T-Mobile Northeast, LLC NOTICE OF INTENT TO MODIFY AN EXISTING TELECOMMUNICATIONS FACILITY AT 401 WAKELEE AVENUE ANSONIA, CT 06401

Pursuant to the Public Utility Environmental Standards Act, Connecticut General Statutes § 16-50g et. Seq. ("PUESA"), and Sections 16-50j-72(b) and 16-50j-73 of the Regulations of Connecticut State Agencies ("R.C.S.A") adopted pursuant to the PUESA, by and through T-Mobile Northeast, LLC ("T-Mobile") and as successor in interest to Omnipoint Communications, Inc., hereby notifies the Connecticut Siting Council of its intent to modify an existing facility located at 401 Wakelee Avenue Ansonia, CT 06401.

T-Mobile Northeast LLC's Proposed Wireless Modifications

T-Mobile as successor in interest to Omnipoint Communications achieved an initial exempt modification approval from the Siting Council to install antennas and related ground equipment. The facility consists of a One-Hundred and sixty six (198') foot high telecommunications tower (the "Tower") within a fenced compound. T-Mobile now intends to modify the facility as shown on the enclosed plans prepared by Infinigy Engineering group and annexed hereto as Exhibit 1. The modifications will consist of adding three (3) new antennas with RRU's at the existing AGL of 148'. A structural analysis has been completed for the site. Please see report attached in exhibit 3.

T-Mobile's Proposed Wireless Modifications Constitutes An "Exempt Modification"

The proposed modification to the facility constitutes an exempt modification of an existing facility provided for in R.C.S.A Section 16-50j-72(b)(2) and Council regulations promulgated pursuant thereto.

1) The proposed modifications will be to add three (3) antennas at the same AGL of 148'along with RRU's
2) The proposed modifications will not require expansion of the site boundaries.
3) The proposed modifications will not increase noise levels at the facility by six decibels or more.
4) T-Mobile Northeast LLC's proposed facility will not increase the cumulative radio frequency electromagnetic radiation power density at the Tower site's boundary to or above the standard adopted by the Connecticut Department of Environmental Protection as set forth in Section 22a-162 of the Connecticut General Statutes and MPE limits established by the Federal Communications Commission. A cumulative General Power Density table for T-Mobile's proposed modified facility is included as Exhibit 2.

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

Respectfully submitted,

Amber Debole (781) 424-9253
On behalf of T-Mobile Northeast, LLC
c/o Tower Resource Management, Inc.
16 Chestnut Street, Suite 420
Foxboro, MA 02035

cc: **Town of Ansonia, CT**
American Tower Corp

EBI Consulting
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RADIO FREQUENCY EMISSIONS ANALYSIS REPORT
EVALUATION OF HUMAN EXPOSURE POTENTIAL TO NON-IONIZING EMISSIONS

T-Mobile Existing Facility

Site ID: CT11810A

SpectraSite- Ansonia
401 Wakelee Avenue
Ansonia, CT 06401

September 17, 2015

EBI Project Number: 6215004796

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	5.63 %

21 B Street · Burlington, MA 01803 · Tel: (781) 273.2500 · Fax: (781) 273.3311

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September 17, 2015

T-Mobile USA
Attn: Jason Overbey, RF Manager
35 Griffin Road South
Bloomfield, CT 06002

Emissions Analysis for Site: **CT11810A – SpectraSite- Ansonia**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **401 Wakelee Avenue, Ansonia, CT**, for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (μW/cm2). The number of $\mu W/cm^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (MPE) limits for General Population/Uncontrolled environments as defined below.

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

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limit for the 700 MHz Band is approximately 467 $\mu W/cm^2$, and the general population exposure limit for the PCS and AWS bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at **401 Wakelee Avenue, Ansonia, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6 foot person standing at the base of the tower.

For all calculations, all equipment was calculated using the following assumptions:

1) 2 GSM / UMTS channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel

2) 2 UMTS channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

3) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

4) 1 LTE channel (700 MHz Band) was considered for each sector of the proposed installation. This channel has a transmit power of 30 Watts.

5) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.

6) For the following calculations the sample point was the top of a six foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

7) The antennas used in this modeling are the **Ericsson AIR21 (B4A/B2P & B2A/B4P)** for 1900 MHz (PCS) and 2100 MHz (AWS) channels and the **Commscope LNX-6515DS-VTM** for 700 MHz channels. This is based on feedback from the carrier with regards to anticipated antenna selection. The **Ericsson (AIR21 B4A/B2P & B2A/B4P)** have a maximum gain of **15.9 dBd** at their main lobe. The **Commscope LNX-6515DS-VTM** has a maximum gain of **14.6 dBd** at its main lobe. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

8) The antenna mounting height centerline of the proposed antennas is **148 feet** above ground level (AGL).

9) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

All calculations were done with respect to uncontrolled / general public threshold limits.

