Alex Murshteyn, Site Acquisition Consultant
c/o Cellco Partnership d/b/a Verizon Wireless
Centerline Communications, LLC
750 West Center Street, Floor 3
West Bridgewater, MA 02379
Mobile: (508) 821-0159
AMurshteyn@centerlinecommunications.com

March 15, 2020

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

RE: Notice of Exempt Modification // Site: Ansonia CT (ATC: 302470)
401 Wakelee Avenue, Ansonia, CT
N 41.3561472 // W -73.09193

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless currently maintains 15 antennas at the 177-foot mount on the existing 196-foot self-supporting lattice tower, located at 401 Wakelee Avenue, Ansonia, CT. The Council approved Verizon Wireless shared use of the existing tower in 2001. The tower is owned by American Tower. City of Ansonia owns the land. Verizon Wireless now intends to remove 9 antennas and replace with 6 for LTE (700/850/1900/2100/3500 MHz) as part of it its PCS/LTE/AWS/CBRS upgrade. Additionally, Verizon Wireless will replace all of its remote radio head units (RRUs) with 9 new RRUs; altogether updating leased equipment rights, as reflected by the final configuration outlined in the structural analysis and proposed hereby.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to David S. Cassetti, Mayor for the City of Ansonia, which is also the landowner, its Zoning Enforcement Officer/Anti-Blight Officer David Blackwell, Sr., and American Tower, the tower owner.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2). Enclosed to accommodate this filing are construction drawings dated March 12, 2020 plus structural analysis dated October 23, 2019 by A.T. Engineering Service, PLLC, structural mount analysis dated March 7 and stamped March 10, 2020 by Trylon, and radio frequency (RF) analysis table showing worst-case RF emission calculation by Verizon Wireless RF Design Engineering.

1. The proposed modifications will not result in an increase in the height of the existing structure.

2. The proposed modifications will not require the extension of the site boundary.

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

4. The operation of the new antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.

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

6. The existing structure and its foundation can support the proposed loading, as shown in the attached structural analysis by A.T. Engineering, PLLC, dated and stamped October 23, 2019 and mount structural analysis by Trylon, dated March 7 and stamped March 10, 2020.

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

Sincerely,

Alex Murshteyn, Site Acquisition Consultant
c/o Cellco Partnership d/b/a Verizon Wireless
Centerline Communications, LLC
750 West Center Street, Floor 3
West Bridgewater, MA 02379
Mobile: (508) 821-0159
AMurshteyn@centerlinecommunications.com

Attachments

cc: David S. Cassetti, Mayor - as chief elected official & ground owner
David Blackwell, Sr., Zoning Enforcement Officer/Anti-Blight Officer - as P&Z official
American Tower Corporation - as tower owner

UPS CampusShip: View/Print Label

Ensure there are no other shipping or tracking labels attached to your package.

Fold the printed label at the solid line below.

GETTING YOUR SHIPMENT TO UPS
Customers with a Daily Pickup

Customers without a Daily Pickup

UPS CampusShip: View/Print Label

Ensure there are no other shipping or tracking labels attached to your package. P

P

Fold the printed label at the solid line below. P P P

GETTING YOUR SHIPMENT TO UPS
Customers with a Daily Pickup

Customers without a Daily Pickup

P P P P P

O P

G

P

P P

P

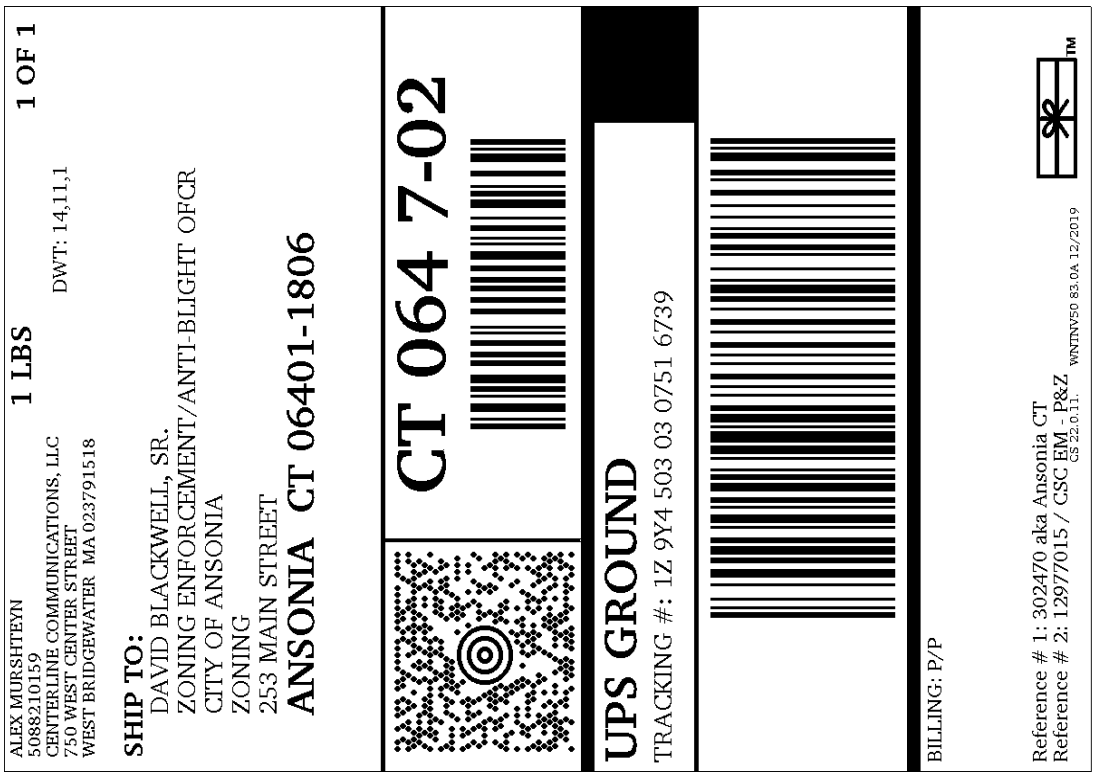
P P P P P P P

O O O O G O

G O PO

O O O G

O



UPS CampusShip: View/Print Label

1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.

2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

3. **GETTING YOUR SHIPMENT TO UPS**
   Customers with a Daily Pickup
   Your driver will pickup your shipment(s) as usual.

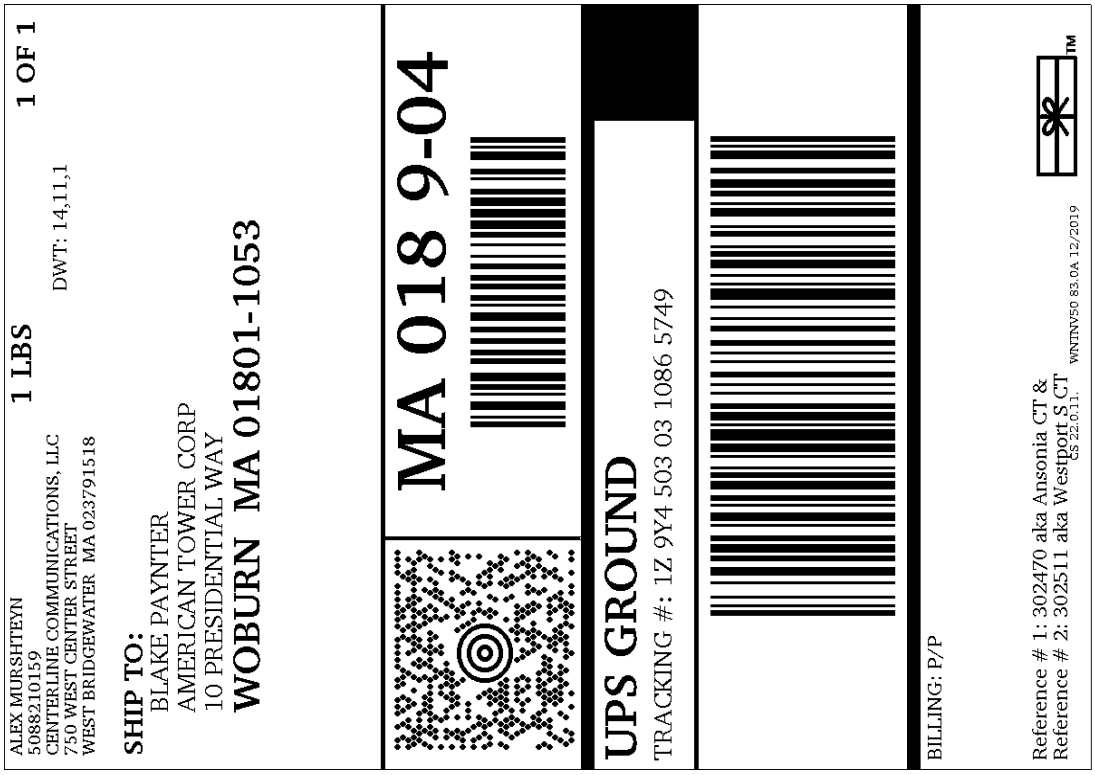
   Customers without a Daily Pickup
   Take your package to any location of The UPS Store®, UPS Access Point(TM) location, UPS Drop Box, UPS Customer Center, Staples® or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.
   Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.
   Hand the package to any UPS driver in your area.

UPS Access Point™
CVS STORE # 972
555 WASHINGTON ST
SOUTH EASTON ,MA 02375

UPS Access Point™
CVS STORE # 7232
689 DEPOT ST
NORTH EASTON ,MA 02356

UPS Access Point™
TOWN LINE GENERAL STORE
450 E CENTER ST
WEST BRIDGEWATER ,MA 02379

FOLD HERE



Charles M-rrone RESOLUTION rd 5
Kevin Bl[illegible] rd 7
Joseph Ca[illegible]etti ward 2
George Pritchard City of Ansonia Ward 3
Kathleen Samela Ward 3
Aldermen
Alderman Jeremiah Kennedy, of the Ward 6

the following Resolution:

Resolved,

WHEREAS, the Ansonia Planning and Zoning Commission, under the provisions of Section 8-2 and Section 8-24 of the Connecticut General Statutes, has received the March 18, 1999 letter from Nextel Communications to Mayor Nancy Valentine concerning the proposed location of a 200 foot telecommunications tower to be located on City of Ansonia property known as Nolan Athletic Field, 401 Wakelee Avenue, Ansonia. The leased parcel consists of 2,500 square feet, and

WHEREAS, the Commission has reviewed the plan and finds that (a) the location of the PCS facility will provide wireless communications for emergency services, businesses and individuals in the Ansonia area and (b) construction of the proposed PCS facility will allow Nextel Communications of the Mid-Atlantic, Inc., 100 Corporate Place, Rocky Hill, CT 06067 to fulfill its obligations under its FCC license to provide PCS service throughout the State of Connecticut and (c) it is consistent with the Comprehensive Plan of Development for the City, and

BE IT RESOLVED that the proposed location of the Nextel telecommunications tower on Nolan Athletic Complex is exempt from the zoning regulations of the City of Ansonia; and

BE IT FURTHER RESOLVED that under the provisions of Section 8-2 of the Connecticut General Statutes, the proposed location of the Nextel telecommunications tower on Nolan Athletic Complex is approved; and

BE IT FURTHER RESOLVED that under the provisions of Section 8-24 of the Connecticut General Statutes, the proposed location of the Nextel telecommunications tower on Nolan Athletic Complex is approved.

Certification

Certified a true copy of a resolution adopted by the board of aldermen of the city of Ansonia at a meeting held on July 13, 1999 *and which has not been rescinded or modified in any way.*

7/14/99
Date
Seal Madeline H. Battone
Town & City Clerk

Approved July 14, 1999
Nancy Valentine
Mayor

Adopted July 13, 1999
Madeline H. Battone
City Clerk

Charles M..rone Ward 5
Kevin Blake Ward 7
Joseph Cassetti Ward 2
George Pritchard Ward 3
Kathleen Samela Ward 3
Aldermen
Alderman Jeremiah Kennedy Ward 6

RESOLUTION

City of Ansonia

, of the

the following Resolution:

Resolved,

WHEREAS, the Ansonia Planning and Zoning Commission, under the provisions of Section 8-2 and Section 8-24 of the Connecticut General Statutes, has received the March 18, 1999 letter from Nextel Communications to Mayor Nancy Valentine concerning the proposed location of a 200 foot telecommunications tower to be located on City of Ansonia property known as Nolan Athletic Field, 401 Wakelee Avenue, Ansonia. The leased parcel consists of 2,500 square feet, and

WHEREAS, the Commission has reviewed the plan and finds that (a) the location of the PCS facility will provide wireless communications for emergency services, businesses and individuals in the Ansonia area and (b) construction of the proposed PCS facility will allow Nextel Communications of the Mid-Atlantic, Inc., 100 Corporate Place, Rocky Hill, CT 06067 to fulfill its obligations under its FCC license to provide PCS service throughout the State of Connecticut and (c) it is consistent with the Comprehensive Plan of Development for the City, and

BE IT RESOLVED that the proposed location of the Nextel telecommunications tower on Nolan Athletic Complex is exempt from the zoning regulations of the City of Ansonia; and

BE IT FURTHER RESOLVED that under the provisions of Section 8-2 of the Connecticut General Statutes, the proposed location of the Nextel telecommunications tower on Nolan Athletic Complex is approved; and

BE IT FURTHER RESOLVED that under the provisions of Section 8-24 of the Connecticut General Statutes, the proposed location of the Nextel telecommunications tower on Nolan Athletic Complex is approved.

Certification

Certified a true copy of a resolution adopted by the board of aldermen of the city of Ansonia at a meeting held on July 13, 1999 *and which has not been rescinded or modified in any way.*

7/14/99
Date

Seal Madeline H. Bottone
Town & City Clerk

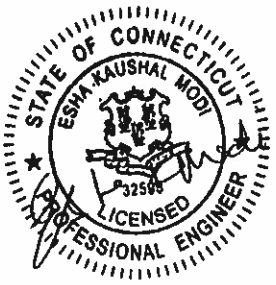
Approved July 14, 1999
Nancy Valentine
Mayor

Adopted July 13, 1999
Madeline H. Bottone
City Clerk

AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure	:	**196 ft Self Supported Tower**
ATC Site Name	:	**Ansonia Wakelee, CT**
ATC Asset Number	:	**302470**
Engineering Number	:	**12977015_C3_03**
Proposed Carrier	:	**VERIZON WIRELESS**
Carrier Site Name	:	**Ansonia**
Carrier Site Number	:	**15298373**
Site Location	:	**401 Wakelee Ave** **Ansonia, CT 06401-1226** **41.356100,-73.092000**
County	:	**New Haven**
Date	:	**October 23, 2019**
Max Usage	:	**83%**
Result	:	**Pass**



Prepared By:
Jennifer Yu
Structural Engineer I

Jennifer Yu

Reviewed By:

Authorized by "EOR"
Oct 23 2019 5:19 PM cosign

COA: PEC.0001553

AMERICAN TOWER®
CORPORATION

Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 196 ft self supported tower to reflect the change in loading by VERIZON WIRELESS.

Supporting Documents

Tower Drawings	Rohn Drawing #A991899, dated July 7, 1999
Foundation Drawing	Rohn Drawing #A992523-1, dated September 22, 1999
Geotechnical Report	Tectonic Engineering Consultants W.O. #1170.C754, dated May 20, 1999

Analysis

The tower was analyzed using American Tower Corporation's tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed:	97 mph (3-Second Gust, Vasd) / 125 mph (3-Second Gust, Vult)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
Code:	ANSI/TIA-222-G / 2015 IBC / 2018 Connecticut State Building Code
Structure Class:	II
Exposure Category:	C
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	Ss = 0.19, S_1 = 0.06
Site Class:	D - Stiff Soil

Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

Existing and Reserved Equipment

Elev.[1] (ft)	Qty	Antenna	Mount Type	Lines	Carrier
192.0	3	Alcatel-Lucent 1900 MHz 4X45 RRH	Leg	-	SPRINT NEXTEL
185.0	2	Powerwave Allgon P40-16-XLPP-RRR	Sector Frame	(3) 1 1/4" Hybriflex Cable	
	1	RFS APXVSPP18-C-A20			
	3	Alcatel-Lucent 800 MHz RRH			
177.0	2	RFS DB-T1-6Z-8AB-0Z	Sector Frame	(6) 1 5/8" Coax (2) 1 5/8" Hybriflex	VERIZON WIRELESS
167.0	3	Ericsson Radio 8843 - B2 + B66A (w/ protruding items)	Sector Frame	(2) 0.39" (10mm) Fiber Trunk (8) 0.78" (19.7mm) 8 AWG 6 (12) 1 1/4" Coax (1) 2" conduit	AT&T MOBILITY
	3	Ericsson RRUS 4478 B14			
	3	Ericsson RRUS 11 (Band 12) (55 lb)			
	3	Ericsson RRUS E2 B29			
	3	Ericsson RRUS 4478 B5			
	1	Raycap DC6-48-60-0-8F (24" Height)			
	3	Raycap DC6-48-60-18-8F ("Squid")			
	6	Kaelus DBCT108F1V92-1			
	6	Powerwave Allgon TT19-08BP111-001			
	3	Ericsson RRUS-32 (77 lbs)			
	1	CCI TPA65R-BU8D			
	1	CCI OPA-65R-LCUU-H8			
	2	CCI TPA65R-BU6D			
	1	CCI OPA65R-BU8B			
	2	CCI OPA-65R-LCUU-H6			
	2	CCI OPA65R-BU6A			
157.0	3	Kathrein Scala 742 213	Leg	(6) 1 5/8" Coax	METRO PCS INC
148.0	3	Ericsson KRY 112 144/1	Sector Frame	(1) 1 1/4" (1.25"-31.8mm) Fiber (3) 1 5/8" (1.63"-41.3mm) Fiber (6) 1 5/8" Coax	T-MOBILE
	3	RFS APXVAARR24_43-U-NA20			
	3	Ericsson Radio 4449 B12,B71			
	3	Ericsson AIR 21, 1.3 M, B2A B4P			
	3	Ericsson AIR-32 B2A/B66Aa			
125.0	2	Motorola PTP54600	Leg	(2) 1/4" Coax	CITY OF ANSONIA, CT
85.0	1	Generic 10' Dipole	Stand-Off	(1) 1/2" Coax	
76.0	1	PCTEL GPS-TMG-HR-26N	Stand-Off	(1) 1/2" Coax	SPRINT NEXTEL

Equipment to be Removed

Elev.[1] (ft)	Qty	Antenna	Mount Type	Lines	Carrier
177.0	3	Alcatel-Lucent B13 RRH4x30-4R 700U	-	(6) 1 5/8" Coax	VERIZON WIRELESS
	3	Alcatel-Lucent PCS B25 RRH2x60/4x30			
	3	Alcatel-Lucent B66 RRH4x45			
	6	Andrew SBNHH-1D65B			
	1	Swedcom SLCP 2x6014			
	1	Amphenol Antel BXA-70063-6BF-EDIN-X			
	1	Powerwave Allgon P65-16-XL-2			
	3	Antel BXA-80080/4CF			

Proposed Equipment

Elev.[1] (ft)	Qty	Antenna	Mount Type	Lines	Carrier
177.0	3	Samsung Outdoor CBRS 20W RRH	Sector Frame	-	VERIZON WIRELESS
	3	Samsung B2/B66A RRH-BR049			
	3	Samsung B5/B13 RRH-BR04C			
	3	Commscope SSPX310R			
	3	Amphenol Antel BXA-80080-4CF-EDIN-X			
	6	JMA Wireless MX06FRO660-02			

[1] Contracted elevations are shown for appurtenances within contracted installation tolerances. Appurtenances outside of contract limits are shown at installed elevations.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Legs	78%	Pass
Diagonals	83%	Pass
Horizontals	13%	Pass
Anchor Bolts	69%	Pass
Leg Bolts	62%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Uplift (Kips)	301.1	406.5	299.0	74%
Axial (Kips)	343.0	463.1	346.6	75%
TOT Shear (Kips)	54.4	73.4	59.5	81%
* The design reactions are factored by 1.35 per ANSI/TIA-222-G, Sec. 15.5.1				

The structure base reactions resulting from this analysis are acceptable when compared to those shown on the original structure drawings, therefore no modification or reinforcement of the foundation will be required.

Deflection, Twist and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Twist (°)	Sway (Rotation) (°)
177.0	Samsung Outdoor CBRS 20W RRH	VERIZON WIRELESS	0.346	0.010	0.221
	Samsung B2/B66A RRH-BR049				
	Samsung B5/B13 RRH-BR04C				
	Commscope SSPX310R				
	Amphenol Antel BXA-80080-4CF-EDIN-X				
	JMA Wireless MX06FRO660-02				

***Deflection, Twist and Sway was evaluated considering a design wind speed of 60 mph (3-Second Gust) per ANSI/TIA-222-G**

AMERICAN TOWER®
CORPORATION

Standard Conditions

All engineering services performed by A.T. Engineering Service, PLLC are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

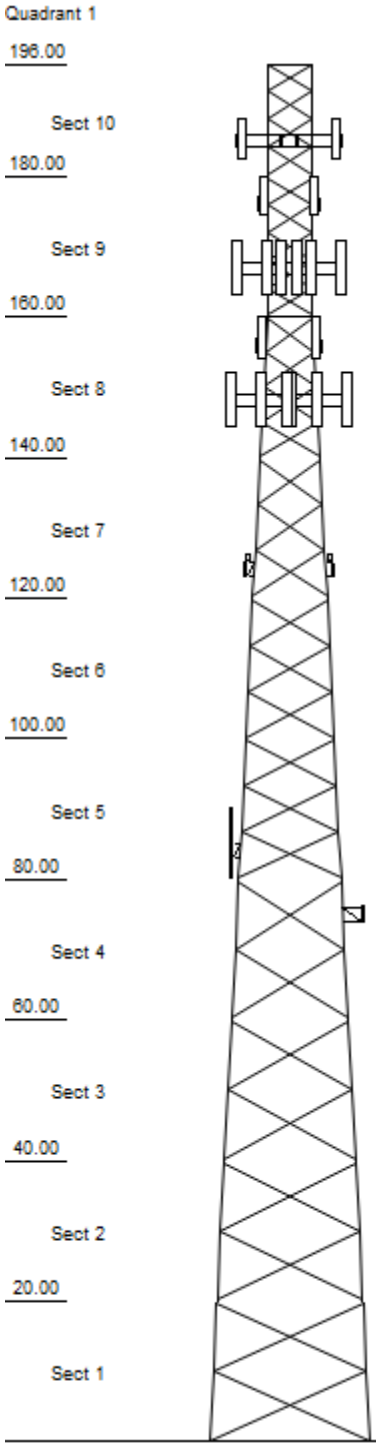
- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

All assets of American Tower Corporation, its affiliates and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

Unless explicitly agreed by both the client and A.T. Engineering Service, PLLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. A.T. Engineering Service, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.



Loads: 97 mph no ice
50 mph w/ 3/4" radial ice
Site Class: D Ss: 0.19 S1: 0.06
60 mph Serviceability

Job Information

Client : VERIZON WIRELESS
Tower : 302470 Location : Ansonia Base Width : 23.00 ft
Code : ANSI/TIA-222-G Top Width : 6.65 ft
Tower Ht : 196.00 ft
Shape : Triangle

Sections Properties

Section	Leg Members		Diagonal Members	Horizontal Members
1	PX 50 ksi	8" DIA PIPE	SAE 50 ksi 4X4X0.25	
2	PSP 50 ksi	ROHN 8 EHS	SAE 50 ksi 4X4X0.25	
3	PSP 50 ksi	ROHN 8 EHS	SAE 50 ksi 3.5X3.5X0.25	
4	PX 50 ksi	6" DIA PIPE	SAE 50 ksi 3.5X3.5X0.25	
5	PSP 50 ksi	ROHN 6 EHS	SAE 50 ksi 3X3X0.25	
6 - 7	PX 50 ksi	5" DIA PIPE	SAE 36 ksi 2.5X2.5X0.25	
8	PX 50 ksi	4" DIA PIPE	SAE 36 ksi 2X2X0.25	SAE 36 ksi 2X2X0.125
9	PX 50 ksi	3" DIA PIPE	SAE 36 ksi 2X2X0.1875	
10	PST 50 ksi	2-1/2" DIA PIPE	SAE 36 ksi 1.75X1.75X0.1875	SAE 36 ksi 2X2X0.125

Discrete Appurtenance

Elev (ft)	Type	Qty	Description
192.00		3	Alcatel-Lucent 1900 MHz 4X45 R
185.00	Mounting Frame	3	Round Sector Frames
185.00	Panel	2	Powerwave Allgon P40-16-XLPP-R
185.00	Panel	1	RFS APXVSPP18-C-A20
185.00		3	Alcatel-Lucent 800 MHz RRH
178.00	Mounting Frame	3	Flat Light Sector Frames
177.00	Panel	6	JMA Wireless MX06FRO660-02
177.00		2	RFS DB-T1-6Z-8AB-0Z
177.00	Panel	3	Amphenol Antel BXA-80080-4CF-E
177.00	Panel	3	Commscope SSPX310R
177.00		3	Samsung B5/B13 RRH-BR04C
177.00		3	Samsung B2/B66A RRH-BR049
177.00		3	Samsung Outdoor CBRS 20W
167.00	Mounting Frame	3	Round Sector Frames
167.00	Panel	1	CCI TPA65R-BU8D
167.00	Panel	1	CCI OPA-65R-LCUU-H8
167.00	Panel	2	CCI TPA65R-BU6D
167.00	Panel	1	CCI OPA65R-BU8B
167.00	Panel	2	CCI OPA-65R-LCUU-H6
167.00	Panel	2	CCI OPA65R-BU6A
167.00		3	Ericsson RRUS-32 (77 lbs)
167.00		3	Ericsson RRUS E2 B29
167.00		3	Ericsson RRUS 11 (Band 12) (55
167.00		3	Ericsson RRUS 4478 B14
167.00		3	Ericsson Radio 8843 - B2 + B66
167.00		3	Ericsson RRUS 4478 B5
167.00		1	Raycap DC6-48-60-0-8F (24" Hei
167.00		3	Raycap DC6-48-60-18-8F ("Squid
167.00		6	Kaelus DBCT108F1V92-1
167.00		6	Powerwave Allgon TT19-08BP111-
157.00	Panel	3	Kathrein Scala 742 213
148.00	Mounting Frame	3	Round Sector Frame
148.00	Panel	3	RFS APXVAARR24_43-U-NA20
148.00	Panel	3	Ericsson AIR-32 B2A/B66Aa
148.00	Panel	3	Ericsson AIR 21, 1.3 M, B2A B4
148.00		3	Ericsson Radio 4449 B12,B71
148.00		3	Ericsson KRY 112 144/1
125.00	Panel	2	Motorola PTP54600
102.00	Straight Arm	2	Standoffs
85.00	Whip	1	Generic 10' Dipole
80.00	Straight Arm	1	Standoffs
76.00	Straight Arm	1	Standoffs
76.00	Whip	1	PCTEL GPS-TMG-HR-26N

Job Information

Client : VERIZON WIRELESS

Tower : 302470 **Location :** Ansonia **Base Width :** 23.00 ft

Code : ANSI/TIA-222-G **Top Width :** 6.65 ft

Tower Ht : 196.00 ft

Shape : Triangle

Linear Appurtenance

Elev (ft) From	To	Qty	Description
8.00	194.00	1	Wave Guide
8.00	185.00	1	Wave Guide
8.00	185.00	3	1 1/4" Hybriflex Cab
8.00	177.00	2	1 5/8" Hybriflex
8.00	177.00	6	1 5/8" Coax
8.00	167.00	1	Wave Guide
8.00	167.00	1	2" conduit
8.00	167.00	12	1 1/4" Coax
8.00	167.00	8	0.78" (19.7mm) 8 AWG
8.00	167.00	2	0.39" (10mm) Fiber T
8.00	157.00	1	Waveguide
8.00	157.00	6	1 5/8" Coax
8.00	148.00	1	Wave Guide
0.00	148.00	6	1 5/8" Coax
0.00	148.00	3	1 5/8" (1.63"-41.3mm
0.00	148.00	1	1 1/4" (1.25"- 31.8m
8.00	125.00	2	1/4" Coax
8.00	85.00	1	1/2" Coax
8.00	76.00	1	1/2" Coax

Global Base Foundation Design Loads

Load Case	Moment (k-ft)	Vertical (kip)	Horizontal (kip)
DL + WL	6,542.65	54.52	59.49
DL + WL + IL	2,243.46	156.95	21.08

Individual Base Foundation Design Loads

Vertical (kip)	Uplift (kip)	Horizontal (kip)
346.64	298.97	36.10

Site Number:	302470	Code:	ANSI/TIA-222-G	
Site Name:	Ansonia Wakelee, CT	Engineering Number:	12977015_C3_03	10/23/2019 2:19:48 PM
Customer:	VERIZON WIRELESS			

Analysis Parameters

Location:	New Haven County, CT	Height (ft):	196
Code:	ANSI/TIA-222-G	Base Elevation (ft):	0.00
Shape:	Triangle	Bottom Face Width (ft):	23.00
Tower Manufacturer:	Rohn	Top Face Width (ft):	6.65
Tower Type:	Self Support	Anchor Bolt Detail Type	d
Kd:			
Ke:			

Ice & Wind Parameters

Structure Class:	II	Design Windspeed Without Ice:	97 mph
Exposure Category:	C	Design Windspeed With Ice:	50 mph
Topographic Category:	1	Operational Windspeed:	60 mph
Crest Height:	0 ft	Design Ice Thickness:	0.75 in

Seismic Parameters

Analysis Method:	Equivalent Modal Analysis & Equivalent Lateral Force Methods				
Site Class:	D - Stiff Soil				
Period Based on Rayleigh Method (sec):	0.92				
T_L (sec):	6	p:	1.3	C_S:	0.035
S_S:	0.190	S_1:	0.060	C_S, Max:	0.035
F_a:	1.600	F_V:	2.400	C_S, Min:	0.030
S_{ds}:	0.203	S_{d1}:	0.096		

Load Cases

1.2D + 1.6W Normal	97 mph Normal with No Ice
1.2D + 1.6W 60 deg	97 mph 60 degree with No Ice
1.2D + 1.6W 90 deg	97 mph 90 degree with No Ice
0.9D + 1.6W Normal	97 mph Normal with No Ice (Reduced DL)
0.9D + 1.6W 60 deg	97 mph 60 deg with No Ice (Reduced DL)
0.9D + 1.6W 90 deg	97 mph 90 deg with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi Normal	50 mph Normal with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 60 deg	50 mph 60 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 90 deg	50 mph 90 deg with 0.75 in Radial Ice
(1.2 + 0.2Sds) * DL + E Normal	Seismic Normal
(1.2 + 0.2Sds) * DL + E 60 deg	Seismic 60 deg
(1.2 + 0.2Sds) * DL + E 90 deg	Seismic 90 deg
(0.9 - 0.2Sds) * DL + E Normal	Seismic (Reduced DL) Normal
(0.9 - 0.2Sds) * DL + E 60 deg	Seismic (Reduced DL) 60 deg
(0.9 - 0.2Sds) * DL + E 90 deg	Seismic (Reduced DL) 90 deg
1.0D + 1.0W Service Normal	Serviceability - 60 mph Wind Normal
1.0D + 1.0W Service 60 deg	Serviceability - 60 mph Wind 60 deg
1.0D + 1.0W Service 90 deg	Serviceability - 60 mph Wind 90 deg

Tower Loading

Discrete Appurtenance Properties 1.2D + 1.6W

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient. Factor	Vert. Ecc.(ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
192.0	Alcatel-Lucent 1900	3	60	2.3	2.1	11.1	10.7	1.00	0.50	0.0	0.0	29.73	141	216
185.0	Alcatel-Lucent 800	3	53	2.1	1.6	13.0	10.8	0.80	0.50	0.0	0.0	29.50	103	191
185.0	Powerwave Allgon	2	64	9.1	4.5	20.0	6.5	0.80	1.00	0.0	0.0	29.50	582	154
185.0	RFS APXVSPP18-C-	1	57	8.0	6.0	11.8	7.0	0.80	1.00	0.0	0.0	29.50	257	68
185.0	Round Sector	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	29.50	975	1080
178.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	29.26	1074	1440
177.0	Amphenol Antel BXA-	3	12	3.6	4.0	8.0	5.9	0.80	0.72	0.0	0.0	29.22	245	43
177.0	Commscope	3	17	2.9	2.5	11.8	4.5	0.80	0.67	0.0	0.0	29.22	185	59
177.0	JMA Wireless	6	46	9.9	5.9	15.4	10.7	0.80	0.71	0.0	0.0	29.22	1337	331
177.0	RFS DB-T1-6Z-8AB-	2	44	4.8	2.0	24.0	10.0	0.80	0.72	1.0	220.0	29.26	220	106
177.0	Samsung B2/B66A	3	84	1.9	1.3	15.0	10.0	0.80	0.50	0.0	0.0	29.22	90	304
177.0	Samsung B5/B13	3	70	1.9	1.3	15.0	8.1	0.80	0.50	0.0	0.0	29.22	90	253
177.0	Samsung Outdoor	3	19	0.9	1.0	8.5	4.1	0.80	0.50	0.0	0.0	29.22	41	67
167.0	CCI OPA-65R-LCUU-	2	73	9.7	6.0	14.8	7.4	0.80	0.75	0.0	0.0	28.87	455	175
167.0	CCI OPA-65R-LCUU-	1	88	13.0	7.7	14.8	7.4	0.80	1.00	0.0	0.0	28.87	408	106
167.0	CCI OPA65R-BU6A	2	58	7.8	5.9	11.7	8.4	0.80	0.79	0.0	0.0	28.87	390	138
167.0	CCI OPA65R-BU8B	1	69	11.2	8.0	11.7	8.4	0.80	1.00	0.0	0.0	28.87	352	83
167.0	CCI TPA65R-BU6D	2	68	12.9	5.9	21.0	7.8	0.80	0.72	0.0	0.0	28.87	582	162
167.0	CCI TPA65R-BU8D	1	83	18.1	8.0	21.0	7.8	0.80	1.00	0.0	0.0	28.87	568	99
167.0	Ericsson Radio 8843	3	75	2.0	1.5	13.2	11.3	0.80	0.50	0.0	0.0	28.87	93	270
167.0	Ericsson RRUS 11	3	55	2.5	1.5	17.0	7.2	0.80	0.50	0.0	0.0	28.87	119	198
167.0	Ericsson RRUS 4478	3	59	2.0	1.5	13.4	8.3	0.80	0.50	0.0	0.0	28.87	95	214
167.0	Ericsson RRUS 4478	3	60	1.8	1.4	13.4	7.7	0.80	0.50	0.0	0.0	28.87	87	216
167.0	Ericsson RRUS E2	3	60	3.2	1.7	18.5	7.5	0.80	0.50	0.0	0.0	28.87	148	216
167.0	Ericsson RRUS-32	3	77	3.3	2.5	13.3	9.5	0.80	0.50	0.0	0.0	28.87	156	277
167.0	Kaelus	6	14	0.6	0.9	7.1	6.8	0.80	0.50	0.0	0.0	28.87	59	100
167.0	Powerwave Allgon	6	16	0.6	0.8	6.7	5.4	0.80	0.50	0.0	0.0	28.87	52	115
167.0	Raycap DC6-48-60-0-	1	33	1.5	2.0	11.0	11.0	0.80	1.00	0.0	0.0	28.87	46	39
167.0	Raycap DC6-48-60-	3	32	1.5	2.0	11.0	11.0	0.80	1.00	0.0	0.0	28.87	139	114
167.0	Round Sector	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	28.87	852	1080
157.0	Kathrein Scala 742	3	22	5.1	6.4	6.1	2.7	1.00	0.67	0.0	0.0	28.49	400	79
148.0	Ericsson AIR 21, 1.3	3	83	6.1	4.7	12.0	8.0	0.80	0.71	0.0	0.0	28.14	395	299
148.0	Ericsson AIR-32	3	132	6.5	4.7	12.9	8.7	0.80	0.71	0.0	0.0	28.14	425	476
148.0	Ericsson KRY 112	3	11	0.3	0.6	6.1	2.7	0.80	0.50	0.0	0.0	28.14	16	40
148.0	Ericsson Radio 4449	3	74	1.6	1.2	13.2	9.3	0.80	0.50	0.0	0.0	28.14	75	266
148.0	RFS	3	128	20.2	8.0	24.0	8.7	0.80	0.63	0.0	0.0	28.14	1171	460
148.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	28.14	831	1080
125.0	Motorola PTP54600	2	12	1.8	1.2	14.5	3.8	1.00	0.50	4.0	260.3	27.34	65	29
102.0	Standoffs	2	75	2.5	0.0	0.0	0.0	1.00	0.90	0.0	0.0	26.02	159	180
85.00	Generic 10' Dipole	1	30	3.8	10.0	3.0	3.0	1.00	1.00	0.0	0.0	25.04	128	36
80.00	Standoffs	1	75	2.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	24.72	84	90
76.00	PCTEL GPS-TMG-HR-	1	1	0.1	0.4	3.2	3.2	1.00	1.00	0.0	0.0	24.46	3	1
76.00	Standoffs	1	75	2.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	24.46	83	90
	Totals	113	9201	622.5									13775	11041

Discrete Appurtenance Properties 0.9D + 1.6W

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient. Factor	Vert. Ecc.(ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
192.0	Alcatel-Lucent 1900	3	60	2.3	2.1	11.1	10.7	1.00	0.50	0.0	0.0	29.73	141	162
185.0	Alcatel-Lucent 800	3	53	2.1	1.6	13.0	10.8	0.80	0.50	0.0	0.0	29.50	103	143
185.0	Powerwave Allgon	2	64	9.1	4.5	20.0	6.5	0.80	1.00	0.0	0.0	29.50	582	115

Site Number: 302470 Code: ANSI/TIA-222-G

Site Name: Ansonia Wakelee, CT Engineering Number: 12977015_C3_03 10/23/2019 2:19:48 PM

Customer: VERIZON WIRELESS

Tower Loading

185.0	RFS APXVSPP18-C-	1	57	8.0	6.0	11.8	7.0	0.80	1.00	0.0	0.0	29.50	257	51
185.0	Round Sector	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	29.50	975	810
178.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	29.26	1074	1080
177.0	Amphenol Antel BXA-	3	12	3.6	4.0	8.0	5.9	0.80	0.72	0.0	0.0	29.22	245	32
177.0	Commscope	3	17	2.9	2.5	11.8	4.5	0.80	0.67	0.0	0.0	29.22	185	45
177.0	JMA Wireless	6	46	9.9	5.9	15.4	10.7	0.80	0.71	0.0	0.0	29.22	1337	248
177.0	RFS DB-T1-6Z-8AB-	2	44	4.8	2.0	24.0	10.0	0.80	0.72	1.0	220.0	29.26	220	79
177.0	Samsung B2/B66A	3	84	1.9	1.3	15.0	10.0	0.80	0.50	0.0	0.0	29.22	90	228
177.0	Samsung B5/B13	3	70	1.9	1.3	15.0	8.1	0.80	0.50	0.0	0.0	29.22	90	190
177.0	Samsung Outdoor	3	19	0.9	1.0	8.5	4.1	0.80	0.50	0.0	0.0	29.22	41	50
167.0	CCI OPA-65R-LCUU-	2	73	9.7	6.0	14.8	7.4	0.80	0.75	0.0	0.0	28.87	455	131
167.0	CCI OPA-65R-LCUU-	1	88	13.0	7.7	14.8	7.4	0.80	1.00	0.0	0.0	28.87	408	79
167.0	CCI OPA65R-BU6A	2	58	7.8	5.9	11.7	8.4	0.80	0.79	0.0	0.0	28.87	390	104
167.0	CCI OPA65R-BU8B	1	69	11.2	8.0	11.7	8.4	0.80	1.00	0.0	0.0	28.87	352	62
167.0	CCI TPA65R-BU6D	2	68	12.9	5.9	21.0	7.8	0.80	0.72	0.0	0.0	28.87	582	122
167.0	CCI TPA65R-BU8D	1	83	18.1	8.0	21.0	7.8	0.80	1.00	0.0	0.0	28.87	568	74
167.0	Ericsson Radio 8843	3	75	2.0	1.5	13.2	11.3	0.80	0.50	0.0	0.0	28.87	93	203
167.0	Ericsson RRUS 11	3	55	2.5	1.5	17.0	7.2	0.80	0.50	0.0	0.0	28.87	119	149
167.0	Ericsson RRUS 4478	3	59	2.0	1.5	13.4	8.3	0.80	0.50	0.0	0.0	28.87	95	160
167.0	Ericsson RRUS 4478	3	60	1.8	1.4	13.4	7.7	0.80	0.50	0.0	0.0	28.87	87	162
167.0	Ericsson RRUS E2	3	60	3.2	1.7	18.5	7.5	0.80	0.50	0.0	0.0	28.87	148	162
167.0	Ericsson RRUS-32	3	77	3.3	2.5	13.3	9.5	0.80	0.50	0.0	0.0	28.87	156	208
167.0	Kaelus	6	14	0.6	0.9	7.1	6.8	0.80	0.50	0.0	0.0	28.87	59	75
167.0	Powerwave Allgon	6	16	0.6	0.8	6.7	5.4	0.80	0.50	0.0	0.0	28.87	52	86
167.0	Raycap DC6-48-60-0-	1	33	1.5	2.0	11.0	11.0	0.80	1.00	0.0	0.0	28.87	46	30
167.0	Raycap DC6-48-60-	3	32	1.5	2.0	11.0	11.0	0.80	1.00	0.0	0.0	28.87	139	86
167.0	Round Sector	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	28.87	852	810
157.0	Kathrein Scala 742	3	22	5.1	6.4	6.1	2.7	1.00	0.67	0.0	0.0	28.49	400	59
148.0	Ericsson AIR 21, 1.3	3	83	6.1	4.7	12.0	8.0	0.80	0.71	0.0	0.0	28.14	395	224
148.0	Ericsson AIR-32	3	132	6.5	4.7	12.9	8.7	0.80	0.71	0.0	0.0	28.14	425	357
148.0	Ericsson KRY 112	3	11	0.3	0.6	6.1	2.7	0.80	0.50	0.0	0.0	28.14	16	30
148.0	Ericsson Radio 4449	3	74	1.6	1.2	13.2	9.3	0.80	0.50	0.0	0.0	28.14	75	200
148.0	RFS	3	128	20.2	8.0	24.0	8.7	0.80	0.63	0.0	0.0	28.14	1171	345
148.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	28.14	831	810
125.0	Motorola PTP54600	2	12	1.8	1.2	14.5	3.8	1.00	0.50	4.0	260.3	27.34	65	22
102.0	Standoffs	2	75	2.5	0.0	0.0	0.0	1.00	0.90	0.0	0.0	26.02	159	135
85.00	Generic 10' Dipole	1	30	3.8	10.0	3.0	3.0	1.00	1.00	0.0	0.0	25.04	128	27
80.00	Standoffs	1	75	2.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	24.72	84	68
76.00	PCTEL GPS-TMG-HR-	1	1	0.1	0.4	3.2	3.2	1.00	1.00	0.0	0.0	24.46	3	1
76.00	Standoffs	1	75	2.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	24.46	83	68
	Totals	113	9201	622.5									13775	8280

Discrete Appurtenance Properties 1.2D + 1.0Di + 1.0Wi

Elevation (ft)	Description	Qty	Ice Wt (lb)	Ice EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient. Factor	Vert. Ecc.(ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
192.0	Alcatel-Lucent 1900	3	143	3.4	2.1	11.1	10.7	1.00	0.50	0.0	0.0	7.90	35	464
185.0	Alcatel-Lucent 800	3	129	3.1	1.6	13.0	10.8	0.80	0.50	0.0	0.0	7.84	25	418
185.0	Powerwave Allgon	2	254	11.3	4.5	20.0	6.5	0.80	1.00	0.0	0.0	7.84	121	534
185.0	RFS APXVSPP18-C-	1	234	10.9	6.0	11.8	7.0	0.80	1.00	0.0	0.0	7.84	58	245
185.0	Round Sector	3	621	24.7	0.0	0.0	0.0	0.75	0.75	0.0	0.0	7.84	277	2044
178.0	Flat Light Sector	3	705	33.2	0.0	0.0	0.0	0.75	0.67	0.0	0.0	7.77	331	2356
177.0	Amphenol Antel BXA-	3	101	5.4	4.0	8.0	5.9	0.80	0.72	0.0	0.0	7.76	62	311
177.0	Commscope	3	83	4.1	2.5	11.8	4.5	0.80	0.67	0.0	0.0	7.76	44	259
177.0	JMA Wireless	6	289	12.7	5.9	15.4	10.7	0.80	0.71	0.0	0.0	7.76	285	1791
177.0	RFS DB-T1-6Z-8AB-	2	172	6.2	2.0	24.0	10.0	0.80	0.72	1.0	47.5	7.77	48	361

Tower Loading

177.0	Samsung B2/B66A	3	149	2.8	1.3	15.0	10.0	0.80	0.50	0.0	0.0	7.76	22	498
177.0	Samsung B5/B13	3	128	2.8	1.3	15.0	8.1	0.80	0.50	0.0	0.0	7.76	22	427
177.0	Samsung Outdoor	3	43	1.5	1.0	8.5	4.1	0.80	0.50	0.0	0.0	7.76	12	140
167.0	CCI OPA-65R-LCUU-	2	280	12.5	6.0	14.8	7.4	0.80	0.75	0.0	0.0	7.67	98	588
167.0	CCI OPA-65R-LCUU-	1	349	16.6	7.7	14.8	7.4	0.80	1.00	0.0	0.0	7.67	87	366
167.0	CCI OPA65R-BU6A	2	243	10.6	5.9	11.7	8.4	0.80	0.79	0.0	0.0	7.67	88	509
167.0	CCI OPA65R-BU8B	1	314	14.5	8.0	11.7	8.4	0.80	1.00	0.0	0.0	7.67	76	328
167.0	CCI TPA65R-BU6D	2	333	15.7	5.9	21.0	7.8	0.80	0.72	0.0	0.0	7.67	118	692
167.0	CCI TPA65R-BU8D	1	432	21.8	8.0	21.0	7.8	0.80	1.00	0.0	0.0	7.67	114	449
167.0	Ericsson Radio 8843	3	148	2.9	1.5	13.2	11.3	0.80	0.50	0.0	0.0	7.67	23	488
167.0	Ericsson RRUS 11	3	123	3.6	1.5	17.0	7.2	0.80	0.50	0.0	0.0	7.67	28	403
167.0	Ericsson RRUS 4478	3	122	3.0	1.5	13.4	8.3	0.80	0.50	0.0	0.0	7.67	23	401
167.0	Ericsson RRUS 4478	3	116	2.7	1.4	13.4	7.7	0.80	0.50	0.0	0.0	7.67	22	384
167.0	Ericsson RRUS E2	3	142	4.3	1.7	18.5	7.5	0.80	0.50	0.0	0.0	7.67	34	462
167.0	Ericsson RRUS-32	3	176	4.6	2.5	13.3	9.5	0.80	0.50	0.0	0.0	7.67	36	573
167.0	Kaelus	6	39	1.2	0.9	7.1	6.8	0.80	0.50	0.0	0.0	7.67	18	253
167.0	Powerwave Allgon	6	36	1.1	0.8	6.7	5.4	0.80	0.50	0.0	0.0	7.67	17	238
167.0	Raycap DC6-48-60-0-	1	141	2.2	2.0	11.0	11.0	0.80	1.00	0.0	0.0	7.67	11	148
167.0	Raycap DC6-48-60-	3	94	2.2	2.0	11.0	11.0	0.80	1.00	0.0	0.0	7.67	34	302
167.0	Round Sector	3	618	24.6	0.0	0.0	0.0	0.75	0.67	0.0	0.0	7.67	242	2034
157.0	Kathrein Scala 742	3	135	6.4	6.4	6.1	2.7	1.00	0.67	0.0	0.0	7.57	83	418
148.0	Ericsson AIR 21, 1.3	3	229	8.2	4.7	12.0	8.0	0.80	0.71	0.0	0.0	7.48	89	738
148.0	Ericsson AIR-32	3	292	8.7	4.7	12.9	8.7	0.80	0.71	0.0	0.0	7.48	94	956
148.0	Ericsson KRY 112	3	22	0.8	0.6	6.1	2.7	0.80	0.50	0.0	0.0	7.48	6	72
148.0	Ericsson Radio 4449	3	130	2.5	1.2	13.2	9.3	0.80	0.50	0.0	0.0	7.48	19	435
148.0	RFS	3	521	24.0	8.0	24.0	8.7	0.80	0.63	0.0	0.0	7.48	230	1641
148.0	Round Sector Frame	3	669	31.0	0.0	0.0	0.0	0.75	0.67	0.0	0.0	7.48	297	2186
125.0	Motorola PTP54600	2	51	2.6	1.2	14.5	3.8	1.00	0.50	4.0	64.4	7.26	16	108
102.0	Standoffs	2	100	2.8	0.0	0.0	0.0	1.00	0.90	0.0	0.0	6.91	30	231
85.00	Generic 10' Dipole	1	136	9.5	10.0	3.0	3.0	1.00	1.00	0.0	0.0	6.65	54	142
80.00	Standoffs	1	99	2.8	0.0	0.0	0.0	1.00	1.00	0.0	0.0	6.57	16	114
76.00	PCTEL GPS-TMG-HR-	1	5	0.3	0.4	3.2	3.2	1.00	1.00	0.0	0.0	6.50	1	5
76.00	Standoffs	1	99	2.8	0.0	0.0	0.0	1.00	1.00	0.0	0.0	6.50	16	114
	Totals	113	23786	926.2									3358	25627

Discrete Appurtenance Properties 1.0D + 1.0W Service

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient. Factor	Vert. Ecc.(ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
192.0	Alcatel-Lucent 1900	3	60	2.3	2.1	11.1	10.7	1.00	0.50	0.0	0.0	11.37	34	180
185.0	Alcatel-Lucent 800	3	53	2.1	1.6	13.0	10.8	0.80	0.50	0.0	0.0	11.29	25	159
185.0	Powerwave Allgon	2	64	9.1	4.5	20.0	6.5	0.80	1.00	0.0	0.0	11.29	139	128
185.0	RFS APXVSPP18-C-	1	57	8.0	6.0	11.8	7.0	0.80	1.00	0.0	0.0	11.29	62	57
185.0	Round Sector	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	11.29	233	900
178.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	11.19	257	1200
177.0	Amphenol Antel BXA-	3	12	3.6	4.0	8.0	5.9	0.80	0.72	0.0	0.0	11.18	59	36
177.0	Commscope	3	17	2.9	2.5	11.8	4.5	0.80	0.67	0.0	0.0	11.18	44	50
177.0	JMA Wireless	6	46	9.9	5.9	15.4	10.7	0.80	0.71	0.0	0.0	11.18	320	276
177.0	RFS DB-T1-6Z-8AB-	2	44	4.8	2.0	24.0	10.0	0.80	0.72	1.0	52.6	11.19	53	88
177.0	Samsung B2/B66A	3	84	1.9	1.3	15.0	10.0	0.80	0.50	0.0	0.0	11.18	21	253
177.0	Samsung B5/B13	3	70	1.9	1.3	15.0	8.1	0.80	0.50	0.0	0.0	11.18	21	211
177.0	Samsung Outdoor	3	19	0.9	1.0	8.5	4.1	0.80	0.50	0.0	0.0	11.18	10	56
167.0	CCI OPA-65R-LCUU-	2	73	9.7	6.0	14.8	7.4	0.80	0.75	0.0	0.0	11.04	109	146
167.0	CCI OPA-65R-LCUU-	1	88	13.0	7.7	14.8	7.4	0.80	1.00	0.0	0.0	11.04	97	88
167.0	CCI OPA65R-BU6A	2	58	7.8	5.9	11.7	8.4	0.80	0.79	0.0	0.0	11.04	93	115
167.0	CCI OPA65R-BU8B	1	69	11.2	8.0	11.7	8.4	0.80	1.00	0.0	0.0	11.04	84	69

Site Number: 302470 Code: ANSI/TIA-222-G

Site Name: Ansonia Wakelee, CT Engineering Number: 12977015_C3_03 10/23/2019 2:19:48 PM

Customer: VERIZON WIRELESS

Tower Loading

167.0	CCI TPA65R-BU6D	2	68	12.9	5.9	21.0	7.8	0.80	0.72	0.0	0.0	11.04	139	135
167.0	CCI TPA65R-BU8D	1	83	18.1	8.0	21.0	7.8	0.80	1.00	0.0	0.0	11.04	136	83
167.0	Ericsson Radio 8843	3	75	2.0	1.5	13.2	11.3	0.80	0.50	0.0	0.0	11.04	22	225
167.0	Ericsson RRUS 11	3	55	2.5	1.5	17.0	7.2	0.80	0.50	0.0	0.0	11.04	28	165
167.0	Ericsson RRUS 4478	3	59	2.0	1.5	13.4	8.3	0.80	0.50	0.0	0.0	11.04	23	178
167.0	Ericsson RRUS 4478	3	60	1.8	1.4	13.4	7.7	0.80	0.50	0.0	0.0	11.04	21	180
167.0	Ericsson RRUS E2	3	60	3.2	1.7	18.5	7.5	0.80	0.50	0.0	0.0	11.04	35	180
167.0	Ericsson RRUS-32	3	77	3.3	2.5	13.3	9.5	0.80	0.50	0.0	0.0	11.04	37	231
167.0	Kaelus	6	14	0.6	0.9	7.1	6.8	0.80	0.50	0.0	0.0	11.04	14	83
167.0	Powerwave Allgon	6	16	0.6	0.8	6.7	5.4	0.80	0.50	0.0	0.0	11.04	12	96
167.0	Raycap DC6-48-60-0-	1	33	1.5	2.0	11.0	11.0	0.80	1.00	0.0	0.0	11.04	11	33
167.0	Raycap DC6-48-60-	3	32	1.5	2.0	11.0	11.0	0.80	1.00	0.0	0.0	11.04	33	95
167.0	Round Sector	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	11.04	204	900
157.0	Kathrein Scala 742	3	22	5.1	6.4	6.1	2.7	1.00	0.67	0.0	0.0	10.90	96	66
148.0	Ericsson AIR 21, 1.3	3	83	6.1	4.7	12.0	8.0	0.80	0.71	0.0	0.0	10.77	94	249
148.0	Ericsson AIR-32	3	132	6.5	4.7	12.9	8.7	0.80	0.71	0.0	0.0	10.77	102	397
148.0	Ericsson KRY 112	3	11	0.3	0.6	6.1	2.7	0.80	0.50	0.0	0.0	10.77	4	33
148.0	Ericsson Radio 4449	3	74	1.6	1.2	13.2	9.3	0.80	0.50	0.0	0.0	10.77	18	222
148.0	RFS	3	128	20.2	8.0	24.0	8.7	0.80	0.63	0.0	0.0	10.77	280	384
148.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	10.77	199	900
125.0	Motorola PTP54600	2	12	1.8	1.2	14.5	3.8	1.00	0.50	4.0	62.2	10.46	16	24
102.0	Standoffs	2	75	2.5	0.0	0.0	0.0	1.00	0.90	0.0	0.0	9.96	38	150
85.00	Generic 10' Dipole	1	30	3.8	10.0	3.0	3.0	1.00	1.00	0.0	0.0	9.58	31	30
80.00	Standoffs	1	75	2.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	9.46	20	75
76.00	PCTEL GPS-TMG-HR-	1	1	0.1	0.4	3.2	3.2	1.00	1.00	0.0	0.0	9.36	1	1
76.00	Standoffs	1	75	2.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	9.36	20	75
	Totals	113	9201	622.5									3294	9201

Tower Loading

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	Pct In Block	Spread On Faces	Bundling Arrangement	Cluster Dia (in)	Out Of Zone	Spacing (in)	Orientation Factor	Ka Override
8.00	194.0	Wave Guide	1	1.25	5.00	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
8.00	185.0	1 1/4" Hybriflex	3	1.54	1.00	100	Lin App	Individual	0.00	N	1.00	1.00	0.46
8.00	185.0	Wave Guide	1	1.25	5.00	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
8.00	177.0	1 5/8" Coax	6	1.98	0.82	100	Lin App	Individual	0.00	N	1.00	1.00	0.36
8.00	177.0	1 5/8" Hybriflex	2	1.98	1.30	100	Lin App	Individual	0.00	N	1.00	1.00	0.52
8.00	167.0	0.39" (10mm) Fiber	2	0.39	0.06	100	Lin App	Individual	0.00	N	1.00	1.00	0.01
8.00	167.0	0.78" (19.7mm) 8	8	0.78	0.59	100	Lin App	Individual	0.00	N	1.00	1.00	0.01
8.00	167.0	1 1/4" Coax	12	1.55	0.63	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
8.00	167.0	2" conduit	1	2.38	3.65	100	Lin App	Individual	0.00	N	1.00	1.00	0.01
8.00	167.0	Wave Guide	1	1.25	5.00	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
8.00	157.0	1 5/8" Coax	6	1.98	0.82	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
8.00	157.0	Waveguide	1	1.50	6.00	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	148.0	1 1/4" (1.25"-	1	1.25	1.05	100	Lin App	Individual	0.00	N	1.00	1.00	0.01
0.00	148.0	1 5/8" (1.63"-	3	1.63	1.61	100	Lin App	Individual	0.00	N	1.00	1.00	0.01
0.00	148.0	1 5/8" Coax	6	1.98	0.82	100	Lin App	Individual	0.00	N	1.00	1.00	0.36
8.00	148.0	Wave Guide	1	1.25	5.00	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
8.00	125.0	1/4" Coax	2	0.34	0.06	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
8.00	85.00	1/2" Coax	1	0.63	0.15	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
8.00	76.00	1/2" Coax	1	0.63	0.15	100	Lin App	Individual	0.00	N	1.00	1.00	0.00

Site Number: 302470 Code: ANSI/TIA-222-G

Site Name: Ansonia Wakelee, CT Engineering Number: 12977015_C3_03 10/23/2019 2:19:49 PM

Customer: VERIZON WIRELESS

Equivalent Lateral Force Method

(Based on ASCE7-10 Chapters 11, 12 & 15)

Spectral Response Acceleration for Short Period (S_s):	0.19
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Long-Period Transition Period (T_L - Seconds):	6
Importance Factor (I_e):	1.00
Site Coefficient F_a:	1.60
Site Coefficient F_v:	2.40
Response Modification Coefficient (R):	3.00
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.20
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Seismic Response Coefficient (C_s):	0.03
Upper Limit C_s:	0.03
Lower Limit C_s:	0.03
Period based on Rayleigh Method (sec):	0.92
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	1.21
Total Unfactored Dead Load:	45.43 k
Seismic Base Shear (E):	2.06 k

LoadCase (1.2 + 0.2Sds) * DL + E Seismic

Section	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
10	188.00	815	458,175	0.039	79	1,011
9	170.00	1,719	855,962	0.072	148	2,133
8	150.00	2,782	1,190,42	0.100	206	3,451
7	130.00	3,486	1,254,59	0.106	217	4,324
6	110.00	3,617	1,063,66	0.090	184	4,487
5	90.00	4,094	944,592	0.079	164	5,079
4	70.00	4,387	746,957	0.063	129	5,442
3	50.00	4,783	542,208	0.046	94	5,934
2	30.00	5,124	313,176	0.026	54	6,357
1	10.00	5,425	87,821	0.007	15	6,730
Alcatel-Lucent 1900 MHz 4X45 RRH	192.00	180	103,822	0.009	18	223
Alcatel-Lucent 800 MHz RRH	185.00	159	87,682	0.007	15	197
Powerwave Allgon P40-16-XLPP-RRR	185.00	128	70,587	0.006	12	159
RFS APXVSPP18-C-A20	185.00	57	31,433	0.003	5	71
Round Sector Frames	185.00	900	496,315	0.042	86	1,116
Flat Light Sector Frames	178.00	1,200	631,596	0.053	109	1,489
Amphenol Antel BXA-80080-4CF-EDIN-X	177.00	36	18,819	0.002	3	45
Commscope SSPX310R	177.00	49	25,876	0.002	4	61
JMA Wireless MX06FRO660-02	177.00	276	144,281	0.012	25	342
RFS DB-T1-6Z-8AB-0Z	177.00	88	46,003	0.004	8	109
Samsung B2/B66A RRH-BR049	177.00	253	132,362	0.011	23	314
Samsung B5/B13 RRH-BR04C	177.00	211	110,249	0.009	19	262
Samsung Outdoor CBRS 20W RRH	177.00	56	29,170	0.002	5	69
CCI OPA-65R-LCUU-H6	167.00	146	71,140	0.006	12	181
CCI OPA-65R-LCUU-H8	167.00	88	42,879	0.004	7	109

Equivalent Lateral Force Method

CCI OPA65R-BU6A	167.00	115	56,035	0.005	10	143
CCI OPA65R-BU8B	167.00	69	33,621	0.003	6	86
CCI TPA65R-BU6D	167.00	135	65,780	0.006	11	167
CCI TPA65R-BU8D	167.00	83	40,199	0.003	7	102
Ericsson Radio 8843 - B2 + B66A (w/ prot	167.00	225	109,633	0.009	19	279
Ericsson RRUS 11 (Band 12) (55 lb)	167.00	165	80,397	0.007	14	205
Ericsson RRUS 4478 B14	167.00	178	86,829	0.007	15	221
Ericsson RRUS 4478 B5	167.00	180	87,560	0.007	15	223
Ericsson RRUS E2 B29	167.00	180	87,706	0.007	15	223
Ericsson RRUS-32 (77 lbs)	167.00	231	112,556	0.009	19	287
Kaelus DBCT108F1V92-1	167.00	83	40,637	0.003	7	103
Powerwave Allgon TT19-08BP111-001	167.00	96	46,777	0.004	8	119
Raycap DC6-48-60-0-8F (24" Height)	167.00	33	15,982	0.001	3	41
Raycap DC6-48-60-18-8F ("Squid")	167.00	95	46,484	0.004	8	118
Round Sector Frames	167.00	900	438,532	0.037	76	1,116
Kathrein Scala 742 213	157.00	66	29,845	0.003	5	82
Ericsson AIR 21, 1.3 M, B2A B4P	148.00	249	104,840	0.009	18	309
Ericsson AIR-32 B2A/B66Aa	148.00	397	166,987	0.014	29	492
Ericsson KRY 112 144/1	148.00	33	13,894	0.001	2	41
Ericsson Radio 4449 B12,B71	148.00	222	93,472	0.008	16	275
RFS APXVAARR24_43-U-NA20	148.00	384	161,555	0.014	28	476
Round Sector Frame	148.00	900	378,941	0.032	66	1,116
Motorola PTP54600	125.00	24	8,307	0.001	1	30
Standoffs	102.00	150	40,266	0.003	7	186
Generic 10' Dipole	85.00	30	6,460	0.001	1	37
Standoffs	80.00	75	15,008	0.001	3	93
PCTEL GPS-TMG-HR-26N	76.00	1	113	0.000	0	1
Standoffs	76.00	75	14,105	0.001	2	93
		45,432	11,882,306	1.000	2,058	56,359

LoadCase (0.9 - 0.2Sds) * DL + E — Seismic (Reduced DL)

Section	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
10	188.00	815	458,175	0.039	79	700
9	170.00	1,719	855,962	0.072	148	1,478
8	150.00	2,782	1,190,42	0.100	206	2,391
7	130.00	3,486	1,254,59	0.106	217	2,996
6	110.00	3,617	1,063,66	0.090	184	3,108
5	90.00	4,094	944,592	0.079	164	3,519
4	70.00	4,387	746,957	0.063	129	3,770
3	50.00	4,783	542,208	0.046	94	4,111
2	30.00	5,124	313,176	0.026	54	4,404
1	10.00	5,425	87,821	0.007	15	4,662
Alcatel-Lucent 1900 MHz 4X45 RRH	192.00	180	103,822	0.009	18	155
Alcatel-Lucent 800 MHz RRH	185.00	159	87,682	0.007	15	137
Powerwave Allgon P40-16-XLPP-RRR	185.00	128	70,587	0.006	12	110
RFS APXVSPP18-C-A20	185.00	57	31,433	0.003	5	49
Round Sector Frames	185.00	900	496,315	0.042	86	774
Flat Light Sector Frames	178.00	1,200	631,596	0.053	109	1,031
Amphenol Antel BXA-80080-4CF-EDIN-X	177.00	36	18,819	0.002	3	31
Commscope SSPX310R	177.00	49	25,876	0.002	4	43
JMA Wireless MX06FRO660-02	177.00	276	144,281	0.012	25	237
RFS DB-T1-6Z-8AB-0Z	177.00	88	46,003	0.004	8	76

Equivalent Lateral Force Method

Samsung B2/B66A RRH-BR049	177.00	253	132,362	0.011	23	218
Samsung B5/B13 RRH-BR04C	177.00	211	110,249	0.009	19	181
Samsung Outdoor CBRS 20W RRH	177.00	56	29,170	0.002	5	48
CCI OPA-65R-LCUU-H6	167.00	146	71,140	0.006	12	125
CCI OPA-65R-LCUU-H8	167.00	88	42,879	0.004	7	76
CCI OPA65R-BU6A	167.00	115	56,035	0.005	10	99
CCI OPA65R-BU8B	167.00	69	33,621	0.003	6	59
CCI TPA65R-BU6D	167.00	135	65,780	0.006	11	116
CCI TPA65R-BU8D	167.00	83	40,199	0.003	7	71
Ericsson Radio 8843 - B2 + B66A (w/ prot	167.00	225	109,633	0.009	19	193
Ericsson RRUS 11 (Band 12) (55 lb)	167.00	165	80,397	0.007	14	142
Ericsson RRUS 4478 B14	167.00	178	86,829	0.007	15	153
Ericsson RRUS 4478 B5	167.00	180	87,560	0.007	15	154
Ericsson RRUS E2 B29	167.00	180	87,706	0.007	15	155
Ericsson RRUS-32 (77 lbs)	167.00	231	112,556	0.009	19	199
Kaelus DBCT108F1V92-1	167.00	83	40,637	0.003	7	72
Powerwave Allgon TT19-08BP111-001	167.00	96	46,777	0.004	8	83
Raycap DC6-48-60-0-8F (24" Height)	167.00	33	15,982	0.001	3	28
Raycap DC6-48-60-18-8F ("Squid")	167.00	95	46,484	0.004	8	82
Round Sector Frames	167.00	900	438,532	0.037	76	774
Kathrein Scala 742 213	157.00	66	29,845	0.003	5	57
Ericsson AIR 21, 1.3 M, B2A B4P	148.00	249	104,840	0.009	18	214
Ericsson AIR-32 B2A/B66Aa	148.00	397	166,987	0.014	29	341
Ericsson KRY 112 144/1	148.00	33	13,894	0.001	2	28
Ericsson Radio 4449 B12,B71	148.00	222	93,472	0.008	16	191
RFS APXVAARR24_43-U-NA20	148.00	384	161,555	0.014	28	330
Round Sector Frame	148.00	900	378,941	0.032	66	774
Motorola PTP54600	125.00	24	8,307	0.001	1	21
Standoffs	102.00	150	40,266	0.003	7	129
Generic 10' Dipole	85.00	30	6,460	0.001	1	26
Standoffs	80.00	75	15,008	0.001	3	64
PCTEL GPS-TMG-HR-26N	76.00	1	113	0.000	0	1
Standoffs	76.00	75	14,105	0.001	2	64
		45,432	11,882,306	1.000	2,058	39,047

Equivalent Modal Analysis Method

(Based on ASCE7-10 Chapters 11, 12 & 15 and ANSI/TIA-G, section 2.7)

Spectral Response Acceleration for Short Period (S_s):	0.19
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Importance Factor (I_e):	1.00
Site Coefficient F_a:	1.60
Site Coefficient F_v:	2.40
Response Modification Coefficient (R):	3.00
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.20
Desing Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Period Based on Rayleigh Method (sec):	0.92
Redundancy Factor (p):	1.30

LoadCase (1.2 + 0.2Sds) * DL + E Seismic

Section	Height Above Base (ft)	Weight (lb)	a	b	c	S_{az}	Horizontal Force (lb)	Vertical Force (lb)
10	188.00	815	1.739	1.275	0.876	0.330	116	1,011
9	170.00	1,719	1.422	0.326	0.455	0.168	125	2,133
8	150.00	2,782	1.107	-0.066	0.191	0.068	83	3,451
7	130.00	3,486	0.831	-0.117	0.063	0.037	56	4,324
6	110.00	3,617	0.595	-0.051	0.014	0.041	64	4,487
5	90.00	4,094	0.399	0.019	0.007	0.048	86	5,079
4	70.00	4,387	0.241	0.057	0.018	0.046	87	5,442
3	50.00	4,783	0.123	0.070	0.034	0.038	79	5,934
2	30.00	5,124	0.044	0.071	0.042	0.030	67	6,357
1	10.00	5,425	0.005	0.044	0.025	0.017	40	6,730
Alcatel-Lucent 1900 MHz 4X45	192.00	180	1.814	1.601	1.001	0.375	29	223
Alcatel-Lucent 800 MHz RRH	185.00	159	1.684	1.062	0.790	0.298	21	197
Powerwave Allgon P40-16-XLPP-	185.00	128	1.684	1.062	0.790	0.298	17	159
RFS APXVSPP18-C-A20	185.00	57	1.684	1.062	0.790	0.298	7	71
Round Sector Frames	185.00	900	1.684	1.062	0.790	0.298	116	1,116
Flat Light Sector Frames	178.00	1,200	1.559	0.657	0.616	0.231	120	1,489
Amphenol Antel BXA-80080-4CF-	177.00	36	1.541	0.608	0.593	0.223	3	45
Commscope SSPX310R	177.00	49	1.541	0.608	0.593	0.223	5	61
JMA Wireless MX06FRO660-02	177.00	276	1.541	0.608	0.593	0.223	27	342
RFS DB-T1-6Z-8AB-0Z	177.00	88	1.541	0.608	0.593	0.223	8	109
Samsung B2/B66A RRH-BR049	177.00	253	1.541	0.608	0.593	0.223	24	314
Samsung B5/B13 RRH-BR04C	177.00	211	1.541	0.608	0.593	0.223	20	262
Samsung Outdoor CBRS 20W	177.00	56	1.541	0.608	0.593	0.223	5	69
CCI OPA-65R-LCUU-H6	167.00	146	1.372	0.233	0.404	0.148	9	181
CCI OPA-65R-LCUU-H8	167.00	88	1.372	0.233	0.404	0.148	6	109
CCI OPA65R-BU6A	167.00	115	1.372	0.233	0.404	0.148	7	143
CCI OPA65R-BU8B	167.00	69	1.372	0.233	0.404	0.148	4	86
CCI TPA65R-BU6D	167.00	135	1.372	0.233	0.404	0.148	9	167
CCI TPA65R-BU8D	167.00	83	1.372	0.233	0.404	0.148	5	102
Ericsson Radio 8843 - B2 + B66A	167.00	225	1.372	0.233	0.404	0.148	14	279
Ericsson RRUS 11 (Band 12) (55	167.00	165	1.372	0.233	0.404	0.148	11	205
Ericsson RRUS 4478 B14	167.00	178	1.372	0.233	0.404	0.148	11	221
Ericsson RRUS 4478 B5	167.00	180	1.372	0.233	0.404	0.148	12	223
Ericsson RRUS E2 B29	167.00	180	1.372	0.233	0.404	0.148	12	223
Ericsson RRUS-32 (77 lbs)	167.00	231	1.372	0.233	0.404	0.148	15	287
Kaelus DBCT108F1V92-1	167.00	83	1.372	0.233	0.404	0.148	5	103
Powerwave Allgon TT19-	167.00	96	1.372	0.233	0.404	0.148	6	119
Raycap DC6-48-60-0-8F (24"	167.00	33	1.372	0.233	0.404	0.148	2	41
Raycap DC6-48-60-18-8F ("Squid")	167.00	95	1.372	0.233	0.404	0.148	6	118
Round Sector Frames	167.00	900	1.372	0.233	0.404	0.148	58	1,116

Equivalent Modal Analysis Method

Kathrein Scala 742 213	157.00	66	1.213	0.017	0.264	0.095	3	82
Ericsson AIR 21, 1.3 M, B2A B4P	148.00	249	1.078	-0.082	0.173	0.063	7	309
Ericsson AIR-32 B2A/B66Aa	148.00	397	1.078	-0.082	0.173	0.063	11	492
Ericsson KRY 112 144/1	148.00	33	1.078	-0.082	0.173	0.063	1	41
Ericsson Radio 4449 B12,B71	148.00	222	1.078	-0.082	0.173	0.063	6	275
RFS APXVAARR24_43-U-NA20	148.00	384	1.078	-0.082	0.173	0.063	10	476
Round Sector Frame	148.00	900	1.078	-0.082	0.173	0.063	24	1,116
Motorola PTP54600	125.00	24	0.769	-0.105	0.045	0.036	0	30
Standoffs	102.00	150	0.512	-0.020	0.008	0.045	3	186
Generic 10' Dipole	85.00	30	0.355	0.031	0.008	0.049	1	37
Standoffs	80.00	75	0.315	0.042	0.011	0.048	2	93
PCTEL GPS-TMG-HR-26N	76.00	1	0.284	0.049	0.014	0.048	0	1
Standoffs	76.00	75	0.284	0.049	0.014	0.048	2	93
		45,432	60.926	15.924	18.919	7.441	1,468	56,359

LoadCase (0.9 - 0.2Sds) * DL + E — Seismic (Reduced DL)

Section	Height Above Base (ft)	Weight (lb)	a	b	c	S_{az}	Horizontal Force (lb)	Vertical Force (lb)
10	188.00	815	1.739	1.275	0.876	0.330	116	700
9	170.00	1,719	1.422	0.326	0.455	0.168	125	1,478
8	150.00	2,782	1.107	-0.066	0.191	0.068	83	2,391
7	130.00	3,486	0.831	-0.117	0.063	0.037	56	2,996
6	110.00	3,617	0.595	-0.051	0.014	0.041	64	3,108
5	90.00	4,094	0.399	0.019	0.007	0.048	86	3,519
4	70.00	4,387	0.241	0.057	0.018	0.046	87	3,770
3	50.00	4,783	0.123	0.070	0.034	0.038	79	4,111
2	30.00	5,124	0.044	0.071	0.042	0.030	67	4,404
1	10.00	5,425	0.005	0.044	0.025	0.017	40	4,662
Alcatel-Lucent 1900 MHz 4X45	192.00	180	1.814	1.601	1.001	0.375	29	155
Alcatel-Lucent 800 MHz RRH	185.00	159	1.684	1.062	0.790	0.298	21	137
Powerwave Allgon P40-16-XLPP-	185.00	128	1.684	1.062	0.790	0.298	17	110
RFS APXVSPP18-C-A20	185.00	57	1.684	1.062	0.790	0.298	7	49
Round Sector Frames	185.00	900	1.684	1.062	0.790	0.298	116	774
Flat Light Sector Frames	178.00	1,200	1.559	0.657	0.616	0.231	120	1,031
Amphenol Antel BXA-80080-4CF-	177.00	36	1.541	0.608	0.593	0.223	3	31
Commscope SSPX310R	177.00	49	1.541	0.608	0.593	0.223	5	43
JMA Wireless MX06FRO660-02	177.00	276	1.541	0.608	0.593	0.223	27	237
RFS DB-T1-6Z-8AB-0Z	177.00	88	1.541	0.608	0.593	0.223	8	76
Samsung B2/B66A RRH-BR049	177.00	253	1.541	0.608	0.593	0.223	24	218
Samsung B5/B13 RRH-BR04C	177.00	211	1.541	0.608	0.593	0.223	20	181
Samsung Outdoor CBRS 20W	177.00	56	1.541	0.608	0.593	0.223	5	48
CCI OPA-65R-LCUU-H6	167.00	146	1.372	0.233	0.404	0.148	9	125
CCI OPA-65R-LCUU-H8	167.00	88	1.372	0.233	0.404	0.148	6	76
CCI OPA65R-BU6A	167.00	115	1.372	0.233	0.404	0.148	7	99
CCI OPA65R-BU8B	167.00	69	1.372	0.233	0.404	0.148	4	59
CCI TPA65R-BU6D	167.00	135	1.372	0.233	0.404	0.148	9	116
CCI TPA65R-BU8D	167.00	83	1.372	0.233	0.404	0.148	5	71
Ericsson Radio 8843 - B2 + B66A	167.00	225	1.372	0.233	0.404	0.148	14	193
Ericsson RRUS 11 (Band 12) (55	167.00	165	1.372	0.233	0.404	0.148	11	142
Ericsson RRUS 4478 B14	167.00	178	1.372	0.233	0.404	0.148	11	153
Ericsson RRUS 4478 B5	167.00	180	1.372	0.233	0.404	0.148	12	154
Ericsson RRUS E2 B29	167.00	180	1.372	0.233	0.404	0.148	12	155
Ericsson RRUS-32 (77 lbs)	167.00	231	1.372	0.233	0.404	0.148	15	199
Kaelus DBCT108F1V92-1	167.00	83	1.372	0.233	0.404	0.148	5	72
Powerwave Allgon TT19-	167.00	96	1.372	0.233	0.404	0.148	6	83
Raycap DC6-48-60-0-8F (24"	167.00	33	1.372	0.233	0.404	0.148	2	28
Raycap DC6-48-60-18-8F ("Squid")	167.00	95	1.372	0.233	0.404	0.148	6	82
Round Sector Frames	167.00	900	1.372	0.233	0.404	0.148	58	774
Kathrein Scala 742 213	157.00	66	1.213	0.017	0.264	0.095	3	57
Ericsson AIR 21, 1.3 M, B2A B4P	148.00	249	1.078	-0.082	0.173	0.063	7	214
Ericsson AIR-32 B2A/B66Aa	148.00	397	1.078	-0.082	0.173	0.063	11	341
Ericsson KRY 112 144/1	148.00	33	1.078	-0.082	0.173	0.063	1	28

Equivalent Modal Analysis Method

Ericsson Radio 4449 B12,B71	148.00	222	1.078	-0.082	0.173	0.063	6	191
RFS APXVAARR24_43-U-NA20	148.00	384	1.078	-0.082	0.173	0.063	10	330
Round Sector Frame	148.00	900	1.078	-0.082	0.173	0.063	24	774
Motorola PTP54600	125.00	24	0.769	-0.105	0.045	0.036	0	21
Standoffs	102.00	150	0.512	-0.020	0.008	0.045	3	129
Generic 10' Dipole	85.00	30	0.355	0.031	0.008	0.049	1	26
Standoffs	80.00	75	0.315	0.042	0.011	0.048	2	64
PCTEL GPS-TMG-HR-26N	76.00	1	0.284	0.049	0.014	0.048	0	1
Standoffs	76.00	75	0.284	0.049	0.014	0.048	2	64
		45,432	60.926	15.924	18.919	7.441	1,468	39,047

