubeWidth \cdot TubeDepth) + \frac{TubeWidth^2}{3} = 21.333\ in^2$$

Polar Moment of Inertia per inch of weld,

$$J := \left(\frac{(TubeWidth + TubeDepth)^3}{6} \right) = 85.333\ in^3$$

$$ShearStressX := \frac{Px}{2 \cdot TubeWidth} = 0.054\ \frac{kip}{in}$$

$$ShearStressY := \frac{Py}{2 \cdot TubeDepth} = 0.315\ \frac{kip}{in}$$

$$TorqueStressX := \frac{Mz}{\left(\frac{J}{\frac{TubeDepth}{2}} \right)} = 0.485\ \left(\frac{kip}{in} \right)$$

$$TorqueStressY := \frac{Mz}{\left(\frac{J}{\frac{TubeWidth}{2}} \right)} = 0.485\ \left(\frac{kip}{in} \right)$$

$$AxialStress := \frac{Pz}{((2 \cdot TubeWidth) + (2 \cdot TubeDepth))} = 0.023\ \left(\frac{kip}{in} \right)$$

$$BendingStressX := \frac{Mx}{Sx} = 4.627\ \frac{kip}{in}$$

$$BendingStressY := \frac{My}{Sy} = 0.773\ \frac{kip}{in}$$

$$TotalForceX := ShearStressX + TorqueStressX = 0.539\ \frac{kip}{in}$$

$$TotalForceY := ShearStressY + TorqueStressY = 0.8\ \frac{kip}{in}$$

Load Effect Angle, $\theta := 90°$, AISC 14th Edition Section 8-9

$$TotalForceZ := \frac{AxialStress + BendingStressX + BendingStressY}{1.0 + 0.5\ \sin(\theta)^{1.5}} = 3.616\ \frac{kip}{in}$$

$$ResultantForce := \sqrt{TotalForceX^2 + TotalForceY^2 + TotalForceZ^2} = 3.742\ \frac{kip}{in}$$

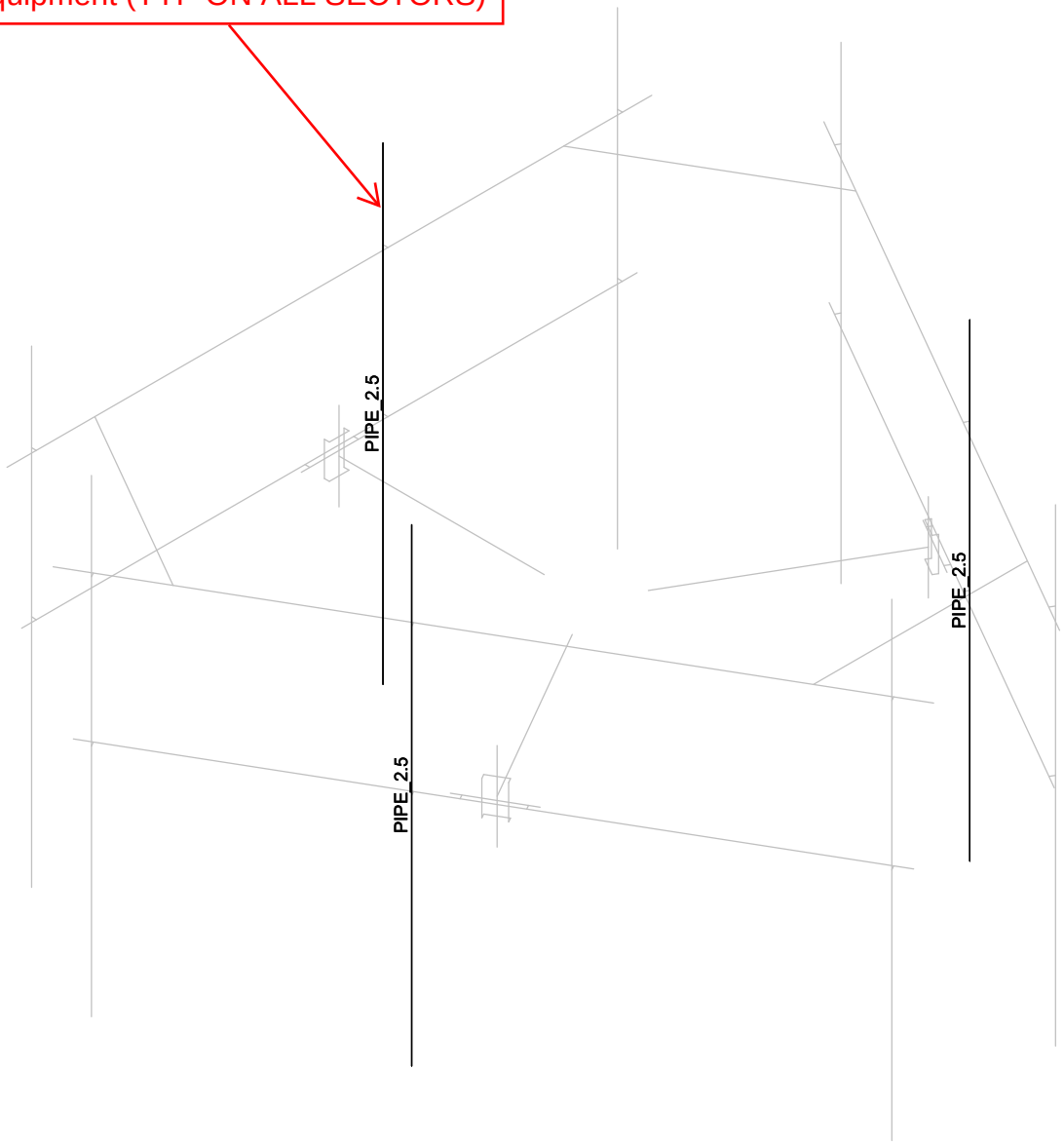
$$WeldCapacityRatio := \frac{ResultantForce}{\phi \cdot 0.6 \cdot \frac{\sqrt{2}}{2} \cdot Exx \cdot Fillet} = 89.612\%$$

APPENDIX D

SUPPLEMENTAL MODIFICATION INFORMATION

Modification Sketch 1 of 1

Replace existing mount pipe with 8-ft long, P2.5 STD (2.875" O.D. x 0.189") mount pipe to support Pos. 2 equipment (TYP ON ALL SECTORS)



Envelope Only Solution

Paul J. Ford and Company	Eversource - CTL02042	SK - 10
STP		Apr 2, 2020 at 12:27 PM
80620-0004.001.6090		80620-0004.001.6090_Wind Load....

Structural Analysis Report

Eversource Distribution West River Crossing Tower

Old Saybrook Site #CTL02042

Prepared on behalf of:

99 East River Road, 9th Floor
East Hartford, CT 06108

PJF Project #A80620-0004.002.6125_R1

REVISION	DATE	DESCRIPTION	ENGINEER	PJF TRACKING
0	6/11/2020	ORIGINAL ISSUE DATE	DLD	.001.6000
1	8/27/2020	ADDRESSING THIRD PARTY REVIEW COMMENTS	DLD	.001.6000_R1
2	11/11/2020	EQUIPMENT CHANGES AND TOWER MODIFICATIONS	DLD	.002.6125
3	11/13/2020	AT&T COAX UPDATE	DLD	.002.6125_R1

PAUL J. FORD & COMPANY

EVERSOURCE

Report Date: November 13, 2020

Client: Smartlink, LLC
85 Rangeway Rd
North Billerica, MA 01862
Attn: Ryan Lynch

ryan.lynch@smartlinkllc.com

Utility Name: Eversource Energy
Structure: Modified 190-ft Transmission Tower #Dist West River X-ing
Line Reference: Distribution Line
Site Name: AT&T - Old Saybrook
Site Reference #: CTL02042
Site Address: 226 Ferry Rd
City, County, State: Old Saybrook, Middlesex County, CT
Latitude, Longitude: 41.319659, -72.351610

PJF Project: A80620-0004.002.6125_R1

Paul J. Ford and Company is pleased to submit this "**Structural Analysis Report**". The purpose of this analysis is to determine if the structure has sufficient capacity to support the existing and proposed equipment described herein.

Analysis Criteria:

Reference Standard: IEEE Standards Association, "National Electrical Safety Code" (NESC) C2-2017
ANSI/TIA-222-G-2-2009 Standard, "Structural Standard for Antenna Supporting Structures and Antennas – Addendum 2"
ASCE Standard 10-15, "Design of Latticed Steel Transmission Structures"

Utility Specification: Northeast Utilities OTRM 059.1 (3/12/2014)

Proposed Appurtenance Loads:

The structure was analyzed with the addition of the proposed appurtenances loads shown in Table 1 combined with the existing and reserved loads shown in Table 2 and 3 of this report.

Summary of Analysis Results:

Modified Structure:	**Pass**
Existing Foundation:	**Pass**
Existing Antenna Mount:	**Pass**

We at Paul J. Ford and Company appreciate the opportunity of providing our continuing professional services to you and Smartlink, LLC. If you have any questions or need further assistance on this or any other projects please give us a call.

Respectfully Submitted by:
Paul J. Ford and Company

Daniel Donner

Daniel Donner
Structural Designer
ddonner@pauljford.com

STATE OF CONNECTICUT
JAMES R. ANTOSZEWSKI
31499
LICENSED
PROFESSIONAL ENGINEER
12/29/2020

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TABLE OF CONTENTS

1) INTRODUCTION

The purpose of this analysis is to determine if the modified structure and existing foundations have sufficient capacity to support the existing and proposed equipment along with the existing wire loads described herein. The modified structure is a 190' tall steel distribution tower designated as a 27.6kV.

The existing antenna mounting system consists of a 12' platform installed on an existing 12" pipe mast mounted to the tower face. Refer to Tables 1 and 2 below and drawing SK-1 located in Appendix A for further antenna equipment and mount information.

The existing and/or proposed modifications, as shown on the drawings referenced in Table 5 of this report have been taken into account as part of this analysis.

2) ANALYSIS CRITERIA

Reference Standard:	IEEE Standards Association, "National Electrical Safety Code" (NESC) C2-2017 ANSI/TIA-222-G-2-2009 Standard, "Structural Standard for Antenna Supporting Structures and Antennas – Addendum 2" ASCE Standard 10-15, "Design of Latticed Steel Transmission Structures"
Utility Specification:	Northeast Utilities OTRM 059.1 (3/12/2014)

Table 1 – Proposed Antenna and Cable Information[1]

Mounting Level (feet)	Center Line Elevation (feet)	Quantity	Manufacturer	Model	Number of Feed Lines[2]	Feed Line Size (inches)	Note
195	195	3	Commscope	NNH4-65A-R6 (Antenna)	12 (E)	1-5/8	-
		3	CCI	DMP65R-BU4DA (Antenna)			-
		6	Kaelus	TMA2117F00V1-1 (TMA)			-
		6	CCI	TMABPD7823VG12A (TMA)			-

Notes:
1. See drawing SK-1 in "Appendix A – Structure Profile Sheet" for further details.
2. (E) – Coax mounted externally and exposed to the wind.

Table 2 – Existing and Reserved Antenna and Cable Information[1]

Mounting Level (feet)	Center Line Elevation (feet)	Quantity	Manufacturer	Model	Number of Feed Lines[2]	Feed Line Size (inches)	Note
193	195	3	KMW	AM-X-CD-14-65-00T-RET (Antenna)	18 (E)	1-5/8	3
		3	Powerwave	TT19-08BP111-001 (TMA)			
		3	-	10' T-Arm			
136.5	136.5	6	Commscope	DB950G40E (Antenna)	6 (E)		4
		3	Microflect	99287 (Frame Mount)			

Notes:
1. See drawing SK-1 in "Appendix A – Structure Profile Sheet" for further details.
2. (E) – Coax mounted externally and exposed to the wind.
3. AT&T existing equipment to remain.
4. Sprint reserved equipment.

Table 3 – Existing Electrical Utility Wire Information[1]

Wire Designation	Wire Type	Tension Angle (degrees)	Wind Span		Weight Span	
			Back (feet)	Ahead (feet)	Back (feet)	Ahead (feet)
Shield Wire	(2) - 7#8 Alumoweld	-	-	-	-	-
Conductor	(6) – 556.7 kcmil 26/7 ACSR (Dove)					

Notes:
1. Wire loads provided by the utility. See "Appendix B – Load Calculations" for further details.

Table 4a – Utility Tower Analysis - Load Case Information[1]

Load Case Name	Radial Ice (inches)	Wind Speed (mph)	Overload Capacity Factors				Note
			Vertical	Wind	Wire Tension		
					Long.	Trans.	
NESC 250B (Heavy)	0.5	39.5	1.5	2.5	1.1	1.65	-
NESC 250C (Extreme Wind)	0	120	1.0	1.0	1.0	1.0	2

Notes:
1. As per the requirements of NU Design Criteria Table, NESC C2-2017 – Construction Grade B, and ASCE 10-15, "Design of Latticed Steel Transmission Structures".
2. Apply a 1.25 X Gust Response Factor to all telecommunication equipment projected above top of tower/pole and a 1.0 X Gust Response Factor to the tower/pole structure as per NU Design Criteria Table.

Table 4b – Antenna Mount Analysis - Load Case Information[1]

Load Case Name	Radial Ice (inches)	Wind Speed (mph)	Note
TIA/EIA – High Wind	0	105	-
TIA/EIA – Wind and Ice	0.75	50	-

Notes:
1. As per the requirements of the CT State Building Code, V. ultimate = 135mph (Risk Cat. II) converted to V. nominal = 105mph for use with TIA/EIA-222-G, Structure Class III, Exposure C and Topographic Category 1.

3) ANALYSIS PROCEDURE

Table 5 – Documents Provided

Document	Remarks	Reference	Source
Structure Design Drawings	R. D. COOMBS & CO., Various Dates	C1485-1 thru 6	Eversource
Structure Erection Drawings	R. D. COOMBS & CO., Various Dates	C1485 – E1 thru E3	
Structure Foundation Drawings	Northeast Utilities Service Co., Various Dates	01503-42001 &01503-60002	
RF Data Sheet	AT&T, 11/23/2019	CTL02042	AT&T
Previous SA Report	Centek, 10/25/2018	18130.00 R1	Eversource
	Centek, 8/14/2018	17159.20 R2	
	Centek, 11/17/2016	16071.16 R2	
Accompanying Structure Modification Drawings	PJF, 11/7/2020	80620-0004.002.6125	PJF
Previous Mount Analysis	PJF, 4/3/2020	80620-0004.001.6090	

3.1) Analysis Method

Tower™ is a commercially available analysis software package made by Powerline Systems, Inc. Tower™ was used to create a three-dimensional model of the tower and calculate member stresses for various load cases. Equipment and wire load calculations were completed using Microsoft Excel or MathCAD and applied to the structure model as point loads. Load Calculations are included in Appendix B. Selected output from the analysis is included in Appendix C.

tnxTower (version 8.0.5.0), is a commercially available analysis software package. tnxTower was used to create a three dimensional model of the mast extension and calculate member stresses for various load cases. Selected output from the analysis is included in Appendix C.

Risa-3D is a commercially available analysis software package made by Risa Technologies, LLC. For this analysis, Risa-3D was used to create a three-dimensional model of the 12" pipe mast mounted to the tower face and calculate member stresses and reactions for various load cases. Those reactions were then applied to the tower model as point loads. Equipment and wire load calculations were completed using Microsoft Excel or MathCAD and applied to the 12" pipe mast mounted to the tower face and tower

models as point loads. Load Calculations are included in Appendix B. Select output from the Risa-3D and Tower™ analyses are included in Appendix C.

The foundation was evaluated based on the foundation drawings referenced in Table 5. Calculations were completed using MathCAD and the joint reactions from Tower™. Full calculations are included in Appendix D.

3.2) Assumptions

1) *The structure was built in accordance with the manufacturer's specifications.*
2) *The structure has been maintained in accordance with the manufacturer's specifications.*
3) *The analysis assumes that no physical deterioration has occurred in any of the structural components and that all members have the same load carrying capacity as the day the structure was erected. No allowance was made for any damaged, missing, or rusted members.*
4) *All bolts have been torqued to the snug-tight condition as defined by AISC.*
5) *No residual stresses exist due to incorrect tower erection.*
6) *All welds conform to the requirements of AWS D1.1.*
7) *The configuration of antennas, cables, mounts and other appurtenances are as specified in Tables 1 and 2 of this report and as per the referenced documents in Table 5.*
8) *The wind loads applied to the structure, due to the antenna installations, are based on the full projected area of all antenna equipment in all directions (i.e. no shielding used).*
9) *Pipe riser and utility tower are in plumb condition.*
10) *Tower steel material assumed to be A7 & A36 with minimum yield stress of 33ksi and 36ksi respectively.*
11) *Tower bolts assumed to be 3/4" A394 and 7/8" A394 with a minimum shear capacity of 13.6kips and 18.85kips respectively.*
12) *The structure modifications, as shown in the referenced Centek documents, have been installed.*
13) *No further modifications to the structure have been made other than those referenced herein.*
14) *This analysis does not imply to meet any serviceability criteria such as deflections, twist, sway, etc. unless expressly agreed to in writing.*

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

4) ANALYSIS RESULTS

The following table provides the maximum usages for each structure element type and the loading condition in which they occur:

Table 6 – Maximum Structure Element Usages

Tower – Analysis			
Element Type	**Member Designation**	**Load Case**	**Usage (%)**
Leg Members	21XY	NESC Extreme	80
Vertical "X" Bracing / Diagonal Members	59XY	NESC Heavy Broken Wire	99.86
Horizontal Members & Hangers	88P	NESC Extreme	74
		Maximum Structure Element Usage =	**99.86**
		Modified Structure Result =	**Pass**

Notes:
1. See "Appendix C – Computer Output" for further detailed information.
2. See "Appendix D – Supplemental Calculations" for calculations supporting the % capacity used.

Table 7 – Maximum Structure Foundation Usages

Foundation Analysis			
	Load Case	**Factor of Safety**	**Usage (%)**
Uplift Check	NESC Extreme	1.266	79
Bearing Check	NESC Extreme	1.242	81
Sliding Check	NESC Extreme	2.936	34
		Maximum Foundation Usage =	**81**
		Existing Foundation Result =	**Pass**

Notes:
1. See "Appendix D – Supplemental Calculations" for calculations supporting the % capacity used.

Table 8 – Maximum Antenna Mast Usages

Antenna Mast – Analysis			
Member		**Load Case**	**Usage (%)**
12" Schedule 40 Mast		TIA/EIA – High Wind	57
Mast Frame		TIA/EIA – High Wind	83
Mast Connection to CL&P Tower (See Notes 3 and 4 Below)		TIA/EIA – High Wind	38
Limit State Deformations[1]			
Limit State	**Analysis Value**	**Maximum Allowable Value**	**Result**
Twist	0.051°	4°	OK
Sway (Tilt)	0.151°	4°	OK
Horizontal Displacement	0.275"	1.8" [2]	OK
		Maximum Antenna Mast Usage =	**83**
		Existing Antenna Mast Result =	**Pass**

Notes:
1. As per the requirements of ANSI/TIA-222-G - Section 2.8.2
2. 1.5% of cantilevered mast height = 10 x 12"/ft x 0.015 = 1.8"
3. See "Appendix C – Computer Output" for further detailed information.
4. See "Appendix D – Supplemental Calculations" for calculations supporting the % capacity used.

4.1) Recommendations

Verify all previous modifications were installed as per drawings referenced in Table 5 of this report.

Install new modifications as referenced in Table 5 of this report.

The mount will have sufficient capacity to carry the proposed loading configuration. In order for the results of the analysis to be considered valid, the modifications listed below must be completed.

- Replace existing mount pipes with 8-ft long, P2.5 STD (2.88" O.D. x 0.189") pipes were required. See Appendix D in the mount analysis referenced in Table 5 for details.

5) CONCLUSION

The modified transmission tower has **sufficient** capacity to support the existing and proposed equipment along with the existing wire loads described herein.

The existing foundation(s) have **sufficient** capacity to support the existing and proposed equipment along with the existing wire loads described herein.

The existing antenna mount has mount has **sufficient** capacity to support the existing and proposed equipment described herein.

This analysis is presented based upon the assumptions listed herein and information provided by the utility and the wireless carrier. If the existing conditions are different than those presented here, Paul J. Ford and Company should be contacted to verify the validity of the conclusions presented here.

STANDARD CONDITIONS FOR FURNISHING OF PROFESSIONAL ENGINEERING SERVICES ON EXISTING STRUCTURES BY PAUL J. FORD AND COMPANY

1) It is the responsibility of the client to ensure that the information provided to Paul J. Ford and Company is accurate and complete. Paul J. Ford and Company will rely on the accuracy and completeness of such information in performing or furnishing services under this project.

2) If the existing conditions are not as represented on the referenced drawings and/or documents, Paul J. Ford and Company should be contacted immediately to evaluate the significance of the deviation.

3) The structure has been analyzed according to the minimum design loads recommended by the Reference Standard. If additional design loads are required, Paul J. Ford and Company should be made aware of this prior to the start of the project.

4) The standard of care for all Professional Engineering Services performed or furnished by Paul J. Ford and Company under this project will be the skill and care used by members of the Consultant's profession practicing under similar circumstances at the same time and in the same locality.

5) All Services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. Paul J. Ford and Company is not responsible for the conclusions, opinions and/or recommendations made by others based on the information supplied herein.

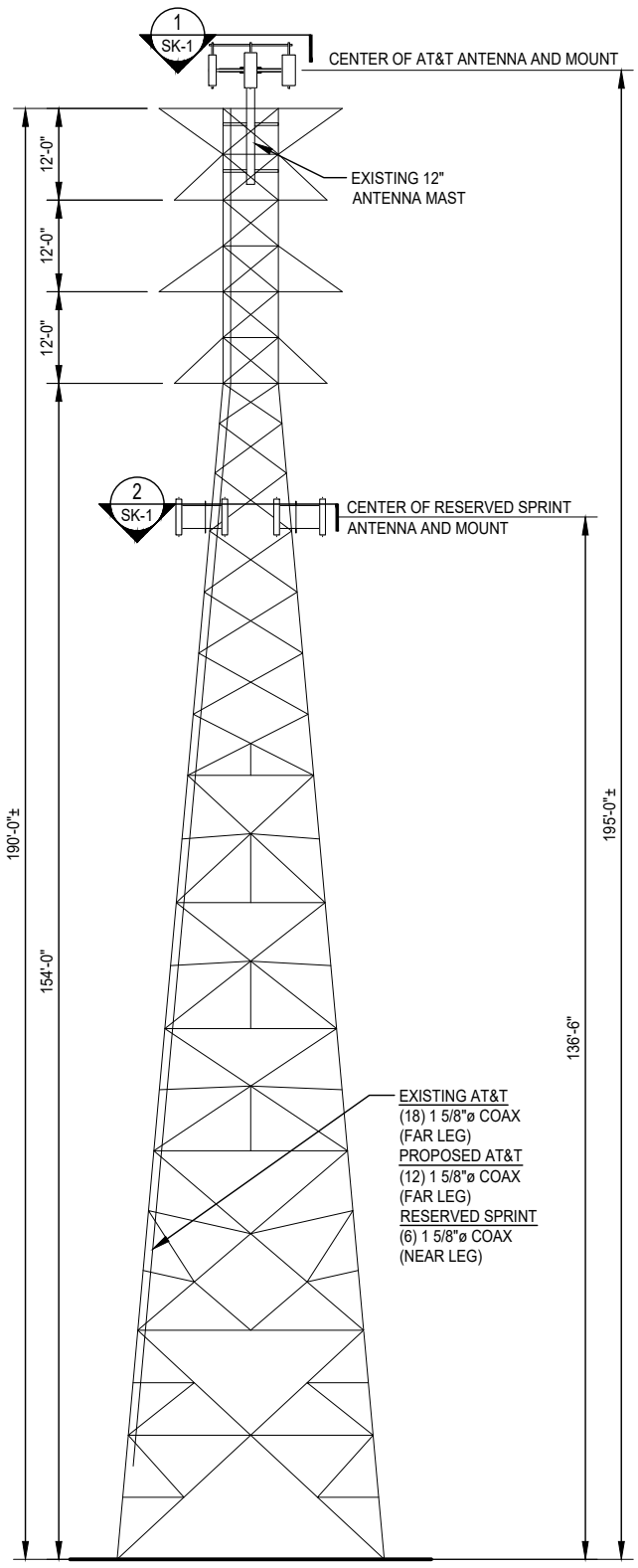
****

APPENDIX A

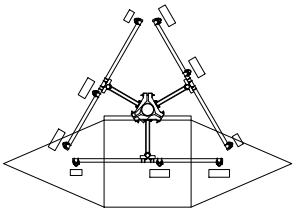
STRUCTURE PHOTOS / PROFILE SHEET


Google

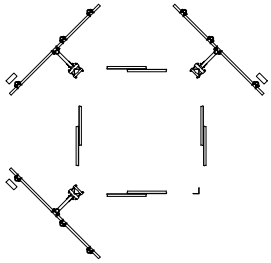
FINAL EQUIPMENT INFORMATION				
RAD ℄	STATUS	QUANTITY	MANUFACTURER	MODEL
195'-0"±	PROPOSED	3	COMMSCOPE	NNH4-65A-R6 (ANTENNA)
		3	CCI	DMP65R-BU4DA (ANTENNA)
		6	KAELUS	TMA2117F00V1-1 (TMA)
		6	CCI	TMABPD7823VG12A (TMA)
	EXISTING	3	KMW	AM-X-CD-14-65-00T-RET (ANTENNA)
		3	POWERWAVE	TT19-08BP111-001 (TMA)
		3	-	10' T-ARM W/ REINFORCEMENTS
136'-6"±	RESERVED	6	COMMSCOPE	DB950G40E (ANTENNA)
		3	MICROFLECT	99287 (FRAME MOUNT)



ELEVATION
TRANSVERSE FACE
LOOKING EAST



SECTION 1 / SK-1
ANTENNA PLAN



SECTION 2 / SK-1
ANTENNA PLAN

NOTE:
INFORMATION PROVIDED ON THIS DRAWING IS INTENDED SOLELY FOR THE PURPOSES OF THIS STRUCTURAL ANALYSIS REPORT. PJF WILL NOT BE RESPONSIBLE FOR ITEMS FABRICATED, PURCHASED OR INSTALLED BASED ON THIS DRAWING.

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Phone 614.221.6679 www.pauljford.com

AT&T
99 EAST RIVER ROAD, 9TH FLOOR EAST HARTFORD, CONNECTICUT 06108

Description: TRANSMISSION TOWER WITH ANTENNA MOUNT - ELEVATIONS AND SECTIONS

Utility: EXELON (PECO)

Structure Info: DIST WEST RIVER X-ING

Site Info: 226 FERRY ROAD, OLD SAYBROOK, MIDDLESEX COUNTY, CONNECTICUT
OLD SAYBROOK SITE #CTL02042 / FA #10035291

Job No.	80620-0004.001.6000
Drawn by:	FE / DLD
Designed by:	JRA
Checked by:	JRA
Date	10-27-2020

SK-1

80620-0004.001.6000.dwg

APPENDIX B

LOAD CALCULATIONS

EVERSOURCE

Wire Loads

Project Name	CT River Xing Recheck
Work Order	
Structure #	CT River Xing West - Old Saybrook
Line #	DIST
Prepared By	JS — Date 05/10/2018
Checked By	— Date

Structure Data

Structure Height (AGL)	190	Load Zone	SE CT Coastal
# of Circuits	2	Insulation Type	Deadend (Column)
Insulator Weight	150	Broken Wire Side	Back
Broken Wire Side	Left	Structure Type	Double Circuit Steel Pole

Wire Data

Circuit #	Left	Right
Shield Wire	7 #8 AW	7 #8 AW
Conductor	DOVE	DOVE
# of Conductors	1	1

Line Geometry

	Circuit 1			Circuit 2		
	Ahead	Back	Total	Ahead	Back	Total
Wind Span	1030	240	1270	1030	240	1270
Weight Span	1030	1878	2908	1030	1878	2908
Minimum Line Angle	0	3	3	0	3	3
Maximum Line Angle	0	3	3	0	3	3

Wire Tensions

	Left Circuit		Right Circuit		
	Ahead	Back	Ahead	Back	
NESC Rule 250B	12000	12000	12000	12000	Conductor
NESC Rule 250C	17025	11174	17025	11174	
NESC Rule 250D					
60°F, No wind or ice	4748	7320	4748	7320	
NESC Rule 250B	8230	8000	8230	8000	Shield Wire
NESC Rule 250C	8701	7266	8701	7266	
NESC Rule 250D					
60°F, No wind or ice	2651	6640	2651	6640	

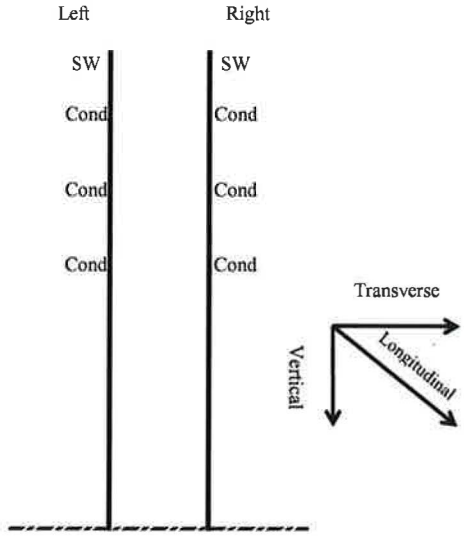
All Loads include Overload Factors but not Pole Shape Factors

Load Case	Description
1	NESC Rule 250B; 0°F, ½" of ice, 4 psf wind
2	NESC Rule 250C; (Extreme Wind Loading)
3	NESC Rule 250C; Extreme Wind Longtitudinal On The Pole Only
4	NESC Rule 250D; 15°F 1" of ice, 4 psf or NU Ice Case; 32°F 1" Ice
5	NESC Rule 250B with no OLFs (Service Load)
6	60°F, No wind or Ice (Deflection)
7a	NESC Rule 250B/261C Broken Wire Case (Broken SW and Borken Conductor)
7b	NESC Rule 250B/261C Broken Wire Case (Broken SW or Broken Phase)

EVERSOURCE

Wire Loads
Load Tree

Project Number
CT River Xing Recheck
Structure Number
CT River Xing West - O
Line Number
DIST



Double Circuit Steel Pole Deadend on Column
All wires to be broken simultaneously in each direction

LEFT Circuit

	Case	Back			Ahead		
		Vertical	Transverse	Longitudina	Vertical	Transverse	Longitudina
Conductor	1	4880.3573	1471.6519	-19772.86	2778.2577	1704.0083	19800
	2	1586.67	1479.322	-11158.69	937.95	3213.565	17025
	3	1586.67	383.0992	-7309.968	937.95	0	4748
	4	6088.5891	254.16	0	3407.0536	1024.9367	0
	5	3253.5715	802.19147	-11983.55	1852.1718	681.60333	12000
	6	1586.67	383.0992	-7309.968	937.95	0	4748
	7a	0	0	0	2778.2577	1704.0083	19800
	7b	0	0	0	2778.2577	1704.0083	19800
Shield Wire	Case	Back			Ahead		
		Vertical	Transverse	Longitudina	Vertical	Transverse	Longitudina
	1	2288.1646	967.83462	-13181.91	1254.9572	1188.7917	13579.5
	2	491.6604	672.87306	-7256.042	269.654	1255.7417	8701
	3	491.6604	347.51075	-6630.9	269.654	0	2651
	4	3727.3417	190.8	0	2044.2822	818.85	0
	5	1525.4431	529.48765	-7989.036	836.6381	475.51667	8230
	6	491.6604	347.51075	-6630.9	269.654	0	2651
	7a	0	0	0	1254.9572	1879.6263	13579.5
	7b	0	0	0	1254.9572	1188.7917	13579.5

V T L

7658 3176 27.2 ① 250B - Conductor

2525 4693 5866 ② 250C - Conductor

V T L

3543 2157 400 ① 250B - Shield wire

761 1929 1445 ② 250C - Shield wire

RIGHT Circuit

	Case	Back			Ahead		
		Vertical	Transverse	Longitudina	Vertical	Transverse	Longitudina
Conductor	1	4880.3573	1471.6519	-19772.86	2778.2577	1704.0083	19800
	2	1586.67	1479.322	-11158.69	937.95	3213.565	17025
	3	1586.67	383.0992	-7309.968	937.95	0	4748
	4	6088.5891	254.16	0	3407.0536	1024.9367	0
	5	3253.5715	802.19147	-11983.55	1852.1718	681.60333	12000
	6	1586.67	383.0992	-7309.968	937.95	0	4748
	7a	0	0	0	2778.2577	1704.0083	19800
	7b	0	0	0	2778.2577	1704.0083	19800
Shield Wire	Case	Back			Ahead		
		Vertical	Transverse	Longitudina	Vertical	Transverse	Longitudina
	1	2288.1646	967.83462	-13181.91	1254.9572	1188.7917	13579.5
	2	491.6604	672.87306	-7256.042	269.654	1255.7417	8701
	3	491.6604	347.51075	-6630.9	269.654	0	2651
	4	3727.3417	190.8	0	2044.2822	818.85	0
	5	1525.4431	529.48765	-7989.036	836.6381	475.51667	8230
	6	491.6604	347.51075	-6630.9	269.654	0	2651
	7a	0	0	0	1254.9572	1188.7917	13579.5
	7b	0	0	0	1254.9572	1188.7917	13579.5

From Previous Report

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	Client AT&T / Eversource	**Designed by** DLD

Tower Input Data

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

Tower is located in Middlesex County, Connecticut.
Basic wind speed of 105 mph.
Structure Class III.
Exposure Category D.
Topographic Category 1.
Crest Height 0.00 ft.
Nominal ice thickness of 0.7500 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 50 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 60 mph.
Weld together tower sections have flange connections..
Connections use galvanized A325 bolts, nuts and locking devices. Installation per TIA/EIA-222 and AISC Specifications..
Tower members are "hot dipped" galvanized in accordance with ASTM A123 and ASTM A153 Standards..
Welds are fabricated with ER-70S-6 electrodes..
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in pole design is 1.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

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

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Pole Section Geometry

Section	Elevation ft	Section Length ft	Pole Size	Pole Grade	Socket Length ft
L1	195.00-179.00	16.00	PIPE 12 STD (SCH40)	A53-B-35 (35 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
L1 195.00-179.00				1	1	1			

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Offsets: Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft²	C_AA_A Side ft²	Weight lb
NNH4-65A-R6 w/ Mount Pipe	A	From Face	3.00 0.00 0.00		0.0000	195.00	No Ice 1/2" Ice 1" Ice	5.17 5.55 5.95	1.72 2.06 2.41	102.96 169.51 245.42
NNH4-65A-R6 w/ Mount Pipe	B	From Face	3.00 0.00 0.00		0.0000	195.00	No Ice 1/2" Ice 1" Ice	5.17 5.55 5.95	1.72 2.06 2.41	102.96 169.51 245.42
NNH4-65A-R6 w/ Mount Pipe	C	From Face	3.00 0.00 0.00		0.0000	195.00	No Ice 1/2" Ice 1" Ice	5.17 5.55 5.95	1.72 2.06 2.41	102.96 169.51 245.42
DMP65R-BU4D w/ Mount Pipe	A	From Face	3.00 0.00 0.00		0.0000	195.00	No Ice 1/2" Ice 1" Ice	7.53 8.04 8.57	3.79 4.23 4.68	94.78 155.56 224.94
DMP65R-BU4D w/ Mount Pipe	B	From Face	3.00 0.00 0.00		0.0000	195.00	No Ice 1/2" Ice 1" Ice	7.53 8.04 8.57	3.79 4.23 4.68	94.78 155.56 224.94
DMP65R-BU4D w/ Mount Pipe	C	From Face	3.00 0.00 0.00		0.0000	195.00	No Ice 1/2" Ice 1" Ice	7.53 8.04 8.57	3.79 4.23 4.68	94.78 155.56 224.94
(2) TMA2117F00V1-1	A	From Face	3.00 0.00 0.00		0.0000	195.00	No Ice 1/2" Ice 1" Ice	0.30 0.37 0.45	0.83 0.95 1.07	26.00 32.83 41.44
(2) TMA2117F00V1-1	B	From Face	3.00 0.00 0.00		0.0000	195.00	No Ice 1/2" Ice 1" Ice	0.30 0.37 0.45	0.83 0.95 1.07	26.00 32.83 41.44
(2) TMA2117F00V1-1	C	From Face	3.00 0.00 0.00		0.0000	195.00	No Ice 1/2" Ice 1" Ice	0.30 0.37 0.45	0.83 0.95 1.07	26.00 32.83 41.44
(2) TMABPD7823VG12A	A	From Face	3.00 0.00 0.00		0.0000	195.00	No Ice 1/2" Ice 1" Ice	1.37 1.52 1.67	0.52 0.62 0.73	26.00 35.87 47.89
(2) TMABPD7823VG12A	B	From Face	3.00 0.00		0.0000	195.00	No Ice 1/2" Ice	1.37 1.52	0.52 0.62	26.00 35.87

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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 lb
			0.00			1" Ice	1.67	0.73	47.89
(2) TMABPD7823VG12A	C	From Face	3.00	0.0000	195.00	No Ice	1.37	0.52	26.00
			0.00			1/2" Ice	1.52	0.62	35.87
			0.00			1" Ice	1.67	0.73	47.89
AM-X-CD-14-65-00T-RET w/ Mount Pipe	A	From Face	3.00	0.0000	195.00	No Ice	2.99	2.14	54.68
			0.00			1/2" Ice	3.30	2.43	95.56
			0.00			1" Ice	3.62	2.73	144.34
AM-X-CD-14-65-00T-RET w/ Mount Pipe	B	From Face	3.00	0.0000	195.00	No Ice	2.99	2.14	54.68
			0.00			1/2" Ice	3.30	2.43	95.56
			0.00			1" Ice	3.62	2.73	144.34
AM-X-CD-14-65-00T-RET w/ Mount Pipe	C	From Face	3.00	0.0000	195.00	No Ice	2.99	2.14	54.68
			0.00			1/2" Ice	3.30	2.43	95.56
			0.00			1" Ice	3.62	2.73	144.34
TT19-08BP111-001	A	From Face	3.00	0.0000	195.00	No Ice	0.55	0.45	16.00
			0.00			1/2" Ice	0.65	0.53	21.80
			0.00			1" Ice	0.75	0.63	29.22
TT19-08BP111-001	B	From Face	3.00	0.0000	195.00	No Ice	0.55	0.45	16.00
			0.00			1/2" Ice	0.65	0.53	21.80
			0.00			1" Ice	0.75	0.63	29.22
TT19-08BP111-001	C	From Face	3.00	0.0000	195.00	No Ice	0.55	0.45	16.00
			0.00			1/2" Ice	0.65	0.53	21.80
			0.00			1" Ice	0.75	0.63	29.22
12' Platform w / handrails	C	None		0.0000	195.00	No Ice	36.97	34.92	1920.00
						1/2" Ice	49.34	46.64	2340.00
						1" Ice	61.71	58.36	2760.00

Tower Pressures - No Ice

$G_H = 1.350$

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft^2	Face	A_F ft^2	A_R ft^2	A_{leg} ft^2	Leg %	C_AA_A In Face ft^2	C_AA_A Out Face ft^2
L1	187.00	1.598	49	17.000	A	0.000	17.000	17.000	100.00	0.000	0.000
195.00-179.00					B	0.000	17.000		100.00	0.000	0.000
					C	0.000	17.000		100.00	0.000	0.000

Tower Pressure - With Ice

$G_H = 1.350$

Section Elevation ft	z ft	K_Z	q_z psf	t_Z in	A_G ft^2	Face	A_F ft^2	A_R ft^2	A_{leg} ft^2	Leg %	C_AA_A In Face ft^2	C_AA_A Out Face ft^2
L1	187.00	1.598	10	2.2301	22.947	A	0.000	22.947	22.947	100.00	0.000	0.000

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Section Elevation ft	z ft	K_Z	q_z psf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
195.00-179.00						B	0.000	22.947		100.00	0.000	0.000
						C	0.000	22.947		100.00	0.000	0.000

Tower Pressure - Service

$G_H = 1.350$

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L1	187.00	1.598	13	17.000	A	0.000	17.000	17.000	100.00	0.000	0.000
195.00-179.00					B	0.000	17.000		100.00	0.000	0.000
					C	0.000	17.000		100.00	0.000	0.000

Tower Forces - No Ice - Wind Normal To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
L1	0.00	793.75	A	1	0.6	49	1	1	17.000	678.38	42.40	C
195.00-179.00			B	1	0.6		1	1	17.000			
			C	1	0.6		1	1	17.000			
Sum Weight:	0.00	793.75						OTM	5427.04 lb-ft	678.38		

Tower Forces - No Ice - Wind 60 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
L1	0.00	793.75	A	1	0.6	49	1	1	17.000	678.38	42.40	C
195.00-179.00			B	1	0.6		1	1	17.000			
			C	1	0.6		1	1	17.000			
Sum Weight:	0.00	793.75						OTM	5427.04 lb-ft	678.38		

Tower Forces - No Ice - Wind 90 To Face

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Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
L1	0.00	793.75	A	1	0.6	49	1	1	17.000	678.38	42.40	C
195.00-179.00			B	1	0.6		1	1	17.000			
			C	1	0.6		1	1	17.000			
Sum Weight:	0.00	793.75						OTM	5427.04 lb-ft	678.38		

Tower Forces - With Ice - Wind Normal To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
L1	0.00	1446.79	A	1	1.2	10	1	1	22.947	361.11	22.57	C
195.00-179.00			B	1	1.2		1	1	22.947			
			C	1	1.2		1	1	22.947			
Sum Weight:	0.00	1446.79						OTM	2888.92 lb-ft	361.11		

Tower Forces - With Ice - Wind 60 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
L1	0.00	1446.79	A	1	1.2	10	1	1	22.947	361.11	22.57	C
195.00-179.00			B	1	1.2		1	1	22.947			
			C	1	1.2		1	1	22.947			
Sum Weight:	0.00	1446.79						OTM	2888.92 lb-ft	361.11		

Tower Forces - With Ice - Wind 90 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
L1	0.00	1446.79	A	1	1.2	10	1	1	22.947	361.11	22.57	C
195.00-179.00			B	1	1.2		1	1	22.947			
			C	1	1.2		1	1	22.947			
Sum Weight:	0.00	1446.79						OTM	2888.92 lb-ft	361.11		

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Tower Forces - Service - Wind Normal To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
L1	0.00	793.75	A	1	0.6	13	1	1	17.000	172.34	10.77	C
195.00-179.00			B	1	0.6		1	1	17.000			
			C	1	0.6		1	1	17.000			
Sum Weight:	0.00	793.75						OTM	1378.75 lb-ft	172.34		

Tower Forces - Service - Wind 60 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
L1	0.00	793.75	A	1	0.6	13	1	1	17.000	172.34	10.77	C
195.00-179.00			B	1	0.6		1	1	17.000			
			C	1	0.6		1	1	17.000			
Sum Weight:	0.00	793.75						OTM	1378.75 lb-ft	172.34		

Tower Forces - Service - Wind 90 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
L1	0.00	793.75	A	1	0.6	13	1	1	17.000	172.34	10.77	C
195.00-179.00			B	1	0.6		1	1	17.000			
			C	1	0.6		1	1	17.000			
Sum Weight:	0.00	793.75						OTM	1378.75 lb-ft	172.34		

Discrete Appurtenance Pressures - No Ice $G_H = 1.350$

Description	Aiming Azimuth °	Weight lb	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z psf	C_AA_C Front ft²	C_AA_C Side ft²
NNH4-65A-R6 w/ Mount Pipe	300.0000	102.96	-3.06	-1.77	195.00	1.609	50	5.17	1.72
NNH4-65A-R6 w/	60.0000	102.96	3.06	-1.77	195.00	1.609	50	5.17	1.72

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Description	Aiming Azimuth °	Weight lb	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z psf	C_AA_C Front ft^2	C_AA_C Side ft^2
Mount Pipe									
NNH4-65A-R6 w/ Mount Pipe	180.0000	102.96	0.00	3.53	195.00	1.609	50	5.17	1.72
DMP65R-BU4D w/ Mount Pipe	300.0000	94.78	-3.06	-1.77	195.00	1.609	50	7.53	3.79
DMP65R-BU4D w/ Mount Pipe	60.0000	94.78	3.06	-1.77	195.00	1.609	50	7.53	3.79
DMP65R-BU4D w/ Mount Pipe	180.0000	94.78	0.00	3.53	195.00	1.609	50	7.53	3.79
TMA2117F00V1-1	300.0000	52.00	-3.06	-1.77	195.00	1.609	50	0.59	1.67
TMA2117F00V1-1	60.0000	52.00	3.06	-1.77	195.00	1.609	50	0.59	1.67
TMA2117F00V1-1	180.0000	52.00	0.00	3.53	195.00	1.609	50	0.59	1.67
TMABPD7823VG12A	300.0000	52.00	-3.06	-1.77	195.00	1.609	50	2.74	1.04
TMABPD7823VG12A	60.0000	52.00	3.06	-1.77	195.00	1.609	50	2.74	1.04
TMABPD7823VG12A	180.0000	52.00	0.00	3.53	195.00	1.609	50	2.74	1.04
AM-X-CD-14-65-00T-RET w/ Mount Pipe	300.0000	54.68	-3.06	-1.77	195.00	1.609	50	2.99	2.14
AM-X-CD-14-65-00T-RET w/ Mount Pipe	60.0000	54.68	3.06	-1.77	195.00	1.609	50	2.99	2.14
AM-X-CD-14-65-00T-RET w/ Mount Pipe	180.0000	54.68	0.00	3.53	195.00	1.609	50	2.99	2.14
TT19-08BP111-001	300.0000	16.00	-3.06	-1.77	195.00	1.609	50	0.55	0.45
TT19-08BP111-001	60.0000	16.00	3.06	-1.77	195.00	1.609	50	0.55	0.45
TT19-08BP111-001	180.0000	16.00	0.00	3.53	195.00	1.609	50	0.55	0.45
12' Platform w / handrails	0.0000	1920.00	0.00	0.00	195.00	1.609	50	36.97	34.92
	Sum Weight:	3037.25							

Discrete Appurtenance Pressures - With Ice $G_H = 1.350$

Description	Aiming Azimuth °	Weight lb	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z psf	C_AA_C Front ft^2	C_AA_C Side ft^2	t_z in
NNH4-65A-R6 w/ Mount Pipe	300.0000	451.65	-3.06	-1.77	195.00	1.609	10	6.87	3.24	2.2395
NNH4-65A-R6 w/ Mount Pipe	60.0000	451.65	3.06	-1.77	195.00	1.609	10	6.87	3.24	2.2395
NNH4-65A-R6 w/ Mount Pipe	180.0000	451.65	0.00	3.53	195.00	1.609	10	6.87	3.24	2.2395
DMP65R-BU4D w/ Mount Pipe	300.0000	444.78	-3.06	-1.77	195.00	1.609	10	9.97	5.88	2.2395
DMP65R-BU4D w/ Mount Pipe	60.0000	444.78	3.06	-1.77	195.00	1.609	10	9.97	5.88	2.2395
DMP65R-BU4D w/ Mount Pipe	180.0000	444.78	0.00	3.53	195.00	1.609	10	9.97	5.88	2.2395
TMA2117F00V1-1	300.0000	147.91	-3.06	-1.77	195.00	1.609	10	1.39	2.84	2.2395
TMA2117F00V1-1	60.0000	147.91	3.06	-1.77	195.00	1.609	10	1.39	2.84	2.2395
TMA2117F00V1-1	180.0000	147.91	0.00	3.53	195.00	1.609	10	1.39	2.84	2.2395
TMABPD7823VG12A	300.0000	181.40	-3.06	-1.77	195.00	1.609	10	4.18	2.08	2.2395
TMABPD7823VG12A	60.0000	181.40	3.06	-1.77	195.00	1.609	10	4.18	2.08	2.2395
TMABPD7823VG12A	180.0000	181.40	0.00	3.53	195.00	1.609	10	4.18	2.08	2.2395
AM-X-CD-14-65-00T-RET w/ Mount Pipe	300.0000	309.55	-3.06	-1.77	195.00	1.609	10	4.45	3.53	2.2395
AM-X-CD-14-65-00T-RET w/ Mount Pipe	60.0000	309.55	3.06	-1.77	195.00	1.609	10	4.45	3.53	2.2395
AM-X-CD-14-65-00T-RET w/ Mount Pipe	180.0000	309.55	0.00	3.53	195.00	1.609	10	4.45	3.53	2.2395
TT19-08BP111-001	300.0000	57.96	-3.06	-1.77	195.00	1.609	10	1.05	0.91	2.2395

tnxTower	Job: 80620-0004.001.6000 / Old Saybrook Ferry Rd	Page: 8 of 9
PJF 250 E Broad St, Suite 600 Columbus, OH Phone: 614-221-6679 FAX:	Project: Site #10035291	Date: 22:33:54 08/25/20
	Client: AT&T / Eversource	Designed by: DLD

Description	Aiming Azimuth °	Weight lb	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z psf	C_AA_C Front ft^2	C_AA_C Side ft^2	t_z in
TT19-08BP111-001	60.0000	57.96	3.06	-1.77	195.00	1.609	10	1.05	0.91	2.2395
TT19-08BP111-001	180.0000	57.96	0.00	3.53	195.00	1.609	10	1.05	0.91	2.2395
12' Platform w / handrails	0.0000	3801.19	0.00	0.00	195.00	1.609	10	92.38	87.41	2.2395
	Sum Weight:	8580.95								

Discrete Appurtenance Pressures - Service $G_H = 1.350$

Description	Aiming Azimuth °	Weight lb	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z psf	C_AA_C Front ft^2	C_AA_C Side ft^2
NNH4-65A-R6 w/ Mount Pipe	300.0000	102.96	-3.06	-1.77	195.00	1.609	13	5.17	1.72
NNH4-65A-R6 w/ Mount Pipe	60.0000	102.96	3.06	-1.77	195.00	1.609	13	5.17	1.72
NNH4-65A-R6 w/ Mount Pipe	180.0000	102.96	0.00	3.53	195.00	1.609	13	5.17	1.72
DMP65R-BU4D w/ Mount Pipe	300.0000	94.78	-3.06	-1.77	195.00	1.609	13	7.53	3.79
DMP65R-BU4D w/ Mount Pipe	60.0000	94.78	3.06	-1.77	195.00	1.609	13	7.53	3.79
DMP65R-BU4D w/ Mount Pipe	180.0000	94.78	0.00	3.53	195.00	1.609	13	7.53	3.79
TMA2117F00V1-1	300.0000	52.00	-3.06	-1.77	195.00	1.609	13	0.59	1.67
TMA2117F00V1-1	60.0000	52.00	3.06	-1.77	195.00	1.609	13	0.59	1.67
TMA2117F00V1-1	180.0000	52.00	0.00	3.53	195.00	1.609	13	0.59	1.67
TMABPD7823VG12A	300.0000	52.00	-3.06	-1.77	195.00	1.609	13	2.74	1.04
TMABPD7823VG12A	60.0000	52.00	3.06	-1.77	195.00	1.609	13	2.74	1.04
TMABPD7823VG12A	180.0000	52.00	0.00	3.53	195.00	1.609	13	2.74	1.04
AM-X-CD-14-65-00T-RET w/ Mount Pipe	300.0000	54.68	-3.06	-1.77	195.00	1.609	13	2.99	2.14
AM-X-CD-14-65-00T-RET w/ Mount Pipe	60.0000	54.68	3.06	-1.77	195.00	1.609	13	2.99	2.14
AM-X-CD-14-65-00T-RET w/ Mount Pipe	180.0000	54.68	0.00	3.53	195.00	1.609	13	2.99	2.14
TT19-08BP111-001	300.0000	16.00	-3.06	-1.77	195.00	1.609	13	0.55	0.45
TT19-08BP111-001	60.0000	16.00	3.06	-1.77	195.00	1.609	13	0.55	0.45
TT19-08BP111-001	180.0000	16.00	0.00	3.53	195.00	1.609	13	0.55	0.45
12' Platform w / handrails	0.0000	1920.00	0.00	0.00	195.00	1.609	13	36.97	34.92
	Sum Weight:	3037.25							

Force Totals

Load Case	Vertical Forces lb	Sum of Forces X lb	Sum of Forces Z lb	Sum of Overturning Moments, M_x lb-ft	Sum of Overturning Moments, M_z lb-ft	Sum of Torques lb-ft
Leg Weight	793.75					
Bracing Weight	0.00					
Total Member Self-Weight	793.75			0.00	0.00	
Total Weight	3830.99			0.00	0.00	
Wind 0 deg - No Ice		0.00	-5596.89	-84123.16	0.00	0.00
Wind 30 deg - No Ice		2798.44	-4847.05	-72852.79	-42061.58	0.00
Wind 60 deg - No Ice		4847.05	-2798.44	-42061.58	-72852.79	0.00

tnxTower	Job	Page
PJF 250 E Broad St, Suite 600 Columbus, OH Phone: 614-221-6679 FAX:	80620-0004.001.6000 / Old Saybrook Ferry Rd	9 of 9
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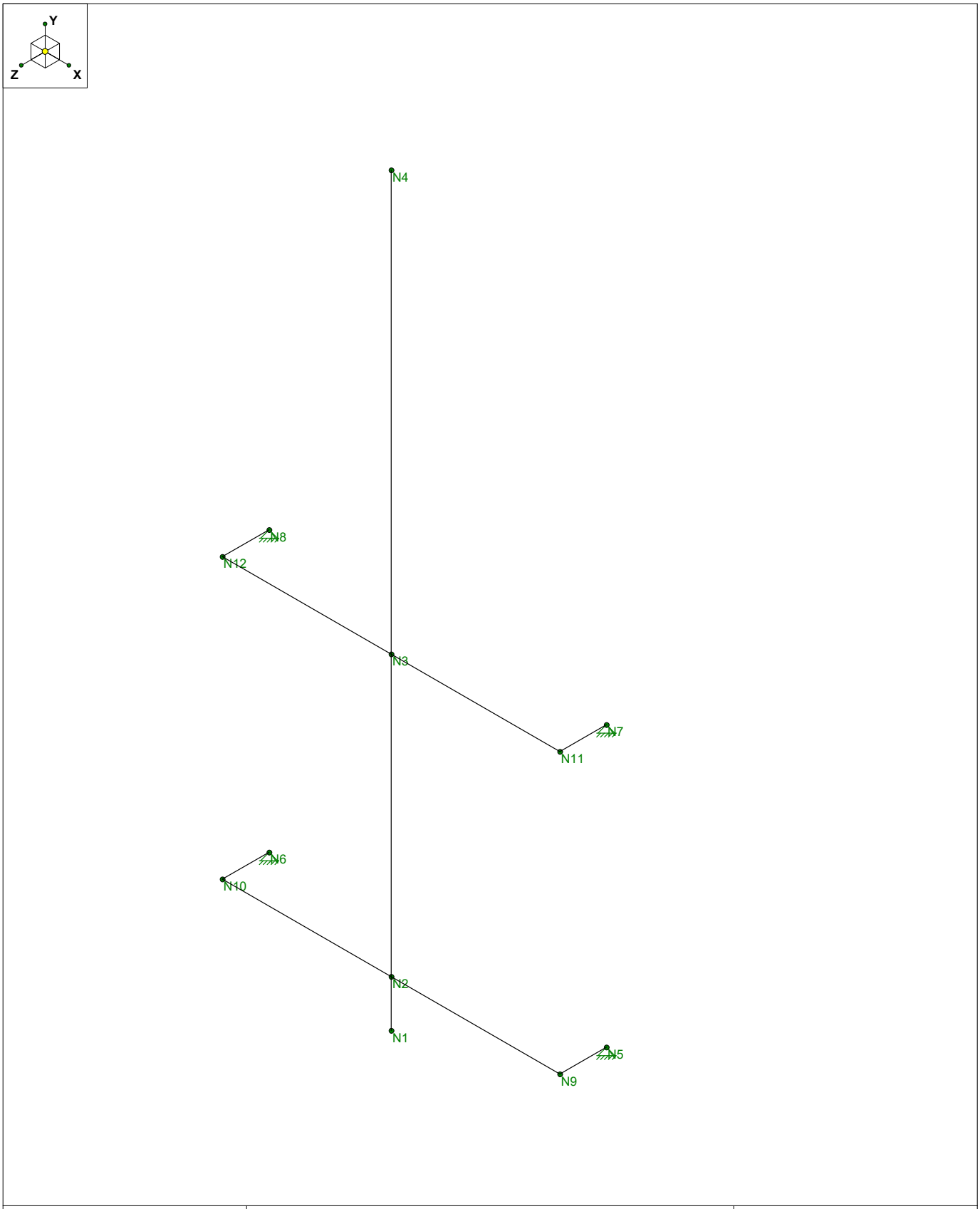
	Client AT&T / Eversource	**Designed by** DLD

Load Case	*Vertical Forces* *lb*	*Sum of Forces X* *lb*	*Sum of Forces Z* *lb*	*Sum of Overturning Moments, M_x* *lb-ft*	*Sum of Overturning Moments, M_z* *lb-ft*	*Sum of Torques* *lb-ft*
Wind 90 deg - No Ice		5596.89	0.00	0.00	-84123.16	0.00
Wind 120 deg - No Ice		4847.05	2798.44	42061.58	-72852.79	0.00
Wind 150 deg - No Ice		2798.44	4847.05	72852.79	-42061.58	0.00
Wind 180 deg - No Ice		0.00	5596.89	84123.16	0.00	0.00
Wind 210 deg - No Ice		-2798.44	4847.05	72852.79	42061.58	0.00
Wind 240 deg - No Ice		-4847.05	2798.44	42061.58	72852.79	0.00
Wind 270 deg - No Ice		-5596.89	0.00	0.00	84123.16	0.00
Wind 300 deg - No Ice		-4847.05	-2798.44	-42061.58	72852.79	0.00
Wind 330 deg - No Ice		-2798.44	-4847.05	-72852.79	42061.58	0.00
Member Ice	653.05					
Total Weight Ice	10027.74			0.00	0.00	
Wind 0 deg - Ice		0.00	-2316.62	-34177.02	0.00	0.00
Wind 30 deg - Ice		1158.31	-2006.25	-29598.17	-17088.51	0.00
Wind 60 deg - Ice		2006.25	-1158.31	-17088.51	-29598.17	0.00
Wind 90 deg - Ice		2316.62	0.00	0.00	-34177.02	0.00
Wind 120 deg - Ice		2006.25	1158.31	17088.51	-29598.17	0.00
Wind 150 deg - Ice		1158.31	2006.25	29598.17	-17088.51	0.00
Wind 180 deg - Ice		0.00	2316.62	34177.02	0.00	0.00
Wind 210 deg - Ice		-1158.31	2006.25	29598.17	17088.51	0.00
Wind 240 deg - Ice		-2006.25	1158.31	17088.51	29598.17	0.00
Wind 270 deg - Ice		-2316.62	0.00	0.00	34177.02	0.00
Wind 300 deg - Ice		-2006.25	-1158.31	-17088.51	29598.17	0.00
Wind 330 deg - Ice		-1158.31	-2006.25	-29598.17	17088.51	0.00
Total Weight	3830.99			0.00	0.00	
Wind 0 deg - Service		0.00	-1421.90	-21371.60	0.00	0.00
Wind 30 deg - Service		710.95	-1231.40	-18508.34	-10685.80	0.00
Wind 60 deg - Service		1231.40	-710.95	-10685.80	-18508.34	0.00
Wind 90 deg - Service		1421.90	0.00	0.00	-21371.60	0.00
Wind 120 deg - Service		1231.40	710.95	10685.80	-18508.34	0.00
Wind 150 deg - Service		710.95	1231.40	18508.34	-10685.80	0.00
Wind 180 deg - Service		0.00	1421.90	21371.60	0.00	0.00
Wind 210 deg - Service		-710.95	1231.40	18508.34	10685.80	0.00
Wind 240 deg - Service		-1231.40	710.95	10685.80	18508.34	0.00
Wind 270 deg - Service		-1421.90	0.00	0.00	21371.60	0.00
Wind 300 deg - Service		-1231.40	-710.95	-10685.80	18508.34	0.00
Wind 330 deg - Service		-710.95	-1231.40	-18508.34	10685.80	0.00

APPENDIX C

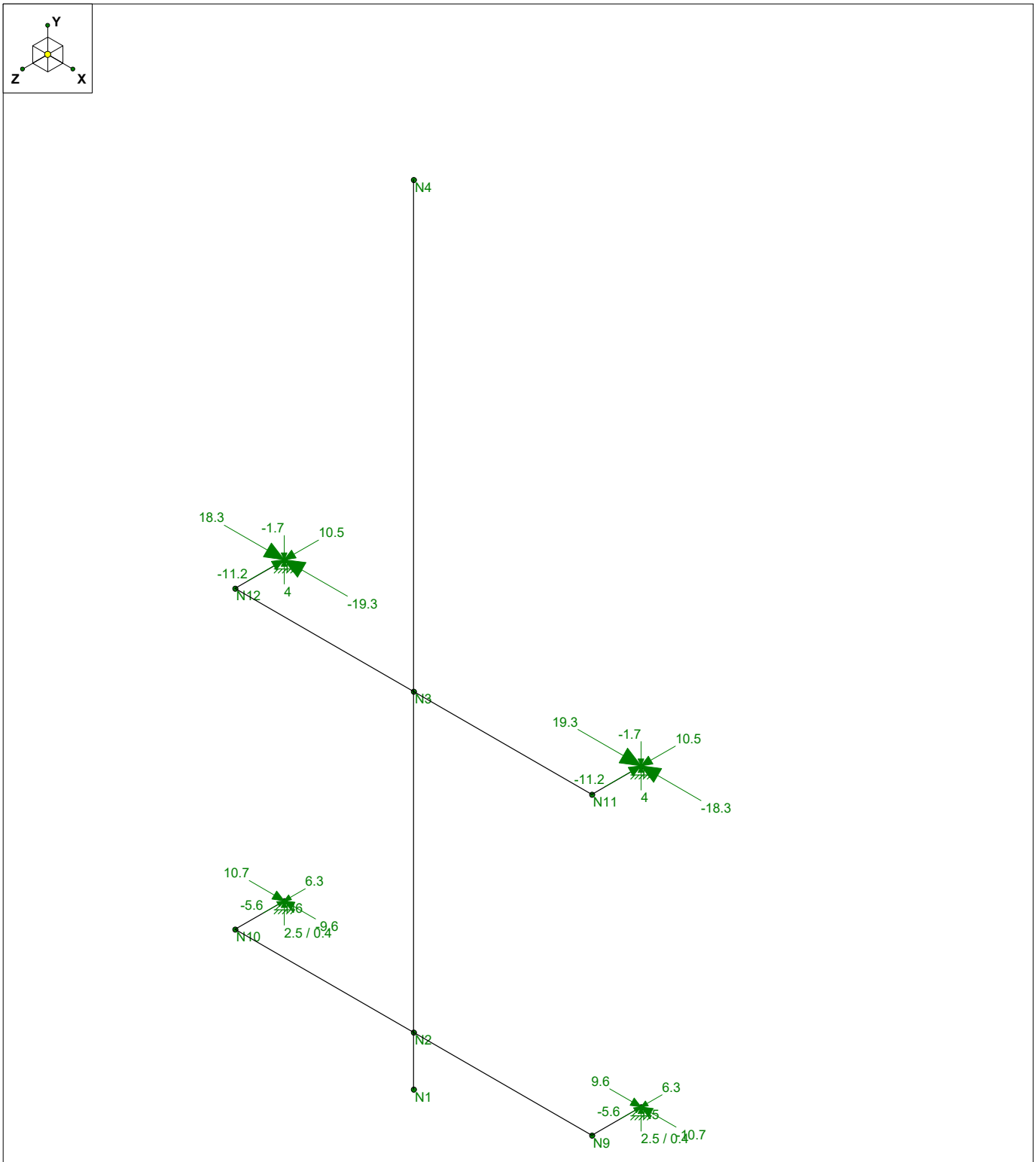
COMPUTER OUTPUT

From Previous Report



PJF	80620-0004.001.6000 / Old Saybrook Ferry Rd	SK - 1
DLD		Aug 25, 2020 at 4:05 PM
Site #10035291		80620-0004.001.6000 Standoff Pip...

From Previous Report



Envelope Only Solution
Reaction and Moment Units are k and k-ft (Enveloped)

PJF	80620-0004.001.6000 / Old Saybrook Ferry Rd	SK - 2
DLD		Aug 25, 2020 at 4:26 PM
Site #10035291		80620-0004.001.6000 Standoff Pip...

From Previous Report

(Global) Model Settings

Display Sections for Member Calcs	5
Max Internal Sections for Member Calcs	97
Include Shear Deformation?	Yes
Increase Nailing Capacity for Wind?	Yes
Include Warping?	Yes
Trans Load Btwn Intersecting Wood Wall?	Yes
Area Load Mesh (in^2)	144
Merge Tolerance (in)	.12
P-Delta Analysis Tolerance	0.50%
Include P-Delta for Walls?	Yes
Automatically Iterate Stiffness for Walls?	No
Max Iterations for Wall Stiffness	3
Gravity Acceleration (ft/sec^2)	32.2
Wall Mesh Size (in)	12
Eigensolution Convergence Tol. (1.E-)	4
Vertical Axis	Y
Global Member Orientation Plane	XZ
Static Solver	Sparse Accelerated
Dynamic Solver	Standard Solver

Hot Rolled Steel Code	AISC 14th(360-10): LRFD
Adjust Stiffness?	Yes(Iterative)
RISAConnection Code	None
Cold Formed Steel Code	None
Wood Code	None
Wood Temperature	< 100F
Concrete Code	None
Masonry Code	None
Aluminum Code	None - Building
Stainless Steel Code	AISC 14th(360-10): ASD
Adjust Stiffness?	Yes(Iterative)

Number of Shear Regions	4
Region Spacing Increment (in)	4
Biaxial Column Method	PCA Load Contour
Parme Beta Factor (PCA)	.65
Concrete Stress Block	Rectangular
Use Cracked Sections?	Yes
Use Cracked Sections Slab?	No
Bad Framing Warnings?	No
Unused Force Warnings?	Yes
Min 1 Bar Diam. Spacing?	No
Concrete Rebar Set	REBAR_SET_ASTMA615
Min % Steel for Column	1
Max % Steel for Column	8

(Global) Model Settings, Continued

Seismic Code	UBC 1997
Seismic Base Elevation (ft)	Not Entered
Add Base Weight?	No
Ct X	.035
Ct Z	.035
T X (sec)	Not Entered
T Z (sec)	Not Entered
R X	8.5
R Z	8.5
Ca	.36
Cv	.54
Nv	1
Occupancy Category	4
Seismic Zone	3
Om Z	1
Om X	1
Rho Z	1
Rho X	1

Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
1	N1	0	181	0	0	
2	N2	0	182	0	0	
3	N3	0	188	0	0	
4	N4	0	197	0	0	
5	N5	3.625	182	-1	0	
6	N6	-3.625	182	-1	0	
7	N7	3.625	188	-1	0	
8	N8	-3.625	188	-1	0	
9	N9	3.625	182	0	0	
10	N10	-3.625	182	0	0	
11	N11	3.625	188	0	0	
12	N12	-3.625	188	0	0	

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (/1E...	Density[k/ft...	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A53-B-35	29000	11200	.295	.65	.49	35	1.5	58	1.2
2	A500 Gr. 46	29000	11154	.3	.65	.49	46	1.2	58	1.2

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(...	Section/Shape	Type	Design List	Material	Design ...
1	M1	N1	N4			PIPE 12.0	Colu...	Pipe	A53-B-35	Typical
2	M2	N8	N12			HSS6X6X4	Beam	SquareTube A1085	A500 Gr. 46	Typical
3	M3	N12	N11			HSS6X6X4	Beam	SquareTube A1085	A500 Gr. 46	Typical
4	M4	N11	N7			HSS6X6X4	Beam	SquareTube A1085	A500 Gr. 46	Typical
5	M5	N6	N10			HSS6X6X4	Beam	SquareTube A1085	A500 Gr. 46	Typical
6	M6	N10	N9			HSS6X6X4	Beam	SquareTube A1085	A500 Gr. 46	Typical
7	M7	N9	N5			HSS6X6X4	Beam	SquareTube A1085	A500 Gr. 46	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Ratio Options	Analysis ...	Inactive	Seismi...
1	M1						Yes	** NA **			None
2	M2						Yes				None
3	M3						Yes				None
4	M4						Yes				None
5	M5						Yes				None
6	M6						Yes				None
7	M7						Yes				None

Hot Rolled Steel Design Parameters

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torqu...	Kyy	Kzz	Cb	Function
1	M1	PIPE_12.0	16	1	1	1	1	1	0	0		Lateral
2	M2	HSS6X6X4	1	1	1	1	1	1	0	0		Lateral
3	M3	HSS6X6X4	7.25	1	1	1	1	1	0	0		Lateral
4	M4	HSS6X6X4	1	1	1	1	1	1	0	0		Lateral
5	M5	HSS6X6X4	1	1	1	1	1	1	0	0		Lateral
6	M6	HSS6X6X4	7.25	1	1	1	1	1	0	0		Lateral
7	M7	HSS6X6X4	1	1	1	1	1	1	0	0		Lateral

Member Point Loads (BLC 1 : Dead)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M1	Y	-.103	16
2	M1	My	.182	16
3	M1	Mz	.315	16
4	M1	Y	-.103	16
5	M1	My	.182	16
6	M1	Mz	-.315	16
7	M1	Y	-.103	16
8	M1	My	-.364	16
9	M1	Y	-.095	16
10	M1	My	.167	16
11	M1	Mz	.29	16
12	M1	Y	-.095	16
13	M1	My	.167	16
14	M1	Mz	-.29	16
15	M1	Y	-.095	16
16	M1	My	-.335	16
17	M1	Y	-.052	16
18	M1	My	.092	16
19	M1	Mz	.159	16
20	M1	Y	-.052	16
21	M1	My	.092	16
22	M1	Mz	-.159	16
23	M1	Y	-.052	16
24	M1	My	-.184	16
25	M1	Y	-.052	16
26	M1	My	.092	16
27	M1	Mz	.159	16
28	M1	Y	-.052	16
29	M1	My	.092	16
30	M1	Mz	-.159	16
31	M1	Y	-.052	16
32	M1	My	-.184	16
33	M1	Y	-.055	16

Member Point Loads (BLC 1 : Dead) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
34	M1	My	.097	16
35	M1	Mz	.167	16
36	M1	Y	-.055	16
37	M1	My	.097	16
38	M1	Mz	-.167	16
39	M1	Y	-.055	16
40	M1	My	-.193	16
41	M1	Y	-.016	16
42	M1	My	.028	16
43	M1	Mz	.049	16
44	M1	Y	-.016	16
45	M1	My	.028	16
46	M1	Mz	-.049	16
47	M1	Y	-.016	16
48	M1	My	-.057	16
49	M1	Y	-1.92	16

Member Point Loads (BLC 2 : No Ice Wind 0 deg)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M1	X	-.08	16
2	M1	Z	-.138	16
3	M1	Mx	-.282	16
4	M1	X	.08	16
5	M1	Z	-.138	16
6	M1	Mx	.282	16
7	M1	Z	-.277	16
8	M1	X	-.087	16
9	M1	Z	-.253	16
10	M1	Mx	-.621	16
11	M1	X	.087	16
12	M1	Z	-.253	16
13	M1	Mx	.621	16
14	M1	Z	-.404	16
15	M1	X	.025	16
16	M1	Z	-.075	16
17	M1	Mx	-.273	16
18	M1	X	-.025	16
19	M1	Z	-.075	16
20	M1	Mx	.273	16
21	M1	Z	-.032	16
22	M1	X	-.04	16
23	M1	Z	-.078	16
24	M1	Mx	-.17	16
25	M1	X	.04	16
26	M1	Z	-.078	16
27	M1	Mx	.17	16
28	M1	Z	-.147	16
29	M1	X	-.02	16
30	M1	Z	-.126	16
31	M1	Mx	-.351	16
32	M1	X	.02	16
33	M1	Z	-.126	16
34	M1	Mx	.351	16
35	M1	Z	-.16	16
36	M1	X	-.002	16
37	M1	Z	-.025	16

Member Point Loads (BLC 2 : No Ice Wind 0 deg) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
38	M1	Mx	-.073	16
39	M1	X	.002	16
40	M1	Z	-.025	16
41	M1	Mx	.073	16
42	M1	Z	-.03	16
43	M1	Z	-2.477	16

Member Point Loads (BLC 3 : No Ice Wind 30 deg)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M1	X	.046	16
2	M1	Z	-.08	16
3	M1	Mx	-.326	16
4	M1	X	.185	16
5	M1	Z	-.16	16
6	M1	Mx	.163	16
7	M1	X	.046	16
8	M1	Z	-.24	16
9	M1	Mx	.163	16
10	M1	X	.102	16
11	M1	Z	-.176	16
12	M1	Mx	-.717	16
13	M1	X	.252	16
14	M1	Z	-.263	16
15	M1	Mx	.359	16
16	M1	X	.102	16
17	M1	Z	-.35	16
18	M1	Mx	.359	16
19	M1	X	.045	16
20	M1	Z	-.077	16
21	M1	Mx	-.315	16
22	M1	X	.002	16
23	M1	Z	-.052	16
24	M1	Mx	.158	16
25	M1	X	.045	16
26	M1	Z	-.028	16
27	M1	Mx	.158	16
28	M1	X	.028	16
29	M1	Z	-.048	16
30	M1	Mx	-.196	16
31	M1	X	.096	16
32	M1	Z	-.088	16
33	M1	Mx	.098	16
34	M1	X	.028	16
35	M1	Z	-.127	16
36	M1	Mx	.098	16
37	M1	X	.057	16
38	M1	Z	-.099	16
39	M1	Mx	-.405	16
40	M1	X	.092	16
41	M1	Z	-.119	16
42	M1	Mx	.203	16
43	M1	X	.057	16
44	M1	Z	-.139	16
45	M1	Mx	.203	16
46	M1	X	.012	16
47	M1	Z	-.021	16

Member Point Loads (BLC 3 : No Ice Wind 30 deg) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
48	M1	Mx	-.084	16
49	M1	X	.016	16
50	M1	Z	-.023	16
51	M1	Mx	.042	16
52	M1	X	.012	16
53	M1	Z	-.026	16
54	M1	Mx	.042	16
55	M1	X	1.238	16
56	M1	Z	-2.145	16

Member Point Loads (BLC 4 : No Ice Wind 60 deg)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M1	X	.16	16
2	M1	Mx	-.282	16
3	M1	X	.24	16
4	M1	Z	-.138	16
5	M1	X	.08	16
6	M1	Z	-.138	16
7	M1	Mx	.282	16
8	M1	X	.263	16
9	M1	Z	-.051	16
10	M1	Mx	-.621	16
11	M1	X	.35	16
12	M1	Z	-.202	16
13	M1	X	.176	16
14	M1	Z	-.202	16
15	M1	Mx	.621	16
16	M1	X	.052	16
17	M1	Z	-.059	16
18	M1	Mx	-.273	16
19	M1	X	.028	16
20	M1	Z	-.016	16
21	M1	X	.077	16
22	M1	Z	-.016	16
23	M1	Mx	.273	16
24	M1	X	.088	16
25	M1	Z	-.005	16
26	M1	Mx	-.17	16
27	M1	X	.127	16
28	M1	Z	-.073	16
29	M1	X	.048	16
30	M1	Z	-.073	16
31	M1	Mx	.17	16
32	M1	X	.119	16
33	M1	Z	-.046	16
34	M1	Mx	-.351	16
35	M1	X	.139	16
36	M1	Z	-.08	16
37	M1	X	.099	16
38	M1	Z	-.08	16
39	M1	Mx	.351	16
40	M1	X	.023	16
41	M1	Z	-.011	16
42	M1	Mx	-.073	16
43	M1	X	.026	16
44	M1	Z	-.015	16

Member Point Loads (BLC 4 : No Ice Wind 60 deg) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
45	M1	X	.021	16
46	M1	Z	-.015	16
47	M1	Mx	.073	16
48	M1	X	2.145	16
49	M1	Z	-1.238	16

Member Point Loads (BLC 5 : No Ice Wind 90 deg)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M1	X	.231	16
2	M1	Z	.08	16
3	M1	Mx	-.163	16
4	M1	X	.231	16
5	M1	Z	-.08	16
6	M1	Mx	-.163	16
7	M1	X	.092	16
8	M1	Mx	.326	16
9	M1	X	.353	16
10	M1	Z	.087	16
11	M1	Mx	-.359	16
12	M1	X	.353	16
13	M1	Z	-.087	16
14	M1	Mx	-.359	16
15	M1	X	.203	16
16	M1	Mx	.717	16
17	M1	X	.046	16
18	M1	Z	-.025	16
19	M1	Mx	-.158	16
20	M1	X	.046	16
21	M1	Z	.025	16
22	M1	Mx	-.158	16
23	M1	X	.089	16
24	M1	Mx	.315	16
25	M1	X	.124	16
26	M1	Z	.04	16
27	M1	Mx	-.098	16
28	M1	X	.124	16
29	M1	Z	-.04	16
30	M1	Mx	-.098	16
31	M1	X	.056	16
32	M1	Mx	.196	16
33	M1	X	.149	16
34	M1	Z	.02	16
35	M1	Mx	-.203	16
36	M1	X	.149	16
37	M1	Z	-.02	16
38	M1	Mx	-.203	16
39	M1	X	.115	16
40	M1	Mx	.405	16
41	M1	X	.028	16
42	M1	Z	.002	16
43	M1	Mx	-.042	16
44	M1	X	.028	16
45	M1	Z	-.002	16
46	M1	Mx	-.042	16
47	M1	X	.024	16
48	M1	Mx	.084	16

Member Point Loads (BLC 5 : No Ice Wind 90 deg) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
49	M1	X	2.477	16

Member Point Loads (BLC 6 : No Ice Wind 120 deg)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M1	X	.24	16
2	M1	Z	.138	16
3	M1	X	.16	16
4	M1	Mx	-.282	16
5	M1	X	.08	16
6	M1	Z	.138	16
7	M1	Mx	.282	16
8	M1	X	.35	16
9	M1	Z	.202	16
10	M1	X	.263	16
11	M1	Z	.051	16
12	M1	Mx	-.621	16
13	M1	X	.176	16
14	M1	Z	.202	16
15	M1	Mx	.621	16
16	M1	X	.028	16
17	M1	Z	.016	16
18	M1	X	.052	16
19	M1	Z	.059	16
20	M1	Mx	-.273	16
21	M1	X	.077	16
22	M1	Z	.016	16
23	M1	Mx	.273	16
24	M1	X	.127	16
25	M1	Z	.073	16
26	M1	X	.088	16
27	M1	Z	.005	16
28	M1	Mx	-.17	16
29	M1	X	.048	16
30	M1	Z	.073	16
31	M1	Mx	.17	16
32	M1	X	.139	16
33	M1	Z	.08	16
34	M1	X	.119	16
35	M1	Z	.046	16
36	M1	Mx	-.351	16
37	M1	X	.099	16
38	M1	Z	.08	16
39	M1	Mx	.351	16
40	M1	X	.026	16
41	M1	Z	.015	16
42	M1	X	.023	16
43	M1	Z	.011	16
44	M1	Mx	-.073	16
45	M1	X	.021	16
46	M1	Z	.015	16
47	M1	Mx	.073	16
48	M1	X	2.145	16
49	M1	Z	1.238	16

Member Point Loads (BLC 7 : No Ice Wind 150 deg)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]

Member Point Loads (BLC 7 : No Ice Wind 150 deg) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M1	X	.185	16
2	M1	Z	.16	16
3	M1	Mx	.163	16
4	M1	X	.046	16
5	M1	Z	.08	16
6	M1	Mx	-.326	16
7	M1	X	.046	16
8	M1	Z	.24	16
9	M1	Mx	.163	16
10	M1	X	.252	16
11	M1	Z	.263	16
12	M1	Mx	.359	16
13	M1	X	.102	16
14	M1	Z	.176	16
15	M1	Mx	-.717	16
16	M1	X	.102	16
17	M1	Z	.35	16
18	M1	Mx	.359	16
19	M1	X	.002	16
20	M1	Z	.052	16
21	M1	Mx	.158	16
22	M1	X	.045	16
23	M1	Z	.077	16
24	M1	Mx	-.315	16
25	M1	X	.045	16
26	M1	Z	.028	16
27	M1	Mx	.158	16
28	M1	X	.096	16
29	M1	Z	.088	16
30	M1	Mx	.098	16
31	M1	X	.028	16
32	M1	Z	.048	16
33	M1	Mx	-.196	16
34	M1	X	.028	16
35	M1	Z	.127	16
36	M1	Mx	.098	16
37	M1	X	.092	16
38	M1	Z	.119	16
39	M1	Mx	.203	16
40	M1	X	.057	16
41	M1	Z	.099	16
42	M1	Mx	-.405	16
43	M1	X	.057	16
44	M1	Z	.139	16
45	M1	Mx	.203	16
46	M1	X	.016	16
47	M1	Z	.023	16
48	M1	Mx	.042	16
49	M1	X	.012	16
50	M1	Z	.021	16
51	M1	Mx	-.084	16
52	M1	X	.012	16
53	M1	Z	.026	16
54	M1	Mx	.042	16
55	M1	X	1.238	16
56	M1	Z	2.145	16

Member Point Loads (BLC 8 : No Ice Wind 180 deg)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M1	X	.08	16
2	M1	Z	.138	16
3	M1	Mx	.282	16
4	M1	X	-.08	16
5	M1	Z	.138	16
6	M1	Mx	-.282	16
7	M1	Z	.277	16
8	M1	X	.087	16
9	M1	Z	.253	16
10	M1	Mx	.621	16
11	M1	X	-.087	16
12	M1	Z	.253	16
13	M1	Mx	-.621	16
14	M1	Z	.404	16
15	M1	X	-.025	16
16	M1	Z	.075	16
17	M1	Mx	.273	16
18	M1	X	.025	16
19	M1	Z	.075	16
20	M1	Mx	-.273	16
21	M1	Z	.032	16
22	M1	X	.04	16
23	M1	Z	.078	16
24	M1	Mx	.17	16
25	M1	X	-.04	16
26	M1	Z	.078	16
27	M1	Mx	-.17	16
28	M1	Z	.147	16
29	M1	X	.02	16
30	M1	Z	.126	16
31	M1	Mx	.351	16
32	M1	X	-.02	16
33	M1	Z	.126	16
34	M1	Mx	-.351	16
35	M1	Z	.16	16
36	M1	X	.002	16
37	M1	Z	.025	16
38	M1	Mx	.073	16
39	M1	X	-.002	16
40	M1	Z	.025	16
41	M1	Mx	-.073	16
42	M1	Z	.03	16
43	M1	Z	2.477	16

Member Point Loads (BLC 9 : No Ice Wind 210 deg)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M1	X	-.046	16
2	M1	Z	.08	16
3	M1	Mx	.326	16
4	M1	X	-.185	16
5	M1	Z	.16	16
6	M1	Mx	-.163	16
7	M1	X	-.046	16
8	M1	Z	.24	16
9	M1	Mx	-.163	16
10	M1	X	-.102	16

Member Point Loads (BLC 9 : No Ice Wind 210 deg) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
11	M1	Z	.176	16
12	M1	Mx	.717	16
13	M1	X	-.252	16
14	M1	Z	.263	16
15	M1	Mx	-.359	16
16	M1	X	-.102	16
17	M1	Z	.35	16
18	M1	Mx	-.359	16
19	M1	X	-.045	16
20	M1	Z	.077	16
21	M1	Mx	.315	16
22	M1	X	-.002	16
23	M1	Z	.052	16
24	M1	Mx	-.158	16
25	M1	X	-.045	16
26	M1	Z	.028	16
27	M1	Mx	-.158	16
28	M1	X	-.028	16
29	M1	Z	.048	16
30	M1	Mx	.196	16
31	M1	X	-.096	16
32	M1	Z	.088	16
33	M1	Mx	-.098	16
34	M1	X	-.028	16
35	M1	Z	.127	16
36	M1	Mx	-.098	16
37	M1	X	-.057	16
38	M1	Z	.099	16
39	M1	Mx	.405	16
40	M1	X	-.092	16
41	M1	Z	.119	16
42	M1	Mx	-.203	16
43	M1	X	-.057	16
44	M1	Z	.139	16
45	M1	Mx	-.203	16
46	M1	X	-.012	16
47	M1	Z	.021	16
48	M1	Mx	.084	16
49	M1	X	-.016	16
50	M1	Z	.023	16
51	M1	Mx	-.042	16
52	M1	X	-.012	16
53	M1	Z	.026	16
54	M1	Mx	-.042	16
55	M1	X	-1.238	16
56	M1	Z	2.145	16

Member Point Loads (BLC 10 : No Ice Wind 240 deg)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M1	X	-.16	16
2	M1	Mx	.282	16
3	M1	X	-.24	16
4	M1	Z	.138	16
5	M1	X	-.08	16
6	M1	Z	.138	16
7	M1	Mx	-.282	16

Member Point Loads (BLC 10 : No Ice Wind 240 deg) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
8	M1	X	-.263	16
9	M1	Z	.051	16
10	M1	Mx	.621	16
11	M1	X	-.35	16
12	M1	Z	.202	16
13	M1	X	-.176	16
14	M1	Z	.202	16
15	M1	Mx	-.621	16
16	M1	X	-.052	16
17	M1	Z	.059	16
18	M1	Mx	.273	16
19	M1	X	-.028	16
20	M1	Z	.016	16
21	M1	X	-.077	16
22	M1	Z	.016	16
23	M1	Mx	-.273	16
24	M1	X	-.088	16
25	M1	Z	.005	16
26	M1	Mx	.17	16
27	M1	X	-.127	16
28	M1	Z	.073	16
29	M1	X	-.048	16
30	M1	Z	.073	16
31	M1	Mx	-.17	16
32	M1	X	-.119	16
33	M1	Z	.046	16
34	M1	Mx	.351	16
35	M1	X	-.139	16
36	M1	Z	.08	16
37	M1	X	-.099	16
38	M1	Z	.08	16
39	M1	Mx	-.351	16
40	M1	X	-.023	16
41	M1	Z	.011	16
42	M1	Mx	.073	16
43	M1	X	-.026	16
44	M1	Z	.015	16
45	M1	X	-.021	16
46	M1	Z	.015	16
47	M1	Mx	-.073	16
48	M1	X	-2.145	16
49	M1	Z	1.238	16

Member Point Loads (BLC 11 : No Ice Wind 270 deg)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M1	X	-.231	16
2	M1	Z	-.08	16
3	M1	Mx	.163	16
4	M1	X	-.231	16
5	M1	Z	.08	16
6	M1	Mx	.163	16
7	M1	X	-.092	16
8	M1	Mx	-.326	16
9	M1	X	-.353	16
10	M1	Z	-.087	16
11	M1	Mx	.359	16

Member Point Loads (BLC 11 : No Ice Wind 270 deg) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
12	M1	X	-.353	16
13	M1	Z	.087	16
14	M1	Mx	.359	16
15	M1	X	-.203	16
16	M1	Mx	-.717	16
17	M1	X	-.046	16
18	M1	Z	.025	16
19	M1	Mx	.158	16
20	M1	X	-.046	16
21	M1	Z	-.025	16
22	M1	Mx	.158	16
23	M1	X	-.089	16
24	M1	Mx	-.315	16
25	M1	X	-.124	16
26	M1	Z	-.04	16
27	M1	Mx	.098	16
28	M1	X	-.124	16
29	M1	Z	.04	16
30	M1	Mx	.098	16
31	M1	X	-.056	16
32	M1	Mx	-.196	16
33	M1	X	-.149	16
34	M1	Z	-.02	16
35	M1	Mx	.203	16
36	M1	X	-.149	16
37	M1	Z	.02	16
38	M1	Mx	.203	16
39	M1	X	-.115	16
40	M1	Mx	-.405	16
41	M1	X	-.028	16
42	M1	Z	-.002	16
43	M1	Mx	.042	16
44	M1	X	-.028	16
45	M1	Z	.002	16
46	M1	Mx	.042	16
47	M1	X	-.024	16
48	M1	Mx	-.084	16
49	M1	X	-2.477	16

Member Point Loads (BLC 12 : No Ice Wind 300 deg)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M1	X	-.24	16
2	M1	Z	-.138	16
3	M1	X	-.16	16
4	M1	Mx	.282	16
5	M1	X	-.08	16
6	M1	Z	-.138	16
7	M1	Mx	-.282	16
8	M1	X	-.35	16
9	M1	Z	-.202	16
10	M1	X	-.263	16
11	M1	Z	-.051	16
12	M1	Mx	.621	16
13	M1	X	-.176	16
14	M1	Z	-.202	16
15	M1	Mx	-.621	16

Member Point Loads (BLC 12 : No Ice Wind 300 deg) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
16	M1	X	-.028	16
17	M1	Z	-.016	16
18	M1	X	-.052	16
19	M1	Z	-.059	16
20	M1	Mx	.273	16
21	M1	X	-.077	16
22	M1	Z	-.016	16
23	M1	Mx	-.273	16
24	M1	X	-.127	16
25	M1	Z	-.073	16
26	M1	X	-.088	16
27	M1	Z	-.005	16
28	M1	Mx	.17	16
29	M1	X	-.048	16
30	M1	Z	-.073	16
31	M1	Mx	-.17	16
32	M1	X	-.139	16
33	M1	Z	-.08	16
34	M1	X	-.119	16
35	M1	Z	-.046	16
36	M1	Mx	.351	16
37	M1	X	-.099	16
38	M1	Z	-.08	16
39	M1	Mx	-.351	16
40	M1	X	-.026	16
41	M1	Z	-.015	16
42	M1	X	-.023	16
43	M1	Z	-.011	16
44	M1	Mx	.073	16
45	M1	X	-.021	16
46	M1	Z	-.015	16
47	M1	Mx	-.073	16
48	M1	X	-2.145	16
49	M1	Z	-1.238	16

Member Point Loads (BLC 13 : No Ice Wind 330 deg)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M1	X	-.185	16
2	M1	Z	-.16	16
3	M1	Mx	-.163	16
4	M1	X	-.046	16
5	M1	Z	-.08	16
6	M1	Mx	.326	16
7	M1	X	-.046	16
8	M1	Z	-.24	16
9	M1	Mx	-.163	16
10	M1	X	-.252	16
11	M1	Z	-.263	16
12	M1	Mx	-.359	16
13	M1	X	-.102	16
14	M1	Z	-.176	16
15	M1	Mx	.717	16
16	M1	X	-.102	16
17	M1	Z	-.35	16
18	M1	Mx	-.359	16
19	M1	X	-.002	16

Member Point Loads (BLC 13 : No Ice Wind 330 deg) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
20	M1	Z	-.052	16
21	M1	Mx	-.158	16
22	M1	X	-.045	16
23	M1	Z	-.077	16
24	M1	Mx	.315	16
25	M1	X	-.045	16
26	M1	Z	-.028	16
27	M1	Mx	-.158	16
28	M1	X	-.096	16
29	M1	Z	-.088	16
30	M1	Mx	-.098	16
31	M1	X	-.028	16
32	M1	Z	-.048	16
33	M1	Mx	.196	16
34	M1	X	-.028	16
35	M1	Z	-.127	16
36	M1	Mx	-.098	16
37	M1	X	-.092	16
38	M1	Z	-.119	16
39	M1	Mx	-.203	16
40	M1	X	-.057	16
41	M1	Z	-.099	16
42	M1	Mx	.405	16
43	M1	X	-.057	16
44	M1	Z	-.139	16
45	M1	Mx	-.203	16
46	M1	X	-.016	16
47	M1	Z	-.023	16
48	M1	Mx	-.042	16
49	M1	X	-.012	16
50	M1	Z	-.021	16
51	M1	Mx	.084	16
52	M1	X	-.012	16
53	M1	Z	-.026	16
54	M1	Mx	-.042	16
55	M1	X	-1.238	16
56	M1	Z	-2.145	16

Member Point Loads (BLC 14 : Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M1	Y	-.349	16
2	M1	My	.616	16
3	M1	Mz	1.066	16
4	M1	Y	-.349	16
5	M1	My	.616	16
6	M1	Mz	-1.066	16
7	M1	Y	-.349	16
8	M1	My	-1.231	16
9	M1	Y	-.35	16
10	M1	My	.618	16
11	M1	Mz	1.07	16
12	M1	Y	-.35	16
13	M1	My	.618	16
14	M1	Mz	-1.07	16
15	M1	Y	-.35	16
16	M1	My	-1.236	16

Member Point Loads (BLC 14 : Ice) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
17	M1	Y	-.096	16
18	M1	My	.169	16
19	M1	Mz	.293	16
20	M1	Y	-.096	16
21	M1	My	.169	16
22	M1	Mz	-.293	16
23	M1	Y	-.096	16
24	M1	My	-.339	16
25	M1	Y	-.129	16
26	M1	My	.228	16
27	M1	Mz	.396	16
28	M1	Y	-.129	16
29	M1	My	.228	16
30	M1	Mz	-.396	16
31	M1	Y	-.129	16
32	M1	My	-.457	16
33	M1	Y	-.255	16
34	M1	My	.45	16
35	M1	Mz	.779	16
36	M1	Y	-.255	16
37	M1	My	.45	16
38	M1	Mz	-.779	16
39	M1	Y	-.255	16
40	M1	My	-.9	16
41	M1	Y	-.042	16
42	M1	My	.074	16
43	M1	Mz	.128	16
44	M1	Y	-.042	16
45	M1	My	.074	16
46	M1	Mz	-.128	16
47	M1	Y	-.042	16
48	M1	My	-.148	16
49	M1	Y	-1.881	16

Member Point Loads (BLC 16 : Ice Wind 0 deg)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M1	X	-.017	16
2	M1	Z	-.044	16
3	M1	Mx	-.105	16
4	M1	X	.017	16
5	M1	Z	-.044	16
6	M1	Mx	.105	16
7	M1	Z	-.073	16
8	M1	X	-.019	16
9	M1	Z	-.073	16
10	M1	Mx	-.19	16
11	M1	X	.019	16
12	M1	Z	-.073	16
13	M1	Mx	.19	16
14	M1	Z	-.105	16
15	M1	X	.007	16
16	M1	Z	-.026	16
17	M1	Mx	-.092	16
18	M1	X	-.007	16
19	M1	Z	-.026	16
20	M1	Mx	.092	16

Member Point Loads (BLC 16 : Ice Wind 0 deg) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
21	M1	Z	-.015	16
22	M1	X	-.01	16
23	M1	Z	-.028	16
24	M1	Mx	-.067	16
25	M1	X	.01	16
26	M1	Z	-.028	16
27	M1	Mx	.067	16
28	M1	Z	-.044	16
29	M1	X	-.004	16
30	M1	Z	-.04	16
31	M1	Mx	-.114	16
32	M1	X	.004	16
33	M1	Z	-.04	16
34	M1	Mx	.114	16
35	M1	Z	-.047	16
36	M1	X	-.000639	16
37	M1	Z	-.01	16
38	M1	Mx	-.029	16
39	M1	X	.000639	16
40	M1	Z	-.01	16
41	M1	Mx	.029	16
42	M1	Z	-.011	16
43	M1	Z	-1.22	16

Member Point Loads (BLC 17 : Ice Wind 30 deg)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M1	X	.017	16
2	M1	Z	-.03	16
3	M1	Mx	-.121	16
4	M1	X	.046	16
5	M1	Z	-.046	16
6	M1	Mx	.061	16
7	M1	X	.017	16
8	M1	Z	-.063	16
9	M1	Mx	.061	16
10	M1	X	.031	16
11	M1	Z	-.054	16
12	M1	Mx	-.219	16
13	M1	X	.063	16
14	M1	Z	-.073	16
15	M1	Mx	.11	16
16	M1	X	.031	16
17	M1	Z	-.091	16
18	M1	Mx	.11	16
19	M1	X	.015	16
20	M1	Z	-.026	16
21	M1	Mx	-.106	16
22	M1	X	.003	16
23	M1	Z	-.019	16
24	M1	Mx	.053	16
25	M1	X	.015	16
26	M1	Z	-.013	16
27	M1	Mx	.053	16
28	M1	X	.011	16
29	M1	Z	-.019	16
30	M1	Mx	-.078	16

Member Point Loads (BLC 17 : Ice Wind 30 deg) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
31	M1	X	.028	16
32	M1	Z	-.029	16
33	M1	Mx	.039	16
34	M1	X	.011	16
35	M1	Z	-.038	16
36	M1	Mx	.039	16
37	M1	X	.019	16
38	M1	Z	-.032	16
39	M1	Mx	-.132	16
40	M1	X	.026	16
41	M1	Z	-.037	16
42	M1	Mx	.066	16
43	M1	X	.019	16
44	M1	Z	-.041	16
45	M1	Mx	.066	16
46	M1	X	.005	16
47	M1	Z	-.008	16
48	M1	Mx	-.034	16
49	M1	X	.006	16
50	M1	Z	-.009	16
51	M1	Mx	.017	16
52	M1	X	.005	16
53	M1	Z	-.01	16
54	M1	Mx	.017	16
55	M1	X	.61	16
56	M1	Z	-1.057	16

Member Point Loads (BLC 18 : Ice Wind 60 deg)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M1	X	.046	16
2	M1	Z	-.008	16
3	M1	Mx	-.105	16
4	M1	X	.063	16
5	M1	Z	-.036	16
6	M1	X	.03	16
7	M1	Z	-.036	16
8	M1	Mx	.105	16
9	M1	X	.073	16
10	M1	Z	-.02	16
11	M1	Mx	-.19	16
12	M1	X	.091	16
13	M1	Z	-.053	16
14	M1	X	.054	16
15	M1	Z	-.053	16
16	M1	Mx	.19	16
17	M1	X	.019	16
18	M1	Z	-.019	16
19	M1	Mx	-.092	16
20	M1	X	.013	16
21	M1	Z	-.007	16
22	M1	X	.026	16
23	M1	Z	-.007	16
24	M1	Mx	.092	16
25	M1	X	.029	16
26	M1	Z	-.005	16
27	M1	Mx	-.067	16

Member Point Loads (BLC 18 : Ice Wind 60 deg) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
28	M1	X	.038	16
29	M1	Z	-.022	16
30	M1	X	.019	16
31	M1	Z	-.022	16
32	M1	Mx	.067	16
33	M1	X	.037	16
34	M1	Z	-.016	16
35	M1	Mx	-.114	16
36	M1	X	.041	16
37	M1	Z	-.024	16
38	M1	X	.032	16
39	M1	Z	-.024	16
40	M1	Mx	.114	16
41	M1	X	.009	16
42	M1	Z	-.004	16
43	M1	Mx	-.029	16
44	M1	X	.01	16
45	M1	Z	-.006	16
46	M1	X	.008	16
47	M1	Z	-.006	16
48	M1	Mx	.029	16
49	M1	X	1.057	16
50	M1	Z	-.61	16

Member Point Loads (BLC 19 : Ice Wind 90 deg)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M1	X	.063	16
2	M1	Z	.017	16
3	M1	Mx	-.061	16
4	M1	X	.063	16
5	M1	Z	-.017	16
6	M1	Mx	-.061	16
7	M1	X	.034	16
8	M1	Mx	.121	16
9	M1	X	.095	16
10	M1	Z	.019	16
11	M1	Mx	-.11	16
12	M1	X	.095	16
13	M1	Z	-.019	16
14	M1	Mx	-.11	16
15	M1	X	.062	16
16	M1	Mx	.219	16
17	M1	X	.018	16
18	M1	Z	-.007	16
19	M1	Mx	-.053	16
20	M1	X	.018	16
21	M1	Z	.007	16
22	M1	Mx	-.053	16
23	M1	X	.03	16
24	M1	Mx	.106	16
25	M1	X	.039	16
26	M1	Z	.01	16
27	M1	Mx	-.039	16
28	M1	X	.039	16
29	M1	Z	-.01	16
30	M1	Mx	-.039	16

Member Point Loads (BLC 19 : Ice Wind 90 deg) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
31	M1	X	.022	16
32	M1	Mx	.078	16
33	M1	X	.045	16
34	M1	Z	.004	16
35	M1	Mx	-.066	16
36	M1	X	.045	16
37	M1	Z	-.004	16
38	M1	Mx	-.066	16
39	M1	X	.037	16
40	M1	Mx	.132	16
41	M1	X	.011	16
42	M1	Z	.000639	16
43	M1	Mx	-.017	16
44	M1	X	.011	16
45	M1	Z	-.000639	16
46	M1	Mx	-.017	16
47	M1	X	.01	16
48	M1	Mx	.034	16
49	M1	X	1.22	16

Member Point Loads (BLC 20 : Ice Wind 120 deg)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M1	X	.063	16
2	M1	Z	.036	16
3	M1	X	.046	16
4	M1	Z	.008	16
5	M1	Mx	-.105	16
6	M1	X	.03	16
7	M1	Z	.036	16
8	M1	Mx	.105	16
9	M1	X	.091	16
10	M1	Z	.053	16
11	M1	X	.073	16
12	M1	Z	.02	16
13	M1	Mx	-.19	16
14	M1	X	.054	16
15	M1	Z	.053	16
16	M1	Mx	.19	16
17	M1	X	.013	16
18	M1	Z	.007	16
19	M1	X	.019	16
20	M1	Z	.019	16
21	M1	Mx	-.092	16
22	M1	X	.026	16
23	M1	Z	.007	16
24	M1	Mx	.092	16
25	M1	X	.038	16
26	M1	Z	.022	16
27	M1	X	.029	16
28	M1	Z	.005	16
29	M1	Mx	-.067	16
30	M1	X	.019	16
31	M1	Z	.022	16
32	M1	Mx	.067	16
33	M1	X	.041	16
34	M1	Z	.024	16

Member Point Loads (BLC 20 : Ice Wind 120 deg) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
35	M1	X	.037	16
36	M1	Z	.016	16
37	M1	Mx	-.114	16
38	M1	X	.032	16
39	M1	Z	.024	16
40	M1	Mx	.114	16
41	M1	X	.01	16
42	M1	Z	.006	16
43	M1	X	.009	16
44	M1	Z	.004	16
45	M1	Mx	-.029	16
46	M1	X	.008	16
47	M1	Z	.006	16
48	M1	Mx	.029	16
49	M1	X	1.057	16
50	M1	Z	.61	16

Member Point Loads (BLC 21 : Ice Wind 150 deg)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M1	X	.046	16
2	M1	Z	.046	16
3	M1	Mx	.061	16
4	M1	X	.017	16
5	M1	Z	.03	16
6	M1	Mx	-.121	16
7	M1	X	.017	16
8	M1	Z	.063	16
9	M1	Mx	.061	16
10	M1	X	.063	16
11	M1	Z	.073	16
12	M1	Mx	.11	16
13	M1	X	.031	16
14	M1	Z	.054	16
15	M1	Mx	-.219	16
16	M1	X	.031	16
17	M1	Z	.091	16
18	M1	Mx	.11	16
19	M1	X	.003	16
20	M1	Z	.019	16
21	M1	Mx	.053	16
22	M1	X	.015	16
23	M1	Z	.026	16
24	M1	Mx	-.106	16
25	M1	X	.015	16
26	M1	Z	.013	16
27	M1	Mx	.053	16
28	M1	X	.028	16
29	M1	Z	.029	16
30	M1	Mx	.039	16
31	M1	X	.011	16
32	M1	Z	.019	16
33	M1	Mx	-.078	16
34	M1	X	.011	16
35	M1	Z	.038	16
36	M1	Mx	.039	16
37	M1	X	.026	16