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T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Ericsson AIR21 B4A/B2P	Make / Model:	Ericsson AIR21 B4A/B2P	Make / Model:	Ericsson AIR21 B4A/B2P
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	148	Height (AGL):	148	Height (AGL):	148
Frequency Bands	2100 MHz (AWS)	Frequency Bands	2100 MHz (AWS)	Frequency Bands	2100 MHz (AWS)
Channel Count	2	Channel Count	2	# PCS Channels:	2
Total TX Power:	120	Total TX Power:	120	# AWS Channels:	120
ERP (W):	4,668.54	ERP (W):	4,668.54	ERP (W):	4,668.54
Antenna A1 MPE%	0.83	Antenna B1 MPE%	0.83	Antenna C1 MPE%	0.83
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	Ericsson AIR21 B2A/B2P	Make / Model:	Ericsson AIR21 B2A/B2P	Make / Model:	Ericsson AIR21 B2A/B2P
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	148	Height (AGL):	148	Height (AGL):	148
Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power:	120	Total TX Power:	120	Total TX Power:	120
ERP (W):	4,668.54	ERP (W):	4,668.54	ERP (W):	4,668.54
Antenna A2 MPE%	0.83	Antenna B2 MPE%	0.83	Antenna C2 MPE%	0.83
Antenna #:	3	Antenna #:	3	Antenna #:	3
Make / Model:	Commscope LNX-6515DS-VTM	Make / Model:	Commscope LNX-6515DS-VTM	Make / Model:	Commscope LNX-6515DS-VTM
Gain:	14.6 dBd	Gain:	14.6 dBd	Gain:	14.6 dBd
Height (AGL):	148	Height (AGL):	148	Height (AGL):	148
Frequency Bands	700 MHz	Frequency Bands	700 MHz	Frequency Bands	700 MHz
Channel Count	1	Channel Count	1	Channel Count	1
Total TX Power:	30	Total TX Power:	30	Total TX Power:	30
ERP (W):	865.21	ERP (W):	865.21	ERP (W):	865.21
Antenna A3 MPE%	0.33	Antenna B3 MPE%	0.33	Antenna C3 MPE%	0.33

Site Composite MPE%	
Carrier	**MPE%**
T-Mobile (Per Sector Max)	**2.00 %**
AT&T	1.46 %
MetroPCS	0.28 %
Clearwire	0.05 %
Sprint / Nextel	0.87 %
Verizon Wireless	0.97 %
Site Total MPE %:	**5.63 %**

T-Mobile Sector 1 Total:	2.00 %
T-Mobile Sector 2 Total:	2.00 %
T-Mobile Sector 3 Total:	2.00 %
Site Total:	5.63 %

T-Mobile _per sector	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
T-Mobile 2100 MHz (AWS) LTE	**2**	**2334.27**	**148**	**8.32**	**2100**	**1000**	**0.83 %**
T-Mobile 700 MHz LTE	**1**	**865.21**	**148**	**1.54**	**700**	**467**	**0.33 %**
T-Mobile 1900 MHz (PCS) UMTS	**2**	**1167.14**	**148**	**4.16**	**1900**	**1000**	**0.42 %**
T-Mobile 2100 MHz (AWS) UMTS	**2**	**1167.14**	**148**	**4.16**	**2100**	**1000**	**0.42 %**
						Total:	**2.00%**

Summary

All calculations performed for this analysis yielded results that were **within** the allowable limits for general public exposure to RF Emissions.

The anticipated maximum composite contributions from the T-Mobile facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general public exposure to RF Emissions are shown here:

T-Mobile Sector	Power Density Value (%)
Sector 1:	2.00 %
Sector 2:	2.00 %
Sector 3 :	2.00 %
T-Mobile Per Sector Maximum:	2.00 %
Site Total:	5.63 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **5.63%** of the allowable FCC established general public limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government.

Scott Heffernan
RF Engineering Director

EBI Consulting
21 B Street
Burlington, MA 01803

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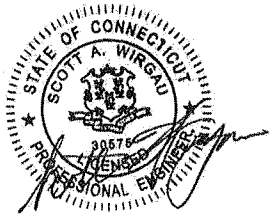
Structural Analysis Report

Structure	:	**196 ft Self Supported Tower**
ATC Site Name	:	**Ansonia Wakelee, CT**
ATC Site Number	:	**302470**
Engineering Number	:	**63533021**
Proposed Carrier	:	**T-Mobile**
Carrier Site Name	:	**SpectraSite - Ansonia**
Carrier Site Number	:	**CT11810A**
Site Location	:	**401 Wakelee Ave** **Ansonia, CT 06401-1226** **41.356069,-73.092000**
County	:	**New Haven**
Date	:	**September 4, 2015**
Max Usage	:	**98%**
Result	:	**Pass**

Prepared By:
Harleen Sandhu

Reviewed by:
Scott Wirgau, PE
Structural Team Leader



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COA: PEC.0001553

Eng. Number 63533021
September 4, 2015

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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 T-Mobile.