Force/Stress Summary

Section: 1 15N25 Bot Elev (ft): 0.00 Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PX - 8" DIA PIPE	-338.60	1.2D + 1.6W Normal	9.77	100	100	100	40.7	50.0	510.32	0	0	0.00	0.00	66	Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 4X4X0.25	-11.12	1.2D + 1.6W 90 deg	23.62	50	50	50	178.3	43.5	13.79	1	1	17.89	23.40	80	Member Z

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PX - 8" DIA PIPE	300.65	0.9D + 1.6W 60 deg	50	65	576.00	0	0	0.00	0.00		52	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG SAE - 4X4X0.25	10.96	1.2D + 1.6W 90 deg	50	65	62.93	1	1	17.89	14.14	17.98	77	Bolt Bear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	272.51	0.9D + 1.6W 60 deg	0.00	0	0	
Top Compression	315.14	1.2D + 1.6W Normal	0.00	0		
Bot Tension	300.65	0.9D + 1.6W 60 deg	605.74	60	10	1" A354-BC
Bot Compression	347.70	1.2D + 1.6W Normal	605.74	69	10	1" A354-BC

Section: 2 14N46 Bot Elev (ft): 20.00 Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PSP - ROHN 8 EHS	-304.75	1.2D + 1.6W Normal	9.77	100	100	100	40.1	50.0	388.80	0	0	0.00	0.00	78	Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 4X4X0.25	-10.69	1.2D + 1.6W 90 deg	22.69	50	50	50	171.3	43.5	14.94	1	1	17.89	23.40	71	Member Z

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PSP - ROHN 8 EHS	272.82	0.9D + 1.6W 60 deg	50	65	437.40	0	0	0.00	0.00		62	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG SAE - 4X4X0.25	10.52	1.2D + 1.6W 90 deg	50	65	62.93	1	1	17.89	14.14	17.98	74	Bolt Bear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	242.21	0.9D + 1.6W 60 deg	0.00	0	0	
Top Compression	279.28	1.2D + 1.6W Normal	0.00	0		
Bot Tension	272.51	0.9D + 1.6W 60 deg	436.14	62	8	1 A325
Bot Compression	0.00		0.00	0		

Force/Stress Summary

Section: 3 13N88 Bot Elev (ft): 40.00 Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PSP - ROHN 8 EHS	-269.43	1.2D + 1.6W Normal	9.77	100	100	100	40.1	50.0	388.78	0	0	0.00	0.00	69	Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 3.5X3.5X0.25	-9.57	1.2D + 1.6W 90 deg	20.87	50	50	50	182.0	50.0	11.52	1	1	17.89	23.40	83	Member Z

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PSP - ROHN 8 EHS	242.61	0.9D + 1.6W 60 deg	50	65	437.40	0	0	0.00	0.00		55	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG SAE - 3.5X3.5X0.25	9.47	0.9D + 1.6W 90 deg	50	65	53.79	1	1	17.89	14.14	17.98	67	Bolt Bear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	212.49	0.9D + 1.6W 60 deg	0.00	0	0	
Top Compression	244.22	1.2D + 1.6W Normal	0.00	0		
Bot Tension	242.21	0.9D + 1.6W 60 deg	436.14	56	8	1 A325
Bot Compression	0.00		0.00	0		

Section: 4 12N50 Bot Elev (ft): 60.00 Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PX - 6" DIA PIPE	-233.95	1.2D + 1.6W Normal	9.77	100	100	100	53.4	50.0	306.88	0	0	0.00	0.00	76	Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 3.5X3.5X0.25	-9.28	1.2D + 1.6W 90 deg	19.04	50	50	50	166.1	50.0	13.84	1	1	17.89	23.40	67	Member Z

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PX - 6" DIA PIPE	212.78	0.9D + 1.6W 60 deg	50	65	378.00	0	0	0.00	0.00		56	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG SAE - 3.5X3.5X0.25	9.29	1.2D + 1.6W 90 deg	50	65	53.79	1	1	17.89	14.14	17.98	65	Bolt Bear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	180.39	0.9D + 1.6W 60 deg	0.00	0	0	
Top Compression	207.03	1.2D + 1.6W Normal	0.00	0		
Bot Tension	212.49	0.9D + 1.6W 60 deg	436.14	49	8	1 A325
Bot Compression	0.00		0.00	0		

Force/Stress Summary

Section: 5 11N223 Bot Elev (ft): 80.00 Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PSP - ROHN 6 EHS	-199.20	1.2D + 1.6W Normal	6.51	100	100	100	35.1	50.0	275.92	0	0	0.00	0.00	72	Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 3X3X0.25	-8.44	1.2D + 1.6W 90 deg	15.90	50	50	50	161.2	50.0	12.52	1	1	17.89	23.40	67	Member Z

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PSP - ROHN 6 EHS	178.53	1.2D + 1.6W 60 deg	50	65	301.95	0	0	0.00	0.00		59	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG SAE - 3X3X0.25	8.30	1.2D + 1.6W 90 deg	50	65	44.65	1	1	17.89	14.14	14.93	58	Bolt Bear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	146.18	0.9D + 1.6W 60 deg	0.00	0	0	
Top Compression	167.83	1.2D + 1.6W Normal	0.00	0		
Bot Tension	180.39	0.9D + 1.6W 60 deg	327.10	55	6	1 A325
Bot Compression	0.00		0.00	0		

Section: 6 10N152 Bot Elev (ft): 100.0 Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PX - 5" DIA PIPE	-160.62	1.2D + 1.6W Normal	6.51	100	100	100	42.5	50.0	240.98	0	0	0.00	0.00	66	Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 2.5X2.5X0.25	-7.13	1.2D + 1.6W 90 deg	14.13	50	50	50	172.8	36.0	9.01	1	1	12.43	17.40	79	Member Z

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PX - 5" DIA PIPE	146.44	0.9D + 1.6W 60 deg	50	65	274.95	0	0	0.00	0.00		53	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG SAE - 2.5X2.5X0.25	7.27	1.2D + 1.6W 90 deg	36	58	32.71	1	1	12.43	10.44	11.83	69	Bolt Bear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	112.42	0.9D + 1.6W 60 deg	0.00	0	0	
Top Compression	129.80	1.2D + 1.6W Normal	0.00	0		
Bot Tension	146.18	0.9D + 1.6W 60 deg	327.10	45	6	1 A325
Bot Compression	0.00		0.00	0		

Force/Stress Summary

Section: 7 9N216 Bot Elev (ft): 120.0 Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PX - 5" DIA PIPE	-121.91	1.2D + 1.6W Normal	6.51	100	100	100	42.5	50.0	240.99	0	0	0.00	0.00	50	Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 2.5X2.5X0.25	-7.38	1.2D + 1.6W 90 deg	11.25	50	50	50	137.5	36.0	14.22	1	1	12.43	17.40	59	Bolt Shear

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PX - 5" DIA PIPE	111.12	1.2D + 1.6W 60 deg	50	65	274.95	0	0	0.00	0.00		40	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG SAE - 2.5X2.5X0.25	7.24	1.2D + 1.6W 90 deg	36	58	32.71	1	1	12.43	10.44	11.83	69	Bolt Bear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	74.01	0.9D + 1.6W 60 deg	0.00	0	0	
Top Compression	87.35	1.2D + 1.6W Normal	0.00	0		
Bot Tension	112.42	0.9D + 1.6W 60 deg	218.07	52	4	1 A325
Bot Compression	0.00		0.00	0		

Section: 8 A780252 Bot Elev (ft): 140.0 Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PX - 4" DIA PIPE	-81.13	1.2D + 1.6W Normal	4.88	100	100	100	39.6	50.0	176.95	0	0	0.00	0.00	45	Member X
HORIZ SAE - 2X2X0.125	-0.36	1.2D + 1.6W 60 deg	6.760	100	100	100	203.8	36.0	2.61	1	1	12.43	8.70	13	Member Z
DIAG SAE - 2X2X0.25	-6.08	1.2D + 1.6W 90 deg	9.848	50	50	50	151.1	36.0	9.30	1	1	12.43	17.40	65	Member Z

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PX - 4" DIA PIPE	74.21	0.9D + 1.6W 60 deg	50	65	198.45	0	0	0.00	0.00		37	Member
HORIZ SAE - 2X2X0.125	0.28	0.9D + 1.6W Normal	36	58	12.60	1	1	12.43	5.22	4.55	6	Blk Shear
DIAG SAE - 2X2X0.25	6.10	1.2D + 1.6W 90 deg	36	58	24.55	1	1	12.43	10.44	9.11	66	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	35.05	0.9D + 1.6W 60 deg	0.00	0	0	
Top Compression	43.34	1.2D + 1.6W Normal	0.00	0		
Bot Tension	74.01	0.9D + 1.6W 60 deg	218.07	34	4	1 A325
Bot Compression	0.00		0.00	0		

Force/Stress Summary

Section: 9 A780178 Bot Elev (ft): 160.0 Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PX - 3" DIA PIPE	-42.74	1.2D + 1.6W Normal	0.25	100	100	100	2.6	50.0	135.83	0	0	0.00	0.00	31	Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 2X2X0.1875	-5.75	1.2D + 1.6W 90 deg	7.798	50	50	50	119.1	36.0	10.98	2	1	24.85	26.10	52	Member Z

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PX - 3" DIA PIPE	33.99	1.2D + 1.6W 60 deg	50	65	135.90	0	0	0.00	0.00		25	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG SAE - 2X2X0.1875	5.68	1.2D + 1.6W 90 deg	36	58	18.74	2	1	24.85	20.88	12.34	46	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	3.01	0.9D + 1.6W 60 deg	0.00	0	0	
Top Compression	5.01	1.2D + 1.6W Normal	0.00	0		
Bot Tension	35.05	0.9D + 1.6W 60 deg	166.22	21	4	0.875" A325
Bot Compression	0.00		0.00	0		

Section: 10 A780178 Bot Elev (ft): 180.0 Height (ft): 16.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PST - 2-1/2" DIA PIP	-4.91	1.2D + 1.6W Normal	0.25	100	100	100	3.2	50.0	76.62	0	0	0.00	0.00	6	Member X
HORIZ SAE - 2X2X0.125	-0.06	1.2D + 1.6W Normal	6.647	100	100	100	200.4	36.0	2.70	1	1	12.43	8.70	2	Member Z
DIAG SAE - 1.75X1.75X0.18	-1.30	1.2D + 1.6W Normal	7.758	50	50	50	135.7	36.0	7.62	1	1	12.43	13.05	17	Member Z

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PST - 2-1/2" DIA PIP	3.08	0.9D + 1.6W 60 deg	50	65	76.68	0	0	0.00	0.00		4	Member
HORIZ SAE - 2X2X0.125	0.06	1.2D + 1.6W 60 deg	36	58	12.60	1	1	12.43	5.22	4.55	1	Blk Shear
DIAG SAE - 1.75X1.75X0.18	1.34	1.2D + 1.6W 90 deg	36	58	15.67	1	1	12.43	7.83	5.81	22	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	0.00		0.00	0	0	
Top Compression	0.21	1.2D + 1.0Di + 1.0Wi	0.00	0		
Bot Tension	3.01	0.9D + 1.6W 60 deg	120.41	2	4	0.75" A325
Bot Compression	0.00		0.00	0		

Detailed Reactions

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	FX (kip)	FY (kip)	FZ (kip)	(-) = Uplift (+) = Down
1.2D + 1.6W Normal	**13.28**	**00.00**	**0**	**1**	**0.00**	**346.64**	**-36.10**	
	13.28	**00.00**	**120**	**1a**	**12.29**	**-146.06**	**-11.69**	
	13.28	**00.00**	**240**	**1b**	**-12.29**	**-146.06**	**-11.69**	
1.2D + 1.6W 60 deg	**13.28**	**00.00**	**0**	**1**	**-3.59**	**174.68**	**-17.67**	
	13.28	**00.00**	**120**	**1a**	**-17.09**	**174.65**	**5.73**	
	13.28	**00.00**	**240**	**1b**	**-27.86**	**-294.81**	**-16.09**	
1.2D + 1.6W 90 deg	**13.28**	**00.00**	**0**	**1**	**-4.28**	**18.18**	**-1.11**	
	13.28	**00.00**	**120**	**1a**	**-27.18**	**292.55**	**13.27**	
	13.28	**00.00**	**240**	**1b**	**-25.45**	**-256.21**	**-12.17**	
0.9D + 1.6W Normal	**13.28**	**00.00**	**0**	**1**	**0.00**	**341.69**	**-35.81**	
	13.28	**00.00**	**120**	**1a**	**12.53**	**-150.40**	**-11.84**	
	13.28	**00.00**	**240**	**1b**	**-12.53**	**-150.40**	**-11.84**	
0.9D + 1.6W 60 deg	**13.28**	**00.00**	**0**	**1**	**-3.59**	**169.95**	**-17.38**	
	13.28	**00.00**	**120**	**1a**	**-16.84**	**169.91**	**5.58**	
	13.28	**00.00**	**240**	**1b**	**-28.11**	**-298.97**	**-16.23**	
0.9D + 1.6W 90 deg	**13.28**	**00.00**	**0**	**1**	**-4.29**	**13.63**	**-0.82**	
	13.28	**00.00**	**120**	**1a**	**-26.92**	**287.67**	**13.12**	
	13.28	**00.00**	**240**	**1b**	**-25.70**	**-260.42**	**-12.30**	
1.2D + 1.0Di + 1.0Wi Normal	**13.28**	**00.00**	**0**	**1**	**0.00**	**164.95**	**-12.25**	
	13.28	**00.00**	**120**	**1a**	**4.77**	**-4.00**	**-4.42**	
	13.28	**00.00**	**240**	**1b**	**-4.77**	**-4.00**	**-4.42**	
1.2D + 1.0Di + 1.0Wi 60 deg	**13.28**	**00.00**	**0**	**1**	**-1.38**	**107.61**	**-5.93**	
	13.28	**00.00**	**120**	**1a**	**-5.82**	**107.60**	**1.76**	
	13.28	**00.00**	**240**	**1b**	**-10.64**	**-58.25**	**-6.14**	
1.2D + 1.0Di + 1.0Wi 90 deg	**13.28**	**00.00**	**0**	**1**	**-1.62**	**52.32**	**0.14**	
	13.28	**00.00**	**120**	**1a**	**-9.42**	**148.53**	**4.51**	
	13.28	**00.00**	**240**	**1b**	**-9.68**	**-43.90**	**-4.65**	
(1.2 + 0.2Sds) * DL + E Normal M1	**13.28**	**00.00**	**0**	**1**	**0.00**	**32.16**	**-2.44**	
	13.28	**00.00**	**120**	**1a**	**-0.54**	**11.42**	**0.22**	
	13.28	**00.00**	**240**	**1b**	**0.54**	**11.42**	**0.22**	
(1.2 + 0.2Sds) * DL + E Normal M2	**13.28**	**00.00**	**0**	**1**	**0.00**	**28.48**	**-2.09**	
	13.28	**00.00**	**120**	**1a**	**-0.68**	**13.27**	**0.33**	
	13.28	**00.00**	**240**	**1b**	**0.68**	**13.27**	**0.33**	
(1.2 + 0.2Sds) * DL + E 60 deg M1	**13.28**	**00.00**	**0**	**1**	**-0.08**	**25.25**	**-1.82**	
	13.28	**00.00**	**120**	**1a**	**-1.62**	**25.25**	**0.84**	
	13.28	**00.00**	**240**	**1b**	**-0.04**	**4.51**	**-0.02**	
(1.2 + 0.2Sds) * DL + E 60 deg M2	**13.28**	**00.00**	**0**	**1**	**-0.05**	**23.31**	**-1.63**	
	13.28	**00.00**	**120**	**1a**	**-1.44**	**23.31**	**0.77**	
	13.28	**00.00**	**240**	**1b**	**0.28**	**8.40**	**0.16**	
(1.2 + 0.2Sds) * DL + E 90 deg M1	**13.28**	**00.00**	**0**	**1**	**-0.09**	**18.34**	**-1.20**	
	13.28	**00.00**	**120**	**1a**	**-2.00**	**30.31**	**1.10**	
	13.28	**00.00**	**240**	**1b**	**0.08**	**6.36**	**0.10**	
(1.2 + 0.2Sds) * DL + E 90 deg M2	**13.28**	**00.00**	**0**	**1**	**-0.06**	**18.34**	**-1.20**	
	13.28	**00.00**	**120**	**1a**	**-1.72**	**27.12**	**0.96**	

	13.28	**00.00**	**240**	**1b**	**0.35**	**9.56**	**0.24**
(0.9 - 0.2Sds) * DL + E Normal M1	**13.28**	**00.00**	**0**	**1**	**0.00**	**26.51**	**-2.08**
	13.28	**00.00**	**120**	**1a**	**-0.22**	**5.80**	**0.03**
	13.28	**00.00**	**240**	**1b**	**0.22**	**5.80**	**0.03**
(0.9 - 0.2Sds) * DL + E Normal M2	**13.28**	**00.00**	**0**	**1**	**0.00**	**22.83**	**-1.72**
	13.28	**00.00**	**120**	**1a**	**-0.36**	**7.64**	**0.15**
	13.28	**00.00**	**240**	**1b**	**0.36**	**7.64**	**0.15**
(0.9 - 0.2Sds) * DL + E 60 deg M1	**13.28**	**00.00**	**0**	**1**	**-0.08**	**19.61**	**-1.45**
	13.28	**00.00**	**120**	**1a**	**-1.30**	**19.61**	**0.66**
	13.28	**00.00**	**240**	**1b**	**-0.36**	**-1.10**	**-0.21**
(0.9 - 0.2Sds) * DL + E 60 deg M2	**13.28**	**00.00**	**0**	**1**	**-0.05**	**17.67**	**-1.27**
	13.28	**00.00**	**120**	**1a**	**-1.12**	**17.67**	**0.59**
	13.28	**00.00**	**240**	**1b**	**-0.04**	**2.78**	**-0.02**
(0.9 - 0.2Sds) * DL + E 90 deg M1	**13.28**	**00.00**	**0**	**1**	**-0.09**	**12.70**	**-0.83**
	13.28	**00.00**	**120**	**1a**	**-1.68**	**24.66**	**0.91**
	13.28	**00.00**	**240**	**1b**	**-0.24**	**0.75**	**-0.08**
(0.9 - 0.2Sds) * DL + E 90 deg M2	**13.28**	**00.00**	**0**	**1**	**-0.06**	**12.70**	**-0.83**
	13.28	**00.00**	**120**	**1a**	**-1.40**	**21.47**	**0.77**
	13.28	**00.00**	**240**	**1b**	**0.04**	**3.94**	**0.06**
1.0D + 1.0W Service Normal	**13.28**	**00.00**	**0**	**1**	**0.00**	**94.72**	**-9.54**
	13.28	**00.00**	**120**	**1a**	**2.39**	**-24.64**	**-2.51**
	13.28	**00.00**	**240**	**1b**	**-2.39**	**-24.64**	**-2.51**
1.0D + 1.0W Service 60 deg	**13.28**	**00.00**	**0**	**1**	**-0.90**	**53.15**	**-5.02**
	13.28	**00.00**	**120**	**1a**	**-4.80**	**53.14**	**1.73**
	13.28	**00.00**	**240**	**1b**	**-6.21**	**-60.87**	**-3.58**
1.0D + 1.0W Service 90 deg	**13.28**	**00.00**	**0**	**1**	**-1.07**	**15.14**	**-0.96**
	13.28	**00.00**	**120**	**1a**	**-7.28**	**81.82**	**3.59**
	13.28	**00.00**	**240**	**1b**	**-5.62**	**-51.54**	**-2.63**

Max Uplift:	298.97 (kip)	Moment Ice:	2,243.46 (kip-ft)	Moment:	6,542.65 (kip-ft)	1.2D + 1.6W Normal
Max Down:	346.64 (kip)	Total Down Ice:	156.95 (kip)	Total Down:	54.52 (kip)	
Max Shear:	36.10 (kip)	Total Shear Ice:	21.08 (kip)	Total Shear:	59.49 (kip)	

Deflections and Rotations

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
97 mph Normal with No Ice	79.75	0.280	0.0177	0.4464	0.4464
97 mph Normal with No Ice	80.00	0.282	0.0177	0.4503	0.4503
97 mph Normal with No Ice	86.75	0.332	0.0176	0.4356	0.4360
97 mph Normal with No Ice	100.25	0.447	0.0214	0.5734	0.5734
97 mph Normal with No Ice	126.75	0.730	0.0237	0.6809	0.6813
97 mph Normal with No Ice	150.00	1.038	0.0271	0.8330	0.8330
97 mph Normal with No Ice	154.88	1.108	0.0270	0.8326	0.8331
97 mph Normal with No Ice	168.05	1.314	0.0297	0.9179	0.9184
97 mph Normal with No Ice	175.85	1.438	0.0298	0.9234	0.9239
97 mph Normal with No Ice	179.75	1.501	0.0294	0.9809	0.9809
97 mph Normal with No Ice	184.19	1.573	0.0298	0.9116	0.9121
97 mph Normal with No Ice	192.06	1.699	0.0297	0.9188	0.9193
97 mph 60 degree with No Ice	79.75	0.268	-0.0205	0.4273	0.4273
97 mph 60 degree with No Ice	80.00	0.270	-0.0206	0.4307	0.4307
97 mph 60 degree with No Ice	86.75	0.318	-0.0208	0.4172	0.4177
97 mph 60 degree with No Ice	100.25	0.428	-0.0258	0.5488	0.5488
97 mph 60 degree with No Ice	126.75	0.700	-0.0311	0.6519	0.6526
97 mph 60 degree with No Ice	150.00	0.995	0.0343	0.8004	0.8005
97 mph 60 degree with No Ice	154.88	1.063	0.0340	0.7994	0.8001
97 mph 60 degree with No Ice	168.05	1.260	0.0380	0.8829	0.8830
97 mph 60 degree with No Ice	175.85	1.380	0.0385	0.8821	0.8829
97 mph 60 degree with No Ice	179.75	1.440	0.0389	0.9418	0.9419
97 mph 60 degree with No Ice	184.19	1.509	0.0384	0.8748	0.8756
97 mph 60 degree with No Ice	192.06	1.630	0.0385	0.8821	0.8829
97 mph 90 degree with No Ice	79.75	0.270	-0.0245	0.4274	0.4275
97 mph 90 degree with No Ice	80.00	0.272	-0.0246	0.4304	0.4306
97 mph 90 degree with No Ice	86.75	0.321	-0.0252	0.4227	0.4234
97 mph 90 degree with No Ice	100.25	0.432	-0.0312	0.5486	0.5488
97 mph 90 degree with No Ice	126.75	0.707	-0.0383	0.6582	0.6593
97 mph 90 degree with No Ice	150.00	1.005	-0.0424	0.8056	0.8059
97 mph 90 degree with No Ice	154.88	1.074	-0.0420	0.8112	0.8123
97 mph 90 degree with No Ice	168.05	1.273	-0.0455	0.8910	0.8913
97 mph 90 degree with No Ice	175.85	1.394	-0.0456	0.8938	0.8949
97 mph 90 degree with No Ice	179.75	1.455	-0.0456	0.9421	0.9423
97 mph 90 degree with No Ice	184.19	1.524	-0.0456	0.8868	0.8880
97 mph 90 degree with No Ice	192.06	1.646	-0.0456	0.8928	0.8939
97 mph Normal with No Ice (Reduced DL)	79.75	0.280	0.0176	0.4460	0.4460
97 mph Normal with No Ice (Reduced DL)	80.00	0.282	0.0177	0.4498	0.4498
97 mph Normal with No Ice (Reduced DL)	86.75	0.332	0.0176	0.4349	0.4352
97 mph Normal with No Ice (Reduced DL)	100.25	0.446	0.0213	0.5724	0.5724
97 mph Normal with No Ice (Reduced DL)	126.75	0.729	0.0236	0.6795	0.6799
97 mph Normal with No Ice (Reduced DL)	150.00	1.036	0.0270	0.8311	0.8311
97 mph Normal with No Ice (Reduced DL)	154.88	1.106	0.0269	0.8308	0.8312
97 mph Normal with No Ice (Reduced DL)	168.05	1.311	0.0297	0.9157	0.9162
97 mph Normal with No Ice (Reduced DL)	175.85	1.436	0.0297	0.9213	0.9218
97 mph Normal with No Ice (Reduced DL)	179.75	1.498	0.0293	0.9785	0.9785
97 mph Normal with No Ice (Reduced DL)	184.19	1.570	0.0297	0.9096	0.9100
97 mph Normal with No Ice (Reduced DL)	192.06	1.695	0.0297	0.9167	0.9172
97 mph 60 deg with No Ice (Reduced DL)	79.75	0.267	-0.0204	0.4264	0.4264
97 mph 60 deg with No Ice (Reduced DL)	80.00	0.269	-0.0205	0.4298	0.4298
97 mph 60 deg with No Ice (Reduced DL)	86.75	0.317	-0.0208	0.4164	0.4169
97 mph 60 deg with No Ice (Reduced DL)	100.25	0.427	-0.0258	0.5478	0.5478
97 mph 60 deg with No Ice (Reduced DL)	126.75	0.699	-0.0310	0.6506	0.6513
97 mph 60 deg with No Ice (Reduced DL)	150.00	0.993	0.0343	0.7987	0.7987
97 mph 60 deg with No Ice (Reduced DL)	154.88	1.061	0.0339	0.7977	0.7984

97 mph 60 deg with No Ice (Reduced DL)	168.05	1.257	0.0379	0.8807	0.8808
97 mph 60 deg with No Ice (Reduced DL)	175.85	1.377	0.0384	0.8801	0.8809
97 mph 60 deg with No Ice (Reduced DL)	179.75	1.437	0.0388	0.9397	0.9398
97 mph 60 deg with No Ice (Reduced DL)	184.19	1.506	0.0383	0.8728	0.8737
97 mph 60 deg with No Ice (Reduced DL)	192.06	1.627	0.0384	0.8801	0.8809
97 mph 90 deg with No Ice (Reduced DL)	79.75	0.270	-0.0245	0.4267	0.4269
97 mph 90 deg with No Ice (Reduced DL)	80.00	0.272	-0.0246	0.4299	0.4301
97 mph 90 deg with No Ice (Reduced DL)	86.75	0.320	-0.0251	0.4219	0.4227
97 mph 90 deg with No Ice (Reduced DL)	100.25	0.432	-0.0311	0.5476	0.5478
97 mph 90 deg with No Ice (Reduced DL)	126.75	0.706	-0.0383	0.6569	0.6580
97 mph 90 deg with No Ice (Reduced DL)	150.00	1.004	-0.0423	0.8038	0.8041
97 mph 90 deg with No Ice (Reduced DL)	154.88	1.072	-0.0419	0.8095	0.8106
97 mph 90 deg with No Ice (Reduced DL)	168.05	1.270	-0.0454	0.8888	0.8891
97 mph 90 deg with No Ice (Reduced DL)	175.85	1.391	-0.0455	0.8917	0.8929
97 mph 90 deg with No Ice (Reduced DL)	179.75	1.452	-0.0455	0.9398	0.9401
97 mph 90 deg with No Ice (Reduced DL)	184.19	1.522	-0.0455	0.8848	0.8860
97 mph 90 deg with No Ice (Reduced DL)	192.06	1.643	-0.0455	0.8908	0.8919
50 mph Normal with 0.75 in Radial Ice	79.75	0.096	0.0064	0.1490	0.1490
50 mph Normal with 0.75 in Radial Ice	80.00	0.097	0.0064	0.1505	0.1505
50 mph Normal with 0.75 in Radial Ice	86.75	0.114	0.0063	0.1449	0.1451
50 mph Normal with 0.75 in Radial Ice	100.25	0.152	0.0077	0.1904	0.1904
50 mph Normal with 0.75 in Radial Ice	126.75	0.244	0.0084	0.2189	0.2191
50 mph Normal with 0.75 in Radial Ice	150.00	0.342	0.0096	0.2628	0.2628
50 mph Normal with 0.75 in Radial Ice	154.88	0.364	0.0095	0.2626	0.2627
50 mph Normal with 0.75 in Radial Ice	168.05	0.428	0.0103	0.2866	0.2868
50 mph Normal with 0.75 in Radial Ice	175.85	0.467	0.0102	0.2875	0.2877
50 mph Normal with 0.75 in Radial Ice	179.75	0.487	0.0102	0.3037	0.3037
50 mph Normal with 0.75 in Radial Ice	184.19	0.509	0.0101	0.2840	0.2841
50 mph Normal with 0.75 in Radial Ice	192.06	0.548	0.0101	0.2857	0.2859
50 mph 60 deg with 0.75 in Radial Ice	79.75	0.095	-0.0073	0.1518	0.1518
50 mph 60 deg with 0.75 in Radial Ice	80.00	0.096	-0.0073	0.1529	0.1529
50 mph 60 deg with 0.75 in Radial Ice	86.75	0.113	-0.0073	0.1425	0.1427
50 mph 60 deg with 0.75 in Radial Ice	100.25	0.150	-0.0090	0.1881	0.1881
50 mph 60 deg with 0.75 in Radial Ice	126.75	0.241	-0.0107	0.2153	0.2155
50 mph 60 deg with 0.75 in Radial Ice	150.00	0.337	-0.0117	0.2583	0.2583
50 mph 60 deg with 0.75 in Radial Ice	154.88	0.359	-0.0116	0.2577	0.2580
50 mph 60 deg with 0.75 in Radial Ice	168.05	0.422	-0.0124	0.2831	0.2831
50 mph 60 deg with 0.75 in Radial Ice	175.85	0.460	-0.0123	0.2811	0.2813
50 mph 60 deg with 0.75 in Radial Ice	179.75	0.479	-0.0123	0.2976	0.2976
50 mph 60 deg with 0.75 in Radial Ice	184.19	0.501	-0.0122	0.2786	0.2789
50 mph 60 deg with 0.75 in Radial Ice	192.06	0.540	-0.0121	0.2811	0.2814
50 mph 90 deg with 0.75 in Radial Ice	79.75	0.096	-0.0085	0.1502	0.1503
50 mph 90 deg with 0.75 in Radial Ice	80.00	0.096	-0.0085	0.1512	0.1512
50 mph 90 deg with 0.75 in Radial Ice	86.75	0.113	-0.0086	0.1435	0.1437
50 mph 90 deg with 0.75 in Radial Ice	100.25	0.150	-0.0106	0.1863	0.1864
50 mph 90 deg with 0.75 in Radial Ice	126.75	0.241	-0.0126	0.2160	0.2163
50 mph 90 deg with 0.75 in Radial Ice	150.00	0.338	-0.0139	0.2590	0.2591
50 mph 90 deg with 0.75 in Radial Ice	154.88	0.360	-0.0138	0.2602	0.2606
50 mph 90 deg with 0.75 in Radial Ice	168.05	0.423	-0.0148	0.2840	0.2841
50 mph 90 deg with 0.75 in Radial Ice	175.85	0.462	-0.0147	0.2836	0.2840
50 mph 90 deg with 0.75 in Radial Ice	179.75	0.481	-0.0147	0.2976	0.2977
50 mph 90 deg with 0.75 in Radial Ice	184.19	0.503	-0.0146	0.2810	0.2814
50 mph 90 deg with 0.75 in Radial Ice	192.06	0.542	-0.0146	0.2827	0.2831
Seismic Normal M1	79.75	0.012	0.0008	0.0199	0.0199
Seismic Normal M1	80.00	0.012	0.0008	0.0200	0.0200
Seismic Normal M1	86.75	0.015	0.0008	0.0200	0.0200
Seismic Normal M1	100.25	0.020	0.0010	0.0264	0.0264
Seismic Normal M1	126.75	0.033	0.0011	0.0325	0.0325
Seismic Normal M1	150.00	0.048	0.0011	0.0409	0.0409
Seismic Normal M1	154.88	0.052	0.0011	0.0411	0.0412
Seismic Normal M1	168.05	0.061	0.0012	0.0458	0.0458
Seismic Normal M1	175.85	0.068	0.0011	0.0458	0.0458

Seismic Normal M1	179.75	0.071	0.0011	0.0494	0.0494
Seismic Normal M1	184.19	0.074	0.0011	0.0452	0.0452
Seismic Normal M1	192.06	0.081	0.0010	0.0458	0.0458
Seismic Normal M2	79.75	0.009	0.0005	0.0148	0.0148
Seismic Normal M2	80.00	0.009	0.0005	0.0148	0.0148
Seismic Normal M2	86.75	0.011	0.0005	0.0151	0.0151
Seismic Normal M2	100.25	0.015	0.0006	0.0197	0.0197
Seismic Normal M2	126.75	0.025	0.0007	0.0260	0.0260
Seismic Normal M2	150.00	0.037	0.0007	0.0344	0.0344
Seismic Normal M2	154.88	0.040	0.0006	0.0349	0.0349
Seismic Normal M2	168.05	0.049	0.0007	0.0404	0.0404
Seismic Normal M2	175.85	0.054	0.0007	0.0405	0.0405
Seismic Normal M2	179.75	0.057	0.0007	0.0456	0.0456
Seismic Normal M2	184.19	0.060	0.0007	0.0402	0.0402
Seismic Normal M2	192.06	0.066	0.0007	0.0409	0.0409
Seismic 60 deg M1	79.75	0.012	0.0008	0.0208	0.0208
Seismic 60 deg M1	80.00	0.012	0.0008	0.0209	0.0209
Seismic 60 deg M1	86.75	0.014	0.0008	0.0201	0.0201
Seismic 60 deg M1	100.25	0.020	0.0010	0.0266	0.0266
Seismic 60 deg M1	126.75	0.033	0.0011	0.0326	0.0326
Seismic 60 deg M1	150.00	0.048	0.0012	0.0403	0.0403
Seismic 60 deg M1	154.88	0.051	0.0011	0.0407	0.0408
Seismic 60 deg M1	168.05	0.061	0.0012	0.0459	0.0459
Seismic 60 deg M1	175.85	0.068	0.0011	0.0455	0.0455
Seismic 60 deg M1	179.75	0.071	-0.0011	0.0493	0.0493
Seismic 60 deg M1	184.19	0.074	-0.0011	0.0451	0.0451
Seismic 60 deg M1	192.06	0.081	-0.0010	0.0459	0.0459
Seismic 60 deg M2	79.75	0.009	0.0005	0.0151	0.0151
Seismic 60 deg M2	80.00	0.009	0.0005	0.0151	0.0151
Seismic 60 deg M2	86.75	0.010	0.0005	0.0148	0.0148
Seismic 60 deg M2	100.25	0.014	0.0006	0.0196	0.0196
Seismic 60 deg M2	126.75	0.025	0.0007	0.0256	0.0256
Seismic 60 deg M2	150.00	0.036	0.0007	0.0331	0.0331
Seismic 60 deg M2	154.88	0.039	0.0006	0.0338	0.0338
Seismic 60 deg M2	168.05	0.048	-0.0007	0.0396	0.0396
Seismic 60 deg M2	175.85	0.053	-0.0007	0.0394	0.0394
Seismic 60 deg M2	179.75	0.056	-0.0007	0.0446	0.0446
Seismic 60 deg M2	184.19	0.059	-0.0006	0.0393	0.0393
Seismic 60 deg M2	192.06	0.065	-0.0006	0.0402	0.0402
Seismic 90 deg M1	79.75	0.012	-0.0009	0.0206	0.0206
Seismic 90 deg M1	80.00	0.012	-0.0009	0.0206	0.0206
Seismic 90 deg M1	86.75	0.014	-0.0009	0.0201	0.0201
Seismic 90 deg M1	100.25	0.020	-0.0011	0.0263	0.0263
Seismic 90 deg M1	126.75	0.033	-0.0013	0.0326	0.0326
Seismic 90 deg M1	150.00	0.048	-0.0013	0.0407	0.0407
Seismic 90 deg M1	154.88	0.051	-0.0013	0.0412	0.0412
Seismic 90 deg M1	168.05	0.061	-0.0013	0.0459	0.0459
Seismic 90 deg M1	175.85	0.068	-0.0013	0.0459	0.0459
Seismic 90 deg M1	179.75	0.071	-0.0013	0.0490	0.0490
Seismic 90 deg M1	184.19	0.074	-0.0012	0.0453	0.0453
Seismic 90 deg M1	192.06	0.081	-0.0012	0.0459	0.0459
Seismic 90 deg M2	79.75	0.009	-0.0006	0.0152	0.0152
Seismic 90 deg M2	80.00	0.009	-0.0006	0.0153	0.0153
Seismic 90 deg M2	86.75	0.011	-0.0006	0.0152	0.0152
Seismic 90 deg M2	100.25	0.015	-0.0007	0.0198	0.0198
Seismic 90 deg M2	126.75	0.025	-0.0008	0.0261	0.0261
Seismic 90 deg M2	150.00	0.037	-0.0008	0.0342	0.0342
Seismic 90 deg M2	154.88	0.040	-0.0007	0.0350	0.0350
Seismic 90 deg M2	168.05	0.049	-0.0008	0.0404	0.0404
Seismic 90 deg M2	175.85	0.054	-0.0008	0.0406	0.0406
Seismic 90 deg M2	179.75	0.057	-0.0008	0.0451	0.0451
Seismic 90 deg M2	184.19	0.060	-0.0008	0.0403	0.0403

Seismic 90 deg M2	192.06	0.066	-0.0007	0.0410	0.0410
Seismic (Reduced DL) Normal M1	79.75	0.012	0.0008	0.0197	0.0197
Seismic (Reduced DL) Normal M1	80.00	0.012	0.0008	0.0198	0.0198
Seismic (Reduced DL) Normal M1	86.75	0.014	0.0008	0.0200	0.0200
Seismic (Reduced DL) Normal M1	100.25	0.020	0.0010	0.0264	0.0264
Seismic (Reduced DL) Normal M1	126.75	0.033	0.0011	0.0324	0.0324
Seismic (Reduced DL) Normal M1	150.00	0.048	0.0011	0.0407	0.0407
Seismic (Reduced DL) Normal M1	154.88	0.051	0.0011	0.0410	0.0410
Seismic (Reduced DL) Normal M1	168.05	0.061	0.0012	0.0456	0.0456
Seismic (Reduced DL) Normal M1	175.85	0.068	0.0011	0.0456	0.0456
Seismic (Reduced DL) Normal M1	179.75	0.071	0.0011	0.0493	0.0493
Seismic (Reduced DL) Normal M1	184.19	0.074	0.0010	0.0451	0.0451
Seismic (Reduced DL) Normal M1	192.06	0.081	0.0010	0.0456	0.0457
Seismic (Reduced DL) Normal M2	79.75	0.009	0.0005	0.0146	0.0146
Seismic (Reduced DL) Normal M2	80.00	0.009	0.0005	0.0147	0.0147
Seismic (Reduced DL) Normal M2	86.75	0.011	0.0005	0.0151	0.0151
Seismic (Reduced DL) Normal M2	100.25	0.015	0.0006	0.0197	0.0197
Seismic (Reduced DL) Normal M2	126.75	0.025	0.0007	0.0259	0.0260
Seismic (Reduced DL) Normal M2	150.00	0.037	0.0007	0.0342	0.0342
Seismic (Reduced DL) Normal M2	154.88	0.040	0.0006	0.0347	0.0347
Seismic (Reduced DL) Normal M2	168.05	0.049	0.0007	0.0402	0.0402
Seismic (Reduced DL) Normal M2	175.85	0.054	0.0007	0.0404	0.0404
Seismic (Reduced DL) Normal M2	179.75	0.057	0.0007	0.0455	0.0455
Seismic (Reduced DL) Normal M2	184.19	0.060	0.0007	0.0401	0.0401
Seismic (Reduced DL) Normal M2	192.06	0.066	0.0007	0.0408	0.0408
Seismic (Reduced DL) 60 deg M1	79.75	0.012	0.0008	0.0205	0.0205
Seismic (Reduced DL) 60 deg M1	80.00	0.012	0.0008	0.0206	0.0206
Seismic (Reduced DL) 60 deg M1	86.75	0.014	0.0008	0.0200	0.0200
Seismic (Reduced DL) 60 deg M1	100.25	0.020	0.0010	0.0265	0.0265
Seismic (Reduced DL) 60 deg M1	126.75	0.033	0.0011	0.0325	0.0325
Seismic (Reduced DL) 60 deg M1	150.00	0.048	0.0012	0.0403	0.0403
Seismic (Reduced DL) 60 deg M1	154.88	0.051	0.0011	0.0407	0.0407
Seismic (Reduced DL) 60 deg M1	168.05	0.061	0.0012	0.0456	0.0456
Seismic (Reduced DL) 60 deg M1	175.85	0.068	-0.0011	0.0454	0.0454
Seismic (Reduced DL) 60 deg M1	179.75	0.071	-0.0011	0.0492	0.0492
Seismic (Reduced DL) 60 deg M1	184.19	0.074	-0.0010	0.0450	0.0450
Seismic (Reduced DL) 60 deg M1	192.06	0.081	-0.0010	0.0458	0.0458
Seismic (Reduced DL) 60 deg M2	79.75	0.009	0.0005	0.0148	0.0148
Seismic (Reduced DL) 60 deg M2	80.00	0.009	0.0005	0.0149	0.0149
Seismic (Reduced DL) 60 deg M2	86.75	0.010	0.0005	0.0148	0.0148
Seismic (Reduced DL) 60 deg M2	100.25	0.014	0.0006	0.0195	0.0195
Seismic (Reduced DL) 60 deg M2	126.75	0.025	0.0007	0.0255	0.0255
Seismic (Reduced DL) 60 deg M2	150.00	0.036	0.0007	0.0332	0.0332
Seismic (Reduced DL) 60 deg M2	154.88	0.039	0.0006	0.0338	0.0338
Seismic (Reduced DL) 60 deg M2	168.05	0.048	-0.0007	0.0394	0.0394
Seismic (Reduced DL) 60 deg M2	175.85	0.053	-0.0007	0.0394	0.0394
Seismic (Reduced DL) 60 deg M2	179.75	0.056	-0.0006	0.0445	0.0445
Seismic (Reduced DL) 60 deg M2	184.19	0.059	-0.0006	0.0392	0.0392
Seismic (Reduced DL) 60 deg M2	192.06	0.064	-0.0006	0.0401	0.0401
Seismic (Reduced DL) 90 deg M1	79.75	0.012	-0.0009	0.0203	0.0203
Seismic (Reduced DL) 90 deg M1	80.00	0.012	-0.0009	0.0204	0.0204
Seismic (Reduced DL) 90 deg M1	86.75	0.014	-0.0009	0.0201	0.0201
Seismic (Reduced DL) 90 deg M1	100.25	0.020	-0.0011	0.0262	0.0262
Seismic (Reduced DL) 90 deg M1	126.75	0.033	-0.0013	0.0325	0.0325
Seismic (Reduced DL) 90 deg M1	150.00	0.048	-0.0013	0.0405	0.0406
Seismic (Reduced DL) 90 deg M1	154.88	0.051	-0.0013	0.0411	0.0411
Seismic (Reduced DL) 90 deg M1	168.05	0.061	-0.0013	0.0456	0.0456
Seismic (Reduced DL) 90 deg M1	175.85	0.068	-0.0013	0.0457	0.0458
Seismic (Reduced DL) 90 deg M1	179.75	0.071	-0.0013	0.0489	0.0489
Seismic (Reduced DL) 90 deg M1	184.19	0.074	-0.0012	0.0451	0.0452
Seismic (Reduced DL) 90 deg M1	192.06	0.081	-0.0012	0.0457	0.0457
Seismic (Reduced DL) 90 deg M2	79.75	0.009	-0.0006	0.0150	0.0150

Seismic (Reduced DL) 90 deg M2	80.00	0.009	-0.0006	0.0150	0.0150
Seismic (Reduced DL) 90 deg M2	86.75	0.011	-0.0006	0.0151	0.0151
Seismic (Reduced DL) 90 deg M2	100.25	0.015	-0.0007	0.0197	0.0197
Seismic (Reduced DL) 90 deg M2	126.75	0.025	-0.0008	0.0260	0.0260
Seismic (Reduced DL) 90 deg M2	150.00	0.037	-0.0008	0.0340	0.0340
Seismic (Reduced DL) 90 deg M2	154.88	0.040	-0.0007	0.0349	0.0349
Seismic (Reduced DL) 90 deg M2	168.05	0.049	-0.0008	0.0402	0.0402
Seismic (Reduced DL) 90 deg M2	175.85	0.054	-0.0008	0.0405	0.0405
Seismic (Reduced DL) 90 deg M2	179.75	0.057	-0.0008	0.0450	0.0450
Seismic (Reduced DL) 90 deg M2	184.19	0.060	-0.0008	0.0402	0.0402
Seismic (Reduced DL) 90 deg M2	192.06	0.066	-0.0007	0.0409	0.0409
Serviceability - 60 mph Wind Normal	79.75	0.068	0.0042	0.1071	0.1071
Serviceability - 60 mph Wind Normal	80.00	0.068	0.0042	0.1081	0.1081
Serviceability - 60 mph Wind Normal	86.75	0.080	0.0042	0.1050	0.1050
Serviceability - 60 mph Wind Normal	100.25	0.108	0.0051	0.1380	0.1380
Serviceability - 60 mph Wind Normal	126.75	0.176	0.0055	0.1635	0.1636
Serviceability - 60 mph Wind Normal	150.00	0.250	0.0062	0.1998	0.1998
Serviceability - 60 mph Wind Normal	154.88	0.267	0.0061	0.1997	0.1998
Serviceability - 60 mph Wind Normal	168.05	0.316	0.0067	0.2201	0.2202
Serviceability - 60 mph Wind Normal	175.85	0.346	0.0065	0.2213	0.2214
Serviceability - 60 mph Wind Normal	179.75	0.361	0.0065	0.2349	0.2349
Serviceability - 60 mph Wind Normal	184.19	0.378	0.0064	0.2185	0.2186
Serviceability - 60 mph Wind Normal	192.06	0.408	0.0063	0.2201	0.2201
Serviceability - 60 mph Wind 60 deg	79.75	0.065	-0.0049	0.1041	0.1041
Serviceability - 60 mph Wind 60 deg	80.00	0.065	-0.0050	0.1049	0.1049
Serviceability - 60 mph Wind 60 deg	86.75	0.077	-0.0050	0.1008	0.1009
Serviceability - 60 mph Wind 60 deg	100.25	0.103	-0.0062	0.1327	0.1327
Serviceability - 60 mph Wind 60 deg	126.75	0.169	-0.0075	0.1570	0.1571
Serviceability - 60 mph Wind 60 deg	150.00	0.240	-0.0082	0.1923	0.1923
Serviceability - 60 mph Wind 60 deg	154.88	0.256	-0.0081	0.1921	0.1922
Serviceability - 60 mph Wind 60 deg	168.05	0.304	-0.0086	0.2125	0.2125
Serviceability - 60 mph Wind 60 deg	175.85	0.333	-0.0084	0.2117	0.2118
Serviceability - 60 mph Wind 60 deg	179.75	0.347	-0.0084	0.2258	0.2258
Serviceability - 60 mph Wind 60 deg	184.19	0.364	-0.0083	0.2099	0.2101
Serviceability - 60 mph Wind 60 deg	192.06	0.393	-0.0082	0.2117	0.2119
Serviceability - 60 mph Wind 90 deg	79.75	0.066	-0.0058	0.1041	0.1042
Serviceability - 60 mph Wind 90 deg	80.00	0.066	-0.0059	0.1048	0.1049
Serviceability - 60 mph Wind 90 deg	86.75	0.078	-0.0060	0.1022	0.1024
Serviceability - 60 mph Wind 90 deg	100.25	0.105	-0.0074	0.1326	0.1326
Serviceability - 60 mph Wind 90 deg	126.75	0.171	-0.0090	0.1587	0.1589
Serviceability - 60 mph Wind 90 deg	150.00	0.243	-0.0098	0.1939	0.1940
Serviceability - 60 mph Wind 90 deg	154.88	0.259	-0.0097	0.1952	0.1955
Serviceability - 60 mph Wind 90 deg	168.05	0.307	-0.0104	0.2146	0.2147
Serviceability - 60 mph Wind 90 deg	175.85	0.336	-0.0103	0.2149	0.2151
Serviceability - 60 mph Wind 90 deg	179.75	0.351	-0.0103	0.2265	0.2266
Serviceability - 60 mph Wind 90 deg	184.19	0.368	-0.0102	0.2132	0.2134
Serviceability - 60 mph Wind 90 deg	192.06	0.397	-0.0101	0.2146	0.2149

Maximum Reactions Summary

	Vertical (kip)				Horizontal (kip)		Moment (kip-ft)	
Anchor Group	DL+WL	DL+WL+IL	UpLift	Shear	DL+WL	DL+WL+IL	DL+WL	DL+WL+IL
Base	54.52	156.95	346.64	36.10	59.49	21.08	6542.65	2243.46

Trylon

AMERICAN TOWER®

Mount Structural Analysis Report of the Existing V-Frame with proposed modifications

Trylon Project #152690

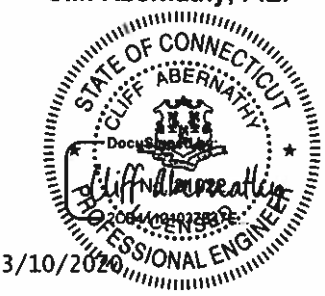
March 7, 2020

Carrier Name	Verizon
ATC Site Code	302470
ATC Site Name	ANSONIA CT
Verizon Site Code	467294
Verizon Site Name	ANSONIA CT
Site Adress	401 Wakelee Ave, Ansonia, New Haven County, CT 06401
Coordinates	41.356069,-73.092025
Structure Type	Self-Support Tower
Structure Height	196-ft
Mount Elevation	177-ft
Antenna Centerline	177-ft
Standard	2015 IBC / ASCE 7-10 / TIA-222-H

Structure Rating =	**82%**	**PASS (with proposed modifications)**

Analysis performed by:
Kowsalya

Reviewed and approved by:
Cliff Abernathy, P.E.



Trylon

Analysis Date: 03/07/2020

MOUNT STRUCTURAL ANALYSIS REPORT

ATC
10 Presidential Way Woburn, MA 01801

Attention: **Blake Paynter**

Subject: Analysis of the Existing V-Frame with proposed modifications installed at 177-ft. elevation

Dear Blake Paynter,

We have been provided with RF information, photos and sketches of the structure for above-referenced site. Verizon is proposing to change the equipment configuration on the existing mounting hardware.

A revised antenna, coax and miscellaneous equipment schematic have been provided to us. We have been asked to evaluate this information to determine whether or not the mounting apparatus is adequate to safely support the proposed loading change.

RISA 3D (version 17), a commercially available analysis software package, was used to create a three-dimensional model of the antenna mounting system and calculate member stresses for various loading cases.

1. Source of data

Document Type	Source	Date
Mount mapping	Trylon	08/20/2019
RFDS (elevation is 177-ft as per client requirements)	Verizon	10/09/2019
Construction Drawing	Verizon	10/31/2019
Structural Analysis Report	ATC	10/23/2019

2. Analysis Criteria

Standard	2015 IBC / ASCE 7-10 / TIA-222-H
Basic Design Wind Speed without Ice (mph)	122
Basic Design Wind Speed with Ice (mph)	50
Basic Design Ice Thickness (in)	1.50
Structure Risk Category	II
Exposure Category	C
Topographic Factor, Kzt	1
Wind Direction Probability Factor, Kd	0.95
Gust Factor, Gh	1.00
Shielding Factor, Ka	0.90
Velocity Pressure Coefficient, Kz	1.43
Rooftop Speed-up Factor, Ks	1.00
Ground Elevation Factor, Ke	1.00
Wind Velocity Pressure w/o ice, qz (lbs/sf)	51.43
Wind Velocity Pressure with ice, qz (lbs/sf)	8.64
Thickness of Radial Glaze, tiz (in)	1.77
Seismic Response Coefficient, Cs	0.10
Live Load Wind Speed (mph)	30
Man Live Load at Mounting Pipes, Lm (lbs)	500
Man Live Load at Mid/End Points, Lv (lbs)	250

Trylon

Analysis Date: 03/07/2020

3. Final Equipment Configuration

Mount Centerline	177 ft.
Antennas Centerline	177 ft.
Antennas Azimuth	30/150/270

Position No.	Total Qty.	Equipment Manufacturer	Equipment Model	Height [in]	Width [in]	Thk. [in]	Weight [lbs]	CaAa Normal w/o ice [in^2]	CaAa Side w/o ice [in^2]	Ice Weight [lbs]	CaAa Normal w/ ice [in^2]	CaAa Side w/ ice [in^2]	Wind Forces without ice						Wind Forces with ice						Note
													0° [lbs]	30° [lbs]	60° [lbs]	90° [lbs]	120° [lbs]	150° [lbs]	0° [lbs]	30° [lbs]	60° [lbs]	90° [lbs]	120° [lbs]	150° [lbs]	
3	3	COMMSCOPE	SSPX310R-V2	29.6	11.8	4.5	16.5	419.3	184.0	77.0	610.5	339.4	134.8	115.9	78.0	59.1	78.0	115.9	33.0	29.30	21.98	18.32	21.98	29.30	1
1	6	JMA	MX06FRO660-02	71.3	15.4	10.7	46.0	980.1	672.3	333.6	1272.1	948.9	315.0	290.3	240.8	216.1	240.8	290.3	68.7	64.31	55.59	51.23	55.59	64.31	2
4	3	AMPHENOL	BXA-80080-4CF-EDIN-X	47.5	8	5.9	12.0	514.1	402.2	100.5	757.8	641.0	165.2	156.2	138.3	129.3	138.3	156.2	40.9	39.33	36.18	34.61	36.18	39.33	1
0	3	SAMSUNG2	B2/B66A RRHBR049 (RFV01U-D1A)	15	15	10	84.4	270.0	180.0	53.7	412.9	301.6	57.9	65.1	79.6	86.8	79.6	65.1	16.3	17.78	20.79	22.29	20.79	17.78	1
0	3	SAMSUNG2	B5/B13 RRHBR04C (RFV01U-D2A)	15	15	8.1	70.3	270.0	145.8	51.0	412.9	259.3	86.8	76.8	56.8	46.9	56.8	76.8	22.3	20.22	16.07	14.00	16.07	20.22	1
0	3	SAMSUNG	Outdoor CBRS 20W RRH	12.1	8.5	4.1	18.6	123.4	60.5	24.5	226.3	143.6	39.7	34.6	24.5	19.5	24.5	34.6	12.2	11.10	8.87	7.75	8.87	11.10	1
-	2	OTHER2	DB-T1-6Z-8AB-0Z	24	24	10	44.0	691.2	288.0	120.4	910.7	447.9	222.2	189.8	125.0	92.6	125.0	189.8	49.2	42.92	30.43	24.18	30.43	42.92	1

Notes:
1. CaAa determined with TIA-222-H, Section 2.6.11.2
2. CaAa determined with CFD procedure

4. Standard Conditions for Providing Structural Consulting Services on Existing Structures

1) Mounting hardware is analyzed to the best of our ability using all information that is provided or can be obtained during fieldwork (if authorized by client). If the existing conditions are not as we have represented in this analysis, we should be contacted to evaluate the significance of the deviation and revise the assessment accordingly.

2) The structural analysis has been performed assuming that hardware is in “like new” condition. No allowance was made for excessive corrosion, damaged or missing structural members, loose bolts, misaligned parts, or any reduction in strength due to the age or fatigue of the product.

3) The structural analysis provided is an assessment of the primary load carrying capacity of the hardware. We provide a limited scope of service. In some cases we cannot verify the capacity of every weld, plate, connection detail, etc. In some cases, structural fabrication details are unknown at the time of our analysis, and the detailed field measurement of some of the required details may not be possible. In instances where we cannot perform connection capacity calculations, it is assumed that the existing manufactured connections develop the full capacity of the primary members being connected.

4) We cannot be held responsible for mounting hardware that is installed improperly or hardware that is loose or has a tendency of working loose over the lifetime of the mounting hardware. Our analysis has been performed assuming fully tightened connections, and proper installation and symmetry of the mounting hardware per manufacturer’s instructions.

5) The structural analysis has been performed using information currently provided by the client and potentially field verified. We have been provided with a mounting arrangement for all telecommunications equipment, including antennas RRH’s, TMA’s, RRU’s, diplexers, surge protection devices, etc. Our analysis has been based upon a particular mounting arrangement. We are not responsible for deviations in the mounting arrangement that may occur over time. If deviations in equipment type or mounting arrangements are proposed, then we should be contacted to revise the recommendations of this structural report.

6) We cannot be held responsible for temporary and unbalanced loads on mounting hardware. Our analysis is based on a particular mounting arrangement or as-built field condition. We are not responsible for the methods and means of how the mounting arrangement is accomplished by the contractor. These methods and means may include rigging of equipment or hardware to lift and locate, temporary hanging of equipment in locations other than the final arrangement, movement and tie off of tower riggers, personnel, and their equipment, etc.

7) Steel grade and strength is unknown and cannot be field tested. We cannot be held responsible for equipment manufactured from inferior steel or bolts. Our analysis assumes that standard structural grade steel has been used by the equipment manufacturer for all assembled parts of the mounting apparatus. Acceptable steels and connection components are specified by the American Institute of Steel Construction. It is assumed all welded connections are performed in the shop under the latest American Welding Society Code. No field welds are permitted or assumed for the existing premanufactured equipment.

8) Steel grades have been assumed as follows, unless noted otherwise:

Channel, Solid Round, Angle, Plate	ASTM A36 (GR 36)
HSS (Rectangular)	ASTM 500 (GR B-46)
HSS (Round)	ASTM A53 (GR 35)
Connection Bolts	ASTM A325
U-Bolts, Threaded Rods	SAE J429 Gr.2

5. Analysis Results

Mount CL (ft.)	Component	% Capacity	Pass/Fail	Notes
177	Face Horizontal	69	Pass	1
	V-arm members	42	Pass	1
	Vertical members	39	Pass	1
	Mounting Pipes	56	Pass	1
	Connection plates	82	Pass	1
	Connections	4	Pass	1

Structure Rating (max from all components) =	**82%**

Notes:

1. See additional documentation in "Appendix B - Analysis Output" for calculations supporting the % capacity consumed.
2. All sectors are typical

6. Conclusions and Recommendations

Based on information provided, our calculations conclude that the Existing Verizon V-Frame with proposed modifications located at 177-ft elevation on the existing Self-Support Tower at the specified address, is ADEQUATE to safely support the proposed equipment, subject to the attached Standard Conditions on page 3.

1)The JMA MX06FRO660-03 antennas were considered mounted on dual brackets (JMA 91900314).

In order for this analysis result to be valid the below reinforcing must be installed:

• Install a new Handrail Pipe (2.375" O.D) at a distance of 12" above the existing top face horizontal, connecting it to the mounting pipes welded to the existing face horizontals.
• Install a new Handrail Pipe (2.375" O.D) at a distance of 12" below the existing bottom face horizontal, connecting it to the mounting pipes welded to the existing face horizontals.
• Install a new Site Pro1, part no. SFS-V-L stabilizer kit connecting the new top handrail kit to the tower leg at approx. 2-ft above the existing top mount connection with the tower.
• Install a new Site Pro1, part no. SFS-V-L stabilizer kit connecting the new bottom handrail kit to the tower leg at approx. 2-ft below the existing bottom mount connection with the tower.

Drawings of the above recommended members must be provided by us to present the details for their installation. Shall the above mentioned recommendations be installed as per drawings, then the mounts would be considered ADEQUATE to support the equipment mounted on them.

Category	Classification
Mount Classification (w/ Ice, w/ Vertical Offset):	M250R(300) - 3[0]

Sincerely,
Analysis performed by:

Kowsalya

Reviewed by:

Cliff Abernathy, P.E.

APPENDIX A

ADDITIONAL CALCULATIONS

Trylon

Analysis date: 03/07/2020

Detailed Wind Force Calculation Sample

Manufacturer	**COMMSCOPE**	
Model	**SSPX310R-V2**	
Length of Normal Face	29.6	[in]
Width of Normal Face	11.8	[in]
Width of Transversal Face	4.5	[in]
Weight	16.50	[lbs.]
CaAa (N) w/o ice	419.27	[in^2]
CaAa (S) w/o ice	183.98	[in^2]
Ice Weight	77.02	[lbs.]
CaAa (N) w/ ice	610.55	[in^2]
CaAa (S) w/ ice	339.36	[in^2]

Wind Forces without ice

Wind Force 0 degrees	134.76	[lbs.]
Wind Force 30 degrees	115.85	[lbs.]
Wind Force 60 degrees	78.04	[lbs.]
Wind Force 90 degrees	59.13	[lbs.]
Wind Force 120 degrees	78.04	[lbs.]
Wind Force 150 degrees	115.85	[lbs.]

Wind Forces with ice

Wind Force 0 degrees	32.96	[lbs.]
Wind Force 30 degrees	29.30	[lbs.]
Wind Force 60 degrees	21.98	[lbs.]
Wind Force 90 degrees	18.32	[lbs.]
Wind Force 120 degrees	21.98	[lbs.]
Wind Force 150 degrees	29.30	[lbs.]

SEISMIC CALCULATIONS

Seismic Input

S_S	0.195
S_1	0.064
S_{MS}	0.312
S_{M1}	0.153
$S_{DS} = 2/3\ S_{MS}$	0.208
$S_{D1} = 2/3\ S_{M1}$	0.102
ρ	1

Seismic Response Coefficient

Structure Height	196
Mount Elevation	177
As (Amplification Factor)	1.00
R (Response modification coeficient)	2
I (Importance Factor)	1
Cs, min	0.009
Cs	0.104

Trylon

Analysis date: 03/07/2020

WIND FORCES 0 DIRECTION - NO ICE

Member Label	Member Type	Description	F/R	Normal Length [in]	Normal Width [in]	Lateral Length [in]	Lateral Width [in]	θ (wind direction from normal face) [°]	A_N [in^2]	A_T [in^2]	Aspect Ratio Normal -	Aspect Ratio Lateral -	CaN -	CaT -	Resultant Wind Force Frontal [lbs]	Resultant Wind Force Distributed [lbs/in]	Resultant Component on Global X [lbs/in]	Resultant Component on Global Y [lbs/in]
M10	qual_Angl	L2.5x2.5	F	150	2.500	0	2.500	0	375.00	0.00	60.00	0.00	2.00	1.20	241.06	1.61	1.61	0.00
M11	qual_Angl	L2.5x2.5	F	150	2.500	0	2.500	0	375.00	0.00	60.00	0.00	2.00	1.20	241.06	1.61	1.61	0.00
M12	Pipe	2.375" O.D.	R	28	2.375	17	2.375	128	66.50	40.38	11.79	7.16	0.91	0.80	13.82	0.49	0.49	0.00
M14	Pipe	2.375" O.D.	R	28	2.375	17	2.375	128	66.50	40.38	11.79	7.16	0.91	0.80	13.82	0.49	0.49	0.00
M13	Pipe	2.375" O.D.	R	28	2.375	17	2.375	232	66.50	40.38	11.79	7.16	0.91	0.80	13.82	0.49	0.49	0.00
M15	Pipe	2.375" O.D.	R	28	2.375	17	2.375	232	66.50	40.38	11.79	7.16	0.91	0.80	13.82	0.49	0.49	0.00
M26	olid_Roun	0.5" O.D.	R	47	0.500	42	0.500	128	23.50	21.00	94.00	84.00	1.20	1.20	8.47	0.18	0.18	0.00
M28	olid_Roun	0.5" O.D.	R	47	0.500	42	0.500	232	23.50	21.00	94.00	84.00	1.20	1.20	8.47	0.18	0.18	0.00
M27	Pipe	1.315" O.D.	R	42	1.315	42	1.315	0	55.23	55.23	31.94	31.94	1.20	1.20	21.30	0.51	0.51	0.00
M9	Pipe	2.875" O.D.	R	42	2.875	42	2.875	0	120.75	120.75	14.61	14.61	0.97	0.97	37.61	0.90	0.90	0.00
M1	Pipe	4" O.D.	R	54	4.000	54	4.000	0	216.00	216.00	13.50	13.50	0.94	0.94	65.57	1.21	1.21	0.00
M8	Pipe	2.875" O.D.	R	42	2.875	42	2.875	0	120.75	120.75	14.61	14.61	0.97	0.97	37.61	0.90	0.90	0.00
M29	Pipe	1.315" O.D.	R	42	1.315	42	1.315	0	55.23	55.23	31.94	31.94	1.20	1.20	21.30	0.51	0.51	0.00
M20	Pipe	2.375" O.D.	R	90	2.375	90	2.375	0	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.92	0.00
M21	Pipe	2.375" O.D.	R	90	2.375	90	2.375	0	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.92	0.00
M22	Pipe	2.375" O.D.	R	90	2.375	90	2.375	0	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.92	0.00
M23	Pipe	2.375" O.D.	R	90	2.375	90	2.375	0	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.92	0.00
M24	Pipe	2.375" O.D.	R	90	2.375	90	2.375	0	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.92	0.00
M25	Pipe	2.375" O.D.	R	90	2.375	90	2.375	0	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.92	0.00
M5	equal_An	L4x3	F	18	4.000	0	4.000	0	72.00	0.00	4.50	0.00	1.29	1.20	29.83	1.66	1.66	0.00
M7	equal_An	L4x3	F	18	4.000	0	4.000	0	72.00	0.00	4.50	0.00	1.29	1.20	29.83	1.66	1.66	0.00
M30	Pipe	1.66" O.D.	R	48	1.660	0	1.660	260	79.68	0.00	28.92	0.00	1.20	0.70	0.93	0.02	0.02	0.00
M31	Pipe	2.375" O.D.	R	150	2.375	0	2.375	0	356.25	0.00	63.16	0.00	1.20	0.70	137.41	0.92	0.92	0.00
M40	Pipe	2.375" O.D.	R	150	2.375	0	2.375	0	356.25	0.00	63.16	0.00	1.20	0.70	137.41	0.92	0.92	0.00
M36	qual_Angl	L2.5x2.5	F	61	2.500	49	2.500	150	152.50	122.50	24.40	19.60	1.98	1.82	90.70	1.49	1.49	0.00
M38	qual_Angl	L2.5x2.5	F	61	2.500	49	2.500	150	152.50	122.50	24.40	19.60	1.98	1.82	90.70	1.49	1.49	0.00
M37	qual_Angl	L2.5x2.5	F	61	2.500	49	2.500	210	152.50	122.50	24.40	19.60	1.98	1.82	90.70	1.49	1.49	0.00
M39	qual_Angl	L2.5x2.5	F	61	2.500	49	2.500	210	152.50	122.50	24.40	19.60	1.98	1.82	90.70	1.49	1.49	0.00
0	0	0	0	0	0.000	0	0.000	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	0	0.000	0	0.000	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Trylon

Analysis date: 03/07/2020

WIND FORCES 0 DIRECTION - NO ICE

Member Label	Member Type	Description	F/R	Normal Length [in]	Normal Width [in]	Lateral Length [in]	Lateral Width [in]	θ (wind direction from normal face) [°]	A_N [in^2]	A_T [in^2]	Aspect Ratio Normal -	Aspect Ratio Lateral -	CaN -	CaT -	Resultant Wind Force Frontal [lbs]	Resultant Wind Force Distributed [lbs/in]	Resultant Component on Global X [lbs/in]	Resultant Component on Global Y [lbs/in]
0	Equal_Angl	L2.5x2.5	F	150	2.500	0	2.500	120	375.00	0.00	60.00	0.00	2.00	1.20	60.27	0.40	0.40	0.00
0	Equal_Angl	L2.5x2.5	F	150	2.500	0	2.500	120	375.00	0.00	60.00	0.00	2.00	1.20	60.27	0.40	0.40	0.00
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	248	66.50	40.38	11.79	7.16	0.91	0.80	11.68	0.42	0.42	0.00
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	248	66.50	40.38	11.79	7.16	0.91	0.80	11.68	0.42	0.42	0.00
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	352	66.50	40.38	11.79	7.16	0.91	0.80	19.20	0.69	0.69	0.00
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	352	66.50	40.38	11.79	7.16	0.91	0.80	19.20	0.69	0.69	0.00
0	Solid_Roun	0.5" O.D.	R	47	0.500	42	0.500	248	23.50	21.00	94.00	84.00	1.20	1.20	8.24	0.18	0.18	0.00
0	Solid_Roun	0.5" O.D.	R	47	0.500	42	0.500	352	23.50	21.00	94.00	84.00	1.20	1.20	9.05	0.19	0.19	0.00
0	Pipe	1.315" O.D.	R	42	1.315	42	1.315	120	55.23	55.23	31.94	31.94	1.20	1.20	21.30	0.51	0.51	0.00
0	Pipe	2.875" O.D.	R	42	2.875	42	2.875	120	120.75	120.75	14.61	14.61	0.97	0.97	37.61	0.90	0.90	0.00
0	Pipe	4" O.D.	R	54	4.000	54	4.000	120	216.00	216.00	13.50	13.50	0.94	0.94	65.57	1.21	1.21	0.00
0	Pipe	2.875" O.D.	R	42	2.875	42	2.875	120	120.75	120.75	14.61	14.61	0.97	0.97	37.61	0.90	0.90	0.00
0	Pipe	1.315" O.D.	R	42	1.315	42	1.315	120	55.23	55.23	31.94	31.94	1.20	1.20	21.30	0.51	0.51	0.00
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	120	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.92	0.00
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	120	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.92	0.00
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	120	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.92	0.00
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	120	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.92	0.00
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	120	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.92	0.00
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	120	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.92	0.00
0	nequal_An	L4x3	F	18	4.000	0	4.000	120	72.00	0.00	4.50	0.00	1.29	1.20	7.46	0.41	0.41	0.00
0	nequal_An	L4x3	F	18	4.000	0	4.000	120	72.00	0.00	4.50	0.00	1.29	1.20	7.46	0.41	0.41	0.00
0	Pipe	1.66" O.D.	R	48	1.660	0	1.660	380	79.68	0.00	28.92	0.00	1.20	0.70	27.14	0.57	0.57	0.00
0	Pipe	2.375" O.D.	R	150	2.375	0	2.375	120	356.25	0.00	63.16	0.00	1.20	0.70	34.35	0.23	0.23	0.00
0	Pipe	2.375" O.D.	R	150	2.375	0	2.375	120	356.25	0.00	63.16	0.00	1.20	0.70	34.35	0.23	0.23	0.00
0	Equal_Angl	L2.5x2.5	F	61	2.500	49	2.500	270	152.50	122.50	24.40	19.60	1.98	1.82	71.66	1.17	1.17	0.00
0	Equal_Angl	L2.5x2.5	F	61	2.500	49	2.500	270	152.50	122.50	24.40	19.60	1.98	1.82	71.66	1.17	1.17	0.00
0	Equal_Angl	L2.5x2.5	F	61	2.500	49	2.500	330	152.50	122.50	24.40	19.60	1.98	1.82	90.70	1.49	1.49	0.00
0	Equal_Angl	L2.5x2.5	F	61	2.500	49	2.500	330	152.50	122.50	24.40	19.60	1.98	1.82	90.70	1.49	1.49	0.00
0	0	0	0	0	0.000	0	0.000	120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	0	0.000	0	0.000	120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Trylon

Analysis date: 03/07/2020

WIND FORCES 0 DIRECTION - NO ICE

Member Label	Member Type	Description	F/R	Normal Length [in]	Normal Width [in]	Lateral Length [in]	Lateral Width [in]	θ (wind direction from normal face) [°]	A_N [in^2]	A_T [in^2]	Aspect Ratio Normal -	Aspect Ratio Lateral -	CaN -	CaT -	Resultant Wind Force Frontal [lbs]	Resultant Wind Force Distributed [lbs/in]	Resultant Component on Global X [lbs/in]	Resultant Component on Global Y [lbs/in]
0	Equal_Angl	L2.5x2.5	F	150	2.500	0	2.500	240	375.00	0.00	60.00	0.00	2.00	1.20	60.27	0.40	0.40	0.00
0	Equal_Angl	L2.5x2.5	F	150	2.500	0	2.500	240	375.00	0.00	60.00	0.00	2.00	1.20	60.27	0.40	0.40	0.00
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	368	66.50	40.38	11.79	7.16	0.91	0.80	19.20	0.69	0.69	0.00
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	368	66.50	40.38	11.79	7.16	0.91	0.80	19.20	0.69	0.69	0.00
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	472	66.50	40.38	11.79	7.16	0.91	0.80	11.68	0.42	0.42	0.00
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	472	66.50	40.38	11.79	7.16	0.91	0.80	11.68	0.42	0.42	0.00
0	Solid_Roun	0.5" O.D.	R	47	0.500	42	0.500	368	23.50	21.00	94.00	84.00	1.20	1.20	9.05	0.19	0.19	0.00
0	Solid_Roun	0.5" O.D.	R	47	0.500	42	0.500	472	23.50	21.00	94.00	84.00	1.20	1.20	8.24	0.18	0.18	0.00
0	Pipe	1.315" O.D.	R	42	1.315	42	1.315	240	55.23	55.23	31.94	31.94	1.20	1.20	21.30	0.51	0.51	0.00
0	Pipe	2.875" O.D.	R	42	2.875	42	2.875	240	120.75	120.75	14.61	14.61	0.97	0.97	37.61	0.90	0.90	0.00
0	Pipe	4" O.D.	R	54	4.000	54	4.000	240	216.00	216.00	13.50	13.50	0.94	0.94	65.57	1.21	1.21	0.00
0	Pipe	2.875" O.D.	R	42	2.875	42	2.875	240	120.75	120.75	14.61	14.61	0.97	0.97	37.61	0.90	0.90	0.00
0	Pipe	1.315" O.D.	R	42	1.315	42	1.315	240	55.23	55.23	31.94	31.94	1.20	1.20	21.30	0.51	0.51	0.00
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	240	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.92	0.00
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	240	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.92	0.00
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	240	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.92	0.00
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	240	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.92	0.00
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	240	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.92	0.00
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	240	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.92	0.00
0	nequal_An	L4x3	F	18	4.000	0	4.000	240	72.00	0.00	4.50	0.00	1.29	1.20	7.46	0.41	0.41	0.00
0	nequal_An	L4x3	F	18	4.000	0	4.000	240	72.00	0.00	4.50	0.00	1.29	1.20	7.46	0.41	0.41	0.00
0	Pipe	1.66" O.D.	R	48	1.660	0	1.660	500	79.68	0.00	28.92	0.00	1.20	0.70	18.03	0.38	0.38	0.00
0	Pipe	2.375" O.D.	R	150	2.375	0	2.375	240	356.25	0.00	63.16	0.00	1.20	0.70	34.35	0.23	0.23	0.00
0	Pipe	2.375" O.D.	R	150	2.375	0	2.375	240	356.25	0.00	63.16	0.00	1.20	0.70	34.35	0.23	0.23	0.00
0	Equal_Angl	L2.5x2.5	F	61	2.500	49	2.500	390	152.50	122.50	24.40	19.60	1.98	1.82	90.70	1.49	1.49	0.00
0	Equal_Angl	L2.5x2.5	F	61	2.500	49	2.500	390	152.50	122.50	24.40	19.60	1.98	1.82	90.70	1.49	1.49	0.00
0	Equal_Angl	L2.5x2.5	F	61	2.500	49	2.500	450	152.50	122.50	24.40	19.60	1.98	1.82	71.66	1.17	1.17	0.00
0	Equal_Angl	L2.5x2.5	F	61	2.500	49	2.500	450	152.50	122.50	24.40	19.60	1.98	1.82	71.66	1.17	1.17	0.00
0	0	0	0	0	0.000	0	0.000	240	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	0	0.000	0	0.000	240	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Trylon

Analysis date: 03/07/2020

WIND FORCES 30 DIRECTION - NO ICE

Member Label	Member Type	Description	F/R	Normal Length [in]	Normal Width [in]	Lateral Length [in]	Lateral Width [in]	θ (wind direction from normal face) [°]	A_N [in^2]	A_T [in^2]	Aspect Ratio Normal -	Aspect Ratio Lateral -	CaN -	CaT -	Resultant Wind Force Frontal [lbs]	Resultant Wind Force Distributed [lbs/in]	Resultant Component on Global X [lbs/in]	Resultant Component on Global Y [lbs/in]
M10	qual_Angl	L2.5x2.5	F	150	2.500	0	2.500	30	375.00	0.00	60.00	0.00	2.00	1.20	60.27	0.40	0.20	0.35
M11	qual_Angl	L2.5x2.5	F	150	2.500	0	2.500	30	375.00	0.00	60.00	0.00	2.00	1.20	60.27	0.40	0.20	0.35
M12	Pipe	2.375" O.D.	R	28	2.375	17	2.375	158	66.50	40.38	11.79	7.16	0.91	0.80	19.20	0.69	0.34	0.59
M14	Pipe	2.375" O.D.	R	28	2.375	17	2.375	158	66.50	40.38	11.79	7.16	0.91	0.80	19.20	0.69	0.34	0.59
M13	Pipe	2.375" O.D.	R	28	2.375	17	2.375	262	66.50	40.38	11.79	7.16	0.91	0.80	11.68	0.42	0.21	0.36
M15	Pipe	2.375" O.D.	R	28	2.375	17	2.375	262	66.50	40.38	11.79	7.16	0.91	0.80	11.68	0.42	0.21	0.36
M26	olid_Roun	0.5" O.D.	R	47	0.500	42	0.500	158	23.50	21.00	94.00	84.00	1.20	1.20	9.05	0.19	0.10	0.17
M28	olid_Roun	0.5" O.D.	R	47	0.500	42	0.500	262	23.50	21.00	94.00	84.00	1.20	1.20	8.24	0.18	0.09	0.15
M27	Pipe	1.315" O.D.	R	42	1.315	42	1.315	30	55.23	55.23	31.94	31.94	1.20	1.20	21.30	0.51	0.25	0.44
M9	Pipe	2.875" O.D.	R	42	2.875	42	2.875	30	120.75	120.75	14.61	14.61	0.97	0.97	37.61	0.90	0.45	0.78
M1	Pipe	4" O.D.	R	54	4.000	54	4.000	30	216.00	216.00	13.50	13.50	0.94	0.94	65.57	1.21	0.61	1.05
M8	Pipe	2.875" O.D.	R	42	2.875	42	2.875	30	120.75	120.75	14.61	14.61	0.97	0.97	37.61	0.90	0.45	0.78
M29	Pipe	1.315" O.D.	R	42	1.315	42	1.315	30	55.23	55.23	31.94	31.94	1.20	1.20	21.30	0.51	0.25	0.44
M20	Pipe	2.375" O.D.	R	90	2.375	90	2.375	30	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.46	0.79
M21	Pipe	2.375" O.D.	R	90	2.375	90	2.375	30	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.46	0.79
M22	Pipe	2.375" O.D.	R	90	2.375	90	2.375	30	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.46	0.79
M23	Pipe	2.375" O.D.	R	90	2.375	90	2.375	30	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.46	0.79
M24	Pipe	2.375" O.D.	R	90	2.375	90	2.375	30	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.46	0.79
M25	Pipe	2.375" O.D.	R	90	2.375	90	2.375	30	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.46	0.79
M5	equal_An	L4x3	F	18	4.000	0	4.000	30	72.00	0.00	4.50	0.00	1.29	1.20	7.46	0.41	0.21	0.36
M7	equal_An	L4x3	F	18	4.000	0	4.000	30	72.00	0.00	4.50	0.00	1.29	1.20	7.46	0.41	0.21	0.36
M30	Pipe	1.66" O.D.	R	48	1.660	0	1.660	290	79.68	0.00	28.92	0.00	1.20	0.70	18.03	0.38	0.19	0.33
M31	Pipe	2.375" O.D.	R	150	2.375	0	2.375	30	356.25	0.00	63.16	0.00	1.20	0.70	34.35	0.23	0.11	0.20
M40	Pipe	2.375" O.D.	R	150	2.375	0	2.375	30	356.25	0.00	63.16	0.00	1.20	0.70	34.35	0.23	0.11	0.20
M36	qual_Angl	L2.5x2.5	F	61	2.500	49	2.500	180	152.50	122.50	24.40	19.60	1.98	1.82	90.70	1.49	0.74	1.29
M38	qual_Angl	L2.5x2.5	F	61	2.500	49	2.500	180	152.50	122.50	24.40	19.60	1.98	1.82	90.70	1.49	0.74	1.29
M37	qual_Angl	L2.5x2.5	F	61	2.500	49	2.500	240	152.50	122.50	24.40	19.60	1.98	1.82	71.66	1.17	0.59	1.02
M39	qual_Angl	L2.5x2.5	F	61	2.500	49	2.500	240	152.50	122.50	24.40	19.60	1.98	1.82	71.66	1.17	0.59	1.02
0	0	0	0	0	0.000	0	0.000	30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	0	0.000	0	0.000	30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