Member Point Loads (BLC 21 : Ice Wind 150 deg) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
38	M1	Z	.037	16
39	M1	Mx	.066	16
40	M1	X	.019	16
41	M1	Z	.032	16
42	M1	Mx	-.132	16
43	M1	X	.019	16
44	M1	Z	.041	16
45	M1	Mx	.066	16
46	M1	X	.006	16
47	M1	Z	.009	16
48	M1	Mx	.017	16
49	M1	X	.005	16
50	M1	Z	.008	16
51	M1	Mx	-.034	16
52	M1	X	.005	16
53	M1	Z	.01	16
54	M1	Mx	.017	16
55	M1	X	.61	16
56	M1	Z	1.057	16

Member Point Loads (BLC 22 : Ice Wind 180 deg)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M1	X	.017	16
2	M1	Z	.044	16
3	M1	Mx	.105	16
4	M1	X	-.017	16
5	M1	Z	.044	16
6	M1	Mx	-.105	16
7	M1	Z	.073	16
8	M1	X	.019	16
9	M1	Z	.073	16
10	M1	Mx	.19	16
11	M1	X	-.019	16
12	M1	Z	.073	16
13	M1	Mx	-.19	16
14	M1	Z	.105	16
15	M1	X	-.007	16
16	M1	Z	.026	16
17	M1	Mx	.092	16
18	M1	X	.007	16
19	M1	Z	.026	16
20	M1	Mx	-.092	16
21	M1	Z	.015	16
22	M1	X	.01	16
23	M1	Z	.028	16
24	M1	Mx	.067	16
25	M1	X	-.01	16
26	M1	Z	.028	16
27	M1	Mx	-.067	16
28	M1	Z	.044	16
29	M1	X	.004	16
30	M1	Z	.04	16
31	M1	Mx	.114	16
32	M1	X	-.004	16
33	M1	Z	.04	16
34	M1	Mx	-.114	16

Member Point Loads (BLC 22 : Ice Wind 180 deg) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
35	M1	Z	.047	16
36	M1	X	.000639	16
37	M1	Z	.01	16
38	M1	Mx	.029	16
39	M1	X	-.000639	16
40	M1	Z	.01	16
41	M1	Mx	-.029	16
42	M1	Z	.011	16
43	M1	Z	1.22	16

Member Point Loads (BLC 23 : Ice Wind 210 deg)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M1	X	-.017	16
2	M1	Z	.03	16
3	M1	Mx	.121	16
4	M1	X	-.046	16
5	M1	Z	.046	16
6	M1	Mx	-.061	16
7	M1	X	-.017	16
8	M1	Z	.063	16
9	M1	Mx	-.061	16
10	M1	X	-.031	16
11	M1	Z	.054	16
12	M1	Mx	.219	16
13	M1	X	-.063	16
14	M1	Z	.073	16
15	M1	Mx	-.11	16
16	M1	X	-.031	16
17	M1	Z	.091	16
18	M1	Mx	-.11	16
19	M1	X	-.015	16
20	M1	Z	.026	16
21	M1	Mx	.106	16
22	M1	X	-.003	16
23	M1	Z	.019	16
24	M1	Mx	-.053	16
25	M1	X	-.015	16
26	M1	Z	.013	16
27	M1	Mx	-.053	16
28	M1	X	-.011	16
29	M1	Z	.019	16
30	M1	Mx	.078	16
31	M1	X	-.028	16
32	M1	Z	.029	16
33	M1	Mx	-.039	16
34	M1	X	-.011	16
35	M1	Z	.038	16
36	M1	Mx	-.039	16
37	M1	X	-.019	16
38	M1	Z	.032	16
39	M1	Mx	.132	16
40	M1	X	-.026	16
41	M1	Z	.037	16
42	M1	Mx	-.066	16
43	M1	X	-.019	16
44	M1	Z	.041	16

Member Point Loads (BLC 23 : Ice Wind 210 deg) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
45	M1	Mx	-.066	16
46	M1	X	-.005	16
47	M1	Z	.008	16
48	M1	Mx	.034	16
49	M1	X	-.006	16
50	M1	Z	.009	16
51	M1	Mx	-.017	16
52	M1	X	-.005	16
53	M1	Z	.01	16
54	M1	Mx	-.017	16
55	M1	X	-.61	16
56	M1	Z	1.057	16

Member Point Loads (BLC 24 : Ice Wind 240 deg)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M1	X	-.046	16
2	M1	Z	.008	16
3	M1	Mx	.105	16
4	M1	X	-.063	16
5	M1	Z	.036	16
6	M1	X	-.03	16
7	M1	Z	.036	16
8	M1	Mx	-.105	16
9	M1	X	-.073	16
10	M1	Z	.02	16
11	M1	Mx	.19	16
12	M1	X	-.091	16
13	M1	Z	.053	16
14	M1	X	-.054	16
15	M1	Z	.053	16
16	M1	Mx	-.19	16
17	M1	X	-.019	16
18	M1	Z	.019	16
19	M1	Mx	.092	16
20	M1	X	-.013	16
21	M1	Z	.007	16
22	M1	X	-.026	16
23	M1	Z	.007	16
24	M1	Mx	-.092	16
25	M1	X	-.029	16
26	M1	Z	.005	16
27	M1	Mx	.067	16
28	M1	X	-.038	16
29	M1	Z	.022	16
30	M1	X	-.019	16
31	M1	Z	.022	16
32	M1	Mx	-.067	16
33	M1	X	-.037	16
34	M1	Z	.016	16
35	M1	Mx	.114	16
36	M1	X	-.041	16
37	M1	Z	.024	16
38	M1	X	-.032	16
39	M1	Z	.024	16
40	M1	Mx	-.114	16
41	M1	X	-.009	16

Member Point Loads (BLC 24 : Ice Wind 240 deg) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
42	M1	Z	.004	16
43	M1	Mx	.029	16
44	M1	X	-.01	16
45	M1	Z	.006	16
46	M1	X	-.008	16
47	M1	Z	.006	16
48	M1	Mx	-.029	16
49	M1	X	-1.057	16
50	M1	Z	.61	16

Member Point Loads (BLC 25 : Ice Wind 270 deg)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M1	X	-.063	16
2	M1	Z	-.017	16
3	M1	Mx	.061	16
4	M1	X	-.063	16
5	M1	Z	.017	16
6	M1	Mx	.061	16
7	M1	X	-.034	16
8	M1	Mx	-.121	16
9	M1	X	-.095	16
10	M1	Z	-.019	16
11	M1	Mx	.11	16
12	M1	X	-.095	16
13	M1	Z	.019	16
14	M1	Mx	.11	16
15	M1	X	-.062	16
16	M1	Mx	-.219	16
17	M1	X	-.018	16
18	M1	Z	.007	16
19	M1	Mx	.053	16
20	M1	X	-.018	16
21	M1	Z	-.007	16
22	M1	Mx	.053	16
23	M1	X	-.03	16
24	M1	Mx	-.106	16
25	M1	X	-.039	16
26	M1	Z	-.01	16
27	M1	Mx	.039	16
28	M1	X	-.039	16
29	M1	Z	.01	16
30	M1	Mx	.039	16
31	M1	X	-.022	16
32	M1	Mx	-.078	16
33	M1	X	-.045	16
34	M1	Z	-.004	16
35	M1	Mx	.066	16
36	M1	X	-.045	16
37	M1	Z	.004	16
38	M1	Mx	.066	16
39	M1	X	-.037	16
40	M1	Mx	-.132	16
41	M1	X	-.011	16
42	M1	Z	-.000639	16
43	M1	Mx	.017	16
44	M1	X	-.011	16

Member Point Loads (BLC 25 : Ice Wind 270 deg) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
45	M1	Z	.000639	16
46	M1	Mx	.017	16
47	M1	X	-.01	16
48	M1	Mx	-.034	16
49	M1	X	-1.22	16

Member Point Loads (BLC 26 : Ice Wind 300 deg)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M1	X	-.063	16
2	M1	Z	-.036	16
3	M1	X	-.046	16
4	M1	Z	-.008	16
5	M1	Mx	.105	16
6	M1	X	-.03	16
7	M1	Z	-.036	16
8	M1	Mx	-.105	16
9	M1	X	-.091	16
10	M1	Z	-.053	16
11	M1	X	-.073	16
12	M1	Z	-.02	16
13	M1	Mx	.19	16
14	M1	X	-.054	16
15	M1	Z	-.053	16
16	M1	Mx	-.19	16
17	M1	X	-.013	16
18	M1	Z	-.007	16
19	M1	X	-.019	16
20	M1	Z	-.019	16
21	M1	Mx	.092	16
22	M1	X	-.026	16
23	M1	Z	-.007	16
24	M1	Mx	-.092	16
25	M1	X	-.038	16
26	M1	Z	-.022	16
27	M1	X	-.029	16
28	M1	Z	-.005	16
29	M1	Mx	.067	16
30	M1	X	-.019	16
31	M1	Z	-.022	16
32	M1	Mx	-.067	16
33	M1	X	-.041	16
34	M1	Z	-.024	16
35	M1	X	-.037	16
36	M1	Z	-.016	16
37	M1	Mx	.114	16
38	M1	X	-.032	16
39	M1	Z	-.024	16
40	M1	Mx	-.114	16
41	M1	X	-.01	16
42	M1	Z	-.006	16
43	M1	X	-.009	16
44	M1	Z	-.004	16
45	M1	Mx	.029	16
46	M1	X	-.008	16
47	M1	Z	-.006	16
48	M1	Mx	-.029	16

Member Point Loads (BLC 26 : Ice Wind 300 deg) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
49	M1	X	-1.057	16
50	M1	Z	-.61	16

Member Point Loads (BLC 27 : Ice Wind 330 deg)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M1	X	-.046	16
2	M1	Z	-.046	16
3	M1	Mx	-.061	16
4	M1	X	-.017	16
5	M1	Z	-.03	16
6	M1	Mx	.121	16
7	M1	X	-.017	16
8	M1	Z	-.063	16
9	M1	Mx	-.061	16
10	M1	X	-.063	16
11	M1	Z	-.073	16
12	M1	Mx	-.11	16
13	M1	X	-.031	16
14	M1	Z	-.054	16
15	M1	Mx	.219	16
16	M1	X	-.031	16
17	M1	Z	-.091	16
18	M1	Mx	-.11	16
19	M1	X	-.003	16
20	M1	Z	-.019	16
21	M1	Mx	-.053	16
22	M1	X	-.015	16
23	M1	Z	-.026	16
24	M1	Mx	.106	16
25	M1	X	-.015	16
26	M1	Z	-.013	16
27	M1	Mx	-.053	16
28	M1	X	-.028	16
29	M1	Z	-.029	16
30	M1	Mx	-.039	16
31	M1	X	-.011	16
32	M1	Z	-.019	16
33	M1	Mx	.078	16
34	M1	X	-.011	16
35	M1	Z	-.038	16
36	M1	Mx	-.039	16
37	M1	X	-.026	16
38	M1	Z	-.037	16
39	M1	Mx	-.066	16
40	M1	X	-.019	16
41	M1	Z	-.032	16
42	M1	Mx	.132	16
43	M1	X	-.019	16
44	M1	Z	-.041	16
45	M1	Mx	-.066	16
46	M1	X	-.006	16
47	M1	Z	-.009	16
48	M1	Mx	-.017	16
49	M1	X	-.005	16
50	M1	Z	-.008	16
51	M1	Mx	.034	16

Member Point Loads (BLC 27 : Ice Wind 330 deg) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
52	M1	X	-.005	16
53	M1	Z	-.01	16
54	M1	Mx	-.017	16
55	M1	X	-.61	16
56	M1	Z	-1.057	16

Member Point Loads (BLC 28 : Service Wind 0 deg)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M1	X	-.02	16
2	M1	Z	-.035	16
3	M1	Mx	-.072	16
4	M1	X	.02	16
5	M1	Z	-.035	16
6	M1	Mx	.072	16
7	M1	Z	-.07	16
8	M1	X	-.022	16
9	M1	Z	-.064	16
10	M1	Mx	-.158	16
11	M1	X	.022	16
12	M1	Z	-.064	16
13	M1	Mx	.158	16
14	M1	Z	-.103	16
15	M1	X	.006	16
16	M1	Z	-.019	16
17	M1	Mx	-.069	16
18	M1	X	-.006	16
19	M1	Z	-.019	16
20	M1	Mx	.069	16
21	M1	Z	-.008	16
22	M1	X	-.01	16
23	M1	Z	-.02	16
24	M1	Mx	-.043	16
25	M1	X	.01	16
26	M1	Z	-.02	16
27	M1	Mx	.043	16
28	M1	Z	-.037	16
29	M1	X	-.005	16
30	M1	Z	-.032	16
31	M1	Mx	-.089	16
32	M1	X	.005	16
33	M1	Z	-.032	16
34	M1	Mx	.089	16
35	M1	Z	-.041	16
36	M1	X	-.000632	16
37	M1	Z	-.006	16
38	M1	Mx	-.019	16
39	M1	X	.000632	16
40	M1	Z	-.006	16
41	M1	Mx	.019	16
42	M1	Z	-.008	16
43	M1	Z	-.629	16

Member Point Loads (BLC 29 : Service Wind 30 deg)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M1	X	.012	16
2	M1	Z	-.02	16

Member Point Loads (BLC 29 : Service Wind 30 deg) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
3	M1	Mx	-.083	16
4	M1	X	.047	16
5	M1	Z	-.041	16
6	M1	Mx	.041	16
7	M1	X	.012	16
8	M1	Z	-.061	16
9	M1	Mx	.041	16
10	M1	X	.026	16
11	M1	Z	-.045	16
12	M1	Mx	-.182	16
13	M1	X	.064	16
14	M1	Z	-.067	16
15	M1	Mx	.091	16
16	M1	X	.026	16
17	M1	Z	-.089	16
18	M1	Mx	.091	16
19	M1	X	.011	16
20	M1	Z	-.02	16
21	M1	Mx	-.08	16
22	M1	X	.000394	16
23	M1	Z	-.013	16
24	M1	Mx	.04	16
25	M1	X	.011	16
26	M1	Z	-.007	16
27	M1	Mx	.04	16
28	M1	X	.007	16
29	M1	Z	-.012	16
30	M1	Mx	-.05	16
31	M1	X	.024	16
32	M1	Z	-.022	16
33	M1	Mx	.025	16
34	M1	X	.007	16
35	M1	Z	-.032	16
36	M1	Mx	.025	16
37	M1	X	.015	16
38	M1	Z	-.025	16
39	M1	Mx	-.103	16
40	M1	X	.023	16
41	M1	Z	-.03	16
42	M1	Mx	.051	16
43	M1	X	.015	16
44	M1	Z	-.035	16
45	M1	Mx	.051	16
46	M1	X	.003	16
47	M1	Z	-.005	16
48	M1	Mx	-.021	16
49	M1	X	.004	16
50	M1	Z	-.006	16
51	M1	Mx	.011	16
52	M1	X	.003	16
53	M1	Z	-.007	16
54	M1	Mx	.011	16
55	M1	X	.315	16
56	M1	Z	-.545	16

Member Point Loads (BLC 30 : Service Wind 60 deg)

Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]

Member Point Loads (BLC 30 : Service Wind 60 deg) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M1	X	.041	16
2	M1	Mx	-.072	16
3	M1	X	.061	16
4	M1	Z	-.035	16
5	M1	X	.02	16
6	M1	Z	-.035	16
7	M1	Mx	.072	16
8	M1	X	.067	16
9	M1	Z	-.013	16
10	M1	Mx	-.158	16
11	M1	X	.089	16
12	M1	Z	-.051	16
13	M1	X	.045	16
14	M1	Z	-.051	16
15	M1	Mx	.158	16
16	M1	X	.013	16
17	M1	Z	-.015	16
18	M1	Mx	-.069	16
19	M1	X	.007	16
20	M1	Z	-.004	16
21	M1	X	.02	16
22	M1	Z	-.004	16
23	M1	Mx	.069	16
24	M1	X	.022	16
25	M1	Z	-.001	16
26	M1	Mx	-.043	16
27	M1	X	.032	16
28	M1	Z	-.019	16
29	M1	X	.012	16
30	M1	Z	-.019	16
31	M1	Mx	.043	16
32	M1	X	.03	16
33	M1	Z	-.012	16
34	M1	Mx	-.089	16
35	M1	X	.035	16
36	M1	Z	-.02	16
37	M1	X	.025	16
38	M1	Z	-.02	16
39	M1	Mx	.089	16
40	M1	X	.006	16
41	M1	Z	-.003	16
42	M1	Mx	-.019	16
43	M1	X	.007	16
44	M1	Z	-.004	16
45	M1	X	.005	16
46	M1	Z	-.004	16
47	M1	Mx	.019	16
48	M1	X	.545	16
49	M1	Z	-.315	16

Member Point Loads (BLC 31 : Service Wind 90 deg)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M1	X	.059	16
2	M1	Z	.02	16
3	M1	Mx	-.041	16
4	M1	X	.059	16

Member Point Loads (BLC 31 : Service Wind 90 deg) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
5	M1	Z	-.02	16
6	M1	Mx	-.041	16
7	M1	X	.023	16
8	M1	Mx	.083	16
9	M1	X	.09	16
10	M1	Z	.022	16
11	M1	Mx	-.091	16
12	M1	X	.09	16
13	M1	Z	-.022	16
14	M1	Mx	-.091	16
15	M1	X	.052	16
16	M1	Mx	.182	16
17	M1	X	.012	16
18	M1	Z	-.006	16
19	M1	Mx	-.04	16
20	M1	X	.012	16
21	M1	Z	.006	16
22	M1	Mx	-.04	16
23	M1	X	.023	16
24	M1	Mx	.08	16
25	M1	X	.032	16
26	M1	Z	.01	16
27	M1	Mx	-.025	16
28	M1	X	.032	16
29	M1	Z	-.01	16
30	M1	Mx	-.025	16
31	M1	X	.014	16
32	M1	Mx	.05	16
33	M1	X	.038	16
34	M1	Z	.005	16
35	M1	Mx	-.051	16
36	M1	X	.038	16
37	M1	Z	-.005	16
38	M1	Mx	-.051	16
39	M1	X	.029	16
40	M1	Mx	.103	16
41	M1	X	.007	16
42	M1	Z	.000632	16
43	M1	Mx	-.011	16
44	M1	X	.007	16
45	M1	Z	-.000632	16
46	M1	Mx	-.011	16
47	M1	X	.006	16
48	M1	Mx	.021	16
49	M1	X	.629	16

Member Point Loads (BLC 32 : Service Wind 120 deg)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M1	X	.061	16
2	M1	Z	.035	16
3	M1	X	.041	16
4	M1	Mx	-.072	16
5	M1	X	.02	16
6	M1	Z	.035	16
7	M1	Mx	.072	16
8	M1	X	.089	16

Member Point Loads (BLC 32 : Service Wind 120 deg) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
9	M1	Z	.051	16
10	M1	X	.067	16
11	M1	Z	.013	16
12	M1	Mx	-.158	16
13	M1	X	.045	16
14	M1	Z	.051	16
15	M1	Mx	.158	16
16	M1	X	.007	16
17	M1	Z	.004	16
18	M1	X	.013	16
19	M1	Z	.015	16
20	M1	Mx	-.069	16
21	M1	X	.02	16
22	M1	Z	.004	16
23	M1	Mx	.069	16
24	M1	X	.032	16
25	M1	Z	.019	16
26	M1	X	.022	16
27	M1	Z	.001	16
28	M1	Mx	-.043	16
29	M1	X	.012	16
30	M1	Z	.019	16
31	M1	Mx	.043	16
32	M1	X	.035	16
33	M1	Z	.02	16
34	M1	X	.03	16
35	M1	Z	.012	16
36	M1	Mx	-.089	16
37	M1	X	.025	16
38	M1	Z	.02	16
39	M1	Mx	.089	16
40	M1	X	.007	16
41	M1	Z	.004	16
42	M1	X	.006	16
43	M1	Z	.003	16
44	M1	Mx	-.019	16
45	M1	X	.005	16
46	M1	Z	.004	16
47	M1	Mx	.019	16
48	M1	X	.545	16
49	M1	Z	.315	16

Member Point Loads (BLC 33 : Service Wind 150 deg)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M1	X	.047	16
2	M1	Z	.041	16
3	M1	Mx	.041	16
4	M1	X	.012	16
5	M1	Z	.02	16
6	M1	Mx	-.083	16
7	M1	X	.012	16
8	M1	Z	.061	16
9	M1	Mx	.041	16
10	M1	X	.064	16
11	M1	Z	.067	16
12	M1	Mx	.091	16

Member Point Loads (BLC 33 : Service Wind 150 deg) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
13	M1	X	.026	16
14	M1	Z	.045	16
15	M1	Mx	-.182	16
16	M1	X	.026	16
17	M1	Z	.089	16
18	M1	Mx	.091	16
19	M1	X	.000394	16
20	M1	Z	.013	16
21	M1	Mx	.04	16
22	M1	X	.011	16
23	M1	Z	.02	16
24	M1	Mx	-.08	16
25	M1	X	.011	16
26	M1	Z	.007	16
27	M1	Mx	.04	16
28	M1	X	.024	16
29	M1	Z	.022	16
30	M1	Mx	.025	16
31	M1	X	.007	16
32	M1	Z	.012	16
33	M1	Mx	-.05	16
34	M1	X	.007	16
35	M1	Z	.032	16
36	M1	Mx	.025	16
37	M1	X	.023	16
38	M1	Z	.03	16
39	M1	Mx	.051	16
40	M1	X	.015	16
41	M1	Z	.025	16
42	M1	Mx	-.103	16
43	M1	X	.015	16
44	M1	Z	.035	16
45	M1	Mx	.051	16
46	M1	X	.004	16
47	M1	Z	.006	16
48	M1	Mx	.011	16
49	M1	X	.003	16
50	M1	Z	.005	16
51	M1	Mx	-.021	16
52	M1	X	.003	16
53	M1	Z	.007	16
54	M1	Mx	.011	16
55	M1	X	.315	16
56	M1	Z	.545	16

Member Point Loads (BLC 34 : Service Wind 180 deg)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M1	X	.02	16
2	M1	Z	.035	16
3	M1	Mx	.072	16
4	M1	X	-.02	16
5	M1	Z	.035	16
6	M1	Mx	-.072	16
7	M1	Z	.07	16
8	M1	X	.022	16
9	M1	Z	.064	16

Member Point Loads (BLC 34 : Service Wind 180 deg) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
10	M1	Mx	.158	16
11	M1	X	-.022	16
12	M1	Z	.064	16
13	M1	Mx	-.158	16
14	M1	Z	.103	16
15	M1	X	-.006	16
16	M1	Z	.019	16
17	M1	Mx	.069	16
18	M1	X	.006	16
19	M1	Z	.019	16
20	M1	Mx	-.069	16
21	M1	Z	.008	16
22	M1	X	.01	16
23	M1	Z	.02	16
24	M1	Mx	.043	16
25	M1	X	-.01	16
26	M1	Z	.02	16
27	M1	Mx	-.043	16
28	M1	Z	.037	16
29	M1	X	.005	16
30	M1	Z	.032	16
31	M1	Mx	.089	16
32	M1	X	-.005	16
33	M1	Z	.032	16
34	M1	Mx	-.089	16
35	M1	Z	.041	16
36	M1	X	.000632	16
37	M1	Z	.006	16
38	M1	Mx	.019	16
39	M1	X	-.000632	16
40	M1	Z	.006	16
41	M1	Mx	-.019	16
42	M1	Z	.008	16
43	M1	Z	.629	16

Member Point Loads (BLC 35 : Service Wind 210 deg)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M1	X	-.012	16
2	M1	Z	.02	16
3	M1	Mx	.083	16
4	M1	X	-.047	16
5	M1	Z	.041	16
6	M1	Mx	-.041	16
7	M1	X	-.012	16
8	M1	Z	.061	16
9	M1	Mx	-.041	16
10	M1	X	-.026	16
11	M1	Z	.045	16
12	M1	Mx	.182	16
13	M1	X	-.064	16
14	M1	Z	.067	16
15	M1	Mx	-.091	16
16	M1	X	-.026	16
17	M1	Z	.089	16
18	M1	Mx	-.091	16
19	M1	X	-.011	16

Member Point Loads (BLC 35 : Service Wind 210 deg) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
20	M1	Z	.02	16
21	M1	Mx	.08	16
22	M1	X	-.000394	16
23	M1	Z	.013	16
24	M1	Mx	-.04	16
25	M1	X	-.011	16
26	M1	Z	.007	16
27	M1	Mx	-.04	16
28	M1	X	-.007	16
29	M1	Z	.012	16
30	M1	Mx	.05	16
31	M1	X	-.024	16
32	M1	Z	.022	16
33	M1	Mx	-.025	16
34	M1	X	-.007	16
35	M1	Z	.032	16
36	M1	Mx	-.025	16
37	M1	X	-.015	16
38	M1	Z	.025	16
39	M1	Mx	.103	16
40	M1	X	-.023	16
41	M1	Z	.03	16
42	M1	Mx	-.051	16
43	M1	X	-.015	16
44	M1	Z	.035	16
45	M1	Mx	-.051	16
46	M1	X	-.003	16
47	M1	Z	.005	16
48	M1	Mx	.021	16
49	M1	X	-.004	16
50	M1	Z	.006	16
51	M1	Mx	-.011	16
52	M1	X	-.003	16
53	M1	Z	.007	16
54	M1	Mx	-.011	16
55	M1	X	-.315	16
56	M1	Z	.545	16

Member Point Loads (BLC 36 : Service Wind 240 deg)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M1	X	-.041	16
2	M1	Mx	.072	16
3	M1	X	-.061	16
4	M1	Z	.035	16
5	M1	X	-.02	16
6	M1	Z	.035	16
7	M1	Mx	-.072	16
8	M1	X	-.067	16
9	M1	Z	.013	16
10	M1	Mx	.158	16
11	M1	X	-.089	16
12	M1	Z	.051	16
13	M1	X	-.045	16
14	M1	Z	.051	16
15	M1	Mx	-.158	16
16	M1	X	-.013	16

Member Point Loads (BLC 36 : Service Wind 240 deg) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
17	M1	Z	.015	16
18	M1	Mx	.069	16
19	M1	X	-.007	16
20	M1	Z	.004	16
21	M1	X	-.02	16
22	M1	Z	.004	16
23	M1	Mx	-.069	16
24	M1	X	-.022	16
25	M1	Z	.001	16
26	M1	Mx	.043	16
27	M1	X	-.032	16
28	M1	Z	.019	16
29	M1	X	-.012	16
30	M1	Z	.019	16
31	M1	Mx	-.043	16
32	M1	X	-.03	16
33	M1	Z	.012	16
34	M1	Mx	.089	16
35	M1	X	-.035	16
36	M1	Z	.02	16
37	M1	X	-.025	16
38	M1	Z	.02	16
39	M1	Mx	-.089	16
40	M1	X	-.006	16
41	M1	Z	.003	16
42	M1	Mx	.019	16
43	M1	X	-.007	16
44	M1	Z	.004	16
45	M1	X	-.005	16
46	M1	Z	.004	16
47	M1	Mx	-.019	16
48	M1	X	-.545	16
49	M1	Z	.315	16

Member Point Loads (BLC 37 : Service Wind 270 deg)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M1	X	-.059	16
2	M1	Z	-.02	16
3	M1	Mx	.041	16
4	M1	X	-.059	16
5	M1	Z	.02	16
6	M1	Mx	.041	16
7	M1	X	-.023	16
8	M1	Mx	-.083	16
9	M1	X	-.09	16
10	M1	Z	-.022	16
11	M1	Mx	.091	16
12	M1	X	-.09	16
13	M1	Z	.022	16
14	M1	Mx	.091	16
15	M1	X	-.052	16
16	M1	Mx	-.182	16
17	M1	X	-.012	16
18	M1	Z	.006	16
19	M1	Mx	.04	16
20	M1	X	-.012	16

Member Point Loads (BLC 37 : Service Wind 270 deg) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
21	M1	Z	-.006	16
22	M1	Mx	.04	16
23	M1	X	-.023	16
24	M1	Mx	-.08	16
25	M1	X	-.032	16
26	M1	Z	-.01	16
27	M1	Mx	.025	16
28	M1	X	-.032	16
29	M1	Z	.01	16
30	M1	Mx	.025	16
31	M1	X	-.014	16
32	M1	Mx	-.05	16
33	M1	X	-.038	16
34	M1	Z	-.005	16
35	M1	Mx	.051	16
36	M1	X	-.038	16
37	M1	Z	.005	16
38	M1	Mx	.051	16
39	M1	X	-.029	16
40	M1	Mx	-.103	16
41	M1	X	-.007	16
42	M1	Z	-.000632	16
43	M1	Mx	.011	16
44	M1	X	-.007	16
45	M1	Z	.000632	16
46	M1	Mx	.011	16
47	M1	X	-.006	16
48	M1	Mx	-.021	16
49	M1	X	-.629	16

Member Point Loads (BLC 38 : Service Wind 300 deg)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M1	X	-.061	16
2	M1	Z	-.035	16
3	M1	X	-.041	16
4	M1	Mx	.072	16
5	M1	X	-.02	16
6	M1	Z	-.035	16
7	M1	Mx	-.072	16
8	M1	X	-.089	16
9	M1	Z	-.051	16
10	M1	X	-.067	16
11	M1	Z	-.013	16
12	M1	Mx	.158	16
13	M1	X	-.045	16
14	M1	Z	-.051	16
15	M1	Mx	-.158	16
16	M1	X	-.007	16
17	M1	Z	-.004	16
18	M1	X	-.013	16
19	M1	Z	-.015	16
20	M1	Mx	.069	16
21	M1	X	-.02	16
22	M1	Z	-.004	16
23	M1	Mx	-.069	16
24	M1	X	-.032	16

Member Point Loads (BLC 38 : Service Wind 300 deg) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
25	M1	Z	-.019	16
26	M1	X	-.022	16
27	M1	Z	-.001	16
28	M1	Mx	.043	16
29	M1	X	-.012	16
30	M1	Z	-.019	16
31	M1	Mx	-.043	16
32	M1	X	-.035	16
33	M1	Z	-.02	16
34	M1	X	-.03	16
35	M1	Z	-.012	16
36	M1	Mx	.089	16
37	M1	X	-.025	16
38	M1	Z	-.02	16
39	M1	Mx	-.089	16
40	M1	X	-.007	16
41	M1	Z	-.004	16
42	M1	X	-.006	16
43	M1	Z	-.003	16
44	M1	Mx	.019	16
45	M1	X	-.005	16
46	M1	Z	-.004	16
47	M1	Mx	-.019	16
48	M1	X	-.545	16
49	M1	Z	-.315	16

Member Point Loads (BLC 39 : Service Wind 330 deg)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M1	X	-.047	16
2	M1	Z	-.041	16
3	M1	Mx	-.041	16
4	M1	X	-.012	16
5	M1	Z	-.02	16
6	M1	Mx	.083	16
7	M1	X	-.012	16
8	M1	Z	-.061	16
9	M1	Mx	-.041	16
10	M1	X	-.064	16
11	M1	Z	-.067	16
12	M1	Mx	-.091	16
13	M1	X	-.026	16
14	M1	Z	-.045	16
15	M1	Mx	.182	16
16	M1	X	-.026	16
17	M1	Z	-.089	16
18	M1	Mx	-.091	16
19	M1	X	-.000394	16
20	M1	Z	-.013	16
21	M1	Mx	-.04	16
22	M1	X	-.011	16
23	M1	Z	-.02	16
24	M1	Mx	.08	16
25	M1	X	-.011	16
26	M1	Z	-.007	16
27	M1	Mx	-.04	16
28	M1	X	-.024	16

Member Point Loads (BLC 39 : Service Wind 330 deg) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
29	M1	Z	-.022	16
30	M1	Mx	-.025	16
31	M1	X	-.007	16
32	M1	Z	-.012	16
33	M1	Mx	.05	16
34	M1	X	-.007	16
35	M1	Z	-.032	16
36	M1	Mx	-.025	16
37	M1	X	-.023	16
38	M1	Z	-.03	16
39	M1	Mx	-.051	16
40	M1	X	-.015	16
41	M1	Z	-.025	16
42	M1	Mx	.103	16
43	M1	X	-.015	16
44	M1	Z	-.035	16
45	M1	Mx	-.051	16
46	M1	X	-.004	16
47	M1	Z	-.006	16
48	M1	Mx	-.011	16
49	M1	X	-.003	16
50	M1	Z	-.005	16
51	M1	Mx	.021	16
52	M1	X	-.003	16
53	M1	Z	-.007	16
54	M1	Mx	-.011	16
55	M1	X	-.315	16
56	M1	Z	-.545	16

Member Distributed Loads (BLC 2 : No Ice Wind 0 deg)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]
1	M1	Z	-.042	-.042	0	16
2	M3	Z	-.041	-.041	0	100
3	M6	Z	-.041	-.041	0	100

Member Distributed Loads (BLC 3 : No Ice Wind 30 deg)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]
1	M1	X	.021	.021	0	16
2	M1	Z	-.037	-.037	0	16
3	M3	Z	-.035	-.035	0	100
4	M6	Z	-.035	-.035	0	100
5	M2	X	.02	.02	0	100
6	M4	X	.02	.02	0	100
7	M5	X	.02	.02	0	100
8	M7	X	.02	.02	0	100

Member Distributed Loads (BLC 4 : No Ice Wind 60 deg)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]
1	M1	X	.037	.037	0	16
2	M1	Z	-.021	-.021	0	16
3	M3	Z	-.02	-.02	0	100
4	M6	Z	-.02	-.02	0	100
5	M2	X	.035	.035	0	100
6	M4	X	.035	.035	0	100

Member Distributed Loads (BLC 4 : No Ice Wind 60 deg) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]
7	M5	X	.035	.035	0	100
8	M7	X	.035	.035	0	100

Member Distributed Loads (BLC 5 : No Ice Wind 90 deg)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]
1	M1	X	.042	.042	0	16
2	M2	X	.041	.041	0	100
3	M4	X	.041	.041	0	100
4	M5	X	.041	.041	0	100
5	M7	X	.041	.041	0	100

Member Distributed Loads (BLC 6 : No Ice Wind 120 deg)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]
1	M1	X	.037	.037	0	16
2	M1	Z	.021	.021	0	16
3	M3	Z	.02	.02	0	100
4	M6	Z	.02	.02	0	100
5	M2	X	.035	.035	0	100
6	M4	X	.035	.035	0	100
7	M5	X	.035	.035	0	100
8	M7	X	.035	.035	0	100

Member Distributed Loads (BLC 7 : No Ice Wind 150 deg)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]
1	M1	X	.021	.021	0	16
2	M1	Z	.037	.037	0	16
3	M3	Z	.035	.035	0	100
4	M6	Z	.035	.035	0	100
5	M2	X	.02	.02	0	100
6	M4	X	.02	.02	0	100
7	M5	X	.02	.02	0	100
8	M7	X	.02	.02	0	100

Member Distributed Loads (BLC 8 : No Ice Wind 180 deg)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]
1	M1	Z	.042	.042	0	16
2	M3	Z	.041	.041	0	100
3	M6	Z	.041	.041	0	100

Member Distributed Loads (BLC 9 : No Ice Wind 210 deg)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-.021	-.021	0	16
2	M1	Z	.037	.037	0	16
3	M3	Z	.035	.035	0	100
4	M6	Z	.035	.035	0	100
5	M2	X	-.02	-.02	0	100
6	M4	X	-.02	-.02	0	100
7	M5	X	-.02	-.02	0	100
8	M7	X	-.02	-.02	0	100

Member Distributed Loads (BLC 10 : No Ice Wind 240 deg)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-.037	-.037	0	16
2	M1	Z	.021	.021	0	16

Member Distributed Loads (BLC 10 : No Ice Wind 240 deg) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]
3	M3	Z	.02	.02	0	100
4	M6	Z	.02	.02	0	100
5	M2	X	-.035	-.035	0	100
6	M4	X	-.035	-.035	0	100
7	M5	X	-.035	-.035	0	100
8	M7	X	-.035	-.035	0	100

Member Distributed Loads (BLC 11 : No Ice Wind 270 deg)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-.042	-.042	0	16
2	M2	X	-.041	-.041	0	100
3	M4	X	-.041	-.041	0	100
4	M5	X	-.041	-.041	0	100
5	M7	X	-.041	-.041	0	100

Member Distributed Loads (BLC 12 : No Ice Wind 300 deg)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-.037	-.037	0	16
2	M1	Z	-.021	-.021	0	16
3	M3	Z	-.02	-.02	0	100
4	M6	Z	-.02	-.02	0	100
5	M2	X	-.035	-.035	0	100
6	M4	X	-.035	-.035	0	100
7	M5	X	-.035	-.035	0	100
8	M7	X	-.035	-.035	0	100

Member Distributed Loads (BLC 13 : No Ice Wind 330 deg)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-.021	-.021	0	16
2	M1	Z	-.037	-.037	0	16
3	M3	Z	-.035	-.035	0	100
4	M6	Z	-.035	-.035	0	100
5	M2	X	-.02	-.02	0	100
6	M4	X	-.02	-.02	0	100
7	M5	X	-.02	-.02	0	100
8	M7	X	-.02	-.02	0	100

Member Distributed Loads (BLC 14 : Ice)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]
1	M1	Y	-.041	-.041	0	0
2	M2	Y	-.008	-.008	0	0
3	M3	Y	-.008	-.008	0	0
4	M4	Y	-.008	-.008	0	0
5	M5	Y	-.008	-.008	0	0
6	M6	Y	-.008	-.008	0	0
7	M7	Y	-.008	-.008	0	0
8	M1	Y	-.008	-.008	0	0

Member Distributed Loads (BLC 15 : Temperature Drop)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]
1	M1	T	-50	-50	0	0
2	M2	T	-50	-50	0	0
3	M3	T	-50	-50	0	0
4	M1	T	-50	-50	0	0

Member Distributed Loads (BLC 15 : Temperature Drop) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]
5	M4	T	-50	-50	0	0
6	M5	T	-50	-50	0	0
7	M6	T	-50	-50	0	0
8	M7	T	-50	-50	0	0

Member Distributed Loads (BLC 16 : Ice Wind 0 deg)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]
1	M1	Z	-.023	-.023	0	16
2	M3	Z	-.01	-.01	0	100
3	M6	Z	-.01	-.01	0	100

Member Distributed Loads (BLC 17 : Ice Wind 30 deg)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]
1	M1	X	.011	.011	0	16
2	M1	Z	-.02	-.02	0	16
3	M3	Z	-.009	-.009	0	100
4	M6	Z	-.009	-.009	0	100
5	M2	X	.005	.005	0	100
6	M4	X	.005	.005	0	100
7	M5	X	.005	.005	0	100
8	M7	X	.005	.005	0	100

Member Distributed Loads (BLC 18 : Ice Wind 60 deg)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]
1	M1	X	.02	.02	0	16
2	M1	Z	-.011	-.011	0	16
3	M3	Z	-.005	-.005	0	100
4	M6	Z	-.005	-.005	0	100
5	M2	X	.009	.009	0	100
6	M4	X	.009	.009	0	100
7	M5	X	.009	.009	0	100
8	M7	X	.009	.009	0	100

Member Distributed Loads (BLC 19 : Ice Wind 90 deg)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]
1	M1	X	.023	.023	0	16
2	M2	X	.01	.01	0	100
3	M4	X	.01	.01	0	100
4	M5	X	.01	.01	0	100
5	M7	X	.01	.01	0	100

Member Distributed Loads (BLC 20 : Ice Wind 120 deg)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]
1	M1	X	.02	.02	0	16
2	M1	Z	.011	.011	0	16
3	M2	X	.009	.009	0	100
4	M4	X	.009	.009	0	100
5	M5	X	.009	.009	0	100
6	M7	X	.009	.009	0	100
7	M3	Z	.005	.005	0	100
8	M6	Z	.005	.005	0	100

Member Distributed Loads (BLC 21 : Ice Wind 150 deg)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]

Member Distributed Loads (BLC 21 : Ice Wind 150 deg) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]
1	M1	X	.011	.011	0	16
2	M1	Z	.02	.02	0	16
3	M3	Z	.009	.009	0	100
4	M6	Z	.009	.009	0	100
5	M2	X	.005	.005	0	100
6	M4	X	.005	.005	0	100
7	M5	X	.005	.005	0	100
8	M7	X	.005	.005	0	100

Member Distributed Loads (BLC 22 : Ice Wind 180 deg)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]
1	M1	Z	.023	.023	0	16
2	M3	Z	.01	.01	0	100
3	M6	Z	.01	.01	0	100

Member Distributed Loads (BLC 23 : Ice Wind 210 deg)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-.011	-.011	0	16
2	M1	Z	.02	.02	0	16
3	M3	Z	.009	.009	0	100
4	M6	Z	.009	.009	0	100
5	M2	X	-.005	-.005	0	100
6	M4	X	-.005	-.005	0	100
7	M5	X	-.005	-.005	0	100
8	M7	X	-.005	-.005	0	100

Member Distributed Loads (BLC 24 : Ice Wind 240 deg)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-.02	-.02	0	16
2	M1	Z	.011	.011	0	16
3	M3	Z	.005	.005	0	100
4	M6	Z	.005	.005	0	100
5	M2	X	-.009	-.009	0	100
6	M4	X	-.009	-.009	0	100
7	M5	X	-.009	-.009	0	100
8	M7	X	-.009	-.009	0	100

Member Distributed Loads (BLC 25 : Ice Wind 270 deg)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-.023	-.023	0	16
2	M2	X	-.01	-.01	0	100
3	M4	X	-.01	-.01	0	100
4	M5	X	-.01	-.01	0	100
5	M7	X	-.01	-.01	0	100

Member Distributed Loads (BLC 26 : Ice Wind 300 deg)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-.02	-.02	0	16
2	M1	Z	-.011	-.011	0	16
3	M3	Z	-.005	-.005	0	100
4	M6	Z	-.005	-.005	0	100
5	M2	X	-.009	-.009	0	100
6	M4	X	-.009	-.009	0	100
7	M5	X	-.009	-.009	0	100

Member Distributed Loads (BLC 26 : Ice Wind 300 deg) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]
8	M7	X	-.009	-.009	0	100

Member Distributed Loads (BLC 27 : Ice Wind 330 deg)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-.011	-.011	0	16
2	M1	Z	-.02	-.02	0	16
3	M3	Z	-.009	-.009	0	100
4	M6	Z	-.009	-.009	0	100
5	M2	X	-.005	-.005	0	100
6	M4	X	-.005	-.005	0	100
7	M5	X	-.005	-.005	0	100
8	M7	X	-.005	-.005	0	100

Member Distributed Loads (BLC 28 : Service Wind 0 deg)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]
1	M1	Z	-.011	-.011	0	16
2	M3	Z	-.01	-.01	0	100
3	M6	Z	-.01	-.01	0	100

Member Distributed Loads (BLC 29 : Service Wind 30 deg)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]
1	M1	X	.005	.005	0	16
2	M1	Z	-.009	-.009	0	16
3	M3	Z	-.009	-.009	0	100
4	M6	Z	-.009	-.009	0	100
5	M2	X	.005	.005	0	100
6	M4	X	.005	.005	0	100
7	M5	X	.005	.005	0	100
8	M7	X	.005	.005	0	100

Member Distributed Loads (BLC 30 : Service Wind 60 deg)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]
1	M1	X	.009	.009	0	16
2	M1	Z	-.005	-.005	0	16
3	M3	Z	-.005	-.005	0	100
4	M6	Z	-.005	-.005	0	100
5	M2	X	.009	.009	0	100
6	M4	X	.009	.009	0	100
7	M5	X	.009	.009	0	100
8	M7	X	.009	.009	0	100

Member Distributed Loads (BLC 31 : Service Wind 90 deg)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]
1	M1	X	.011	.011	0	16
2	M2	X	.01	.01	0	100
3	M4	X	.01	.01	0	100
4	M5	X	.01	.01	0	100
5	M7	X	.01	.01	0	100

Member Distributed Loads (BLC 32 : Service Wind 120 deg)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]
1	M1	X	.009	.009	0	16
2	M1	Z	.005	.005	0	16
3	M3	Z	.005	.005	0	100

Member Distributed Loads (BLC 32 : Service Wind 120 deg) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]
4	M6	Z	.005	.005	0	100
5	M2	X	.009	.009	0	100
6	M4	X	.009	.009	0	100
7	M5	X	.009	.009	0	100
8	M7	X	.009	.009	0	100

Member Distributed Loads (BLC 33 : Service Wind 150 deg)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]
1	M1	X	.005	.005	0	16
2	M1	Z	.009	.009	0	16
3	M3	Z	.009	.009	0	100
4	M6	Z	.009	.009	0	100
5	M2	X	.005	.005	0	100
6	M4	X	.005	.005	0	100
7	M5	X	.005	.005	0	100
8	M7	X	.005	.005	0	100

Member Distributed Loads (BLC 34 : Service Wind 180 deg)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]
1	M1	Z	.011	.011	0	16
2	M3	Z	.01	.01	0	100
3	M6	Z	.01	.01	0	100

Member Distributed Loads (BLC 35 : Service Wind 210 deg)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-.005	-.005	0	16
2	M1	Z	.009	.009	0	16
3	M3	Z	.009	.009	0	100
4	M6	Z	.009	.009	0	100
5	M2	X	-.005	-.005	0	100
6	M4	X	-.005	-.005	0	100
7	M5	X	-.005	-.005	0	100
8	M7	X	-.005	-.005	0	100

Member Distributed Loads (BLC 36 : Service Wind 240 deg)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-.009	-.009	0	16
2	M1	Z	.005	.005	0	16
3	M3	Z	.005	.005	0	100
4	M6	Z	.005	.005	0	100
5	M2	X	-.009	-.009	0	100
6	M4	X	-.009	-.009	0	100
7	M5	X	-.009	-.009	0	100
8	M7	X	-.009	-.009	0	100

Member Distributed Loads (BLC 37 : Service Wind 270 deg)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-.011	-.011	0	16
2	M2	X	-.01	-.01	0	100
3	M4	X	-.01	-.01	0	100
4	M5	X	-.01	-.01	0	100
5	M7	X	-.01	-.01	0	100

Member Distributed Loads (BLC 38 : Service Wind 300 deg)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-.009	-.009	0	16
2	M1	Z	-.005	-.005	0	16
3	M3	Z	-.005	-.005	0	100
4	M6	Z	-.005	-.005	0	100
5	M2	X	-.009	-.009	0	100
6	M4	X	-.009	-.009	0	100
7	M5	X	-.009	-.009	0	100
8	M7	X	-.009	-.009	0	100

Member Distributed Loads (BLC 39 : Service Wind 330 deg)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-.005	-.005	0	16
2	M1	Z	-.009	-.009	0	16
3	M3	Z	-.009	-.009	0	100
4	M6	Z	-.009	-.009	0	100
5	M2	X	-.005	-.005	0	100
6	M4	X	-.005	-.005	0	100
7	M5	X	-.005	-.005	0	100
8	M7	X	-.005	-.005	0	100

Joint Loads and Enforced Displacements

Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/ft, k*s^2*ft)]
No Data to Print ...			

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribut..	Area(M...	Surface...
1	Dead	None		-1			49			
2	No Ice Wind 0 deg	None					43	3		
3	No Ice Wind 30 deg	None					56	8		
4	No Ice Wind 60 deg	None					49	8		
5	No Ice Wind 90 deg	None					49	5		
6	No Ice Wind 120 deg	None					49	8		
7	No Ice Wind 150 deg	None					56	8		
8	No Ice Wind 180 deg	None					43	3		
9	No Ice Wind 210 deg	None					56	8		
10	No Ice Wind 240 deg	None					49	8		
11	No Ice Wind 270 deg	None					49	5		
12	No Ice Wind 300 deg	None					49	8		
13	No Ice Wind 330 deg	None					56	8		
14	Ice	None					49	8		
15	Temperature Drop	None						8		
16	Ice Wind 0 deg	None					43	3		
17	Ice Wind 30 deg	None					56	8		
18	Ice Wind 60 deg	None					50	8		
19	Ice Wind 90 deg	None					49	5		
20	Ice Wind 120 deg	None					50	8		
21	Ice Wind 150 deg	None					56	8		
22	Ice Wind 180 deg	None					43	3		
23	Ice Wind 210 deg	None					56	8		
24	Ice Wind 240 deg	None					50	8		
25	Ice Wind 270 deg	None					49	5		
26	Ice Wind 300 deg	None					50	8		
27	Ice Wind 330 deg	None					56	8		

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribut...	Area(M...	Surface...
28	Service Wind 0 deg	None					43	3		
29	Service Wind 30 deg	None					56	8		
30	Service Wind 60 deg	None					49	8		
31	Service Wind 90 deg	None					49	5		
32	Service Wind 120 deg	None					49	8		
33	Service Wind 150 deg	None					56	8		
34	Service Wind 180 deg	None					43	3		
35	Service Wind 210 deg	None					56	8		
36	Service Wind 240 deg	None					49	8		
37	Service Wind 270 deg	None					49	5		
38	Service Wind 300 deg	None					49	8		
39	Service Wind 330 deg	None					56	8		

Load Combinations

	Description	Solve	PDelta	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1	Dead Only	Yes	Y		1	1	40	1	41	1	0		0		0		0		0		0			
2	1.2 Dead+1.6 Wind 0 deg ...	Yes	Y		1	1.2	2	1.6	40	1.2	41	1	0		0		0		0		0			
3	0.9 Dead+1.6 Wind 0 deg ...	Yes	Y		1	.9	2	1.6	40	.9	41	1	0		0		0		0		0			
4	1.2 Dead+1.6 Wind 30 de...	Yes	Y		1	1.2	3	1.6	40	1.2	41	1	0		0		0		0		0			
5	0.9 Dead+1.6 Wind 30 de...	Yes	Y		1	.9	3	1.6	40	.9	41	1	0		0		0		0		0			
6	1.2 Dead+1.6 Wind 60 de...	Yes	Y		1	1.2	4	1.6	40	1.2	41	1	0		0		0		0		0			
7	0.9 Dead+1.6 Wind 60 de...	Yes	Y		1	.9	4	1.6	40	.9	41	1	0		0		0		0		0			
8	1.2 Dead+1.6 Wind 90 de...	Yes	Y		1	1.2	5	1.6	40	1.2	41	1	0		0		0		0		0			
9	0.9 Dead+1.6 Wind 90 de...	Yes	Y		1	.9	5	1.6	40	.9	41	1	0		0		0		0		0			
10	1.2 Dead+1.6 Wind 120 d...	Yes	Y		1	1.2	6	1.6	40	1.2	41	1	0		0		0		0		0			
11	0.9 Dead+1.6 Wind 120 d...	Yes	Y		1	.9	6	1.6	40	.9	41	1	0		0		0		0		0			
12	1.2 Dead+1.6 Wind 150 d...	Yes	Y		1	1.2	7	1.6	40	1.2	41	1	0		0		0		0		0			
13	0.9 Dead+1.6 Wind 150 d...	Yes	Y		1	.9	7	1.6	40	.9	41	1	0		0		0		0		0			
14	1.2 Dead+1.6 Wind 180 d...	Yes	Y		1	1.2	8	1.6	40	1.2	41	1	0		0		0		0		0			
15	0.9 Dead+1.6 Wind 180 d...	Yes	Y		1	.9	8	1.6	40	.9	41	1	0		0		0		0		0			
16	1.2 Dead+1.6 Wind 210 d...	Yes	Y		1	1.2	9	1.6	40	1.2	41	1	0		0		0		0		0			
17	0.9 Dead+1.6 Wind 210 d...	Yes	Y		1	.9	9	1.6	40	.9	41	1	0		0		0		0		0			
18	1.2 Dead+1.6 Wind 240 d...	Yes	Y		1	1.2	10	1.6	40	1.2	41	1	0		0		0		0		0			
19	0.9 Dead+1.6 Wind 240 d...	Yes	Y		1	.9	10	1.6	40	.9	41	1	0		0		0		0		0			
20	1.2 Dead+1.6 Wind 270 d...	Yes	Y		1	1.2	11	1.6	40	1.2	41	1	0		0		0		0		0			
21	0.9 Dead+1.6 Wind 270 d...	Yes	Y		1	.9	11	1.6	40	.9	41	1	0		0		0		0		0			
22	1.2 Dead+1.6 Wind 300 d...	Yes	Y		1	1.2	12	1.6	40	1.2	41	1	0		0		0		0		0			
23	0.9 Dead+1.6 Wind 300 d...	Yes	Y		1	.9	12	1.6	40	.9	41	1	0		0		0		0		0			
24	1.2 Dead+1.6 Wind 330 d...	Yes	Y		1	1.2	13	1.6	40	1.2	41	1	0		0		0		0		0			
25	0.9 Dead+1.6 Wind 330 d...	Yes	Y		1	.9	13	1.6	40	.9	41	1	0		0		0		0		0			
26	1.2 Dead+1.0 Ice+1.0 Temp	Yes	Y		1	1.2	14	1	15	1	40	1.2	41	1	0		0		0		0			
27	1.2 Dead+1.0 Wind 0 deg...	Yes	Y		1	1.2	16	1	14	1	15	1	40	1.2	41	1	0		0		0			
28	1.2 Dead+1.0 Wind 30 de...	Yes	Y		1	1.2	17	1	14	1	15	1	40	1.2	41	1	0		0		0			
29	1.2 Dead+1.0 Wind 60 de...	Yes	Y		1	1.2	18	1	14	1	15	1	40	1.2	41	1	0		0		0			
30	1.2 Dead+1.0 Wind 90 de...	Yes	Y		1	1.2	19	1	14	1	15	1	40	1.2	41	1	0		0		0			
31	1.2 Dead+1.0 Wind 120 d...	Yes	Y		1	1.2	20	1	14	1	15	1	40	1.2	41	1	0		0		0			
32	1.2 Dead+1.0 Wind 150 d...	Yes	Y		1	1.2	21	1	14	1	15	1	40	1.2	41	1	0		0		0			
33	1.2 Dead+1.0 Wind 180 d...	Yes	Y		1	1.2	22	1	14	1	15	1	40	1.2	41	1	0		0		0			
34	1.2 Dead+1.0 Wind 210 d...	Yes	Y		1	1.2	23	1	14	1	15	1	40	1.2	41	1	0		0		0			
35	1.2 Dead+1.0 Wind 240 d...	Yes	Y		1	1.2	24	1	14	1	15	1	40	1.2	41	1	0		0		0			
36	1.2 Dead+1.0 Wind 270 d...	Yes	Y		1	1.2	25	1	14	1	15	1	40	1.2	41	1	0		0		0			
37	1.2 Dead+1.0 Wind 300 d...	Yes	Y		1	1.2	26	1	14	1	15	1	40	1.2	41	1	0		0		0			
38	1.2 Dead+1.0 Wind 330 d...	Yes	Y		1	1.2	27	1	14	1	15	1	40	1.2	41	1	0		0		0			
39	Dead+Wind 0 deg - Service	Yes	Y		1	1	28	1	40	1	41	1	0		0		0		0		0			
40	Dead+Wind 30 deg - Serv...	Yes	Y		1	1	29	1	40	1	41	1	0		0		0		0		0			

From Previous Report

Load Combinations (Continued)

	Description	Solve	PDelta	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
41	Dead+Wind 60 deg - Serv...	Yes	Y		1	1	30	1	40	1	41	1	0		0		0		0		0			
42	Dead+Wind 90 deg - Serv...	Yes	Y		1	1	31	1	40	1	41	1	0		0		0		0		0			
43	Dead+Wind 120 deg - Ser...	Yes	Y		1	1	32	1	40	1	41	1	0		0		0		0		0			
44	Dead+Wind 150 deg - Ser...	Yes	Y		1	1	33	1	40	1	41	1	0		0		0		0		0			
45	Dead+Wind 180 deg - Ser...	Yes	Y		1	1	34	1	40	1	41	1	0		0		0		0		0			
46	Dead+Wind 210 deg - Ser...	Yes	Y		1	1	35	1	40	1	41	1	0		0		0		0		0			
47	Dead+Wind 240 deg - Ser...	Yes	Y		1	1	36	1	40	1	41	1	0		0		0		0		0			
48	Dead+Wind 270 deg - Ser...	Yes	Y		1	1	37	1	40	1	41	1	0		0		0		0		0			
49	Dead+Wind 300 deg - Ser...	Yes	Y		1	1	38	1	40	1	41	1	0		0		0		0		0			
50	Dead+Wind 330 deg - Ser...	Yes	Y		1	1	39	1	40	1	41	1	0		0		0		0		0			

See "Frame to Tower" Mathcad Sheet

Envelope Joint Reactions

	Joint		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N8	max	18.343	25	4.038	36	10.493	25	0	50	0	50	0	50
2		min	-19.284	12	-1.747	9	-11.23	12	0	1	0	1	0	1
3	N5	max	9.558	5	2.47	34	6.304	16	0	50	0	50	0	50
4		min	-10.707	16	.366	5	-5.598	5	0	1	0	1	0	1
5	N6	max	10.707	12	2.47	32	6.304	12	0	50	0	50	0	50
6		min	-9.558	25	.366	25	-5.598	25	0	1	0	1	0	1
7	N7	max	19.284	16	4.038	30	10.493	5	0	50	0	50	0	50
8		min	-18.343	5	-1.747	21	-11.23	16	0	1	0	1	0	1
9	Totals:	max	9.217	21	11.408	38	9.906	3						
10		min	-9.217	8	3.702	3	-9.906	14						

Envelope AISC 14th(360-10): LRFD Steel Code Checks

	Member	Shape	Code Check	Loc[ft]	LC	She...	Loc...	...	phi*P...	phi*P...	phi*Mn y-y [k-...	phi*Mn z-z ...		Eqn
1	M3	HSS6X6X4	.825	3.625	24	.264	0	z	24 216.9...	216.9...	38.64	38.64	1	H1-1b
2	M4	HSS6X6X4	.573	0	4	.314	1	z	16 216.9...	216.9...	38.64	38.64	1	H1-1b
3	M2	HSS6X6X4	.573	1	24	.314	0	z	12 216.9...	216.9...	38.64	38.64	1	H1-1b
4	M1	PIPE_12.0	.539	7	14	.112	7		16 431.55	431.55	140.963	140.963	1	H1-1b
5	M6	HSS6X6X4	.525	3.625	14	.162	3.6...	z	16 216.9...	216.9...	38.64	38.64	1	H1-1b
6	M5	HSS6X6X4	.338	1	12	.175	1	z	12 216.9...	216.9...	38.64	38.64	1	H1-1b
7	M7	HSS6X6X4	.338	0	16	.175	0	z	16 216.9...	216.9...	38.64	38.64	1	H1-1b

From Previous Report

Envelope Joint Displacements

	Joint		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation ...	LC	Y Rotation ...	LC	Z Rotation [...	LC
1	N1	max	.003	48	-.049	39	.012	39	5.834e-4	45	1.74e-6	42	3.905e-5	42
2		min	-.003	42	-.068	45	-.028	45	-1.555e-4	39	-1.808e-6	48	-3.906e-5	48
3	N2	max	.003	48	-.049	39	.01	39	5.834e-4	45	1.74e-6	42	3.9e-5	42
4		min	-.003	42	-.068	45	-.021	45	-1.556e-4	39	-1.808e-6	48	-3.902e-5	48
5	N3	max	.007	42	-.05	39	.034	45	1.391e-3	45	8.849e-5	48	5.547e-4	48
6		min	-.007	48	-.068	45	-.023	39	-9.605e-4	39	-8.864e-5	42	-5.551e-4	42
7	N4	max	.158	42	-.051	39	.275	45	2.627e-3	45	8.849e-5	48	1.789e-3	48
8		min	-.157	48	-.069	45	-.217	39	-2.196e-3	39	-8.864e-5	42	-1.79e-3	42
9	N5	max	0	50	0	50	0	50	1.833e-3	45	2.18e-4	48	1.526e-3	45
10		min	0	39	0	39	0	39	9.02e-4	39	-2.503e-4	42	1.285e-3	39
11	N6	max	0	50	0	50	0	50	1.833e-3	45	2.503e-4	48	-1.285e-3	39
12		min	0	39	0	39	0	39	9.02e-4	39	-2.18e-4	42	-1.526e-3	45
13	N7	max	0	50	0	50	0	50	2.55e-3	44	5.266e-4	42	1.548e-3	40
14		min	0	39	0	39	0	39	1.994e-4	50	-4.935e-4	48	1.283e-3	46
15	N8	max	0	50	0	50	0	50	2.548e-3	46	4.942e-4	42	-1.283e-3	44
16		min	0	39	0	39	0	39	1.994e-4	40	-5.259e-4	48	-1.548e-3	50
17	N9	max	.003	48	-.011	39	0	40	1.713e-3	45	1.787e-4	50	1.526e-3	45
18		min	-.003	42	-.022	45	0	46	8.006e-4	39	-3.25e-4	44	1.285e-3	39
19	N10	max	.003	48	-.011	39	0	50	1.713e-3	45	3.249e-4	46	-1.285e-3	39
20		min	-.003	42	-.022	45	0	44	8.006e-4	39	-1.787e-4	40	-1.526e-3	45
21	N11	max	.006	42	-.002	50	0	46	2.423e-3	44	5.643e-4	44	1.548e-3	40
22		min	-.006	48	-.031	44	0	40	1.032e-4	50	-4.19e-4	50	1.283e-3	46
23	N12	max	.006	42	-.002	40	0	44	2.422e-3	46	4.19e-4	40	-1.283e-3	44
24		min	-.006	48	-.031	46	0	50	1.032e-4	40	-5.628e-4	46	-1.548e-3	50

Twist (LC 42):

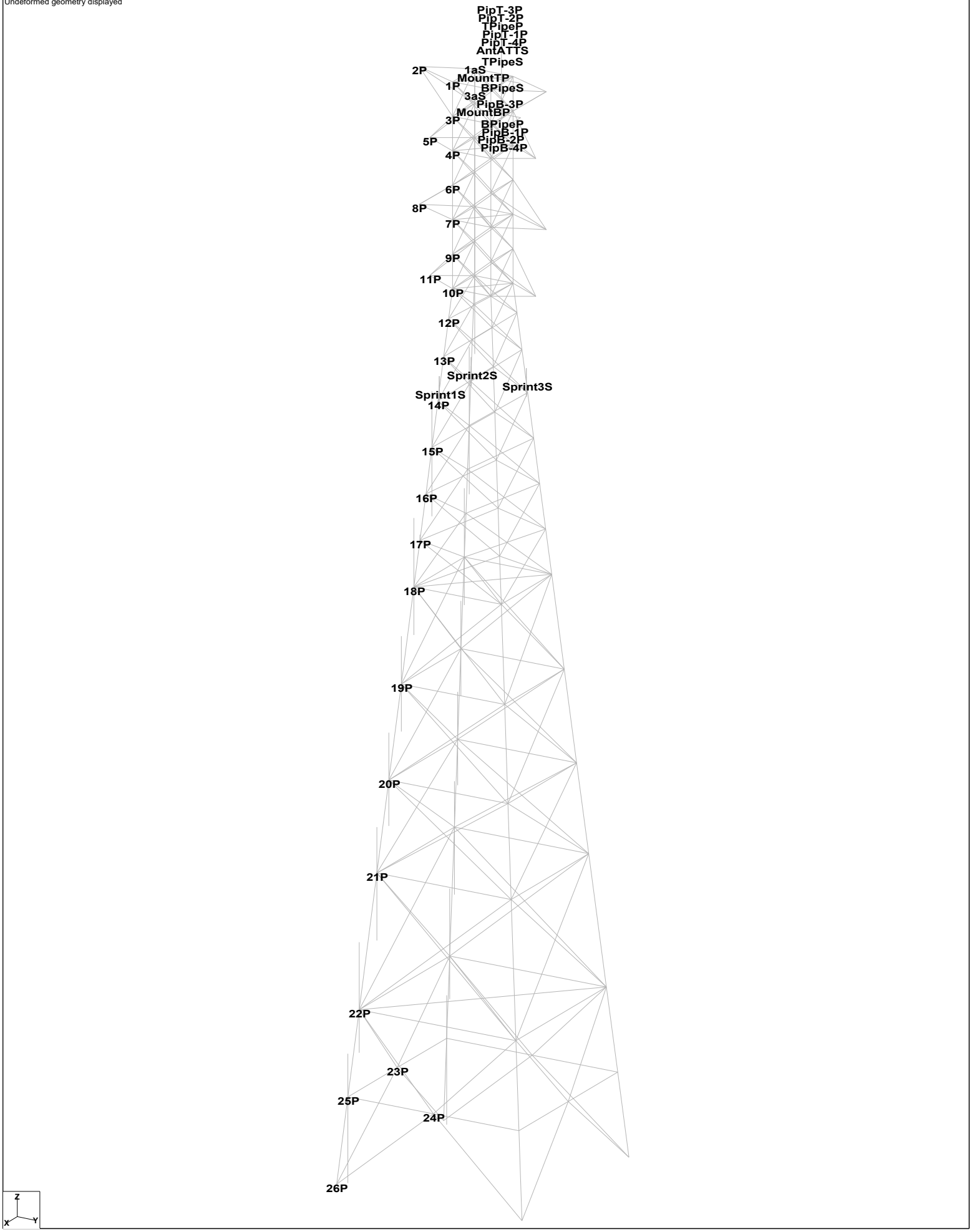
8.864x10^-5 x (180/Pi) = 0.051 degrees

Sway/Tilt (LC 45):

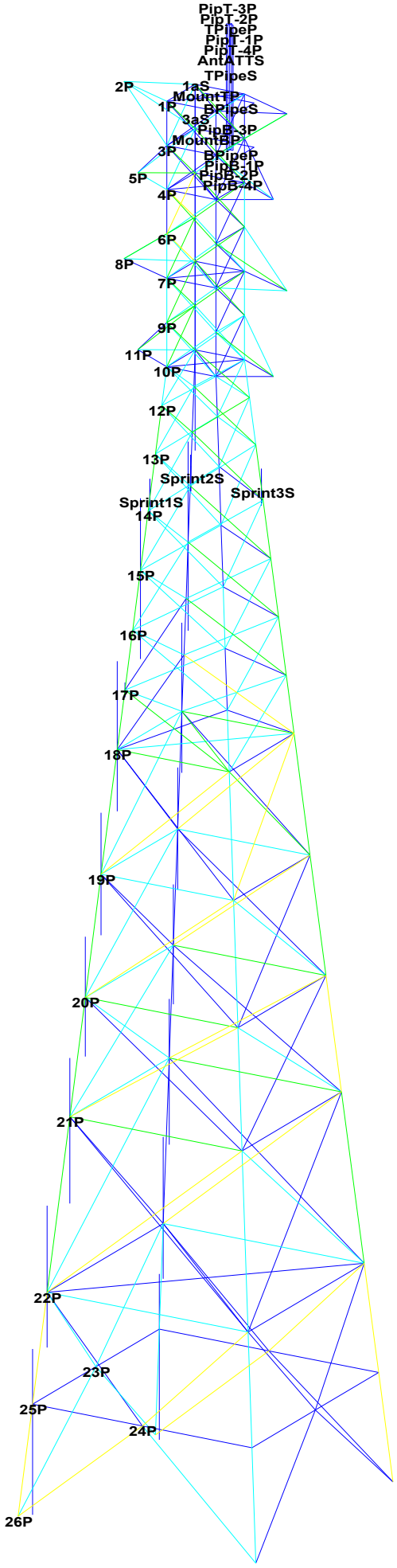
2.627x10^-3 x (180/Pi) = 0.151 degrees

Deflection (LC 45):

0.275 in


PipT-3P
PipT-2P
TPipeP
PipT-1P
PipT-4P
AntATTS
TPipeS
2P
1aS
MountTP
1P
BPipeS
3aS
PipB-3P
MountBP
3P
BPipeP
PipB-1P
PipB-2P
5P
PipB-4P
4P
6P
8P
7P
9P
11P
10P
12P
13P
Sprint2S
Sprint3S
Sprint1S
14P
15P
16P
17P
18P
19P
20P
21P
22P
23P
25P
24P
26P
Z
X
Y

Paul J. Ford and Company, Project: "80620-0004 Old Saybrook"
Tower Version 16.50, 1:19:34 PM Friday, November 13, 2020
Undeformed geometry displayed



% Usage Legend
0 <= % < 25
25 <= % < 50
50 <= % < 75
75 <= % < 100
100 <= %

Project Name : 18130.00 - Old Saybrook
Project Notes: CT2042 - Structure - dist west river x-ing
Project File : G:\Power\1_Projects\806_Smartlink\2020\80620-0004_Old Saybrook CTL02042\002.6125_Reinforcement\Engineering Docs\REV1\PLS\80620-0004 Old Saybrook.tow
Date run : 1:10:39 PM Friday, November 13, 2020
by : Tower Version 16.50
Licensed to : Paul J. Ford and Company

Successfully performed nonlinear analysis

Fictitious members have been added by PJF to simulate the wind area of the pipe riser. The warnings below can be disregarded. ??
Angle member 'P9P' is fictitious and is in the face. This is dubious. ??
Angle member 'P10P' is fictitious and is in the face. This is dubious. ??
Angle member 'P11P' is fictitious and is in the face. This is dubious. ??
Angle member 'P12P' is fictitious and is in the face. This is dubious. ??
KL/R value of 203.75 exceeds maximum of 200.00 for member "69P" ??
KL/R value of 203.75 exceeds maximum of 200.00 for member "69Y" ??
KL/R value of 203.75 exceeds maximum of 200.00 for member "70P" ??
KL/R value of 203.75 exceeds maximum of 200.00 for member "70X" ??
KL/R value of 203.75 exceeds maximum of 200.00 for member "74P" ??
KL/R value of 203.75 exceeds maximum of 200.00 for member "74X" ??
KL/R value of 203.75 exceeds maximum of 200.00 for member "78P" ??
KL/R value of 203.75 exceeds maximum of 200.00 for member "78X" ??
The model has 13 warnings. ??

Member check option: ASCE 10
Connection rupture check: Not Checked
Crossing diagonal check: ASCE 10 [Alternate Unsupported RLOUT = 1]
Included angle check: None
Climbing load check: None
Redundant members checked with: Actual Force

Loads from file: G:\Power\1_Projects\806_Smartlink\2020\80620-0004_Old Saybrook CTL02042\001.6000_SA\Engineering Docs\PLS\80620-0004 Old Saybrook dist west river x-ing.lca

*** Analysis Results:

Maximum element usage is 99.86% for Angle "58P" in load case "NESC Extreme"
Maximum insulator usage is 80.44% for Clamp "3" in load case "NESC Heavy Broken Wire"

Foundation Design Forces For All Load Cases:

Note: loads are factored.

Load Case	Foundation Description	Axial Force (kips)	Shear Force (kips)	Bending Moment (ft-k)	Foundation Usage %
NESC Heavy	26P	-58.40	16.67	5.08	0.00
NESC Heavy	26X	152.17	20.10	6.12	0.00
NESC Heavy	26XY	154.31	19.94	5.73	0.00
NESC Heavy	26Y	-47.59	14.19	4.73	0.00
NESC Extreme	26P	-329.61	68.80	9.87	0.00
NESC Extreme	26X	192.80	26.02	11.52	0.00
NESC Extreme	26XY	352.10	45.70	13.47	0.00
NESC Extreme	26Y	-121.55	37.36	12.28	0.00
NESC Heavy Broken Wire	26P	-141.66	23.55	0.70	0.00
NESC Heavy Broken Wire	26X	58.68	8.29	1.42	0.00
NESC Heavy Broken Wire	26XY	233.61	27.08	9.38	0.00
NESC Heavy Broken Wire	26Y	42.69	11.31	9.00	0.00

Summary of Joint Support Reactions For All Load Cases:

Load Case	Joint Label	Long. Force (kips)	Tran. Force (kips)	Vert. Force (kips)	Shear Force (kips)	Tran. Moment (ft-k)	Long. Moment (ft-k)	Bending Moment (ft-k)	Vert. Moment (ft-k)	Found. Usage %
NESC Heavy	26P	6.91	-15.17	58.40	16.67	5.07	0.24	5.08	1.74	0.00
NESC Heavy	26X	-14.43	-13.98	-152.17	20.10	5.35	2.97	6.12	0.50	0.00
NESC Heavy	26XY	14.05	-14.15	-154.31	19.94	5.00	2.80	5.73	-0.11	0.00
NESC Heavy	26Y	-5.56	-13.05	47.59	14.19	4.72	-0.22	4.73	-1.86	0.00
NESC Extreme	26P	38.68	-56.89	329.61	68.80	9.86	0.37	9.87	2.15	0.00
NESC Extreme	26X	-18.09	-18.70	-192.80	26.02	10.45	4.84	11.52	2.92	0.00
NESC Extreme	26XY	31.79	-32.82	-352.10	45.70	12.62	4.71	13.47	-2.40	0.00
NESC Extreme	26Y	-14.29	-34.52	121.55	37.36	12.28	0.20	12.28	-2.48	0.00
NESC Heavy Broken Wire	26P	17.05	-16.25	141.66	23.55	-0.05	0.69	0.70	1.90	0.00
NESC Heavy Broken Wire	26X	-5.27	-6.39	-58.68	8.29	0.19	-1.40	1.42	0.22	0.00
NESC Heavy Broken Wire	26XY	16.48	-21.48	-233.61	27.08	9.25	-1.54	9.38	-0.31	0.00
NESC Heavy Broken Wire	26Y	5.66	-9.80	-42.69	11.31	8.99	0.25	9.00	-1.67	0.00

Summary of Joint Support Reactions For All Load Cases in Direction of Leg:

Load Case	Support Joint	Origin Joint	Leg Member	Force In Leg Dir. (kips)	Residual Shear Perpendicular To Leg (kips)	Residual Shear Horizontal To Leg - Res. (kips)	Residual Shear Horizontal To Leg - Long. (kips)	Residual Shear Horizontal To Leg - Tran. (kips)	Total Long. Force (kips)	Total Tran. Force (kips)	Total Vert. Force (kips)
NESC Heavy	26P	25P	21P	-59.907	9.999	10.053	-1.655	9.915	6.91	-15.17	58.40
NESC Heavy	26X	25X	21X	153.487	0.787	0.793	0.738	0.290	-14.43	-13.98	-152.17
NESC Heavy	26XY	25XY	21XY	155.592	0.308	0.311	-0.159	0.266	14.05	-14.15	-154.31
NESC Heavy	26Y	25Y	21Y	-48.870	8.818	8.863	1.280	8.771	-5.56	-13.05	47.59
NESC Extreme	26P	25P	21P	-335.504	28.499	28.682	-9.010	27.230	38.68	-56.89	329.61
NESC Extreme	26X	25X	21X	194.543	1.528	1.540	0.743	1.349	-18.09	-18.70	-192.80
NESC Extreme	26XY	25XY	21XY	355.049	1.131	1.137	-0.105	1.132	31.79	-32.82	-352.10
NESC Extreme	26Y	25Y	21Y	-124.935	23.692	23.814	3.349	23.577	-14.29	-34.52	121.55

NESC Heavy Broken Wire	26P	25P	21P	-143.503	5.502	5.545	-4.300	3.502	17.05	-16.25	141.66
NESC Heavy Broken Wire	26X	25X	21X	59.256	1.104	1.109	-0.008	1.109	-5.27	-6.39	-58.68
NESC Heavy Broken Wire	26XY	25XY	21XY	235.128	4.549	4.564	4.541	0.459	16.48	-21.48	-233.61
NESC Heavy Broken Wire	26Y	25Y	21Y	41.977	13.721	13.761	-1.814	13.641	5.66	-9.80	-42.69

Overturning Moment Summary For All Load Cases:

Load Case	Transverse Moment (ft-k)	Longitudinal Moment (ft-k)	Torsional Moment (ft-k)	Resultant Moment (ft-k)	Transverse Force (kips)	Longitudinal Force (kips)	Vertical Force (kips)
NESC Heavy	7218.196	226.729	-3.753	7221.756	56.364	-0.963	200.484
NESC Extreme	17431.022	6428.737	42.517	18578.729	142.933	-38.086	93.738
NESC Heavy Broken Wire	6847.168	6287.319	352.389	9295.918	53.924	-33.916	193.316

Sections Information:

Section Label	Top Z (ft)	Bottom Z (ft)	Joint Count	Member Count	Tran. Face Top Width (ft)	Tran. Face Bot Width (ft)	Tran. Face Gross Area (ft^2)	Long. Face Top Width (ft)	Long. Face Bot Width (ft)	Long. Face Gross Area (ft^2)
SWarm	190.000	184.000	10	8	0.00	7.25	21.750	24.00	7.25	93.750
Cage	190.000	154.000	38	116	7.25	7.25	266.000	7.25	7.25	261.000
TXarm	184.000	178.000	10	8	7.25	7.25	43.500	7.25	20.00	81.750
MXarm	172.000	166.000	10	8	7.25	7.25	43.500	7.25	24.00	93.750
BXarm	160.000	154.000	10	8	7.25	7.25	43.500	7.25	20.00	81.750
Std Body	154.000	0.000	63	191	7.25	35.00	3253.868	7.25	35.00	3253.868
Mount	198.000	181.000	13	16	1.00	1.00	17.000	1.00	1.00	17.000

*** Overall summary for all load cases - Usage = Maximum Stress / Allowable Stress
Printed capacities do not include the strength factor entered for each load case.
The Group Summary reports on the member and load case that resulted in maximum usage
which may not necessarily be the same as that which produces maximum force.

Group Summary (Compression Portion):

Group Label	Group Desc.	Angle Type	Angle Size	Steel Strength (ksi)	Max Usage %	Usage Control	Max Use In Comp. %	Comp. Control Member	Comp. Force (kips)	Comp. Control Load Case	L/r Capacity (kips)	Comp. Connect. Shear Capacity (kips)	Comp. Connect. Bearing Capacity (kips)	RLX	RLY	RLZ	L/r	KL/r	Length Comp. Member (ft)	Curve No.	No. Of Bolts Comp.	
Leg1	6x6x3/8	SAE	6X6X0.375	33.0	35.34	Comp	35.34	5XY	-45.477	NESC Hea	128.698	163.200	303.750	1.000	1.000	1.000	60.50	60.50	6.000	1	12	
Leg1a	**6x6x3/8**	**SAE**	**6X6X0.375**	**33.0**	**6.76**	**Comp**	**6.76**	**3bX**	**-9.264**	**NESC Hea**	**137.132**	**0.000**	**0.000**	**1.000**	**1.500**	**1.000**	**40.34**	**40.34**	**4.000**	**1**	**0**	**A potentially damaging moment exists in the following members (make sure your system is well triangulated to minimize moments): 3bP 3bX ??**
Leg1b	6x6x3/8	SAE	6X6X0.375	33.0	15.74	Comp	15.74	4aX	-21.688	NESC Hea	137.797	0.000	0.000	1.000	3.000	1.000	38.30	38.30	2.000	1	0	
Leg1c	6x6x3/8	SAE	6X6X0.375	33.0	18.05	Comp	18.05	4bX	-24.754	NESC Hea	137.132	0.000	0.000	1.000	1.500	1.000	40.34	40.34	4.000	1	0	
Leg2	8x8x1/2	SAE	8X8X0.5	33.0	46.34	Comp	46.34	8XY	-111.520	NESC Hea	240.633	301.600	629.999	1.000	1.000	1.000	45.28	45.28	6.000	1	16	
Leg3	8x8x11/16	SAE	8X8X0.6875	33.0	57.83	Comp	57.83	11aYP	-180.762	NESC Ext	312.561	414.700	1191.092	4.230	4.230	4.230	58.29	58.29	1.814	1	22	
Leg4	8x8x3/4	SAE	8X8X0.75	33.0	65.51	Comp	65.51	13XY	-220.571	NESC Ext	336.697	490.100	1535.623	1.000	1.000	1.000	61.25	61.25	8.065	1	26	
Leg5	8x8x13/16	SAE	8X8X0.8125	33.0	69.78	Comp	69.78	15XY	-252.224	NESC Ext	361.445	527.800	1791.560	1.000	1.000	1.000	61.64	61.64	8.065	1	28	
Leg6	8x8x7/8	SAE	8X8X0.875	33.0	72.99	Comp	72.99	16XY	-280.642	NESC Ext	384.502	565.500	2067.184	0.500	0.500	0.500	64.34	64.34	16.835	1	30	
Leg7	8x8x/15/16	SAE	8X8X0.9375	33.0	75.53	Comp	75.53	18XY	-312.794	NESC Ext	414.146	603.200	2362.496	0.500	0.500	0.500	61.76	61.76	16.129	1	32	
Leg8	8x8x1	SAE	8X8X1	33.0	80.47	Tens	79.28	21XY	-354.158	NESC Ext	446.741	640.900	2677.496	0.500	0.500	0.500	58.16	58.16	15.121	1	34	
XBR1	2.5x2x1/4	SAU	2.5X2X0.25	33.0	73.52	Comp	73.52	23X	-11.777	NESC Hea	16.019	27.200	33.750	0.500	0.750	0.500	143.07	137.62	9.411	5	2	
XBR2	3x2.5x1/4	SAU	3X2.5X0.25	33.0	94.14	Comp	94.14	27X	-25.356	NESC Hea	26.934	40.800	50.625	0.500	0.750	0.500	112.48	114.36	9.411	2	3	
XBR3	3x3x5/16	SAE	3X3X0.3125	33.0	62.48	Comp	62.48	31X	-25.716	NESC Hea	41.160	54.400	84.375	0.750	0.500	0.500	95.87	101.90	9.411	2	4	
XBR4	3x2.5x5/16	SAU	3X2.5X0.3125	33.0	65.00	Comp	65.00	34Y	-21.386	NESC Hea	32.903	54.400	84.375	0.767	0.535	0.535	114.00	115.50	9.322	2	4	
XBR5	3.5x3x1/4	SAU	3.5X3X0.25	33.0	91.29	Comp	91.29	46Y	-15.188	NESC Ext	16.638	40.800	50.625	0.763	0.527	0.527	177.45	163.82	17.706	5	3	
XBR6	2.5x2.5x5/16	SAE	2.5X2.5X0.3125	33.0	84.41	Comp	84.41	49Y	-4.769	NESC Hea	5.650	54.400	84.375	0.764	0.529	0.529	319.36	271.95	24.601	5	4	
XBR7	2.5x2x5/16	SAU	2.5X2X0.3125	33.0	97.51	Tens	31.38	53X	-0.855	NESC Ext	2.724	40.800	63.281	0.517	0.759	0.517	449.38	371.03	28.814	5	3	
HBR1	3.5x3.5x1/4	SAE	3.5X3.5X0.25	33.0	65.96	Comp	65.96	82P	-11.438	NESC Ext	17.340	40.800	50.625	0.500	1.000	0.500	181.65	167.02	16.500	5	3	
HBR2	4x4x1/4	SAE	4X4X0.25	33.0	0.00		0.00		0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.000	0	0	
HBR3	LL3.5x3.5x1/4	DAE	3.5X3.5X0.25	33.0	73.96	Comp	73.96	88P	-23.511	NESC Ext	31.791	81.600	101.250	0.500	1.000	0.500	191.40	174.44	25.360	5	3	
HBR4	LL4x4x1/4	DAE	4X4X0.25	33.0	39.15	Comp	39.15	90P	-24.369	NESC Ext	62.237	81.600	101.250	0.500	0.500	0.500	142.08	133.58	29.600	6	3	
Arm	5x3.5x5/16	SAU	5X3.5X0.3125	33.0	59.79	Comp	59.79	73Y	-24.395	NESC Hea	65.312	40.800	63.281	1.000	0.500	0.500	57.44	88.72	7.334	3	3	
ArmBR1	3x3x1/4	SAE	3X3X0.25	33.0	64.28	Comp	64.28	94XY	-6.807	NESC Hea	10.588	27.200	33.750	1.000	1.000	1.000	221.38	197.29	10.922	5	2	
ArmBR2	2.5x2x1/4	SAU	2.5X2X0.25	33.0	62.58	Tens	37.82	97XY	-2.115	NESC Hea	5.591	27.200	33.750	1.000	1.000	1.000	268.17	232.94	9.475	5	2	
Br1	5x3x5/16	SAU	5X3X0.3125	33.0	8.09	Tens	5.73	79X	-2.409	NESC Ext	42.081	54.400	84.375	1.000	1.000	1.000	132.22	127.51	7.250	6	4	
Br2	2.5x2x1/4	SAU	2.5X2X0.25	33.0	15.56	Comp	15.56	60P	-2.173	NESC Hea	13.968	27.200	33.750	0.500	0.750	0.500	155.87	147.38	10.253	5	2	
Br3	2.5x2x3/16	SAU	2.5X2X0.1875	33.0	70.01	Comp	70.01	78P	-3.910	NESC Ext	5.585	13.600	12.656	1.000	1.000	1.000	203.75	203.75	7.250	4	1	
Br4	2.5x2.5x3/16	SAE	2.5X2.5X0.1875	33.0	0.00		0.00		0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.000	0	0	
Br5	2.5x2.5x1/4	SAE	2.5X2.5X0.25	33.0	3.31	Tens	0.00	65P	0.000		1.946	27.200	33.750	0.500	0.750	0.500	511.54	418.39	41.861	5	2	
XBR8	2.5x2.5x5/16	SAE	2.5X2.5X0.3125	33.0	0.00		0.00		0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.000	0	0	
XBR9	2.5x2x5/16	SAU	2.5X2X0.3125	33.0	0.00		0.00		0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.000	0	0	
Br4R	2.5x2.5x3/16	SAE	2.5X2.5X0.1875	36.0	50.39	Comp	50.39	64X	-2.183	NESC Hea	4.332	27.200	24.469	0.500	0.750	0.500	282.84	244.13	23.335	5	2	
MOD1-HBR2	4x4x3/8	DAE	4X4X0.25	36.0	32.15	Comp	32.15	84P	-21.709	NESC Ext	67.534	81.600	97.875	0.500	1.000	0.500	130.75	128.23	19.504	5	3	
XBR8r	2.5x2.5x5/16	SAE	2.5X2.5X0.3125	33.0	99.86	Tens	39.38	59XY	-2.753	NESC Hea	6.992	54.400	84.375	0.500	0.500	0.500	283.29	244.47	23.088	5	4	
Pip	Mount Pipe	PIP	12" Standard	35.0	1.23	Comp	1.23	P3P	-5.823	NESC Hea	474.132	0.000	0.000	1.000	1.000	1.000	19.13	19.13	7.000	1	0	
PipeSupport	Pipe Support	HSS	6X6X1/4	50.0	1.58	Tens	1.46	P20X	-3.770	NESC Ext	258.011	0.000	0.000	1.000	1.000	1.000	18.67	18.67	3.625	1	0	
PipeArea	Pipe Area	PIP_FICT	0.1X0.05X0.025	36.0	0.00		0.00	P14P	-0.086	NESC Ext	0.360	0.000	0.000	1.000	1.000	1.000	0.06	0.06	0.500	1	0	

Group Summary (Tension Portion):

Group Label	Group Desc.	Angle Type	Angle Size	Steel Strength (ksi)	Max Usage %	Usage Control	Max Use In Tens. %	Tension Control Member	Tension Force (kips)	Tension Control Load Case	Net Section Capacity (kips)	Tension Connect. Shear Capacity (kips)	Tension Connect. Bearing Capacity (kips)	Tension Connect. Rupture Capacity (kips)	Length Tens. Member (ft)	No. Of Bolts	No. Of Holes	Hole Diameter (in)
Leg1	6x6x3/8	SAE	6X6X0.375	33.0	35.34	Comp	20.49	5P	22.586	NESC Hea	110.204	163.200	303.750	0.000	6.000	12	3.110	0.875

Leg1a	**6x6x3/8**	**SAE**	**6X6X0.375**	**33.0**	**6.76**	**Comp**	**1.98**	**3bP**	**2.846**	**NESC Ext**	**143.880**	**0.000**	**0.000**	**0.000**	**4.000**	**0**	**0.000**	**0**	**A potentially damaging moment exists in the following members (make sure your system is well triangulated to minimize moments):**
				3bP	**3bX**	**??**													
Leg1b	6x6x3/8	SAE	6X6X0.375	33.0	15.74	Comp	2.84	4aP	4.085	NESC Ext	143.880	0.000	0.000	0.000	2.000	0	0.000	0	
Leg1c	6x6x3/8	SAE	6X6X0.375	33.0	18.05	Comp	3.06	4bP	4.408	NESC Ext	143.880	0.000	0.000	0.000	4.000	0	0.000	0	
Leg2	8x8x1/2	SAE	8X8X0.5	33.0	46.34	Comp	45.64	8P	89.005	NESC Ext	195.030	301.600	629.999	0.000	6.000	16	3.680	1	
Leg3	8x8x11/16	SAE	8X8X0.6875	33.0	57.83	Comp	57.08	11P	151.037	NESC Ext	264.598	414.700	1191.092	0.000	5.847	22	3.610	1	
Leg4	8x8x3/4	SAE	8X8X0.75	33.0	65.51	Comp	63.52	13P	183.040	NESC Ext	288.172	490.100	1535.623	0.000	8.065	26	3.610	1	
Leg5	8x8x13/16	SAE	8X8X0.8125	33.0	69.78	Comp	67.84	15P	210.049	NESC Ext	309.643	527.800	1791.560	0.000	8.065	28	3.590	1	
Leg6	8x8x7/8	SAE	8X8X0.875	33.0	72.99	Comp	64.60	16P	215.066	NESC Ext	332.928	565.500	2067.184	0.000	16.835	30	3.590	1	
Leg7	8x8x/15/16	SAE	8X8X0.9375	33.0	75.53	Comp	74.44	18P	263.683	NESC Ext	354.234	603.200	2362.496	0.000	16.129	32	3.590	1	
Leg8	8x8x1	SAE	8X8X1	33.0	80.47	Tens	80.47	21P	301.915	NESC Ext	375.209	640.900	2677.496	0.000	15.121	34	3.630	1	
XBR1	2.5x2x1/4	SAU	2.5X2X0.25	33.0	73.52	Comp	46.59	23XY	11.642	NESC Hea	24.985	27.200	33.750	0.000	9.411	2	1.000	0.875	
XBR2	3x2.5x1/4	SAU	3X2.5X0.25	33.0	94.14	Comp	76.27	27XY	24.720	NESC Hea	32.410	40.800	50.625	0.000	9.411	3	1.000	0.875	
XBR3	3x3x5/16	SAE	3X3X0.3125	33.0	62.48	Comp	57.87	31XY	25.895	NESC Hea	44.745	54.400	84.375	0.000	9.411	4	1.000	0.875	
XBR4	3x2.5x5/16	SAU	3X2.5X0.3125	33.0	65.00	Comp	51.97	36XY	18.371	NESC Hea	35.352	54.400	84.375	0.000	10.942	4	1.000	0.875	
XBR5	3.5x3x1/4	SAU	3.5X3X0.25	33.0	91.29	Comp	42.45	38XY	15.333	NESC Hea	36.123	54.400	67.500	0.000	12.619	4	1.000	0.875	
XBR6	2.5x2.5x5/16	SAE	2.5X2.5X0.3125	33.0	84.41	Comp	80.70	48X	28.441	NESC Ext	35.241	54.400	84.375	0.000	24.601	4	1.000	0.875	
XBR7	2.5x2x5/16	SAU	2.5X2X0.3125	33.0	97.51	Tens	97.51	54X	30.020	NESC Ext	30.786	54.400	84.375	0.000	36.220	4	1.000	0.875	
HBR1	3.5x3.5x1/4	SAE	3.5X3.5X0.25	33.0	65.96	Comp	9.07	83P	3.699	NESC Hea	43.696	40.800	50.625	0.000	16.500	3	1.000	0.875	
HBR2	4x4x1/4	SAE	4X4X0.25	33.0	0.00		0.00		0.000		0.000	0.000	0.000	0.000	0.000	0	0.000	0	
HBR3	LL3.5x3.5x1/4	DAE	3.5X3.5X0.25	33.0	73.96	Comp	1.12	93P	0.611	NESC Ext	87.392	54.400	67.500	0.000	16.150	2	2.000	0.875	
HBR4	LL4x4x1/4	DAE	4X4X0.25	33.0	39.15	Comp	0.00	91X	0.000		102.242	81.600	101.250	0.000	29.600	3	2.000	0.875	
Arm	5x3.5x5/16	SAU	5X3.5X0.3125	33.0	59.79	Comp	46.93	73P	19.146	NESC Hea	67.911	40.800	63.281	0.000	7.334	3	1.000	0.875	
ArmBR1	3x3x1/4	SAE	3X3X0.25	33.0	64.28	Comp	3.60	94Y	0.979	NESC Ext	36.271	27.200	33.750	0.000	10.922	2	1.000	0.875	
ArmBR2	2.5x2x1/4	SAU	2.5X2X0.25	33.0	62.58	Tens	62.58	96P	15.635	NESC Hea	24.985	27.200	33.750	0.000	10.922	2	1.000	0.875	
Br1	5x3x5/16	SAU	5X3X0.3125	33.0	8.09	Tens	8.09	75X	4.400	NESC Hea	63.159	54.400	84.375	0.000	7.250	4	1.000	0.875	
Br2	2.5x2x1/4	SAU	2.5X2X0.25	33.0	15.56	Comp	10.39	60X	2.597	NESC Hea	24.985	27.200	33.750	0.000	10.253	2	1.000	0.875	
Br3	2.5x2x3/16	SAU	2.5X2X0.1875	33.0	70.01	Comp	30.68	78X	3.883	NESC Ext	19.184	13.600	12.656	0.000	7.250	1	1.000	0.875	
Br4	2.5x2.5x3/16	SAE	2.5X2.5X0.1875	33.0	0.00		0.00		0.000		0.000	0.000	0.000	0.000	0.000	0	0.000	0	
Br5	2.5x2.5x1/4	SAE	2.5X2.5X0.25	33.0	3.31	Tens	3.31	65P	0.899	NESC Hea	28.846	27.200	33.750	0.000	41.861	2	1.000	0.875	
XBR8	2.5x2.5x5/16	SAE	2.5X2.5X0.3125	33.0	0.00		0.00		0.000		0.000	0.000	0.000	0.000	0.000	0	0.000	0	
XBR9	2.5x2x5/16	SAU	2.5X2X0.3125	33.0	0.00		0.00		0.000		0.000	0.000	0.000	0.000	0.000	0	0.000	0	
Br4R	2.5x2.5x3/16	SAE	2.5X2.5X0.1875	36.0	50.39	Comp	16.51	64P	3.946	NESC Ext	23.909	27.200	24.469	0.000	23.335	2	1.000	0.875	
MOD1-HBR2	4x4x3/8	DAE	4X4X0.25	36.0	32.15	Comp	6.19	85P	2.524	NESC Hea	111.537	40.800	97.875	0.000	19.504	3	2.000	0.875	
XBR8r	2.5x2.5x5/16	SAE	2.5X2.5X0.3125	33.0	99.86	Tens	99.86	58P	35.192	NESC Ext	35.241	54.400	84.375	0.000	23.088	4	1.000	0.875	
Pip	Mount Pipe	PIP	12" Standard	35.0	1.23	Comp	0.07	P1P	0.322	NESC Ext	479.499	0.000	0.000	0.000	1.000	0	0.000	0	
PipeSupport	Pipe Support	HSS	6X6X1/4	50.0	1.58	Tens	1.58	P20P	4.152	NESC Ext	262.000	0.000	0.000	0.000	3.625	0	0.000	0	
PipeArea	Pipe Area	PIP_FICT	0.1X0.05X0.025	36.0	0.00		0.00	P13P	0.086	NESC Ext	0.360	0.000	0.000	0.000	0.500	0	0.000	0	

*** Maximum Stress Summary for Each Load Case

Summary of Maximum Usages by Load Case:

Load Case	Maximum Usage %	Element Label	Element Type
NESC Heavy	84.41	49Y	Angle
NESC Extreme	99.86	58P	Angle
NESC Heavy Broken Wire	94.14	27X	Angle

Summary of Insulator Usages:

Insulator Label	Insulator Type	Maximum Usage %	Load Case	Weight (lbs)
1	Clamp	54.94	NESC Heavy Broken Wire	0.0
2	Clamp	17.75	NESC Heavy	0.0
3	Clamp	80.44	NESC Heavy Broken Wire	0.0
4	Clamp	34.00	NESC Heavy	0.0
5	Clamp	34.33	NESC Heavy	0.0
6	Clamp	34.14	NESC Heavy	0.0
7	Clamp	34.18	NESC Heavy	0.0
8	Clamp	34.00	NESC Heavy	0.0
9	Clamp	1.90	NESC Extreme	0.0
10	Clamp	10.42	NESC Extreme	0.0
11	Clamp	2.75	NESC Heavy	0.0
12	Clamp	4.66	NESC Extreme	0.0
13	Clamp	4.66	NESC Extreme	0.0
14	Clamp	4.66	NESC Extreme	0.0
15	Clamp	14.33	NESC Heavy	0.0
16	Clamp	16.01	NESC Heavy	0.0
17	Clamp	16.05	NESC Heavy	0.0
18	Clamp	19.43	NESC Heavy	0.0
19	Clamp	20.58	NESC Heavy	0.0
20	Clamp	14.80	NESC Heavy	0.0
21	Clamp	4.66	NESC Extreme	0.0
22	Clamp	4.66	NESC Extreme	0.0
23	Clamp	12.06	NESC Heavy	0.0
24	Clamp	14.51	NESC Heavy	0.0
25	Clamp	14.54	NESC Heavy	0.0
26	Clamp	17.58	NESC Heavy	0.0
27	Clamp	18.75	NESC Heavy	0.0
28	Clamp	10.46	NESC Heavy	0.0
30	Clamp	2.82	NESC Heavy	0.0
31	Clamp	2.32	NESC Heavy	0.0
32	Clamp	2.25	NESC Extreme	0.0
33	Clamp	5.08	NESC Extreme	0.0
34	Clamp	1.90	NESC Extreme	0.0
35	Clamp	2.25	NESC Extreme	0.0
37	Clamp	2.71	NESC Extreme	0.0

38	Clamp	4.52	NESC Heavy	0.0
39	Clamp	4.22	NESC Heavy	0.0
40	Clamp	5.27	NESC Heavy	0.0
41	Clamp	4.95	NESC Heavy	0.0
42	Clamp	8.22	NESC Extreme	0.0
43	Clamp	8.22	NESC Extreme	0.0
44	Clamp	6.64	NESC Extreme	0.0
45	Clamp	6.64	NESC Extreme	0.0
46	Clamp	11.31	NESC Extreme	0.0
47	Clamp	6.78	NESC Extreme	0.0
49	Clamp	9.88	NESC Heavy	0.0
51	Clamp	12.59	NESC Heavy	0.0
53	Clamp	12.64	NESC Heavy	0.0
55	Clamp	15.26	NESC Heavy	0.0
57	Clamp	16.59	NESC Heavy	0.0
59	Clamp	8.40	NESC Heavy	0.0