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:	105 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	30 mph (3-Second Gust) w/ 3/4" radial ice concurrent
Code:	ANSI/TIA-222-G / 2003 IBC w/ 2005 CT Supplement & 2009 CT Amendment
Structure Class:	II
Exposure Category:	B
Topographic Category:	1
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

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
194.0	194.0	3	Argus LLPX310R	Sector Frames	(6) 1 5/8" Coax (2) 2" Conduit (2) 1/2" Coax (10) 1 1/4" Coax (6) 5/16" Coax	Clearwire
		2	DragonWave A-ANT-18G-2-C			
		3	NextNet BTS-2500			
		2	DragonWave Horizon Compact			Sprint Nextel
		3	KMW TTA (HB-X-WM-17-65-00T)			
		3	72" x 12" Panels			
		9	48" x 12" Panels			
190.0	191.0	3	Alcatel-Lucent 1900MHz 4x45 Rrh	Leg	-	
188.0	189.0	3	Alcatel-Lucent 800MHz RRH	Leg	-	
183.0	185.0	1	12" x 12" Junction Box	Sector Frames	(4) 1 1/4" Hybriflex Cable	
		3	RFS RFS APXV9TM14-ALU-I20			
		3	Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield			
		2	Powerwave P40-16-XLPP-RRR			
		1	RFS APXVSPP18-C-A20			
175.0	177.0	1	Swedcom SLCP 2x6014	Sector Frames	(12) 1 5/8" Coax	Verizon
		1	Antel BXA-70063-6BF-EDIN-X			
		3	Rymsa MGD3-800TX			
		1	Powerwave P65-16-XL-2			
		12	RFS FD9R6004/2C-3L			
		3	Antel BXA-80080/4CF			
		3	Antel BXA-171063-8CF-EDIN-X			
167.0	167.0	9	72" x 12" Panel	Sector Frames	(2) 0.78" 8 AWG 6 (12) 1 5/8" Coax (1) 3" Conduit (1) 0.39" Cable	AT&T Mobility
		3	36" x 8" x 6" Panel			
		6	Ericsson RRUS 11 (Band 12) (55 lb)			
		1	Raycap DC6-48-60-18-8F			
		9	14" x 9" TTA			
157.0	157.0	3	Kathrein 742 213	Leg	(6) 1 5/8" Coax	Metro PCS
148.0	148.0	3	Ericsson KRY 112 144/1	Sector Frames	(12) 1 5/8" Coax (1) 1 1/4" Hybriflex	T-Mobile
		3	Ericsson AIR 21, 1.3M, B4A B2P			
		3	Ericsson AIR 21, 1.3 M, B2A B4P			
125.0	125.0	2	Motorola PTP54600	Leg	(2) 1/4" Coax	City Of Ansonia, CT
101.0	102.0	2	GPS	Standoffs	(2) 1/2" Coax	Sprint Nextel
79.0	89.0	1	10' Dipole	Standoffs	(1) 1/2" Coax	City Of Ansonia, CT
76.0	76.0	1	PCTEL GPS-TMG-HR-26N	Standoffs	(1) 1/2" Coax	Sprint Nextel

Equipment to be Removed

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
No loading considered as to be removed						

Proposed Equipment

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
148.0	148.0	3	Andrew LNX-6515DS-VTM	Sector Frames	-	T-Mobile
		3	Ericsson RRUS 11 B12			

[1]Mount elevation is defined as height above bottom of steel structure to the bottom of mount, RAD elevation is defined as center of antenna above ground level (AGL).

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Legs	98%	Pass
Diagonals	98%	Pass
Horizontals	14%	Pass
Anchor Bolts	64%	Pass
Leg Bolts	80%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Design
Moment (Kip.ft)	8274.3	84%
Axial (Kips)	436.1	24%
Shear (Kips)	45.3	32%

The structure base reactions resulting from this analysis were found to be acceptable through analysis based on geotechnical and foundation information, therefore no modification or reinforcement of the foundation will be required. The foundation and anchorages for this tower have factors of safety exceeding 2.0 with respect to wind.

Deflection, Twist and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Twist (°)	Sway (Rotation) (°)
194.0	DragonWave A-ANT-18G-2-C	Clearwire	0.447	0.013	0.254
148.0	Andrew LNX-6515DS-VTM	T-Mobile	0.269	0.010	0.217
	Ericsson RRUS 11 B12				

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

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Standard Conditions

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessary limited, to:

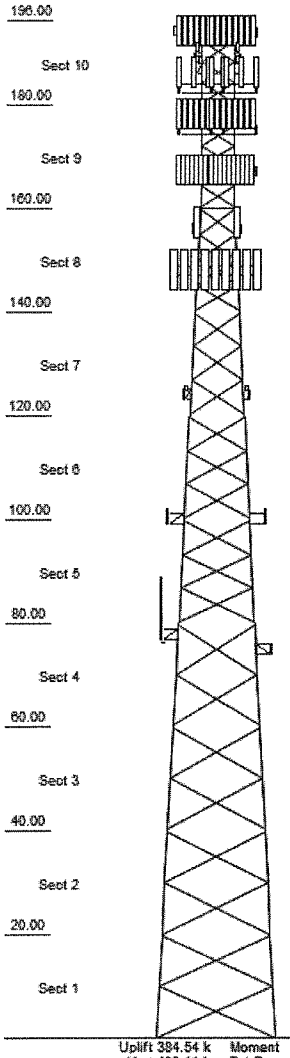
-- Information supplied by the client regarding the structure itself, antenna, mounts and feed line loading on the structure and its components, or other relevant information.