WIND FORCES 30 DIRECTION - NO ICE

Member Label	Member Type	Description	F/R	Normal Length [in]	Normal Width [in]	Lateral Length [in]	Lateral Width [in]	θ (wind direction from normal face) [°]	AN [in²]	AT [in²]	Aspect Ratio Normal -	Aspect Ratio Lateral -	CaN -	CaT -	Resultant Wind Force Frontal [lbs]	Resultant Wind Force Distributed [lbs/in]	Resultant Component on Global X [lbs/in]	Resultant Component on Global Y [lbs/in]
0	qual_Angl	L2.5x2.5	F	150	2.500	0	2.500	150	375.00	0.00	60.00	0.00	2.00	1.20	241.06	1.61	0.80	1.39
0	qual_Angl	L2.5x2.5	F	150	2.500	0	2.500	150	375.00	0.00	60.00	0.00	2.00	1.20	241.06	1.61	0.80	1.39
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	278	66.50	40.38	11.79	7.16	0.91	0.80	13.82	0.49	0.25	0.43
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	278	66.50	40.38	11.79	7.16	0.91	0.80	13.82	0.49	0.25	0.43
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	382	66.50	40.38	11.79	7.16	0.91	0.80	13.82	0.49	0.25	0.43
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	382	66.50	40.38	11.79	7.16	0.91	0.80	13.82	0.49	0.25	0.43
0	olid_Roun	0.5" O.D.	R	47	0.500	42	0.500	278	23.50	21.00	94.00	84.00	1.20	1.20	8.47	0.18	0.09	0.16
0	olid_Roun	0.5" O.D.	R	47	0.500	42	0.500	382	23.50	21.00	94.00	84.00	1.20	1.20	8.47	0.18	0.09	0.16
0	Pipe	1.315" O.D.	R	42	1.315	42	1.315	150	55.23	55.23	31.94	31.94	1.20	1.20	21.30	0.51	0.25	0.44
0	Pipe	2.875" O.D.	R	42	2.875	42	2.875	150	120.75	120.75	14.61	14.61	0.97	0.97	37.61	0.90	0.45	0.78
0	Pipe	4" O.D.	R	54	4.000	54	4.000	150	216.00	216.00	13.50	13.50	0.94	0.94	65.57	1.21	0.61	1.05
0	Pipe	2.875" O.D.	R	42	2.875	42	2.875	150	120.75	120.75	14.61	14.61	0.97	0.97	37.61	0.90	0.45	0.78
0	Pipe	1.315" O.D.	R	42	1.315	42	1.315	150	55.23	55.23	31.94	31.94	1.20	1.20	21.30	0.51	0.25	0.44
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	150	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.46	0.79
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	150	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.46	0.79
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	150	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.46	0.79
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	150	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.46	0.79
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	150	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.46	0.79
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	150	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.46	0.79
0	equal_An	L4x3	F	18	4.000	0	4.000	150	72.00	0.00	4.50	0.00	1.29	1.20	29.83	1.66	0.83	1.44
0	equal_An	L4x3	F	18	4.000	0	4.000	150	72.00	0.00	4.50	0.00	1.29	1.20	29.83	1.66	0.83	1.44
0	Pipe	1.66" O.D.	R	48	1.660	0	1.660	410	79.68	0.00	28.92	0.00	1.20	0.70	0.93	0.02	0.01	0.02
0	Pipe	2.375" O.D.	R	150	2.375	0	2.375	150	356.25	0.00	63.16	0.00	1.20	0.70	137.41	0.92	0.46	0.79
0	Pipe	2.375" O.D.	R	150	2.375	0	2.375	150	356.25	0.00	63.16	0.00	1.20	0.70	137.41	0.92	0.46	0.79
0	qual_Angl	L2.5x2.5	F	61	2.500	49	2.500	300	152.50	122.50	24.40	19.60	1.98	1.82	90.70	1.49	0.74	1.29
0	qual_Angl	L2.5x2.5	F	61	2.500	49	2.500	300	152.50	122.50	24.40	19.60	1.98	1.82	90.70	1.49	0.74	1.29
0	qual_Angl	L2.5x2.5	F	61	2.500	49	2.500	360	152.50	122.50	24.40	19.60	1.98	1.82	90.70	1.49	0.74	1.29
0	qual_Angl	L2.5x2.5	F	61	2.500	49	2.500	360	152.50	122.50	24.40	19.60	1.98	1.82	90.70	1.49	0.74	1.29
0	0	0	0	0	0.000	0	0.000	150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	0	0.000	0	0.000	150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Trylon

Analysis date: 03/07/2020

WIND FORCES 30 DIRECTION - NO ICE

Member Label	Member Type	Description	F/R	Normal Length [in]	Normal Width [in]	Lateral Length [in]	Lateral Width [in]	θ (wind direction from normal face) [°]	A_N [in^2]	A_T [in^2]	Aspect Ratio Normal -	Aspect Ratio Lateral -	CaN -	CaT -	Resultant Wind Force Frontal [lbs]	Resultant Wind Force Distributed [lbs/in]	Resultant Component on Global X [lbs/in]	Resultant Component on Global Y [lbs/in]
0	Equal_Angl	L2.5x2.5	F	150	2.500	0	2.500	270	375.00	0.00	60.00	0.00	2.00	1.20	60.27	0.40	0.20	0.35
0	Equal_Angl	L2.5x2.5	F	150	2.500	0	2.500	270	375.00	0.00	60.00	0.00	2.00	1.20	60.27	0.40	0.20	0.35
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	398	66.50	40.38	11.79	7.16	0.91	0.80	11.68	0.42	0.21	0.36
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	398	66.50	40.38	11.79	7.16	0.91	0.80	11.68	0.42	0.21	0.36
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	502	66.50	40.38	11.79	7.16	0.91	0.80	19.20	0.69	0.34	0.59
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	502	66.50	40.38	11.79	7.16	0.91	0.80	19.20	0.69	0.34	0.59
0	Solid_Roun	0.5" O.D.	R	47	0.500	42	0.500	398	23.50	21.00	94.00	84.00	1.20	1.20	8.24	0.18	0.09	0.15
0	Solid_Roun	0.5" O.D.	R	47	0.500	42	0.500	502	23.50	21.00	94.00	84.00	1.20	1.20	9.05	0.19	0.10	0.17
0	Pipe	1.315" O.D.	R	42	1.315	42	1.315	270	55.23	55.23	31.94	31.94	1.20	1.20	21.30	0.51	0.25	0.44
0	Pipe	2.875" O.D.	R	42	2.875	42	2.875	270	120.75	120.75	14.61	14.61	0.97	0.97	37.61	0.90	0.45	0.78
0	Pipe	4" O.D.	R	54	4.000	54	4.000	270	216.00	216.00	13.50	13.50	0.94	0.94	65.57	1.21	0.61	1.05
0	Pipe	2.875" O.D.	R	42	2.875	42	2.875	270	120.75	120.75	14.61	14.61	0.97	0.97	37.61	0.90	0.45	0.78
0	Pipe	1.315" O.D.	R	42	1.315	42	1.315	270	55.23	55.23	31.94	31.94	1.20	1.20	21.30	0.51	0.25	0.44
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	270	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.46	0.79
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	270	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.46	0.79
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	270	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.46	0.79
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	270	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.46	0.79
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	270	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.46	0.79
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	270	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.46	0.79
0	nequal_An	L4x3	F	18	4.000	0	4.000	270	72.00	0.00	4.50	0.00	1.29	1.20	7.46	0.41	0.21	0.36
0	nequal_An	L4x3	F	18	4.000	0	4.000	270	72.00	0.00	4.50	0.00	1.29	1.20	7.46	0.41	0.21	0.36
0	Pipe	1.66" O.D.	R	48	1.660	0	1.660	530	79.68	0.00	28.92	0.00	1.20	0.70	27.14	0.57	0.28	0.49
0	Pipe	2.375" O.D.	R	150	2.375	0	2.375	270	356.25	0.00	63.16	0.00	1.20	0.70	34.35	0.23	0.11	0.20
0	Pipe	2.375" O.D.	R	150	2.375	0	2.375	270	356.25	0.00	63.16	0.00	1.20	0.70	34.35	0.23	0.11	0.20
0	Equal_Angl	L2.5x2.5	F	61	2.500	49	2.500	420	152.50	122.50	24.40	19.60	1.98	1.82	71.66	1.17	0.59	1.02
0	Equal_Angl	L2.5x2.5	F	61	2.500	49	2.500	420	152.50	122.50	24.40	19.60	1.98	1.82	71.66	1.17	0.59	1.02
0	Equal_Angl	L2.5x2.5	F	61	2.500	49	2.500	480	152.50	122.50	24.40	19.60	1.98	1.82	90.70	1.49	0.74	1.29
0	Equal_Angl	L2.5x2.5	F	61	2.500	49	2.500	480	152.50	122.50	24.40	19.60	1.98	1.82	90.70	1.49	0.74	1.29
0	0	0	0	0	0.000	0	0.000	270	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	0	0.000	0	0.000	270	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Trylon

Analysis date: 03/07/2020

WIND FORCES 60 DIRECTION - NO ICE

Member Label	Member Type	Description	F/R	Normal Length [in]	Normal Width [in]	Lateral Length [in]	Lateral Width [in]	θ (wind direction from normal face) [°]	A_N [in^2]	A_T [in^2]	Aspect Ratio Normal -	Aspect Ratio Lateral -	CaN -	CaT -	Resultant Wind Force Frontal [lbs]	Resultant Wind Force Distributed [lbs/in]	Resultant Component on Global X [lbs/in]	Resultant Component on Global Y [lbs/in]
M10	qual_Angl	L2.5x2.5	F	150	2.500	0	2.500	60	375.00	0.00	60.00	0.00	2.00	1.20	60.27	0.40	0.20	0.35
M11	qual_Angl	L2.5x2.5	F	150	2.500	0	2.500	60	375.00	0.00	60.00	0.00	2.00	1.20	60.27	0.40	0.20	0.35
M12	Pipe	2.375" O.D.	R	28	2.375	17	2.375	188	66.50	40.38	11.79	7.16	0.91	0.80	19.20	0.69	0.34	0.59
M14	Pipe	2.375" O.D.	R	28	2.375	17	2.375	188	66.50	40.38	11.79	7.16	0.91	0.80	19.20	0.69	0.34	0.59
M13	Pipe	2.375" O.D.	R	28	2.375	17	2.375	292	66.50	40.38	11.79	7.16	0.91	0.80	11.68	0.42	0.21	0.36
M15	Pipe	2.375" O.D.	R	28	2.375	17	2.375	292	66.50	40.38	11.79	7.16	0.91	0.80	11.68	0.42	0.21	0.36
M26	olid_Roun	0.5" O.D.	R	47	0.500	42	0.500	188	23.50	21.00	94.00	84.00	1.20	1.20	9.05	0.19	0.10	0.17
M28	olid_Roun	0.5" O.D.	R	47	0.500	42	0.500	292	23.50	21.00	94.00	84.00	1.20	1.20	8.24	0.18	0.09	0.15
M27	Pipe	1.315" O.D.	R	42	1.315	42	1.315	60	55.23	55.23	31.94	31.94	1.20	1.20	21.30	0.51	0.25	0.44
M9	Pipe	2.875" O.D.	R	42	2.875	42	2.875	60	120.75	120.75	14.61	14.61	0.97	0.97	37.61	0.90	0.45	0.78
M1	Pipe	4" O.D.	R	54	4.000	54	4.000	60	216.00	216.00	13.50	13.50	0.94	0.94	65.57	1.21	0.61	1.05
M8	Pipe	2.875" O.D.	R	42	2.875	42	2.875	60	120.75	120.75	14.61	14.61	0.97	0.97	37.61	0.90	0.45	0.78
M29	Pipe	1.315" O.D.	R	42	1.315	42	1.315	60	55.23	55.23	31.94	31.94	1.20	1.20	21.30	0.51	0.25	0.44
M20	Pipe	2.375" O.D.	R	90	2.375	90	2.375	60	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.46	0.79
M21	Pipe	2.375" O.D.	R	90	2.375	90	2.375	60	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.46	0.79
M22	Pipe	2.375" O.D.	R	90	2.375	90	2.375	60	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.46	0.79
M23	Pipe	2.375" O.D.	R	90	2.375	90	2.375	60	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.46	0.79
M24	Pipe	2.375" O.D.	R	90	2.375	90	2.375	60	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.46	0.79
M25	Pipe	2.375" O.D.	R	90	2.375	90	2.375	60	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.46	0.79
M5	equal_An	L4x3	F	18	4.000	0	4.000	60	72.00	0.00	4.50	0.00	1.29	1.20	7.46	0.41	0.21	0.36
M7	equal_An	L4x3	F	18	4.000	0	4.000	60	72.00	0.00	4.50	0.00	1.29	1.20	7.46	0.41	0.21	0.36
M30	Pipe	1.66" O.D.	R	48	1.660	0	1.660	320	79.68	0.00	28.92	0.00	1.20	0.70	18.03	0.38	0.19	0.33
M31	Pipe	2.375" O.D.	R	150	2.375	0	2.375	60	356.25	0.00	63.16	0.00	1.20	0.70	34.35	0.23	0.11	0.20
M40	Pipe	2.375" O.D.	R	150	2.375	0	2.375	60	356.25	0.00	63.16	0.00	1.20	0.70	34.35	0.23	0.11	0.20
M36	qual_Angl	L2.5x2.5	F	61	2.500	49	2.500	210	152.50	122.50	24.40	19.60	1.98	1.82	90.70	1.49	0.74	1.29
M38	qual_Angl	L2.5x2.5	F	61	2.500	49	2.500	210	152.50	122.50	24.40	19.60	1.98	1.82	90.70	1.49	0.74	1.29
M37	qual_Angl	L2.5x2.5	F	61	2.500	49	2.500	270	152.50	122.50	24.40	19.60	1.98	1.82	71.66	1.17	0.59	1.02
M39	qual_Angl	L2.5x2.5	F	61	2.500	49	2.500	270	152.50	122.50	24.40	19.60	1.98	1.82	71.66	1.17	0.59	1.02
0	0	0	0	0	0.000	0	0.000	60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	0	0.000	0	0.000	60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

WIND FORCES 60 DIRECTION - NO ICE

Member Label	Member Type	Description	F/R	Normal Length [in]	Normal Width [in]	Lateral Length [in]	Lateral Width [in]	θ (wind direction from normal face) [°]	AN [in²]	AT [in²]	Aspect Ratio Normal -	Aspect Ratio Lateral -	CaN -	CaT -	Resultant Wind Force Frontal [lbs]	Resultant Wind Force Distributed [lbs/in]	Resultant Component on Global X [lbs/in]	Resultant Component on Global Y [lbs/in]
0	Equal_Angl	L2.5x2.5	F	150	2.500	0	2.500	180	375.00	0.00	60.00	0.00	2.00	1.20	241.06	1.61	0.80	1.39
0	Equal_Angl	L2.5x2.5	F	150	2.500	0	2.500	180	375.00	0.00	60.00	0.00	2.00	1.20	241.06	1.61	0.80	1.39
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	308	66.50	40.38	11.79	7.16	0.91	0.80	13.82	0.49	0.25	0.43
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	308	66.50	40.38	11.79	7.16	0.91	0.80	13.82	0.49	0.25	0.43
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	412	66.50	40.38	11.79	7.16	0.91	0.80	13.82	0.49	0.25	0.43
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	412	66.50	40.38	11.79	7.16	0.91	0.80	13.82	0.49	0.25	0.43
0	Solid_Roun	0.5" O.D.	R	47	0.500	42	0.500	308	23.50	21.00	94.00	84.00	1.20	1.20	8.47	0.18	0.09	0.16
0	Solid_Roun	0.5" O.D.	R	47	0.500	42	0.500	412	23.50	21.00	94.00	84.00	1.20	1.20	8.47	0.18	0.09	0.16
0	Pipe	1.315" O.D.	R	42	1.315	42	1.315	180	55.23	55.23	31.94	31.94	1.20	1.20	21.30	0.51	0.25	0.44
0	Pipe	2.875" O.D.	R	42	2.875	42	2.875	180	120.75	120.75	14.61	14.61	0.97	0.97	37.61	0.90	0.45	0.78
0	Pipe	4" O.D.	R	54	4.000	54	4.000	180	216.00	216.00	13.50	13.50	0.94	0.94	65.57	1.21	0.61	1.05
0	Pipe	2.875" O.D.	R	42	2.875	42	2.875	180	120.75	120.75	14.61	14.61	0.97	0.97	37.61	0.90	0.45	0.78
0	Pipe	1.315" O.D.	R	42	1.315	42	1.315	180	55.23	55.23	31.94	31.94	1.20	1.20	21.30	0.51	0.25	0.44
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	180	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.46	0.79
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	180	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.46	0.79
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	180	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.46	0.79
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	180	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.46	0.79
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	180	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.46	0.79
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	180	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.46	0.79
0	nequal_An	L4x3	F	18	4.000	0	4.000	180	72.00	0.00	4.50	0.00	1.29	1.20	29.83	1.66	0.83	1.44
0	nequal_An	L4x3	F	18	4.000	0	4.000	180	72.00	0.00	4.50	0.00	1.29	1.20	29.83	1.66	0.83	1.44
0	Pipe	1.66" O.D.	R	48	1.660	0	1.660	440	79.68	0.00	28.92	0.00	1.20	0.70	0.93	0.02	0.01	0.02
0	Pipe	2.375" O.D.	R	150	2.375	0	2.375	180	356.25	0.00	63.16	0.00	1.20	0.70	137.41	0.92	0.46	0.79
0	Pipe	2.375" O.D.	R	150	2.375	0	2.375	180	356.25	0.00	63.16	0.00	1.20	0.70	137.41	0.92	0.46	0.79
0	Equal_Angl	L2.5x2.5	F	61	2.500	49	2.500	330	152.50	122.50	24.40	19.60	1.98	1.82	90.70	1.49	0.74	1.29
0	Equal_Angl	L2.5x2.5	F	61	2.500	49	2.500	330	152.50	122.50	24.40	19.60	1.98	1.82	90.70	1.49	0.74	1.29
0	Equal_Angl	L2.5x2.5	F	61	2.500	49	2.500	390	152.50	122.50	24.40	19.60	1.98	1.82	90.70	1.49	0.74	1.29
0	Equal_Angl	L2.5x2.5	F	61	2.500	49	2.500	390	152.50	122.50	24.40	19.60	1.98	1.82	90.70	1.49	0.74	1.29
0	0	0	0	0	0.000	0	0.000	180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	0	0.000	0	0.000	180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

WIND FORCES 60 DIRECTION - NO ICE

Member Label	Member Type	Description	F/R	Normal Length [in]	Normal Width [in]	Lateral Length [in]	Lateral Width [in]	θ (wind direction from normal face) [°]	AN [in^2]	AT [in^2]	Aspect Ratio Normal -	Aspect Ratio Lateral -	CaN -	CaT -	Resultant Wind Force Frontal [lbs]	Resultant Wind Force Distributed [lbs/in]	Resultant Component on Global X [lbs/in]	Resultant Component on Global Y [lbs/in]
0	Equal_Angl	L2.5x2.5	F	150	2.500	0	2.500	300	375.00	0.00	60.00	0.00	2.00	1.20	60.27	0.40	0.20	0.35
0	Equal_Angl	L2.5x2.5	F	150	2.500	0	2.500	300	375.00	0.00	60.00	0.00	2.00	1.20	60.27	0.40	0.20	0.35
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	428	66.50	40.38	11.79	7.16	0.91	0.80	11.68	0.42	0.21	0.36
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	428	66.50	40.38	11.79	7.16	0.91	0.80	11.68	0.42	0.21	0.36
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	532	66.50	40.38	11.79	7.16	0.91	0.80	19.20	0.69	0.34	0.59
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	532	66.50	40.38	11.79	7.16	0.91	0.80	19.20	0.69	0.34	0.59
0	Solid_Roun	0.5" O.D.	R	47	0.500	42	0.500	428	23.50	21.00	94.00	84.00	1.20	1.20	8.24	0.18	0.09	0.15
0	Solid_Roun	0.5" O.D.	R	47	0.500	42	0.500	532	23.50	21.00	94.00	84.00	1.20	1.20	9.05	0.19	0.10	0.17
0	Pipe	1.315" O.D.	R	42	1.315	42	1.315	300	55.23	55.23	31.94	31.94	1.20	1.20	21.30	0.51	0.25	0.44
0	Pipe	2.875" O.D.	R	42	2.875	42	2.875	300	120.75	120.75	14.61	14.61	0.97	0.97	37.61	0.90	0.45	0.78
0	Pipe	4" O.D.	R	54	4.000	54	4.000	300	216.00	216.00	13.50	13.50	0.94	0.94	65.57	1.21	0.61	1.05
0	Pipe	2.875" O.D.	R	42	2.875	42	2.875	300	120.75	120.75	14.61	14.61	0.97	0.97	37.61	0.90	0.45	0.78
0	Pipe	1.315" O.D.	R	42	1.315	42	1.315	300	55.23	55.23	31.94	31.94	1.20	1.20	21.30	0.51	0.25	0.44
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	300	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.46	0.79
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	300	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.46	0.79
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	300	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.46	0.79
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	300	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.46	0.79
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	300	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.46	0.79
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	300	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.46	0.79
0	nequal_An	L4x3	F	18	4.000	0	4.000	300	72.00	0.00	4.50	0.00	1.29	1.20	7.46	0.41	0.21	0.36
0	nequal_An	L4x3	F	18	4.000	0	4.000	300	72.00	0.00	4.50	0.00	1.29	1.20	7.46	0.41	0.21	0.36
0	Pipe	1.66" O.D.	R	48	1.660	0	1.660	560	79.68	0.00	28.92	0.00	1.20	0.70	27.14	0.57	0.28	0.49
0	Pipe	2.375" O.D.	R	150	2.375	0	2.375	300	356.25	0.00	63.16	0.00	1.20	0.70	34.35	0.23	0.11	0.20
0	Pipe	2.375" O.D.	R	150	2.375	0	2.375	300	356.25	0.00	63.16	0.00	1.20	0.70	34.35	0.23	0.11	0.20
0	Equal_Angl	L2.5x2.5	F	61	2.500	49	2.500	450	152.50	122.50	24.40	19.60	1.98	1.82	71.66	1.17	0.59	1.02
0	Equal_Angl	L2.5x2.5	F	61	2.500	49	2.500	450	152.50	122.50	24.40	19.60	1.98	1.82	71.66	1.17	0.59	1.02
0	Equal_Angl	L2.5x2.5	F	61	2.500	49	2.500	510	152.50	122.50	24.40	19.60	1.98	1.82	90.70	1.49	0.74	1.29
0	Equal_Angl	L2.5x2.5	F	61	2.500	49	2.500	510	152.50	122.50	24.40	19.60	1.98	1.82	90.70	1.49	0.74	1.29
0	0	0	0	0	0.000	0	0.000	300	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	0	0.000	0	0.000	300	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Trylon

Analysis date: 03/07/2020

WIND FORCES 90 DIRECTION - NO ICE

Member Label	Member Type	Description	F/R	Normal Length [in]	Normal Width [in]	Lateral Length [in]	Lateral Width [in]	θ (wind direction from normal face) [°]	A_N [in^2]	A_T [in^2]	Aspect Ratio Normal -	Aspect Ratio Lateral -	CaN -	CaT -	Resultant Wind Force Frontal [lbs]	Resultant Wind Force Distributed [lbs/in]	Resultant Component on Global X [lbs/in]	Resultant Component on Global Y [lbs/in]
M10	qual_Angl	L2.5x2.5	F	150	2.500	0	2.500	90	375.00	0.00	60.00	0.00	2.00	1.20	0.00	0.00	0.00	0.00
M11	qual_Angl	L2.5x2.5	F	150	2.500	0	2.500	90	375.00	0.00	60.00	0.00	2.00	1.20	0.00	0.00	0.00	0.00
M12	Pipe	2.375" O.D.	R	28	2.375	17	2.375	218	66.50	40.38	11.79	7.16	0.91	0.80	15.98	0.57	0.00	0.57
M14	Pipe	2.375" O.D.	R	28	2.375	17	2.375	218	66.50	40.38	11.79	7.16	0.91	0.80	15.98	0.57	0.00	0.57
M13	Pipe	2.375" O.D.	R	28	2.375	17	2.375	322	66.50	40.38	11.79	7.16	0.91	0.80	15.98	0.57	0.00	0.57
M15	Pipe	2.375" O.D.	R	28	2.375	17	2.375	322	66.50	40.38	11.79	7.16	0.91	0.80	15.98	0.57	0.00	0.57
M26	olid_Roun	0.5" O.D.	R	47	0.500	42	0.500	218	23.50	21.00	94.00	84.00	1.20	1.20	8.70	0.19	0.00	0.19
M28	olid_Roun	0.5" O.D.	R	47	0.500	42	0.500	322	23.50	21.00	94.00	84.00	1.20	1.20	8.70	0.19	0.00	0.19
M27	Pipe	1.315" O.D.	R	42	1.315	42	1.315	90	55.23	55.23	31.94	31.94	1.20	1.20	21.30	0.51	0.00	0.51
M9	Pipe	2.875" O.D.	R	42	2.875	42	2.875	90	120.75	120.75	14.61	14.61	0.97	0.97	37.61	0.90	0.00	0.90
M1	Pipe	4" O.D.	R	54	4.000	54	4.000	90	216.00	216.00	13.50	13.50	0.94	0.94	65.57	1.21	0.00	1.21
M8	Pipe	2.875" O.D.	R	42	2.875	42	2.875	90	120.75	120.75	14.61	14.61	0.97	0.97	37.61	0.90	0.00	0.90
M29	Pipe	1.315" O.D.	R	42	1.315	42	1.315	90	55.23	55.23	31.94	31.94	1.20	1.20	21.30	0.51	0.00	0.51
M20	Pipe	2.375" O.D.	R	90	2.375	90	2.375	90	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.00	0.92
M21	Pipe	2.375" O.D.	R	90	2.375	90	2.375	90	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.00	0.92
M22	Pipe	2.375" O.D.	R	90	2.375	90	2.375	90	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.00	0.92
M23	Pipe	2.375" O.D.	R	90	2.375	90	2.375	90	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.00	0.92
M24	Pipe	2.375" O.D.	R	90	2.375	90	2.375	90	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.00	0.92
M25	Pipe	2.375" O.D.	R	90	2.375	90	2.375	90	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.00	0.92
M5	equal_An	L4x3	F	18	4.000	0	4.000	90	72.00	0.00	4.50	0.00	1.29	1.20	0.00	0.00	0.00	0.00
M7	equal_An	L4x3	F	18	4.000	0	4.000	90	72.00	0.00	4.50	0.00	1.29	1.20	0.00	0.00	0.00	0.00
M30	Pipe	1.66" O.D.	R	48	1.660	0	1.660	350	79.68	0.00	28.92	0.00	1.20	0.70	29.81	0.62	0.00	0.62
M31	Pipe	2.375" O.D.	R	150	2.375	0	2.375	90	356.25	0.00	63.16	0.00	1.20	0.70	0.00	0.00	0.00	0.00
M40	Pipe	2.375" O.D.	R	150	2.375	0	2.375	90	356.25	0.00	63.16	0.00	1.20	0.70	0.00	0.00	0.00	0.00
M36	qual_Angl	L2.5x2.5	F	61	2.500	49	2.500	240	152.50	122.50	24.40	19.60	1.98	1.82	78.01	1.28	0.00	1.28
M38	qual_Angl	L2.5x2.5	F	61	2.500	49	2.500	240	152.50	122.50	24.40	19.60	1.98	1.82	78.01	1.28	0.00	1.28
M37	qual_Angl	L2.5x2.5	F	61	2.500	49	2.500	300	152.50	122.50	24.40	19.60	1.98	1.82	78.01	1.28	0.00	1.28
M39	qual_Angl	L2.5x2.5	F	61	2.500	49	2.500	300	152.50	122.50	24.40	19.60	1.98	1.82	78.01	1.28	0.00	1.28
0	0	0	0	0	0.000	0	0.000	90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	0	0.000	0	0.000	90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

WIND FORCES 90 DIRECTION - NO ICE

Member Label	Member Type	Description	F/R	Normal Length [in]	Normal Width [in]	Lateral Length [in]	Lateral Width [in]	θ (wind direction from normal face) [°]	AN [in^2]	AT [in^2]	Aspect Ratio Normal -	Aspect Ratio Lateral -	CaN -	CaT -	Resultant Wind Force Frontal [lbs]	Resultant Wind Force Distributed [lbs/in]	Resultant Component on Global X [lbs/in]	Resultant Component on Global Y [lbs/in]
0	ɛqual_Angl	L2.5x2.5	F	150	2.500	0	2.500	210	375.00	0.00	60.00	0.00	2.00	1.20	180.80	1.21	0.00	1.21
0	ɛqual_Angl	L2.5x2.5	F	150	2.500	0	2.500	210	375.00	0.00	60.00	0.00	2.00	1.20	180.80	1.21	0.00	1.21
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	338	66.50	40.38	11.79	7.16	0.91	0.80	18.12	0.65	0.00	0.65
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	338	66.50	40.38	11.79	7.16	0.91	0.80	18.12	0.65	0.00	0.65
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	442	66.50	40.38	11.79	7.16	0.91	0.80	10.60	0.38	0.00	0.38
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	442	66.50	40.38	11.79	7.16	0.91	0.80	10.60	0.38	0.00	0.38
0	ɜolid_Roun	0.5" O.D.	R	47	0.500	42	0.500	338	23.50	21.00	94.00	84.00	1.20	1.20	8.93	0.19	0.00	0.19
0	ɜolid_Roun	0.5" O.D.	R	47	0.500	42	0.500	442	23.50	21.00	94.00	84.00	1.20	1.20	8.12	0.17	0.00	0.17
0	Pipe	1.315" O.D.	R	42	1.315	42	1.315	210	55.23	55.23	31.94	31.94	1.20	1.20	21.30	0.51	0.00	0.51
0	Pipe	2.875" O.D.	R	42	2.875	42	2.875	210	120.75	120.75	14.61	14.61	0.97	0.97	37.61	0.90	0.00	0.90
0	Pipe	4" O.D.	R	54	4.000	54	4.000	210	216.00	216.00	13.50	13.50	0.94	0.94	65.57	1.21	0.00	1.21
0	Pipe	2.875" O.D.	R	42	2.875	42	2.875	210	120.75	120.75	14.61	14.61	0.97	0.97	37.61	0.90	0.00	0.90
0	Pipe	1.315" O.D.	R	42	1.315	42	1.315	210	55.23	55.23	31.94	31.94	1.20	1.20	21.30	0.51	0.00	0.51
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	210	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.00	0.92
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	210	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.00	0.92
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	210	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.00	0.92
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	210	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.00	0.92
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	210	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.00	0.92
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	210	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.00	0.92
0	ıequal_An	L4x3	F	18	4.000	0	4.000	210	72.00	0.00	4.50	0.00	1.29	1.20	22.37	1.24	0.00	1.24
0	ıequal_An	L4x3	F	18	4.000	0	4.000	210	72.00	0.00	4.50	0.00	1.29	1.20	22.37	1.24	0.00	1.24
0	Pipe	1.66" O.D.	R	48	1.660	0	1.660	470	79.68	0.00	28.92	0.00	1.20	0.70	3.60	0.07	0.00	0.07
0	Pipe	2.375" O.D.	R	150	2.375	0	2.375	210	356.25	0.00	63.16	0.00	1.20	0.70	103.05	0.69	0.00	0.69
0	Pipe	2.375" O.D.	R	150	2.375	0	2.375	210	356.25	0.00	63.16	0.00	1.20	0.70	103.05	0.69	0.00	0.69
0	ɛqual_Angl	L2.5x2.5	F	61	2.500	49	2.500	360	152.50	122.50	24.40	19.60	1.98	1.82	97.05	1.59	0.00	1.59
0	ɛqual_Angl	L2.5x2.5	F	61	2.500	49	2.500	360	152.50	122.50	24.40	19.60	1.98	1.82	97.05	1.59	0.00	1.59
0	ɛqual_Angl	L2.5x2.5	F	61	2.500	49	2.500	420	152.50	122.50	24.40	19.60	1.98	1.82	78.01	1.28	0.00	1.28
0	ɛqual_Angl	L2.5x2.5	F	61	2.500	49	2.500	420	152.50	122.50	24.40	19.60	1.98	1.82	78.01	1.28	0.00	1.28
0	0	0	0	0	0.000	0	0.000	210	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	0	0.000	0	0.000	210	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Trylon

Analysis date: 03/07/2020

WIND FORCES 90 DIRECTION - NO ICE

Member Label	Member Type	Description	F/R	Normal Length [in]	Normal Width [in]	Lateral Length [in]	Lateral Width [in]	θ (wind direction from normal face) [°]	A_N [in^2]	A_T [in^2]	Aspect Ratio Normal -	Aspect Ratio Lateral -	CaN -	CaT -	Resultant Wind Force Frontal [lbs]	Resultant Wind Force Distributed [lbs/in]	Resultant Component on Global X [lbs/in]	Resultant Component on Global Y [lbs/in]
0	Equal_Angl	L2.5x2.5	F	150	2.500	0	2.500	330	375.00	0.00	60.00	0.00	2.00	1.20	180.80	1.21	0.00	1.21
0	Equal_Angl	L2.5x2.5	F	150	2.500	0	2.500	330	375.00	0.00	60.00	0.00	2.00	1.20	180.80	1.21	0.00	1.21
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	458	66.50	40.38	11.79	7.16	0.91	0.80	10.60	0.38	0.00	0.38
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	458	66.50	40.38	11.79	7.16	0.91	0.80	10.60	0.38	0.00	0.38
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	562	66.50	40.38	11.79	7.16	0.91	0.80	18.12	0.65	0.00	0.65
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	562	66.50	40.38	11.79	7.16	0.91	0.80	18.12	0.65	0.00	0.65
0	Solid_Roun	0.5" O.D.	R	47	0.500	42	0.500	458	23.50	21.00	94.00	84.00	1.20	1.20	8.12	0.17	0.00	0.17
0	Solid_Roun	0.5" O.D.	R	47	0.500	42	0.500	562	23.50	21.00	94.00	84.00	1.20	1.20	8.93	0.19	0.00	0.19
0	Pipe	1.315" O.D.	R	42	1.315	42	1.315	330	55.23	55.23	31.94	31.94	1.20	1.20	21.30	0.51	0.00	0.51
0	Pipe	2.875" O.D.	R	42	2.875	42	2.875	330	120.75	120.75	14.61	14.61	0.97	0.97	37.61	0.90	0.00	0.90
0	Pipe	4" O.D.	R	54	4.000	54	4.000	330	216.00	216.00	13.50	13.50	0.94	0.94	65.57	1.21	0.00	1.21
0	Pipe	2.875" O.D.	R	42	2.875	42	2.875	330	120.75	120.75	14.61	14.61	0.97	0.97	37.61	0.90	0.00	0.90
0	Pipe	1.315" O.D.	R	42	1.315	42	1.315	330	55.23	55.23	31.94	31.94	1.20	1.20	21.30	0.51	0.00	0.51
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	330	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.00	0.92
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	330	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.00	0.92
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	330	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.00	0.92
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	330	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.00	0.92
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	330	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.00	0.92
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	330	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	0.00	0.92
0	nequal_An	L4x3	F	18	4.000	0	4.000	330	72.00	0.00	4.50	0.00	1.29	1.20	22.37	1.24	0.00	1.24
0	nequal_An	L4x3	F	18	4.000	0	4.000	330	72.00	0.00	4.50	0.00	1.29	1.20	22.37	1.24	0.00	1.24
0	Pipe	1.66" O.D.	R	48	1.660	0	1.660	590	79.68	0.00	28.92	0.00	1.20	0.70	12.70	0.26	0.00	0.26
0	Pipe	2.375" O.D.	R	150	2.375	0	2.375	330	356.25	0.00	63.16	0.00	1.20	0.70	103.05	0.69	0.00	0.69
0	Pipe	2.375" O.D.	R	150	2.375	0	2.375	330	356.25	0.00	63.16	0.00	1.20	0.70	103.05	0.69	0.00	0.69
0	Equal_Angl	L2.5x2.5	F	61	2.500	49	2.500	480	152.50	122.50	24.40	19.60	1.98	1.82	78.01	1.28	0.00	1.28
0	Equal_Angl	L2.5x2.5	F	61	2.500	49	2.500	480	152.50	122.50	24.40	19.60	1.98	1.82	78.01	1.28	0.00	1.28
0	Equal_Angl	L2.5x2.5	F	61	2.500	49	2.500	540	152.50	122.50	24.40	19.60	1.98	1.82	97.05	1.59	0.00	1.59
0	Equal_Angl	L2.5x2.5	F	61	2.500	49	2.500	540	152.50	122.50	24.40	19.60	1.98	1.82	97.05	1.59	0.00	1.59
0	0	0	0	0	0.000	0	0.000	330	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	0	0.000	0	0.000	330	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Trylon

Analysis date: 03/07/2020

WIND FORCES 120 DIRECTION - NO ICE

Member Label	Member Type	Description	F/R	Normal Length [in]	Normal Width [in]	Lateral Length [in]	Lateral Width [in]	θ (wind direction from normal face) [°]	A_N [in^2]	A_T [in^2]	Aspect Ratio Normal -	Aspect Ratio Lateral -	CaN -	CaT -	Resultant Wind Force Frontal [lbs]	Resultant Wind Force Distributed [lbs/in]	Resultant Component on Global X [lbs/in]	Resultant Component on Global Y [lbs/in]
M10	qual_Angl	L2.5x2.5	F	150	2.500	0	2.500	120	375.00	0.00	60.00	0.00	2.00	1.20	60.27	0.40	-0.20	0.35
M11	qual_Angl	L2.5x2.5	F	150	2.500	0	2.500	120	375.00	0.00	60.00	0.00	2.00	1.20	60.27	0.40	-0.20	0.35
M12	Pipe	2.375" O.D.	R	28	2.375	17	2.375	248	66.50	40.38	11.79	7.16	0.91	0.80	11.68	0.42	-0.21	0.36
M14	Pipe	2.375" O.D.	R	28	2.375	17	2.375	248	66.50	40.38	11.79	7.16	0.91	0.80	11.68	0.42	-0.21	0.36
M13	Pipe	2.375" O.D.	R	28	2.375	17	2.375	352	66.50	40.38	11.79	7.16	0.91	0.80	19.20	0.69	-0.34	0.59
M15	Pipe	2.375" O.D.	R	28	2.375	17	2.375	352	66.50	40.38	11.79	7.16	0.91	0.80	19.20	0.69	-0.34	0.59
M26	olid_Roun	0.5" O.D.	R	47	0.500	42	0.500	248	23.50	21.00	94.00	84.00	1.20	1.20	8.24	0.18	-0.09	0.15
M28	olid_Roun	0.5" O.D.	R	47	0.500	42	0.500	352	23.50	21.00	94.00	84.00	1.20	1.20	9.05	0.19	-0.10	0.17
M27	Pipe	1.315" O.D.	R	42	1.315	42	1.315	120	55.23	55.23	31.94	31.94	1.20	1.20	21.30	0.51	-0.25	0.44
M9	Pipe	2.875" O.D.	R	42	2.875	42	2.875	120	120.75	120.75	14.61	14.61	0.97	0.97	37.61	0.90	-0.45	0.78
M1	Pipe	4" O.D.	R	54	4.000	54	4.000	120	216.00	216.00	13.50	13.50	0.94	0.94	65.57	1.21	-0.61	1.05
M8	Pipe	2.875" O.D.	R	42	2.875	42	2.875	120	120.75	120.75	14.61	14.61	0.97	0.97	37.61	0.90	-0.45	0.78
M29	Pipe	1.315" O.D.	R	42	1.315	42	1.315	120	55.23	55.23	31.94	31.94	1.20	1.20	21.30	0.51	-0.25	0.44
M20	Pipe	2.375" O.D.	R	90	2.375	90	2.375	120	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	-0.46	0.79
M21	Pipe	2.375" O.D.	R	90	2.375	90	2.375	120	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	-0.46	0.79
M22	Pipe	2.375" O.D.	R	90	2.375	90	2.375	120	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	-0.46	0.79
M23	Pipe	2.375" O.D.	R	90	2.375	90	2.375	120	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	-0.46	0.79
M24	Pipe	2.375" O.D.	R	90	2.375	90	2.375	120	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	-0.46	0.79
M25	Pipe	2.375" O.D.	R	90	2.375	90	2.375	120	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	-0.46	0.79
M5	equal_An	L4x3	F	18	4.000	0	4.000	120	72.00	0.00	4.50	0.00	1.29	1.20	7.46	0.41	-0.21	0.36
M7	equal_An	L4x3	F	18	4.000	0	4.000	120	72.00	0.00	4.50	0.00	1.29	1.20	7.46	0.41	-0.21	0.36
M30	Pipe	1.66" O.D.	R	48	1.660	0	1.660	380	79.68	0.00	28.92	0.00	1.20	0.70	27.14	0.57	-0.28	0.49
M31	Pipe	2.375" O.D.	R	150	2.375	0	2.375	120	356.25	0.00	63.16	0.00	1.20	0.70	34.35	0.23	-0.11	0.20
M40	Pipe	2.375" O.D.	R	150	2.375	0	2.375	120	356.25	0.00	63.16	0.00	1.20	0.70	34.35	0.23	-0.11	0.20
M36	qual_Angl	L2.5x2.5	F	61	2.500	49	2.500	270	152.50	122.50	24.40	19.60	1.98	1.82	71.66	1.17	-0.59	1.02
M38	qual_Angl	L2.5x2.5	F	61	2.500	49	2.500	270	152.50	122.50	24.40	19.60	1.98	1.82	71.66	1.17	-0.59	1.02
M37	qual_Angl	L2.5x2.5	F	61	2.500	49	2.500	330	152.50	122.50	24.40	19.60	1.98	1.82	90.70	1.49	-0.74	1.29
M39	qual_Angl	L2.5x2.5	F	61	2.500	49	2.500	330	152.50	122.50	24.40	19.60	1.98	1.82	90.70	1.49	-0.74	1.29
0	0	0	0	0	0.000	0	0.000	120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	0	0.000	0	0.000	120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Trylon

Analysis date: 03/07/2020

WIND FORCES 120 DIRECTION - NO ICE

Member Label	Member Type	Description	F/R	Normal Length [in]	Normal Width [in]	Lateral Length [in]	Lateral Width [in]	θ (wind direction from normal face) [°]	AN [in²]	AT [in²]	Aspect Ratio Normal -	Aspect Ratio Lateral -	CaN -	CaT -	Resultant Wind Force Frontal [lbs]	Resultant Wind Force Distributed [lbs/in]	Resultant Component on Global X [lbs/in]	Resultant Component on Global Y [lbs/in]
0	Equal_Angl	L2.5x2.5	F	150	2.500	0	2.500	240	375.00	0.00	60.00	0.00	2.00	1.20	60.27	0.40	-0.20	0.35
0	Equal_Angl	L2.5x2.5	F	150	2.500	0	2.500	240	375.00	0.00	60.00	0.00	2.00	1.20	60.27	0.40	-0.20	0.35
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	368	66.50	40.38	11.79	7.16	0.91	0.80	19.20	0.69	-0.34	0.59
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	368	66.50	40.38	11.79	7.16	0.91	0.80	19.20	0.69	-0.34	0.59
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	472	66.50	40.38	11.79	7.16	0.91	0.80	11.68	0.42	-0.21	0.36
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	472	66.50	40.38	11.79	7.16	0.91	0.80	11.68	0.42	-0.21	0.36
0	Solid_Roun	0.5" O.D.	R	47	0.500	42	0.500	368	23.50	21.00	94.00	84.00	1.20	1.20	9.05	0.19	-0.10	0.17
0	Solid_Roun	0.5" O.D.	R	47	0.500	42	0.500	472	23.50	21.00	94.00	84.00	1.20	1.20	8.24	0.18	-0.09	0.15
0	Pipe	1.315" O.D.	R	42	1.315	42	1.315	240	55.23	55.23	31.94	31.94	1.20	1.20	21.30	0.51	-0.25	0.44
0	Pipe	2.875" O.D.	R	42	2.875	42	2.875	240	120.75	120.75	14.61	14.61	0.97	0.97	37.61	0.90	-0.45	0.78
0	Pipe	4" O.D.	R	54	4.000	54	4.000	240	216.00	216.00	13.50	13.50	0.94	0.94	65.57	1.21	-0.61	1.05
0	Pipe	2.875" O.D.	R	42	2.875	42	2.875	240	120.75	120.75	14.61	14.61	0.97	0.97	37.61	0.90	-0.45	0.78
0	Pipe	1.315" O.D.	R	42	1.315	42	1.315	240	55.23	55.23	31.94	31.94	1.20	1.20	21.30	0.51	-0.25	0.44
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	240	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	-0.46	0.79
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	240	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	-0.46	0.79
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	240	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	-0.46	0.79
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	240	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	-0.46	0.79
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	240	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	-0.46	0.79
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	240	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	-0.46	0.79
0	nequal_An	L4x3	F	18	4.000	0	4.000	240	72.00	0.00	4.50	0.00	1.29	1.20	7.46	0.41	-0.21	0.36
0	nequal_An	L4x3	F	18	4.000	0	4.000	240	72.00	0.00	4.50	0.00	1.29	1.20	7.46	0.41	-0.21	0.36
0	Pipe	1.66" O.D.	R	48	1.660	0	1.660	500	79.68	0.00	28.92	0.00	1.20	0.70	18.03	0.38	-0.19	0.33
0	Pipe	2.375" O.D.	R	150	2.375	0	2.375	240	356.25	0.00	63.16	0.00	1.20	0.70	34.35	0.23	-0.11	0.20
0	Pipe	2.375" O.D.	R	150	2.375	0	2.375	240	356.25	0.00	63.16	0.00	1.20	0.70	34.35	0.23	-0.11	0.20
0	Equal_Angl	L2.5x2.5	F	61	2.500	49	2.500	390	152.50	122.50	24.40	19.60	1.98	1.82	90.70	1.49	-0.74	1.29
0	Equal_Angl	L2.5x2.5	F	61	2.500	49	2.500	390	152.50	122.50	24.40	19.60	1.98	1.82	90.70	1.49	-0.74	1.29
0	Equal_Angl	L2.5x2.5	F	61	2.500	49	2.500	450	152.50	122.50	24.40	19.60	1.98	1.82	71.66	1.17	-0.59	1.02
0	Equal_Angl	L2.5x2.5	F	61	2.500	49	2.500	450	152.50	122.50	24.40	19.60	1.98	1.82	71.66	1.17	-0.59	1.02
0	0	0	0	0	0.000	0	0.000	240	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	0	0.000	0	0.000	240	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

WIND FORCES 120 DIRECTION - NO ICE

Member Label	Member Type	Description	F/R	Normal Length [in]	Normal Width [in]	Lateral Length [in]	Lateral Width [in]	θ (wind direction from normal face) [°]	AN [in^2]	AT [in^2]	Aspect Ratio Normal -	Aspect Ratio Lateral -	CaN -	CaT -	Resultant Wind Force Frontal [lbs]	Resultant Wind Force Distributed [lbs/in]	Resultant Component on Global X [lbs/in]	Resultant Component on Global Y [lbs/in]
0	Equal_Angl	L2.5x2.5	F	150	2.500	0	2.500	360	375.00	0.00	60.00	0.00	2.00	1.20	241.06	1.61	-0.80	1.39
0	Equal_Angl	L2.5x2.5	F	150	2.500	0	2.500	360	375.00	0.00	60.00	0.00	2.00	1.20	241.06	1.61	-0.80	1.39
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	488	66.50	40.38	11.79	7.16	0.91	0.80	13.82	0.49	-0.25	0.43
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	488	66.50	40.38	11.79	7.16	0.91	0.80	13.82	0.49	-0.25	0.43
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	592	66.50	40.38	11.79	7.16	0.91	0.80	13.82	0.49	-0.25	0.43
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	592	66.50	40.38	11.79	7.16	0.91	0.80	13.82	0.49	-0.25	0.43
0	Solid_Roun	0.5" O.D.	R	47	0.500	42	0.500	488	23.50	21.00	94.00	84.00	1.20	1.20	8.47	0.18	-0.09	0.16
0	Solid_Roun	0.5" O.D.	R	47	0.500	42	0.500	592	23.50	21.00	94.00	84.00	1.20	1.20	8.47	0.18	-0.09	0.16
0	Pipe	1.315" O.D.	R	42	1.315	42	1.315	360	55.23	55.23	31.94	31.94	1.20	1.20	21.30	0.51	-0.25	0.44
0	Pipe	2.875" O.D.	R	42	2.875	42	2.875	360	120.75	120.75	14.61	14.61	0.97	0.97	37.61	0.90	-0.45	0.78
0	Pipe	4" O.D.	R	54	4.000	54	4.000	360	216.00	216.00	13.50	13.50	0.94	0.94	65.57	1.21	-0.61	1.05
0	Pipe	2.875" O.D.	R	42	2.875	42	2.875	360	120.75	120.75	14.61	14.61	0.97	0.97	37.61	0.90	-0.45	0.78
0	Pipe	1.315" O.D.	R	42	1.315	42	1.315	360	55.23	55.23	31.94	31.94	1.20	1.20	21.30	0.51	-0.25	0.44
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	360	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	-0.46	0.79
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	360	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	-0.46	0.79
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	360	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	-0.46	0.79
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	360	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	-0.46	0.79
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	360	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	-0.46	0.79
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	360	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	-0.46	0.79
0	nequal_An	L4x3	F	18	4.000	0	4.000	360	72.00	0.00	4.50	0.00	1.29	1.20	29.83	1.66	-0.83	1.44
0	nequal_An	L4x3	F	18	4.000	0	4.000	360	72.00	0.00	4.50	0.00	1.29	1.20	29.83	1.66	-0.83	1.44
0	Pipe	1.66" O.D.	R	48	1.660	0	1.660	620	79.68	0.00	28.92	0.00	1.20	0.70	0.93	0.02	-0.01	0.02
0	Pipe	2.375" O.D.	R	150	2.375	0	2.375	360	356.25	0.00	63.16	0.00	1.20	0.70	137.41	0.92	-0.46	0.79
0	Pipe	2.375" O.D.	R	150	2.375	0	2.375	360	356.25	0.00	63.16	0.00	1.20	0.70	137.41	0.92	-0.46	0.79
0	Equal_Angl	L2.5x2.5	F	61	2.500	49	2.500	510	152.50	122.50	24.40	19.60	1.98	1.82	90.70	1.49	-0.74	1.29
0	Equal_Angl	L2.5x2.5	F	61	2.500	49	2.500	510	152.50	122.50	24.40	19.60	1.98	1.82	90.70	1.49	-0.74	1.29
0	Equal_Angl	L2.5x2.5	F	61	2.500	49	2.500	570	152.50	122.50	24.40	19.60	1.98	1.82	90.70	1.49	-0.74	1.29
0	Equal_Angl	L2.5x2.5	F	61	2.500	49	2.500	570	152.50	122.50	24.40	19.60	1.98	1.82	90.70	1.49	-0.74	1.29
0	0	0	0	0	0.000	0	0.000	360	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	0	0.000	0	0.000	360	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Trylon

Analysis date: 03/07/2020

WIND FORCES 150 DIRECTION - NO ICE

Member Label	Member Type	Description	F/R	Normal Length [in]	Normal Width [in]	Lateral Length [in]	Lateral Width [in]	θ (wind direction from normal face) [°]	A_N [in^2]	A_T [in^2]	Aspect Ratio Normal -	Aspect Ratio Lateral -	CaN -	CaT -	Resultant Wind Force Frontal [lbs]	Resultant Wind Force Distributed [lbs/in]	Resultant Component on Global X [lbs/in]	Resultant Component on Global Y [lbs/in]
M10	qual_Angl	L2.5x2.5	F	150	2.500	0	2.500	150	375.00	0.00	60.00	0.00	2.00	1.20	180.80	1.21	-1.04	0.60
M11	qual_Angl	L2.5x2.5	F	150	2.500	0	2.500	150	375.00	0.00	60.00	0.00	2.00	1.20	180.80	1.21	-1.04	0.60
M12	Pipe	2.375" O.D.	R	28	2.375	17	2.375	278	66.50	40.38	11.79	7.16	0.91	0.80	10.60	0.38	-0.33	0.19
M14	Pipe	2.375" O.D.	R	28	2.375	17	2.375	278	66.50	40.38	11.79	7.16	0.91	0.80	10.60	0.38	-0.33	0.19
M13	Pipe	2.375" O.D.	R	28	2.375	17	2.375	382	66.50	40.38	11.79	7.16	0.91	0.80	18.12	0.65	-0.56	0.32
M15	Pipe	2.375" O.D.	R	28	2.375	17	2.375	382	66.50	40.38	11.79	7.16	0.91	0.80	18.12	0.65	-0.56	0.32
M26	olid_Roun	0.5" O.D.	R	47	0.500	42	0.500	278	23.50	21.00	94.00	84.00	1.20	1.20	8.12	0.17	-0.15	0.09
M28	olid_Roun	0.5" O.D.	R	47	0.500	42	0.500	382	23.50	21.00	94.00	84.00	1.20	1.20	8.93	0.19	-0.16	0.09
M27	Pipe	1.315" O.D.	R	42	1.315	42	1.315	150	55.23	55.23	31.94	31.94	1.20	1.20	21.30	0.51	-0.44	0.25
M9	Pipe	2.875" O.D.	R	42	2.875	42	2.875	150	120.75	120.75	14.61	14.61	0.97	0.97	37.61	0.90	-0.78	0.45
M1	Pipe	4" O.D.	R	54	4.000	54	4.000	150	216.00	216.00	13.50	13.50	0.94	0.94	65.57	1.21	-1.05	0.61
M8	Pipe	2.875" O.D.	R	42	2.875	42	2.875	150	120.75	120.75	14.61	14.61	0.97	0.97	37.61	0.90	-0.78	0.45
M29	Pipe	1.315" O.D.	R	42	1.315	42	1.315	150	55.23	55.23	31.94	31.94	1.20	1.20	21.30	0.51	-0.44	0.25
M20	Pipe	2.375" O.D.	R	90	2.375	90	2.375	150	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	-0.79	0.46
M21	Pipe	2.375" O.D.	R	90	2.375	90	2.375	150	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	-0.79	0.46
M22	Pipe	2.375" O.D.	R	90	2.375	90	2.375	150	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	-0.79	0.46
M23	Pipe	2.375" O.D.	R	90	2.375	90	2.375	150	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	-0.79	0.46
M24	Pipe	2.375" O.D.	R	90	2.375	90	2.375	150	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	-0.79	0.46
M25	Pipe	2.375" O.D.	R	90	2.375	90	2.375	150	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	-0.79	0.46
M5	equal_An	L4x3	F	18	4.000	0	4.000	150	72.00	0.00	4.50	0.00	1.29	1.20	22.37	1.24	-1.08	0.62
M7	equal_An	L4x3	F	18	4.000	0	4.000	150	72.00	0.00	4.50	0.00	1.29	1.20	22.37	1.24	-1.08	0.62
M30	Pipe	1.66" O.D.	R	48	1.660	0	1.660	410	79.68	0.00	28.92	0.00	1.20	0.70	12.70	0.26	-0.23	0.13
M31	Pipe	2.375" O.D.	R	150	2.375	0	2.375	150	356.25	0.00	63.16	0.00	1.20	0.70	103.05	0.69	-0.59	0.34
M40	Pipe	2.375" O.D.	R	150	2.375	0	2.375	150	356.25	0.00	63.16	0.00	1.20	0.70	103.05	0.69	-0.59	0.34
M36	qual_Angl	L2.5x2.5	F	61	2.500	49	2.500	300	152.50	122.50	24.40	19.60	1.98	1.82	78.01	1.28	-1.11	0.64
M38	qual_Angl	L2.5x2.5	F	61	2.500	49	2.500	300	152.50	122.50	24.40	19.60	1.98	1.82	78.01	1.28	-1.11	0.64
M37	qual_Angl	L2.5x2.5	F	61	2.500	49	2.500	360	152.50	122.50	24.40	19.60	1.98	1.82	97.05	1.59	-1.38	0.80
M39	qual_Angl	L2.5x2.5	F	61	2.500	49	2.500	360	152.50	122.50	24.40	19.60	1.98	1.82	97.05	1.59	-1.38	0.80
0	0	0	0	0	0.000	0	0.000	150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	0	0.000	0	0.000	150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Trylon

Analysis date: 03/07/2020

WIND FORCES 150 DIRECTION - NO ICE

Member Label	Member Type	Description	F/R	Normal Length [in]	Normal Width [in]	Lateral Length [in]	Lateral Width [in]	θ (wind direction from normal face) [°]	A_N [in^2]	A_T [in^2]	Aspect Ratio Normal -	Aspect Ratio Lateral -	CaN -	CaT -	Resultant Wind Force Frontal [lbs]	Resultant Wind Force Distributed [lbs/in]	Resultant Component on Global X [lbs/in]	Resultant Component on Global Y [lbs/in]
0	Equal_Angl	L2.5x2.5	F	150	2.500	0	2.500	270	375.00	0.00	60.00	0.00	2.00	1.20	0.00	0.00	0.00	0.00
0	Equal_Angl	L2.5x2.5	F	150	2.500	0	2.500	270	375.00	0.00	60.00	0.00	2.00	1.20	0.00	0.00	0.00	0.00
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	398	66.50	40.38	11.79	7.16	0.91	0.80	15.98	0.57	-0.49	0.29
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	398	66.50	40.38	11.79	7.16	0.91	0.80	15.98	0.57	-0.49	0.29
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	502	66.50	40.38	11.79	7.16	0.91	0.80	15.98	0.57	-0.49	0.29
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	502	66.50	40.38	11.79	7.16	0.91	0.80	15.98	0.57	-0.49	0.29
0	Solid_Roun	0.5" O.D.	R	47	0.500	42	0.500	398	23.50	21.00	94.00	84.00	1.20	1.20	8.70	0.19	-0.16	0.09
0	Solid_Roun	0.5" O.D.	R	47	0.500	42	0.500	502	23.50	21.00	94.00	84.00	1.20	1.20	8.70	0.19	-0.16	0.09
0	Pipe	1.315" O.D.	R	42	1.315	42	1.315	270	55.23	55.23	31.94	31.94	1.20	1.20	21.30	0.51	-0.44	0.25
0	Pipe	2.875" O.D.	R	42	2.875	42	2.875	270	120.75	120.75	14.61	14.61	0.97	0.97	37.61	0.90	-0.78	0.45
0	Pipe	4" O.D.	R	54	4.000	54	4.000	270	216.00	216.00	13.50	13.50	0.94	0.94	65.57	1.21	-1.05	0.61
0	Pipe	2.875" O.D.	R	42	2.875	42	2.875	270	120.75	120.75	14.61	14.61	0.97	0.97	37.61	0.90	-0.78	0.45
0	Pipe	1.315" O.D.	R	42	1.315	42	1.315	270	55.23	55.23	31.94	31.94	1.20	1.20	21.30	0.51	-0.44	0.25
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	270	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	-0.79	0.46
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	270	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	-0.79	0.46
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	270	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	-0.79	0.46
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	270	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	-0.79	0.46
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	270	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	-0.79	0.46
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	270	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	-0.79	0.46
0	Unequal_An	L4x3	F	18	4.000	0	4.000	270	72.00	0.00	4.50	0.00	1.29	1.20	0.00	0.00	0.00	0.00
0	Unequal_An	L4x3	F	18	4.000	0	4.000	270	72.00	0.00	4.50	0.00	1.29	1.20	0.00	0.00	0.00	0.00
0	Pipe	1.66" O.D.	R	48	1.660	0	1.660	530	79.68	0.00	28.92	0.00	1.20	0.70	29.81	0.62	-0.54	0.31
0	Pipe	2.375" O.D.	R	150	2.375	0	2.375	270	356.25	0.00	63.16	0.00	1.20	0.70	0.00	0.00	0.00	0.00
0	Pipe	2.375" O.D.	R	150	2.375	0	2.375	270	356.25	0.00	63.16	0.00	1.20	0.70	0.00	0.00	0.00	0.00
0	Equal_Angl	L2.5x2.5	F	61	2.500	49	2.500	420	152.50	122.50	24.40	19.60	1.98	1.82	78.01	1.28	-1.11	0.64
0	Equal_Angl	L2.5x2.5	F	61	2.500	49	2.500	420	152.50	122.50	24.40	19.60	1.98	1.82	78.01	1.28	-1.11	0.64
0	Equal_Angl	L2.5x2.5	F	61	2.500	49	2.500	480	152.50	122.50	24.40	19.60	1.98	1.82	78.01	1.28	-1.11	0.64
0	Equal_Angl	L2.5x2.5	F	61	2.500	49	2.500	480	152.50	122.50	24.40	19.60	1.98	1.82	78.01	1.28	-1.11	0.64
0	0	0	0	0	0.000	0	0.000	270	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	0	0.000	0	0.000	270	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Trylon

Analysis date: 03/07/2020

WIND FORCES 150 DIRECTION - NO ICE

Member Label	Member Type	Description	F/R	Normal Length [in]	Normal Width [in]	Lateral Length [in]	Lateral Width [in]	θ (wind direction from normal face) [°]	AN [in²]	AT [in²]	Aspect Ratio Normal -	Aspect Ratio Lateral -	CaN -	CaT -	Resultant Wind Force Frontal [lbs]	Resultant Wind Force Distributed [lbs/in]	Resultant Component on Global X [lbs/in]	Resultant Component on Global Y [lbs/in]
0	Equal_Angl	L2.5x2.5	F	150	2.500	0	2.500	390	375.00	0.00	60.00	0.00	2.00	1.20	180.80	1.21	-1.04	0.60
0	Equal_Angl	L2.5x2.5	F	150	2.500	0	2.500	390	375.00	0.00	60.00	0.00	2.00	1.20	180.80	1.21	-1.04	0.60
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	518	66.50	40.38	11.79	7.16	0.91	0.80	18.12	0.65	-0.56	0.32
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	518	66.50	40.38	11.79	7.16	0.91	0.80	18.12	0.65	-0.56	0.32
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	622	66.50	40.38	11.79	7.16	0.91	0.80	10.60	0.38	-0.33	0.19
0	Pipe	2.375" O.D.	R	28	2.375	17	2.375	622	66.50	40.38	11.79	7.16	0.91	0.80	10.60	0.38	-0.33	0.19
0	Solid_Roun	0.5" O.D.	R	47	0.500	42	0.500	518	23.50	21.00	94.00	84.00	1.20	1.20	8.93	0.19	-0.16	0.09
0	Solid_Roun	0.5" O.D.	R	47	0.500	42	0.500	622	23.50	21.00	94.00	84.00	1.20	1.20	8.12	0.17	-0.15	0.09
0	Pipe	1.315" O.D.	R	42	1.315	42	1.315	390	55.23	55.23	31.94	31.94	1.20	1.20	21.30	0.51	-0.44	0.25
0	Pipe	2.875" O.D.	R	42	2.875	42	2.875	390	120.75	120.75	14.61	14.61	0.97	0.97	37.61	0.90	-0.78	0.45
0	Pipe	4" O.D.	R	54	4.000	54	4.000	390	216.00	216.00	13.50	13.50	0.94	0.94	65.57	1.21	-1.05	0.61
0	Pipe	2.875" O.D.	R	42	2.875	42	2.875	390	120.75	120.75	14.61	14.61	0.97	0.97	37.61	0.90	-0.78	0.45
0	Pipe	1.315" O.D.	R	42	1.315	42	1.315	390	55.23	55.23	31.94	31.94	1.20	1.20	21.30	0.51	-0.44	0.25
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	390	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	-0.79	0.46
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	390	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	-0.79	0.46
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	390	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	-0.79	0.46
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	390	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	-0.79	0.46
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	390	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	-0.79	0.46
0	Pipe	2.375" O.D.	R	90	2.375	90	2.375	390	213.75	213.75	37.89	37.89	1.20	1.20	82.44	0.92	-0.79	0.46
0	nequal_An	L4x3	F	18	4.000	0	4.000	390	72.00	0.00	4.50	0.00	1.29	1.20	22.37	1.24	-1.08	0.62
0	nequal_An	L4x3	F	18	4.000	0	4.000	390	72.00	0.00	4.50	0.00	1.29	1.20	22.37	1.24	-1.08	0.62
0	Pipe	1.66" O.D.	R	48	1.660	0	1.660	650	79.68	0.00	28.92	0.00	1.20	0.70	3.60	0.07	-0.06	0.04
0	Pipe	2.375" O.D.	R	150	2.375	0	2.375	390	356.25	0.00	63.16	0.00	1.20	0.70	103.05	0.69	-0.59	0.34
0	Pipe	2.375" O.D.	R	150	2.375	0	2.375	390	356.25	0.00	63.16	0.00	1.20	0.70	103.05	0.69	-0.59	0.34
0	Equal_Angl	L2.5x2.5	F	61	2.500	49	2.500	540	152.50	122.50	24.40	19.60	1.98	1.82	97.05	1.59	-1.38	0.80
0	Equal_Angl	L2.5x2.5	F	61	2.500	49	2.500	540	152.50	122.50	24.40	19.60	1.98	1.82	97.05	1.59	-1.38	0.80
0	Equal_Angl	L2.5x2.5	F	61	2.500	49	2.500	600	152.50	122.50	24.40	19.60	1.98	1.82	78.01	1.28	-1.11	0.64
0	Equal_Angl	L2.5x2.5	F	61	2.500	49	2.500	600	152.50	122.50	24.40	19.60	1.98	1.82	78.01	1.28	-1.11	0.64
0	0	0	0	0	0.000	0	0.000	390	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	0	0.000	0	0.000	390	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Trylon

Analysis date: 03/07/2020

WIND FORCES 0 DIRECTION - ICE

Member Label	Member Type	Description	F/R	Normal Length [in]	Normal Width [in]	Lateral Length [in]	Lateral Width [in]	θ (wind direction from normal face) [°]	A_N [in^2]	A_T [in^2]	Aspect Ratio Normal -	Aspect Ratio Lateral -	CaN -	CaT -	Resultant Wind Force Frontal [lbs]	Resultant Wind Force Distributed [lbs/in]	Resultant Component on Global X [lbs/in]	Resultant Component on Global Y [lbs/in]
M10	qual_Angl	L2.5x2.5	F	153.55	6.05	3.55	6.05	0	928.77	21.46	25.39	0.59	2.00	1.20	100.28	0.65	0.65	0.00
M11	qual_Angl	L2.5x2.5	F	153.55	6.05	3.55	6.05	0	928.77	21.46	25.39	0.59	2.00	1.20	100.28	0.65	0.65	0.00
M12	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	128	186.88	121.72	5.33	3.47	0.76	0.72	5.86	0.19	0.19	0.00
M14	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	128	186.88	121.72	5.33	3.47	0.76	0.72	5.86	0.19	0.19	0.00
M13	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	232	186.88	121.72	5.33	3.47	0.76	0.72	5.86	0.19	0.19	0.00
M15	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	232	186.88	121.72	5.33	3.47	0.76	0.72	5.86	0.19	0.19	0.00
M26	olid_Roun	0.5" O.D.	R	50.55	4.05	45.55	4.05	128	204.66	184.41	12.49	11.25	0.92	0.89	9.39	0.19	0.19	0.00
M28	olid_Roun	0.5" O.D.	R	50.55	4.05	45.55	4.05	232	204.66	184.41	12.49	11.25	0.92	0.89	9.39	0.19	0.19	0.00
M27	Pipe	1.315" O.D.	R	45.55	4.86	45.55	4.86	0	221.53	221.53	9.37	9.37	0.85	0.85	10.20	0.22	0.22	0.00
M9	Pipe	2.875" O.D.	R	45.55	6.42	45.55	6.42	0	292.59	292.59	7.09	7.09	0.80	0.80	12.67	0.28	0.28	0.00
M1	Pipe	4" O.D.	R	57.55	7.55	57.55	7.55	0	434.42	434.42	7.62	7.62	0.81	0.81	19.09	0.33	0.33	0.00
M8	Pipe	2.875" O.D.	R	45.55	6.42	45.55	6.42	0	292.59	292.59	7.09	7.09	0.80	0.80	12.67	0.28	0.28	0.00
M29	Pipe	1.315" O.D.	R	45.55	4.86	45.55	4.86	0	221.53	221.53	9.37	9.37	0.85	0.85	10.20	0.22	0.22	0.00
M20	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	0	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.32	0.00
M21	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	0	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.32	0.00
M22	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	0	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.32	0.00
M23	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	0	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.32	0.00
M24	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	0	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.32	0.00
M25	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	0	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.32	0.00
M5	equal_An	L4x3	F	21.55	7.55	3.55	7.55	0	162.66	26.79	2.85	0.47	1.22	1.20	10.68	0.50	0.50	0.00
M7	equal_An	L4x3	F	21.55	7.55	3.55	7.55	0	162.66	26.79	2.85	0.47	1.22	1.20	10.68	0.50	0.50	0.00
M30	Pipe	1.66" O.D.	R	51.55	5.21	3.55	5.21	260	268.50	18.48	9.90	0.68	0.86	0.70	1.06	0.02	0.02	0.00
M31	Pipe	2.375" O.D.	R	153.55	5.92	3.55	5.92	0	909.57	21.02	25.92	0.60	1.20	0.70	58.93	0.38	0.38	0.00
M40	Pipe	2.375" O.D.	R	153.55	5.92	3.55	5.92	0	909.57	21.02	25.92	0.60	1.20	0.70	58.93	0.38	0.38	0.00
M36	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	150	390.43	317.85	10.67	8.69	1.52	1.46	30.31	0.47	0.47	0.00
M38	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	150	390.43	317.85	10.67	8.69	1.52	1.46	30.31	0.47	0.47	0.00
M37	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	210	390.43	317.85	10.67	8.69	1.52	1.46	30.31	0.47	0.47	0.00
M39	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	210	390.43	317.85	10.67	8.69	1.52	1.46	30.31	0.47	0.47	0.00
0	0	0	0	3.55	0.00	3.55	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	3.55	0.00	3.55	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

WIND FORCES 0 DIRECTION - ICE

Member Label	Member Type	Description	F/R	Normal Length [in]	Normal Width [in]	Lateral Length [in]	Lateral Width [in]	θ (wind direction from normal face) [°]	A_N [in^2]	A_T [in^2]	Aspect Ratio Normal -	Aspect Ratio Lateral -	CaN -	CaT -	Resultant Wind Force Frontal [lbs]	Resultant Wind Force Distributed [lbs/in]	Resultant Component on Global X [lbs/in]	Resultant Component on Global Y [lbs/in]
0	Equal_Angl	L2.5x2.5	F	153.55	6.05	3.55	6.05	120	928.77	21.46	25.39	0.59	2.00	1.20	26.11	0.17	0.17	0.00
0	Equal_Angl	L2.5x2.5	F	153.55	6.05	3.55	6.05	120	928.77	21.46	25.39	0.59	2.00	1.20	26.11	0.17	0.17	0.00
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	248	186.88	121.72	5.33	3.47	0.76	0.72	5.16	0.16	0.16	0.00
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	248	186.88	121.72	5.33	3.47	0.76	0.72	5.16	0.16	0.16	0.00
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	352	186.88	121.72	5.33	3.47	0.76	0.72	7.64	0.24	0.24	0.00
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	352	186.88	121.72	5.33	3.47	0.76	0.72	7.64	0.24	0.24	0.00
0	Solid_Roun	0.5" O.D.	R	50.55	4.05	45.55	4.05	248	204.66	184.41	12.49	11.25	0.92	0.89	9.08	0.18	0.18	0.00
0	Solid_Roun	0.5" O.D.	R	50.55	4.05	45.55	4.05	352	204.66	184.41	12.49	11.25	0.92	0.89	10.16	0.20	0.20	0.00
0	Pipe	1.315" O.D.	R	45.55	4.86	45.55	4.86	120	221.53	221.53	9.37	9.37	0.85	0.85	10.20	0.22	0.22	0.00
0	Pipe	2.875" O.D.	R	45.55	6.42	45.55	6.42	120	292.59	292.59	7.09	7.09	0.80	0.80	12.67	0.28	0.28	0.00
0	Pipe	4" O.D.	R	57.55	7.55	57.55	7.55	120	434.42	434.42	7.62	7.62	0.81	0.81	19.09	0.33	0.33	0.00
0	Pipe	2.875" O.D.	R	45.55	6.42	45.55	6.42	120	292.59	292.59	7.09	7.09	0.80	0.80	12.67	0.28	0.28	0.00
0	Pipe	1.315" O.D.	R	45.55	4.86	45.55	4.86	120	221.53	221.53	9.37	9.37	0.85	0.85	10.20	0.22	0.22	0.00
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	120	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.32	0.00
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	120	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.32	0.00
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	120	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.32	0.00
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	120	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.32	0.00
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	120	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.32	0.00
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	120	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.32	0.00
0	Unequal_An	L4x3	F	21.55	7.55	3.55	7.55	120	162.66	26.79	2.85	0.47	1.22	1.20	3.97	0.18	0.18	0.00
0	Unequal_An	L4x3	F	21.55	7.55	3.55	7.55	120	162.66	26.79	2.85	0.47	1.22	1.20	3.97	0.18	0.18	0.00
0	Pipe	1.66" O.D.	R	51.55	5.21	3.55	5.21	380	268.50	18.48	9.90	0.68	0.86	0.70	11.15	0.22	0.22	0.00
0	Pipe	2.375" O.D.	R	153.55	5.92	3.55	5.92	120	909.57	21.02	25.92	0.60	1.20	0.70	15.33	0.10	0.10	0.00
0	Pipe	2.375" O.D.	R	153.55	5.92	3.55	5.92	120	909.57	21.02	25.92	0.60	1.20	0.70	15.33	0.10	0.10	0.00
0	Equal_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	270	390.43	317.85	10.67	8.69	1.52	1.46	24.99	0.39	0.39	0.00
0	Equal_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	270	390.43	317.85	10.67	8.69	1.52	1.46	24.99	0.39	0.39	0.00
0	Equal_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	330	390.43	317.85	10.67	8.69	1.52	1.46	30.31	0.47	0.47	0.00
0	Equal_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	330	390.43	317.85	10.67	8.69	1.52	1.46	30.31	0.47	0.47	0.00
0	0	0	0	3.55	0.00	3.55	0.00	120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	3.55	0.00	3.55	0.00	120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Trylon

Analysis date: 03/07/2020

WIND FORCES 0 DIRECTION - ICE

Member Label	Member Type	Description	F/R	Normal Length [in]	Normal Width [in]	Lateral Length [in]	Lateral Width [in]	θ (wind direction from normal face) [°]	AN [in²]	AT [in²]	Aspect Ratio Normal -	Aspect Ratio Lateral -	CaN -	CaT -	Resultant Wind Force Frontal [lbs]	Resultant Wind Force Distributed [lbs/in]	Resultant Component on Global X [lbs/in]	Resultant Component on Global Y [lbs/in]
0	ɛqual_Angl	L2.5x2.5	F	153.55	6.05	3.55	6.05	240	928.77	21.46	25.39	0.59	2.00	1.20	26.11	0.17	0.17	0.00
0	ɛqual_Angl	L2.5x2.5	F	153.55	6.05	3.55	6.05	240	928.77	21.46	25.39	0.59	2.00	1.20	26.11	0.17	0.17	0.00
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	368	186.88	121.72	5.33	3.47	0.76	0.72	7.64	0.24	0.24	0.00
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	368	186.88	121.72	5.33	3.47	0.76	0.72	7.64	0.24	0.24	0.00
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	472	186.88	121.72	5.33	3.47	0.76	0.72	5.16	0.16	0.16	0.00
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	472	186.88	121.72	5.33	3.47	0.76	0.72	5.16	0.16	0.16	0.00
0	3olid_Roun	0.5" O.D.	R	50.55	4.05	45.55	4.05	368	204.66	184.41	12.49	11.25	0.92	0.89	10.16	0.20	0.20	0.00
0	3olid_Roun	0.5" O.D.	R	50.55	4.05	45.55	4.05	472	204.66	184.41	12.49	11.25	0.92	0.89	9.08	0.18	0.18	0.00
0	Pipe	1.315" O.D.	R	45.55	4.86	45.55	4.86	240	221.53	221.53	9.37	9.37	0.85	0.85	10.20	0.22	0.22	0.00
0	Pipe	2.875" O.D.	R	45.55	6.42	45.55	6.42	240	292.59	292.59	7.09	7.09	0.80	0.80	12.67	0.28	0.28	0.00
0	Pipe	4" O.D.	R	57.55	7.55	57.55	7.55	240	434.42	434.42	7.62	7.62	0.81	0.81	19.09	0.33	0.33	0.00
0	Pipe	2.875" O.D.	R	45.55	6.42	45.55	6.42	240	292.59	292.59	7.09	7.09	0.80	0.80	12.67	0.28	0.28	0.00
0	Pipe	1.315" O.D.	R	45.55	4.86	45.55	4.86	240	221.53	221.53	9.37	9.37	0.85	0.85	10.20	0.22	0.22	0.00
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	240	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.32	0.00
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	240	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.32	0.00
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	240	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.32	0.00
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	240	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.32	0.00
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	240	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.32	0.00
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	240	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.32	0.00
0	ıequal_An	L4x3	F	21.55	7.55	3.55	7.55	240	162.66	26.79	2.85	0.47	1.22	1.20	3.97	0.18	0.18	0.00
0	ıequal_An	L4x3	F	21.55	7.55	3.55	7.55	240	162.66	26.79	2.85	0.47	1.22	1.20	3.97	0.18	0.18	0.00
0	Pipe	1.66" O.D.	R	51.55	5.21	3.55	5.21	500	268.50	18.48	9.90	0.68	0.86	0.70	7.64	0.15	0.15	0.00
0	Pipe	2.375" O.D.	R	153.55	5.92	3.55	5.92	240	909.57	21.02	25.92	0.60	1.20	0.70	15.33	0.10	0.10	0.00
0	Pipe	2.375" O.D.	R	153.55	5.92	3.55	5.92	240	909.57	21.02	25.92	0.60	1.20	0.70	15.33	0.10	0.10	0.00
0	ɛqual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	390	390.43	317.85	10.67	8.69	1.52	1.46	30.31	0.47	0.47	0.00
0	ɛqual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	390	390.43	317.85	10.67	8.69	1.52	1.46	30.31	0.47	0.47	0.00
0	ɛqual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	450	390.43	317.85	10.67	8.69	1.52	1.46	24.99	0.39	0.39	0.00
0	ɛqual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	450	390.43	317.85	10.67	8.69	1.52	1.46	24.99	0.39	0.39	0.00
0	0	0	0	3.55	0.00	3.55	0.00	240	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	3.55	0.00	3.55	0.00	240	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Trylon