*** Weight of structure (lbs):

Weight of Angles*Section DLF:	62297.4
Weight of Equipment:	9412.9
Total:	71710.3

*** End of Report

```
*************************************************************************
*                                                                       *
* TOWER - Analysis and Design -  Copyright Power Line Systems 1986-2020 *
*                                                                       *
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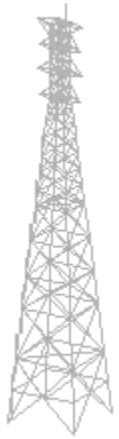
Project Name : 18130.00 - Old Saybrook
Project Notes: CT2042 - Structure - dist west river x-ing
Project File : G:\Power\1_Projects\806_Smartlink\2020\80620-0004_Old Saybrook CTL02042\002.6125_Reinforcement\Engineering Docs\REV1\PLS\80620-0004 Old Saybrook.tow
Date run   : 1:10:38 PM Friday, November 13, 2020
by   : Tower Version 16.50
Licensed to : Paul J. Ford and Company

Successfully performed nonlinear analysis

Fictitious members have been added by PJF to simulate the wind area of the pipe riser. The warnings below can be disregarded. ??
Angle member 'P9P' is fictitious and is in the face. This is dubious. ??
Angle member 'P10P' is fictitious and is in the face. This is dubious. ??
Angle member 'P11P' is fictitious and is in the face. This is dubious. ??
Angle member 'P12P' is fictitious and is in the face. This is dubious. ??
KL/R value of 203.75 exceeds maximum of 200.00 for member "69P" ??
KL/R value of 203.75 exceeds maximum of 200.00 for member "69Y" ??
KL/R value of 203.75 exceeds maximum of 200.00 for member "70P" ??
KL/R value of 203.75 exceeds maximum of 200.00 for member "70X" ??
KL/R value of 203.75 exceeds maximum of 200.00 for member "74P" ??
KL/R value of 203.75 exceeds maximum of 200.00 for member "74X" ??
KL/R value of 203.75 exceeds maximum of 200.00 for member "78P" ??
KL/R value of 203.75 exceeds maximum of 200.00 for member "78X" ??
The model has 13 warnings. ??



Nonlinear convergence parameters: Use Standard Parameters
Tension only member maximum compression load as a percent of compression capacity: 100%
Member check option: ASCE 10
Connection rupture check: Not Checked
Crossing diagonal check: ASCE 10 [Alternate Unsupported RLOUT = 1]
Included angle check: None
Climbing load check: None
Redundant members checked with: Actual Force

Joints Geometry:

Joint Label	Symmetry Code	X Coord. (ft)	Y Coord. (ft)	Z Coord. (ft)	X Disp. Rest.	Y Disp. Rest.	Z Disp. Rest.	X Rot. Rest.	Y Rot. Rest.	Z Rot. Rest.
1P	XY-Symmetry	3.625	-3.625	190	Free	Free	Free	Free	Free	Free
2P	X-Symmetry	0	-12	190	Free	Free	Free	Free	Free	Free
3P	XY-Symmetry	3.625	-3.625	184	Free	Free	Free	Free	Free	Free
4P	XY-Symmetry	3.625	-3.625	178	Free	Free	Free	Free	Free	Free
5P	X-Symmetry	0	-10	178	Free	Free	Free	Free	Free	Free
6P	XY-Symmetry	3.625	-3.625	172	Free	Free	Free	Free	Free	Free
7P	XY-Symmetry	3.625	-3.625	166	Free	Free	Free	Free	Free	Free
8P	X-Symmetry	0	-12	166	Free	Free	Free	Free	Free	Free
9P	XY-Symmetry	3.625	-3.625	160	Free	Free	Free	Free	Free	Free
10P	XY-Symmetry	3.625	-3.625	154	Free	Free	Free	Free	Free	Free
11P	X-Symmetry	0	-10	154	Free	Free	Free	Free	Free	Free
12P	XY-Symmetry	4.098	-4.098	148.8	Free	Free	Free	Free	Free	Free
13P	XY-Symmetry	4.684	-4.684	142.3	Free	Free	Free	Free	Free	Free

14P	XY-Symmetry	5.367	-5.367	134.7	Free	Free	Free	Free	Free	Free
15P	XY-Symmetry	6.088	-6.088	126.7	Free	Free	Free	Free	Free	Free
16P	XY-Symmetry	6.808	-6.808	118.7	Free	Free	Free	Free	Free	Free
17P	XY-Symmetry	7.529	-7.529	110.7	Free	Free	Free	Free	Free	Free
18P	XY-Symmetry	8.25	-8.25	102.7	Free	Free	Free	Free	Free	Free
19P	XY-Symmetry	9.752	-9.752	86	Free	Free	Free	Free	Free	Free
20P	XY-Symmetry	11.24	-11.24	69.5	Free	Free	Free	Free	Free	Free
21P	XY-Symmetry	12.68	-12.68	53.5	Free	Free	Free	Free	Free	Free
22P	XY-Symmetry	14.8	-14.8	30	Free	Free	Free	Free	Free	Free
23P	X-Symmetry	0	-16.15	15	Free	Free	Free	Free	Free	Free
24P	Y-Symmetry	16.15	0	15	Free	Free	Free	Free	Free	Free
25P	XY-Symmetry	16.15	-16.15	15	Free	Free	Free	Free	Free	Free
26P	XY-Symmetry	17.5	-17.5	0	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
MountBP	X-Symmetry	-6.125	-3.625	182	Free	Free	Free	Free	Free	Free
MountTP	X-Symmetry	-6.125	-3.625	188	Free	Free	Free	Free	Free	Free
TPipeP	None	-6.125	0	198	Free	Free	Free	Free	Free	Free
BPipeP	None	-6.125	0	181	Free	Free	Free	Free	Free	Free
PipT-1P	None	-6.125	0.5	198	Free	Free	Free	Free	Free	Free
PipT-2P	None	-5.625	0	198	Free	Free	Free	Free	Free	Free
PipT-3P	None	-6.125	-0.5	198	Free	Free	Free	Free	Free	Free
PipT-4P	None	-6.625	0	198	Free	Free	Free	Free	Free	Free
PipB-1P	None	-6.125	0.5	181	Free	Free	Free	Free	Free	Free
PipB-2P	None	-5.625	0	181	Free	Free	Free	Free	Free	Free
PipB-3P	None	-6.125	-0.5	181	Free	Free	Free	Free	Free	Free
PipB-4P	None	-6.625	0	181	Free	Free	Free	Free	Free	Free
1X	X-GenXY	3.625	3.625	190	Free	Free	Free	Free	Free	Free
1XY	XY-GenXY	-3.625	3.625	190	Free	Free	Free	Free	Free	Free
1Y	Y-GenXY	-3.625	-3.625	190	Free	Free	Free	Free	Free	Free
2X	X-Gen	0	12	190	Free	Free	Free	Free	Free	Free
3X	X-GenXY	3.625	3.625	184	Free	Free	Free	Free	Free	Free
3XY	XY-GenXY	-3.625	3.625	184	Free	Free	Free	Free	Free	Free
3Y	Y-GenXY	-3.625	-3.625	184	Free	Free	Free	Free	Free	Free
4X	X-GenXY	3.625	3.625	178	Free	Free	Free	Free	Free	Free
4XY	XY-GenXY	-3.625	3.625	178	Free	Free	Free	Free	Free	Free
4Y	Y-GenXY	-3.625	-3.625	178	Free	Free	Free	Free	Free	Free
5X	X-Gen	0	10	178	Free	Free	Free	Free	Free	Free
6X	X-GenXY	3.625	3.625	172	Free	Free	Free	Free	Free	Free
6XY	XY-GenXY	-3.625	3.625	172	Free	Free	Free	Free	Free	Free
6Y	Y-GenXY	-3.625	-3.625	172	Free	Free	Free	Free	Free	Free
7X	X-GenXY	3.625	3.625	166	Free	Free	Free	Free	Free	Free
7XY	XY-GenXY	-3.625	3.625	166	Free	Free	Free	Free	Free	Free
7Y	Y-GenXY	-3.625	-3.625	166	Free	Free	Free	Free	Free	Free
8X	X-Gen	0	12	166	Free	Free	Free	Free	Free	Free
9X	X-GenXY	3.625	3.625	160	Free	Free	Free	Free	Free	Free
9XY	XY-GenXY	-3.625	3.625	160	Free	Free	Free	Free	Free	Free
9Y	Y-GenXY	-3.625	-3.625	160	Free	Free	Free	Free	Free	Free
10X	X-GenXY	3.625	3.625	154	Free	Free	Free	Free	Free	Free
10XY	XY-GenXY	-3.625	3.625	154	Free	Free	Free	Free	Free	Free
10Y	Y-GenXY	-3.625	-3.625	154	Free	Free	Free	Free	Free	Free
11X	X-Gen	0	10	154	Free	Free	Free	Free	Free	Free
12X	X-GenXY	4.098	4.098	148.8	Free	Free	Free	Free	Free	Free
12XY	XY-GenXY	-4.098	4.098	148.8	Free	Free	Free	Free	Free	Free
12Y	Y-GenXY	-4.098	-4.098	148.8	Free	Free	Free	Free	Free	Free
13X	X-GenXY	4.684	4.684	142.3	Free	Free	Free	Free	Free	Free
13XY	XY-GenXY	-4.684	4.684	142.3	Free	Free	Free	Free	Free	Free
13Y	Y-GenXY	-4.684	-4.684	142.3	Free	Free	Free	Free	Free	Free
14X	X-GenXY	5.367	5.367	134.7	Free	Free	Free	Free	Free	Free
14XY	XY-GenXY	-5.367	5.367	134.7	Free	Free	Free	Free	Free	Free
14Y	Y-GenXY	-5.367	-5.367	134.7	Free	Free	Free	Free	Free	Free
15X	X-GenXY	6.088	6.088	126.7	Free	Free	Free	Free	Free	Free
15XY	XY-GenXY	-6.088	6.088	126.7	Free	Free	Free	Free	Free	Free
15Y	Y-GenXY	-6.088	-6.088	126.7	Free	Free	Free	Free	Free	Free
16X	X-GenXY	6.808	6.808	118.7	Free	Free	Free	Free	Free	Free
16XY	XY-GenXY	-6.808	6.808	118.7	Free	Free	Free	Free	Free	Free
16Y	Y-GenXY	-6.808	-6.808	118.7	Free	Free	Free	Free	Free	Free
17X	X-GenXY	7.529	7.529	110.7	Free	Free	Free	Free	Free	Free
17XY	XY-GenXY	-7.529	7.529	110.7	Free	Free	Free	Free	Free	Free
17Y	Y-GenXY	-7.529	-7.529	110.7	Free	Free	Free	Free	Free	Free
18X	X-GenXY	8.25	8.25	102.7	Free	Free	Free	Free	Free	Free
18XY	XY-GenXY	-8.25	8.25	102.7	Free	Free	Free	Free	Free	Free
18Y	Y-GenXY	-8.25	-8.25	102.7	Free	Free	Free	Free	Free	Free
19X	X-GenXY	9.752	9.752	86	Free	Free	Free	Free	Free	Free
19XY	XY-GenXY	-9.752	9.752	86	Free	Free	Free	Free	Free	Free
19Y	Y-GenXY	-9.752	-9.752	86	Free	Free	Free	Free	Free	Free
20X	X-GenXY	11.24	11.24	69.5	Free	Free	Free	Free	Free	Free
20XY	XY-GenXY	-11.24	11.24	69.5	Free	Free	Free	Free	Free	Free
20Y	Y-GenXY	-11.24	-11.24	69.5	Free	Free	Free	Free	Free	Free
21X	X-GenXY	12.68	12.68	53.5	Free	Free	Free	Free	Free	Free
21XY	XY-GenXY	-12.68	12.68	53.5	Free	Free	Free	Free	Free	Free
21Y	Y-GenXY	-12.68	-12.68	53.5	Free	Free	Free	Free	Free	Free
22X	X-GenXY	14.8	14.8	30	Free	Free	Free	Free	Free	Free
22XY	XY-GenXY	-14.8	14.8	30	Free	Free	Free	Free	Free	Free
22Y	Y-GenXY	-14.8	-14.8	30	Free	Free	Free	Free	Free	Free
23X	X-Gen	0	16.15	15	Free	Free	Free	Free	Free	Free
24Y	Y-Gen	-16.15	0	15	Free	Free	Free	Free	Free	Free
25X	X-GenXY	16.15	16.15	15	Free	Free	Free	Free	Free	Free
25XY	XY-GenXY	-16.15	16.15	15	Free	Free	Free	Free	Free	Free
25Y	Y-GenXY	-16.15	-16.15	15	Free	Free	Free	Free	Free	Free
26X	X-GenXY	17.5	17.5	0	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
26XY	XY-GenXY	-17.5	17.5	0	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
26Y	Y-GenXY	-17.5	-17.5	0	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
MountBX	X-Gen	-6.125	3.625	182	Free	Free	Free	Free	Free	Free
MountTX	X-Gen	-6.125	3.625	188	Free	Free	Free	Free	Free	Free

Secondary Joints:

Joint Label	Symmetry Code	Origin Joint	End Joint	Fraction	Elevation (ft)	X Disp. Rest.	Y Disp. Rest.	Z Disp. Rest.	X Rot. Rest.	Y Rot. Rest.	Z Rot. Rest.
3aS	X-Symmetry	3Y	4Y	0	182	Free	Free	Free	Free	Free	Free
BPipeS	None	MountBP	MountBX	0.5	0	Free	Free	Free	Free	Free	Free
1aS	X-Symmetry	1Y	3Y	0	188	Free	Free	Free	Free	Free	Free
TPipeS	None	MountTP	MountTX	0.5	0	Free	Free	Free	Free	Free	Free
AntATTS	None	TPipeP	TPipeS	0	195	Free	Free	Free	Free	Free	Free
Sprint1S	None	13P	14P	0	136.5	Free	Free	Free	Free	Free	Free
Sprint2S	None	13Y	14Y	0	136.5	Free	Free	Free	Free	Free	Free
Sprint3S	None	13XY	14XY	0	136.5	Free	Free	Free	Free	Free	Free
3aX	X-Gen	3Y	4Y	0	182	Free	Free	Free	Free	Free	Free
1aX	X-Gen	1Y	3Y	0	188	Free	Free	Free	Free	Free	Free

The model contains 106 primary and 10 secondary joints for a total of 116 joints.

Steel Material Properties:

Steel Material Label	Modulus of Elasticity (ksi)	Yield Stress Fy (ksi)	Ultimate Stress Fu (ksi)	Member Stress All. Hyp. 1 (ksi)	Member Stress All. Hyp. 2 (ksi)	Member Rupture Hyp. 1 (ksi)	Member Rupture Hyp. 2 (ksi)	Member Bearing Hyp. 1 (ksi)	Member Bearing Hyp. 2 (ksi)
A 36	2.9e+04	36	58	0	0	0	0	0	0
A7	2.9e+04	33	60	0	0	0	0	0	0
A500-50	2.9e+04	50	62	0	0	0	0	0	0
Pipe (35ksi)	2.9e+04	35	60	0	0	0	0	0	0

Bolt Properties:

Bolt Label	Bolt Diameter (in)	Hole Diameter (in)	Ultimate Shear Capacity (kips)	Default End Distance (in)	Default Bolt Spacing (in)	Shear Capacity Hyp. 1 (kips)	Shear Capacity Hyp. 2 (kips)	Ultimate Stress Fub (ksi)	Short Edge Dist. (in)
3/4 A394	0.75	0.875	13.6	1.35	1.8	0	0	0	0
7/8 A394	0.875	1	18.85	1.575	2.1	0	0	0	0

Number Bolts Used By Type:

Bolt Type	Number Bolts
3/4 A394	836
7/8 A394	1466

Angle Properties:

Angle Type	Angle Size	Long Leg (in)	Short Leg (in)	Thick. (in)	Unit Weight (lbs/ft)	Gross Area (in^2)	w/t Ratio	Radius of Gyration Rx (in)	Radius of Gyration Ry (in)	Radius of Gyration Rz (in)	Angle Cross Section	Wind Width (in)	Short Edge Dist. (in)	Long Edge Dist. (in)	Optimize Cost Factor	Section Modulus (in^3)	Center of Gravity About X-X (in)	Center of Gravity About Y-Y (in)	Radius of Toe (in)
SAE	8X8X1	8	8	1	51	15	6.38	2.44	2.44	1.56	Single	8	4	0	1.0000	0	0	0	0
SAE	8X8X0.875	8	8	0.875	45	13.23	7.43	2.45	2.45	1.57	Single	8	4	0	1.0000	0	0	0	0
SAE	8X8X0.75	8	8	0.75	38.9	11.44	8.83	2.47	2.47	1.58	Single	8	4	0	1.0000	0	0	0	0
SAE	8X8X0.5	8	8	0.5	26.4	7.75	13.75	2.5	2.5	1.59	Single	8	4	0	1.0000	0	0	0	0
SAE	6X6X0.375	6	6	0.375	14.9	4.36	13.67	1.88	1.88	1.19	Single	6	3	0	1.0000	0	0	0	0
SAE	4X4X0.25	4	4	0.25	6.6	1.94	13.5	1.25	1.25	0.795	Single	4	2	0	1.0000	0	0	0	0
SAE	3.5X3.5X0.25	3.5	3.5	0.25	5.8	1.69	11.5	1.09	1.09	0.694	Single	3.5	1.75	0	1.0000	0	0	0	0
SAE	3X3X0.3125	3	3	0.3125	6.1	1.78	7.6	0.922	0.922	0.589	Single	3	1.5	0	1.0000	0	0	0	0
SAE	3X3X0.25	3	3	0.25	4.9	1.44	9.75	0.93	0.93	0.592	Single	3	1.5	0	1.0000	0	0	0	0
SAE	2.5X2.5X0.3125	2.5	2.5	0.3125	5	1.46	6	0.761	0.761	0.489	Single	2.5	1.25	0	1.0000	0	0	0	0
SAE	2.5X2.5X0.25	2.5	2.5	0.25	4.1	1.19	7.75	0.769	0.769	0.491	Single	2.5	1.25	0	1.0000	0	0	0	0
SAE	2.5X2.5X0.1875	2.5	2.5	0.1875	3.07	0.902	10.67	0.778	0.778	0.495	Single	2.5	1.25	0	1.0000	0	0	0	0
SAU	5X3.5X0.3125	5	3.5	0.3125	8.7	2.56	13.4	1.61	1.03	0.766	Single	5	1.75	0	1.0000	0	0	0	0
SAU	5X3X0.3125	5	3	0.3125	8.2	2.4	13.4	1.61	0.853	0.658	Single	5	1.5	0	1.0000	0	0	0	0
SAU	3.5X3X0.25	3.5	3	0.25	5.4	1.56	11.25	1.11	0.914	0.631	Single	3.5	1.5	0	1.0000	0	0	0	0
SAU	3X2.5X0.3125	3	2.5	0.3125	5.6	1.62	7.4	0.937	0.744	0.525	Single	3	1.25	0	1.0000	0	0	0	0
SAU	3X2.5X0.25	3	2.5	0.25	4.5	1.31	9.5	0.945	0.753	0.528	Single	3	1.25	0	1.0000	0	0	0	0
SAU	2.5X2X0.3125	2.5	2	0.3125	4.5	1.31	6	0.776	0.584	0.422	Single	2.5	1	0	1.0000	0	0	0	0
SAU	2.5X2X0.25	2.5	2	0.25	3.62	1.06	7.75	0.784	0.592	0.424	Single	2.5	1	0	1.0000	0	0	0	0
SAU	2.5X2X0.1875	2.5	2	0.1875	2.75	0.81	10.67	0.793	0.6	0.427	Single	2.5	1	0	1.0000	0	0	0	0
DAE	4X4X0.25	4	4	0.25	13.2	3.88	13.5	1.25	1.79	1.25	DoubleLBB	4	2	0	1.0000	0	0	0	0
DAE	3.5X3.5X0.25	3.5	3.5	0.25	11.6	3.38	11.5	1.09	1.59	1.09	DoubleLBB	3.5	1.75	0	1.0000	0	0	0	0
SAE	8X8X0.6875	8	8	0.6875	36	10.5	12	2.48	2.48	1.58	Single	8	0	0	1.0000	0	0	0	0
SAE	8X8X0.8125	8	8	0.8125	42	12.3	8.1	2.46	2.46	1.57	Single	8	0	0	1.0000	0	0	0	0
SAE	8X8X0.9375	8	8	0.9375	48	14.1	6.9	2.44	2.44	1.567	Single	8	0	0	1.0000	0	0	0	0
PIP	12" Standard	12.75	12	0.349	49.6	13.7	1	4.39	4.39	4.39	Round	12.55	0	0	0.0000	0	0	0	0
PIP_FICT	0.1X0.05X0.025	0.1	0.05	0.025	0	0.01	1	100	100	100	Round	0.1	0	0	0.0000	0	0	0	0
HSS	6X6X1/4	6	5.75	0.233	19.02	5.24	1	2.33	2.33	2.33	Round	6	0	0	0.0000	0	0	0	0

Angle Groups:

Group Label	Group Description	Angle Type	Angle Size	Material Type	Element Type	Group Type	Optimize Group	Allow. Add. Angle Width For Optimize (in)
Leg1	6x6x3/8	SAE	6X6X0.375	A7	Beam	Leg	None	0.000
Leg1a	6x6x3/8	SAE	6X6X0.375	A7	Beam	Leg	None	0.000
Leg1b	6x6x3/8	SAE	6X6X0.375	A7	Beam	Leg	None	0.000

Leg1c	6x6x3/8	SAE	6X6X0.375	A7	Beam	Leg	None	0.000
Leg2	8x8x1/2	SAE	8X8X0.5	A7	Beam	Leg	None	0.000
Leg3	8x8x11/16	SAE	8X8X0.6875	A7	Beam	Leg	None	0.000
Leg4	8x8x3/4	SAE	8X8X0.75	A7	Beam	Leg	None	0.000
Leg5	8x8x13/16	SAE	8X8X0.8125	A7	Beam	Leg	None	0.000
Leg6	8x8x7/8	SAE	8X8X0.875	A7	Beam	Leg	None	0.000
Leg7	8x8x/15/16	SAE	8X8X0.9375	A7	Beam	Leg	None	0.000
Leg8	8x8x1	SAE	8X8X1	A7	Beam	Leg	None	0.000
XBR1	2.5x2x1/4	SAU	2.5X2X0.25	A7	Truss	Crossing Diagonal	None	0.000
XBR2	3x2.5x1/4	SAU	3X2.5X0.25	A7	Truss	Crossing Diagonal	None	0.000
XBR3	3x3x5/16	SAE	3X3X0.3125	A7	Truss	Crossing Diagonal	None	0.000
XBR4	3x2.5x5/16	SAU	3X2.5X0.3125	A7	Truss	Crossing Diagonal	None	0.000
XBR5	3.5x3x1/4	SAU	3.5X3X0.25	A7	Truss	Crossing Diagonal	None	0.000
XBR6	2.5x2.5x5/16	SAE	2.5X2.5X0.3125	A7	T-Only	Other	None	0.000
XBR7	2.5x2x5/16	SAU	2.5X2X0.3125	A7	T-Only	Other	None	0.000
HBR1	3.5x3.5x1/4	SAE	3.5X3.5X0.25	A7	Beam	Other	None	0.000
HBR2	4x4x1/4	SAE	4X4X0.25	A7	Beam	Other	None	0.000
HBR3	LL3.5x3.5x1/4	DAE	3.5X3.5X0.25	A7	Beam	Other	None	0.000
HBR4	LL4x4x1/4	DAE	4X4X0.25	A7	Beam	Other	None	0.000
Arm	5x3.5x5/16	SAU	5X3.5X0.3125	A7	Beam	Other	None	0.000
ArmBR1	3x3x1/4	SAE	3X3X0.25	A7	T-Only	Other	None	0.000
ArmBR2	2.5x2x1/4	SAU	2.5X2X0.25	A7	T-Only	Other	None	0.000
Br1	5x3x5/16	SAU	5X3X0.3125	A7	Truss	Other	None	0.000
Br2	2.5x2x1/4	SAU	2.5X2X0.25	A7	Truss	Other	None	0.000
Br3	2.5x2x3/16	SAU	2.5X2X0.1875	A7	Truss	Other	None	0.000
Br4	2.5x2.5x3/16	SAE	2.5X2.5X0.1875	A7	Truss	Other	None	0.000
Br5	2.5x2.5x1/4	SAE	2.5X2.5X0.25	A7	T-Only	Other	None	0.000
XBR8	2.5x2.5x5/16	SAE	2.5X2.5X0.3125	A7	T-Only	Other	None	0.000
XBR9	2.5x2x5/16	SAU	2.5X2X0.3125	A7	Truss	Crossing Diagonal	None	0.000
Br4R	2.5x2.5x3/16	SAE	2.5X2.5X0.1875	A 36	T-Only	Other	None	0.000
MOD1-HBR2	4x4x3/8	DAE	4X4X0.25	A 36	Beam	Other	None	0.000
XBR8r	2.5x2.5x5/16	SAE	2.5X2.5X0.3125	A7	T-Only	Other	None	0.000
Pip	Mount Pipe	PIP	12" Standard Pipe (35ksi)		Beam	Other	None	0.000
PipeSupport	Pipe Support	HSS	6X6X1/4	A500-50	Beam	Other	None	0.000
PipeArea	Pipe Area	PIP_FICT	0.1X0.05X0.025	A 36	T-Only	Fictitious	None	0.000

Aggregate Angle Information:

Note: Estimate of surface area reported for painting purposes, not wind loading.

Angle Type	Angle Size	Material Type	Total Length (ft)	Total Surface Area (ft^2)	Total Weight (lbs)
SAE	6X6X0.375	A7	72.00	144.00	1072.80
SAE	8X8X0.5	A7	72.00	192.00	1900.80
SAE	8X8X0.6875	A7	77.83	207.54	2801.75
SAE	8X8X0.75	A7	64.52	172.05	2509.71
SAE	8X8X0.8125	A7	64.52	172.05	2709.75
SAE	8X8X0.875	A7	67.34	179.57	3030.22
SAE	8X8X0.9375	A7	131.05	349.47	6290.44
SAE	8X8X1	A7	215.73	575.28	11002.23
SAU	2.5X2X0.25	A7	352.09	264.06	1274.55
SAU	3X2.5X0.25	A7	150.57	138.02	677.58
SAE	3X3X0.3125	A7	150.57	150.57	918.49
SAU	3X2.5X0.3125	A7	162.11	148.60	907.83
SAU	3.5X3X0.25	A7	607.54	658.17	3280.72
SAE	2.5X2.5X0.3125	A7	550.44	458.70	2752.20
SAU	2.5X2X0.3125	A7	734.21	550.66	3303.93
SAE	2.5X2.5X0.1875	A 36	46.67	38.89	143.27
SAE	2.5X2.5X0.25	A7	83.72	69.77	343.26
SAU	5X3.5X0.3125	A7	189.68	268.71	1650.18
SAU	5X3X0.3125	A7	58.00	77.33	475.60
SAU	2.5X2X0.1875	A7	58.00	43.50	159.50
SAE	3.5X3.5X0.25	A7	66.00	77.00	382.80
DAE	4X4X0.25	A 36	78.02	104.02	1029.81
DAE	3.5X3.5X0.25	A7	320.56	373.99	3718.50
DAE	4X4X0.25	A7	118.40	157.87	1562.88
SAE	3X3X0.25	A7	43.69	43.69	214.06
PIP	12" Standard Pipe (35ksi)		17.00	70.13	843.20
PIP_FICT	0.1X0.05X0.025	A 36	72.00	1.80	0.00
HSS	6X6X1/4	A500-50	24.50	47.98	465.99

Sections:
The adjustment factors below only apply to dead load and wind areas that are calculated for members in the model.
They do not apply to equipment or to manually input dead load and drag areas.

Section Label	Joint Defining Section Bottom	Dead Load Adjust. Factor	Transverse Drag x Area Factor For Face	Longitudinal Drag x Area Factor For Face	Transverse Area Factor (CD From Code)	Longitudinal Area Factor (CD From Code)	Af Flat Factor For Face EIA Only	Ar Round Factor For Face EIA Only	Transverse Drag x Area Factor For All	Longitudinal Drag x Area Factor For All	SAPS Angle Drag x Area Factor	SAPS Round Drag x Area Factor	Adjustment Type
SWarm		1.200	3.710	3.480	1.160	1.090	0.000	0.000	1.860	1.740	1.860	1.000	None
Cage		1.090	3.230	3.230	1.010	1.010	0.000	0.000	1.610	1.610	1.610	1.000	None
TXarm		1.160	3.200	3.200	1.000	1.000	0.000	0.000	1.600	1.600	1.600	1.000	None
MXarm		1.130	3.200	3.200	1.000	1.000	0.000	0.000	1.600	1.600	1.600	1.000	None
BXarm		1.160	3.200	3.200	1.000	1.000	0.000	0.000	1.600	1.600	1.600	1.000	None
Std Body		1.130	3.470	3.470	1.090	1.090	0.000	0.000	1.740	1.740	1.740	1.000	None
Mount		1.000	1.000	1.000	0.500	0.500	0.000	0.000	1.000	1.000	1.600	1.000	None

Angle Member Connectivity:

Member	Group	Section	Symmetry	Origin	End Ecc. Rest. Ratio	Ratio	Ratio	Bolt	# # Bolt # Shear	Connect	Short	Long	End	Bolt	Shear Tension Rest.

Label	Label	Label	Code	Joint	Joint Code	Code	RLX	RLY	RLZ	Type	Bolts	Holes	Planes	Leg	Edge Dist. (in)	Edge Dist. (in)	Dist. (in)	Spacing (in)	Path Length (in)	Path Length (in)	Coef.
3bP	Leg1a	Cage	X-Symmetry	1aS	3Y	1	4	1	1.5	1		0	0	0		0	0	0	0	0	0	0
3bX	Leg1a	Cage	X-Gen	1aX	3XY	1	4	1	1.5	1		0	0	0		0	0	0	0	0	0	0
3P	Leg1	Cage	X-Symmetry	1P	3P	1	4	1	1	1		0	0	0		0	0	0	0	0	0	0
3X	Leg1	Cage	X-Gen	1X	3X	1	4	1	1	1		0	0	0		0	0	0	0	0	0	0
3aP	Leg1	Cage	X-Symmetry	1Y	1aS	1	4	1	3	1	3/4 A394	0	3.62	1		0	0	0	0	0	0	0
3aX	Leg1	Cage	X-Gen	1XY	1aX	1	4	1	3	1	3/4 A394	0	3.62	1		0	0	0	0	0	0	0
4P	Leg1	Cage	X-Symmetry	3P	4P	1	4	1	1	1	3/4 A394	0	3.62	1		0	0	0	0	0	0	0
4X	Leg1	Cage	X-Gen	3X	4X	1	4	1	1	1	3/4 A394	0	3.62	1		0	0	0	0	0	0	0
4aP	Leg1b	Cage	X-Symmetry	3Y	3aS	1	4	1	3	1		0	0	0		0	0	0	0	0	0	0
4aX	Leg1b	Cage	X-Gen	3XY	3aX	1	4	1	3	1		0	0	0		0	0	0	0	0	0	0
4bP	Leg1c	Cage	X-Symmetry	3aS	4Y	1	4	1	1.5	1		0	0	0		0	0	0	0	0	0	0
4bX	Leg1c	Cage	X-Gen	3aX	4XY	1	4	1	1.5	1		0	0	0		0	0	0	0	0	0	0
5P	Leg1	Cage	XY-Symmetry	4P	6P	1	4	1	1	1	3/4 A394	12	3.11	1	Both	1.25	3.875	1.25	3	0	0	0
5X	Leg1	Cage	X-GenXY	4X	6X	1	4	1	1	1	3/4 A394	12	3.11	1	Both	1.25	3.875	1.25	3	0	0	0
5XY	Leg1	Cage	XY-GenXY	4XY	6XY	1	4	1	1	1	3/4 A394	12	3.11	1	Both	1.25	3.875	1.25	3	0	0	0
5Y	Leg1	Cage	Y-GenXY	4Y	6Y	1	4	1	1	1	3/4 A394	12	3.11	1	Both	1.25	3.875	1.25	3	0	0	0
6P	Leg2	Cage	XY-Symmetry	6P	7P	1	4	1	1	1	3/4 A394	12	3.63	1	Both	2.375	5.875	1.25	3	0	0	0
6X	Leg2	Cage	X-GenXY	6X	7X	1	4	1	1	1	3/4 A394	12	3.63	1	Both	2.375	5.875	1.25	3	0	0	0
6XY	Leg2	Cage	XY-GenXY	6XY	7XY	1	4	1	1	1	3/4 A394	12	3.63	1	Both	2.375	5.875	1.25	3	0	0	0
6Y	Leg2	Cage	Y-GenXY	6Y	7Y	1	4	1	1	1	3/4 A394	12	3.63	1	Both	2.375	5.875	1.25	3	0	0	0
7P	Leg2	Cage	XY-Symmetry	7P	9P	1	4	1	1	1	3/4 A394	0	3.6	1		0	0	0	0	0	0	0
7X	Leg2	Cage	X-GenXY	7X	9X	1	4	1	1	1	3/4 A394	0	3.6	1		0	0	0	0	0	0	0
7XY	Leg2	Cage	XY-GenXY	7XY	9XY	1	4	1	1	1	3/4 A394	0	3.6	1		0	0	0	0	0	0	0
7Y	Leg2	Cage	Y-GenXY	7Y	9Y	1	4	1	1	1	3/4 A394	0	3.6	1		0	0	0	0	0	0	0
8P	Leg2	Cage	XY-Symmetry	9P	10P	1	4	1	1	1	7/8 A394	16	3.68	1	Both	2.375	5.875	1.75	3	0	0	0
8X	Leg2	Cage	X-GenXY	9X	10X	1	4	1	1	1	7/8 A394	16	3.68	1	Both	2.375	5.875	1.75	3	0	0	0
8XY	Leg2	Cage	XY-GenXY	9XY	10XY	1	4	1	1	1	7/8 A394	16	3.68	1	Both	2.375	5.875	1.75	3	0	0	0
8Y	Leg2	Cage	Y-GenXY	9Y	10Y	1	4	1	1	1	7/8 A394	16	3.68	1	Both	2.375	5.875	1.75	3	0	0	0
9P	Leg3	Std Body	XY-Symmetry	10P	12P	1	4	1	1	1	7/8 A394	16	3.61	1	Both	2.25	5.125	1.75	3	0	0	0
9X	Leg3	Std Body	X-GenXY	10X	12X	1	4	1	1	1	7/8 A394	16	3.61	1	Both	2.25	5.125	1.75	3	0	0	0
9XY	Leg3	Std Body	XY-GenXY	10XY	12XY	1	4	1	1	1	7/8 A394	16	3.61	1	Both	2.25	5.125	1.75	3	0	0	0
9Y	Leg3	Std Body	Y-GenXY	10Y	12Y	1	4	1	1	1	7/8 A394	16	3.61	1	Both	2.25	5.125	1.75	3	0	0	0
10P	Leg3	Std Body	XY-Symmetry	12P	13P	1	4	1	1	1	7/8 A394	0	3.61	1		0	0	0	0	0	0	0
10X	Leg3	Std Body	X-GenXY	12X	13X	1	4	1	1	1	7/8 A394	0	3.61	1		0	0	0	0	0	0	0
10XY	Leg3	Std Body	XY-GenXY	12XY	13XY	1	4	1	1	1	7/8 A394	0	3.61	1		0	0	0	0	0	0	0
10Y	Leg3	Std Body	Y-GenXY	12Y	13Y	1	4	1	1	1	7/8 A394	0	3.61	1		0	0	0	0	0	0	0
11P	Leg3	Std Body	None	13P	Sprint1S	1	4	1.31	1.31	1.31	7/8 A394	22	3.61	1	Both	2.25	5.125	1.5	3	0	0	0
11YP	Leg3	Std Body	None	13Y	Sprint2S	1	4	1.31	1.31	1.31	7/8 A394	22	3.61	1	Both	2.25	5.125	1.5	3	0	0	0
11XYP	Leg3	Std Body	None	13XY	Sprint3S	1	4	1.31	1.31	1.31	7/8 A394	22	3.61	1	Both	2.25	5.125	1.5	3	0	0	0
11XP	Leg3	Std Body	None	13X	14X	1	4	1	1	1	7/8 A394	22	3.61	1	Both	2.25	5.125	1.5	3	0	0	0
11aP	Leg3	Std Body	None	Sprint1S	14P	1	4	4.23	4.23	4.23	7/8 A394	22	3.61	1	Both	2.25	5.125	1.5	3	0	0	0
11aXYP	Leg3	Std Body	None	Sprint2S	14Y	1	4	4.23	4.23	4.23	7/8 A394	22	3.61	1	Both	2.25	5.125	1.5	3	0	0	0
11aYP	Leg3	Std Body	None	Sprint3S	14XY	1	4	4.23	4.23	4.23	7/8 A394	22	3.61	1	Both	2.25	5.125	1.5	3	0	0	0
12P	Leg4	Std Body	XY-Symmetry	15P	14P	1	4	1	1	1	7/8 A394	22	3.61	1	Both	1.5	4.375	1.5	3	0	0	0
12X	Leg4	Std Body	X-GenXY	15X	14X	1	4	1	1	1	7/8 A394	22	3.61	1	Both	1.5	4.375	1.5	3	0	0	0
12XY	Leg4	Std Body	XY-GenXY	15XY	14XY	1	4	1	1	1	7/8 A394	22	3.61	1	Both	1.5	4.375	1.5	3	0	0	0
12Y	Leg4	Std Body	Y-GenXY	15Y	14Y	1	4	1	1	1	7/8 A394	22	3.61	1	Both	1.5	4.375	1.5	3	0	0	0
13P	Leg4	Std Body	XY-Symmetry	16P	15P	1	4	1	1	1	7/8 A394	26	3.61	1	Both	1.5	4.375	1.5	3	0	0	0
13X	Leg4	Std Body	X-GenXY	16X	15X	1	4	1	1	1	7/8 A394	26	3.61	1	Both	1.5	4.375	1.5	3	0	0	0
13XY	Leg4	Std Body	XY-GenXY	16XY	15XY	1	4	1	1	1	7/8 A394	26	3.61	1	Both	1.5	4.375	1.5	3	0	0	0
13Y	Leg4	Std Body	Y-GenXY	16Y	15Y	1	4	1	1	1	7/8 A394	26	3.61	1	Both	1.5	4.375	1.5	3	0	0	0
14P	Leg5	Std Body	XY-Symmetry	17P	16P	1	4	1	1	1	7/8 A394	26	3.61	1	Both	2.25	5.125	1.5	3	0	0	0
14X	Leg5	Std Body	X-GenXY	17X	16X	1	4	1	1	1	7/8 A394	26	3.61	1	Both	2.25	5.125	1.5	3	0	0	0
14XY	Leg5	Std Body	XY-GenXY	17XY	16XY	1	4	1	1	1	7/8 A394	26	3.61	1	Both	2.25	5.125	1.5	3	0	0	0
14Y	Leg5	Std Body	Y-GenXY	17Y	16Y	1	4	1	1	1	7/8 A394	26	3.61	1	Both	2.25	5.125	1.5	3	0	0	0
15P	Leg5	Std Body	XY-Symmetry	18P	17P	1	4	1	1	1	7/8 A394	28	3.59	1	Both	2.375	5.125	1.5	3	0	0	0
15X	Leg5	Std Body	X-GenXY	18X	17X	1	4	1	1	1	7/8 A394	28	3.59	1	Both	2.375	5.125	1.5	3	0	0	0
15XY	Leg5	Std Body	XY-GenXY	18XY	17XY	1	4	1	1	1	7/8 A394	28	3.59	1	Both	2.375	5.125	1.5	3	0	0	0
15Y	Leg5	Std Body	Y-GenXY	18Y	17Y	1	4	1	1	1	7/8 A394	28	3.59	1	Both	2.375	5.125	1.5	3	0	0	0
16P	Leg6	Std Body	XY-Symmetry	19P	18P	1	4	0.5	0.5	0.5	7/8 A394	30	3.59	1	Both	1.5	4.25	1.5	3	0	0	0
16X	Leg6	Std Body	X-GenXY	19X	18X	1	4	0.5	0.5	0.5	7/8 A394	30	3.59	1	Both	1.5	4.25	1.5	3	0	0	0
16XY	Leg6	Std Body	XY-GenXY	19XY	18XY	1	4	0.5	0.5	0.5	7/8 A394	30	3.59	1	Both	1.5	4.25	1.5	3	0	0	0
16Y	Leg6	Std Body	Y-GenXY	19Y	18Y	1	4	0.5	0.5	0.5	7/8 A394	30	3.59	1	Both	1.5	4.25	1.5	3	0	0	0
17P	Leg7	Std Body	XY-Symmetry	20P	19P	1	4	0.5	0.5	0.5	7/8 A394	30	3.59	1	Both	2.375	5.125	1.5	3	0	0	0
17X	Leg7	Std Body	X-GenXY	20X	19X	1	4	0.5	0.5	0.5	7/8 A394	30	3.59	1	Both	2.375	5.125	1.5	3	0	0	0
17XY	Leg7	Std Body	XY-GenXY	20XY	19XY	1	4	0.5	0.5	0.5	7/8 A394	30	3.59	1	Both	2.375	5.125	1.5	3	0	0	0
17Y	Leg7	Std Body	Y-GenXY	20Y	19Y	1	4	0.5	0.5	0.5	7/8 A394	30	3.59	1	Both	2.375	5.125	1.5	3	0	0	0
18P	Leg7	Std Body	XY-Symmetry	21P	20P	1	4	0.5	0.5	0.5	7/8 A394	32	3.59	1	Both	1.4375	4.1875	1.5	3	0	0	0
18X	Leg7	Std Body	X-GenXY	21X	20X	1	4	0.5	0.5	0.5	7/8 A394	32	3.59	1	Both	1.4375	4.1875	1.5	3	0	0	0
18XY	Leg7	Std Body	XY-GenXY	21XY	20XY	1	4	0.5	0.5	0.5	7/8 A394	32	3.59	1	Both	1.4375	4.1875	1.5	3	0	0	0
18Y	Leg7	Std Body	Y-GenXY	21Y	20Y	1	4	0.5	0.5	0.5	7/8 A394	32	3.59	1	Both	1.4375	4.1875	1.5	3	0	0	0
19P	Leg8	Std Body	XY-Symmetry	22P	21P	1	4	0.333	0.333	0.333	7/8 A394	34	3.57	1	Both	2.5	5.125	1.5	3	0	0	0
19X	Leg8	Std Body	X-GenXY	22X	21X	1	4	0.333	0.333	0.333	7/8 A394	34	3.57	1	Both	2.5	5.125	1.5	3	0	0	0
19XY	Leg8	Std Body	XY-GenXY	22XY	21XY	1	4	0.333	0.333	0.333	7/8 A394	34	3.57	1	Both	2.5	5.125	1.5	3	0	0	0
19Y	Leg8	Std Body	Y-GenXY	22Y	21Y	1	4	0.333	0.333	0.333	7/8 A394	34	3.57	1	Both	2.5	5.125	1.5	3	0	0	0
20P	Leg8	Std Body	XY-Symmetry	25P	22P	1	4	0.5	0.5	0.5	7/8 A394	34	3.57	1	Both	1.5	4.125	1.5	3	0	0	0
20X	Leg8	Std Body	X-GenXY	25X	22X	1	4	0.5	0.5	0.5	7/8 A394	34	3.57	1	Both	1.5	4.125	1.5	3	0	0	0
20XY	Leg8	Std Body	XY-GenXY	25XY	22XY	1	4	0.5	0.5	0.5	7/8 A394	34	3.57	1	Both	1.5	4.125	1.5	3	0	0	0
20Y	Leg8	Std Body	Y-GenXY	25Y	22Y	1	4	0.5	0.5	0.5	7/8 A394	34	3.57	1	Both	1.5	4.125	1.5	3	0	0	0
21P	Leg8	Std Body	XY-Symmetry	26P	25P	1	4	0.5	0.5	0.5	7/8 A394	34	3.63	1	Both	2	5	1.5	3	0	0	0
21X	Leg8	Std Body	X-GenXY	26X	25X	1	4	0.5	0.5	0.5	7/8 A394	34	3.63	1	Both	2	5	1.5	3	0	0	0
21XY	Leg8	Std Body	XY-GenXY	26XY	25XY	1	4	0.5	0.5	0.5	7/8 A394	34	3.63	1	Both	2	5	1.5	3	0	0	0
21Y	Leg8	Std Body	Y-GenXY	26Y	25Y	1	4	0.5	0.5	0.5	7/8 A394	34	3.63	1	Both	2	5	1.5	3	0	0	0
22P	XBR1	Cage	XY-Symmetry	1P	3X	2	5	0.5	0.75	0.5	3/4 A394	2	1	1	Long only	1.125	0	1.25	2.6875	0	0	0
22X	XBR1	Cage	X-GenXY	1X	3P	2	5	0.5	0.75	0.5	3/4 A394	2	1	1	Long only	1.125	0	1.25	2.6875	0	0	0
22XY	XBR1	Cage	XY-GenXY	1XY	3Y	2	5	0.5	0.75	0.5	3/4 A394	2	1	1	Long only	1.125	0	1.25	2.6875	0	0	0
22Y	XBR1	Cage	Y-GenXY	1Y	3XY	2	5	0.5	0.75	0.5	3/4 A394	2	1	1	Long only	1.125	0	1.25	2.6875	0	0	0
23P	XBR1	Cage	XY-Symmetry	1X	3XY	2	5	0.5	0.75	0.5	3/4 A394	2	1	1	Long only	1.125	0	1.25	2.6875	0	0	0
23X	XBR1	Cage	X-GenXY	1P	3Y	2	5	0.5	0.75	0.5	3/4 A394	2	1	1	Long only	1.125	0	1.25	2.6875	0	0	0
23XY	XBR1	Cage	XY-GenXY	1Y	3P	2	5	0.5	0.75	0.5	3/4 A394	2	1	1	Long only	1.125	0	1.25	2.6875	0	0	0
23Y	XBR1	Cage	Y-GenXY	1XY	3X	2	5	0.5	0.75	0.5	3/4 A394	2	1	1	Long only	1.125	0	1.25	2.6875	0	0	0

24P	XBR1	Cage	XY-Symmetry	3P	4X	2	5	0.5	0.75	0.5	3/4	A394	2	1	1	Long only	1.125	0	1.25	2.6875	0	0	0
24X	XBR1	Cage	X-GenXY	3X	4P	2	5	0.5	0.75	0.5	3/4	A394	2	1	1	Long only	1.125	0	1.25	2.6875	0	0	0
24XY	XBR1	Cage	XY-GenXY	3XY	4Y	2	5	0.5	0.75	0.5	3/4	A394	2	1	1	Long only	1.125	0	1.25	2.6875	0	0	0
24Y	XBR1	Cage	Y-GenXY	3Y	4XY	2	5	0.5	0.75	0.5	3/4	A394	2	1	1	Long only	1.125	0	1.25	2.6875	0	0	0
25P	XBR1	Cage	XY-Symmetry	3X	4XY	2	5	0.5	0.75	0.5	3/4	A394	2	1	1	Long only	1.125	0	1.25	2.6875	0	0	0
25X	XBR1	Cage	X-GenXY	3P	4Y	2	5	0.5	0.75	0.5	3/4	A394	2	1	1	Long only	1.125	0	1.25	2.6875	0	0	0
25XY	XBR1	Cage	XY-GenXY	3Y	4P	2	5	0.5	0.75	0.5	3/4	A394	2	1	1	Long only	1.125	0	1.25	2.6875	0	0	0
25Y	XBR1	Cage	Y-GenXY	3XY	4X	2	5	0.5	0.75	0.5	3/4	A394	2	1	1	Long only	1.125	0	1.25	2.6875	0	0	0
26P	XBR2	Cage	XY-Symmetry	4P	6X	2	5	0.5	0.75	0.5	3/4	A394	3	1	1	Long only	1.5	0	1.25	2.5	0	0	0
26X	XBR2	Cage	X-GenXY	4X	6P	2	5	0.5	0.75	0.5	3/4	A394	3	1	1	Long only	1.5	0	1.25	2.5	0	0	0
26XY	XBR2	Cage	XY-GenXY	4XY	6Y	2	5	0.5	0.75	0.5	3/4	A394	3	1	1	Long only	1.5	0	1.25	2.5	0	0	0
26Y	XBR2	Cage	Y-GenXY	4Y	6XY	2	5	0.5	0.75	0.5	3/4	A394	3	1	1	Long only	1.5	0	1.25	2.5	0	0	0
27P	XBR2	Cage	XY-Symmetry	4X	6XY	2	5	0.5	0.75	0.5	3/4	A394	3	1	1	Long only	1.5	0	1.25	2.5	0	0	0
27X	XBR2	Cage	X-GenXY	4P	6Y	2	5	0.5	0.75	0.5	3/4	A394	3	1	1	Long only	1.5	0	1.25	2.5	0	0	0
27XY	XBR2	Cage	XY-GenXY	4Y	6P	2	5	0.5	0.75	0.5	3/4	A394	3	1	1	Long only	1.5	0	1.25	2.5	0	0	0
27Y	XBR2	Cage	Y-GenXY	4XY	6X	2	5	0.5	0.75	0.5	3/4	A394	3	1	1	Long only	1.5	0	1.25	2.5	0	0	0
28P	XBR2	Cage	XY-Symmetry	6P	7X	2	5	0.5	0.75	0.5	3/4	A394	3	1	1	Long only	1.5	0	1.25	2.5	0	0	0
28X	XBR2	Cage	X-GenXY	6X	7P	2	5	0.5	0.75	0.5	3/4	A394	3	1	1	Long only	1.5	0	1.25	2.5	0	0	0
28XY	XBR2	Cage	XY-GenXY	6XY	7Y	2	5	0.5	0.75	0.5	3/4	A394	3	1	1	Long only	1.5	0	1.25	2.5	0	0	0
28Y	XBR2	Cage	Y-GenXY	6Y	7XY	2	5	0.5	0.75	0.5	3/4	A394	3	1	1	Long only	1.5	0	1.25	2.5	0	0	0
29P	XBR2	Cage	XY-Symmetry	6X	7XY	2	5	0.5	0.75	0.5	3/4	A394	3	1	1	Long only	1.5	0	1.25	2.5	0	0	0
29X	XBR2	Cage	X-GenXY	6P	7Y	2	5	0.5	0.75	0.5	3/4	A394	3	1	1	Long only	1.5	0	1.25	2.5	0	0	0
29XY	XBR2	Cage	XY-GenXY	6Y	7P	2	5	0.5	0.75	0.5	3/4	A394	3	1	1	Long only	1.5	0	1.25	2.5	0	0	0
29Y	XBR2	Cage	Y-GenXY	6XY	7X	2	5	0.5	0.75	0.5	3/4	A394	3	1	1	Long only	1.5	0	1.25	2.5	0	0	0
30P	XBR3	Cage	XY-Symmetry	7P	9X	2	5	0.75	0.5	0.5	3/4	A394	4	1	1	Long only	1.5	0	1.25	2.25	0	0	0
30X	XBR3	Cage	X-GenXY	7X	9P	2	5	0.75	0.5	0.5	3/4	A394	4	1	1	Long only	1.5	0	1.25	2.25	0	0	0
30XY	XBR3	Cage	XY-GenXY	7XY	9Y	2	5	0.75	0.5	0.5	3/4	A394	4	1	1	Long only	1.5	0	1.25	2.25	0	0	0
30Y	XBR3	Cage	Y-GenXY	7Y	9XY	2	5	0.75	0.5	0.5	3/4	A394	4	1	1	Long only	1.5	0	1.25	2.25	0	0	0
31P	XBR3	Cage	XY-Symmetry	7X	9XY	2	5	0.75	0.5	0.5	3/4	A394	4	1	1	Long only	1.5	0	1.25	2.25	0	0	0
31X	XBR3	Cage	X-GenXY	7P	9Y	2	5	0.75	0.5	0.5	3/4	A394	4	1	1	Long only	1.5	0	1.25	2.25	0	0	0
31XY	XBR3	Cage	XY-GenXY	7Y	9P	2	5	0.75	0.5	0.5	3/4	A394	4	1	1	Long only	1.5	0	1.25	2.25	0	0	0
31Y	XBR3	Cage	Y-GenXY	7XY	9X	2	5	0.75	0.5	0.5	3/4	A394	4	1	1	Long only	1.5	0	1.25	2.25	0	0	0
32P	XBR3	Cage	XY-Symmetry	9P	10X	2	5	0.75	0.5	0.5	3/4	A394	4	1	1	Long only	1.5	0	1.25	2.25	0	0	0
32X	XBR3	Cage	X-GenXY	9X	10P	2	5	0.75	0.5	0.5	3/4	A394	4	1	1	Long only	1.5	0	1.25	2.25	0	0	0
32XY	XBR3	Cage	XY-GenXY	9XY	10Y	2	5	0.75	0.5	0.5	3/4	A394	4	1	1	Long only	1.5	0	1.25	2.25	0	0	0
32Y	XBR3	Cage	Y-GenXY	9Y	10XY	2	5	0.75	0.5	0.5	3/4	A394	4	1	1	Long only	1.5	0	1.25	2.25	0	0	0
33P	XBR3	Cage	XY-Symmetry	9X	10XY	2	5	0.75	0.5	0.5	3/4	A394	4	1	1	Long only	1.5	0	1.25	2.25	0	0	0
33X	XBR3	Cage	X-GenXY	9P	10Y	2	5	0.75	0.5	0.5	3/4	A394	4	1	1	Long only	1.5	0	1.25	2.25	0	0	0
33XY	XBR3	Cage	XY-GenXY	9Y	10P	2	5	0.75	0.5	0.5	3/4	A394	4	1	1	Long only	1.5	0	1.25	2.25	0	0	0
33Y	XBR3	Cage	Y-GenXY	9XY	10X	2	5	0.75	0.5	0.5	3/4	A394	4	1	1	Long only	1.5	0	1.25	2.25	0	0	0
34P	XBR4	Std Body	XY-Symmetry	10P	12X	2	5	0.767	0.535	0.535	3/4	A394	4	1	1	Short only	1.125	0	1.25	2.25	0	0	0
34X	XBR4	Std Body	X-GenXY	10X	12P	2	5	0.767	0.535	0.535	3/4	A394	4	1	1	Short only	1.125	0	1.25	2.25	0	0	0
34XY	XBR4	Std Body	XY-GenXY	10XY	12Y	2	5	0.767	0.535	0.535	3/4	A394	4	1	1	Short only	1.125	0	1.25	2.25	0	0	0
34Y	XBR4	Std Body	Y-GenXY	10Y	12XY	2	5	0.767	0.535	0.535	3/4	A394	4	1	1	Short only	1.125	0	1.25	2.25	0	0	0
35P	XBR4	Std Body	XY-Symmetry	10X	12XY	2	5	0.767	0.535	0.535	3/4	A394	4	1	1	Short only	1.125	0	1.25	2.25	0	0	0
35X	XBR4	Std Body	X-GenXY	10P	12Y	2	5	0.767	0.535	0.535	3/4	A394	4	1	1	Short only	1.125	0	1.25	2.25	0	0	0
35XY	XBR4	Std Body	XY-GenXY	10Y	12P	2	5	0.767	0.535	0.535	3/4	A394	4	1	1	Short only	1.125	0	1.25	2.25	0	0	0
35Y	XBR4	Std Body	Y-GenXY	10XY	12X	2	5	0.767	0.535	0.535	3/4	A394	4	1	1	Short only	1.125	0	1.25	2.25	0	0	0
36P	XBR4	Std Body	XY-Symmetry	12P	13X	2	5	0.768	0.536	0.536	3/4	A394	4	1	1	Short only	1.125	0	1.25	2.25	0	0	0
36X	XBR4	Std Body	X-GenXY	12X	13P	2	5	0.768	0.536	0.536	3/4	A394	4	1	1	Short only	1.125	0	1.25	2.25	0	0	0
36XY	XBR4	Std Body	XY-GenXY	12XY	13Y	2	5	0.768	0.536	0.536	3/4	A394	4	1	1	Short only	1.125	0	1.25	2.25	0	0	0
36Y	XBR4	Std Body	Y-GenXY	12Y	13XY	2	5	0.768	0.536	0.536	3/4	A394	4	1	1	Short only	1.125	0	1.25	2.25	0	0	0
37P	XBR4	Std Body	XY-Symmetry	12X	13XY	2	5	0.768	0.536	0.536	3/4	A394	4	1	1	Short only	1.125	0	1.25	2.25	0	0	0
37X	XBR4	Std Body	X-GenXY	12P	13Y	2	5	0.768	0.536	0.536	3/4	A394	4	1	1	Short only	1.125	0	1.25	2.25	0	0	0
37XY	XBR4	Std Body	XY-GenXY	12Y	13P	2	5	0.768	0.536	0.536	3/4	A394	4	1	1	Short only	1.125	0	1.25	2.25	0	0	0
37Y	XBR4	Std Body	Y-GenXY	12XY	13X	2	5	0.768	0.536	0.536	3/4	A394	4	1	1	Short only	1.125	0	1.25	2.25	0	0	0
38P	XBR5	Std Body	XY-Symmetry	13P	14X	2	5	0.771	0.542	0.542	3/4	A394	4	1	1	Short only	1.5	0	1.25	2.25	0	0	0
38X	XBR5	Std Body	X-GenXY	13X	14P	2	5	0.771	0.542	0.542	3/4	A394	4	1	1	Short only	1.5	0	1.25	2.25	0	0	0
38XY	XBR5	Std Body	XY-GenXY	13XY	14Y	2	5	0.771	0.542	0.542	3/4	A394	4	1	1	Short only	1.5	0	1.25	2.25	0	0	0
38Y	XBR5	Std Body	Y-GenXY	13Y	14XY	2	5	0.771	0.542	0.542	3/4	A394	4	1	1	Short only	1.5	0	1.25	2.25	0	0	0
39P	XBR5	Std Body	XY-Symmetry	13X	14XY	2	5	0.771	0.542	0.542	3/4	A394	4	1	1	Short only	1.5	0	1.25	2.25	0	0	0
39X	XBR5	Std Body	X-GenXY	13P	14Y	2	5	0.771	0.542	0.542	3/4	A394	4	1	1	Short only	1.5	0	1.25	2.25	0	0	0
39XY	XBR5	Std Body	XY-GenXY	13Y	14P	2	5	0.771	0.542	0.542	3/4	A394	4	1	1	Short only	1.5	0	1.25	2.25	0	0	0
39Y	XBR5	Std Body	Y-GenXY	13XY	14X	2	5	0.771	0.542	0.542	3/4	A394	4	1	1	Short only	1.5	0	1.25	2.25	0	0	0
40P	XBR5	Std Body	XY-Symmetry	14P	15X	2	5	0.766	0.533	0.533	3/4	A394	3	1	1	Short only	1.5	0	1.25	2.5	0	0	0
40X	XBR5	Std Body	X-GenXY	14X	15P	2	5	0.766	0.533	0.533	3/4	A394	3	1	1	Short only	1.5	0	1.25	2.5	0	0	0
40XY	XBR5	Std Body	XY-GenXY	14XY	15Y	2	5	0.766	0.533	0.533	3/4	A394	3	1	1	Short only	1.5	0	1.25	2.5	0	0	0
40Y	XBR5	Std Body	Y-GenXY	14Y	15XY	2	5	0.766	0.533	0.533	3/4	A394	3	1	1	Short only	1.5	0	1.25	2.5	0	0	0
41P	XBR5	Std Body	XY-Symmetry	14X	15XY	2	5	0.766	0.533	0.533	3/4	A394	3	1	1	Short only	1.5	0	1.25	2.5	0	0	0
41X	XBR5	Std Body	X-GenXY	14P	15Y	2	5	0.766	0.533	0.533	3/4	A394	3	1	1	Short only	1.5	0	1.25	2.5	0	0	0
41XY	XBR5	Std Body	XY-GenXY	14Y	15P	2	5	0.766	0.533	0.533	3/4	A394	3	1	1	Short only	1.5	0	1.25	2.5	0	0	0
41Y	XBR5	Std Body	Y-GenXY	14XY	15X	2	5	0.766	0.533	0.533	3/4	A394	3	1	1	Short only	1.5	0	1.25	2.5	0	0	0
42P	XBR5	Std Body	XY-Symmetry	15P	16X	2	5	0.763	0.526	0.526	3/4	A394	3	1	1	Short only	1.5	0	1.25	2.5	0	0	0
42X	XBR5	Std Body	X-GenXY	15X	16P	2	5	0.763	0.526	0.526	3/4	A394	3	1	1	Short only	1.5	0	1.25	2.5	0	0	0
42XY	XBR5	Std Body	XY-GenXY	15XY	16Y	2	5	0.763	0.526	0.526	3/4	A394	3	1	1	Short only	1.5	0	1.25	2.5	0	0	0
42Y	XBR5	Std Body	Y-GenXY	15Y	16XY	2	5	0.763	0.526	0.526	3/4	A394	3	1	1	Short only	1.5	0	1.25	2.5	0	0	0
43P	XBR5	Std Body	XY-Symmetry	15X	16XY	2	5	0.763	0.526	0.526	3/4	A394	3	1	1	Short only	1.5	0	1.25	2.5	0	0	0
43X	XBR5	Std Body	X-GenXY	15P	16Y	2	5	0.763	0.526	0.526	3/4	A394	3	1	1	Short only	1.5	0	1.25	2.5	0	0	0
43XY	XBR5	Std Body	XY-GenXY	15Y	16P	2	5	0.763	0.526	0.526	3/4	A394	3	1	1	Short only	1.5	0	1.25	2.5	0	0	0
43Y	XBR5	Std Body	Y-GenXY	15XY	16X	2	5	0.763	0.526	0.526	3/4	A394	3	1	1	Short only	1.5	0	1.25	2.5	0	0	0
44P	XBR5	Std Body	XY-Symmetry	16P	17X	2	5	0.763	0.525	0.525	3/4	A394	3	1	1	Short only	1.5	0	1.25	2.5	0	0	0
44X	XBR5	Std Body	X-GenXY	16X	17P	2	5	0.763	0.525	0.525	3/4	A394	3	1	1	Short only	1.5	0	1.25	2.5	0	0	0
44XY	XBR5	Std Body	XY-GenXY	16XY	17Y	2	5	0.763	0.525	0.525	3/4	A394	3	1	1	Short only	1.5	0	1.25	2.5	0	0	0
44Y	XBR5	Std Body	Y-GenXY	16Y	17XY	2	5	0.763	0.525	0.525	3/4	A394	3	1	1	Short only	1.5	0	1.25	2.5	0	0	0
45P	XBR5	Std Body	XY-Symmetry	16X	17XY	2	5	0.763	0.525	0.525	3/4	A394	3	1	1	Short only	1.5	0	1.25	2.5	0	0	0
45X	XBR5	Std Body	X-GenXY	16P	17Y	2	5	0.763	0.525	0.525	3/4	A394	3	1	1	Short only	1.5	0	1.25	2.5	0	0	0
45XY	XBR5	Std Body	XY-GenXY	16Y	17P	2	5	0.763	0.525	0.525	3/4	A394	3	1	1	Short only	1.5	0	1.25	2.5	0	0	0
45Y	XBR5	Std Body	Y-GenXY	16XY	17X	2	5	0.763	0.525	0.525	3/4	A394	3	1	1	Short only	1.5	0	1.25	2.5	0	0	0
46P	XBR5	Std Body	XY-Symmetry	17P	18X	2	5	0.763	0.527	0.527	3/4	A394	3	1	1	Short only	1.5	0	1.25	2.5	0	0	0
46X	XBR5	Std Body	X-GenXY	17X	18P	2	5	0.763	0.527	0.527	3/4	A394	3	1	1	Short only	1.5	0	1.25	2.5	0	0	0
46XY	XBR5	Std Body	XY-GenXY	17XY	18Y	2	5	0.763	0.527	0.527	3/4	A394	3	1	1	Short only	1.5	0	1.25	2.5	0	0	0
46Y	XBR5	Std Body	Y-GenXY	17Y	18XY	2	5	0.763	0.527	0.527	3/4	A394	3	1	1	Short only	1.5	0	1.25	2.5	0	0	0
47P	XBR5	Std Body	XY-Symmetry	17X	18XY	2	5	0.763	0.527	0.527	3/4	A394	3	1	1	Short only	1.5	0	1.25	2.5	0	0	0
47X	XBR5	Std Body	X-GenXY	17P	18Y	2	5	0.763	0.527	0.527	3/4	A394	3	1	1	Short only	1.5	0	1.25	2.5	0	0	0
47XY	XBR5	Std Body	XY-GenXY	17Y	18P	2	5	0.763	0.527	0.527	3/4	A394	3	1	1	Short only	1.5	0	1.25	2.5	0	0	0
47Y	XBR5	Std Body	Y-GenXY	17XY	18X	2	5	0.763	0.527	0.527	3/4	A394	3	1	1	Short only	1.5	0	1.25	2.5	0	0	0

48P	XBR6 Std Body	XY-Symmetry	18P	19X	2	5	0.764	0.529	0.529	3/4	A394	4	1	1	Long only	1.125	0	1.25	2.25	0	0	0
48X	XBR6 Std Body	X-GenXY	18X	19P	2	5	0.764	0.529	0.529	3/4	A394	4	1	1	Long only	1.125	0	1.25	2.25	0	0	0
48XY	XBR6 Std Body	XY-GenXY	18XY	19Y	2	5	0.764	0.529	0.529	3/4	A394	4	1	1	Long only	1.125	0	1.25	2.25	0	0	0
48Y	XBR6 Std Body	Y-GenXY	18Y	19XY	2	5	0.764	0.529	0.529	3/4	A394	4	1	1	Long only	1.125	0	1.25	2.25	0	0	0
49P	XBR6 Std Body	XY-Symmetry	18X	19XY	2	5	0.764	0.529	0.529	3/4	A394	4	1	1	Long only	1.125	0	1.25	2.25	0	0	0
49X	XBR6 Std Body	X-GenXY	18P	19Y	2	5	0.764	0.529	0.529	3/4	A394	4	1	1	Long only	1.125	0	1.25	2.25	0	0	0
49XY	XBR6 Std Body	XY-GenXY	18Y	19P	2	5	0.764	0.529	0.529	3/4	A394	4	1	1	Long only	1.125	0	1.25	2.25	0	0	0
49Y	XBR6 Std Body	Y-GenXY	18XY	19X	2	5	0.764	0.529	0.529	3/4	A394	4	1	1	Long only	1.125	0	1.25	2.25	0	0	0
50P	XBR7 Std Body	XY-Symmetry	19P	20X	2	5	0.522	0.761	0.522	3/4	A394	4	1	1	Long only	1.125	0	1.25	2.25	0	0	0
50X	XBR7 Std Body	X-GenXY	19X	20P	2	5	0.522	0.761	0.522	3/4	A394	4	1	1	Long only	1.125	0	1.25	2.25	0	0	0
50XY	XBR7 Std Body	XY-GenXY	19XY	20Y	2	5	0.522	0.761	0.522	3/4	A394	4	1	1	Long only	1.125	0	1.25	2.25	0	0	0
50Y	XBR7 Std Body	Y-GenXY	19Y	20XY	2	5	0.522	0.761	0.522	3/4	A394	4	1	1	Long only	1.125	0	1.25	2.25	0	0	0
51P	XBR7 Std Body	XY-Symmetry	19X	20XY	2	5	0.522	0.761	0.522	3/4	A394	4	1	1	Long only	1.125	0	1.25	2.25	0	0	0
51X	XBR7 Std Body	X-GenXY	19P	20Y	2	5	0.522	0.761	0.522	3/4	A394	4	1	1	Long only	1.125	0	1.25	2.25	0	0	0
51XY	XBR7 Std Body	XY-GenXY	19Y	20P	2	5	0.522	0.761	0.522	3/4	A394	4	1	1	Long only	1.125	0	1.25	2.25	0	0	0
51Y	XBR7 Std Body	Y-GenXY	19XY	20X	2	5	0.522	0.761	0.522	3/4	A394	4	1	1	Long only	1.125	0	1.25	2.25	0	0	0
52P	XBR7 Std Body	XY-Symmetry	20P	21X	2	5	0.517	0.759	0.517	3/4	A394	3	1	1	Long only	1.125	0	1.25	2.5	0	0	0
52X	XBR7 Std Body	X-GenXY	20X	21P	2	5	0.517	0.759	0.517	3/4	A394	3	1	1	Long only	1.125	0	1.25	2.5	0	0	0
52XY	XBR7 Std Body	XY-GenXY	20XY	21Y	2	5	0.517	0.759	0.517	3/4	A394	3	1	1	Long only	1.125	0	1.25	2.5	0	0	0
52Y	XBR7 Std Body	Y-GenXY	20Y	21XY	2	5	0.517	0.759	0.517	3/4	A394	3	1	1	Long only	1.125	0	1.25	2.5	0	0	0
53P	XBR7 Std Body	XY-Symmetry	20X	21XY	2	5	0.517	0.759	0.517	3/4	A394	3	1	1	Long only	1.125	0	1.25	2.5	0	0	0
53X	XBR7 Std Body	X-GenXY	20P	21Y	2	5	0.517	0.759	0.517	3/4	A394	3	1	1	Long only	1.125	0	1.25	2.5	0	0	0
53XY	XBR7 Std Body	XY-GenXY	20Y	21P	2	5	0.517	0.759	0.517	3/4	A394	3	1	1	Long only	1.125	0	1.25	2.5	0	0	0
53Y	XBR7 Std Body	Y-GenXY	20XY	21X	2	5	0.517	0.759	0.517	3/4	A394	3	1	1	Long only	1.125	0	1.25	2.5	0	0	0
54P	XBR7 Std Body	XY-Symmetry	21P	22X	2	5	0.466	0.767	0.466	3/4	A394	4	1	1	Long only	1.125	0	1.25	2.25	0	0	0
54X	XBR7 Std Body	X-GenXY	21X	22P	2	5	0.466	0.767	0.466	3/4	A394	4	1	1	Long only	1.125	0	1.25	2.25	0	0	0
54XY	XBR7 Std Body	XY-GenXY	21XY	22Y	2	5	0.466	0.767	0.466	3/4	A394	4	1	1	Long only	1.125	0	1.25	2.25	0	0	0
54Y	XBR7 Std Body	Y-GenXY	21Y	22XY	2	5	0.466	0.767	0.466	3/4	A394	4	1	1	Long only	1.125	0	1.25	2.25	0	0	0
55P	XBR7 Std Body	XY-Symmetry	21X	22XY	2	5	0.466	0.767	0.466	3/4	A394	4	1	1	Long only	1.125	0	1.25	2.25	0	0	0
55X	XBR7 Std Body	X-GenXY	21P	22Y	2	5	0.466	0.767	0.466	3/4	A394	4	1	1	Long only	1.125	0	1.25	2.25	0	0	0
55XY	XBR7 Std Body	XY-GenXY	21Y	22P	2	5	0.466	0.767	0.466	3/4	A394	4	1	1	Long only	1.125	0	1.25	2.25	0	0	0
55Y	XBR7 Std Body	Y-GenXY	21XY	22X	2	5	0.466	0.767	0.466	3/4	A394	4	1	1	Long only	1.125	0	1.25	2.25	0	0	0
56P	XBR8r Std Body	XY-Symmetry	22P	24P	2	5	0.5	0.5	0.5	3/4	A394	4	1	1	Long only	1.125	0	1.25	2.25	0	0	0
56X	XBR8r Std Body	X-GenXY	22X	24P	2	5	0.5	0.5	0.5	3/4	A394	4	1	1	Long only	1.125	0	1.25	2.25	0	0	0
56XY	XBR8r Std Body	XY-GenXY	22XY	24Y	2	5	0.5	0.5	0.5	3/4	A394	4	1	1	Long only	1.125	0	1.25	2.25	0	0	0
56Y	XBR8r Std Body	Y-GenXY	22Y	24Y	2	5	0.5	0.5	0.5	3/4	A394	4	1	1	Long only	1.125	0	1.25	2.25	0	0	0
57P	XBR8r Std Body	XY-Symmetry	22X	23X	2	5	0.5	0.5	0.5	3/4	A394	4	1	1	Long only	1.125	0	1.25	2.25	0	0	0
57X	XBR8r Std Body	X-GenXY	22P	23P	2	5	0.5	0.5	0.5	3/4	A394	4	1	1	Long only	1.125	0	1.25	2.25	0	0	0
57XY	XBR8r Std Body	XY-GenXY	22Y	23P	2	5	0.5	0.5	0.5	3/4	A394	4	1	1	Long only	1.125	0	1.25	2.25	0	0	0
57Y	XBR8r Std Body	Y-GenXY	22XY	23X	2	5	0.5	0.5	0.5	3/4	A394	4	1	1	Long only	1.125	0	1.25	2.25	0	0	0
58P	XBR8r Std Body	XY-Symmetry	24P	26P	2	5	0.5	0.5	0.5	3/4	A394	4	1	1	Long only	1.125	0	1.25	2.25	0	0	0
58X	XBR8r Std Body	X-GenXY	24P	26X	2	5	0.5	0.5	0.5	3/4	A394	4	1	1	Long only	1.125	0	1.25	2.25	0	0	0
58XY	XBR8r Std Body	XY-GenXY	24Y	26XY	2	5	0.5	0.5	0.5	3/4	A394	4	1	1	Long only	1.125	0	1.25	2.25	0	0	0
58Y	XBR8r Std Body	Y-GenXY	24Y	26Y	2	5	0.5	0.5	0.5	3/4	A394	4	1	1	Long only	1.125	0	1.25	2.25	0	0	0
59P	XBR8r Std Body	XY-Symmetry	23X	26X	2	5	0.5	0.5	0.5	3/4	A394	4	1	1	Long only	1.125	0	1.25	2.25	0	0	0
59X	XBR8r Std Body	X-GenXY	23P	26P	2	5	0.5	0.5	0.5	3/4	A394	4	1	1	Long only	1.125	0	1.25	2.25	0	0	0
59XY	XBR8r Std Body	XY-GenXY	23P	26Y	2	5	0.5	0.5	0.5	3/4	A394	4	1	1	Long only	1.125	0	1.25	2.25	0	0	0
59Y	XBR8r Std Body	Y-GenXY	23X	26XY	2	5	0.5	0.5	0.5	3/4	A394	4	1	1	Long only	1.125	0	1.25	2.25	0	0	0
60P	Br2 Cage	X-Symmetry	1X	1Y	3	5	0.5	0.75	0.5	3/4	A394	2	1	1	Long only	1.125	0	1.25	3.125	0	0	0
60X	Br2 Cage	X-Gen	1P	1XY	3	5	0.5	0.75	0.5	3/4	A394	2	1	1	Long only	1.125	0	1.25	3.125	0	0	0
61P	Br2 Cage	X-Symmetry	4X	4Y	3	5	0.5	0.75	0.5	3/4	A394	2	1	1	Long only	1.125	0	1.25	3.125	0	0	0
61X	Br2 Cage	X-Gen	4P	4XY	3	5	0.5	0.75	0.5	3/4	A394	2	1	1	Long only	1.125	0	1.25	3.125	0	0	0
62P	Br2 Cage	X-Symmetry	7X	7Y	3	5	0.5	0.75	0.5	3/4	A394	2	1	1	Long only	1.125	0	1.25	3.125	0	0	0
62X	Br2 Cage	X-Gen	7P	7XY	3	5	0.5	0.75	0.5	3/4	A394	2	1	1	Long only	1.125	0	1.25	3.125	0	0	0
63P	Br2 Cage	X-Symmetry	10X	10Y	3	5	0.5	0.75	0.5	3/4	A394	2	1	1	Long only	1.125	0	1.25	3.125	0	0	0
63X	Br2 Cage	X-Gen	10P	10XY	3	5	0.5	0.75	0.5	3/4	A394	2	1	1	Long only	1.125	0	1.25	3.125	0	0	0
64P	Br4R Std Body	X-Symmetry	18P	18XY	3	5	0.5	0.75	0.5	3/4	A394	2	1	1	Long only	1.125	0	1.25	2.5	0	0	0
64X	Br4R Std Body	X-Gen	18X	18Y	3	5	0.5	0.75	0.5	3/4	A394	2	1	1	Long only	1.125	0	1.25	2.5	0	0	0
65P	Br5 Std Body	X-Symmetry	22P	22XY	3	5	0.5	0.75	0.5	3/4	A394	2	1	1	Long only	1.125	0	1.25	2.5	0	0	0
65X	Br5 Std Body	X-Gen	22X	22Y	3	5	0.5	0.75	0.5	3/4	A394	2	1	1	Long only	1.125	0	1.25	2.5	0	0	0
66P	Arm Cage	Y-Symmetry	1Y	1XY	3	6	1	1	1	3/4	A394	0	0	1		0	0	0	0	0	0	0
66Y	Arm Cage	Y-Gen	1P	1X	3	6	1	1	1	3/4	A394	0	0	1		0	0	0	0	0	0	0
67P	Br1 Cage	X-Symmetry	1P	1Y	3	6	1	1	1	3/4	A394	4	1	1	Long only	0	0	0	0	0	0	0
67X	Br1 Cage	X-Gen	1X	1XY	3	6	1	1	1	3/4	A394	4	1	1	Long only	0	0	0	0	0	0	0
68P	Arm SWarm	XY-Symmetry	1P	2P	3	6	1	0.5	0.5	3/4	A394	3	1	1	Long only	0	0	0	0	0	0	0
68X	Arm SWarm	X-GenXY	1X	2X	3	6	1	0.5	0.5	3/4	A394	3	1	1	Long only	0	0	0	0	0	0	0
68XY	Arm SWarm	XY-GenXY	1XY	2X	3	6	1	0.5	0.5	3/4	A394	3	1	1	Long only	0	0	0	0	0	0	0
68Y	Arm SWarm	Y-GenXY	1Y	2P	3	6	1	0.5	0.5	3/4	A394	3	1	1	Long only	0	0	0	0	0	0	0
69P	Br3 Cage	Y-Symmetry	3P	3X	3	4	1	1	1	3/4	A394	1	1	1	Long only	0	0	0	0	0	0	0
69Y	Br3 Cage	Y-Gen	3Y	3XY	3	4	1	1	1	3/4	A394	1	1	1	Long only	0	0	0	0	0	0	0
70P	Br3 Cage	X-Symmetry	3Y	3P	3	4	1	1	1	3/4	A394	1	1	1	Long only	0	0	0	0	0	0	0
70X	Br3 Cage	X-Gen	3XY	3X	3	4	1	1	1	3/4	A394	1	1	1	Long only	0	0	0	0	0	0	0
71P	Br1 Cage	X-Symmetry	4P	4Y	3	6	1	1	1	3/4	A394	4	1	1	Long only	0	0	0	0	0	0	0
71X	Br1 Cage	X-Gen	4X	4XY	3	6	1	1	1	3/4	A394	4	1	1	Long only	0	0	0	0	0	0	0
72P	Arm Cage	Y-Symmetry	4P	4X	3	6	1	1	1	3/4	A394	0	0	1		0	0	0	0	0	0	0
72Y	Arm Cage	Y-Gen	4Y	4XY	3	6	1	1	1	3/4	A394	0	0	1		0	0	0	0	0	0	0
73P	Arm TXarm	XY-Symmetry	4P	5P	3	6	1	0.5	0.5	3/4	A394	3	1	1	Long only	0	0	0	0	0	0	0
73X	Arm TXarm	X-GenXY	4X	5X	3	6	1	0.5	0.5	3/4	A394	3	1	1	Long only	0	0	0	0	0	0	0
73XY	Arm TXarm	XY-GenXY	4XY	5X	3	6	1	0.5	0.5	3/4	A394	3	1	1	Long only	0	0	0	0	0	0	0
73Y	Arm TXarm	Y-GenXY	4Y	5P	3	6	1	0.5	0.5	3/4	A394	3	1	1	Long only	0	0	0	0	0	0	0
74P	Br3 Cage	X-Symmetry	6Y	6P	3	4	1	1	1	3/4	A394	1	1	1	Long only	0	0	0	0	0	0	0
74X	Br3 Cage	X-Gen	6XY	6X	3	4	1	1	1	3/4	A394	1	1	1	Long only	0	0	0	0	0	0	0
75P	Br1 Cage	X-Symmetry	7P	7Y	3	6	1	1	1	3/4	A394	4	1	1	Long only	0	0	0	0	0	0	0
75X	Br1 Cage	X-Gen	7X	7XY	3	6	1	1	1	3/4	A394	4	1	1	Long only	0	0	0	0	0	0	0
76P	Arm MXarm	XY-Symmetry	7P	8P	3	6	1	0.5	0.5	3/4	A394	3	1	1	Long only	0	0	0	0	0	0	0
76X	Arm MXarm	X-GenXY	7X	8X	3	6	1	0.5	0.5	3/4	A394	3	1	1	Long only	0	0	0	0	0	0	0
76XY	Arm MXarm	XY-GenXY	7XY	8X	3	6	1	0.5	0.5	3/4	A394	3	1	1	Long only	0	0	0	0	0	0	0
76Y	Arm MXarm	Y-GenXY	7Y	8P	3	6	1	0.5	0.5	3/4	A394	3	1	1	Long only	0	0	0	0	0	0	0
77P	Arm Cage	Y-Symmetry	7Y	7XY	3	6	1	1	1			0	0	1		0	0	0	0	0	0	0
77Y	Arm Cage	Y-Gen	7P	7X	3	6	1	1	1			0	0	1		0	0	0	0	0	0	0
78P	Br3 Cage	X-Symmetry	9Y	9P	3	4	1	1	1	3/4	A394	1	1	1	Long only	0	0	0	0	0	0	0
78X	Br3 Cage	X-Gen	9XY	9X	3	4	1	1	1	3/4	A394	1	1	1	Long only	0	0	0	0	0	0	0
79P	Br1 Cage	X-Symmetry	10P	10Y	3	6	1	1	1	3/4	A394	4	1	1	Long only	0	0	0	0	0	0	0
79X	Br1 Cage	X-Gen	10X	10XY	3	6	1	1	1	3/4	A394	4	1	1	Long only	0	0	0	0	0	0	0
80P	Arm BXarm	XY-Symmetry	10P	11P	3	6	1	0.5	0.5	3/4	A394	3	1	1	Long only	0	0	0	0	0	0	0
80X	Arm BXarm	X-GenXY	10X	11X	3	6	1	0.5	0.5	3/4	A394	3	1	1	Long only	0	0	0	0	0	0	0

80XY	Arm	BXarm	XY-GenXY	10XY	11X	3	6	1	0.5	0.5	3/4	A394	3	1	1	Long only	0	0	0	0	0	0	0		
80Y	Arm	BXarm	Y-GenXY	10Y	11P	3	6	1	0.5	0.5	3/4	A394	3	1	1	Long only	0	0	0	0	0	0	0		
81P	Arm	Cage	Y-Symmetry	10X	10P	3	6	1	1	1			0	0	1		0	0	0	0	0	0	0		
81Y	Arm	Cage	Y-Gen	10XY	10Y	3	6	1	1	1			0	0	1		0	0	0	0	0	0	0		
82P	HBR1 Std Body		Y-Symmetry	18P	18X	3	5	0.5	1	0.5	3/4	A394	3	1	1	Long only	2	0	1.25	7	0	0	0		
82Y	HBR1 Std Body		Y-Gen	18Y	18XY	3	5	0.5	1	0.5	3/4	A394	3	1	1	Long only	2	0	1.25	7	0	0	0		
83P	HBR1 Std Body		X-Symmetry	18X	18XY	3	5	0.5	1	0.5	3/4	A394	3	1	1	Long only	2	0	1.25	7	0	0	0		
83X	HBR1 Std Body		X-Gen	18P	18Y	3	5	0.5	1	0.5	3/4	A394	3	1	1	Long only	2	0	1.25	7	0	0	0		
84P	MOD1-HBR2 Std Body		Y-Symmetry	19P	19X	1	5	0.5	1	0.5	3/4	A394	3	2	2	Long only	2	0	1.25	7	0	0	0		
84Y	MOD1-HBR2 Std Body		Y-Gen	19Y	19XY	1	5	0.5	1	0.5	3/4	A394	3	2	2	Long only	2	0	1.25	7	0	0	0		
85P	MOD1-HBR2 Std Body		X-Symmetry	19X	19XY	3	5	0.5	1	0.5	3/4	A394	3	2	1	Long only	2	0	1.25	7	0	0	0		
85X	MOD1-HBR2 Std Body		X-Gen	19P	19Y	3	5	0.5	1	0.5	3/4	A394	3	2	1	Long only	2	0	1.25	7	0	0	0		
86P	HBR3 Std Body		Y-Symmetry	20P	20X	3	5	0.5	1	0.5	3/4	A394	3	2	2	Long only	2	0	1.25	7	0	0	0		
86Y	HBR3 Std Body		Y-Gen	20Y	20XY	3	5	0.5	1	0.5	3/4	A394	3	2	2	Long only	2	0	1.25	7	0	0	0		
87P	HBR3 Std Body		X-Symmetry	20X	20XY	3	5	0.5	1	0.5	3/4	A394	3	2	2	Long only	2	0	1.25	7	0	0	0		
87X	HBR3 Std Body		X-Gen	20P	20Y	3	5	0.5	1	0.5	3/4	A394	3	2	2	Long only	2	0	1.25	7	0	0	0		
88P	HBR3 Std Body		Y-Symmetry	21P	21X	3	5	0.5	1	0.5	3/4	A394	3	2	2	Long only	2	0	1.25	7	0	0	0		
88Y	HBR3 Std Body		Y-Gen	21Y	21XY	3	5	0.5	1	0.5	3/4	A394	3	2	2	Long only	2	0	1.25	7	0	0	0		
89P	HBR3 Std Body		X-Symmetry	21X	21XY	3	5	0.5	1	0.5	3/4	A394	3	2	2	Long only	2	0	1.25	7	0	0	0		
89X	HBR3 Std Body		X-Gen	21P	21Y	3	5	0.5	1	0.5	3/4	A394	3	2	2	Long only	2	0	1.25	7	0	0	0		
90P	HBR4 Std Body		Y-Symmetry	22P	22X	3	6	0.5	0.5	0.5	3/4	A394	3	2	2	Long only	2	0	1.25	7	0	0	0		
90Y	HBR4 Std Body		Y-Gen	22Y	22XY	3	6	0.5	0.5	0.5	3/4	A394	3	2	2	Long only	2	0	1.25	7	0	0	0		
91P	HBR4 Std Body		X-Symmetry	22X	22XY	3	6	0.5	0.5	0.5	3/4	A394	3	2	2	Long only	2	0	1.25	7	0	0	0		
91X	HBR4 Std Body		X-Gen	22P	22Y	3	6	0.5	0.5	0.5	3/4	A394	3	2	2	Long only	2	0	1.25	7	0	0	0		
92P	HBR3 Std Body		XY-Symmetry	25P	24P	3	6	1	1	1	3/4	A394	2	2	2	Long only	2	0	1.25	2.5	0	0	0		
92X	HBR3 Std Body		X-GenXY	24P	25X	3	6	1	1	1	3/4	A394	2	2	2	Long only	2	0	1.25	2.5	0	0	0		
92XY	HBR3 Std Body		XY-GenXY	25XY	24Y	3	6	1	1	1	3/4	A394	2	2	2	Long only	2	0	1.25	2.5	0	0	0		
92Y	HBR3 Std Body		Y-GenXY	24Y	25Y	3	6	1	1	1	3/4	A394	2	2	2	Long only	2	0	1.25	2.5	0	0	0		
93P	HBR3 Std Body		XY-Symmetry	25X	23X	3	6	1	1	1	3/4	A394	2	2	2	Long only	2	0	1.25	2.5	0	0	0		
93X	HBR3 Std Body		X-GenXY	23P	25P	3	6	1	1	1	3/4	A394	2	2	2	Long only	2	0	1.25	2.5	0	0	0		
93XY	HBR3 Std Body		XY-GenXY	25Y	23P	3	6	1	1	1	3/4	A394	2	2	2	Long only	2	0	1.25	2.5	0	0	0		
93Y	HBR3 Std Body		Y-GenXY	23X	25XY	3	6	1	1	1	3/4	A394	2	2	2	Long only	2	0	1.25	2.5	0	0	0		
94P	ArmBR1	SWarm	XY-Symmetry	2P	3Y	2	5	1	1	1	3/4	A394	2	1	1	Long only	1.625	0	1.25	2.5	0	0	0		
94X	ArmBR1	SWarm	X-GenXY	2X	3XY	2	5	1	1	1	3/4	A394	2	1	1	Long only	1.625	0	1.25	2.5	0	0	0		
94XY	ArmBR1	SWarm	XY-GenXY	2X	3X	2	5	1	1	1	3/4	A394	2	1	1	Long only	1.625	0	1.25	2.5	0	0	0		
94Y	ArmBR1	SWarm	Y-GenXY	2P	3P	2	5	1	1	1	3/4	A394	2	1	1	Long only	1.625	0	1.25	2.5	0	0	0		
95P	ArmBR2	TXarm	XY-Symmetry	3Y	5P	2	5	1	1	1	3/4	A394	2	1	1	Long only	1.125	0	1.25	2.5	0	0	0		
95X	ArmBR2	TXarm	X-GenXY	3XY	5X	2	5	1	1	1	3/4	A394	2	1	1	Long only	1.125	0	1.25	2.5	0	0	0		
95XY	ArmBR2	TXarm	XY-GenXY	3X	5X	2	5	1	1	1	3/4	A394	2	1	1	Long only	1.125	0	1.25	2.5	0	0	0		
95Y	ArmBR2	TXarm	Y-GenXY	3P	5P	2	5	1	1	1	3/4	A394	2	1	1	Long only	1.125	0	1.25	2.5	0	0	0		
96P	ArmBR2	MXarm	XY-Symmetry	8P	6Y	2	5	1	1	1	3/4	A394	2	1	1	Long only	1.125	0	1.25	2.5	0	0	0		
96X	ArmBR2	MXarm	X-GenXY	8X	6XY	2	5	1	1	1	3/4	A394	2	1	1	Long only	1.125	0	1.25	2.5	0	0	0		
96XY	ArmBR2	MXarm	XY-GenXY	8X	6X	2	5	1	1	1	3/4	A394	2	1	1	Long only	1.125	0	1.25	2.5	0	0	0		
96Y	ArmBR2	MXarm	Y-GenXY	8P	6P	2	5	1	1	1	3/4	A394	2	1	1	Long only	1.125	0	1.25	2.5	0	0	0		
97P	ArmBR2	BXarm	XY-Symmetry	9P	11P	2	5	1	1	1	3/4	A394	2	1	1	Long only	1.25	0	1.25	2.5	0	0	0		
97X	ArmBR2	BXarm	X-GenXY	9X	11X	2	5	1	1	1	3/4	A394	2	1	1	Long only	1.25	0	1.25	2.5	0	0	0		
97XY	ArmBR2	BXarm	XY-GenXY	9XY	11X	2	5	1	1	1	3/4	A394	2	1	1	Long only	1.25	0	1.25	2.5	0	0	0		
97Y	ArmBR2	BXarm	Y-GenXY	9Y	11P	2	5	1	1	1	3/4	A394	2	1	1	Long only	1.25	0	1.25	2.5	0	0	0		
P1P	Pip	Mount	None	BPipeS	BPipeP	1	4	1	1	1			0	0	0		0	0	0	0	0	0	0		
P2P	Pip	Mount	None	BPipeS	TPipeS	1	4	1	1	1			0	0	0		0	0	0	0	0	0	0		
P3P	Pip	Mount	None	TPipeS	AntATTS	1	4	1	1	1			0	0	0		0	0	0	0	0	0	0		
P4P	Pip	Mount	None	AntATTS	TPipeP	1	4	1	1	1			0	0	0		0	0	0	0	0	0	0		
P5P	PipeArea	Mount	None	TPipeP	PipT-1P	1	4	1	1	1			0	0	0		0	0	0	0	0	0	0		
P6P	PipeArea	Mount	None	TPipeP	PipT-2P	1	4	1	1	1			0	0	0		0	0	0	0	0	0	0		
P7P	PipeArea	Mount	None	TPipeP	PipT-3P	1	4	1	1	1			0	0	0		0	0	0	0	0	0	0		
P8P	PipeArea	Mount	None	TPipeP	PipT-4P	1	4	1	1	1			0	0	0		0	0	0	0	0	0	0		
P9P	PipeArea	Mount	None	PipT-1P	PipB-1P	1	4	1	1	1			0	0	0		0	0	0	0	0	0	0		
P10P	PipeArea	Mount	None	PipT-2P	PipB-2P	1	4	1	1	1			0	0	0		0	0	0	0	0	0	0		
P11P	PipeArea	Mount	None	PipT-3P	PipB-3P	1	4	1	1	1			0	0	0		0	0	0	0	0	0	0		
P12P	PipeArea	Mount	None	PipT-4P	PipB-4P	1	4	1	1	1			0	0	0		0	0	0	0	0	0	0		
P13P	PipeArea	Mount	None	PipB-3P	BPipeP	1	4	1	1	1			0	0	0		0	0	0	0	0	0	0		
P14P	PipeArea	Mount	None	PipB-4P	BPipeP	1	4	1	1	1			0	0	0		0	0	0	0	0	0	0		
P15P	PipeArea	Mount	None	PipB-1P	BPipeP	1	4	1	1	1			0	0	0		0	0	0	0	0	0	0		
P16P	PipeArea	Mount	None	PipB-2P	BPipeP	1	4	1	1	1			0	0	0		0	0	0	0	0	0	0		
P17P	PipeSupport	Cage	X-Symmetry	3aS	MountBP	1	4	1	1	1			0	0	0		0	0	0	0	0	0	0		
P17X	PipeSupport	Cage	X-Gen	3aX	MountBX	1	4	1	1	1			0	0	0		0	0	0	0	0	0	0		
P18P	PipeSupport	Cage	X-Symmetry	MountBP	BPipeS	1	4	1	2	1			0	0	0		0	0	0	0	0	0	0		
P18X	PipeSupport	Cage	X-Gen	BPipeS	MountBX	1	4	1	2	1			0	0	0		0	0	0	0	0	0	0		
P19P	PipeSupport	Cage	X-Symmetry	1aS	MountTP	1	4	1	1	1			0	0	0		0	0	0	0	0	0	0		
P19X	PipeSupport	Cage	X-Gen	1aX	MountTX	1	4	1	1	1			0	0	0		0	0	0	0	0	0	0		
P20P	PipeSupport	Cage	X-Symmetry	MountTP	TPipeS	1	4	1	1	1			0	0	0		0	0	0	0	0	0	0		
P20X	PipeSupport	Cage	X-Gen	TPipeS	MountTX	1	4	1	1	1			0	0	0		0	0	0	0	0	0	0		

Member Capacities and Overrides:

Member Label	Group Label	Design Comp. Capacity (kips)	Comp. Control Criterion	Design Tension Capacity (kips)	Tension Control Criterion	L/r Length (ft)	L/r Comp. Capacity (kips)	Connection Shear Capacity (kips)	Connection Bearing Capacity (kips)	Net Section Tension Capacity (kips)	Rupture Tension Capacity (kips)	RTE End Dist. Tension Capacity (kips)	RTE Edge Dist. Tension Capacity (kips)	Override Comp. Capacity (kips)	Override Comp. Capacity Unsup. (kips)	Override Comp. Control Criterion	Override Tension Capacity (kips)	Override Tension Control Criterion	Override Face Member ship	Override RL Climb	Override Heuristic Beta (deg)	Override Beta (deg)	Warnings or Errors
3bP	Leg1a	137.132	L/r	143.880	Net Sect	40	4.00	137.132	0.000	0.000	143.880	0.000	0.000	0.000	0.000	0.000		0.000		Automatic	0	0			
3bX	Leg1a	137.132	L/r	143.880	Net Sect	40	4.00	137.132	0.000	0.000	143.880	0.000	0.000	0.000	0.000	0.000		0.000		Automatic	0	-90			
3P	Leg1	128.698	L/r	143.880	Net Sect	61	6.00	128.698	0.000	0.000	143.880	0.000	0.000	0.000	0.000	0.000		0.000		Automatic	0	90			
3X	Leg1	128.698	L/r	143.880	Net Sect	61	6.00	128.698	0.000	0.000	143.880	0.000	0.000	0.000	0.000	0.000		0.000		Automatic	0	-180			
3aP	Leg1	137.797	L/r	104.682	Net Sect	38	2.00	137.797	0.000	0.000	104.682	0.000	0.000	0.000	0.000	0.000		0.000		Automatic	0	0			
3aX	Leg1	137.797	L/r	104.682	Net Sect	38	2.00	137.797	0.000	0.000	104.682	0.000	0.000	0.000	0.000	0.000		0.000		Automatic	0	-90			
4P	Leg1	128.698	L/r	104.682	Net Sect	61	6.00	128.698	0.000	0.000	104.682	0.000	0.000	0.000	0.000	0.000		0.000		Automatic	0	90			
4X	Leg1	128.698	L/r	104.682	Net Sect	61	6.00	128.698	0.000	0.000	104.682	0.000	0.000	0.000	0.000	0.000		0.000		Automatic	0	-180			
4aP	Leg1b	137.797	L/r	143.880	Net Sect	38	2.00	137.797	0.000	0.000	143.880	0.000	0.000	0.000	0.000	0.000		0.000		Automatic	0	0			
4aX	Leg1b	137.797	L/r	143.880	Net Sect	38	2.00	137.797	0.000	0.000	143.880	0.000	0.000	0.000	0.000	0.000		0.000		Automatic	0	-90			
4bP	Leg1c	137.132	L/r	143.880	Net Sect	40	4.00	137.132	0.000	0.000	143.880	0.000	0.000	0.000	0.000	0.000		0.000		Automatic	0	0			

4bX	Leg1c	137.132	L/r	143.880	Net Sect	40	4.00	137.132	0.000	0.000	143.880	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	-90
5P	Leg1	128.698	L/r	110.204	Net Sect	61	6.00	128.698	163.200	303.750	110.204	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	90
5X	Leg1	128.698	L/r	110.204	Net Sect	61	6.00	128.698	163.200	303.750	110.204	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	-180
5XY	Leg1	128.698	L/r	110.204	Net Sect	61	6.00	128.698	163.200	303.750	110.204	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270
5Y	Leg1	128.698	L/r	110.204	Net Sect	61	6.00	128.698	163.200	303.750	110.204	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	-360
6P	Leg2	163.200	Shear	163.200	Shear	45	6.00	240.633	163.200	404.999	203.342	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	90
6X	Leg2	163.200	Shear	163.200	Shear	45	6.00	240.633	163.200	404.999	203.342	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	-180
6XY	Leg2	163.200	Shear	163.200	Shear	45	6.00	240.633	163.200	404.999	203.342	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270
6Y	Leg2	163.200	Shear	163.200	Shear	45	6.00	240.633	163.200	404.999	203.342	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	-360
7P	Leg2	240.633	L/r	203.775	Net Sect	45	6.00	240.633	0.000	0.000	203.775	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	90
7X	Leg2	240.633	L/r	203.775	Net Sect	45	6.00	240.633	0.000	0.000	203.775	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	-180
7XY	Leg2	240.633	L/r	203.775	Net Sect	45	6.00	240.633	0.000	0.000	203.775	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270
7Y	Leg2	240.633	L/r	203.775	Net Sect	45	6.00	240.633	0.000	0.000	203.775	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	-360
8P	Leg2	240.633	L/r	195.030	Net Sect	45	6.00	240.633	301.600	629.999	195.030	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	90
8X	Leg2	240.633	L/r	195.030	Net Sect	45	6.00	240.633	301.600	629.999	195.030	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	-180
8XY	Leg2	240.633	L/r	195.030	Net Sect	45	6.00	240.633	301.600	629.999	195.030	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270
8Y	Leg2	240.633	L/r	195.030	Net Sect	45	6.00	240.633	301.600	629.999	195.030	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	-360
9P	Leg3	301.600	Shear	264.598	Net Sect	40	5.24	330.664	301.600	866.249	264.598	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	84.8238
9X	Leg3	301.600	Shear	264.598	Net Sect	40	5.24	330.664	301.600	866.249	264.598	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	-174.824
9XY	Leg3	301.600	Shear	264.598	Net Sect	40	5.24	330.664	301.600	866.249	264.598	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	264.824
9Y	Leg3	301.600	Shear	264.598	Net Sect	40	5.24	330.664	301.600	866.249	264.598	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	-354.824
10P	Leg3	321.763	L/r	264.598	Net Sect	50	6.55	321.763	0.000	0.000	264.598	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	95.1308
10X	Leg3	321.763	L/r	264.598	Net Sect	50	6.55	321.763	0.000	0.000	264.598	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	-185.131
10XY	Leg3	321.763	L/r	264.598	Net Sect	50	6.55	321.763	0.000	0.000	264.598	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	275.131
10Y	Leg3	321.763	L/r	264.598	Net Sect	50	6.55	321.763	0.000	0.000	264.598	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	-5.13081
11P	Leg3	312.704	L/r	264.598	Net Sect	58	5.85	312.704	414.700	1191.092	264.598	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	95.1148
11YP	Leg3	312.704	L/r	264.598	Net Sect	58	5.85	312.704	414.700	1191.092	264.598	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	354.885
11XYP	Leg3	312.704	L/r	264.598	Net Sect	58	5.85	312.704	414.700	1191.092	264.598	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	275.115
11XP	Leg3	312.686	L/r	264.598	Net Sect	58	7.66	312.686	414.700	1191.092	264.598	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	174.885
11aP	Leg3	312.561	L/r	264.598	Net Sect	58	1.81	312.561	414.700	1191.092	264.598	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	95.1148
11aXYP	Leg3	312.561	L/r	264.598	Net Sect	58	1.81	312.561	414.700	1191.092	264.598	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	354.885
11aYP	Leg3	312.561	L/r	264.598	Net Sect	58	1.81	312.561	414.700	1191.092	264.598	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	275.115
12P	Leg4	336.695	L/r	288.172	Net Sect	61	8.06	336.695	414.700	1299.373	288.172	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	5.12919
12X	Leg4	336.695	L/r	288.172	Net Sect	61	8.06	336.695	414.700	1299.373	288.172	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	-95.1292
12XY	Leg4	336.695	L/r	288.172	Net Sect	61	8.06	336.695	414.700	1299.373	288.172	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	185.129
12Y	Leg4	336.695	L/r	288.172	Net Sect	61	8.06	336.695	414.700	1299.373	288.172	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	-275.129
13P	Leg4	336.697	L/r	288.172	Net Sect	61	8.06	336.697	490.100	1535.623	288.172	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	354.878
13X	Leg4	336.697	L/r	288.172	Net Sect	61	8.06	336.697	490.100	1535.623	288.172	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	-84.8778
13XY	Leg4	336.697	L/r	288.172	Net Sect	61	8.06	336.697	490.100	1535.623	288.172	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	174.878
13Y	Leg4	336.697	L/r	288.172	Net Sect	61	8.06	336.697	490.100	1535.623	288.172	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	-264.878
14P	Leg5	361.445	L/r	309.106	Net Sect	62	8.06	361.445	490.100	1663.591	309.106	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	5.12919
14X	Leg5	361.445	L/r	309.106	Net Sect	62	8.06	361.445	490.100	1663.591	309.106	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	-95.1292
14XY	Leg5	361.445	L/r	309.106	Net Sect	62	8.06	361.445	490.100	1663.591	309.106	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	185.129
14Y	Leg5	361.445	L/r	309.106	Net Sect	62	8.06	361.445	490.100	1663.591	309.106	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	-275.129
15P	Leg5	361.445	L/r	309.643	Net Sect	62	8.06	361.445	527.800	1791.560	309.643	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	5.12919
15X	Leg5	361.445	L/r	309.643	Net Sect	62	8.06	361.445	527.800	1791.560	309.643	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	-95.1292
15XY	Leg5	361.445	L/r	309.643	Net Sect	62	8.06	361.445	527.800	1791.560	309.643	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	185.129
15Y	Leg5	361.445	L/r	309.643	Net Sect	62	8.06	361.445	527.800	1791.560	309.643	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	-275.129
16P	Leg6	384.502	L/r	332.928	Net Sect	64	16.83	384.502	565.500	2067.184	332.928	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	5.11881