-- Information from drawings in the possession of American Tower Corporation, or generated by field inspections or measurements of the structure.

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. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and that their capacity has not significantly changed from the "as new" condition.

Unless explicitly agreed by both the client and American Tower Corporation, all services will be performed in accordance with the current revision of ANSI/TIA -222. The design basic wind speed will be determined based on the minimum basic wind speed as prescribed in ANSI/TIA-222. Although every effort is taken to ensure that the loading considered is adequate to meet the requirements of all applicable regulatory entities, we can provide no assurance to meet any other local and state codes or requirements. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement.

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 we supply.



Loads: 105 mph no ice
30 mph w / 3/4" radial ice
Site Class: D Ss: 0.19 S1: 0.06
60 mph Serviceability

Uplift 384.54 k	Moment 8,274.27 k	Moment Ice 806.85 k-ft	
Vert 436.11 k	Tot Down 62.11 k	Tot Down Ice 172.41 k	
Horiz 45.34 k	Tot Shear 74.98 k	Tot Shear Ice 7.40 k	

Job Information

Tower : 302470	Location : Ansonia Wakelee, CT	
Code: ANSI/TIA-222-G	Shape : Triangle	Base Width : 23.00 ft
Client : T-MOBILE		Top Width : 6.65 ft

Sections Properties

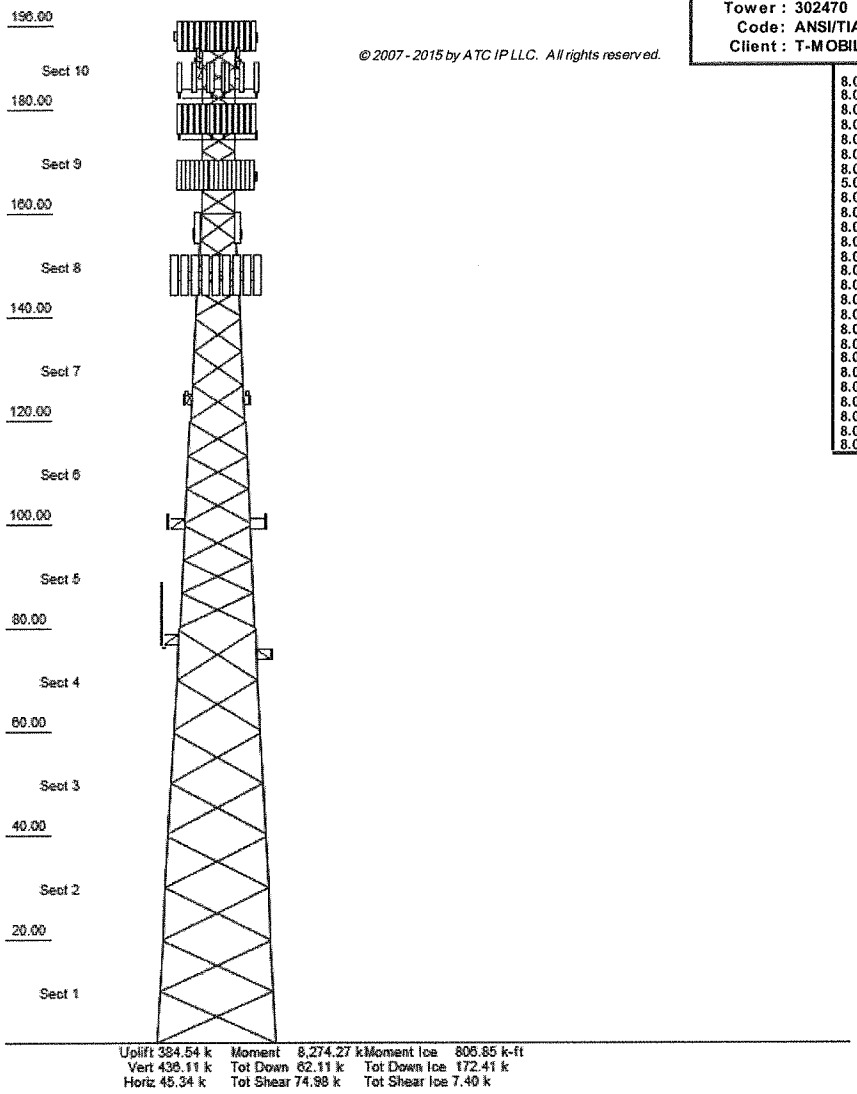
Section	Leg Members		Diagonal Members	Horizontal Members
1	PX 50 ksi	8" DIA PIPE	SAE 50 ksi 4X4X0.25	
2	PSP 50 ksi	ROHN 8 EHS	SAE 50 ksi 4X4X0.25	
3	PSP 50 ksi	ROHN 8 EHS	SAE 50 ksi 3.5X3.5X0.25	
4	PX 50 ksi	6" DIA PIPE	SAE 50 ksi 3.5X3.5X0.25	
5	PSP 50 ksi	ROHN 6 EHS	SAE 50 ksi 3X3X0.25	
6 - 7	PX 50 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
194.00	Panel	3	Argus LLPX310R
194.00	Dish	2	DragonWave A-ANT-18G-2-C
194.00	Panel	3	NextNet BTS-2500
194.00	Panel	2	DragonWave Horizon Compact
194.00	Panel	3	KMW TTA (HB-X-WM-17-65-00T)
194.00	Mounting Frame	3	Round Sector Frames
194.00	Panel	3	72" x 12" Panels
194.00	Panel	9	48" x 12" Panels
190.00	Panel	3	Alcatel-Lucent 1900 MHz 4x45 R
188.00	Panel	3	Alcatel-Lucent 800 MHz RRH
183.00	Panel	1	12" x 12" Junction Box
183.00	Panel	3	RFS RFS APXV9TM14-ALU-I20
183.00	Panel	3	Alcatel-Lucent TD-RRH8x20-25 w
183.00	Panel	2	Powerwave Allgon P40-16-XLPP-R
183.00	Panel	1	RFS APXVSPP18-C-A20
183.00	Mounting Frame	3	Round Sector Frames
175.00	Panel	1	Swedcom SLCP 2x6014
175.00	Panel	1	Amphenol Antel BXA-70063-6BF-E
175.00	Panel	3	Rymsa MGD3-800TX
175.00	Panel	1	Powerwave Allgon P65-16-XL-2
175.00	Mounting Frame	3	Flat Light Sector Frames
175.00	Panel	12	RFS FD9R6004/2C-3L
175.00	Panel	3	Antel BXA-80080/4CF
175.00	Panel	3	Amphenol Antel BXA-171063-8CF-
167.00	Panel	9	72" x 12" Panel
167.00	Panel	3	36" x 8" x 6" Panel
167.00	Panel	6	Ericsson RRUS 11 (Band 12) (55
167.00	Panel	1	Raycap DC6-48-60-18-8F
167.00	Mounting Frame	3	Round Sector Frames
167.00	Panel	9	14" x 9" TTA
157.00	Panel	3	Kathrein 742 213
148.00	Panel	3	Andrew LNX-6515DS-VTM
148.00	Panel	3	Ericsson RRUS 11 B12
148.00	Panel	3	Ericsson KRY 112 144/1
148.00	Panel	3	Ericsson AIR 21, 1.3M, B4A B2P
148.00	Panel	3	Ericsson AIR 21, 1.3 M, B2A B4
148.00	Mounting Frame	3	Round Sector Frame
125.00	Panel	2	Motorola PTP54600
101.00	Straight Arm	2	Standoffs
101.00	Whip	2	GPS
79.00	Straight Arm	1	Standoffs
79.00	Whip	1	10' Dipole
76.00	Straight Arm	1	Standoffs
76.00	Panel	1	PCTEL GPS-TMG-HR-26N