Analysis date: 03/07/2020

WIND FORCES 30 DIRECTION - ICE

Member Label	Member Type	Description	F/R	Normal Length [in]	Normal Width [in]	Lateral Length [in]	Lateral Width [in]	θ (wind direction from normal face) [°]	A_N [in^2]	A_T [in^2]	Aspect Ratio Normal -	Aspect Ratio Lateral -	CaN -	CaT -	Resultant Wind Force Frontal [lbs]	Resultant Wind Force Distributed [lbs/in]	Resultant Component on Global X [lbs/in]	Resultant Component on Global Y [lbs/in]
M10	qual_Angl	L2.5x2.5	F	153.55	6.05	3.55	6.05	30	928.77	21.46	25.39	0.59	2.00	1.20	75.56	0.49	0.43	0.25
M11	qual_Angl	L2.5x2.5	F	153.55	6.05	3.55	6.05	30	928.77	21.46	25.39	0.59	2.00	1.20	75.56	0.49	0.43	0.25
M12	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	158	186.88	121.72	5.33	3.47	0.76	0.72	7.28	0.23	0.20	0.12
M14	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	158	186.88	121.72	5.33	3.47	0.76	0.72	7.28	0.23	0.20	0.12
M13	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	262	186.88	121.72	5.33	3.47	0.76	0.72	4.80	0.15	0.13	0.08
M15	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	262	186.88	121.72	5.33	3.47	0.76	0.72	4.80	0.15	0.13	0.08
M26	olid_Roun	0.5" O.D.	R	50.55	4.05	45.55	4.05	158	204.66	184.41	12.49	11.25	0.92	0.89	10.01	0.20	0.17	0.10
M28	olid_Roun	0.5" O.D.	R	50.55	4.05	45.55	4.05	262	204.66	184.41	12.49	11.25	0.92	0.89	8.93	0.18	0.15	0.09
M27	Pipe	1.315" O.D.	R	45.55	4.86	45.55	4.86	30	221.53	221.53	9.37	9.37	0.85	0.85	10.20	0.22	0.19	0.11
M9	Pipe	2.875" O.D.	R	45.55	6.42	45.55	6.42	30	292.59	292.59	7.09	7.09	0.80	0.80	12.67	0.28	0.24	0.14
M1	Pipe	4" O.D.	R	57.55	7.55	57.55	7.55	30	434.42	434.42	7.62	7.62	0.81	0.81	19.09	0.33	0.29	0.17
M8	Pipe	2.875" O.D.	R	45.55	6.42	45.55	6.42	30	292.59	292.59	7.09	7.09	0.80	0.80	12.67	0.28	0.24	0.14
M29	Pipe	1.315" O.D.	R	45.55	4.86	45.55	4.86	30	221.53	221.53	9.37	9.37	0.85	0.85	10.20	0.22	0.19	0.11
M20	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	30	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.28	0.16
M21	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	30	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.28	0.16
M22	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	30	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.28	0.16
M23	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	30	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.28	0.16
M24	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	30	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.28	0.16
M25	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	30	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.28	0.16
M5	equal_An	L4x3	F	21.55	7.55	3.55	7.55	30	162.66	26.79	2.85	0.47	1.22	1.20	8.44	0.39	0.34	0.20
M7	equal_An	L4x3	F	21.55	7.55	3.55	7.55	30	162.66	26.79	2.85	0.47	1.22	1.20	8.44	0.39	0.34	0.20
M30	Pipe	1.66" O.D.	R	51.55	5.21	3.55	5.21	290	268.50	18.48	9.90	0.68	0.86	0.70	2.08	0.04	0.03	0.02
M31	Pipe	2.375" O.D.	R	153.55	5.92	3.55	5.92	30	909.57	21.02	25.92	0.60	1.20	0.70	44.39	0.29	0.25	0.14
M40	Pipe	2.375" O.D.	R	153.55	5.92	3.55	5.92	30	909.57	21.02	25.92	0.60	1.20	0.70	44.39	0.29	0.25	0.14
M36	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	180	390.43	317.85	10.67	8.69	1.52	1.46	32.09	0.50	0.43	0.25
M38	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	180	390.43	317.85	10.67	8.69	1.52	1.46	32.09	0.50	0.43	0.25
M37	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	240	390.43	317.85	10.67	8.69	1.52	1.46	26.76	0.41	0.36	0.21
M39	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	240	390.43	317.85	10.67	8.69	1.52	1.46	26.76	0.41	0.36	0.21
0	0	0	0	3.55	0.00	3.55	0.00	30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	3.55	0.00	3.55	0.00	30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Trylon

Analysis date: 03/07/2020

WIND FORCES 30 DIRECTION - ICE

Member Label	Member Type	Description	F/R	Normal Length [in]	Normal Width [in]	Lateral Length [in]	Lateral Width [in]	θ (wind direction from normal face) [°]	AN [in²]	AT [in²]	Aspect Ratio Normal -	Aspect Ratio Lateral -	CaN -	CaT -	Resultant Wind Force Frontal [lbs]	Resultant Wind Force Distributed [lbs/in]	Resultant Component on Global X [lbs/in]	Resultant Component on Global Y [lbs/in]
0	Equal_Angl	L2.5x2.5	F	153.55	6.05	3.55	6.05	150	928.77	21.46	25.39	0.59	2.00	1.20	75.56	0.49	0.43	0.25
0	Equal_Angl	L2.5x2.5	F	153.55	6.05	3.55	6.05	150	928.77	21.46	25.39	0.59	2.00	1.20	75.56	0.49	0.43	0.25
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	278	186.88	121.72	5.33	3.47	0.76	0.72	4.80	0.15	0.13	0.08
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	278	186.88	121.72	5.33	3.47	0.76	0.72	4.80	0.15	0.13	0.08
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	382	186.88	121.72	5.33	3.47	0.76	0.72	7.28	0.23	0.20	0.12
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	382	186.88	121.72	5.33	3.47	0.76	0.72	7.28	0.23	0.20	0.12
0	Solid_Roun	0.5" O.D.	R	50.55	4.05	45.55	4.05	278	204.66	184.41	12.49	11.25	0.92	0.89	8.93	0.18	0.15	0.09
0	Solid_Roun	0.5" O.D.	R	50.55	4.05	45.55	4.05	382	204.66	184.41	12.49	11.25	0.92	0.89	10.01	0.20	0.17	0.10
0	Pipe	1.315" O.D.	R	45.55	4.86	45.55	4.86	150	221.53	221.53	9.37	9.37	0.85	0.85	10.20	0.22	0.19	0.11
0	Pipe	2.875" O.D.	R	45.55	6.42	45.55	6.42	150	292.59	292.59	7.09	7.09	0.80	0.80	12.67	0.28	0.24	0.14
0	Pipe	4" O.D.	R	57.55	7.55	57.55	7.55	150	434.42	434.42	7.62	7.62	0.81	0.81	19.09	0.33	0.29	0.17
0	Pipe	2.875" O.D.	R	45.55	6.42	45.55	6.42	150	292.59	292.59	7.09	7.09	0.80	0.80	12.67	0.28	0.24	0.14
0	Pipe	1.315" O.D.	R	45.55	4.86	45.55	4.86	150	221.53	221.53	9.37	9.37	0.85	0.85	10.20	0.22	0.19	0.11
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	150	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.28	0.16
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	150	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.28	0.16
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	150	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.28	0.16
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	150	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.28	0.16
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	150	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.28	0.16
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	150	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.28	0.16
0	nequal_An	L4x3	F	21.55	7.55	3.55	7.55	150	162.66	26.79	2.85	0.47	1.22	1.20	8.44	0.39	0.34	0.20
0	nequal_An	L4x3	F	21.55	7.55	3.55	7.55	150	162.66	26.79	2.85	0.47	1.22	1.20	8.44	0.39	0.34	0.20
0	Pipe	1.66" O.D.	R	51.55	5.21	3.55	5.21	410	268.50	18.48	9.90	0.68	0.86	0.70	5.59	0.11	0.09	0.05
0	Pipe	2.375" O.D.	R	153.55	5.92	3.55	5.92	150	909.57	21.02	25.92	0.60	1.20	0.70	44.39	0.29	0.25	0.14
0	Pipe	2.375" O.D.	R	153.55	5.92	3.55	5.92	150	909.57	21.02	25.92	0.60	1.20	0.70	44.39	0.29	0.25	0.14
0	Equal_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	300	390.43	317.85	10.67	8.69	1.52	1.46	26.76	0.41	0.36	0.21
0	Equal_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	300	390.43	317.85	10.67	8.69	1.52	1.46	26.76	0.41	0.36	0.21
0	Equal_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	360	390.43	317.85	10.67	8.69	1.52	1.46	32.09	0.50	0.43	0.25
0	Equal_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	360	390.43	317.85	10.67	8.69	1.52	1.46	32.09	0.50	0.43	0.25
0	0	0	0	3.55	0.00	3.55	0.00	150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	3.55	0.00	3.55	0.00	150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Trylon

Analysis date: 03/07/2020

WIND FORCES 30 DIRECTION - ICE

Member Label	Member Type	Description	F/R	Normal Length [in]	Normal Width [in]	Lateral Length [in]	Lateral Width [in]	θ (wind direction from normal face) [°]	AN [in²]	AT [in²]	Aspect Ratio Normal -	Aspect Ratio Lateral -	CaN -	CaT -	Resultant Wind Force Frontal [lbs]	Resultant Wind Force Distributed [lbs/in]	Resultant Component on Global X [lbs/in]	Resultant Component on Global Y [lbs/in]
0	Equal_Angl	L2.5x2.5	F	153.55	6.05	3.55	6.05	270	928.77	21.46	25.39	0.59	2.00	1.20	1.39	0.01	0.01	0.00
0	Equal_Angl	L2.5x2.5	F	153.55	6.05	3.55	6.05	270	928.77	21.46	25.39	0.59	2.00	1.20	1.39	0.01	0.01	0.00
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	398	186.88	121.72	5.33	3.47	0.76	0.72	6.58	0.21	0.18	0.10
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	398	186.88	121.72	5.33	3.47	0.76	0.72	6.58	0.21	0.18	0.10
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	502	186.88	121.72	5.33	3.47	0.76	0.72	6.58	0.21	0.18	0.10
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	502	186.88	121.72	5.33	3.47	0.76	0.72	6.58	0.21	0.18	0.10
0	Solid_Roun	0.5" O.D.	R	50.55	4.05	45.55	4.05	398	204.66	184.41	12.49	11.25	0.92	0.89	9.70	0.19	0.17	0.10
0	Solid_Roun	0.5" O.D.	R	50.55	4.05	45.55	4.05	502	204.66	184.41	12.49	11.25	0.92	0.89	9.70	0.19	0.17	0.10
0	Pipe	1.315" O.D.	R	45.55	4.86	45.55	4.86	270	221.53	221.53	9.37	9.37	0.85	0.85	10.20	0.22	0.19	0.11
0	Pipe	2.875" O.D.	R	45.55	6.42	45.55	6.42	270	292.59	292.59	7.09	7.09	0.80	0.80	12.67	0.28	0.24	0.14
0	Pipe	4" O.D.	R	57.55	7.55	57.55	7.55	270	434.42	434.42	7.62	7.62	0.81	0.81	19.09	0.33	0.29	0.17
0	Pipe	2.875" O.D.	R	45.55	6.42	45.55	6.42	270	292.59	292.59	7.09	7.09	0.80	0.80	12.67	0.28	0.24	0.14
0	Pipe	1.315" O.D.	R	45.55	4.86	45.55	4.86	270	221.53	221.53	9.37	9.37	0.85	0.85	10.20	0.22	0.19	0.11
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	270	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.28	0.16
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	270	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.28	0.16
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	270	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.28	0.16
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	270	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.28	0.16
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	270	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.28	0.16
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	270	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.28	0.16
0	nequal_An	L4x3	F	21.55	7.55	3.55	7.55	270	162.66	26.79	2.85	0.47	1.22	1.20	1.74	0.08	0.07	0.04
0	nequal_An	L4x3	F	21.55	7.55	3.55	7.55	270	162.66	26.79	2.85	0.47	1.22	1.20	1.74	0.08	0.07	0.04
0	Pipe	1.66" O.D.	R	51.55	5.21	3.55	5.21	530	268.50	18.48	9.90	0.68	0.86	0.70	12.17	0.24	0.20	0.12
0	Pipe	2.375" O.D.	R	153.55	5.92	3.55	5.92	270	909.57	21.02	25.92	0.60	1.20	0.70	0.79	0.01	0.00	0.00
0	Pipe	2.375" O.D.	R	153.55	5.92	3.55	5.92	270	909.57	21.02	25.92	0.60	1.20	0.70	0.79	0.01	0.00	0.00
0	Equal_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	420	390.43	317.85	10.67	8.69	1.52	1.46	26.76	0.41	0.36	0.21
0	Equal_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	420	390.43	317.85	10.67	8.69	1.52	1.46	26.76	0.41	0.36	0.21
0	Equal_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	480	390.43	317.85	10.67	8.69	1.52	1.46	26.76	0.41	0.36	0.21
0	Equal_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	480	390.43	317.85	10.67	8.69	1.52	1.46	26.76	0.41	0.36	0.21
0	0	0	0	3.55	0.00	3.55	0.00	270	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	3.55	0.00	3.55	0.00	270	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Trylon

Analysis date: 03/07/2020

WIND FORCES 60 DIRECTION - ICE

Member Label	Member Type	Description	F/R	Normal Length [in]	Normal Width [in]	Lateral Length [in]	Lateral Width [in]	θ (wind direction from normal face) [°]	A_N [in^2]	A_T [in^2]	Aspect Ratio Normal -	Aspect Ratio Lateral -	CaN -	CaT -	Resultant Wind Force Frontal [lbs]	Resultant Wind Force Distributed [lbs/in]	Resultant Component on Global X [lbs/in]	Resultant Component on Global Y [lbs/in]
M10	qual_Angl	L2.5x2.5	F	153.55	6.05	3.55	6.05	60	928.77	21.46	25.39	0.59	2.00	1.20	26.11	0.17	0.09	0.15
M11	qual_Angl	L2.5x2.5	F	153.55	6.05	3.55	6.05	60	928.77	21.46	25.39	0.59	2.00	1.20	26.11	0.17	0.09	0.15
M12	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	188	186.88	121.72	5.33	3.47	0.76	0.72	7.64	0.24	0.12	0.21
M14	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	188	186.88	121.72	5.33	3.47	0.76	0.72	7.64	0.24	0.12	0.21
M13	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	292	186.88	121.72	5.33	3.47	0.76	0.72	5.16	0.16	0.08	0.14
M15	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	292	186.88	121.72	5.33	3.47	0.76	0.72	5.16	0.16	0.08	0.14
M26	olid_Roun	0.5" O.D.	R	50.55	4.05	45.55	4.05	188	204.66	184.41	12.49	11.25	0.92	0.89	10.16	0.20	0.10	0.17
M28	olid_Roun	0.5" O.D.	R	50.55	4.05	45.55	4.05	292	204.66	184.41	12.49	11.25	0.92	0.89	9.08	0.18	0.09	0.16
M27	Pipe	1.315" O.D.	R	45.55	4.86	45.55	4.86	60	221.53	221.53	9.37	9.37	0.85	0.85	10.20	0.22	0.11	0.19
M9	Pipe	2.875" O.D.	R	45.55	6.42	45.55	6.42	60	292.59	292.59	7.09	7.09	0.80	0.80	12.67	0.28	0.14	0.24
M1	Pipe	4" O.D.	R	57.55	7.55	57.55	7.55	60	434.42	434.42	7.62	7.62	0.81	0.81	19.09	0.33	0.17	0.29
M8	Pipe	2.875" O.D.	R	45.55	6.42	45.55	6.42	60	292.59	292.59	7.09	7.09	0.80	0.80	12.67	0.28	0.14	0.24
M29	Pipe	1.315" O.D.	R	45.55	4.86	45.55	4.86	60	221.53	221.53	9.37	9.37	0.85	0.85	10.20	0.22	0.11	0.19
M20	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	60	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.16	0.28
M21	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	60	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.16	0.28
M22	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	60	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.16	0.28
M23	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	60	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.16	0.28
M24	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	60	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.16	0.28
M25	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	60	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.16	0.28
M5	equal_An	L4x3	F	21.55	7.55	3.55	7.55	60	162.66	26.79	2.85	0.47	1.22	1.20	3.97	0.18	0.09	0.16
M7	equal_An	L4x3	F	21.55	7.55	3.55	7.55	60	162.66	26.79	2.85	0.47	1.22	1.20	3.97	0.18	0.09	0.16
M30	Pipe	1.66" O.D.	R	51.55	5.21	3.55	5.21	320	268.50	18.48	9.90	0.68	0.86	0.70	7.64	0.15	0.07	0.13
M31	Pipe	2.375" O.D.	R	153.55	5.92	3.55	5.92	60	909.57	21.02	25.92	0.60	1.20	0.70	15.33	0.10	0.05	0.09
M40	Pipe	2.375" O.D.	R	153.55	5.92	3.55	5.92	60	909.57	21.02	25.92	0.60	1.20	0.70	15.33	0.10	0.05	0.09
M36	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	210	390.43	317.85	10.67	8.69	1.52	1.46	30.31	0.47	0.23	0.41
M38	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	210	390.43	317.85	10.67	8.69	1.52	1.46	30.31	0.47	0.23	0.41
M37	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	270	390.43	317.85	10.67	8.69	1.52	1.46	24.99	0.39	0.19	0.34
M39	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	270	390.43	317.85	10.67	8.69	1.52	1.46	24.99	0.39	0.19	0.34
0	0	0	0	3.55	0.00	3.55	0.00	60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	3.55	0.00	3.55	0.00	60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Trylon

Analysis date: 03/07/2020

WIND FORCES 60 DIRECTION - ICE

Member Label	Member Type	Description	F/R	Normal Length [in]	Normal Width [in]	Lateral Length [in]	Lateral Width [in]	θ (wind direction from normal face) [°]	AN [in²]	AT [in²]	Aspect Ratio Normal -	Aspect Ratio Lateral -	CaN -	CaT -	Resultant Wind Force Frontal [lbs]	Resultant Wind Force Distributed [lbs/in]	Resultant Component on Global X [lbs/in]	Resultant Component on Global Y [lbs/in]
0	qual_Angl	L2.5x2.5	F	153.55	6.05	3.55	6.05	180	928.77	21.46	25.39	0.59	2.00	1.20	100.28	0.65	0.33	0.57
0	qual_Angl	L2.5x2.5	F	153.55	6.05	3.55	6.05	180	928.77	21.46	25.39	0.59	2.00	1.20	100.28	0.65	0.33	0.57
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	308	186.88	121.72	5.33	3.47	0.76	0.72	5.86	0.19	0.09	0.16
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	308	186.88	121.72	5.33	3.47	0.76	0.72	5.86	0.19	0.09	0.16
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	412	186.88	121.72	5.33	3.47	0.76	0.72	5.86	0.19	0.09	0.16
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	412	186.88	121.72	5.33	3.47	0.76	0.72	5.86	0.19	0.09	0.16
0	olid_Roun	0.5" O.D.	R	50.55	4.05	45.55	4.05	308	204.66	184.41	12.49	11.25	0.92	0.89	9.39	0.19	0.09	0.16
0	olid_Roun	0.5" O.D.	R	50.55	4.05	45.55	4.05	412	204.66	184.41	12.49	11.25	0.92	0.89	9.39	0.19	0.09	0.16
0	Pipe	1.315" O.D.	R	45.55	4.86	45.55	4.86	180	221.53	221.53	9.37	9.37	0.85	0.85	10.20	0.22	0.11	0.19
0	Pipe	2.875" O.D.	R	45.55	6.42	45.55	6.42	180	292.59	292.59	7.09	7.09	0.80	0.80	12.67	0.28	0.14	0.24
0	Pipe	4" O.D.	R	57.55	7.55	57.55	7.55	180	434.42	434.42	7.62	7.62	0.81	0.81	19.09	0.33	0.17	0.29
0	Pipe	2.875" O.D.	R	45.55	6.42	45.55	6.42	180	292.59	292.59	7.09	7.09	0.80	0.80	12.67	0.28	0.14	0.24
0	Pipe	1.315" O.D.	R	45.55	4.86	45.55	4.86	180	221.53	221.53	9.37	9.37	0.85	0.85	10.20	0.22	0.11	0.19
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	180	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.16	0.28
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	180	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.16	0.28
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	180	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.16	0.28
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	180	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.16	0.28
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	180	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.16	0.28
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	180	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.16	0.28
0	nequal_An	L4x3	F	21.55	7.55	3.55	7.55	180	162.66	26.79	2.85	0.47	1.22	1.20	10.68	0.50	0.25	0.43
0	nequal_An	L4x3	F	21.55	7.55	3.55	7.55	180	162.66	26.79	2.85	0.47	1.22	1.20	10.68	0.50	0.25	0.43
0	Pipe	1.66" O.D.	R	51.55	5.21	3.55	5.21	440	268.50	18.48	9.90	0.68	0.86	0.70	1.06	0.02	0.01	0.02
0	Pipe	2.375" O.D.	R	153.55	5.92	3.55	5.92	180	909.57	21.02	25.92	0.60	1.20	0.70	58.93	0.38	0.19	0.33
0	Pipe	2.375" O.D.	R	153.55	5.92	3.55	5.92	180	909.57	21.02	25.92	0.60	1.20	0.70	58.93	0.38	0.19	0.33
0	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	330	390.43	317.85	10.67	8.69	1.52	1.46	30.31	0.47	0.23	0.41
0	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	330	390.43	317.85	10.67	8.69	1.52	1.46	30.31	0.47	0.23	0.41
0	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	390	390.43	317.85	10.67	8.69	1.52	1.46	30.31	0.47	0.23	0.41
0	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	390	390.43	317.85	10.67	8.69	1.52	1.46	30.31	0.47	0.23	0.41
0	0	0	0	3.55	0.00	3.55	0.00	180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	3.55	0.00	3.55	0.00	180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Trylon

Analysis date: 03/07/2020

WIND FORCES 60 DIRECTION - ICE

Member Label	Member Type	Description	F/R	Normal Length [in]	Normal Width [in]	Lateral Length [in]	Lateral Width [in]	θ (wind direction from normal face) [°]	A_N [in^2]	A_T [in^2]	Aspect Ratio Normal -	Aspect Ratio Lateral -	CaN -	CaT -	Resultant Wind Force Frontal [lbs]	Resultant Wind Force Distributed [lbs/in]	Resultant Component on Global X [lbs/in]	Resultant Component on Global Y [lbs/in]
0	Equal_Angl	L2.5x2.5	F	153.55	6.05	3.55	6.05	300	928.77	21.46	25.39	0.59	2.00	1.20	26.11	0.17	0.09	0.15
0	Equal_Angl	L2.5x2.5	F	153.55	6.05	3.55	6.05	300	928.77	21.46	25.39	0.59	2.00	1.20	26.11	0.17	0.09	0.15
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	428	186.88	121.72	5.33	3.47	0.76	0.72	5.16	0.16	0.08	0.14
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	428	186.88	121.72	5.33	3.47	0.76	0.72	5.16	0.16	0.08	0.14
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	532	186.88	121.72	5.33	3.47	0.76	0.72	7.64	0.24	0.12	0.21
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	532	186.88	121.72	5.33	3.47	0.76	0.72	7.64	0.24	0.12	0.21
0	Solid_Roun	0.5" O.D.	R	50.55	4.05	45.55	4.05	428	204.66	184.41	12.49	11.25	0.92	0.89	9.08	0.18	0.09	0.16
0	Solid_Roun	0.5" O.D.	R	50.55	4.05	45.55	4.05	532	204.66	184.41	12.49	11.25	0.92	0.89	10.16	0.20	0.10	0.17
0	Pipe	1.315" O.D.	R	45.55	4.86	45.55	4.86	300	221.53	221.53	9.37	9.37	0.85	0.85	10.20	0.22	0.11	0.19
0	Pipe	2.875" O.D.	R	45.55	6.42	45.55	6.42	300	292.59	292.59	7.09	7.09	0.80	0.80	12.67	0.28	0.14	0.24
0	Pipe	4" O.D.	R	57.55	7.55	57.55	7.55	300	434.42	434.42	7.62	7.62	0.81	0.81	19.09	0.33	0.17	0.29
0	Pipe	2.875" O.D.	R	45.55	6.42	45.55	6.42	300	292.59	292.59	7.09	7.09	0.80	0.80	12.67	0.28	0.14	0.24
0	Pipe	1.315" O.D.	R	45.55	4.86	45.55	4.86	300	221.53	221.53	9.37	9.37	0.85	0.85	10.20	0.22	0.11	0.19
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	300	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.16	0.28
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	300	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.16	0.28
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	300	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.16	0.28
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	300	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.16	0.28
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	300	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.16	0.28
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	300	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.16	0.28
0	nequal_An	L4x3	F	21.55	7.55	3.55	7.55	300	162.66	26.79	2.85	0.47	1.22	1.20	3.97	0.18	0.09	0.16
0	nequal_An	L4x3	F	21.55	7.55	3.55	7.55	300	162.66	26.79	2.85	0.47	1.22	1.20	3.97	0.18	0.09	0.16
0	Pipe	1.66" O.D.	R	51.55	5.21	3.55	5.21	560	268.50	18.48	9.90	0.68	0.86	0.70	11.15	0.22	0.11	0.19
0	Pipe	2.375" O.D.	R	153.55	5.92	3.55	5.92	300	909.57	21.02	25.92	0.60	1.20	0.70	15.33	0.10	0.05	0.09
0	Pipe	2.375" O.D.	R	153.55	5.92	3.55	5.92	300	909.57	21.02	25.92	0.60	1.20	0.70	15.33	0.10	0.05	0.09
0	Equal_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	450	390.43	317.85	10.67	8.69	1.52	1.46	24.99	0.39	0.19	0.34
0	Equal_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	450	390.43	317.85	10.67	8.69	1.52	1.46	24.99	0.39	0.19	0.34
0	Equal_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	510	390.43	317.85	10.67	8.69	1.52	1.46	30.31	0.47	0.23	0.41
0	Equal_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	510	390.43	317.85	10.67	8.69	1.52	1.46	30.31	0.47	0.23	0.41
0	0	0	0	3.55	0.00	3.55	0.00	300	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	3.55	0.00	3.55	0.00	300	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Trylon

Analysis date: 03/07/2020

WIND FORCES 90 DIRECTION - ICE

Member Label	Member Type	Description	F/R	Normal Length [in]	Normal Width [in]	Lateral Length [in]	Lateral Width [in]	θ (wind direction from normal face) [°]	A_N [in^2]	A_T [in^2]	Aspect Ratio Normal -	Aspect Ratio Lateral -	CaN -	CaT -	Resultant Wind Force Frontal [lbs]	Resultant Wind Force Distributed [lbs/in]	Resultant Component on Global X [lbs/in]	Resultant Component on Global Y [lbs/in]
M10	qual_Angl	L2.5x2.5	F	153.55	6.05	3.55	6.05	90	928.77	21.46	25.39	0.59	2.00	1.20	1.39	0.01	0.00	0.01
M11	qual_Angl	L2.5x2.5	F	153.55	6.05	3.55	6.05	90	928.77	21.46	25.39	0.59	2.00	1.20	1.39	0.01	0.00	0.01
M12	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	218	186.88	121.72	5.33	3.47	0.76	0.72	6.58	0.21	0.00	0.21
M14	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	218	186.88	121.72	5.33	3.47	0.76	0.72	6.58	0.21	0.00	0.21
M13	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	322	186.88	121.72	5.33	3.47	0.76	0.72	6.58	0.21	0.00	0.21
M15	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	322	186.88	121.72	5.33	3.47	0.76	0.72	6.58	0.21	0.00	0.21
M26	olid_Roun	0.5" O.D.	R	50.55	4.05	45.55	4.05	218	204.66	184.41	12.49	11.25	0.92	0.89	9.70	0.19	0.00	0.19
M28	olid_Roun	0.5" O.D.	R	50.55	4.05	45.55	4.05	322	204.66	184.41	12.49	11.25	0.92	0.89	9.70	0.19	0.00	0.19
M27	Pipe	1.315" O.D.	R	45.55	4.86	45.55	4.86	90	221.53	221.53	9.37	9.37	0.85	0.85	10.20	0.22	0.00	0.22
M9	Pipe	2.875" O.D.	R	45.55	6.42	45.55	6.42	90	292.59	292.59	7.09	7.09	0.80	0.80	12.67	0.28	0.00	0.28
M1	Pipe	4" O.D.	R	57.55	7.55	57.55	7.55	90	434.42	434.42	7.62	7.62	0.81	0.81	19.09	0.33	0.00	0.33
M8	Pipe	2.875" O.D.	R	45.55	6.42	45.55	6.42	90	292.59	292.59	7.09	7.09	0.80	0.80	12.67	0.28	0.00	0.28
M29	Pipe	1.315" O.D.	R	45.55	4.86	45.55	4.86	90	221.53	221.53	9.37	9.37	0.85	0.85	10.20	0.22	0.00	0.22
M20	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	90	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.00	0.32
M21	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	90	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.00	0.32
M22	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	90	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.00	0.32
M23	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	90	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.00	0.32
M24	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	90	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.00	0.32
M25	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	90	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.00	0.32
M5	equal_An	L4x3	F	21.55	7.55	3.55	7.55	90	162.66	26.79	2.85	0.47	1.22	1.20	1.74	0.08	0.00	0.08
M7	equal_An	L4x3	F	21.55	7.55	3.55	7.55	90	162.66	26.79	2.85	0.47	1.22	1.20	1.74	0.08	0.00	0.08
M30	Pipe	1.66" O.D.	R	51.55	5.21	3.55	5.21	350	268.50	18.48	9.90	0.68	0.86	0.70	12.17	0.24	0.00	0.24
M31	Pipe	2.375" O.D.	R	153.55	5.92	3.55	5.92	90	909.57	21.02	25.92	0.60	1.20	0.70	0.79	0.01	0.00	0.01
M40	Pipe	2.375" O.D.	R	153.55	5.92	3.55	5.92	90	909.57	21.02	25.92	0.60	1.20	0.70	0.79	0.01	0.00	0.01
M36	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	240	390.43	317.85	10.67	8.69	1.52	1.46	26.76	0.41	0.00	0.41
M38	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	240	390.43	317.85	10.67	8.69	1.52	1.46	26.76	0.41	0.00	0.41
M37	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	300	390.43	317.85	10.67	8.69	1.52	1.46	26.76	0.41	0.00	0.41
M39	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	300	390.43	317.85	10.67	8.69	1.52	1.46	26.76	0.41	0.00	0.41
0	0	0	0	3.55	0.00	3.55	0.00	90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	3.55	0.00	3.55	0.00	90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Trylon

Analysis date: 03/07/2020

WIND FORCES 90 DIRECTION - ICE

Member Label	Member Type	Description	F/R	Normal Length [in]	Normal Width [in]	Lateral Length [in]	Lateral Width [in]	θ (wind direction from normal face) [°]	AN [in^2]	AT [in^2]	Aspect Ratio Normal -	Aspect Ratio Lateral -	CaN -	CaT -	Resultant Wind Force Frontal [lbs]	Resultant Wind Force Distributed [lbs/in]	Resultant Component on Global X [lbs/in]	Resultant Component on Global Y [lbs/in]
0	:qual_Ang	L2.5x2.5	F	153.55	6.05	3.55	6.05	210	928.77	21.46	25.39	0.59	2.00	1.20	75.56	0.49	0.00	0.49
0	:qual_Ang	L2.5x2.5	F	153.55	6.05	3.55	6.05	210	928.77	21.46	25.39	0.59	2.00	1.20	75.56	0.49	0.00	0.49
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	338	186.88	121.72	5.33	3.47	0.76	0.72	7.28	0.23	0.00	0.23
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	338	186.88	121.72	5.33	3.47	0.76	0.72	7.28	0.23	0.00	0.23
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	442	186.88	121.72	5.33	3.47	0.76	0.72	4.80	0.15	0.00	0.15
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	442	186.88	121.72	5.33	3.47	0.76	0.72	4.80	0.15	0.00	0.15
0	;olid_Roun	0.5" O.D.	R	50.55	4.05	45.55	4.05	338	204.66	184.41	12.49	11.25	0.92	0.89	10.01	0.20	0.00	0.20
0	;olid_Roun	0.5" O.D.	R	50.55	4.05	45.55	4.05	442	204.66	184.41	12.49	11.25	0.92	0.89	8.93	0.18	0.00	0.18
0	Pipe	1.315" O.D.	R	45.55	4.86	45.55	4.86	210	221.53	221.53	9.37	9.37	0.85	0.85	10.20	0.22	0.00	0.22
0	Pipe	2.875" O.D.	R	45.55	6.42	45.55	6.42	210	292.59	292.59	7.09	7.09	0.80	0.80	12.67	0.28	0.00	0.28
0	Pipe	4" O.D.	R	57.55	7.55	57.55	7.55	210	434.42	434.42	7.62	7.62	0.81	0.81	19.09	0.33	0.00	0.33
0	Pipe	2.875" O.D.	R	45.55	6.42	45.55	6.42	210	292.59	292.59	7.09	7.09	0.80	0.80	12.67	0.28	0.00	0.28
0	Pipe	1.315" O.D.	R	45.55	4.86	45.55	4.86	210	221.53	221.53	9.37	9.37	0.85	0.85	10.20	0.22	0.00	0.22
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	210	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.00	0.32
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	210	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.00	0.32
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	210	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.00	0.32
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	210	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.00	0.32
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	210	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.00	0.32
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	210	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.00	0.32
0	ıequal_An	L4x3	F	21.55	7.55	3.55	7.55	210	162.66	26.79	2.85	0.47	1.22	1.20	8.44	0.39	0.00	0.39
0	ıequal_An	L4x3	F	21.55	7.55	3.55	7.55	210	162.66	26.79	2.85	0.47	1.22	1.20	8.44	0.39	0.00	0.39
0	Pipe	1.66" O.D.	R	51.55	5.21	3.55	5.21	470	268.50	18.48	9.90	0.68	0.86	0.70	2.08	0.04	0.00	0.04
0	Pipe	2.375" O.D.	R	153.55	5.92	3.55	5.92	210	909.57	21.02	25.92	0.60	1.20	0.70	44.39	0.29	0.00	0.29
0	Pipe	2.375" O.D.	R	153.55	5.92	3.55	5.92	210	909.57	21.02	25.92	0.60	1.20	0.70	44.39	0.29	0.00	0.29
0	:qual_Ang	L2.5x2.5	F	64.55	6.05	52.55	6.05	360	390.43	317.85	10.67	8.69	1.52	1.46	32.09	0.50	0.00	0.50
0	:qual_Ang	L2.5x2.5	F	64.55	6.05	52.55	6.05	360	390.43	317.85	10.67	8.69	1.52	1.46	32.09	0.50	0.00	0.50
0	:qual_Ang	L2.5x2.5	F	64.55	6.05	52.55	6.05	420	390.43	317.85	10.67	8.69	1.52	1.46	26.76	0.41	0.00	0.41
0	:qual_Ang	L2.5x2.5	F	64.55	6.05	52.55	6.05	420	390.43	317.85	10.67	8.69	1.52	1.46	26.76	0.41	0.00	0.41
0	0	0	0	3.55	0.00	3.55	0.00	210	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	3.55	0.00	3.55	0.00	210	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Trylon

Analysis date: 03/07/2020

WIND FORCES 90 DIRECTION - ICE

Member Label	Member Type	Description	F/R	Normal Length [in]	Normal Width [in]	Lateral Length [in]	Lateral Width [in]	θ (wind direction from normal face) [°]	AN [in²]	AT [in²]	Aspect Ratio Normal -	Aspect Ratio Lateral -	CaN -	CaT -	Resultant Wind Force Frontal [lbs]	Resultant Wind Force Distributed [lbs/in]	Resultant Component on Global X [lbs/in]	Resultant Component on Global Y [lbs/in]
0	qual_Angl	L2.5x2.5	F	153.55	6.05	3.55	6.05	330	928.77	21.46	25.39	0.59	2.00	1.20	75.56	0.49	0.00	0.49
0	qual_Angl	L2.5x2.5	F	153.55	6.05	3.55	6.05	330	928.77	21.46	25.39	0.59	2.00	1.20	75.56	0.49	0.00	0.49
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	458	186.88	121.72	5.33	3.47	0.76	0.72	4.80	0.15	0.00	0.15
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	458	186.88	121.72	5.33	3.47	0.76	0.72	4.80	0.15	0.00	0.15
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	562	186.88	121.72	5.33	3.47	0.76	0.72	7.28	0.23	0.00	0.23
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	562	186.88	121.72	5.33	3.47	0.76	0.72	7.28	0.23	0.00	0.23
0	olid_Roun	0.5" O.D.	R	50.55	4.05	45.55	4.05	458	204.66	184.41	12.49	11.25	0.92	0.89	8.93	0.18	0.00	0.18
0	olid_Roun	0.5" O.D.	R	50.55	4.05	45.55	4.05	562	204.66	184.41	12.49	11.25	0.92	0.89	10.01	0.20	0.00	0.20
0	Pipe	1.315" O.D.	R	45.55	4.86	45.55	4.86	330	221.53	221.53	9.37	9.37	0.85	0.85	10.20	0.22	0.00	0.22
0	Pipe	2.875" O.D.	R	45.55	6.42	45.55	6.42	330	292.59	292.59	7.09	7.09	0.80	0.80	12.67	0.28	0.00	0.28
0	Pipe	4" O.D.	R	57.55	7.55	57.55	7.55	330	434.42	434.42	7.62	7.62	0.81	0.81	19.09	0.33	0.00	0.33
0	Pipe	2.875" O.D.	R	45.55	6.42	45.55	6.42	330	292.59	292.59	7.09	7.09	0.80	0.80	12.67	0.28	0.00	0.28
0	Pipe	1.315" O.D.	R	45.55	4.86	45.55	4.86	330	221.53	221.53	9.37	9.37	0.85	0.85	10.20	0.22	0.00	0.22
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	330	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.00	0.32
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	330	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.00	0.32
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	330	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.00	0.32
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	330	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.00	0.32
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	330	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.00	0.32
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	330	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	0.00	0.32
0	nequal_An	L4x3	F	21.55	7.55	3.55	7.55	330	162.66	26.79	2.85	0.47	1.22	1.20	8.44	0.39	0.00	0.39
0	nequal_An	L4x3	F	21.55	7.55	3.55	7.55	330	162.66	26.79	2.85	0.47	1.22	1.20	8.44	0.39	0.00	0.39
0	Pipe	1.66" O.D.	R	51.55	5.21	3.55	5.21	590	268.50	18.48	9.90	0.68	0.86	0.70	5.59	0.11	0.00	0.11
0	Pipe	2.375" O.D.	R	153.55	5.92	3.55	5.92	330	909.57	21.02	25.92	0.60	1.20	0.70	44.39	0.29	0.00	0.29
0	Pipe	2.375" O.D.	R	153.55	5.92	3.55	5.92	330	909.57	21.02	25.92	0.60	1.20	0.70	44.39	0.29	0.00	0.29
0	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	480	390.43	317.85	10.67	8.69	1.52	1.46	26.76	0.41	0.00	0.41
0	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	480	390.43	317.85	10.67	8.69	1.52	1.46	26.76	0.41	0.00	0.41
0	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	540	390.43	317.85	10.67	8.69	1.52	1.46	32.09	0.50	0.00	0.50
0	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	540	390.43	317.85	10.67	8.69	1.52	1.46	32.09	0.50	0.00	0.50
0	0	0	0	3.55	0.00	3.55	0.00	330	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	3.55	0.00	3.55	0.00	330	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Trylon

Analysis date: 03/07/2020

WIND FORCES 120 DIRECTION - ICE

Member Label	Member Type	Description	F/R	Normal Length [in]	Normal Width [in]	Lateral Length [in]	Lateral Width [in]	θ (wind direction from normal face) [°]	A_N [in^2]	A_T [in^2]	Aspect Ratio Normal -	Aspect Ratio Lateral -	CaN -	CaT -	Resultant Wind Force Frontal [lbs]	Resultant Wind Force Distributed [lbs/in]	Resultant Component on Global X [lbs/in]	Resultant Component on Global Y [lbs/in]
M10	qual_Angl	L2.5x2.5	F	153.55	6.05	3.55	6.05	120	928.77	21.46	25.39	0.59	2.00	1.20	26.11	0.17	-0.09	0.15
M11	qual_Angl	L2.5x2.5	F	153.55	6.05	3.55	6.05	120	928.77	21.46	25.39	0.59	2.00	1.20	26.11	0.17	-0.09	0.15
M12	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	248	186.88	121.72	5.33	3.47	0.76	0.72	5.16	0.16	-0.08	0.14
M14	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	248	186.88	121.72	5.33	3.47	0.76	0.72	5.16	0.16	-0.08	0.14
M13	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	352	186.88	121.72	5.33	3.47	0.76	0.72	7.64	0.24	-0.12	0.21
M15	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	352	186.88	121.72	5.33	3.47	0.76	0.72	7.64	0.24	-0.12	0.21
M26	olid_Roun	0.5" O.D.	R	50.55	4.05	45.55	4.05	248	204.66	184.41	12.49	11.25	0.92	0.89	9.08	0.18	-0.09	0.16
M28	olid_Roun	0.5" O.D.	R	50.55	4.05	45.55	4.05	352	204.66	184.41	12.49	11.25	0.92	0.89	10.16	0.20	-0.10	0.17
M27	Pipe	1.315" O.D.	R	45.55	4.86	45.55	4.86	120	221.53	221.53	9.37	9.37	0.85	0.85	10.20	0.22	-0.11	0.19
M9	Pipe	2.875" O.D.	R	45.55	6.42	45.55	6.42	120	292.59	292.59	7.09	7.09	0.80	0.80	12.67	0.28	-0.14	0.24
M1	Pipe	4" O.D.	R	57.55	7.55	57.55	7.55	120	434.42	434.42	7.62	7.62	0.81	0.81	19.09	0.33	-0.17	0.29
M8	Pipe	2.875" O.D.	R	45.55	6.42	45.55	6.42	120	292.59	292.59	7.09	7.09	0.80	0.80	12.67	0.28	-0.14	0.24
M29	Pipe	1.315" O.D.	R	45.55	4.86	45.55	4.86	120	221.53	221.53	9.37	9.37	0.85	0.85	10.20	0.22	-0.11	0.19
M20	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	120	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	-0.16	0.28
M21	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	120	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	-0.16	0.28
M22	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	120	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	-0.16	0.28
M23	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	120	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	-0.16	0.28
M24	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	120	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	-0.16	0.28
M25	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	120	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	-0.16	0.28
M5	equal_An	L4x3	F	21.55	7.55	3.55	7.55	120	162.66	26.79	2.85	0.47	1.22	1.20	3.97	0.18	-0.09	0.16
M7	equal_An	L4x3	F	21.55	7.55	3.55	7.55	120	162.66	26.79	2.85	0.47	1.22	1.20	3.97	0.18	-0.09	0.16
M30	Pipe	1.66" O.D.	R	51.55	5.21	3.55	5.21	380	268.50	18.48	9.90	0.68	0.86	0.70	11.15	0.22	-0.11	0.19
M31	Pipe	2.375" O.D.	R	153.55	5.92	3.55	5.92	120	909.57	21.02	25.92	0.60	1.20	0.70	15.33	0.10	-0.05	0.09
M40	Pipe	2.375" O.D.	R	153.55	5.92	3.55	5.92	120	909.57	21.02	25.92	0.60	1.20	0.70	15.33	0.10	-0.05	0.09
M36	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	270	390.43	317.85	10.67	8.69	1.52	1.46	24.99	0.39	-0.19	0.34
M38	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	270	390.43	317.85	10.67	8.69	1.52	1.46	24.99	0.39	-0.19	0.34
M37	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	330	390.43	317.85	10.67	8.69	1.52	1.46	30.31	0.47	-0.23	0.41
M39	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	330	390.43	317.85	10.67	8.69	1.52	1.46	30.31	0.47	-0.23	0.41
0	0	0	0	3.55	0.00	3.55	0.00	120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	3.55	0.00	3.55	0.00	120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Trylon

Analysis date: 03/07/2020

WIND FORCES 120 DIRECTION - ICE

Member Label	Member Type	Description	F/R	Normal Length [in]	Normal Width [in]	Lateral Length [in]	Lateral Width [in]	θ (wind direction from normal face) [°]	AN [in^2]	AT [in^2]	Aspect Ratio Normal -	Aspect Ratio Lateral -	CaN -	CaT -	Resultant Wind Force Frontal [lbs]	Resultant Wind Force Distributed [lbs/in]	Resultant Component on Global X [lbs/in]	Resultant Component on Global Y [lbs/in]
0	qual_Angl	L2.5x2.5	F	153.55	6.05	3.55	6.05	240	928.77	21.46	25.39	0.59	2.00	1.20	26.11	0.17	-0.09	0.15
0	qual_Angl	L2.5x2.5	F	153.55	6.05	3.55	6.05	240	928.77	21.46	25.39	0.59	2.00	1.20	26.11	0.17	-0.09	0.15
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	368	186.88	121.72	5.33	3.47	0.76	0.72	7.64	0.24	-0.12	0.21
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	368	186.88	121.72	5.33	3.47	0.76	0.72	7.64	0.24	-0.12	0.21
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	472	186.88	121.72	5.33	3.47	0.76	0.72	5.16	0.16	-0.08	0.14
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	472	186.88	121.72	5.33	3.47	0.76	0.72	5.16	0.16	-0.08	0.14
0	olid_Roun	0.5" O.D.	R	50.55	4.05	45.55	4.05	368	204.66	184.41	12.49	11.25	0.92	0.89	10.16	0.20	-0.10	0.17
0	olid_Roun	0.5" O.D.	R	50.55	4.05	45.55	4.05	472	204.66	184.41	12.49	11.25	0.92	0.89	9.08	0.18	-0.09	0.16
0	Pipe	1.315" O.D.	R	45.55	4.86	45.55	4.86	240	221.53	221.53	9.37	9.37	0.85	0.85	10.20	0.22	-0.11	0.19
0	Pipe	2.875" O.D.	R	45.55	6.42	45.55	6.42	240	292.59	292.59	7.09	7.09	0.80	0.80	12.67	0.28	-0.14	0.24
0	Pipe	4" O.D.	R	57.55	7.55	57.55	7.55	240	434.42	434.42	7.62	7.62	0.81	0.81	19.09	0.33	-0.17	0.29
0	Pipe	2.875" O.D.	R	45.55	6.42	45.55	6.42	240	292.59	292.59	7.09	7.09	0.80	0.80	12.67	0.28	-0.14	0.24
0	Pipe	1.315" O.D.	R	45.55	4.86	45.55	4.86	240	221.53	221.53	9.37	9.37	0.85	0.85	10.20	0.22	-0.11	0.19
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	240	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	-0.16	0.28
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	240	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	-0.16	0.28
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	240	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	-0.16	0.28
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	240	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	-0.16	0.28
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	240	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	-0.16	0.28
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	240	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	-0.16	0.28
0	nequal_An	L4x3	F	21.55	7.55	3.55	7.55	240	162.66	26.79	2.85	0.47	1.22	1.20	3.97	0.18	-0.09	0.16
0	nequal_An	L4x3	F	21.55	7.55	3.55	7.55	240	162.66	26.79	2.85	0.47	1.22	1.20	3.97	0.18	-0.09	0.16
0	Pipe	1.66" O.D.	R	51.55	5.21	3.55	5.21	500	268.50	18.48	9.90	0.68	0.86	0.70	7.64	0.15	-0.07	0.13
0	Pipe	2.375" O.D.	R	153.55	5.92	3.55	5.92	240	909.57	21.02	25.92	0.60	1.20	0.70	15.33	0.10	-0.05	0.09
0	Pipe	2.375" O.D.	R	153.55	5.92	3.55	5.92	240	909.57	21.02	25.92	0.60	1.20	0.70	15.33	0.10	-0.05	0.09
0	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	390	390.43	317.85	10.67	8.69	1.52	1.46	30.31	0.47	-0.23	0.41
0	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	390	390.43	317.85	10.67	8.69	1.52	1.46	30.31	0.47	-0.23	0.41
0	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	450	390.43	317.85	10.67	8.69	1.52	1.46	24.99	0.39	-0.19	0.34
0	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	450	390.43	317.85	10.67	8.69	1.52	1.46	24.99	0.39	-0.19	0.34
0	0	0	0	3.55	0.00	3.55	0.00	240	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	3.55	0.00	3.55	0.00	240	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Trylon

Analysis date: 03/07/2020

WIND FORCES 120 DIRECTION - ICE

Member Label	Member Type	Description	F/R	Normal Length [in]	Normal Width [in]	Lateral Length [in]	Lateral Width [in]	θ (wind direction from normal face) [°]	AN [in^2]	AT [in^2]	Aspect Ratio Normal -	Aspect Ratio Lateral -	CaN -	CaT -	Resultant Wind Force Frontal [lbs]	Resultant Wind Force Distributed [lbs/in]	Resultant Component on Global X [lbs/in]	Resultant Component on Global Y [lbs/in]
0	qual_Angl	L2.5x2.5	F	153.55	6.05	3.55	6.05	360	928.77	21.46	25.39	0.59	2.00	1.20	100.28	0.65	-0.33	0.57
0	qual_Angl	L2.5x2.5	F	153.55	6.05	3.55	6.05	360	928.77	21.46	25.39	0.59	2.00	1.20	100.28	0.65	-0.33	0.57
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	488	186.88	121.72	5.33	3.47	0.76	0.72	5.86	0.19	-0.09	0.16
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	488	186.88	121.72	5.33	3.47	0.76	0.72	5.86	0.19	-0.09	0.16
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	592	186.88	121.72	5.33	3.47	0.76	0.72	5.86	0.19	-0.09	0.16
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	592	186.88	121.72	5.33	3.47	0.76	0.72	5.86	0.19	-0.09	0.16
0	olid_Roun	0.5" O.D.	R	50.55	4.05	45.55	4.05	488	204.66	184.41	12.49	11.25	0.92	0.89	9.39	0.19	-0.09	0.16
0	olid_Roun	0.5" O.D.	R	50.55	4.05	45.55	4.05	592	204.66	184.41	12.49	11.25	0.92	0.89	9.39	0.19	-0.09	0.16
0	Pipe	1.315" O.D.	R	45.55	4.86	45.55	4.86	360	221.53	221.53	9.37	9.37	0.85	0.85	10.20	0.22	-0.11	0.19
0	Pipe	2.875" O.D.	R	45.55	6.42	45.55	6.42	360	292.59	292.59	7.09	7.09	0.80	0.80	12.67	0.28	-0.14	0.24
0	Pipe	4" O.D.	R	57.55	7.55	57.55	7.55	360	434.42	434.42	7.62	7.62	0.81	0.81	19.09	0.33	-0.17	0.29
0	Pipe	2.875" O.D.	R	45.55	6.42	45.55	6.42	360	292.59	292.59	7.09	7.09	0.80	0.80	12.67	0.28	-0.14	0.24
0	Pipe	1.315" O.D.	R	45.55	4.86	45.55	4.86	360	221.53	221.53	9.37	9.37	0.85	0.85	10.20	0.22	-0.11	0.19
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	360	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	-0.16	0.28
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	360	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	-0.16	0.28
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	360	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	-0.16	0.28
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	360	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	-0.16	0.28
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	360	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	-0.16	0.28
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	360	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	-0.16	0.28
0	equal_An	L4x3	F	21.55	7.55	3.55	7.55	360	162.66	26.79	2.85	0.47	1.22	1.20	10.68	0.50	-0.25	0.43
0	equal_An	L4x3	F	21.55	7.55	3.55	7.55	360	162.66	26.79	2.85	0.47	1.22	1.20	10.68	0.50	-0.25	0.43
0	Pipe	1.66" O.D.	R	51.55	5.21	3.55	5.21	620	268.50	18.48	9.90	0.68	0.86	0.70	1.06	0.02	-0.01	0.02
0	Pipe	2.375" O.D.	R	153.55	5.92	3.55	5.92	360	909.57	21.02	25.92	0.60	1.20	0.70	58.93	0.38	-0.19	0.33
0	Pipe	2.375" O.D.	R	153.55	5.92	3.55	5.92	360	909.57	21.02	25.92	0.60	1.20	0.70	58.93	0.38	-0.19	0.33
0	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	510	390.43	317.85	10.67	8.69	1.52	1.46	30.31	0.47	-0.23	0.41
0	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	510	390.43	317.85	10.67	8.69	1.52	1.46	30.31	0.47	-0.23	0.41
0	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	570	390.43	317.85	10.67	8.69	1.52	1.46	30.31	0.47	-0.23	0.41
0	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	570	390.43	317.85	10.67	8.69	1.52	1.46	30.31	0.47	-0.23	0.41
0	0	0	0	3.55	0.00	3.55	0.00	360	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	3.55	0.00	3.55	0.00	360	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Trylon

Analysis date: 03/07/2020

WIND FORCES 150 DIRECTION - ICE

Member Label	Member Type	Description	F/R	Normal Length [in]	Normal Width [in]	Lateral Length [in]	Lateral Width [in]	θ (wind direction from normal face) [°]	A_N [in^2]	A_T [in^2]	Aspect Ratio Normal -	Aspect Ratio Lateral -	CaN -	CaT -	Resultant Wind Force Frontal [lbs]	Resultant Wind Force Distributed [lbs/in]	Resultant Component on Global X [lbs/in]	Resultant Component on Global Y [lbs/in]
M10	qual_Angl	L2.5x2.5	F	153.55	6.05	3.55	6.05	150	928.77	21.46	25.39	0.59	2.00	1.20	75.56	0.49	-0.43	0.25
M11	qual_Angl	L2.5x2.5	F	153.55	6.05	3.55	6.05	150	928.77	21.46	25.39	0.59	2.00	1.20	75.56	0.49	-0.43	0.25
M12	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	278	186.88	121.72	5.33	3.47	0.76	0.72	4.80	0.15	-0.13	0.08
M14	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	278	186.88	121.72	5.33	3.47	0.76	0.72	4.80	0.15	-0.13	0.08
M13	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	382	186.88	121.72	5.33	3.47	0.76	0.72	7.28	0.23	-0.20	0.12
M15	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	382	186.88	121.72	5.33	3.47	0.76	0.72	7.28	0.23	-0.20	0.12
M26	olid_Roun	0.5" O.D.	R	50.55	4.05	45.55	4.05	278	204.66	184.41	12.49	11.25	0.92	0.89	8.93	0.18	-0.15	0.09
M28	olid_Roun	0.5" O.D.	R	50.55	4.05	45.55	4.05	382	204.66	184.41	12.49	11.25	0.92	0.89	10.01	0.20	-0.17	0.10
M27	Pipe	1.315" O.D.	R	45.55	4.86	45.55	4.86	150	221.53	221.53	9.37	9.37	0.85	0.85	10.20	0.22	-0.19	0.11
M9	Pipe	2.875" O.D.	R	45.55	6.42	45.55	6.42	150	292.59	292.59	7.09	7.09	0.80	0.80	12.67	0.28	-0.24	0.14
M1	Pipe	4" O.D.	R	57.55	7.55	57.55	7.55	150	434.42	434.42	7.62	7.62	0.81	0.81	19.09	0.33	-0.29	0.17
M8	Pipe	2.875" O.D.	R	45.55	6.42	45.55	6.42	150	292.59	292.59	7.09	7.09	0.80	0.80	12.67	0.28	-0.24	0.14
M29	Pipe	1.315" O.D.	R	45.55	4.86	45.55	4.86	150	221.53	221.53	9.37	9.37	0.85	0.85	10.20	0.22	-0.19	0.11
M20	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	150	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	-0.28	0.16
M21	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	150	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	-0.28	0.16
M22	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	150	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	-0.28	0.16
M23	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	150	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	-0.28	0.16
M24	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	150	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	-0.28	0.16
M25	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	150	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	-0.28	0.16
M5	equal_An	L4x3	F	21.55	7.55	3.55	7.55	150	162.66	26.79	2.85	0.47	1.22	1.20	8.44	0.39	-0.34	0.20
M7	equal_An	L4x3	F	21.55	7.55	3.55	7.55	150	162.66	26.79	2.85	0.47	1.22	1.20	8.44	0.39	-0.34	0.20
M30	Pipe	1.66" O.D.	R	51.55	5.21	3.55	5.21	410	268.50	18.48	9.90	0.68	0.86	0.70	5.59	0.11	-0.09	0.05
M31	Pipe	2.375" O.D.	R	153.55	5.92	3.55	5.92	150	909.57	21.02	25.92	0.60	1.20	0.70	44.39	0.29	-0.25	0.14
M40	Pipe	2.375" O.D.	R	153.55	5.92	3.55	5.92	150	909.57	21.02	25.92	0.60	1.20	0.70	44.39	0.29	-0.25	0.14
M36	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	300	390.43	317.85	10.67	8.69	1.52	1.46	26.76	0.41	-0.36	0.21
M38	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	300	390.43	317.85	10.67	8.69	1.52	1.46	26.76	0.41	-0.36	0.21
M37	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	360	390.43	317.85	10.67	8.69	1.52	1.46	32.09	0.50	-0.43	0.25
M39	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	360	390.43	317.85	10.67	8.69	1.52	1.46	32.09	0.50	-0.43	0.25
0	0	0	0	3.55	0.00	3.55	0.00	150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	3.55	0.00	3.55	0.00	150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1825 W. Walnut Hill Lane Suite 120
Irving, Texas 75038

Trylon

Analysis date: 03/07/2020

WIND FORCES 150 DIRECTION - ICE

Member Label	Member Type	Description	F/R	Normal Length [in]	Normal Width [in]	Lateral Length [in]	Lateral Width [in]	θ (wind direction from normal face) [°]	AN [in²]	AT [in²]	Aspect Ratio Normal -	Aspect Ratio Lateral -	CaN -	CaT -	Resultant Wind Force Frontal [lbs]	Resultant Wind Force Distributed [lbs/in]	Resultant Component on Global X [lbs/in]	Resultant Component on Global Y [lbs/in]
0	qual_Angl	L2.5x2.5	F	153.55	6.05	3.55	6.05	270	928.77	21.46	25.39	0.59	2.00	1.20	1.39	0.01	-0.01	0.00
0	qual_Angl	L2.5x2.5	F	153.55	6.05	3.55	6.05	270	928.77	21.46	25.39	0.59	2.00	1.20	1.39	0.01	-0.01	0.00
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	398	186.88	121.72	5.33	3.47	0.76	0.72	6.58	0.21	-0.18	0.10
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	398	186.88	121.72	5.33	3.47	0.76	0.72	6.58	0.21	-0.18	0.10
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	502	186.88	121.72	5.33	3.47	0.76	0.72	6.58	0.21	-0.18	0.10
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	502	186.88	121.72	5.33	3.47	0.76	0.72	6.58	0.21	-0.18	0.10
0	olid_Roun	0.5" O.D.	R	50.55	4.05	45.55	4.05	398	204.66	184.41	12.49	11.25	0.92	0.89	9.70	0.19	-0.17	0.10
0	olid_Roun	0.5" O.D.	R	50.55	4.05	45.55	4.05	502	204.66	184.41	12.49	11.25	0.92	0.89	9.70	0.19	-0.17	0.10
0	Pipe	1.315" O.D.	R	45.55	4.86	45.55	4.86	270	221.53	221.53	9.37	9.37	0.85	0.85	10.20	0.22	-0.19	0.11
0	Pipe	2.875" O.D.	R	45.55	6.42	45.55	6.42	270	292.59	292.59	7.09	7.09	0.80	0.80	12.67	0.28	-0.24	0.14
0	Pipe	4" O.D.	R	57.55	7.55	57.55	7.55	270	434.42	434.42	7.62	7.62	0.81	0.81	19.09	0.33	-0.29	0.17
0	Pipe	2.875" O.D.	R	45.55	6.42	45.55	6.42	270	292.59	292.59	7.09	7.09	0.80	0.80	12.67	0.28	-0.24	0.14
0	Pipe	1.315" O.D.	R	45.55	4.86	45.55	4.86	270	221.53	221.53	9.37	9.37	0.85	0.85	10.20	0.22	-0.19	0.11
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	270	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	-0.28	0.16
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	270	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	-0.28	0.16
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	270	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	-0.28	0.16
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	270	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	-0.28	0.16
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	270	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	-0.28	0.16
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	270	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	-0.28	0.16
0	nequal_An	L4x3	F	21.55	7.55	3.55	7.55	270	162.66	26.79	2.85	0.47	1.22	1.20	1.74	0.08	-0.07	0.04
0	nequal_An	L4x3	F	21.55	7.55	3.55	7.55	270	162.66	26.79	2.85	0.47	1.22	1.20	1.74	0.08	-0.07	0.04
0	Pipe	1.66" O.D.	R	51.55	5.21	3.55	5.21	530	268.50	18.48	9.90	0.68	0.86	0.70	12.17	0.24	-0.20	0.12
0	Pipe	2.375" O.D.	R	153.55	5.92	3.55	5.92	270	909.57	21.02	25.92	0.60	1.20	0.70	0.79	0.01	0.00	0.00
0	Pipe	2.375" O.D.	R	153.55	5.92	3.55	5.92	270	909.57	21.02	25.92	0.60	1.20	0.70	0.79	0.01	0.00	0.00
0	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	420	390.43	317.85	10.67	8.69	1.52	1.46	26.76	0.41	-0.36	0.21
0	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	420	390.43	317.85	10.67	8.69	1.52	1.46	26.76	0.41	-0.36	0.21
0	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	480	390.43	317.85	10.67	8.69	1.52	1.46	26.76	0.41	-0.36	0.21
0	qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	480	390.43	317.85	10.67	8.69	1.52	1.46	26.76	0.41	-0.36	0.21
0	0	0	0	3.55	0.00	3.55	0.00	270	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	3.55	0.00	3.55	0.00	270	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Trylon

Analysis date: 03/07/2020

WIND FORCES 150 DIRECTION - ICE

Member Label	Member Type	Description	F/R	Normal Length [in]	Normal Width [in]	Lateral Length [in]	Lateral Width [in]	θ (wind direction from normal face) [°]	AN [in^2]	AT [in^2]	Aspect Ratio Normal -	Aspect Ratio Lateral -	CaN -	CaT -	Resultant Wind Force Frontal [lbs]	Resultant Wind Force Distributed [lbs/in]	Resultant Component on Global X [lbs/in]	Resultant Component on Global Y [lbs/in]
0	:qual_Angl	L2.5x2.5	F	153.55	6.05	3.55	6.05	390	928.77	21.46	25.39	0.59	2.00	1.20	75.56	0.49	-0.43	0.25
0	:qual_Angl	L2.5x2.5	F	153.55	6.05	3.55	6.05	390	928.77	21.46	25.39	0.59	2.00	1.20	75.56	0.49	-0.43	0.25
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	518	186.88	121.72	5.33	3.47	0.76	0.72	7.28	0.23	-0.20	0.12
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	518	186.88	121.72	5.33	3.47	0.76	0.72	7.28	0.23	-0.20	0.12
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	622	186.88	121.72	5.33	3.47	0.76	0.72	4.80	0.15	-0.13	0.08
0	Pipe	2.375" O.D.	R	31.55	5.92	20.55	5.92	622	186.88	121.72	5.33	3.47	0.76	0.72	4.80	0.15	-0.13	0.08
0	;olid_Roun	0.5" O.D.	R	50.55	4.05	45.55	4.05	518	204.66	184.41	12.49	11.25	0.92	0.89	10.01	0.20	-0.17	0.10
0	;olid_Roun	0.5" O.D.	R	50.55	4.05	45.55	4.05	622	204.66	184.41	12.49	11.25	0.92	0.89	8.93	0.18	-0.15	0.09
0	Pipe	1.315" O.D.	R	45.55	4.86	45.55	4.86	390	221.53	221.53	9.37	9.37	0.85	0.85	10.20	0.22	-0.19	0.11
0	Pipe	2.875" O.D.	R	45.55	6.42	45.55	6.42	390	292.59	292.59	7.09	7.09	0.80	0.80	12.67	0.28	-0.24	0.14
0	Pipe	4" O.D.	R	57.55	7.55	57.55	7.55	390	434.42	434.42	7.62	7.62	0.81	0.81	19.09	0.33	-0.29	0.17
0	Pipe	2.875" O.D.	R	45.55	6.42	45.55	6.42	390	292.59	292.59	7.09	7.09	0.80	0.80	12.67	0.28	-0.24	0.14
0	Pipe	1.315" O.D.	R	45.55	4.86	45.55	4.86	390	221.53	221.53	9.37	9.37	0.85	0.85	10.20	0.22	-0.19	0.11
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	390	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	-0.28	0.16
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	390	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	-0.28	0.16
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	390	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	-0.28	0.16
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	390	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	-0.28	0.16
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	390	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	-0.28	0.16
0	Pipe	2.375" O.D.	R	93.55	5.92	93.55	5.92	390	554.15	554.15	15.79	15.79	1.00	1.00	29.78	0.32	-0.28	0.16
0	iequal_An	L4x3	F	21.55	7.55	3.55	7.55	390	162.66	26.79	2.85	0.47	1.22	1.20	8.44	0.39	-0.34	0.20
0	iequal_An	L4x3	F	21.55	7.55	3.55	7.55	390	162.66	26.79	2.85	0.47	1.22	1.20	8.44	0.39	-0.34	0.20
0	Pipe	1.66" O.D.	R	51.55	5.21	3.55	5.21	650	268.50	18.48	9.90	0.68	0.86	0.70	2.08	0.04	-0.03	0.02
0	Pipe	2.375" O.D.	R	153.55	5.92	3.55	5.92	390	909.57	21.02	25.92	0.60	1.20	0.70	44.39	0.29	-0.25	0.14
0	Pipe	2.375" O.D.	R	153.55	5.92	3.55	5.92	390	909.57	21.02	25.92	0.60	1.20	0.70	44.39	0.29	-0.25	0.14
0	:qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	540	390.43	317.85	10.67	8.69	1.52	1.46	32.09	0.50	-0.43	0.25
0	:qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	540	390.43	317.85	10.67	8.69	1.52	1.46	32.09	0.50	-0.43	0.25
0	:qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	600	390.43	317.85	10.67	8.69	1.52	1.46	26.76	0.41	-0.36	0.21
0	:qual_Angl	L2.5x2.5	F	64.55	6.05	52.55	6.05	600	390.43	317.85	10.67	8.69	1.52	1.46	26.76	0.41	-0.36	0.21
0	0	0	0	3.55	0.00	3.55	0.00	390	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	3.55	0.00	3.55	0.00	390	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Trylon

Analysis Date: 03/07/2020

CONNECTION CHECK

Mount to Tower Connections Check (N69 - Results from LC13) -SFS-V-L

Reactions		
Tension Force (X)	1.94	[kips]
Shear Force (Y)	0.188	[kips]
Shear Force (Z)	1.069	[kips]
Torsional Moment (about x-x)	0	[kips-in]
Bending Moment (about y-y)	0	[kips-in]
Bending Moment (about z-z)	0	[kips-in]

Bolt Properties		
# of Bolts	4	
Distance between bolts, z-z	9.5	[in]
Distance between bolts, y-y	1.375	[in]
Bolt Diameter	0.5	[in]
Bolt Grade	A325, D<1	Assumed
An	0.142	[in^2]
Ab	0.196	[in^2]
Yield Strength, min	92	[ksi]
Tensile Strength, min	120	[ksi]

Bolt Strength		
ϕ*Rnt	12.77	[kips]
ϕ*Rnv	8.84	[kips]

Strength Check		
Tension	3.80%	PASS
Shear	3.07%	PASS
Combined Tension and Shear	0.24%	PASS

Trylon

Analysis Date: 03/07/2020

CONNECTION CHECK

Shear Connection Check (N2-results from LC7)

Reactions		
Shear Force (x)	0.22	[kips]
Shear Force (y)	0.43	[kips]

Bolt Properties		
# of Bolts	2.00	
Bolt Diameter	0.75	[in]
Bolt Grade	A325, D<1	Assumed
An	0.33	[in^2]
Ab	0.44	[in^2]
Yield Strength, min	92.00	[ksi]
Tensile Strength, min	120.00	[ksi]

Bolt Strength		
ϕ*Rnv	19.88	[ksi]

Strength Check		
Shear	1.21%	PASS

1825 W. Walnut Hill Lane Suite 120
Irving, Texas 75038

APPENDIX B

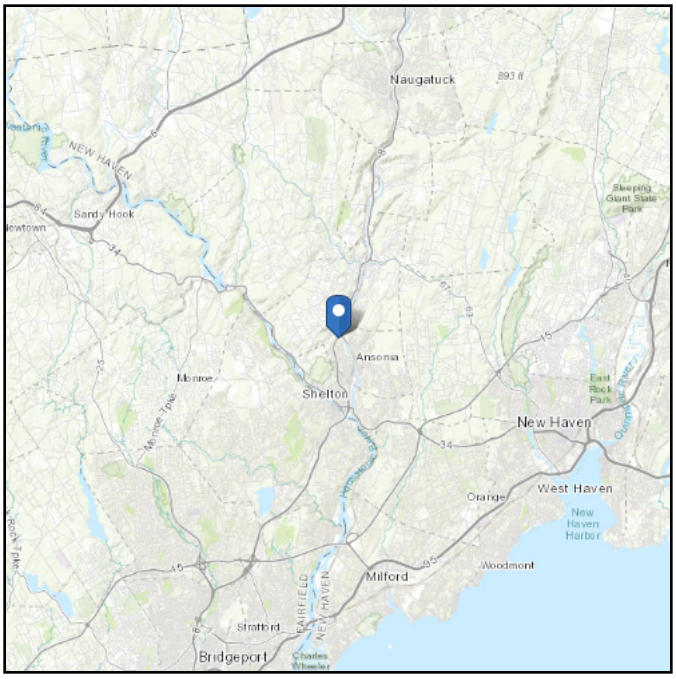
SOFTWARE OUTPUTS

ASCE 7 Hazards Report

Address:
No Address at This Location

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

Elevation: 127.41 ft (NAVD 88)
Latitude: 41.356069
Longitude: -73.092025



Wind

Results:

Wind Speed:	122 Vmph
10-year MRI	76 Vmph
25-year MRI	86 Vmph
50-year MRI	93 Vmph
100-year MRI	99 Vmph
Data Source:	ASCE/SEI 7-10, Fig. 26.5-1A and Figs. CC-1–CC-4, incorporating errata of March 12, 2014
Date Accessed:	Wed Nov 06 2019

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 need not be protected against wind-borne debris.

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

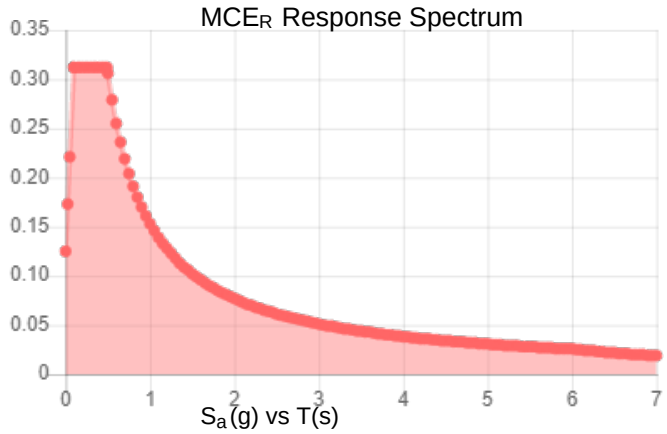
Seismic

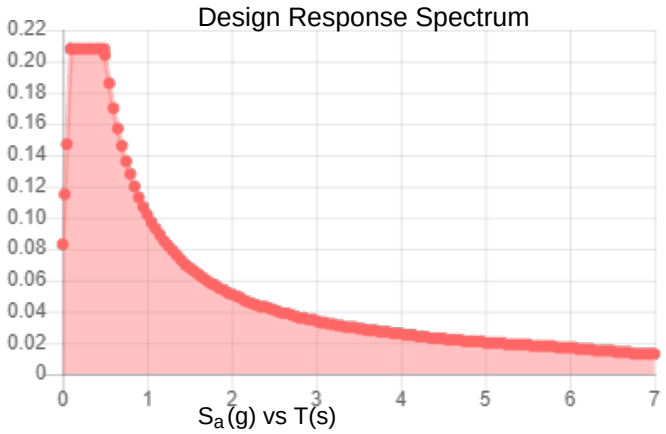
Site Soil Class: D - Stiff Soil

Results:

S_S :	0.195	S_{DS} :	0.208
S_1 :	0.064	S_{D1} :	0.102
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.103
S_{MS} :	0.312	PGA_M :	0.165
S_{M1} :	0.153	F_{PGA} :	1.593
		I_e :	1

Seismic Design Category B





Data Accessed: Wed Nov 06 2019

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

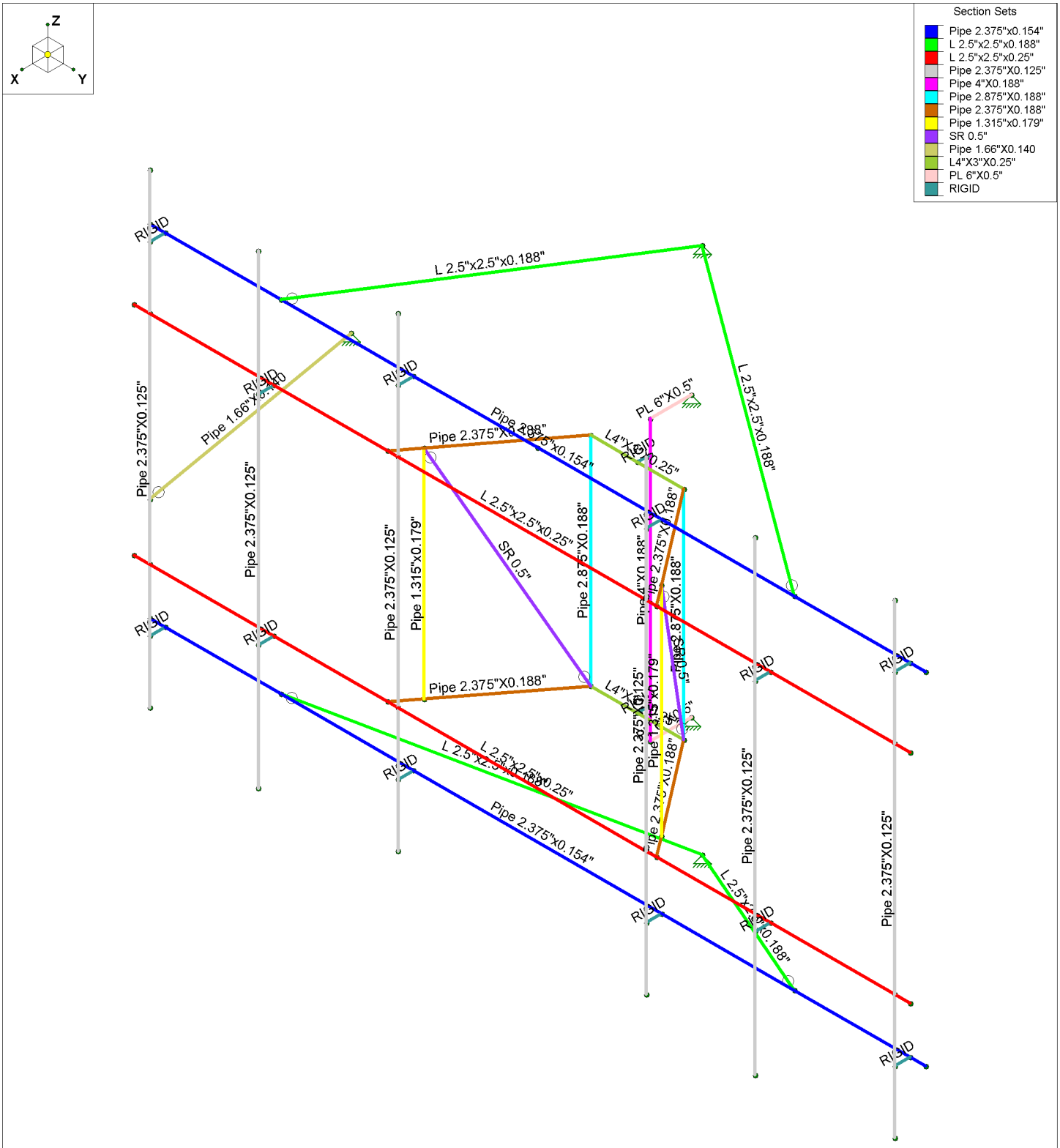
Results:

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:	Wed Nov 06 2019

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

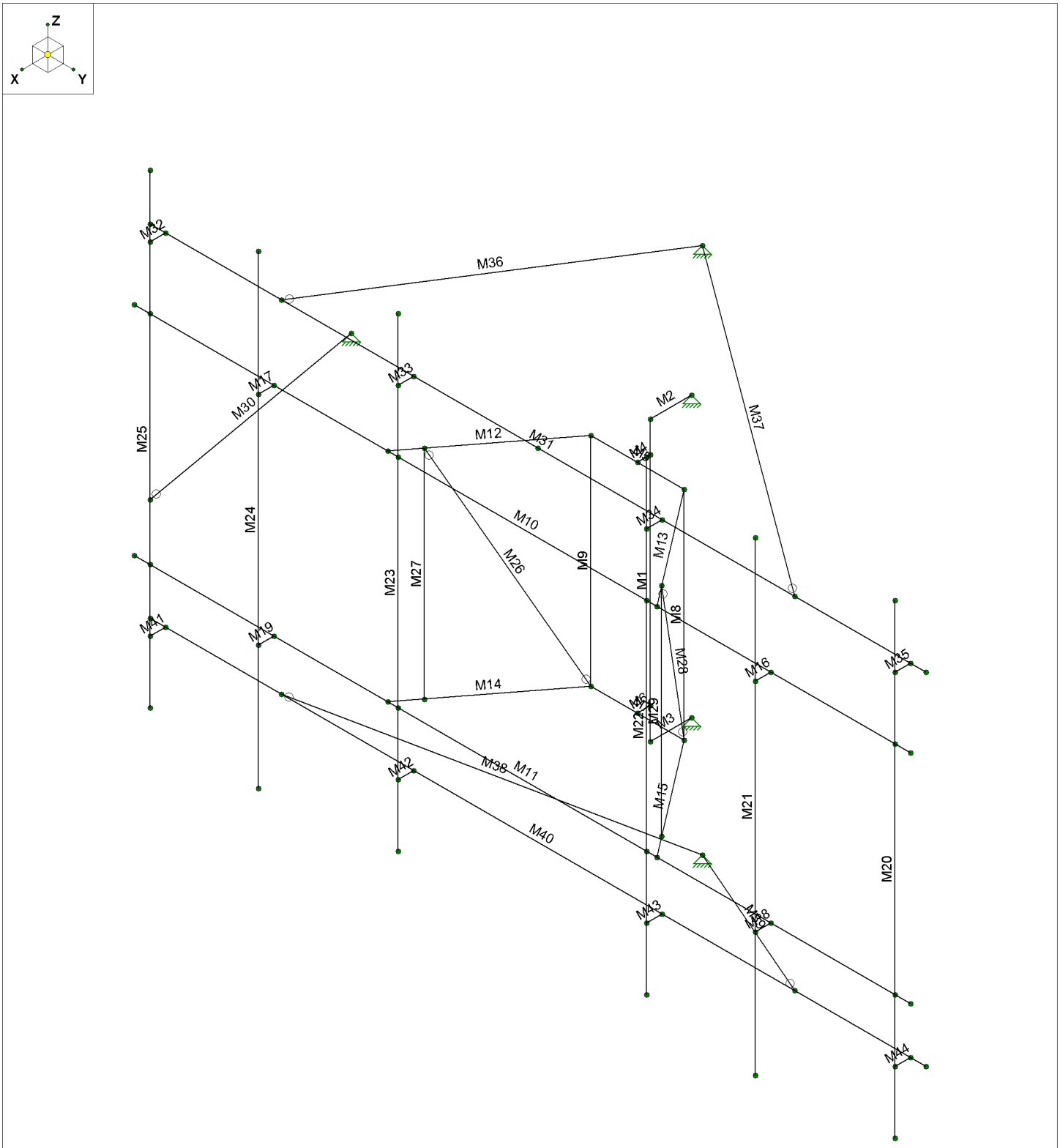
Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 50-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from 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.