16X	Leg6	384.502	L/r	332.928	Net Sect	64	16.83	384.502	565.500	2067.184	332.928	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	-84.8812
16XY	Leg6	384.502	L/r	332.928	Net Sect	64	16.83	384.502	565.500	2067.184	332.928	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	174.881
16Y	Leg6	384.502	L/r	332.928	Net Sect	64	16.83	384.502	565.500	2067.184	332.928	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	-264.881
17P	Leg7	410.896	L/r	354.234	Net Sect	64	16.63	410.896	565.500	2214.840	354.234	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	5.13238
17X	Leg7	410.896	L/r	354.234	Net Sect	64	16.63	410.896	565.500	2214.840	354.234	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	-95.1324
17XY	Leg7	410.896	L/r	354.234	Net Sect	64	16.63	410.896	565.500	2214.840	354.234	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	185.132
17Y	Leg7	410.896	L/r	354.234	Net Sect	64	16.63	410.896	565.500	2214.840	354.234	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	-275.132
18P	Leg7	414.146	L/r	354.234	Net Sect	62	16.13	414.146	603.200	2362.496	354.234	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	354.878
18X	Leg7	414.146	L/r	354.234	Net Sect	62	16.13	414.146	603.200	2362.496	354.234	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	-84.8778
18XY	Leg7	414.146	L/r	354.234	Net Sect	62	16.13	414.146	603.200	2362.496	354.234	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	174.878
18Y	Leg7	414.146	L/r	354.234	Net Sect	62	16.13	414.146	603.200	2362.496	354.234	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	-264.878
19P	Leg8	442.457	L/r	377.189	Net Sect	61	23.69	442.457	640.900	2677.496	377.189	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	5.13412
19X	Leg8	442.457	L/r	377.189	Net Sect	61	23.69	442.457	640.900	2677.496	377.189	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	-95.1341
19XY	Leg8	442.457	L/r	377.189	Net Sect	61	23.69	442.457	640.900	2677.496	377.189	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	185.134
19Y	Leg8	442.457	L/r	377.189	Net Sect	61	23.69	442.457	640.900	2677.496	377.189	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	-275.134
20P	Leg8	446.741	L/r	377.189	Net Sect	58	15.12	446.741	640.900	2677.496	377.189	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	354.878
20X	Leg8	446.741	L/r	377.189	Net Sect	58	15.12	446.741	640.900	2677.496	377.189	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	-84.8778
20XY	Leg8	446.741	L/r	377.189	Net Sect	58	15.12	446.741	640.900	2677.496	377.189	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	174.878
20Y	Leg8	446.741	L/r	377.189	Net Sect	58	15.12	446.741	640.900	2677.496	377.189	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	-264.878
21P	Leg8	446.741	L/r	375.209	Net Sect	58	15.12	446.741	640.900	2677.496	375.209	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	354.878
21X	Leg8	446.741	L/r	375.209	Net Sect	58	15.12	446.741	640.900	2677.496	375.209	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	-84.8778
21XY	Leg8	446.741	L/r	375.209	Net Sect	58	15.12	446.741	640.900	2677.496	375.209	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	174.878
21Y	Leg8	446.741	L/r	375.209	Net Sect	58	15.12	446.741	640.900	2677.496	375.209	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	-264.878
22P	XBR1	16.019	L/r	24.985	Net Sect	143	9.41	16.019	27.200	33.750	24.985	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180
22X	XBR1	16.019	L/r	24.985	Net Sect	143	9.41	16.019	27.200	33.750	24.985	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270
22XY	XBR1	16.019	L/r	24.985	Net Sect	143	9.41	16.019	27.200	33.750	24.985	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180
22Y	XBR1	16.019	L/r	24.985	Net Sect	143	9.41	16.019	27.200	33.750	24.985	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270
23P	XBR1	16.019	L/r	24.985	Net Sect	143	9.41	16.019	27.200	33.750	24.985	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180
23X	XBR1	16.019	L/r	24.985	Net Sect	143	9.41	16.019	27.200	33.750	24.985	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270
23XY	XBR1	16.019	L/r	24.985	Net Sect	143	9.41	16.019	27.200	33.750	24.985	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180
23Y	XBR1	16.019	L/r	24.985	Net Sect	143	9.41	16.019	27.200	33.750	24.985	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270
24P	XBR1	16.019	L/r	24.985	Net Sect	143	9.41	16.019	27.200	33.750	24.985	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180
24X	XBR1	16.019	L/r	24.985	Net Sect	143	9.41	16.019	27.200	33.750	24.985	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270
24XY	XBR1	16.019	L/r	24.985	Net Sect	143	9.41	16.019	27.200	33.750	24.985	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180
24Y	XBR1	16.019	L/r	24.985	Net Sect	143	9.41	16.019	27.200	33.750	24.985	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270
25P	XBR1	16.019	L/r	24.985	Net Sect	143	9.41	16.019	27.200	33.750	24.985	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180
25X	XBR1	16.019	L/r	24.985	Net Sect	143	9.41	16.019	27.200	33.750	24.985	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270
25XY	XBR1	16.019	L/r	24.985	Net Sect	143	9.41	16.019	27.200	33.750	24.985	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180
25Y	XBR1	16.019	L/r	24.985	Net Sect	143	9.41	16.019	27.200	33.750	24.985	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270
26P	XBR2	26.934	L/r	32.410	Net Sect	112	9.41	26.934	40.800	50.625	32.410	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180
26X	XBR2	26.934	L/r	32.410	Net Sect	112	9.41	26.934	40.800	50.625	32.410	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270
26XY	XBR2	26.934	L/r	32.410	Net Sect	112	9.41	26.934	40.800	50.625	32.410	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180
26Y	XBR2	26.934	L/r	32.410	Net Sect	112	9.41	26.934	40.800	50.625	32.410	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270
27P	XBR2	26.934	L/r	32.410	Net Sect	112	9.41	26.934	40.800	50.625	32.410	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180
27X	XBR2	26.934	L/r	32.410	Net Sect	112	9.41	26.934	40.800	50.625	32.410	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270
27XY	XBR2	26.934	L/r	32.410	Net Sect	112	9.41	26.934	40.800	50.625	32.410	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180
27Y	XBR2	26.934	L/r	32.410	Net Sect	112	9.41	26.934	40.800	50.625	32.410	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270

28P	XBR2	26.934	L/r	32.410	Net Sect	112	9.41	26.934	40.800	50.625	32.410	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180
28X	XBR2	26.934	L/r	32.410	Net Sect	112	9.41	26.934	40.800	50.625	32.410	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270
28XY	XBR2	26.934	L/r	32.410	Net Sect	112	9.41	26.934	40.800	50.625	32.410	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180
28Y	XBR2	26.934	L/r	32.410	Net Sect	112	9.41	26.934	40.800	50.625	32.410	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270
29P	XBR2	26.934	L/r	32.410	Net Sect	112	9.41	26.934	40.800	50.625	32.410	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180
29X	XBR2	26.934	L/r	32.410	Net Sect	112	9.41	26.934	40.800	50.625	32.410	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270
29XY	XBR2	26.934	L/r	32.410	Net Sect	112	9.41	26.934	40.800	50.625	32.410	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180
29Y	XBR2	26.934	L/r	32.410	Net Sect	112	9.41	26.934	40.800	50.625	32.410	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270
30P	XBR3	41.160	L/r	44.745	Net Sect	96	9.41	41.160	54.400	84.375	44.745	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180
30X	XBR3	41.160	L/r	44.745	Net Sect	96	9.41	41.160	54.400	84.375	44.745	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270
30XY	XBR3	41.160	L/r	44.745	Net Sect	96	9.41	41.160	54.400	84.375	44.745	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180
30Y	XBR3	41.160	L/r	44.745	Net Sect	96	9.41	41.160	54.400	84.375	44.745	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270
31P	XBR3	41.160	L/r	44.745	Net Sect	96	9.41	41.160	54.400	84.375	44.745	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180
31X	XBR3	41.160	L/r	44.745	Net Sect	96	9.41	41.160	54.400	84.375	44.745	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270
31XY	XBR3	41.160	L/r	44.745	Net Sect	96	9.41	41.160	54.400	84.375	44.745	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180
31Y	XBR3	41.160	L/r	44.745	Net Sect	96	9.41	41.160	54.400	84.375	44.745	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270
32P	XBR3	41.160	L/r	44.745	Net Sect	96	9.41	41.160	54.400	84.375	44.745	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180
32X	XBR3	41.160	L/r	44.745	Net Sect	96	9.41	41.160	54.400	84.375	44.745	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270
32XY	XBR3	41.160	L/r	44.745	Net Sect	96	9.41	41.160	54.400	84.375	44.745	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180
32Y	XBR3	41.160	L/r	44.745	Net Sect	96	9.41	41.160	54.400	84.375	44.745	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270
33P	XBR3	41.160	L/r	44.745	Net Sect	96	9.41	41.160	54.400	84.375	44.745	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180
33X	XBR3	41.160	L/r	44.745	Net Sect	96	9.41	41.160	54.400	84.375	44.745	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270
33XY	XBR3	41.160	L/r	44.745	Net Sect	96	9.41	41.160	54.400	84.375	44.745	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180
33Y	XBR3	41.160	L/r	44.745	Net Sect	96	9.41	41.160	54.400	84.375	44.745	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270
34P	XBR4	32.903	L/r	35.352	Net Sect	114	9.32	32.903	54.400	84.375	35.352	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	181.957
34X	XBR4	32.903	L/r	35.352	Net Sect	114	9.32	32.903	54.400	84.375	35.352	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	268.043
34XY	XBR4	32.903	L/r	35.352	Net Sect	114	9.32	32.903	54.400	84.375	35.352	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	181.957
34Y	XBR4	32.903	L/r	35.352	Net Sect	114	9.32	32.903	54.400	84.375	35.352	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	268.043
35P	XBR4	32.903	L/r	35.352	Net Sect	114	9.32	32.903	54.400	84.375	35.352	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	181.957
35X	XBR4	32.903	L/r	35.352	Net Sect	114	9.32	32.903	54.400	84.375	35.352	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	268.043
35XY	XBR4	32.903	L/r	35.352	Net Sect	114	9.32	32.903	54.400	84.375	35.352	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	181.957
35Y	XBR4	32.903	L/r	35.352	Net Sect	114	9.32	32.903	54.400	84.375	35.352	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	268.043
36P	XBR4	27.119	L/r	35.352	Net Sect	134	10.94	27.119	54.400	84.375	35.352	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	183.74
36X	XBR4	27.119	L/r	35.352	Net Sect	134	10.94	27.119	54.400	84.375	35.352	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	266.26
36XY	XBR4	27.119	L/r	35.352	Net Sect	134	10.94	27.119	54.400	84.375	35.352	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	183.74
36Y	XBR4	27.119	L/r	35.352	Net Sect	134	10.94	27.119	54.400	84.375	35.352	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	266.26
37P	XBR4	27.119	L/r	35.352	Net Sect	134	10.94	27.119	54.400	84.375	35.352	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	189.398
37X	XBR4	27.119	L/r	35.352	Net Sect	134	10.94	27.119	54.400	84.375	35.352	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	260.602
37XY	XBR4	27.119	L/r	35.352	Net Sect	134	10.94	27.119	54.400	84.375	35.352	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	189.398
37Y	XBR4	27.119	L/r	35.352	Net Sect	134	10.94	27.119	54.400	84.375	35.352	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	260.602
38P	XBR5	27.276	L/r	36.123	Net Sect	130	12.62	27.276	54.400	67.500	36.123	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	189.18
38X	XBR5	27.276	L/r	36.123	Net Sect	130	12.62	27.276	54.400	67.500	36.123	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	260.82
38XY	XBR5	27.276	L/r	36.123	Net Sect	130	12.62	27.276	54.400	67.500	36.123	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	189.18
38Y	XBR5	27.276	L/r	36.123	Net Sect	130	12.62	27.276	54.400	67.500	36.123	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	260.82
39P	XBR5	27.276	L/r	36.123	Net Sect	130	12.62	27.276	54.400	67.500	36.123	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	183.967
39X	XBR5	27.276	L/r	36.123	Net Sect	130	12.62	27.276	54.400	67.500	36.123	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	266.033
39XY	XBR5	27.276	L/r	36.123	Net Sect	130	12.62	27.276	54.400	67.500	36.123	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	183.967
39Y	XBR5	27.276	L/r	36.123	Net Sect	130	12.62	27.276	54.400	67.500	36.123	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	266.033
40P	XBR5	23.907	L/r	36.123	Net Sect	142	13.99	23.907	40.800	50.625	36.123	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	188.826
40X	XBR5	23.907	L/r	36.123	Net Sect	142	13.99	23.907	40.800	50.625	36.123	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	261.174
40XY	XBR5	23.907	L/r	36.123	Net Sect	142	13.99	23.907	40.800	50.625	36.123	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	188.826
40Y	XBR5	23.907	L/r	36.123	Net Sect	142	13.99	23.907	40.800	50.625	36.123	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	261.174
41P	XBR5	23.907	L/r	36.123	Net Sect	142	13.99	23.907	40.800	50.625	36.123	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	183.943
41X	XBR5	23.907	L/r	36.123	Net Sect	142	13.99	23.907	40.800	50.625	36.123	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	266.057
41XY	XBR5	23.907	L/r	36.123	Net Sect	142	13.99	23.907	40.800	50.625	36.123	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	183.943
41Y	XBR5	23.907	L/r	36.123	Net Sect	142	13.99	23.907	40.800	50.625	36.123	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	266.057
42P	XBR5	21.411	L/r	36.123	Net Sect	152	15.19	21.411	40.800	50.625	36.123	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	183.742
42X	XBR5	21.411	L/r	36.123	Net Sect	152	15.19	21.411	40.800	50.625	36.123	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	266.258
42XY	XBR5	21.411	L/r	36.123	Net Sect	152	15.19	21.411	40.800	50.625	36.123	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	183.742
42Y	XBR5	21.411	L/r	36.123	Net Sect	152	15.19	21.411	40.800	50.625	36.123	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	266.258
43P	XBR5	21.411	L/r	36.123	Net Sect	152	15.19	21.411	40.800	50.625	36.123	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	188.585
43X	XBR5	21.411	L/r	36.123	Net Sect	152	15.19	21.411	40.800	50.625	36.123	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	261.415
43XY	XBR5	21.411	L/r	36.123	Net Sect	152	15.19	21.411	40.800	50.625	36.123	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	188.585
43Y	XBR5	21.411	L/r	36.123	Net Sect	152	15.19	21.411	40.800	50.625	36.123	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	261.415
44P	XBR5	18.918	L/r	36.123	Net Sect	164	16.43	18.918	40.800	50.625	36.123	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	187.991
44X	XBR5	18.918	L/r	36.123	Net Sect	164	16.43	18.918	40.800	50.625	36.123	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	262.009
44XY	XBR5	18.918	L/r	36.123	Net Sect	164	16.43	18.918	40.800	50.625	36.123	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	187.991
44Y	XBR5	18.918	L/r	36.123	Net Sect	164	16.43	18.918	40.800	50.625	36.123	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	262.009
45P	XBR5	18.918	L/r	36.123	Net Sect	164	16.43	18.918	40.800	50.625	36.123	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	183.982
45X	XBR5	18.918	L/r	36.123	Net Sect	164	16.43	18.918	40.800	50.625	36.123	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	266.018
45XY	XBR5	18.918	L/r	36.123	Net Sect	164	16.43	18.918	40.800	50.625	36.123	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	183.982
45Y	XBR5	18.918	L/r	36.123	Net Sect	164	16.43	18.918	40.800	50.625	36.123	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	266.018
46P	XBR5	16.638	L/r	36.123	Net Sect	177	17.71	16.638	40.800	50.625	36.123	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	183.861
46X	XBR5	16.638	L/r	36.123	Net Sect	177	17.71	16.638	40.800	50.625	36.123	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	266.139
46XY	XBR5	16.638	L/r	36.123	Net Sect	177	17.71	16.638	40.800	50.625	36.123	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	183.861
46Y	XBR5	16.638	L/r	36.123	Net Sect	177	17.71	16.638	40.800	50.625	36.123	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	266.139
47P	XBR5	16.638	L/r	36.123	Net Sect	177	17.71	16.638	40.800	50.625	36.123	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	187.861
47X	XBR5	16.638	L/r	36.123	Net Sect	177	17.71	16.638	40.800	50.625	36.123	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	262.139
47XY	XBR5	16.638	L/r	36.123	Net Sect	177	17.71	16.638	40.800	50.625	36.123	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	187.861
47Y	XBR5	16.638	L/r	36.123	Net Sect	177	17.71	16.638	40.800	50.625	36.123	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	262.139
48P	XBR6	5.650	L/r	35.241	Net Sect	319	24.60	5.650	54.400	84.375	35.241	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	183.863
48X	XBR6	5.650	L/r	35.241	Net Sect	319	24.60	5.650	54.400	84.375	35.241	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	266.137
48XY	XBR6	5.650	L/r	35.241	Net Sect	319	24.60	5.650	54.400	84.375	35.241	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	183.863
48Y	XBR6	5.650	L/r	35.241	Net Sect	319	24.60	5.650	54.400	84.375	35.241	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	266.137
49P	XBR6	5.650	L/r	35.241	Net Sect	319	24.60	5.650	54.400	84.375	35.241	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	190.451
49X	XBR6	5.650	L/r	35.241	Net Sect	319	24.60	5.650	54.400	84.375	35.241	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	259.549
49XY	XBR6	5.650	L/r	35.241	Net Sect	319	24.60	5.650	54.400	84.375	35.241	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	190.451
49Y	XBR6	5.650	L/r	35.241	Net Sect	319	24.60	5.650	54.400	84.375	35.241	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	259.549
50P	XBR7	3.110	L/r	30.786	Net Sect	418	26.74	3.110	54.400	84.375	30.786	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	183.738
50X	XBR7	3.110	L/r	30.786	Net Sect	418	26.74	3.110	54.400	84.375	30.786	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	260.652
50XY	XBR7	3.110	L/r	30.786	Net Sect	418	26.74	3.110	54.400	84.375	30.786	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	189.348
50Y	XBR7	3.110	L/r	30.786	Net Sect	418	26.74	3.110	54.400	84.375	30.786	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	260.652
51P	XBR7	3.110	L/r	30.786	Net Sect	418	26.74	3.110	54.400	84.375	30.786	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	183.99
51X	XBR7	3.110	L/r	30.786	Net Sect	418	26.74	3.110	54.400	84.375	30.786	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	260.399
51XY	XBR7	3.110	L/r	30.786	Net Sect	418	26.74	3.110	54.400	84.375	30.786	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	183.99
51Y	XBR7	3.110	L/r	30.786	Net Sect	418	26.74	3.110	54.400	84.375	30.786	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	266.01

52P	XBR7	2.724	L/r	30.786	Net Sect	449	28.81	2.724	40.800	63.281	30.786	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	183.722	
52X	XBR7	2.724	L/r	30.786	Net Sect	449	28.81	2.724	40.800	63.281	30.786	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	266.278	
52XY	XBR7	2.724	L/r	30.786	Net Sect	449	28.81	2.724	40.800	63.281	30.786	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	183.722	
52Y	XBR7	2.724	L/r	30.786	Net Sect	449	28.81	2.724	40.800	63.281	30.786	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	266.278	
53P	XBR7	2.724	L/r	30.786	Net Sect	449	28.81	2.724	40.800	63.281	30.786	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	188.894	
53X	XBR7	2.724	L/r	30.786	Net Sect	449	28.81	2.724	40.800	63.281	30.786	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	261.106	
53XY	XBR7	2.724	L/r	30.786	Net Sect	449	28.81	2.724	40.800	63.281	30.786	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	188.894	
53Y	XBR7	2.724	L/r	30.786	Net Sect	449	28.81	2.724	40.800	63.281	30.786	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	261.106	
54P	XBR7	1.745	L/r	30.786	Net Sect	571	36.22	1.745	54.400	84.375	30.786	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	189.754	
54X	XBR7	1.745	L/r	30.786	Net Sect	571	36.22	1.745	54.400	84.375	30.786	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	260.246	
54XY	XBR7	1.745	L/r	30.786	Net Sect	571	36.22	1.745	54.400	84.375	30.786	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	189.754	
54Y	XBR7	1.745	L/r	30.786	Net Sect	571	36.22	1.745	54.400	84.375	30.786	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	260.246	
55P	XBR7	1.745	L/r	30.786	Net Sect	571	36.22	1.745	54.400	84.375	30.786	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	184.059	
55X	XBR7	1.745	L/r	30.786	Net Sect	571	36.22	1.745	54.400	84.375	30.786	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	265.941	
55XY	XBR7	1.745	L/r	30.786	Net Sect	571	36.22	1.745	54.400	84.375	30.786	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	184.059	
55Y	XBR7	1.745	L/r	30.786	Net Sect	571	36.22	1.745	54.400	84.375	30.786	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	265.941	
56P	XBR8r	8.180	L/r	35.241	Net Sect	259	21.12	8.180	54.400	84.375	35.241	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	183.995	
56X	XBR8r	8.180	L/r	35.241	Net Sect	259	21.12	8.180	54.400	84.375	35.241	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	266.005	
56XY	XBR8r	8.180	L/r	35.241	Net Sect	259	21.12	8.180	54.400	84.375	35.241	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	183.995	
56Y	XBR8r	8.180	L/r	35.241	Net Sect	259	21.12	8.180	54.400	84.375	35.241	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	266.005	
57P	XBR8r	8.180	L/r	35.241	Net Sect	259	21.12	8.180	54.400	84.375	35.241	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	190.957	
57X	XBR8r	8.180	L/r	35.241	Net Sect	259	21.12	8.180	54.400	84.375	35.241	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	259.043	
57XY	XBR8r	8.180	L/r	35.241	Net Sect	259	21.12	8.180	54.400	84.375	35.241	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	190.957	
57Y	XBR8r	8.180	L/r	35.241	Net Sect	259	21.12	8.180	54.400	84.375	35.241	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	259.043	
58P	XBR8r	6.992	L/r	35.241	Net Sect	283	23.09	6.992	54.400	84.375	35.241	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180.351	
58X	XBR8r	6.992	L/r	35.241	Net Sect	283	23.09	6.992	54.400	84.375	35.241	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	183.092	
58XY	XBR8r	6.992	L/r	35.241	Net Sect	283	23.09	6.992	54.400	84.375	35.241	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180.351	
58Y	XBR8r	6.992	L/r	35.241	Net Sect	283	23.09	6.992	54.400	84.375	35.241	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	183.092	
59P	XBR8r	6.992	L/r	35.241	Net Sect	283	23.09	6.992	54.400	84.375	35.241	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	166.743	
59X	XBR8r	6.992	L/r	35.241	Net Sect	283	23.09	6.992	54.400	84.375	35.241	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	190.119	
59XY	XBR8r	6.992	L/r	35.241	Net Sect	283	23.09	6.992	54.400	84.375	35.241	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	166.743	
59Y	XBR8r	6.992	L/r	35.241	Net Sect	283	23.09	6.992	54.400	84.375	35.241	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	190.119	
60P	Br2	13.968	L/r	24.985	Net Sect	156	10.25	13.968	27.200	33.750	24.985	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180	
60X	Br2	13.968	L/r	24.985	Net Sect	156	10.25	13.968	27.200	33.750	24.985	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180	
61P	Br2	13.968	L/r	24.985	Net Sect	156	10.25	13.968	27.200	33.750	24.985	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180	
61X	Br2	13.968	L/r	24.985	Net Sect	156	10.25	13.968	27.200	33.750	24.985	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180	
62P	Br2	13.968	L/r	24.985	Net Sect	156	10.25	13.968	27.200	33.750	24.985	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180	
62X	Br2	13.968	L/r	24.985	Net Sect	156	10.25	13.968	27.200	33.750	24.985	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180	
63P	Br2	13.968	L/r	24.985	Net Sect	156	10.25	13.968	27.200	33.750	24.985	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180	
63X	Br2	13.968	L/r	24.985	Net Sect	156	10.25	13.968	27.200	33.750	24.985	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180	
64P	Br4R	4.332	L/r	23.909	Net Sect	283	23.33	4.332	27.200	24.469	23.909	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	264.02	
64X	Br4R	4.332	L/r	23.909	Net Sect	283	23.33	4.332	27.200	24.469	23.909	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	185.98	
65P	Br5	1.946	L/r	27.200	Shear	512	41.86	1.946	27.200	33.750	28.846	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	264.016	
65X	Br5	1.946	L/r	27.200	Shear	512	41.86	1.946	27.200	33.750	28.846	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	185.984	
66P	Arm	51.267	L/r	84.480	Net Sect	114	7.25	51.267	0.000	0.000	84.480	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270	
66Y	Arm	51.267	L/r	84.480	Net Sect	114	7.25	51.267	0.000	0.000	84.480	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180	
67P	Br1	42.081	L/r	54.400	Shear	132	7.25	42.081	54.400	84.375	63.159	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270	
67X	Br1	42.081	L/r	54.400	Shear	132	7.25	42.081	54.400	84.375	63.159	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180	
68P	Arm	40.800	Shear	40.800	Shear	71	9.13	62.159	40.800	63.281	67.911	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270	
68X	Arm	40.800	Shear	40.800	Shear	71	9.13	62.159	40.800	63.281	67.911	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180	
68XY	Arm	40.800	Shear	40.800	Shear	71	9.13	62.159	40.800	63.281	67.911	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270	
68Y	Arm	40.800	Shear	40.800	Shear	71	9.13	62.159	40.800	63.281	67.911	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180	
69P	**Br3**	**5.585**	**L/r**	**12.656**	**Bearing**	**204**	**7.25**	**5.585**	**13.600**	**12.656**	**19.184**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**Automatic**	**0**	**180**	**KL/R value of**
203.75 exceeds maximum of 200.00 for member "69P" ??																					
69Y	**Br3**	**5.585**	**L/r**	**12.656**	**Bearing**	**204**	**7.25**	**5.585**	**13.600**	**12.656**	**19.184**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**Automatic**	**0**	**270**	**KL/R value of**
203.75 exceeds maximum of 200.00 for member "69Y" ??																					
70P	**Br3**	**5.585**	**L/r**	**12.656**	**Bearing**	**204**	**7.25**	**5.585**	**13.600**	**12.656**	**19.184**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**Automatic**	**0**	**180**	**KL/R value of**
203.75 exceeds maximum of 200.00 for member "70P" ??																					
70X	**Br3**	**5.585**	**L/r**	**12.656**	**Bearing**	**204**	**7.25**	**5.585**	**13.600**	**12.656**	**19.184**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**Automatic**	**0**	**270**	**KL/R value of**
203.75 exceeds maximum of 200.00 for member "70X" ??																					
71P	Br1	42.081	L/r	54.400	Shear	132	7.25	42.081	54.400	84.375	63.159	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270	
71X	Br1	42.081	L/r	54.400	Shear	132	7.25	42.081	54.400	84.375	63.159	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180	
72P	Arm	51.267	L/r	84.480	Net Sect	114	7.25	51.267	0.000	0.000	84.480	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180	
72Y	Arm	51.267	L/r	84.480	Net Sect	114	7.25	51.267	0.000	0.000	84.480	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270	
73P	Arm	40.800	Shear	40.800	Shear	57	7.33	65.312	40.800	63.281	67.911	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270	
73X	Arm	40.800	Shear	40.800	Shear	57	7.33	65.312	40.800	63.281	67.911	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180	
73XY	Arm	40.800	Shear	40.800	Shear	57	7.33	65.312	40.800	63.281	67.911	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270	
73Y	Arm	40.800	Shear	40.800	Shear	57	7.33	65.312	40.800	63.281	67.911	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180	
74P	**Br3**	**5.585**	**L/r**	**12.656**	**Bearing**	**204**	**7.25**	**5.585**	**13.600**	**12.656**	**19.184**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**Automatic**	**0**	**180**	**KL/R value of**
203.75 exceeds maximum of 200.00 for member "74P" ??																					
74X	**Br3**	**5.585**	**L/r**	**12.656**	**Bearing**	**204**	**7.25**	**5.585**	**13.600**	**12.656**	**19.184**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**Automatic**	**0**	**270**	**KL/R value of**
203.75 exceeds maximum of 200.00 for member "74X" ??																					
75P	Br1	42.081	L/r	54.400	Shear	132	7.25	42.081	54.400	84.375	63.159	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270	
75X	Br1	42.081	L/r	54.400	Shear	132	7.25	42.081	54.400	84.375	63.159	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180	
76P	Arm	40.800	Shear	40.800	Shear	71	9.13	62.159	40.800	63.281	67.911	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270	
76X	Arm	40.800	Shear	40.800	Shear	71	9.13	62.159	40.800	63.281	67.911	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180	
76XY	Arm	40.800	Shear	40.800	Shear	71	9.13	62.159	40.800	63.281	67.911	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270	
76Y	Arm	40.800	Shear	40.800	Shear	71	9.13	62.159	40.800	63.281	67.911	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180	
77P	Arm	51.267	L/r	84.480	Net Sect	114	7.25	51.267	0.000	0.000	84.480	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270	
77Y	Arm	51.267	L/r	84.480	Net Sect	114	7.25	51.267	0.000	0.000	84.480	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180	
78P	**Br3**	**5.585**	**L/r**	**12.656**	**Bearing**	**204**	**7.25**	**5.585**	**13.600**	**12.656**	**19.184**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**Automatic**	**0**	**180**	**KL/R value of**
203.75 exceeds maximum of 200.00 for member "78P" ??																					
78X	**Br3**	**5.585**	**L/r**	**12.656**	**Bearing**	**204**	**7.25**	**5.585**	**13.600**	**12.656**	**19.184**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**Automatic**	**0**	**270**	**KL/R value of**
203.75 exceeds maximum of 200.00 for member "78X" ??																					
79P	Br1	42.081	L/r	54.400	Shear	132	7.25	42.081	54.400	84.375	63.159	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270	
79X	Br1	42.081	L/r	54.400	Shear	132	7.25	42.081	54.400	84.375	63.159	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180	
80P	Arm	40.800	Shear	40.800	Shear	57	7.33	65.312	40.800	63.281	67.911	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270	
80X	Arm	40.800	Shear	40.800	Shear	57	7.33	65.312	40.800	63.281	67.911	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180	
80XY	Arm	40.800	Shear	40.800	Shear	57	7.33	65.312	40.800	63.281	67.911	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270	
80Y	Arm	40.800	Shear	40.800	Shear	57	7.33	65.312	40.800	63.281	67.911	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180	
81P	Arm	51.267	L/r	84.480	Net Sect	114	7.25	51.267	0.000	0.000	84.480	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	270	
81Y	Arm	51.267	L/r	84.480	Net Sect	114	7.25	51.267	0.000	0.000	84.480	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	180	
82P	HBR1	17.340	L/r	40.800	Shear	182	16.50	17.340	40.800	50.625	43.696	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	185.61	
82Y	HBR1	17.340	L/r	40.800	Shear	182	16.50	17.340	40.800	50.625	43.696	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	264.39	

83P	HBR1	17.340	L/r	40.800	Shear	182	16.50	17.340	40.800	50.625	43.696	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	184.648
83X	HBR1	17.340	L/r	40.800	Shear	182	16.50	17.340	40.800	50.625	43.696	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	265.352
84P	MOD1-HBR2	67.534	L/r	81.600	Shear	131	19.50	67.534	81.600	97.875	111.537	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	275.597
84Y	MOD1-HBR2	67.534	L/r	81.600	Shear	131	19.50	67.534	81.600	97.875	111.537	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	265.319
85P	MOD1-HBR2	40.800	Shear	40.800	Shear	131	19.50	67.534	40.800	97.875	111.537	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	275.556
85X	MOD1-HBR2	40.800	Shear	40.800	Shear	131	19.50	67.534	40.800	97.875	111.537	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	265.36
86P	HBR3	38.811	L/r	81.600	Shear	170	22.48	38.811	81.600	101.250	87.392	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	275.613
86Y	HBR3	38.811	L/r	81.600	Shear	170	22.48	38.811	81.600	101.250	87.392	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	264.387
87P	HBR3	38.811	L/r	81.600	Shear	170	22.48	38.811	81.600	101.250	87.392	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	274.651
87X	HBR3	38.811	L/r	81.600	Shear	170	22.48	38.811	81.600	101.250	87.392	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	265.349
88P	HBR3	31.791	L/r	81.600	Shear	191	25.36	31.791	81.600	101.250	87.392	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	274.684
88Y	HBR3	31.791	L/r	81.600	Shear	191	25.36	31.791	81.600	101.250	87.392	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	265.316
89P	HBR3	31.791	L/r	81.600	Shear	191	25.36	31.791	81.600	101.250	87.392	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	275.56
89X	HBR3	31.791	L/r	81.600	Shear	191	25.36	31.791	81.600	101.250	87.392	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	264.44
90P	HBR4	62.237	L/r	81.600	Shear	142	29.60	62.237	81.600	101.250	102.242	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	275.616
90Y	HBR4	62.237	L/r	81.600	Shear	142	29.60	62.237	81.600	101.250	102.242	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	264.384
91P	HBR4	62.237	L/r	81.600	Shear	142	29.60	62.237	81.600	101.250	102.242	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	274.652
91X	HBR4	62.237	L/r	81.600	Shear	142	29.60	62.237	81.600	101.250	102.242	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	265.348
92P	HBR3	39.985	L/r	54.400	Shear	178	16.15	39.985	54.400	67.500	87.392	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	274.684
92X	HBR3	39.985	L/r	54.400	Shear	178	16.15	39.985	54.400	67.500	87.392	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	274.684
92XY	HBR3	39.985	L/r	54.400	Shear	178	16.15	39.985	54.400	67.500	87.392	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	274.684
92Y	HBR3	39.985	L/r	54.400	Shear	178	16.15	39.985	54.400	67.500	87.392	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	274.684
93P	HBR3	39.985	L/r	54.400	Shear	178	16.15	39.985	54.400	67.500	87.392	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	275.56
93X	HBR3	39.985	L/r	54.400	Shear	178	16.15	39.985	54.400	67.500	87.392	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	275.56
93XY	HBR3	39.985	L/r	54.400	Shear	178	16.15	39.985	54.400	67.500	87.392	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	275.56
93Y	HBR3	39.985	L/r	54.400	Shear	178	16.15	39.985	54.400	67.500	87.392	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	275.56
94P	ArmBR1	10.588	L/r	27.200	Shear	221	10.92	10.588	27.200	33.750	36.271	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	256.624
94X	ArmBR1	10.588	L/r	27.200	Shear	221	10.92	10.588	27.200	33.750	36.271	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	193.376
94XY	ArmBR1	10.588	L/r	27.200	Shear	221	10.92	10.588	27.200	33.750	36.271	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	256.624
94Y	ArmBR1	10.588	L/r	27.200	Shear	221	10.92	10.588	27.200	33.750	36.271	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	193.376
95P	ArmBR2	5.591	L/r	24.985	Net Sect	268	9.48	5.591	27.200	33.750	24.985	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	228.077
95X	ArmBR2	5.591	L/r	24.985	Net Sect	268	9.48	5.591	27.200	33.750	24.985	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	289.802
95XY	ArmBR2	5.591	L/r	24.985	Net Sect	268	9.48	5.591	27.200	33.750	24.985	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	228.077
95Y	ArmBR2	5.591	L/r	24.985	Net Sect	268	9.48	5.591	27.200	33.750	24.985	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	289.802
96P	ArmBR2	4.349	L/r	24.985	Net Sect	309	10.92	4.349	27.200	33.750	24.985	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	283.376
96X	ArmBR2	4.349	L/r	24.985	Net Sect	309	10.92	4.349	27.200	33.750	24.985	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	166.624
96XY	ArmBR2	4.349	L/r	24.985	Net Sect	309	10.92	4.349	27.200	33.750	24.985	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	283.376
96Y	ArmBR2	4.349	L/r	24.985	Net Sect	309	10.92	4.349	27.200	33.750	24.985	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	166.624
97P	ArmBR2	5.591	L/r	24.985	Net Sect	268	9.48	5.591	27.200	33.750	24.985	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	289.802
97X	ArmBR2	5.591	L/r	24.985	Net Sect	268	9.48	5.591	27.200	33.750	24.985	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	228.077
97XY	ArmBR2	5.591	L/r	24.985	Net Sect	268	9.48	5.591	27.200	33.750	24.985	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	289.802
97Y	ArmBR2	5.591	L/r	24.985	Net Sect	268	9.48	5.591	27.200	33.750	24.985	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	228.077
P1P	Pip	479.390	L/r	479.499	Net Sect	3	1.00	479.390	0.000	0.000	479.499	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	0
P2P	Pip	475.556	L/r	479.499	Net Sect	16	6.00	475.556	0.000	0.000	479.499	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	0
P3P	Pip	474.132	L/r	479.499	Net Sect	19	7.00	474.132	0.000	0.000	479.499	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	0
P4P	Pip	478.513	L/r	479.499	Net Sect	8	3.00	478.513	0.000	0.000	479.499	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	0
P5P	PipeArea	0.360	L/r	0.360	Net Sect	0	0.50	0.360	0.000	0.000	0.360	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	0
P6P	PipeArea	0.360	L/r	0.360	Net Sect	0	0.50	0.360	0.000	0.000	0.360	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	0
P7P	PipeArea	0.360	L/r	0.360	Net Sect	0	0.50	0.360	0.000	0.000	0.360	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	0
P8P	PipeArea	0.360	L/r	0.360	Net Sect	0	0.50	0.360	0.000	0.000	0.360	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	0
P9P	PipeArea	0.360	L/r	0.360	Net Sect	2	17.00	0.360	0.000	0.000	0.360	0.000	0.000	0.000	0.000	0.000	0.000	Long.	0	0
P10P	PipeArea	0.360	L/r	0.360	Net Sect	2	17.00	0.360	0.000	0.000	0.360	0.000	0.000	0.000	0.000	0.000	0.000	Trans.	0	0
P11P	PipeArea	0.360	L/r	0.360	Net Sect	2	17.00	0.360	0.000	0.000	0.360	0.000	0.000	0.000	0.000	0.000	0.000	Long.	0	0
P12P	PipeArea	0.360	L/r	0.360	Net Sect	2	17.00	0.360	0.000	0.000	0.360	0.000	0.000	0.000	0.000	0.000	0.000	Trans.	0	0
P13P	PipeArea	0.360	L/r	0.360	Net Sect	0	0.50	0.360	0.000	0.000	0.360	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	0
P14P	PipeArea	0.360	L/r	0.360	Net Sect	0	0.50	0.360	0.000	0.000	0.360	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	0
P15P	PipeArea	0.360	L/r	0.360	Net Sect	0	0.50	0.360	0.000	0.000	0.360	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	0
P16P	PipeArea	0.360	L/r	0.360	Net Sect	0	0.50	0.360	0.000	0.000	0.360	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	0
P17P	PipeSupport	260.103	L/r	262.000	Net Sect	13	2.50	260.103	0.000	0.000	262.000	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	0
P17X	PipeSupport	260.103	L/r	262.000	Net Sect	13	2.50	260.103	0.000	0.000	262.000	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	0
P18P	PipeSupport	246.047	L/r	262.000	Net Sect	37	3.63	246.047	0.000	0.000	262.000	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	0
P18X	PipeSupport	246.047	L/r	262.000	Net Sect	37	3.63	246.047	0.000	0.000	262.000	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	0
P19P	PipeSupport	260.103	L/r	262.000	Net Sect	13	2.50	260.103	0.000	0.000	262.000	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	0
P19X	PipeSupport	260.103	L/r	262.000	Net Sect	13	2.50	260.103	0.000	0.000	262.000	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	0
P20P	PipeSupport	258.011	L/r	262.000	Net Sect	19	3.63	258.011	0.000	0.000	262.000	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	0
P20X	PipeSupport	258.011	L/r	262.000	Net Sect	19	3.63	258.011	0.000	0.000	262.000	0.000	0.000	0.000	0.000	0.000	0.000	Automatic	0	0

The model contains 355 angle members.

Sum of Unfactored Dead Load and Drag Areas From Equipment, Input and Calculated:

Joint Label	Dead Load (kips)	X-Drag Area (ft^2)	Y-Drag Area (ft^2)
1P	0.198	7.116	6.126
2P	0.133	6.065	3.263
3P	0.221	9.166	8.572
4P	0.278	10.125	9.552
5P	0.0981	4.480	2.971
6P	0.238	8.426	8.838
7P	0.378	11.863	10.874
8P	0.119	5.636	2.971
9P	0.3	8.765	9.338
10P	0.395	11.077	10.504
11P	0.0981	4.480	2.971
12P	0.326	7.914	7.914
13P	0.353	9.249	9.249
14P	0.333	9.439	9.439
15P	0.589	33.528	33.528
16P	0.497	12.305	12.305
17P	0.538	14.672	14.672
18P	1.01	40.597	40.597
19P	1.37	39.604	39.604
20P	1.39	39.424	39.424

21P	1.69	47.494	47.494
22P	1.84	49.950	49.950
23P	0.408	6.275	13.902
24P	0.408	13.902	6.275
25P	1.08	34.676	34.676
26P	0.501	8.990	8.990
MountBP	0.0582	0.906	0.625
MountTP	0.0582	0.906	0.625
TPipeP	0.0744	1.573	1.573
BPipeP	0.0248	0.527	0.527
PipT-1P	0	0.073	0.071
PipT-2P	0	0.071	0.073
PipT-3P	0	0.073	0.071
PipT-4P	0	0.071	0.073
PipB-1P	0	0.073	0.071
PipB-2P	0	0.071	0.073
PipB-3P	0	0.073	0.071
PipB-4P	0	0.071	0.073
1X	0.198	7.116	6.126
1XY	0.168	6.116	5.126
1Y	0.168	6.116	5.126
2X	0.133	6.065	3.263
3X	0.221	9.166	8.572
3XY	0.177	7.666	7.072
3Y	0.177	7.666	7.072
4X	0.278	10.125	9.552
4XY	0.263	9.625	9.052
4Y	0.911	45.265	44.692
5X	0.0981	4.480	2.971
6X	0.238	8.426	8.838
6XY	0.238	8.426	8.838
6Y	0.238	8.426	8.838
7X	0.378	11.863	10.874
7XY	0.378	11.863	10.874
7Y	0.378	11.863	10.874
8X	0.119	5.636	2.971
9X	0.3	8.765	9.338
9XY	0.3	8.765	9.338
9Y	0.3	8.765	9.338
10X	0.395	11.077	10.504
10XY	0.395	11.077	10.504
10Y	1.09	49.167	48.594
11X	0.0981	4.480	2.971
12X	0.326	7.914	7.914
12XY	0.326	7.914	7.914
12Y	0.326	7.914	7.914
13X	0.385	9.851	9.851
13XY	0.353	9.249	9.249
13Y	0.353	9.249	9.249
14X	0.438	11.380	11.380
14XY	0.333	9.439	9.439
14Y	0.333	9.439	9.439
15X	0.471	11.948	11.948
15XY	0.471	11.948	11.948
15Y	1.16	50.038	50.038
16X	0.497	12.305	12.305
16XY	0.497	12.305	12.305
16Y	0.497	12.305	12.305
17X	0.523	12.672	12.672
17XY	0.523	12.672	12.672
17Y	0.523	12.672	12.672
18X	0.898	20.447	20.447
18XY	0.898	20.447	20.447
18Y	1.45	50.667	50.667
19X	1.28	23.174	23.174
19XY	1.28	23.174	23.174
19Y	1.73	47.824	47.824
20X	1.3	23.334	23.334
20XY	1.3	23.334	23.334
20Y	1.74	47.464	47.464
21X	1.58	27.814	27.814
21XY	1.58	27.814	27.814
21Y	2.11	57.144	57.144
22X	1.73	30.890	30.890
22XY	1.73	30.890	30.890
22Y	2.25	59.480	59.480
23X	0.408	6.275	13.902
24Y	0.408	13.902	6.275
25X	0.959	12.396	12.396
25XY	0.959	12.396	12.396
25Y	1.57	45.806	45.806
26X	0.501	8.990	8.990
26XY	0.501	8.990	8.990
26Y	0.501	8.990	8.990
MountBX	0.0582	0.906	0.625
MountTX	0.0582	0.906	0.625
3aS	0.0685	1.500	2.125
BPipeS	0.243	5.473	3.660
1aS	0.0685	1.500	2.125
TPipeS	0.391	8.610	6.798
AntATTS	3.15	96.089	96.089
Sprint1S	0.345	21.004	21.004
Sprint2S	0.345	21.004	21.004
Sprint3S	0.345	21.004	21.004
3aX	0.0685	1.500	2.125
1aX	0.0685	1.500	2.125

Total	64.8	1791.560	1761.408		

Unadjusted Dead Load and Drag Areas by Section:

Section Label	Unfactored Dead Load (kips)	X-Drag Area All (ft^2)	Y-Drag Area All (ft^2)	X-Drag Area Face (ft^2)	Y-Drag Area Face (ft^2)
SWarm	0.532	24.261	13.052	12.130	6.526
Cage	7.017	217.849	221.640	89.508	87.778
TXarm	0.392	17.920	11.883	8.960	5.942
MXarm	0.476	22.544	11.883	11.272	5.942
BXarm	0.392	17.920	11.883	8.960	5.942
Std Body	45.769	907.043	907.043	371.885	371.885
Mount	0.843	18.363	18.363	18.063	18.063
Total	55.422	1225.900	1195.748	520.778	502.077

Angle Member Weights and Surface Areas by Section:

Section Label	Unfactored Weight (kips)	Factored Weight (kips)	Unfactored Surface Area (ft^2)	Factored Surface Area (ft^2)
SWarm	0.532	0.638	95.400	114.479
Cage	7.017	7.649	1040.529	1134.176
TXarm	0.392	0.455	69.983	81.180
MXarm	0.476	0.538	84.478	95.460
BXarm	0.392	0.455	69.983	81.180
Std Body	45.769	51.719	4293.607	4851.776
Mount	0.843	0.843	58.630	58.630
Total	55.422	62.297	5712.609	6416.882

Section Joint Information:

Section Label	Joint Label	Joint Elevation (ft)
SWarm	1P	190.000
SWarm	2P	190.000
SWarm	1X	190.000
SWarm	2X	190.000
SWarm	1XY	190.000
SWarm	1Y	190.000
SWarm	3Y	184.000
SWarm	3XY	184.000
SWarm	3X	184.000
SWarm	3P	184.000
Cage	1aS	188.000
Cage	3Y	184.000
Cage	1aX	188.000
Cage	3XY	184.000
Cage	1P	190.000
Cage	3P	184.000
Cage	1X	190.000
Cage	3X	184.000
Cage	1Y	190.000
Cage	1XY	190.000
Cage	4P	178.000
Cage	4X	178.000
Cage	3aS	182.000
Cage	3aX	182.000
Cage	4Y	178.000
Cage	4XY	178.000
Cage	6P	172.000
Cage	6X	172.000
Cage	6XY	172.000
Cage	6Y	172.000
Cage	7P	166.000
Cage	7X	166.000
Cage	7XY	166.000
Cage	7Y	166.000
Cage	9P	160.000
Cage	9X	160.000
Cage	9XY	160.000
Cage	9Y	160.000
Cage	10P	154.000
Cage	10X	154.000
Cage	10XY	154.000
Cage	10Y	154.000
Cage	MountBP	182.000
Cage	MountBX	182.000
Cage	BPipeS	182.000
Cage	MountTP	188.000
Cage	MountTX	188.000
Cage	TPipeS	188.000
TXarm	4P	178.000
TXarm	5P	178.000
TXarm	4X	178.000
TXarm	5X	178.000
TXarm	4XY	178.000
TXarm	4Y	178.000
TXarm	3Y	184.000
TXarm	3XY	184.000

	TXarm	3X	184.000
	TXarm	3P	184.000
	MXarm	7P	166.000
	MXarm	8P	166.000
	MXarm	7X	166.000
	MXarm	8X	166.000
	MXarm	7XY	166.000
	MXarm	7Y	166.000
	MXarm	6Y	172.000
	MXarm	6XY	172.000
	MXarm	6X	172.000
	MXarm	6P	172.000
	BXarm	10P	154.000
	BXarm	11P	154.000
	BXarm	10X	154.000
	BXarm	11X	154.000
	BXarm	10XY	154.000
	BXarm	10Y	154.000
	BXarm	9P	160.000
	BXarm	9X	160.000
	BXarm	9XY	160.000
	BXarm	9Y	160.000
Std Body		10P	154.000
Std Body		12P	148.800
Std Body		10X	154.000
Std Body		12X	148.800
Std Body		10XY	154.000
Std Body		12XY	148.800
Std Body		10Y	154.000
Std Body		12Y	148.800
Std Body		13P	142.300
Std Body		13X	142.300
Std Body		13XY	142.300
Std Body		13Y	142.300
Std Body	Sprint1S		136.500
Std Body	Sprint2S		136.500
Std Body	Sprint3S		136.500
Std Body		14X	134.700
Std Body		14P	134.700
Std Body		14Y	134.700
Std Body		14XY	134.700
Std Body		15P	126.700
Std Body		15X	126.700
Std Body		15XY	126.700
Std Body		15Y	126.700
Std Body		16P	118.700
Std Body		16X	118.700
Std Body		16XY	118.700
Std Body		16Y	118.700
Std Body		17P	110.700
Std Body		17X	110.700
Std Body		17XY	110.700
Std Body		17Y	110.700
Std Body		18P	102.700
Std Body		18X	102.700
Std Body		18XY	102.700
Std Body		18Y	102.700
Std Body		19P	86.000
Std Body		19X	86.000
Std Body		19XY	86.000
Std Body		19Y	86.000
Std Body		20P	69.500
Std Body		20X	69.500
Std Body		20XY	69.500
Std Body		20Y	69.500
Std Body		21P	53.500
Std Body		21X	53.500
Std Body		21XY	53.500
Std Body		21Y	53.500
Std Body		22P	30.000
Std Body		22X	30.000
Std Body		22XY	30.000
Std Body		22Y	30.000
Std Body		25P	15.000
Std Body		25X	15.000
Std Body		25XY	15.000
Std Body		25Y	15.000
Std Body		26P	0.000
Std Body		26X	0.000
Std Body		26XY	0.000
Std Body		26Y	0.000
Std Body		24P	15.000
Std Body		24Y	15.000
Std Body		23X	15.000
Std Body		23P	15.000
	Mount	BPipeS	182.000
	Mount	BPipeP	181.000
	Mount	TPipeS	188.000
	Mount	AntATTS	195.000
	Mount	TPipeP	198.000
	Mount	PipT-1P	198.000
	Mount	PipT-2P	198.000
	Mount	PipT-3P	198.000
	Mount	PipT-4P	198.000
	Mount	PipB-1P	181.000
	Mount	PipB-2P	181.000

Mount	PipB-3P	181.000
Mount	PipB-4P	181.000

Sections Information:

Section Label	Top Z (ft)	Bottom Z (ft)	Joint Count	Member Count	Tran. Face Top Width (ft)	Tran. Face Bot Width (ft)	Tran. Face Gross Area (ft^2)	Long. Face Top Width (ft)	Long. Face Bot Width (ft)	Long. Face Gross Area (ft^2)
SWarm	190.000	184.000	10	8	0.00	7.25	21.750	24.00	7.25	93.750
Cage	190.000	154.000	38	116	7.25	7.25	266.000	7.25	7.25	261.000
TXarm	184.000	178.000	10	8	7.25	7.25	43.500	7.25	20.00	81.750
MXarm	172.000	166.000	10	8	7.25	7.25	43.500	7.25	24.00	93.750
BXarm	160.000	154.000	10	8	7.25	7.25	43.500	7.25	20.00	81.750
Std Body	154.000	0.000	63	191	7.25	35.00	3253.868	7.25	35.00	3253.868
Mount	198.000	181.000	13	16	1.00	1.00	17.000	1.00	1.00	17.000

Equipment Library:

Equipment Property Label	Stock Number	Weight (lbs)	Wind Area (ft^2)	Ice Area (ft^2)	Shape or EIA Antenna Type	Drag Coef.	Diameter (ft)	Height (ft)	Vertical Offset (ft)
CR-1 - 25Y - 0-22.5ft	CR-1 - 25Y	608.0	33.41	349.89	Circle	1.45	1.49	22.50	-3.75
CR-1 - 22Y - 22.5-41.75ft	CR-1 - 22Y	520.0	28.59	299.35	Circle	1.45	1.49	19.25	2.13
CR-1 - 21Y - 41.75-61.5ft	CR-1 - 21Y	533.0	29.33	307.13	Circle	1.45	1.49	19.75	-1.88
CR-1 - 20Y - 61.5-77.75ft	CR-1 - 20Y	439.0	24.13	252.70	Circle	1.45	1.49	16.25	0.13
CR-1 - 19Y - 77.75-94.35ft	CR-1 - 19Y	448.0	24.65	258.14	Circle	1.45	1.49	16.60	0.05
CR-1 - 18Y - 94.35-114.7ft	CR-1 - 18Y	549.0	30.22	316.46	Circle	1.45	1.49	20.35	1.82
CR-1 - 15Y - 114.7-140.35ft	CR-1 - 15Y	693.0	38.09	398.88	Circle	1.45	1.49	25.65	0.83
CR-1 - 10Y - 140.35-166ft	CR-1 - 10Y	693.0	38.09	398.88	Circle	1.45	1.49	25.65	-0.83
CR-1 - 4Y - 166-190ft	CR-1 - 4Y	648.0	35.64	373.22	Circle	1.45	1.49	24.00	0.00
Proposed Mount #1	12` Platform w/ handrails (EPA)	1920.0	24.77	180.00	Circle	1.45	12.38	2.00	0.00
NNH4-65A-R6	NNH4-65A-R6	103.0	7.50	23.09	Square	1.60	1.63	4.59	0.00
DMP65R-BU4DA	DMP65R-BU4DA	67.9	6.90	21.15	Square	1.60	1.73	4.00	0.00
TMA2117F00V1-1	TMA2117F00V1-1	26.0	0.81	3.01	Square	1.60	0.82	0.98	0.00
TMABPD7823VG12A	TMABPD7823VG12A	25.0	0.81	2.76	Square	1.60	0.92	0.89	0.00
AM-X-CD-14-65-00T-RET	AM-X-CD-14-65-00T-RET	36.4	3.93	12.77	Square	1.60	0.98	4.00	0.00
TT19-08BP111-001 (TMA)	TT19-08BP111-001 (TMA)	18.0	0.46	2.17	Square	1.60	0.56	0.83	0.00
CR-2 - 25P - 0-22.5ft	CR-2 - 25P	122.0	22.28	69.98	Circle	1.45	0.99	22.50	-3.75
CR-2 - 22P - 22.5-41.75ft	CR-2 - 22P	104.0	19.06	59.87	Circle	1.45	0.99	19.25	2.13
CR-2 - 21P - 41.75-61.5ft	CR-2 - 21P	107.0	19.55	61.43	Circle	1.45	0.99	19.75	-1.88
CR-2 - 20P - 61.5-77.75ft	CR-2 - 20P	88.0	16.09	50.54	Circle	1.45	0.99	16.25	0.13
CR-2 - 19P - 77.75-94.35ft	CR-2 - 19P	90.0	16.43	51.63	Circle	1.45	0.99	16.60	0.05
CR-2 - 18P - 94.35-114.7ft	CR-2 - 18P	110.0	20.15	63.29	Circle	1.45	0.99	20.35	1.82
CR-2 - 15P - 114.7-136.5ft	CR-2 - 15P	118.0	21.58	67.80	Circle	1.45	0.99	21.80	-1.10
Existing Mount #1	Microflect Frame 99292 (10` - w/ 3 mnt.	169.0	9.30	35.57	Circle	1.60	4.65	2.00	0.00
DB950G40E-M	DB950G40E-M	19.0	4.58	17.06	Square	1.60	0.92	5.00	0.00
Dish	Dish	15.0	2.00	5.50	Square	1.60	1.00	2.00	0.00
GPS	GPS	5.0	0.13	0.49	Circle	1.00	0.25	0.50	0.00

Equipment Connectivity:

Equipment Label	Attach Label	Equipment Property Set	EIA Antenna Orientation Angle (deg)
CR1-1	25Y	CR-1 - 25Y - 0-22.5ft	0.00
CR1-2	22Y	CR-1 - 22Y - 22.5-41.75ft	0.00
CR1-3	21Y	CR-1 - 21Y - 41.75-61.5ft	0.00
CR1-4	20Y	CR-1 - 20Y - 61.5-77.75ft	0.00
CR1-5	19Y	CR-1 - 19Y - 77.75-94.35ft	0.00
CR1-6	18Y	CR-1 - 18Y - 94.35-114.7ft	0.00
CR1-7	15Y	CR-1 - 15Y - 114.7-140.35ft	0.00
CR1-8	10Y	CR-1 - 10Y - 140.35-166ft	0.00
CR1-9	4Y	CR-1 - 4Y - 166-190ft	0.00
MountATT	AntATTS	Proposed Mount #1	0.00
ANT1-1	AntATTS	NNH4-65A-R6	0.00
ANT1-2	AntATTS	NNH4-65A-R6	0.00
ANT1-3	AntATTS	NNH4-65A-R6	0.00
ANT2-1	AntATTS	DMP65R-BU4DA	0.00
ANT2-2	AntATTS	DMP65R-BU4DA	0.00
ANT2-3	AntATTS	DMP65R-BU4DA	0.00
TMA1-1	AntATTS	TMA2117F00V1-1	0.00
TMA1-2	AntATTS	TMA2117F00V1-1	0.00
TMA1-3	AntATTS	TMA2117F00V1-1	0.00
TMA1-4	AntATTS	TMA2117F00V1-1	0.00
TMA1-5	AntATTS	TMA2117F00V1-1	0.00
TMA1-6	AntATTS	TMA2117F00V1-1	0.00
TMA2-1	AntATTS	TMABPD7823VG12A	0.00
TMA2-2	AntATTS	TMABPD7823VG12A	0.00
TMA2-3	AntATTS	TMABPD7823VG12A	0.00
TMA2-4	AntATTS	TMABPD7823VG12A	0.00
TMA2-5	AntATTS	TMABPD7823VG12A	0.00
TMA2-6	AntATTS	TMABPD7823VG12A	0.00
ANT3-1	AntATTS	AM-X-CD-14-65-00T-RET	0.00
ANT3-2	AntATTS	AM-X-CD-14-65-00T-RET	0.00
ANT3-3	AntATTS	AM-X-CD-14-65-00T-RET	0.00
TMA3-1	AntATTS	TT19-08BP111-001 (TMA)	0.00
TMA3-2	AntATTS	TT19-08BP111-001 (TMA)	0.00
TMA3-3	AntATTS	TT19-08BP111-001 (TMA)	0.00
Sprint1	Sprint1S	Existing Mount #1	0.00
Sprint2	Sprint2S	Existing Mount #1	0.00

Sprint3	Sprint3S	Existing Mount #1		0.00
ANT4-1	Sprint1S	DB950G40E-M		0.00
ANT4-2	Sprint2S	DB950G40E-M		0.00
ANT4-3	Sprint3S	DB950G40E-M		0.00
ANT4-4	Sprint1S	DB950G40E-M		0.00
ANT4-5	Sprint2S	DB950G40E-M		0.00
ANT4-6	Sprint3S	DB950G40E-M		0.00
SprintGPS	21P	GPS		0.00
SprintDish	17P	Dish		0.00
CR2-1	25P	CR-2 - 25P - 0-22.5ft		0.00
CR2-2	22P	CR-2 - 22P - 22.5-41.75ft		0.00
CR2-3	21P	CR-2 - 21P - 41.75-61.5ft		0.00
CR2-4	20P	CR-2 - 20P - 61.5-77.75ft		0.00
CR2-5	19P	CR-2 - 19P - 77.75-94.35ft		0.00
CR2-6	18P	CR-2 - 18P - 94.35-114.7ft		0.00
CR2-7	15P	CR-2 - 15P - 114.7-136.5ft		0.00

*** Insulator Data

Clamp Properties:

Label	Stock Number	Holding Capacity (lbs)	Hardware Capacity (lbs)	Notes
STATIC		2.5e+04	0	

Clamp Insulator Connectivity:

Clamp Label	Structure And Tip Attach	Property Set	Min. Required Vertical Load (uplift) (lbs)
1	2P	STATIC	No Limit
2	2X	STATIC	No Limit
3	5P	STATIC	No Limit
4	5X	STATIC	No Limit
5	8P	STATIC	No Limit
6	8X	STATIC	No Limit
7	11P	STATIC	No Limit
8	11X	STATIC	No Limit
9	1Y	STATIC	No Limit
10	4Y	STATIC	No Limit
11	9Y	STATIC	No Limit
12	12Y	STATIC	No Limit
13	14Y	STATIC	No Limit
14	16Y	STATIC	No Limit
15	18Y	STATIC	No Limit
16	19Y	STATIC	No Limit
17	20Y	STATIC	No Limit
18	21Y	STATIC	No Limit
19	22Y	STATIC	No Limit
20	25Y	STATIC	No Limit
21	14P	STATIC	No Limit
22	16P	STATIC	No Limit
23	18P	STATIC	No Limit
24	19P	STATIC	No Limit
25	20P	STATIC	No Limit
26	21P	STATIC	No Limit
27	22P	STATIC	No Limit
28	25P	STATIC	No Limit
30	1P	STATIC	No Limit
31	3P	STATIC	No Limit
32	3Y	STATIC	No Limit
33	17P	STATIC	No Limit
34	1XY	STATIC	No Limit
35	3XY	STATIC	No Limit
37	1X	STATIC	No Limit
38	4P	STATIC	No Limit
39	4X	STATIC	No Limit
40	7P	STATIC	No Limit
41	7X	STATIC	No Limit
42	10P	STATIC	No Limit
43	10X	STATIC	No Limit
44	13P	STATIC	No Limit
45	13X	STATIC	No Limit
46	15P	STATIC	No Limit
47	15X	STATIC	No Limit
49	18X	STATIC	No Limit
51	19X	STATIC	No Limit
53	20X	STATIC	No Limit
55	21X	STATIC	No Limit
57	22X	STATIC	No Limit
59	25X	STATIC	No Limit

*** Loads Data

Loads from file: G:\Power\1_Projects\806_Smartlink\2020\80620-0004_Old Saybrook CTL02042\001.6000_SA\Engineering Docs\PLS\80620-0004 Old Saybrook dist west river x-ing.lca

Insulator dead and wind loads are already included in the point loads printed below.

Loading Method Parameters:

Structure Height Summary (used for calculating wind/ice adjust with height):
  Z of ground for wind height adjust 0.00 (ft) and structure Z coordinate that will be put on the centerline ground profile in PLS-CADD.
  Ground elevation shift 0.00 (ft)
  Z of ground with shift 0.00 (ft)
  Z of structure top (highest joint) 198.00 (ft)
  Structure height 198.00 (ft)
  Structure height above ground 198.00 (ft)
  Tower Shape Rectangular

Load distributed evenly among joints in section for section based load cases

Vector Load Cases:

Load Case Description	Dead Load Factor	Wind Area Factor	SF for Steel Poles Tubular Arms and Towers	SF for Guys and Cables	SF for Insuls.	SF for Hardware	SF For Found.	Point Loads	Wind/Ice Model	Trans. Wind Pressure (psf)	Longit. Wind Pressure (psf)	Ice Thick. (in)	Ice Density (lbs/ft^3)	Temperature (deg F)	Joint Displ.
NESC Heavy	1.5000	1.0000	1.00000	1.0000	1.0000	0.0000	1.0000	32 loads	Wind on Face	10	0	0.500	57.000	0.0	
NESC Extreme	1.0000	1.0000	1.00000	1.0000	1.0000	0.0000	1.0000	32 loads	NESC 2012	36.8	0	0.000	0.000	0.0	
NESC Heavy Broken Wire	1.5000	1.0000	1.00000	1.0000	1.0000	0.0000	1.0000	32 loads	Wind on Face	10	0	0.500	57.000	0.0	

Point Loads for Load Case "NESC Heavy":

Joint Label	Vertical Load (lbs)	Transverse Load (lbs)	Longitudinal Load (lbs)	Load Comment
2P	3543	2157	-400	Shield Wire
2X	3543	2157	-400	Shield Wire
5P	7658	3176	-27.2	Conductor
5X	7658	3176	-27.2	Conductor
8P	7658	3176	-27.2	Conductor
8X	7658	3176	-27.2	Conductor
11P	7658	3176	-27.2	Conductor
11X	7658	3176	-27.2	Conductor
1P	226	67	0	Climbing Ladder
1X	226	67	0	Climbing Ladder
4P	453	134	0	Climbing Ladder
4X	453	134	0	Climbing Ladder
7P	456	134	0	Climbing Ladder
7X	456	134	0	Climbing Ladder
10P	514	151	0	Climbing Ladder
10X	514	151	0	Climbing Ladder
13P	574	169	0	Climbing Ladder
13X	574	169	0	Climbing Ladder
15P	617	181	0	Climbing Ladder
15X	617	181	0	Climbing Ladder
18P	639	188	0	Climbing Ladder
18X	639	188	0	Climbing Ladder
19P	610	180	0	Climbing Ladder
19X	610	180	0	Climbing Ladder
20P	588	173	0	Climbing Ladder
20X	588	173	0	Climbing Ladder
21P	704	207	0	Climbing Ladder
21X	704	207	0	Climbing Ladder
22P	692	203	0	Climbing Ladder
22X	692	203	0	Climbing Ladder
25P	278	81	0	Climbing Ladder
25X	278	81	0	Climbing Ladder

Equipment Loads for "NESC Heavy":

Equipment Label	Equipment Property Set	Elevation Above Ground (ft)	qzGh (psf)	Ice Thick. (in)	Total Wind Drag Area (ft^2)	Long. Load (lbs)	Trans. Load (lbs)	Vert. Load (lbs)
CR1-1	CR-1 - 25Y - 0-22.5ft	15.00	10.00	0.50	50.44	0.00	504.44	1742.99
CR1-2	CR-1 - 22Y - 22.5-41.75ft	30.00	10.00	0.50	43.18	0.00	431.84	1490.96
CR1-3	CR-1 - 21Y - 41.75-61.5ft	53.50	10.00	0.50	44.30	0.00	442.98	1528.93
CR1-4	CR-1 - 20Y - 61.5-77.75ft	69.50	10.00	0.50	36.47	0.00	364.67	1258.66
CR1-5	CR-1 - 19Y - 77.75-94.35ft	86.00	10.00	0.50	37.25	0.00	372.50	1285.08
CR1-6	CR-1 - 18Y - 94.35-114.7ft	102.70	10.00	0.50	45.64	0.00	456.39	1575.09
CR1-7	CR-1 - 15Y - 114.7-140.35ft	126.70	10.00	0.50	57.49	0.00	574.92	1986.84
CR1-8	CR-1 - 10Y - 140.35-166ft	154.00	10.00	0.50	57.49	0.00	574.92	1986.84
CR1-9	CR-1 - 4Y - 166-190ft	178.00	10.00	0.50	53.80	0.00	538.02	1858.40
MountATT	Proposed Mount #1	195.00	10.00	0.50	37.11	0.00	371.15	3307.50
ANT1-1	NNH4-65A-R6	195.00	10.00	0.50	12.52	0.00	125.18	209.34
ANT1-2	NNH4-65A-R6	195.00	10.00	0.50	12.52	0.00	125.18	209.34
ANT1-3	NNH4-65A-R6	195.00	10.00	0.50	12.52	0.00	125.18	209.34
ANT2-1	DMP65R-BU4DA	195.00	10.00	0.50	11.52	0.00	115.17	152.08

ANT2-2	DMP65R-BU4DA	195.00	10.00	0.50	11.52	0.00	115.17	152.08
ANT2-3	DMP65R-BU4DA	195.00	10.00	0.50	11.52	0.00	115.17	152.08
TMA1-1	TMA2117F00V1-1	195.00	10.00	0.50	1.45	0.00	14.46	46.15
TMA1-2	TMA2117F00V1-1	195.00	10.00	0.50	1.45	0.00	14.46	46.15
TMA1-3	TMA2117F00V1-1	195.00	10.00	0.50	1.45	0.00	14.46	46.15
TMA1-4	TMA2117F00V1-1	195.00	10.00	0.50	1.45	0.00	14.46	46.15
TMA1-5	TMA2117F00V1-1	195.00	10.00	0.50	1.45	0.00	14.46	46.15
TMA1-6	TMA2117F00V1-1	195.00	10.00	0.50	1.45	0.00	14.46	46.15
TMA2-1	TMABPD7823VG12A	195.00	10.00	0.50	1.45	0.00	14.47	44.05
TMA2-2	TMABPD7823VG12A	195.00	10.00	0.50	1.45	0.00	14.47	44.05
TMA2-3	TMABPD7823VG12A	195.00	10.00	0.50	1.45	0.00	14.47	44.05
TMA2-4	TMABPD7823VG12A	195.00	10.00	0.50	1.45	0.00	14.47	44.05
TMA2-5	TMABPD7823VG12A	195.00	10.00	0.50	1.45	0.00	14.47	44.05
TMA2-6	TMABPD7823VG12A	195.00	10.00	0.50	1.45	0.00	14.47	44.05
ANT3-1	AM-X-CD-14-65-00T-RET	195.00	10.00	0.50	6.70	0.00	67.03	84.93
ANT3-2	AM-X-CD-14-65-00T-RET	195.00	10.00	0.50	6.70	0.00	67.03	84.93
ANT3-3	AM-X-CD-14-65-00T-RET	195.00	10.00	0.50	6.70	0.00	67.03	84.93
TMA3-1	TT19-08BP111-001 (TMA)	195.00	10.00	0.50	0.85	0.00	8.52	32.15
TMA3-2	TT19-08BP111-001 (TMA)	195.00	10.00	0.50	0.85	0.00	8.52	32.15
TMA3-3	TT19-08BP111-001 (TMA)	195.00	10.00	0.50	0.85	0.00	8.52	32.15
Sprint1	Existing Mount #1	136.50	10.00	0.50	15.43	0.00	154.34	337.98
Sprint2	Existing Mount #1	136.50	10.00	0.50	15.43	0.00	154.34	337.98
Sprint3	Existing Mount #1	136.50	10.00	0.50	15.43	0.00	154.34	337.98
ANT4-1	DB950G40E-M	136.50	10.00	0.50	7.82	0.00	78.21	69.02
ANT4-2	DB950G40E-M	136.50	10.00	0.50	7.82	0.00	78.21	69.02
ANT4-3	DB950G40E-M	136.50	10.00	0.50	7.82	0.00	78.21	69.02
ANT4-4	DB950G40E-M	136.50	10.00	0.50	7.82	0.00	78.21	69.02
ANT4-5	DB950G40E-M	136.50	10.00	0.50	7.82	0.00	78.21	69.02
ANT4-6	DB950G40E-M	136.50	10.00	0.50	7.82	0.00	78.21	69.02
SprintGPS	GPS	53.50	10.00	0.50	0.19	0.00	1.92	8.66
SprintDish	Dish	110.70	10.00	0.50	3.45	0.00	34.50	35.56
CR2-1	CR-2 - 25P - 0-22.5ft	15.00	10.00	0.50	34.26	0.00	342.63	349.20
CR2-2	CR-2 - 22P - 22.5-41.75ft	30.00	10.00	0.50	29.32	0.00	293.24	298.19
CR2-3	CR-2 - 21P - 41.75-61.5ft	53.50	10.00	0.50	30.08	0.00	300.76	306.40
CR2-4	CR-2 - 20P - 61.5-77.75ft	69.50	10.00	0.50	24.77	0.00	247.67	252.03
CR2-5	CR-2 - 19P - 77.75-94.35ft	86.00	10.00	0.50	25.29	0.00	252.89	257.62
CR2-6	CR-2 - 18P - 94.35-114.7ft	102.70	10.00	0.50	31.00	0.00	309.96	315.31
CR2-7	CR-2 - 15P - 114.7-136.5ft	126.70	10.00	0.50	33.19	0.00	331.90	338.03

Section Load Case Information (Standard) for "NESC Heavy":

Section Label	Z of Top (ft)	Z of Bottom (ft)	Ave. Elev. Above Ground (ft)	Res. Adj. Wind Pres. (psf)	Tran Adj. Wind Pres. (psf)	Tran Drag Coef	Tran Wind Load (lbs)	Long Adj. Wind Pres. (psf)	Long Drag Coef	Long Wind Load (lbs)	Ice Weight (lbs)	Total Weight (lbs)
SWarm	190.00	184.00	187.00	10.00	10.00	3.710	307.9	0.00	3.480	0.0	302	1259