Linear Appurtenance

Elev (ft) From	To	Qty	Description



Uplift 384.54 k Moment 8,274.27 k Moment Ice 806.85 k-ft
Vert 436.11 k Tot Down 82.11 k Tot Down Ice 172.41 k
Horiz 45.34 k Tot Shear 74.98 k Tot Shear Ice 7.40 k

Job Information

Tower : 302470 Location : Ansonia Wakelee, CT
Code: ANSI/TIA-222-G Shape : Triangle Base Width : 23.00 ft
Client : T-MOBILE Top Width : 6.65 ft

8.000	194.00	1	Wave Guide
8.000	194.00	1	Wave Guide
8.000	194.00	6	5/16" Coax
8.000	194.00	2	2" Conduit
8.000	194.00	2	1/2" Coax
8.000	194.00	6	1 5/8" Coax
8.000	194.00	10	1 1/4" Coax
5.000	194.00	1	Climbing Ladder
8.000	183.00	1	Wave Guide
8.000	183.00	1	1 1/4" Hybriflex Cab
8.000	183.00	3	1 1/4" Hybriflex Cab
8.000	175.00	12	1 5/8" Coax
8.000	167.00	1	Wave Guide
8.000	167.00	1	3" Conduit
8.000	167.00	12	1 5/8" Coax
8.000	167.00	2	0.78" 8 AWG 6
8.000	167.00	1	0.39" Cable
8.000	157.00	1	Waveguide
8.000	157.00	6	1 5/8" Coax
8.000	148.00	1	Wave Guide
8.000	148.00	12	1 5/8" Coax
8.000	148.00	1	1 1/4" Hybriflex
8.000	125.00	2	1/4" Coax
8.000	101.00	2	1/2" Coax
8.000	79.000	1	1/2" Coax
8.000	76.000	1	1/2" Coax