Trylon	VZW ANSONIA WAKELEE_ATC 302470_MOUNT ANA...	SK - 1
KSV		Mar 7, 2020 at 11:36 AM
152690		ANSONIA_CT - reinf.R3D



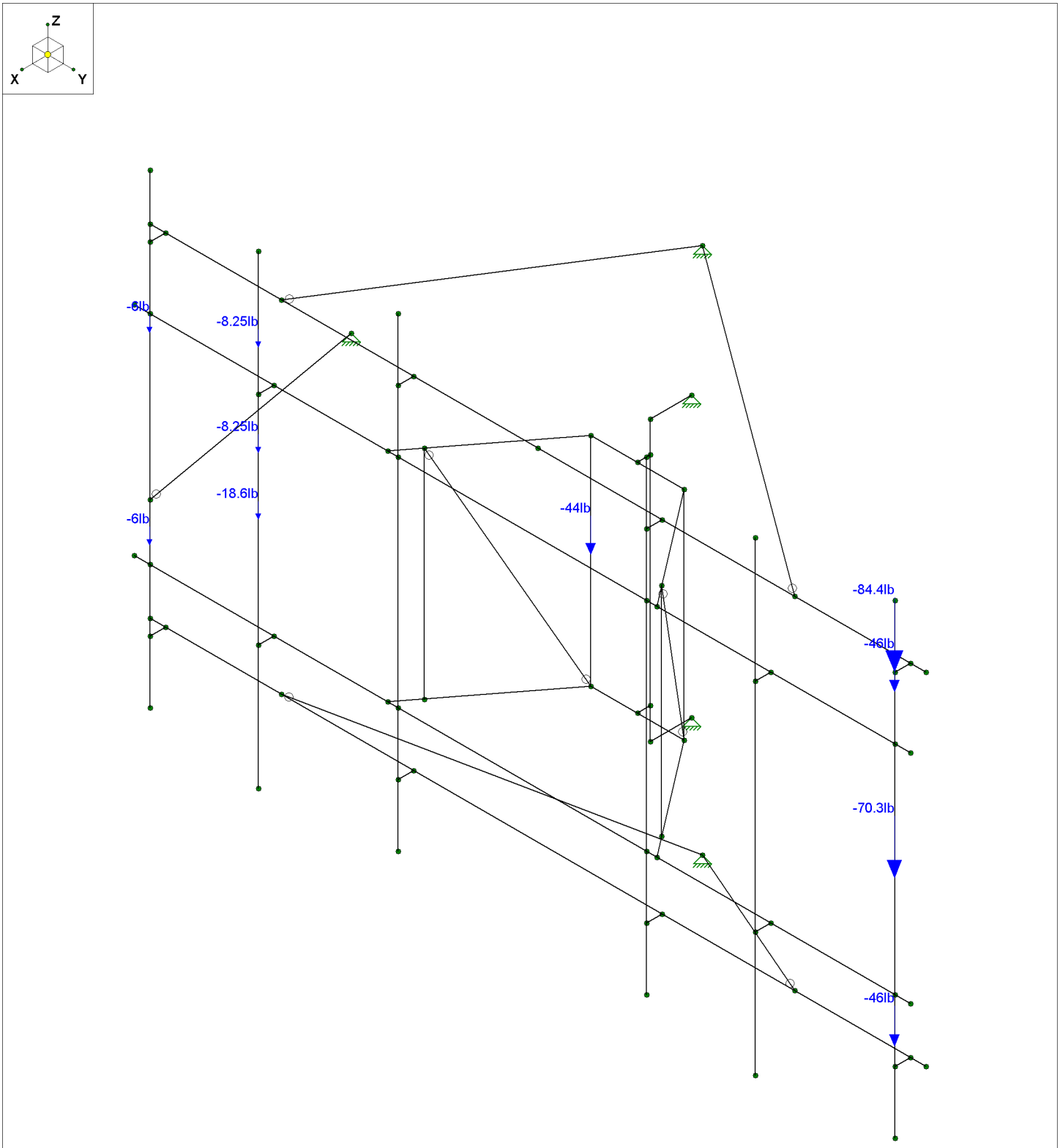
Envelope Only Solution

Trylon	VZW ANSONIA WAKELEE_ATC 302470_MOUNT ANA...	SK - 2
KSV		Mar 7, 2020 at 11:59 AM
152690		ANSONIA_CT - reinf.R3D



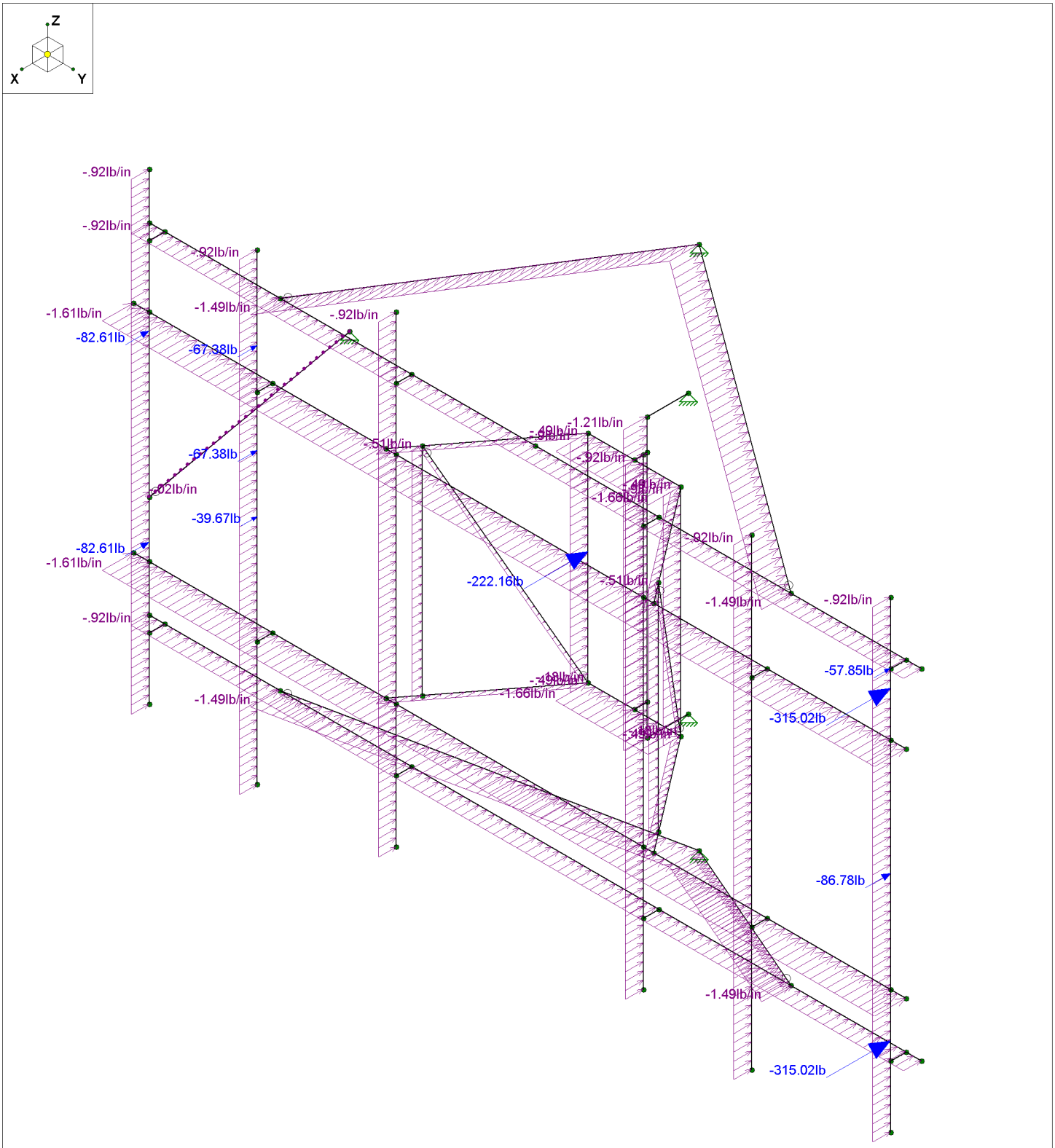
Envelope Only Solution

Trylon	VZW ANSONIA WAKELEE_ATC 302470_MOUNT ANA...	SK - 3
KSV		Mar 7, 2020 at 11:59 AM
152690		ANSONIA_CT - reinf.R3D



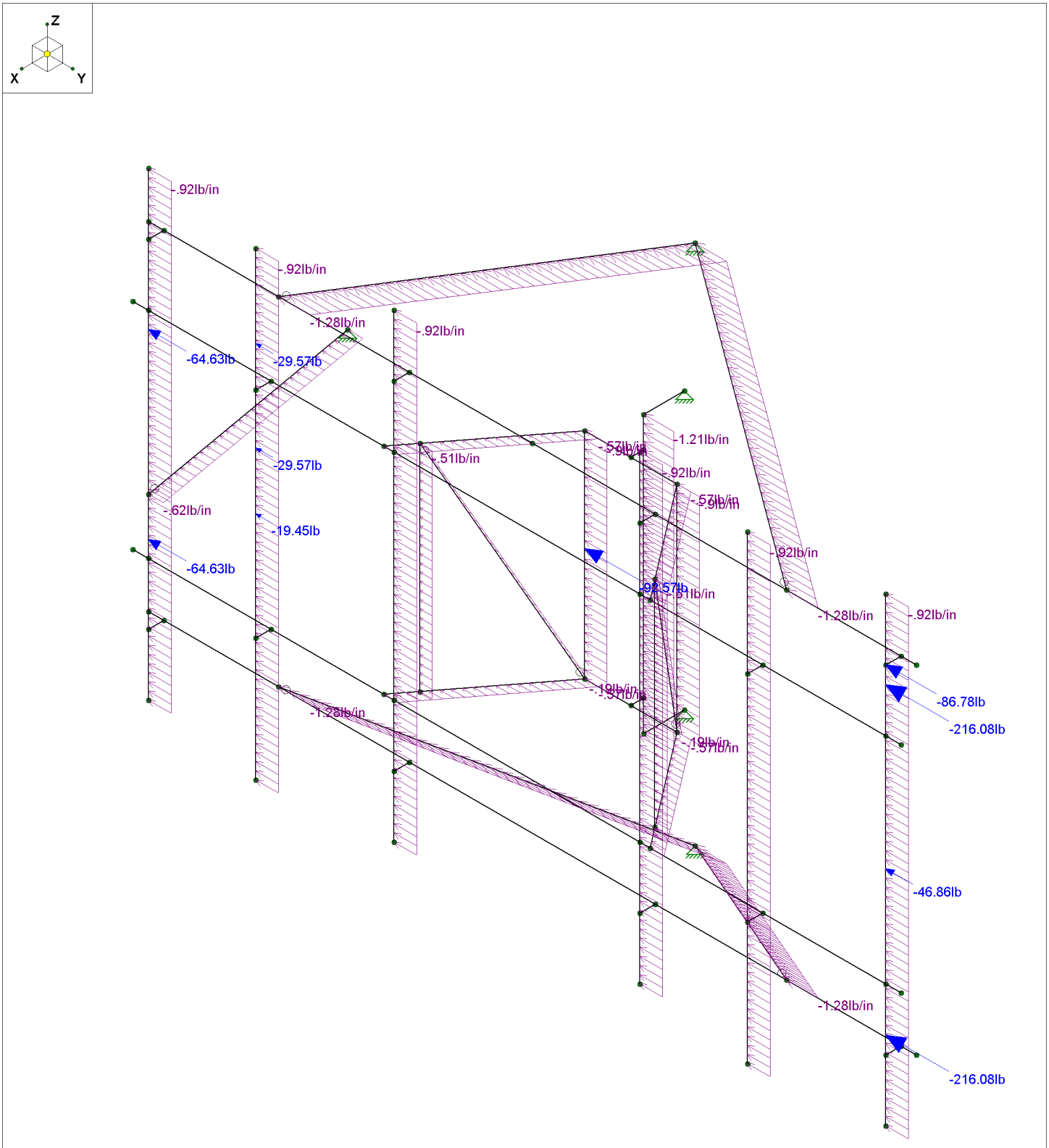
Loads: BLC 2, Weights
Envelope Only Solution

Trylon	VZW ANSONIA WAKELEE_ATC 302470_MOUNT ANA...	SK - 4
KSV		Mar 7, 2020 at 11:59 AM
152690		ANSONIA_CT - reinf.R3D



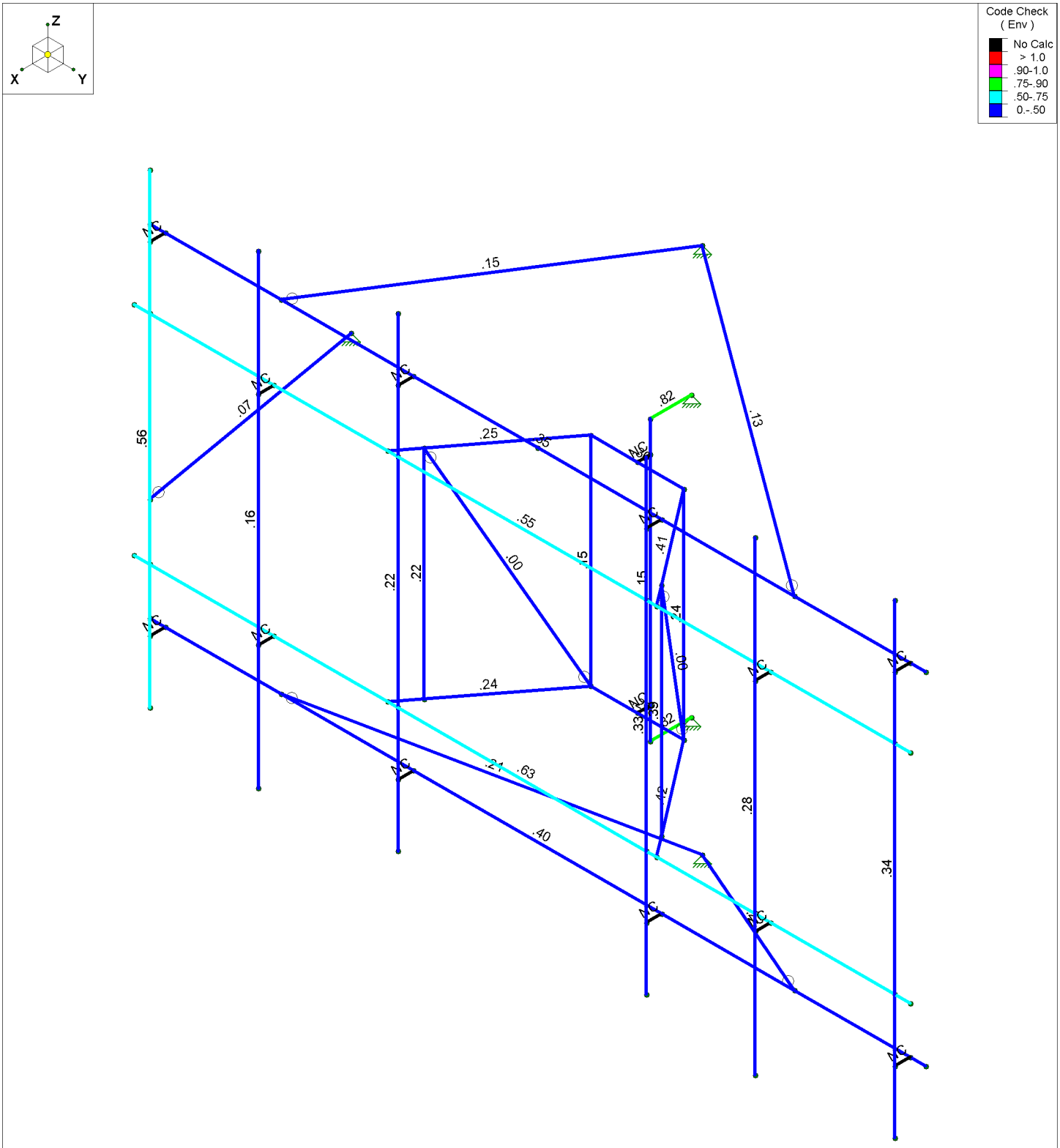
Loads: BLC 4, Wind 0°
Envelope Only Solution

Trylon	VZW ANSONIA WAKELEE_ATC 302470_MOUNT ANA...	SK - 5
KSV		Mar 7, 2020 at 11:59 AM
152690		ANSONIA_CT - reinf.R3D



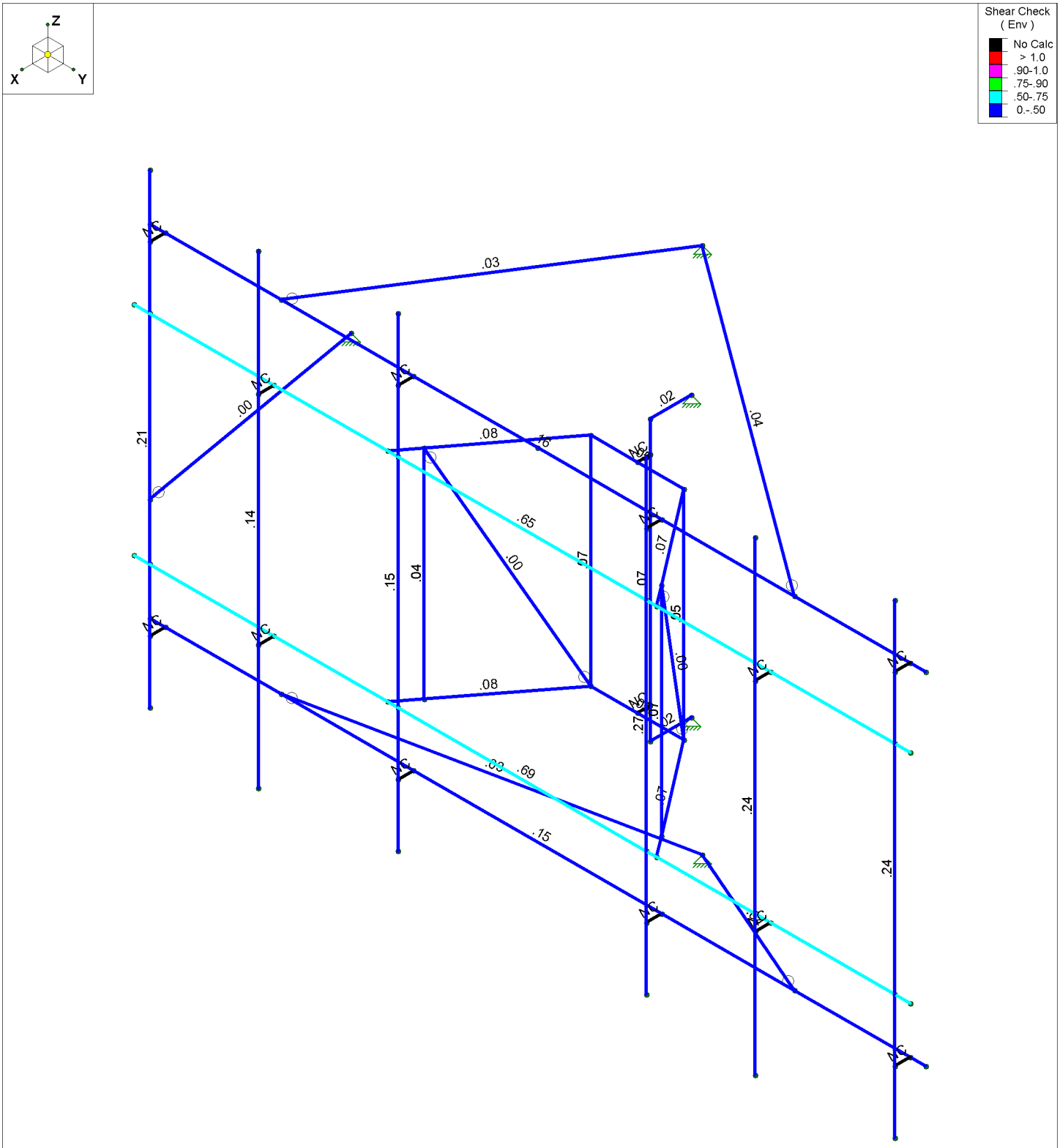
Loads: BLC 7, Wind 90°
Envelope Only Solution

Trylon	VZW ANSONIA WAKELEE_ATC 302470_MOUNT ANA...	SK - 6
KSV		Mar 7, 2020 at 11:59 AM
152690		ANSONIA_CT - reinf.R3D



Member Code Checks Displayed (Enveloped)
Loads: BLC 1, Self Weight
Envelope Only Solution

Trylon	VZW ANSONIA WAKELEE_ATC 302470_MOUNT ANA...	SK - 7
KSV		Mar 7, 2020 at 12:00 PM
152690		ANSONIA_CT - reinf.R3D



Member Shear Checks Displayed (Enveloped)
Loads: BLC 1, Self Weight
Envelope Only Solution

Trylon	VZW ANSONIA WAKELEE_ATC 302470_MOUNT ANA...	SK - 8
KSV		Mar 7, 2020 at 12:00 PM
152690		ANSONIA_CT - reinf.R3D

(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?	Yes
Max Iterations for Wall Stiffness	3
Gravity Acceleration (in/sec^2)	386.4
Wall Mesh Size (in)	24
Eigensolution Convergence Tol. (1.E-)	4
Vertical Axis	Z
Global Member Orientation Plane	XY
Static Solver	Sparse Accelerated
Dynamic Solver	Accelerated Solver

Hot Rolled Steel Code	AISC 15th(360-16): LRFD
Adjust Stiffness?	Yes(Iterative)
RISAConnection Code	None
Cold Formed Steel Code	AISI S100-16: LRFD
Wood Code	None
Wood Temperature	< 100F
Concrete Code	ACI 318-14
Masonry Code	None
Aluminum Code	None - Building
Stainless Steel Code	AISC 14th(360-10): LRFD
Adjust Stiffness?	Yes(Iterative)

(Global) Model Settings, Continued

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?	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

Seismic Code	ASCE 7-10
Seismic Base Elevation (in)	Not Entered
Add Base Weight?	Yes
Ct X	.02
Ct Z	.02
T X (sec)	Not Entered
T Z (sec)	Not Entered
R X	3
R Z	3
Ct Exp. X	.75
Ct Exp. Z	.75
SD1	1
SDS	1
S1	1
TL (sec)	5
Risk Cat	I or II
Drift Cat	Other
Om Z	1
Om X	1
Cd Z	4
Cd X	4
Rho Z	1
Rho X	1

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (\1...	Density[k/ft^3]	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	.3	.65	.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	.3	.65	.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	.3	.65	.49	35	1.6	60	1.2
7	A1085	29000	11154	.3	.65	.49	50	1.4	65	1.3

Cold Formed Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (\1E5 F)	Density[k/ft^3]	Yield[ksi]	Fu[ksi]
1	A653 SS Gr33	29500	11346	.3	.65	.49	33	45
2	A653 SS Gr50/1	29500	11346	.3	.65	.49	50	65

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rul...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Pipe 2.375"x0.1...	HSS2.375X0....	Beam	Pipe	A53 Gr.B	Typical	1.075	.669	.669	1.339
2	L 2.5"x2.5"x0.1...	L2.5x2.5x3	Beam	Single Angle	A36 Gr.36	Typical	.901	.535	.535	.011
3	L 2.5"x2.5"x0.25"	L2.5x2.5x4	Beam	Single Angle	A36 Gr.36	Typical	1.19	.692	.692	.026
4	Pipe 2.375"X0.1...	HSS 2.4X0.1...	Column	Pipe	A53 Gr.B	Typical	.893	.58	.58	1.159
5	Pipe 4"X0.188"	HSS4.000X0....	Column	Pipe	A53 Gr.B	Typical	2.241	4.083	4.083	8.165
6	Pipe 2.875"X0.1...	HSS2.875X0....	Column	Pipe	A53 Gr.B	Typical	1.583	1.442	1.442	2.883
7	Pipe 2.375"X0.1...	HSS2.375X0....	Column	Pipe	A53 Gr.B	Typical	1.289	.78	.78	1.561
8	Pipe 1.315"x0.1...	1.315X0.179	Column	Pipe	A53 Gr.B	Typical	.673	.123	.123	.246
9	SR 0.5"	SR 1/2"	Column	BAR	A36 Gr.36	Typical	.196	.003	.003	.006
10	Pipe 1.66"X0.140	Pipe 1.66"x0....	Column	Pipe	A53 Gr.B	Typical	.669	.195	.195	.389
11	L4"X3"X0.25"	L4X3X4	Beam	Single Angle	A36 Gr.36	Typical	1.69	1.33	2.75	.039
12	PL 6"X0.5"	PL 6X1/2	Beam	RECT	A36 Gr.36	Typical	3	.063	9	.237

Cold Formed Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rules	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	CF1	8CU1.25X057	Beam	None	A653 SS Gr33	Typical	.581	.057	4.41	.00063

Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
1	N2	Reaction	Reaction	Reaction			
2	N4	Reaction	Reaction	Reaction			
3	N46	Reaction	Reaction	Reaction			
4	N65	Reaction	Reaction	Reaction			
5	N69	Reaction	Reaction	Reaction			

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N1	N3			Pipe 4"X0.188"	Column	Pipe	A53 Gr.B	Typical
2	M2	N1	N2		90	PL 6"X0.5"	Beam	RECT	A36 Gr.36	Typical
3	M3	N3	N4		90	PL 6"X0.5"	Beam	RECT	A36 Gr.36	Typical
4	M4	N5	N6			RIGID	None	None	RIGID	Typical
5	M5	N15	N13		180	L4"X3"X0.25"	Beam	Single Angle	A36 Gr.36	Typical
6	M6	N7	N8			RIGID	None	None	RIGID	Typical
7	M7	N39	N42			L4"X3"X0.25"	Beam	Single Angle	A36 Gr.36	Typical
8	M8	N15	N42			Pipe 2.875"X0...	Column	Pipe	A53 Gr.B	Typical
9	M9	N13	N39			Pipe 2.875"X0...	Column	Pipe	A53 Gr.B	Typical
10	M10	N9	N10		90	L 2.5"x2.5"x0.2...	Beam	Single Angle	A36 Gr.36	Typical
11	M11	N11	N12			L 2.5"x2.5"x0.2...	Beam	Single Angle	A36 Gr.36	Typical
12	M12	N13	N14			Pipe 2.375"X0...	Column	Pipe	A53 Gr.B	Typical
13	M13	N15	N16			Pipe 2.375"X0...	Column	Pipe	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
14	M14	N39	N17			Pipe 2.375"X0...	Column	Pipe	A53 Gr.B	Typical
15	M15	N42	N18			Pipe 2.375"X0...	Column	Pipe	A53 Gr.B	Typical
16	M16	N19	N20			RIGID	None	None	RIGID	Typical
17	M17	N21	N22			RIGID	None	None	RIGID	Typical
18	M18	N23	N24			RIGID	None	None	RIGID	Typical
19	M19	N25	N26			RIGID	None	None	RIGID	Typical
20	M20	N27	N28			Pipe 2.375"X0...	Column	Pipe	A53 Gr.B	Typical
21	M21	N29	N30			Pipe 2.375"X0...	Column	Pipe	A53 Gr.B	Typical
22	M22	N31	N32			Pipe 2.375"X0...	Column	Pipe	A53 Gr.B	Typical
23	M23	N33	N34			Pipe 2.375"X0...	Column	Pipe	A53 Gr.B	Typical
24	M24	N35	N36			Pipe 2.375"X0...	Column	Pipe	A53 Gr.B	Typical
25	M25	N37	N38			Pipe 2.375"X0...	Column	Pipe	A53 Gr.B	Typical
26	M26	N39	N40			SR 0.5"	Column	BAR	A36 Gr.36	Typical
27	M27	N40	N41			Pipe 1.315"x0...	Column	Pipe	A53 Gr.B	Typical
28	M28	N42	N43			SR 0.5"	Column	BAR	A36 Gr.36	Typical
29	M29	N43	N44			Pipe 1.315"x0...	Column	Pipe	A53 Gr.B	Typical
30	M30	N45	N46			Pipe 1.66"X0.1...	Column	Pipe	A53 Gr.B	Typical
31	M31	N55	N56		90	Pipe 2.375"x0...	Beam	Pipe	A53 Gr.B	Typical
32	M32	N60	N64			RIGID	None	None	RIGID	Typical
33	M33	N59	N63			RIGID	None	None	RIGID	Typical
34	M34	N58	N62			RIGID	None	None	RIGID	Typical
35	M35	N57	N61			RIGID	None	None	RIGID	Typical
36	M36	N67	N65		90	L 2.5"x2.5"x0.1...	Beam	Single Angle	A36 Gr.36	Typical
37	M37	N68	N65		180	L 2.5"x2.5"x0.1...	Beam	Single Angle	A36 Gr.36	Typical
38	M38	N70	N69		90	L 2.5"x2.5"x0.1...	Beam	Single Angle	A36 Gr.36	Typical
39	M39	N71	N69		180	L 2.5"x2.5"x0.1...	Beam	Single Angle	A36 Gr.36	Typical
40	M40	N72	N73		90	Pipe 2.375"x0...	Beam	Pipe	A53 Gr.B	Typical
41	M41	N77	N81			RIGID	None	None	RIGID	Typical
42	M42	N76	N80			RIGID	None	None	RIGID	Typical
43	M43	N75	N79			RIGID	None	None	RIGID	Typical
44	M44	N74	N78			RIGID	None	None	RIGID	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	M1						Yes	** NA **			None
2	M2						Yes				None
3	M3						Yes				None
4	M4						Yes	** NA **			None
5	M5						Yes				None
6	M6						Yes	** NA **			None
7	M7						Yes				None
8	M8						Yes	** NA **			None
9	M9						Yes	** NA **			None
10	M10						Yes				None
11	M11						Yes	Default			None
12	M12						Yes	** NA **			None
13	M13						Yes	** NA **			None
14	M14						Yes	** NA **			None
15	M15						Yes	** NA **			None
16	M16						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...
17	M17						Yes	** NA **			None
18	M18						Yes	** NA **			None
19	M19						Yes	** NA **			None
20	M20						Yes	** NA **			None
21	M21						Yes	** NA **			None
22	M22						Yes	** NA **			None
23	M23						Yes	** NA **			None
24	M24						Yes	** NA **			None
25	M25						Yes	** NA **			None
26	M26	BenPIN	BenPIN			Tension ...	Yes	** NA **			None
27	M27						Yes	** NA **			None
28	M28	BenPIN	BenPIN			Tension ...	Yes	** NA **			None
29	M29						Yes	** NA **			None
30	M30	BenPIN					Yes	** NA **			None
31	M31						Yes				None
32	M32						Yes	** NA **			None
33	M33						Yes	** NA **			None
34	M34						Yes	** NA **			None
35	M35						Yes	** NA **			None
36	M36	BenPIN					Yes				None
37	M37	BenPIN					Yes				None
38	M38	BenPIN					Yes				None
39	M39	BenPIN					Yes				None
40	M40						Yes				None
41	M41						Yes	** NA **			None
42	M42						Yes	** NA **			None
43	M43						Yes	** NA **			None
44	M44						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	M1	Pipe 4"X0.1...	54	54		Lbyy			1	1		Lateral
2	M2	PL 6"X0.5"	8	Segment	Segment	Lbyy		Segme...	.8	.8		Lateral
3	M3	PL 6"X0.5"	8	Segment	Segment	Lbyy		Segme...	.8	.8		Lateral
4	M5	L4"X3"X0.25"	18	Segment	Segment	Lbyy		Segme...	.65	.65		Lateral
5	M7	L4"X3"X0.25"	18	Segment	Segment	Lbyy		Segme...	.65	.65		Lateral
6	M8	Pipe 2.875"...	42	42	42	Lbyy		42	.65	.65		Lateral
7	M9	Pipe 2.875"...	42	42	42	Lbyy		42	.65	.65		Lateral
8	M10	L 2.5"x2.5"x...	150	52	48	Lbyy		52	1	1		Lateral
9	M11	L 2.5"x2.5"x...	150	48	52	Lbyy		48	1	1		Lateral
10	M12	Pipe 2.375"...	28	28	23	Lbyy		28	.65	.65		Lateral
11	M13	Pipe 2.375"...	28	28	23	Lbyy		28	.65	.65		Lateral
12	M14	Pipe 2.375"...	28	28	23	Lbyy		28	.65	.65		Lateral
13	M15	Pipe 2.375"...	28	28	23	Lbyy		28	.65	.65		Lateral
14	M20	Pipe 2.375"...	90	Segment	Segment	Lbyy		Segme...	.65	.65		Lateral
15	M21	Pipe 2.375"...	90	Segment	Segment	Lbyy		Segme...	1	1		Lateral
16	M22	Pipe 2.375"...	90	Segment	Segment	Lbyy		Segme...	.65	.65		Lateral
17	M23	Pipe 2.375"...	90	Segment	Segment	Lbyy		Segme...	.65	.65		Lateral
18	M24	Pipe 2.375"...	90	Segment	Segment	Lbyy		Segme...	1	1		Lateral
19	M25	Pipe 2.375"...	90	Segment	Segment	Lbyy		Segme...	.65	.65		Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torqu...	Kyy	Kzz	Cb	Function
20	M26	SR 0.5"	47.886	47	47	Lbyy		47	.65	.65		Lateral
21	M27	Pipe 1.315"...	42	42	42	Lbyy		42	.65	.65		Lateral
22	M28	SR 0.5"	47.886	47	47	Lbyy		47	.65	.65		Lateral
23	M29	Pipe 1.315"...	42	42	42	Lbyy		42	.65	.65		Lateral
24	M30	Pipe 1.66"X...	48	48	48	Lbyy		48	1	1		Lateral
25	M31	Pipe 2.375"...	150	Segment	Segment	Lbyy		Segme...	1	1		Lateral
26	M36	L 2.5"x2.5"x...	61.598			Lbyy						Lateral
27	M37	L 2.5"x2.5"x...	61.598			Lbyy						Lateral
28	M38	L 2.5"x2.5"x...	61.598			Lbyy						Lateral
29	M39	L 2.5"x2.5"x...	61.598			Lbyy						Lateral
30	M40	Pipe 2.375"...	150	Segment	Segment	Lbyy		Segme...	1	1		Lateral

Cold Formed Steel Design Parameters

Label	Shape	Length...	Lbyy[in]	Lbzz[in]	Lcomp to...	Lcomp bo...	L-torque[in]	Kyy	Kzz	Cb	R	a[in]	Funct...
No Data to Print ...													

Joint Loads and Enforced Displacements (BLC 18 : Lm1)

	Joint Label	L,D,M	Direction	Magnitude[(lb,k-in), (in,rad), (lb*s^...
1	N27	L	Z	-500

Joint Loads and Enforced Displacements (BLC 19 : Lm2)

	Joint Label	L,D,M	Direction	Magnitude[(lb,k-in), (in,rad), (lb*s^...
1	N29	L	Z	-500

Joint Loads and Enforced Displacements (BLC 20 : Lm3)

	Joint Label	L,D,M	Direction	Magnitude[(lb,k-in), (in,rad), (lb*s^...
1	N31	L	Z	-500

Joint Loads and Enforced Displacements (BLC 21 : Lm4)

	Joint Label	L,D,M	Direction	Magnitude[(lb,k-in), (in,rad), (lb*s^...
1	N33	L	Z	-500

Joint Loads and Enforced Displacements (BLC 22 : Lm5)

	Joint Label	L,D,M	Direction	Magnitude[(lb,k-in), (in,rad), (lb*s^...
1	N35	L	Z	-500

Joint Loads and Enforced Displacements (BLC 23 : Lm6)

	Joint Label	L,D,M	Direction	Magnitude[(lb,k-in), (in,rad), (lb*s^...
1	N37	L	Z	-500

Joint Loads and Enforced Displacements (BLC 30 : Lv1)

	Joint Label	L,D,M	Direction	Magnitude[(lb,k-in), (in,rad), (lb*s^...
1	N9	L	Z	-250

Joint Loads and Enforced Displacements (BLC 31 : Lv2)

Joint Label	L,D,M	Direction	Magnitude[(lb,k-in), (in,rad), (lb*s^

Joint Loads and Enforced Displacements (BLC 31 : Lv2) (Continued)

	Joint Label	L,D,M	Direction	Magnitude[(lb,k-in), (in,rad), (lb*s^...
1	N11	L	Z	-250

Member Point Loads (BLC 2 : Weights)

	Member Label	Direction	Magnitude[lb,k-in]	Location[in,%]
1	M24	Z	-8.25	16.2
2	M24	Z	-8.25	33.8
3	M20	Z	-23	15.35
4	M20	Z	-23	74.65
5	M20	Z	-23	15.35
6	M20	Z	-23	74.65
7	M25	Z	-6	27.25
8	M25	Z	-6	62.75
9	M20	Z	-84.4	12
10	M20	Z	-70.3	46.5
11	M24	Z	-18.6	45
12	M9	Z	-44	20

Member Point Loads (BLC 3 : ICE Load)

	Member Label	Direction	Magnitude[lb,k-in]	Location[in,%]
1	M24	Z	-38.51	16.2
2	M24	Z	-38.51	33.8
3	M20	Z	-166.79	15.35
4	M20	Z	-166.79	74.65
5	M20	Z	-166.79	15.35
6	M20	Z	-166.79	74.65
7	M25	Z	-50.26	27.25
8	M25	Z	-50.26	62.75
9	M20	Z	-53.66	12
10	M20	Z	-51	46.5
11	M24	Z	-24.51	45
12	M9	Z	-120.42	20

Member Point Loads (BLC 4 : Wind 0Á)

	Member Label	Direction	Magnitude[lb,k-in]	Location[in,%]
1	M24	X	-67.38	16.2
2	M24	X	-67.38	33.8
3	M20	X	-157.51	15.35
4	M20	X	-157.51	74.65
5	M20	X	-157.51	15.35
6	M20	X	-157.51	74.65
7	M25	X	-82.61	27.25
8	M25	X	-82.61	62.75
9	M20	X	-57.85	12
10	M20	X	-86.78	46.5
11	M24	X	-39.67	45
12	M9	X	-222.16	20

Member Point Loads (BLC 5 : Wind 30Á)

	Member Label	Direction	Magnitude[lb,k-in]	Location[in,%]

Member Point Loads (BLC 5 : Wind 30Á (Continued)

	Member Label	Direction	Magnitude[lb,k-in]	Location[in,%]
1	M24	X	-50.17	16.2
2	M24	X	-50.17	33.8
3	M20	X	-125.69	15.35
4	M20	X	-125.69	74.65
5	M20	X	-125.69	15.35
6	M20	X	-125.69	74.65
7	M25	X	-67.65	27.25
8	M25	X	-67.65	62.75
9	M20	X	-56.37	12
10	M20	X	-66.51	46.5
11	M24	X	-29.98	45
12	M9	X	-164.34	20
13	M24	Y	-28.96	16.2
14	M24	Y	-28.96	33.8
15	M20	Y	-72.57	15.35
16	M20	Y	-72.57	74.65
17	M20	Y	-72.57	15.35
18	M20	Y	-72.57	74.65
19	M25	Y	-39.06	27.25
20	M25	Y	-39.06	62.75
21	M20	Y	-32.54	12
22	M20	Y	-38.4	46.5
23	M24	Y	-17.31	45
24	M9	Y	-94.88	20

Member Point Loads (BLC 6 : Wind 60Á

	Member Label	Direction	Magnitude[lb,k-in]	Location[in,%]
1	M24	X	-19.51	16.2
2	M24	X	-19.51	33.8
3	M20	X	-60.2	15.35
4	M20	X	-60.2	74.65
5	M20	X	-60.2	15.35
6	M20	X	-60.2	74.65
7	M25	X	-34.56	27.25
8	M25	X	-34.56	62.75
9	M20	X	-39.78	12
10	M20	X	-28.42	46.5
11	M24	X	-12.25	45
12	M9	X	-62.48	20
13	M24	Y	-33.79	16.2
14	M24	Y	-33.79	33.8
15	M20	Y	-104.27	15.35
16	M20	Y	-104.27	74.65
17	M20	Y	-104.27	15.35
18	M20	Y	-104.27	74.65
19	M25	Y	-59.87	27.25
20	M25	Y	-59.87	62.75
21	M20	Y	-68.89	12
22	M20	Y	-49.23	46.5
23	M24	Y	-21.22	45
24	M9	Y	-108.22	20

Member Point Loads (BLC 7 : Wind 90Á)

	Member Label	Direction	Magnitude[lb,k-in]	Location[in,%]
1	M24	Y	-29.57	16.2
2	M24	Y	-29.57	33.8
3	M20	Y	-108.04	15.35
4	M20	Y	-108.04	74.65
5	M20	Y	-108.04	15.35
6	M20	Y	-108.04	74.65
7	M25	Y	-64.63	27.25
8	M25	Y	-64.63	62.75
9	M20	Y	-86.78	12
10	M20	Y	-46.86	46.5
11	M24	Y	-19.45	45
12	M9	Y	-92.57	20

Member Point Loads (BLC 8 : Wind 120Á)

	Member Label	Direction	Magnitude[lb,k-in]	Location[in,%]
1	M24	X	19.51	16.2
2	M24	X	19.51	33.8
3	M20	X	60.2	15.35
4	M20	X	60.2	74.65
5	M20	X	60.2	15.35
6	M20	X	60.2	74.65
7	M25	X	34.56	27.25
8	M25	X	34.56	62.75
9	M20	X	39.78	12
10	M20	X	28.42	46.5
11	M24	X	12.25	45
12	M9	X	62.48	20
13	M24	Y	-33.79	16.2
14	M24	Y	-33.79	33.8
15	M20	Y	-104.27	15.35
16	M20	Y	-104.27	74.65
17	M20	Y	-104.27	15.35
18	M20	Y	-104.27	74.65
19	M25	Y	-59.87	27.25
20	M25	Y	-59.87	62.75
21	M20	Y	-68.89	12
22	M20	Y	-49.23	46.5
23	M24	Y	-21.22	45
24	M9	Y	-108.22	20

Member Point Loads (BLC 9 : Wind 150Á)

	Member Label	Direction	Magnitude[lb,k-in]	Location[in,%]
1	M24	X	50.17	16.2
2	M24	X	50.17	33.8
3	M20	X	125.69	15.35
4	M20	X	125.69	74.65
5	M20	X	125.69	15.35
6	M20	X	125.69	74.65
7	M25	X	67.65	27.25
8	M25	X	67.65	62.75
9	M20	X	56.37	12

Member Point Loads (BLC 9 : Wind 150Á) (Continued)

	Member Label	Direction	Magnitude[lb,k-in]	Location[in,%]
10	M20	X	66.51	46.5
11	M24	X	29.98	45
12	M9	X	164.34	20
13	M24	Y	-28.96	16.2
14	M24	Y	-28.96	33.8
15	M20	Y	-72.57	15.35
16	M20	Y	-72.57	74.65
17	M20	Y	-72.57	15.35
18	M20	Y	-72.57	74.65
19	M25	Y	-39.06	27.25
20	M25	Y	-39.06	62.75
21	M20	Y	-32.54	12
22	M20	Y	-38.4	46.5
23	M24	Y	-17.31	45
24	M9	Y	-94.88	20

Member Point Loads (BLC 10 : Wind 0Áwith ice)

	Member Label	Direction	Magnitude[lb,k-in]	Location[in,%]
1	M24	X	-16.48	16.2
2	M24	X	-16.48	33.8
3	M20	X	-34.34	15.35
4	M20	X	-34.34	74.65
5	M20	X	-34.34	15.35
6	M20	X	-34.34	74.65
7	M25	X	-20.45	27.25
8	M25	X	-20.45	62.75
9	M20	X	-16.28	12
10	M20	X	-22.29	46.5
11	M24	X	-12.21	45
12	M9	X	-49.17	20

Member Point Loads (BLC 11 : Wind 30Áwith ice)

	Member Label	Direction	Magnitude[lb,k-in]	Location[in,%]
1	M24	X	-12.69	16.2
2	M24	X	-12.69	33.8
3	M20	X	-27.85	15.35
4	M20	X	-27.85	74.65
5	M20	X	-27.85	15.35
6	M20	X	-27.85	74.65
7	M25	X	-17.03	27.25
8	M25	X	-17.03	62.75
9	M20	X	-15.4	12
10	M20	X	-17.51	46.5
11	M24	X	-9.61	45
12	M9	X	-37.17	20
13	M24	Y	-7.33	16.2
14	M24	Y	-7.33	33.8
15	M20	Y	-16.08	15.35
16	M20	Y	-16.08	74.65
17	M20	Y	-16.08	15.35
18	M20	Y	-16.08	74.65

Member Point Loads (BLC 11 : Wind 30Áwith ice) (Continued)

	Member Label	Direction	Magnitude[lb,k-in]	Location[in,%]
19	M25	Y	-9.83	27.25
20	M25	Y	-9.83	62.75
21	M20	Y	-8.89	12
22	M20	Y	-10.11	46.5
23	M24	Y	-5.55	45
24	M9	Y	-21.46	20

Member Point Loads (BLC 12 : Wind 60Áwith ice)

	Member Label	Direction	Magnitude[lb,k-in]	Location[in,%]
1	M24	X	-5.5	16.2
2	M24	X	-5.5	33.8
3	M20	X	-13.9	15.35
4	M20	X	-13.9	74.65
5	M20	X	-13.9	15.35
6	M20	X	-13.9	74.65
7	M25	X	-9.05	27.25
8	M25	X	-9.05	62.75
9	M20	X	-10.39	12
10	M20	X	-8.04	46.5
11	M24	X	-4.43	45
12	M9	X	-15.21	20
13	M24	Y	-9.52	16.2
14	M24	Y	-9.52	33.8
15	M20	Y	-24.07	15.35
16	M20	Y	-24.07	74.65
17	M20	Y	-24.07	15.35
18	M20	Y	-24.07	74.65
19	M25	Y	-15.67	27.25
20	M25	Y	-15.67	62.75
21	M20	Y	-18	12
22	M20	Y	-13.92	46.5
23	M24	Y	-7.68	45
24	M9	Y	-26.35	20

Member Point Loads (BLC 13 : Wind 90Áwith ice)

	Member Label	Direction	Magnitude[lb,k-in]	Location[in,%]
1	M24	Y	-9.16	16.2
2	M24	Y	-9.16	33.8
3	M20	Y	-25.62	15.35
4	M20	Y	-25.62	74.65
5	M20	Y	-25.62	15.35
6	M20	Y	-25.62	74.65
7	M25	Y	-17.3	27.25
8	M25	Y	-17.3	62.75
9	M20	Y	-22.29	12
10	M20	Y	-14	46.5
11	M24	Y	-7.75	45
12	M9	Y	-24.18	20

Member Point Loads (BLC 14 : Wind 120Áwith ice)

Member Label	Direction	Magnitude[lb,k-in]	Location[in,%]

Member Point Loads (BLC 14 : Wind 120Áwith ice) (Continued)

	Member Label	Direction	Magnitude[lb,k-in]	Location[in,%]
1	M24	X	5.5	16.2
2	M24	X	5.5	33.8
3	M20	X	13.9	15.35
4	M20	X	13.9	74.65
5	M20	X	13.9	15.35
6	M20	X	13.9	74.65
7	M25	X	9.05	27.25
8	M25	X	9.05	62.75
9	M20	X	10.39	12
10	M20	X	8.04	46.5
11	M24	X	4.43	45
12	M9	X	15.21	20
13	M24	Y	-9.52	16.2
14	M24	Y	-9.52	33.8
15	M20	Y	-24.07	15.35
16	M20	Y	-24.07	74.65
17	M20	Y	-24.07	15.35
18	M20	Y	-24.07	74.65
19	M25	Y	-15.67	27.25
20	M25	Y	-15.67	62.75
21	M20	Y	-18	12
22	M20	Y	-13.92	46.5
23	M24	Y	-7.68	45
24	M9	Y	-26.35	20

Member Point Loads (BLC 15 : Wind 150Áwith ice)

	Member Label	Direction	Magnitude[lb,k-in]	Location[in,%]
1	M24	X	12.69	16.2
2	M24	X	12.69	33.8
3	M20	X	27.85	15.35
4	M20	X	27.85	74.65
5	M20	X	27.85	15.35
6	M20	X	27.85	74.65
7	M25	X	17.03	27.25
8	M25	X	17.03	62.75
9	M20	X	15.4	12
10	M20	X	17.51	46.5
11	M24	X	9.61	45
12	M9	X	37.17	20
13	M24	Y	-7.33	16.2
14	M24	Y	-7.33	33.8
15	M20	Y	-16.08	15.35
16	M20	Y	-16.08	74.65
17	M20	Y	-16.08	15.35
18	M20	Y	-16.08	74.65
19	M25	Y	-9.83	27.25
20	M25	Y	-9.83	62.75
21	M20	Y	-8.89	12
22	M20	Y	-10.11	46.5
23	M24	Y	-5.55	45
24	M9	Y	-21.46	20

Member Point Loads (BLC 16 : Horizontal Seismic Load X)

	Member Label	Direction	Magnitude[lb,k-in]	Location[in,%]
1	M24	X	-8.25	16.2
2	M24	X	-8.25	33.8
3	M20	X	-23	15.35
4	M20	X	-23	74.65
5	M20	X	-23	15.35
6	M20	X	-23	74.65
7	M25	X	-6	27.25
8	M25	X	-6	62.75
9	M20	X	-84.4	12
10	M20	X	-70.3	46.5
11	M24	X	-18.6	45
12	M9	X	-44	20

Member Point Loads (BLC 17 : Horizontal Seismic Load Y)

	Member Label	Direction	Magnitude[lb,k-in]	Location[in,%]
1	M24	Y	-8.25	16.2
2	M24	Y	-8.25	33.8
3	M20	Y	-23	15.35
4	M20	Y	-23	74.65
5	M20	Y	-23	15.35
6	M20	Y	-23	74.65
7	M25	Y	-6	27.25
8	M25	Y	-6	62.75
9	M20	Y	-84.4	12
10	M20	Y	-70.3	46.5
11	M24	Y	-18.6	45
12	M9	Y	-44	20

Member Point Loads (BLC 33 : Lv4)

	Member Label	Direction	Magnitude[lb,k-in]	Location[in,%]
1	M10	Z	-250	%50
2	M31	Z	-250	%50
3	M40	Z	-250	%50

Member Point Loads (BLC 34 : Lv5)

	Member Label	Direction	Magnitude[lb,k-in]	Location[in,%]
1	M11	Z	-250	%50

Member Distributed Loads (BLC 3 : ICE Load)

	Member Label	Direction	Start Magnitude[lb/in,...	End Magnitude[lb/in,...	Start Location[in,%]	End Location[in,%]
1	M10	Z	-.96	-.96	0	0
2	M11	Z	-.96	-.96	0	0
3	M12	Z	-.75	-.75	0	0
4	M14	Z	-.75	-.75	0	0
5	M13	Z	-.75	-.75	0	0
6	M15	Z	-.75	-.75	0	0
7	M26	Z	-.41	-.41	0	0
8	M28	Z	-.41	-.41	0	0
9	M27	Z	-.56	-.56	0	0

Member Distributed Loads (BLC 3 : ICE Load) (Continued)

	Member Label	Direction	Start Magnitude[lb/in,...	End Magnitude[lb/in,...	Start Location[in,%]	End Location[in,%]
10	M9	Z	-.84	-.84	0	0
11	M1	Z	-1.04	-1.04	0	0
12	M8	Z	-.84	-.84	0	0
13	M29	Z	-.56	-.56	0	0
14	M20	Z	-.75	-.75	0	0
15	M21	Z	-.75	-.75	0	0
16	M22	Z	-.75	-.75	0	0
17	M23	Z	-.75	-.75	0	0
18	M24	Z	-.75	-.75	0	0
19	M25	Z	-.75	-.75	0	0
20	M5	Z	-1.22	-1.22	0	0
21	M7	Z	-1.22	-1.22	0	0
22	M30	Z	-.62	-.62	0	0
23	M31	Z	-.75	-.75	0	0
24	M40	Z	-.75	-.75	0	0
25	M36	Z	-.96	-.96	0	0
26	M38	Z	-.96	-.96	0	0
27	M37	Z	-.96	-.96	0	0
28	M39	Z	-.96	-.96	0	0

Member Distributed Loads (BLC 4 : Wind 0Á)

	Member Label	Direction	Start Magnitude[lb/in,...	End Magnitude[lb/in,...	Start Location[in,%]	End Location[in,%]
1	M10	X	-1.61	-1.61	0	0
2	M11	X	-1.61	-1.61	0	0
3	M12	X	-.49	-.49	0	0
4	M14	X	-.49	-.49	0	0
5	M13	X	-.49	-.49	0	0
6	M15	X	-.49	-.49	0	0
7	M26	X	-.18	-.18	0	0
8	M28	X	-.18	-.18	0	0
9	M27	X	-.51	-.51	0	0
10	M9	X	-.9	-.9	0	0
11	M1	X	-1.21	-1.21	0	0
12	M8	X	-.9	-.9	0	0
13	M29	X	-.51	-.51	0	0
14	M20	X	-.92	-.92	0	0
15	M21	X	-.92	-.92	0	0
16	M22	X	-.92	-.92	0	0
17	M23	X	-.92	-.92	0	0
18	M24	X	-.92	-.92	0	0
19	M25	X	-.92	-.92	0	0
20	M5	X	-1.66	-1.66	0	0
21	M7	X	-1.66	-1.66	0	0
22	M30	X	-.02	-.02	0	0
23	M31	X	-.92	-.92	0	0
24	M40	X	-.92	-.92	0	0
25	M36	X	-1.49	-1.49	0	0
26	M38	X	-1.49	-1.49	0	0
27	M37	X	-1.49	-1.49	0	0
28	M39	X	-1.49	-1.49	0	0

Member Distributed Loads (BLC 5 : Wind 30Á)

	Member Label	Direction	Start Magnitude[lb/in,...	End Magnitude[lb/in,...	Start Location[in,%]	End Location[in,%]
1	M10	X	-1.04	-1.04	0	0
2	M11	X	-1.04	-1.04	0	0
3	M12	X	-.56	-.56	0	0
4	M14	X	-.56	-.56	0	0
5	M13	X	-.33	-.33	0	0
6	M15	X	-.33	-.33	0	0
7	M26	X	-.16	-.16	0	0
8	M28	X	-.15	-.15	0	0
9	M27	X	-.44	-.44	0	0
10	M9	X	-.78	-.78	0	0
11	M1	X	-1.05	-1.05	0	0
12	M8	X	-.78	-.78	0	0
13	M29	X	-.44	-.44	0	0
14	M20	X	-.79	-.79	0	0
15	M21	X	-.79	-.79	0	0
16	M22	X	-.79	-.79	0	0
17	M23	X	-.79	-.79	0	0
18	M24	X	-.79	-.79	0	0
19	M25	X	-.79	-.79	0	0
20	M5	X	-1.08	-1.08	0	0
21	M7	X	-1.08	-1.08	0	0
22	M30	X	-.06	-.06	0	0
23	M31	X	-.59	-.59	0	0
24	M40	X	-.59	-.59	0	0
25	M36	X	-1.38	-1.38	0	0
26	M38	X	-1.38	-1.38	0	0
27	M37	X	-1.11	-1.11	0	0
28	M39	X	-1.11	-1.11	0	0
29	M10	Y	-.6	-.6	0	0
30	M11	Y	-.6	-.6	0	0
31	M12	Y	-.32	-.32	0	0
32	M14	Y	-.32	-.32	0	0
33	M13	Y	-.19	-.19	0	0
34	M15	Y	-.19	-.19	0	0
35	M26	Y	-.09	-.09	0	0
36	M28	Y	-.09	-.09	0	0
37	M27	Y	-.25	-.25	0	0
38	M9	Y	-.45	-.45	0	0
39	M1	Y	-.61	-.61	0	0
40	M8	Y	-.45	-.45	0	0
41	M29	Y	-.25	-.25	0	0
42	M20	Y	-.46	-.46	0	0
43	M21	Y	-.46	-.46	0	0
44	M22	Y	-.46	-.46	0	0
45	M23	Y	-.46	-.46	0	0
46	M24	Y	-.46	-.46	0	0
47	M25	Y	-.46	-.46	0	0
48	M5	Y	-.62	-.62	0	0
49	M7	Y	-.62	-.62	0	0
50	M30	Y	-.04	-.04	0	0
51	M31	Y	-.34	-.34	0	0
52	M40	Y	-.34	-.34	0	0

Member Distributed Loads (BLC 5 : Wind 30Á) (Continued)

	Member Label	Direction	Start Magnitude[lb/in,...	End Magnitude[lb/in,...	Start Location[in,%]	End Location[in,%]
53	M36	Y	-.8	-.8	0	0
54	M38	Y	-.8	-.8	0	0
55	M37	Y	-.64	-.64	0	0
56	M39	Y	-.64	-.64	0	0

Member Distributed Loads (BLC 6 : Wind 60Á)

	Member Label	Direction	Start Magnitude[lb/in,...	End Magnitude[lb/in,...	Start Location[in,%]	End Location[in,%]
1	M10	X	-.2	-.2	0	0
2	M11	X	-.2	-.2	0	0
3	M12	X	-.34	-.34	0	0
4	M14	X	-.34	-.34	0	0
5	M13	X	-.21	-.21	0	0
6	M15	X	-.21	-.21	0	0
7	M26	X	-.1	-.1	0	0
8	M28	X	-.09	-.09	0	0
9	M27	X	-.25	-.25	0	0
10	M9	X	-.45	-.45	0	0
11	M1	X	-.61	-.61	0	0
12	M8	X	-.45	-.45	0	0
13	M29	X	-.25	-.25	0	0
14	M20	X	-.46	-.46	0	0
15	M21	X	-.46	-.46	0	0
16	M22	X	-.46	-.46	0	0
17	M23	X	-.46	-.46	0	0
18	M24	X	-.46	-.46	0	0
19	M25	X	-.46	-.46	0	0
20	M5	X	-.21	-.21	0	0
21	M7	X	-.21	-.21	0	0
22	M30	X	-.19	-.19	0	0
23	M31	X	-.11	-.11	0	0
24	M40	X	-.11	-.11	0	0
25	M36	X	-.74	-.74	0	0
26	M38	X	-.74	-.74	0	0
27	M37	X	-.59	-.59	0	0
28	M39	X	-.59	-.59	0	0
29	M10	Y	-.35	-.35	0	0
30	M11	Y	-.35	-.35	0	0
31	M12	Y	-.59	-.59	0	0
32	M14	Y	-.59	-.59	0	0
33	M13	Y	-.36	-.36	0	0
34	M15	Y	-.36	-.36	0	0
35	M26	Y	-.17	-.17	0	0
36	M28	Y	-.15	-.15	0	0
37	M27	Y	-.44	-.44	0	0
38	M9	Y	-.78	-.78	0	0
39	M1	Y	-1.05	-1.05	0	0
40	M8	Y	-.78	-.78	0	0
41	M29	Y	-.44	-.44	0	0
42	M20	Y	-.79	-.79	0	0
43	M21	Y	-.79	-.79	0	0
44	M22	Y	-.79	-.79	0	0

Member Distributed Loads (BLC 6 : Wind 60Á) (Continued)

	Member Label	Direction	Start Magnitude[lb/in,...	End Magnitude[lb/in,...	Start Location[in,%]	End Location[in,%]
45	M23	Y	-.79	-.79	0	0
46	M24	Y	-.79	-.79	0	0
47	M25	Y	-.79	-.79	0	0
48	M5	Y	-.36	-.36	0	0
49	M7	Y	-.36	-.36	0	0
50	M30	Y	-.33	-.33	0	0
51	M31	Y	-.2	-.2	0	0
52	M40	Y	-.2	-.2	0	0
53	M36	Y	-1.29	-1.29	0	0
54	M38	Y	-1.29	-1.29	0	0
55	M37	Y	-1.02	-1.02	0	0
56	M39	Y	-1.02	-1.02	0	0

Member Distributed Loads (BLC 7 : Wind 90Á)

	Member Label	Direction	Start Magnitude[lb/in,...	End Magnitude[lb/in,...	Start Location[in,%]	End Location[in,%]
1	M10	Y	0	0	0	0
2	M11	Y	0	0	0	0
3	M12	Y	-.57	-.57	0	0
4	M14	Y	-.57	-.57	0	0
5	M13	Y	-.57	-.57	0	0
6	M15	Y	-.57	-.57	0	0
7	M26	Y	-.19	-.19	0	0
8	M28	Y	-.19	-.19	0	0
9	M27	Y	-.51	-.51	0	0
10	M9	Y	-.9	-.9	0	0
11	M1	Y	-1.21	-1.21	0	0
12	M8	Y	-.9	-.9	0	0
13	M29	Y	-.51	-.51	0	0
14	M20	Y	-.92	-.92	0	0
15	M21	Y	-.92	-.92	0	0
16	M22	Y	-.92	-.92	0	0
17	M23	Y	-.92	-.92	0	0
18	M24	Y	-.92	-.92	0	0
19	M25	Y	-.92	-.92	0	0
20	M5	Y	0	0	0	0
21	M7	Y	0	0	0	0
22	M30	Y	-.62	-.62	0	0
23	M31	Y	0	0	0	0
24	M40	Y	0	0	0	0
25	M36	Y	-1.28	-1.28	0	0
26	M38	Y	-1.28	-1.28	0	0
27	M37	Y	-1.28	-1.28	0	0
28	M39	Y	-1.28	-1.28	0	0

Member Distributed Loads (BLC 8 : Wind 120Á)

	Member Label	Direction	Start Magnitude[lb/in,...	End Magnitude[lb/in,...	Start Location[in,%]	End Location[in,%]
1	M10	X	.2	.2	0	0
2	M11	X	.2	.2	0	0
3	M12	X	.21	.21	0	0
4	M14	X	.21	.21	0	0
5	M13	X	.34	.34	0	0

Member Distributed Loads (BLC 8 : Wind 120Á) (Continued)

	Member Label	Direction	Start Magnitude[lb/in,...	End Magnitude[lb/in,...	Start Location[in,%]	End Location[in,%]
6	M15	X	.34	.34	0	0
7	M26	X	.09	.09	0	0
8	M28	X	.1	.1	0	0
9	M27	X	.25	.25	0	0
10	M9	X	.45	.45	0	0
11	M1	X	.61	.61	0	0
12	M8	X	.45	.45	0	0
13	M29	X	.25	.25	0	0
14	M20	X	.46	.46	0	0
15	M21	X	.46	.46	0	0
16	M22	X	.46	.46	0	0
17	M23	X	.46	.46	0	0
18	M24	X	.46	.46	0	0
19	M25	X	.46	.46	0	0
20	M5	X	.21	.21	0	0
21	M7	X	.21	.21	0	0
22	M30	X	.28	.28	0	0
23	M31	X	.11	.11	0	0
24	M40	X	.11	.11	0	0
25	M36	X	.59	.59	0	0
26	M38	X	.59	.59	0	0
27	M37	X	.74	.74	0	0
28	M39	X	.74	.74	0	0
29	M10	Y	-.35	-.35	0	0
30	M11	Y	-.35	-.35	0	0
31	M12	Y	-.36	-.36	0	0
32	M14	Y	-.36	-.36	0	0
33	M13	Y	-.59	-.59	0	0
34	M15	Y	-.59	-.59	0	0
35	M26	Y	-.15	-.15	0	0
36	M28	Y	-.17	-.17	0	0
37	M27	Y	-.44	-.44	0	0
38	M9	Y	-.78	-.78	0	0
39	M1	Y	-1.05	-1.05	0	0
40	M8	Y	-.78	-.78	0	0
41	M29	Y	-.44	-.44	0	0
42	M20	Y	-.79	-.79	0	0
43	M21	Y	-.79	-.79	0	0
44	M22	Y	-.79	-.79	0	0
45	M23	Y	-.79	-.79	0	0
46	M24	Y	-.79	-.79	0	0
47	M25	Y	-.79	-.79	0	0
48	M5	Y	-.36	-.36	0	0
49	M7	Y	-.36	-.36	0	0
50	M30	Y	-.49	-.49	0	0
51	M31	Y	-.2	-.2	0	0
52	M40	Y	-.2	-.2	0	0
53	M36	Y	-1.02	-1.02	0	0
54	M38	Y	-1.02	-1.02	0	0
55	M37	Y	-1.29	-1.29	0	0
56	M39	Y	-1.29	-1.29	0	0

Member Distributed Loads (BLC 9 : Wind 150Á)

	Member Label	Direction	Start Magnitude[lb/in,...	End Magnitude[lb/in,...	Start Location[in,%]	End Location[in,%]
1	M10	X	1.04	1.04	0	0
2	M11	X	1.04	1.04	0	0
3	M12	X	.33	.33	0	0
4	M14	X	.33	.33	0	0
5	M13	X	.56	.56	0	0
6	M15	X	.56	.56	0	0
7	M26	X	.15	.15	0	0
8	M28	X	.16	.16	0	0
9	M27	X	.44	.44	0	0
10	M9	X	.78	.78	0	0
11	M1	X	1.05	1.05	0	0
12	M8	X	.78	.78	0	0
13	M29	X	.44	.44	0	0
14	M20	X	.79	.79	0	0
15	M21	X	.79	.79	0	0
16	M22	X	.79	.79	0	0
17	M23	X	.79	.79	0	0
18	M24	X	.79	.79	0	0
19	M25	X	.79	.79	0	0
20	M5	X	1.08	1.08	0	0
21	M7	X	1.08	1.08	0	0
22	M30	X	.23	.23	0	0
23	M31	X	.59	.59	0	0
24	M40	X	.59	.59	0	0
25	M36	X	1.11	1.11	0	0
26	M38	X	1.11	1.11	0	0
27	M37	X	1.38	1.38	0	0
28	M39	X	1.38	1.38	0	0
29	M10	Y	-.6	-.6	0	0
30	M11	Y	-.6	-.6	0	0
31	M12	Y	-.19	-.19	0	0
32	M14	Y	-.19	-.19	0	0
33	M13	Y	-.32	-.32	0	0
34	M15	Y	-.32	-.32	0	0
35	M26	Y	-.09	-.09	0	0
36	M28	Y	-.09	-.09	0	0
37	M27	Y	-.25	-.25	0	0
38	M9	Y	-.45	-.45	0	0
39	M1	Y	-.61	-.61	0	0
40	M8	Y	-.45	-.45	0	0
41	M29	Y	-.25	-.25	0	0
42	M20	Y	-.46	-.46	0	0
43	M21	Y	-.46	-.46	0	0
44	M22	Y	-.46	-.46	0	0
45	M23	Y	-.46	-.46	0	0
46	M24	Y	-.46	-.46	0	0
47	M25	Y	-.46	-.46	0	0
48	M5	Y	-.62	-.62	0	0
49	M7	Y	-.62	-.62	0	0
50	M30	Y	-.13	-.13	0	0
51	M31	Y	-.34	-.34	0	0
52	M40	Y	-.34	-.34	0	0

Member Distributed Loads (BLC 9 : Wind 150Á) (Continued)

	Member Label	Direction	Start Magnitude[lb/in,...	End Magnitude[lb/in,...	Start Location[in,%]	End Location[in,%]
53	M36	Y	-.64	-.64	0	0
54	M38	Y	-.64	-.64	0	0
55	M37	Y	-.8	-.8	0	0
56	M39	Y	-.8	-.8	0	0

Member Distributed Loads (BLC 10 : Wind 0Áwith ice)

	Member Label	Direction	Start Magnitude[lb/in,...	End Magnitude[lb/in,...	Start Location[in,%]	End Location[in,%]
1	M10	X	-.65	-.65	0	0
2	M11	X	-.65	-.65	0	0
3	M12	X	-.19	-.19	0	0
4	M14	X	-.19	-.19	0	0
5	M13	X	-.19	-.19	0	0
6	M15	X	-.19	-.19	0	0
7	M26	X	-.19	-.19	0	0
8	M28	X	-.19	-.19	0	0
9	M27	X	-.22	-.22	0	0
10	M9	X	-.28	-.28	0	0
11	M1	X	-.33	-.33	0	0
12	M8	X	-.28	-.28	0	0
13	M29	X	-.22	-.22	0	0
14	M20	X	-.32	-.32	0	0
15	M21	X	-.32	-.32	0	0
16	M22	X	-.32	-.32	0	0
17	M23	X	-.32	-.32	0	0
18	M24	X	-.32	-.32	0	0
19	M25	X	-.32	-.32	0	0
20	M5	X	-.5	-.5	0	0
21	M7	X	-.5	-.5	0	0
22	M30	X	-.02	-.02	0	0
23	M31	X	-.38	-.38	0	0
24	M40	X	-.38	-.38	0	0
25	M36	X	-.47	-.47	0	0
26	M38	X	-.47	-.47	0	0
27	M37	X	-.47	-.47	0	0
28	M39	X	-.47	-.47	0	0

Member Distributed Loads (BLC 11 : Wind 30Áwith ice)

	Member Label	Direction	Start Magnitude[lb/in,...	End Magnitude[lb/in,...	Start Location[in,%]	End Location[in,%]
1	M10	X	-.43	-.43	0	0
2	M11	X	-.43	-.43	0	0
3	M12	X	-.2	-.2	0	0
4	M14	X	-.2	-.2	0	0
5	M13	X	-.13	-.13	0	0
6	M15	X	-.13	-.13	0	0
7	M26	X	-.17	-.17	0	0
8	M28	X	-.15	-.15	0	0
9	M27	X	-.19	-.19	0	0
10	M9	X	-.24	-.24	0	0
11	M1	X	-.29	-.29	0	0
12	M8	X	-.24	-.24	0	0
13	M29	X	-.19	-.19	0	0

Member Distributed Loads (BLC 11 : Wind 30Áwith ice) (Continued)

	Member Label	Direction	Start Magnitude[lb/in,...	End Magnitude[lb/in,...	Start Location[in,%]	End Location[in,%]
14	M20	X	-.28	-.28	0	0
15	M21	X	-.28	-.28	0	0
16	M22	X	-.28	-.28	0	0
17	M23	X	-.28	-.28	0	0
18	M24	X	-.28	-.28	0	0
19	M25	X	-.28	-.28	0	0
20	M5	X	-.34	-.34	0	0
21	M7	X	-.34	-.34	0	0
22	M30	X	-.03	-.03	0	0
23	M31	X	-.25	-.25	0	0
24	M40	X	-.25	-.25	0	0
25	M36	X	-.43	-.43	0	0
26	M38	X	-.43	-.43	0	0
27	M37	X	-.36	-.36	0	0
28	M39	X	-.36	-.36	0	0
29	M10	Y	-.25	-.25	0	0
30	M11	Y	-.25	-.25	0	0
31	M12	Y	-.12	-.12	0	0
32	M14	Y	-.12	-.12	0	0
33	M13	Y	-.08	-.08	0	0
34	M15	Y	-.08	-.08	0	0
35	M26	Y	-.1	-.1	0	0
36	M28	Y	-.09	-.09	0	0
37	M27	Y	-.11	-.11	0	0
38	M9	Y	-.14	-.14	0	0
39	M1	Y	-.17	-.17	0	0
40	M8	Y	-.14	-.14	0	0
41	M29	Y	-.11	-.11	0	0
42	M20	Y	-.16	-.16	0	0
43	M21	Y	-.16	-.16	0	0
44	M22	Y	-.16	-.16	0	0
45	M23	Y	-.16	-.16	0	0
46	M24	Y	-.16	-.16	0	0
47	M25	Y	-.16	-.16	0	0
48	M5	Y	-.2	-.2	0	0
49	M7	Y	-.2	-.2	0	0
50	M30	Y	-.02	-.02	0	0
51	M31	Y	-.14	-.14	0	0
52	M40	Y	-.14	-.14	0	0
53	M36	Y	-.25	-.25	0	0
54	M38	Y	-.25	-.25	0	0
55	M37	Y	-.21	-.21	0	0
56	M39	Y	-.21	-.21	0	0

Member Distributed Loads (BLC 12 : Wind 60Áwith ice)

	Member Label	Direction	Start Magnitude[lb/in,...	End Magnitude[lb/in,...	Start Location[in,%]	End Location[in,%]
1	M10	X	-.09	-.09	0	0
2	M11	X	-.09	-.09	0	0
3	M12	X	-.12	-.12	0	0
4	M14	X	-.12	-.12	0	0
5	M13	X	-.08	-.08	0	0

Member Distributed Loads (BLC 12 : Wind 60Áwith ice) (Continued)

	Member Label	Direction	Start Magnitude[lb/in,...	End Magnitude[lb/in,...	Start Location[in,%]	End Location[in,%]
6	M15	X	-.08	-.08	0	0
7	M26	X	-.1	-.1	0	0
8	M28	X	-.09	-.09	0	0
9	M27	X	-.11	-.11	0	0
10	M9	X	-.14	-.14	0	0
11	M1	X	-.17	-.17	0	0
12	M8	X	-.14	-.14	0	0
13	M29	X	-.11	-.11	0	0
14	M20	X	-.16	-.16	0	0
15	M21	X	-.16	-.16	0	0
16	M22	X	-.16	-.16	0	0
17	M23	X	-.16	-.16	0	0
18	M24	X	-.16	-.16	0	0
19	M25	X	-.16	-.16	0	0
20	M5	X	-.09	-.09	0	0
21	M7	X	-.09	-.09	0	0
22	M30	X	-.07	-.07	0	0
23	M31	X	-.05	-.05	0	0
24	M40	X	-.05	-.05	0	0
25	M36	X	-.23	-.23	0	0
26	M38	X	-.23	-.23	0	0
27	M37	X	-.19	-.19	0	0
28	M39	X	-.19	-.19	0	0
29	M10	Y	-.15	-.15	0	0
30	M11	Y	-.15	-.15	0	0
31	M12	Y	-.21	-.21	0	0
32	M14	Y	-.21	-.21	0	0
33	M13	Y	-.14	-.14	0	0
34	M15	Y	-.14	-.14	0	0
35	M26	Y	-.17	-.17	0	0
36	M28	Y	-.16	-.16	0	0
37	M27	Y	-.19	-.19	0	0
38	M9	Y	-.24	-.24	0	0
39	M1	Y	-.29	-.29	0	0
40	M8	Y	-.24	-.24	0	0
41	M29	Y	-.19	-.19	0	0
42	M20	Y	-.28	-.28	0	0
43	M21	Y	-.28	-.28	0	0
44	M22	Y	-.28	-.28	0	0
45	M23	Y	-.28	-.28	0	0
46	M24	Y	-.28	-.28	0	0
47	M25	Y	-.28	-.28	0	0
48	M5	Y	-.16	-.16	0	0
49	M7	Y	-.16	-.16	0	0
50	M30	Y	-.13	-.13	0	0
51	M31	Y	-.09	-.09	0	0
52	M40	Y	-.09	-.09	0	0
53	M36	Y	-.41	-.41	0	0
54	M38	Y	-.41	-.41	0	0
55	M37	Y	-.34	-.34	0	0
56	M39	Y	-.34	-.34	0	0

Member Distributed Loads (BLC 13 : Wind 90Áwith ice)

	Member Label	Direction	Start Magnitude[lb/in,...	End Magnitude[lb/in,...	Start Location[in,%]	End Location[in,%]
1	M10	Y	-.01	-.01	0	0
2	M11	Y	-.01	-.01	0	0
3	M12	Y	-.21	-.21	0	0
4	M14	Y	-.21	-.21	0	0
5	M13	Y	-.21	-.21	0	0
6	M15	Y	-.21	-.21	0	0
7	M26	Y	-.19	-.19	0	0
8	M28	Y	-.19	-.19	0	0
9	M27	Y	-.22	-.22	0	0
10	M9	Y	-.28	-.28	0	0
11	M1	Y	-.33	-.33	0	0
12	M8	Y	-.28	-.28	0	0
13	M29	Y	-.22	-.22	0	0
14	M20	Y	-.32	-.32	0	0
15	M21	Y	-.32	-.32	0	0
16	M22	Y	-.32	-.32	0	0
17	M23	Y	-.32	-.32	0	0
18	M24	Y	-.32	-.32	0	0
19	M25	Y	-.32	-.32	0	0
20	M5	Y	-.08	-.08	0	0
21	M7	Y	-.08	-.08	0	0
22	M30	Y	-.24	-.24	0	0
23	M31	Y	-.01	-.01	0	0
24	M40	Y	-.01	-.01	0	0
25	M36	Y	-.41	-.41	0	0
26	M38	Y	-.41	-.41	0	0
27	M37	Y	-.41	-.41	0	0
28	M39	Y	-.41	-.41	0	0

Member Distributed Loads (BLC 14 : Wind 120Áwith ice)

	Member Label	Direction	Start Magnitude[lb/in,...	End Magnitude[lb/in,...	Start Location[in,%]	End Location[in,%]
1	M10	X	.09	.09	0	0
2	M11	X	.09	.09	0	0
3	M12	X	.08	.08	0	0
4	M14	X	.08	.08	0	0
5	M13	X	.12	.12	0	0
6	M15	X	.12	.12	0	0
7	M26	X	.09	.09	0	0
8	M28	X	.1	.1	0	0
9	M27	X	.11	.11	0	0
10	M9	X	.14	.14	0	0
11	M1	X	.17	.17	0	0
12	M8	X	.14	.14	0	0
13	M29	X	.11	.11	0	0
14	M20	X	.16	.16	0	0
15	M21	X	.16	.16	0	0
16	M22	X	.16	.16	0	0
17	M23	X	.16	.16	0	0
18	M24	X	.16	.16	0	0
19	M25	X	.16	.16	0	0
20	M5	X	.09	.09	0	0

Member Distributed Loads (BLC 14 : Wind 120Áwith ice) (Continued)

	Member Label	Direction	Start Magnitude[lb/in,...	End Magnitude[lb/in,...	Start Location[in,%]	End Location[in,%]
21	M7	X	.09	.09	0	0
22	M30	X	.11	.11	0	0
23	M31	X	.05	.05	0	0
24	M40	X	.05	.05	0	0
25	M36	X	.19	.19	0	0
26	M38	X	.19	.19	0	0
27	M37	X	.23	.23	0	0
28	M39	X	.23	.23	0	0
29	M10	Y	-.15	-.15	0	0
30	M11	Y	-.15	-.15	0	0
31	M12	Y	-.14	-.14	0	0
32	M14	Y	-.14	-.14	0	0
33	M13	Y	-.21	-.21	0	0
34	M15	Y	-.21	-.21	0	0
35	M26	Y	-.16	-.16	0	0
36	M28	Y	-.17	-.17	0	0
37	M27	Y	-.19	-.19	0	0
38	M9	Y	-.24	-.24	0	0
39	M1	Y	-.29	-.29	0	0
40	M8	Y	-.24	-.24	0	0
41	M29	Y	-.19	-.19	0	0
42	M20	Y	-.28	-.28	0	0
43	M21	Y	-.28	-.28	0	0
44	M22	Y	-.28	-.28	0	0
45	M23	Y	-.28	-.28	0	0
46	M24	Y	-.28	-.28	0	0
47	M25	Y	-.28	-.28	0	0
48	M5	Y	-.16	-.16	0	0
49	M7	Y	-.16	-.16	0	0
50	M30	Y	-.19	-.19	0	0
51	M31	Y	-.09	-.09	0	0
52	M40	Y	-.09	-.09	0	0
53	M36	Y	-.34	-.34	0	0
54	M38	Y	-.34	-.34	0	0
55	M37	Y	-.41	-.41	0	0
56	M39	Y	-.41	-.41	0	0

Member Distributed Loads (BLC 15 : Wind 150Áwith ice)

	Member Label	Direction	Start Magnitude[lb/in,...	End Magnitude[lb/in,...	Start Location[in,%]	End Location[in,%]
1	M10	X	.43	.43	0	0
2	M11	X	.43	.43	0	0
3	M12	X	.13	.13	0	0
4	M14	X	.13	.13	0	0
5	M13	X	.2	.2	0	0
6	M15	X	.2	.2	0	0
7	M26	X	.15	.15	0	0
8	M28	X	.17	.17	0	0
9	M27	X	.19	.19	0	0
10	M9	X	.24	.24	0	0
11	M1	X	.29	.29	0	0
12	M8	X	.24	.24	0	0

Member Distributed Loads (BLC 15 : Wind 150Áwith ice) (Continued)

	Member Label	Direction	Start Magnitude[lb/in,...	End Magnitude[lb/in,...	Start Location[in,%]	End Location[in,%]
13	M29	X	.19	.19	0	0
14	M20	X	.28	.28	0	0
15	M21	X	.28	.28	0	0
16	M22	X	.28	.28	0	0
17	M23	X	.28	.28	0	0
18	M24	X	.28	.28	0	0
19	M25	X	.28	.28	0	0
20	M5	X	.34	.34	0	0
21	M7	X	.34	.34	0	0
22	M30	X	.09	.09	0	0
23	M31	X	.25	.25	0	0
24	M40	X	.25	.25	0	0
25	M36	X	.36	.36	0	0
26	M38	X	.36	.36	0	0
27	M37	X	.43	.43	0	0
28	M39	X	.43	.43	0	0
29	M10	Y	-.25	-.25	0	0
30	M11	Y	-.25	-.25	0	0
31	M12	Y	-.08	-.08	0	0
32	M14	Y	-.08	-.08	0	0
33	M13	Y	-.12	-.12	0	0
34	M15	Y	-.12	-.12	0	0
35	M26	Y	-.09	-.09	0	0
36	M28	Y	-.1	-.1	0	0
37	M27	Y	-.11	-.11	0	0
38	M9	Y	-.14	-.14	0	0
39	M1	Y	-.17	-.17	0	0
40	M8	Y	-.14	-.14	0	0
41	M29	Y	-.11	-.11	0	0
42	M20	Y	-.16	-.16	0	0
43	M21	Y	-.16	-.16	0	0
44	M22	Y	-.16	-.16	0	0
45	M23	Y	-.16	-.16	0	0
46	M24	Y	-.16	-.16	0	0
47	M25	Y	-.16	-.16	0	0
48	M5	Y	-.2	-.2	0	0
49	M7	Y	-.2	-.2	0	0
50	M30	Y	-.05	-.05	0	0
51	M31	Y	-.14	-.14	0	0
52	M40	Y	-.14	-.14	0	0
53	M36	Y	-.21	-.21	0	0
54	M38	Y	-.21	-.21	0	0
55	M37	Y	-.25	-.25	0	0
56	M39	Y	-.25	-.25	0	0

Member Area Loads

Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[psi]
No Data to Print ...						