Cage	190.00	154.00	172.00	10.00	10.00	3.230	3483.1	0.00	3.230	0.0	2991	14464
TXarm	184.00	178.00	181.00	10.00	10.00	3.200	246.9	0.00	3.200	0.0	217	900
MXarm	172.00	166.00	169.00	10.00	10.00	3.200	246.9	0.00	3.200	0.0	255	1061
BXarm	160.00	154.00	157.00	10.00	10.00	3.200	246.9	0.00	3.200	0.0	217	900
Std Body	154.00	0.00	77.00	10.00	10.00	3.470	15703.0	0.00	3.470	0.0	13567	91146
Mount	198.00	181.00	189.50	10.00	10.00	1.000	223.1	0.00	1.000	0.0	167	1432

Point Loads for Load Case "NESC Extreme":

Joint Label	Vertical Load (lbs)	Transverse Load (lbs)	Longitudinal Load (lbs)	Load Comment
2P	761	1929	-1445	Shield Wire
2X	761	1929	-1445	Shield Wire
5P	2525	4693	-5866	Conductor
5X	2525	4693	-5866	Conductor
8P	2525	4693	-5866	Conductor
8X	2525	4693	-5866	Conductor
11P	2525	4693	-5866	Conductor
11X	2525	4693	-5866	Conductor
1P	96	180	0	Climbing Ladder
1X	96	180	0	Climbing Ladder
4P	192	359	0	Climbing Ladder
4X	192	359	0	Climbing Ladder
7P	193	359	0	Climbing Ladder
7X	193	359	0	Climbing Ladder
10P	217	404	0	Climbing Ladder
10X	217	404	0	Climbing Ladder
13P	242	450	0	Climbing Ladder
13X	242	450	0	Climbing Ladder
15P	260	479	0	Climbing Ladder
15X	260	479	0	Climbing Ladder
18P	269	498	0	Climbing Ladder
18X	269	498	0	Climbing Ladder
19P	257	478	0	Climbing Ladder
19X	257	478	0	Climbing Ladder
20P	248	459	0	Climbing Ladder
20X	248	459	0	Climbing Ladder
21P	296	547	0	Climbing Ladder
21X	296	547	0	Climbing Ladder
22P	291	536	0	Climbing Ladder
22X	291	536	0	Climbing Ladder
25P	117	214	0	Climbing Ladder
25X	117	214	0	Climbing Ladder

Equipment Loads for "NESC Extreme":

Equipment Label	Equipment Property Set	Elevation Above Ground (ft)	qzGh (psf)	Ice Thick. (in)	Total Wind Drag Area (ft^2)	Long. Load (lbs)	Trans. Load (lbs)	Vert. Load (lbs)
CR1-1	CR-1 - 25Y - 0-22.5ft	15.00	40.14	0.00	48.44	0.00	1944.70	608.00
CR1-2	CR-1 - 22Y - 22.5-41.75ft	30.00	40.14	0.00	41.46	0.00	1664.14	520.00
CR1-3	CR-1 - 21Y - 41.75-61.5ft	53.50	40.14	0.00	42.53	0.00	1707.21	533.00
CR1-4	CR-1 - 20Y - 61.5-77.75ft	69.50	40.14	0.00	34.99	0.00	1404.53	439.00
CR1-5	CR-1 - 19Y - 77.75-94.35ft	86.00	40.14	0.00	35.74	0.00	1434.80	448.00
CR1-6	CR-1 - 18Y - 94.35-114.7ft	102.70	40.14	0.00	43.82	0.00	1759.02	549.00
CR1-7	CR-1 - 15Y - 114.7-140.35ft	126.70	40.14	0.00	55.23	0.00	2217.10	693.00
CR1-8	CR-1 - 10Y - 140.35-166ft	154.00	40.14	0.00	55.23	0.00	2217.10	693.00
CR1-9	CR-1 - 4Y - 166-190ft	178.00	40.14	0.00	51.68	0.00	2074.50	648.00
MountATT	Proposed Mount #1	195.00	40.14	0.00	35.92	0.00	1441.79	1920.00
ANT1-1	NNH4-65A-R6	195.00	40.14	0.00	12.00	0.00	481.71	103.00
ANT1-2	NNH4-65A-R6	195.00	40.14	0.00	12.00	0.00	481.71	103.00
ANT1-3	NNH4-65A-R6	195.00	40.14	0.00	12.00	0.00	481.71	103.00
ANT2-1	DMP65R-BU4DA	195.00	40.14	0.00	11.04	0.00	443.18	67.90
ANT2-2	DMP65R-BU4DA	195.00	40.14	0.00	11.04	0.00	443.18	67.90
ANT2-3	DMP65R-BU4DA	195.00	40.14	0.00	11.04	0.00	443.18	67.90
TMA1-1	TMA2117F00V1-1	195.00	40.14	0.00	1.30	0.00	52.03	26.00
TMA1-2	TMA2117F00V1-1	195.00	40.14	0.00	1.30	0.00	52.03	26.00
TMA1-3	TMA2117F00V1-1	195.00	40.14	0.00	1.30	0.00	52.03	26.00
TMA1-4	TMA2117F00V1-1	195.00	40.14	0.00	1.30	0.00	52.03	26.00
TMA1-5	TMA2117F00V1-1	195.00	40.14	0.00	1.30	0.00	52.03	26.00
TMA1-6	TMA2117F00V1-1	195.00	40.14	0.00	1.30	0.00	52.03	26.00
TMA2-1	TMABPD7823VG12A	195.00	40.14	0.00	1.30	0.00	52.03	25.00
TMA2-2	TMABPD7823VG12A	195.00	40.14	0.00	1.30	0.00	52.03	25.00
TMA2-3	TMABPD7823VG12A	195.00	40.14	0.00	1.30	0.00	52.03	25.00
TMA2-4	TMABPD7823VG12A	195.00	40.14	0.00	1.30	0.00	52.03	25.00
TMA2-5	TMABPD7823VG12A	195.00	40.14	0.00	1.30	0.00	52.03	25.00
TMA2-6	TMABPD7823VG12A	195.00	40.14	0.00	1.30	0.00	52.03	25.00
ANT3-1	AM-X-CD-14-65-00T-RET	195.00	40.14	0.00	6.29	0.00	252.42	36.40
ANT3-2	AM-X-CD-14-65-00T-RET	195.00	40.14	0.00	6.29	0.00	252.42	36.40
ANT3-3	AM-X-CD-14-65-00T-RET	195.00	40.14	0.00	6.29	0.00	252.42	36.40
TMA3-1	TT19-08BP111-001 (TMA)	195.00	40.14	0.00	0.74	0.00	29.55	18.00
TMA3-2	TT19-08BP111-001 (TMA)	195.00	40.14	0.00	0.74	0.00	29.55	18.00
TMA3-3	TT19-08BP111-001 (TMA)	195.00	40.14	0.00	0.74	0.00	29.55	18.00
Sprint1	Existing Mount #1	136.50	40.14	0.00	14.88	0.00	597.32	169.00
Sprint2	Existing Mount #1	136.50	40.14	0.00	14.88	0.00	597.32	169.00
Sprint3	Existing Mount #1	136.50	40.14	0.00	14.88	0.00	597.32	169.00
ANT4-1	DB950G40E-M	136.50	40.14	0.00	7.33	0.00	294.17	19.00
ANT4-2	DB950G40E-M	136.50	40.14	0.00	7.33	0.00	294.17	19.00
ANT4-3	DB950G40E-M	136.50	40.14	0.00	7.33	0.00	294.17	19.00
ANT4-4	DB950G40E-M	136.50	40.14	0.00	7.33	0.00	294.17	19.00
ANT4-5	DB950G40E-M	136.50	40.14	0.00	7.33	0.00	294.17	19.00
ANT4-6	DB950G40E-M	136.50	40.14	0.00	7.33	0.00	294.17	19.00
SprintGPS	GPS	53.50	40.14	0.00	0.13	0.00	5.22	5.00
SprintDish	Dish	110.70	40.14	0.00	3.20	0.00	128.46	15.00
CR2-1	CR-2 - 25P - 0-22.5ft	15.00	40.14	0.00	32.31	0.00	1296.85	122.00
CR2-2	CR-2 - 22P - 22.5-41.75ft	30.00	40.14	0.00	27.64	0.00	1109.43	104.00
CR2-3	CR-2 - 21P - 41.75-61.5ft	53.50	40.14	0.00	28.35	0.00	1137.95	107.00
CR2-4	CR-2 - 20P - 61.5-77.75ft	69.50	40.14	0.00	23.33	0.00	936.55	88.00
CR2-5	CR-2 - 19P - 77.75-94.35ft	86.00	40.14	0.00	23.82	0.00	956.34	90.00
CR2-6	CR-2 - 18P - 94.35-114.7ft	102.70	40.14	0.00	29.22	0.00	1172.87	110.00
CR2-7	CR-2 - 15P - 114.7-136.5ft	126.70	40.14	0.00	31.29	0.00	1256.11	118.00

Section Load Case Information (Code) for "NESC Extreme":

Section Label	Z of Top (ft)	Z of Bottom (ft)	Ave. Elev. Above Ground (ft)	Res. Adj. Wind Pres. (psf)	Tran Adj. Wind Pres. (psf)	Tran Angle Face Area (ft^2)	Tran Round Face Area (ft^2)	Tran Gross Area (ft^2)	Tran Soli- dity Ratio	Angle Drag Coef	Tran Round Drag Coef	Tran Wind Load (lbs)	Long Adj. Wind Pres. (psf)	Long Angle Face Area (ft^2)	Long Round Face Area (ft^2)	Long Gross Area (ft^2)	Long Soli- dity Ratio	Long Angle Drag Coef	Long Round Drag Coef	Long Wind Load (lbs)	Ice Weight (lbs)	Total Weight (lbs)
SWarm	190.00	184.00	187.00	40.14	40.14	7.57	0.00	21.75	0.348	3.200	2.000	972.4	0.00	13.22	0.00	93.75	0.141	3.200	2.000	0.0	0	638
Cage	190.00	154.00	172.00	40.14	40.14	86.13	2.52	266.00	0.333	3.200	2.000	11266.9	0.00	83.08	7.32	261.00	0.346	3.200	2.000	0.0	0	7649
TXarm	184.00	178.00	181.00	40.14	40.14	5.94	0.00	43.50	0.137	3.200	2.000	763.2	0.00	8.96	0.00	81.75	0.110	3.200	2.000	0.0	0	455
MXarm	172.00	166.00	169.00	40.14	40.14	5.94	0.00	43.50	0.137	3.200	2.000	763.2	0.00	11.27	0.00	93.75	0.120	3.200	2.000	0.0	0	538
BXarm	160.00	154.00	157.00	40.14	40.14	5.94	0.00	43.50	0.137	3.200	2.000	763.2	0.00	8.96	0.00	81.75	0.110	3.200	2.000	0.0	0	455
Std Body	154.00	0.00	77.00	40.14	40.14	405.35	0.00	3253.87	0.125	3.200	2.000	52070.6	0.00	405.35	0.00	3253.87	0.125	3.200	2.000	0.0	0	51719
Mount	198.00	181.00	189.50	40.14	40.14	0.00	9.03	17.00	0.531	3.200	2.000	725.1	0.00	0.00	9.03	17.00	0.531	3.200	2.000	0.0	0	843

Point Loads for Load Case "NESC Heavy Broken Wire":

Joint Label	Vertical Load (lbs)	Transverse Load (lbs)	Longitudinal Load (lbs)	Load Comment
2P	1255	1189	-13580	Broken Shield Wire
2X	3543	2157	-400	Shield Wire
5P	2778	1704	-19800	Broken Conductor
5X	7658	3176	-27.2	Conductor
8P	7658	3176	-27.2	Conductor
8X	7658	3176	-27.2	Conductor
11P	7658	3176	-27.2	Conductor
11X	7658	3176	-27.2	Conductor
1P	226	67	0	Climbing Ladder
1X	226	67	0	Climbing Ladder
4P	453	134	0	Climbing Ladder
4X	453	134	0	Climbing Ladder
7P	456	134	0	Climbing Ladder

7X	456	134	0	Climbing Ladder
10P	514	151	0	Climbing Ladder
10X	514	151	0	Climbing Ladder
13P	574	169	0	Climbing Ladder
13X	574	169	0	Climbing Ladder
15P	617	181	0	Climbing Ladder
15X	617	181	0	Climbing Ladder
18P	639	188	0	Climbing Ladder
18X	639	188	0	Climbing Ladder
19P	610	180	0	Climbing Ladder
19X	610	180	0	Climbing Ladder
20P	588	173	0	Climbing Ladder
20X	588	173	0	Climbing Ladder
21P	704	207	0	Climbing Ladder
21X	704	207	0	Climbing Ladder
22P	692	203	0	Climbing Ladder
22X	692	203	0	Climbing Ladder
25P	278	81	0	Climbing Ladder
25X	278	81	0	Climbing Ladder

Equipment Loads for "NESC Heavy Broken Wire":

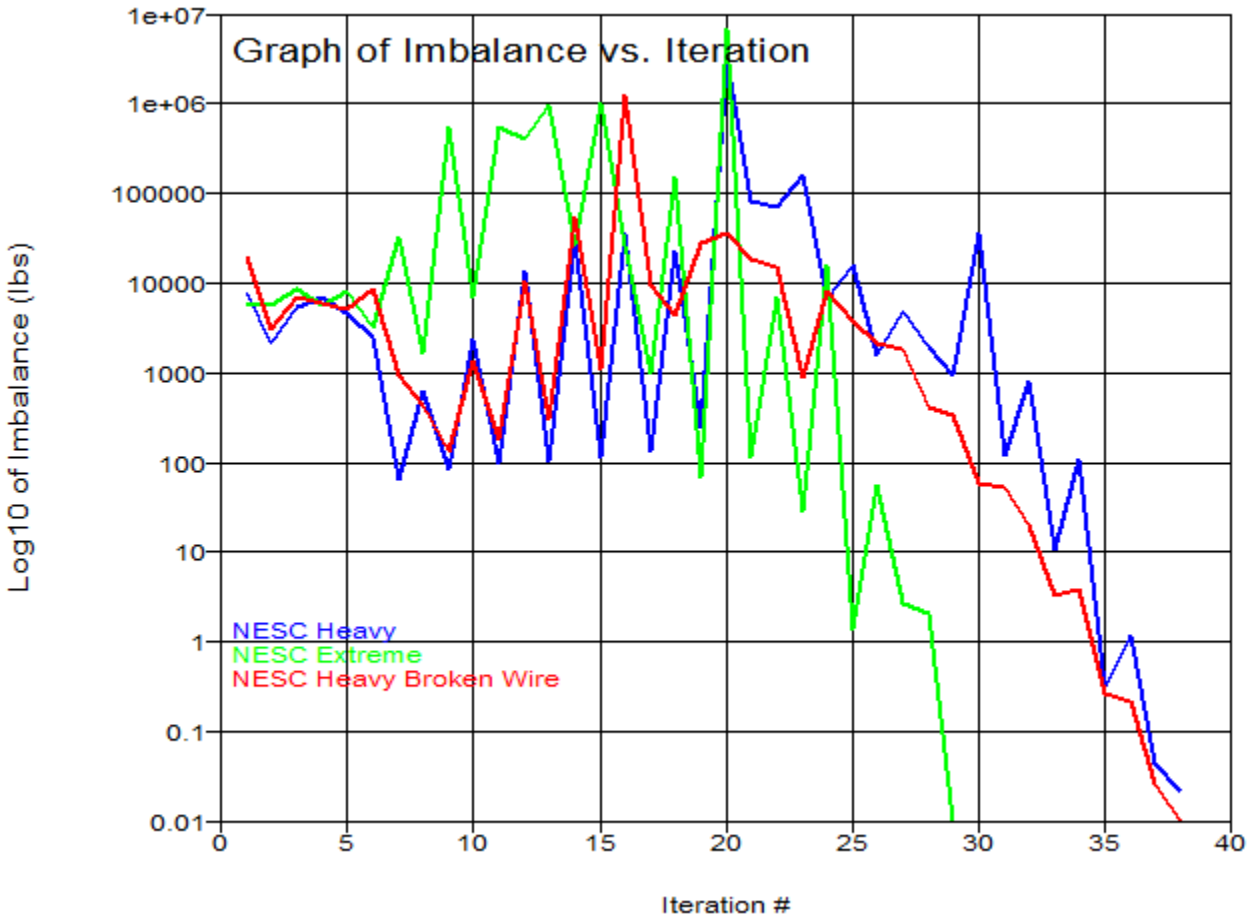
Equipment Label	Equipment Property Set	Elevation Above Ground (ft)	qzGh (psf)	Ice Thick. (in)	Total Wind Drag Area (ft^2)	Long. Load (lbs)	Trans. Load (lbs)	Vert. Load (lbs)
CR1-1	CR-1 - 25Y - 0-22.5ft	15.00	10.00	0.50	50.44	0.00	504.44	1742.99
CR1-2	CR-1 - 22Y - 22.5-41.75ft	30.00	10.00	0.50	43.18	0.00	431.84	1490.96
CR1-3	CR-1 - 21Y - 41.75-61.5ft	53.50	10.00	0.50	44.30	0.00	442.98	1528.93
CR1-4	CR-1 - 20Y - 61.5-77.75ft	69.50	10.00	0.50	36.47	0.00	364.67	1258.66
CR1-5	CR-1 - 19Y - 77.75-94.35ft	86.00	10.00	0.50	37.25	0.00	372.50	1285.08
CR1-6	CR-1 - 18Y - 94.35-114.7ft	102.70	10.00	0.50	45.64	0.00	456.39	1575.09
CR1-7	CR-1 - 15Y - 114.7-140.35ft	126.70	10.00	0.50	57.49	0.00	574.92	1986.84
CR1-8	CR-1 - 10Y - 140.35-166ft	154.00	10.00	0.50	57.49	0.00	574.92	1986.84
CR1-9	CR-1 - 4Y - 166-190ft	178.00	10.00	0.50	53.80	0.00	538.02	1858.40
MountATT	Proposed Mount #1	195.00	10.00	0.50	37.11	0.00	371.15	3307.50
ANT1-1	NNH4-65A-R6	195.00	10.00	0.50	12.52	0.00	125.18	209.34
ANT1-2	NNH4-65A-R6	195.00	10.00	0.50	12.52	0.00	125.18	209.34
ANT1-3	NNH4-65A-R6	195.00	10.00	0.50	12.52	0.00	125.18	209.34
ANT2-1	DMP65R-BU4DA	195.00	10.00	0.50	11.52	0.00	115.17	152.08
ANT2-2	DMP65R-BU4DA	195.00	10.00	0.50	11.52	0.00	115.17	152.08
ANT2-3	DMP65R-BU4DA	195.00	10.00	0.50	11.52	0.00	115.17	152.08
TMA1-1	TMA2117F00V1-1	195.00	10.00	0.50	1.45	0.00	14.46	46.15
TMA1-2	TMA2117F00V1-1	195.00	10.00	0.50	1.45	0.00	14.46	46.15
TMA1-3	TMA2117F00V1-1	195.00	10.00	0.50	1.45	0.00	14.46	46.15
TMA1-4	TMA2117F00V1-1	195.00	10.00	0.50	1.45	0.00	14.46	46.15
TMA1-5	TMA2117F00V1-1	195.00	10.00	0.50	1.45	0.00	14.46	46.15
TMA1-6	TMA2117F00V1-1	195.00	10.00	0.50	1.45	0.00	14.46	46.15
TMA2-1	TMABPD7823VG12A	195.00	10.00	0.50	1.45	0.00	14.47	44.05
TMA2-2	TMABPD7823VG12A	195.00	10.00	0.50	1.45	0.00	14.47	44.05
TMA2-3	TMABPD7823VG12A	195.00	10.00	0.50	1.45	0.00	14.47	44.05
TMA2-4	TMABPD7823VG12A	195.00	10.00	0.50	1.45	0.00	14.47	44.05
TMA2-5	TMABPD7823VG12A	195.00	10.00	0.50	1.45	0.00	14.47	44.05
TMA2-6	TMABPD7823VG12A	195.00	10.00	0.50	1.45	0.00	14.47	44.05
ANT3-1	AM-X-CD-14-65-00T-RET	195.00	10.00	0.50	6.70	0.00	67.03	84.93
ANT3-2	AM-X-CD-14-65-00T-RET	195.00	10.00	0.50	6.70	0.00	67.03	84.93
ANT3-3	AM-X-CD-14-65-00T-RET	195.00	10.00	0.50	6.70	0.00	67.03	84.93
TMA3-1	TT19-08BP111-001 (TMA)	195.00	10.00	0.50	0.85	0.00	8.52	32.15
TMA3-2	TT19-08BP111-001 (TMA)	195.00	10.00	0.50	0.85	0.00	8.52	32.15
TMA3-3	TT19-08BP111-001 (TMA)	195.00	10.00	0.50	0.85	0.00	8.52	32.15
Sprint1	Existing Mount #1	136.50	10.00	0.50	15.43	0.00	154.34	337.98
Sprint2	Existing Mount #1	136.50	10.00	0.50	15.43	0.00	154.34	337.98
Sprint3	Existing Mount #1	136.50	10.00	0.50	15.43	0.00	154.34	337.98
ANT4-1	DB950G40E-M	136.50	10.00	0.50	7.82	0.00	78.21	69.02
ANT4-2	DB950G40E-M	136.50	10.00	0.50	7.82	0.00	78.21	69.02
ANT4-3	DB950G40E-M	136.50	10.00	0.50	7.82	0.00	78.21	69.02
ANT4-4	DB950G40E-M	136.50	10.00	0.50	7.82	0.00	78.21	69.02
ANT4-5	DB950G40E-M	136.50	10.00	0.50	7.82	0.00	78.21	69.02
ANT4-6	DB950G40E-M	136.50	10.00	0.50	7.82	0.00	78.21	69.02
SprintGPS	GPS	53.50	10.00	0.50	0.19	0.00	1.92	8.66
SprintDish	Dish	110.70	10.00	0.50	3.45	0.00	34.50	35.56
CR2-1	CR-2 - 25P - 0-22.5ft	15.00	10.00	0.50	34.26	0.00	342.63	349.20
CR2-2	CR-2 - 22P - 22.5-41.75ft	30.00	10.00	0.50	29.32	0.00	293.24	298.19
CR2-3	CR-2 - 21P - 41.75-61.5ft	53.50	10.00	0.50	30.08	0.00	300.76	306.40
CR2-4	CR-2 - 20P - 61.5-77.75ft	69.50	10.00	0.50	24.77	0.00	247.67	252.03
CR2-5	CR-2 - 19P - 77.75-94.35ft	86.00	10.00	0.50	25.29	0.00	252.89	257.62
CR2-6	CR-2 - 18P - 94.35-114.7ft	102.70	10.00	0.50	31.00	0.00	309.96	315.31
CR2-7	CR-2 - 15P - 114.7-136.5ft	126.70	10.00	0.50	33.19	0.00	331.90	338.03

Section Load Case Information (Standard) for "NESC Heavy Broken Wire":

Section Label	Z of Top (ft)	Z of Bottom (ft)	Ave. Elev. Above Ground (ft)	Res. Adj. Wind Pres. (psf)	Tran Adj. Wind Pres. (psf)	Tran Drag Coef	Tran Wind Load (lbs)	Long Adj. Wind Pres. (psf)	Long Drag Coef	Long Wind Load (lbs)	Ice Weight (lbs)	Total Weight (lbs)
SWarm	190.00	184.00	187.00	10.00	10.00	3.710	307.9	0.00	3.480	0.0	302	1259
Cage	190.00	154.00	172.00	10.00	10.00	3.230	3483.1	0.00	3.230	0.0	2991	14464
TXarm	184.00	178.00	181.00	10.00	10.00	3.200	246.9	0.00	3.200	0.0	217	900
MXarm	172.00	166.00	169.00	10.00	10.00	3.200	246.9	0.00	3.200	0.0	255	1061
BXarm	160.00	154.00	157.00	10.00	10.00	3.200	246.9	0.00	3.200	0.0	217	900
Std Body	154.00	0.00	77.00	10.00	10.00	3.470	15703.0	0.00	3.470	0.0	13567	91146
Mount	198.00	181.00	189.50	10.00	10.00	1.000	223.1	0.00	1.000	0.0	167	1432

*** Analysis Results:

Maximum element usage is 99.86% for Angle "58P" in load case "NESC Extreme"
Maximum insulator usage is 80.44% for Clamp "3" in load case "NESC Heavy Broken Wire"



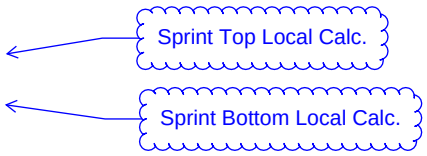
Angle Forces For All Load Cases:
Positive for tension - negative for compression

Group Label	Angle Label	Max. Usage For All LC %	Max. Tens. For All LC (kips)	Max. Comp. For All LC (kips)	LC 1 (kips)	LC 2 (kips)	LC 3 (kips)
Leg1a	3bP	1.98	2.846	-2.303	-0.775	2.846	-2.303
Leg1a	3bX	6.76	0.000	-9.264	-4.842	-7.022	-9.264
Leg1	3P	2.35	3.387	0.000	0.798	2.366	3.387
Leg1	3X	1.81	2.017	-2.327	-1.647	-2.327	2.017
Leg1	3aP	1.36	1.286	-1.872	0.349	1.286	-1.872
Leg1	3aX	4.31	0.000	-5.941	-2.064	-2.696	-5.941
Leg1	4P	11.93	12.487	-0.408	-0.408	9.364	12.487
Leg1	4X	7.67	0.000	-9.873	-8.820	-9.873	-3.675
Leg1b	4aP	5.67	4.085	-7.809	-4.669	4.085	-7.809
Leg1b	4aX	15.74	0.000	-21.688	-13.559	-14.050	-21.688
Leg1c	4bP	6.51	4.408	-8.922	-6.134	4.408	-8.922
Leg1c	4bX	18.05	0.000	-24.754	-16.129	-17.300	-24.754
Leg1	5P	20.49	22.586	0.000	1.592	21.894	22.586
Leg1	5X	12.70	1.798	-16.339	-15.850	-16.339	1.798
Leg1	5XY	35.34	0.000	-45.477	-23.927	-32.254	-45.477

AT&T Top Local Calc.

AT&T Bottom Local Calc.

Leg1	5Y	12.91	8.773	-16.619	-6.487	8.773	-16.619
Leg2	6P	25.02	40.826	0.000	3.933	39.570	40.826
Leg2	6X	16.31	4.091	-26.612	-26.612	-26.063	4.091
Leg2	6XY	41.45	0.000	-67.653	-35.416	-52.332	-67.653
Leg2	6Y	20.17	14.343	-32.923	-5.012	14.343	-32.923
Leg2	7P	31.27	63.728	0.000	11.730	63.728	59.353
Leg2	7X	14.40	11.864	-34.662	-34.662	-32.334	11.864
Leg2	7XY	37.31	0.000	-89.779	-43.999	-77.600	-89.779
Leg2	7Y	16.00	21.271	-38.504	2.702	21.271	-38.504
Leg2	8P	45.64	89.005	0.000	16.812	89.005	78.622
Leg2	8X	19.67	9.806	-47.339	-47.339	-40.628	9.806
Leg2	8XY	46.34	0.000	-111.520	-57.191	-105.545	-111.520
Leg2	8Y	20.89	27.140	-50.268	7.329	27.140	-50.268
Leg3	9P	43.42	114.883	0.000	25.192	114.883	95.107
Leg3	9X	18.86	11.179	-56.892	-56.892	-48.240	11.179
Leg3	9XY	44.87	0.000	-135.336	-67.014	-135.336	-130.150
Leg3	9Y	17.66	33.842	-53.273	14.306	33.842	-53.273
Leg3	10P	50.71	134.178	0.000	29.766	134.178	102.641
Leg3	10X	20.14	8.894	-64.802	-64.802	-52.452	8.894
Leg3	10XY	49.51	0.000	-159.310	-75.132	-159.310	-142.192
Leg3	10Y	16.20	38.227	-52.124	19.903	38.227	-52.124
Leg3	11P	57.08	151.037	0.000	33.755	151.037	107.716
Leg3	11YP	16.44	43.508	-49.115	25.480	43.508	-49.115
Leg3	11XYP	57.43	0.000	-179.573	-81.007	-179.573	-150.248
Leg3	11XP	22.83	5.982	-71.371	-71.371	-57.091	5.982
Leg3	11aP	56.77	150.208	0.000	33.060	150.208	107.021
Leg3	11aXYP	16.13	42.679	-49.810	24.785	42.679	-49.810
Leg3	11aYP	57.83	0.000	-180.762	-81.767	-180.762	-151.008
Leg4	12P	58.17	167.629	0.000	37.420	167.629	112.936
Leg4	12X	23.15	2.998	-77.952	-77.952	-64.172	2.998
Leg4	12XY	59.96	0.000	-201.892	-87.998	-201.892	-159.760
Leg4	12Y	17.31	49.889	-47.507	30.028	49.889	-47.507
Leg4	13P	63.52	183.040	0.000	40.082	183.040	116.626
Leg4	13X	25.04	0.000	-84.319	-84.319	-72.092	-0.700
Leg4	13XY	65.51	0.000	-220.571	-93.697	-220.571	-166.711
Leg4	13Y	20.08	57.860	-46.797	32.502	57.860	-46.797
Leg5	14P	63.55	196.445	0.000	42.728	196.445	120.340
Leg5	14X	24.90	0.000	-90.013	-90.013	-81.379	-4.331
Leg5	14XY	66.31	0.000	-239.672	-99.561	-239.672	-174.753
Leg5	14Y	20.77	64.204	-46.028	35.702	64.204	-46.028
Leg5	15P	67.84	210.049	0.000	45.619	210.049	123.851
Leg5	15X	26.13	0.000	-94.434	-94.434	-87.235	-7.012
Leg5	15XY	69.78	0.000	-252.224	-103.925	-252.224	-178.772
Leg5	15Y	23.64	73.213	-42.783	39.271	73.213	-42.783
Leg6	16P	64.60	215.066	0.000	43.124	215.066	120.032
Leg6	16X	29.25	0.000	-112.478	-102.818	-112.478	-18.937
Leg6	16XY	72.99	0.000	-280.642	-111.785	-280.642	-199.758
Leg6	16Y	20.10	66.921	-56.978	36.334	66.921	-56.978
Leg7	17P	68.22	241.660	0.000	46.615	241.660	126.379
Leg7	17X	31.62	0.000	-129.929	-115.409	-129.929	-25.495
Leg7	17XY	72.48	0.000	-297.832	-123.285	-297.832	-206.935
Leg7	17Y	21.97	77.817	-53.335	39.881	77.817	-53.335
Leg7	18P	74.44	263.683	0.000	49.252	263.683	130.947
Leg7	18X	35.15	0.000	-145.574	-124.059	-145.574	-32.444
Leg7	18XY	75.53	0.000	-312.794	-131.037	-312.794	-213.746
Leg7	18Y	24.76	87.698	-50.744	42.387	87.698	-50.744
Leg8	19P	74.49	280.966	0.000	50.103	280.966	133.479
Leg8	19X	37.53	0.000	-166.060	-135.126	-166.060	-42.610
Leg8	19XY	74.90	0.000	-331.421	-141.026	-331.421	-224.805
Leg8	19Y	24.82	93.611	-51.913	42.895	93.611	-51.913
Leg8	20P	80.30	302.894	0.000	52.501	302.894	139.471
Leg8	20X	42.85	0.000	-191.434	-149.258	-191.434	-54.923
Leg8	20XY	79.04	0.000	-353.088	-152.658	-353.088	-236.775
Leg8	20Y	27.04	101.979	-48.286	44.097	101.979	-48.286
Leg8	21P	80.47	301.915	0.000	50.079	301.915	136.973
Leg8	21X	43.09	0.000	-192.482	-151.432	-192.482	-57.041
Leg8	21XY	79.28	0.000	-354.158	-154.633	-354.158	-238.735
Leg8	21Y	26.83	100.686	-51.788	40.548	100.686	-51.788
XBR1	22P	20.96	5.237	-2.791	-1.203	-2.791	5.237
XBR1	22X	18.41	3.920	-2.950	2.626	3.920	-2.950
XBR1	22XY	34.59	8.643	0.000	2.673	4.341	8.643
XBR1	22Y	58.53	0.000	-9.376	-1.690	-4.565	-9.376
XBR1	23P	9.92	0.000	-1.126	-1.126	-0.868	-1.119
XBR1	23X	73.52	0.000	-11.777	-1.058	-1.437	-11.777
XBR1	23XY	46.59	11.642	0.000	0.488	1.778	11.642
XBR1	23Y	1.40	0.064	-0.159	0.038	-0.159	0.064
XBR1	24P	24.13	1.835	-3.865	-2.827	-3.865	1.835
XBR1	24X	20.36	5.087	-1.258	1.617	5.087	-1.258
XBR1	24XY	28.41	7.098	0.000	1.605	5.800	7.098
XBR1	24Y	65.28	0.000	-10.458	-3.807	-8.037	-10.458
XBR1	25P	17.48	0.000	-1.983	-1.273	-1.522	-1.983
XBR1	25X	64.65	0.000	-10.357	-1.033	-2.370	-10.357
XBR1	25XY	43.41	10.845	0.000	0.765	3.658	10.845
XBR1	25Y	7.35	0.000	-0.834	-0.553	-0.834	-0.173
XBR2	26P	53.71	17.407	-5.523	-1.313	-5.523	17.407
XBR2	26X	36.55	8.887	-9.844	7.412	8.887	-9.844
XBR2	26XY	74.73	24.220	0.000	8.178	12.846	24.220
XBR2	26Y	72.83	0.000	-19.617	-2.850	-12.715	-19.617
XBR2	27P	21.95	1.327	-4.295	-1.576	-4.295	1.327
XBR2	27X	94.14	0.000	-25.356	-1.106	-5.923	-25.356
XBR2	27XY	76.27	24.720	0.000	0.187	8.012	24.720
XBR2	27Y	19.66	0.501	-5.297	-2.039	0.501	-5.297
XBR2	28P	26.33	8.534	-6.995	-1.995	-6.995	8.534
XBR2	28X	32.91	10.666	-3.909	7.625	10.666	-3.909
XBR2	28XY	54.66	17.716	0.000	8.303	12.191	17.716
XBR2	28Y	44.95	0.000	-12.107	-2.737	-12.107	-11.577



XBR2	29P	18.71	0.000	-5.039	-1.342	-5.039	-1.126
XBR2	29X	81.23	0.000	-21.877	-0.897	-6.240	-21.877
XBR2	29XY	66.97	21.706	0.000	0.454	7.963	21.706
XBR2	29Y	7.66	2.217	-1.499	-1.297	2.217	-1.499
XBR3	30P	27.63	12.364	-10.521	-5.295	-10.521	12.364
XBR3	30X	28.21	12.623	-8.620	8.776	12.623	-8.620
XBR3	30XY	56.83	25.426	0.000	9.695	17.255	25.426
XBR3	30Y	54.45	0.000	-22.410	-6.515	-17.051	-22.410
XBR3	31P	20.64	1.632	-8.493	-1.559	-8.493	1.632
XBR3	31X	62.48	0.000	-25.716	-0.734	-9.218	-25.716
XBR3	31XY	57.87	25.895	0.000	0.666	11.943	25.895
XBR3	31Y	12.07	4.521	-4.967	-1.726	4.521	-4.967
XBR3	32P	25.77	8.401	-10.606	-5.423	-10.606	8.401
XBR3	32X	33.06	14.791	-1.050	9.257	14.791	-1.050
XBR3	32XY	40.88	18.291	0.000	9.655	15.577	18.291
XBR3	32Y	45.11	0.000	-18.567	-6.555	-17.761	-18.567
XBR3	33P	30.10	0.000	-12.389	-3.812	-12.389	-3.513
XBR3	33X	53.32	0.000	-21.947	-0.165	-7.002	-21.947
XBR3	33XY	51.62	23.095	0.000	1.151	14.323	23.095
XBR3	33Y	11.32	2.743	-3.817	-3.677	2.743	-3.817
XBR4	34P	28.01	9.901	-6.390	-5.784	-6.390	9.901
XBR4	34X	28.95	8.066	-9.525	3.543	8.066	-9.525
XBR4	34XY	45.81	16.195	0.000	4.474	11.211	16.195
XBR4	34Y	65.00	0.000	-21.386	-7.175	-14.672	-21.386
XBR4	35P	28.62	10.119	-6.644	-0.156	-6.644	10.119
XBR4	35X	47.03	0.737	-15.475	0.737	-7.189	-15.475
XBR4	35XY	48.27	17.064	0.000	0.833	10.088	17.064
XBR4	35Y	35.07	3.625	-11.540	-1.279	3.625	-11.540
XBR4	36P	28.57	8.763	-7.746	-4.250	-7.746	8.763
XBR4	36X	35.21	7.000	-9.548	4.505	7.000	-9.548
XBR4	36XY	51.97	18.371	0.000	5.657	13.128	18.371
XBR4	36Y	62.65	0.000	-16.990	-5.251	-12.165	-16.990
XBR4	37P	30.32	10.719	-3.984	0.849	-3.984	10.719
XBR4	37X	56.27	0.000	-15.260	-0.410	-8.636	-15.260
XBR4	37XY	40.85	14.440	-0.357	-0.357	7.208	14.440
XBR4	37Y	37.53	5.288	-10.178	-0.228	5.288	-10.178
XBR5	38P	32.37	7.358	-8.829	-4.641	-8.829	7.358
XBR5	38X	27.90	7.947	-7.611	3.983	7.947	-7.611
XBR5	38XY	42.45	15.333	0.000	4.881	12.596	15.333
XBR5	38Y	59.41	0.000	-16.205	-5.328	-12.908	-16.205
XBR5	39P	24.32	8.784	-4.495	0.219	-4.495	8.784
XBR5	39X	48.07	0.001	-13.112	0.001	-6.858	-13.112
XBR5	39XY	36.34	13.127	0.000	0.116	7.186	13.127
XBR5	39Y	34.30	3.645	-9.356	-0.677	3.645	-9.356
XBR5	40P	40.79	5.581	-9.751	-4.318	-9.751	5.581
XBR5	40X	26.80	8.593	-6.407	3.833	8.593	-6.407
XBR5	40XY	38.52	13.913	0.000	4.628	13.546	13.913
XBR5	40Y	58.78	0.000	-14.052	-5.124	-14.020	-14.052
XBR5	41P	21.99	7.942	-3.183	0.413	-3.183	7.942
XBR5	41X	47.30	0.000	-11.309	-0.205	-6.226	-11.309
XBR5	41XY	30.71	11.093	-0.113	-0.113	5.807	11.093
XBR5	41Y	32.41	3.545	-7.747	-0.403	3.545	-7.747
XBR5	42P	49.03	4.345	-10.499	-4.532	-10.499	4.345
XBR5	42X	25.90	9.355	-4.692	3.642	9.355	-4.692
XBR5	42XY	34.36	12.412	0.000	4.200	12.412	11.683
XBR5	42Y	70.47	0.000	-15.089	-5.353	-15.089	-13.458
XBR5	43P	17.49	6.317	-3.307	0.233	-3.307	6.317
XBR5	43X	45.97	0.000	-9.844	-0.070	-5.192	-9.844
XBR5	43XY	25.77	9.308	-0.087	-0.087	5.154	9.308
XBR5	43Y	33.17	2.447	-7.103	-0.400	2.447	-7.103
XBR5	44P	45.76	3.415	-8.657	-3.522	-8.657	3.415
XBR5	44X	28.92	10.446	-3.987	4.007	10.446	-3.987
XBR5	44XY	39.92	14.419	0.000	4.716	14.419	12.041
XBR5	44Y	59.33	0.000	-11.224	-4.011	-11.224	-10.156
XBR5	45P	17.65	6.374	-1.779	0.210	-1.779	6.374
XBR5	45X	42.55	0.000	-8.050	-0.062	-4.556	-8.050
XBR5	45XY	23.85	8.617	-0.080	-0.080	4.518	8.617
XBR5	45Y	28.18	3.024	-5.330	-0.359	3.024	-5.330
XBR5	46P	69.66	3.012	-11.590	-4.613	-11.590	3.012
XBR5	46X	22.69	8.195	-3.033	2.926	8.195	-3.033
XBR5	46XY	28.75	10.387	0.000	3.359	10.387	8.717
XBR5	46Y	91.29	0.000	-15.188	-5.238	-15.188	-12.400
XBR5	47P	20.45	4.519	-3.403	0.243	-3.403	4.519
XBR5	47X	49.41	0.002	-8.221	0.002	-4.247	-8.221
XBR5	47XY	19.38	7.000	-0.009	-0.009	3.939	7.000
XBR5	47Y	38.93	1.223	-6.477	-0.223	1.223	-6.477
XBR6	48P	11.83	4.169	0.000	0.000	0.000	4.169
XBR6	48X	80.70	28.441	-0.096	9.514	28.441	-0.096
XBR6	48XY	76.67	27.020	0.000	10.223	27.020	22.791
XBR6	48Y	0.00	0.000	0.000	0.000	0.000	0.000
XBR6	49P	72.84	11.568	-4.115	-4.115	0.000	11.568
XBR6	49X	15.22	1.545	-0.860	1.545	-0.860	0.000
XBR6	49XY	45.90	16.175	0.000	1.578	11.435	16.175
XBR6	49Y	84.41	0.932	-4.769	-4.769	0.932	0.000
XBR7	50P	6.49	1.998	0.000	0.000	0.000	1.998
XBR7	50X	88.56	27.263	0.000	9.423	27.263	0.369
XBR7	50XY	82.67	25.449	0.000	9.821	25.449	20.089
XBR7	50Y	0.00	0.000	0.000	0.000	0.000	0.000
XBR7	51P	31.31	9.639	0.000	0.430	0.000	9.639
XBR7	51X	23.50	1.108	-0.731	1.108	-0.731	0.000
XBR7	51XY	42.30	13.023	0.000	1.087	9.239	13.023
XBR7	51Y	2.23	0.686	0.000	0.000	0.686	0.000
XBR7	52P	1.91	0.588	0.000	0.000	0.000	0.588
XBR7	52X	86.96	26.772	0.000	9.556	26.772	0.948
XBR7	52XY	80.13	24.668	0.000	9.712	24.668	18.254
XBR7	52Y	0.00	0.000	0.000	0.000	0.000	0.000

XBR7	53P	25.95	7.988	0.000	0.186	0.000	7.988
XBR7	53X	31.38	0.846	-0.855	0.846	-0.855	0.000
XBR7	53XY	35.11	10.809	0.000	0.794	7.568	10.809
XBR7	53Y	1.75	0.537	0.000	0.000	0.537	0.000
XBR7	54P	9.33	0.000	-0.163	0.000	0.000	-0.163
XBR7	54X	97.51	30.020	0.000	11.025	30.020	2.357
XBR7	54XY	87.57	26.958	0.000	10.943	26.958	18.889
XBR7	54Y	0.00	0.000	0.000	0.000	0.000	0.000
XBR7	55P	25.36	7.808	0.000	0.000	0.000	7.808
XBR7	55X	3.98	1.226	0.000	1.226	1.096	0.000
XBR7	55XY	33.43	10.293	0.000	1.145	9.303	10.293
XBR7	55Y	20.34	0.123	-0.355	-0.355	0.123	0.000
XBR8r	56P	11.04	0.000	-0.903	-0.566	-0.903	-0.402
XBR8r	56X	96.86	34.134	0.000	13.456	34.134	4.096
XBR8r	56XY	83.28	29.350	0.000	11.754	29.350	19.052
XBR8r	56Y	20.38	0.000	-1.667	-0.294	-0.719	-1.667
XBR8r	57P	20.14	7.096	-0.149	0.124	-0.149	7.096
XBR8r	57X	32.55	4.375	-2.663	2.042	4.375	-2.663
XBR8r	57XY	35.84	12.631	0.000	2.732	12.631	6.814
XBR8r	57Y	3.75	0.000	-0.307	-0.307	-0.197	0.000
XBR8r	58P	99.86	35.192	0.000	12.788	35.192	4.427
XBR8r	58X	25.04	0.000	-1.751	0.000	0.000	-1.751
XBR8r	58XY	0.00	0.000	0.000	0.000	0.000	0.000
XBR8r	58Y	85.72	30.207	0.000	11.220	30.207	17.754
XBR8r	59P	23.35	0.000	-1.633	-1.529	-1.633	0.000
XBR8r	59X	36.07	12.712	0.000	2.220	12.712	5.973
XBR8r	59XY	39.38	4.686	-2.753	1.685	4.686	-2.753
XBR8r	59Y	18.07	6.367	0.000	0.000	0.000	6.367
Br2	60P	15.56	0.122	-2.173	0.122	-0.563	-2.173
Br2	60X	10.39	2.597	0.000	0.358	0.718	2.597
Br2	61P	11.81	0.000	-1.649	-0.263	-0.123	-1.649
Br2	61X	4.41	1.102	-0.368	-0.368	-0.173	1.102
Br2	62P	8.19	0.057	-1.145	-0.616	0.057	-1.145
Br2	62X	5.07	0.000	-0.708	-0.708	-0.455	-0.235
Br2	63P	13.97	0.000	-1.951	-0.622	-0.119	-1.951
Br2	63X	4.52	0.718	-0.632	-0.632	-0.496	0.718
Br4R	64P	39.59	3.946	-1.715	-0.489	3.946	-1.715
Br4R	64X	50.39	0.000	-2.183	-0.617	0.000	-2.183
Br5	65P	3.31	0.899	0.000	0.899	0.819	0.007
Br5	65X	0.00	0.000	0.000	0.000	0.000	0.000
Arm	66P	15.59	1.470	-7.994	1.470	-0.657	-7.994
Arm	66Y	12.80	10.816	0.000	1.975	1.056	10.816
Br1	67P	1.04	0.563	-0.116	-0.116	0.563	-0.112
Br1	67X	2.23	0.000	-0.937	-0.937	-0.233	-0.611
Arm	68P	45.60	18.605	-0.029	1.635	-0.029	18.605
Arm	68X	18.23	7.439	0.000	4.333	3.376	7.439
Arm	68XY	9.34	3.812	-0.123	3.812	-0.123	0.701
Arm	68Y	43.40	1.706	-17.707	1.706	-0.785	-17.707
Br3	69P	20.77	1.316	-1.160	1.316	1.115	-1.160
Br3	69Y	22.97	2.907	0.000	1.352	0.373	2.907
Br3	70P	13.35	0.000	-0.746	-0.746	-0.335	-0.276
Br3	70X	6.70	0.000	-0.374	-0.374	-0.212	-0.367
Br1	71P	6.38	3.472	0.000	3.472	0.761	1.218
Br1	71X	5.93	3.228	0.000	3.228	1.477	3.215
Arm	72P	10.48	2.480	-5.371	-5.371	1.657	2.480
Arm	72Y	19.22	0.000	-9.851	-4.820	-5.476	-9.851
Arm	73P	46.93	19.146	-6.276	-6.276	2.171	19.146
Arm	73X	15.81	5.333	-6.452	-2.976	5.333	-6.452
Arm	73XY	6.98	0.655	-2.849	-2.822	-2.849	0.655
Arm	73Y	59.79	0.000	-24.395	-7.037	-10.718	-24.395
Br3	74P	35.47	0.000	-1.981	-1.506	-1.981	-1.775
Br3	74X	13.69	1.732	0.000	0.206	1.732	0.355
Br1	75P	6.11	3.323	-0.244	3.323	-0.244	3.107
Br1	75X	8.09	4.400	0.000	4.400	2.788	4.372
Arm	76P	18.67	2.834	-7.616	-7.616	2.834	-0.542
Arm	76X	25.61	5.924	-10.448	-4.469	5.924	-10.448
Arm	76XY	10.96	2.067	-4.473	-3.912	-4.473	2.067
Arm	76Y	36.73	0.000	-14.988	-7.905	-11.863	-14.988
Arm	77P	13.89	0.000	-7.120	-7.120	-6.483	-7.066
Arm	77Y	14.78	1.845	-7.575	-7.516	1.845	-7.575
Br3	78P	70.01	0.000	-3.910	-2.207	-3.910	-2.372
Br3	78X	30.68	3.883	0.000	1.627	3.883	1.552
Br1	79P	6.72	3.658	0.000	3.658	3.586	3.656
Br1	79X	5.73	0.359	-2.409	0.336	-2.409	0.359
Arm	80P	16.25	1.513	-6.632	-6.632	1.513	-1.540
Arm	80X	22.38	5.400	-9.132	-3.162	5.400	-9.132
Arm	80XY	8.22	3.353	-2.859	-2.618	-2.859	3.353
Arm	80Y	28.99	0.000	-11.830	-6.729	-10.136	-11.830
Arm	81P	9.64	3.058	-4.941	-4.941	3.058	-2.735
Arm	81Y	14.63	0.000	-7.502	-5.377	-7.279	-7.502
HBR1	82P	65.96	0.000	-11.438	-3.222	-11.438	-1.047
HBR1	82Y	60.11	0.000	-10.424	-3.476	-10.424	-6.448
HBR1	83P	14.14	3.699	-2.451	3.699	-0.646	-2.451
HBR1	83X	32.00	0.000	-5.549	-1.145	-5.549	-4.660
MOD1-HBR2	84P	32.15	0.000	-21.709	-8.043	-21.709	-3.205
MOD1-HBR2	84Y	30.78	0.000	-20.786	-8.507	-20.786	-17.104
MOD1-HBR2	85P	20.37	2.524	-8.312	2.524	-0.825	-8.312
MOD1-HBR2	85X	27.64	0.000	-11.277	-2.282	-7.243	-11.277
HBR3	86P	57.48	0.000	-22.309	-8.477	-22.309	-2.427
HBR3	86Y	53.92	0.000	-20.926	-8.742	-20.926	-16.215
HBR3	87P	18.78	0.000	-7.289	-0.473	-0.540	-7.289
HBR3	87X	25.42	0.000	-9.866	-1.859	-6.218	-9.866
HBR3	88P	73.96	0.000	-23.511	-9.281	-23.511	-2.530
HBR3	88Y	68.37	0.000	-21.737	-9.372	-21.737	-15.975
HBR3	89P	21.06	0.000	-6.696	-0.264	-0.402	-6.696
HBR3	89X	27.84	0.000	-8.851	-2.000	-6.999	-8.851

HBR4	90P	39.15	0.000	-24.369	-10.174	-24.369	-3.240
HBR4	90Y	35.16	0.000	-21.880	-9.666	-21.880	-14.422
HBR4	91P	9.29	0.000	-5.782	-0.432	-0.294	-5.782
HBR4	91X	17.01	0.000	-10.586	-3.415	-10.586	-5.681
HBR3	92P	4.08	0.000	-1.631	-0.741	-1.346	-1.631
HBR3	92X	2.18	0.000	-0.871	-0.871	-0.039	-0.102
HBR3	92XY	3.49	0.000	-1.396	-0.895	-0.343	-1.396
HBR3	92Y	3.41	0.000	-1.363	-0.958	-1.363	-0.346
HBR3	93P	1.12	0.611	-0.277	0.233	0.611	-0.277
HBR3	93X	0.99	0.000	-0.396	-0.270	-0.396	-0.339
HBR3	93XY	0.92	0.000	-0.368	-0.349	-0.104	-0.368
HBR3	93Y	1.56	0.000	-0.624	-0.624	-0.593	-0.128
ArmBR1	94P	39.42	0.000	-4.174	-4.174	-2.609	0.000
ArmBR1	94X	35.38	0.000	-3.746	-3.746	-0.677	-0.129
ArmBR1	94XY	64.28	0.000	-6.807	-3.182	-0.616	-6.807
ArmBR1	94Y	26.85	0.979	-2.844	-2.844	0.979	-2.531
ArmBR2	95P	26.35	6.584	0.000	6.584	2.622	4.513
ArmBR2	95X	23.96	5.987	-0.448	5.987	-0.448	1.333
ArmBR2	95XY	43.66	10.909	0.000	6.272	4.336	10.909
ArmBR2	95Y	22.75	5.685	-0.004	5.685	1.328	-0.004
ArmBR2	96P	62.58	15.635	0.000	7.250	2.236	15.635
ArmBR2	96X	26.92	6.727	-0.585	6.727	-0.375	-0.585
ArmBR2	96XY	59.20	14.792	0.000	7.487	4.876	14.792
ArmBR2	96Y	31.61	6.995	-1.375	6.995	2.335	-1.375
ArmBR2	97P	24.55	6.135	-0.376	6.135	2.156	-0.376
ArmBR2	97X	57.32	14.322	0.000	6.499	4.239	14.322
ArmBR2	97XY	37.82	5.716	-2.115	5.716	-0.422	-2.115
ArmBR2	97Y	50.87	12.711	0.000	6.184	1.877	12.711
Pip	P1P	0.07	0.322	0.000	0.059	0.322	0.058
Pip	P2P	0.68	0.000	-3.220	-3.075	-1.549	-3.220
Pip	P3P	1.23	0.000	-5.823	-5.823	-3.214	-5.823
Pip	P4P	0.07	0.000	-0.320	-0.133	-0.320	-0.134
PipeArea	P5P	0.00	0.086	0.000	0.001	0.086	0.002
PipeArea	P6P	0.00	0.086	0.000	0.008	0.086	0.008
PipeArea	P7P	0.00	0.086	0.000	0.001	0.086	0.002
PipeArea	P8P	0.00	0.086	0.000	0.008	0.086	0.008
PipeArea	P9P	0.00	0.000	-0.002	-0.002	-0.000	-0.002
PipeArea	P10P	0.00	0.000	-0.000	-0.000	-0.000	-0.000
PipeArea	P11P	0.00	0.000	-0.002	-0.002	-0.000	-0.002
PipeArea	P12P	0.00	0.000	-0.000	-0.000	0.000	-0.000
PipeArea	P13P	0.00	0.086	0.000	0.005	0.086	0.005
PipeArea	P14P	0.00	0.008	-0.086	0.008	-0.086	0.008
PipeArea	P15P	0.00	0.086	0.000	0.005	0.086	0.005
PipeArea	P16P	0.00	0.086	0.000	0.008	0.086	0.008
PipeSupport	P17P	0.14	0.049	-0.356	-0.356	-0.100	0.049
PipeSupport	P17X	0.30	0.000	-0.788	-0.370	-0.533	-0.788
PipeSupport	P18P	0.25	0.190	-0.612	-0.298	-0.612	0.190
PipeSupport	P18X	0.19	0.276	-0.480	-0.043	0.276	-0.480
PipeSupport	P19P	0.95	2.494	0.000	0.872	2.494	0.439
PipeSupport	P19X	0.69	0.382	-1.786	-0.132	-1.786	0.382
PipeSupport	P20P	1.58	4.152	0.000	1.246	4.152	0.706
PipeSupport	P20X	1.46	0.000	-3.770	-0.747	-3.770	-0.360

Equilibrium Joint Positions and Rotations for Load Case "NESC Heavy":

Joint Label	X-Displ (ft)	Y-Displ (ft)	Z-Displ (ft)	X-Rot (deg)	Y-Rot (deg)	Z-Rot (deg)	X-Pos (ft)	Y-Pos (ft)	Z-Pos (ft)
1P	-0.02237	0.3603	-0.003967	-0.1982	-0.0244	-0.0177	3.603	-3.265	190
2P	-0.02477	0.3612	0.02208	-0.1907	-0.0308	-0.0075	-0.02477	-11.64	190
3P	-0.0198	0.3393	-0.003968	-0.1953	-0.0274	-0.0180	3.605	-3.286	184
4P	-0.01689	0.319	-0.003913	-0.2046	-0.0232	-0.0184	3.608	-3.306	178
5P	-0.01865	0.3207	0.01238	-0.1404	-0.0226	-0.0133	-0.01865	-9.679	178
6P	-0.01511	0.2964	-0.003946	-0.1826	-0.0227	-0.0186	3.61	-3.329	172
7P	-0.01276	0.278	-0.004022	-0.1865	-0.0164	-0.0187	3.612	-3.347	166
8P	-0.01432	0.2797	0.01436	-0.1065	-0.0152	-0.0094	-0.01432	-11.72	166
9P	-0.01158	0.2571	-0.004299	-0.1862	-0.0155	-0.0206	3.613	-3.368	160
10P	-0.009562	0.24	-0.004723	-0.1581	-0.0131	-0.0224	3.615	-3.385	154
11P	-0.0105	0.2413	0.008904	-0.1159	-0.0110	-0.0068	-0.0105	-9.759	154
12P	-0.009064	0.225	-0.003732	-0.1579	-0.0071	-0.0219	4.089	-3.873	148.8
13P	-0.008029	0.2082	-0.00275	-0.1369	-0.0105	-0.0183	4.676	-4.476	142.3
14P	-0.007044	0.1902	-0.001875	-0.1302	-0.0077	-0.0164	5.36	-5.177	134.7
15P	-0.006141	0.1731	-0.001152	-0.1122	-0.0073	-0.0132	6.082	-5.915	126.7
16P	-0.005234	0.1579	-0.0006643	-0.1055	-0.0059	-0.0112	6.803	-6.65	118.7
17P	-0.00459	0.1437	-0.0002944	-0.0877	-0.0049	-0.0082	7.524	-7.385	110.7
18P	-0.003868	0.1324	-0.0002363	-0.0831	-0.0049	-0.0063	8.246	-8.118	102.7
19P	-0.002782	0.1041	0.0005228	-0.0942	-0.0029	-0.0049	9.749	-9.648	86
20P	-0.001986	0.07883	0.0009777	-0.0796	-0.0022	-0.0048	11.24	-11.16	69.5
21P	-0.001458	0.05665	0.001079	-0.0777	-0.0017	-0.0130	12.68	-12.62	53.5
22P	-0.001137	0.02832	0.0009297	-0.0361	-0.0050	-0.0399	14.8	-14.77	30
23P	-0.0001923	0.1015	-0.007839	-0.0597	0.0001	0.0009	-0.0001923	-16.05	14.99
24P	-0.005231	0.01729	-0.009917	0.0189	-0.0169	0.0396	16.14	0.01729	14.99
25P	-0.0004576	0.01741	0.0001365	-0.0635	-0.0094	-0.0864	16.15	-16.13	15
26P	0	0	0	0.0000	0.0000	0.0000	17.5	-17.5	0
MountBP	-0.01818	0.3348	-0.01011	-0.2498	-0.0747	-0.0216	-6.143	-3.29	182
MountTP	-0.02174	0.3589	-0.009519	-0.2511	-0.0578	-0.0463	-6.147	-3.266	188
TPipeP	-0.02706	0.4075	-0.0261	-0.2887	-0.0378	-0.0141	-6.152	0.4075	198
BPipeP	-0.01613	0.331	-0.02577	-0.2168	-0.0382	-0.0136	-6.141	0.331	181
PipT-1P	-0.02754	-0.08904	-0.5261	0.0000	0.0000	0.0000	-6.153	0.411	197.5
PipT-2P	-0.5271	0.8687	-0.2192	0.0000	0.0000	0.0000	-6.152	0.8687	197.8
PipT-3P	-0.02747	0.9109	-0.5261	0.0000	0.0000	0.0000	-6.152	0.4109	197.5
PipT-4P	0.4729	0.8687	-0.2192	0.0000	0.0000	0.0000	-6.152	0.8687	197.8
PipB-1P	-0.016	-0.1699	-0.5258	0.0000	0.0000	0.0000	-6.141	0.3301	180.5
PipB-2P	-0.5161	0.7921	-0.2191	0.0000	0.0000	0.0000	-6.141	0.7921	180.8
PipB-3P	-0.016	0.8301	-0.5258	0.0000	0.0000	0.0000	-6.141	0.3301	180.5
PipB-4P	0.4839	0.7921	-0.2191	0.0000	0.0000	0.0000	-6.141	0.7921	180.8
1X	-0.0204	0.3605	-0.02834	-0.1962	-0.0258	-0.0153	3.605	3.985	190
1XY	-0.0203	0.3625	-0.03132	-0.1839	-0.0356	-0.0416	-3.645	3.987	190
1Y	-0.02236	0.3624	-0.006873	-0.1766	-0.0064	-0.0507	-3.647	-3.263	190
2X	-0.01807	0.362	-0.06119	-0.2269	-0.0190	-0.0092	-0.01807	12.36	189.9
3X	-0.01776	0.3397	-0.02823	-0.2047	-0.0257	-0.0121	3.607	3.965	184
3XY	-0.01765	0.3416	-0.0311	-0.2187	-0.0094	-0.0286	-3.643	3.967	184
3Y	-0.01956	0.3412	-0.006816	-0.2092	-0.0359	-0.0358	-3.645	-3.284	184
4X	-0.01515	0.3184	-0.02777	-0.1890	-0.0232	-0.0089	3.61	3.943	178
4XY	-0.01549	0.3202	-0.03034	-0.1938	0.0003	-0.0151	-3.64	3.945	178
4Y	-0.01725	0.3207	-0.006512	-0.1998	-0.0079	-0.0121	-3.642	-3.304	178
5X	-0.01376	0.3188	-0.05577	-0.2557	-0.0231	-0.0148	-0.01376	10.32	177.9
6X	-0.0134	0.2994	-0.02699	-0.2107	-0.0173	-0.0033	3.612	3.924	172
6XY	-0.01347	0.3009	-0.02917	-0.2140	-0.0190	-0.0154	-3.638	3.926	172
6Y	-0.01465	0.2976	-0.00616	-0.1848	-0.0184	-0.0030	-3.64	-3.327	172
7X	-0.01149	0.2772	-0.02624	-0.1918	-0.0183	-0.0014	3.614	3.902	166
7XY	-0.01195	0.2784	-0.02818	-0.1934	-0.0118	-0.0155	-3.637	3.903	166
7Y	-0.0131	0.2792	-0.005997	-0.1883	-0.0180	-0.0001	-3.638	-3.346	166
8X	-0.01024	0.2771	-0.06471	-0.2844	-0.0161	-0.0107	-0.01024	12.28	165.9
9X	-0.00999	0.2591	-0.02528	-0.1798	-0.0102	0.0022	3.615	3.884	160
9XY	-0.01049	0.2602	-0.02698	-0.1819	-0.0172	-0.0165	-3.635	3.885	160
9Y	-0.01089	0.2579	-0.006031	-0.1877	-0.0156	0.0048	-3.636	-3.367	160
10X	-0.008917	0.2394	-0.02399	-0.1722	-0.0158	0.0058	3.616	3.864	154
10XY	-0.008951	0.2402	-0.02542	-0.1739	-0.0053	-0.0175	-3.634	3.865	154
10Y	-0.009942	0.2408	-0.006202	-0.1601	-0.0114	0.0097	-3.635	-3.384	154
11X	-0.008179	0.2395	-0.05034	-0.2523	-0.0121	-0.0070	-0.008179	10.24	153.9
12X	-0.007495	0.2253	-0.02413	-0.1486	-0.0149	0.0073	4.091	4.323	148.8
12XY	-0.008632	0.2261	-0.02555	-0.1505	-0.0014	-0.0170	-4.107	4.324	148.8
12Y	-0.008542	0.2255	-0.005169	-0.1623	-0.0130	0.0109	-4.107	-3.872	148.8
13X	-0.006494	0.2084	-0.02414	-0.1442	-0.0090	0.0073	4.678	4.892	142.3
13XY	-0.007794	0.209	-0.02552	-0.1456	-0.0054	-0.0149	-4.692	4.893	142.3
13Y	-0.007532	0.2086	-0.004138	-0.1393	-0.0071	0.0093	-4.692	-4.475	142.3
14X	-0.00552	0.1904	-0.02384	-0.1273	-0.0081	0.0077	5.361	5.557	134.7
14XY	-0.006995	0.1908	-0.02514	-0.1306	-0.0028	-0.0127	-5.374	5.558	134.7
14Y	-0.006445	0.1904	-0.00322	-0.1320	-0.0074	0.0099	-5.373	-5.177	134.7
15X	-0.004838	0.1734	-0.02339	-0.1168	-0.0062	0.0078	6.083	6.261	126.7
15XY	-0.006199	0.1735	-0.0246	-0.1183	-0.0030	-0.0106	-6.094	6.261	126.7
15Y	-0.00546	0.1732	-0.002478	-0.1136	-0.0055	0.0092	-6.093	-5.915	126.7
16X	-0.004287	0.1579	-0.02265	-0.1016	-0.0051	0.0082	6.804	6.966	118.7
16XY	-0.005561	0.1578	-0.02376	-0.1022	-0.0023	-0.0087	-6.814	6.966	118.7
16Y	-0.00476	0.1577	-0.001929	-0.1075	-0.0049	0.0097	-6.813	-6.65	118.7
17X	-0.003934	0.1445	-0.02176	-0.0925	-0.0047	0.0080	7.525	7.674	110.7
17XY	-0.004998	0.1444	-0.02274	-0.0934	-0.0006	-0.0063	-7.534	7.673	110.7
17Y	-0.004001	0.1434	-0.00151	-0.0880	-0.0044	0.0090	-7.533	-7.386	110.7
18X	-0.003496	0.1313	-0.02075	-0.0964	-0.0052	0.0066	8.247	8.381	102.7
18XY	-0.004741	0.1309	-0.0216	-0.0982	-0.0012	-0.0029	-8.255	8.381	102.7
18Y	-0.003482	0.132	-0.00142	-0.0836	-0.0032	0.0096	-8.253	-8.118	102.7
19X	-0.003562	0.1027	-0.01876	-0.0931	0.0048	0.0073	9.748	9.855	85.98
19XY	-0.004	0.1015	-0.01934	-0.0943	0.0048	0.0020	-9.756	9.854	85.98

19Y	-0.002386	0.103	-0.0004881	-0.0962	-0.0027	0.0133	-9.754	-9.649	86
20X	-0.007927	0.07688	-0.01672	-0.0827	0.0182	0.0132	11.23	11.32	69.48
20XY	-0.007818	0.07523	-0.01629	-0.0821	0.0214	0.0060	-11.25	11.32	69.48
20Y	-0.00156	0.07724	0.0001444	-0.0793	-0.0010	0.0211	-11.24	-11.16	69.5
21X	-0.01231	0.05424	-0.01421	-0.0815	-0.0031	0.0147	12.67	12.73	53.49
21XY	-0.01224	0.05234	-0.01272	-0.0802	0.0013	0.0056	-12.69	12.73	53.49
21Y	-0.0009401	0.05477	0.0004415	-0.0769	0.0005	0.0337	-12.68	-12.63	53.5
22X	-0.007378	0.02564	-0.008907	-0.0349	-0.0013	0.0171	14.79	14.83	29.99
22XY	-0.007264	0.02373	-0.00799	-0.0326	0.0030	-0.0019	-14.81	14.82	29.99
22Y	-0.0002385	0.02628	0.0006107	-0.0337	0.0032	0.0550	-14.8	-14.77	30
23X	-0.008025	0.007891	-0.009942	-0.0585	0.0138	0.0018	-0.008025	16.16	14.99
24Y	-0.003055	0.01604	-0.009026	0.0196	-0.0053	-0.0022	-16.15	0.01604	14.99
25X	-0.00799	0.01714	-0.004494	-0.0613	-0.0246	0.0080	16.14	16.17	15
25XY	-0.007919	0.01589	-0.003286	-0.0556	-0.0176	-0.0018	-16.16	16.17	15
25Y	9.223e-05	0.0162	-5.381e-05	-0.0573	0.0072	0.0959	-16.15	-16.13	15
26X	0	0	0	0.0000	0.0000	0.0000	17.5	17.5	0
26XY	0	0	0	0.0000	0.0000	0.0000	-17.5	17.5	0
26Y	0	0	0	0.0000	0.0000	0.0000	-17.5	-17.5	0
MountBX	-0.01646	0.3348	-0.03506	-0.1314	-0.1084	-0.0045	-6.141	3.96	182
MountTX	-0.01851	0.3588	-0.03587	-0.1305	-0.1160	-0.0499	-6.144	3.984	188
3aS	-0.01819	0.334	-0.006729	-0.2073	-0.0524	-0.0195	-3.643	-3.291	182
BPipeS	-0.01679	0.3348	-0.02578	-0.2168	-0.0382	-0.0136	-6.142	0.3348	182
1aS	-0.02173	0.356	-0.006868	-0.2045	-0.0376	-0.0683	-3.647	-3.269	188
TPipeS	-0.02048	0.3588	-0.02588	-0.2453	-0.0377	-0.0141	-6.145	0.3588	188
AntATTS	-0.02508	0.3924	-0.02606	-0.2885	-0.0378	-0.0141	-6.15	0.3924	195
Sprint1S	-0.007257	0.1944	-0.00208	-0.1328	-0.0078	-0.0170	5.198	-5.011	136.5
Sprint2S	-0.006696	0.1946	-0.003436	-0.1351	-0.0078	0.0099	-5.212	-5.011	136.5
Sprint3S	-0.007153	0.195	-0.02525	-0.1333	-0.0027	-0.0133	-5.212	5.4	136.5
3aX	-0.01647	0.3343	-0.03087	-0.1920	-0.0696	-0.0138	-3.641	3.959	182
1aX	-0.01851	0.3563	-0.03128	-0.1769	-0.0749	-0.0574	-3.644	3.981	188

Joint Support Reactions for Load Case "NESC Heavy":

Joint Label	X Force (kips)	X Usage %	Y Force (kips)	Y Usage %	H-Shear Usage %	Z Force (kips)	Comp. Usage %	Uplift Usage %	Result. Force (kips)	Result. Usage %	X Moment (ft-k)	X-M. Usage %	Y Moment (ft-k)	Y-M. Usage %	H-Bend-M Usage %	Z Moment (ft-k)	Z-M. Usage %	Max. Usage %
26P	6.91	0.0	-15.17	0.0	0.0	58.40	0.0	0.0	60.74	0.0	5.07	0.0	0.2	0.0	0.0	1.74	0.0	0.0
26X	-14.43	0.0	-13.98	0.0	0.0	-152.17	0.0	0.0	153.49	0.0	5.35	0.0	3.0	0.0	0.0	0.50	0.0	0.0
26XY	14.05	0.0	-14.15	0.0	0.0	-154.31	0.0	0.0	155.59	0.0	5.00	0.0	2.8	0.0	0.0	-0.11	0.0	0.0
26Y	-5.56	0.0	-13.05	0.0	0.0	47.59	0.0	0.0	49.66	0.0	4.72	0.0	-0.2	0.0	0.0	-1.86	0.0	0.0

Joint Displacements, Loads and Member Forces on Joints for Load Case "NESC Heavy":

Joint Label	X External Load (kips)	Y External Load (kips)	Z External Load (kips)	X Member Force (kips)	Y Member Force (kips)	Z Member Force (kips)	X Disp. (ft)	Y Disp. (ft)	Z Disp. (ft)
1P	0.0000	0.2600	-0.6548	0.0000	-0.2600	0.6548	-0.0224	0.3603	-0.0040
2P	-0.4000	2.3109	-3.8577	0.4000	-2.3109	3.8577	-0.0248	0.3612	0.0221
3P	0.0000	0.3119	-0.4898	0.0000	-0.3119	0.4898	-0.0198	0.3393	-0.0040
4P	0.0000	0.4296	-1.0458	0.0000	-0.4296	1.0458	-0.0169	0.3190	-0.0039
5P	-0.0272	3.2994	-7.8830	0.0272	-3.2994	7.8830	-0.0186	0.3207	0.0124
6P	0.0000	0.2974	-0.5014	-0.0000	-0.2974	0.5014	-0.0151	0.2964	-0.0039
7P	0.0000	0.4682	-1.2313	0.0000	-0.4682	1.2313	-0.0128	0.2780	-0.0040
8P	-0.0272	3.2994	-7.9233	0.0272	-3.2994	7.9233	-0.0143	0.2797	0.0144
9P	0.0000	0.3135	-0.6112	0.0000	-0.3135	0.6112	-0.0116	0.2571	-0.0043
10P	0.0000	0.4837	-1.3226	-0.0000	-0.4837	1.3226	-0.0096	0.2400	-0.0047
11P	-0.0272	3.2994	-7.8830	0.0272	-3.2994	7.8830	-0.0105	0.2413	0.0089
12P	0.0000	0.2699	-0.6535	-0.0000	-0.2699	0.6535	-0.0091	0.2250	-0.0037
13P	0.0000	0.4749	-1.2901	-0.0000	-0.4749	1.2901	-0.0080	0.2082	-0.0027
14P	0.0000	0.3009	-0.6886	-0.0000	-0.3009	0.6886	-0.0070	0.1902	-0.0019
15P	0.0000	0.9116	-1.9095	-0.0000	-0.9116	1.9095	-0.0061	0.1731	-0.0012
16P	0.0000	0.4146	-1.0060	0.0000	-0.4146	1.0060	-0.0052	0.1579	-0.0007
17P	0.0000	0.4655	-1.0940	0.0000	-0.4655	1.0940	-0.0046	0.1437	-0.0003
18P	0.0000	1.1674	-2.7794	-0.0000	-1.1674	2.7794	-0.0039	0.1324	-0.0002
19P	0.0000	1.2670	-3.3992	-0.0000	-1.2670	3.3992	-0.0028	0.1041	0.0005
20P	0.0000	1.2723	-3.4064	0.0000	-1.2723	3.4064	-0.0020	0.0788	0.0010
21P	0.0000	1.5194	-4.1251	0.0000	-1.5194	4.1251	-0.0015	0.0566	0.0011
22P	0.0000	1.5028	-4.4401	0.0000	-1.5028	4.4401	-0.0011	0.0283	0.0009
23P	0.0000	0.6567	-0.8881	0.0000	-0.6567	0.8881	-0.0002	0.1015	-0.0078
24P	0.0000	0.0000	-0.8881	0.0000	-0.0000	0.8881	-0.0052	0.0173	-0.0099
25P	0.0000	0.9207	-2.4469	-0.0000	-0.9207	2.4469	-0.0005	0.0174	0.0001
26P	0.0000	0.3126	-0.9658	-6.9116	14.8590	59.3690	0.0000	0.0000	0.0000
MountBP	0.0000	0.0236	-0.1087	-0.0000	-0.0236	0.1087	-0.0182	0.3348	-0.0101
MountTP	0.0000	0.0236	-0.1087	-0.0000	-0.0236	0.1087	-0.0217	0.3589	-0.0095
TPipeP	0.0000	0.0169	-0.1243	-0.0000	-0.0169	0.1243	-0.0271	0.4075	-0.0261
BPipeP	0.0000	0.0056	-0.0417	-0.0000	-0.0056	0.0417	-0.0161	0.3310	-0.0258
PipT-1P	0.0000	0.0000	-0.0033	-0.0000	-0.0000	0.0033	-0.0275	-0.0890	-0.5261
PipT-2P	0.0000	0.0078	-0.0033	-0.0000	-0.0078	0.0033	-0.5271	0.8687	-0.2192
PipT-3P	0.0000	0.0000	-0.0033	-0.0000	0.0000	0.0033	-0.0275	0.9109	-0.5261
PipT-4P	0.0000	0.0078	-0.0033	-0.0000	-0.0078	0.0033	0.4729	0.8687	-0.2192
PipB-1P	0.0000	0.0000	-0.0033	0.0000	-0.0000	0.0033	-0.0160	-0.1699	-0.5258
PipB-2P	0.0000	0.0078	-0.0033	0.0000	-0.0078	0.0033	-0.5161	0.7921	-0.2191
PipB-3P	0.0000	0.0000	-0.0033	0.0000	0.0000	0.0033	-0.0160	0.8301	-0.5258
PipB-4P	0.0000	0.0078	-0.0033	0.0000	-0.0078	0.0033	0.4839	0.7921	-0.2191
1X	0.0000	0.0670	-0.6548	0.0000	-0.0670	0.6548	-0.0204	0.3605	-0.0283
1XY	0.0000	0.0000	-0.3691	-0.0000	-0.0000	0.3691	-0.0203	0.3625	-0.0313
1Y	0.0000	0.1553	-0.3691	-0.0000	-0.1553	0.3691	-0.0224	0.3624	-0.0069
2X	-0.4000	2.1570	-3.8577	0.4000	-2.1570	3.8577	-0.0181	0.3620	-0.0612
3X	0.0000	0.0000	-0.4898	-0.0000	-0.0000	0.4898	-0.0178	0.3397	-0.0282
3XY	0.0000	0.0000	-0.4002	0.0000	0.0000	0.4002	-0.0176	0.3416	-0.0311
3Y	0.0000	0.2554	-0.4002	0.0000	-0.2554	0.4002	-0.0196	0.3412	-0.0068
4X	0.0000	0.1340	-1.0458	0.0000	-0.1340	1.0458	-0.0152	0.3184	-0.0278

4XY	0.0000	0.0000	-0.5629	0.0000	0.0000	0.5629	-0.0155	0.3202	-0.0303
4Y	0.0000	0.8148	-2.4213	0.0000	-0.8148	2.4213	-0.0173	0.3207	-0.0065
5X	-0.0272	3.1760	-7.8830	0.0272	-3.1760	7.8830	-0.0138	0.3188	-0.0558
6X	0.0000	0.0000	-0.5014	-0.0000	0.0000	0.5014	-0.0134	0.2994	-0.0270
6XY	0.0000	0.0000	-0.5014	-0.0000	-0.0000	0.5014	-0.0135	0.3009	-0.0292
6Y	0.0000	0.2974	-0.5014	-0.0000	-0.2974	0.5014	-0.0146	0.2976	-0.0062
7X	0.0000	0.1340	-1.2313	0.0000	-0.1340	1.2313	-0.0115	0.2772	-0.0262
7XY	0.0000	0.0000	-0.7753	0.0000	-0.0000	0.7753	-0.0120	0.2784	-0.0282
7Y	0.0000	0.3342	-0.7753	0.0000	-0.3342	0.7753	-0.0131	0.2792	-0.0060
8X	-0.0272	3.1760	-7.9233	0.0272	-3.1760	7.9233	-0.0102	0.2771	-0.0647
9X	0.0000	0.0000	-0.6112	0.0000	-0.0000	0.6112	-0.0100	0.2591	-0.0253
9XY	0.0000	0.0000	-0.6112	-0.0000	0.0000	0.6112	-0.0105	0.2602	-0.0270
9Y	0.0000	0.3135	-0.6112	0.0000	-0.3135	0.6112	-0.0109	0.2579	-0.0060
10X	0.0000	0.1510	-1.3226	-0.0000	-0.1510	1.3226	-0.0089	0.2394	-0.0240
10XY	0.0000	0.0000	-0.8086	-0.0000	0.0000	0.8086	-0.0090	0.2402	-0.0254
10Y	0.0000	0.9076	-2.7954	0.0000	-0.9076	2.7954	-0.0099	0.2408	-0.0062
11X	-0.0272	3.1760	-7.8830	0.0272	-3.1760	7.8830	-0.0082	0.2395	-0.0503
12X	0.0000	0.0000	-0.6535	-0.0000	-0.0000	0.6535	-0.0075	0.2253	-0.0241
12XY	0.0000	0.0000	-0.6535	0.0000	-0.0000	0.6535	-0.0086	0.2261	-0.0256
12Y	0.0000	0.2699	-0.6535	0.0000	-0.2699	0.6535	-0.0085	0.2255	-0.0052
13X	0.0000	0.1690	-1.3523	-0.0000	-0.1690	1.3523	-0.0065	0.2084	-0.0241
13XY	0.0000	0.0000	-0.7161	-0.0000	0.0000	0.7161	-0.0078	0.2090	-0.0255
13Y	0.0000	0.3059	-0.7161	-0.0000	-0.3059	0.7161	-0.0075	0.2086	-0.0041
14X	0.0000	0.0000	-0.8889	0.0000	0.0000	0.8889	-0.0055	0.1904	-0.0238
14XY	0.0000	0.0000	-0.6886	-0.0000	0.0000	0.6886	-0.0070	0.1908	-0.0251
14Y	0.0000	0.3009	-0.6886	-0.0000	-0.3009	0.6886	-0.0064	0.1904	-0.0032
15X	0.0000	0.1810	-1.5715	-0.0000	-0.1810	1.5715	-0.0048	0.1734	-0.0234
15XY	0.0000	0.0000	-0.9545	-0.0000	0.0000	0.9545	-0.0062	0.1735	-0.0246
15Y	0.0000	0.9736	-2.9414	0.0000	-0.9736	2.9414	-0.0055	0.1732	-0.0025
16X	0.0000	0.0000	-1.0060	-0.0000	-0.0000	1.0060	-0.0043	0.1579	-0.0227
16XY	0.0000	0.0000	-1.0060	0.0000	-0.0000	1.0060	-0.0056	0.1578	-0.0238
16Y	0.0000	0.4146	-1.0060	-0.0000	-0.4146	1.0060	-0.0048	0.1577	-0.0019
17X	0.0000	0.0000	-1.0584	-0.0000	-0.0000	1.0584	-0.0039	0.1445	-0.0218
17XY	0.0000	0.0000	-1.0584	-0.0000	0.0000	1.0584	-0.0050	0.1444	-0.0227
17Y	0.0000	0.4310	-1.0584	0.0000	-0.4310	1.0584	-0.0040	0.1434	-0.0015
18X	0.0000	0.1880	-2.4641	0.0000	-0.1880	2.4641	-0.0035	0.1313	-0.0208
18XY	0.0000	0.0000	-1.8251	0.0000	-0.0000	1.8251	-0.0047	0.1309	-0.0216
18Y	0.0000	1.1258	-3.4001	-0.0000	-1.1258	3.4001	-0.0035	0.1320	-0.0014
19X	0.0000	0.1800	-3.1416	-0.0000	-0.1800	3.1416	-0.0036	0.1027	-0.0188
19XY	0.0000	0.0000	-2.5316	0.0000	-0.0000	2.5316	-0.0040	0.1015	-0.0193
19Y	0.0000	1.2066	-3.8167	0.0000	-1.2066	3.8167	-0.0024	0.1030	-0.0005
20X	0.0000	0.1730	-3.1543	0.0000	-0.1730	3.1543	-0.0079	0.0769	-0.0167
20XY	0.0000	0.0000	-2.5663	-0.0000	0.0000	2.5663	-0.0078	0.0752	-0.0163
20Y	0.0000	1.2163	-3.8250	-0.0000	-1.2163	3.8250	-0.0016	0.0772	0.0001
21X	0.0000	0.2070	-3.8100	0.0000	-0.2070	3.8100	-0.0123	0.0542	-0.0142
21XY	0.0000	0.0000	-3.1060	-0.0000	-0.0000	3.1060	-0.0122	0.0523	-0.0127
21Y	0.0000	1.4527	-4.6349	-0.0000	-1.4527	4.6349	-0.0009	0.0548	0.0004
22X	0.0000	0.2030	-4.1419	-0.0000	-0.2030	4.1419	-0.0074	0.0256	-0.0089
22XY	0.0000	0.0000	-3.4499	-0.0000	-0.0000	3.4499	-0.0073	0.0237	-0.0080
22Y	0.0000	1.4384	-4.9408	-0.0000	-1.4384	4.9408	-0.0002	0.0263	0.0006
23X	0.0000	0.0000	-0.8881	0.0000	0.0000	0.8881	-0.0080	0.0079	-0.0099
24Y	0.0000	0.0000	-0.8881	-0.0000	-0.0000	0.8881	-0.0031	0.0160	-0.0090
25X	0.0000	0.0810	-2.0977	-0.0000	-0.0810	2.0977	-0.0080	0.0171	-0.0045
25XY	0.0000	0.0000	-1.8197	-0.0000	0.0000	1.8197	-0.0079	0.0159	-0.0033
25Y	0.0000	1.0015	-3.5627	-0.0000	-1.0015	3.5627	0.0001	0.0162	-0.0001
26X	0.0000	0.0000	-0.9658	14.4328	13.9850	-151.2015	0.0000	0.0000	0.0000
26XY	0.0000	0.0000	-0.9658	-14.0472	14.1543	-153.3432	0.0000	0.0000	0.0000
26Y	0.0000	0.3126	-0.9658	5.5628	12.7410	48.5547	0.0000	0.0000	0.0000
MountBX	0.0000	0.0000	-0.1087	-0.0000	-0.0000	0.1087	-0.0165	0.3348	-0.0351
MountTX	0.0000	0.0000	-0.1087	-0.0000	0.0000	0.1087	-0.0185	0.3588	-0.0359
3aS	0.0000	0.0801	-0.1340	-0.0000	-0.0801	0.1340	-0.0182	0.3340	-0.0067
BPipeS	0.0000	0.0395	-0.4179	-0.0000	-0.0395	0.4179	-0.0168	0.3348	-0.0258
1aS	0.0000	0.0801	-0.1340	0.0000	-0.0801	0.1340	-0.0217	0.3560	-0.0069
TPipeS	0.0000	0.0734	-0.6658	0.0000	-0.0734	0.6658	-0.0205	0.3588	-0.0259
AntATTS	0.0000	1.5489	-5.6974	-0.0000	-1.5489	5.6974	-0.0251	0.3924	-0.0261
Sprint1S	0.0000	0.4101	-0.7385	0.0000	-0.4101	0.7385	-0.0073	0.1944	-0.0021
Sprint2S	0.0000	0.4101	-0.7385	0.0000	-0.4101	0.7385	-0.0067	0.1946	-0.0034
Sprint3S	0.0000	0.3108	-0.7385	0.0000	-0.3108	0.7385	-0.0072	0.1950	-0.0252
3aX	0.0000	0.0000	-0.1340	-0.0000	0.0000	0.1340	-0.0165	0.3343	-0.0309
1aX	0.0000	0.0000	-0.1340	0.0000	-0.0000	0.1340	-0.0185	0.3563	-0.0313

Crossing Diagonal Check for Load Case "NESC Heavy" (RLOUT controls):

Comp. Member Label	Tens. Member Label	Connect Leg for Comp. Member	Force In Comp. Member (kips)	Force In Tens. Member (kips)	Original Supported L/R Cap. (kips)	Original Supported RLX	Original Supported RLY	Original Supported RLZ	Original Supported L/R	Original Supported KL/R	Original Supported Curve No.	Alternate Unsupported L/R Cap. (kips)	Alternate Unsupported RLOUT	Alternate Unsupported L/R	Alternate Unsupported KL/R	Alternate Unsupported Curve No.
23P	23Y	Long only	-1.13	0.04	16.02	0.500	0.750	0.500	143.07	137.62	5	11.35	1.000	190.76	163.52	6
25P	25Y	Long only	-1.27	-0.55	16.02	0.500	0.750	0.500	143.07	137.62	5	11.35	1.000	190.76	163.52	6
25Y	25P	Long only	-0.55	-1.27	16.02	0.500	0.750	0.500	143.07	137.62	5	11.35	1.000	190.76	163.52	6
27P	27Y	Long only	-1.58	-2.04	26.93	0.500	0.750	0.500	112.48	114.36	2	19.57	1.000	149.97	138.43	6
27X	27XY	Long only	-1.11	0.19	26.93	0.500	0.750	0.500	112.48	114.36	2	19.57	1.000	149.97	138.43	6
27Y	27P	Long only	-2.04	-1.58	26.93	0.500	0.750	0.500	112.48	114.36	2	19.57	1.000	149.97	138.43	6
29P	29Y	Long only	-1.34	-1.30	26.93	0.500	0.750	0.500	112.48	114.36	2	19.57	1.000	149.97	138.43	6
29Y	29P	Long only	-1.30	-1.34	26.93	0.500	0.750	0.500	112.48	114.36	2	19.57	1.000	149.97	138.43	6
31P	31Y	Long only	-1.56	-1.73	41.16	0.750	0.500	0.500	95.87	101.90	2	33.73	1.000	122.48	121.53	6
31Y	31P	Long only	-1.73	-1.56	41.16	0.750	0.500	0.500	95.87	101.90	2	33.73	1.000	122.48	121.53	6
33P	33Y	Long only	-3.81	-3.68	41.16	0.750	0.500	0.500	95.87	101.90	2	33.73	1.000	122.48	121.53	6
33Y	33P	Long only	-3.68	-3.81	41.16	0.750	0.500	0.500	95.87	101.90	2	33.73	1.000	122.48	121.53	6
35P	35Y	Short only	-0.16	-1.28	32.90	0.767	0.535	0.535	114.00	115.50	2	31.38	1.000	119.39	119.70	3
35Y	35P	Short only	-1.28	-0.16	32.90	0.767	0.535	0.535	114.00	115.50	2	31.38	1.000	119.39	119.70	3
37X	37XY	Short only	-0.41	-0.36	27.12	0.768	0.536	0.536	134.05	130.75	5	26.46	1.000	140.13	132.38	6
37XY	37X	Short only	-0.36	-0.41	27.12	0.768	0.536	0.536	134.05	130.75	5	26.46	1.000	140.13	132.38	6

41X	41XY	Short only	-0.21	-0.11	23.91	0.766	0.533	0.533	141.81	136.66	5	23.04	1.000	151.25	139.22	6
41XY	41X	Short only	-0.11	-0.21	23.91	0.766	0.533	0.533	141.81	136.66	5	23.04	1.000	151.25	139.22	6
43X	43XY	Short only	-0.07	-0.09	21.41	0.763	0.526	0.526	151.98	144.41	5	20.60	1.000	164.25	147.21	6
43XY	43X	Short only	-0.09	-0.07	21.41	0.763	0.526	0.526	151.98	144.41	5	20.60	1.000	164.25	147.21	6
45X	45XY	Short only	-0.06	-0.08	18.92	0.763	0.525	0.525	164.08	153.63	5	18.47	1.000	177.66	155.46	6
45XY	45X	Short only	-0.08	-0.06	18.92	0.763	0.525	0.525	164.08	153.63	5	18.47	1.000	177.66	155.46	6

Summary of Clamp Capacities and Usages for Load Case "NESC Heavy":

Clamp Label	Force (kips)	Input Holding Capacity (kips)	Factored Holding Capacity (kips)	Holding Usage %	Input Hardware Capacity (kips)	Factored Hardware Capacity (kips)	Hardware Usage %	Max. Usage %
1	4.515	25.00	25.00	18.06	0.00	0.00	0.00	18.06
2	4.438	25.00	25.00	17.75	0.00	0.00	0.00	17.75
3	8.546	25.00	25.00	34.18	0.00	0.00	0.00	34.18
4	8.499	25.00	25.00	34.00	0.00	0.00	0.00	34.00
5	8.583	25.00	25.00	34.33	0.00	0.00	0.00	34.33
6	8.536	25.00	25.00	34.14	0.00	0.00	0.00	34.14
7	8.546	25.00	25.00	34.18	0.00	0.00	0.00	34.18
8	8.499	25.00	25.00	34.00	0.00	0.00	0.00	34.00
9	0.400	25.00	25.00	1.60	0.00	0.00	0.00	1.60
10	2.555	25.00	25.00	10.22	0.00	0.00	0.00	10.22
11	0.687	25.00	25.00	2.75	0.00	0.00	0.00	2.75
12	0.707	25.00	25.00	2.83	0.00	0.00	0.00	2.83
13	0.751	25.00	25.00	3.01	0.00	0.00	0.00	3.01
14	1.088	25.00	25.00	4.35	0.00	0.00	0.00	4.35
15	3.582	25.00	25.00	14.33	0.00	0.00	0.00	14.33
16	4.003	25.00	25.00	16.01	0.00	0.00	0.00	16.01
17	4.014	25.00	25.00	16.05	0.00	0.00	0.00	16.05
18	4.857	25.00	25.00	19.43	0.00	0.00	0.00	19.43
19	5.146	25.00	25.00	20.58	0.00	0.00	0.00	20.58
20	3.701	25.00	25.00	14.80	0.00	0.00	0.00	14.80
21	0.751	25.00	25.00	3.01	0.00	0.00	0.00	3.01
22	1.088	25.00	25.00	4.35	0.00	0.00	0.00	4.35
23	3.015	25.00	25.00	12.06	0.00	0.00	0.00	12.06
24	3.628	25.00	25.00	14.51	0.00	0.00	0.00	14.51
25	3.636	25.00	25.00	14.54	0.00	0.00	0.00	14.54
26	4.396	25.00	25.00	17.58	0.00	0.00	0.00	17.58
27	4.688	25.00	25.00	18.75	0.00	0.00	0.00	18.75
28	2.614	25.00	25.00	10.46	0.00	0.00	0.00	10.46
30	0.705	25.00	25.00	2.82	0.00	0.00	0.00	2.82
31	0.581	25.00	25.00	2.32	0.00	0.00	0.00	2.32
32	0.475	25.00	25.00	1.90	0.00	0.00	0.00	1.90
33	1.189	25.00	25.00	4.76	0.00	0.00	0.00	4.76
34	0.369	25.00	25.00	1.48	0.00	0.00	0.00	1.48
35	0.400	25.00	25.00	1.60	0.00	0.00	0.00	1.60
37	0.658	25.00	25.00	2.63	0.00	0.00	0.00	2.63
38	1.131	25.00	25.00	4.52	0.00	0.00	0.00	4.52
39	1.054	25.00	25.00	4.22	0.00	0.00	0.00	4.22
40	1.317	25.00	25.00	5.27	0.00	0.00	0.00	5.27
41	1.239	25.00	25.00	4.95	0.00	0.00	0.00	4.95
42	1.408	25.00	25.00	5.63	0.00	0.00	0.00	5.63
43	1.331	25.00	25.00	5.32	0.00	0.00	0.00	5.32
44	1.375	25.00	25.00	5.50	0.00	0.00	0.00	5.50
45	1.363	25.00	25.00	5.45	0.00	0.00	0.00	5.45
46	2.116	25.00	25.00	8.46	0.00	0.00	0.00	8.46
47	1.582	25.00	25.00	6.33	0.00	0.00	0.00	6.33
49	2.471	25.00	25.00	9.88	0.00	0.00	0.00	9.88
51	3.147	25.00	25.00	12.59	0.00	0.00	0.00	12.59
53	3.159	25.00	25.00	12.64	0.00	0.00	0.00	12.64
55	3.816	25.00	25.00	15.26	0.00	0.00	0.00	15.26
57	4.147	25.00	25.00	16.59	0.00	0.00	0.00	16.59
59	2.099	25.00	25.00	8.40	0.00	0.00	0.00	8.40

Equilibrium Joint Positions and Rotations for Load Case "NESC Extreme":

Joint Label	X-Displ (ft)	Y-Displ (ft)	Z-Displ (ft)	X-Rot (deg)	Y-Rot (deg)	Z-Rot (deg)	X-Pos (ft)	Y-Pos (ft)	Z-Pos (ft)
1P	-0.3658	0.8129	0.02657	-0.4246	-0.2135	-0.0890	3.259	-2.812	190
2P	-0.3791	0.8188	0.07606	-0.4598	-0.2343	-0.0575	-0.3791	-11.18	190.1
3P	-0.3436	0.768	0.02667	-0.4288	-0.2170	-0.0829	3.281	-2.857	184
4P	-0.3207	0.7233	0.02643	-0.4219	-0.2205	-0.0769	3.304	-2.902	178
5P	-0.3308	0.7289	0.06004	-0.4163	-0.2050	-0.0899	-0.3308	-9.271	178.1
6P	-0.2975	0.6789	0.0256	-0.4176	-0.2270	-0.0616	3.327	-2.946	172
7P	-0.2743	0.6359	0.02474	-0.3977	-0.2143	-0.0568	3.351	-2.989	166
8P	-0.2849	0.6402	0.07063	-0.3938	-0.1928	-0.0773	-0.2849	-11.36	166.1
9P	-0.2524	0.5948	0.02322	-0.3889	-0.2148	-0.0497	3.373	-3.03	160
10P	-0.2302	0.5554	0.02102	-0.3488	-0.1927	-0.0426	3.395	-3.07	154
11P	-0.2363	0.5587	0.05101	-0.3732	-0.1688	-0.0569	-0.2363	-9.441	154.1
12P	-0.2141	0.5247	0.02339	-0.3236	-0.1763	-0.0382	3.884	-3.573	148.8
13P	-0.1942	0.4883	0.0257	-0.2992	-0.1716	-0.0319	4.49	-4.196	142.3
14P	-0.1728	0.4489	0.02746	-0.2936	-0.1544	-0.0277	5.194	-4.918	134.7
15P	-0.1522	0.4102	0.02882	-0.2553	-0.1401	-0.0204	5.936	-5.678	126.7
16P	-0.1335	0.375	0.02929	-0.2454	-0.1268	-0.0156	6.675	-6.433	118.7
17P	-0.1165	0.3417	0.02943	-0.2078	-0.1128	-0.0087	7.413	-7.187	110.7
18P	-0.1012	0.3145	0.02853	-0.2001	-0.1031	-0.0040	8.149	-7.936	102.7
19P	-0.07201	0.2457	0.02799	-0.2286	-0.0880	-0.0015	9.68	-9.506	86.03
20P	-0.04877	0.1842	0.02586	-0.1953	-0.0686	-0.0031	11.19	-11.06	69.53
21P	-0.03117	0.1297	0.02196	-0.1850	-0.0504	-0.0134	12.65	-12.55	53.52
22P	-0.01329	0.06278	0.01428	-0.0995	-0.0418	-0.0368	14.79	-14.74	30.01
23P	-0.002888	0.1282	-0.004784	-0.1460	-0.0075	-0.0171	-0.002888	-16.02	15
24P	-0.01548	0.03496	-0.01268	0.0342	-0.0367	0.0813	16.13	0.03496	14.99
25P	-0.003225	0.0352	0.007082	-0.1411	-0.0308	-0.0911	16.15	-16.11	15.01
26P	0	0	0	0.0000	0.0000	0.0000	17.5	-17.5	0
MountBP	-0.3356	0.7664	-0.008996	-0.4458	-0.2071	-0.0884	-6.461	-2.859	182
MountTP	-0.3596	0.8244	-0.00671	-0.4392	-0.1458	-0.2157	-6.485	-2.801	188
TPipeP	-0.3889	0.9539	-0.03988	-0.7810	-0.2117	-0.0762	-6.514	0.9539	198
BPipeP	-0.3266	0.7575	-0.03853	-0.5058	-0.2124	-0.0730	-6.452	0.7575	181
PipT-1P	-0.3889	0.7801	-0.4191	0.0000	0.0000	0.0000	-6.514	1.28	197.6
PipT-2P	-0.8889	1.28	-0.4191	0.0000	0.0000	0.0000	-6.514	1.28	197.6
PipT-3P	-0.3889	1.78	-0.4191	0.0000	0.0000	0.0000	-6.514	1.28	197.6
PipT-4P	0.1111	1.28	-0.4191	0.0000	0.0000	0.0000	-6.514	1.28	197.6
PipB-1P	-0.3266	0.5835	-0.4178	0.0000	0.0000	0.0000	-6.452	1.084	180.6
PipB-2P	-0.8266	1.084	-0.4178	0.0000	0.0000	0.0000	-6.452	1.084	180.6
PipB-3P	-0.3266	1.584	-0.4178	0.0000	0.0000	0.0000	-6.452	1.084	180.6
PipB-4P	0.1734	0.4316	0.3405	0.0000	0.0000	0.0000	-6.452	0.4316	181.3
1X	-0.3549	0.8128	-0.026	-0.4213	-0.2109	-0.0849	3.27	4.438	190
1XY	-0.3548	0.8238	-0.05259	-0.3501	-0.2715	-0.2121	-3.98	4.449	189.9
1Y	-0.3658	0.824	0.0002531	-0.3453	-0.1502	-0.2150	-3.991	-2.801	190
2X	-0.3425	0.8182	-0.1024	-0.4637	-0.1804	-0.0523	-0.3425	12.82	189.9
3X	-0.3329	0.7681	-0.02568	-0.4292	-0.2105	-0.0763	3.292	4.393	184
3XY	-0.3328	0.7785	-0.0521	-0.4797	-0.1744	-0.1636	-3.958	4.403	183.9
3Y	-0.3434	0.7786	0.000362	-0.4767	-0.2741	-0.1645	-3.968	-2.846	184
4X	-0.311	0.7233	-0.02501	-0.4211	-0.2152	-0.0677	3.314	4.348	178
4XY	-0.3111	0.7324	-0.05112	-0.4243	-0.1973	-0.0789	-3.936	4.357	177.9
4Y	-0.3207	0.7331	0.0003736	-0.4249	-0.2236	-0.0824	-3.946	-2.892	178
5X	-0.3037	0.7277	-0.08784	-0.4534	-0.2090	-0.0633	-0.3037	10.73	177.9
6X	-0.2888	0.6794	-0.02403	-0.4182	-0.2080	-0.0532	3.336	4.304	172
6XY	-0.2893	0.6874	-0.04938	-0.4399	-0.2152	-0.0581	-3.914	4.312	172
6Y	-0.2969	0.6861	0.0001885	-0.4218	-0.2208	-0.0577	-3.922	-2.939	172
7X	-0.2671	0.6359	-0.02314	-0.4066	-0.2116	-0.0485	3.358	4.261	166
7XY	-0.2674	0.6422	-0.04777	-0.4082	-0.2029	-0.0515	-3.892	4.267	166
7Y	-0.2742	0.643	3.619e-06	-0.4136	-0.2216	-0.0498	-3.899	-2.982	166
8X	-0.2614	0.6388	-0.09966	-0.4524	-0.1973	-0.0357	-0.2614	12.64	165.9
9X	-0.2453	0.5943	-0.02209	-0.3846	-0.1980	-0.0437	3.38	4.219	160
9XY	-0.2465	0.6009	-0.04552	-0.3971	-0.2066	-0.0459	-3.871	4.226	160
9Y	-0.2511	0.5992	-0.00036	-0.3955	-0.2090	-0.0385	-3.876	-3.026	160
10X	-0.2256	0.5556	-0.02085	-0.3551	-0.1914	-0.0388	3.399	4.181	154
10XY	-0.2253	0.5598	-0.04252	-0.3618	-0.1808	-0.0404	-3.85	4.185	154
10Y	-0.2306	0.5606	-0.0009256	-0.3593	-0.1999	-0.0271	-3.856	-3.064	154
11X	-0.2224	0.5577	-0.07643	-0.4178	-0.1738	-0.0222	-0.2224	10.56	153.9
12X	-0.208	0.5239	-0.02117	-0.3322	-0.1833	-0.0346	3.89	4.622	148.8
12XY	-0.2098	0.529	-0.04428	-0.3327	-0.1621	-0.0364	-4.308	4.627	148.8
12Y	-0.2125	0.5279	-4.28e-05	-0.3512	-0.1947	-0.0226	-4.311	-3.57	148.8
13X	-0.1887	0.4874	-0.02145	-0.3082	-0.1589	-0.0285	4.495	5.171	142.3
13XY	-0.1907	0.4918	-0.04576	-0.3115	-0.1587	-0.0317	-4.875	5.176	142.3
13Y	-0.1925	0.4909	0.0007969	-0.3084	-0.1721	-0.0215	-4.877	-4.193	142.3
14X	-0.1683	0.4474	-0.02162	-0.2835	-0.1454	-0.0230	5.199	5.814	134.7
14XY	-0.1705	0.4519	-0.04647	-0.2987	-0.1363	-0.0236	-5.538	5.819	134.7
14Y	-0.1708	0.4505	0.001516	-0.3040	-0.1582	-0.0151	-5.538	-4.917	134.7
15X	-0.1493	0.4092	-0.02167	-0.2635	-0.1234	-0.0172	5.939	6.497	126.7
15XY	-0.1517	0.4126	-0.04664	-0.2680	-0.1257	-0.0182	-6.24	6.501	126.7
15Y	-0.1503	0.4118	0.002048	-0.2589	-0.1422	-0.0126	-6.238	-5.676	126.7
16X	-0.1331	0.3735	-0.02156	-0.2350	-0.1149	-0.0118	6.675	7.182	118.7
16XY	-0.1347	0.3768	-0.04589	-0.2316	-0.1038	-0.0124	-6.943	7.185	118.7
16Y	-0.1317	0.3764	0.002246	-0.2529	-0.1281	-0.0065	-6.94	-6.432	118.7
17X	-0.118	0.3423	-0.02108	-0.2189	-0.0920	-0.0064	7.411	7.871	110.7
17XY	-0.121	0.3461	-0.04436	-0.2174	-0.0938	-0.0061	-7.65	7.875	110.7
17Y	-0.1149	0.343	0.00236	-0.2040	-0.1172	-0.0043	-7.644	-7.186	110.7
18X	-0.107	0.3105	-0.0209	-0.2318	-0.0827	-0.0049	8.143	8.561	102.7
18XY	-0.1067	0.3138	-0.04273	-0.2354	-0.1001	0.0016	-8.357	8.564	102.7
18Y	-0.09936	0.3174	0.001663	-0.1948	-0.1080	0.0015	-8.349	-7.933	102.7
19X	-0.0785	0.2419	-0.01937	-0.2245	-0.0935	-0.0035	9.673	9.994	85.98
19XY	-0.07835	0.2439	-0.039	-0.2232	-0.0842	0.0115	-9.83	9.996	85.96

19Y	-0.07074	0.2475	0.002582	-0.2341	-0.0887	0.0136	-9.823	-9.504	86
20X	-0.05643	0.179	-0.01759	-0.2026	-0.0644	-0.0068	11.18	11.42	69.48
20XY	-0.0563	0.1812	-0.03429	-0.1955	-0.0630	0.0186	-11.3	11.42	69.47
20Y	-0.04733	0.186	0.002958	-0.1920	-0.0721	0.0174	-11.29	-11.05	69.5
21X	-0.03964	0.1236	-0.01517	-0.1911	-0.0618	-0.0205	12.64	12.8	53.48
21XY	-0.03953	0.1266	-0.02818	-0.1896	-0.0595	0.0302	-12.72	12.81	53.47
21Y	-0.02935	0.1323	0.002787	-0.1886	-0.0546	0.0274	-12.71	-12.55	53.5
22X	-0.01862	0.05636	-0.01012	-0.0831	-0.0137	-0.0468	14.78	14.86	29.99
22XY	-0.01854	0.05892	-0.01788	-0.0679	-0.0211	0.0550	-14.82	14.86	29.98
22Y	-0.0105	0.06468	0.00215	-0.0859	-0.0331	0.0465	-14.81	-14.74	30
23X	-0.01454	0.1316	-0.007078	-0.1279	0.0165	-0.0150	-0.01454	16.28	14.99
24Y	-0.002741	0.04057	-0.02179	0.0509	-0.0323	-0.0223	-16.15	0.04057	14.98
25X	-0.01473	0.03495	-0.004972	-0.1243	-0.0430	-0.1119	16.14	16.18	15
25XY	-0.01419	0.0405	-0.007547	-0.1316	-0.0505	0.1127	-16.16	16.19	14.99