Site Number:	302470	Code:	ANSI/TIA-222-G	
Site Name:	Ansonia Wakelee, CT	Engineering Number:	63533021	9/4/2015 3:39:39 PM
Customer:	T-MOBILE			

Analysis Parameters

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

Ice & Wind Parameters

Structure Class:	II	Design Windspeed Without Ice:	105 mph
Exposure Category:	B	Design Windspeed With Ice:	30 mph
Topographic Catagory:	1	Operational Windspeed:	60 mph
Crest Height:	0.0 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):	1.00				
T_L(sec):	6	p:	1.3	C_s:	0.034
S_s:	0.195	S_1:	0.064	C_s, Max:	0.034
F_a:	1.600	F_v:	2.400	C_s, Min:	0.030
S_{ds}:	0.208	S_{d1}:	0.102		

Load Cases

1.2D + 1.6W Normal	105 mph Normal to Face with No Ice
1.2D + 1.6W 60 deg	105 mph 60 degree with No Ice
1.2D + 1.6W 90 deg	105 mph 90 degree with No Ice
0.9D + 1.6W Normal	105 mph Normal to Face with No Ice (Reduced DL)
0.9D + 1.6W 60 deg	105 mph 60 deg with No Ice (Reduced DL)
0.9D + 1.6W 90 deg	105 mph 90 deg with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi Normal	30 mph Normal with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 60 deg	30 mph 60 degree with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 90 deg	30 mph 90 degree 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 degree
(1.2 + 0.2Sds) * DL + E 90 deg	Seismic 90 degree
(0.9 - 0.2Sds) * DL + E Normal	Seismic (Reduced DL) Normal
(0.9 - 0.2Sds) * DL + E 60 deg	Seismic (Reduced DL) 60 degree
(0.9 - 0.2Sds) * DL + E 90 deg	Seismic (Reduced DL) 90 degree
1.0D + 1.0W Service Normal	Serviceability - 60 mph Wind Normal
1.0D + 1.0W Service 60 deg	Serviceability - 60 mph Wind 60 degree
1.0D + 1.0W Service 90 deg	Serviceability - 60 mph Wind 90 degree