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
1	Self Weight	DL			-1					
2	Weights	DL					12			
3	ICE Load	DL					12	28		
4	Wind 0Á	WL					12	28		
5	Wind 30Á	WL					24	56		
6	Wind 60Á	WL					24	56		
7	Wind 90Á	WL					12	28		
8	Wind 120Á	WL					24	56		
9	Wind 150Á	WL					24	56		
10	Wind 0Áwith ice	WL					12	28		
11	Wind 30Áwith ice	WL					24	56		
12	Wind 60Áwith ice	WL					24	56		
13	Wind 90Áwith ice	WL					12	28		
14	Wind 120Áwith ice	WL					24	56		
15	Wind 150Áwith ice	WL					24	56		
16	Horizontal Seismic Lo...	ELX	-1				12			
17	Horizontal Seismic Lo...	ELY		-1			12			
18	Lm1	LL				1				
19	Lm2	LL				1				
20	Lm3	LL				1				
21	Lm4	LL				1				
22	Lm5	LL				1				
23	Lm6	LL				1				
24	Lm7	LL								
25	Lm8	LL								
26	Lm9	LL								
27	Lm10	LL								
28	Lm11	LL								
29	Lm12	LL								
30	Lv1	LL				1				
31	Lv2	LL				1				
32	Lv3	LL								
33	Lv4	LL					3			
34	Lv5	LL					1			
35	Lv6	LL								
36	Lv7	LL								
37	Lv8	LL								
38	Lv9	LL								
39	Lv10	LL								
40	Lv11	LL								
41	Lv12	LL								

Load Combinations

	Description	Sol...	PD...	SR...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...
1	Dead Only	Yes	Y		1	1.4	2	1.4																
2	1.2D+1.0...	Yes	Y		1	1.2	2	1.2	4	1														
3	1.2D+1.0...	Yes	Y		1	1.2	2	1.2	5	1														
4	1.2D+1.0...	Yes	Y		1	1.2	2	1.2	6	1														
5	1.2D+1.0...	Yes	Y		1	1.2	2	1.2	7	1														

Load Combinations (Continued)

	Description	Sol..	PD..	SR..	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...
6	1.2D+1.0...	Yes	Y		1	1.2	2	1.2	8	1																
7	1.2D+1.0...	Yes	Y		1	1.2	2	1.2	9	1																
8	1.2D+1.0...	Yes	Y		1	1.2	2	1.2	4	-1																
9	1.2D+1.0...	Yes	Y		1	1.2	2	1.2	5	-1																
10	1.2D+1.0...	Yes	Y		1	1.2	2	1.2	6	-1																
11	1.2D+1.0...	Yes	Y		1	1.2	2	1.2	7	-1																
12	1.2D+1.0...	Yes	Y		1	1.2	2	1.2	8	-1																
13	1.2D+1.0...	Yes	Y		1	1.2	2	1.2	9	-1																
14	1.2D+1.0...	Yes	Y		1	1.2	2	1.2	10	1	3	1														
15	1.2D+1.0...	Yes	Y		1	1.2	2	1.2	11	1	3	1														
16	1.2D+1.0...	Yes	Y		1	1.2	2	1.2	12	1	3	1														
17	1.2D+1.0...	Yes	Y		1	1.2	2	1.2	13	1	3	1														
18	1.2D+1.0...	Yes	Y		1	1.2	2	1.2	14	1	3	1														
19	1.2D+1.0...	Yes	Y		1	1.2	2	1.2	15	1	3	1														
20	1.2D+1.0...	Yes	Y		1	1.2	2	1.2	10	-1	3	1														
21	1.2D+1.0...	Yes	Y		1	1.2	2	1.2	11	-1	3	1														
22	1.2D+1.0...	Yes	Y		1	1.2	2	1.2	12	-1	3	1														
23	1.2D+1.0...	Yes	Y		1	1.2	2	1.2	13	-1	3	1														
24	1.2D+1.0...	Yes	Y		1	1.2	2	1.2	14	-1	3	1														
25	1.2D+1.0...	Yes	Y		1	1.2	2	1.2	15	-1	3	1														
26	1.2D+1.0E...	Yes	Y		1	1.242	2	1.242	16	.104	17															
27	1.2D+1.0E...	Yes	Y		1	1.242	2	1.242	16	.09	17	.052														
28	1.2D+1.0E...	Yes	Y		1	1.242	2	1.242	16	.052	17	.09														
29	1.2D+1.0E...	Yes	Y		1	1.242	2	1.242	16		17	.104														
30	1.2D+1.0E...	Yes	Y		1	1.242	2	1.242	16	-.052	17	.09														
31	1.2D+1.0E...	Yes	Y		1	1.242	2	1.242	16	-.09	17	.052														
32	1.2D+1.0E...	Yes	Y		1	1.242	2	1.242	16	-.104	17															
33	1.2D+1.0E...	Yes	Y		1	1.242	2	1.242	16	-.09	17	-.052														
34	1.2D+1.0E...	Yes	Y		1	1.242	2	1.242	16	-.052	17	-.09														
35	1.2D+1.0E...	Yes	Y		1	1.242	2	1.242	16		17	-.104														
36	1.2D+1.0E...	Yes	Y		1	1.242	2	1.242	16	.052	17	-.09														
37	1.2D+1.0E...	Yes	Y		1	1.242	2	1.242	16	.09	17	-.052														
38	1.2D+1.5L...	Yes	Y		1	1.2	2	1.2	18	1.5	4	.06														
39	1.2D+1.5L...	Yes	Y		1	1.2	2	1.2	18	1.5	5	.06														
40	1.2D+1.5L...	Yes	Y		1	1.2	2	1.2	18	1.5	6	.06														
41	1.2D+1.5L...	Yes	Y		1	1.2	2	1.2	18	1.5	7	.06														
42	1.2D+1.5L...	Yes	Y		1	1.2	2	1.2	18	1.5	8	.06														
43	1.2D+1.5L...	Yes	Y		1	1.2	2	1.2	18	1.5	9	.06														
44	1.2D+1.5L...	Yes	Y		1	1.2	2	1.2	18	1.5	4	-.06														
45	1.2D+1.5L...	Yes	Y		1	1.2	2	1.2	18	1.5	5	-.06														
46	1.2D+1.5L...	Yes	Y		1	1.2	2	1.2	18	1.5	6	-.06														
47	1.2D+1.5L...	Yes	Y		1	1.2	2	1.2	18	1.5	7	-.06														
48	1.2D+1.5L...	Yes	Y		1	1.2	2	1.2	18	1.5	8	-.06														
49	1.2D+1.5L...	Yes	Y		1	1.2	2	1.2	18	1.5	9	-.06														
50	1.2D+1.5L...	Yes	Y		1	1.2	2	1.2	19	1.5	4	.06														
51	1.2D+1.5L...	Yes	Y		1	1.2	2	1.2	19	1.5	5	.06														
52	1.2D+1.5L...	Yes	Y		1	1.2	2	1.2	19	1.5	6	.06														
53	1.2D+1.5L...	Yes	Y		1	1.2	2	1.2	19	1.5	7	.06														
54	1.2D+1.5L...	Yes	Y		1	1.2	2	1.2	19	1.5	8	.06														
55	1.2D+1.5L...	Yes	Y		1	1.2	2	1.2	19	1.5	9	.06														
56	1.2D+1.5L...	Yes	Y		1	1.2	2	1.2	19	1.5	4	-.06														
57	1.2D+1.5L...	Yes	Y		1	1.2	2	1.2	19	1.5	5	-.06														

Load Combinations (Continued)

	Description	Sol..	PD..	SR..	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...
58	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	19	1.5	6	-.06														
59	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	19	1.5	7	-.06														
60	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	19	1.5	8	-.06														
61	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	19	1.5	9	-.06														
62	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	20	1.5	4	.06														
63	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	20	1.5	5	.06														
64	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	20	1.5	6	.06														
65	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	20	1.5	7	.06														
66	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	20	1.5	8	.06														
67	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	20	1.5	9	.06														
68	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	20	1.5	4	-.06														
69	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	20	1.5	5	-.06														
70	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	20	1.5	6	-.06														
71	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	20	1.5	7	-.06														
72	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	20	1.5	8	-.06														
73	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	20	1.5	9	-.06														
74	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	21	1.5	4	.06														
75	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	21	1.5	5	.06														
76	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	21	1.5	6	.06														
77	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	21	1.5	7	.06														
78	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	21	1.5	8	.06														
79	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	21	1.5	9	.06														
80	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	21	1.5	4	-.06														
81	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	21	1.5	5	-.06														
82	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	21	1.5	6	-.06														
83	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	21	1.5	7	-.06														
84	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	21	1.5	8	-.06														
85	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	21	1.5	9	-.06														
86	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	22	1.5	4	.06														
87	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	22	1.5	5	.06														
88	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	22	1.5	6	.06														
89	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	22	1.5	7	.06														
90	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	22	1.5	8	.06														
91	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	22	1.5	9	.06														
92	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	22	1.5	4	-.06														
93	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	22	1.5	5	-.06														
94	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	22	1.5	6	-.06														
95	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	22	1.5	7	-.06														
96	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	22	1.5	8	-.06														
97	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	22	1.5	9	-.06														
98	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	23	1.5	4	.06														
99	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	23	1.5	5	.06														
100	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	23	1.5	6	.06														
101	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	23	1.5	7	.06														
102	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	23	1.5	8	.06														
103	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	23	1.5	9	.06														
104	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	23	1.5	4	-.06														
105	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	23	1.5	5	-.06														
106	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	23	1.5	6	-.06														
107	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	23	1.5	7	-.06														
108	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	23	1.5	8	-.06														
109	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	23	1.5	9	-.06														

Load Combinations (Continued)

	Description	Sol..	PD..	SR..	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...
110	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	24	1.5	4	.06														
111	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	24	1.5	5	.06														
112	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	24	1.5	6	.06														
113	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	24	1.5	7	.06														
114	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	24	1.5	8	.06														
115	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	24	1.5	9	.06														
116	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	24	1.5	4	-.06														
117	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	24	1.5	5	-.06														
118	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	24	1.5	6	-.06														
119	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	24	1.5	7	-.06														
120	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	24	1.5	8	-.06														
121	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	24	1.5	9	-.06														
122	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	25	1.5	4	.06														
123	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	25	1.5	5	.06														
124	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	25	1.5	6	.06														
125	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	25	1.5	7	.06														
126	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	25	1.5	8	.06														
127	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	25	1.5	9	.06														
128	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	25	1.5	4	-.06														
129	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	25	1.5	5	-.06														
130	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	25	1.5	6	-.06														
131	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	25	1.5	7	-.06														
132	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	25	1.5	8	-.06														
133	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	25	1.5	9	-.06														
134	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	26	1.5	4	.06														
135	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	26	1.5	5	.06														
136	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	26	1.5	6	.06														
137	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	26	1.5	7	.06														
138	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	26	1.5	8	.06														
139	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	26	1.5	9	.06														
140	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	26	1.5	4	-.06														
141	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	26	1.5	5	-.06														
142	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	26	1.5	6	-.06														
143	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	26	1.5	7	-.06														
144	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	26	1.5	8	-.06														
145	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	26	1.5	9	-.06														
146	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	27	1.5	4	.06														
147	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	27	1.5	5	.06														
148	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	27	1.5	6	.06														
149	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	27	1.5	7	.06														
150	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	27	1.5	8	.06														
151	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	27	1.5	9	.06														
152	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	27	1.5	4	-.06														
153	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	27	1.5	5	-.06														
154	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	27	1.5	6	-.06														
155	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	27	1.5	7	-.06														
156	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	27	1.5	8	-.06														
157	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	27	1.5	9	-.06														
158	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	28	1.5	4	.06														
159	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	28	1.5	5	.06														
160	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	28	1.5	6	.06														
161	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	28	1.5	7	.06														

Load Combinations (Continued)

	Description	Sol..	PD..	SR..	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...
162	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	28	1.5	8	.06														
163	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	28	1.5	9	.06														
164	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	28	1.5	4	-.06														
165	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	28	1.5	5	-.06														
166	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	28	1.5	6	-.06														
167	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	28	1.5	7	-.06														
168	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	28	1.5	8	-.06														
169	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	28	1.5	9	-.06														
170	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	29	1.5	4	.06														
171	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	29	1.5	5	.06														
172	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	29	1.5	6	.06														
173	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	29	1.5	7	.06														
174	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	29	1.5	8	.06														
175	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	29	1.5	9	.06														
176	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	29	1.5	4	-.06														
177	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	29	1.5	5	-.06														
178	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	29	1.5	6	-.06														
179	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	29	1.5	7	-.06														
180	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	29	1.5	8	-.06														
181	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	29	1.5	9	-.06														
182	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	30	1.5																
183	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	31	1.5																
184	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	32	1.5																
185	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	33	1.5																
186	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	34	1.5																
187	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	35	1.5																
188	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	36	1.5																
189	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	37	1.5																
190	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	38	1.5																
191	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	39	1.5																
192	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	40	1.5																
193	1.2D+1.5L..	Yes	Y		1	1.2	2	1.2	41	1.5																

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-in]	LC	MY [k-in]	LC	MZ [k-in]	LC
1	N2	max	321.412	2	435.205	7	1233.384	19	0	193	0	193	0	193
2		min	-373.444	8	-411.479	13	310.483	13	0	1	0	1	0	1
3	N4	max	332.207	3	174.979	7	1239.015	15	0	193	0	193	0	193
4		min	-269.76	9	-210.343	13	293.278	10	0	1	0	1	0	1
5	N46	max	897.792	6	166.883	6	21.614	24	0	193	0	193	0	193
6		min	-898.256	12	-175.401	12	2.325	6	0	1	0	1	0	1
7	N65	max	1240.839	2	653.278	4	995.269	7	0	193	0	193	0	193
8		min	-1797.444	8	-1014.119	10	-637.507	2	0	1	0	1	0	1
9	N69	max	1940.196	13	980.118	4	1069.235	13	0	193	0	193	0	193
10		min	-1403.197	7	-622.148	10	-728.059	7	0	1	0	1	0	1
11	Totals:	max	3276.07	2	1992.346	6	3704.988	24						
12		min	-3276.064	8	-1992.345	12	1085.454	6						

Envelope AISC 15th(360-16): LRFD Steel Code Checks

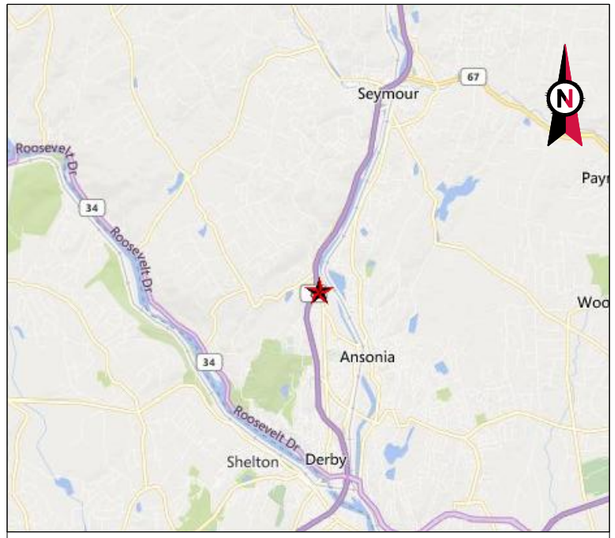
	Member	Shape	Code Check	Loc[in]	LC	Shear ...	Loc[in]	Dir	LC	phi*Pnc [...	phi*Pnt [l...	phi*Mn y...	phi*Mn z...	Cb	Eqn
1	M1	HSS4.000X0....	.151	6.188	15	.068	0		7	65043.146	70596.473	85.751	85.751	1....	H1-1b
2	M2	PL 6X1/2	.818	0	18	.021	8	z	18	87642.632	97200	12.15	145.8	1....	H1-1b
3	M3	PL 6X1/2	.820	0	15	.021	8	z	15	87642.632	97200	12.15	145.8	1....	H1-1b
4	M5	L4X3X4	.302	9	20	.046	9	y	20	50569.214	54756	21.54	57.665	1....	H2-1
5	M7	L4X3X4	.293	9	25	.047	9	y	15	50569.214	54756	22.125	59.229	1....	H2-1
6	M8	HSS2.875X0....	.236	42	14	.054	42		24	47814.538	49859.505	42.807	42.807	1	H1-1b
7	M9	HSS2.875X0....	.152	0	18	.067	42		25	47814.538	49859.505	42.807	42.807	1	H1-1b
8	M10	L2.5x2.5x4	.552	100	15	.650	100	y	19	20892.442	38556	13.363	30.449	2....	H2-1
9	M11	L2.5x2.5x4	.634	48.438	13	.687	100	z	25	22874.601	38556	13.363	18.777	1	H2-1
10	M12	HSS2.375X0....	.249	0	18	.075	23.042		1...	39480.834	40601.929	28.41	28.41	2....	H1-1b
11	M13	HSS2.375X0....	.412	0	25	.074	23.042		1...	39480.834	40601.929	28.41	28.41	2....	H1-1b
12	M14	HSS2.375X0....	.244	0	18	.076	0		25	39480.834	40601.929	28.41	28.41	2....	H1-1b
13	M15	HSS2.375X0....	.417	0	25	.068	23.042		1...	39480.834	40601.929	28.41	28.41	2....	H1-1b
14	M20	HSS 2.4X0.125	.342	77.813	14	.241	24.375		25	28007.064	28141.785	20.4	20.4	2....	H1-1b
15	M21	HSS 2.4X0.125	.279	65.625	14	.241	24.375		25	24486.482	28141.785	20.4	20.4	2....	H3-6
16	M22	HSS 2.4X0.125	.332	66.563	25	.266	77.813		14	28007.064	28141.785	20.4	20.4	2....	H1-1b
17	M23	HSS 2.4X0.125	.219	23.438	7	.149	77.813		1...	28007.064	28141.785	20.4	20.4	2....	H1-1b
18	M24	HSS 2.4X0.125	.157	65.625	108	.143	24.375		1...	24486.482	28141.785	20.4	20.4	4....	H1-1b
19	M25	HSS 2.4X0.125	.565	55.313	13	.206	77.813		13	28030.551	28141.785	20.4	20.4	1....	H1-1b
20	M26	SR 1/2"	.000	0	193	.000	0		1...	742.63	6361.74	.636	.636	1	H1-1a
21	M27	1.315X0.179	.219	0	18	.038	0		1...	17195.82	21185.797	8.126	8.126	1	H1-1b
22	M28	SR 1/2"	.000	0	193	.000	0		1...	742.63	6361.74	.636	.636	1	H1-1a
23	M29	1.315X0.179	.393	42	25	.070	42		24	17195.82	21185.797	8.126	8.126	1	H1-1b
24	M30	Pipe 1.66"x0....	.066	0	6	.003	48		23	14061.603	21073.5	10.206	10.206	1	H1-1b*
25	M31	HSS2.375X0....	.353	125	8	.163	25		7	32508.848	33875.34	24.043	24.043	2....	H1-1b
26	M36	L2.5x2.5x3	.146	61.598	13	.030	61.598	z	18	12355.672	29192.4	10.471	19.408	1....	H2-1
27	M37	L2.5x2.5x3	.132	61.598	2	.037	61.598	y	15	12355.672	29192.4	10.471	19.363	1....	H2-1
28	M38	L2.5x2.5x3	.209	61.598	13	.029	61.598	z	25	12355.672	29192.4	10.471	22.668	2....	H2-1
29	M39	L2.5x2.5x3	.216	61.598	2	.039	61.598	y	24	12355.672	29192.4	10.471	23.439	2....	H2-1
30	M40	HSS2.375X0....	.399	25	13	.154	125		14	32508.848	33875.34	24.043	24.043	2....	H1-1b

Envelope AISI S100-16: LRFD Cold Formed Steel Code Checks

Member	Shape	Code ...	Loc[in]	LC	Shear ...	Loc[in]	Dir	LC	phi*Pn[lb]	phi*Tn[lb]	phi*Mny...	phi*Mnz...	phi*V...	phi*V...	Cb	Eqn
No Data to Print ...																

APPENDIX C

SCOPE OF WORK FILES



VICINITY MAP

AMERICAN TOWER®

ATC SITE NAME: ANSONIA WAKELEE
ATC SITE NUMBER: 302470
VERIZON SITE NAME: ANSONIA CT
VERIZON SITE NUMBER:467294
SITE ADDRESS: 401 WAKELEE AVE ANSONIA, CT 06401

VERIZON WIRELESS ANTENNA AMENDMENT DRAWINGS

LOCATION MAP

COMPLIANCE CODE

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNMENT AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

1. INTERNATIONAL BUILDING CODE (IBC)
2. NATIONAL ELECTRIC CODE (NEC)
3. LOCAL BUILDING CODE
4. CITY/COUNTY ORDINANCES

UTILITY COMPANIES

POWER COMPANY: UNITED ILLUMINATING
PHONE: (877) 251-9959

TELEPHONE COMPANY: FRONTIER COMMUNICATIONS
PHONE: (800) 376-6843

811 Know what's **below.** **Call** before you dig.

PROJECT SUMMARY

SITE ADDRESS:

401 WAKELEE AVE
ANSONIA, CT 06401
COUNTY: NEW HAVEN

GEOGRAPHIC COORDINATES:

LATITUDE: 41.35606944
LONGITUDE: -73.092
GROUND ELEVATION: 129' AMSL

PROJECT TEAM

TOWER OWNER:

AMERICAN TOWER
10 PRESIDENTIAL WAY
WOBURN, MA 01801

ENGINEER:

ATC TOWER SERVICES, LLC
3500 REGENCY PKWY STE 100
CARY, NC 27518

PROPERTY OWNER:

T14 UNISON SITE MANAGEMENT LLC
PO BOX 759472
BALTIMORE, MD 21275

APPLICANT:

VERIZON WIRELESS
20 ALEXANDER DRIVE, 2ND FLOOR
WALLINGFORD, CT 06492

PROJECT DESCRIPTION

THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW:

REMOVE (12) PANELS AND (9) RRUs, AND (2) 1-5/8" COAX CABLES

INSTALL (9) NEW PANELS AND (9) RRUs

EXISTING (3) PANELS, (2) OVPs, (6) 1-5/8" COAX CABLES, AND (2) 1-5/8" HYBRID CABLES TO REMAIN

PROJECT NOTES

1. THE FACILITY IS UNMANNED.
2. A TECHNICIAN WILL VISIT THE SITE APPROXIMATELY ONCE A MONTH FOR ROUTINE INSPECTION AND MAINTENANCE.
3. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT LAND DISTURBANCE OR EFFECT OF STORM WATER DRAINAGE.
4. NO SANITARY SEWER, POTABLE WATER OR TRASH DISPOSAL IS REQUIRED.
5. HANDICAP ACCESS IS NOT REQUIRED.

PROJECT LOCATION DIRECTIONS

DIRECTIONS TO SITE: FROM HARTFORD TAKE I-91 SOUTH TO MERRITT PKWY SOUTH. TAKE RT 8 N TO EXIT 19. TAKE A RIGHT OFF THE EXIT. TOWER IS IMMEDIATELY ON RIGHT.

SHEET INDEX

SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
G-001	COVER SHEET	A	10/31/19	AZ
G-002	GENERAL NOTES	A	10/31/19	AZ
C-101	DETAILED SITE PLAN	A	10/31/19	AZ
C-102	TOWER ELEVATION	A	10/31/19	AZ
C-501	RF SCHEDULE AND ANTENNA INSTALLATION	A	10/31/19	AZ
C-502	CONSTRUCTION DETAILS	A	10/31/19	AZ

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: PEC.0001553

REV.	DESCRIPTION	BY	DATE
A	PRELIM	AZ	10/31/19

ATC SITE NUMBER:
302470

ATC SITE NAME:
ANSONIA WAKELEE

SITE ADDRESS:
401 WAKELEE AVE
ANSONIA, CT 06401

SEAL:

PRELIMINARY: NOT FOR CONSTRUCTION

verizon

DRAWN BY:	AZ
APPROVED BY:	PPB
DATE DRAWN:	10/31/19
ATC JOB NO:	12977015
CUSTOMER ID:	ANSONIA CT
CUSTOMER #:	467294

COVER SHEET

SHEET NUMBER: G-001

REVISION: A

GENERAL CONSTRUCTION NOTES:

1. ALL WORK SHALL CONFORM TO ALL CURRENT APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING ANSI/EIA/TIA-222, AND COMPLY WITH ATC CONSTRUCTION SPECIFICATIONS.
2. CONTRACTOR SHALL CONTACT LOCAL 811 FOR IDENTIFICATION OF UNDERGROUND UTILITIES PRIOR TO START OF CONSTRUCTION.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED INSPECTIONS.
4. ALL DIMENSIONS TO, OF, AND ON EXISTING BUILDINGS, DRAINAGE STRUCTURES, AND SITE IMPROVEMENTS SHALL BE VERIFIED IN FIELD BY CONTRACTOR WITH ALL DISCREPANCIES REPORTED TO THE ENGINEER.
5. DO NOT CHANGE SIZE OR SPACING OF STRUCTURAL ELEMENTS.
6. DETAILS SHOWN ARE TYPICAL; SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
7. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
8. CONTRACTOR SHALL BRACE STRUCTURES UNTIL ALL STRUCTURAL ELEMENTS NEEDED FOR STABILITY ARE INSTALLED. THESE ELEMENTS ARE AS FOLLOWS: LATERAL BRACING, ANCHOR BOLTS, ETC.
9. CONTRACTOR SHALL DETERMINE EXACT LOCATION OF EXISTING UTILITIES, GROUNDS DRAINS, DRAIN PIPES, VENTS, ETC. BEFORE COMMENCING WORK.
10. INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE VERIZON WIRELESS REP PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE VERIZON WIRELESS REP PRIOR TO PROCEEDING.
11. EACH CONTRACTOR SHALL COOPERATE WITH THE VERIZON WIRELESS REP, AND COORDINATE HIS WORK WITH THE WORK OF OTHERS.
12. CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY CONSTRUCTION OF THIS PROJECT TO MATCH EXISTING PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE VERIZON WIRELESS CONSTRUCTION MANAGER.
13. ALL CABLE/CONDUIT ENTRY/EXIT PORTS SHALL BE WEATHERPROOFED DURING INSTALLATION USING A SILICONE SEALANT.
14. WHERE EXISTING CONDITIONS DO NOT MATCH THOSE SHOWN IN THIS PLAN SET, CONTRACTOR SHALL NOTIFY THE VERIZON WIRELESS REP IMMEDIATELY.
15. CONTRACTOR SHALL ENSURE ALL SUBCONTRACTORS ARE PROVIDED WITH A COMPLETE AND CURRENT SET OF DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
16. CONTRACTOR SHALL REMOVE ALL RUBBISH AND DEBRIS FROM THE SITE AT THE END OF EACH DAY.
17. CONTRACTOR SHALL COORDINATE WORK SCHEDULE WITH LANDLORD AND TAKE PRECAUTIONS TO MINIMIZE IMPACT AND DISRUPTION OF OTHER OCCUPANTS OF THE FACILITY.
18. CONTRACTOR SHALL FURNISH VERIZON WIRELESS WITH A PDF MARKED UP AS-BUILT SET OF DRAWINGS UPON COMPLETION OF WORK.
19. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH VERIZON WIRELESS REP TO DETERMINE WHAT, IF ANY, ITEMS WILL BE PROVIDED. ALL ITEMS NOT PROVIDED SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. CONTRACTOR WILL INSTALL ALL ITEMS PROVIDED.
20. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH VERIZON WIRELESS REP TO DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY VERIZON WIRELESS MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.
21. CONTRACTOR SHALL INSTALL ALL SITE SIGNAGE IN ACCORDANCE WITH VERIZON WIRELESS SPECIFICATIONS AND REQUIREMENTS.
22. CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO VERIZON WIRELESS FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
23. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO VERIZON WIRELESS SPECIFICATIONS, AND AS SHOWN IN THESE PLANS.
24. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
25. CONTRACTOR SHALL NOTIFY VERIZON WIRELESS REP A MINIMUM OF 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING ANY UNDERGROUND UTILITIES, FOUNDATIONS OR SEALING ANY WALL, FLOOR OR ROOF PENETRATIONS FOR ENGINEERING REVIEW AND APPROVAL.
26. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY INCLUDING COMPLIANCE WITH ALL APPLICABLE OSHA STANDARDS AND RECOMMENDATIONS AND SHALL PROVIDE ALL NECESSARY SAFETY DEVICES INCLUDING PPE AND PPM AND CONSTRUCTION DEVICES SUCH AS WELDING AND FIRE PREVENTION, TEMPORARY SHORING, SCAFFOLDING, TRENCH BOXES/SLOPING, BARRIERS, ETC.
27. THE CONTRACTOR SHALL PROTECT AT HIS OWN EXPENSE, ALL EXISTING FACILITIES AND SUCH OF HIS NEW WORK LIABLE TO INJURY DURING THE CONSTRUCTION PERIOD. ANY DAMAGE CAUSED BY NEGLECT ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLECT ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, EITHER TO THE EXISTING WORK, OR TO HIS WORK OR THE WORK OF ANY OTHER CONTRACTOR, SHALL BE REPAIRED AT HIS EXPENSE TO THE OWNER'S SATISFACTION.
28. ALL WORK SHALL BE INSTALLED IN A FIRST CLASS, NEAT AND WORKMANLIKE MANNER BY MECHANICS SKILLED IN THE TRADE INVOLVED. THE QUALITY OF WORKMANSHIP SHALL BE SUBJECT TO THE APPROVAL OF THE VERIZON WIRELESS REP. ANY WORK FOUND BY THE VERIZON WIRELESS REP TO BE OF INFERIOR QUALITY AND/OR WORKMANSHIP SHALL BE REPLACED AND/OR REWORKED AT CONTRACTOR EXPENSE UNTIL APPROVAL IS OBTAINED.
29. IN ORDER TO ESTABLISH STANDARDS OF QUALITY AND PERFORMANCE, ALL TYPES OF MATERIALS LISTED HEREINAFTER BY MANUFACTURER'S NAMES AND/OR MANUFACTURER'S CATALOG NUMBER SHALL BE PROVIDED BY THESE MANUFACTURERS AS SPECIFIED.

STRUCTURAL STEEL NOTES:

1. STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITION OF THE AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS."
2. STRUCTURAL STEEL ROLLED SHAPES, PLATES AND BARS SHALL CONFORM TO THE FOLLOWING ASTM DESIGNATIONS:
   A. ASTM A-572, GRADE 50 - ALL W SHAPES, UNLESS NOTED OR A992 OTHERWISE
   B. ASTM A-36 - ALL OTHER ROLLED SHAPES, PLATES AND BARS UNLESS NOTED OTHERWISE.
   C. ASTM A-500, GRADE B - HSS SECTION (SQUARE, RECTANGULAR, AND ROUND)
   D. ASTM A-325, TYPE SC OR N - ALL BOLTS FOR CONNECTING STRUCTURAL MEMBERS
   E. ASTM F-1554 07 - ALL ANCHOR BOLTS, UNLESS NOTED OTHERWISE
3. ALL EXPOSED STRUCTURAL STEEL MEMBERS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION PER ASTM A123. EXPOSED STEEL HARDWARE AND ANCHOR BOLTS SHALL BE GALVANIZED PER ASTM A153 OR B695.
4. ALL FIELD CUT SURFACES, FIELD DRILLED HOLES AND GROUND SURFACES WHERE EXISTING PAINT OR GALVANIZATION REMOVAL WAS REQUIRED SHALL BE REPAIRED WITH (2) BRUSHED COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.
5. DO NOT DRILL HOLES THROUGH STRUCTURAL STEEL MEMBERS EXCEPT AS SHOWN AND DETAILED ON STRUCTURAL DRAWINGS.
6. CONNECTIONS:
   A. ALL WELDING TO BE PERFORMED BY AWS CERTIFIED WELDERS AND CONDUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1.
   B. ALL WELDS SHALL BE INSPECTED VISUALLY. 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. REPAIR ALL WELDS AS NECESSARY.
   C. INSPECTION SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.
   D. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE BURNING/WELDING PERMITS AS REQUIRED BY LOCAL GOVERNING AUTHORITY AND IF REQUIRED SHALL HAVE FIRE DEPARTMENT DETAIL FOR ANY WELDING ACTIVITY.
   E. ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL, PER AWS D1.1, UNLESS NOTED OTHERWISE.
   F. MINIMUM WELD SIZE TO BE 0.1875 INCH FILLET WELDS, UNLESS NOTED OTHERWISE.
   G. PRIOR TO FIELD WELDING GALVANIZING MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING ½" BEYOND ALL FIELD WELD SURFACES. AFTER WELD AND WELD INSPECTION IS COMPLETE, REPAIR ALL GROUND AND WELDED SURFACES WITH ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: PEC.0001553

REV.	DESCRIPTION	BY	DATE
A	PRELIM	AZ	10/31/19

ATC SITE NUMBER:
302470

ATC SITE NAME:
ANSONIA WAKELEE

SITE ADDRESS:
401 WAKELEE AVE
ANSONIA, CT 06401

SEAL:

PRELIMINARY: NOT FOR CONSTRUCTION

verizon

DRAWN BY:	AZ
APPROVED BY:	PPB
DATE DRAWN:	10/31/19
ATC JOB NO:	12977015
CUSTOMER ID:	ANSONIA CT
CUSTOMER #:	467294

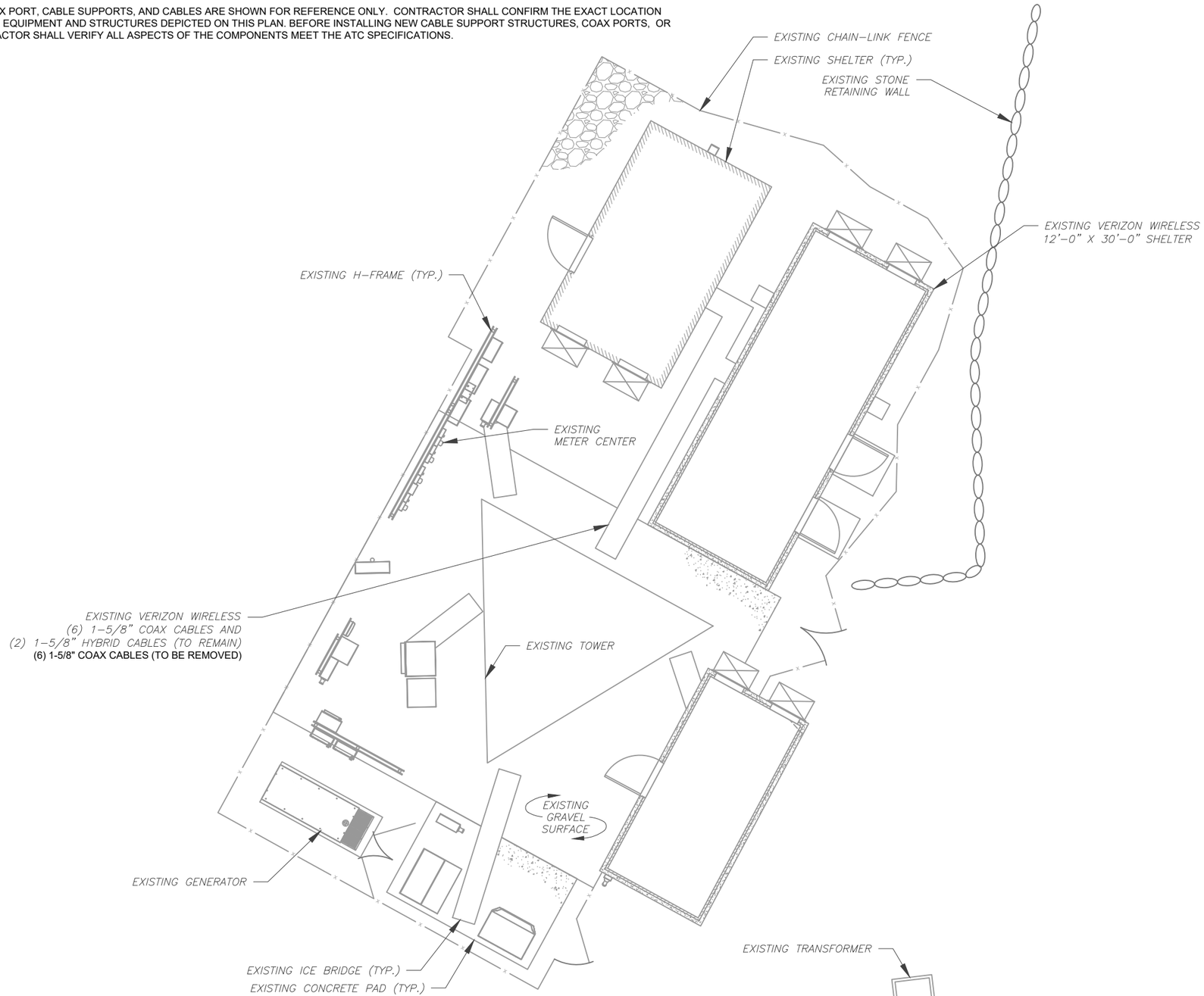
GENERAL NOTES

SHEET NUMBER:	REVISION:
G-002	A

SITE PLAN NOTES:

1. THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.

2. ICE BRIDGE, CABLE LADDER, COAX PORT, CABLE SUPPORTS, AND CABLES ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL CONFIRM THE EXACT LOCATION OF ALL PROPOSED AND EXISTING EQUIPMENT AND STRUCTURES DEPICTED ON THIS PLAN. BEFORE INSTALLING NEW CABLE SUPPORT STRUCTURES, COAX PORTS, OR ANY OTHER EQUIPMENT, CONTRACTOR SHALL VERIFY ALL ASPECTS OF THE COMPONENTS MEET THE ATC SPECIFICATIONS.



1 DETAILED SITE PLAN

0 10' 20'

SCALE: 1"=10' (11X17)
1"=5' (22X34)

N

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: PEC.0001553

REV.	DESCRIPTION	BY	DATE
A	PRELIM	AZ	10/31/19

ATC SITE NUMBER:
302470

ATC SITE NAME:
ANSONIA WAKELEE

SITE ADDRESS:
401 WAKELEE AVE
ANSONIA, CT 06401

SEAL:

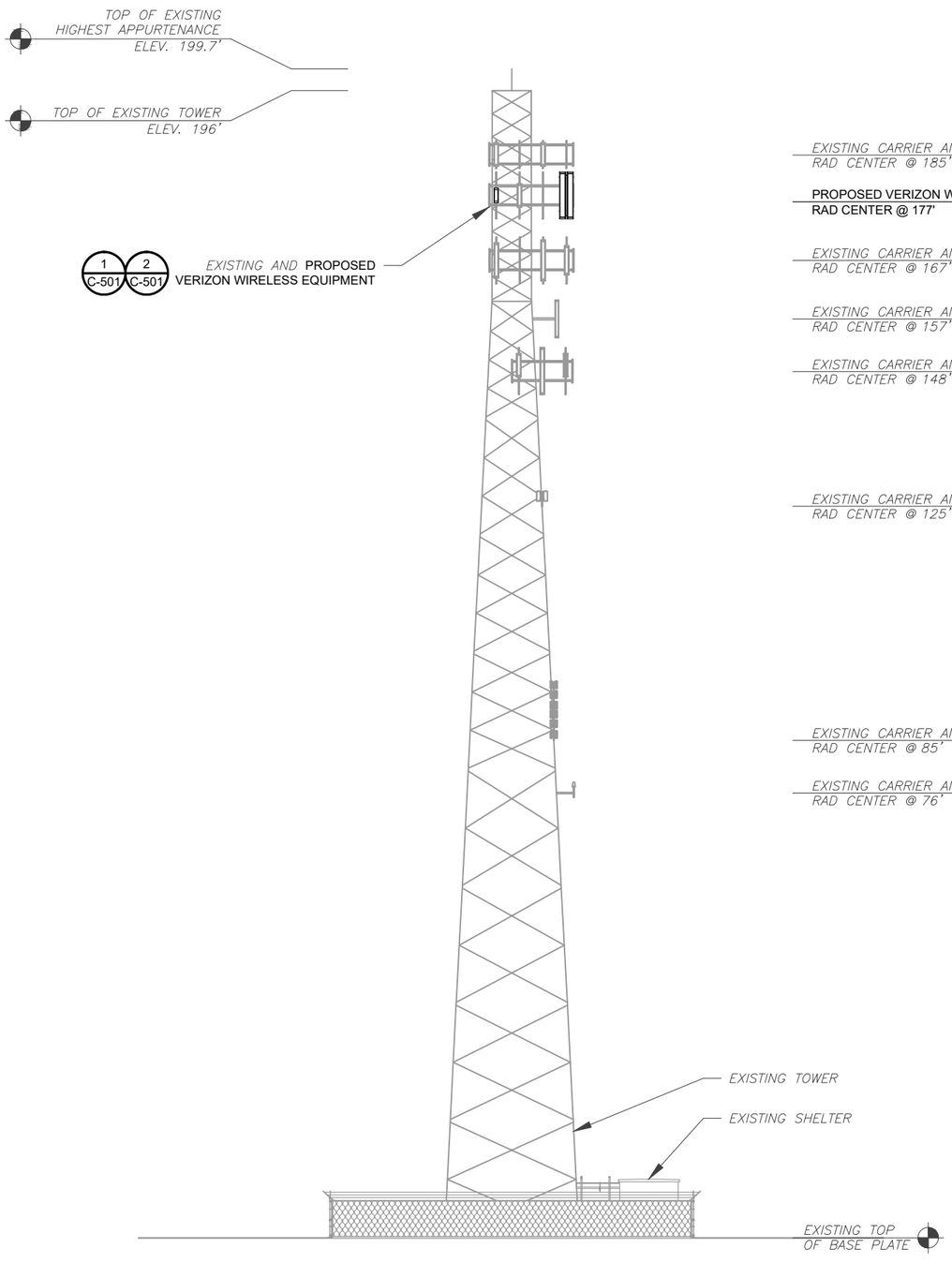
PRELIMINARY: NOT FOR CONSTRUCTION

verizon

DRAWN BY:	AZ
APPROVED BY:	PPB
DATE DRAWN:	10/31/19
ATC JOB NO:	12977015
CUSTOMER ID:	ANSONIA CT
CUSTOMER #:	467294

DETAILED SITE PLAN

SHEET NUMBER:	REVISION:
C-101	A



2 TOWER ELEVATION
SCALE: NOT TO SCALE

TOWER NOTE:
1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM WITH THE AMERICAN TOWER CONSTRUCTION MANAGER THAT THEY HAVE THE MOST RECENT VERSION OF THE STRUCTURAL ANALYSIS BEFORE COMMENCING WORK. EXISTING AND PROPOSED TOWER APPURTENANCES, MOUNTS, AND ANTENNAS ARE SHOWN BASED ON THE STRUCTURAL ANALYSIS.
2. ATC DID NOT CONFIRM EXISTING SITE CONDITIONS INCLUDING, BUT NOT LIMITED TO, ANTENNA HEIGHTS, ANTENNA AZIMUTHS AND MOUNT CONFIGURATIONS.
3. TOWER ELEVATIONS ARE MEASURED FROM TOP OF BASE PLATE TO MATCH STRUCTURAL ANALYSIS. ELEVATIONS DO NOT REFLECT TRUE ABOVE GROUND LEVEL (A.G.L.)

ANTENNA NOTES:
1. ALL ANTENNAS TO BE FURNISHED WITH DOWNTILT BRACKETS. CONTRACTOR TO COORDINATE REQUIRED MECHANICAL DOWNTILT FOR EACH ANTENNA WITH VERIZON RF ENGINEER.
2. ANTENNA CENTERLINE HEIGHT IS ABOVE GROUND LEVEL (AGL).
3. CONTRACTOR SHALL VERIFY ANTENNA TYPE. AZIMUTH, DOWNTILT, AND ANTENNA NUMBER PER SECTOR WITH CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION.
4. ALL PERSONNEL WORKING ON THE TOWER MUST COMPLY WITH VERIZON'S RF EMISSIONS GUIDELINE POLICY.
5. CHECK WITH RF ENGINEER FOR LATEST ANTENNA TYPE AND AZIMUTH.
6. CONTRACTOR SHALL NOT INSTALL SHRINK WRAP UNTIL AFTER CABLES HAVE BEEN SWEPT.
7. THE USE OF ALTERNATE GROUNDING MEANS (SUCH AS LYNCOLE XIT) SHALL COMPLY WITH O.C.E.I. CONSTRUCTION SPECIFICATIONS AND BUILDING PRACTICES.

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: PEC.0001553

REV.	DESCRIPTION	BY	DATE
A	PRELIM	AZ	10/31/19

ATC SITE NUMBER:
302470

ATC SITE NAME:
ANSONIA WAKELEE

SITE ADDRESS:
401 WAKELEE AVE
ANSONIA, CT 06401

SEAL:

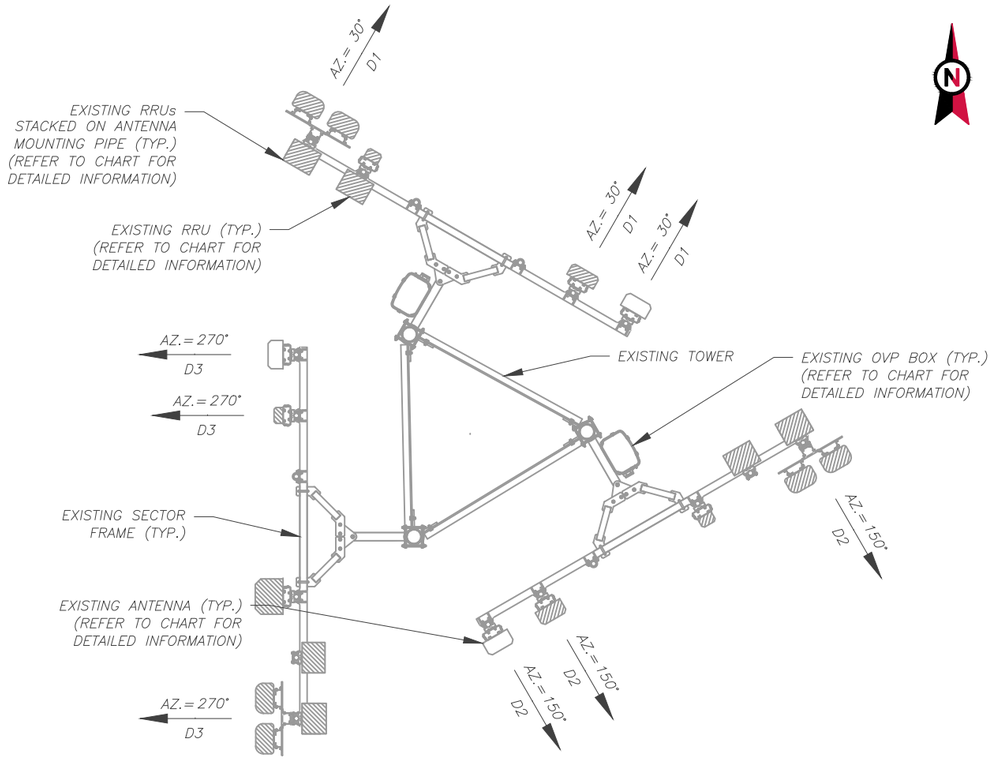
PRELIMINARY: NOT FOR CONSTRUCTION

verizon

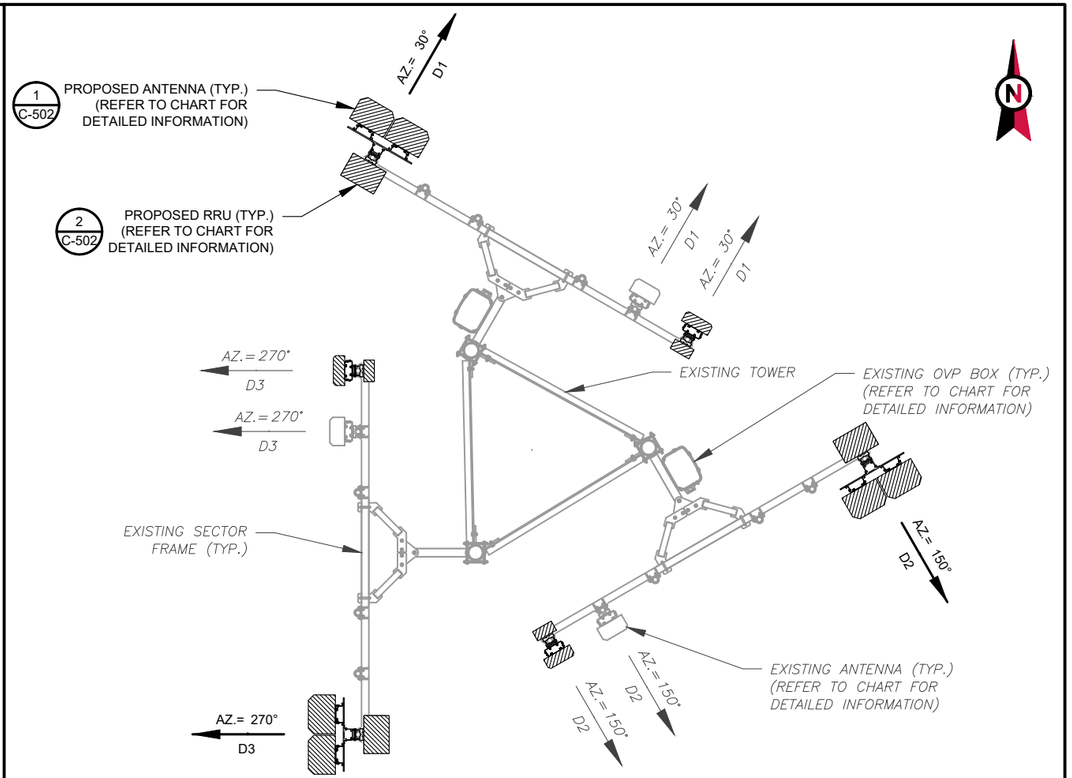
DRAWN BY:	AZ
APPROVED BY:	PPB
DATE DRAWN:	10/31/19
ATC JOB NO:	12977015
CUSTOMER ID:	ANSONIA CT
CUSTOMER #:	467294

TOWER ELEVATION

SHEET NUMBER:	REVISION:
C-102	A



1 CURRENT ANTENNA PLAN



2 FINAL ANTENNA PLAN

EXISTING ANTENNA SCHEDULE

LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY	
SECTOR	RAD	AZ	POS	ANTENNA	BAND	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
D1	177'	30°	A1	(2) SBNHH-1D65B	700/1900/2100 LTE	RMV	B66 RRH4X45 PCS B25 RRH2X60/4X30	RMV
			A2	BXA-171063-8CF	–	RMV	B13 RRH4X30-4R 700U	RMV
			A3	MGD3-800TX	–	RMV	–	–
			A4	BXA-80080-4CF	850 CDMA	REL	–	–
D2	177'	150°	B1	(2) SBNHH-1D65B	700/1900/2100 LTE	RMV	B66 RRH4X45 PCS B25 RRH2X60/4X30	RMV
			B2	BXA-171063-8CF	–	RMV	B13 RRH4X30-4R 700U	RMV
			B3	MGD3-800TX	–	RMV	–	–
			B4	BXA-80080-4CF	850 CDMA	REL	–	–
D3	177'	270°	C1	(2) SBNHH-1D65B	700/1900/2100 LTE	RMV	B66 RRH4X45 PCS B25 RRH2X60/4X30	RMV
			C2	SLCP 2X6014	–	RMV	B13 RRH4X30-4R 700U	RMV
			C3	MGD3-800TX	–	RMV	–	–
			C4	BXA-80080-4CF	850 CDMA	REL	–	–

NOTES

1. BASED ON APPROVED ATC APPLICATION 12977015, DATED 10/18/19. CONFIRM WITH VERIZON WIRELESS REP FOR APPLICABLE UPDATES/REVISIONS AND MOST RECENT RFDS FOR NSN CONFIGURATION (CONFIG). GC TO CAP ALL UNUSED PORTS.
2. ATC HAS NOT YET VERIFIED ANY EXISTING ANTENNA CONFIG OR MOUNT CONFIG. CONTRACTOR TO VERIFY MOUNT CONFIG HAS SUFFICIENT SPACE FOR PROPOSED LESSEE EQUIPMENT (EQUIP) (I.E. CLEARANCES, MOUNT PIPE, SUFFICIENT LENGTH, ETC.) ATC DID NOT ANALYZE ANTENNA MOUNT TO DETERMINE ADEQUATE STRUCTURAL CAPACITY FOR ANY LESSEE LOADING.
3. ALL PROPOSED EQUIP INCLUDING ANTENNAS, COAX, ETC. SHALL BE MOUNTED IN ACCORDANCE WITH THE TOWER STRUCTURAL ANALYSIS ON FILE WITH ATC'S CM.
4. CONFIRM SPACING OF PROPOSED EQUIP DOES NOT CAUSE TOWER CONFLICTS NOR IMPEDE TOWER CLIMBING PEGS.
5. POSITIONS START WITH FIRST PIPE ON THE LEFT SIDE (AS VIEWED FROM BEHIND THE MOUNT).

FINAL ANTENNA SCHEDULE

LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY	
SECTOR	RAD	AZ	POS	ANTENNA	BAND	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
D1	177'	30°	A1	(2) MX06FRO660-02	700/850/1900/2100 LTE	ADD	B5/B13 RRH-BR04C B2/B66A RRH-BR049	ADD
			A2	-	-	-	-	-
			A3	BXA-80080/4CF	850 CDMA	REL	-	-
			A4	SSPX310R	-	ADD	OUTDOOR CBRS 20W RRH	ADD
D2	177'	150°	B1	(2) MX06FRO660-02	700/850/1900/2100 LTE	ADD	B5/B13 RRH-BR04C B2/B66A RRH-BR049	ADD
			B2	-	-	-	-	-
			B3	BXA-80080/4CF	850 CDMA	REL	-	-
			B4	SSPX310R	-	ADD	OUTDOOR CBRS 20W RRH	ADD
D3	177'	270°	C1	(2) MX06FRO660-02	700/850/1900/2100 LTE	ADD	B5/B13 RRH-BR04C B2/B66A RRH-BR049	ADD
			C2	-	-	-	-	-
			C3	BXA-80080/4CF	850 CDMA	REL	-	-
			C4	SSPX310R	-	ADD	OUTDOOR CBRS 20W RRH	ADD

EXISTING FIBER DISTRIBUTION/OVP BOX		EXISTING CABLING SUMMARY		
MODEL NUMBER	STATUS	COAX	HYBRID	STATUS
–	–	(6) 1-5/8"	–	RMV
(2) DB-T1-6Z-8AB-0Z	RMN	(6) 1-5/8"	(2) 1-5/8"	RMN

STATUS ABBREVIATIONS
RMV: TO BE REMOVED
RMN: TO REMAIN
REL: TO BE RELOCATED
DSC: TO BE DISCONNECTED & REMAIN
ADD: TO BE ADDED

3 EQUIPMENT SCHEDULES

CABLE LENGTHS FOR JUMPERS
FIBER DISTRIBUTION/OVP TO RRU: 15'
RRU TO ANTENNA: 10'

FINAL FIBER DISTRIBUTION/OVP BOX		FINAL CABLING SUMMARY		
MODEL NUMBER	STATUS	COAX	HYBRID	STATUS
-	-	-	-	-
(2) DB-T1-6Z-8AB-0Z	RMN	(6) 1-5/8"	(2) 1-5/8"	RMN

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: PEC.0001553

REV.	DESCRIPTION	BY	DATE
A	PRELIM	AZ	10/31/19

ATC SITE NUMBER:
302470

ATC SITE NAME:
ANSONIA WAKELEE

SITE ADDRESS:
401 WAKELEE AVE
ANSONIA, CT 06401

SEAL:

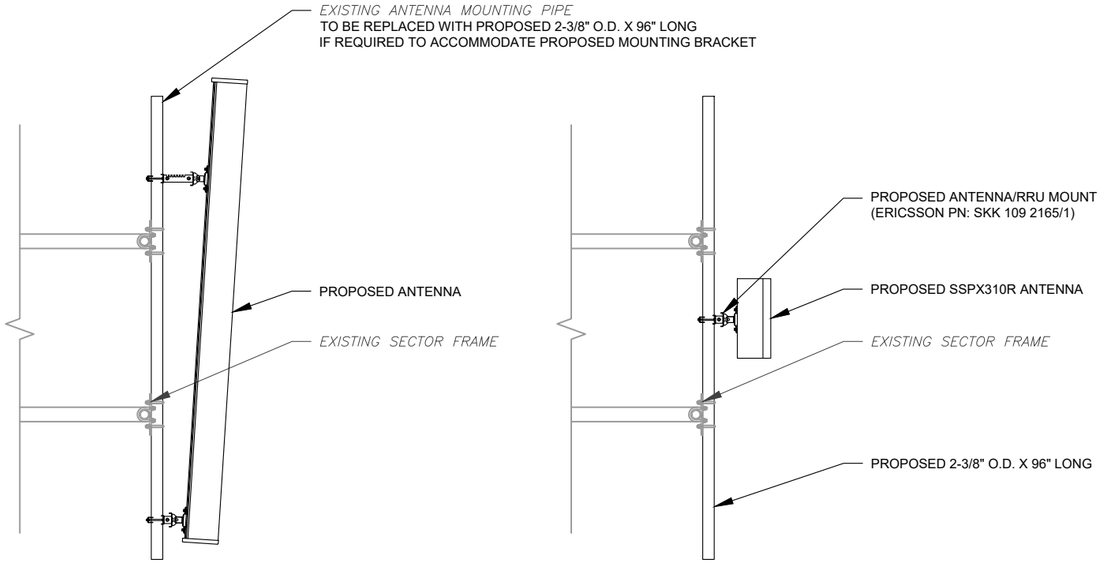
PRELIMINARY: NOT FOR CONSTRUCTION

verizon

DRAWN BY:	AZ
APPROVED BY:	PPB
DATE DRAWN:	10/31/19
ATC JOB NO:	12977015
CUSTOMER ID:	ANSONIA CT
CUSTOMER #:	467294

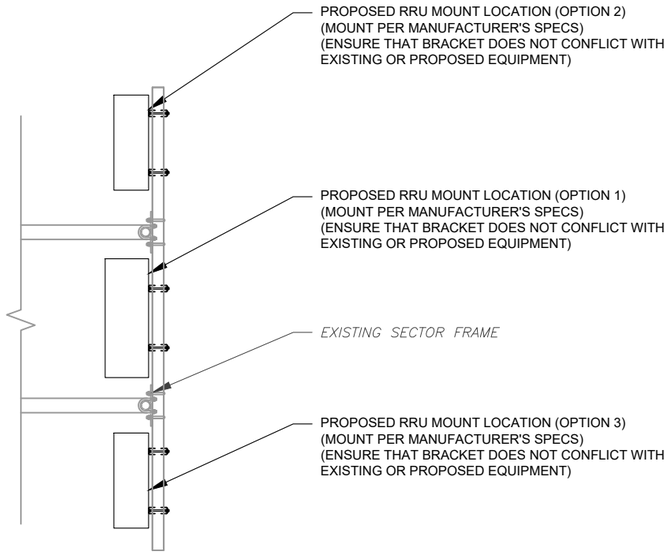
RF SCHEDULE AND ANTENNA INSTALLATION

SHEET NUMBER:	REVISION:
C-501	A



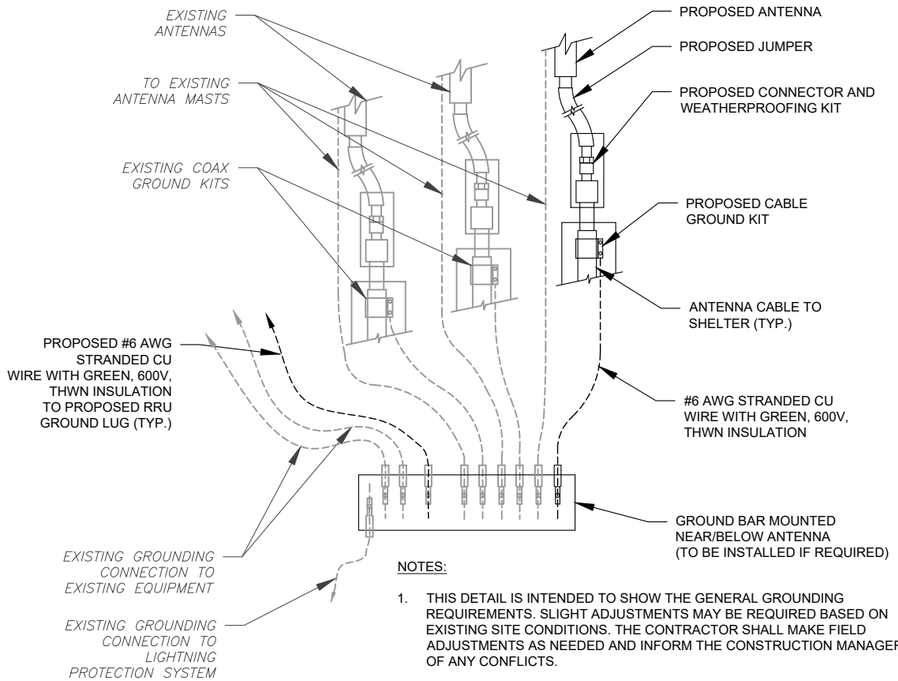
1 PROPOSED ANTENNA MOUNTING DETAIL - TYPICAL

SCALE: NOT TO SCALE



2 PROPOSED RRU MOUNTING DETAIL - TYPICAL

SCALE: NOT TO SCALE



NOTES:

1. THIS DETAIL IS INTENDED TO SHOW THE GENERAL GROUNDING REQUIREMENTS. SLIGHT ADJUSTMENTS MAY BE REQUIRED BASED ON EXISTING SITE CONDITIONS. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS AS NEEDED AND INFORM THE CONSTRUCTION MANAGER OF ANY CONFLICTS.
2. SITE GROUNDING SHALL COMPLY WITH VERIZON WIRELESS GROUNDING STANDARDS, LATEST EDITION, AND COMPLY WITH VERIZON WIRELESS GROUNDING CHECKLIST, LATEST VERSION. WHEN NATIONAL AND LOCAL GROUNDING CODES ARE MORE STRINGENT THEY SHALL GOVERN.

3 TYPICAL ANTENNA GROUNDING DIAGRAM

SCALE: NOT TO SCALE

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: PEC.0001553

REV.	DESCRIPTION	BY	DATE
A	PRELIM	AZ	10/31/19

ATC SITE NUMBER:

302470

ATC SITE NAME:

ANSONIA WAKELEE

SITE ADDRESS:
401 WAKELEE AVE
ANSONIA, CT 06401

SEAL:

PRELIMINARY: NOT FOR CONSTRUCTION

verizon

DRAWN BY:	AZ
APPROVED BY:	PPB
DATE DRAWN:	10/31/19
ATC JOB NO:	12977015
CUSTOMER ID:	ANSONIA CT
CUSTOMER #:	467294

CONSTRUCTION DETAILS

SHEET NUMBER:	REVISION:
C-502	A

AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure	:	**196 ft Self Supported Tower**
ATC Site Name	:	**Ansonia Wakelee, CT**
ATC Asset Number	:	**302470**
Engineering Number	:	**12977015_C3_03**
Proposed Carrier	:	**VERIZON WIRELESS**
Carrier Site Name	:	**Ansonia**
Carrier Site Number	:	**15298373**
Site Location	:	**401 Wakelee Ave** **Ansonia, CT 06401-1226** **41.356100,-73.092000**
County	:	**New Haven**
Date	:	**October 23, 2019**
Max Usage	:	**83%**
Result	:	**Pass**

Prepared By:
Jennifer Yu
Structural Engineer I

Jennifer Yu

Reviewed By:

COA: PEC.0001553

AMERICAN TOWER®
CORPORATION

Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 196 ft self supported tower to reflect the change in loading by VERIZON WIRELESS.

Supporting Documents

Tower Drawings	Rohn Drawing #A991899, dated July 7, 1999
Foundation Drawing	Rohn Drawing #A992523-1, dated September 22, 1999
Geotechnical Report	Tectonic Engineering Consultants W.O. #1170.C754, dated May 20, 1999

Analysis

The tower was analyzed using American Tower Corporation's tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed:	97 mph (3-Second Gust, Vasd) / 125 mph (3-Second Gust, Vult)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
Code:	ANSI/TIA-222-G / 2015 IBC / 2018 Connecticut State Building Code
Structure Class:	II
Exposure Category:	C
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	Ss = 0.19, S_1 = 0.06
Site Class:	D - Stiff Soil

Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

Existing and Reserved Equipment

Elev.[1] (ft)	Qty	Antenna	Mount Type	Lines	Carrier
192.0	3	Alcatel-Lucent 1900 MHz 4X45 RRH	Leg	-	SPRINT NEXTEL
185.0	2	Powerwave Allgon P40-16-XLPP-RRR	Sector Frame	(3) 1 1/4" Hybriflex Cable	
	1	RFS APXVSPP18-C-A20			
	3	Alcatel-Lucent 800 MHz RRH			
177.0	2	RFS DB-T1-6Z-8AB-0Z	Sector Frame	(6) 1 5/8" Coax (2) 1 5/8" Hybriflex	VERIZON WIRELESS
167.0	3	Ericsson Radio 8843 - B2 + B66A (w/ protruding items)	Sector Frame	(2) 0.39" (10mm) Fiber Trunk (8) 0.78" (19.7mm) 8 AWG 6 (12) 1 1/4" Coax (1) 2" conduit	AT&T MOBILITY
	3	Ericsson RRUS 4478 B14			
	3	Ericsson RRUS 11 (Band 12) (55 lb)			
	3	Ericsson RRUS E2 B29			
	3	Ericsson RRUS 4478 B5			
	1	Raycap DC6-48-60-0-8F (24" Height)			
	3	Raycap DC6-48-60-18-8F ("Squid")			
	6	Kaelus DBCT108F1V92-1			
	6	Powerwave Allgon TT19-08BP111-001			
	3	Ericsson RRUS-32 (77 lbs)			
	1	CCI TPA65R-BU8D			
	1	CCI OPA-65R-LCUU-H8			
	2	CCI TPA65R-BU6D			
	1	CCI OPA65R-BU8B			
	2	CCI OPA-65R-LCUU-H6			
	2	CCI OPA65R-BU6A			
157.0	3	Kathrein Scala 742 213	Leg	(6) 1 5/8" Coax	METRO PCS INC
148.0	3	Ericsson KRY 112 144/1	Sector Frame	(1) 1 1/4" (1.25"-31.8mm) Fiber (3) 1 5/8" (1.63"-41.3mm) Fiber (6) 1 5/8" Coax	T-MOBILE
	3	RFS APXVAARR24_43-U-NA20			
	3	Ericsson Radio 4449 B12,B71			
	3	Ericsson AIR 21, 1.3 M, B2A B4P			
	3	Ericsson AIR-32 B2A/B66Aa			
125.0	2	Motorola PTP54600	Leg	(2) 1/4" Coax	CITY OF ANSONIA, CT
85.0	1	Generic 10' Dipole	Stand-Off	(1) 1/2" Coax	
76.0	1	PCTEL GPS-TMG-HR-26N	Stand-Off	(1) 1/2" Coax	SPRINT NEXTEL

Equipment to be Removed

Elev.[1] (ft)	Qty	Antenna	Mount Type	Lines	Carrier
177.0	3	Alcatel-Lucent B13 RRH4x30-4R 700U	-	(6) 1 5/8" Coax	VERIZON WIRELESS
	3	Alcatel-Lucent PCS B25 RRH2x60/4x30			
	3	Alcatel-Lucent B66 RRH4x45			
	6	Andrew SBNHH-1D65B			
	1	Swedcom SLCP 2x6014			
	1	Amphenol Antel BXA-70063-6BF-EDIN-X			
	1	Powerwave Allgon P65-16-XL-2			
	3	Antel BXA-80080/4CF			

Proposed Equipment

Elev.[1] (ft)	Qty	Antenna	Mount Type	Lines	Carrier
177.0	3	Samsung Outdoor CBRS 20W RRH	Sector Frame	-	VERIZON WIRELESS
	3	Samsung B2/B66A RRH-BR049			
	3	Samsung B5/B13 RRH-BR04C			
	3	Commscope SSPX310R			
	3	Amphenol Antel BXA-80080-4CF-EDIN-X			
	6	JMA Wireless MX06FRO660-02			

[1] Contracted elevations are shown for appurtenances within contracted installation tolerances. Appurtenances outside of contract limits are shown at installed elevations.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Legs	78%	Pass
Diagonals	83%	Pass
Horizontals	13%	Pass
Anchor Bolts	69%	Pass
Leg Bolts	62%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Uplift (Kips)	301.1	406.5	299.0	74%
Axial (Kips)	343.0	463.1	346.6	75%
TOT Shear (Kips)	54.4	73.4	59.5	81%
* The design reactions are factored by 1.35 per ANSI/TIA-222-G, Sec. 15.5.1				

The structure base reactions resulting from this analysis are acceptable when compared to those shown on the original structure drawings, therefore no modification or reinforcement of the foundation will be required.

Deflection, Twist and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Twist (°)	Sway (Rotation) (°)
177.0	Samsung Outdoor CBRS 20W RRH	VERIZON WIRELESS	0.346	0.010	0.221
	Samsung B2/B66A RRH-BR049				
	Samsung B5/B13 RRH-BR04C				
	Commscope SSPX310R				
	Amphenol Antel BXA-80080-4CF-EDIN-X				
	JMA Wireless MX06FRO660-02				

***Deflection, Twist and Sway was evaluated considering a design wind speed of 60 mph (3-Second Gust) per ANSI/TIA-222-G**

AMERICAN TOWER®
CORPORATION

Standard Conditions

All engineering services performed by A.T. Engineering Service, PLLC are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

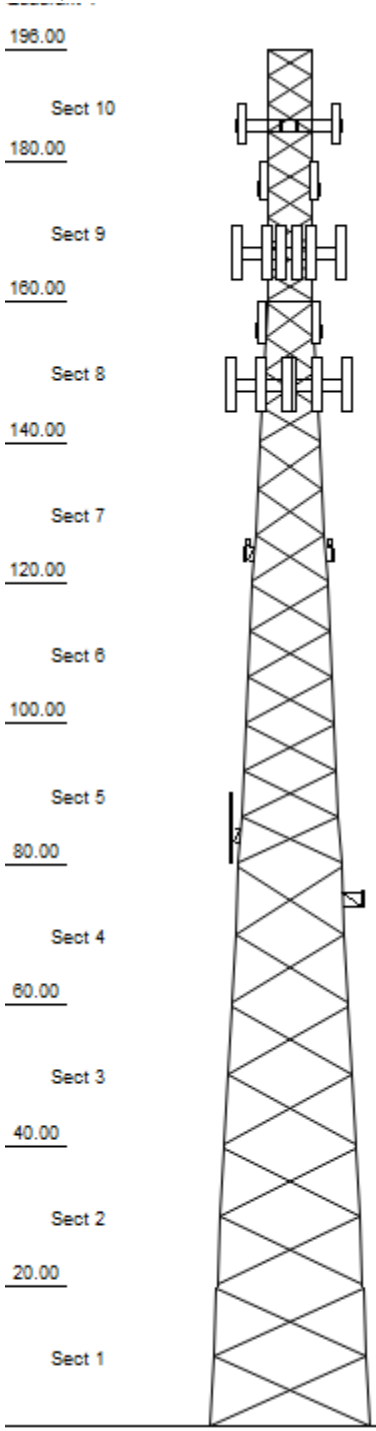
- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

All assets of American Tower Corporation, its affiliates and subsidiaries (collectively “American Tower”) are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

Unless explicitly agreed by both the client and A.T. Engineering Service, PLLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. A.T. Engineering Service, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.