25Y	-0.002633	0.04081	3.703e-05	-0.1527	-0.0139	0.0998	-16.15	-16.11	15
26X	0	0	0	0.0000	0.0000	0.0000	17.5	17.5	0
26XY	0	0	0	0.0000	0.0000	0.0000	-17.5	17.5	0
26Y	0	0	0	0.0000	0.0000	0.0000	-17.5	-17.5	0
MountBX	-0.3258	0.7662	-0.06485	-0.3747	-0.3152	-0.0758	-6.451	4.391	181.9
MountTX	-0.3438	0.8242	-0.06793	-0.3707	-0.3572	-0.2247	-6.469	4.449	187.9
3aS	-0.3356	0.7624	0.0003778	-0.4343	-0.2206	-0.1043	-3.961	-2.863	182
BPipeS	-0.3303	0.7663	-0.03857	-0.5060	-0.2124	-0.0730	-6.455	0.7663	182
1aS	-0.3596	0.8123	0.0002767	-0.3994	-0.1659	-0.2860	-3.985	-2.813	188
TPipeS	-0.3522	0.8244	-0.03892	-0.6132	-0.2113	-0.0756	-6.477	0.8244	188
AntATTS	-0.3779	0.913	-0.03958	-0.7797	-0.2117	-0.0762	-6.503	0.913	195
Sprint1S	-0.1777	0.4584	0.02704	-0.2943	-0.1573	-0.0288	5.028	-4.747	136.5
Sprint2S	-0.1758	0.4602	0.001314	-0.3084	-0.1629	-0.0162	-5.381	-4.745	136.5
Sprint3S	-0.175	0.4614	-0.04632	-0.3005	-0.1408	-0.0255	-5.38	5.667	136.5
3aX	-0.3259	0.7624	-0.0518	-0.4248	-0.2745	-0.1021	-3.951	4.387	181.9
1aX	-0.3439	0.8121	-0.05248	-0.3846	-0.3051	-0.2834	-3.969	4.437	187.9

Joint Support Reactions for Load Case "NESC Extreme":

Joint Label	X Force (kips)	X Usage %	Y Force (kips)	Y Usage %	H-Shear Usage %	Z Force (kips)	Comp. Usage %	Uplift Usage %	Result. Force (kips)	Result. Usage %	X Moment (ft-k)	X-M. Usage %	Y Moment (ft-k)	Y-M. Usage %	H-Bend-M Usage %	Z Moment (ft-k)	Z-M. Usage %	Max. Usage %
26P	38.68	0.0	-56.89	0.0	0.0	329.61	0.0	0.0	336.71	0.0	9.86	0.0	0.4	0.0	0.0	2.15	0.0	0.0
26X	-18.09	0.0	-18.70	0.0	0.0	-192.80	0.0	0.0	194.55	0.0	10.45	0.0	4.8	0.0	0.0	2.92	0.0	0.0
26XY	31.79	0.0	-32.82	0.0	0.0	-352.10	0.0	0.0	355.05	0.0	12.62	0.0	4.7	0.0	0.0	-2.40	0.0	0.0
26Y	-14.29	0.0	-34.52	0.0	0.0	121.55	0.0	0.0	127.16	0.0	12.28	0.0	0.2	0.0	0.0	-2.48	0.0	0.0

Joint Displacements, Loads and Member Forces on Joints for Load Case "NESC Extreme":

Joint Label	X External Load (kips)	Y External Load (kips)	Z External Load (kips)	X Member Force (kips)	Y Member Force (kips)	Z Member Force (kips)	X Disp. (ft)	Y Disp. (ft)	Z Disp. (ft)
1P	0.0000	0.5737	-0.3611	0.0000	-0.5737	0.3611	-0.3658	0.8129	0.0266
2P	-1.4450	2.0262	-0.8248	1.4450	-2.0262	0.8248	-0.3791	0.8188	0.0761
3P	0.0000	0.4701	-0.3106	-0.0000	-0.4701	0.3106	-0.3436	0.7680	0.0267
4P	0.0000	0.7318	-0.4388	0.0000	-0.7318	0.4388	-0.3207	0.7233	0.0264
5P	-5.8660	4.7693	-2.5705	5.8660	-4.7693	2.5705	-0.3308	0.7289	0.0600
6P	0.0000	0.3728	-0.2550	0.0000	-0.3728	0.2550	-0.2975	0.6789	0.0256
7P	0.0000	0.7318	-0.4480	0.0000	-0.7318	0.4480	-0.2743	0.6359	0.0247
8P	-5.8660	4.7693	-2.5788	5.8660	-4.7693	2.5788	-0.2849	0.6402	0.0706
9P	0.0000	0.3728	-0.2468	-0.0000	-0.3728	0.2468	-0.2524	0.5948	0.0232
10P	0.0000	1.6033	-1.2847	-0.0000	-1.6033	1.2847	-0.2302	0.5554	0.0210
11P	-5.8660	4.7693	-2.5705	5.8660	-4.7693	2.5705	-0.2363	0.5587	0.0510
12P	0.0000	0.8265	-0.8209	-0.0000	-0.8265	0.8209	-0.2141	0.5247	0.0234
13P	0.0000	1.2765	-1.0629	0.0000	-1.2765	1.0629	-0.1942	0.4883	0.0257
14P	0.0000	0.8265	-0.8209	-0.0000	-0.8265	0.8209	-0.1728	0.4489	0.0275
15P	0.0000	2.5616	-1.1989	-0.0000	-2.5616	1.1989	-0.1522	0.4102	0.0288
16P	0.0000	0.8265	-0.8209	-0.0000	-0.8265	0.8209	-0.1335	0.3750	0.0293
17P	0.0000	0.9550	-0.8359	-0.0000	-0.9550	0.8359	-0.1165	0.3417	0.0294
18P	0.0000	2.4974	-1.1999	-0.0000	-2.4974	1.1999	-0.1012	0.3145	0.0285
19P	0.0000	2.2609	-1.1679	-0.0000	-2.2609	1.1679	-0.0720	0.2457	0.0280
20P	0.0000	2.2221	-1.1569	-0.0000	-2.2221	1.1569	-0.0488	0.1842	0.0259
21P	0.0000	2.5167	-1.2289	-0.0000	-2.5167	1.2289	-0.0312	0.1297	0.0220
22P	0.0000	2.4719	-1.2159	-0.0000	-2.4719	1.2159	-0.0133	0.0628	0.0143
23P	0.0000	0.8265	-0.8209	-0.0000	-0.8265	0.8209	-0.0029	0.1282	-0.0048
24P	0.0000	0.8265	-0.8209	-0.0000	-0.8265	0.8209	-0.0155	0.0350	-0.0127
25P	0.0000	2.3374	-1.0599	-0.0000	-2.3374	1.0599	-0.0032	0.0352	0.0071
26P	0.0000	0.8265	-0.8209	-38.6751	56.0684	330.4305	0.0000	0.0000	0.0000
MountBP	0.0000	0.2965	-0.2013	-0.0000	-0.2965	0.2013	-0.3356	0.7664	-0.0090
MountTP	0.0000	0.2965	-0.2013	-0.0000	-0.2965	0.2013	-0.3596	0.8244	-0.0067
TPipeP	0.0000	0.0558	-0.0649	0.0000	-0.0558	0.0649	-0.3889	0.9539	-0.0399
BPipeP	0.0000	0.0558	-0.0649	0.0000	-0.0558	0.0649	-0.3266	0.7575	-0.0385
PipT-1P	0.0000	0.0558	-0.0649	0.0000	-0.0558	0.0649	-0.3889	0.7801	-0.4191
PipT-2P	0.0000	0.0558	-0.0649	0.0000	-0.0558	0.0649	-0.8889	1.2801	-0.4191
PipT-3P	0.0000	0.0558	-0.0649	0.0000	-0.0558	0.0649	-0.3889	1.7801	-0.4191
PipT-4P	0.0000	0.0558	-0.0649	0.0000	-0.0558	0.0649	0.1111	1.2800	-0.4191
PipB-1P	0.0000	0.0558	-0.0649	0.0000	-0.0558	0.0649	-0.3266	0.5835	-0.4178
PipB-2P	0.0000	0.0558	-0.0649	0.0000	-0.0558	0.0649	-0.8266	1.0835	-0.4178
PipB-3P	0.0000	0.0558	-0.0649	0.0000	-0.0558	0.0649	-0.3266	1.5835	-0.4178
PipB-4P	0.0000	0.0558	-0.0649	-0.0000	-0.0558	0.0649	0.1734	0.4316	0.3405
1X	0.0000	0.5737	-0.3611	0.0000	-0.5737	0.3611	-0.3549	0.8128	-0.0260
1XY	0.0000	0.3937	-0.2651	-0.0000	-0.3937	0.2651	-0.3548	0.8238	-0.0526
1Y	0.0000	0.3937	-0.2651	-0.0000	-0.3937	0.2651	-0.3658	0.8240	0.0003
2X	-1.4450	2.0262	-0.8248	1.4450	-2.0262	0.8248	-0.3425	0.8182	-0.1024
3X	0.0000	0.4701	-0.3106	-0.0000	-0.4701	0.3106	-0.3329	0.7681	-0.0257
3XY	0.0000	0.4701	-0.3106	-0.0000	-0.4701	0.3106	-0.3328	0.7785	-0.0521
3Y	0.0000	0.4701	-0.3106	-0.0000	-0.4701	0.3106	-0.3434	0.7786	0.0004
4X	0.0000	0.7318	-0.4388	0.0000	-0.7318	0.4388	-0.3110	0.7233	-0.0250

4XY	0.0000	0.3728	-0.2468	-0.0000	-0.3728	0.2468	-0.3111	0.7324	-0.0511
4Y	0.0000	2.4473	-0.8948	-0.0000	-2.4473	0.8948	-0.3207	0.7331	0.0004
5X	-5.8660	4.7693	-2.5705	5.8660	-4.7693	2.5705	-0.3037	0.7277	-0.0878
6X	0.0000	0.3728	-0.2550	-0.0000	-0.3728	0.2550	-0.2888	0.6794	-0.0240
6XY	0.0000	0.3728	-0.2550	-0.0000	-0.3728	0.2550	-0.2893	0.6874	-0.0494
6Y	0.0000	0.3728	-0.2550	-0.0000	-0.3728	0.2550	-0.2969	0.6861	0.0002
7X	0.0000	0.7318	-0.4480	0.0000	-0.7318	0.4480	-0.2671	0.6359	-0.0231
7XY	0.0000	0.3728	-0.2550	-0.0000	-0.3728	0.2550	-0.2674	0.6422	-0.0478
7Y	0.0000	0.3728	-0.2550	-0.0000	-0.3728	0.2550	-0.2742	0.6430	0.0000
8X	-5.8660	4.7693	-2.5788	5.8660	-4.7693	2.5788	-0.2614	0.6388	-0.0997
9X	0.0000	0.3728	-0.2468	-0.0000	-0.3728	0.2468	-0.2453	0.5943	-0.0221
9XY	0.0000	0.3728	-0.2468	-0.0000	-0.3728	0.2468	-0.2465	0.6009	-0.0455
9Y	0.0000	0.3728	-0.2468	-0.0000	-0.3728	0.2468	-0.2511	0.5992	-0.0004
10X	0.0000	1.6033	-1.2847	-0.0000	-1.6033	1.2847	-0.2256	0.5556	-0.0208
10XY	0.0000	1.1993	-1.0677	-0.0000	-1.1993	1.0677	-0.2253	0.5598	-0.0425
10Y	0.0000	3.4164	-1.7607	-0.0000	-3.4164	1.7607	-0.2306	0.5606	-0.0009
11X	-5.8660	4.7693	-2.5705	5.8660	-4.7693	2.5705	-0.2224	0.5577	-0.0764
12X	0.0000	0.8265	-0.8209	-0.0000	-0.8265	0.8209	-0.2080	0.5239	-0.0212
12XY	0.0000	0.8265	-0.8209	-0.0000	-0.8265	0.8209	-0.2098	0.5290	-0.0443
12Y	0.0000	0.8265	-0.8209	-0.0000	-0.8265	0.8209	-0.2125	0.5279	-0.0000
13X	0.0000	1.2765	-1.0629	-0.0000	-1.2765	1.0629	-0.1887	0.4874	-0.0214
13XY	0.0000	0.8265	-0.8209	0.0000	-0.8265	0.8209	-0.1907	0.4918	-0.0458
13Y	0.0000	0.8265	-0.8209	0.0000	-0.8265	0.8209	-0.1925	0.4909	0.0008
14X	0.0000	0.8265	-0.8209	-0.0000	-0.8265	0.8209	-0.1683	0.4474	-0.0216
14XY	0.0000	0.8265	-0.8209	-0.0000	-0.8265	0.8209	-0.1705	0.4519	-0.0465
14Y	0.0000	0.8265	-0.8209	-0.0000	-0.8265	0.8209	-0.1708	0.4505	0.0015
15X	0.0000	1.3055	-1.0809	-0.0000	-1.3055	1.0809	-0.1493	0.4092	-0.0217
15XY	0.0000	0.8265	-0.8209	-0.0000	-0.8265	0.8209	-0.1517	0.4126	-0.0466
15Y	0.0000	3.0436	-1.5139	-0.0000	-3.0436	1.5139	-0.1503	0.4118	0.0020
16X	0.0000	0.8265	-0.8209	-0.0000	-0.8265	0.8209	-0.1331	0.3735	-0.0216
16XY	0.0000	0.8265	-0.8209	-0.0000	-0.8265	0.8209	-0.1347	0.3768	-0.0459
16Y	0.0000	0.8265	-0.8209	-0.0000	-0.8265	0.8209	-0.1317	0.3764	0.0022
17X	0.0000	0.8265	-0.8209	-0.0000	-0.8265	0.8209	-0.1180	0.3423	-0.0211
17XY	0.0000	0.8265	-0.8209	-0.0000	-0.8265	0.8209	-0.1210	0.3461	-0.0444
17Y	0.0000	0.8265	-0.8209	-0.0000	-0.8265	0.8209	-0.1149	0.3430	0.0024
18X	0.0000	1.3245	-1.0899	-0.0000	-1.3245	1.0899	-0.1070	0.3105	-0.0209
18XY	0.0000	0.8265	-0.8209	-0.0000	-0.8265	0.8209	-0.1067	0.3138	-0.0427
18Y	0.0000	2.5855	-1.3699	-0.0000	-2.5855	1.3699	-0.0994	0.3174	0.0017
19X	0.0000	1.3045	-1.0779	-0.0000	-1.3045	1.0779	-0.0785	0.2419	-0.0194
19XY	0.0000	0.8265	-0.8209	-0.0000	-0.8265	0.8209	-0.0784	0.2439	-0.0390
19Y	0.0000	2.2613	-1.2689	-0.0000	-2.2613	1.2689	-0.0707	0.2475	0.0026
20X	0.0000	1.2855	-1.0689	-0.0000	-1.2855	1.0689	-0.0564	0.1790	-0.0176
20XY	0.0000	0.8265	-0.8209	-0.0000	-0.8265	0.8209	-0.0563	0.1812	-0.0343
20Y	0.0000	2.2311	-1.2599	-0.0000	-2.2311	1.2599	-0.0473	0.1860	0.0030
21X	0.0000	1.3735	-1.1169	-0.0000	-1.3735	1.1169	-0.0396	0.1236	-0.0152
21XY	0.0000	0.8265	-0.8209	-0.0000	-0.8265	0.8209	-0.0395	0.1266	-0.0282
21Y	0.0000	2.5337	-1.3539	-0.0000	-2.5337	1.3539	-0.0294	0.1323	0.0028
22X	0.0000	1.3625	-1.1119	0.0000	-1.3625	1.1119	-0.0186	0.0564	-0.0101
22XY	0.0000	0.8265	-0.8209	-0.0000	-0.8265	0.8209	-0.0185	0.0589	-0.0179
22Y	0.0000	2.4907	-1.3409	-0.0000	-2.4907	1.3409	-0.0105	0.0647	0.0021
23X	0.0000	0.8265	-0.8209	-0.0000	-0.8265	0.8209	-0.0145	0.1316	-0.0071
24Y	0.0000	0.8265	-0.8209	-0.0000	-0.8265	0.8209	-0.0027	0.0406	-0.0218
25X	0.0000	1.0405	-0.9379	-0.0000	-1.0405	0.9379	-0.0147	0.0349	-0.0050
25XY	0.0000	0.8265	-0.8209	-0.0000	-0.8265	0.8209	-0.0142	0.0405	-0.0075
25Y	0.0000	2.7712	-1.4289	0.0000	-2.7712	1.4289	-0.0026	0.0408	0.0000
26X	0.0000	0.8265	-0.8209	18.0947	17.8742	-191.9795	0.0000	0.0000	0.0000
26XY	0.0000	0.8265	-0.8209	-31.7938	31.9940	-351.2769	0.0000	0.0000	0.0000
26Y	0.0000	0.8265	-0.8209	14.2882	33.6904	122.3715	0.0000	0.0000	0.0000
MountBX	0.0000	0.2965	-0.2013	-0.0000	-0.2965	0.2013	-0.3258	0.7662	-0.0648
MountTX	0.0000	0.2965	-0.2013	0.0000	-0.2965	0.2013	-0.3438	0.8242	-0.0679
3aS	0.0000	0.2965	-0.2013	0.0000	-0.2965	0.2013	-0.3356	0.7624	0.0004
BPipeS	0.0000	0.3523	-0.2661	-0.0000	-0.3523	0.2661	-0.3303	0.7663	-0.0386
1aS	0.0000	0.2965	-0.2013	-0.0000	-0.2965	0.2013	-0.3596	0.8123	0.0003
TPipeS	0.0000	0.3523	-0.2661	0.0000	-0.3523	0.2661	-0.3522	0.8244	-0.0389
AntATTS	0.0000	5.7424	-2.9668	0.0000	-5.7424	2.9668	-0.3779	0.9130	-0.0396
Sprint1S	0.0000	2.0122	-1.0279	0.0000	-2.0122	1.0279	-0.1777	0.4584	0.0270
Sprint2S	0.0000	2.0122	-1.0279	0.0000	-2.0122	1.0279	-0.1758	0.4602	0.0013
Sprint3S	0.0000	2.0122	-1.0279	0.0000	-2.0122	1.0279	-0.1750	0.4614	-0.0463
3aX	0.0000	0.2965	-0.2013	0.0000	-0.2965	0.2013	-0.3259	0.7624	-0.0518
1aX	0.0000	0.2965	-0.2013	-0.0000	-0.2965	0.2013	-0.3439	0.8121	-0.0525

Crossing Diagonal Check for Load Case "NESC Extreme" (RLOUT controls):

Comp. Member Label	Tens. Member Label	Connect Leg for Comp. Member	Force In Comp. Member (kips)	Force In Tens. Member (kips)	Original Supported L/R Cap. (kips)	Original Supported RLX	Original Supported RLY	Original Supported RLZ	Original Supported L/R	Original Supported KL/R	Original Supported Curve No.	Alternate Unsupported L/R Cap. (kips)	Alternate Unsupported RLOUT	Alternate Unsupported L/R	Alternate Unsupported KL/R	Alternate Unsupported Curve No.
23P	23Y	Long only	-0.87	-0.16	16.02	0.500	0.750	0.500	143.07	137.62	5	11.35	1.000	190.76	163.52	6
23Y	23P	Long only	-0.16	-0.87	16.02	0.500	0.750	0.500	143.07	137.62	5	11.35	1.000	190.76	163.52	6
25P	25Y	Long only	-1.52	-0.83	16.02	0.500	0.750	0.500	143.07	137.62	5	11.35	1.000	190.76	163.52	6
25Y	25P	Long only	-0.83	-1.52	16.02	0.500	0.750	0.500	143.07	137.62	5	11.35	1.000	190.76	163.52	6
27P	27Y	Long only	-4.30	0.50	26.93	0.500	0.750	0.500	112.48	114.36	2	19.57	1.000	149.97	138.43	6

Summary of Clamp Capacities and Usages for Load Case "NESC Extreme":

Clamp Label	Force (kips)	Input Holding Capacity (kips)	Factored Holding Capacity (kips)	Holding Usage %	Input Hardware Capacity (kips)	Factored Hardware Capacity (kips)	Hardware Usage %	Max. Usage %
1	2.622	25.00	25.00	10.49	0.00	0.00	0.00	10.49

2	2.622	25.00	25.00	10.49	0.00	0.00	0.00	10.49
3	7.985	25.00	25.00	31.94	0.00	0.00	0.00	31.94
4	7.985	25.00	25.00	31.94	0.00	0.00	0.00	31.94
5	7.988	25.00	25.00	31.95	0.00	0.00	0.00	31.95
6	7.988	25.00	25.00	31.95	0.00	0.00	0.00	31.95
7	7.985	25.00	25.00	31.94	0.00	0.00	0.00	31.94
8	7.985	25.00	25.00	31.94	0.00	0.00	0.00	31.94
9	0.475	25.00	25.00	1.90	0.00	0.00	0.00	1.90
10	2.606	25.00	25.00	10.42	0.00	0.00	0.00	10.42
11	0.447	25.00	25.00	1.79	0.00	0.00	0.00	1.79
12	1.165	25.00	25.00	4.66	0.00	0.00	0.00	4.66
13	1.165	25.00	25.00	4.66	0.00	0.00	0.00	4.66
14	1.165	25.00	25.00	4.66	0.00	0.00	0.00	4.66
15	2.926	25.00	25.00	11.70	0.00	0.00	0.00	11.70
16	2.593	25.00	25.00	10.37	0.00	0.00	0.00	10.37
17	2.562	25.00	25.00	10.25	0.00	0.00	0.00	10.25
18	2.873	25.00	25.00	11.49	0.00	0.00	0.00	11.49
19	2.829	25.00	25.00	11.31	0.00	0.00	0.00	11.31
20	3.118	25.00	25.00	12.47	0.00	0.00	0.00	12.47
21	1.165	25.00	25.00	4.66	0.00	0.00	0.00	4.66
22	1.165	25.00	25.00	4.66	0.00	0.00	0.00	4.66
23	2.771	25.00	25.00	11.08	0.00	0.00	0.00	11.08
24	2.545	25.00	25.00	10.18	0.00	0.00	0.00	10.18
25	2.505	25.00	25.00	10.02	0.00	0.00	0.00	10.02
26	2.801	25.00	25.00	11.20	0.00	0.00	0.00	11.20
27	2.755	25.00	25.00	11.02	0.00	0.00	0.00	11.02
28	2.566	25.00	25.00	10.27	0.00	0.00	0.00	10.27
30	0.678	25.00	25.00	2.71	0.00	0.00	0.00	2.71
31	0.563	25.00	25.00	2.25	0.00	0.00	0.00	2.25
32	0.563	25.00	25.00	2.25	0.00	0.00	0.00	2.25
33	1.269	25.00	25.00	5.08	0.00	0.00	0.00	5.08
34	0.475	25.00	25.00	1.90	0.00	0.00	0.00	1.90
35	0.563	25.00	25.00	2.25	0.00	0.00	0.00	2.25
37	0.678	25.00	25.00	2.71	0.00	0.00	0.00	2.71
38	0.853	25.00	25.00	3.41	0.00	0.00	0.00	3.41
39	0.853	25.00	25.00	3.41	0.00	0.00	0.00	3.41
40	0.858	25.00	25.00	3.43	0.00	0.00	0.00	3.43
41	0.858	25.00	25.00	3.43	0.00	0.00	0.00	3.43
42	2.055	25.00	25.00	8.22	0.00	0.00	0.00	8.22
43	2.055	25.00	25.00	8.22	0.00	0.00	0.00	8.22
44	1.661	25.00	25.00	6.64	0.00	0.00	0.00	6.64
45	1.661	25.00	25.00	6.64	0.00	0.00	0.00	6.64
46	2.828	25.00	25.00	11.31	0.00	0.00	0.00	11.31
47	1.695	25.00	25.00	6.78	0.00	0.00	0.00	6.78
49	1.715	25.00	25.00	6.86	0.00	0.00	0.00	6.86
51	1.692	25.00	25.00	6.77	0.00	0.00	0.00	6.77
53	1.672	25.00	25.00	6.69	0.00	0.00	0.00	6.69
55	1.770	25.00	25.00	7.08	0.00	0.00	0.00	7.08
57	1.759	25.00	25.00	7.03	0.00	0.00	0.00	7.03
59	1.401	25.00	25.00	5.60	0.00	0.00	0.00	5.60

Equilibrium Joint Positions and Rotations for Load Case "NESC Heavy Broken Wire":

Joint Label	X-Displ (ft)	Y-Displ (ft)	Z-Displ (ft)	X-Rot (deg)	Y-Rot (deg)	Z-Rot (deg)	X-Pos (ft)	Y-Pos (ft)	Z-Pos (ft)
1P	-0.4867	0.2916	0.01461	-0.1652	-0.3746	-0.8925	3.138	-3.333	190
2P	-0.6253	0.3504	0.01043	-0.0908	-0.3267	-0.9662	-0.6253	-11.65	190
3P	-0.448	0.2736	0.0146	-0.1735	-0.3688	-0.8534	3.177	-3.351	184
4P	-0.41	0.2539	0.01416	-0.1704	-0.3731	-0.8142	3.215	-3.371	178
5P	-0.5075	0.3081	0.01428	-0.1787	-0.2956	-0.8945	-0.5075	-9.692	178
6P	-0.3699	0.2385	0.01324	-0.1345	-0.3835	-0.7151	3.255	-3.387	172
7P	-0.3315	0.223	0.01229	-0.1451	-0.3481	-0.6838	3.293	-3.402	166
8P	-0.4355	0.2688	0.01183	-0.0983	-0.2739	-0.7266	-0.4355	-11.73	166
9P	-0.297	0.2076	0.01083	-0.1418	-0.3253	-0.6411	3.328	-3.417	160
10P	-0.2646	0.1927	0.008836	-0.1206	-0.2856	-0.5984	3.36	-3.432	154
11P	-0.3322	0.2318	0.006739	-0.1065	-0.2196	-0.6166	-0.3322	-9.768	154
12P	-0.2451	0.1779	0.01037	-0.0986	-0.2593	-0.5697	3.853	-3.92	148.8
13P	-0.2223	0.1606	0.01181	-0.0932	-0.2397	-0.5346	4.462	-4.523	142.3
14P	-0.1986	0.1421	0.01294	-0.0861	-0.2134	-0.4939	5.168	-5.225	134.7
15P	-0.1764	0.1244	0.01382	-0.0766	-0.1886	-0.4540	5.912	-5.964	126.7
16P	-0.1569	0.1081	0.01422	-0.0684	-0.1711	-0.4135	6.651	-6.7	118.7
17P	-0.1392	0.09381	0.01439	-0.0613	-0.1470	-0.3763	7.39	-7.435	110.7
18P	-0.1245	0.08054	0.01412	-0.0567	-0.1371	-0.3380	8.126	-8.169	102.7
19P	-0.09028	0.05743	0.01401	-0.0459	-0.1327	-0.2592	9.662	-9.695	86.01
20P	-0.06145	0.039	0.01313	-0.0376	-0.1065	-0.1971	11.18	-11.2	69.51
21P	-0.03816	0.0249	0.01131	-0.0279	-0.0863	-0.1505	12.64	-12.66	53.51
22P	-0.01294	0.01026	0.007594	-0.0207	-0.0546	-0.1112	14.79	-14.79	30.01
23P	-0.003139	0.1015	-0.008132	-0.0547	-0.0100	-0.0546	-0.003139	-16.05	14.99
24P	0.0004089	0.002223	0.00116	-0.0082	-0.0009	0.0105	16.15	0.002223	15
25P	-0.003504	0.002492	0.00426	-0.0098	-0.0336	-0.1210	16.15	-16.15	15
26P	0	0	0	0.0000	0.0000	0.0000	17.5	-17.5	0
MountBP	-0.4337	0.4129	-0.0443	-0.2443	-0.3967	-0.8699	-6.559	-3.212	182
MountTP	-0.4727	0.4393	-0.04393	-0.2491	-0.3801	-0.9011	-6.598	-3.186	188
TPipeP	-0.4803	0.4905	-0.06007	-0.3005	-0.3692	-0.8762	-6.605	0.4905	197.9
BPipeP	-0.3725	0.4083	-0.05938	-0.2303	-0.3683	-0.8619	-6.498	0.4083	180.9
PipT-1P	-0.4834	-0.007095	-0.5601	0.0000	0.0000	0.0000	-6.608	0.4929	197.4
PipT-2P	-0.9803	0.9518	-0.2532	0.0000	0.0000	0.0000	-6.605	0.9518	197.7
PipT-3P	-0.4834	0.9929	-0.5601	0.0000	0.0000	0.0000	-6.608	0.4929	197.4
PipT-4P	0.0197	0.9518	-0.2532	0.0000	0.0000	0.0000	-6.605	0.9518	197.7
PipB-1P	-0.3715	-0.09251	-0.5594	0.0000	0.0000	0.0000	-6.496	0.4075	180.4
PipB-2P	-0.8725	0.8695	-0.2527	0.0000	0.0000	0.0000	-6.498	0.8695	180.7
PipB-3P	-0.3715	0.9075	-0.5594	0.0000	0.0000	0.0000	-6.496	0.4075	180.4
PipB-4P	0.1275	0.8695	-0.2527	0.0000	0.0000	0.0000	-6.498	0.8695	180.7
1X	-0.3731	0.2917	-0.009288	-0.1909	-0.3343	-0.8674	3.252	3.917	190
1XY	-0.3721	0.4054	-0.05099	-0.1981	-0.3292	-0.9050	-3.997	4.03	189.9
1Y	-0.4857	0.4071	-0.02712	-0.1947	-0.3569	-0.9142	-4.111	-3.218	190
2X	-0.2422	0.348	-0.06116	-0.2269	-0.3311	-0.8954	-0.2422	12.35	189.9
3X	-0.3389	0.2724	-0.009255	-0.1765	-0.3314	-0.8290	3.286	3.897	184
3XY	-0.3379	0.3824	-0.05046	-0.2272	-0.3243	-0.8777	-3.963	4.007	183.9
3Y	-0.4469	0.3824	-0.02684	-0.2173	-0.3751	-0.8859	-4.072	-3.243	184
4X	-0.3049	0.2533	-0.008954	-0.1615	-0.3210	-0.7905	3.32	3.878	178
4XY	-0.3044	0.3583	-0.04919	-0.2150	-0.2898	-0.8128	-3.929	3.983	178
4Y	-0.4093	0.36	-0.02627	-0.2262	-0.3707	-0.8196	-4.034	-3.265	178
5X	-0.2115	0.3046	-0.05561	-0.2593	-0.3404	-0.8505	-0.2115	10.3	177.9
6X	-0.2739	0.239	-0.008942	-0.1511	-0.2978	-0.6933	3.351	3.864	172
6XY	-0.2733	0.3353	-0.04691	-0.2421	-0.3020	-0.7128	-3.898	3.96	172
6Y	-0.3686	0.3311	-0.02528	-0.1997	-0.3775	-0.7044	-3.994	-3.294	172
7X	-0.2434	0.2217	-0.008949	-0.1547	-0.2840	-0.6624	3.382	3.847	166
7XY	-0.2432	0.3099	-0.04498	-0.2065	-0.2782	-0.6809	-3.868	3.935	166
7Y	-0.3312	0.3112	-0.02425	-0.2059	-0.3510	-0.6679	-3.956	-3.314	166
8X	-0.1393	0.2644	-0.0626	-0.2765	-0.3056	-0.7266	-0.1393	12.26	165.9
9X	-0.2157	0.2072	-0.009184	-0.1336	-0.2601	-0.6159	3.409	3.832	160
9XY	-0.2156	0.2898	-0.04248	-0.2003	-0.2677	-0.6381	-3.841	3.915	160
9Y	-0.2958	0.286	-0.02306	-0.2025	-0.3258	-0.6179	-3.921	-3.339	160
10X	-0.1899	0.192	-0.009371	-0.1342	-0.2276	-0.5695	3.435	3.817	154
10XY	-0.1895	0.2673	-0.0394	-0.1874	-0.2176	-0.5954	-3.814	3.892	154
10Y	-0.2645	0.2684	-0.02161	-0.1727	-0.2843	-0.5678	-3.89	-3.357	154
11X	-0.1222	0.2289	-0.04865	-0.2431	-0.2591	-0.6134	-0.1222	10.23	154
12X	-0.1667	0.1766	-0.008788	-0.1078	-0.1935	-0.5388	3.931	4.275	148.8
12XY	-0.1673	0.2561	-0.04011	-0.1667	-0.1800	-0.5657	-4.265	4.354	148.8
12Y	-0.2441	0.2547	-0.02124	-0.1960	-0.2653	-0.5388	-4.342	-3.843	148.8
13X	-0.1408	0.1591	-0.008143	-0.0996	-0.1737	-0.5048	4.543	4.843	142.3
13XY	-0.1416	0.2417	-0.04058	-0.1670	-0.1708	-0.5296	-4.826	4.926	142.3
13Y	-0.2214	0.2403	-0.0208	-0.1594	-0.2368	-0.5087	-4.905	-4.444	142.3
14X	-0.1135	0.1406	-0.00744	-0.0889	-0.1545	-0.4654	5.253	5.508	134.7
14XY	-0.1145	0.2264	-0.04051	-0.1474	-0.1471	-0.4881	-5.481	5.593	134.7
14Y	-0.1976	0.225	-0.02026	-0.1544	-0.2120	-0.4696	-5.565	-5.142	134.7
15X	-0.08784	0.1229	-0.006729	-0.0794	-0.1345	-0.4269	6	6.211	126.7
15XY	-0.08888	0.2121	-0.04015	-0.1366	-0.1356	-0.4479	-6.177	6.3	126.7
15Y	-0.1755	0.2107	-0.01976	-0.1288	-0.1895	-0.4331	-6.263	-5.877	126.7
16X	-0.06517	0.1071	-0.006051	-0.0727	-0.1239	-0.3895	6.743	6.915	118.7
16XY	-0.06561	0.1989	-0.0393	-0.1134	-0.1140	-0.4078	-6.874	7.007	118.7
16Y	-0.1559	0.1984	-0.01924	-0.1271	-0.1661	-0.3946	-6.964	-6.61	118.7
17X	-0.04397	0.09252	-0.005311	-0.0642	-0.1092	-0.3538	7.485	7.622	110.7
17XY	-0.04561	0.1888	-0.03799	-0.1050	-0.1107	-0.3707	-7.575	7.718	110.7
17Y	-0.1389	0.1863	-0.0186	-0.0965	-0.1500	-0.3605	-7.668	-7.343	110.7
18X	-0.02703	0.07989	-0.004735	-0.0567	-0.0736	-0.3163	8.223	8.33	102.7
18XY	-0.0259	0.1763	-0.03679	-0.1307	-0.0896	-0.3289	-8.276	8.426	102.7
18Y	-0.1226	0.1788	-0.0184	-0.0988	-0.1481	-0.3222	-8.373	-8.071	102.7
19X	-0.006422	0.05669	-0.004101	-0.0504	-0.0342	-0.2416	9.746	9.809	86
19XY	-0.004778	0.1409	-0.03299	-0.1393	-0.0283	-0.2469	-9.757	9.893	85.97

19Y	-0.08811	0.1441	-0.01579	-0.1468	-0.1309	-0.2412	-9.84	-9.608	85.98
20X	0.006099	0.03834	-0.003567	-0.0409	-0.0193	-0.1742	11.25	11.28	69.5
20XY	0.007891	0.1075	-0.02862	-0.1210	-0.0171	-0.1820	-11.23	11.35	69.47
20Y	-0.05906	0.1113	-0.01321	-0.1191	-0.1067	-0.1710	-11.3	-11.13	69.49
21X	0.01266	0.02419	-0.002951	-0.0331	-0.0047	-0.1168	12.69	12.7	53.5
21XY	0.01446	0.07723	-0.02341	-0.1231	-0.0012	-0.1265	-12.67	12.76	53.48
21Y	-0.0358	0.08141	-0.01055	-0.1226	-0.0824	-0.1037	-12.72	-12.6	53.49
22X	0.01227	0.009393	-0.001978	-0.0267	0.0189	-0.0490	14.81	14.81	30
22XY	0.01381	0.03699	-0.01461	-0.0404	0.0282	-0.0680	-14.79	14.84	29.99
22Y	-0.01143	0.04079	-0.006185	-0.0474	-0.0434	-0.0157	-14.81	-14.76	29.99
23X	0.00576	0.006084	-0.0008306	-0.0545	-0.0312	-0.0568	0.00576	16.16	15
24Y	0.003237	0.02839	-0.01855	0.0425	0.0116	-0.0314	-16.15	0.02839	14.98
25X	0.005714	0.002205	-0.001287	-0.0164	0.0318	-0.0194	16.16	16.15	15
25XY	0.005798	0.02816	-0.00638	-0.0926	0.0394	-0.0296	-16.14	16.18	14.99
25Y	-0.002913	0.02846	-0.004142	-0.1012	-0.0158	0.0628	-16.15	-16.12	15
26X	0	0	0	0.0000	0.0000	0.0000	17.5	17.5	0
26XY	0	0	0	0.0000	0.0000	0.0000	-17.5	17.5	0
26Y	0	0	0	0.0000	0.0000	0.0000	-17.5	-17.5	0
MountBX	-0.3253	0.412	-0.06873	-0.1289	-0.4447	-0.8480	-6.45	4.037	181.9
MountTX	-0.3596	0.4384	-0.06954	-0.1259	-0.4464	-0.9138	-6.485	4.063	187.9
3aS	-0.4341	0.3749	-0.02666	-0.2054	-0.3812	-0.8710	-4.059	-3.25	182
BPipeS	-0.3789	0.4124	-0.05941	-0.2303	-0.3683	-0.8619	-6.504	0.4124	181.9
1aS	-0.473	0.3995	-0.02703	-0.2308	-0.3771	-0.9156	-4.098	-3.225	188
TPipeS	-0.4167	0.4388	-0.05963	-0.2571	-0.3682	-0.8760	-6.542	0.4388	187.9
AntATTS	-0.4612	0.4745	-0.05997	-0.3004	-0.3692	-0.8762	-6.586	0.4745	194.9
Sprint1S	-0.2039	0.1464	0.0127	-0.0877	-0.2189	-0.5036	5.001	-5.059	136.5
Sprint2S	-0.203	0.2286	-0.02042	-0.1578	-0.2187	-0.4786	-5.408	-4.977	136.5
Sprint3S	-0.1206	0.2299	-0.04058	-0.1512	-0.1518	-0.4979	-5.326	5.435	136.5
3aX	-0.3256	0.3746	-0.05007	-0.2035	-0.3928	-0.8599	-3.951	4	181.9
1aX	-0.36	0.3984	-0.05085	-0.1892	-0.3870	-0.9122	-3.985	4.023	187.9

Joint Support Reactions for Load Case "NESC Heavy Broken Wire":

Joint Label	X Force (kips)	X Usage %	Y Force (kips)	Y Usage %	H-Shear Usage %	Z Force (kips)	Comp. Usage %	Uplift Usage %	Result. Force (kips)	Result. Usage %	X Moment (ft-k)	X-M. Usage %	Y Moment (ft-k)	Y-M. Usage %	H-Bend-M Usage %	Z Moment (ft-k)	Z-M. Usage %	Max. Usage %
26P	17.05	0.0	-16.25	0.0	0.0	141.66	0.0	0.0	143.61	0.0	-0.05	0.0	0.7	0.0	0.0	1.90	0.0	0.0
26X	-5.27	0.0	-6.39	0.0	0.0	-58.68	0.0	0.0	59.27	0.0	0.19	0.0	-1.4	0.0	0.0	0.22	0.0	0.0
26XY	16.48	0.0	-21.48	0.0	0.0	-233.61	0.0	0.0	235.17	0.0	9.25	0.0	-1.5	0.0	0.0	-0.31	0.0	0.0
26Y	5.66	0.0	-9.80	0.0	0.0	-42.69	0.0	0.0	44.16	0.0	8.99	0.0	0.3	0.0	0.0	-1.67	0.0	0.0

Joint Displacements, Loads and Member Forces on Joints for Load Case "NESC Heavy Broken Wire":

Joint Label	X External Load (kips)	Y External Load (kips)	Z External Load (kips)	X Member Force (kips)	Y Member Force (kips)	Z Member Force (kips)	X Disp. (ft)	Y Disp. (ft)	Z Disp. (ft)
1P	0.0000	0.2600	-0.6548	0.0000	-0.2600	0.6548	-0.4867	0.2916	0.0146
2P	-13.5800	1.3429	-1.5697	13.5800	-1.3429	1.5697	-0.6253	0.3504	0.0104
3P	0.0000	0.3119	-0.4898	-0.0000	-0.3119	0.4898	-0.4480	0.2736	0.0146
4P	0.0000	0.4296	-1.0458	-0.0000	-0.4296	1.0458	-0.4100	0.2539	0.0142
5P	-19.8000	1.8274	-3.0030	19.8000	-1.8274	3.0030	-0.5075	0.3081	0.0143
6P	0.0000	0.2974	-0.5014	0.0000	-0.2974	0.5014	-0.3699	0.2385	0.0132
7P	0.0000	0.4682	-1.2313	-0.0000	-0.4682	1.2313	-0.3315	0.2230	0.0123
8P	-0.0272	3.2994	-7.9233	0.0272	-3.2994	7.9233	-0.4355	0.2688	0.0118
9P	0.0000	0.3135	-0.6112	-0.0000	-0.3135	0.6112	-0.2970	0.2076	0.0108
10P	0.0000	0.4837	-1.3226	0.0000	-0.4837	1.3226	-0.2646	0.1927	0.0088
11P	-0.0272	3.2994	-7.8830	0.0272	-3.2994	7.8830	-0.3322	0.2318	0.0067
12P	0.0000	0.2699	-0.6535	-0.0000	-0.2699	0.6535	-0.2451	0.1779	0.0104
13P	0.0000	0.4749	-1.2901	0.0000	-0.4749	1.2901	-0.2223	0.1606	0.0118
14P	0.0000	0.3009	-0.6886	-0.0000	-0.3009	0.6886	-0.1986	0.1421	0.0129
15P	0.0000	0.9116	-1.9095	-0.0000	-0.9116	1.9095	-0.1764	0.1244	0.0138
16P	0.0000	0.4146	-1.0060	0.0000	-0.4146	1.0060	-0.1569	0.1081	0.0142
17P	0.0000	0.4655	-1.0940	-0.0000	-0.4655	1.0940	-0.1392	0.0938	0.0144
18P	0.0000	1.1674	-2.7794	-0.0000	-1.1674	2.7794	-0.1245	0.0805	0.0141
19P	0.0000	1.2670	-3.3992	-0.0000	-1.2670	3.3992	-0.0903	0.0574	0.0140
20P	0.0000	1.2723	-3.4064	0.0000	-1.2723	3.4064	-0.0614	0.0390	0.0131
21P	0.0000	1.5194	-4.1251	-0.0000	-1.5194	4.1251	-0.0382	0.0249	0.0113
22P	0.0000	1.5028	-4.4401	0.0000	-1.5028	4.4401	-0.0129	0.0103	0.0076
23P	0.0000	0.6567	-0.8881	-0.0000	-0.6567	0.8881	-0.0031	0.1015	-0.0081
24P	0.0000	0.0000	-0.8881	-0.0000	0.0000	0.8881	0.0004	0.0022	0.0012
25P	0.0000	0.9207	-2.4469	-0.0000	-0.9207	2.4469	-0.0035	0.0025	0.0043
26P	0.0000	0.3126	-0.9658	-17.0497	15.9389	142.6293	0.0000	0.0000	0.0000
MountBP	0.0000	0.0236	-0.1087	-0.0000	-0.0236	0.1087	-0.4337	0.4129	-0.0443
MountTP	0.0000	0.0236	-0.1087	-0.0000	-0.0236	0.1087	-0.4727	0.4393	-0.0439
TPipeP	0.0000	0.0169	-0.1243	0.0000	-0.0169	0.1243	-0.4803	0.4905	-0.0601
BPipeP	0.0000	0.0056	-0.0417	-0.0000	-0.0056	0.0417	-0.3725	0.4083	-0.0594
PipT-1P	0.0000	0.0000	-0.0033	-0.0000	-0.0000	0.0033	-0.4834	-0.0071	-0.5601
PipT-2P	0.0000	0.0078	-0.0033	-0.0000	-0.0078	0.0033	-0.9803	0.9518	-0.2532
PipT-3P	0.0000	0.0000	-0.0033	0.0000	0.0000	0.0033	-0.4834	0.9929	-0.5601
PipT-4P	0.0000	0.0078	-0.0033	0.0000	-0.0078	0.0033	0.0197	0.9518	-0.2532
PipB-1P	0.0000	0.0000	-0.0033	-0.0000	0.0000	0.0033	-0.3715	-0.0925	-0.5594
PipB-2P	0.0000	0.0078	-0.0033	-0.0000	-0.0078	0.0033	-0.8725	0.8695	-0.2527
PipB-3P	0.0000	0.0000	-0.0033	-0.0000	0.0000	0.0033	-0.3715	0.9075	-0.5594
PipB-4P	0.0000	0.0078	-0.0033	-0.0000	-0.0078	0.0033	0.1275	0.8695	-0.2527
1X	0.0000	0.0670	-0.6548	0.0000	-0.0670	0.6548	-0.3731	0.2917	-0.0093
1XY	0.0000	0.0000	-0.3691	-0.0000	-0.0000	0.3691	-0.3721	0.4054	-0.0510
1Y	0.0000	0.1553	-0.3691	-0.0000	-0.1553	0.3691	-0.4857	0.4071	-0.0271
2X	-0.4000	2.1570	-3.8577	0.4000	-2.1570	3.8577	-0.2422	0.3480	-0.0612
3X	0.0000	0.0000	-0.4898	-0.0000	-0.0000	0.4898	-0.3389	0.2724	-0.0093
3XY	0.0000	0.0000	-0.4002	0.0000	0.0000	0.4002	-0.3379	0.3824	-0.0505
3Y	0.0000	0.2554	-0.4002	0.0000	-0.2554	0.4002	-0.4469	0.3824	-0.0268
4X	0.0000	0.1340	-1.0458	-0.0000	-0.1340	1.0458	-0.3049	0.2533	-0.0090

4XY	0.0000	0.0000	-0.5629	0.0000	-0.0000	0.5629	-0.3044	0.3583	-0.0492	
4Y	0.0000	0.8148	-2.4213	-0.0000	-0.8148	2.4213	-0.4093	0.3600	-0.0263	
5X	-0.0272	3.1760	-7.8830	0.0272	-3.1760	7.8830	-0.2115	0.3046	-0.0556	
6X	0.0000	0.0000	-0.5014	0.0000	-0.0000	0.5014	-0.2739	0.2390	-0.0089	
6XY	0.0000	0.0000	-0.5014	0.0000	-0.0000	0.5014	-0.2733	0.3353	-0.0469	
6Y	0.0000	0.2974	-0.5014	0.0000	-0.2974	0.5014	-0.3686	0.3311	-0.0253	
7X	0.0000	0.1340	-1.2313	-0.0000	-0.1340	1.2313	-0.2434	0.2217	-0.0089	
7XY	0.0000	0.0000	-0.7753	-0.0000	-0.0000	0.7753	-0.2432	0.3099	-0.0450	
7Y	0.0000	0.3342	-0.7753	-0.0000	-0.3342	0.7753	-0.3312	0.3112	-0.0242	
8X	-0.0272	3.1760	-7.9233	0.0272	-3.1760	7.9233	-0.1393	0.2644	-0.0626	
9X	0.0000	0.0000	-0.6112	-0.0000	0.0000	0.6112	-0.2157	0.2072	-0.0092	
9XY	0.0000	0.0000	-0.6112	-0.0000	0.0000	0.6112	-0.2156	0.2898	-0.0425	
9Y	0.0000	0.3135	-0.6112	-0.0000	-0.3135	0.6112	-0.2958	0.2860	-0.0231	
10X	0.0000	0.1510	-1.3226	0.0000	-0.1510	1.3226	-0.1899	0.1920	-0.0094	
10XY	0.0000	0.0000	-0.8086	0.0000	-0.0000	0.8086	-0.1895	0.2673	-0.0394	
10Y	0.0000	0.9076	-2.7954	0.0000	-0.9076	2.7954	-0.2645	0.2684	-0.0216	
11X	-0.0272	3.1760	-7.8830	0.0272	-3.1760	7.8830	-0.1222	0.2289	-0.0486	
12X	0.0000	0.0000	-0.6535	-0.0000	-0.0000	0.6535	-0.1667	0.1766	-0.0088	
12XY	0.0000	0.0000	-0.6535	-0.0000	0.0000	0.6535	-0.1673	0.2561	-0.0401	
12Y	0.0000	0.2699	-0.6535	-0.0000	-0.2699	0.6535	-0.2441	0.2547	-0.0212	
13X	0.0000	0.1690	-1.3523	-0.0000	-0.1690	1.3523	-0.1408	0.1591	-0.0081	
13XY	0.0000	0.0000	-0.7161	-0.0000	0.0000	0.7161	-0.1416	0.2417	-0.0406	
13Y	0.0000	0.3059	-0.7161	0.0000	-0.3059	0.7161	-0.2214	0.2403	-0.0208	
14X	0.0000	0.0000	-0.8889	-0.0000	0.0000	0.8889	-0.1135	0.1406	-0.0074	
14XY	0.0000	0.0000	-0.6886	-0.0000	-0.0000	0.6886	-0.1145	0.2264	-0.0405	
14Y	0.0000	0.3009	-0.6886	-0.0000	-0.3009	0.6886	-0.1976	0.2250	-0.0203	
15X	0.0000	0.1810	-1.5715	-0.0000	-0.1810	1.5715	-0.0878	0.1229	-0.0067	
15XY	0.0000	0.0000	-0.9545	0.0000	-0.0000	0.9545	-0.0889	0.2121	-0.0401	
15Y	0.0000	0.9736	-2.9414	-0.0000	-0.9736	2.9414	-0.1755	0.2107	-0.0198	
16X	0.0000	0.0000	-1.0060	-0.0000	-0.0000	1.0060	-0.0652	0.1071	-0.0061	
16XY	0.0000	0.0000	-1.0060	0.0000	-0.0000	1.0060	-0.0656	0.1989	-0.0393	
16Y	0.0000	0.4146	-1.0060	0.0000	-0.4146	1.0060	-0.1559	0.1984	-0.0192	
17X	0.0000	0.0000	-1.0584	0.0000	0.0000	1.0584	-0.0440	0.0925	-0.0053	
17XY	0.0000	0.0000	-1.0584	-0.0000	0.0000	1.0584	-0.0456	0.1888	-0.0380	
17Y	0.0000	0.4310	-1.0584	-0.0000	-0.4310	1.0584	-0.1389	0.1863	-0.0186	
18X	0.0000	0.1880	-2.4641	-0.0000	-0.1880	2.4641	-0.0270	0.0799	-0.0047	
18XY	0.0000	0.0000	-1.8251	-0.0000	-0.0000	1.8251	-0.0259	0.1763	-0.0368	
18Y	0.0000	1.1258	-3.4001	-0.0000	-1.1258	3.4001	-0.1226	0.1788	-0.0184	
19X	0.0000	0.1800	-3.1416	-0.0000	-0.1800	3.1416	-0.0064	0.0567	-0.0041	
19XY	0.0000	0.0000	-2.5316	-0.0000	0.0000	2.5316	-0.0048	0.1409	-0.0330	
19Y	0.0000	1.2066	-3.8167	-0.0000	-1.2066	3.8167	-0.0881	0.1441	-0.0158	
20X	0.0000	0.1730	-3.1543	-0.0000	-0.1730	3.1543	0.0061	0.0383	-0.0036	
20XY	0.0000	0.0000	-2.5663	-0.0000	0.0000	2.5663	0.0079	0.1075	-0.0286	
20Y	0.0000	1.2163	-3.8250	0.0000	-1.2163	3.8250	-0.0591	0.1113	-0.0132	
21X	0.0000	0.2070	-3.8100	-0.0000	-0.2070	3.8100	0.0127	0.0242	-0.0030	
21XY	0.0000	0.0000	-3.1060	0.0000	-0.0000	3.1060	0.0145	0.0772	-0.0234	
21Y	0.0000	1.4527	-4.6349	-0.0000	-1.4527	4.6349	-0.0358	0.0814	-0.0105	
22X	0.0000	0.2030	-4.1419	0.0000	-0.2030	4.1419	0.0123	0.0094	-0.0020	
22XY	0.0000	0.0000	-3.4499	-0.0000	0.0000	3.4499	0.0138	0.0370	-0.0146	
22Y	0.0000	1.4384	-4.9408	0.0000	-1.4384	4.9408	-0.0114	0.0408	-0.0062	
23X	0.0000	0.0000	-0.8881	0.0000	-0.0000	0.8881	0.0058	0.0061	-0.0008	
24Y	0.0000	0.0000	-0.8881	-0.0000	0.0000	0.8881	0.0032	0.0284	-0.0186	
25X	0.0000	0.0810	-2.0977	-0.0000	-0.0810	2.0977	0.0057	0.0022	-0.0013	
25XY	0.0000	0.0000	-1.8197	-0.0000	-0.0000	1.8197	0.0058	0.0282	-0.0064	
25Y	0.0000	1.0015	-3.5627	0.0000	-1.0015	3.5627	-0.0029	0.0285	-0.0041	
26X	0.0000	0.0000	-0.9658	5.2738	6.3901	-57.7181	0.0000	0.0000	0.0000	
26XY	0.0000	0.0000	-0.9658	-16.4841	21.4835	-232.6418	0.0000	0.0000	0.0000	
26Y	0.0000	0.3126	-0.9658	-5.6559	9.4868	-41.7224	0.0000	0.0000	0.0000	
MountBX	0.0000	0.0000	-0.1087	0.0000	0.0000	0.1087	-0.3253	0.4120	-0.0687	
MountTX	0.0000	0.0000	-0.1087	0.0000	-0.0000	0.1087	-0.3596	0.4384	-0.0695	
3aS	0.0000	0.0801	-0.1340	-0.0000	-0.0801	0.1340	-0.4341	0.3749	-0.0267	
BPipeS	0.0000	0.0395	-0.4179	0.0000	-0.0395	0.4179	-0.3789	0.4124	-0.0594	
1aS	0.0000	0.0801	-0.1340	0.0000	-0.0801	0.1340	-0.4730	0.3995	-0.0270	
TPipeS	0.0000	0.0734	-0.6658	-0.0000	-0.0734	0.6658	-0.4167	0.4388	-0.0596	
AntATTS	0.0000	1.5489	-5.6974	-0.0000	-1.5489	5.6974	-0.4612	0.4745	-0.0600	
Sprint1S	0.0000	0.4101	-0.7385	0.0000	-0.4101	0.7385	-0.2039	0.1464	0.0127	
Sprint2S	0.0000	0.4101	-0.7385	0.0000	-0.4101	0.7385	-0.2030	0.2286	-0.0204	
Sprint3S	0.0000	0.3108	-0.7385	0.0000	-0.3108	0.7385	-0.1206	0.2299	-0.0406	
3aX	0.0000	0.0000	-0.1340	-0.0000	-0.0000	0.1340	-0.3256	0.3746	-0.0501	
1aX	0.0000	0.0000	-0.1340	0.0000	0.0000	0.1340	-0.3600	0.3984	-0.0508	

Crossing Diagonal Check for Load Case "NESC Heavy Broken Wire" (RLOUT controls):

Comp. Member Label	Tens. Member Label	Connect Leg for Comp. Member	Force In Comp. Member (kips)	Force In Tens. Member (kips)	Original Supported L/R Cap. (kips)	Original Supported RLX	Original Supported RLY	Original Supported RLZ	Original Supported L/R	Original Supported KL/R	Original Supported Curve No.	Alternate Unsupported L/R Cap. (kips)	Alternate Unsupported RLOUT	Alternate Unsupported L/R	Alternate Unsupported KL/R	Alternate Unsupported Curve No.
23P	23Y	Long only	-1.12	0.06	16.02	0.500	0.750	0.500	143.07	137.62	5	11.35	1.000	190.76	163.52	6
25P	25Y	Long only	-1.98	-0.17	16.02	0.500	0.750	0.500	143.07	137.62	5	11.35	1.000	190.76	163.52	6
25Y	25P	Long only	-0.17	-1.98	16.02	0.500	0.750	0.500	143.07	137.62	5	11.35	1.000	190.76	163.52	6
29P	29Y	Long only	-1.13	-1.50	26.93	0.500	0.750	0.500	112.48	114.36	2	19.57	1.000	149.97	138.43	6
29Y	29P	Long only	-1.50	-1.13	26.93	0.500	0.750	0.500	112.48	114.36	2	19.57	1.000	149.97	138.43	6
33P	33Y	Long only	-3.51	-3.82	41.16	0.750	0.500	0.500	95.87	101.90	2	33.73	1.000	122.48	121.53	6
33Y	33P	Long only	-3.82	-3.51	41.16	0.750	0.500	0.500	95.87	101.90	2	33.73	1.000	122.48	121.53	6

Summary of Clamp Capacities and Usages for Load Case "NESC Heavy Broken Wire":

Clamp Label	Force (kips)	Input Holding Capacity (kips)	Factored Holding Capacity (kips)	Holding Usage %	Input Hardware Capacity (kips)	Factored Hardware Capacity (kips)	Hardware Usage %	Max. Usage %

1	13.736	25.00	25.00	54.94	0.00	0.00	0.00	54.94
2	4.438	25.00	25.00	17.75	0.00	0.00	0.00	17.75
3	20.110	25.00	25.00	80.44	0.00	0.00	0.00	80.44
4	8.499	25.00	25.00	34.00	0.00	0.00	0.00	34.00
5	8.583	25.00	25.00	34.33	0.00	0.00	0.00	34.33
6	8.536	25.00	25.00	34.14	0.00	0.00	0.00	34.14
7	8.546	25.00	25.00	34.18	0.00	0.00	0.00	34.18
8	8.499	25.00	25.00	34.00	0.00	0.00	0.00	34.00
9	0.400	25.00	25.00	1.60	0.00	0.00	0.00	1.60
10	2.555	25.00	25.00	10.22	0.00	0.00	0.00	10.22
11	0.687	25.00	25.00	2.75	0.00	0.00	0.00	2.75
12	0.707	25.00	25.00	2.83	0.00	0.00	0.00	2.83
13	0.751	25.00	25.00	3.01	0.00	0.00	0.00	3.01
14	1.088	25.00	25.00	4.35	0.00	0.00	0.00	4.35
15	3.582	25.00	25.00	14.33	0.00	0.00	0.00	14.33
16	4.003	25.00	25.00	16.01	0.00	0.00	0.00	16.01
17	4.014	25.00	25.00	16.05	0.00	0.00	0.00	16.05
18	4.857	25.00	25.00	19.43	0.00	0.00	0.00	19.43
19	5.146	25.00	25.00	20.58	0.00	0.00	0.00	20.58
20	3.701	25.00	25.00	14.80	0.00	0.00	0.00	14.80
21	0.751	25.00	25.00	3.01	0.00	0.00	0.00	3.01
22	1.088	25.00	25.00	4.35	0.00	0.00	0.00	4.35
23	3.015	25.00	25.00	12.06	0.00	0.00	0.00	12.06
24	3.628	25.00	25.00	14.51	0.00	0.00	0.00	14.51
25	3.636	25.00	25.00	14.54	0.00	0.00	0.00	14.54
26	4.396	25.00	25.00	17.58	0.00	0.00	0.00	17.58
27	4.688	25.00	25.00	18.75	0.00	0.00	0.00	18.75
28	2.614	25.00	25.00	10.46	0.00	0.00	0.00	10.46
30	0.705	25.00	25.00	2.82	0.00	0.00	0.00	2.82
31	0.581	25.00	25.00	2.32	0.00	0.00	0.00	2.32
32	0.475	25.00	25.00	1.90	0.00	0.00	0.00	1.90
33	1.189	25.00	25.00	4.76	0.00	0.00	0.00	4.76
34	0.369	25.00	25.00	1.48	0.00	0.00	0.00	1.48
35	0.400	25.00	25.00	1.60	0.00	0.00	0.00	1.60
37	0.658	25.00	25.00	2.63	0.00	0.00	0.00	2.63
38	1.131	25.00	25.00	4.52	0.00	0.00	0.00	4.52
39	1.054	25.00	25.00	4.22	0.00	0.00	0.00	4.22
40	1.317	25.00	25.00	5.27	0.00	0.00	0.00	5.27
41	1.239	25.00	25.00	4.95	0.00	0.00	0.00	4.95
42	1.408	25.00	25.00	5.63	0.00	0.00	0.00	5.63
43	1.331	25.00	25.00	5.32	0.00	0.00	0.00	5.32
44	1.375	25.00	25.00	5.50	0.00	0.00	0.00	5.50
45	1.363	25.00	25.00	5.45	0.00	0.00	0.00	5.45
46	2.116	25.00	25.00	8.46	0.00	0.00	0.00	8.46
47	1.582	25.00	25.00	6.33	0.00	0.00	0.00	6.33
49	2.471	25.00	25.00	9.88	0.00	0.00	0.00	9.88
51	3.147	25.00	25.00	12.59	0.00	0.00	0.00	12.59
53	3.159	25.00	25.00	12.64	0.00	0.00	0.00	12.64
55	3.816	25.00	25.00	15.26	0.00	0.00	0.00	15.26
57	4.147	25.00	25.00	16.59	0.00	0.00	0.00	16.59
59	2.099	25.00	25.00	8.40	0.00	0.00	0.00	8.40

*** Overall summary for all load cases - Usage = Maximum Stress / Allowable Stress
Printed capacities do not include the strength factor entered for each load case.
The Group Summary reports on the member and load case that resulted in maximum usage
which may not necessarily be the same as that which produces maximum force.

Group Summary (Compression Portion):

Group Label	Group Desc.	Angle Type	Angle Size	Steel Strength (ksi)	Max Usage %	Usage Control	Max Use In Comp. %	Comp. Control Member	Comp. Force (kips)	Comp. Control Load Case	L/r Capacity (kips)	Comp. Connect. Shear Capacity (kips)	Comp. Connect. Bearing Capacity (kips)	RLX	RLY	RLZ	L/r	KL/r	Length Comp. Member (ft)	Curve No.	No. Of Bolts Comp.	
Leg1	6x6x3/8	SAE	6X6X0.375	33.0	35.34	Comp	35.34	5XY	-45.477	NESC Hea	128.698	163.200	303.750	1.000	1.000	1.000	60.50	60.50	6.000	1	12	
Leg1a	**6x6x3/8**	**SAE**	**6X6X0.375**	**33.0**	**6.76**	**Comp**	**6.76**	**3bX**	**-9.264**	**NESC Hea**	**137.132**	**0.000**	**0.000**	**1.000**	**1.500**	**1.000**	**40.34**	**40.34**	**4.000**	**1**	**0**	**A potentially damaging moment exists in the following members (make sure your system is well triangulated to minimize moments): 3bP 3bX ??**
Leg1b	6x6x3/8	SAE	6X6X0.375	33.0	15.74	Comp	15.74	4aX	-21.688	NESC Hea	137.797	0.000	0.000	1.000	3.000	1.000	38.30	38.30	2.000	1	0	
Leg1c	6x6x3/8	SAE	6X6X0.375	33.0	18.05	Comp	18.05	4bX	-24.754	NESC Hea	137.132	0.000	0.000	1.000	1.500	1.000	40.34	40.34	4.000	1	0	
Leg2	8x8x1/2	SAE	8X8X0.5	33.0	46.34	Comp	46.34	8XY	-111.520	NESC Hea	240.633	301.600	629.999	1.000	1.000	1.000	45.28	45.28	6.000	1	16	
Leg3	8x8x11/16	SAE	8X8X0.6875	33.0	57.83	Comp	57.83	11aYP	-180.762	NESC Ext	312.561	414.700	1191.092	4.230	4.230	4.230	58.29	58.29	1.814	1	22	
Leg4	8x8x3/4	SAE	8X8X0.75	33.0	65.51	Comp	65.51	13XY	-220.571	NESC Ext	336.697	490.100	1535.623	1.000	1.000	1.000	61.25	61.25	8.065	1	26	
Leg5	8x8x13/16	SAE	8X8X0.8125	33.0	69.78	Comp	69.78	15XY	-252.224	NESC Ext	361.445	527.800	1791.560	1.000	1.000	1.000	61.64	61.64	8.065	1	28	
Leg6	8x8x7/8	SAE	8X8X0.875	33.0	72.99	Comp	72.99	16XY	-280.642	NESC Ext	384.502	565.500	2067.184	0.500	0.500	0.500	64.34	64.34	16.835	1	30	
Leg7	8x8x15/16	SAE	8X8X0.9375	33.0	75.53	Comp	75.53	18XY	-312.794	NESC Ext	414.146	603.200	2362.496	0.500	0.500	0.500	61.76	61.76	16.129	1	32	
Leg8	8x8x1	SAE	8X8X1	33.0	80.47	Tens	79.28	21XY	-354.158	NESC Ext	446.741	640.900	2677.496	0.500	0.500	0.500	58.16	58.16	15.121	1	34	
XBR1	2.5x2x1/4	SAU	2.5X2X0.25	33.0	73.52	Comp	73.52	23X	-11.777	NESC Hea	16.019	27.200	33.750	0.500	0.750	0.500	143.07	137.62	9.411	5	2	
XBR2	3x2.5x1/4	SAU	3X2.5X0.25	33.0	94.14	Comp	94.14	27X	-25.356	NESC Hea	26.934	40.800	50.625	0.500	0.750	0.500	112.48	114.36	9.411	2	3	
XBR3	3x3x5/16	SAE	3X3X0.3125	33.0	62.48	Comp	62.48	31X	-25.716	NESC Hea	41.160	54.400	84.375	0.750	0.500	0.500	95.87	101.90	9.411	2	4	
XBR4	3x2.5x5/16	SAU	3X2.5X0.3125	33.0	65.00	Comp	65.00	34X	-21.386	NESC Hea	32.903	54.400	84.375	0.767	0.535	0.535	114.00	115.50	9.322	2	4	
XBR5	3.5x3x1/4	SAU	3.5X3X0.25	33.0	91.29	Comp	91.29	46Y	-15.188	NESC Ext	16.638	40.800	50.625	0.763	0.527	0.527	177.45	163.82	17.706	5	3	
XBR6	2.5x2.5x5/16	SAE	2.5X2.5X0.3125	33.0	84.41	Comp	84.41	49Y	-4.769	NESC Hea	5.650	54.400	84.375	0.764	0.529	0.529	319.36	271.95	24.601	5	4	
XBR7	2.5x2x5/16	SAU	2.5X2X0.3125	33.0	97.51	Tens	31.38	53X	-0.855	NESC Ext	2.724	40.800	63.281	0.517	0.759	0.517	449.38	371.03	28.814	5	3	
HBR1	3.5x3.5x1/4	SAE	3.5X3.5X0.25	33.0	65.96	Comp	65.96	82P	-11.438	NESC Ext	17.340	40.800	50.625	0.500	1.000	0.500	181.65	167.02	16.500	5	3	
HBR2	4x4x1/4	SAE	4X4X0.25	33.0	0.00		0.00		0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.000	0	0	
HBR3	LL3.5x3.5x1/4	DAE	3.5X3.5X0.25	33.0	73.96	Comp	73.96	88P	-23.511	NESC Ext	31.791	81.600	101.250	0.500	1.000	0.500	191.40	174.44	25.360	5	3	
HBR4	LL4x4x1/4	DAE	4X4X0.25	33.0	39.15	Comp	39.15	90P	-24.369	NESC Ext	62.237	81.600	101.250	0.500	0.500	0.500	142.08	133.58	29.600	6	3	
Arm	5x3.5x5/16	SAU	5X3.5X0.3125	33.0	59.79	Comp	59.79	73Y	-24.395	NESC Hea	65.312	40.800	63.281	1.000	0.500	0.500	57.44	88.72	7.334	3	3	
ArmBR1	3x3x1/4	SAE	3X3X0.25	33.0	64.28	Comp	64.28	94XY	-6.807	NESC Hea	10.588	27.200	33.750	1.000	1.000	1.000	221.38	197.29	10.922	5	2	
ArmBR2	2.5x2x1/4	SAU	2.5X2X0.25	33.0	62.58	Tens	37.82	97XY	-2.115	NESC Hea	5.591	27.200	33.750	1.000	1.000	1.000	268.17	232.94	9.475	5	2	
Br1	5x3x5/16	SAU	5X3X0.3125	33.0	8.09	Tens	5.73	79X	-2.409	NESC Ext	42.081	54.400	84.375	1.000	1.000	1.000	132.22	127.51	7.250	6	4	
Br2	2.5x2x1/4	SAU	2.5X2X0.25	33.0	15.56	Comp	15.56	60P	-2.173	NESC Hea	13.968	27.200	33.750	0.500	0.750	0.500	155.87	147.38	10.253	5	2	
Br3	2.5x2x3/16	SAU	2.5X2X0.1875	33.0	70.01	Comp	70.01	78P	-3.910	NESC Ext	5.585	13.600	12.656	1.000	1.000	1.000	203.75	203.75	7.250	4	1	
Br4	2.5x2.5x3/16	SAE	2.5X2.5X0.1875	33.0	0.00		0.00		0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.000	0	0	
Br5	2.5x2.5x1/4	SAE	2.5X2.5X0.25	33.0	3.31	Tens	0.00	65P	0.000		1.946	27.200	33.750	0.500	0.750	0.500	511.54	418.39	41.861	5	2	
XBR8	2.5x2.5x5/16	SAE	2.5X2.5X0.3125	33.0	0.00		0.00		0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.000	0	0	
XBR9	2.5x2x5/16	SAU	2.5X2X0.3125	33.0	0.00		0.00		0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.000	0	0	
Br4R	2.5x2.5x3/16	SAE	2.5X2.5X0.1875	36.0	50.39	Comp	50.39	64X	-2.183	NESC Hea	4.332	27.200	24.469	0.500	0.750	0.500	282.84	244.13	23.335	5	2	
MOD1-HBR2	4x4x3/8	DAE	4X4X0.25	36.0	32.15	Comp	32.15	84P	-21.709	NESC Ext	67.534	81.600	97.875	0.500	1.000	0.500	130.75	128.23	19.504	5	3	
XBR8r	2.5x2.5x5/16	SAE	2.5X2.5X0.3125	33.0	99.86	Tens	39.38	59XY	-2.753	NESC Hea	6.992	54.400	84.375	0.500	0.500	0.500	283.29	244.47	23.088	5	4	
Pip	Mount Pipe	PIP	12" Standard	35.0	1.23	Comp	1.23	P3P	-5.823	NESC Hea	474.132	0.000	0.000	1.000	1.000	1.000	19.13	19.13	7.000	1	0	
PipeSupport	Pipe Support	HSS	6X6X1/4	50.0	1.58	Tens	1.46	P20X	-3.770	NESC Ext	258.011	0.000	0.000	1.000	1.000	1.000	18.67	18.67	3.625	1	0	
PipeArea	Pipe Area	PIP_FICT	0.1X0.05X0.025	36.0	0.00		0.00	P14P	-0.086	NESC Ext	0.360	0.000	0.000	1.000	1.000	1.000	0.06	0.06	0.500	1	0	

Group Summary (Tension Portion):

Group Label	Group Desc.	Angle Type	Angle Size	Steel Strength (ksi)	Max Usage %	Usage Control	Max Use In Tens. %	Tension Control Member	Tension Force (kips)	Tension Control Load Case	Net Section Capacity (kips)	Tension Connect. Shear Capacity (kips)	Tension Connect. Bearing Capacity (kips)	Tension Connect. Rupture Capacity (kips)	Length Tens. Member (ft)	No. Of Bolts Tens.	No. Of Holes	Hole Diameter (in)	
Leg1	6x6x3/8	SAE	6X6X0.375	33.0	35.34	Comp	20.49	5P	22.586	NESC Hea	110.204	163.200	303.750	0.000	6.000	12	3.110	0.875	
Leg1a	**6x6x3/8**	**SAE**	**6X6X0.375**	**33.0**	**6.76**	**Comp**	**1.98**	**3bP**	**2.846**	**NESC Ext**	**143.880**	**0.000**	**0.000**	**0.000**	**4.000**	**0**	**0.000**	**0**	**A potentially damaging moment exists in the following members (make sure your system is well triangulated to minimize moments): 3bP 3bX ??**
Leg1b	6x6x3/8	SAE	6X6X0.375	33.0	15.74	Comp	2.84	4aP	4.085	NESC Ext	143.880	0.000	0.000	0.000	2.000	0	0.000	0	
Leg1c	6x6x3/8	SAE	6X6X0.375	33.0	18.05	Comp	3.06	4bP	4.408	NESC Ext	143.880	0.000	0.000	0.000	4.000	0	0.000	0	
Leg2	8x8x1/2	SAE	8X8X0.5	33.0	46.34	Comp	45.64	8P	89.005	NESC Ext	195.030	301.600	629.999	0.000	6.000	16	3.680	1	
Leg3	8x8x11/16	SAE	8X8X0.6875	33.0	57.83	Comp	57.08	11P	151.037	NESC Ext	264.598	414.700	1191.092	0.000	5.847	22	3.610	1	
Leg4	8x8x3/4	SAE	8X8X0.75	33.0	65.51	Comp	63.52	13P	183.040	NESC Ext	288.172	490.100	1535.623	0.000	8.065	26	3.610	1	
Leg5	8x8x13/16	SAE	8X8X0.8125	33.0	69.78	Comp	67.84	15P	210.049	NESC Ext	309.643	527.800	1791.560	0.000	8.065	28	3.590	1	
Leg6	8x8x7/8	SAE	8X8X0.875	33.0	72.99	Comp	64.60	16P	215.066	NESC Ext	332.928	565.500	2067.184	0.000	16.835	30	3.590	1	
Leg7	8x8x15/16	SAE	8X8X0.9375	33.0	75.53	Comp	74.44	18P	263.683	NESC Ext	354.234	603.200	2362.496	0.000	16.129	32	3.590	1	
Leg8	8x8x1	SAE	8X8X1	33.0	80.47	Tens	80.47	21P	301.915	NESC Ext	375.209	640.900	2677.496	0.000	15.121	34	3.630	1	
XBR1	2.5x2x1/4	SAU	2.5X2X0.25	33.0	73.52	Comp	46.59	23XY	11.642	NESC Hea	24.985	27.200	33.750	0.000	9.411	2	1.000	0.875	
XBR2	3x2.5x1/4	SAU	3X2.5X0.25	33.0	94.14	Comp	76.27	27XY	24.720	NESC Hea	32.410	40.800	50.625	0.000	9.411	3	1.000	0.875	
XBR3	3x3x5/16	SAE	3X3X0.3125	33.0	62.48	Comp	57.87	31XY	25.895	NESC Hea	44.745	54.400	84.375	0.000	9.411	4	1.000	0.875	
XBR4	3x2.5x5/16	SAU	3X2.5X0.3125	33.0	65.00	Comp	51.97	36XY	18.371	NESC Hea	35.352	54.400	84.375	0.000	10.942	4	1.000	0.875	
XBR5	3.5x3x1/4	SAU	3.5X3X0.25	33.0	91.29	Comp	42.45	38XY	15.333	NESC Hea	36.123	54.400	67.500	0.000	12.619	4	1.000	0.875	
XBR6	2.5x2.5x5/16	SAE	2.5X2.5X0.3125	33.0	84.41	Comp	80.70	48X	28.441	NESC Ext	35.241	54.400	84.375	0.000	24.601	4	1.000	0.875	
XBR7	2.5x2x5/16	SAU	2.5X2X0.3125	33.0	97.51	Tens	97.51	54X	30.020	NESC Ext	30.786	54.400	84.375	0.000	36.220	4	1.000	0.875	
HBR1	3.5x3.5x1/4	SAE	3.5X3.5X0.25	33.0	65.96	Comp	9.07	83P	3.699	NESC Hea	43.696	40.800	50.625	0.000	16.500	3	1.000	0.875	
HBR2	4x4x1/4	SAE	4X4X0.25	33.0	0.00		0.00		0.000		0.000	0.000	0.000	0.000	0.000	0	0.000	0	
HBR3	LL3.5x3.5x1/4	DAE	3.5X3.5X0.25	33.0	73.96	Comp	1.12	93P	0.611	NESC Ext	87.392	54.400	67.500	0.000	16.150	2	2.000	0.875	
HBR4	LL4x4x1/4	DAE	4X4X0.25	33.0	39.15	Comp	0.00	91X	0.000		102.242	81.600	101.250	0.000	29.600	3	2.000	0.875	
Arm	5x3.5x5/16	SAU	5X3.5X0.3125	33.0	59.79	Comp	46.93	73P	19.146	NESC Hea	67.911	40.800	63.281	0.000	7.334	3	1.000	0.875	
ArmBR1	3x3x1/4	SAE	3X3X0.25	33.0	64.28	Comp	3.60	94Y	0.979	NESC Ext	36.271	27.200	33.750	0.000	10.922	2	1.000	0.875	
ArmBR2	2.5x2x1/4	SAU	2.5X2X0.25	33.0	62.58	Tens	62.58	96P	15.635	NESC Hea	24.985	27.200	33.750	0.000	10.922	2	1.000	0.875	
Br1	5x3x5/16	SAU	5X3X0.3125	33.0	8.09	Tens	8.09	75X	4.400	NESC Hea	63.159	54.400	84.375	0.000	7.250	4	1.000	0.875	
Br2	2.5x2x1/4	SAU	2.5X2X0.25	33.0	15.56	Comp	10.39	60X	2.597	NESC Hea	24.985	27.200	33.750	0.000	10.253	2	1.000	0.875	
Br3	2.5x2x3/16	SAU	2.5X2X0.1875	33.0	70.01	Comp	30.68	78X	3.883	NESC Ext	19.184	13.600	12.656	0.000	7.250	1	1.000	0.875	

Br4	2.5x2.5x3/16	SAE	2.5X2.5X0.1875	33.0	0.00		0.00		0.000		0.000	0.000	0.000	0.000	0.000	0	0.000	0
Br5	2.5x2.5x1/4	SAE	2.5X2.5X0.25	33.0	3.31	Tens	3.31	65P	0.899	NESC Hea	28.846	27.200	33.750	0.000	41.861	2	1.000	0.875
XBR8	2.5x2.5x5/16	SAE	2.5X2.5X0.3125	33.0	0.00		0.00		0.000		0.000	0.000	0.000	0.000	0.000	0	0.000	0
XBR9	2.5x2x5/16	SAU	2.5X2X0.3125	33.0	0.00		0.00		0.000		0.000	0.000	0.000	0.000	0.000	0	0.000	0
Br4R	2.5x2.5x3/16	SAE	2.5X2.5X0.1875	36.0	50.39	Comp	16.51	64P	3.946	NESC Ext	23.909	27.200	24.469	0.000	23.335	2	1.000	0.875
MOD1-HBR2	4x4x3/8	DAE	4X4X0.25	36.0	32.15	Comp	6.19	85P	2.524	NESC Hea	111.537	40.800	97.875	0.000	19.504	3	2.000	0.875
XBR8r	2.5x2.5x5/16	SAE	2.5X2.5X0.3125	33.0	99.86	Tens	99.86	58P	35.192	NESC Ext	35.241	54.400	84.375	0.000	23.088	4	1.000	0.875
Pip	Mount Pipe	PIP	12" Standard	35.0	1.23	Comp	0.07	P1P	0.322	NESC Ext	479.499	0.000	0.000	0.000	1.000	0	0.000	0
PipeSupport	Pipe Support	HSS	6X6X1/4	50.0	1.58	Tens	1.58	P20P	4.152	NESC Ext	262.000	0.000	0.000	0.000	3.625	0	0.000	0
PipeArea	Pipe Area	PIP_FICT	0.1X0.05X0.025	36.0	0.00		0.00	P13P	0.086	NESC Ext	0.360	0.000	0.000	0.000	0.500	0	0.000	0

*** Maximum Stress Summary for Each Load Case

Summary of Maximum Usages by Load Case:

Load Case	Maximum Usage %	Element Label	Element Type
NESC Heavy	84.41	49Y	Angle
NESC Extreme	99.86	58P	Angle
NESC Heavy Broken Wire	94.14	27X	Angle

Summary of Insulator Usages:

Insulator Label	Insulator Type	Maximum Usage %	Load Case	Weight (lbs)
1	Clamp	54.94	NESC Heavy Broken Wire	0.0
2	Clamp	17.75	NESC Heavy	0.0
3	Clamp	80.44	NESC Heavy Broken Wire	0.0
4	Clamp	34.00	NESC Heavy	0.0
5	Clamp	34.33	NESC Heavy	0.0
6	Clamp	34.14	NESC Heavy	0.0
7	Clamp	34.18	NESC Heavy	0.0
8	Clamp	34.00	NESC Heavy	0.0
9	Clamp	1.90	NESC Extreme	0.0
10	Clamp	10.42	NESC Extreme	0.0
11	Clamp	2.75	NESC Heavy	0.0
12	Clamp	4.66	NESC Extreme	0.0
13	Clamp	4.66	NESC Extreme	0.0
14	Clamp	4.66	NESC Extreme	0.0
15	Clamp	14.33	NESC Heavy	0.0
16	Clamp	16.01	NESC Heavy	0.0
17	Clamp	16.05	NESC Heavy	0.0
18	Clamp	19.43	NESC Heavy	0.0
19	Clamp	20.58	NESC Heavy	0.0
20	Clamp	14.80	NESC Heavy	0.0
21	Clamp	4.66	NESC Extreme	0.0
22	Clamp	4.66	NESC Extreme	0.0
23	Clamp	12.06	NESC Heavy	0.0
24	Clamp	14.51	NESC Heavy	0.0
25	Clamp	14.54	NESC Heavy	0.0
26	Clamp	17.58	NESC Heavy	0.0
27	Clamp	18.75	NESC Heavy	0.0
28	Clamp	10.46	NESC Heavy	0.0
30	Clamp	2.82	NESC Heavy	0.0
31	Clamp	2.32	NESC Heavy	0.0
32	Clamp	2.25	NESC Extreme	0.0
33	Clamp	5.08	NESC Extreme	0.0
34	Clamp	1.90	NESC Extreme	0.0
35	Clamp	2.25	NESC Extreme	0.0
37	Clamp	2.71	NESC Extreme	0.0
38	Clamp	4.52	NESC Heavy	0.0
39	Clamp	4.22	NESC Heavy	0.0
40	Clamp	5.27	NESC Heavy	0.0
41	Clamp	4.95	NESC Heavy	0.0
42	Clamp	8.22	NESC Extreme	0.0
43	Clamp	8.22	NESC Extreme	0.0
44	Clamp	6.64	NESC Extreme	0.0
45	Clamp	6.64	NESC Extreme	0.0
46	Clamp	11.31	NESC Extreme	0.0
47	Clamp	6.78	NESC Extreme	0.0
49	Clamp	9.88	NESC Heavy	0.0
51	Clamp	12.59	NESC Heavy	0.0
53	Clamp	12.64	NESC Heavy	0.0
55	Clamp	15.26	NESC Heavy	0.0
57	Clamp	16.59	NESC Heavy	0.0
59	Clamp	8.40	NESC Heavy	0.0

Loads At Insulator Attachments For All Load Cases:

Load Case	Insulator Label	Insulator Type	Structure Attach Label	Structure Attach Load X (kips)	Structure Attach Load Y (kips)	Structure Attach Load Z (kips)	Structure Attach Load Res. (kips)
NESC Heavy	1	Clamp	2P	-0.400	2.311	3.858	4.515
NESC Heavy	2	Clamp	2X	-0.400	2.157	3.858	4.438
NESC Heavy	3	Clamp	5P	-0.027	3.299	7.883	8.546
NESC Heavy	4	Clamp	5X	-0.027	3.176	7.883	8.499

NESC Heavy	5	Clamp	8P	-0.027	3.299	7.923	8.583
NESC Heavy	6	Clamp	8X	-0.027	3.176	7.923	8.536
NESC Heavy	7	Clamp	11P	-0.027	3.299	7.883	8.546
NESC Heavy	8	Clamp	11X	-0.027	3.176	7.883	8.499
NESC Heavy	9	Clamp	1Y	0.000	0.155	0.369	0.400
NESC Heavy	10	Clamp	4Y	0.000	0.815	2.421	2.555
NESC Heavy	11	Clamp	9Y	0.000	0.314	0.611	0.687
NESC Heavy	12	Clamp	12Y	0.000	0.270	0.653	0.707
NESC Heavy	13	Clamp	14Y	0.000	0.301	0.689	0.751
NESC Heavy	14	Clamp	16Y	0.000	0.415	1.006	1.088
NESC Heavy	15	Clamp	18Y	0.000	1.126	3.400	3.582
NESC Heavy	16	Clamp	19Y	0.000	1.207	3.817	4.003
NESC Heavy	17	Clamp	20Y	0.000	1.216	3.825	4.014
NESC Heavy	18	Clamp	21Y	0.000	1.453	4.635	4.857
NESC Heavy	19	Clamp	22Y	0.000	1.438	4.941	5.146
NESC Heavy	20	Clamp	25Y	0.000	1.001	3.563	3.701
NESC Heavy	21	Clamp	14P	0.000	0.301	0.689	0.751
NESC Heavy	22	Clamp	16P	0.000	0.415	1.006	1.088
NESC Heavy	23	Clamp	18P	0.000	1.167	2.779	3.015
NESC Heavy	24	Clamp	19P	0.000	1.267	3.399	3.628
NESC Heavy	25	Clamp	20P	0.000	1.272	3.406	3.636
NESC Heavy	26	Clamp	21P	0.000	1.519	4.125	4.396
NESC Heavy	27	Clamp	22P	0.000	1.503	4.440	4.688
NESC Heavy	28	Clamp	25P	0.000	0.921	2.447	2.614
NESC Heavy	30	Clamp	1P	0.000	0.260	0.655	0.705
NESC Heavy	31	Clamp	3P	0.000	0.312	0.490	0.581
NESC Heavy	32	Clamp	3Y	0.000	0.255	0.400	0.475
NESC Heavy	33	Clamp	17P	0.000	0.465	1.094	1.189
NESC Heavy	34	Clamp	1XY	0.000	0.000	0.369	0.369
NESC Heavy	35	Clamp	3XY	0.000	0.000	0.400	0.400
NESC Heavy	37	Clamp	1X	0.000	0.067	0.655	0.658
NESC Heavy	38	Clamp	4P	0.000	0.430	1.046	1.131
NESC Heavy	39	Clamp	4X	0.000	0.134	1.046	1.054
NESC Heavy	40	Clamp	7P	0.000	0.468	1.231	1.317
NESC Heavy	41	Clamp	7X	0.000	0.134	1.231	1.239
NESC Heavy	42	Clamp	10P	0.000	0.484	1.323	1.408
NESC Heavy	43	Clamp	10X	0.000	0.151	1.323	1.331
NESC Heavy	44	Clamp	13P	0.000	0.475	1.290	1.375
NESC Heavy	45	Clamp	13X	0.000	0.169	1.352	1.363
NESC Heavy	46	Clamp	15P	0.000	0.912	1.910	2.116
NESC Heavy	47	Clamp	15X	0.000	0.181	1.572	1.582
NESC Heavy	49	Clamp	18X	0.000	0.188	2.464	2.471
NESC Heavy	51	Clamp	19X	0.000	0.180	3.142	3.147
NESC Heavy	53	Clamp	20X	0.000	0.173	3.154	3.159
NESC Heavy	55	Clamp	21X	0.000	0.207	3.810	3.816
NESC Heavy	57	Clamp	22X	0.000	0.203	4.142	4.147
NESC Heavy	59	Clamp	25X	0.000	0.081	2.098	2.099
NESC Extreme	1	Clamp	2P	-1.445	2.026	0.825	2.622
NESC Extreme	2	Clamp	2X	-1.445	2.026	0.825	2.622
NESC Extreme	3	Clamp	5P	-5.866	4.769	2.571	7.985
NESC Extreme	4	Clamp	5X	-5.866	4.769	2.571	7.985
NESC Extreme	5	Clamp	8P	-5.866	4.769	2.579	7.988
NESC Extreme	6	Clamp	8X	-5.866	4.769	2.579	7.988
NESC Extreme	7	Clamp	11P	-5.866	4.769	2.571	7.985
NESC Extreme	8	Clamp	11X	-5.866	4.769	2.571	7.985
NESC Extreme	9	Clamp	1Y	0.000	0.394	0.265	0.475
NESC Extreme	10	Clamp	4Y	0.000	2.447	0.895	2.606
NESC Extreme	11	Clamp	9Y	0.000	0.373	0.247	0.447
NESC Extreme	12	Clamp	12Y	0.000	0.827	0.821	1.165
NESC Extreme	13	Clamp	14Y	0.000	0.827	0.821	1.165
NESC Extreme	14	Clamp	16Y	0.000	0.827	0.821	1.165
NESC Extreme	15	Clamp	18Y	0.000	2.586	1.370	2.926
NESC Extreme	16	Clamp	19Y	0.000	2.261	1.269	2.593
NESC Extreme	17	Clamp	20Y	0.000	2.231	1.260	2.562
NESC Extreme	18	Clamp	21Y	0.000	2.534	1.354	2.873
NESC Extreme	19	Clamp	22Y	0.000	2.491	1.341	2.829
NESC Extreme	20	Clamp	25Y	0.000	2.771	1.429	3.118
NESC Extreme	21	Clamp	14P	0.000	0.827	0.821	1.165
NESC Extreme	22	Clamp	16P	0.000	0.827	0.821	1.165
NESC Extreme	23	Clamp	18P	0.000	2.497	1.200	2.771
NESC Extreme	24	Clamp	19P	0.000	2.261	1.168	2.545
NESC Extreme	25	Clamp	20P	0.000	2.222	1.157	2.505
NESC Extreme	26	Clamp	21P	0.000	2.517	1.229	2.801
NESC Extreme	27	Clamp	22P	0.000	2.472	1.216	2.755
NESC Extreme	28	Clamp	25P	0.000	2.337	1.060	2.566
NESC Extreme	30	Clamp	1P	0.000	0.574	0.361	0.678
NESC Extreme	31	Clamp	3P	0.000	0.470	0.311	0.563
NESC Extreme	32	Clamp	3Y	0.000	0.470	0.311	0.563
NESC Extreme	33	Clamp	17P	0.000	0.955	0.836	1.269
NESC Extreme	34	Clamp	1XY	0.000	0.394	0.265	0.475
NESC Extreme	35	Clamp	3XY	0.000	0.470	0.311	0.563
NESC Extreme	37	Clamp	1X	0.000	0.574	0.361	0.678
NESC Extreme	38	Clamp	4P	0.000	0.732	0.439	0.853
NESC Extreme	39	Clamp	4X	0.000	0.732	0.439	0.853
NESC Extreme	40	Clamp	7P	0.000	0.732	0.448	0.858
NESC Extreme	41	Clamp	7X	0.000	0.732	0.448	0.858
NESC Extreme	42	Clamp	10P	0.000	1.603	1.285	2.055
NESC Extreme	43	Clamp	10X	0.000	1.603	1.285	2.055
NESC Extreme	44	Clamp	13P	0.000	1.277	1.063	1.661
NESC Extreme	45	Clamp	13X	0.000	1.277	1.063	1.661
NESC Extreme	46	Clamp	15P	0.000	2.562	1.199	2.828
NESC Extreme	47	Clamp	15X	0.000	1.306	1.081	1.695
NESC Extreme	49	Clamp	18X	0.000	1.325	1.090	1.715
NESC Extreme	51	Clamp	19X	0.000	1.305	1.078	1.692
NESC Extreme	53	Clamp	20X	0.000	1.286	1.069	1.672
NESC Extreme	55	Clamp	21X	0.000	1.374	1.117	1.770

NESC Extreme	57	Clamp	22X	0.000	1.363	1.112	1.759
NESC Extreme	59	Clamp	25X	0.000	1.041	0.938	1.401
NESC Heavy Broken Wire	1	Clamp	2P	-13.580	1.343	1.570	13.736
NESC Heavy Broken Wire	2	Clamp	2X	-0.400	2.157	3.858	4.438
NESC Heavy Broken Wire	3	Clamp	5P	-19.800	1.827	3.003	20.110
NESC Heavy Broken Wire	4	Clamp	5X	-0.027	3.176	7.883	8.499
NESC Heavy Broken Wire	5	Clamp	8P	-0.027	3.299	7.923	8.583
NESC Heavy Broken Wire	6	Clamp	8X	-0.027	3.176	7.923	8.536
NESC Heavy Broken Wire	7	Clamp	11P	-0.027	3.299	7.883	8.546
NESC Heavy Broken Wire	8	Clamp	11X	-0.027	3.176	7.883	8.499
NESC Heavy Broken Wire	9	Clamp	1Y	0.000	0.155	0.369	0.400
NESC Heavy Broken Wire	10	Clamp	4Y	0.000	0.815	2.421	2.555
NESC Heavy Broken Wire	11	Clamp	9Y	0.000	0.314	0.611	0.687
NESC Heavy Broken Wire	12	Clamp	12Y	0.000	0.270	0.653	0.707
NESC Heavy Broken Wire	13	Clamp	14Y	0.000	0.301	0.689	0.751
NESC Heavy Broken Wire	14	Clamp	16Y	0.000	0.415	1.006	1.088
NESC Heavy Broken Wire	15	Clamp	18Y	0.000	1.126	3.400	3.582
NESC Heavy Broken Wire	16	Clamp	19Y	0.000	1.207	3.817	4.003
NESC Heavy Broken Wire	17	Clamp	20Y	0.000	1.216	3.825	4.014
NESC Heavy Broken Wire	18	Clamp	21Y	0.000	1.453	4.635	4.857
NESC Heavy Broken Wire	19	Clamp	22Y	0.000	1.438	4.941	5.146
NESC Heavy Broken Wire	20	Clamp	25Y	0.000	1.001	3.563	3.701
NESC Heavy Broken Wire	21	Clamp	14P	0.000	0.301	0.689	0.751
NESC Heavy Broken Wire	22	Clamp	16P	0.000	0.415	1.006	1.088
NESC Heavy Broken Wire	23	Clamp	18P	0.000	1.167	2.779	3.015
NESC Heavy Broken Wire	24	Clamp	19P	0.000	1.267	3.399	3.628
NESC Heavy Broken Wire	25	Clamp	20P	0.000	1.272	3.406	3.636
NESC Heavy Broken Wire	26	Clamp	21P	0.000	1.519	4.125	4.396
NESC Heavy Broken Wire	27	Clamp	22P	0.000	1.503	4.440	4.688
NESC Heavy Broken Wire	28	Clamp	25P	0.000	0.921	2.447	2.614
NESC Heavy Broken Wire	30	Clamp	1P	0.000	0.260	0.655	0.705
NESC Heavy Broken Wire	31	Clamp	3P	0.000	0.312	0.490	0.581
NESC Heavy Broken Wire	32	Clamp	3Y	0.000	0.255	0.400	0.475
NESC Heavy Broken Wire	33	Clamp	17P	0.000	0.465	1.094	1.189
NESC Heavy Broken Wire	34	Clamp	1XY	0.000	0.000	0.369	0.369
NESC Heavy Broken Wire	35	Clamp	3XY	0.000	0.000	0.400	0.400
NESC Heavy Broken Wire	37	Clamp	1X	0.000	0.067	0.655	0.658
NESC Heavy Broken Wire	38	Clamp	4P	0.000	0.430	1.046	1.131
NESC Heavy Broken Wire	39	Clamp	4X	0.000	0.134	1.046	1.054
NESC Heavy Broken Wire	40	Clamp	7P	0.000	0.468	1.231	1.317
NESC Heavy Broken Wire	41	Clamp	7X	0.000	0.134	1.231	1.239
NESC Heavy Broken Wire	42	Clamp	10P	0.000	0.484	1.323	1.408
NESC Heavy Broken Wire	43	Clamp	10X	0.000	0.151	1.323	1.331
NESC Heavy Broken Wire	44	Clamp	13P	0.000	0.475	1.290	1.375
NESC Heavy Broken Wire	45	Clamp	13X	0.000	0.169	1.352	1.363
NESC Heavy Broken Wire	46	Clamp	15P	0.000	0.912	1.910	2.116
NESC Heavy Broken Wire	47	Clamp	15X	0.000	0.181	1.572	1.582
NESC Heavy Broken Wire	49	Clamp	18X	0.000	0.188	2.464	2.471
NESC Heavy Broken Wire	51	Clamp	19X	0.000	0.180	3.142	3.147
NESC Heavy Broken Wire	53	Clamp	20X	0.000	0.173	3.154	3.159
NESC Heavy Broken Wire	55	Clamp	21X	0.000	0.207	3.810	3.816
NESC Heavy Broken Wire	57	Clamp	22X	0.000	0.203	4.142	4.147
NESC Heavy Broken Wire	59	Clamp	25X	0.000	0.081	2.098	2.099

Overturning Moments For User Input Concentrated Loads:

Moments are static equivalents based on central axis of 0,0 (i.e. a single pole).

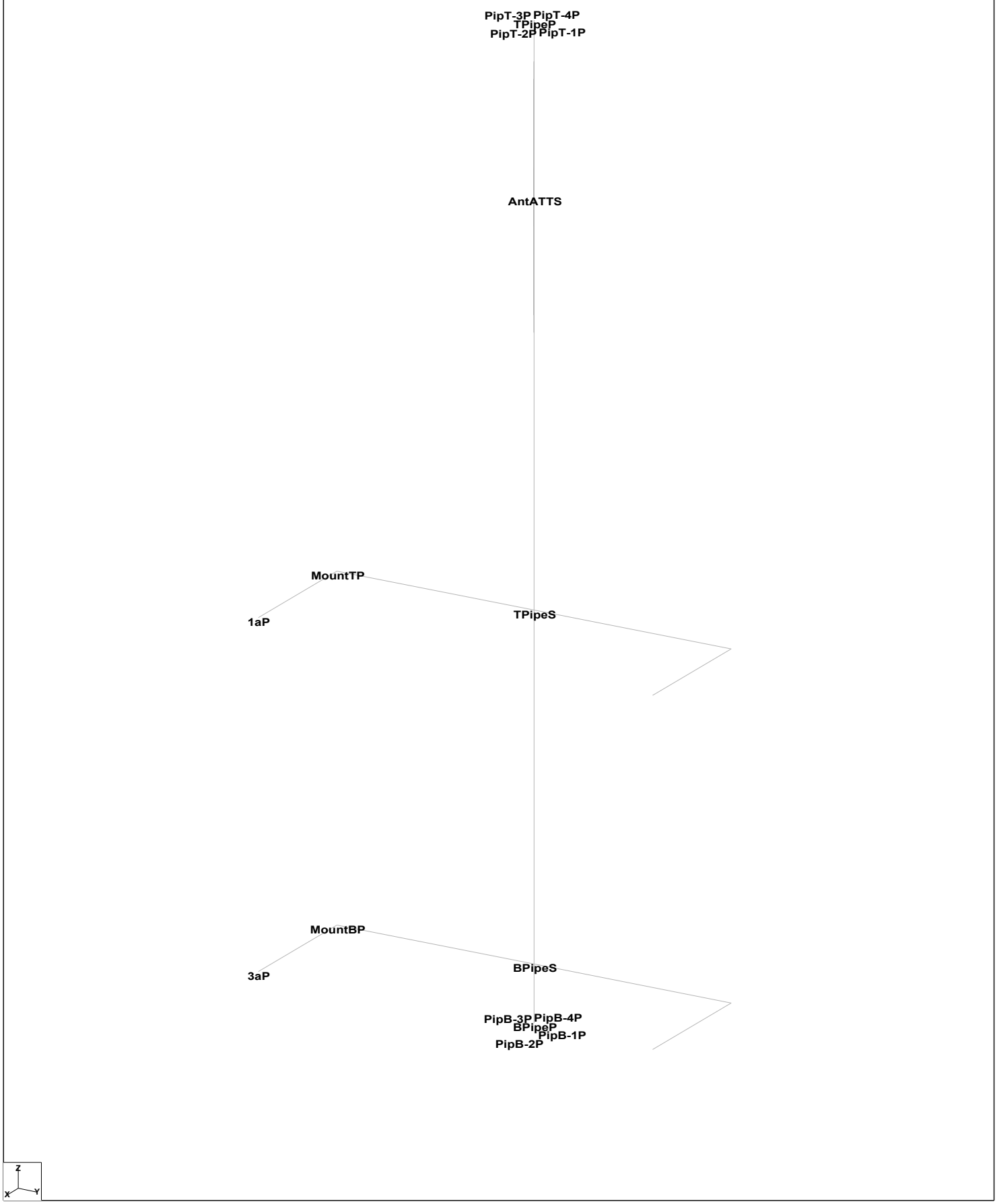
Load Case	Total Tran. Load (kips)	Total Long. Load (kips)	Total Vert. Load (kips)	Transverse Overturning Moment (ft-k)	Longitudinal Overturning Moment (ft-k)	Torsional Moment (ft-k)
NESC Heavy	27.106	-0.963	65.736	4371.460	71.271	-31.687
NESC Extreme	41.942	-38.086	22.028	6441.936	6346.217	-83.995
NESC Heavy Broken Wire	24.666	-33.916	58.568	4001.780	6095.029	324.201

*** Weight of structure (lbs):
Weight of Angles*Section DLF: 62297.4
Weight of Equipment: 9412.9
Total: 71710.3

*** End of Report

From Previous Report

Paul J. Ford and Company, Project: "80620-0004 Old Saybrook_AT&T Ants"
Tower Version 16.20, 2:52:19 PM Friday, June 12, 2020
Undeformed geometry displayed



From Previous Report

Project Name : 18130.00 - Old Saybrook
Project Notes: CT2042 - Structure - dist west river x-ing
Project File : G:\Power\1_Projects\806_Smartlink\2020\80620-0004_Old Saybrook CTL02042\002.6125_Reinforcement\Engineering Docs\PLS\80620-0004 Old Saybrook_AT&T Ants.tow
Date run : 2:52:43 PM Friday, June 12, 2020
by : Tower Version 16.50
Licensed to : Paul J. Ford and Company

Successfully performed nonlinear analysis

Member check option: ASCE 10
Connection rupture check: Not Checked
Crossing diagonal check: ASCE 10 [Alternate Unsupported RLOUT = 1]
Included angle check: None
Climbing load check: None
Redundant members checked with: Actual Force

Loads from file: G:\Power\1_Projects\806_Smartlink\2020\80620-0004_Old Saybrook CTL02042\001.6000_SA\Engineering Docs\PLS\80620-0004 Old Saybrook dist west river x-ing_AT&T.lca

*** Analysis Results:

Maximum element usage is 2.45% for Angle "P20P" in load case "NESC Extreme"

Foundation Design Forces For All Load Cases:

Note: loads are factored.

Load Case	Foundation Description	Axial Force (kips)	Shear Force (kips)	Bending Moment (ft-k)	Foundation Usage %
NESC Heavy	1aP	1.43	1.71	3.35	0.00
NESC Heavy	3aP	1.86	0.83	4.19	0.00
NESC Heavy	1aX	2.38	1.17	5.23	0.00
NESC Heavy	3aX	1.91	0.34	4.29	0.00
NESC Extreme	1aP	-1.20	6.76	2.59	0.00
NESC Extreme	3aP	0.96	2.82	2.12	0.00
NESC Extreme	1aX	3.34	6.48	6.99	0.00
NESC Extreme	3aX	1.16	2.53	2.52	0.00
NESC Heavy Broken Wire	1aP	1.43	1.71	3.35	0.00
NESC Heavy Broken Wire	3aP	1.86	0.83	4.19	0.00
NESC Heavy Broken Wire	1aX	2.38	1.17	5.23	0.00
NESC Heavy Broken Wire	3aX	1.91	0.34	4.29	0.00

Summary of Joint Support Reactions For All Load Cases:

Load Case	Joint Label	Long. Force (kips)	Tran. Force (kips)	Vert. Force (kips)	Shear Force (kips)	Tran. Moment (ft-k)	Long. Moment (ft-k)	Bending Moment (ft-k)	Vert. Moment (ft-k)	Found. Usage %
NESC Heavy	1aP	0.62	-1.59	-1.43	1.71	1.58	2.96	3.35	2.38	0.00
NESC Heavy	3aP	-0.43	0.71	-1.86	0.83	1.65	3.85	4.19	-0.99	0.00
NESC Heavy	1aX	-0.15	-1.16	-2.38	1.17	-1.77	4.93	5.23	2.08	0.00
NESC Heavy	3aX	-0.04	0.34	-1.91	0.34	-1.66	3.96	4.29	-0.73	0.00
NESC Extreme	1aP	1.93	-6.48	1.20	6.76	0.49	-2.54	2.59	10.48	0.00
NESC Extreme	3aP	-1.05	2.61	-0.96	2.82	0.90	1.93	2.12	-4.13	0.00
NESC Extreme	1aX	-1.67	-6.26	-3.34	6.48	-1.36	6.86	6.99	10.32	0.00
NESC Extreme	3aX	0.79	2.40	-1.16	2.53	-0.93	2.34	2.52	-3.98	0.00
NESC Heavy Broken Wire	1aP	0.62	-1.59	-1.43	1.71	1.58	2.96	3.35	2.38	0.00
NESC Heavy Broken Wire	3aP	-0.43	0.71	-1.86	0.83	1.65	3.85	4.19	-0.99	0.00
NESC Heavy Broken Wire	1aX	-0.15	-1.16	-2.38	1.17	-1.77	4.93	5.23	2.08	0.00
NESC Heavy Broken Wire	3aX	-0.04	0.34	-1.91	0.34	-1.66	3.96	4.29	-0.73	0.00

AT&T Local Calc.

Note: Summary of Joint Support Reactions For All Load Cases in Direction of Leg not printed because none of the angle members attached to foundation joints have a group type of 'Leg'.