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

Site Name: Ansonia Wakelee, CT Engineering Number: 63533021 9/4/2015 3:39:39 PM

Customer: T-MOBILE

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)
194.0	48" x 12" Panels	9	30	5.1	4.0	12.0	6.0	0.80	0.66	0.0	0.0	28.65	939	389
194.0	72" x 12" Panels	3	45	8.1	6.0	12.0	6.0	0.80	0.67	0.0	0.0	28.65	509	194
194.0	Argus LLPX310R	3	29	4.3	3.5	11.8	4.5	0.80	0.63	0.0	0.0	28.65	253	124
194.0	DragonWave A-ANT-	2	27	4.7	2.2	0.0	0.0	0.80	1.00	0.0	0.0	28.65	292	78
194.0	DragonWave	2	11	0.4	0.4	9.3	9.3	0.80	0.50	0.0	0.0	28.65	13	31
194.0	KMW TTA (HB-X-WM-	3	16	0.6	1.3	7.3	3.7	0.80	0.50	0.0	0.0	28.65	30	69
194.0	NextNet BTS-2500	3	35	1.8	1.6	11.3	5.1	0.80	0.50	0.0	0.0	28.65	85	151
194.0	Round Sector	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	28.65	846	1296
190.0	Alcatel-Lucent 1900	3	60	2.3	2.1	11.1	10.7	1.00	0.67	1.0	180.9	28.52	181	259
188.0	Alcatel-Lucent 800	3	53	2.1	1.6	13.0	10.8	1.00	0.67	1.0	165.6	28.44	166	229
183.0	12" x 12" Junction	1	10	1.2	1.0	12.0	8.0	0.80	1.00	2.0	73.8	28.26	37	14
183.0	Alcatel-Lucent TD-	3	70	4.1	2.2	18.6	6.7	0.80	0.67	2.0	500.7	28.26	250	302
183.0	Powerwave Allgon	2	64	9.1	4.5	20.0	6.5	0.80	0.61	2.0	680.5	28.26	340	184
183.0	RFS APXVSPP18-C-	1	57	8.0	6.0	11.8	7.0	0.80	0.69	2.0	340.3	28.26	170	82
183.0	RFS RFS	3	55	6.3	4.7	12.6	6.3	0.80	0.66	2.0	772.0	28.26	386	238
183.0	Round Sector	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	28.18	931	1296
175.0	Amphenol Antel BXA-	3	11	2.9	4.0	6.1	4.1	0.80	0.71	2.0	380.3	27.91	190	45
175.0	Amphenol Antel BXA-	1	19	7.3	5.7	11.2	5.3	0.80	0.66	2.0	291.0	27.91	145	28
175.0	Antel BXA-80080/4CF	3	14	4.8	4.0	11.2	5.9	0.80	0.67	2.0	585.9	27.91	293	62
175.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	27.82	1021	1728
175.0	Powerwave Allgon	1	33	8.1	6.0	12.0	5.0	0.80	0.65	2.0	320.9	27.91	160	48
175.0	RFS FD9R6004/2C-3L	12	3	0.4	0.5	6.5	1.5	0.80	0.50	2.0	134.8	27.91	67	45
175.0	Rymsa MGD3-800TX	3	15	3.3	4.4	6.3	3.5	0.80	0.69	2.0	419.9	27.91	210	67
175.0	Swedcom SLCP	1	20	6.5	4.4	14.0	11.0	0.80	0.73	2.0	287.3	27.91	144	29
167.0	14" x 9" TTA	9	10	1.0	1.2	9.0	6.0	0.80	0.50	0.0	0.0	27.45	141	130
167.0	36" x 8" x 6" Panel	3	25	2.6	3.0	8.0	6.0	0.80	0.73	0.0	0.0	27.45	169	108
167.0	72" x 12" Panel	9	45	8.1	6.0	12.0	6.0	0.80	0.67	0.0	0.0	27.45	1464	583
167.0	Ericsson RRUS 11	6	55	2.5	1.5	17.0	7.2	0.80	0.67	0.0	0.0	27.45	303	475
167.0	Raycap DC6-48-60-	1	20	1.1	2.0	9.7	9.7	0.80	1.00	0.0	0.0	27.45	33	29
167.0	Round Sector	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	27.45	810	1296
157.0	Kathrein 742 213	3	22	5.1	6.4	6.1	2.7	1.00	0.67	0.0	0.0	26.97	379	95
148.0	Andrew LNX-	3	51	11.4	8.0	11.9	7.1	0.80	0.70	0.0	0.0	26.52	693	222
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	26.52	372	359
148.0	Ericsson AIR 21,	3	82	6.1	4.7	12.1	7.9	0.80	0.70	0.0	0.0	26.52	369	352
148.0	Ericsson KRY 112	3	11	0.4	0.6	6.1	2.7	0.80	0.50	0.0	0.0	26.52	18	48
148.0	Ericsson RRUS 11	3	51	2.8	1.6	17.0	7.2	0.80	0.67	0.0	0.0	26.52	162	219
148.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	26.52	783	1296
125.0	Motorola PTP54600	2	12	1.8	1.2	14.5	3.8	1.00	0.58	0.0	0.0	25.27	70	35
101.0	GPS	2	10	1.0	1.0	9.0	6.0	1.00	1.00	1.0	64.9	23.84	65	29
101.0	Standoffs	2	75	2.5	0.0	0.0	0.0	1.00	0.90	0.0	0.0	23.78	146	216
79.00	10' Dipole	1	30	3.8	10.0	3.0	3.0	1.00	1.00	10.0	1172.6	22.93	117	43
79.00	Standoffs	1	75	2.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	22.16	75	108
76.00	PCTEL GPS-TMG-HR-	1	1	0.1	0.4	3.2	3.2	1.00	1.00	0.0	0.0	21.92	3	1
76.00	Standoffs	1	75	2.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	21.92	75	108
	Totals	136	8845	680.1										

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)
194.0	48" x 12" Panels	9	30	5.1	4.0	12.0	6.0	0.80	0.66	0.0	0.0	28.65	939	219
194.0	72" x 12" Panels	3	45	8.1	6.0	12.0	6.0	0.80	0.67	0.0	0.0	28.65	509	109