Loads: 97 mph no ice
50 mph w/ 3/4" radial ice
Site Class: D Ss: 0.19 S1: 0.06
60 mph Serviceability

Job Information

Client : VERIZON WIRELESS

Tower : 302470 Location : Ansonia

Code : ANSI/TIA-222-G

Base Width : 23.00 ft
Top Width : 6.65 ft
Tower Ht : 196.00 ft
Shape : Triangle

Sections Properties

Section	Leg Members		Diagonal Members	Horizontal Members
1	PX 50 ksi	8" DIA PIPE	SAE 50 ksi 4X4X0.25	
2	PSP 50 ksi	ROHN 8 EHS	SAE 50 ksi 4X4X0.25	
3	PSP 50 ksi	ROHN 8 EHS	SAE 50 ksi 3.5X3.5X0.25	
4	PX 50 ksi	6" DIA PIPE	SAE 50 ksi 3.5X3.5X0.25	
5	PSP 50 ksi	ROHN 6 EHS	SAE 50 ksi 3X3X0.25	
6 - 7	PX 50 ksi	5" DIA PIPE	SAE 36 ksi 2.5X2.5X0.25	
8	PX 50 ksi	4" DIA PIPE	SAE 36 ksi 2X2X0.25	SAE 36 ksi 2X2X0.125
9	PX 50 ksi	3" DIA PIPE	SAE 36 ksi 2X2X0.1875	
10	PST 50 ksi	2-1/2" DIA PIPE	SAE 36 ksi 1.75X1.75X0.1875	SAE 36 ksi 2X2X0.125

Discrete Appurtenance

Elev (ft)	Type	Qty	Description
192.00		3	Alcatel-Lucent 1900 MHz 4X45 R
185.00	Mounting Frame	3	Round Sector Frames
185.00	Panel	2	Powerwave Allgon P40-16-XLPP-R
185.00	Panel	1	RFS APXVSPP18-C-A20
185.00		3	Alcatel-Lucent 800 MHz RRH
178.00	Mounting Frame	3	Flat Light Sector Frames
177.00	Panel	6	JMA Wireless MX06FRO660-02
177.00		2	RFS DB-T1-6Z-8AB-0Z
177.00	Panel	3	Amphenol Antel BXA-80080-4CF-E
177.00	Panel	3	Commscope SSPX310R
177.00		3	Samsung B5/B13 RRH-BR04C
177.00		3	Samsung B2/B66A RRH-BR049
177.00		3	Samsung Outdoor CBRS 20W
167.00	Mounting Frame	3	Round Sector Frames
167.00	Panel	1	CCI TPA65R-BU8D
167.00	Panel	1	CCI OPA-65R-LCUU-H8
167.00	Panel	2	CCI TPA65R-BU6D
167.00	Panel	1	CCI OPA65R-BU8B
167.00	Panel	2	CCI OPA-65R-LCUU-H6
167.00	Panel	2	CCI OPA65R-BU6A
167.00		3	Ericsson RRUS-32 (77 lbs)
167.00		3	Ericsson RRUS E2 B29
167.00		3	Ericsson RRUS 11 (Band 12) (55
167.00		3	Ericsson RRUS 4478 B14
167.00		3	Ericsson Radio 8843 - B2 + B66
167.00		3	Ericsson RRUS 4478 B5
167.00		1	Raycap DC6-48-60-0-8F (24" Hei
167.00		3	Raycap DC6-48-60-18-8F ("Squid
167.00		6	Kaelus DBCT108F1V92-1
167.00		6	Powerwave Allgon TT19-08BP111-
157.00	Panel	3	Kathrein Scala 742 213
148.00	Mounting Frame	3	Round Sector Frame
148.00	Panel	3	RFS APXVAARR24_43-U-NA20
148.00	Panel	3	Ericsson AIR-32 B2A/B66Aa
148.00	Panel	3	Ericsson AIR 21, 1.3 M, B2A B4
148.00		3	Ericsson Radio 4449 B12,B71
148.00		3	Ericsson KRY 112 144/1
125.00	Panel	2	Motorola PTP54600
102.00	Straight Arm	2	Standoffs
85.00	Whip	1	Generic 10' Dipole
80.00	Straight Arm	1	Standoffs
76.00	Straight Arm	1	Standoffs
76.00	Whip	1	PCTEL GPS-TMG-HR-26N

Job Information

Client : VERIZON WIRELESS

Tower : 302470 Location : Ansonia

Code : ANSI/TIA-222-G

Base Width : 23.00 ft
Top Width : 6.65 ft
Tower Ht : 196.00 ft
Shape : Triangle

Linear Appurtenance

Elev (ft) From	To	Qty	Description
8.00	194.00	1	Wave Guide
8.00	185.00	1	Wave Guide
8.00	185.00	3	1 1/4" Hybriflex Cab
8.00	177.00	2	1 5/8" Hybriflex
8.00	177.00	6	1 5/8" Coax
8.00	167.00	1	Wave Guide
8.00	167.00	1	2" conduit
8.00	167.00	12	1 1/4" Coax
8.00	167.00	8	0.78" (19.7mm) 8 AWG
8.00	167.00	2	0.39" (10mm) Fiber T
8.00	157.00	1	Waveguide
8.00	157.00	6	1 5/8" Coax
8.00	148.00	1	Wave Guide
0.00	148.00	6	1 5/8" Coax
0.00	148.00	3	1 5/8" (1.63"-41.3mm
0.00	148.00	1	1 1/4" (1.25"- 31.8m
8.00	125.00	2	1/4" Coax
8.00	85.00	1	1/2" Coax
8.00	76.00	1	1/2" Coax

Global Base Foundation Design Loads

Load Case	Moment (k-ft)	Vertical (kip)	Horizontal (kip)
DL + WL	6,542.65	54.52	59.49
DL + WL + IL	2,243.46	156.95	21.08

Individual Base Foundation Design Loads

Vertical (kip)	Uplift (kip)	Horizontal (kip)
346.64	298.97	36.10

Site Number:	302470	Code:	ANSI/TIA-222-G	
Site Name:	Ansonia Wakelee, CT	Engineering Number:	12977015_C3_03	10/23/2019 2:19:48 PM
Customer:	VERIZON WIRELESS			

Analysis Parameters

Location:	New Haven County, CT	Height (ft):	196
Code:	ANSI/TIA-222-G	Base Elevation (ft):	0.00
Shape:	Triangle	Bottom Face Width (ft):	23.00
Tower Manufacturer:	Rohn	Top Face Width (ft):	6.65
Tower Type:	Self Support	Anchor Bolt Detail Type	d
Kd:			
Ke:			

Ice & Wind Parameters

Structure Class:	II	Design Windspeed Without Ice:	97 mph
Exposure Category:	C	Design Windspeed With Ice:	50 mph
Topographic Category:	1	Operational Windspeed:	60 mph
Crest Height:	0 ft	Design Ice Thickness:	0.75 in

Seismic Parameters

Analysis Method:	Equivalent Modal Analysis & Equivalent Lateral Force Methods				
Site Class:	D - Stiff Soil				
Period Based on Rayleigh Method (sec):	0.92				
T_L (sec):	6	p:	1.3	C_S:	0.035
S_S:	0.190	S_1:	0.060	C_S, Max:	0.035
F_a:	1.600	F_V:	2.400	C_S, Min:	0.030
S_{ds}:	0.203	S_{d1}:	0.096		

Load Cases

1.2D + 1.6W Normal	97 mph Normal with No Ice
1.2D + 1.6W 60 deg	97 mph 60 degree with No Ice
1.2D + 1.6W 90 deg	97 mph 90 degree with No Ice
0.9D + 1.6W Normal	97 mph Normal with No Ice (Reduced DL)
0.9D + 1.6W 60 deg	97 mph 60 deg with No Ice (Reduced DL)
0.9D + 1.6W 90 deg	97 mph 90 deg with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi Normal	50 mph Normal with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 60 deg	50 mph 60 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 90 deg	50 mph 90 deg with 0.75 in Radial Ice
(1.2 + 0.2Sds) * DL + E Normal	Seismic Normal
(1.2 + 0.2Sds) * DL + E 60 deg	Seismic 60 deg
(1.2 + 0.2Sds) * DL + E 90 deg	Seismic 90 deg
(0.9 - 0.2Sds) * DL + E Normal	Seismic (Reduced DL) Normal
(0.9 - 0.2Sds) * DL + E 60 deg	Seismic (Reduced DL) 60 deg
(0.9 - 0.2Sds) * DL + E 90 deg	Seismic (Reduced DL) 90 deg
1.0D + 1.0W Service Normal	Serviceability - 60 mph Wind Normal
1.0D + 1.0W Service 60 deg	Serviceability - 60 mph Wind 60 deg
1.0D + 1.0W Service 90 deg	Serviceability - 60 mph Wind 90 deg

Site Number: 302470 Code: ANSI/TIA-222-G

Site Name: Ansonia Wakelee, CT Engineering Number: 12977015_C3_03 10/23/2019 2:19:48 PM

Customer: VERIZON WIRELESS

Tower Loading

Discrete Appurtenance Properties 1.2D + 1.6W

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient. Factor	Vert. Ecc.(ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
192.0	Alcatel-Lucent 1900	3	60	2.3	2.1	11.1	10.7	1.00	0.50	0.0	0.0	29.73	141	216
185.0	Alcatel-Lucent 800	3	53	2.1	1.6	13.0	10.8	0.80	0.50	0.0	0.0	29.50	103	191
185.0	Powerwave Allgon	2	64	9.1	4.5	20.0	6.5	0.80	1.00	0.0	0.0	29.50	582	154
185.0	RFS APXVSPP18-C-	1	57	8.0	6.0	11.8	7.0	0.80	1.00	0.0	0.0	29.50	257	68
185.0	Round Sector	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	29.50	975	1080
178.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	29.26	1074	1440
177.0	Amphenol Antel BXA-	3	12	3.6	4.0	8.0	5.9	0.80	0.72	0.0	0.0	29.22	245	43
177.0	Commscope	3	17	2.9	2.5	11.8	4.5	0.80	0.67	0.0	0.0	29.22	185	59
177.0	JMA Wireless	6	46	9.9	5.9	15.4	10.7	0.80	0.71	0.0	0.0	29.22	1337	331
177.0	RFS DB-T1-6Z-8AB-	2	44	4.8	2.0	24.0	10.0	0.80	0.72	1.0	220.0	29.26	220	106
177.0	Samsung B2/B66A	3	84	1.9	1.3	15.0	10.0	0.80	0.50	0.0	0.0	29.22	90	304
177.0	Samsung B5/B13	3	70	1.9	1.3	15.0	8.1	0.80	0.50	0.0	0.0	29.22	90	253
177.0	Samsung Outdoor	3	19	0.9	1.0	8.5	4.1	0.80	0.50	0.0	0.0	29.22	41	67
167.0	CCI OPA-65R-LCUU-	2	73	9.7	6.0	14.8	7.4	0.80	0.75	0.0	0.0	28.87	455	175
167.0	CCI OPA-65R-LCUU-	1	88	13.0	7.7	14.8	7.4	0.80	1.00	0.0	0.0	28.87	408	106
167.0	CCI OPA65R-BU6A	2	58	7.8	5.9	11.7	8.4	0.80	0.79	0.0	0.0	28.87	390	138
167.0	CCI OPA65R-BU8B	1	69	11.2	8.0	11.7	8.4	0.80	1.00	0.0	0.0	28.87	352	83
167.0	CCI TPA65R-BU6D	2	68	12.9	5.9	21.0	7.8	0.80	0.72	0.0	0.0	28.87	582	162
167.0	CCI TPA65R-BU8D	1	83	18.1	8.0	21.0	7.8	0.80	1.00	0.0	0.0	28.87	568	99
167.0	Ericsson Radio 8843	3	75	2.0	1.5	13.2	11.3	0.80	0.50	0.0	0.0	28.87	93	270
167.0	Ericsson RRUS 11	3	55	2.5	1.5	17.0	7.2	0.80	0.50	0.0	0.0	28.87	119	198
167.0	Ericsson RRUS 4478	3	59	2.0	1.5	13.4	8.3	0.80	0.50	0.0	0.0	28.87	95	214
167.0	Ericsson RRUS 4478	3	60	1.8	1.4	13.4	7.7	0.80	0.50	0.0	0.0	28.87	87	216
167.0	Ericsson RRUS E2	3	60	3.2	1.7	18.5	7.5	0.80	0.50	0.0	0.0	28.87	148	216
167.0	Ericsson RRUS-32	3	77	3.3	2.5	13.3	9.5	0.80	0.50	0.0	0.0	28.87	156	277
167.0	Kaelus	6	14	0.6	0.9	7.1	6.8	0.80	0.50	0.0	0.0	28.87	59	100
167.0	Powerwave Allgon	6	16	0.6	0.8	6.7	5.4	0.80	0.50	0.0	0.0	28.87	52	115
167.0	Raycap DC6-48-60-0-	1	33	1.5	2.0	11.0	11.0	0.80	1.00	0.0	0.0	28.87	46	39
167.0	Raycap DC6-48-60-	3	32	1.5	2.0	11.0	11.0	0.80	1.00	0.0	0.0	28.87	139	114
167.0	Round Sector	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	28.87	852	1080
157.0	Kathrein Scala 742	3	22	5.1	6.4	6.1	2.7	1.00	0.67	0.0	0.0	28.49	400	79
148.0	Ericsson AIR 21, 1.3	3	83	6.1	4.7	12.0	8.0	0.80	0.71	0.0	0.0	28.14	395	299
148.0	Ericsson AIR-32	3	132	6.5	4.7	12.9	8.7	0.80	0.71	0.0	0.0	28.14	425	476
148.0	Ericsson KRY 112	3	11	0.3	0.6	6.1	2.7	0.80	0.50	0.0	0.0	28.14	16	40
148.0	Ericsson Radio 4449	3	74	1.6	1.2	13.2	9.3	0.80	0.50	0.0	0.0	28.14	75	266
148.0	RFS	3	128	20.2	8.0	24.0	8.7	0.80	0.63	0.0	0.0	28.14	1171	460
148.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	28.14	831	1080
125.0	Motorola PTP54600	2	12	1.8	1.2	14.5	3.8	1.00	0.50	4.0	260.3	27.34	65	29
102.0	Standoffs	2	75	2.5	0.0	0.0	0.0	1.00	0.90	0.0	0.0	26.02	159	180
85.00	Generic 10' Dipole	1	30	3.8	10.0	3.0	3.0	1.00	1.00	0.0	0.0	25.04	128	36
80.00	Standoffs	1	75	2.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	24.72	84	90
76.00	PCTEL GPS-TMG-HR-	1	1	0.1	0.4	3.2	3.2	1.00	1.00	0.0	0.0	24.46	3	1
76.00	Standoffs	1	75	2.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	24.46	83	90
	Totals	113	9201	622.5									13775	11041

Discrete Appurtenance Properties 0.9D + 1.6W

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient. Factor	Vert. Ecc.(ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
192.0	Alcatel-Lucent 1900	3	60	2.3	2.1	11.1	10.7	1.00	0.50	0.0	0.0	29.73	141	162
185.0	Alcatel-Lucent 800	3	53	2.1	1.6	13.0	10.8	0.80	0.50	0.0	0.0	29.50	103	143
185.0	Powerwave Allgon	2	64	9.1	4.5	20.0	6.5	0.80	1.00	0.0	0.0	29.50	582	115

Site Number: 302470 Code: ANSI/TIA-222-G

Site Name: Ansonia Wakelee, CT Engineering Number: 12977015_C3_03 10/23/2019 2:19:48 PM

Customer: VERIZON WIRELESS

Tower Loading

185.0	RFS APXVSPP18-C-	1	57	8.0	6.0	11.8	7.0	0.80	1.00	0.0	0.0	29.50	257	51
185.0	Round Sector	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	29.50	975	810
178.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	29.26	1074	1080
177.0	Amphenol Antel BXA-	3	12	3.6	4.0	8.0	5.9	0.80	0.72	0.0	0.0	29.22	245	32
177.0	Commscope	3	17	2.9	2.5	11.8	4.5	0.80	0.67	0.0	0.0	29.22	185	45
177.0	JMA Wireless	6	46	9.9	5.9	15.4	10.7	0.80	0.71	0.0	0.0	29.22	1337	248
177.0	RFS DB-T1-6Z-8AB-	2	44	4.8	2.0	24.0	10.0	0.80	0.72	1.0	220.0	29.26	220	79
177.0	Samsung B2/B66A	3	84	1.9	1.3	15.0	10.0	0.80	0.50	0.0	0.0	29.22	90	228
177.0	Samsung B5/B13	3	70	1.9	1.3	15.0	8.1	0.80	0.50	0.0	0.0	29.22	90	190
177.0	Samsung Outdoor	3	19	0.9	1.0	8.5	4.1	0.80	0.50	0.0	0.0	29.22	41	50
167.0	CCI OPA-65R-LCUU-	2	73	9.7	6.0	14.8	7.4	0.80	0.75	0.0	0.0	28.87	455	131
167.0	CCI OPA-65R-LCUU-	1	88	13.0	7.7	14.8	7.4	0.80	1.00	0.0	0.0	28.87	408	79
167.0	CCI OPA65R-BU6A	2	58	7.8	5.9	11.7	8.4	0.80	0.79	0.0	0.0	28.87	390	104
167.0	CCI OPA65R-BU8B	1	69	11.2	8.0	11.7	8.4	0.80	1.00	0.0	0.0	28.87	352	62
167.0	CCI TPA65R-BU6D	2	68	12.9	5.9	21.0	7.8	0.80	0.72	0.0	0.0	28.87	582	122
167.0	CCI TPA65R-BU8D	1	83	18.1	8.0	21.0	7.8	0.80	1.00	0.0	0.0	28.87	568	74
167.0	Ericsson Radio 8843	3	75	2.0	1.5	13.2	11.3	0.80	0.50	0.0	0.0	28.87	93	203
167.0	Ericsson RRUS 11	3	55	2.5	1.5	17.0	7.2	0.80	0.50	0.0	0.0	28.87	119	149
167.0	Ericsson RRUS 4478	3	59	2.0	1.5	13.4	8.3	0.80	0.50	0.0	0.0	28.87	95	160
167.0	Ericsson RRUS 4478	3	60	1.8	1.4	13.4	7.7	0.80	0.50	0.0	0.0	28.87	87	162
167.0	Ericsson RRUS E2	3	60	3.2	1.7	18.5	7.5	0.80	0.50	0.0	0.0	28.87	148	162
167.0	Ericsson RRUS-32	3	77	3.3	2.5	13.3	9.5	0.80	0.50	0.0	0.0	28.87	156	208
167.0	Kaelus	6	14	0.6	0.9	7.1	6.8	0.80	0.50	0.0	0.0	28.87	59	75
167.0	Powerwave Allgon	6	16	0.6	0.8	6.7	5.4	0.80	0.50	0.0	0.0	28.87	52	86
167.0	Raycap DC6-48-60-0-	1	33	1.5	2.0	11.0	11.0	0.80	1.00	0.0	0.0	28.87	46	30
167.0	Raycap DC6-48-60-	3	32	1.5	2.0	11.0	11.0	0.80	1.00	0.0	0.0	28.87	139	86
167.0	Round Sector	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	28.87	852	810
157.0	Kathrein Scala 742	3	22	5.1	6.4	6.1	2.7	1.00	0.67	0.0	0.0	28.49	400	59
148.0	Ericsson AIR 21, 1.3	3	83	6.1	4.7	12.0	8.0	0.80	0.71	0.0	0.0	28.14	395	224
148.0	Ericsson AIR-32	3	132	6.5	4.7	12.9	8.7	0.80	0.71	0.0	0.0	28.14	425	357
148.0	Ericsson KRY 112	3	11	0.3	0.6	6.1	2.7	0.80	0.50	0.0	0.0	28.14	16	30
148.0	Ericsson Radio 4449	3	74	1.6	1.2	13.2	9.3	0.80	0.50	0.0	0.0	28.14	75	200
148.0	RFS	3	128	20.2	8.0	24.0	8.7	0.80	0.63	0.0	0.0	28.14	1171	345
148.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	28.14	831	810
125.0	Motorola PTP54600	2	12	1.8	1.2	14.5	3.8	1.00	0.50	4.0	260.3	27.34	65	22
102.0	Standoffs	2	75	2.5	0.0	0.0	0.0	1.00	0.90	0.0	0.0	26.02	159	135
85.00	Generic 10' Dipole	1	30	3.8	10.0	3.0	3.0	1.00	1.00	0.0	0.0	25.04	128	27
80.00	Standoffs	1	75	2.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	24.72	84	68
76.00	PCTEL GPS-TMG-HR-	1	1	0.1	0.4	3.2	3.2	1.00	1.00	0.0	0.0	24.46	3	1
76.00	Standoffs	1	75	2.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	24.46	83	68
	Totals	113	9201	622.5									13775	8280

Discrete Appurtenance Properties 1.2D + 1.0Di + 1.0Wi

Elevation (ft)	Description	Qty	Ice Wt (lb)	Ice EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient. Factor	Vert. Ecc.(ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
192.0	Alcatel-Lucent 1900	3	143	3.4	2.1	11.1	10.7	1.00	0.50	0.0	0.0	7.90	35	464
185.0	Alcatel-Lucent 800	3	129	3.1	1.6	13.0	10.8	0.80	0.50	0.0	0.0	7.84	25	418
185.0	Powerwave Allgon	2	254	11.3	4.5	20.0	6.5	0.80	1.00	0.0	0.0	7.84	121	534
185.0	RFS APXVSPP18-C-	1	234	10.9	6.0	11.8	7.0	0.80	1.00	0.0	0.0	7.84	58	245
185.0	Round Sector	3	621	24.7	0.0	0.0	0.0	0.75	0.75	0.0	0.0	7.84	277	2044
178.0	Flat Light Sector	3	705	33.2	0.0	0.0	0.0	0.75	0.67	0.0	0.0	7.77	331	2356
177.0	Amphenol Antel BXA-	3	101	5.4	4.0	8.0	5.9	0.80	0.72	0.0	0.0	7.76	62	311
177.0	Commscope	3	83	4.1	2.5	11.8	4.5	0.80	0.67	0.0	0.0	7.76	44	259
177.0	JMA Wireless	6	289	12.7	5.9	15.4	10.7	0.80	0.71	0.0	0.0	7.76	285	1791
177.0	RFS DB-T1-6Z-8AB-	2	172	6.2	2.0	24.0	10.0	0.80	0.72	1.0	47.5	7.77	48	361

Site Number: 302470 Code: ANSI/TIA-222-G

Site Name: Ansonia Wakelee, CT Engineering Number: 12977015_C3_03 10/23/2019 2:19:48 PM

Customer: VERIZON WIRELESS

Tower Loading

177.0	Samsung B2/B66A	3	149	2.8	1.3	15.0	10.0	0.80	0.50	0.0	0.0	7.76	22	498
177.0	Samsung B5/B13	3	128	2.8	1.3	15.0	8.1	0.80	0.50	0.0	0.0	7.76	22	427
177.0	Samsung Outdoor	3	43	1.5	1.0	8.5	4.1	0.80	0.50	0.0	0.0	7.76	12	140
167.0	CCI OPA-65R-LCUU-	2	280	12.5	6.0	14.8	7.4	0.80	0.75	0.0	0.0	7.67	98	588
167.0	CCI OPA-65R-LCUU-	1	349	16.6	7.7	14.8	7.4	0.80	1.00	0.0	0.0	7.67	87	366
167.0	CCI OPA65R-BU6A	2	243	10.6	5.9	11.7	8.4	0.80	0.79	0.0	0.0	7.67	88	509
167.0	CCI OPA65R-BU8B	1	314	14.5	8.0	11.7	8.4	0.80	1.00	0.0	0.0	7.67	76	328
167.0	CCI TPA65R-BU6D	2	333	15.7	5.9	21.0	7.8	0.80	0.72	0.0	0.0	7.67	118	692
167.0	CCI TPA65R-BU8D	1	432	21.8	8.0	21.0	7.8	0.80	1.00	0.0	0.0	7.67	114	449
167.0	Ericsson Radio 8843	3	148	2.9	1.5	13.2	11.3	0.80	0.50	0.0	0.0	7.67	23	488
167.0	Ericsson RRUS 11	3	123	3.6	1.5	17.0	7.2	0.80	0.50	0.0	0.0	7.67	28	403
167.0	Ericsson RRUS 4478	3	122	3.0	1.5	13.4	8.3	0.80	0.50	0.0	0.0	7.67	23	401
167.0	Ericsson RRUS 4478	3	116	2.7	1.4	13.4	7.7	0.80	0.50	0.0	0.0	7.67	22	384
167.0	Ericsson RRUS E2	3	142	4.3	1.7	18.5	7.5	0.80	0.50	0.0	0.0	7.67	34	462
167.0	Ericsson RRUS-32	3	176	4.6	2.5	13.3	9.5	0.80	0.50	0.0	0.0	7.67	36	573
167.0	Kaelus	6	39	1.2	0.9	7.1	6.8	0.80	0.50	0.0	0.0	7.67	18	253
167.0	Powerwave Allgon	6	36	1.1	0.8	6.7	5.4	0.80	0.50	0.0	0.0	7.67	17	238
167.0	Raycap DC6-48-60-0-	1	141	2.2	2.0	11.0	11.0	0.80	1.00	0.0	0.0	7.67	11	148
167.0	Raycap DC6-48-60-	3	94	2.2	2.0	11.0	11.0	0.80	1.00	0.0	0.0	7.67	34	302
167.0	Round Sector	3	618	24.6	0.0	0.0	0.0	0.75	0.67	0.0	0.0	7.67	242	2034
157.0	Kathrein Scala 742	3	135	6.4	6.4	6.1	2.7	1.00	0.67	0.0	0.0	7.57	83	418
148.0	Ericsson AIR 21, 1.3	3	229	8.2	4.7	12.0	8.0	0.80	0.71	0.0	0.0	7.48	89	738
148.0	Ericsson AIR-32	3	292	8.7	4.7	12.9	8.7	0.80	0.71	0.0	0.0	7.48	94	956
148.0	Ericsson KRY 112	3	22	0.8	0.6	6.1	2.7	0.80	0.50	0.0	0.0	7.48	6	72
148.0	Ericsson Radio 4449	3	130	2.5	1.2	13.2	9.3	0.80	0.50	0.0	0.0	7.48	19	435
148.0	RFS	3	521	24.0	8.0	24.0	8.7	0.80	0.63	0.0	0.0	7.48	230	1641
148.0	Round Sector Frame	3	669	31.0	0.0	0.0	0.0	0.75	0.67	0.0	0.0	7.48	297	2186
125.0	Motorola PTP54600	2	51	2.6	1.2	14.5	3.8	1.00	0.50	4.0	64.4	7.26	16	108
102.0	Standoffs	2	100	2.8	0.0	0.0	0.0	1.00	0.90	0.0	0.0	6.91	30	231
85.00	Generic 10' Dipole	1	136	9.5	10.0	3.0	3.0	1.00	1.00	0.0	0.0	6.65	54	142
80.00	Standoffs	1	99	2.8	0.0	0.0	0.0	1.00	1.00	0.0	0.0	6.57	16	114
76.00	PCTEL GPS-TMG-HR-	1	5	0.3	0.4	3.2	3.2	1.00	1.00	0.0	0.0	6.50	1	5
76.00	Standoffs	1	99	2.8	0.0	0.0	0.0	1.00	1.00	0.0	0.0	6.50	16	114
	Totals	113	23786	926.2									3358	25627

Discrete Appurtenance Properties 1.0D + 1.0W Service

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient. Factor	Vert. Ecc.(ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
192.0	Alcatel-Lucent 1900	3	60	2.3	2.1	11.1	10.7	1.00	0.50	0.0	0.0	11.37	34	180
185.0	Alcatel-Lucent 800	3	53	2.1	1.6	13.0	10.8	0.80	0.50	0.0	0.0	11.29	25	159
185.0	Powerwave Allgon	2	64	9.1	4.5	20.0	6.5	0.80	1.00	0.0	0.0	11.29	139	128
185.0	RFS APXVSPP18-C-	1	57	8.0	6.0	11.8	7.0	0.80	1.00	0.0	0.0	11.29	62	57
185.0	Round Sector	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	11.29	233	900
178.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	11.19	257	1200
177.0	Amphenol Antel BXA-	3	12	3.6	4.0	8.0	5.9	0.80	0.72	0.0	0.0	11.18	59	36
177.0	Commscope	3	17	2.9	2.5	11.8	4.5	0.80	0.67	0.0	0.0	11.18	44	50
177.0	JMA Wireless	6	46	9.9	5.9	15.4	10.7	0.80	0.71	0.0	0.0	11.18	320	276
177.0	RFS DB-T1-6Z-8AB-	2	44	4.8	2.0	24.0	10.0	0.80	0.72	1.0	52.6	11.19	53	88
177.0	Samsung B2/B66A	3	84	1.9	1.3	15.0	10.0	0.80	0.50	0.0	0.0	11.18	21	253
177.0	Samsung B5/B13	3	70	1.9	1.3	15.0	8.1	0.80	0.50	0.0	0.0	11.18	21	211
177.0	Samsung Outdoor	3	19	0.9	1.0	8.5	4.1	0.80	0.50	0.0	0.0	11.18	10	56
167.0	CCI OPA-65R-LCUU-	2	73	9.7	6.0	14.8	7.4	0.80	0.75	0.0	0.0	11.04	109	146
167.0	CCI OPA-65R-LCUU-	1	88	13.0	7.7	14.8	7.4	0.80	1.00	0.0	0.0	11.04	97	88
167.0	CCI OPA65R-BU6A	2	58	7.8	5.9	11.7	8.4	0.80	0.79	0.0	0.0	11.04	93	115
167.0	CCI OPA65R-BU8B	1	69	11.2	8.0	11.7	8.4	0.80	1.00	0.0	0.0	11.04	84	69

Site Number: 302470
Site Name: Ansonia Wakelee, CT
Customer: VERIZON WIRELESS

Code: ANSI/TIA-222-G
Engineering Number: 12977015_C3_03

10/23/2019 2:19:48 PM

Tower Loading

167.0	CCI TPA65R-BU6D	2	68	12.9	5.9	21.0	7.8	0.80	0.72	0.0	0.0	11.04	139	135
167.0	CCI TPA65R-BU8D	1	83	18.1	8.0	21.0	7.8	0.80	1.00	0.0	0.0	11.04	136	83
167.0	Ericsson Radio 8843	3	75	2.0	1.5	13.2	11.3	0.80	0.50	0.0	0.0	11.04	22	225
167.0	Ericsson RRUS 11	3	55	2.5	1.5	17.0	7.2	0.80	0.50	0.0	0.0	11.04	28	165
167.0	Ericsson RRUS 4478	3	59	2.0	1.5	13.4	8.3	0.80	0.50	0.0	0.0	11.04	23	178
167.0	Ericsson RRUS 4478	3	60	1.8	1.4	13.4	7.7	0.80	0.50	0.0	0.0	11.04	21	180
167.0	Ericsson RRUS E2	3	60	3.2	1.7	18.5	7.5	0.80	0.50	0.0	0.0	11.04	35	180
167.0	Ericsson RRUS-32	3	77	3.3	2.5	13.3	9.5	0.80	0.50	0.0	0.0	11.04	37	231
167.0	Kaelus	6	14	0.6	0.9	7.1	6.8	0.80	0.50	0.0	0.0	11.04	14	83
167.0	Powerwave Allgon	6	16	0.6	0.8	6.7	5.4	0.80	0.50	0.0	0.0	11.04	12	96
167.0	Raycap DC6-48-60-0-	1	33	1.5	2.0	11.0	11.0	0.80	1.00	0.0	0.0	11.04	11	33
167.0	Raycap DC6-48-60-	3	32	1.5	2.0	11.0	11.0	0.80	1.00	0.0	0.0	11.04	33	95
167.0	Round Sector	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	11.04	204	900
157.0	Kathrein Scala 742	3	22	5.1	6.4	6.1	2.7	1.00	0.67	0.0	0.0	10.90	96	66
148.0	Ericsson AIR 21, 1.3	3	83	6.1	4.7	12.0	8.0	0.80	0.71	0.0	0.0	10.77	94	249
148.0	Ericsson AIR-32	3	132	6.5	4.7	12.9	8.7	0.80	0.71	0.0	0.0	10.77	102	397
148.0	Ericsson KRY 112	3	11	0.3	0.6	6.1	2.7	0.80	0.50	0.0	0.0	10.77	4	33
148.0	Ericsson Radio 4449	3	74	1.6	1.2	13.2	9.3	0.80	0.50	0.0	0.0	10.77	18	222
148.0	RFS	3	128	20.2	8.0	24.0	8.7	0.80	0.63	0.0	0.0	10.77	280	384
148.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	10.77	199	900
125.0	Motorola PTP54600	2	12	1.8	1.2	14.5	3.8	1.00	0.50	4.0	62.2	10.46	16	24
102.0	Standoffs	2	75	2.5	0.0	0.0	0.0	1.00	0.90	0.0	0.0	9.96	38	150
85.00	Generic 10' Dipole	1	30	3.8	10.0	3.0	3.0	1.00	1.00	0.0	0.0	9.58	31	30
80.00	Standoffs	1	75	2.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	9.46	20	75
76.00	PCTEL GPS-TMG-HR-	1	1	0.1	0.4	3.2	3.2	1.00	1.00	0.0	0.0	9.36	1	1
76.00	Standoffs	1	75	2.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	9.36	20	75
	Totals	113	9201	622.5									3294	9201

Site Number: 302470 Code: ANSI/TIA-222-G

Site Name: Ansonia Wakelee, CT Engineering Number: 12977015_C3_03 10/23/2019 2:19:48 PM

Customer: VERIZON WIRELESS

Tower Loading

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	Pct In Block	Spread On Faces	Bundling Arrangement	Cluster Dia (in)	Out Of Zone	Spacing (in)	Orientation Factor	Ka Override
8.00	194.0	Wave Guide	1	1.25	5.00	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
8.00	185.0	1 1/4" Hybriflex	3	1.54	1.00	100	Lin App	Individual	0.00	N	1.00	1.00	0.46
8.00	185.0	Wave Guide	1	1.25	5.00	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
8.00	177.0	1 5/8" Coax	6	1.98	0.82	100	Lin App	Individual	0.00	N	1.00	1.00	0.36
8.00	177.0	1 5/8" Hybriflex	2	1.98	1.30	100	Lin App	Individual	0.00	N	1.00	1.00	0.52
8.00	167.0	0.39" (10mm) Fiber	2	0.39	0.06	100	Lin App	Individual	0.00	N	1.00	1.00	0.01
8.00	167.0	0.78" (19.7mm) 8	8	0.78	0.59	100	Lin App	Individual	0.00	N	1.00	1.00	0.01
8.00	167.0	1 1/4" Coax	12	1.55	0.63	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
8.00	167.0	2" conduit	1	2.38	3.65	100	Lin App	Individual	0.00	N	1.00	1.00	0.01
8.00	167.0	Wave Guide	1	1.25	5.00	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
8.00	157.0	1 5/8" Coax	6	1.98	0.82	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
8.00	157.0	Waveguide	1	1.50	6.00	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	148.0	1 1/4" (1.25"-	1	1.25	1.05	100	Lin App	Individual	0.00	N	1.00	1.00	0.01
0.00	148.0	1 5/8" (1.63"-	3	1.63	1.61	100	Lin App	Individual	0.00	N	1.00	1.00	0.01
0.00	148.0	1 5/8" Coax	6	1.98	0.82	100	Lin App	Individual	0.00	N	1.00	1.00	0.36
8.00	148.0	Wave Guide	1	1.25	5.00	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
8.00	125.0	1/4" Coax	2	0.34	0.06	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
8.00	85.00	1/2" Coax	1	0.63	0.15	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
8.00	76.00	1/2" Coax	1	0.63	0.15	100	Lin App	Individual	0.00	N	1.00	1.00	0.00

Site Number: 302470 Code: ANSI/TIA-222-G

Site Name: Ansonia Wakelee, CT Engineering Number: 12977015_C3_03 10/23/2019 2:19:49 PM

Customer: VERIZON WIRELESS

Equivalent Lateral Force Method

(Based on ASCE7-10 Chapters 11, 12 & 15)

Spectral Response Acceleration for Short Period (S_s):	0.19
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Long-Period Transition Period (T_L - Seconds):	6
Importance Factor (I_e):	1.00
Site Coefficient F_a:	1.60
Site Coefficient F_v:	2.40
Response Modification Coefficient (R):	3.00
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.20
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Seismic Response Coefficient (C_s):	0.03
Upper Limit C_s:	0.03
Lower Limit C_s:	0.03
Period based on Rayleigh Method (sec):	0.92
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	1.21
Total Unfactored Dead Load:	45.43 k
Seismic Base Shear (E):	2.06 k

LoadCase (1.2 + 0.2Sds) * DL + E Seismic

Section	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
10	188.00	815	458,175	0.039	79	1,011
9	170.00	1,719	855,962	0.072	148	2,133
8	150.00	2,782	1,190,42	0.100	206	3,451
7	130.00	3,486	1,254,59	0.106	217	4,324
6	110.00	3,617	1,063,66	0.090	184	4,487
5	90.00	4,094	944,592	0.079	164	5,079
4	70.00	4,387	746,957	0.063	129	5,442
3	50.00	4,783	542,208	0.046	94	5,934
2	30.00	5,124	313,176	0.026	54	6,357
1	10.00	5,425	87,821	0.007	15	6,730
Alcatel-Lucent 1900 MHz 4X45 RRH	192.00	180	103,822	0.009	18	223
Alcatel-Lucent 800 MHz RRH	185.00	159	87,682	0.007	15	197
Powerwave Allgon P40-16-XLPP-RRR	185.00	128	70,587	0.006	12	159
RFS APXVSPP18-C-A20	185.00	57	31,433	0.003	5	71
Round Sector Frames	185.00	900	496,315	0.042	86	1,116
Flat Light Sector Frames	178.00	1,200	631,596	0.053	109	1,489
Amphenol Antel BXA-80080-4CF-EDIN-X	177.00	36	18,819	0.002	3	45
Commscope SSPX310R	177.00	49	25,876	0.002	4	61
JMA Wireless MX06FRO660-02	177.00	276	144,281	0.012	25	342
RFS DB-T1-6Z-8AB-0Z	177.00	88	46,003	0.004	8	109
Samsung B2/B66A RRH-BR049	177.00	253	132,362	0.011	23	314
Samsung B5/B13 RRH-BR04C	177.00	211	110,249	0.009	19	262
Samsung Outdoor CBRS 20W RRH	177.00	56	29,170	0.002	5	69
CCI OPA-65R-LCUU-H6	167.00	146	71,140	0.006	12	181
CCI OPA-65R-LCUU-H8	167.00	88	42,879	0.004	7	109

Site Number: 302470 Code: ANSI/TIA-222-G

Site Name: Ansonia Wakelee, CT Engineering Number: 12977015_C3_03 10/23/2019 2:19:49 PM

Customer: VERIZON WIRELESS

Equivalent Lateral Force Method

CCI OPA65R-BU6A	167.00	115	56,035	0.005	10	143
CCI OPA65R-BU8B	167.00	69	33,621	0.003	6	86
CCI TPA65R-BU6D	167.00	135	65,780	0.006	11	167
CCI TPA65R-BU8D	167.00	83	40,199	0.003	7	102
Ericsson Radio 8843 - B2 + B66A (w/ prot	167.00	225	109,633	0.009	19	279
Ericsson RRUS 11 (Band 12) (55 lb)	167.00	165	80,397	0.007	14	205
Ericsson RRUS 4478 B14	167.00	178	86,829	0.007	15	221
Ericsson RRUS 4478 B5	167.00	180	87,560	0.007	15	223
Ericsson RRUS E2 B29	167.00	180	87,706	0.007	15	223
Ericsson RRUS-32 (77 lbs)	167.00	231	112,556	0.009	19	287
Kaelus DBCT108F1V92-1	167.00	83	40,637	0.003	7	103
Powerwave Allgon TT19-08BP111-001	167.00	96	46,777	0.004	8	119
Raycap DC6-48-60-0-8F (24" Height)	167.00	33	15,982	0.001	3	41
Raycap DC6-48-60-18-8F ("Squid")	167.00	95	46,484	0.004	8	118
Round Sector Frames	167.00	900	438,532	0.037	76	1,116
Kathrein Scala 742 213	157.00	66	29,845	0.003	5	82
Ericsson AIR 21, 1.3 M, B2A B4P	148.00	249	104,840	0.009	18	309
Ericsson AIR-32 B2A/B66Aa	148.00	397	166,987	0.014	29	492
Ericsson KRY 112 144/1	148.00	33	13,894	0.001	2	41
Ericsson Radio 4449 B12,B71	148.00	222	93,472	0.008	16	275
RFS APXVAARR24_43-U-NA20	148.00	384	161,555	0.014	28	476
Round Sector Frame	148.00	900	378,941	0.032	66	1,116
Motorola PTP54600	125.00	24	8,307	0.001	1	30
Standoffs	102.00	150	40,266	0.003	7	186
Generic 10' Dipole	85.00	30	6,460	0.001	1	37
Standoffs	80.00	75	15,008	0.001	3	93
PCTEL GPS-TMG-HR-26N	76.00	1	113	0.000	0	1
Standoffs	76.00	75	14,105	0.001	2	93
		45,432	11,882,306	1.000	2,058	56,359

LoadCase (0.9 - 0.2Sds) * DL + E Seismic (Reduced DL)

Section	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
10	188.00	815	458,175	0.039	79	700
9	170.00	1,719	855,962	0.072	148	1,478
8	150.00	2,782	1,190,42	0.100	206	2,391
7	130.00	3,486	1,254,59	0.106	217	2,996
6	110.00	3,617	1,063,66	0.090	184	3,108
5	90.00	4,094	944,592	0.079	164	3,519
4	70.00	4,387	746,957	0.063	129	3,770
3	50.00	4,783	542,208	0.046	94	4,111
2	30.00	5,124	313,176	0.026	54	4,404
1	10.00	5,425	87,821	0.007	15	4,662
Alcatel-Lucent 1900 MHz 4X45 RRH	192.00	180	103,822	0.009	18	155
Alcatel-Lucent 800 MHz RRH	185.00	159	87,682	0.007	15	137
Powerwave Allgon P40-16-XLPP-RRR	185.00	128	70,587	0.006	12	110
RFS APXVSPP18-C-A20	185.00	57	31,433	0.003	5	49
Round Sector Frames	185.00	900	496,315	0.042	86	774
Flat Light Sector Frames	178.00	1,200	631,596	0.053	109	1,031
Amphenol Antel BXA-80080-4CF-EDIN-X	177.00	36	18,819	0.002	3	31
Commscope SSPX310R	177.00	49	25,876	0.002	4	43
JMA Wireless MX06FRO660-02	177.00	276	144,281	0.012	25	237
RFS DB-T1-6Z-8AB-0Z	177.00	88	46,003	0.004	8	76

Site Number: 302470 Code: ANSI/TIA-222-G

Site Name: Ansonia Wakelee, CT Engineering Number: 12977015_C3_03

10/23/2019 2:19:49 PM

Customer: VERIZON WIRELESS

Equivalent Lateral Force Method

Samsung B2/B66A RRH-BR049	177.00	253	132,362	0.011	23	218
Samsung B5/B13 RRH-BR04C	177.00	211	110,249	0.009	19	181
Samsung Outdoor CBRS 20W RRH	177.00	56	29,170	0.002	5	48
CCI OPA-65R-LCUU-H6	167.00	146	71,140	0.006	12	125
CCI OPA-65R-LCUU-H8	167.00	88	42,879	0.004	7	76
CCI OPA65R-BU6A	167.00	115	56,035	0.005	10	99
CCI OPA65R-BU8B	167.00	69	33,621	0.003	6	59
CCI TPA65R-BU6D	167.00	135	65,780	0.006	11	116
CCI TPA65R-BU8D	167.00	83	40,199	0.003	7	71
Ericsson Radio 8843 - B2 + B66A (w/ prot	167.00	225	109,633	0.009	19	193
Ericsson RRUS 11 (Band 12) (55 lb)	167.00	165	80,397	0.007	14	142
Ericsson RRUS 4478 B14	167.00	178	86,829	0.007	15	153
Ericsson RRUS 4478 B5	167.00	180	87,560	0.007	15	154
Ericsson RRUS E2 B29	167.00	180	87,706	0.007	15	155
Ericsson RRUS-32 (77 lbs)	167.00	231	112,556	0.009	19	199
Kaelus DBCT108F1V92-1	167.00	83	40,637	0.003	7	72
Powerwave Allgon TT19-08BP111-001	167.00	96	46,777	0.004	8	83
Raycap DC6-48-60-0-8F (24" Height)	167.00	33	15,982	0.001	3	28
Raycap DC6-48-60-18-8F ("Squid")	167.00	95	46,484	0.004	8	82
Round Sector Frames	167.00	900	438,532	0.037	76	774
Kathrein Scala 742 213	157.00	66	29,845	0.003	5	57
Ericsson AIR 21, 1.3 M, B2A B4P	148.00	249	104,840	0.009	18	214
Ericsson AIR-32 B2A/B66Aa	148.00	397	166,987	0.014	29	341
Ericsson KRY 112 144/1	148.00	33	13,894	0.001	2	28
Ericsson Radio 4449 B12,B71	148.00	222	93,472	0.008	16	191
RFS APXVAARR24_43-U-NA20	148.00	384	161,555	0.014	28	330
Round Sector Frame	148.00	900	378,941	0.032	66	774
Motorola PTP54600	125.00	24	8,307	0.001	1	21
Standoffs	102.00	150	40,266	0.003	7	129
Generic 10' Dipole	85.00	30	6,460	0.001	1	26
Standoffs	80.00	75	15,008	0.001	3	64
PCTEL GPS-TMG-HR-26N	76.00	1	113	0.000	0	1
Standoffs	76.00	75	14,105	0.001	2	64
		45,432	11,882,306	1.000	2,058	39,047

Site Number: 302470 Code: ANSI/TIA-222-G

Site Name: Ansonia Wakelee, CT Engineering Number: 12977015_C3_03 10/23/2019 2:19:49 PM

Customer: VERIZON WIRELESS

Equivalent Modal Analysis Method

(Based on ASCE7-10 Chapters 11, 12 & 15 and ANSI/TIA-G, section 2.7)

Spectral Response Acceleration for Short Period (S_s):	0.19
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Importance Factor (I_e):	1.00
Site Coefficient F_a:	1.60
Site Coefficient F_v:	2.40
Response Modification Coefficient (R):	3.00
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.20
Desing Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Period Based on Rayleigh Method (sec):	0.92
Redundancy Factor (p):	1.30

LoadCase (1.2 + 0.2Sds) * DL + E Seismic

Section	Height Above Base (ft)	Weight (lb)	a	b	c	S_{az}	Horizontal Force (lb)	Vertical Force (lb)
10	188.00	815	1.739	1.275	0.876	0.330	116	1,011
9	170.00	1,719	1.422	0.326	0.455	0.168	125	2,133
8	150.00	2,782	1.107	-0.066	0.191	0.068	83	3,451
7	130.00	3,486	0.831	-0.117	0.063	0.037	56	4,324
6	110.00	3,617	0.595	-0.051	0.014	0.041	64	4,487
5	90.00	4,094	0.399	0.019	0.007	0.048	86	5,079
4	70.00	4,387	0.241	0.057	0.018	0.046	87	5,442
3	50.00	4,783	0.123	0.070	0.034	0.038	79	5,934
2	30.00	5,124	0.044	0.071	0.042	0.030	67	6,357
1	10.00	5,425	0.005	0.044	0.025	0.017	40	6,730
Alcatel-Lucent 1900 MHz 4X45	192.00	180	1.814	1.601	1.001	0.375	29	223
Alcatel-Lucent 800 MHz RRH	185.00	159	1.684	1.062	0.790	0.298	21	197
Powerwave Allgon P40-16-XLPP-	185.00	128	1.684	1.062	0.790	0.298	17	159
RFS APXVSPP18-C-A20	185.00	57	1.684	1.062	0.790	0.298	7	71
Round Sector Frames	185.00	900	1.684	1.062	0.790	0.298	116	1,116
Flat Light Sector Frames	178.00	1,200	1.559	0.657	0.616	0.231	120	1,489
Amphenol Antel BXA-80080-4CF-	177.00	36	1.541	0.608	0.593	0.223	3	45
Commscope SSPX310R	177.00	49	1.541	0.608	0.593	0.223	5	61
JMA Wireless MX06FRO660-02	177.00	276	1.541	0.608	0.593	0.223	27	342
RFS DB-T1-6Z-8AB-0Z	177.00	88	1.541	0.608	0.593	0.223	8	109
Samsung B2/B66A RRH-BR049	177.00	253	1.541	0.608	0.593	0.223	24	314
Samsung B5/B13 RRH-BR04C	177.00	211	1.541	0.608	0.593	0.223	20	262
Samsung Outdoor CBRS 20W	177.00	56	1.541	0.608	0.593	0.223	5	69
CCI OPA-65R-LCUU-H6	167.00	146	1.372	0.233	0.404	0.148	9	181
CCI OPA-65R-LCUU-H8	167.00	88	1.372	0.233	0.404	0.148	6	109
CCI OPA65R-BU6A	167.00	115	1.372	0.233	0.404	0.148	7	143
CCI OPA65R-BU8B	167.00	69	1.372	0.233	0.404	0.148	4	86
CCI TPA65R-BU6D	167.00	135	1.372	0.233	0.404	0.148	9	167
CCI TPA65R-BU8D	167.00	83	1.372	0.233	0.404	0.148	5	102
Ericsson Radio 8843 - B2 + B66A	167.00	225	1.372	0.233	0.404	0.148	14	279
Ericsson RRUS 11 (Band 12) (55	167.00	165	1.372	0.233	0.404	0.148	11	205
Ericsson RRUS 4478 B14	167.00	178	1.372	0.233	0.404	0.148	11	221
Ericsson RRUS 4478 B5	167.00	180	1.372	0.233	0.404	0.148	12	223
Ericsson RRUS E2 B29	167.00	180	1.372	0.233	0.404	0.148	12	223
Ericsson RRUS-32 (77 lbs)	167.00	231	1.372	0.233	0.404	0.148	15	287
Kaelus DBCT108F1V92-1	167.00	83	1.372	0.233	0.404	0.148	5	103
Powerwave Allgon TT19-	167.00	96	1.372	0.233	0.404	0.148	6	119
Raycap DC6-48-60-0-8F (24"	167.00	33	1.372	0.233	0.404	0.148	2	41
Raycap DC6-48-60-18-8F ("Squid")	167.00	95	1.372	0.233	0.404	0.148	6	118
Round Sector Frames	167.00	900	1.372	0.233	0.404	0.148	58	1,116

Site Number: 302470 Code: ANSI/TIA-222-G

Site Name: Ansonia Wakelee, CT Engineering Number: 12977015_C3_03 10/23/2019 2:19:49 PM

Customer: VERIZON WIRELESS

Equivalent Modal Analysis Method

Kathrein Scala 742 213	157.00	66	1.213	0.017	0.264	0.095	3	82
Ericsson AIR 21, 1.3 M, B2A B4P	148.00	249	1.078	-0.082	0.173	0.063	7	309
Ericsson AIR-32 B2A/B66Aa	148.00	397	1.078	-0.082	0.173	0.063	11	492
Ericsson KRY 112 144/1	148.00	33	1.078	-0.082	0.173	0.063	1	41
Ericsson Radio 4449 B12,B71	148.00	222	1.078	-0.082	0.173	0.063	6	275
RFS APXVAARR24_43-U-NA20	148.00	384	1.078	-0.082	0.173	0.063	10	476
Round Sector Frame	148.00	900	1.078	-0.082	0.173	0.063	24	1,116
Motorola PTP54600	125.00	24	0.769	-0.105	0.045	0.036	0	30
Standoffs	102.00	150	0.512	-0.020	0.008	0.045	3	186
Generic 10' Dipole	85.00	30	0.355	0.031	0.008	0.049	1	37
Standoffs	80.00	75	0.315	0.042	0.011	0.048	2	93
PCTEL GPS-TMG-HR-26N	76.00	1	0.284	0.049	0.014	0.048	0	1
Standoffs	76.00	75	0.284	0.049	0.014	0.048	2	93
		45,432	60.926	15.924	18.919	7.441	1,468	56,359

LoadCase (0.9 - 0.2Sds) * DL + E Seismic (Reduced DL)

Section	Height Above Base (ft)	Weight (lb)	a	b	c	S_{az}	Horizontal Force (lb)	Vertical Force (lb)
10	188.00	815	1.739	1.275	0.876	0.330	116	700
9	170.00	1,719	1.422	0.326	0.455	0.168	125	1,478
8	150.00	2,782	1.107	-0.066	0.191	0.068	83	2,391
7	130.00	3,486	0.831	-0.117	0.063	0.037	56	2,996
6	110.00	3,617	0.595	-0.051	0.014	0.041	64	3,108
5	90.00	4,094	0.399	0.019	0.007	0.048	86	3,519
4	70.00	4,387	0.241	0.057	0.018	0.046	87	3,770
3	50.00	4,783	0.123	0.070	0.034	0.038	79	4,111
2	30.00	5,124	0.044	0.071	0.042	0.030	67	4,404
1	10.00	5,425	0.005	0.044	0.025	0.017	40	4,662
Alcatel-Lucent 1900 MHz 4X45	192.00	180	1.814	1.601	1.001	0.375	29	155
Alcatel-Lucent 800 MHz RRH	185.00	159	1.684	1.062	0.790	0.298	21	137
Powerwave Allgon P40-16-XLPP-	185.00	128	1.684	1.062	0.790	0.298	17	110
RFS APXVSPP18-C-A20	185.00	57	1.684	1.062	0.790	0.298	7	49
Round Sector Frames	185.00	900	1.684	1.062	0.790	0.298	116	774
Flat Light Sector Frames	178.00	1,200	1.559	0.657	0.616	0.231	120	1,031
Amphenol Antel BXA-80080-4CF-	177.00	36	1.541	0.608	0.593	0.223	3	31
Commscope SSPX310R	177.00	49	1.541	0.608	0.593	0.223	5	43
JMA Wireless MX06FRO660-02	177.00	276	1.541	0.608	0.593	0.223	27	237
RFS DB-T1-6Z-8AB-0Z	177.00	88	1.541	0.608	0.593	0.223	8	76
Samsung B2/B66A RRH-BR049	177.00	253	1.541	0.608	0.593	0.223	24	218
Samsung B5/B13 RRH-BR04C	177.00	211	1.541	0.608	0.593	0.223	20	181
Samsung Outdoor CBRS 20W	177.00	56	1.541	0.608	0.593	0.223	5	48
CCI OPA-65R-LCUU-H6	167.00	146	1.372	0.233	0.404	0.148	9	125
CCI OPA-65R-LCUU-H8	167.00	88	1.372	0.233	0.404	0.148	6	76
CCI OPA65R-BU6A	167.00	115	1.372	0.233	0.404	0.148	7	99
CCI OPA65R-BU8B	167.00	69	1.372	0.233	0.404	0.148	4	59
CCI TPA65R-BU6D	167.00	135	1.372	0.233	0.404	0.148	9	116
CCI TPA65R-BU8D	167.00	83	1.372	0.233	0.404	0.148	5	71
Ericsson Radio 8843 - B2 + B66A	167.00	225	1.372	0.233	0.404	0.148	14	193
Ericsson RRUS 11 (Band 12) (55	167.00	165	1.372	0.233	0.404	0.148	11	142
Ericsson RRUS 4478 B14	167.00	178	1.372	0.233	0.404	0.148	11	153
Ericsson RRUS 4478 B5	167.00	180	1.372	0.233	0.404	0.148	12	154
Ericsson RRUS E2 B29	167.00	180	1.372	0.233	0.404	0.148	12	155
Ericsson RRUS-32 (77 lbs)	167.00	231	1.372	0.233	0.404	0.148	15	199
Kaelus DBCT108F1V92-1	167.00	83	1.372	0.233	0.404	0.148	5	72
Powerwave Allgon TT19-	167.00	96	1.372	0.233	0.404	0.148	6	83
Raycap DC6-48-60-0-8F (24"	167.00	33	1.372	0.233	0.404	0.148	2	28
Raycap DC6-48-60-18-8F ("Squid")	167.00	95	1.372	0.233	0.404	0.148	6	82
Round Sector Frames	167.00	900	1.372	0.233	0.404	0.148	58	774
Kathrein Scala 742 213	157.00	66	1.213	0.017	0.264	0.095	3	57
Ericsson AIR 21, 1.3 M, B2A B4P	148.00	249	1.078	-0.082	0.173	0.063	7	214
Ericsson AIR-32 B2A/B66Aa	148.00	397	1.078	-0.082	0.173	0.063	11	341
Ericsson KRY 112 144/1	148.00	33	1.078	-0.082	0.173	0.063	1	28

Site Number: 302470 Code: ANSI/TIA-222-G

Site Name: Ansonia Wakelee, CT Engineering Number: 12977015_C3_03 10/23/2019 2:19:49 PM

Customer: VERIZON WIRELESS

Equivalent Modal Analysis Method

Ericsson Radio 4449 B12,B71	148.00	222	1.078	-0.082	0.173	0.063	6	191
RFS APXVAARR24_43-U-NA20	148.00	384	1.078	-0.082	0.173	0.063	10	330
Round Sector Frame	148.00	900	1.078	-0.082	0.173	0.063	24	774
Motorola PTP54600	125.00	24	0.769	-0.105	0.045	0.036	0	21
Standoffs	102.00	150	0.512	-0.020	0.008	0.045	3	129
Generic 10' Dipole	85.00	30	0.355	0.031	0.008	0.049	1	26
Standoffs	80.00	75	0.315	0.042	0.011	0.048	2	64
PCTEL GPS-TMG-HR-26N	76.00	1	0.284	0.049	0.014	0.048	0	1
Standoffs	76.00	75	0.284	0.049	0.014	0.048	2	64
		45,432	60.926	15.924	18.919	7.441	1,468	39,047

Site Number: 302470 Code: ANSI/TIA-222-G

Site Name: Ansonia Wakelee, CT Engineering Number: 12977015_C3_03 10/23/2019 2:19:49 PM

Customer: VERIZON WIRELESS

Force/Stress Summary

Section: 1 15N25 Bot Elev (ft): 0.00 Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PX - 8" DIA PIPE	-338.60	1.2D + 1.6W Normal	9.77	100	100	100	40.7	50.0	510.32	0	0	0.00	0.00	66	Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 4X4X0.25	-11.12	1.2D + 1.6W 90 deg	23.62	50	50	50	178.3	43.5	13.79	1	1	17.89	23.40	80	Member Z

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PX - 8" DIA PIPE	300.65	0.9D + 1.6W 60 deg	50	65	576.00	0	0	0.00	0.00		52	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG SAE - 4X4X0.25	10.96	1.2D + 1.6W 90 deg	50	65	62.93	1	1	17.89	14.14	17.98	77	Bolt Bear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	272.51	0.9D + 1.6W 60 deg	0.00	0	0	
Top Compression	315.14	1.2D + 1.6W Normal	0.00	0		
Bot Tension	300.65	0.9D + 1.6W 60 deg	605.74	60	10	1" A354-BC
Bot Compression	347.70	1.2D + 1.6W Normal	605.74	69	10	1" A354-BC

Section: 2 14N46 Bot Elev (ft): 20.00 Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PSP - ROHN 8 EHS	-304.75	1.2D + 1.6W Normal	9.77	100	100	100	40.1	50.0	388.80	0	0	0.00	0.00	78	Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 4X4X0.25	-10.69	1.2D + 1.6W 90 deg	22.69	50	50	50	171.3	43.5	14.94	1	1	17.89	23.40	71	Member Z

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PSP - ROHN 8 EHS	272.82	0.9D + 1.6W 60 deg	50	65	437.40	0	0	0.00	0.00		62	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG SAE - 4X4X0.25	10.52	1.2D + 1.6W 90 deg	50	65	62.93	1	1	17.89	14.14	17.98	74	Bolt Bear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	242.21	0.9D + 1.6W 60 deg	0.00	0	0	
Top Compression	279.28	1.2D + 1.6W Normal	0.00	0		
Bot Tension	272.51	0.9D + 1.6W 60 deg	436.14	62	8	1 A325
Bot Compression	0.00		0.00	0		

Site Number: 302470 Code: ANSI/TIA-222-G

Site Name: Ansonia Wakelee, CT Engineering Number: 12977015_C3_03 10/23/2019 2:19:49 PM

Customer: VERIZON WIRELESS

Force/Stress Summary

Section: 3 13N88 Bot Elev (ft): 40.00 Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PSP - ROHN 8 EHS	-269.43	1.2D + 1.6W Normal	9.77	100	100	100	40.1	50.0	388.78	0	0	0.00	0.00	69	Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 3.5X3.5X0.25	-9.57	1.2D + 1.6W 90 deg	20.87	50	50	50	182.0	50.0	11.52	1	1	17.89	23.40	83	Member Z

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PSP - ROHN 8 EHS	242.61	0.9D + 1.6W 60 deg	50	65	437.40	0	0	0.00	0.00		55	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG SAE - 3.5X3.5X0.25	9.47	0.9D + 1.6W 90 deg	50	65	53.79	1	1	17.89	14.14	17.98	67	Bolt Bear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	212.49	0.9D + 1.6W 60 deg	0.00	0	0	
Top Compression	244.22	1.2D + 1.6W Normal	0.00	0		
Bot Tension	242.21	0.9D + 1.6W 60 deg	436.14	56	8	1 A325
Bot Compression	0.00		0.00	0		

Section: 4 12N50 Bot Elev (ft): 60.00 Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PX - 6" DIA PIPE	-233.95	1.2D + 1.6W Normal	9.77	100	100	100	53.4	50.0	306.88	0	0	0.00	0.00	76	Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 3.5X3.5X0.25	-9.28	1.2D + 1.6W 90 deg	19.04	50	50	50	166.1	50.0	13.84	1	1	17.89	23.40	67	Member Z

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PX - 6" DIA PIPE	212.78	0.9D + 1.6W 60 deg	50	65	378.00	0	0	0.00	0.00		56	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG SAE - 3.5X3.5X0.25	9.29	1.2D + 1.6W 90 deg	50	65	53.79	1	1	17.89	14.14	17.98	65	Bolt Bear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	180.39	0.9D + 1.6W 60 deg	0.00	0	0	
Top Compression	207.03	1.2D + 1.6W Normal	0.00	0		
Bot Tension	212.49	0.9D + 1.6W 60 deg	436.14	49	8	1 A325
Bot Compression	0.00		0.00	0		

Site Number: 302470 Code: ANSI/TIA-222-G

Site Name: Ansonia Wakelee, CT Engineering Number: 12977015_C3_03 10/23/2019 2:19:49 PM

Customer: VERIZON WIRELESS

Force/Stress Summary

Section: 5 11N223 Bot Elev (ft): 80.00 Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PSP - ROHN 6 EHS	-199.20	1.2D + 1.6W Normal	6.51	100	100	100	35.1	50.0	275.92	0	0	0.00	0.00	72	Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 3X3X0.25	-8.44	1.2D + 1.6W 90 deg	15.90	50	50	50	161.2	50.0	12.52	1	1	17.89	23.40	67	Member Z

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PSP - ROHN 6 EHS	178.53	1.2D + 1.6W 60 deg	50	65	301.95	0	0	0.00	0.00		59	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG SAE - 3X3X0.25	8.30	1.2D + 1.6W 90 deg	50	65	44.65	1	1	17.89	14.14	14.93	58	Bolt Bear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	146.18	0.9D + 1.6W 60 deg	0.00	0	0	
Top Compression	167.83	1.2D + 1.6W Normal	0.00	0		
Bot Tension	180.39	0.9D + 1.6W 60 deg	327.10	55	6	1 A325
Bot Compression	0.00		0.00	0		

Section: 6 10N152 Bot Elev (ft): 100.0 Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PX - 5" DIA PIPE	-160.62	1.2D + 1.6W Normal	6.51	100	100	100	42.5	50.0	240.98	0	0	0.00	0.00	66	Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 2.5X2.5X0.25	-7.13	1.2D + 1.6W 90 deg	14.13	50	50	50	172.8	36.0	9.01	1	1	12.43	17.40	79	Member Z

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PX - 5" DIA PIPE	146.44	0.9D + 1.6W 60 deg	50	65	274.95	0	0	0.00	0.00		53	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG SAE - 2.5X2.5X0.25	7.27	1.2D + 1.6W 90 deg	36	58	32.71	1	1	12.43	10.44	11.83	69	Bolt Bear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	112.42	0.9D + 1.6W 60 deg	0.00	0	0	
Top Compression	129.80	1.2D + 1.6W Normal	0.00	0		
Bot Tension	146.18	0.9D + 1.6W 60 deg	327.10	45	6	1 A325
Bot Compression	0.00		0.00	0		

Site Number: 302470 Code: ANSI/TIA-222-G

Site Name: Ansonia Wakelee, CT Engineering Number: 12977015_C3_03 10/23/2019 2:19:49 PM

Customer: VERIZON WIRELESS

Force/Stress Summary

Section: 7 9N216 Bot Elev (ft): 120.0 Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PX - 5" DIA PIPE	-121.91	1.2D + 1.6W Normal	6.51	100	100	100	42.5	50.0	240.99	0	0	0.00	0.00	50	Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 2.5X2.5X0.25	-7.38	1.2D + 1.6W 90 deg	11.25	50	50	50	137.5	36.0	14.22	1	1	12.43	17.40	59	Bolt Shear

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PX - 5" DIA PIPE	111.12	1.2D + 1.6W 60 deg	50	65	274.95	0	0	0.00	0.00		40	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG SAE - 2.5X2.5X0.25	7.24	1.2D + 1.6W 90 deg	36	58	32.71	1	1	12.43	10.44	11.83	69	Bolt Bear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	74.01	0.9D + 1.6W 60 deg	0.00	0	0	
Top Compression	87.35	1.2D + 1.6W Normal	0.00	0		
Bot Tension	112.42	0.9D + 1.6W 60 deg	218.07	52	4	1 A325
Bot Compression	0.00		0.00	0		

Section: 8 A780252 Bot Elev (ft): 140.0 Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PX - 4" DIA PIPE	-81.13	1.2D + 1.6W Normal	4.88	100	100	100	39.6	50.0	176.95	0	0	0.00	0.00	45	Member X
HORIZ SAE - 2X2X0.125	-0.36	1.2D + 1.6W 60 deg	6.760	100	100	100	203.8	36.0	2.61	1	1	12.43	8.70	13	Member Z
DIAG SAE - 2X2X0.25	-6.08	1.2D + 1.6W 90 deg	9.848	50	50	50	151.1	36.0	9.30	1	1	12.43	17.40	65	Member Z

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PX - 4" DIA PIPE	74.21	0.9D + 1.6W 60 deg	50	65	198.45	0	0	0.00	0.00		37	Member
HORIZ SAE - 2X2X0.125	0.28	0.9D + 1.6W Normal	36	58	12.60	1	1	12.43	5.22	4.55	6	Blk Shear
DIAG SAE - 2X2X0.25	6.10	1.2D + 1.6W 90 deg	36	58	24.55	1	1	12.43	10.44	9.11	66	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	35.05	0.9D + 1.6W 60 deg	0.00	0	0	
Top Compression	43.34	1.2D + 1.6W Normal	0.00	0		
Bot Tension	74.01	0.9D + 1.6W 60 deg	218.07	34	4	1 A325
Bot Compression	0.00		0.00	0		

Site Number: 302470 Code: ANSI/TIA-222-G

Site Name: Ansonia Wakelee, CT Engineering Number: 12977015_C3_03 10/23/2019 2:19:49 PM

Customer: VERIZON WIRELESS

Force/Stress Summary

Section: 9 A780178 Bot Elev (ft): 160.0 Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PX - 3" DIA PIPE	-42.74	1.2D + 1.6W Normal	0.25	100	100	100	2.6	50.0	135.83	0	0	0.00	0.00	31	Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 2X2X0.1875	-5.75	1.2D + 1.6W 90 deg	7.798	50	50	50	119.1	36.0	10.98	2	1	24.85	26.10	52	Member Z

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PX - 3" DIA PIPE	33.99	1.2D + 1.6W 60 deg	50	65	135.90	0	0	0.00	0.00		25	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG SAE - 2X2X0.1875	5.68	1.2D + 1.6W 90 deg	36	58	18.74	2	1	24.85	20.88	12.34	46	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	3.01	0.9D + 1.6W 60 deg	0.00	0	0	
Top Compression	5.01	1.2D + 1.6W Normal	0.00	0		
Bot Tension	35.05	0.9D + 1.6W 60 deg	166.22	21	4	0.875" A325
Bot Compression	0.00		0.00	0		

Section: 10 A780178 Bot Elev (ft): 180.0 Height (ft): 16.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PST - 2-1/2" DIA PIP	-4.91	1.2D + 1.6W Normal	0.25	100	100	100	3.2	50.0	76.62	0	0	0.00	0.00	6	Member X
HORIZ SAE - 2X2X0.125	-0.06	1.2D + 1.6W Normal	6.647	100	100	100	200.4	36.0	2.70	1	1	12.43	8.70	2	Member Z
DIAG SAE - 1.75X1.75X0.18	-1.30	1.2D + 1.6W Normal	7.758	50	50	50	135.7	36.0	7.62	1	1	12.43	13.05	17	Member Z

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PST - 2-1/2" DIA PIP	3.08	0.9D + 1.6W 60 deg	50	65	76.68	0	0	0.00	0.00		4	Member
HORIZ SAE - 2X2X0.125	0.06	1.2D + 1.6W 60 deg	36	58	12.60	1	1	12.43	5.22	4.55	1	Blk Shear
DIAG SAE - 1.75X1.75X0.18	1.34	1.2D + 1.6W 90 deg	36	58	15.67	1	1	12.43	7.83	5.81	22	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	0.00		0.00	0	0	
Top Compression	0.21	1.2D + 1.0Di + 1.0Wi	0.00	0		
Bot Tension	3.01	0.9D + 1.6W 60 deg	120.41	2	4	0.75" A325
Bot Compression	0.00		0.00	0		

Site Number: 302470 Code: ANSI/TIA-222-G

Site Name: Ansonia Wakelee, CT Engineering Number: 12977015_C3_03 10/23/2019 2:19:49 PM

Customer: VERIZON WIRELESS

Detailed Reactions

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	FX (kip)	FY (kip)	FZ (kip)	(-) = Uplift (+) = Down
1.2D + 1.6W Normal	13.28	00.00	0	1	0.00	346.64	-36.10	
	13.28	00.00	120	1a	12.29	-146.06	-11.69	
	13.28	00.00	240	1b	-12.29	-146.06	-11.69	
1.2D + 1.6W 60 deg	13.28	00.00	0	1	-3.59	174.68	-17.67	
	13.28	00.00	120	1a	-17.09	174.65	5.73	
	13.28	00.00	240	1b	-27.86	-294.81	-16.09	
1.2D + 1.6W 90 deg	13.28	00.00	0	1	-4.28	18.18	-1.11	
	13.28	00.00	120	1a	-27.18	292.55	13.27	
	13.28	00.00	240	1b	-25.45	-256.21	-12.17	
0.9D + 1.6W Normal	13.28	00.00	0	1	0.00	341.69	-35.81	
	13.28	00.00	120	1a	12.53	-150.40	-11.84	
	13.28	00.00	240	1b	-12.53	-150.40	-11.84	
0.9D + 1.6W 60 deg	13.28	00.00	0	1	-3.59	169.95	-17.38	
	13.28	00.00	120	1a	-16.84	169.91	5.58	
	13.28	00.00	240	1b	-28.11	-298.97	-16.23	
0.9D + 1.6W 90 deg	13.28	00.00	0	1	-4.29	13.63	-0.82	
	13.28	00.00	120	1a	-26.92	287.67	13.12	
	13.28	00.00	240	1b	-25.70	-260.42	-12.30	
1.2D + 1.0Di + 1.0Wi Normal	13.28	00.00	0	1	0.00	164.95	-12.25	
	13.28	00.00	120	1a	4.77	-4.00	-4.42	
	13.28	00.00	240	1b	-4.77	-4.00	-4.42	
1.2D + 1.0Di + 1.0Wi 60 deg	13.28	00.00	0	1	-1.38	107.61	-5.93	
	13.28	00.00	120	1a	-5.82	107.60	1.76	
	13.28	00.00	240	1b	-10.64	-58.25	-6.14	
1.2D + 1.0Di + 1.0Wi 90 deg	13.28	00.00	0	1	-1.62	52.32	0.14	
	13.28	00.00	120	1a	-9.42	148.53	4.51	
	13.28	00.00	240	1b	-9.68	-43.90	-4.65	
(1.2 + 0.2Sds) * DL + E Normal M1	13.28	00.00	0	1	0.00	32.16	-2.44	
	13.28	00.00	120	1a	-0.54	11.42	0.22	
	13.28	00.00	240	1b	0.54	11.42	0.22	
(1.2 + 0.2Sds) * DL + E Normal M2	13.28	00.00	0	1	0.00	28.48	-2.09	
	13.28	00.00	120	1a	-0.68	13.27	0.33	
	13.28	00.00	240	1b	0.68	13.27	0.33	
(1.2 + 0.2Sds) * DL + E 60 deg M1	13.28	00.00	0	1	-0.08	25.25	-1.82	
	13.28	00.00	120	1a	-1.62	25.25	0.84	
	13.28	00.00	240	1b	-0.04	4.51	-0.02	
(1.2 + 0.2Sds) * DL + E 60 deg M2	13.28	00.00	0	1	-0.05	23.31	-1.63	
	13.28	00.00	120	1a	-1.44	23.31	0.77	
	13.28	00.00	240	1b	0.28	8.40	0.16	
(1.2 + 0.2Sds) * DL + E 90 deg M1	13.28	00.00	0	1	-0.09	18.34	-1.20	
	13.28	00.00	120	1a	-2.00	30.31	1.10	
	13.28	00.00	240	1b	0.08	6.36	0.10	
(1.2 + 0.2Sds) * DL + E 90 deg M2	13.28	00.00	0	1	-0.06	18.34	-1.20	
	13.28	00.00	120	1a	-1.72	27.12	0.96	

Site Number: 302470 Code: ANSI/TIA-222-G

Site Name: Ansonia Wakelee, CT Engineering Number: 12977015_C3_03 10/23/2019 2:19:49 PM

Customer: VERIZON WIRELESS

	13.28	00.00	240	1b	0.35	9.56	0.24
(0.9 - 0.2Sds) * DL + E Normal M1	13.28	00.00	0	1	0.00	26.51	-2.08
	13.28	00.00	120	1a	-0.22	5.80	0.03
	13.28	00.00	240	1b	0.22	5.80	0.03
(0.9 - 0.2Sds) * DL + E Normal M2	13.28	00.00	0	1	0.00	22.83	-1.72
	13.28	00.00	120	1a	-0.36	7.64	0.15
	13.28	00.00	240	1b	0.36	7.64	0.15
(0.9 - 0.2Sds) * DL + E 60 deg M1	13.28	00.00	0	1	-0.08	19.61	-1.45
	13.28	00.00	120	1a	-1.30	19.61	0.66
	13.28	00.00	240	1b	-0.36	-1.10	-0.21
(0.9 - 0.2Sds) * DL + E 60 deg M2	13.28	00.00	0	1	-0.05	17.67	-1.27
	13.28	00.00	120	1a	-1.12	17.67	0.59
	13.28	00.00	240	1b	-0.04	2.78	-0.02
(0.9 - 0.2Sds) * DL + E 90 deg M1	13.28	00.00	0	1	-0.09	12.70	-0.83
	13.28	00.00	120	1a	-1.68	24.66	0.91
	13.28	00.00	240	1b	-0.24	0.75	-0.08
(0.9 - 0.2Sds) * DL + E 90 deg M2	13.28	00.00	0	1	-0.06	12.70	-0.83
	13.28	00.00	120	1a	-1.40	21.47	0.77
	13.28	00.00	240	1b	0.04	3.94	0.06
1.0D + 1.0W Service Normal	13.28	00.00	0	1	0.00	94.72	-9.54
	13.28	00.00	120	1a	2.39	-24.64	-2.51
	13.28	00.00	240	1b	-2.39	-24.64	-2.51
1.0D + 1.0W Service 60 deg	13.28	00.00	0	1	-0.90	53.15	-5.02
	13.28	00.00	120	1a	-4.80	53.14	1.73
	13.28	00.00	240	1b	-6.21	-60.87	-3.58
1.0D + 1.0W Service 90 deg	13.28	00.00	0	1	-1.07	15.14	-0.96
	13.28	00.00	120	1a	-7.28	81.82	3.59
	13.28	00.00	240	1b	-5.62	-51.54	-2.63

Max Uplift:	298.97 (kip)	Moment Ice:	2,243.46 (kip-ft)	Moment:	6,542.65 (kip-ft)	1.2D + 1.6W Normal	
Max Down:	346.64 (kip)	Total Down Ice:	156.95 (kip)	Total Down:	54.52 (kip)		
Max Shear:	36.10 (kip)	Total Shear Ice:	21.08 (kip)	Total Shear:	59.49 (kip)		

Site Number: 302470 Code: ANSI/TIA-222-G

Site Name: Ansonia Wakelee, CT Engineering Number: 12977015_C3_03 10/23/2019 2:19:49 PM