Sections Information:

Section Label	Top Z (ft)	Bottom Z (ft)	Joint Count	Member Count	Tran. Face Top Width (ft)	Tran. Face Bot Width (ft)	Tran. Face Gross Area (ft^2)	Long. Face Top Width (ft)	Long. Face Bot Width (ft)	Long. Face Gross Area (ft^2)
Cage	188.000	182.000	10	8	0.00	2.50	7.500	0.00	7.25	21.750
Mount	198.000	181.000	13	16	1.00	1.00	17.000	1.00	1.00	17.000

*** Overall summary for all load cases - Usage = Maximum Stress / Allowable Stress
Printed capacities do not include the strength factor entered for each load case.
The Group Summary reports on the member and load case that resulted in maximum usage which may not necessarily be the same as that which produces maximum force.

Group Summary (Compression Portion):

Group Label	Group Desc.	Angle Type	Angle Size	Steel Strength (ksi)	Max Usage Cont-rol %	Usage In Comp. %	Comp. Control Member	Comp. Force (kips)	Comp. Control Load Case	L/r Capacity (kips)	Comp. Connect. Shear Capacity (kips)	Comp. Connect. Bearing Capacity (kips)	RLX	RLY	RLZ	L/r	KL/r	Length Comp. Member (ft)	Curve No.	No. Of Bolts Comp.
Pip	Mount Pipe	PIP	12" Standard	35.0	1.23 Comp	1.23	P3P	-5.829	NESC Hea	474.132	0.000	0.000	1.000	1.000	1.000	19.13	19.13	7.000	1	0
PipeSupport	Pipe Support	HSS	6X6X1/4	50.0	2.45 Tens	2.41	P20X	-6.208	NESC Ext	258.011	0.000	0.000	1.000	1.000	1.000	18.67	18.67	3.625	1	0
PipeArea	Pipe Area	PIP_FICT	0.1X0.05X0.025	36.0	0.00	0.00	P11P	-0.002	NESC Hea	0.360	0.000	0.000	1.000	1.000	1.000	2.04	2.04	17.000	1	0

From Previous Report

Group Summary (Tension Portion):

Group Label	Group Desc.	Angle Type	Angle Size	Steel Strength (ksi)	Max Usage %	Usage Cont-rol	Max Use In Tens. %	Tension Control Member	Tension Force (kips)	Tension Control Load Case	Net Section Capacity (kips)	Tension Connect. Shear Capacity (kips)	Tension Connect. Bearing Capacity (kips)	Tension Connect. Rupture Capacity (kips)	Length Tens. Member (ft)	No. Of Bolts Tens.	No. Of Holes	Hole Diameter (in)
Pip	Mount Pipe	PIP	12" Standard	35.0	1.23	Comp	0.07	P1P	0.324	NESC Ext	479.499	0.000	0.000	0.000	1.000	0	0.000	0
PipeSupport	Pipe Support	HSS	6X6X1/4	50.0	2.45	Tens	2.45	P20P	6.431	NESC Ext	262.000	0.000	0.000	0.000	3.625	0	0.000	0
PipeArea	Pipe Area	PIP_FICT	0.1X0.05X0.025	36.0	0.00		0.00	P16P	0.095	NESC Ext	0.360	0.000	0.000	0.000	0.500	0	0.000	0

*** Maximum Stress Summary for Each Load Case

Summary of Maximum Usages by Load Case:

Load Case	Maximum Usage %	Element Label	Element Type
NESC Heavy	1.23	P3P	Angle
NESC Extreme	2.45	P20P	Angle
NESC Heavy Broken Wire	1.23	P3P	Angle

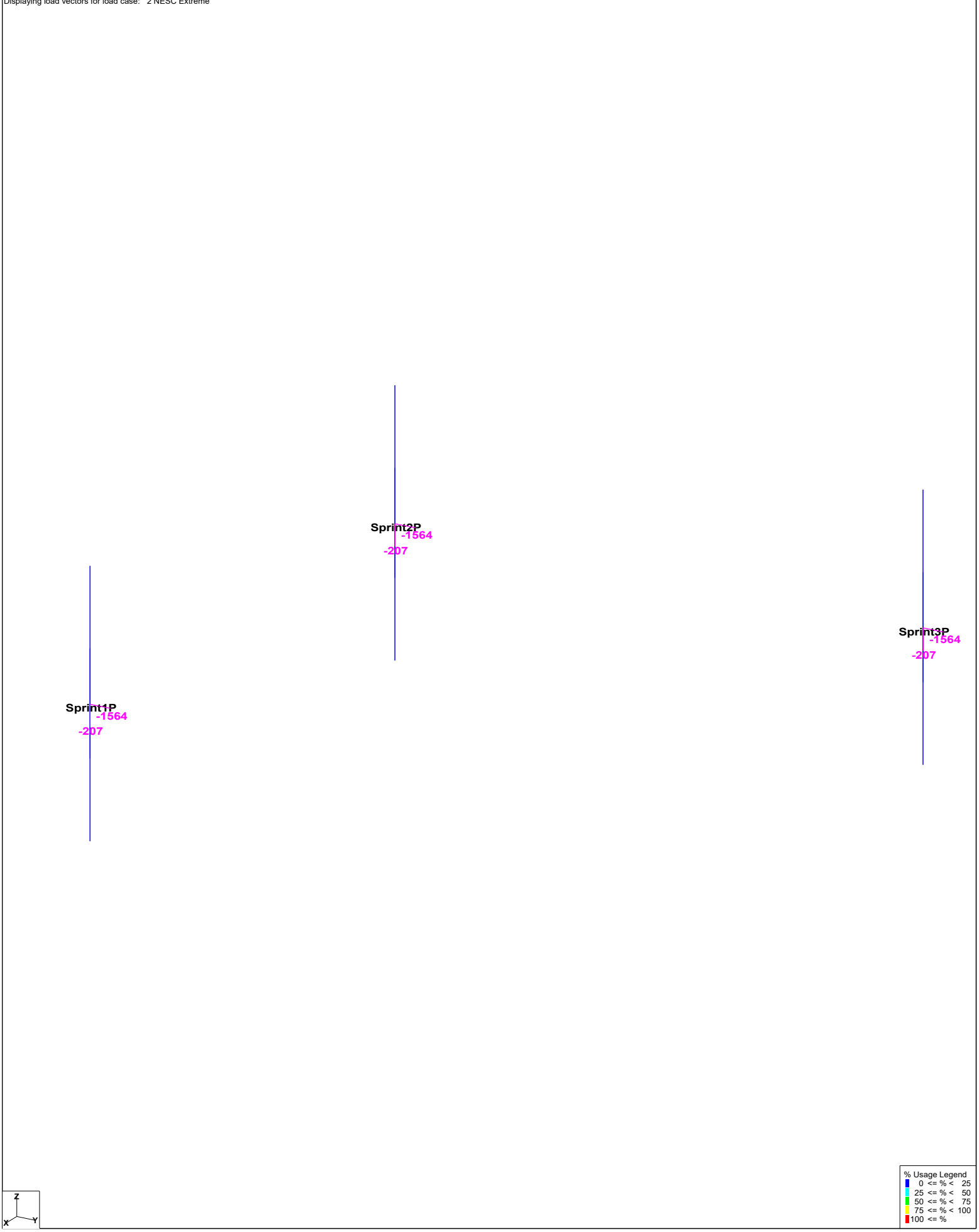
Summary of Insulator Usages:

Insulator Label	Insulator Type	Maximum Usage %	Load Case	Weight (lbs)

*** Weight of structure (lbs):
Weight of Angles*Section DLF: 1351.1
Weight of Equipment: 2901.9
Total: 4253.0

*** End of Report

Paul J. Ford and Company, Project: "80620-0004 Old Saybrook - Sprint Ants"
Tower Version 16.50, 1:53:34 PM Monday, November 9, 2020
Displaying geometry for load case: 2 NESC Extreme
Displaying load vectors for load case: 2 NESC Extreme



Project Name : 18130.00 - Old Saybrook
Project Notes: CT2042 - Structure - dist west river x-ing
Project File : G:\Power\1_Projects\806_Smartlink\2020\80620-0004_Old Saybrook CTL02042\002.6125_Reinforcement\Engineering Docs\PLS\80620-0004 Old Saybrook - Sprint Ants.tow
Date run : 1:01:39 PM Monday, November 9, 2020
by : Tower Version 16.50
Licensed to : Paul J. Ford and Company

Successfully performed nonlinear analysis

Member check option: ASCE 10
Connection rupture check: Not Checked
Crossing diagonal check: ASCE 10 [Alternate Unsupported RLOUT = 1]
Included angle check: None
Climbing load check: None
Redundant members checked with: Actual Force

Loads from file: G:\Power\1_Projects\806_Smartlink\2020\80620-0004_Old Saybrook CTL02042\001.6000_SA\Engineering Docs\PLS\80620-0004 Old Saybrook dist west river x-ing - sprint ant.lca

*** Analysis Results:

Foundation Design Forces For All Load Cases:

Note: loads are factored.

Load Case	Foundation Description	Axial Force (kips)	Shear Force (kips)	Bending Moment (ft-k)	Foundation Usage %
NESC Heavy	Sprint3P	0.48	0.31	0.00	0.00
NESC Heavy	Sprint2P	0.48	0.31	0.00	0.00
NESC Heavy	Sprint1P	0.48	0.31	0.00	0.00
NESC Extreme	Sprint3P	0.21	1.56	0.00	0.00
NESC Extreme	Sprint2P	0.21	1.56	0.00	0.00
NESC Extreme	Sprint1P	0.21	1.56	0.00	0.00
NESC Heavy Broken Wire	Sprint3P	0.48	0.31	0.00	0.00
NESC Heavy Broken Wire	Sprint2P	0.48	0.31	0.00	0.00
NESC Heavy Broken Wire	Sprint1P	0.48	0.31	0.00	0.00

Summary of Joint Support Reactions For All Load Cases:

Load Case	Joint Label	Long. Force (kips)	Tran. Force (kips)	Vert. Force (kips)	Shear Force (kips)	Tran. Moment (ft-k)	Long. Moment (ft-k)	Bending Moment (ft-k)	Vert. Moment (ft-k)	Found. Usage %
NESC Heavy	Sprint3P	-0.00	-0.31	-0.48	0.31	0.00	0.00	0.00	0.00	0.00
NESC Heavy	Sprint2P	-0.00	-0.31	-0.48	0.31	0.00	0.00	0.00	0.00	0.00
NESC Heavy	Sprint1P	-0.00	-0.31	-0.48	0.31	0.00	0.00	0.00	0.00	0.00
NESC Extreme	Sprint3P	-0.00	-1.56	-0.21	1.56	0.00	0.00	0.00	0.00	0.00
NESC Extreme	Sprint2P	-0.00	-1.56	-0.21	1.56	0.00	0.00	0.00	0.00	0.00
NESC Extreme	Sprint1P	-0.00	-1.56	-0.21	1.56	0.00	0.00	0.00	0.00	0.00
NESC Heavy Broken Wire	Sprint3P	-0.00	-0.31	-0.48	0.31	0.00	0.00	0.00	0.00	0.00
NESC Heavy Broken Wire	Sprint2P	-0.00	-0.31	-0.48	0.31	0.00	0.00	0.00	0.00	0.00
NESC Heavy Broken Wire	Sprint1P	-0.00	-0.31	-0.48	0.31	0.00	0.00	0.00	0.00	0.00

Note: Summary of Joint Support Reactions For All Load Cases in Direction of Leg not printed
because none of the angle members attached to foundation joints have a group type of 'Leg'.

Sections Information:

Section Label	Top Z (ft)	Bottom Z (ft)	Joint Count	Member Count	Tran. Face Top Width (ft)	Tran. Face Bot Width (ft)	Tran. Face Gross Area (ft^2)	Long. Face Top Width (ft)	Long. Face Bot Width (ft)	Long. Face Gross Area (ft^2)

*** Overall summary for all load cases - Usage = Maximum Stress / Allowable Stress
Printed capacities do not include the strength factor entered for each load case.
The Group Summary reports on the member and load case that resulted in maximum usage
which may not necessarily be the same as that which produces maximum force.

Group Summary (Compression Portion):

Group Label	Group Desc.	Angle Type	Angle Size	Steel Strength (ksi)	Max Usage Cont-rol %	Max Use In Comp. %	Comp. Control Member	Comp. Force (kips)	Comp. Control Load Case	Comp. Capacity (kips)	L/r	Comp. Connect. Shear Capacity (kips)	Comp. Connect. Bearing Capacity (kips)	RLX	RLY	RLZ	L/r	KL/r	Length Comp. Member (ft)	Curve No.	No. Of Bolts Comp.

Group Summary (Tension Portion):

Group Label	Group Desc.	Angle Type	Angle Size	Steel Strength (ksi)	Max Usage Cont-rol %	Max Tension Use In Tens. %	Tension Control Member	Tension Force (kips)	Tension Control Load Case	Net Section Capacity (kips)	Tension Connect. Shear Capacity (kips)	Tension Connect. Bearing Capacity (kips)	Tension Connect. Rupture Capacity (kips)	Length Tens. Member (ft)	No. Of Bolts	No. Of Holes	Hole Diameter (in)

*** Maximum Stress Summary for Each Load Case

Summary of Maximum Usages by Load Case:

Load Case	Maximum Usage %	Element Label	Element Type
NESC Heavy	0.00	Sprint3P	Foundation
NESC Extreme	0.00	Sprint3P	Foundation
NESC Heavy Broken Wire	0.00	Sprint3P	Foundation

Summary of Insulator Usages:

Insulator Label	Insulator Type	Maximum Usage %	Load Case	Weight (lbs)

*** Weight of structure (lbs):

Weight of Equipment:	621.0
Total:	621.0

*** End of Report

APPENDIX D

SUPPLEMENTAL CALCULATIONS

From Previous Report

Wind on Mast Support Members- TIA-222-G Calculations

Design Data as per TIA-EIA-222-G

Wind Speed w/o Ice:	$V := 105$	mph	User Input - See 2016 CT State Building Code - Appendix N
Wind Speed w/ Ice:	$Vi := 50$	mph	User Input - See Annex B of TIA-222-G
Service Wind Speed:	$Vs := 60$	mph	User Input
Radial Ice Thickness:	$Ir := 0.75\ in$		User Input - See Annex B of TIA-222-G
Radial Ice Density:	$Id := 57\ pcf$		User Input - See Annex B of TIA-222-G
Height to Center of Antennas:	$z_{carrier\_1} := 188\ ft$		User Input
Structure Type:	$ST :=$ "Square HSS"		User Input
Structure Class:	$SC :=$ "III"		User Input - Table 2-1 - TIA-222-G
Exposure Category:	$Exp :=$ "D"		User Input - Section 2.6.5.1 - TIA-222-G
Wind Direction Probability Factor:	$Kd := 0.95$		User Input - Table 2-2 - TIA-222-G
Wind Direction Probability Factor (Service):	$Kd_s := 0.85$		User Input - Table 2-2 - TIA-222-G
Wind Direction Probability Factor:	$Ka := 1.0$		User Input - Section 2.6.9.2- 2-2 - TIA-222-G
Importance Factor Wind w/o Ice:	$I := 1.15$		User Input - Table 2-3 - TIA-222-G
Importance Factor Wind w/ Ice:	$I_i := 1.0$		User Input - Table 2-3 - TIA-222-G
Importance Factor Wind (Service):	$I_s := 1.0$		User Input - Table 2-3 - TIA-222-G
Exposure Category Coefficient:	$Zg := 700\ ft$		User Input - Table 2-4 - TIA-222-G
Exposure Category Coefficient:	$\alpha := 11.5$		User Input - Table 2-4 - TIA-222-G
Gust Response Factor:	$G_H := 1.0$		User Input - Section 2.6.7.4 - TIA-222-G

Velocity Pressure Coefficient: $Kz_{carrier\_1} := 2.01 \left(\frac{z_{carrier\_1}}{Zg} \right)^{\frac{2}{\alpha}} = 1.599$ — Section 2.6.5.2 - TIA-222-G

Velocity Pressure w/o Ice: $qz_{carrier\_1} := 0.00256 \cdot Kd \cdot Kz_{carrier\_1} \cdot V^2 \cdot I \cdot psf = 49.31\ psf$

Velocity Pressure w/o Ice: $qz_{ice\_carrier\_1} := 0.00256 \cdot Kd \cdot Kz_{carrier\_1} \cdot Vi^2 \cdot I_i \cdot psf = 9.72\ psf$

Velocity Pressure (Service): $qz_{service} := 0.00256 \cdot Kd_s \cdot Kz_{carrier\_1} \cdot Vs^2 \cdot I_s \cdot psf = 12.53\ psf$

From Previous Report

Standard Mast Support Calculations

Mast Support - General Info

Mast Support Description:	Square HSS 6x6x1/4	User Input
Mast Support Shape:	Square	User Input
Mast Support Diameter:	$D_{mast} := 6\ in$	User Input
Mast Support Length:	$L_{mast} := 7.25\ ft$	User Input
Mast Support Aspect Ratio:	$Ar_{mast} := \frac{L_{mast}}{D_{mast}} = 14.5$	
Mast Support Force Coefficient:	$Ca_{mast} := \left(\frac{2.0 - 1.4}{25 - 7}\right)\left(Ar_{mast} - 7\right) + 1.4 = 1.65$	As per Table 2-8 (Interpolate)- TIA-222-G

Mast Support Wind Loads (Normal to Face)

Mast Support Projected Area:	$A_{mast} := D_{mast} \cdot 12\ in = 0.5\ ft^2$	Area per linear foot of Mast
Mast Support Wind Force:	$F_{mast\_0} := qz_{carrier\_1} \cdot G_H \cdot Ca_{mast} \cdot A_{mast} = 40.68\ lbf$	lbs per linear foot of Mast

Mast Support Wind Loads (30 & 60 Degree intervals)

Mast Support Wind Force:	$F_{mast\_30} := F_{mast\_0} \cdot \cos\left(30\ deg\right) = 35.23\ lbf$	lbs per linear foot of Mast
Mast Support Wind Force:	$F_{mast\_60} := F_{mast\_0} \cdot \sin\left(30\ deg\right) = 20.34\ lbf$	lbs per linear foot of Mast

Mast Support Wind Loads (w/ Ice)

Mast Support Projected Area (w/ Ice):	$A\_ice_{mast} := \left(D_{mast} + 2 \cdot Ir\right) \cdot 12\ in = 0.63\ ft^2$	Area per linear foot of Mast
Mast Support Wind Force (w/ Ice):	$Fi_{mast} := qz_{ice\_carrier\_1} \cdot G_H \cdot Ca_{mast} \cdot A\_ice_{mast} = 10.03\ lbf$	lbs per linear foot of Mast

Mast Support Wind Loads w/ Ice (30 & 60 Degree intervals)

Mast Support Wind Force (w/ Ice):	$Fi_{mast\_30} := Fi_{mast} \cdot \cos\left(30\ deg\right) = 8.68\ lbf$	lbs per linear foot of Mast
Mast Support Wind Force (w/ Ice):	$Fi_{mast\_60} := Fi_{mast} \cdot \sin\left(30\ deg\right) = 5.01\ lbf$	lbs per linear foot of Mast

Mast Support Vertical Loads

Weight of Mast Support:	Self Weight	Calculated by Risa-3D

Mast Support Vertical Loads (Ice Only)

Area of Ice per Linear Foot:	$Ai_{mast} := \left(D_{mast} + Ir \cdot 2\right)^2 - D_{mast}^2 = 0.14\ ft^2$	
Weight of Ice on Mast:	$W_{ICEmast} := Id \cdot Ai_{mast} \cdot 12\ in = 8.02\ lbf$	lbs per linear foot of Mast

Mast Support Service Wind Loads (Normal to Face)

Mast Support Wind Force: $Fs_{mast\_0} := qz_{service} \cdot G_H \cdot Ca_{mast} \cdot A_{mast} = 10.34\ lbf$ lbs per linear foot of Mast

Mast Support Service Wind Loads (30 & 60 Degree intervals)

Mast Support Wind Force: $Fs_{mast\_30} := Fs_{mast\_0} \cdot \cos(30\ deg) = 8.95\ lbf$ lbs per linear foot of Mast

Mast Support Wind Force: $Fs_{mast\_60} := Fs_{mast\_0} \cdot \sin(30\ deg) = 5.17\ lbf$ lbs per linear foot of Mast

Frame Connection to Tower

Risa-3D Reactions:

Moment	=	$R_m := 0.000\ kip \cdot ft$	(Input From RISA-3D)
Vertical	=	$R_v := 4.038 \cdot kip$	(Input From RISA-3D)
Horizontal (z dir.)	=	$R_{hz} := 11.23\ kip$	(Input From RISA-3D)
Horizontal (x dir.)	=	$R_{hx} := 19.284\ kip$	(Input From RISA-3D)
Resultant (shear)	=	$R_{ht} := \sqrt{R_v^2 + R_{hz}^2} = 11.934\ kip$	

Bolt Data:

ASTM A325	Bolt Type	(User Input)	$D := 0.5 \cdot in$	Bolt Diameter	(User Input)
$N_b := 4$	Number of Bolts	(User Input)	$A_{bolt} := \left(\frac{D}{2}\right)^2 \cdot \pi = 0.196\ in^2$	Bolt Area	(User Input)
$\phi F_{nt} := 67.5\ ksi$	Allowable Tensile Pressure	(User Input)	$\phi F_{nv} := 40.5\ ksi$	Allowable Shear Pressure	(User Input)
$\phi Rn_t := \phi F_{nt} \cdot A_{bolt} = 13.254\ kip$	Allowable Tensile Strength		$\phi Rn_v := \phi F_{nv} \cdot A_{bolt} = 7.952\ kip$	Allowable Shear Strength	

Calculations

$V_{max} := \frac{R_{ht}}{N_b} = 2.983\ kip$ Max shear

$Cap_v := \frac{V_{max}}{\phi Rn_v} = 37.518\%$ Shear capacity usage

$$Shear_{bolt} := \left\| \begin{array}{l} \text{if } \frac{V_{max}}{\phi Rn_v} \le 1 \\ \quad \| \text{“OK”} \\ \text{else} \\ \quad \| \text{“NG”} \end{array} \right\| = \text{“OK”}$$

$T_{max} := \frac{R_{hx}}{N_b} = 4.821\ kip$ Max tension

$Cap_t := \frac{T_{max}}{\phi Rn_t} = 36.375\%$ Tension capacity usage

$$Tension_{bolt} := \left\| \begin{array}{l} \text{if } \frac{T_{max}}{\phi Rn_t} \le 1 \\ \quad \| \text{“OK”} \\ \text{else} \\ \quad \| \text{“NG”} \end{array} \right\| = \text{“OK”}$$

AT&T Antenna Support Moment Frame Bolted To Lattice Structure - NESC 2007
Local Analysis Check (OTRM 059.1 Section E.2.e)
Top Support Reactions (Extreme Wind)

Maximum Reactions

Compression Force =	$P_c := 7.022\ kip$	Input from PLS-TOWER (Load Case 250C)
Vertical Force =	$P_v := 0 \cdot kip$	Vertical Reaction Input from Risa (Reaction is Tension so used 0, Conservative)
Horizontal Force, x =	$H_x := 1.93\ kip$	Horizontal Reaction Input from Tower Rx (250C)
Horizontal Force, y =	$H_y := 6.48\ kip$	Horizontal Reaction Input from Tower Ry (250C)

Member Properties (Equal Leg Angle)

Member Type =	L 6x6x3/8	User Input
Width of Member =	$w := 6\ in$	User Input
Member Thickness =	$t := 0.375\ in$	User Input
k(heel to toe of fillet) =	$k_{des} := 0.875\ in$	User Input
Member Area =	$A := 4.38\ in^2$	User Input
Unbraced Length =	$L := 6\ ft$	User Input
Distance to Load along member =	$a := 1 \cdot ft + 3\ in$	User Input
Effective Length Factor =	$K := 1$	User Input
Radius of Gyration =	$r_x := 1.87\ in$	User Input
Radius of Gyration =	$r_y := 1.87\ in$	User Input
Radius of Gyration =	$r_z := 1.19\ in$	User Input
Section Modulus =	$S_x := 3.51\ in^3$	User Input
Section Modulus =	$S_y := 3.51\ in^3$	User Input
Moment of Inertia =	$I_x := 15.4\ in^4$	User Input
Moment of Inertia =	$I_y := 15.4\ in^4$	User Input
Yield Stress =	$F_y := 33\ ksi$	User Input
Modulus of Elasticity =	$E := 29000\ ksi$	User Input

Calculate the Compression Capacity Per ASCE 10-15 Section 3.6 and 3.7)

Width to Thickness Ratio = $w_t := \frac{(w - k_{des})}{t} = 13.667$ (3.7-1)

Limits

$\frac{80}{\sqrt{\frac{F_y}{ksi}}} = 13.926$

$\frac{144}{\sqrt{\frac{F_y}{ksi}}} = 25.0672$

$$Fcr := \left\| \begin{array}{l} \text{if } w_t < \frac{80}{\sqrt{\frac{F_y}{ksi}}} \\ \quad \left\| \text{return } F_y \right. \\ \text{else if } \frac{80}{\sqrt{\frac{F_y}{ksi}}} \le w_t \le \frac{144}{\sqrt{\frac{F_y}{ksi}}} \\ \quad \left\| \text{return } \left(1.677 - 0.677 \cdot \frac{w_t}{\left(\frac{80}{\sqrt{\frac{F_y}{ksi}}}\right)}\right) \cdot F_y \right. \\ \text{else if } w_t > \frac{144}{\sqrt{\frac{F_y}{ksi}}} \\ \quad \left\| \text{return } \frac{0.0332 \cdot \pi^2 \cdot E}{w_t^{\,2}} \right. \end{array} \right\| = 33 \ ksi$$ (3.7-2) (3.7-3)

$Fcr = 33 \ ksi$

$r := min\left(r_x, r_y, r_z\right)$

$C_c := \pi \cdot \sqrt{\frac{2 \cdot E}{F_y}} = 131.706$ (3.6-3)

Determine Compression Capacity, Fa =

$$F_a := \left\| \begin{array}{l} \text{if } \left(\frac{K \cdot L}{r}\right) \le C_c \\ \quad \left\| \left(1 - \frac{1}{2} \cdot \left(\frac{\left(\frac{K \cdot L}{r}\right)}{C_c}\right)^2\right) \cdot Fcr \right. \\ \text{else} \\ \quad \left\| \frac{\pi^2 \cdot E}{\left(\frac{K \cdot L}{r}\right)^2} \right. \end{array} \right\| = 29.518 \ ksi$$ (3.6-1) (3.6-2)

$\frac{K \cdot L}{r} = 60.504$

$F_a = 29.518 \ ksi$

Determine the Bending capacity (per ASCE 10-15 Section 3.14.8)

$b := w - \frac{t}{2} = 5.813\ in$

$M_{yx} := F_y \cdot S_x = 115.83\ kip \cdot in$ (Yield Moment X direction)

$M_{yy} := F_y \cdot S_y = 115.83\ kip \cdot in$ (Yield Moment Y direction)

$M_{yc} := min\left(M_{yx}, M_{yy}\right) = 115.83\ kip \cdot in$ (Compressive Yield Moment, 3.14.8)

$$M_{e.pos} := \frac{\left(0.66 \cdot E \cdot b^4 \cdot t\right)}{\left(K \cdot L\right)^2} \cdot \left(\sqrt{1 + \frac{0.78 \cdot \left(K \cdot L\right)^2 \cdot t^2}{b^4}} + 1\right) = 3514.744\ kip \cdot in$$

(Elastic Critical Moment + direction, 3.14-7)

$$M_{e.neg} := \frac{\left(0.66 \cdot E \cdot b^4 \cdot t\right)}{\left(K \cdot L\right)^2} \cdot \left(\sqrt{1 + \frac{0.78 \cdot \left(K \cdot L\right)^2 \cdot t^2}{b^4}} - 1\right) = 353.995\ kip \cdot in$$

(Elastic Critical Moment - direction, 3.14-7)

$M_e := min\left(M_{e.pos}, M_{e.neg}\right) = 353.995\ kip \cdot in$

$$M_b := \left\| \begin{array}{l} \text{if } M_e \le 0.5 \cdot M_{yc} \\ \quad \left\| M_e \right. \\ \text{else if } M_e > 0.5 \cdot M_{yc} \\ \quad \left\| M_{yc} \cdot \left(1 - \frac{M_{yc}}{4 \cdot M_e}\right) \right. \end{array} \right. = 106.355\ kip \cdot in$$

$M_a := min\left(M_b, M_{yc}\right) = 106.355\ kip \cdot in$ (Allowable Bending Moment, 3.14.8)

$M_{ax} := M_a \qquad M_{ay} := M_a$

Check Combined Axial and Bending

$C_m := 0.85$ (Restrained Ends)

$L_x := 4\ ft + 10.5\ in$ (Bending Length)

$L_y := 4\ ft + 10.5\ in$ (Bending Length)

(Re: Tower Dwgs. sht. C1485-1)

$P := P_c + P_v = 7.022\ kip$ (Total Axial Load)

$P_a := F_a \cdot A = 129.288\ kip$ (Design Axial Load)

$P_y := F_y \cdot A = 144.54\ kip$ (Axial Compression at Yield)

$$P_{ex} := \frac{\pi^2 \cdot E \cdot I_x}{(K \cdot L_x)^2} = 1287.973\ kip$$

$$P_{ey} := \frac{\pi^2 \cdot E \cdot I_y}{(K \cdot L_y)^2} = 1287.973\ kip$$

$$M_x := \frac{H_x \cdot a \cdot (L_x - a)}{L_x} = 21.527\ kip \cdot in$$

$$M_y := \frac{H_y \cdot a \cdot (L_y - a)}{L_y} = 72.277\ kip \cdot in$$

$$Check_1 := \frac{P}{P_a} + \frac{C_m \cdot M_x}{M_{ax}} \cdot \left(\frac{1}{1 - \frac{P}{P_{ex}}}\right) + \frac{C_m \cdot M_y}{M_{ay}} \cdot \left(\frac{1}{1 - \frac{P}{P_{ey}}}\right) = 0.808 \qquad (3.12\text{-}1)$$

$$Check_2 := \frac{P}{P_y} + \frac{M_x}{M_{ax}} + \frac{M_y}{M_{ay}} = 0.931 \qquad (3.12\text{-}2)$$

$$Status_1 := \left\| \begin{array}{l} \text{if } Check_1 \le 1 \\ \quad \| \text{“OK”} \\ \text{else} \\ \quad \| \text{“NG”} \end{array} \right\| = \text{“OK”}$$

$$Status_2 := \left\| \begin{array}{l} \text{if } Check_2 \le 1 \\ \quad \| \text{“OK”} \\ \text{else} \\ \quad \| \text{“NG”} \end{array} \right\| = \text{“OK”}$$

AT&T Antenna Support Moment Frame Bolted To Lattice Structure - NESC 2007
Local Analysis Check (OTRM 059.1 Section E.2.e)
Top Support Reactions (Broken Wire)

Maximum Reactions

Compression Force =	$P_c := 9.264\ kip$	Input from PLS-TOWER (Angle 3bx Broken Wire Load Case)
Vertical Force =	$P_v := 0 \cdot kip$	Vertical Reaction Input from Risa (Reaction is Tension so used 0, Conservative)
Horizontal Force, x =	$H_x := 0.62\ kip$	Horizontal Reaction Input from Tower Rx (250C)
Horizontal Force, y =	$H_y := 1.59\ kip$	Horizontal Reaction Input from Tower Ry (250C)

Member Properties (Equal Leg Angle)

Member Type =	L 6x6x3/8	User Input
Width of Member =	$w := 6\ in$	User Input
Member Thickness =	$t := 0.375\ in$	User Input
k(heel to toe of fillet) =	$k_{des} := 0.875\ in$	User Input
Member Area =	$A := 4.38\ in^2$	User Input
Unbraced Length =	$L := 6\ ft$	User Input
Distance to Load along member =	$a := 1 \cdot ft + 3\ in$	User Input
Effective Length Factor =	$K := 1$	User Input
Radius of Gyration =	$r_x := 1.87\ in$	User Input
Radius of Gyration =	$r_y := 1.87\ in$	User Input
Radius of Gyration =	$r_z := 1.19\ in$	User Input
Section Modulus =	$S_x := 3.51\ in^3$	User Input
Section Modulus =	$S_y := 3.51\ in^3$	User Input
Moment of Inertia =	$I_x := 15.4\ in^4$	User Input
Moment of Inertia =	$I_y := 15.4\ in^4$	User Input
Yield Stress =	$F_y := 33\ ksi$	User Input
Modulus of Elasticity =	$E := 29000\ ksi$	User Input

Calculate the Compression Capacity Per ASCE 10-15 Section 3.6 and 3.7)

Width to Thickness Ratio = $w_t := \frac{(w - k_{des})}{t} = 13.667$ (3.7-1)

Limits

$\frac{80}{\sqrt{\frac{F_y}{ksi}}} = 13.926$

$\frac{144}{\sqrt{\frac{F_y}{ksi}}} = 25.0672$

$$Fcr := \left\| \begin{array}{l} \text{if } w_t < \frac{80}{\sqrt{\frac{F_y}{ksi}}} \\ \quad \left\| \text{return } F_y \right. \\ \text{else if } \frac{80}{\sqrt{\frac{F_y}{ksi}}} \le w_t \le \frac{144}{\sqrt{\frac{F_y}{ksi}}} \\ \quad \left\| \text{return } \left(1.677 - 0.677 \cdot \frac{w_t}{\left(\frac{80}{\sqrt{\frac{F_y}{ksi}}}\right)}\right) \cdot F_y \right. \\ \text{else if } w_t > \frac{144}{\sqrt{\frac{F_y}{ksi}}} \\ \quad \left\| \text{return } \frac{0.0332 \cdot \pi^2 \cdot E}{w_t^{\,2}} \right. \end{array} \right\| = 33 \ ksi$$ (3.7-2) (3.7-3)

$Fcr = 33 \ ksi$

$r := min\left(r_x, r_y, r_z\right)$

$C_c := \pi \cdot \sqrt{\frac{2 \cdot E}{F_y}} = 131.706$ (3.6-3)

Determine Compression Capacity, Fa =

$$F_a := \left\| \begin{array}{l} \text{if } \left(\frac{K \cdot L}{r}\right) \le C_c \\ \quad \left\| \left(1 - \frac{1}{2} \cdot \left(\frac{\left(\frac{K \cdot L}{r}\right)}{C_c}\right)^2\right) \cdot Fcr \right. \\ \text{else} \\ \quad \left\| \frac{\pi^2 \cdot E}{\left(\frac{K \cdot L}{r}\right)^2} \right. \end{array} \right\| = 29.518 \ ksi$$ (3.6-1) (3.6-2)

$\frac{K \cdot L}{r} = 60.504$

$F_a = 29.518 \ ksi$

Determine the Bending capacity (per ASCE 10-15 Section 3.14.8)

$b := w - \frac{t}{2} = 5.813\ in$

$M_{yx} := F_y \cdot S_x = 115.83\ kip \cdot in$ (Yield Moment X direction)

$M_{yy} := F_y \cdot S_y = 115.83\ kip \cdot in$ (Yield Moment Y direction)

$M_{yc} := min\left(M_{yx}, M_{yy}\right) = 115.83\ kip \cdot in$ (Compressive Yield Moment, 3.14.8)

$$M_{e.pos} := \frac{\left(0.66 \cdot E \cdot b^4 \cdot t\right)}{\left(K \cdot L\right)^2} \cdot \left(\sqrt{1 + \frac{0.78 \cdot \left(K \cdot L\right)^2 \cdot t^2}{b^4}} + 1\right) = 3514.744\ kip \cdot in$$

(Elastic Critical Moment + direction, 3.14-7)

$$M_{e.neg} := \frac{\left(0.66 \cdot E \cdot b^4 \cdot t\right)}{\left(K \cdot L\right)^2} \cdot \left(\sqrt{1 + \frac{0.78 \cdot \left(K \cdot L\right)^2 \cdot t^2}{b^4}} - 1\right) = 353.995\ kip \cdot in$$

(Elastic Critical Moment - direction, 3.14-7)

$M_e := min\left(M_{e.pos}, M_{e.neg}\right) = 353.995\ kip \cdot in$

$$M_b := \left\| \begin{array}{l} \text{if } M_e \le 0.5 \cdot M_{yc} \\ \quad \left\| M_e \right. \\ \text{else if } M_e > 0.5 \cdot M_{yc} \\ \quad \left\| M_{yc} \cdot \left(1 - \frac{M_{yc}}{4 \cdot M_e}\right) \right. \end{array} \right. = 106.355\ kip \cdot in$$

$M_a := min\left(M_b, M_{yc}\right) = 106.355\ kip \cdot in$ (Allowable Bending Moment, 3.14.8)

$M_{ax} := M_a \qquad M_{ay} := M_a$

Check Combined Axial and Bending

$C_m := 0.85$ (Restrained Ends)

$P := P_c + P_v = 9.264\ kip$ (Total Axial Load)

$P_a := F_a \cdot A = 129.288\ kip$ (Design Axial Load)

$P_y := F_y \cdot A = 144.54\ kip$ (Axial Compression at Yield)

$L_x := 4\ ft + 10.5\ in$ (Bending Length)

$L_y := 4\ ft + 10.5\ in$ (Bending Length)

(Re: Tower Dwgs. sht. C1485-1)

$$P_{ex} := \frac{\pi^2 \cdot E \cdot I_x}{(K \cdot L_x)^2} = 1287.973\ kip$$

$$P_{ey} := \frac{\pi^2 \cdot E \cdot I_y}{(K \cdot L_y)^2} = 1287.973\ kip$$

$$M_x := \frac{H_x \cdot a \cdot (L_x - a)}{L_x} = 6.915\ kip \cdot in$$

$$M_y := \frac{H_y \cdot a \cdot (L_y - a)}{L_y} = 17.735\ kip \cdot in$$

$$Check_1 := \frac{P}{P_a} + \frac{C_m \cdot M_x}{M_{ax}} \cdot \left(\frac{1}{1 - \frac{P}{P_{ex}}}\right) + \frac{C_m \cdot M_y}{M_{ay}} \cdot \left(\frac{1}{1 - \frac{P}{P_{ey}}}\right) = 0.27 \qquad (3.12\text{-}1)$$

$$Check_2 := \frac{P}{P_y} + \frac{M_x}{M_{ax}} + \frac{M_y}{M_{ay}} = 0.296 \qquad (3.12\text{-}2)$$

$Status_1 :=$ if $Check_1 \le 1$ "OK" else "NG" $=$ "OK"

$Status_2 :=$ if $Check_2 \le 1$ "OK" else "NG" $=$ "OK"

AT&T Antenna Support Moment Frame Bolted To Lattice Structure - NESC 2007
Local Analysis Check (OTRM 059.1 Section E.2.e)
Bottom Support Reactions (Extreme Wind)

Maximum Reactions

Compression Force =	$P_c := 17.300\ kip$	Input from PLS-TOWER (Load Case 250C)
Vertical Force =	$P_v := 0 \cdot kip$	Vertical Reaction Input from Risa (Reaction is Tension so used 0, Conservative)
Horizontal Force, x =	$H_x := 1.05\ kip$	Horizontal Reaction Input from Tower Rx (250C)
Horizontal Force, y =	$H_y := 2.61\ kip$	Horizontal Reaction Input from Tower Ry (250C)

Member Properties (Equal Leg Angle)

Member Type =	L 6x6x3/8	User Input
Width of Member =	$w := 6\ in$	User Input
Member Thickness =	$t := 0.375\ in$	User Input
k(heel to toe of fillet) =	$k_{des} := 0.875\ in$	User Input
Member Area =	$A := 4.38\ in^2$	User Input
Unbraced Length =	$L := 6\ ft$	User Input
Distance to Load along member =	$a := 1 \cdot ft + 7\ in$	User Input
Effective Length Factor =	$K := 1$	User Input
Radius of Gyration =	$r_x := 1.87\ in$	User Input
Radius of Gyration =	$r_y := 1.87\ in$	User Input
Radius of Gyration =	$r_z := 1.19\ in$	User Input
Section Modulus =	$S_x := 3.51\ in^3$	User Input
Section Modulus =	$S_y := 3.51\ in^3$	User Input
Moment of Inertia =	$I_x := 15.4\ in^4$	User Input
Moment of Inertia =	$I_y := 15.4\ in^4$	User Input
Yield Stress =	$F_y := 33\ ksi$	User Input
Modulus of Elasticity =	$E := 29000\ ksi$	User Input

Calculate the Compression Capacity Per ASCE 10-15 Section 3.6 and 3.7)

Width to Thickness Ratio = $w_t := \frac{(w - k_{des})}{t} = 13.667$ (3.7-1)

Limits

$\frac{80}{\sqrt{\frac{F_y}{ksi}}} = 13.926$

$\frac{144}{\sqrt{\frac{F_y}{ksi}}} = 25.0672$

$$Fcr := \left\| \begin{array}{l} \text{if } w_t < \frac{80}{\sqrt{\frac{F_y}{ksi}}} \\ \quad \left\| \text{return } F_y \right. \\ \text{else if } \frac{80}{\sqrt{\frac{F_y}{ksi}}} \le w_t \le \frac{144}{\sqrt{\frac{F_y}{ksi}}} \\ \quad \left\| \text{return } \left(1.677 - 0.677 \cdot \frac{w_t}{\left(\frac{80}{\sqrt{\frac{F_y}{ksi}}}\right)}\right) \cdot F_y \right. \\ \text{else if } w_t > \frac{144}{\sqrt{\frac{F_y}{ksi}}} \\ \quad \left\| \text{return } \frac{0.0332 \cdot \pi^2 \cdot E}{w_t^{\,2}} \right. \end{array} \right\| = 33 \ ksi$$ (3.7-2) (3.7-3)

$Fcr = 33 \ ksi$

$r := min\left(r_x, r_y, r_z\right)$

$C_c := \pi \cdot \sqrt{\frac{2 \cdot E}{F_y}} = 131.706$ (3.6-3)

Determine Compression Capacity, Fa =

$$F_a := \left\| \begin{array}{l} \text{if } \left(\frac{K \cdot L}{r}\right) \le C_c \\ \quad \left\| \left(1 - \frac{1}{2} \cdot \left(\frac{\left(\frac{K \cdot L}{r}\right)}{C_c}\right)^2\right) \cdot Fcr \right. \\ \text{else} \\ \quad \left\| \frac{\pi^2 \cdot E}{\left(\frac{K \cdot L}{r}\right)^2} \right. \end{array} \right\| = 29.518 \ ksi$$ (3.6-1) (3.6-2)

$\frac{K \cdot L}{r} = 60.504$

$F_a = 29.518 \ ksi$

Determine the Bending capacity (per ASCE 10-15 Section 3.14.8)

$b := w - \frac{t}{2} = 5.813\ in$

$M_{yx} := F_y \cdot S_x = 115.83\ kip \cdot in$ (Yield Moment X direction)

$M_{yy} := F_y \cdot S_y = 115.83\ kip \cdot in$ (Yield Moment Y direction)

$M_{yc} := min\left(M_{yx}, M_{yy}\right) = 115.83\ kip \cdot in$ (Compressive Yield Moment, 3.14.8)

$$M_{e.pos} := \frac{\left(0.66 \cdot E \cdot b^4 \cdot t\right)}{\left(K \cdot L\right)^2} \cdot \left(\sqrt{1 + \frac{0.78 \cdot \left(K \cdot L\right)^2 \cdot t^2}{b^4}} + 1\right) = 3514.744\ kip \cdot in$$

(Elastic Critical Moment + direction, 3.14-7)

$$M_{e.neg} := \frac{\left(0.66 \cdot E \cdot b^4 \cdot t\right)}{\left(K \cdot L\right)^2} \cdot \left(\sqrt{1 + \frac{0.78 \cdot \left(K \cdot L\right)^2 \cdot t^2}{b^4}} - 1\right) = 353.995\ kip \cdot in$$

(Elastic Critical Moment - direction, 3.14-7)

$M_e := min\left(M_{e.pos}, M_{e.neg}\right) = 353.995\ kip \cdot in$

$$M_b := \left\| \begin{array}{l} \text{if } M_e \le 0.5 \cdot M_{yc} \\ \quad \left\| M_e \right. \\ \text{else if } M_e > 0.5 \cdot M_{yc} \\ \quad \left\| M_{yc} \cdot \left(1 - \frac{M_{yc}}{4 \cdot M_e}\right) \right. \end{array} \right. = 106.355\ kip \cdot in$$

$M_a := min\left(M_b, M_{yc}\right) = 106.355\ kip \cdot in$ (Allowable Bending Moment, 3.14.8)

$M_{ax} := M_a \qquad M_{ay} := M_a$

Check Combined Axial and Bending

$C_m := 0.85$ (Restrained Ends)

$P := P_c + P_v = 17.3\ kip$ (Total Axial Load)

$P_a := F_a \cdot A = 129.288\ kip$ (Design Axial Load)

$P_y := F_y \cdot A = 144.54\ kip$ (Axial Compression at Yield)

$L_x := 4\ ft + 10.5\ in$ (Bending Length)

$L_y := 4\ ft + 10.5\ in$ (Bending Length)

(Re: Tower Dwgs. sht. C1485-1)

$$P_{ex} := \frac{\pi^2 \cdot E \cdot I_x}{(K \cdot L_x)^2} = 1287.973\ kip$$

$$P_{ey} := \frac{\pi^2 \cdot E \cdot I_y}{(K \cdot L_y)^2} = 1287.973\ kip$$

$$M_x := \frac{H_x \cdot a \cdot (L_x - a)}{L_x} = 13.471\ kip \cdot in$$

$$M_y := \frac{H_y \cdot a \cdot (L_y - a)}{L_y} = 33.484\ kip \cdot in$$

$$Check_1 := \frac{P}{P_a} + \frac{C_m \cdot M_x}{M_{ax}} \cdot \left(\frac{1}{1 - \frac{P}{P_{ex}}}\right) + \frac{C_m \cdot M_y}{M_{ay}} \cdot \left(\frac{1}{1 - \frac{P}{P_{ey}}}\right) = 0.514 \qquad (3.12\text{-}1)$$

$$Check_2 := \frac{P}{P_y} + \frac{M_x}{M_{ax}} + \frac{M_y}{M_{ay}} = 0.561 \qquad (3.12\text{-}2)$$

$$Status_1 := \left\| \begin{array}{l} \text{if } Check_1 \le 1 \\ \quad \| \text{“OK”} \\ \text{else} \\ \quad \| \text{“NG”} \end{array} \right\| = \text{“OK”}$$

$$Status_2 := \left\| \begin{array}{l} \text{if } Check_2 \le 1 \\ \quad \| \text{“OK”} \\ \text{else} \\ \quad \| \text{“NG”} \end{array} \right\| = \text{“OK”}$$

AT&T Antenna Support Moment Frame Bolted To Lattice Structure - NESC 2007
Local Analysis Check (OTRM 059.1 Section E.2.e)
Bottom Support Reactions (Broken Wire)

Maximum Reactions

Compression Force =	$P_c := 24.754\ kip$	Input from PLS-TOWER (Load Case 250C)
Vertical Force =	$P_v := 0 \cdot kip$	Vertical Reaction Input from Risa (Reaction is Tension so used 0, Conservative)
Horizontal Force, x =	$H_x := 0.43\ kip$	Horizontal Reaction Input from Tower Rx (250C)
Horizontal Force, y =	$H_y := 0.71\ kip$	Horizontal Reaction Input from Tower Ry (250C)

Member Properties (Equal Leg Angle)

Member Type =	L 6x6x3/8	User Input
Width of Member =	$w := 6\ in$	User Input
Member Thickness =	$t := 0.375\ in$	User Input
k(heel to toe of fillet) =	$k_{des} := 0.875\ in$	User Input
Member Area =	$A := 4.38\ in^2$	User Input
Unbraced Length =	$L := 6\ ft$	User Input
Distance to Load along member =	$a := 1 \cdot ft + 7\ in$	User Input
Effective Length Factor =	$K := 1$	User Input
Radius of Gyration =	$r_x := 1.87\ in$	User Input
Radius of Gyration =	$r_y := 1.87\ in$	User Input
Radius of Gyration =	$r_z := 1.19\ in$	User Input
Section Modulus =	$S_x := 3.51\ in^3$	User Input
Section Modulus =	$S_y := 3.51\ in^3$	User Input
Moment of Inertia =	$I_x := 15.4\ in^4$	User Input
Moment of Inertia =	$I_y := 15.4\ in^4$	User Input
Yield Stress =	$F_y := 33\ ksi$	User Input
Modulus of Elasticity =	$E := 29000\ ksi$	User Input

Calculate the Compression Capacity Per ASCE 10-15 Section 3.6 and 3.7)

Width to Thickness Ratio = $w_t := \frac{(w - k_{des})}{t} = 13.667$ (3.7-1)

Limits

$\frac{80}{\sqrt{\frac{F_y}{ksi}}} = 13.926$

$\frac{144}{\sqrt{\frac{F_y}{ksi}}} = 25.0672$

$$Fcr := \left\| \begin{array}{l} \text{if } w_t < \frac{80}{\sqrt{\frac{F_y}{ksi}}} \\ \quad \left\| \text{return } F_y \right. \\ \text{else if } \frac{80}{\sqrt{\frac{F_y}{ksi}}} \le w_t \le \frac{144}{\sqrt{\frac{F_y}{ksi}}} \\ \quad \left\| \text{return } \left(1.677 - 0.677 \cdot \frac{w_t}{\left(\frac{80}{\sqrt{\frac{F_y}{ksi}}}\right)}\right) \cdot F_y \right. \\ \text{else if } w_t > \frac{144}{\sqrt{\frac{F_y}{ksi}}} \\ \quad \left\| \text{return } \frac{0.0332 \cdot \pi^2 \cdot E}{w_t^{\,2}} \right. \end{array} \right\| = 33 \ ksi$$ (3.7-2) (3.7-3)

$Fcr = 33 \ ksi$

$r := min\left(r_x, r_y, r_z\right)$

$C_c := \pi \cdot \sqrt{\frac{2 \cdot E}{F_y}} = 131.706$ (3.6-3)

Determine Compression Capacity, Fa =

$$F_a := \left\| \begin{array}{l} \text{if } \left(\frac{K \cdot L}{r}\right) \le C_c \\ \quad \left\| \left(1 - \frac{1}{2} \cdot \left(\frac{\left(\frac{K \cdot L}{r}\right)}{C_c}\right)^2\right) \cdot Fcr \right. \\ \text{else} \\ \quad \left\| \frac{\pi^2 \cdot E}{\left(\frac{K \cdot L}{r}\right)^2} \right. \end{array} \right\| = 29.518 \ ksi$$ (3.6-1) (3.6-2)

$\frac{K \cdot L}{r} = 60.504$

$F_a = 29.518 \ ksi$

Determine the Bending capacity (per ASCE 10-15 Section 3.14.8)

$b := w - \frac{t}{2} = 5.813\ in$

$M_{yx} := F_y \cdot S_x = 115.83\ kip \cdot in$ (Yield Moment X direction)

$M_{yy} := F_y \cdot S_y = 115.83\ kip \cdot in$ (Yield Moment Y direction)

$M_{yc} := min\left(M_{yx}, M_{yy}\right) = 115.83\ kip \cdot in$ (Compressive Yield Moment, 3.14.8)

$$M_{e.pos} := \frac{\left(0.66 \cdot E \cdot b^4 \cdot t\right)}{\left(K \cdot L\right)^2} \cdot \left(\sqrt{1 + \frac{0.78 \cdot \left(K \cdot L\right)^2 \cdot t^2}{b^4}} + 1\right) = 3514.744\ kip \cdot in$$

(Elastic Critical Moment + direction, 3.14-7)

$$M_{e.neg} := \frac{\left(0.66 \cdot E \cdot b^4 \cdot t\right)}{\left(K \cdot L\right)^2} \cdot \left(\sqrt{1 + \frac{0.78 \cdot \left(K \cdot L\right)^2 \cdot t^2}{b^4}} - 1\right) = 353.995\ kip \cdot in$$

(Elastic Critical Moment - direction, 3.14-7)

$M_e := min\left(M_{e.pos}, M_{e.neg}\right) = 353.995\ kip \cdot in$

$$M_b := \left\| \begin{array}{l} \text{if } M_e \le 0.5 \cdot M_{yc} \\ \quad \left\| M_e \right. \\ \text{else if } M_e > 0.5 \cdot M_{yc} \\ \quad \left\| M_{yc} \cdot \left(1 - \frac{M_{yc}}{4 \cdot M_e}\right) \right. \end{array} \right. = 106.355\ kip \cdot in$$

$M_a := min\left(M_b, M_{yc}\right) = 106.355\ kip \cdot in$ (Allowable Bending Moment, 3.14.8)

$M_{ax} := M_a \qquad M_{ay} := M_a$

Check Combined Axial and Bending

$C_m := 0.85$ (Restrained Ends)

$L_x := 4\ ft + 10.5\ in$ (Bending Length)

$L_y := 4\ ft + 10.5\ in$ (Bending Length)

(Re: Tower Dwgs. sht. C1485-1)

$P := P_c + P_v = 24.754\ kip$ (Total Axial Load)

$P_a := F_a \cdot A = 129.288\ kip$ (Design Axial Load)

$P_y := F_y \cdot A = 144.54\ kip$ (Axial Compression at Yield)

$$P_{ex} := \frac{\pi^2 \cdot E \cdot I_x}{(K \cdot L_x)^2} = 1287.973\ kip$$

$$P_{ey} := \frac{\pi^2 \cdot E \cdot I_y}{(K \cdot L_y)^2} = 1287.973\ kip$$

$$M_x := \frac{H_x \cdot a \cdot (L_x - a)}{L_x} = 5.516\ kip \cdot in$$

$$M_y := \frac{H_y \cdot a \cdot (L_y - a)}{L_y} = 9.109\ kip \cdot in$$

$$Check_1 := \frac{P}{P_a} + \frac{C_m \cdot M_x}{M_{ax}} \cdot \left(\frac{1}{1 - \frac{P}{P_{ex}}}\right) + \frac{C_m \cdot M_y}{M_{ay}} \cdot \left(\frac{1}{1 - \frac{P}{P_{ey}}}\right) = 0.311 \quad (3.12\text{-}1)$$

$$Check_2 := \frac{P}{P_y} + \frac{M_x}{M_{ax}} + \frac{M_y}{M_{ay}} = 0.309 \quad (3.12\text{-}2)$$

$Status_1 :=$ if $Check_1 \le 1$ "OK" else "NG" $=$ "OK"

$Status_2 :=$ if $Check_2 \le 1$ "OK" else "NG" $=$ "OK"

Sprint Antenna Direct Mount Frame Bolted To Lattice Structure - NESC 2007
Local Analysis Check (OTRM 059.1 Section E.2.e)
Top Support Reactions (Extreme Wind)

Maximum Reactions

Compression Force =	$P_c := 180.762\ kip$	Input from PLS-TOWER (Load Case 250C)
Horizontal Force, x =	$H_x := \frac{1.56}{2}\ kip = 0.78\ kip$	Horizontal Reaction Input from Tower Rx (250C)
Horizontal Force, y =	$H_y := 0\ kip$	Horizontal Reaction Input from Tower Ry (250C)

Member Properties (Equal Leg Angle)

Member Type =	L 8x8x11/16	User Input
Width of Member =	$w := 8\ in$	User Input
Member Thickness =	$t := .6875\ in$	User Input
k(heel to toe of fillet) =	$k_{des} := 1.3125\ in$	User Input
Member Area =	$A := 10.5\ in^2$	User Input
Unbraced Length =	$L := 7.5\ ft$	User Input
Distance to Load along member =	$a := 1 \cdot ft + 6\ in$	User Input
Effective Length Factor =	$K := 1$	User Input
Radius of Gyration =	$r_x := 2.48\ in$	User Input
Radius of Gyration =	$r_y := 2.48\ in$	User Input
Radius of Gyration =	$r_z := 1.58\ in$	User Input
Section Modulus =	$S_x := 11.25\ in^3$	User Input
Section Modulus =	$S_y := 11.25\ in^3$	User Input
Moment of Inertia =	$I_x := 64.6432\ in^4$	User Input
Moment of Inertia =	$I_y := 64.6432\ in^4$	User Input
Yield Stress =	$F_y := 33\ ksi$	User Input
Modulus of Elasticity =	$E := 29000\ ksi$	User Input

Calculate the Compression Capacity Per ASCE 10-97 Section 3.6 and 3.7)

Width to Thickness Ratio = $w_t := \frac{(w - k_{des})}{t} = 9.727$ (3.7-1)

Limits

$\frac{80}{\sqrt{\frac{F_y}{ksi}}} = 13.926$

$\frac{144}{\sqrt{\frac{F_y}{ksi}}} = 25.0672$

$$Fcr := \left\| \begin{array}{l} \text{if } w_t < \frac{80}{\sqrt{\frac{F_y}{ksi}}} \\ \quad \left\| \text{return } F_y \right. \\ \text{else if } \frac{80}{\sqrt{\frac{F_y}{ksi}}} \le w_t \le \frac{144}{\sqrt{\frac{F_y}{ksi}}} \\ \quad \left\| \text{return } \left(1.677 - 0.677 \cdot \frac{w_t}{\left(\frac{80}{\sqrt{\frac{F_y}{ksi}}}\right)}\right) \cdot F_y \right. \\ \text{else if } w_t > \frac{144}{\sqrt{\frac{F_y}{ksi}}} \\ \quad \left\| \text{return } \frac{0.0332 \cdot \pi^2 \cdot E}{w_t^{\,2}} \right. \end{array} \right\| = 33 \ ksi$$

(3.7-2)

(3.7-3)

$Fcr = 33 \ ksi$

$r := min\left(r_x, r_y, r_z\right)$

$C_c := \pi \cdot \sqrt{\frac{2 \cdot E}{F_y}} = 131.706$ (3.6-3)

Determine Compression Capacity, Fa =

$$F_a := \left\| \begin{array}{l} \text{if } \left(\frac{K \cdot L}{r}\right) \le C_c \\ \quad \left\| \left(1 - \frac{1}{2} \cdot \left(\frac{\left(\frac{K \cdot L}{r}\right)}{C_c}\right)^2\right) \cdot Fcr \right. \\ \text{else} \\ \quad \left\| \frac{\pi^2 \cdot E}{\left(\frac{K \cdot L}{r}\right)^2} \right. \end{array} \right\| = 29.914 \ ksi$$

$\frac{K \cdot L}{r} = 56.962$

(3.6-1)

(3.6-2)

$F_a = 29.914 \ ksi$

Determine the Bending capacity (per ASCE 10-97 Section 3.14.8)

$b := w - \frac{t}{2} = 7.656\ in$

$M_{yx} := F_y \cdot S_x = 371.25\ kip \cdot in$ (Yield Moment X direction)

$M_{yy} := F_y \cdot S_y = 371.25\ kip \cdot in$ (Yield Moment Y direction)

$M_{yc} := min\left(M_{yx}, M_{yy}\right) = 371.25\ kip \cdot in$ (Compressive Yield Moment, 3.14.8)

$M_{e.pos} := \frac{\left(0.66 \cdot E \cdot b^4 \cdot t\right)}{\left(K \cdot L\right)^2} \cdot \left(\sqrt{1 + \frac{0.81 \cdot \left(K \cdot L\right)^2 \cdot t^2}{b^4}} + 1\right) = 13281.461\ kip \cdot in$ (Elastic Critical Moment + direction, 3.14-7)

$M_{e.neg} := \frac{\left(0.66 \cdot E \cdot b^4 \cdot t\right)}{\left(K \cdot L\right)^2} \cdot \left(\sqrt{1 + \frac{0.81 \cdot \left(K \cdot L\right)^2 \cdot t^2}{b^4}} - 1\right) = 2117.353\ kip \cdot in$ (Elastic Critical Moment - direction, 3.14-7)

$M_e := min\left(M_{e.pos}, M_{e.neg}\right) = 2117.353\ kip \cdot in$

$$M_b := \left\| \begin{array}{l} \text{if } M_e \le 0.5 \cdot M_{yc} \\ \quad \left\| M_e \right. \\ \text{else if } M_e > 0.5 \cdot M_{yc} \\ \quad \left\| M_{yc} \cdot \left(1 - \frac{M_{yc}}{4 \cdot M_e}\right) \right. \end{array} \right. = 354.977\ kip \cdot in$$

$M_a := min\left(M_b, M_{yc}\right) = 354.977\ kip \cdot in$ (Allowable Bending Moment, 3.14.8)

$M_{ax} := M_a \qquad M_{ay} := M_a$

Check Combined Axial and Bending

$C_m := 0.85$ (Restrained Ends)

$P := P_c = 180.762\ kip$ (Total Axial Load)

$P_a := F_a \cdot A = 314.094\ kip$ (Design Axial Load)

$P_y := F_y \cdot A = 346.5\ kip$ (Axial Compression at Yield)

$L_x := 6\ ft$ (Bending Length)

$L_y := 6\ ft$ (Bending Length)

(Re: Tower Dwgs. sht. C1485-1)

$$P_{ex} := \frac{\pi^2 \cdot E \cdot I_x}{(K \cdot L_x)^2} = 3569.074\ kip$$

$$P_{ey} := \frac{\pi^2 \cdot E \cdot I_y}{(K \cdot L_y)^2} = 3569.074\ kip$$

$$M_x := \frac{H_x \cdot a \cdot (L_x - a)}{L_x} = 10.53\ kip \cdot in$$

$$M_y := \frac{H_y \cdot a \cdot (L_y - a)}{L_y} = 0\ kip \cdot in$$

$$Check_1 := \frac{P}{P_a} + \frac{C_m \cdot M_x}{M_{ax}} \cdot \left(\frac{1}{1 - \frac{P}{P_{ex}}}\right) + \frac{C_m \cdot M_y}{M_{ay}} \cdot \left(\frac{1}{1 - \frac{P}{P_{ey}}}\right) = 0.602 \qquad (3.12\text{-}1)$$

$$Check_2 := \frac{P}{P_y} + \frac{M_x}{M_{ax}} + \frac{M_y}{M_{ay}} = 0.551 \qquad (3.12\text{-}2)$$

$$Status_1 := \left\| \begin{array}{l} \text{if } Check_1 \le 1 \\ \quad \| \text{“OK”} \\ \text{else} \\ \quad \| \text{“NG”} \end{array} \right\| = \text{“OK”}$$

$$Status_2 := \left\| \begin{array}{l} \text{if } Check_2 \le 1 \\ \quad \| \text{“OK”} \\ \text{else} \\ \quad \| \text{“NG”} \end{array} \right\| = \text{“OK”}$$

Sprint Antenna Direct Mount Frame Bolted To Lattice Structure - NESC 2007
Local Analysis Check (OTRM 059.1 Section E.2.e)
Bottom Support Reactions (Extreme Wind)

Maximum Reactions

Compression Force =	$P_c := 201.892\ kip$	Input from PLS-TOWER (Load Case 250C)
Horizontal Force, x =	$H_x := \frac{1.56}{2}\ kip = 0.78\ kip$	Horizontal Reaction Input from Tower Rx (250C)
Horizontal Force, y =	$H_y := 0\ kip$	Horizontal Reaction Input from Tower Ry (250C)

Member Properties (Equal Leg Angle)

Member Type =	L 8x8x3/4	User Input
Width of Member =	$w := 8\ in$	User Input
Member Thickness =	$t := .75\ in$	User Input
k(heel to toe of fillet) =	$k_{des} := 1.375\ in$	User Input
Member Area =	$A := 11.5\ in^2$	User Input
Unbraced Length =	$L := 8\ ft$	User Input
Distance to Load along member =	$a := 1 \cdot ft + 6\ in$	User Input
Effective Length Factor =	$K := 1$	User Input
Radius of Gyration =	$r_x := 2.46\ in$	User Input
Radius of Gyration =	$r_y := 2.46\ in$	User Input
Radius of Gyration =	$r_z := 1.57\ in$	User Input
Section Modulus =	$S_x := 12.2\ in^3$	User Input
Section Modulus =	$S_y := 12.2\ in^3$	User Input
Moment of Inertia =	$I_x := 69.9\ in^4$	User Input
Moment of Inertia =	$I_y := 69.9\ in^4$	User Input
Yield Stress =	$F_y := 33\ ksi$	User Input
Modulus of Elasticity =	$E := 29000\ ksi$	User Input

Calculate the Compression Capacity Per ASCE 10-15 Section 3.6 and 3.7)

Width to Thickness Ratio = $w_t := \frac{(w - k_{des})}{t} = 8.833$ (3.7-1)

Limits

$\frac{80}{\sqrt{\frac{F_y}{ksi}}} = 13.926$

$\frac{144}{\sqrt{\frac{F_y}{ksi}}} = 25.0672$

$$Fcr := \left\| \begin{array}{l} \text{if } w_t < \frac{80}{\sqrt{\frac{F_y}{ksi}}} \\ \quad \left\| \text{return } F_y \right. \\ \text{else if } \frac{80}{\sqrt{\frac{F_y}{ksi}}} \le w_t \le \frac{144}{\sqrt{\frac{F_y}{ksi}}} \\ \quad \left\| \text{return } \left(1.677 - 0.677 \cdot \frac{w_t}{\left(\frac{80}{\sqrt{\frac{F_y}{ksi}}}\right)}\right) \cdot F_y \right. \\ \text{else if } w_t > \frac{144}{\sqrt{\frac{F_y}{ksi}}} \\ \quad \left\| \text{return } \frac{0.0332 \cdot \pi^2 \cdot E}{w_t^{\,2}} \right. \end{array} \right\| = 33 \ ksi$$

(3.7-2)

(3.7-3)

$Fcr = 33 \ ksi$

$r := min\left(r_x, r_y, r_z\right)$

$C_c := \pi \cdot \sqrt{\frac{2 \cdot E}{F_y}} = 131.706$ (3.6-3)

Determine Compression Capacity, Fa =

$$F_a := \left\| \begin{array}{l} \text{if } \left(\frac{K \cdot L}{r}\right) \le C_c \\ \quad \left\| \left(1 - \frac{1}{2} \cdot \left(\frac{\left(\frac{K \cdot L}{r}\right)}{C_c}\right)^2\right) \cdot Fcr \right. \\ \text{else} \\ \quad \left\| \frac{\pi^2 \cdot E}{\left(\frac{K \cdot L}{r}\right)^2} \right. \end{array} \right\| = 29.444 \ ksi$$

$\frac{K \cdot L}{r} = 61.146$

(3.6-1)

(3.6-2)

$F_a = 29.444 \ ksi$

Determine the Bending capacity (per ASCE 10-15 Section 3.14.8)

$b := w - \frac{t}{2} = 7.625\ in$

$M_{yx} := F_y \cdot S_x = 402.6\ kip \cdot in$ (Yield Moment X direction)

$M_{yy} := F_y \cdot S_y = 402.6\ kip \cdot in$ (Yield Moment Y direction)

$M_{yc} := min\left(M_{yx}, M_{yy}\right) = 402.6\ kip \cdot in$ (Compressive Yield Moment, 3.14.8)

$$M_{e.pos} := \frac{\left(0.66 \cdot E \cdot b^4 \cdot t\right)}{\left(K \cdot L\right)^2} \cdot \left(\sqrt{1 + \frac{0.78 \cdot \left(K \cdot L\right)^2 \cdot t^2}{b^4}} + 1\right) = 13068.147\ kip \cdot in$$

(Elastic Critical Moment + direction, 3.14-7)

$$M_{e.neg} := \frac{\left(0.66 \cdot E \cdot b^4 \cdot t\right)}{\left(K \cdot L\right)^2} \cdot \left(\sqrt{1 + \frac{0.78 \cdot \left(K \cdot L\right)^2 \cdot t^2}{b^4}} - 1\right) = 2537.619\ kip \cdot in$$

(Elastic Critical Moment - direction, 3.14-7)

$M_e := min\left(M_{e.pos}, M_{e.neg}\right) = 2537.619\ kip \cdot in$

$$M_b := \left\| \begin{array}{l} \text{if } M_e \le 0.5 \cdot M_{yc} \\ \quad \left\| M_e \right. \\ \text{else if } M_e > 0.5 \cdot M_{yc} \\ \quad \left\| M_{yc} \cdot \left(1 - \frac{M_{yc}}{4 \cdot M_e}\right) \right. \end{array} \right. = 386.632\ kip \cdot in$$

$M_a := min\left(M_b, M_{yc}\right) = 386.632\ kip \cdot in$ (Allowable Bending Moment, 3.14.8)

$M_{ax} := M_a \qquad M_{ay} := M_a$

Check Combined Axial and Bending

$C_m := 0.85$ (Restrained Ends)

$P := P_c = 201.892\ kip$ (Total Axial Load)

$P_a := F_a \cdot A = 338.601\ kip$ (Design Axial Load)

$P_y := F_y \cdot A = 379.5\ kip$ (Axial Compression at Yield)

$L_x := 6.5\ ft$ (Bending Length)

$L_y := 6.5\ ft$ (Bending Length)

(Re: Tower Dwgs. sht. C1485-1)

$$P_{ex} := \frac{\pi^2 \cdot E \cdot I_x}{(K \cdot L_x)^2} = 3288.408\ kip$$

$$P_{ey} := \frac{\pi^2 \cdot E \cdot I_y}{(K \cdot L_y)^2} = 3288.408\ kip$$

$$M_x := \frac{H_x \cdot a \cdot (L_x - a)}{L_x} = 10.8\ kip \cdot in$$

$$M_y := \frac{H_y \cdot a \cdot (L_y - a)}{L_y} = 0\ kip \cdot in$$

$$Check_1 := \frac{P}{P_a} + \frac{C_m \cdot M_x}{M_{ax}} \cdot \left(\frac{1}{1 - \frac{P}{P_{ex}}}\right) + \frac{C_m \cdot M_y}{M_{ay}} \cdot \left(\frac{1}{1 - \frac{P}{P_{ey}}}\right) = 0.622 \qquad (3.12\text{-}1)$$

$$Check_2 := \frac{P}{P_y} + \frac{M_x}{M_{ax}} + \frac{M_y}{M_{ay}} = 0.56 \qquad (3.12\text{-}2)$$

$$Status_1 := \left\| \begin{array}{l} \text{if } Check_1 \le 1 \\ \quad \| \text{“OK”} \\ \text{else} \\ \quad \| \text{“NG”} \end{array} \right\| = \text{“OK”} \qquad Status_2 := \left\| \begin{array}{l} \text{if } Check_2 \le 1 \\ \quad \| \text{“OK”} \\ \text{else} \\ \quad \| \text{“NG”} \end{array} \right\| = \text{“OK”}$$

Anchor Rod Check

Reactions

$NESC250B_{shear} := 20.10\ kip$	Maximum Shear Force
$NESC250B_{comp} := 154.31\ kip$	Maximum Compression Force
$NESC250B_{tens} := 58.40\ kip$	Maximum Tension Force
$NESC250C_{shear} := 68.80\ kip$	Maximum Shear Force
$NESC250C_{comp} := 352.10\ kip$	Maximum Compression Force
$NESC250C_{tens} := 329.61\ kip$	Maximum Tension Force
$BROKEN_{shear} := 27.08\ kip$	Maximum Shear Force
$BROKEN_{comp} := 233.61\ kip$	Maximum Compression Force
$BROKEN_{tens} := 141.66\ kip$	Maximum Tension Force

Anchor Properties:

Bolt Type A36

$d := 2.25\ in$	Bolt Diameter
$\mu := 0.7$	ASCE 10-15 Fig. 7-2 (b)
$N := 5$	Number of Bolts
$F_y := 36\ ksi$	Yield Strength
$n := 4.5$	Threads per Inch

$$A_{sReq\_250B} := \frac{NESC250B_{tens}}{F_y} + \frac{NESC250B_{shear}}{\mu \cdot 0.85 \cdot F_y} = 2.561\ in^2$$

$$A_{sReq\_250C} := \frac{NESC250C_{tens}}{F_y} + \frac{NESC250C_{shear}}{\mu \cdot 0.85 \cdot F_y} = 12.368\ in^2 \quad \text{(governs)}$$

$$A_{sReq\_Broken} := \frac{BROKEN_{tens}}{F_y} + \frac{BROKEN_{shear}}{\mu \cdot 0.85 \cdot F_y} = 5.199\ in^2$$

$$A_s := \frac{\pi}{4} \cdot \left(d - \frac{0.974\ in}{4.5}\right)^2 = 3.248\ in^2 \quad \text{(per bolt)}$$

$A_s \cdot N = 16.239\ in^2$ (total area > required area (ok))

$$Anchor_{usage} := \frac{A_{sReq\_250C}}{A_s \cdot N} = 76.2\%$$

$$Status_{bolt\_tension} := \left\| \begin{array}{l} \text{if } Anchor_{usage} \le 1 \\ \quad \text{“OK”} \\ \text{else} \\ \quad \text{“NG”} \end{array} \right\| = \text{“OK”}$$

Foundation Analysis (OTRM 059.1)

Reactions

$Shear_{max} := 68.80\ kip \cdot 1.1 = 75.68\ kip$ Factored Maximum Total Shear Force (PLS)

$Compression_{max} := 352.10\ kip \cdot 1.1 = 387.31\ kip$ Factored Maximum Compression Reaction (PLS)

$Uplift_{max} := 329.61\ kip \cdot 1.1 = 362.571\ kip$ Factored Maximum Uplift Reaction (PLS)

Foundation Properties

$Pier_{height\_uplift} := 12.5\ ft$

$Pier_{width.top\_uplift} := 3.5\ ft$

$Pier_{width.bot\_uplift} := 6\ ft$

$Pier_{projection\_uplift} := 0.5\ ft$

$Ftg_{width\_uplift} := 10\ ft$

$Ftg_{thick\_uplift} := 2\ ft$

$Pier_{height\_comp} := 0\ ft$

$Pier_{width.top\_comp} := 0\ ft$

$Pier_{width.bot\_comp} := 0\ ft$

$Ftg_{width\_comp} := 10\ ft$

$Ftg_{length\_comp} := 25\ ft$

$Ftg_{thick\_comp} := 7.5\ ft$

Geotechnical Properties

$\gamma_{conc} := 150\ pcf$

$\gamma_{water} := 62.4\ pcf$

$\gamma_{soil} := 115\ pcf$

$\phi_{soil} := 30\ deg$

$q_{soil} := 5\ ksf$

$\mu := 0.35$ Coefficient of Friction between concrete and soil

Calculations (Uplift)

$V_{ftg\_uplift} := Ftg_{width\_uplift}^{2} \cdot Ftg_{thick\_uplift} = 200\ ft^3$

$V_{pier\_uplift} := \frac{Pier_{height\_uplift}}{3} \cdot \left(Pier_{width.top\_uplift}^{2} + Pier_{width.bot\_uplift}^{2} + \sqrt{Pier_{width.top\_uplift}^{2} \cdot Pier_{width.bot\_uplift}^{2}}\right) = 288.542\ ft^3$

$V_{conc\_uplift} := V_{ftg\_uplift} + V_{pier\_uplift} = 488.542\ ft^3$

$W_{conc} := V_{conc\_uplift} \cdot \gamma_{conc} = 73.281\ kip$

$V_{soil\_above} := \left(Pier_{height\_uplift} - Pier_{projection\_uplift}\right) \cdot Ftg_{width\_uplift}^{2} - V_{pier\_uplift} = 911.458\ ft^3$

$W_{soil\_above} := V_{soil\_above} \cdot \gamma_{soil} = 104.818\ kip$

$B1_{soil\_uplift} := 2 \cdot \left(Pier_{height\_uplift} - Pier_{projection\_uplift}\right) \cdot \tan(30\ deg) + Ftg_{width\_uplift} = 23.856\ ft$

$B2_{soil\_uplift} := Ftg_{width\_uplift} = 10\ ft$

$V_{soil\_uplift} := \frac{\left(Pier_{height\_uplift} - Pier_{projection\_uplift}\right)}{3} \cdot \left(B1_{soil\_uplift}^{2} + B2_{soil\_uplift}^{2} + \sqrt{B1_{soil\_uplift}^{2} \cdot B2_{soil\_uplift}^{2}}\right) - V_{pier\_uplift} = 3342.227\ ft$

$W_{soil\_uplift} := V_{soil\_uplift} \cdot \gamma_{soil} = 384.356\ kip$

Uplift Check

$FS_{uplift\_req} := 1.0$

$FS_{uplift} := \frac{W_{conc} + W_{soil\_uplift}}{Uplift_{max}} = 1.262$

$Status_{uplift} := \left\| \begin{array}{l} \text{if } FS_{uplift\_req} \le FS_{uplift} \\ \quad \text{"OK"} \\ \text{else} \\ \quad \text{"NG"} \end{array} \right\| = \text{"OK"}$

Soil Bearing Check

$FS_{bearing\_req} := 1.0$

$A_{ftg} := Ftg_{width\_comp} \cdot Ftg_{length\_comp} = 250\ ft^2$

$V_{ftg\_comp} := A_{ftg} \cdot Ftg_{thick\_comp} = 1875\ ft^3$

$W_{conc\_comp} := V_{ftg\_comp} \cdot \gamma_{conc} = 281.25\ kip$

$S_{ftg} := \frac{Ftg_{length\_comp} \cdot Ftg_{width\_comp}^{2}}{6} = 416.667\ ft^3$

$q_{brg} := \frac{Compression_{max} + W_{conc\_comp}}{A_{ftg}} + \frac{Shear_{max} \cdot Ftg_{thick\_comp}}{S_{ftg}} = 4.036\ ksf$

$FS_{bearing} := \frac{q_{soil}}{q_{brg}} = 1.239$

$Status_{bearing} := \left\| \begin{array}{l} \text{if } FS_{bearing\_req} \le FS_{bearing} \\ \quad \text{"OK"} \\ \text{else} \\ \quad \text{"NG"} \end{array} \right\| = \text{"OK"}$

Sliding Check

$FS_{sliding\_req} := 1.0$

$A_{total\_250C} := -NESC250C_{tens} + W_{conc} + W_{soil\_uplift} = 128.027$ ***kip***

$K_p := \tan\left(45\ \textbf{deg} + \frac{\phi_{soil}}{2}\right)^2 = 3$

$P_{p.top.of.pad} := K_p \cdot \gamma_{soil} \cdot \left(Pier_{height\_uplift} - Pier_{projection\_uplift}\right) = 4140$ ***psf***

$P_{p.bot.of.pad} := K_p \cdot \gamma_{soil} \cdot \left(Pier_{height\_uplift} - Pier_{projection\_uplift} + Ftg_{thick\_uplift}\right) = 4830$ ***psf***

$P_{p.pad} := P_{p.top.of.pad} \cdot Ftg_{width\_uplift} \cdot Ftg_{thick\_uplift} + \frac{\left(P_{p.bot.of.pad} - P_{p.top.of.pad}\right)}{2} \cdot Ftg_{width\_uplift} \cdot Ftg_{thick\_uplift} = 89.7$ ***kip***

$V_{cap} := \frac{P_{p.top.of.pad}}{2} \cdot \left(Pier_{height\_uplift} - Pier_{projection\_uplift}\right) \cdot Pier_{width.top\_uplift} + P_{p.pad} + A_{total\_250C} \cdot \mu = 221.45$ ***kip***

$FS_{sliding} := \frac{V_{cap}}{Shear_{max}} = 2.926$

$Status_{sliding} :=$ if $FS_{sliding\_req} \le FS_{sliding}$ "OK" else "NG" $=$ "OK"

APPENDIX E

SUPPLEMENTAL INFORMATION

NNH4-65A-R6

12-port sector antenna, 4x 698–896 and 8x 1695–2360 MHz, 65° HPBW, 6x RET.

- Interleaved dipole technology providing for attractive, low wind load mechanical package
- Array configuration provides capability for 4T4R (4x MIMO) on Low band and Dual 4T4R (4x MIMO) on High band
- Optimized SPR performance across all operating bands
- Excellent wind loading characteristics

General Specifications

Antenna Type	Sector
Band	Multiband
Color	Light gray
Effective Projective Area (EPA), frontal	0.48 m^2 | 5.167 ft^2
Effective Projective Area (EPA), lateral	0.16 m^2 | 1.722 ft^2
Grounding Type	RF connector body grounded to reflector and mounting bracket
Performance Note	Outdoor usage | Wind loading figures are validated by wind tunnel measurements described in white paper WP-112534-EN
RF Connector Interface	4.3-10 Female
RF Connector Location	Bottom
RF Connector Quantity, high band	8
RF Connector Quantity, low band	4
RF Connector Quantity, total	12

Remote Electrical Tilt (RET) Information, General

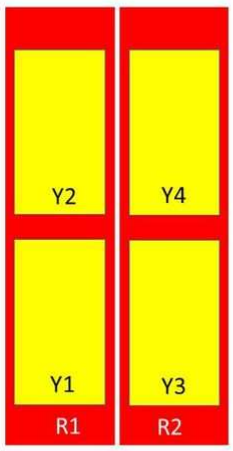
RET Hardware	CommRET v2
RET Interface	8-pin DIN Female | 8-pin DIN Male
RET Interface, quantity	1 female | 1 male

Dimensions

Width	498 mm | 19.606 in
Length	1400 mm | 55.118 in
Depth	197 mm | 7.756 in

NNH4-65A-R6

Array Layout

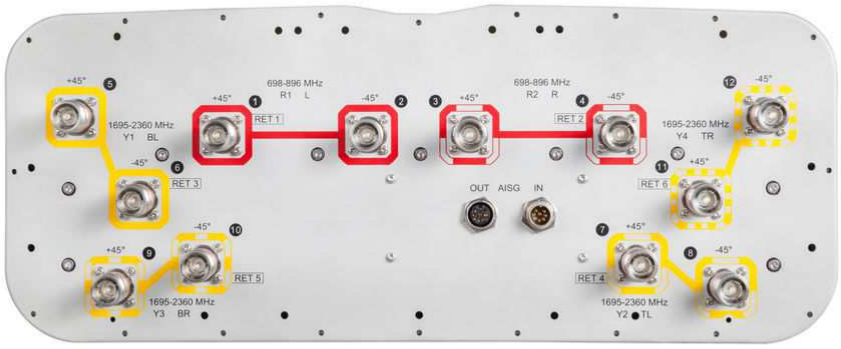


Array	Freq (MHz)	Conns	RET (MRET)	AISG RET UID
R1	698-896	1-2	1	CPxxxxxxxxxxxxxxxmm.1
R2	698-896	3-4	2	CPxxxxxxxxxxxxxxxmm.2
Y1	1695-2360	5-6	3	CPxxxxxxxxxxxxxxxmm.3
Y2	1695-2360	7-8	4	CPxxxxxxxxxxxxxxxmm.4
Y3	1695-2360	9-10	5	CPxxxxxxxxxxxxxxxmm.5
Y4	1695-2360	11-12	6	CPxxxxxxxxxxxxxxxmm.6

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

Port Configuration

NNH4-65A-R6



Electrical Specifications

Operating Frequency Band	1695 – 2360 MHz | 698 – 896 MHz
Total Input Power, maximum	900 W @ 50 °C

Remote Electrical Tilt (RET) Information, Electrical

Protocol	3GPP/AISG 2.0 (Multi-RET)
Power Consumption, idle state, maximum	1 W
Power Consumption, normal conditions, maximum	8 W
Input Voltage	10–30 Vdc
Internal RET	High band (4) | Low band (2)

Electrical Specifications

NNH4-65A-R6

Frequency Band, MHz	698–806	806–896	1695–1880	1850–1990	1920–2180	2300–2360
Gain, dBi	13.2	13.8	14	14.7	14.8	15.2
Beamwidth, Horizontal, degrees	72	63	59	60	62	59
Beamwidth, Vertical, degrees	16.4	14.9	15.7	14.6	13.9	12.4
Beam Tilt, degrees	2–16	2–16	2–16	2–16	2–16	2–16
USLS (First Lobe), dB	15	19	16	18	17	18
Front-to-Back Ratio at 180°, dB	29	30	34	35	34	35
Isolation, Cross Polarization, dB	25	25	25	25	25	25
Isolation, Inter-band, dB	25	25	25	25	25	25
VSWR | Return loss, dB	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0
PIM, 3rd Order, 2 x 20 W, dBc	-150	-150	-150	-150	-150	-150
Input Power per Port at 50° C, maximum, watts	250	250	250	250	250	200

Electrical Specifications, BASTA

Frequency Band, MHz	698–806	806–896	1695–1880	1850–1990	1920–2180	2300–2360
Gain by all Beam Tilts, average, dBi	12.9	13.3	13.5	14.4	14.5	14.9
Gain by all Beam Tilts Tolerance, dB	±0.4	±0.6	±0.8	±0.5	±0.4	±0.5
Gain by Beam Tilt, average, dBi	2 ° | 13.0 9 ° | 12.9 16 ° | 12.7	2 ° | 13.5 9 ° | 13.4 16 ° | 13.0	2 ° | 13.6 9 ° | 13.6 16 ° | 13.4	2 ° | 14.5 9 ° | 14.4 16 ° | 14.2	2 ° | 14.6 9 ° | 14.5 16 ° | 14.3	2 ° | 15.1 9 ° | 14.9 16 ° | 14.6
Beamwidth, Horizontal Tolerance, degrees	±4.1	±4.9	±5.6	±3.8	±3.7	±7.4
Beamwidth, Vertical Tolerance, degrees	±1.1	±1.3	±1.3	±0.8	±1	±0.8
USLS, beampeak to 20° above beampeak, dB	17	19	18	19	18	18
Front-to-Back Total Power at 180° ± 30°, dB	23	21	28	30	28	26
CPR at Boresight, dB	21	22	16	21	21	19
CPR at Sector, dB	11	4	7	9	9	11

Material Specifications

Radiator Material	Aluminum | Low loss circuit board
Radome Material	Fiberglass, UV resistant
Reflector Material	Aluminum

NNH4-65A-R6

Mechanical Specifications

Wind Loading at Velocity, frontal	114.4 lbf @ 150 km/h | 509.0 N @ 150 km/h
Wind Loading at Velocity, lateral	169.0 N @ 150 km/h | 38.0 lbf @ 150 km/h
Wind Loading at Velocity, maximum	148.4 lbf @ 150 km/h | 660.0 N @ 150 km/h
Wind Speed, maximum	241 km/h | 149.75 mph

Packaging and Weights

Width, packed	608 mm | 23.937 in
Depth, packed	352 mm | 13.858 in
Length, packed	1582 mm | 62.283 in
Net Weight, without mounting kit	33.5 kg | 73.855 lb
Weight, gross	46.7 kg | 102.956 lb

Regulatory Compliance/Certifications

Agency	Classification
CHINA-ROHS	Below maximum concentration value
ISO 9001:2015	Designed, manufactured and/or distributed under this quality management system
REACH-SVHC	Compliant as per SVHC revision on www.commscope.com/ProductCompliance
ROHS	Compliant

Included Products

BSAMNT-3 — Wide Profile Antenna Downtilt Mounting Kit for 2.4 - 4.5 in (60 - 115 mm) OD round members. Kit contains one scissor top bracket set and one bottom bracket set.

* Footnotes

Performance Note	Severe environmental conditions may degrade optimum performance

NNH4-65A-R6

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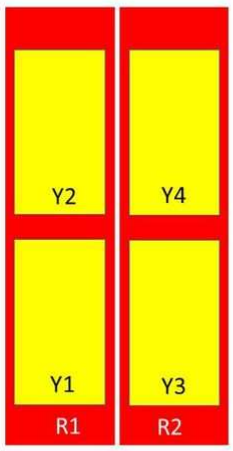

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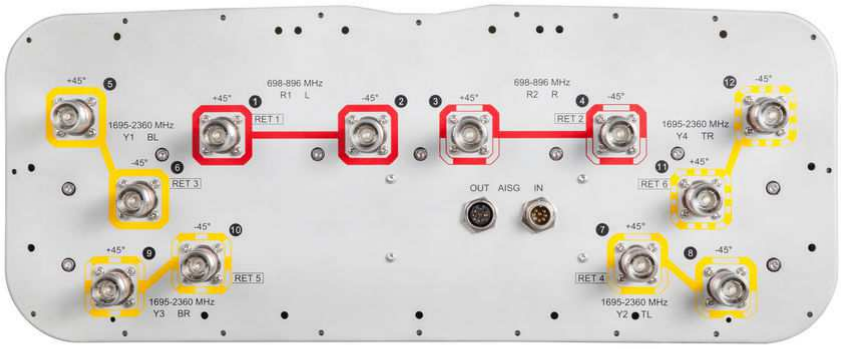
NNH4-65A-R6



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USLS (First Lobe), dB	15	19	16	18	17	18
Front-to-Back Ratio at 180°, dB	29	30	34	35	34	35
Isolation, Cross Polarization, dB	25	25	25	25	25	25
Isolation, Inter-band, dB	25	25	25	25	25	25
VSWR | Return loss, dB	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0
PIM, 3rd Order, 2 x 20 W, dBc	-150	-150	-150	-150	-150	-150
Input Power per Port at 50° C, maximum, watts	250	250	250	250	250	200

Electrical Specifications, BASTA

Frequency Band, MHz	698–806	806–896	1695–1880	1850–1990	1920–2180	2300–2360
Gain by all Beam Tilts, average, dBi	12.9	13.3	13.5	14.4	14.5	14.9
Gain by all Beam Tilts Tolerance, dB	±0.4	±0.6	±0.8	±0.5	±0.4	±0.5
Gain by Beam Tilt, average, dBi	2 ° | 13.0 9 ° | 12.9 16 ° | 12.7	2 ° | 13.5 9 ° | 13.4 16 ° | 13.0	2 ° | 13.6 9 ° | 13.6 16 ° | 13.4	2 ° | 14.5 9 ° | 14.4 16 ° | 14.2	2 ° | 14.6 9 ° | 14.5 16 ° | 14.3	2 ° | 15.1 9 ° | 14.9 16 ° | 14.6
Beamwidth, Horizontal Tolerance, degrees	±4.1	±4.9	±5.6	±3.8	±3.7	±7.4
Beamwidth, Vertical Tolerance, degrees	±1.1	±1.3	±1.3	±0.8	±1	±0.8
USLS, beampeak to 20° above beampeak, dB	17	19	18	19	18	18
Front-to-Back Total Power at 180° ± 30°, dB	23	21	28	30	28	26
CPR at Boresight, dB	21	22	16	21	21	19
CPR at Sector, dB	11	4	7	9	9	11

Material Specifications

Radiator Material	Aluminum | Low loss circuit board
Radome Material	Fiberglass, UV resistant
Reflector Material	Aluminum

NNH4-65A-R6

Mechanical Specifications

Wind Loading at Velocity, frontal	114.4 lbf @ 150 km/h | 509.0 N @ 150 km/h
Wind Loading at Velocity, lateral	169.0 N @ 150 km/h | 38.0 lbf @ 150 km/h
Wind Loading at Velocity, maximum	148.4 lbf @ 150 km/h | 660.0 N @ 150 km/h
Wind Speed, maximum	241 km/h | 149.75 mph

Packaging and Weights

Width, packed	608 mm | 23.937 in
Depth, packed	352 mm | 13.858 in
Length, packed	1582 mm | 62.283 in
Net Weight, without mounting kit	33.5 kg | 73.855 lb
Weight, gross	46.7 kg | 102.956 lb

Regulatory Compliance/Certifications

Agency	Classification
CHINA-ROHS	Below maximum concentration value
ISO 9001:2015	Designed, manufactured and/or distributed under this quality management system
REACH-SVHC	Compliant as per SVHC revision on www.commscope.com/ProductCompliance
ROHS	Compliant

Included Products

BSAMNT-3 — Wide Profile Antenna Downtilt Mounting Kit for 2.4 - 4.5 in (60 - 115 mm) OD round members. Kit contains one scissor top bracket set and one bottom bracket set.

* Footnotes

Performance Note	Severe environmental conditions may degrade optimum performance

DATASHEET

Diplexed Multi-Band Antenna DMP65R-BU4D

Electrical

Ports	4 × Low Band Ports for 698-896 MHz	
Frequency Range	698-798 MHz	824-896 MHz
Gain[1]	12.7 dBi	13.0 dBi
Gain (Average)[2]	11.5 dBi	12.3 dBi
Azimuth Beamwidth (-3dB)	75°	67°
Elevation Beamwidth (-3dB)	19.9°	17.9°
Electrical Downtilt	2° to 16°	2° to 16°
Elevation Sidelobes (1st Upper)	<-16 dB	<-16 dB
Front-to-Back Ratio @180°	> 32 dB	> 35 dB
Front-to-Back Ratio ±20°	> 28 dB	> 32 dB
Cross-Polar Discrimination at Peak	> 25 dB	> 25 dB
Cross-Polar Discrimination at Sector[2]	10.7 dB	11.1 dB
Cross-Polar Port-to-Port Isolation	> 25 dB	> 25 dB
Voltage Standing Wave Ratio (VSWR)	< 1.5:1	< 1.5:1
Passive Intermodulation (2×20W)	≤ -153 dBc	≤ -153 dBc
Input Power Continuous Wave (CW)	500 watts	500 watts
Polarization	Dual Linear 45°	Dual Linear 45°
Input Impedance	50 ohms	50 ohms
Lightning Protection	DC Ground	DC Ground

[1]Peak gain across sub-bands.
[2]Electrical specifications follow document "Recommendation on Base Station Antenna Standards" (BASTA) V9.6.

Ports	4 × High Band Ports for 1695-2400 MHz			
Frequency Range	1695-1880 MHz	1850-1990 MHz	1920-2180 MHz	2300-2400 MHz
Gain[1]	16.4 dBi	16.4 dBi	16.9 dBi	17.2 dBi
Gain (Average)[2]	15.3 dBi	15.9 dBi	16.1 dBi	16.6 dBi
Azimuth Beamwidth (-3dB)	71°	69°	69°	57°
Elevation Beamwidth (-3dB)	8.2°	7.3°	6.8°	5.9°
Electrical Downtilt	2° to 10°	2° to 10°	2° to 10°	2° to 10°
Elevation Sidelobes (1st Upper)	<-15 dB	<-16 dB	<-16 dB	<-15 dB
Front-to-Back Ratio @180°	> 35 dB	> 35 dB	> 35 dB	> 35 dB
Front-to-Back Ratio ±20°	> 30 dB	> 30 dB	> 30 dB	> 30 dB
Cross-Polar Discrimination at Peak	> 18 dB	> 17 dB	> 18 dB	> 19 dB
Cross-Polar Discrimination at Sector[2]	9.6 dB	7.4 dB	7.7 dB	9.3 dB
Cross-Polar Port-to-Port Isolation	> 25 dB	> 25 dB	> 25 dB	> 25 dB
Voltage Standing Wave Ratio (VSWR)	< 1.5:1	< 1.5:1	< 1.5:1	< 1.5:1
Passive Intermodulation (2×20W)	≤ -153 dBc	≤ -153 dBc	≤ -153 dBc	≤ -153 dBc
Input Power Continuous Wave (CW)	300 watts	300 watts	300 watts	300 watts
Polarization	Dual Linear 45°	Dual Linear 45°	Dual Linear 45°	Dual Linear 45°
Input Impedance	50 ohms	50 ohms	50 ohms	50 ohms
Lightning Protection	DC Ground	DC Ground	DC Ground	DC Ground

[1]Peak gain across sub-bands.
[2]Electrical specifications follow document "Recommendation on Base Station Antenna Standards" (BASTA) V9.6.

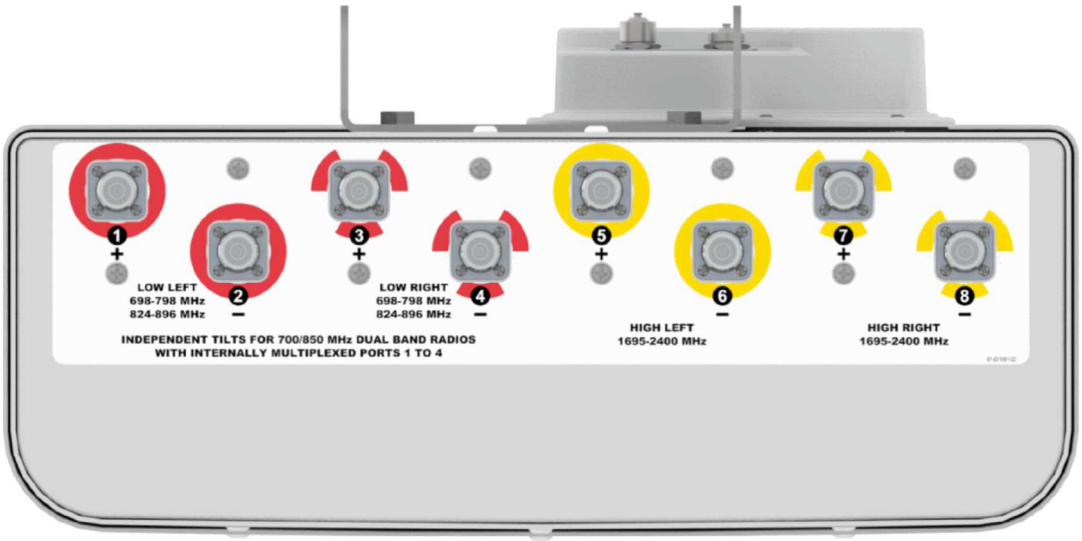
Mechanical

Dimensions (L×W×D)	48.0×20.7×7.7 in (1220×525×197 mm)
Survival Wind Speed	> 150 mph (> 241 kph)
Front Wind Load	212 lbs (943 N) @ 100 mph (161 kph)

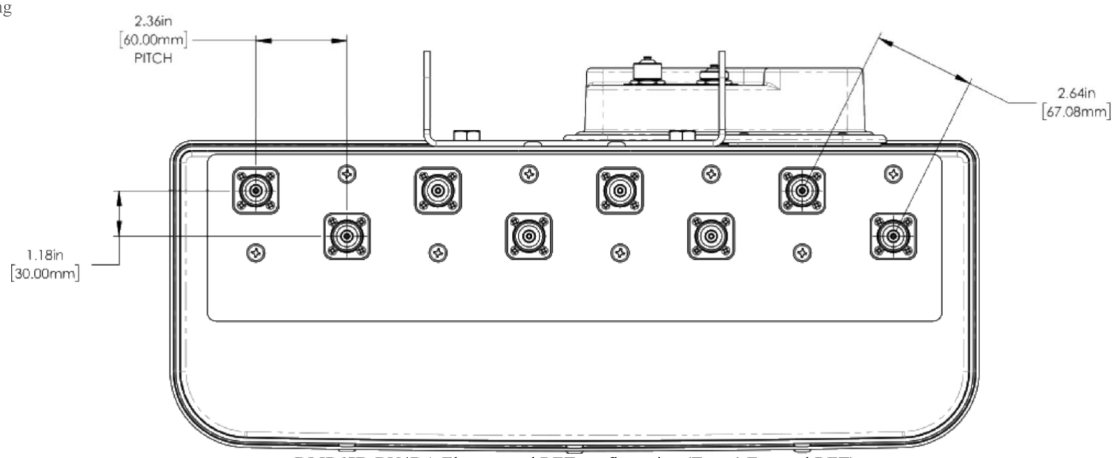
Side Wind Load	90 lbs (402 N) @ 100 mph (161 kph)
Equivalent Flat Plate Area	8.3 ft^2 (0.8 m^2)
Weight *	67.9 lbs (30.8 kg)
Connector	8 × 4.3-10 female
Mounting Pole	2 to 5 in (5 to 12 cm)

* Weight excludes mounting

Bottom View

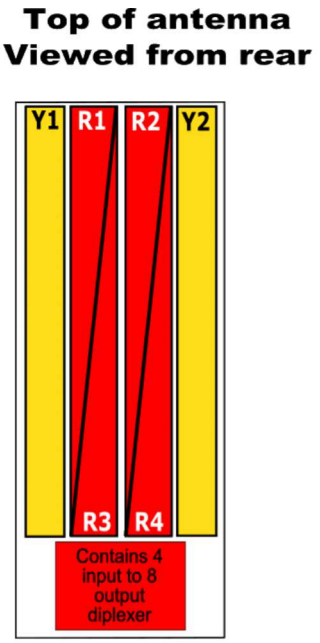


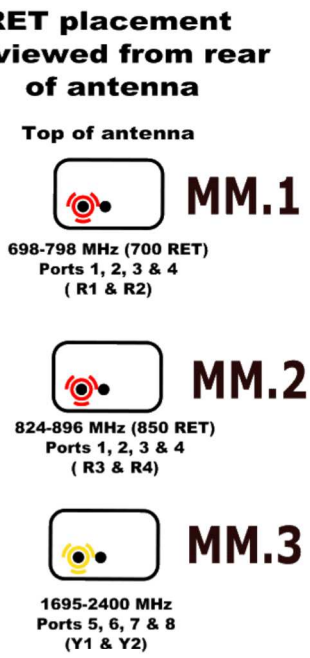
Connector Spacing



RET to Element Configuration

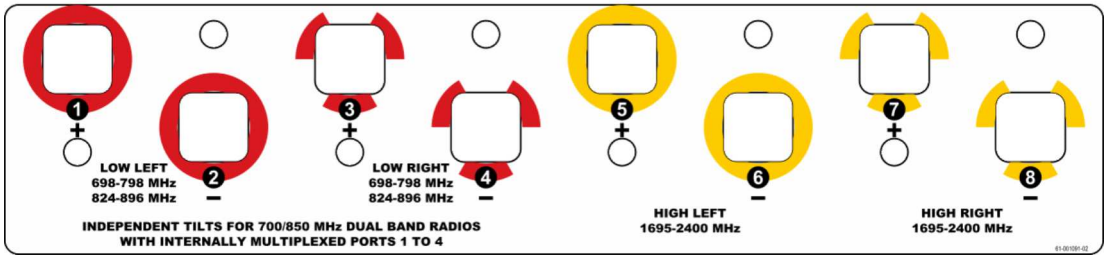
DMP65R-BU4DA Element and RET configuration (Type 1 External RET)





Array	Ports	Freq (MHz)	Ports controlled by dedicated RET	RET location on Antenna	AISG RET UID
R1	1, 2	698-798	1, 2, 3, 4	Top (700 RET)	ClxxxxxxMM.1
R2	3, 4				
R3	1, 2	824-896	1, 2, 3, 4	Middle (850 RET)	ClxxxxxxMM.2
R4	3, 4				
Y1	5, 6	1695-2400	5, 6, 7, 8	Bottom	ClxxxxxxMM.3
Y2	7, 8				

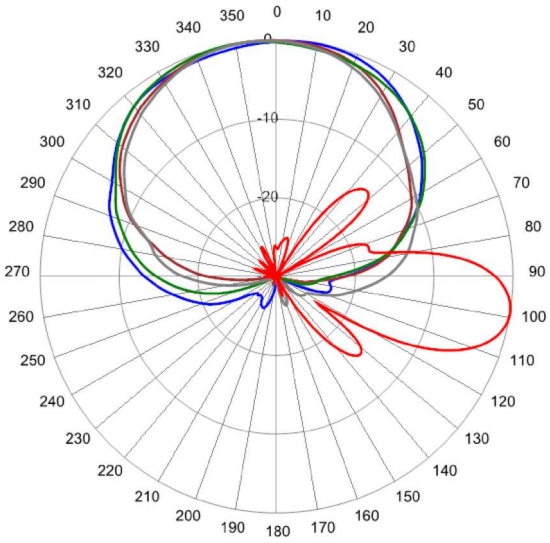
Port Label



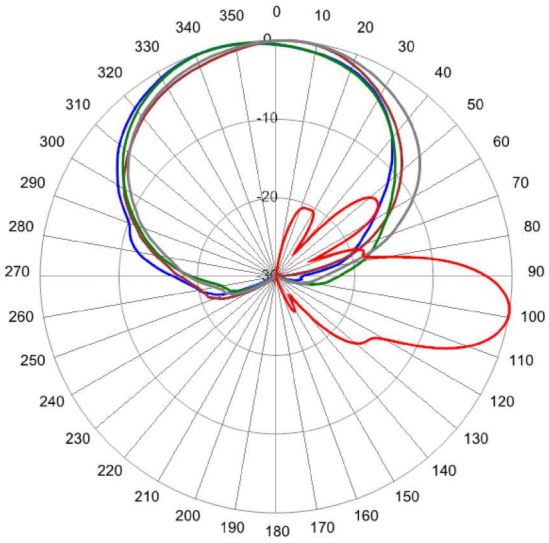
Typical Antenna Patterns

For detailed information on additional antenna patterns, contact customer support at

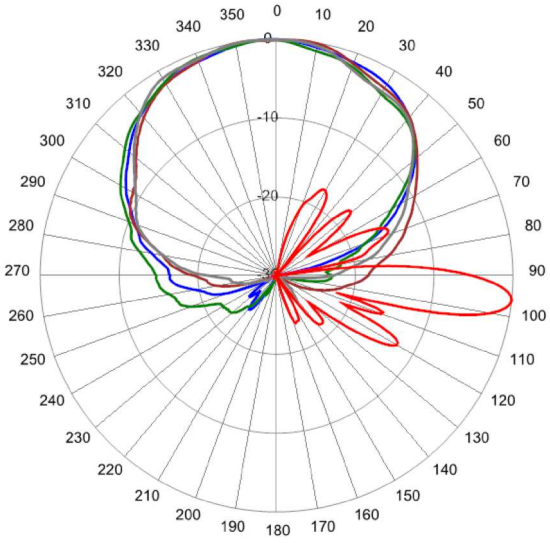
Interactive Pattern Viewer



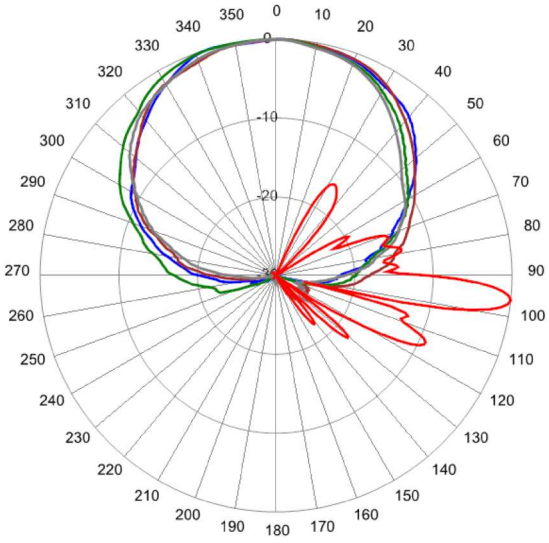
698 MHz Azimuth with Elevation 9°



840 MHz Azimuth with Elevation 9°



1780 MHz Azimuth with Elevation 6°



2155 MHz Azimuth with Elevation 6°

TMA2117F00V1-1

TWIN TMA 1900/WCS, LOWPASS

Designed to be deployed in co-located 1900 & WCS systems with wideband antennas, the Kaelus TMA provides internal diplexing and gain in both bands while allowing 700/850 services to pass through to a separate antenna, thereby saving hardware costs.

FEATURES

- Improved base station sensitivity through gain in PCs and WCS bands
- High Linearity and low noise performance; Bypass provided for 700/850MHz services
- Hardware and software configuration using AISG “Personality” upload
- Fail safe bypass mode with lightning protection

TECHNICAL SPECIFICATIONS

BAND NAME	1900	WCS
DOWNLINK		
Passband	1930 - 1990MHz	2350 - 2360MHz
Insertion loss	0.5dB typical	
Return loss	18dB minimum	
Maximum input power	160W (average) / 2kW (PEP)	120W (average) / 1.2kW (PEP)
UPLINK		
Passband	1850 - 1910MHz	2305 - 2315MHz
Gain	13dB	12dB
Variable gain	3dB to 13dB in 1dB steps (controlled by AISG commands)	2dB to 12dB in 1dB steps (controlled by AISG commands)
Gain variation	±1dB maximum	
Return loss	18dB minimum operating, 12dB in bypass	
Bypass loss	2.5dB typical	3.3dB typical
Noise figure	1.4dB typical	1.7dB typical
Output IP3	+30dBm typical	
Maximum input power with no damage	+12dBm maximum	
Rejection	27.5dB minimum@2324.54 - 2341.285MHz	
LOW BAND PATH		
Passband	698 - 896MHz	
Return loss	18dB minimum	
Insertion loss	0.35dB typical	
Maximum input power with no damage	200W (average) / 2kW (PEP)	
ELECTRICAL		
Impedance	50Ohms	
Intermodulation products	-153dBc maximum in RX band with 2 x 20 carriers	

POWER SUPPLY AND ALARM (CURRENT WINDOW ALARM MODE, DEFAULT)	
Current window alarm mode (CWA) is the default TMA operating mode and can be configured to specific customer requirements. The generic personality (F00V1) is configured so that both channels are independently powered and monitored via the respective BTS port. The BTS port sinks additional current to indicate an alarm state in its uplink path. Normal operating and alarm current values are configured independently via a field-loadable personality file, Please contact Kaelus for more information.	
DC supply voltage	8.5 to 30V DC, case is DC ground
DC supply	Each BTS powered individually (programmable)
DC supply current, normal mode	200 ± 20mA per port (programmable)
DC supply current, alarm mode	300 ± 30mA per port(programmable)

AISG MODE OF OPERATION (AUTO SELECTED ON VALID AISG 2.0 FRAMES)	
AISG signals can be applied to either BTS1 or BTS2 ports. The TMA2117FxxVx-1 unit switches to AISG mode when valid frames are detected on one of the BTS ports. Both LNAs take DC power from the port with AISG frames or, if DC is present on both ports, both channels supply equal power to the TMA2117FxxVx-1.	
DC supply voltage	+8.5V to +30V DC
AISG version	2.0 (1.1 optional)
Supply current, AISG mode	400mA @ 8.5V, 120mA @ 30V typical
AISG connector, current rating	IEC60130-9, 8-pin female ,< 4A peak, 2A continuous, pin 6
Field firmware upgradable	Yes

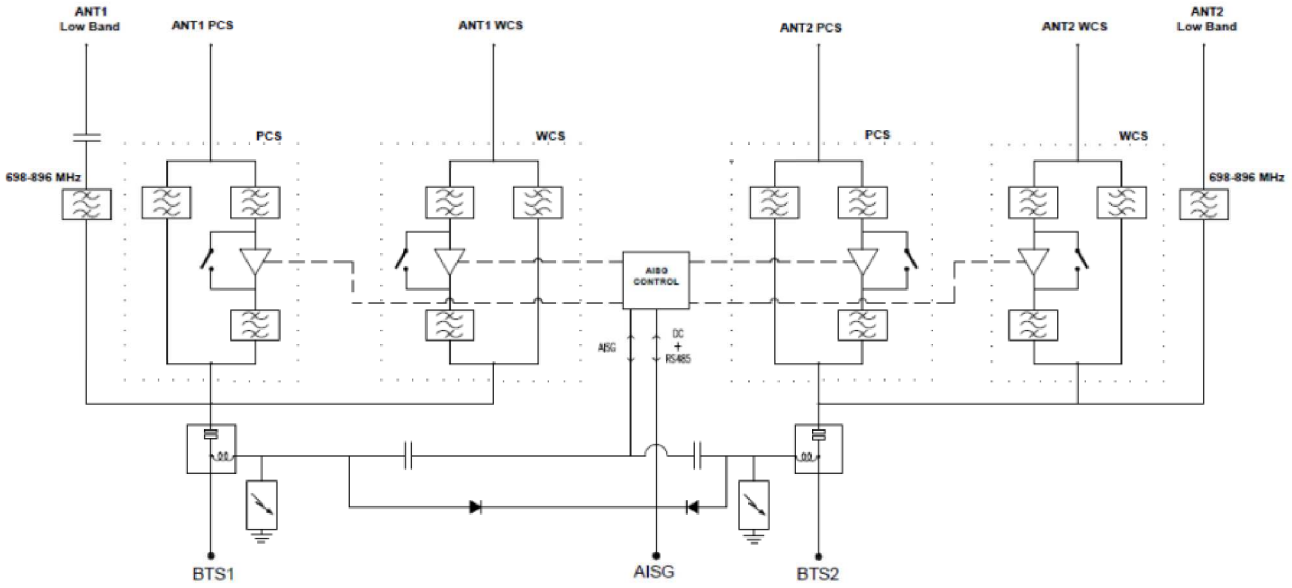
ENVIRONMENTAL	
For further details of environmental compliance, please contact Kaelus.	
Temperature range	-40ºC to +65ºC | -40°F to +149°F
Ingress protection	IP67
Lightning protection	IEC61312-1, RF: ±5kA maximum (8/20us), AISG: ±2kA maximum (8/20us)
MTBF	>1,000,000 hours
Compliance	FCC, ETSI EN 300 019 class 4.1, RoHS

MECHANICAL	
Dimensions H x D x W	300 x 250 x 118mm | 11.81 x 9.84 x 4.65in
Weight	11.8kg | 26lbs
Finish	Painted, light grey (RAL7035)
Connectors	4.3-10 (F) x 8 long shank, AISG (F) x 1
Mounting	Pole/wall bracket supplied with two metal clamps 45-178mm diameter poles

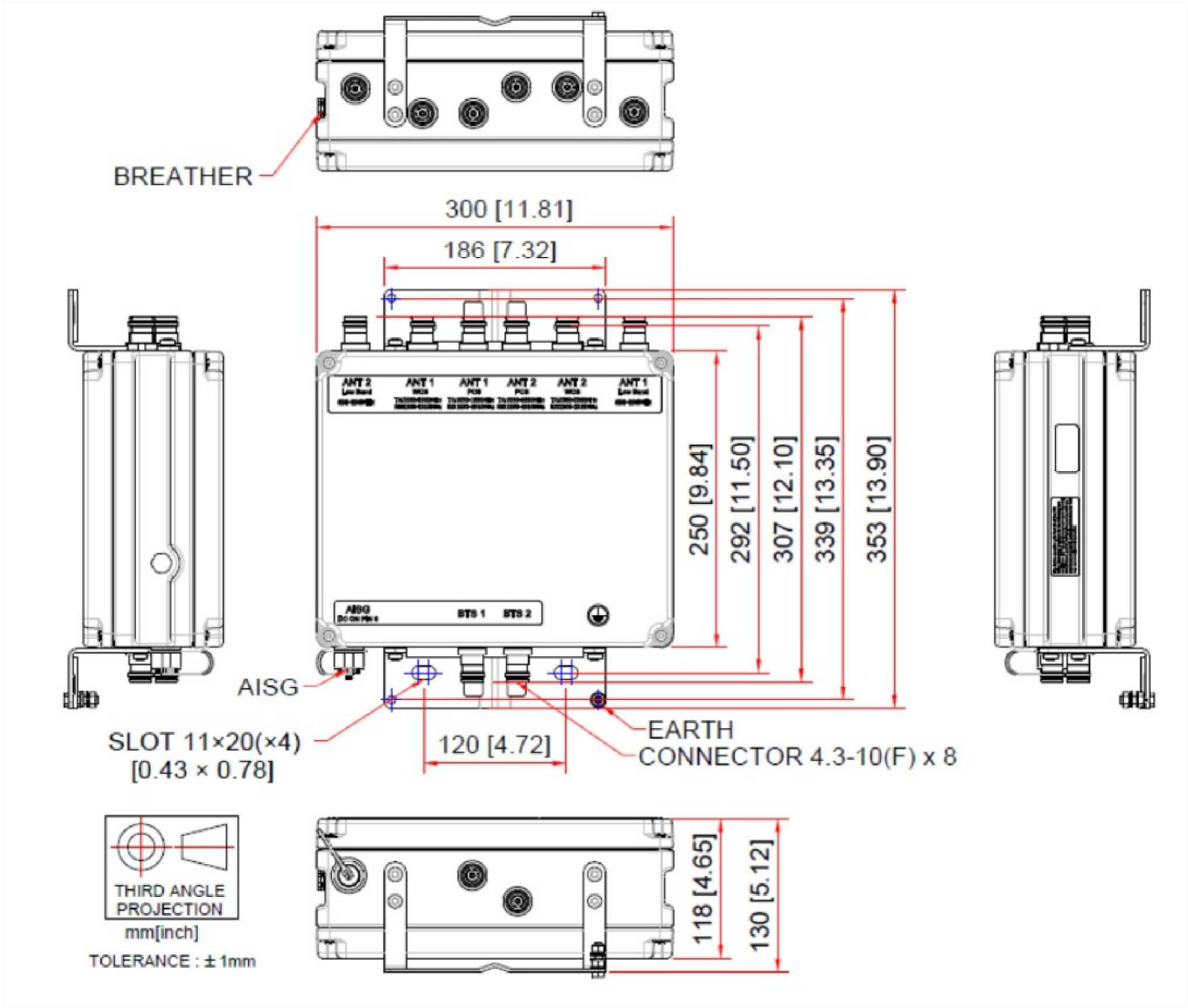
ORDERING INFORMATION

PART NUMBER	DESCRIPTION
TMA2117F00V1-1	TWIN TMA 1900/WCS, 698-896 LOWPASS, 6 ANT

ELECTRICAL BLOCK DIAGRAM



MECHANICAL BLOCK DIAGRAM



Triple Band Twin TMA (AWS/PCS/WCS) with AWS-3 and 700/850 Bypass

TMABPD7823VG12A

Electrical

RF Parameters	Ports	Frequency(MHz)	Specification
Return Loss (minimum)	700/850 ANT	698 - 894	18 dB
	PCS/AWS/WCS ANT	1850 - 1910	18 dB (10 dB bypass mode)
		1930 - 1990	18 dB
		1710 - 1780	18 dB (10 dB bypass mode)
		2110 - 2180	18 dB
		2305 - 2320	18 dB (10 dB bypass mode)
		2345 - 2360	18 dB
	BTS	698 - 894	18 dB
		1850 - 1910	18 dB (10 dB bypass mode)
		1930 - 1990	18 dB
		1710 - 1780	18 dB (10 dB bypass mode)
		2110 - 2180	18 dB
		2305 - 2320	18 dB (10 dB bypass mode)
		2345 - 2360	18 dB
Gain Setting	PCS/AWS/WCS ANT to BTS	1710 - 1780, 1850 - 1910, 2305 - 2320	6 to 12 dB adjustable in 0.25 dB steps via AISG (± 1.0 dB)
Gain, Actual (when set for 6 dB)	PCS/AWS/WCS ANT to BTS	1710 - 1780, 1850 - 1910	6 ± 1.0 dB
		2305 - 2320	5 ± 1.0 dB
Gain, Actual (when set for 9 dB)	PCS/AWS/WCS ANT to BTS	1710 - 1780, 1850 - 1910	9 ± 1.0 dB
		2305 - 2320	8 ± 1.0 dB
Gain, Actual (when set for 12 dB)	PCS/AWS/WCS ANT to BTS	1710 - 1780, 1850 - 1910	12 ± 1.0 dB
		2305 - 2320	11 ± 1.0 dB
Insertion Loss	700/850 ANT - BTS	698 - 894	0.25 dB typical
	PCS/AWS/WCS ANT to BTS (RX Bypass mode)	1850 - 1910	2.5 dB typical
		1710 - 1780	2.5 dB typical
		2305 - 2320	4.5 dB typical
	PCS/AWS/WCS ANT to BTS (TX)	1930 - 1990	0.5 dB typical
		2110 - 2180	0.4 dB typical
		2345 - 2360	0.7 dB typical
Isolation	700/850 ANT to PCS/AWS/WCS ANT	698 - 894	70 dB
		1710 - 2360	70 dB
Noise Figure	PCS/AWS/WCS ANT to BTS	1850 - 1910	1.5 dB typical
		1710 - 1780	1.3 dB typical
		2305 - 2320	2.3 dB typical
Input Third Order Intercept Point (minimum)	PCS/AWS/WCS ANT to BTS	1710 - 1780	+12 dBm at maximum gain
		1850 - 1910	+12 dBm at maximum gain
		2305 - 2320	+12 dBm at maximum gain

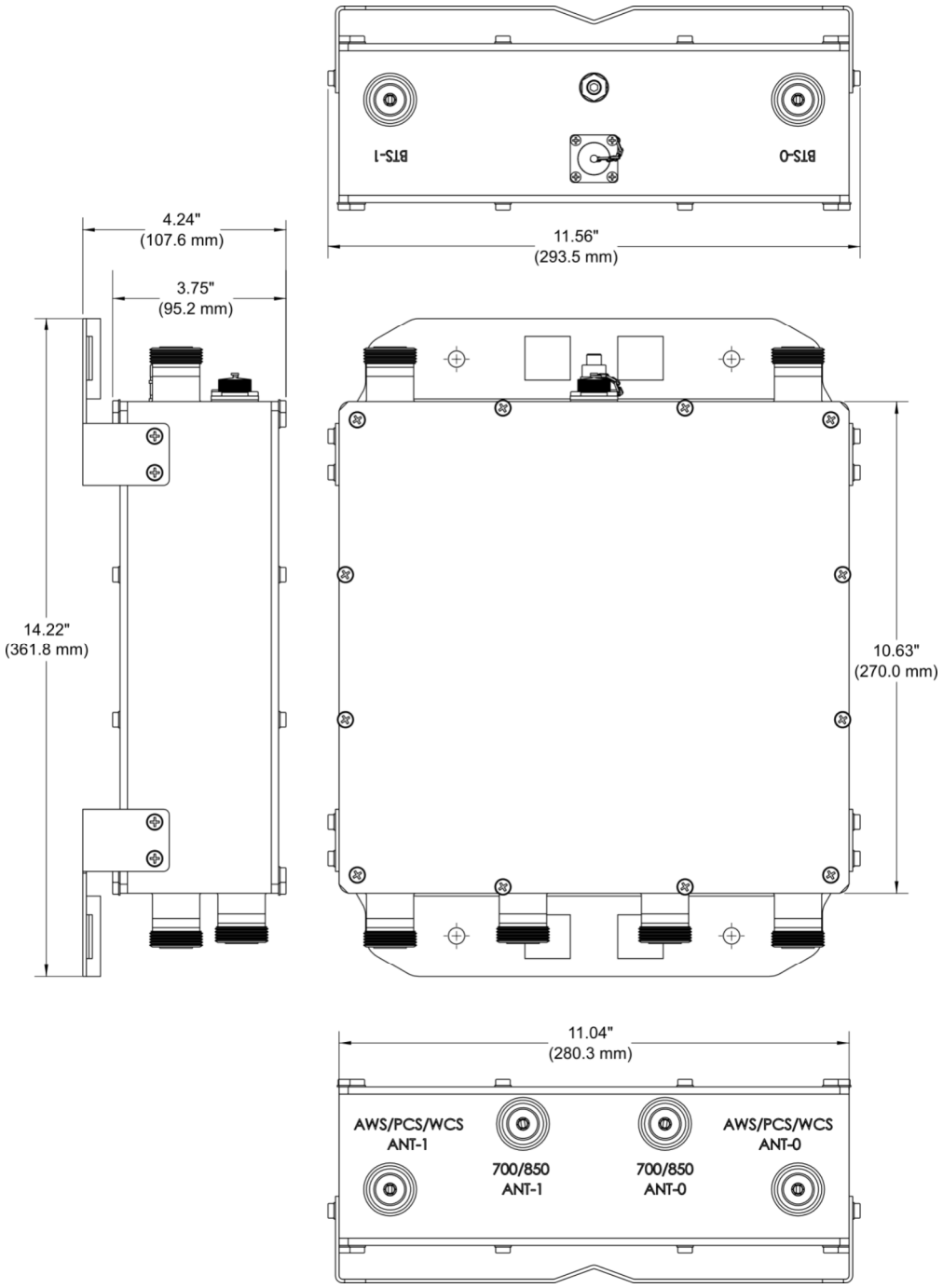
General Characteristics	
Impedance	50 ohms
Continuous Average Power	200 W max.
Peak Envelope Power	2 kW max.
Intermodulation Performance(all ports)	<-117 dBm (-160 dBc) typical (2 × +43 dBm tones) all bands
Operating Voltage	+10V to +30V DC provided via coax or AISG
Power Consumption	< 2.0 W

Environmental

Operating Temperature	-40˚C to +65˚C
Ingress Protection	IP67
MTBF	>500,000 hours
Lightning Protection	8/20us, ±10KA max, 10 strikes each per IEC61000-4-5

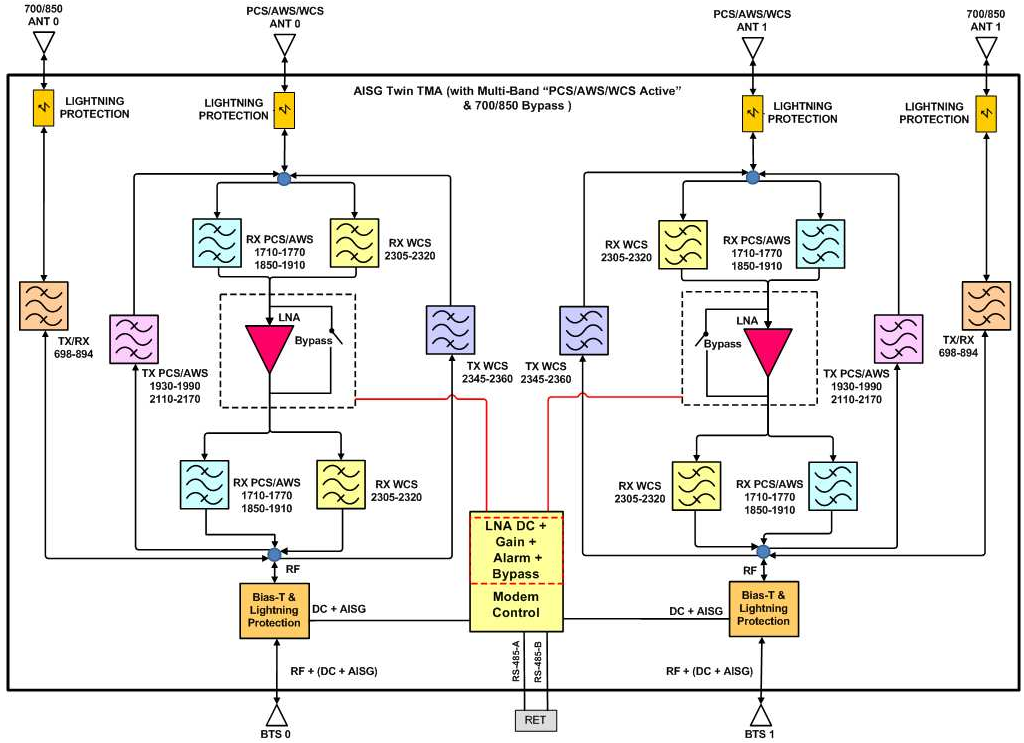
Mechanical

Connectors	6 × 7-16 DIN female 1 × AISG
Dimensions enclosure (H×W×D)	10.63 × 11.04 × 3.75 in. (270.0 × 280.3 × 95.2 mm)
Dimensions with brackets (H×W×D)	14.22 × 11.56 × 4.24 in. (361.8 × 293.5 × 107.6 mm)
Weight enclosure	25.0 lbs (11.3 kg)
Weight with brackets	26.0 lbs (11.8 kg)
Mounting	Pole/Wall mounting bracket



TMABPD7823VG12A Outline Drawing

Block Diagram



TMABPD7823VG12A Block Diagram

Triple Band Twin TMA (AWS/PCS/WCS) with AWS-3 and 700/850 Bypass

DATA SHEET

TMABPD7823VG12A

- Triple Band Twin TMA (AWS/PCS/WCS) which includes AWS-3 and 700/850 Bypass
- Each TMA has independent gain control of 6 to 12dB
- Fail-safe bypass mode and multi-strike lightning protection
- Small lightweight unit offers high reliability of >500K Hours MTBF
- Highly linear amplifier with low intermodulation

Overview

CCI's Triple Band Twin TMA (AWS/PCS/WCS), which includes AWS-3 and 700/850 bypass, contains two triple band TMA's in a single housing. Each TMA in the housing is fully duplexed and shares a single LNA for all three bands. The bypass path provides excellent isolation to the TMA path. Separate antenna ports for the bypass path and TMA path are combined onto a single BTS port. The Twin TMA's low noise, highly linear amplifiers improve the uplink sensitivity and the receive performance of the base station. The TMA is fully compliant with the AISG 2.0 specification and supports CDMA, EDGE/GSM, UMTS and LTE BTS equipment. The unit is ideally suited for sites upgraded to quad-band using the existing infrastructure. The TMA allows the sharing of feeder lines for all bands thus reducing tower loading, leasing, and installation costs. The input and output connectors are located inline for ease of installation in space constrained areas such as uni-pole structures and stealth antennas.

Technical Description:

The TMA system is an outdoor triple band twin tower mount unit which provides low noise amplification of PCS, AWS, AWS-3, and WCS uplink signals combined with 700/850 bypassed signals from separate antenna ports to a common BTS port. The tower mount unit consists of 14 band-pass filters, two redundant low noise amplifiers (LNA) with bypass failure circuitry, two bias tees, AISG control circuitry, and lightning protection circuitry all housed in an IP67 enclosure suited to long life masthead mounting. The AWS, PCS and WCS paths are dual duplexed to separate the low power uplink signals from the high power down link signals at the BTS and antenna ports. The AWS, PCS, and WCS uplink signals are amplified with a dedicated ultra-low noise PHEMT LNA with adjustable gain control. The unit provides protection against lightning strikes via a multistage surge protection circuit. DC power and AISG 2.0 control is provided via the BTS feeder cable. The unit operates in current window alarm (CWA) mode until a valid AISG message is detected, at which point it automatically switches to AISG mode. Once in AISG mode, the unit can only switch back to CWA mode with the receipt of an AISG CCI vendor defined command. In CWA mode, the unit requires 12VDC at each BTS port and follows typical current window convention. In AISG mode, the unit will accept 10-30 VDC from either BTS port. In AISG mode, the unit does not require an AISG 2.0 compatible site control unit (SCU) and may also be powered by a standard power distribution unit (PDU).
An optional Site Control Unit (SCU) is available to power up to 32 AISG modules per sector and to provide the monitoring and alarm functions for the system. The SCU is housed in a single (1U) 1.75" x 19" rack and contains dual redundant power supplies capable of being "hot swapped" that provide a regulated DC supply voltage on the RF coax for the tower mount amplifiers.

Triple Band Twin TMA (AWS/PCS/WCS) with AWS-3 and 700/850 Bypass

TMABPD7823VG12A

SPECIFICATIONS

Electrical

RF Parameters	Ports	Frequency(MHz)	Specification
Return Loss (minimum)	700/850 ANT	698 - 894	18 dB
	PCS/AWS/WCS ANT	1850 - 1910	18 dB (10 dB bypass mode)
		1930 - 1990	18 dB
		1710 - 1780	18 dB (10 dB bypass mode)
		2110 - 2180	18 dB
		2305 - 2320	18 dB (10 dB bypass mode)
		2345 - 2360	18 dB
	BTS	698 - 894	18 dB
		1850 - 1910	18 dB (10 dB bypass mode)
		1930 - 1990	18 dB
		1710 - 1780	18 dB (10 dB bypass mode)
		2110 - 2180	18 dB
		2305 - 2320	18 dB (10 dB bypass mode)
		2345 - 2360	18 dB
Gain Setting	PCS/AWS/WCS ANT to BTS	1710 - 1780, 1850 - 1910, 2305 - 2320	6 to 12 dB adjustable in 0.25 dB steps via AISG (± 1.0 dB)
Gain, Actual (when set for 6 dB)	PCS/AWS/WCS ANT to BTS	1710 - 1780, 1850 - 1910	6 ± 1.0 dB
		2305 - 2320	5 ± 1.0 dB
Gain, Actual (when set for 9 dB)	PCS/AWS/WCS ANT to BTS	1710 - 1780, 1850 - 1910	9 ± 1.0 dB
		2305 - 2320	8 ± 1.0 dB
Gain, Actual (when set for 12 dB)	PCS/AWS/WCS ANT to BTS	1710 - 1780, 1850 - 1910	12 ± 1.0 dB
		2305 - 2320	11 ± 1.0 dB
Insertion Loss	700/850 ANT - BTS	698 - 894	0.25 dB typical
	PCS/AWS/WCS ANT to BTS (RX Bypass mode)	1850 - 1910	2.5 dB typical
		1710 - 1780	2.5 dB typical
		2305 - 2320	4.5 dB typical
	PCS/AWS/WCS ANT to BTS (TX)	1930 - 1990	0.5 dB typical
		2110 - 2180	0.4 dB typical
		2345 - 2360	0.7 dB typical
Isolation	700/850 ANT to PCS/AWS/WCS ANT	698 - 894	70 dB
		1710 - 2360	70 dB
Noise Figure	PCS/AWS/WCS ANT to BTS	1850 - 1910	1.5 dB typical
		1710 - 1780	1.3 dB typical
		2305 - 2320	2.3 dB typical
Input Third Order Intercept Point (minimum)	PCS/AWS/WCS ANT to BTS	1710 - 1780	+12 dBm at maximum gain
		1850 - 1910	+12 dBm at maximum gain
		2305 - 2320	+12 dBm at maximum gain

General Characteristics	
Impedance	50 ohms
Continuous Average Power	200 W max.
Peak Envelope Power	2 kW max.
Intermodulation Performance(all ports)	<-117 dBm (-160 dBc) typical (2 x +43 dBm tones) all bands
Operating Voltage	+10V to +30V DC provided via coax or AISG
Power Consumption	< 2.0 W

Triple Band Twin TMA (AWS/PCS/WCS) with AWS-3 and 700/850 Bypass

SPECIFICATIONS

TMABPD7823VG12A

Environmental

Operating Temperature	-40˚C to +65˚C
Ingress Protection	IP67
MTBF	>500,000 hours
Lightning Protection	8/20us, ±10KA max, 10 strikes each per IEC61000-4-5

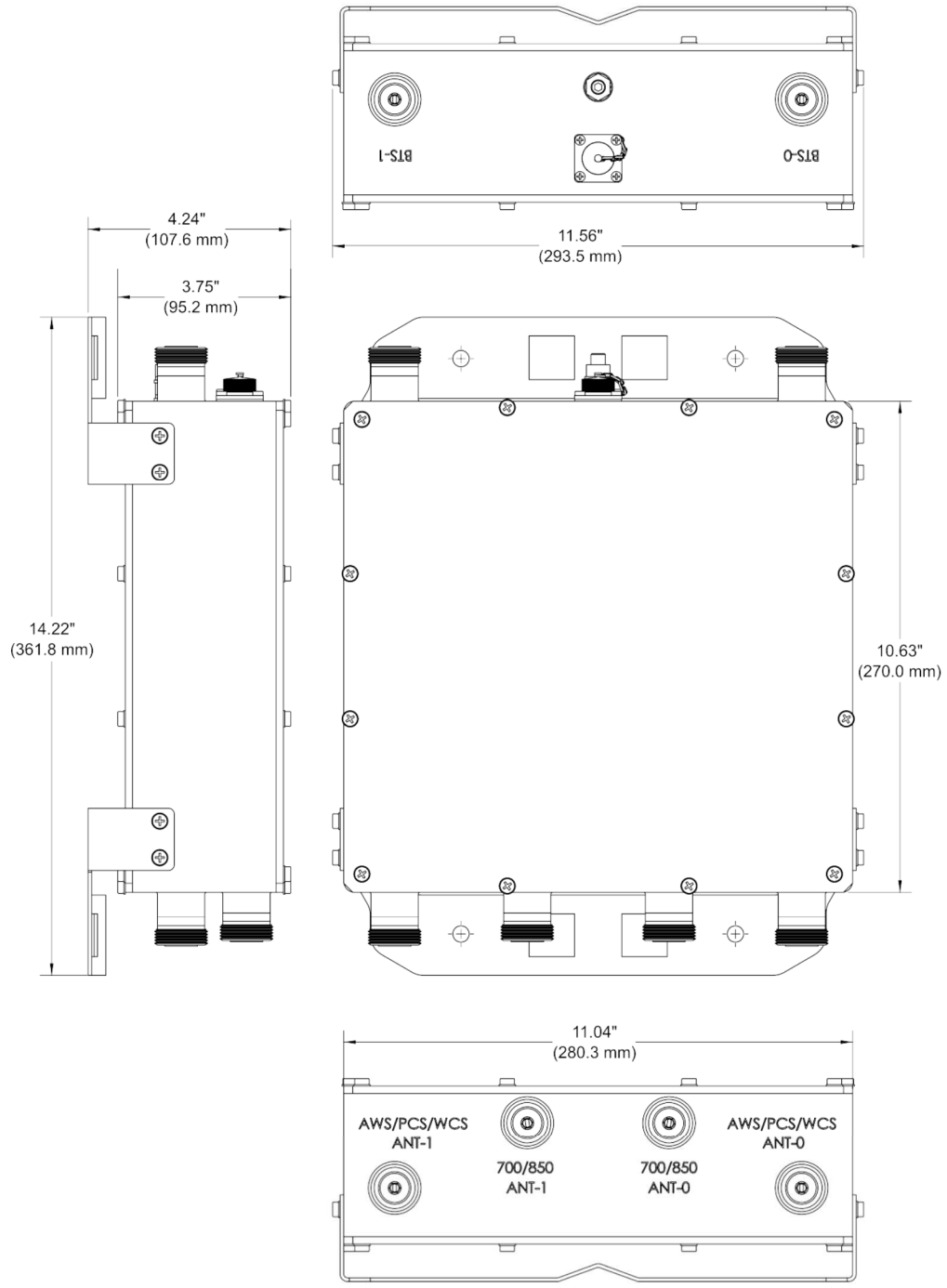
Mechanical

Connectors	6 x 7-16 DIN female 1 x AISG
Dimensions enclosure (HxWxD)	10.63 x 11.04 x 3.75 in. (270.0 x 280.3 x 95.2 mm)
Dimensions with brackets (HxWxD)	14.22 x 11.56 x 4.24 in. (361.8 x 293.5 x 107.6 mm)
Weight enclosure	25.0 lbs (11.3 kg)
Weight with brackets	26.0 lbs (11.8 kg)
Mounting	Pole/Wall mounting bracket

Triple Band Twin TMA (AWS/PCS/WCS) with AWS-3 and 700/850 Bypass

SPECIFICATIONS

TMABPD7823VG12A



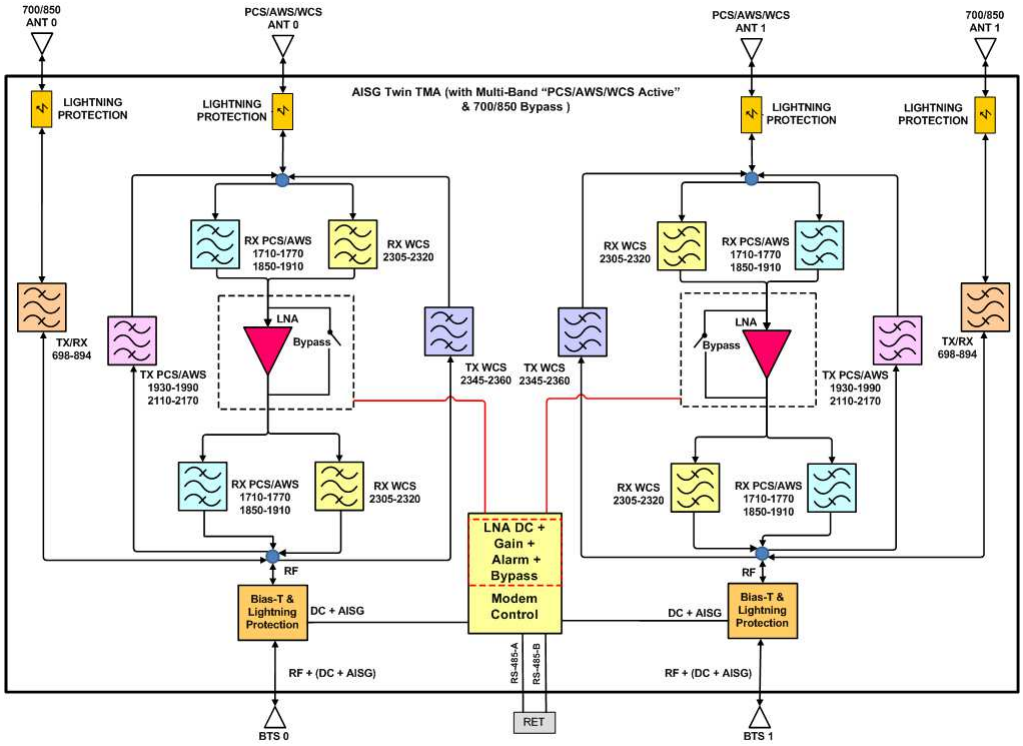
TMABPD7823VG12A Outline Drawing

Triple Band Twin TMA (AWS/PCS/WCS) with AWS-3 and 700/850 Bypass

SPECIFICATIONS

TMABPD7823VG12A

Block Diagram



TMABPD7823VG12A Block Diagram

Triple Band Twin TMA (AWS/PCS/WCS) with AWS-3 and 700/850 Bypass

STANDARDS & CERTIFICATIONS

Parts & Accessories

TMABPD7823VG12A	Triple Band Twin TMA (PCS/AWS/WCS) with 700/850 Bypass with 7/16 DIN connectors

Standards & Compliance

Safety	EN 60950-1, UL 60950-1
Emission	EN 55022
Immunity	EN 55024
Environmental	IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-5, IEC 60068-2-6, IEC-60068-2-11, IEC 60068-2-14, IEC 60068-2-18, IEC 60068-2-27, IEC 60068-2-29, IEC 60068-02-30, IEC 60068-2-52, IEC 60068-2-64, IEC61000-4-5, GR-63-CORE 4.3.1, EN 60529 IP68

Certifications

Antenna Interface Standards Group (AISG), Federal Communication Commission (FCC) Part 15 Class B, CE, CSA US, ISO 9001:2008

INFINIGY

Non-Ionizing Radiation Report

Compiled For: Smartlink on behalf of AT&T

Site Name: Old Saybrook-RTE 81

Site FA: 10035291

USID: 59408

226 Ferry Road, Old Saybrook, CT 06475

Latitude: 41.3196589 Longitude: -72.3516100

Structure Type: Lattice Tower

Report Date: May 26, 2020

Status: AT&T will be compliant with FCC rules on RF Exposure.

Table of Contents

1. Executive Summary:

Smartlink on behalf of AT&T has contracted Infinigy Solutions, LLC to determine whether the site Old Saybrook-RTE 81 located at 226 Ferry Road in Old Saybrook, CT Will Be Compliant with all Federal Communications Commission (FCC) rules and regulations for radio frequency (RF) exposure as indicated in **47CFR§1.1310**.

The report incorporates a theoretical RF field analysis in accordance with the FCC Rules and Regulations for all individuals classified as "Occupational or Controlled" and "General Public or Uncontrolled" (see Appendix A and B).

This document and the conclusions herein are based on information provided by AT&T.

As a result of the analysis, **AT&T Will Be Compliant with FCC rules.**

Site Cumulative Exposure %		
Uncontrolled / General Population	Exposure values at the site (mW/cm^2)	0.0112
	% Exposure	1.548%
Controlled / Occupational	Exposure values at the site (mW/cm^2)	0.0112
	% Exposure	0.317%

2. Site Summary:

Site Information	
Site Name: Old Saybrook-RTE 81	
Site Address: 226 Ferry Road, Old Saybrook, CT 06475	
Site Type: Lattice Tower	
Compliance Status	Will Be Compliant
Mitigation Required	No
Signage Required	Yes
Barriers Required	No
Access Locked	No
Area Controlled or Uncontrolled	Uncontrolled

3. Site Compliance

This report also incorporates overview of the site information:

- Antenna Inventory Table
- Calculation Tables showing exposure for each carrier transmit frequency
- Total exposure for all carriers existing and proposed at ground level considering the centerline of all antennas and horizontal distance from the tower.
- Maximum Effective Radiated Power Assumed as Worst Case for Calculations used in this study
- Calculations based on flat ground around base of the structure

4. Site Compliance Recommendations

Infinigy recommends the following upon the installation of antennas at the site:

Base of tower

Install a Yellow Caution 2 sign at the base of the tower (if none currently exists)

5. Antenna Inventory Table

Ant ID	Sector	Operator	Antenna manufacturer	Antenna Model	Operating Frequency/Technology	Rad Ctr (Ft)	Azi (Deg))	Total ERP Power (Watts)
1a	Alpha	AT&T	KMW	AM-X-CD-14-65-850	850	195	1000	1a
1b	Alpha	AT&T	KMW	AM-X-CD-14-65-1900	1900	195	3664	1b
2a	Alpha	AT&T	Commscope	NNH4-65A-R6-1900	1900	195	3664	2a
2b	Alpha	AT&T	Commscope	NNH4-65A-R6-2300	2300	195	1285	2b
3a	Alpha	AT&T	Commscope	DMP65R-BU4DA-700	700	195	1476	3a
3b	Alpha	AT&T	Commscope	DMP65R-BU4DA-850	850	195	1000	3b
3c	Alpha	AT&T	Commscope	DMP65R-BU4DA-2100	2100	195	3837	3c
3d	Alpha	AT&T	Commscope	DMP65R-BU4DA-850	850	195	1000	3d
4a	Beta	AT&T	KMW	AM-X-CD-14-65-850	850	195	1000	4a
4b	Beta	AT&T	KMW	AM-X-CD-14-65-1900	1900	195	3664	4b
5a	Beta	AT&T	Commscope	NNH4-65A-R6-1900	1900	195	3664	5a
5b	Beta	AT&T	Commscope	NNH4-65A-R6-2300	2300	195	1285	5b
6a	Beta	AT&T	Commscope	DMP65R-BU4DA-700	700	195	1476	6a
6b	Beta	AT&T	Commscope	DMP65R-BU4DA-850	850	195	1000	6b
6c	Beta	AT&T	Commscope	DMP65R-BU4DA-2100	2100	195	3837	6c
6d	Beta	AT&T	Commscope	DMP65R-BU4DA-850	850	195	1000	6d
7a	Gamma	AT&T	KMW	AM-X-CD-14-65-850	850	195	1000	7a
7b	Gamma	AT&T	KMW	AM-X-CD-14-65-1900	1900	195	3664	7b
8a	Gamma	AT&T	Commscope	NNH4-65A-R6-1900	1900	195	3664	8a
8b	Gamma	AT&T	Commscope	NNH4-65A-R6-2300	2300	195	1285	8b
9a	Gamma	AT&T	Commscope	DMP65R-BU4DA-700	700	195	1476	9a
9b	Gamma	AT&T	Commscope	DMP65R-BU4DA-850	850	195	1000	9b
9c	Gamma	AT&T	Commscope	DMP65R-BU4DA-2100	2100	195	3837	9c
9d	Gamma	AT&T	Commscope	DMP65R-BU4DA-850	850	195	1000	9d

Ant ID	Sector	Operator	Antenna manufacturer	Antenna Model	Operating Frequency/Technology	Rad Ctr (Ft)	Azi (Deg))	Total ERP Power (Watts)
10a	Alpha	T-Mobile	Commscope	FFHH-65A-R3-600	600	150	759	10a
10b	Alpha	T-Mobile	Commscope	FFHH-65A-R3-700	700	150	833	10b
10c	Alpha	T-Mobile	Commscope	FFHH-65A-R3-600	1900	150	609	10c
10d	Alpha	T-Mobile	Commscope	FFHH-65A-R3-2100	2100	150	1859	10d
11a	Alpha	T-Mobile	RFS	TMBXX-6516-A2M-1900	1900	150	2112	11a
11b	Alpha	T-Mobile	RFS	TMBXX-6516-A2M-1900	2100	150	3058	11b
12a	Beta	T-Mobile	Commscope	FFHH-65A-R3-600	600	150	759	12a
12b	Beta	T-Mobile	Commscope	FFHH-65A-R3-700	700	150	833	12b
12c	Beta	T-Mobile	Commscope	FFHH-65A-R3-600	1900	150	609	12c
12d	Beta	T-Mobile	Commscope	FFHH-65A-R3-2100	2100	150	1859	12d
13a	Beta	T-Mobile	RFS	TMBXX-6516-A2M-1900	1900	150	2112	13a
13b	Beta	T-Mobile	RFS	TMBXX-6516-A2M-1900	2100	150	3058	13b
14a	Gamma	T-Mobile	Commscope	FFHH-65A-R3-600	600	150	759	14a
14b	Gamma	T-Mobile	Commscope	FFHH-65A-R3-700	700	150	833	14b
14c	Gamma	T-Mobile	Commscope	FFHH-65A-R3-600	1900	150	609	14c
14d	Gamma	T-Mobile	Commscope	FFHH-65A-R3-2100	2100	150	1859	14d
15a	Gamma	T-Mobile	RFS	TMBXX-6516-A2M-1900	1900	150	2112	15a
15b	Gamma	T-Mobile	RFS	TMBXX-6516-A2M-1900	2100	150	3058	15b

6. RF Guidelines

To ensure safety of company workers, the following points need to be taken into consideration and implemented at wireless sites in accordance with the Carriers policies:

a) Worksite: Any employee at the site should avoid working directly in front of the antenna or in areas predicted to exceed general population exposure limits by 100%. Workers should insist that the transmitters be switched off during the work period.

b) RF Safety Training and Awareness: All employees working in areas exceeding the general population limits should have a basic awareness of RF safety measures. Videos, classroom lectures and online courses are all appropriate training methods on these topics.

c) Site Access: Restricting access to transmitting antenna locations is one of the most important elements of RF safety. This can be done with:

- Locked doors/gates/ladder access
- Alarmed doors
- Restrictive barriers

d) Three-foot Buffer: There is an inverse relationship between the strength of the field and the distance from the antenna. The RF field diminishes with distance from the antenna. Workers should maintain a three-foot distance from the antennas.

e) Antennas: Workers should always assume that the antenna is transmitting and should never stop right in front of the antenna. If someone must pass by an antenna, he/she should move quickly, thus reducing RF exposure.

Attachment 1: Site Exposure Analysis Per Carrier

AT&T All Bands		
Uncontrolled / General Population	Exposure values at the site (mW/cm^2)	0.0068
	% Exposure	0.819%
Controlled / Occupational	Exposure values at the site (mW/cm^2)	0.0068
	% Exposure	0.169%

T-Mobile All Bands		
Uncontrolled / General Population	Exposure values at the site (mW/cm^2)	0.0045
	% Exposure	0.729%
Controlled / Occupational	Exposure values at the site (mW/cm^2)	0.0055
	% Exposure	0.148%

Attachment 2: AT&T Exposure Analysis Per Band

AT&T 700 MHz LTE		
Uncontrolled / General Population	FCC's exposure limits (mW/cm^2)	**0.5**
	Exposure values at the site (mW/cm^2)	**0.0007**
	% Exposure	**0.13%**
Controlled / Occupational	FCC's Exposure limits(mW/cm^2)	**2.3**
	Exposure values at the site (mW/cm^2)	**0.0007**
	% Exposure	**0.03%**

AT&T 850 MHz UMTS		
Uncontrolled / General Population	FCC's exposure limits (mW/cm^2)	**0.6**
	Exposure values at the site (mW/cm^2)	**0.0004**
	% Exposure	**0.07%**
Controlled / Occupational	FCC's Exposure limits(mW/cm^2)	**2.8**
	Exposure values at the site (mW/cm^2)	**0.0004**
	% Exposure	**0.02%**

AT&T 850 MHz LTE		
Uncontrolled / General Population	FCC's exposure limits (mW/cm^2)	**0.6**
	Exposure values at the site (mW/cm^2)	**0.0004**
	% Exposure	**0.07%**
Controlled / Occupational	FCC's Exposure limits(mW/cm^2)	**2.8**
	Exposure values at the site (mW/cm^2)	**0.0004**
	% Exposure	**0.02%**

AT&T 850 MHz 5G		
Uncontrolled / General Population	FCC's exposure limits (mW/cm^2)	**0.6**
	Exposure values at the site (mW/cm^2)	**0.0003**
	% Exposure	**0.05%**
Controlled / Occupational	FCC's Exposure limits(mW/cm^2)	**2.8**
	Exposure values at the site (mW/cm^2)	**0.0003**
	% Exposure	**0.01%**

AT&T 1900 MHz LTE		
Uncontrolled / General Population	FCC's exposure limits (mW/cm^2)	**1.0**
	Exposure values at the site (mW/cm^2)	**0.0032**
	% Exposure	**0.32%**
Controlled / Occupational	FCC's Exposure limits(mW/cm^2)	**5.0**
	Exposure values at the site (mW/cm^2)	**0.0032**
	% Exposure	**0.06%**

AT&T 2100 MHz LTE		
Uncontrolled / General Population	FCC's exposure limits (mW/cm^2)	**1.0**
	Exposure values at the site (mW/cm^2)	**0.0011**
	% Exposure	**0.11%**
Controlled / Occupational	FCC's Exposure limits(mW/cm^2)	**5.0**
	Exposure values at the site (mW/cm^2)	**0.0011**
	% Exposure	**0.0226%**

AT&T 2300 MHz LTE		
Uncontrolled / General Population	FCC's exposure limits (mW/cm^2)	**1.0**
	Exposure values at the site (mW/cm^2)	**0.0006**
	% Exposure	**0.06%**
Controlled / Occupational	FCC's Exposure limits(mW/cm^2)	**5.0**
	Exposure values at the site (mW/cm^2)	**0.0006**
	% Exposure	**0.01%**

Attachment 3: T-Mobile Exposure Analysis Per Band

T-Mobile 600 MHz LTE		
Uncontrolled / General Population	FCC's exposure limits (mW/cm^2)	**0.2**
	Exposure values at the site (mW/cm^2)	**0.0006**
	% Exposure	**0.27542%**
Controlled / Occupational	FCC's Exposure limits(mW/cm^2)	**1.0**
	Exposure values at the site (mW/cm^2)	**0.0006**
	% Exposure	**0.055%**

T-Mobile 700 MHz LTE		
Uncontrolled / General Population	FCC's exposure limits (mW/cm^2)	**0.5**
	Exposure values at the site (mW/cm^2)	**0.0006**
	% Exposure	**0.12%**
Controlled / Occupational	FCC's Exposure limits(mW/cm^2)	**2.3**
	Exposure values at the site (mW/cm^2)	**0.0006**
	% Exposure	**0.03%**

T-Mobile 1900 MHz LTE		
Uncontrolled / General Population	FCC's exposure limits (mW/cm^2)	**1.0**
	Exposure values at the site (mW/cm^2)	**0.0004**
	% Exposure	**0.04%**
Controlled / Occupational	FCC's Exposure limits(mW/cm^2)	**5.0**
	Exposure values at the site (mW/cm^2)	**0.0004**
	% Exposure	**0.01%**

T-Mobile 2100 MHz LTE		
Uncontrolled / General Population	FCC's exposure limits (mW/cm^2)	**1.0**
	Exposure values at the site (mW/cm^2)	**0.0013**
	% Exposure	**0.13%**
Controlled / Occupational	FCC's Exposure limits(mW/cm^2)	**5.0**
	Exposure values at the site (mW/cm^2)	**0.0013**
	% Exposure	**0.03%**

T-Mobile 1900 MHz GSM		
Uncontrolled / General Population	FCC's exposure limits (mW/cm^2)	**1.0**
	Exposure values at the site (mW/cm^2)	**0.0015**
	% Exposure	**0.15%**
Controlled / Occupational	FCC's Exposure limits(mW/cm^2)	**5.0**
	Exposure values at the site (mW/cm^2)	**0.0015**
	% Exposure	**0.03%**

7. Appendix A: FCC Guidelines

FCC Policies

The Federal Communications Commission (FCC) in 1996 implemented regulations and policies for analysis of RF propagation to evaluate RF emissions. All the analysis and results of this report are compared with FCC's (Federal Communications Commission) rules to determine whether a site is compliant for Occupational/Controlled or General Public/Uncontrolled exposure. All the analysis of RF propagation is done in terms of a percentage. The limits primarily indicate the power density and are generally expressed in terms of milliwatts per centimeter square, mW/cm^2.

FCC guidelines incorporate two separate tiers of exposure limits that are dependent on the scenario/ situation in which that exposure takes place or the status of the individuals who are subjected to that exposure. The decision as to which tier is applied to a scenario is based on the following definitions:

Occupational / Controlled

These limits apply in situations when someone is exposed to RF energy through his/her occupation, is fully aware of the harmful effects of the RF exposure and has an ability to exercise control over this exposure. Occupational / controlled exposure limits also apply when 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 (see below), 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. limits for Occupational/Controlled exposure can be found on Table 1(A).

General Population / Uncontrolled

These limits apply to situations in which the general public may be exposed or in which persons who are exposed because of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure to RF. Therefore, members of the general public would always be considered under this category, for example, in the case of a telecommunications tower that exposes people in a nearby residential area. Exposure limits for General Population/Uncontrolled can be found on Table 1(B).

Table 1. LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

(A) Limits for Occupational/Controlled Exposure

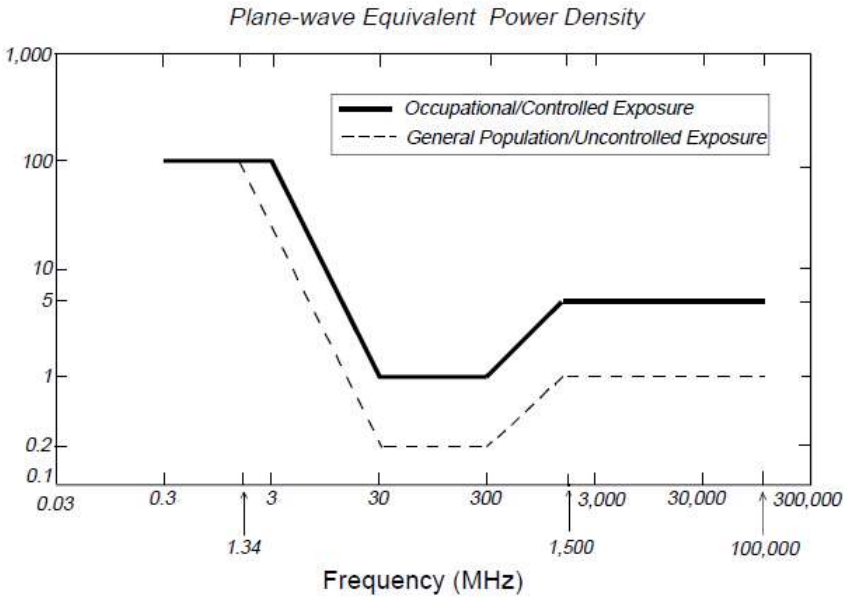
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $|E|^2$, $|H|^2$ or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	($900/f^2$)*	6
30-300	61.4	0.163	1.0	6
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6

(B) Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $|E|^2$, $|H|^2$ or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	($180/f^2$)*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

f = frequency in MHz *Plane-wave equivalent power density

Figure 1. *FCC Limits for Maximum Permissible Exposure (MPE)*



OSHA Statement:

The objective of the OSHA Act is to ensure the safety and health of the working men and women by enforcing certain standards. The act also assists and encourages the states in their efforts to ensure safe and healthy working conditions through means of research, information, education and training in the field of occupational safety and health and for other purposes.

According to OSHA Act section 5, important duties to be considered are:

(a) Each employer

1) Shall furnish to each of his employees' employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious harm to his employees
2) Shall comply with occupational safety and health standards promulgated under this act.

(b) Each employee shall comply with occupational safety and health standards and all rules, regulations, and orders issued pursuant to this Act which are applicable to his own actions and conduct.

8. Appendix B: Preparer Certification

I, Tim Harris, preparer of this report, certify that I am fully trained and aware of the rules and regulations of both the Federal Communications Commission and the Occupational Safety and Heath Administration regarding Human Exposure to Radio Frequency Radiation. In addition, I have been trained in 1) RF safety and 2) RF modeling using RoofView modeling software.

I certify that the information contained in this report is true and correct to the best of my knowledge.

Timothy A. Harris *5/26/2020*

Signature Date

USPS Tracking®

FAQs >

Track Another Package +

Tracking Number: 9500110019671119389687

Remove ×

Your item has been delivered and is available at a PO Box at 6:51 am on May 2, 2021 in HARTFORD, CT 06141.

USPS Tracking Plus™ Available ⌄

Delivered, PO Box

May 2, 2021 at 6:51 am
HARTFORD, CT 06141

Get Updates ⌄

Feedback

Text & Email Updates ⌄

Tracking History ⌃

May 2, 2021, 6:51 am
Delivered, PO Box
HARTFORD, CT 06141
Your item has been delivered and is available at a PO Box at 6:51 am on May 2, 2021 in HARTFORD, CT 06141.

May 2, 2021, 6:50 am
Arrived at Hub
HARTFORD, CT 06101

May 1, 2021, 2:58 pm
Arrived at USPS Regional Facility
SPRINGFIELD MA NETWORK DISTRIBUTION CENTER

May 1, 2021, 1:26 am
Arrived at USPS Regional Facility
SPRINGFIELD MA NETWORK DISTRIBUTION CENTER

April 30, 2021, 11:26 pm
Departed USPS Regional Facility
BOSTON MA DISTRIBUTION CENTER

April 30, 2021, 9:17 pm
Arrived at USPS Regional Origin Facility
BOSTON MA DISTRIBUTION CENTER

April 30, 2021
In Transit to Next Facility

April 29, 2021, 1:23 pm
Departed Post Office
NORTH BILLERICA, MA 01862

April 29, 2021, 9:12 am
USPS in possession of item
NORTH BILLERICA, MA 01862

USPS Tracking Plus™

Your item is eligible for USPS Tracking Plus™: Extended History. Purchase the extended tracking history for your item to be sent via email upon request. Choose the length of time you would like to extend access to this tracking history and select for purchase. You can only purchase extended history once, so all orders are final and are not eligible for a refund. Based on your tracking number, your regular tracking history is available only until August 27, 2021 without this purchase. You may purchase USPS Tracking Plus™ for only one tracking number at a time.

6 Months
$2.10

Kristina Cottone

From: TrackingUpdates@fedex.com
Sent: Monday, May 3, 2021 2:26 PM
To: Kristina Cottone
Subject: FedEx Shipment 773576366612: Your package has been delivered

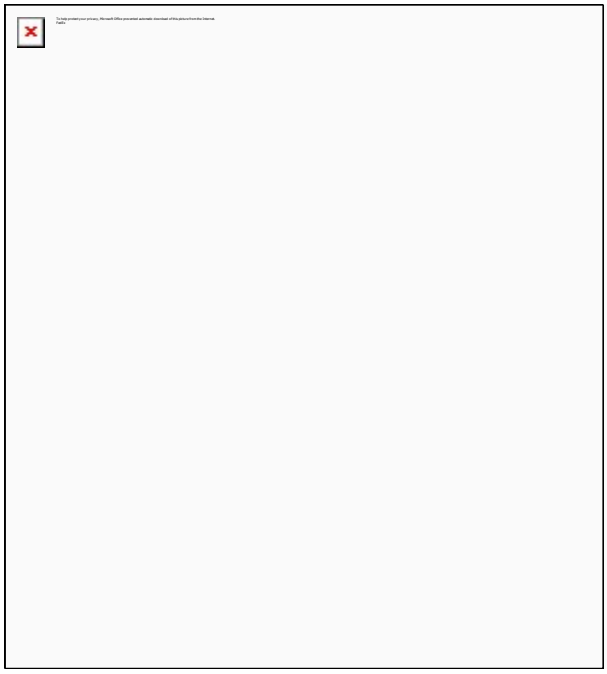
Hi. Your package was delivered Mon, 05/03/2021 at 2:25pm.

Delivered to 705 W JOHNSON AVE, Cheshire, CT 06410
Received by CVID

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER	773576366612
FROM	Smartlink LLC 85 Rangeway Road Building 3 Suite 102 NORTH BILLERICA, MA, US, 01862
TO	Eversource Energy ATTN: Rich Badon

	705 West Johnson Ave CHESHIRE, CT, US, 06410
REFERENCE	CTL02042 - Old Saybrook
SHIP DATE	Thu 4/29/2021 12:00 AM
PACKAGING TYPE	Package
ORIGIN	NORTH BILLERICA, MA, US, 01862
DESTINATION	CHESHIRE, CT, US, 06410
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	1.00 LB
SERVICE TYPE	FedEx Ground



Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 1:26 PM CDT 05/03/2021.

All weights are estimated.

Kristina Cottone

From: TrackingUpdates@fedex.com
Sent: Monday, May 3, 2021 12:32 PM
To: Kristina Cottone
Subject: FedEx Shipment 773576292937: Your package has been delivered

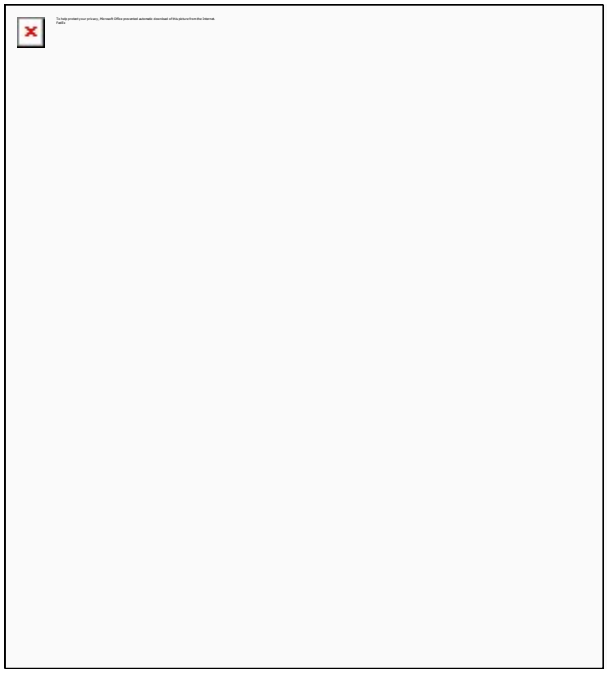
Hi. Your package was delivered Mon, 05/03/2021 at 12:31pm.

Delivered to
Received by Signature on File

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER	773576292937
FROM	Smartlink LLC 85 Rangeway Road Building 3 Suite 102 NORTH BILLERICA, MA, US, 01862
TO	Town of Old Saybrook ATTN: First Selectman Carl. F

	302 Main Street OLD SAYBROOK, CT, US, 06475
REFERENCE	CTL02042 - Old Saybrook
SHIP DATE	Thu 4/29/2021 12:00 AM
PACKAGING TYPE	Package
ORIGIN	NORTH BILLERICA, MA, US, 01862
DESTINATION	OLD SAYBROOK, CT, US, 06475
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	1.00 LB
SERVICE TYPE	FedEx Ground



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All weights are estimated.

Kristina Cottone

From: TrackingUpdates@fedex.com
Sent: Monday, May 3, 2021 12:33 PM
To: Kristina Cottone
Subject: FedEx Shipment 773576241189: Your package has been delivered

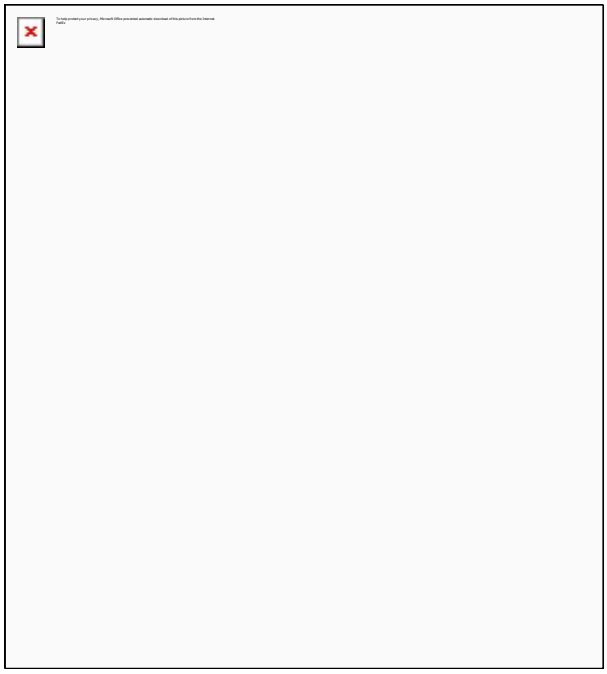
Hi. Your package was delivered Mon, 05/03/2021 at 12:31pm.

Delivered to
Received by Signature on File

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER	773576241189
FROM	Smartlink LLC 85 Rangeway Road Building 3 Suite 102 NORTH BILLERICA, MA, US, 01862
TO	Town of Old Saybrook ATTN: Building Department Tom M

	302 Main Street OLD SAYBROOK, CT, US, 06475
REFERENCE	CTL02042 - Old Saybrook
SHIP DATE	Thu 4/29/2021 12:00 AM
PACKAGING TYPE	Package
ORIGIN	NORTH BILLERICA, MA, US, 01862
DESTINATION	OLD SAYBROOK, CT, US, 06475
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	1.00 LB
SERVICE TYPE	FedEx Ground



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SHEET INDEX

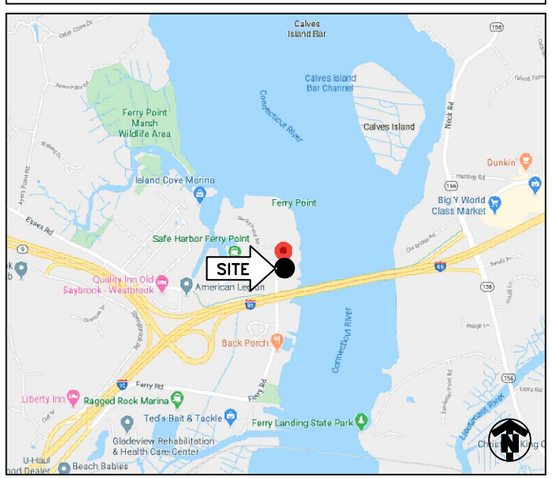
NO.	DESCRIPTION
T1	TITLE SHEET
C1	GENERAL NOTES
C2	OVERALL SITE PLAN
C2A	ENLARGED SITE PLAN
C3	ELEVATION VIEW
C4	ANTENNA ORIENTATION PLAN
C5	EQUIPMENT DETAILS
C6	PLUMBING DIAGRAM
C7	GROUNDING DETAILS

DRIVING DIRECTIONS

FROM 550 COCHITUATE RD.:

GET ON I-90 WEST/MASSACHUETTS TURNPIKE. HEAD NORTHWEST TOWARD LEGGATT MCCALL CONN. TURN LEFT ONTO LEGGATT MCCALL CONN. CONTINUE ONTO BURR STREET. TURN LEFT ONTO COCHITUATE ROAD. USE THE RIGHT LANE TO TAKE THE RAMP TO I-90 EAST/MASSPIKE WEST/SPRINGFIELD/BOSTON. KEEP LEFT AT THE FORK, FOLLOW SIGNS FOR I-90 WEST/MASSACHUETTS TURNPIKE/WORCESTER/SPRINGFIELD AND MERGE ONTO I-90 WEST/MASSACHUSETTS TURNPIKE. CONTINUE ON I-90 WEST/MASSACHUETTS TURNPIKE. DRIVE FROM I-395 SOUTH TO OLD SAYBROOK. TAKE EXIT 69 FROM I-95 SOUTH. MERGE ONTO I-90 WEST/MASSACHUETTS TURNPIKE. TAKE EXIT 10 TOWARD MA-12 NORTH/AUBURN/WORCESTER. KEEP RIGHT AT THE FORK, FOLLOW SIGNS FOR I-395 SOUTH/US-20 EAST/NORWICH CT. AND MERGE ONTO I-395 SOUTH. MERGE ONTO I-95 SOUTH. USE THE RIGHT LANE TO TAKE EXIT 69 FOR CT-9 NORTH TOWARD ESSEX/HARTFORD. KEEP RIGHT TO CONTINUE ON EXIT 1, FOLLOW SIGNS FOR FERRY POINT. FOLLOW ESSEX ROAD TO FERRY ROAD. TURN RIGHT ONTO ESSEX ROAD. ESSEX ROAD TURNS RIGHT AND BECOMES FERRY ROAD.

LOCATION MAP



PROJECT

LTE 3C/4C/5G NR/RETROFIT

SITE NAME

OLD SAYBROOK

CELL SITE ID

CTL02042

FA SITE NUMBER

10035291

PACE ID

MRCTB045375/MRCTB045367/MRCTB045371
MRCTB045366/MRCTB045374

SITE ADDRESS

226 FERRY ROAD
OLD SAYBROOK, CT 06475

STRUCTURE TYPE

LATTICE

PROJECT TEAM

smartlink

PROJECT MANAGER

INFINIGY

1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793

ENGINEER

SCOPE OF WORK (PER LTE RFDS, DATED 03/05/2020 V2.00):

- HANDICAP ACCESS REQUIREMENTS ARE NOT REQUIRED.
- FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION.
- FACILITY HAS NO PLUMBING OR REFRIGERANTS.
- THIS FACILITY SHALL MEET OR EXCEED ALL FAA AND FCC REGULATORY REQUIREMENTS.
- ALL NEW MATERIAL SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR UNLESS NOTED OTHERWISE. EQUIPMENT, ANTENNAS/RRU AND CABLES FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR.

TOWER
- REMOVE (6) PANEL ANTENNAS
- INSTALL (6) PANEL ANTENNAS
- (6) REMOVE EXISTING TMAs, (3) TMAs TO REMAIN
- INSTALL (12) TMAs
- REMOVE (3) RRUS-11 B12
- INSTALL (12) COAX CABLES

GROUND
- REMOVE EXISTING DIPLEXERS
- INSTALL (12) DIPLEXERS
- INSTALL (3) 8843 B2/B66A
- INSTALL (3) 4449 B5/B12
- INSTALL (3) 4415 B30
- ADD 6630
- ADD XMU
- ADD IDLe CABLE

PROJECT SUMMARY

SITE NAME:	OLD SAYBROOK	
CELL SITE ID:	CTL02042	
FA SITE #:	10035291	
SITE ADDRESS:	226 FERRY ROAD OLD SAYBROOK, CT 06475	
COUNTY:	MIDDLESEX	
SITE COORDINATES: LATITUDE:	41.3196589° N	(NAD 83)
LONGITUDE:	72.3516100° W	(NAD 83)
RAD CENTER	±195'	(AGL)
LANDLORD:	EVERSOURCE ENERGY	
APPLICANT:	AT&T MOBILITY 550 COCHITUATE RD. FRAMINGHAM, MA 01701	
CLIENT REPRESENTATIVE:	SMARTLINK, LLC 85 RANGEWAY RD., BUILDING 3, SUITE 102 NORTH BILLERICA, MA 01862	
CONTACT:	SHARON KEEFE (978) 930-3918	
ENGINEER:	INFINIGY 1033 WATERVLIET SHAKER ROAD ALBANY, NY 12205	
CONTACT:	ALEX WELLER (518) 690-0790	
BUILDING CODE:	2018 CT STATE BUILDING CODE 2015 INTERNATIONAL BUILDING CODE ANSI/TIA-222 G 2015 INTERNATIONAL PLUMBING CODE 2015 INTERNATIONAL MECHANICAL CODE 2015 INTERNATIONAL ENERGY CONSERVATION CODE 2017 NFPA 70	
ELECTRICAL CODE:	NATIONAL ELECTRICAL CODE (LATEST EDITION)	

811 Know what's below. Call before you dig.

TO OBTAIN LOCATION OF PARTICIPANTS UNDERGROUND FACILITIES BEFORE YOU DIG IN CONNECTICUT, CONTACT CALL BEFORE YOU DIG
TOLL FREE: 1-800-922-4455 OR www.cbyd.com
CONNECTICUT STATUTE REQUIRES MIN OF 2 WORKING DAYS NOTICE BEFORE YOU EXCAVATE

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at&t

STATE OF CONNECTICUT
CHRISTOPHER J. WARREN
No. 23544
4/21/21
LICENSED PROFESSIONAL ENGINEER

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1	ISSUED FOR PERMIT	BMM	03/26/20
0	ISSUED FOR REVIEW	BMM	03/25/20

Drawn: BMM Date: 03/25/20
Designed: ASW Date: 03/25/20
Checked: AJD Date: 03/25/20

Project Number: 499-006

Project Title:
OLD SAYBROOK
CTL02042
FA# 10035291
226 FERRY ROAD
OLD SAYBROOK, 06475

Prepared For: smartlink

Drawing Scale: AS NOTED
Date: 03/22/21

CD

Drawing Title
TITLE PAGE

Drawing Number
T1

GENERAL NOTES

PART 1 – GENERAL REQUIREMENTS

1.1 THE WORK SHALL COMPLY WITH APPLICABLE NATIONAL CODES AND STANDARDS, LATEST EDITION, AND PORTIONS THEREOF, INCLUDED BUT NOT LIMITED TO THE FOLLOWING:
- A. GR-63-CORE NEBS REQUIREMENTS: PHYSICAL PROTECTION
- B. GR-78-CORE GENERIC REQUIREMENTS FOR THE PHYSICAL DESIGN AND MANUFACTURE OF TELECOMMUNICATIONS EQUIPMENT.
- C. NATIONAL FIRE PROTECTION ASSOCIATION CODES AND STANDARDS (NFPA) INCLUDING NFPA 70 (NATIONAL ELECTRICAL CODE – "NEC").
- D. AND NFPA 101 (LIFE SAFETY CODE).
- E. AMERICAN SOCIETY FOR TESTING OF MATERIALS (ASTM).
- F. INSTITUTE OF ELECTRONIC AND ELECTRICAL ENGINEERS (IEEE).

1.2 DEFINITIONS:
A: WORK: THE SUM OF TASKS AND RESPONSIBILITIES IDENTIFIED IN THE CONTRACT DOCUMENTS.
B: COMPANY: AT&T CORPORATION
C. ENGINEER: SYNONYMOUS WITH ARCHITECT & ENGINEER AND "A&E". THE DESIGN PROFESSIONAL HAVING PROFESSIONAL RESPONSIBILITY FOR DESIGN OF THE PROJECT.
D: CONTRACTOR: CONSTRUCTION CONTRACTOR; CONSTRUCTION VENDOR; INDIVIDUAL OR ENTITY WHO AFTER EXECUTION OF A CONTRACT IS BOUND TO ACCOMPLISH THE WORK.
E: THIRD PARTY VENDOR OR AGENCY: A VENDOR OR AGENCY ENGAGED SEPARATELY BY THE COMPANY, A&E, OR CONTRACTOR TO PROVIDE MATERIALS OR TO ACCOMPLISH SPECIFIC TASKS RELATED TO BUT NOT INCLUDED IN THE WORK.

1.3 POINT OF CONTACT: COMMUNICATION BETWEEN THE COMPANY AND THE CONTRACTOR SHALL FLOW THROUGH THE SINGLE COMPANY SITE DEVELOPMENT SPECIALIST OR OTHER PROJECT COORDINATOR APPOINTED TO MANAGE THE PROJECT FOR THE COMPANY.

1.4 ON-SITE SUPERVISION: THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL EMPLOY A COMPETENT SUPERINTENDENT WHO SHALL BE IN ATTENDANCE AT THE SITE AT ALL TIMES DURING PERFORMANCE OF THE WORK.

1.5 DRAWINGS, SPECIFICATIONS AND DETAILS REQUIRED AT JOBSITE: THE CONSTRUCTION CONTRACTOR SHALL MAINTAIN A FULL SET OF THE CONSTRUCTION DRAWINGS, STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES, AND THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES AT THE JOBSITE FROM MOBILIZATION THROUGH CONSTRUCTION COMPLETION.
A. THE JOBSITE DRAWINGS, SPECIFICATIONS AND DETAILS SHALL BE CLEARLY MARKED DAILY IN PENCIL WITH ANY CHANGES IN CONSTRUCTION OVER WHAT IS DEPICTED IN THE DOCUMENTS. AT CONSTRUCTION COMPLETION, THIS JOBSITE MARKUP SET SHALL BE DELIVERED TO THE COMPANY OR COMPANY'S DESIGNATED REPRESENTATIVE TO BE FORWARDED TO THE COMPANY'S A&E VENDOR FOR PRODUCTION OF "AS-BUILT" DRAWINGS.

1.6 USE OF JOB SITE: THE CONTRACTOR SHALL CONFINE ALL CONSTRUCTION AND RELATED OPERATIONS INCLUDING STAGING AND STORAGE OF MATERIALS AND EQUIPMENT, PARKING, TEMPORARY FACILITIES, AND WASTE STORAGE TO THE LEASE PARCEL UNLESS OTHERWISE PERMITTED BY THE CONTRACT DOCUMENTS.

1.7 NOTICE TO PROCEED:
A. NO WORK SHALL COMMENCE PRIOR TO COMPANY'S WRITTEN NOTICE TO PROCEED.
B. UPON RECEIVING NOTICE TO PROCEED, CONTRACTOR SHALL FULLY PERFORM ALL WORK NECESSARY TO PROVIDE AT&T WITH AN OPERATIONAL WIRELESS FACILITY.

PART 2 – EXECUTION

2.1 TEMPORARY UTILITIES AND FACILITIES: THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY UTILITIES AND FACILITIES NECESSARY EXCEPT AS OTHERWISE INDICATED IN THE CONSTRUCTION DOCUMENTS. TEMPORARY UTILITIES AND FACILITIES INCLUDE, POTABLE WATER, HEAT, HVAC, ELECTRICITY, SANITARY FACILITIES, WASTE DISPOSAL FACILITIES, AND TELEPHONE/COMMUNICATION SERVICES. PROVIDE TEMPORARY UTILITIES AND FACILITIES IN ACCORDANCE WITH OSHA AND THE AUTHORITY HAVING JURISDICTION. CONTRACTOR MAY UTILIZE THE COMPANY ELECTRICAL SERVICE IN THE COMPLETION OF THE WORK WHEN IT BECOMES AVAILABLE. USE OF THE LESSORS OR SITE OWNER'S UTILITIES OR FACILITIES IS EXPRESSLY FORBIDDEN EXCEPT AS OTHERWISE ALLOWED IN THE CONTRACT DOCUMENTS.

2.2 ACCESS TO WORK: THE CONTRACTOR SHALL PROVIDE ACCESS TO THE JOB SITE FOR AUTHORIZED COMPANY PERSONNEL AND AUTHORIZED REPRESENTATIVES OF THE ARCHITECT/ENGINEER DURING ALL PHASES OF THE WORK.

2.3 TESTING: REQUIREMENTS FOR TESTING BY THIS CONTRACTOR SHALL BE AS INDICATED HEREWITH, ON THE CONSTRUCTION DRAWINGS, AND IN THE INDIVIDUAL SECTIONS OF THESE SPECIFICATIONS. SHOULD COMPANY CHOOSE TO ENGAGE ANY THIRD-PARTY TO CONDUCT ADDITIONAL TESTING, THE CONTRACTOR SHALL COOPERATE WITH AND PROVIDE A WORK AREA FOR COMPANY'S TEST AGENCY.

2.4 COMPANY FURNISHED MATERIAL AND EQUIPMENT: ALL HANDLING, STORAGE AND INSTALLATION OF COMPANY FURNISHED MATERIAL AND EQUIPMENT SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.
A. CONTRACTOR SHALL PROCURE ALL OTHER REQUIRED WORK RELATED MATERIALS NOT PROVIDED BY AT&T TO SUCCESSFULLY CONSTRUCT A WIRELESS FACILITY.

2.5 DIMENSIONS: VERIFY DIMENSIONS INDICATED ON DRAWINGS WITH FIELD DIMENSIONS BEFORE FABRICATION OR ORDERING OF MATERIALS. DO NOT SCALE DRAWINGS.

2.6 EXISTING CONDITIONS: NOTIFY THE COMPANY REPRESENTATIVE OF EXISTING CONDITIONS DIFFERING FROM THOSE INDICATED ON THE DRAWINGS. DO NOT REMOVE OR ALTER STRUCTURAL COMPONENTS WITHOUT PRIOR WRITTEN APPROVAL FROM THE ARCHITECT AND ENGINEER.

PART 3 – RECEIPT OF MATERIAL & EQUIPMENT

3.1 RECEIPT OF MATERIAL AND EQUIPMENT: CONTRACTOR IS RESPONSIBLE FOR AT&T PROVIDED MATERIAL AND EQUIPMENT AND UPON RECEIPT SHALL:
- A. ACCEPT DELIVERIES AS SHIPPED AND TAKE RECEIPT.
- B. VERIFY COMPLETENESS AND CONDITION OF ALL DELIVERIES.
- C. TAKE RESPONSIBILITY FOR EQUIPMENT AND PROVIDE INSURANCE PROTECTION AS REQUIRED IN AGREEMENT.
- D. RECORD ANY DEFECTS OR DAMAGES AND WITHIN TWENTY-FOUR HOURS AFTER RECEIPT, REPORT TO AT&T OR ITS DESIGNATED PROJECT REPRESENTATIVE OF SUCH.
- E. PROVIDE SECURE AND NECESSARY WEATHER PROTECTED WAREHOUSING.
- F. COORDINATE SAFE AND SECURE TRANSPORTATION OF MATERIAL AND EQUIPMENT, DELIVERING AND OFF-LOADING FROM CONTRACTOR'S WAREHOUSE TO SITE.

PART 4 – GENERAL REQUIREMENTS FOR CONSTRUCTION

4.1 CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH. AT THE COMPLETION OF THE WORK, CONTRACTOR SHALL REMOVE FROM THE SITE ALL REMAINING RUBBISH, IMPLEMENTS, TEMPORARY FACILITIES, AND SURPLUS MATERIALS.

4.2 EQUIPMENT ROOMS SHALL AT ALL TIMES BE MAINTAINED "BROOM CLEAN" AND CLEAR OF DEBRIS.

4.3 CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO DISCOVER AND LOCATE ANY HAZARDOUS CONDITION.
A. IN THE EVENT CONTRACTOR ENCOUNTERS ANY HAZARDOUS CONDITION WHICH HAS NOT BEEN ABATED OR OTHERWISE MITIGATED, CONTRACTOR AND ALL OTHER PERSONS SHALL IMMEDIATELY STOP WORK IN THE AFFECTED AREA AND NOTIFY COMPANY IN WRITING. THE WORK IN THE AFFECTED AREA SHALL NOT BE RESUMED EXCEPT BY WRITTEN NOTIFICATION BY COMPANY.
B. CONTRACTOR AGREES TO USE CARE WHILE ON THE SITE AND SHALL NOT TAKE ANY ACTION THAT WILL OR MAY RESULT IN OR CAUSE THE HAZARDOUS CONDITION TO BE FURTHER RELEASED IN THE ENVIRONMENT, OR TO FURTHER EXPOSE INDIVIDUALS TO THE HAZARD.

4.4 CONTRACTOR'S ACTIVITIES SHALL BE RESTRICTED TO THE PROJECT LIMITS. SHOULD AREAS OUTSIDE THE PROJECT LIMITS BE AFFECTED BY CONTRACTOR'S ACTIVITIES, CONTRACTOR SHALL IMMEDIATELY RETURN THEM TO ORIGINAL CONDITION.

4.5 CONDUCT TESTING AS REQUIRED HEREIN.

PART 5 – TESTS AND INSPECTIONS

5.1 TESTS AND INSPECTIONS:
- A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION TESTS, INSPECTIONS AND PROJECT DOCUMENTATION.
- B. CONTRACTOR SHALL COORDINATE TEST AND INSPECTION SCHEDULES WITH COMPANY'S REPRESENTATIVE WHO MUST BE ON SITE TO WITNESS SUCH TESTS AND INSPECTIONS.
- C. WHEN THE USE OF A THIRD PARTY INDEPENDENT TESTING AGENCY IS REQUIRED, THE AGENCY THAT IS SELECTED MUST PERFORM SUCH WORK ON A REGULAR BASIS IN THE STATE WHERE THE PROJECT IS LOCATED AND HAVE A THOROUGH UNDERSTANDING OF LOCAL AVAILABLE MATERIALS, INCLUDING THE SOIL, ROCK, AND GROUNDWATER CONDITIONS.
- D. THE THIRD PARTY TESTING AGENCY IS TO BE FAMILIAR WITH THE APPLICABLE REQUIREMENTS FOR THE TESTS TO BE DONE, EQUIPMENT TO BE USED, AND ASSOCIATED HEALTH AND SAFETY ISSUES.
- E. SITE RESISTANCE TO EARTH TESTING PER EXHIBIT: CELL SITE GROUNDING SYSTEM DESIGN.
- F. ANTENNA AND COAX SWEEP TESTS PER EXHIBIT: ANTENNA TRANSMISSION LINE ACCEPTANCE STANDARDS.
- G. ALL OTHER TESTS REQUIRED BY COMPANY OR JURISDICTION.

PART 6 – TRENCHING AND BACKFILLING

6.1 TRENCHING AND BACKFILLING: THE CONTRACTOR SHALL PERFORM ALL EXCAVATION OF EVERY DESCRIPTION AND OF WHATEVER SUBSTANCES ENCOUNTERED, TO THE DEPTHS INDICATED ON THE CONSTRUCTION DRAWINGS OR AS OTHERWISE SPECIFIED.

A. PROTECTION OF EXISTING UTILITIES: THE CONTRACTOR SHALL CHECK WITH THE LOCAL UTILITIES AND THE RESPECTIVE UTILITY LOCATOR COMPANIES PRIOR TO STARTING EXCAVATION OPERATIONS IN EACH RESPECTIVE AREA TO ASCERTAIN THE LOCATIONS OF KNOWN UTILITY LINES. THE LOCATIONS, NUMBER AND TYPES OF EXISTING UTILITY LINES DETAILED ON THE CONSTRUCTION DRAWINGS ARE APPROXIMATE AND DO NOT REPRESENT EXACT INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ALL LINES DAMAGED DURING EXCAVATION AND ALL ASSOCIATED OPERATIONS. ALL UTILITY LINES UNCOVERED DURING THE EXCAVATION OPERATIONS, SHALL BE PROTECTED FROM DAMAGE DURING EXCAVATION AND ASSOCIATED OPERATIONS. ALL REPAIRS SHALL BE APPROVED BY THE UTILITY COMPANY.

B. HAND DIGGING: UNLESS APPROVED IN WRITING OTHERWISE, ALL DIGGING WITHIN AN EXISTING CELL SITE COMPOUND IS TO BE DONE BY HAND.

C. DURING EXCAVATION, MATERIAL SUITABLE FOR BACKFILLING SHALL BE STOCKPILED IN AN ORDERLY MANNER A SUFFICIENT DISTANCE FROM THE BANKS OF THE TRENCH TO AVOID OVERLOADING AND TO PREVENT SLIDES OR CAVE-INS. ALL EXCAVATED MATERIALS NOT REQUIRED OR SUITABLE FOR BACKFILL SHALL BE REMOVED AND DISPOSED OF AT THE CONTRACTOR'S EXPENSE.

D. GRADING SHALL BE DONE AS MAY BE NECESSARY TO PREVENT SURFACE WATER FROM FLOWING INTO TRENCHES OR OTHER EXCAVATIONS, AND ANY WATER ACCUMULATING THEREIN SHALL BE REMOVED BY PUMPING OR BY OTHER APPROVED METHOD.

E. SHEETING AND SHORING SHALL BE DONE AS NECESSARY FOR THE PROTECTION OF THE WORK AND FOR THE SAFETY OF PERSONNEL. UNLESS OTHERWISE INDICATED, EXCAVATION SHALL BE BY OPEN CUT, EXCEPT THAT SHORT SECTIONS OF A TRENCH MAY BE TUNNELED IF, THE CONDUIT CAN BE SAFELY AND PROPERLY INSTALLED AND BACKFILL CAN BE PROPERLY TAMPED IN SUCH TUNNEL SECTIONS. EARTH EXCAVATION SHALL COMPRISE ALL MATERIALS AND SHALL INCLUDE CLAY, SILT, SAND, MUCK, GRAVEL, HARDPAN, LOOSE SHALE, AND LOOSE STONE.

F. TRENCHES SHALL BE OF NECESSARY WIDTH FOR THE PROPER LAYING OF THE CONDUIT OR CABLE, AND THE BANKS SHALL BE AS NEARLY VERTICAL AS PRACTICABLE. THE BOTTOM OF THE TRENCHES SHALL BE ACCURATELY GRADED TO PROVIDE UNIFORM BEARING AND SUPPORT FOR EACH SECTION OF THE CONDUIT OR CABLE ON UNDISTURBED SOIL AT EVERY POINT ALONG ITS ENTIRE LENGTH. EXCEPT WHERE ROCK IS ENCOUNTERED, CARE SHALL BE TAKEN NOT TO EXCAVATE BELOW THE DEPTHS INDICATED. WHERE ROCK EXCAVATIONS ARE NECESSARY, THE ROCK SHALL BE EXCAVATED TO A MINIMUM OVER DEPTH OF 6 INCHES BELOW THE TRENCH DEPTHS INDICATED ON THE CONSTRUCTION DRAWINGS OR SPECIFIED. OVER DEPTHS IN THE ROCK EXCAVATION AND UNAUTHORIZED OVER DEPTHS SHALL BE THOROUGHLY BACK FILLED AND TAMPED TO THE APPROPRIATE GRADE. WHENEVER WET OR OTHERWISE UNSTABLE SOIL THAT IS INCAPABLE OF PROPERLY SUPPORTING THE CONDUIT OR CABLE IS ENCOUNTERED IN THE BOTTOM OF THE TRENCH, SUCH SOLID SHALL BE REMOVED TO A MINIMUM OVER DEPTH OF 6 INCHES AND THE TRENCH BACKFILLED TO THE PROPER GRADE WITH EARTH OF OTHER SUITABLE MATERIAL, AS HEREINAFTER SPECIFIED.

G. BACKFILLING OF TRENCHES. TRENCHES SHALL NOT BE BACKFILLED UNTIL ALL SPECIFIED TESTS HAVE BEEN PERFORMED AND ACCEPTED. WHERE COMPACTED BACKFILL IS NOT INDICATED THE TRENCHES SHALL BE CAREFULLY BACKFILLED WITH SELECT MATERIAL SUCH AS EXCAVATED SOILS THAT ARE FREE OF ROOTS, SOD, RUBBISH OR STONES, DEPOSITED IN 6 INCH LAYERS AND THOROUGHLY AND CAREFULLY RAMMED UNTIL THE CONDUIT OR CABLE HAS A COVER OF NOT LESS THAN 1 FOOT. THE REMAINDER OF THE BACKFILL MATERIAL SHALL BE GRANULAR IN NATURE AND SHALL NOT CONTAIN ROOTS, SOD, RUBBING, OR STONES OF 2-1/2 INCH MAXIMUM DIMENSION. BACKFILL SHALL BE CAREFULLY PLACED IN THE TRENCH AND IN 1 FOOT LAYERS AND EACH LAYER TAMPED. SETTLING THE BACKFILL WITH WATER WILL BE PERMITTED. THE SURFACE SHALL BE GRADED TO A REASONABLE UNIFORMITY AND THE MOUNDING OVER THE TRENCHES LEFT IN A UNIFORM AND NEAT CONDITION.

SYMBOL	DESCRIPTION
	CIRCUIT BREAKER
	NON-FUSIBLE DISCONNECT SWITCH
F	FUSIBLE DISCONNECT SWITCH
	SURFACE MOUNTED PANEL BOARD
T	TRANSFORMER
M	KILOWATT HOUR METER
JB	JUNCTION BOX
PB	PULL BOX TO NEC/TELCO STANDARDS
----------	UNDERGROUND UTILITIES
	EXOTHERMIC WELD CONNECTION
	MECHANICAL CONNECTION
OR ⊗	GROUND ROD
OR ⊠	GROUND ROD WITH INSPECTION SLEEVE
	GROUND BAR
	120AC DUPLEX RECEPTACLE
G	GROUND CONDUCTOR
	DC POWER AND FIBER OPTIC TRUNK CABLES
	DC POWER CABLES
# / #	REPRESENTS DETAIL NUMBER / REF. DRAWING NUMBER

ABBREVIATIONS

CIGBE	COAX ISOLATED GROUND BAR EXTERNAL
MIGB	MASTER ISOLATED GROUND BAR
SST	SELF SUPPORTING TOWER
GPS	GLOBAL POSITIONING SYSTEM
TYP.	TYPICAL
DWG	DRAWING
BCW	BARE COPPER WIRE
BFG	BELOW FINISH GRADE
PVC	POLYVINYL CHLORIDE
CAB	CABINET
C	CONDUIT
SS	STAINLESS STEEL
G	GROUND
AWG	AMERICAN WIRE GAUGE
RGS	RIGID GALVANIZED STEEL
AHJ	AUTHORITY HAVING JURISDICTION
TTLNA	TOWER TOP LOW NOISE AMPLIFIER
UNO	UNLESS NOTED OTHERWISE
EMT	ELECTRICAL METALLIC TUBING
AGL	ABOVE GROUND LEVEL

INFINIGY
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1033 Watervliet Shaker Rd
Albany, NY 12205
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at&t

STATE OF CONNECTICUT
CHRISTOPHER J. WARREN
No. 23544
4/21/21
LICENSED PROFESSIONAL ENGINEER

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OLD SAYBROOK
CTL02042
FA# 10035291
226 FERRY ROAD
OLD SAYBROOK, 06475

Prepared For: smartlink

Drawing Scale: AS NOTED
Date: 03/22/21
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Drawing Title
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Drawing Number
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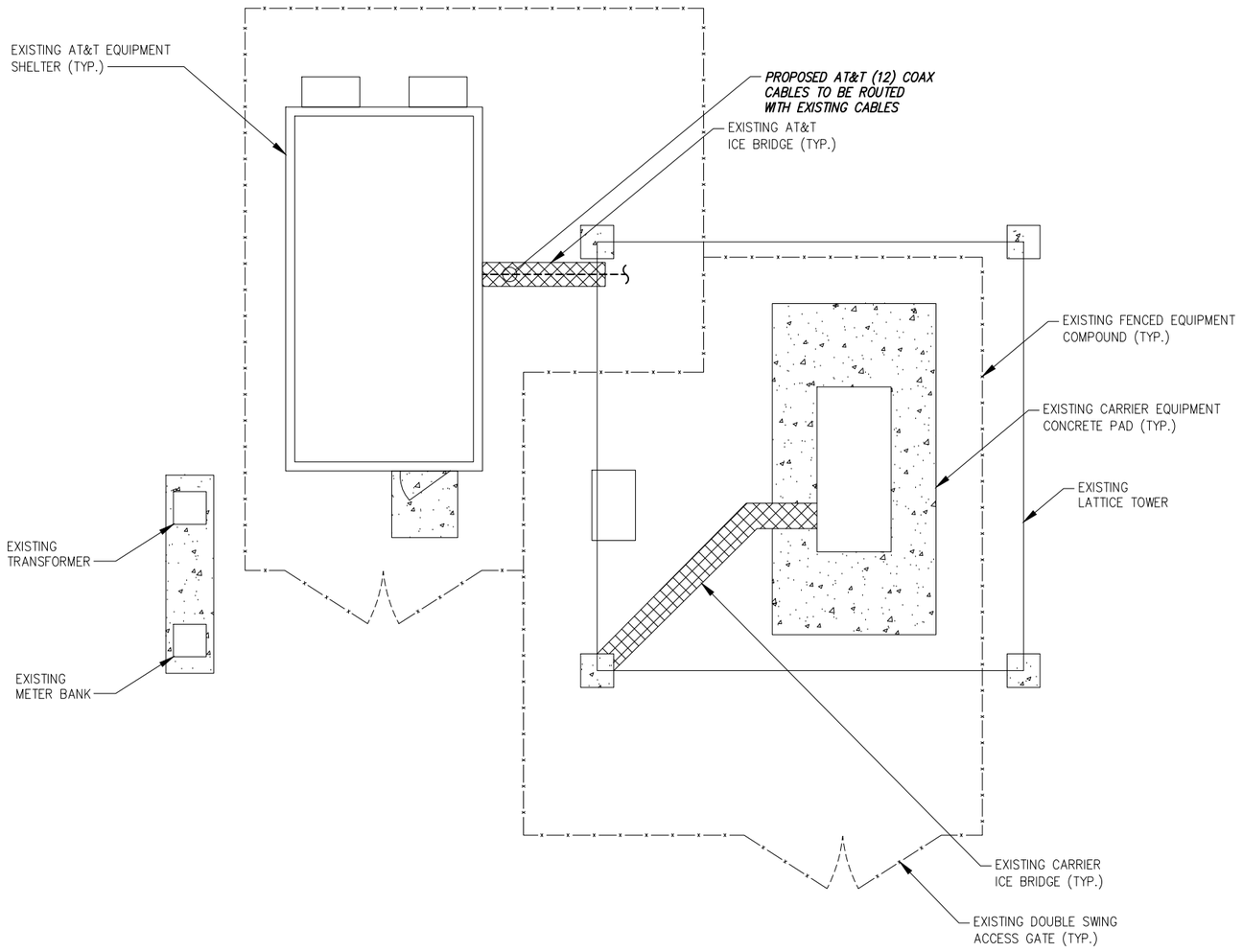

TRUE NORTH

1 SITE PLAN
SCALE: AS NOTED

GRAPHIC SCALE:
10' 5' 0 5' 10'
SCALE (11x17): 1" = 10'-0"
SCALE (22x34): 1" = 5'-0"

BASEMAPPING PREPARED FROM A SITE WALK PERFORMED BY INFINIGY ENGINEERING AND PROVIDED INFORMATION, AND DOES NOT REPRESENT AN ACTUAL FIELD SURVEY.

INFINIGY
INFINIGY ENGINEERING, PLLC
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Albany, NY 12205
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Checked: AJD Date: 03/25/20

Project Number: 499-006

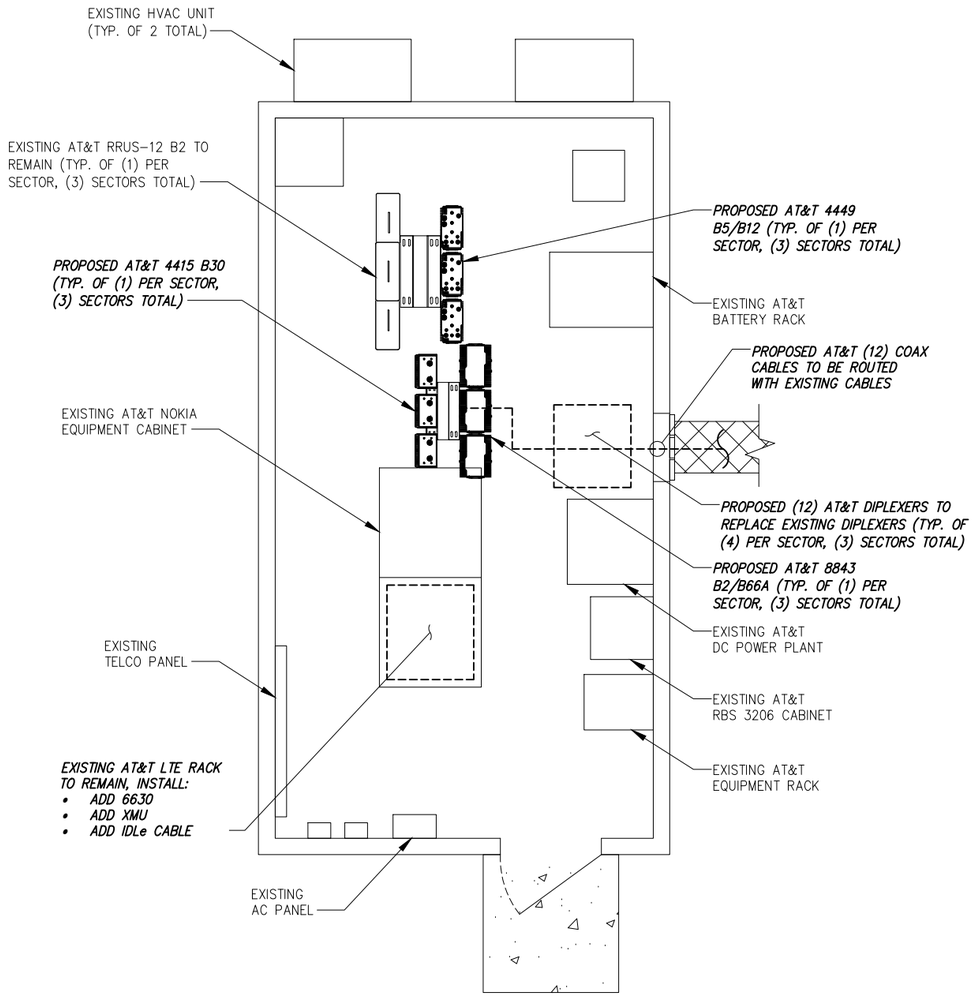
Project Title:
OLD SAYBROOK
CTL02042
FA# 10035291
226 FERRY ROAD
OLD SAYBROOK, 06475

Prepared For: smartlink

Drawing Scale: AS NOTED
Date: 03/22/21
CD

Drawing Title
OVERALL SITE PLAN

Drawing Number
C2



TRUE NORTH

1 ENLARGED EQUIPMENT PLAN
SCALE: AS NOTED

GRAPHIC SCALE:

4' 2' 0 2' 4'

SCALE (11x17): 1" = 4'-0"
SCALE (22x34): 1" = 2'-0"

BASEMAPPING PREPARED FROM A SITE WALK PERFORMED BY INFINIGY ENGINEERING AND PROVIDED INFORMATION, AND DOES NOT REPRESENT AN ACTUAL FIELD SURVEY.

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STATE OF CONNECTICUT
CHRISTOPHER J. WARREN
No. 23544
4/21/21
LICENSED
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Drawing Scale: AS NOTED
Date: 03/22/21

CD

Drawing Title

ENLARGED SITE PLAN

Drawing Number

C2A

NOTE:
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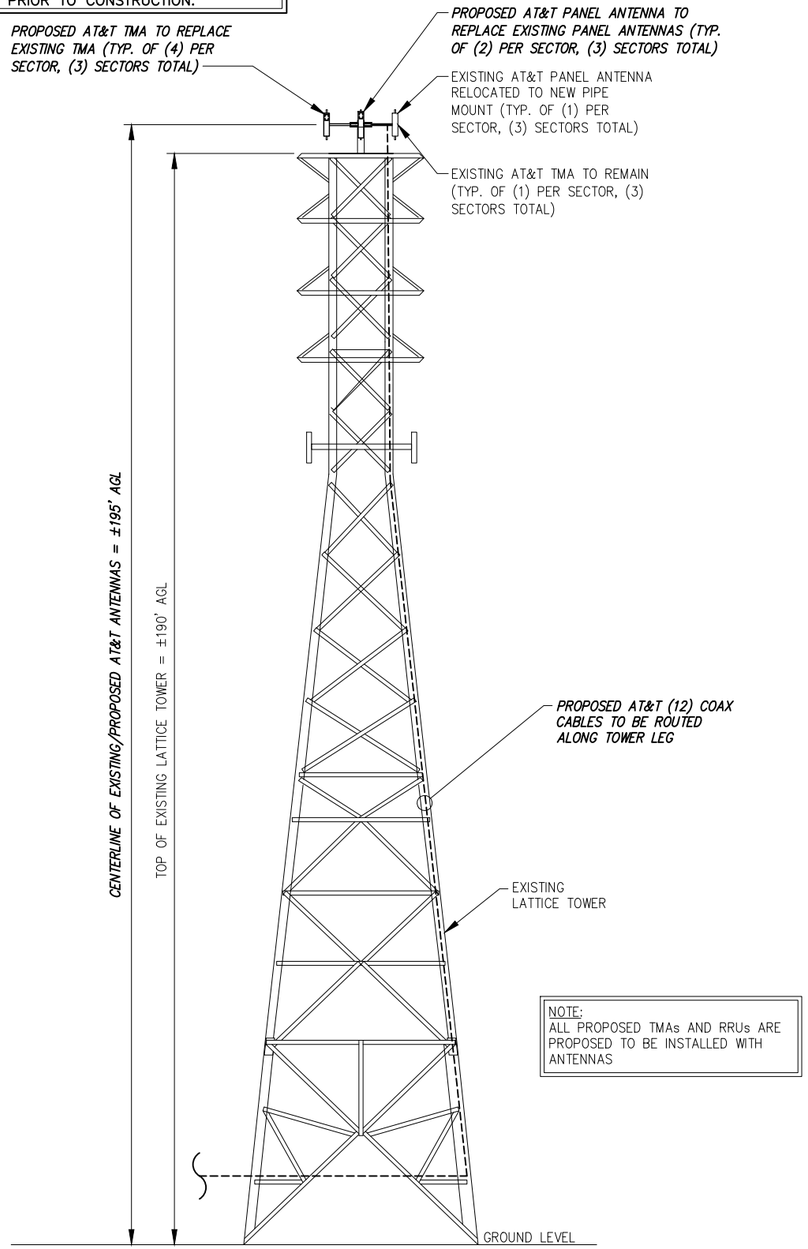
NOTE:
- 3' MINIMUM SEPARATION BETWEEN ALL LTE ANTENNAS
- 6' MINIMUM SEPARATION BETWEEN 700 BC/700 DE ANTENNAS



1 ELEVATION VIEW
NOT TO SCALE

FINAL ANTENNA CONFIGURATION & CABLE SCHEDULE BASED ON LTE RFDS DATED 03/05/20, V 2.00

SECTOR	ANTENNA POSITION	ANTENNA STATUS & TECHNOLOGY	ANTENNA MANF/MODEL	TMA/ DIPLEXER	RRUS (AT GROUND LEVEL)	AZIMUTH	ANTENNA ℄ HEIGHT	CABLE FEEDER TYPE	CABLE FEEDER LENGTH	RAYCAP UNIT
ALPHA	A-1	(E) UMTS 850 LTE 1900	KMW AM-X-CD-14-65-00T-RET	*(1) (E) TT19-08BP111-001*	(1) (E) RRUS-12 B2	143°	±195'	(2) (E) 1-5/8" COAX CABLES	±275'	
	A-2	--	--	--	--	--	--	--	--	
	A-3	*(P) LTE 1900/WCS*	*ANDREW NNH4-65A-R6*	*(2) (P) TMA211F00V1-1*	*(1) (P) 8843 B2/B66A (1) (P) 4415 B30*	*23°*	*±195'*	*(4) (P) 1-5/8" COAX CABLES*	--	
	A-4	*(P) LTE 700/850/ AWS/5G 850*	*CCI DMP65R-BU4DA*	*(2) (P) TMABPD7823VG12A*	*(1) (P) 4449 B5/B12*	*23°*	*±195'*	(4) (E) 1-5/8" COAX CABLES	--	
BETA	B-1	(E) UMTS 850 LTE 1900	KMW AM-X-CD-14-65-00T-RET	*(1) (E) TT19-08BP111-001*	(1) (E) RRUS-12 B2	263°	±195'	(2) (E) 1-5/8" COAX CABLES	±275'	
	B-2	--	--	--	--	--	--	--	--	
	B-3	*(P) LTE 1900/WCS*	*ANDREW NNH4-65A-R6*	*(2) (P) TMA211F00V1-1*	*(1) (P) 8843 B2/B66A (1) (P) 4415 B30*	*143°*	*±195'*	*(4) (P) 1-5/8" COAX CABLES*	--	
	B-4	*(P) LTE 700/850/ AWS/5G 850*	*CCI DMP65R-BU4DA*	*(2) (P) TMABPD7823VG12A*	*(1) (P) 4449 B5/B12*	*143°*	*±195'*	(4) (E) 1-5/8" COAX CABLES	--	
GAMMA	G-1	(E) UMTS 850 LTE 1900	KMW AM-X-CD-14-65-00T-RET	*(1) (E) TT19-08BP111-001*	(1) (E) RRUS-12 B2	23°	±195'	(2) (E) 1-5/8" COAX CABLES	±275'	
	G-2	--	--	--	--	--	--	--	--	
	G-3	*(P) LTE 1900/WCS*	*ANDREW NNH4-65A-R6*	*(2) (P) TMA211F00V1-1*	*(1) (P) 8843 B2/B66A (1) (P) 4415 B30*	*263°*	*±195'*	*(4) (P) 1-5/8" COAX CABLES*	--	
	G-4	*(P) LTE 700/850/ AWS/5G 850*	*CCI DMP65R-BU4DA*	*(2) (P) TMABPD7823VG12A*	*(1) (P) 4449 B5/B12*	*263°*	*±195'*	(4) (E) 1-5/8" COAX CABLES	--	

2 AT&T ANTENNA SCHEDULE
NOT TO SCALE

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OLD SAYBROOK
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FA# 10035291
226 FERRY ROAD
OLD SAYBROOK, 06475

Prepared For: smartlink

Drawing Scale: AS NOTED
Date: 03/22/21
CD

Drawing Title
ELEVATION VIEW

Drawing Number
C3

NOTE:
- 3' MINIMUM SEPARATION BETWEEN ALL LTE ANTENNAS
- 6' MINIMUM SEPARATION BETWEEN 700 BC/700 DE ANTENNAS

NOTE:
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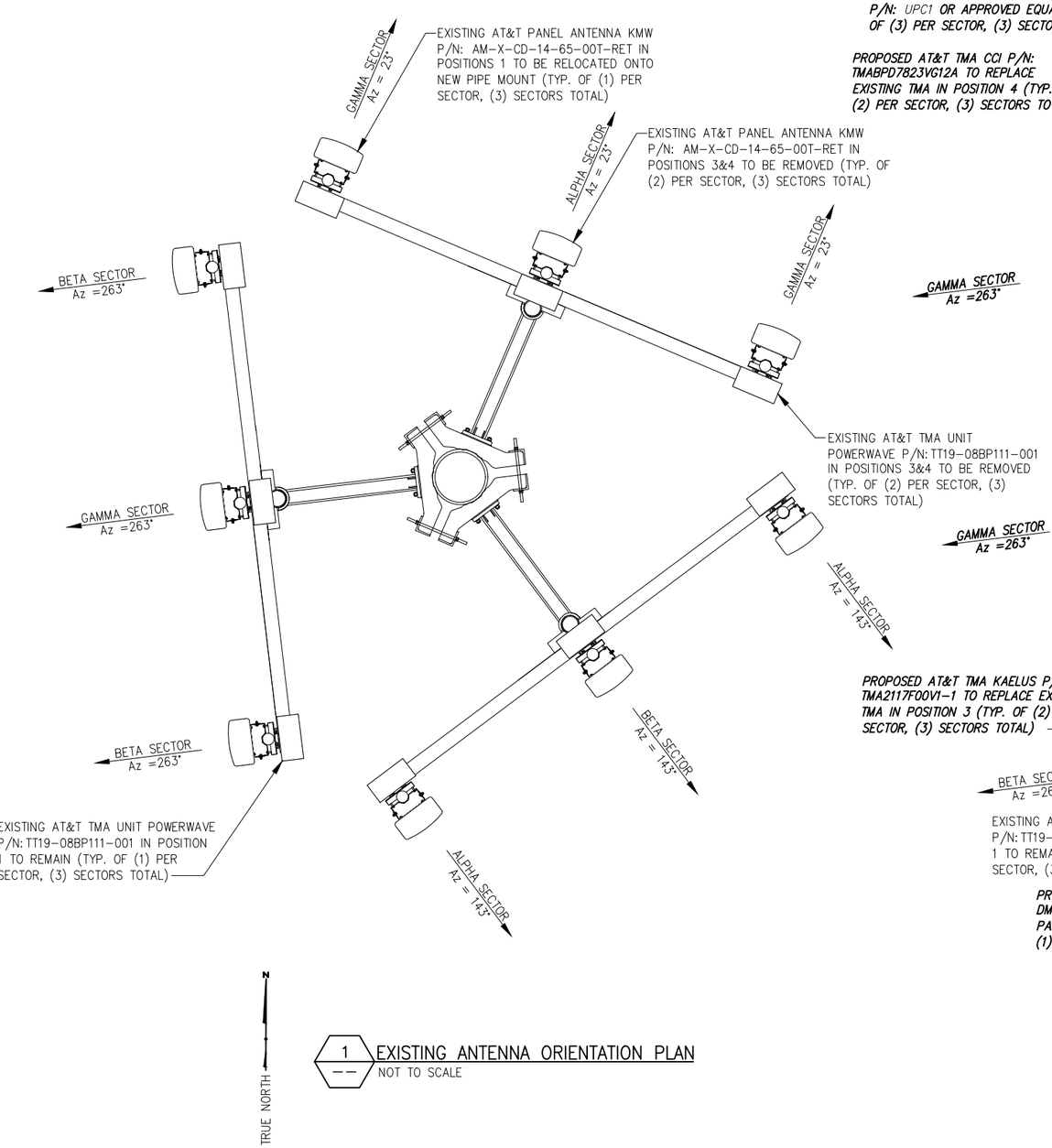
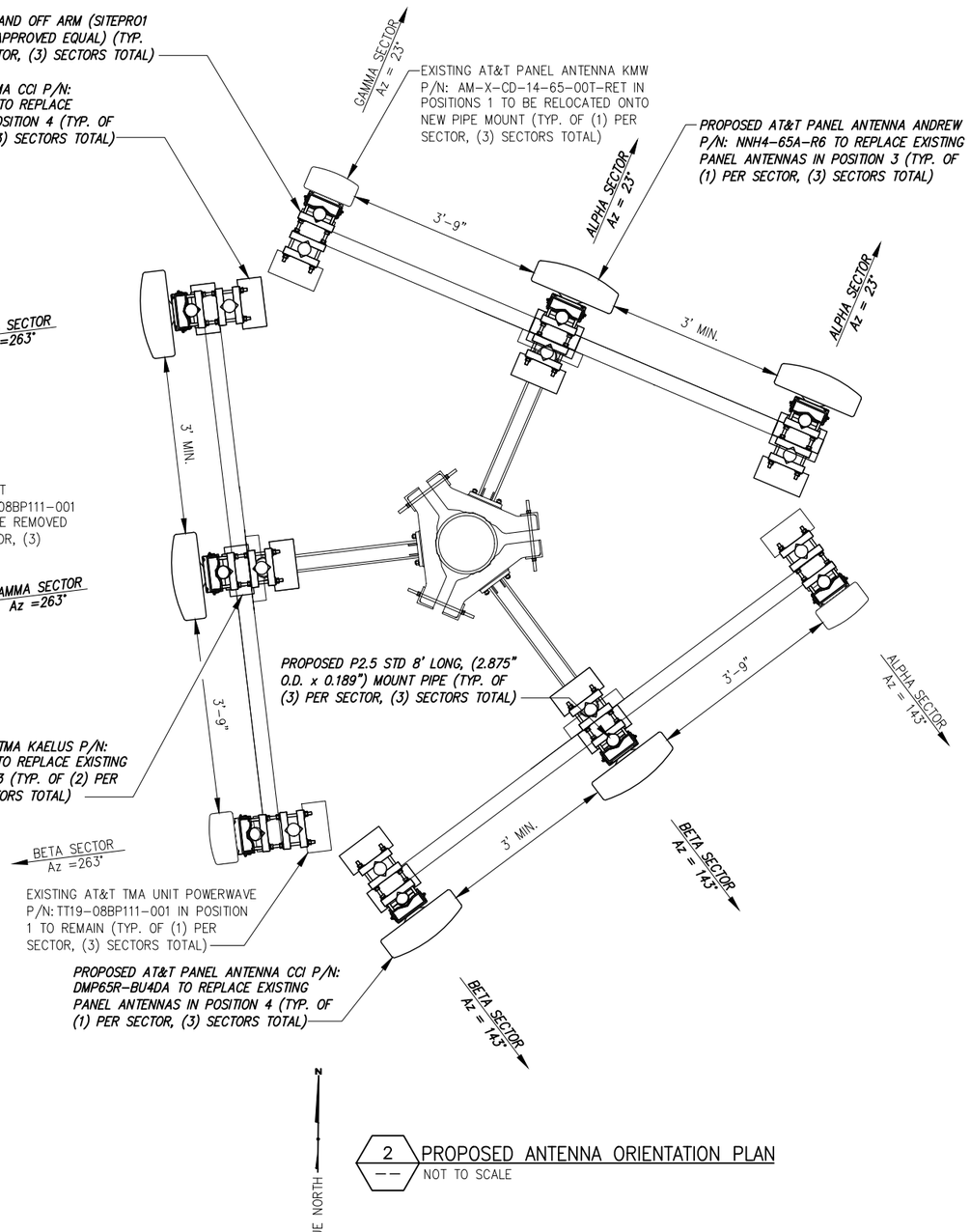


1 EXISTING ANTENNA ORIENTATION PLAN
NOT TO SCALE



2 PROPOSED ANTENNA ORIENTATION PLAN
NOT TO SCALE

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Date: 03/22/21
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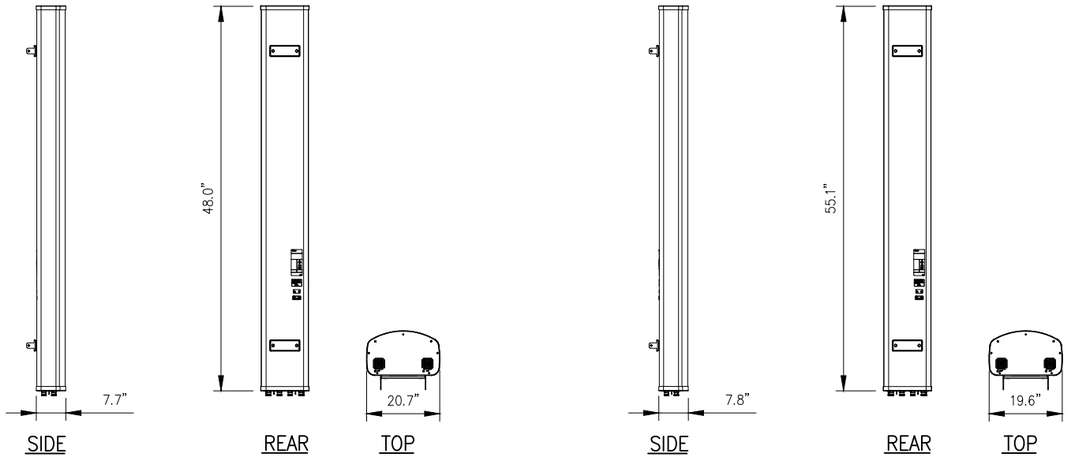
Drawing Title
ANTENNA ORIENTATION PLAN

Drawing Number
C4

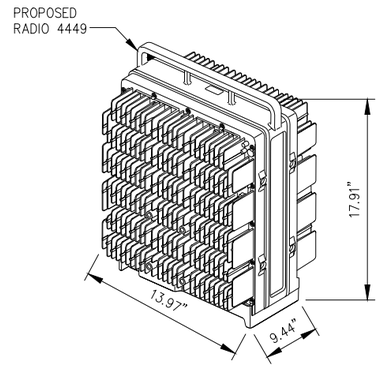


CCI MODEL NO.:	DMP65R-BU4DA
RADOME MATERIAL:	FIBERGLASS
RADOME COLOR:	LIGHT GRAY
DIMENSIONS, HxWxD:	48.0"x20.7"x7.7"
WEIGHT, W/ PRE-MOUNTED BRACKETS:	67.9 LBS
CONNECTOR:	7-16 DIN FEMALE

1 ANTENNA DETAIL
NOT TO SCALE

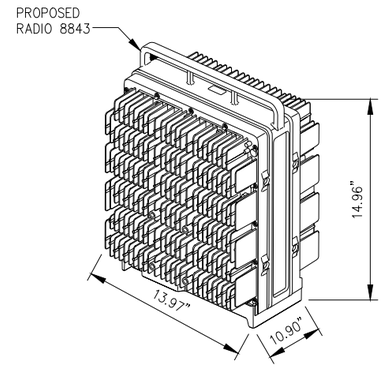
ANDREW MODEL NO.:	NNH4-65A-R6
RADOME MATERIAL:	FIBERGLASS
RADOME COLOR:	LIGHT GRAY
DIMENSIONS, HxWxD:	55.1"x19.6"x7.8"
WEIGHT, W/ PRE-MOUNTED BRACKETS:	72.8 LBS
CONNECTOR:	7-16 DIN FEMALE

2 ANTENNA DETAIL
NOT TO SCALE



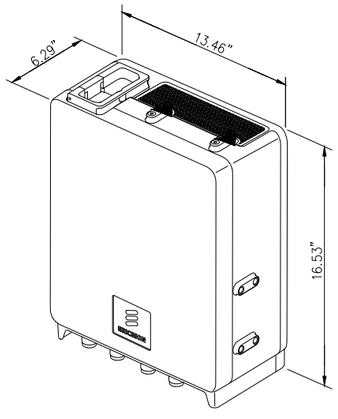
RADIO 4449 SPECIFICATIONS
- HxWxD, (INCHES) : 17.91"x13.97"x9.44"
- WEIGHT (LBS) : 70.54
- COLOR : GRAY

3 ERICSSON RADIO 4449 DETAIL
NOT TO SCALE



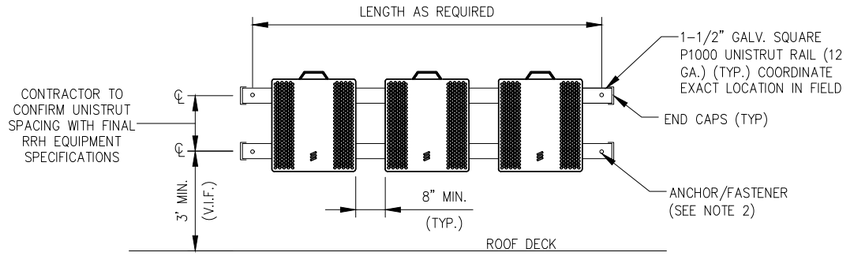
RADIO 8843 SPECIFICATIONS
- HxWxD, (INCHES) : 14.96"x13.97"x10.90"
- WEIGHT (LBS) : 71.87
- COLOR : GRAY

4 ERICSSON RADIO 8843 DETAIL
NOT TO SCALE



RADIO 4415 SPECIFICATIONS
- HxWxD, (INCHES): 16.53"x13.46"x6.29"
- WEIGHT (LBS): 47.4
- COLOR: NCS S 1002-B/NCS S 6502-B

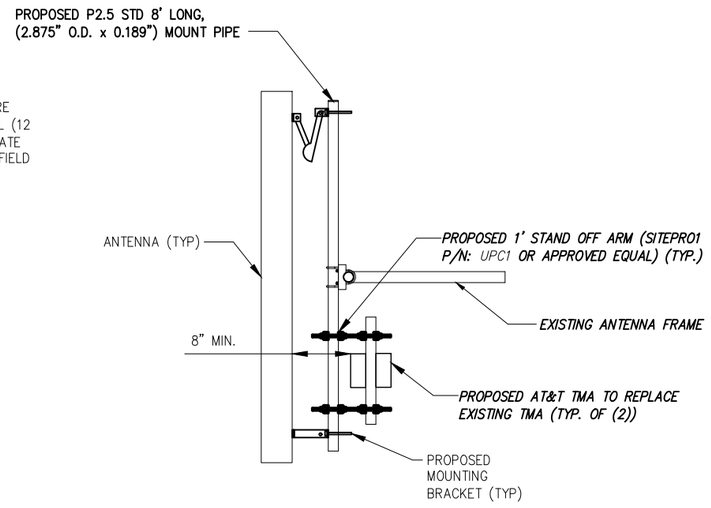
5 ERICSSON RADIO 4415 DETAIL
NOT TO SCALE



NOTES:
1. A SUPPORT FOR A SINGLE RRH SHALL HAVE A MINIMUM OF TWO ANCHORS/FASTENERS FOR EACH UNISTRUT CHANNEL.
2. INSTALL ANCHORS/FASTENERS A MAXIMUM OF 2'-0" ON CENTERS.
   - WOOD STUDS - 5/8"ø LAG BOLT W/ 3.5" EMBEDMENT IN WOOD
   - CONCRETE - 1/2"ø HILTI KWIK BOLT III W/ 3-5/8" EMBEDMENT OR EQUIVALENT
   - THROUGH BOLT - 1/2"ø A36/A307 THREADED ROD W/ NUTS AND WASHERS

   ANCHORS AND UNISTRUT CHANNEL SHALL HAVE HOT-DIPPED GALVANIZED FINISH.
3. MOUNT RRH TO UNISTRUT WITH 3/8"ø UNISTRUT BOLTING HARDWARE AND SPRING NUTS. TYPICAL FOUR PER BRACKET. SUBCONTRACTOR SHALL SUPPLY.

6 TYPICAL RRU MOUNTING DETAIL
NOT TO SCALE



7 ANTENNA MOUNTING DETAIL
NOT TO SCALE

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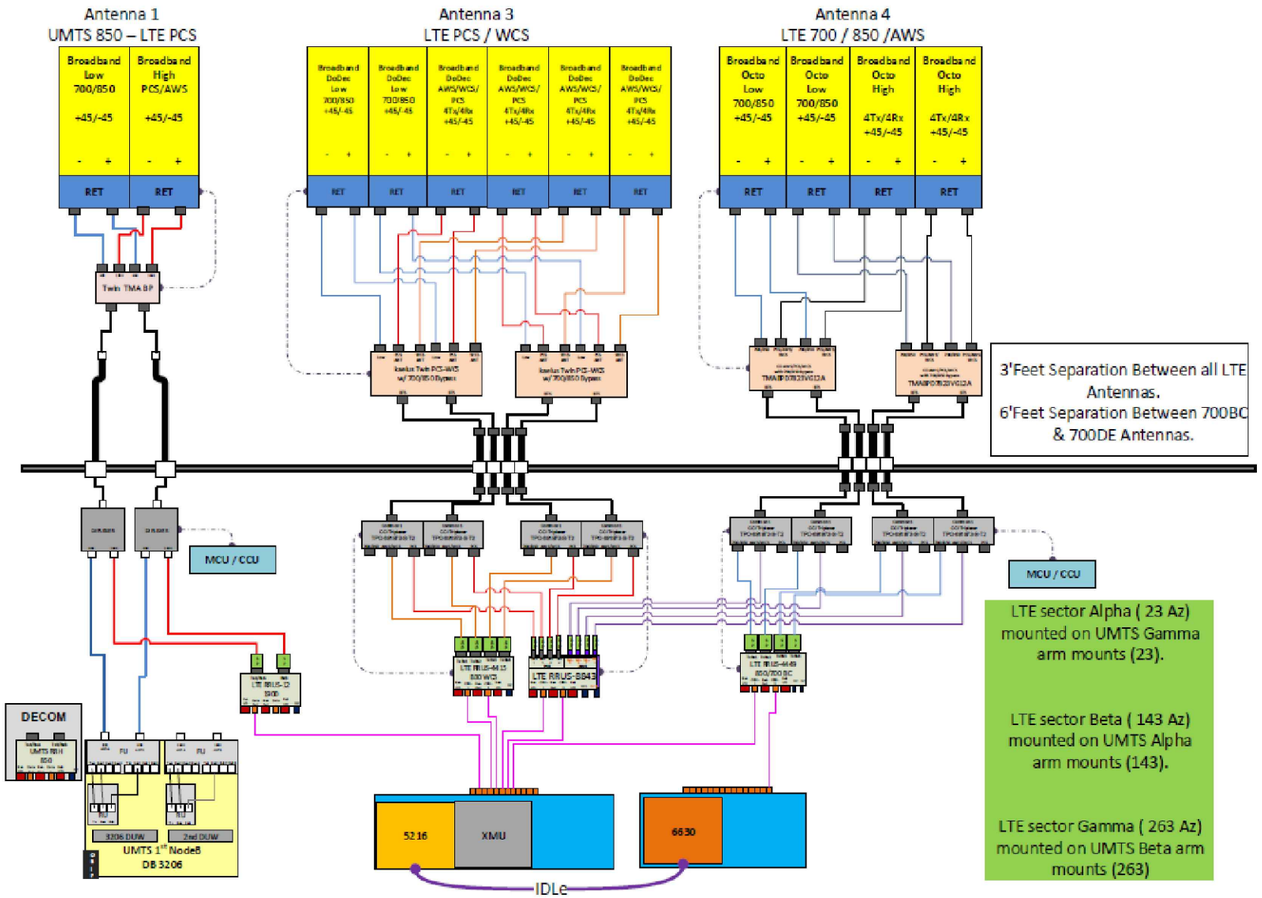
Drawing Title
EQUIPMENT DETAILS

Drawing Number
C5



ALPHA/BETA/GAMMA

1 PLUMBING DIAGRAM (FINAL CONFIGURATION)
NOT TO SCALE

*BASED ON LTE RFDS, DATED 03/05/2020, V2.00

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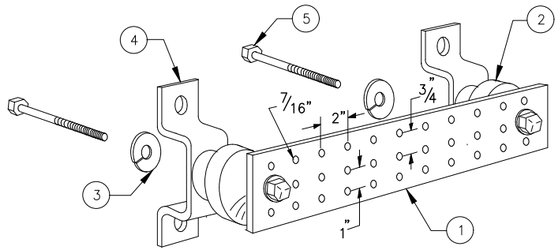
Drawing Title
PLUMBING DIAGRAM

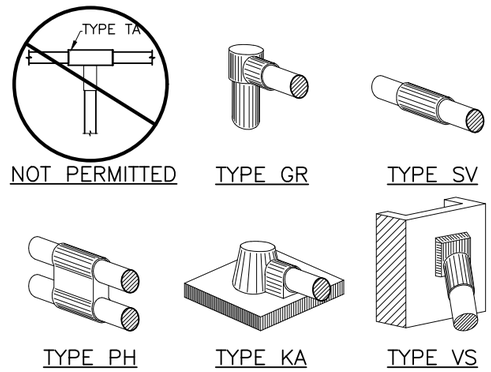
Drawing Number
C6



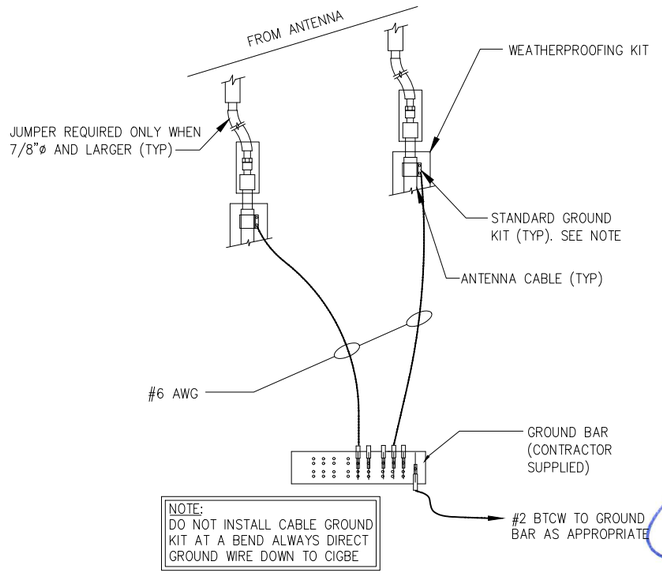
LEGEND

1 – SOLID TINNED COPPER GROUND BAR, 1/4"x 4"x 20" MIN., NEWTON INSTRUMENT CO. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION
2 – INSULATORS, NEWTON INSTRUMENT CAT. NO. 3061-4
3 – 5/8" LOCKWASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015-8
4 – WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT NO. A-6056
5 – 5/8-11 X 1" H.H.C.S. BOLTS, NEWTON INSTRUMENT CO. CAT NO. 3012-1
6 – GROUND BAR SHALL BE SIZED TO ACCOMODATE ALL GROUNDING CONNECTIONS REQUIRED PLUS PROVIDE 50% SPARE CAPACITY
7 – GROUND BARS SHALL NEITHER BE FIELD FABRICATED NOR NEW HOLES DRILLED
8 – GROUND LUGS SHALL MATCH THE HOLE SPACING ON THE BAR
9 – HARDWARE DIAMETER SHALL BE MINIMUM 3/8"

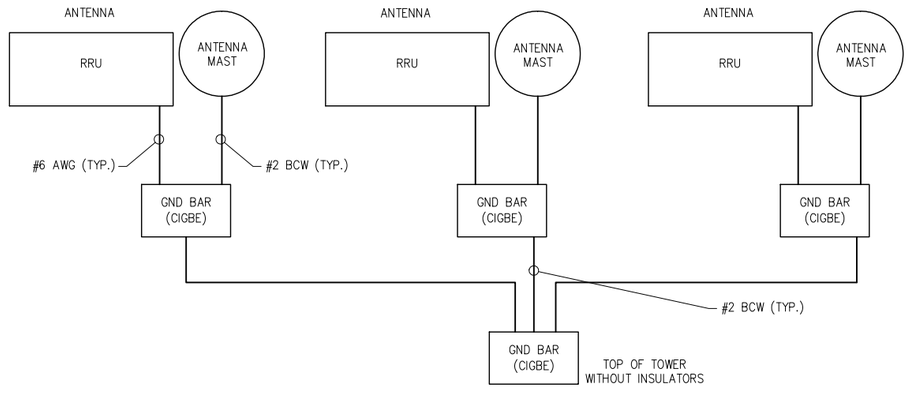
1 GROUND BAR
NOT TO SCALE



2 CADWELDS (TYPICAL)
NOT TO SCALE



3 CONNECTION OF GROUND WIRES TO GROUNDING BARS @ ANTENNAS
NOT TO SCALE



4 SCHEMATIC DIAGRAM GROUNDING SYSTEM
NOT TO SCALE

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Drawing Title
GROUNDING DETAILS

Drawing Number
C7