Customer: VERIZON WIRELESS

Deflections and Rotations

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
97 mph Normal with No Ice	79.75	0.280	0.0177	0.4464	0.4464
97 mph Normal with No Ice	80.00	0.282	0.0177	0.4503	0.4503
97 mph Normal with No Ice	86.75	0.332	0.0176	0.4356	0.4360
97 mph Normal with No Ice	100.25	0.447	0.0214	0.5734	0.5734
97 mph Normal with No Ice	126.75	0.730	0.0237	0.6809	0.6813
97 mph Normal with No Ice	150.00	1.038	0.0271	0.8330	0.8330
97 mph Normal with No Ice	154.88	1.108	0.0270	0.8326	0.8331
97 mph Normal with No Ice	168.05	1.314	0.0297	0.9179	0.9184
97 mph Normal with No Ice	175.85	1.438	0.0298	0.9234	0.9239
97 mph Normal with No Ice	179.75	1.501	0.0294	0.9809	0.9809
97 mph Normal with No Ice	184.19	1.573	0.0298	0.9116	0.9121
97 mph Normal with No Ice	192.06	1.699	0.0297	0.9188	0.9193
97 mph 60 degree with No Ice	79.75	0.268	-0.0205	0.4273	0.4273
97 mph 60 degree with No Ice	80.00	0.270	-0.0206	0.4307	0.4307
97 mph 60 degree with No Ice	86.75	0.318	-0.0208	0.4172	0.4177
97 mph 60 degree with No Ice	100.25	0.428	-0.0258	0.5488	0.5488
97 mph 60 degree with No Ice	126.75	0.700	-0.0311	0.6519	0.6526
97 mph 60 degree with No Ice	150.00	0.995	0.0343	0.8004	0.8005
97 mph 60 degree with No Ice	154.88	1.063	0.0340	0.7994	0.8001
97 mph 60 degree with No Ice	168.05	1.260	0.0380	0.8829	0.8830
97 mph 60 degree with No Ice	175.85	1.380	0.0385	0.8821	0.8829
97 mph 60 degree with No Ice	179.75	1.440	0.0389	0.9418	0.9419
97 mph 60 degree with No Ice	184.19	1.509	0.0384	0.8748	0.8756
97 mph 60 degree with No Ice	192.06	1.630	0.0385	0.8821	0.8829
97 mph 90 degree with No Ice	79.75	0.270	-0.0245	0.4274	0.4275
97 mph 90 degree with No Ice	80.00	0.272	-0.0246	0.4304	0.4306
97 mph 90 degree with No Ice	86.75	0.321	-0.0252	0.4227	0.4234
97 mph 90 degree with No Ice	100.25	0.432	-0.0312	0.5486	0.5488
97 mph 90 degree with No Ice	126.75	0.707	-0.0383	0.6582	0.6593
97 mph 90 degree with No Ice	150.00	1.005	-0.0424	0.8056	0.8059
97 mph 90 degree with No Ice	154.88	1.074	-0.0420	0.8112	0.8123
97 mph 90 degree with No Ice	168.05	1.273	-0.0455	0.8910	0.8913
97 mph 90 degree with No Ice	175.85	1.394	-0.0456	0.8938	0.8949
97 mph 90 degree with No Ice	179.75	1.455	-0.0456	0.9421	0.9423
97 mph 90 degree with No Ice	184.19	1.524	-0.0456	0.8868	0.8880
97 mph 90 degree with No Ice	192.06	1.646	-0.0456	0.8928	0.8939
97 mph Normal with No Ice (Reduced DL)	79.75	0.280	0.0176	0.4460	0.4460
97 mph Normal with No Ice (Reduced DL)	80.00	0.282	0.0177	0.4498	0.4498
97 mph Normal with No Ice (Reduced DL)	86.75	0.332	0.0176	0.4349	0.4352
97 mph Normal with No Ice (Reduced DL)	100.25	0.446	0.0213	0.5724	0.5724
97 mph Normal with No Ice (Reduced DL)	126.75	0.729	0.0236	0.6795	0.6799
97 mph Normal with No Ice (Reduced DL)	150.00	1.036	0.0270	0.8311	0.8311
97 mph Normal with No Ice (Reduced DL)	154.88	1.106	0.0269	0.8308	0.8312
97 mph Normal with No Ice (Reduced DL)	168.05	1.311	0.0297	0.9157	0.9162
97 mph Normal with No Ice (Reduced DL)	175.85	1.436	0.0297	0.9213	0.9218
97 mph Normal with No Ice (Reduced DL)	179.75	1.498	0.0293	0.9785	0.9785
97 mph Normal with No Ice (Reduced DL)	184.19	1.570	0.0297	0.9096	0.9100
97 mph Normal with No Ice (Reduced DL)	192.06	1.695	0.0297	0.9167	0.9172
97 mph 60 deg with No Ice (Reduced DL)	79.75	0.267	-0.0204	0.4264	0.4264
97 mph 60 deg with No Ice (Reduced DL)	80.00	0.269	-0.0205	0.4298	0.4298
97 mph 60 deg with No Ice (Reduced DL)	86.75	0.317	-0.0208	0.4164	0.4169
97 mph 60 deg with No Ice (Reduced DL)	100.25	0.427	-0.0258	0.5478	0.5478
97 mph 60 deg with No Ice (Reduced DL)	126.75	0.699	-0.0310	0.6506	0.6513
97 mph 60 deg with No Ice (Reduced DL)	150.00	0.993	0.0343	0.7987	0.7987
97 mph 60 deg with No Ice (Reduced DL)	154.88	1.061	0.0339	0.7977	0.7984

97 mph 60 deg with No Ice (Reduced DL)	168.05	1.257	0.0379	0.8807	0.8808
97 mph 60 deg with No Ice (Reduced DL)	175.85	1.377	0.0384	0.8801	0.8809
97 mph 60 deg with No Ice (Reduced DL)	179.75	1.437	0.0388	0.9397	0.9398
97 mph 60 deg with No Ice (Reduced DL)	184.19	1.506	0.0383	0.8728	0.8737
97 mph 60 deg with No Ice (Reduced DL)	192.06	1.627	0.0384	0.8801	0.8809
97 mph 90 deg with No Ice (Reduced DL)	79.75	0.270	-0.0245	0.4267	0.4269
97 mph 90 deg with No Ice (Reduced DL)	80.00	0.272	-0.0246	0.4299	0.4301
97 mph 90 deg with No Ice (Reduced DL)	86.75	0.320	-0.0251	0.4219	0.4227
97 mph 90 deg with No Ice (Reduced DL)	100.25	0.432	-0.0311	0.5476	0.5478
97 mph 90 deg with No Ice (Reduced DL)	126.75	0.706	-0.0383	0.6569	0.6580
97 mph 90 deg with No Ice (Reduced DL)	150.00	1.004	-0.0423	0.8038	0.8041
97 mph 90 deg with No Ice (Reduced DL)	154.88	1.072	-0.0419	0.8095	0.8106
97 mph 90 deg with No Ice (Reduced DL)	168.05	1.270	-0.0454	0.8888	0.8891
97 mph 90 deg with No Ice (Reduced DL)	175.85	1.391	-0.0455	0.8917	0.8929
97 mph 90 deg with No Ice (Reduced DL)	179.75	1.452	-0.0455	0.9398	0.9401
97 mph 90 deg with No Ice (Reduced DL)	184.19	1.522	-0.0455	0.8848	0.8860
97 mph 90 deg with No Ice (Reduced DL)	192.06	1.643	-0.0455	0.8908	0.8919
50 mph Normal with 0.75 in Radial Ice	79.75	0.096	0.0064	0.1490	0.1490
50 mph Normal with 0.75 in Radial Ice	80.00	0.097	0.0064	0.1505	0.1505
50 mph Normal with 0.75 in Radial Ice	86.75	0.114	0.0063	0.1449	0.1451
50 mph Normal with 0.75 in Radial Ice	100.25	0.152	0.0077	0.1904	0.1904
50 mph Normal with 0.75 in Radial Ice	126.75	0.244	0.0084	0.2189	0.2191
50 mph Normal with 0.75 in Radial Ice	150.00	0.342	0.0096	0.2628	0.2628
50 mph Normal with 0.75 in Radial Ice	154.88	0.364	0.0095	0.2626	0.2627
50 mph Normal with 0.75 in Radial Ice	168.05	0.428	0.0103	0.2866	0.2868
50 mph Normal with 0.75 in Radial Ice	175.85	0.467	0.0102	0.2875	0.2877
50 mph Normal with 0.75 in Radial Ice	179.75	0.487	0.0102	0.3037	0.3037
50 mph Normal with 0.75 in Radial Ice	184.19	0.509	0.0101	0.2840	0.2841
50 mph Normal with 0.75 in Radial Ice	192.06	0.548	0.0101	0.2857	0.2859
50 mph 60 deg with 0.75 in Radial Ice	79.75	0.095	-0.0073	0.1518	0.1518
50 mph 60 deg with 0.75 in Radial Ice	80.00	0.096	-0.0073	0.1529	0.1529
50 mph 60 deg with 0.75 in Radial Ice	86.75	0.113	-0.0073	0.1425	0.1427
50 mph 60 deg with 0.75 in Radial Ice	100.25	0.150	-0.0090	0.1881	0.1881
50 mph 60 deg with 0.75 in Radial Ice	126.75	0.241	-0.0107	0.2153	0.2155
50 mph 60 deg with 0.75 in Radial Ice	150.00	0.337	-0.0117	0.2583	0.2583
50 mph 60 deg with 0.75 in Radial Ice	154.88	0.359	-0.0116	0.2577	0.2580
50 mph 60 deg with 0.75 in Radial Ice	168.05	0.422	-0.0124	0.2831	0.2831
50 mph 60 deg with 0.75 in Radial Ice	175.85	0.460	-0.0123	0.2811	0.2813
50 mph 60 deg with 0.75 in Radial Ice	179.75	0.479	-0.0123	0.2976	0.2976
50 mph 60 deg with 0.75 in Radial Ice	184.19	0.501	-0.0122	0.2786	0.2789
50 mph 60 deg with 0.75 in Radial Ice	192.06	0.540	-0.0121	0.2811	0.2814
50 mph 90 deg with 0.75 in Radial Ice	79.75	0.096	-0.0085	0.1502	0.1503
50 mph 90 deg with 0.75 in Radial Ice	80.00	0.096	-0.0085	0.1512	0.1512
50 mph 90 deg with 0.75 in Radial Ice	86.75	0.113	-0.0086	0.1435	0.1437
50 mph 90 deg with 0.75 in Radial Ice	100.25	0.150	-0.0106	0.1863	0.1864
50 mph 90 deg with 0.75 in Radial Ice	126.75	0.241	-0.0126	0.2160	0.2163
50 mph 90 deg with 0.75 in Radial Ice	150.00	0.338	-0.0139	0.2590	0.2591
50 mph 90 deg with 0.75 in Radial Ice	154.88	0.360	-0.0138	0.2602	0.2606
50 mph 90 deg with 0.75 in Radial Ice	168.05	0.423	-0.0148	0.2840	0.2841
50 mph 90 deg with 0.75 in Radial Ice	175.85	0.462	-0.0147	0.2836	0.2840
50 mph 90 deg with 0.75 in Radial Ice	179.75	0.481	-0.0147	0.2976	0.2977
50 mph 90 deg with 0.75 in Radial Ice	184.19	0.503	-0.0146	0.2810	0.2814
50 mph 90 deg with 0.75 in Radial Ice	192.06	0.542	-0.0146	0.2827	0.2831
Seismic Normal M1	79.75	0.012	0.0008	0.0199	0.0199
Seismic Normal M1	80.00	0.012	0.0008	0.0200	0.0200
Seismic Normal M1	86.75	0.015	0.0008	0.0200	0.0200
Seismic Normal M1	100.25	0.020	0.0010	0.0264	0.0264
Seismic Normal M1	126.75	0.033	0.0011	0.0325	0.0325
Seismic Normal M1	150.00	0.048	0.0011	0.0409	0.0409
Seismic Normal M1	154.88	0.052	0.0011	0.0411	0.0412
Seismic Normal M1	168.05	0.061	0.0012	0.0458	0.0458
Seismic Normal M1	175.85	0.068	0.0011	0.0458	0.0458

Site Number: 302470 Code: ANSI/TIA-222-G

Site Name: Ansonia Wakelee, CT Engineering Number: 12977015_C3_03 10/23/2019 2:19:49 PM

Customer: VERIZON WIRELESS

Seismic Normal M1	179.75	0.071	0.0011	0.0494	0.0494
Seismic Normal M1	184.19	0.074	0.0011	0.0452	0.0452
Seismic Normal M1	192.06	0.081	0.0010	0.0458	0.0458
Seismic Normal M2	79.75	0.009	0.0005	0.0148	0.0148
Seismic Normal M2	80.00	0.009	0.0005	0.0148	0.0148
Seismic Normal M2	86.75	0.011	0.0005	0.0151	0.0151
Seismic Normal M2	100.25	0.015	0.0006	0.0197	0.0197
Seismic Normal M2	126.75	0.025	0.0007	0.0260	0.0260
Seismic Normal M2	150.00	0.037	0.0007	0.0344	0.0344
Seismic Normal M2	154.88	0.040	0.0006	0.0349	0.0349
Seismic Normal M2	168.05	0.049	0.0007	0.0404	0.0404
Seismic Normal M2	175.85	0.054	0.0007	0.0405	0.0405
Seismic Normal M2	179.75	0.057	0.0007	0.0456	0.0456
Seismic Normal M2	184.19	0.060	0.0007	0.0402	0.0402
Seismic Normal M2	192.06	0.066	0.0007	0.0409	0.0409
Seismic 60 deg M1	79.75	0.012	0.0008	0.0208	0.0208
Seismic 60 deg M1	80.00	0.012	0.0008	0.0209	0.0209
Seismic 60 deg M1	86.75	0.014	0.0008	0.0201	0.0201
Seismic 60 deg M1	100.25	0.020	0.0010	0.0266	0.0266
Seismic 60 deg M1	126.75	0.033	0.0011	0.0326	0.0326
Seismic 60 deg M1	150.00	0.048	0.0012	0.0403	0.0403
Seismic 60 deg M1	154.88	0.051	0.0011	0.0407	0.0408
Seismic 60 deg M1	168.05	0.061	0.0012	0.0459	0.0459
Seismic 60 deg M1	175.85	0.068	0.0011	0.0455	0.0455
Seismic 60 deg M1	179.75	0.071	-0.0011	0.0493	0.0493
Seismic 60 deg M1	184.19	0.074	-0.0011	0.0451	0.0451
Seismic 60 deg M1	192.06	0.081	-0.0010	0.0459	0.0459
Seismic 60 deg M2	79.75	0.009	0.0005	0.0151	0.0151
Seismic 60 deg M2	80.00	0.009	0.0005	0.0151	0.0151
Seismic 60 deg M2	86.75	0.010	0.0005	0.0148	0.0148
Seismic 60 deg M2	100.25	0.014	0.0006	0.0196	0.0196
Seismic 60 deg M2	126.75	0.025	0.0007	0.0256	0.0256
Seismic 60 deg M2	150.00	0.036	0.0007	0.0331	0.0331
Seismic 60 deg M2	154.88	0.039	0.0006	0.0338	0.0338
Seismic 60 deg M2	168.05	0.048	-0.0007	0.0396	0.0396
Seismic 60 deg M2	175.85	0.053	-0.0007	0.0394	0.0394
Seismic 60 deg M2	179.75	0.056	-0.0007	0.0446	0.0446
Seismic 60 deg M2	184.19	0.059	-0.0006	0.0393	0.0393
Seismic 60 deg M2	192.06	0.065	-0.0006	0.0402	0.0402
Seismic 90 deg M1	79.75	0.012	-0.0009	0.0206	0.0206
Seismic 90 deg M1	80.00	0.012	-0.0009	0.0206	0.0206
Seismic 90 deg M1	86.75	0.014	-0.0009	0.0201	0.0201
Seismic 90 deg M1	100.25	0.020	-0.0011	0.0263	0.0263
Seismic 90 deg M1	126.75	0.033	-0.0013	0.0326	0.0326
Seismic 90 deg M1	150.00	0.048	-0.0013	0.0407	0.0407
Seismic 90 deg M1	154.88	0.051	-0.0013	0.0412	0.0412
Seismic 90 deg M1	168.05	0.061	-0.0013	0.0459	0.0459
Seismic 90 deg M1	175.85	0.068	-0.0013	0.0459	0.0459
Seismic 90 deg M1	179.75	0.071	-0.0013	0.0490	0.0490
Seismic 90 deg M1	184.19	0.074	-0.0012	0.0453	0.0453
Seismic 90 deg M1	192.06	0.081	-0.0012	0.0459	0.0459
Seismic 90 deg M2	79.75	0.009	-0.0006	0.0152	0.0152
Seismic 90 deg M2	80.00	0.009	-0.0006	0.0153	0.0153
Seismic 90 deg M2	86.75	0.011	-0.0006	0.0152	0.0152
Seismic 90 deg M2	100.25	0.015	-0.0007	0.0198	0.0198
Seismic 90 deg M2	126.75	0.025	-0.0008	0.0261	0.0261
Seismic 90 deg M2	150.00	0.037	-0.0008	0.0342	0.0342
Seismic 90 deg M2	154.88	0.040	-0.0007	0.0350	0.0350
Seismic 90 deg M2	168.05	0.049	-0.0008	0.0404	0.0404
Seismic 90 deg M2	175.85	0.054	-0.0008	0.0406	0.0406
Seismic 90 deg M2	179.75	0.057	-0.0008	0.0451	0.0451
Seismic 90 deg M2	184.19	0.060	-0.0008	0.0403	0.0403

Seismic 90 deg M2	192.06	0.066	-0.0007	0.0410	0.0410
Seismic (Reduced DL) Normal M1	79.75	0.012	0.0008	0.0197	0.0197
Seismic (Reduced DL) Normal M1	80.00	0.012	0.0008	0.0198	0.0198
Seismic (Reduced DL) Normal M1	86.75	0.014	0.0008	0.0200	0.0200
Seismic (Reduced DL) Normal M1	100.25	0.020	0.0010	0.0264	0.0264
Seismic (Reduced DL) Normal M1	126.75	0.033	0.0011	0.0324	0.0324
Seismic (Reduced DL) Normal M1	150.00	0.048	0.0011	0.0407	0.0407
Seismic (Reduced DL) Normal M1	154.88	0.051	0.0011	0.0410	0.0410
Seismic (Reduced DL) Normal M1	168.05	0.061	0.0012	0.0456	0.0456
Seismic (Reduced DL) Normal M1	175.85	0.068	0.0011	0.0456	0.0456
Seismic (Reduced DL) Normal M1	179.75	0.071	0.0011	0.0493	0.0493
Seismic (Reduced DL) Normal M1	184.19	0.074	0.0010	0.0451	0.0451
Seismic (Reduced DL) Normal M1	192.06	0.081	0.0010	0.0456	0.0457
Seismic (Reduced DL) Normal M2	79.75	0.009	0.0005	0.0146	0.0146
Seismic (Reduced DL) Normal M2	80.00	0.009	0.0005	0.0147	0.0147
Seismic (Reduced DL) Normal M2	86.75	0.011	0.0005	0.0151	0.0151
Seismic (Reduced DL) Normal M2	100.25	0.015	0.0006	0.0197	0.0197
Seismic (Reduced DL) Normal M2	126.75	0.025	0.0007	0.0259	0.0260
Seismic (Reduced DL) Normal M2	150.00	0.037	0.0007	0.0342	0.0342
Seismic (Reduced DL) Normal M2	154.88	0.040	0.0006	0.0347	0.0347
Seismic (Reduced DL) Normal M2	168.05	0.049	0.0007	0.0402	0.0402
Seismic (Reduced DL) Normal M2	175.85	0.054	0.0007	0.0404	0.0404
Seismic (Reduced DL) Normal M2	179.75	0.057	0.0007	0.0455	0.0455
Seismic (Reduced DL) Normal M2	184.19	0.060	0.0007	0.0401	0.0401
Seismic (Reduced DL) Normal M2	192.06	0.066	0.0007	0.0408	0.0408
Seismic (Reduced DL) 60 deg M1	79.75	0.012	0.0008	0.0205	0.0205
Seismic (Reduced DL) 60 deg M1	80.00	0.012	0.0008	0.0206	0.0206
Seismic (Reduced DL) 60 deg M1	86.75	0.014	0.0008	0.0200	0.0200
Seismic (Reduced DL) 60 deg M1	100.25	0.020	0.0010	0.0265	0.0265
Seismic (Reduced DL) 60 deg M1	126.75	0.033	0.0011	0.0325	0.0325
Seismic (Reduced DL) 60 deg M1	150.00	0.048	0.0012	0.0403	0.0403
Seismic (Reduced DL) 60 deg M1	154.88	0.051	0.0011	0.0407	0.0407
Seismic (Reduced DL) 60 deg M1	168.05	0.061	0.0012	0.0456	0.0456
Seismic (Reduced DL) 60 deg M1	175.85	0.068	-0.0011	0.0454	0.0454
Seismic (Reduced DL) 60 deg M1	179.75	0.071	-0.0011	0.0492	0.0492
Seismic (Reduced DL) 60 deg M1	184.19	0.074	-0.0010	0.0450	0.0450
Seismic (Reduced DL) 60 deg M1	192.06	0.081	-0.0010	0.0458	0.0458
Seismic (Reduced DL) 60 deg M2	79.75	0.009	0.0005	0.0148	0.0148
Seismic (Reduced DL) 60 deg M2	80.00	0.009	0.0005	0.0149	0.0149
Seismic (Reduced DL) 60 deg M2	86.75	0.010	0.0005	0.0148	0.0148
Seismic (Reduced DL) 60 deg M2	100.25	0.014	0.0006	0.0195	0.0195
Seismic (Reduced DL) 60 deg M2	126.75	0.025	0.0007	0.0255	0.0255
Seismic (Reduced DL) 60 deg M2	150.00	0.036	0.0007	0.0332	0.0332
Seismic (Reduced DL) 60 deg M2	154.88	0.039	0.0006	0.0338	0.0338
Seismic (Reduced DL) 60 deg M2	168.05	0.048	-0.0007	0.0394	0.0394
Seismic (Reduced DL) 60 deg M2	175.85	0.053	-0.0007	0.0394	0.0394
Seismic (Reduced DL) 60 deg M2	179.75	0.056	-0.0006	0.0445	0.0445
Seismic (Reduced DL) 60 deg M2	184.19	0.059	-0.0006	0.0392	0.0392
Seismic (Reduced DL) 60 deg M2	192.06	0.064	-0.0006	0.0401	0.0401
Seismic (Reduced DL) 90 deg M1	79.75	0.012	-0.0009	0.0203	0.0203
Seismic (Reduced DL) 90 deg M1	80.00	0.012	-0.0009	0.0204	0.0204
Seismic (Reduced DL) 90 deg M1	86.75	0.014	-0.0009	0.0201	0.0201
Seismic (Reduced DL) 90 deg M1	100.25	0.020	-0.0011	0.0262	0.0262
Seismic (Reduced DL) 90 deg M1	126.75	0.033	-0.0013	0.0325	0.0325
Seismic (Reduced DL) 90 deg M1	150.00	0.048	-0.0013	0.0405	0.0406
Seismic (Reduced DL) 90 deg M1	154.88	0.051	-0.0013	0.0411	0.0411
Seismic (Reduced DL) 90 deg M1	168.05	0.061	-0.0013	0.0456	0.0456
Seismic (Reduced DL) 90 deg M1	175.85	0.068	-0.0013	0.0457	0.0458
Seismic (Reduced DL) 90 deg M1	179.75	0.071	-0.0013	0.0489	0.0489
Seismic (Reduced DL) 90 deg M1	184.19	0.074	-0.0012	0.0451	0.0452
Seismic (Reduced DL) 90 deg M1	192.06	0.081	-0.0012	0.0457	0.0457
Seismic (Reduced DL) 90 deg M2	79.75	0.009	-0.0006	0.0150	0.0150

Seismic (Reduced DL) 90 deg M2	80.00	0.009	-0.0006	0.0150	0.0150
Seismic (Reduced DL) 90 deg M2	86.75	0.011	-0.0006	0.0151	0.0151
Seismic (Reduced DL) 90 deg M2	100.25	0.015	-0.0007	0.0197	0.0197
Seismic (Reduced DL) 90 deg M2	126.75	0.025	-0.0008	0.0260	0.0260
Seismic (Reduced DL) 90 deg M2	150.00	0.037	-0.0008	0.0340	0.0340
Seismic (Reduced DL) 90 deg M2	154.88	0.040	-0.0007	0.0349	0.0349
Seismic (Reduced DL) 90 deg M2	168.05	0.049	-0.0008	0.0402	0.0402
Seismic (Reduced DL) 90 deg M2	175.85	0.054	-0.0008	0.0405	0.0405
Seismic (Reduced DL) 90 deg M2	179.75	0.057	-0.0008	0.0450	0.0450
Seismic (Reduced DL) 90 deg M2	184.19	0.060	-0.0008	0.0402	0.0402
Seismic (Reduced DL) 90 deg M2	192.06	0.066	-0.0007	0.0409	0.0409
Serviceability - 60 mph Wind Normal	79.75	0.068	0.0042	0.1071	0.1071
Serviceability - 60 mph Wind Normal	80.00	0.068	0.0042	0.1081	0.1081
Serviceability - 60 mph Wind Normal	86.75	0.080	0.0042	0.1050	0.1050
Serviceability - 60 mph Wind Normal	100.25	0.108	0.0051	0.1380	0.1380
Serviceability - 60 mph Wind Normal	126.75	0.176	0.0055	0.1635	0.1636
Serviceability - 60 mph Wind Normal	150.00	0.250	0.0062	0.1998	0.1998
Serviceability - 60 mph Wind Normal	154.88	0.267	0.0061	0.1997	0.1998
Serviceability - 60 mph Wind Normal	168.05	0.316	0.0067	0.2201	0.2202
Serviceability - 60 mph Wind Normal	175.85	0.346	0.0065	0.2213	0.2214
Serviceability - 60 mph Wind Normal	179.75	0.361	0.0065	0.2349	0.2349
Serviceability - 60 mph Wind Normal	184.19	0.378	0.0064	0.2185	0.2186
Serviceability - 60 mph Wind Normal	192.06	0.408	0.0063	0.2201	0.2201
Serviceability - 60 mph Wind 60 deg	79.75	0.065	-0.0049	0.1041	0.1041
Serviceability - 60 mph Wind 60 deg	80.00	0.065	-0.0050	0.1049	0.1049
Serviceability - 60 mph Wind 60 deg	86.75	0.077	-0.0050	0.1008	0.1009
Serviceability - 60 mph Wind 60 deg	100.25	0.103	-0.0062	0.1327	0.1327
Serviceability - 60 mph Wind 60 deg	126.75	0.169	-0.0075	0.1570	0.1571
Serviceability - 60 mph Wind 60 deg	150.00	0.240	-0.0082	0.1923	0.1923
Serviceability - 60 mph Wind 60 deg	154.88	0.256	-0.0081	0.1921	0.1922
Serviceability - 60 mph Wind 60 deg	168.05	0.304	-0.0086	0.2125	0.2125
Serviceability - 60 mph Wind 60 deg	175.85	0.333	-0.0084	0.2117	0.2118
Serviceability - 60 mph Wind 60 deg	179.75	0.347	-0.0084	0.2258	0.2258
Serviceability - 60 mph Wind 60 deg	184.19	0.364	-0.0083	0.2099	0.2101
Serviceability - 60 mph Wind 60 deg	192.06	0.393	-0.0082	0.2117	0.2119
Serviceability - 60 mph Wind 90 deg	79.75	0.066	-0.0058	0.1041	0.1042
Serviceability - 60 mph Wind 90 deg	80.00	0.066	-0.0059	0.1048	0.1049
Serviceability - 60 mph Wind 90 deg	86.75	0.078	-0.0060	0.1022	0.1024
Serviceability - 60 mph Wind 90 deg	100.25	0.105	-0.0074	0.1326	0.1326
Serviceability - 60 mph Wind 90 deg	126.75	0.171	-0.0090	0.1587	0.1589
Serviceability - 60 mph Wind 90 deg	150.00	0.243	-0.0098	0.1939	0.1940
Serviceability - 60 mph Wind 90 deg	154.88	0.259	-0.0097	0.1952	0.1955
Serviceability - 60 mph Wind 90 deg	168.05	0.307	-0.0104	0.2146	0.2147
Serviceability - 60 mph Wind 90 deg	175.85	0.336	-0.0103	0.2149	0.2151
Serviceability - 60 mph Wind 90 deg	179.75	0.351	-0.0103	0.2265	0.2266
Serviceability - 60 mph Wind 90 deg	184.19	0.368	-0.0102	0.2132	0.2134
Serviceability - 60 mph Wind 90 deg	192.06	0.397	-0.0101	0.2146	0.2149

Maximum Reactions Summary

	Vertical (kip)				Horizontal (kip)		Moment (kip-ft)	
Anchor Group	DL+WL	DL+WL+IL	UpLift	Shear	DL+WL	DL+WL+IL	DL+WL	DL+WL+IL
Base	54.52	156.95	346.64	36.10	59.49	21.08	6542.65	2243.46

Site Name: Ansonia CT
Cumulative Power Density

Operator	Operating Frequency	Number of Trans.	ERP Per Trans.	Total ERP	Distance to Target	Calculated Power Density	Maximum Permissible Exposure*	Fraction of MPE
	(MHz)		(watts)	(watts)	(feet)	(mW/cm^2)	(mW/cm^2)	(%)
VZW 700	746	4	623	2493.76	179	0.0280	0.497333333	5.63%
VZW Cellular	869	1	402	402.2	179	0.0045	0.579333333	0.78%
VZW Cellular	880	4	320	1278.96	179	0.0144	0.586666667	2.45%
VZW PCS	1970	4	1462	5846	179	0.0656	1.0	6.56%
VZW AWS	2145	4	1566	6264.08	179	0.0703	1.0	7.03%
VZW CBRS	3550	4	6	25.2	179	0.0003	1.0	0.03%
Total Percentage of Maximum Permissible Exposure								22.47%

*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Section 1.13101 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-19

MHz = Megahertz
mW/cm^2 = milliwatts per square centimeter
ERP = Effective Radiated Power

Absolute worst case maximum values used, including the following assumptions:
1. closest accessible point is distance from antenna to base of pole;
2. continuous transmission from all available channels at full power for indefinite time period; and,
3. all RF energy is assumed to be directed solely to the base of the pole.


401 WAKELEE AVE
MBL : 01900030000
Owner : CITY OF ANSONIA
Acres : 16.5
Zoning : A
Details
Quick Map
Summary Card
BirdsEye Photo
Generate Abutter List: 100 Ft:
Submit
State Hwy 334
Farrel Blvd
State Hwy 8
Exit 19
State Hwy 334
General Samuel Jaskilka Hwy
Wakelee Ave
Scotland St
Hart Ln
N Westwood
Riverside Dr
River St

City of Ansonia, CT

Property Listing Report

Map Block Lot	01900030000	Building #	1	PID	5827	Account	65440

Property Information

Property Location	401 WAKELEE AVE
Owner	CITY OF ANSONIA
Co-Owner	HILLSIDE HOME & NOLAN FIE
Mailing Address	401 WAKELEE AVE ANSONIA CT 06401
Land Use	901 MUNICIPAL MDL-94
Land Class	E
Zoning Code	A
Census Tract	1253

Neighborhood	
Acreage	16.5
Utilities	All Public
Lot Setting/Desc	Bus. District Level
Book / Page	0005/0525
Additional Info	

Photo

Sketch

Primary Construction Details

Year Built	2001
Building Desc.	MUNICIPAL MDL-94
Building Style	Health Club
Building Grade	Average +20
Stories	1
Occupancy	1.00
Exterior Walls	Brick/Masonry
Exterior Walls 2	NA
Roof Style	Gable
Roof Cover	Asphalt Shingl
Interior Walls	Minim/Masonry
Interior Walls 2	Drywall/Sheetr
Interior Floors 1	Ceram Clay Til
Interior Floors 2	NA

Heating Fuel	Gas
Heating Type	Forced Air-Duc
AC Type	None
Bedrooms	0
Full Bathrooms	0
Half Bathrooms	0
Extra Fixtures	0
Total Rooms	0
Bath Style	NA
Kitchen Style	NA
Whirlpool Tub	0
Jet Tub	0
Bsmt Gar	0
Fireplaces	0

(*Industrial / Commercial Details)

Building Use	Comm/Ind
Building Condition	A
Sprinkler %	NA
Heat / AC	NONE
Frame Type	MASONRY
Baths / Plumbing	AVERAGE
Ceiling / Wall	CEIL & MIN WL
Rooms / Prtns	AVERAGE
Wall Height	10.00
First Floor Use	NA
Foundation	NA

Report Created On 3/15/2020

City of Ansonia, CT

Property Listing Report

Map Block Lot	01900030000	Building #	1	PID	5827	Account	65440

Valuation Summary

(Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings	585700	410000
Extras	57400	40200
Improvements		
Outbuildings	162300	113800
Land	996500	697600
Total	1801900	1261600

Outbuilding and Extra Features

Type	Description
Paving, Asph	75000 S.F.
Fence 3 Ft	770 L.F.
Cell Tower	1 UNITS
Shed	200 S.F.
Shed	200 S.F.
Shed	384 S.F.
Fence 4 Ft	1600 L.F.
Fence 5 Ft	180 L.F.
Lights (2)	7 UNITS
Lights (10)	2 UNITS

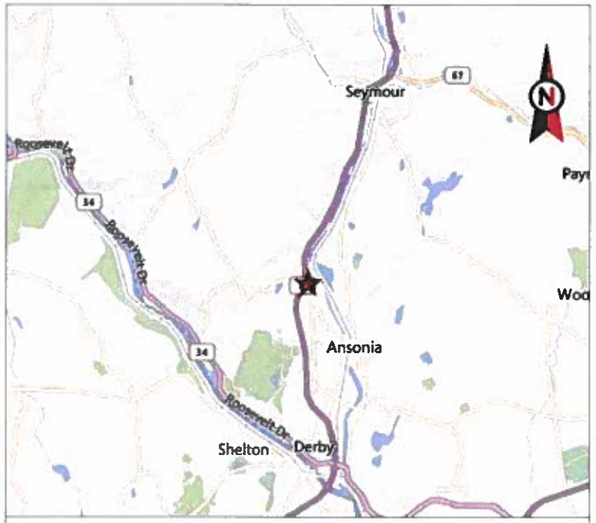
Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
First Floor	2607	2607
Finished Lower Level	2607	2086
Porch, Open	790	0
Total Area	6004	4693

Sales History

Owner of Record	Book/ Page	Sale Date	Sale Price
CITY OF ANSONIA	0005/0525	1900-01-01	0

Report Created On 3/15/2020



VICINITY MAP

AMERICAN TOWER®

ATC SITE NAME: ANSONIA WAKELEE
ATC SITE NUMBER: 302470
VERIZON SITE NAME: ANSONIA CT
VERIZON SITE NUMBER:467294
SITE ADDRESS: 401 WAKELEE AVE
ANSONIA, CT 06401

VERIZON WIRELESS
ANTENNA AMENDMENT DRAWINGS

LOCATION MAP

COMPLIANCE CODE

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNMENT AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

1. INTERNATIONAL BUILDING CODE (IBC)
2. NATIONAL ELECTRIC CODE (NEC)
3. LOCAL BUILDING CODE
4. CITY/COUNTY ORDINANCES

UTILITY COMPANIES

POWER COMPANY: UNITED ILLUMINATING
PHONE: (877) 251-9959

TELEPHONE COMPANY: FRONTIER COMMUNICATIONS
PHONE: (800) 376-6843

811
Know what's **below.**
Call before you dig.

PROJECT SUMMARY

SITE ADDRESS:

401 WAKELEE AVE
ANSONIA, CT 06401
COUNTY: NEW HAVEN

GEOGRAPHIC COORDINATES:

LATITUDE: 41.35606944
LONGITUDE: -73.092
GROUND ELEVATION: 129' AMSL

PROJECT TEAM

TOWER OWNER:

AMERICAN TOWER
10 PRESIDENTIAL WAY
WOBURN, MA 01801

ENGINEER:

ATC TOWER SERVICES, LLC
3500 REGENCY PKWY STE 100
CARY, NC 27518

PROPERTY OWNER:

T14 UNISON SITE MANAGEMENT LLC
PO BOX 759472
BALTIMORE, MD 21275

APPLICANT:

VERIZON WIRELESS
20 ALEXANDER DRIVE, 2ND FLOOR
WALLINGFORD, CT 06492

PROJECT DESCRIPTION

THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW:

REMOVE (12) PANELS AND (9) RRUs, AND (2) 1-5/8" COAX CABLES

INSTALL (9) NEW PANELS, (9) RRUs, AND MOUNT MODIFICATIONS

EXISTING (3) PANELS, (2) OVPs, (6) 1-5/8" COAX CABLES, AND (2) 1-5/8" HYBRID CABLES TO REMAIN

PROJECT NOTES

1. THE FACILITY IS UNMANNED.
2. A TECHNICIAN WILL VISIT THE SITE APPROXIMATELY ONCE A MONTH FOR ROUTINE INSPECTION AND MAINTENANCE.
3. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT LAND DISTURBANCE OR EFFECT OF STORM WATER DRAINAGE.
4. NO SANITARY SEWER, POTABLE WATER OR TRASH DISPOSAL IS REQUIRED.
5. HANDICAP ACCESS IS NOT REQUIRED.

PROJECT LOCATION DIRECTIONS

DIRECTIONS TO SITE: FROM HARTFORD TAKE I-91 SOUTH TO MERRITT PKWY SOUTH. TAKE RT 8 N TO EXIT 19. TAKE A RIGHT OFF THE EXIT. TOWER IS IMMEDIATELY ON RIGHT.

SHEET INDEX

SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
G-001	COVER SHEET	0	03/12/20	AZ
G-002	GENERAL NOTES	0	03/12/20	AZ
C-101	DETAILED SITE PLAN	0	03/12/20	AZ
C-102	TOWER ELEVATION	0	03/12/20	AZ
C-501	RF SCHEDULE AND ANTENNA INSTALLATION	0	03/12/20	AZ
C-502	CONSTRUCTION DETAILS	0	03/12/20	AZ
R-601	SUPPLEMENTAL			

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: PEC.0001553

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	AZ	03/12/20

ATC SITE NUMBER:
302470

ATC SITE NAME:
ANSONIA WAKELEE

SITE ADDRESS:
401 WAKELEE AVE
ANSONIA, CT 06401

SEAL:

Authorized by "EOR"
Ma[illegible]

verizon design

DRAWN BY:	AZ
APPROVED BY:	PPB
DATE DRAWN:	03/12/20
ATC JOB NO:	12977015
CUSTOMER ID:	ANSONIA CT
CUSTOMER #:	467294

COVER SHEET

SHEET NUMBER:	REVISION:
G-001	0

GENERAL CONSTRUCTION NOTES:

1. ALL WORK SHALL CONFORM TO ALL CURRENT APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING ANSI/EIA/TIA-222, AND COMPLY WITH ATC CONSTRUCTION SPECIFICATIONS.
2. CONTRACTOR SHALL CONTACT LOCAL 811 FOR IDENTIFICATION OF UNDERGROUND UTILITIES PRIOR TO START OF CONSTRUCTION.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED INSPECTIONS.
4. ALL DIMENSIONS TO, OF, AND ON EXISTING BUILDINGS, DRAINAGE STRUCTURES, AND SITE IMPROVEMENTS SHALL BE VERIFIED IN FIELD BY CONTRACTOR WITH ALL DISCREPANCIES REPORTED TO THE ENGINEER.
5. DO NOT CHANGE SIZE OR SPACING OF STRUCTURAL ELEMENTS.
6. DETAILS SHOWN ARE TYPICAL; SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
7. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
8. CONTRACTOR SHALL BRACE STRUCTURES UNTIL ALL STRUCTURAL ELEMENTS NEEDED FOR STABILITY ARE INSTALLED. THESE ELEMENTS ARE AS FOLLOWS: LATERAL BRACING, ANCHOR BOLTS, ETC.
9. CONTRACTOR SHALL DETERMINE EXACT LOCATION OF EXISTING UTILITIES, GROUNDS DRAINS, DRAIN PIPES, VENTS, ETC. BEFORE COMMENCING WORK.
10. INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE VERIZON WIRELESS REP PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE VERIZON WIRELESS REP PRIOR TO PROCEEDING.
11. EACH CONTRACTOR SHALL COOPERATE WITH THE VERIZON WIRELESS REP, AND COORDINATE HIS WORK WITH THE WORK OF OTHERS.
12. CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY CONSTRUCTION OF THIS PROJECT TO MATCH EXISTING PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE VERIZON WIRELESS CONSTRUCTION MANAGER.
13. ALL CABLE/CONDUIT ENTRY/EXIT PORTS SHALL BE WEATHERPROOFED DURING INSTALLATION USING A SILICONE SEALANT.
14. WHERE EXISTING CONDITIONS DO NOT MATCH THOSE SHOWN IN THIS PLAN SET, CONTRACTOR SHALL NOTIFY THE VERIZON WIRELESS REP IMMEDIATELY.
15. CONTRACTOR SHALL ENSURE ALL SUBCONTRACTORS ARE PROVIDED WITH A COMPLETE AND CURRENT SET OF DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
16. CONTRACTOR SHALL REMOVE ALL RUBBISH AND DEBRIS FROM THE SITE AT THE END OF EACH DAY.
17. CONTRACTOR SHALL COORDINATE WORK SCHEDULE WITH LANDLORD AND TAKE PRECAUTIONS TO MINIMIZE IMPACT AND DISRUPTION OF OTHER OCCUPANTS OF THE FACILITY.
18. CONTRACTOR SHALL FURNISH VERIZON WIRELESS WITH A PDF MARKED UP AS-BUILT SET OF DRAWINGS UPON COMPLETION OF WORK.
19. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH VERIZON WIRELESS REP TO DETERMINE WHAT, IF ANY, ITEMS WILL BE PROVIDED. ALL ITEMS NOT PROVIDED SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. CONTRACTOR WILL INSTALL ALL ITEMS PROVIDED.
20. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH VERIZON WIRELESS REP TO DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY VERIZON WIRELESS MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.
21. CONTRACTOR SHALL INSTALL ALL SITE SIGNAGE IN ACCORDANCE WITH VERIZON WIRELESS SPECIFICATIONS AND REQUIREMENTS.
22. CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO VERIZON WIRELESS FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
23. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO VERIZON WIRELESS SPECIFICATIONS, AND AS SHOWN IN THESE PLANS.
24. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
25. CONTRACTOR SHALL NOTIFY VERIZON WIRELESS REP A MINIMUM OF 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING ANY UNDERGROUND UTILITIES, FOUNDATIONS OR SEALING ANY WALL, FLOOR OR ROOF PENETRATIONS FOR ENGINEERING REVIEW AND APPROVAL.
26. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY INCLUDING COMPLIANCE WITH ALL APPLICABLE OSHA STANDARDS AND RECOMMENDATIONS AND SHALL PROVIDE ALL NECESSARY SAFETY DEVICES INCLUDING PPE AND PPM AND CONSTRUCTION DEVICES SUCH AS WELDING AND FIRE PREVENTION, TEMPORARY SHORING, SCAFFOLDING, TRENCH BOXES/SLOPING, BARRIERS, ETC.
27. THE CONTRACTOR SHALL PROTECT AT HIS OWN EXPENSE, ALL EXISTING FACILITIES AND SUCH OF HIS NEW WORK LIABLE TO INJURY DURING THE CONSTRUCTION PERIOD. ANY DAMAGE CAUSED BY NEGLECT ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLECT ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, EITHER TO THE EXISTING WORK, OR TO HIS WORK OR THE WORK OF ANY OTHER CONTRACTOR, SHALL BE REPAIRED AT HIS EXPENSE TO THE OWNER'S SATISFACTION.
28. ALL WORK SHALL BE INSTALLED IN A FIRST CLASS, NEAT AND WORKMANLIKE MANNER BY MECHANICS SKILLED IN THE TRADE INVOLVED. THE QUALITY OF WORKMANSHIP SHALL BE SUBJECT TO THE APPROVAL OF THE VERIZON WIRELESS REP. ANY WORK FOUND BY THE VERIZON WIRELESS REP TO BE OF INFERIOR QUALITY AND/OR WORKMANSHIP SHALL BE REPLACED AND/OR REWORKED AT CONTRACTOR EXPENSE UNTIL APPROVAL IS OBTAINED.
29. IN ORDER TO ESTABLISH STANDARDS OF QUALITY AND PERFORMANCE, ALL TYPES OF MATERIALS LISTED HEREINAFTER BY MANUFACTURER'S NAMES AND/OR MANUFACTURER'S CATALOG NUMBER SHALL BE PROVIDED BY THESE MANUFACTURERS AS SPECIFIED.

STRUCTURAL STEEL NOTES:

1. STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITION OF THE AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS."
2. STRUCTURAL STEEL ROLLED SHAPES, PLATES AND BARS SHALL CONFORM TO THE FOLLOWING ASTM DESIGNATIONS:
   A. ASTM A-572, GRADE 50 - ALL W SHAPES, UNLESS NOTED OR A992 OTHERWISE
   B. ASTM A-36 - ALL OTHER ROLLED SHAPES, PLATES AND BARS UNLESS NOTED OTHERWISE.
   C. ASTM A-500, GRADE B - HSS SECTION (SQUARE, RECTANGULAR, AND ROUND)
   D. ASTM A-325, TYPE SC OR N - ALL BOLTS FOR CONNECTING STRUCTURAL MEMBERS
   E. ASTM F-1554 07 - ALL ANCHOR BOLTS, UNLESS NOTED OTHERWISE
3. ALL EXPOSED STRUCTURAL STEEL MEMBERS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION PER ASTM A123. EXPOSED STEEL HARDWARE AND ANCHOR BOLTS SHALL BE GALVANIZED PER ASTM A153 OR B695.
4. ALL FIELD CUT SURFACES, FIELD DRILLED HOLES AND GROUND SURFACES WHERE EXISTING PAINT OR GALVANIZATION REMOVAL WAS REQUIRED SHALL BE REPAIRED WITH (2) BRUSHED COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.
5. DO NOT DRILL HOLES THROUGH STRUCTURAL STEEL MEMBERS EXCEPT AS SHOWN AND DETAILED ON STRUCTURAL DRAWINGS.
6. CONNECTIONS:
   A. ALL WELDING TO BE PERFORMED BY AWS CERTIFIED WELDERS AND CONDUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1.
   B. ALL WELDS SHALL BE INSPECTED VISUALLY. 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. REPAIR ALL WELDS AS NECESSARY.
   C. INSPECTION SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.
   D. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE BURNING/WELDING PERMITS AS REQUIRED BY LOCAL GOVERNING AUTHORITY AND IF REQUIRED SHALL HAVE FIRE DEPARTMENT DETAIL FOR ANY WELDING ACTIVITY.
   E. ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL, PER AWS D1.1, UNLESS NOTED OTHERWISE.
   F. MINIMUM WELD SIZE TO BE 0.1875 INCH FILLET WELDS, UNLESS NOTED OTHERWISE.
   G. PRIOR TO FIELD WELDING GALVANIZING MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING ½" BEYOND ALL FIELD WELD SURFACES. AFTER WELD AND WELD INSPECTION IS COMPLETE, REPAIR ALL GROUND AND WELDED SURFACES WITH ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: PEC.0001553

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	AZ	03/12/20

ATC SITE NUMBER:
302470

ATC SITE NAME:
ANSONIA WAKELEE

SITE ADDRESS:
401 WAKELEE AVE
ANSONIA, CT 06401

SEAL:

STATE OF CONNECTICUT
PATRICK P. BARRY
28959
LICENSED
PROFESSIONAL ENGINEER

Authorized by "EOR"
verizon design

DRAWN BY:	AZ
APPROVED BY:	PPB
DATE DRAWN:	03/12/20
ATC JOB NO:	12977015
CUSTOMER ID:	ANSONIA CT
CUSTOMER #:	467294

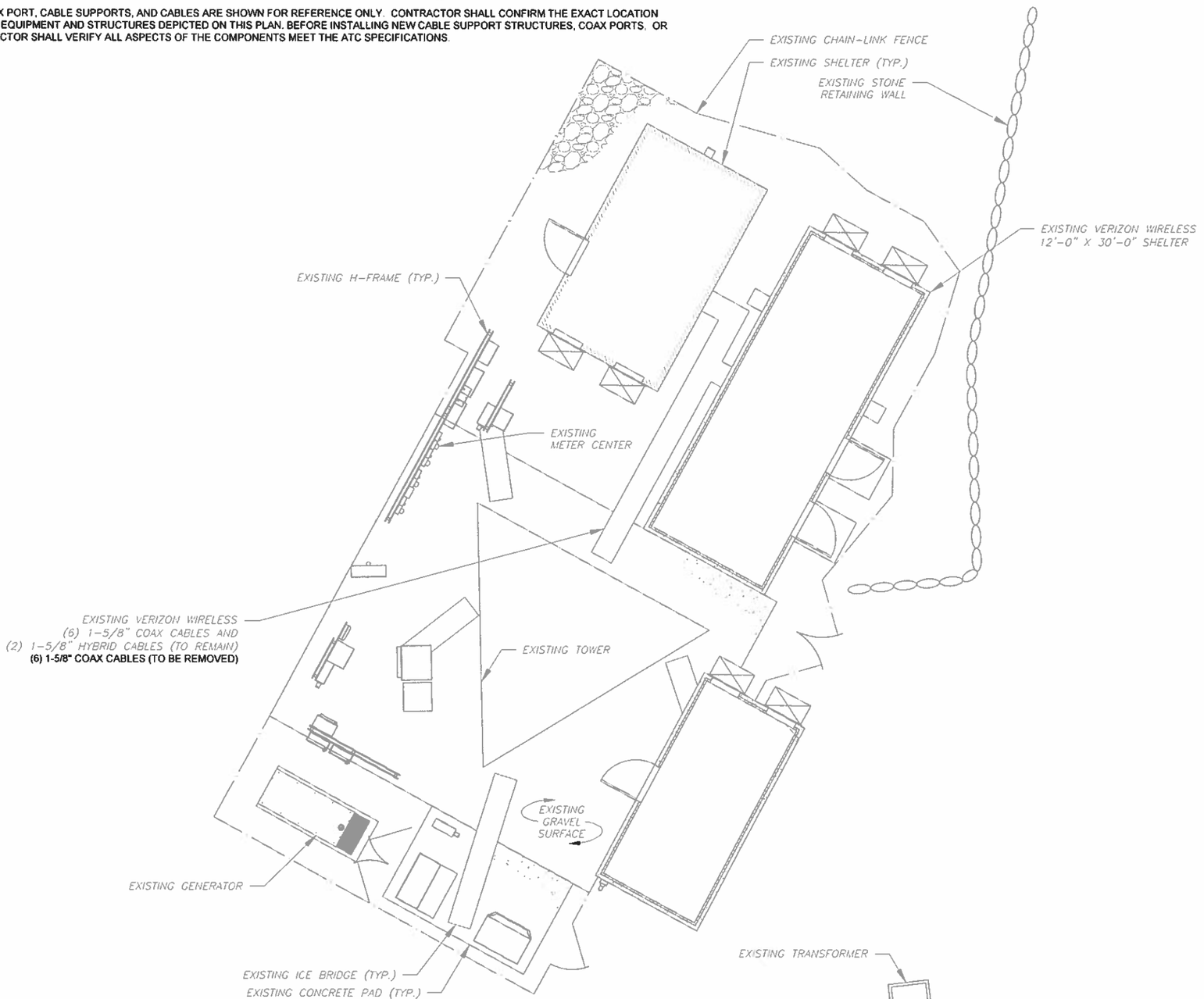
GENERAL NOTES

SHEET NUMBER:	REVISION:
G-002	0

SITE PLAN NOTES:

1. THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.

2. ICE BRIDGE, CABLE LADDER, COAX PORT, CABLE SUPPORTS, AND CABLES ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL CONFIRM THE EXACT LOCATION OF ALL PROPOSED AND EXISTING EQUIPMENT AND STRUCTURES DEPICTED ON THIS PLAN. BEFORE INSTALLING NEW CABLE SUPPORT STRUCTURES, COAX PORTS, OR ANY OTHER EQUIPMENT, CONTRACTOR SHALL VERIFY ALL ASPECTS OF THE COMPONENTS MEET THE ATC SPECIFICATIONS.



1 DETAILED SITE PLAN

0 10' 20'

SCALE: 1"=10' (11X17)
1"=5' (22X34)

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: PEC.0001553

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	AZ	03/12/20

ATC SITE NUMBER:
302470

ATC SITE NAME:
ANSONIA WAKELEE

SITE ADDRESS:
401 WAKELEE AVE
ANSONIA, CT 06401

SEAL:

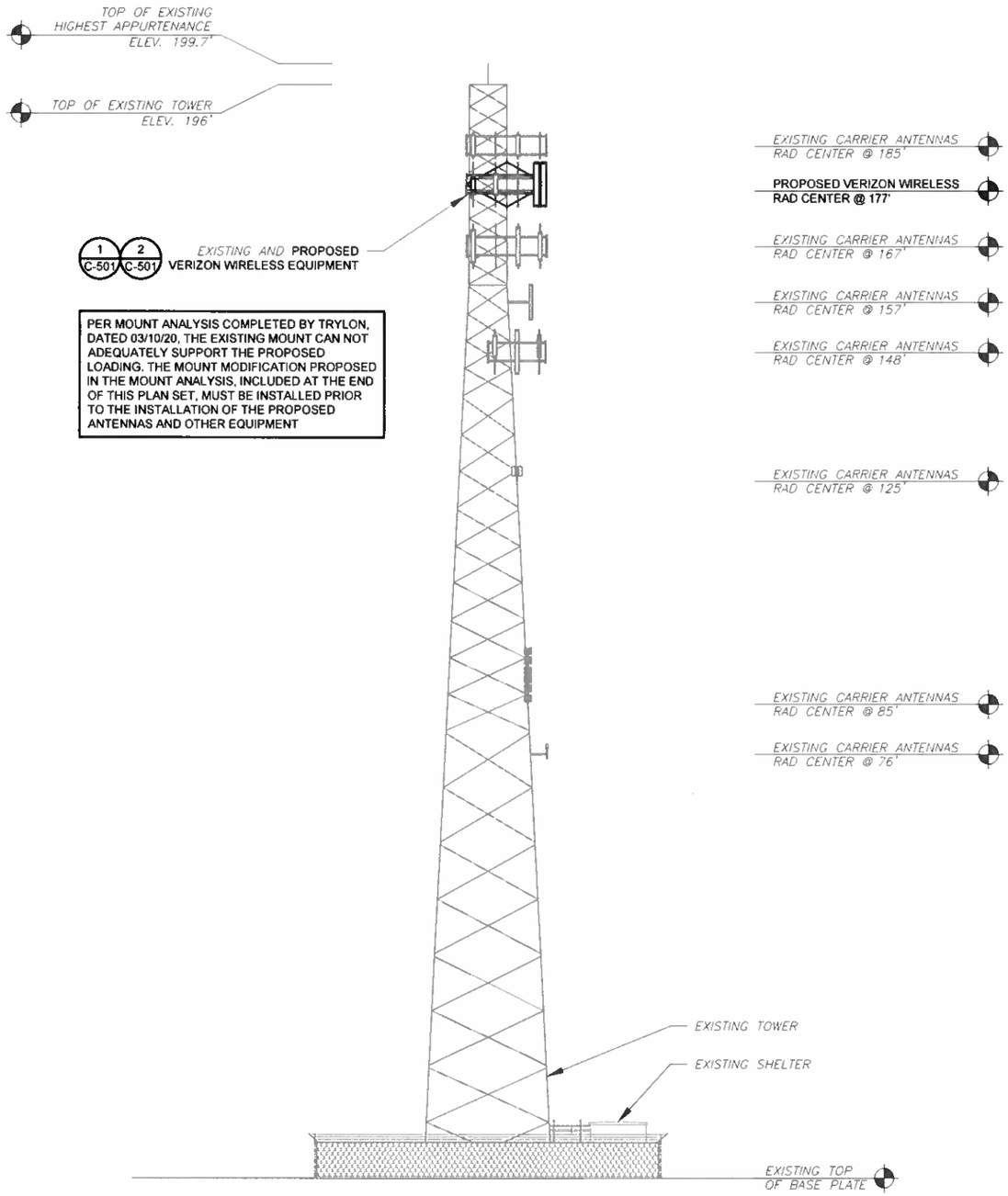
Authorized by "EOR"
Ma[illegible] 2020

verizon design

DRAWN BY:	AZ
APPROVED BY:	PPB
DATE DRAWN:	03/12/20
ATC JOB NO:	12977015
CUSTOMER ID:	ANSONIA CT
CUSTOMER #:	467294

DETAILED SITE PLAN

SHEET NUMBER:	REVISION:
C-101	0



PER MOUNT ANALYSIS COMPLETED BY TRYLON, DATED 03/10/20, THE EXISTING MOUNT CAN NOT ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT MODIFICATION PROPOSED IN THE MOUNT ANALYSIS, INCLUDED AT THE END OF THIS PLAN SET, MUST BE INSTALLED PRIOR TO THE INSTALLATION OF THE PROPOSED ANTENNAS AND OTHER EQUIPMENT

1 TOWER ELEVATION
SCALE: NOT TO SCALE

TOWER NOTE:
1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM WITH THE AMERICAN TOWER CONSTRUCTION MANAGER THAT THEY HAVE THE MOST RECENT VERSION OF THE STRUCTURAL ANALYSIS BEFORE COMMENCING WORK. EXISTING AND PROPOSED TOWER APPURTENANCES, MOUNTS, AND ANTENNAS ARE SHOWN BASED ON THE STRUCTURAL ANALYSIS.
2. ATC DID NOT CONFIRM EXISTING SITE CONDITIONS INCLUDING, BUT NOT LIMITED TO, ANTENNA HEIGHTS, ANTENNA AZIMUTHS AND MOUNT CONFIGURATIONS.
3. TOWER ELEVATIONS ARE MEASURED FROM TOP OF BASE PLATE TO MATCH STRUCTURAL ANALYSIS. ELEVATIONS DO NOT REFLECT TRUE ABOVE GROUND LEVEL (A.G.L.)

ANTENNA NOTES:
1. ALL ANTENNAS TO BE FURNISHED WITH DOWNTILT BRACKETS. CONTRACTOR TO COORDINATE REQUIRED MECHANICAL DOWNTILT FOR EACH ANTENNA WITH VERIZON RF ENGINEER.
2. ANTENNA CENTERLINE HEIGHT IS ABOVE GROUND LEVEL (AGL).
3. CONTRACTOR SHALL VERIFY ANTENNA TYPE, AZIMUTH, DOWNTILT, AND ANTENNA NUMBER PER SECTOR WITH CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION.
4. ALL PERSONNEL WORKING ON THE TOWER MUST COMPLY WITH VERIZON'S RF EMISSIONS GUIDELINE POLICY.
5. CHECK WITH RF ENGINEER FOR LATEST ANTENNA TYPE AND AZIMUTH.
6. CONTRACTOR SHALL NOT INSTALL SHRINK WRAP UNTIL AFTER CABLES HAVE BEEN SWEPT.
7. THE USE OF ALTERNATE GROUNDING MEANS (SUCH AS LYNCOLE XIT) SHALL COMPLY WITH O.C.E.I. CONSTRUCTION SPECIFICATIONS AND BUILDING PRACTICES.

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: PEC.0001553

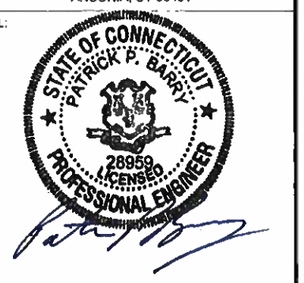
REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	AZ	03/12/20

ATC SITE NUMBER:
302470

ATC SITE NAME:
ANSONIA WAKELEE

SITE ADDRESS:
401 WAKELEE AVE
ANSONIA, CT 06401

SEAL:



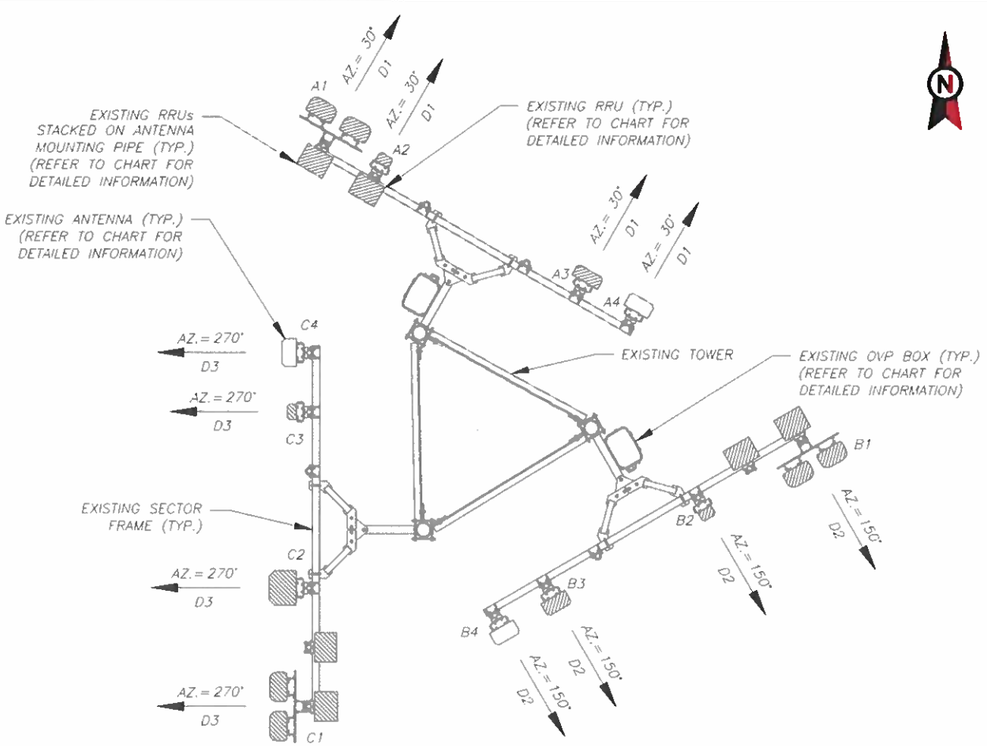
Authorized by "EOR"
Ma[illegible]

verizon design

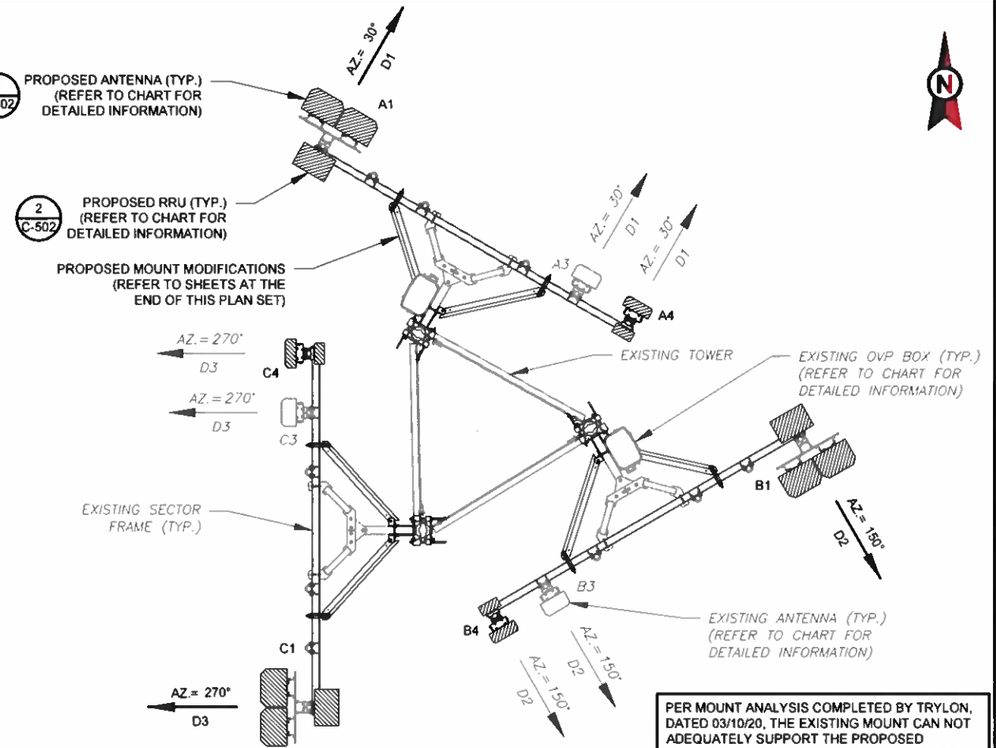
DRAWN BY:	AZ
APPROVED BY:	PPB
DATE DRAWN:	03/12/20
ATC JOB NO:	12977015
CUSTOMER ID:	ANSONIA CT
CUSTOMER #:	467294

TOWER ELEVATION

SHEET NUMBER:	REVISION:
C-102	0



1 CURRENT ANTENNA PLAN



2 FINAL ANTENNA PLAN

PER MOUNT ANALYSIS COMPLETED BY TRYLON, DATED 03/10/20, THE EXISTING MOUNT CAN NOT ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT MODIFICATION PROPOSED IN THE MOUNT ANALYSIS, INCLUDED AT THE END OF THIS PLAN SET, MUST BE INSTALLED PRIOR TO THE INSTALLATION OF THE PROPOSED ANTENNAS AND OTHER EQUIPMENT

EXISTING ANTENNA SCHEDULE

LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY	
SECTOR	RAD	AZ	POS	ANTENNA	BAND	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
D1	177'	30°	A1	(2) SBNHH-1D65B	700/1900/2100 LTE	RMV	B66 RRH4X45 PCS B25 RRH2X60/4X30	RMV
			A2	BXA-171063-8CF	-	RMV	B13 RRH4X30-4R 700U	RMV
			A3	MGD3-800TX	-	RMV	-	-
			A4	BXA-80080-4CF	850 CDMA	REL	-	-
D2	177'	150°	B1	(2) SBNHH-1D65B	700/1900/2100 LTE	RMV	B66 RRH4X45 PCS B25 RRH2X60/4X30	RMV
			B2	BXA-171063-8CF	-	RMV	B13 RRH4X30-4R 700U	RMV
			B3	MGD3-800TX	-	RMV	-	-
			B4	BXA-80080-4CF	850 CDMA	REL	-	-
D3	177'	270°	C1	(2) SBNHH-1D65B	700/1900/2100 LTE	RMV	B66 RRH4X45 PCS B25 RRH2X60/4X30	RMV
			C2	SLCP 2X6014	-	RMV	B13 RRH4X30-4R 700U	RMV
			C3	MGD3-800TX	-	RMV	-	-
			C4	BXA-80080-4CF	850 CDMA	REL	-	-

NOTES

1. BASED ON APPROVED ATC APPLICATION 12977015, DATED 10/18/19. CONFIRM WITH VERIZON WIRELESS REP FOR APPLICABLE UPDATES/REVISIONS AND MOST RECENT RFDS FOR NSN CONFIGURATION (CONFIG). GC TO CAP ALL UNUSED PORTS.
2. ATC HAS NOT YET VERIFIED ANY EXISTING ANTENNA CONFIG OR MOUNT CONFIG. CONTRACTOR TO VERIFY MOUNT CONFIG HAS SUFFICIENT SPACE FOR PROPOSED LESSEE EQUIPMENT (EQUIP) (I.E. CLEARANCES, MOUNT PIPE, SUFFICIENT LENGTH, ETC.) ATC DID NOT ANALYZE ANTENNA MOUNT TO DETERMINE ADEQUATE STRUCTURAL CAPACITY FOR ANY LESSEE LOADING.
3. ALL PROPOSED EQUIP INCLUDING ANTENNAS, COAX, ETC. SHALL BE MOUNTED IN ACCORDANCE WITH THE TOWER STRUCTURAL ANALYSIS ON FILE WITH ATC'S CM.
4. CONFIRM SPACING OF PROPOSED EQUIP DOES NOT CAUSE TOWER CONFLICTS NOR IMPEDE TOWER CLIMBING PEGS.
5. POSITIONS START WITH FIRST PIPE ON THE LEFT SIDE (AS VIEWED FROM BEHIND THE MOUNT).

FINAL ANTENNA SCHEDULE

LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY	
SECTOR	RAD	AZ	POS	ANTENNA	BAND	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
D1	177'	30°	A1	(2) MX06FRO660-02	700/850/1900/2100 LTE	ADD	B5/B13 RRH-BR04C B2/B66A RRH-BR049	ADD
			A2	-	-	-	-	-
			A3	BXA-80080/4CF	850 CDMA	REL	-	-
			A4	SSPX310R	-	ADD	OUTDOOR CBRS 20W RRH	ADD
D2	177'	150°	B1	(2) MX06FRO660-02	700/850/1900/2100 LTE	ADD	B5/B13 RRH-BR04C B2/B66A RRH-BR049	ADD
			B2	-	-	-	-	-
			B3	BXA-80080/4CF	850 CDMA	REL	-	-
			B4	SSPX310R	-	ADD	OUTDOOR CBRS 20W RRH	ADD
D3	177'	270°	C1	(2) MX06FRO660-02	700/850/1900/2100 LTE	ADD	B5/B13 RRH-BR04C B2/B66A RRH-BR049	ADD
			C2	-	-	-	-	-
			C3	BXA-80080/4CF	850 CDMA	REL	-	-
			C4	SSPX310R	-	ADD	OUTDOOR CBRS 20W RRH	ADD

EXISTING FIBER DISTRIBUTION/OVP BOX		EXISTING CABLING SUMMARY		
MODEL NUMBER	STATUS	COAX	HYBRID	STATUS
-	-	(6) 1-5/8"	-	RMV
(2) DB-T1-6Z-8AB-0Z	RMN	(6) 1-5/8"	(2) 1-5/8"	RMN

STATUS ABBREVIATIONS
RMV: TO BE REMOVED
RMN: TO REMAIN
REL: TO BE RELOCATED
DSC: TO BE DISCONNECTED & REMAIN
ADD: TO BE ADDED

CABLE LENGTHS FOR JUMPERS
FIBER DISTRIBUTION/OVP TO RRU: 15'
RRU TO ANTENNA: 10'

FINAL FIBER DISTRIBUTION/OVP BOX		FINAL CABLING SUMMARY		
MODEL NUMBER	STATUS	COAX	HYBRID	STATUS
-	-	-	-	-
(2) DB-T1-6Z-8AB-0Z	RMN	(6) 1-5/8"	(2) 1-5/8"	RMN

3 EQUIPMENT SCHEDULES

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: PEC.0001553

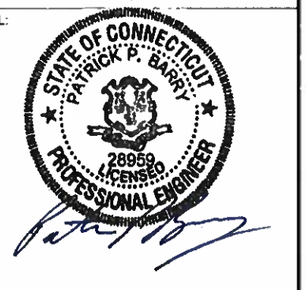
REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	AZ	03/12/20

ATC SITE NUMBER:
302470

ATC SITE NAME:
ANSONIA WAKELEE

SITE ADDRESS:
401 WAKELEE AVE
ANSONIA, CT 06401

SEAL:

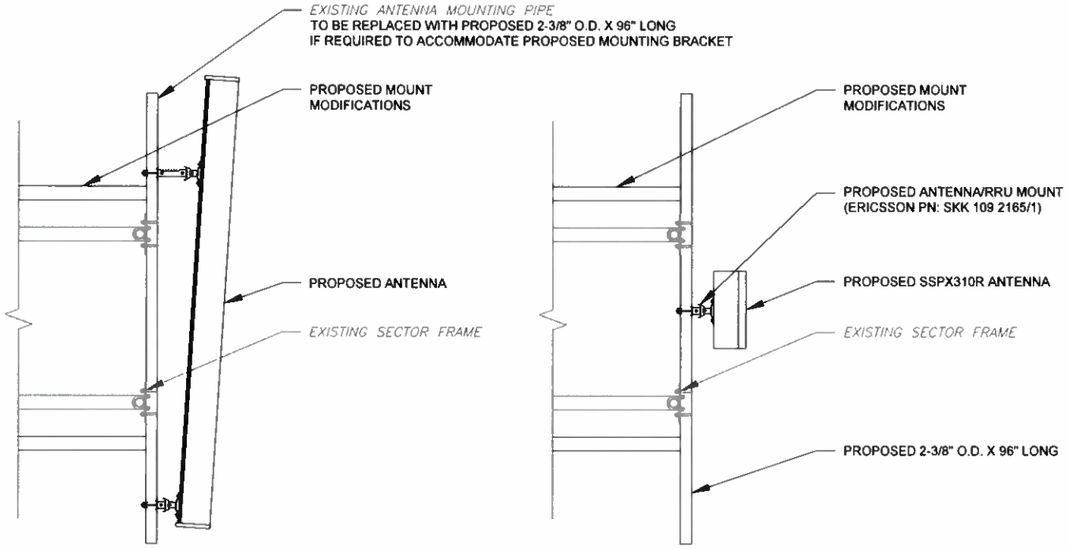


Authorized by "EOR"
Ma[illegible] verizon design

DRAWN BY:	AZ
APPROVED BY:	PPB
DATE DRAWN:	03/12/20
ATC JOB NO:	12977015
CUSTOMER ID:	ANSONIA CT
CUSTOMER #:	467294

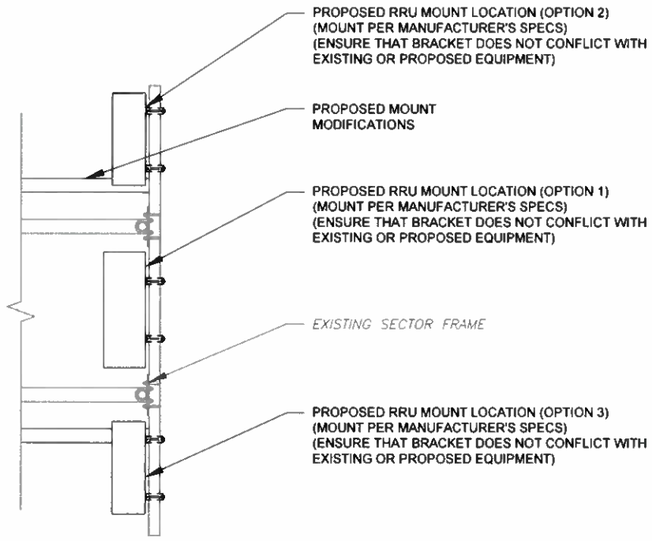
RF SCHEDULE AND ANTENNA INSTALLATION

SHEET NUMBER:	REVISION:
C-501	0



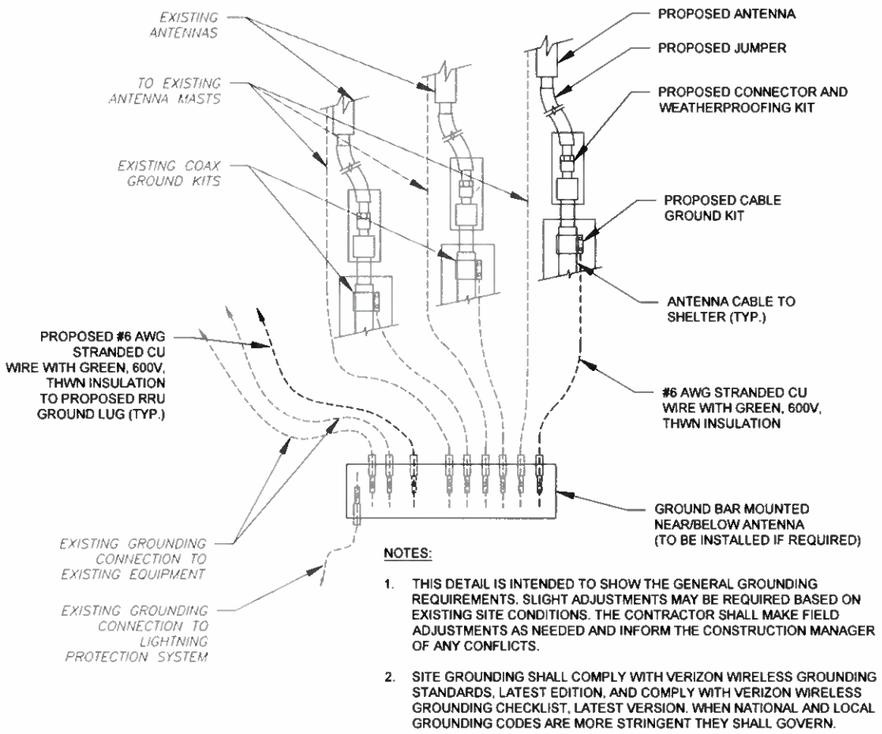
1 PROPOSED ANTENNA MOUNTING DETAIL - TYPICAL

SCALE: NOT TO SCALE



2 PROPOSED RRU MOUNTING DETAIL - TYPICAL

SCALE: NOT TO SCALE



NOTES:

1. THIS DETAIL IS INTENDED TO SHOW THE GENERAL GROUNDING REQUIREMENTS. SLIGHT ADJUSTMENTS MAY BE REQUIRED BASED ON EXISTING SITE CONDITIONS. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS AS NEEDED AND INFORM THE CONSTRUCTION MANAGER OF ANY CONFLICTS.
2. SITE GROUNDING SHALL COMPLY WITH VERIZON WIRELESS GROUNDING STANDARDS, LATEST EDITION, AND COMPLY WITH VERIZON WIRELESS GROUNDING CHECKLIST, LATEST VERSION. WHEN NATIONAL AND LOCAL GROUNDING CODES ARE MORE STRINGENT THEY SHALL GOVERN.

3 TYPICAL ANTENNA GROUNDING DIAGRAM

SCALE: NOT TO SCALE

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: PEC.0001553

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	AZ	03/12/20

ATC SITE NUMBER:

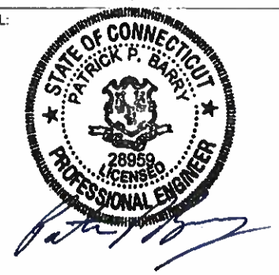
302470

ATC SITE NAME:

ANSONIA WAKELEE

SITE ADDRESS:
401 WAKELEE AVE
ANSONIA, CT 06401

SEAL:



Authorized by "EOR"
Ma[illegible]

verizon design

DRAWN BY:	AZ
APPROVED BY:	PPB
DATE DRAWN:	03/12/20
ATC JOB NO:	12977015
CUSTOMER ID:	ANSONIA CT
CUSTOMER #:	467294

CONSTRUCTION DETAILS

SHEET NUMBER:	REVISION:
C-502	0

Trylon

AMERICAN TOWER®

Mount Structural Analysis Report of the Existing V-Frame with proposed modifications

Trylon Project #152690

March 7, 2020

Carrier Name	Verizon
ATC Site Code	302470
ATC Site Name	ANSONIA CT
Verizon Site Code	467294
Verizon Site Name	ANSONIA CT
Site Adress	401 Wakelee Ave.,Ansonia, New Haven County, CT 06401
Coordinates	41.356069,-73.092025
Structure Type	Self-Support Tower
Structure Height	196-ft
Mount Elevation	177-ft
Antenna Centerline	177-ft
Standard	2015 IBC / ASCE 7-10 / TIA-222-H

Structure Rating =	**82%**	**PASS (with proposed modifications)**

Analysis performed by:
Kowsalya

Reviewed and approved by:
Cliff Abernathy, P.E.

STATE OF CONNECTICUT
CLIFF ABERNATHY
PROFESSIONAL ENGINEER
3/10/2020

DocuSign Envelope ID: E9928AE0-D994-4F9D-8787-8C33A3C6177B

6. Conclusions and Recommendations

Based on information provided, our calculations conclude that the Existing Verizon V-Frame with proposed modifications located at 177-ft elevation on the existing Self-Support Tower at the specified address, is ADEQUATE to safely support the proposed equipment, subject to the attached Standard Conditions on page 3.

1)The JMA MX06FRO660-03 antennas were considered mounted on dual brackets (JMA 91900314).

In order for this analysis result to be valid the below reinforcing must be installed:

• Install a new Handrail Pipe (2.375" O.D) at a distance of 12" above the existing top face horizontal, connecting it to the mounting pipes welded to the existing face horizontals.
• Install a new Handrail Pipe (2.375" O.D) at a distance of 12" below the existing bottom face horizontal, connecting it to the mounting pipes welded to the existing face horizontals.
• Install a new Site Pro1, part no. SFS-V-L stabilizer kit connecting the new top handrail kit to the tower leg at approx. 2-ft above the existing top mount connection with the tower.
• Install a new Site Pro1, part no. SFS-V-L stabilizer kit connecting the new bottom handrail kit to the tower leg at approx. 2-ft below the existing bottom mount connection with the tower.

Drawings of the above recommended members must be provided by us to present the details for their installation. Shall the above mentioned recommendations be installed as per drawings, then the mounts would be considered ADEQUATE to support the equipment mounted on them.

Category	Classification
Mount Classification (w/ Ice, w/ Vertical Offset):	M250R(300) - 3[0]

Sincerely,
Analysis performed by:

Kowsalya

Reviewed by:

Cliff Abernathy, P.E.

1825 W. Walnut Hill Lane Suite 120
Irving, Texas 75038

NOTE: THE INFORMATION ON THIS SHEET WAS PROVIDED BY OTHERS WITHOUT EDIT.

SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-601	0