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

Site Name: Ansonia Wakelee, CT Engineering Number: 63533021 9/4/2015 3:39:39 PM

Customer: T-MOBILE

Tower Loading

194.0	Argus LLPX310R	3	29	4.3	3.5	11.8	4.5	0.80	0.63	0.0	0.0	28.65	253	69
194.0	DragonWave A-ANT-	2	27	4.7	2.2	0.0	0.0	0.80	1.00	0.0	0.0	28.65	292	44
194.0	DragonWave	2	11	0.4	0.4	9.3	9.3	0.80	0.50	0.0	0.0	28.65	13	17
194.0	KMW TTA (HB-X-WM-	3	16	0.6	1.3	7.3	3.7	0.80	0.50	0.0	0.0	28.65	30	39
194.0	NextNet BTS-2500	3	35	1.8	1.6	11.3	5.1	0.80	0.50	0.0	0.0	28.65	85	85
194.0	Round Sector	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	28.65	846	729
190.0	Alcatel-Lucent 1900	3	60	2.3	2.1	11.1	10.7	1.00	0.67	1.0	180.9	28.52	181	146
188.0	Alcatel-Lucent 800	3	53	2.1	1.6	13.0	10.8	1.00	0.67	1.0	165.6	28.44	166	129
183.0	12" x 12" Junction	1	10	1.2	1.0	12.0	8.0	0.80	1.00	2.0	73.8	28.26	37	8
183.0	Alcatel-Lucent TD-	3	70	4.1	2.2	18.6	6.7	0.80	0.67	2.0	500.7	28.26	250	170
183.0	Powerwave Allgon	2	64	9.1	4.5	20.0	6.5	0.80	0.61	2.0	680.5	28.26	340	104
183.0	RFS APXVSPP18-C-	1	57	8.0	6.0	11.8	7.0	0.80	0.69	2.0	340.3	28.26	170	46
183.0	RFS RFS	3	55	6.3	4.7	12.6	6.3	0.80	0.66	2.0	772.0	28.26	386	134
183.0	Round Sector	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	28.18	931	729
175.0	Amphenol Antel BXA-	3	11	2.9	4.0	6.1	4.1	0.80	0.71	2.0	380.3	27.91	190	26
175.0	Amphenol Antel BXA-	1	19	7.3	5.7	11.2	5.3	0.80	0.66	2.0	291.0	27.91	145	16
175.0	Antel BXA-80080/4CF	3	14	4.8	4.0	11.2	5.9	0.80	0.67	2.0	585.9	27.91	293	35
175.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	27.82	1021	972
175.0	Powerwave Allgon	1	33	8.1	6.0	12.0	5.0	0.80	0.65	2.0	320.9	27.91	160	27
175.0	RFS FD9R6004/2C-3L	12	3	0.4	0.5	6.5	1.5	0.80	0.50	2.0	134.8	27.91	67	25
175.0	Rymsa MGD3-800TX	3	15	3.3	4.4	6.3	3.5	0.80	0.69	2.0	419.9	27.91	210	37
175.0	Swedcom SLCP	1	20	6.5	4.4	14.0	11.0	0.80	0.73	2.0	287.3	27.91	144	16
167.0	14" x 9" TTA	9	10	1.0	1.2	9.0	6.0	0.80	0.50	0.0	0.0	27.45	141	73
167.0	36" x 8" x 6" Panel	3	25	2.6	3.0	8.0	6.0	0.80	0.73	0.0	0.0	27.45	169	61
167.0	72" x 12" Panel	9	45	8.1	6.0	12.0	6.0	0.80	0.67	0.0	0.0	27.45	1464	328
167.0	Ericsson RRUS 11	6	55	2.5	1.5	17.0	7.2	0.80	0.67	0.0	0.0	27.45	303	267
167.0	Raycap DC6-48-60-	1	20	1.1	2.0	9.7	9.7	0.80	1.00	0.0	0.0	27.45	33	16
167.0	Round Sector	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	27.45	810	729
157.0	Kathrein 742 213	3	22	5.1	6.4	6.1	2.7	1.00	0.67	0.0	0.0	26.97	379	53
148.0	Andrew LNX-	3	51	11.4	8.0	11.9	7.1	0.80	0.70	0.0	0.0	26.52	693	125
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	26.52	372	202
148.0	Ericsson AIR 21,	3	82	6.1	4.7	12.1	7.9	0.80	0.70	0.0	0.0	26.52	369	198
148.0	Ericsson KRY 112	3	11	0.4	0.6	6.1	2.7	0.80	0.50	0.0	0.0	26.52	18	27
148.0	Ericsson RRUS 11	3	51	2.8	1.6	17.0	7.2	0.80	0.67	0.0	0.0	26.52	162	123
148.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	26.52	783	729
125.0	Motorola PTP54600	2	12	1.8	1.2	14.5	3.8	1.00	0.58	0.0	0.0	25.27	70	20
101.0	GPS	2	10	1.0	1.0	9.0	6.0	1.00	1.00	1.0	64.9	23.84	65	16
101.0	Standoffs	2	75	2.5	0.0	0.0	0.0	1.00	0.90	0.0	0.0	23.78	146	122
79.00	10' Dipole	1	30	3.8	10.0	3.0	3.0	1.00	1.00	10.0	1172.6	22.93	117	24
79.00	Standoffs	1	75	2.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	22.16	75	61
76.00	PCTEL GPS-TMG-HR-	1	1	0.1	0.4	3.2	3.2	1.00	1.00	0.0	0.0	21.92	3	0
76.00	Standoffs	1	75	2.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	21.92	75	61
	Totals	136	8845	680.1										

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)
194.0	48" x 12" Panels	9	41	6.9	4.0	12.0	6.0	0.80	0.66	0.0	0.0	2.34	65	504
194.0	72" x 12" Panels	3	61	11.0	6.0	12.0	6.0	0.80	0.67	0.0	0.0	2.34	35	252
194.0	Argus LLPX310R	3	39	5.8	3.5	11.8	4.5	0.80	0.63	0.0	0.0	2.34	17	160
194.0	DragonWave A-ANT-	2	127	6.4	2.2	0.0	0.0	0.80	1.00	0.0	0.0	2.34	20	318
194.0	DragonWave	2	14	0.6	0.4	9.3	9.3	0.80	0.50	0.0	0.0	2.34	1	40
194.0	KMW TTA (HB-X-WM-	3	22	0.9	1.3	7.3	3.7	0.80	0.50	0.0	0.0	2.34	2	89
194.0	NextNet BTS-2500	3	47	2.5	1.6	11.3	5.1	0.80	0.50	0.0	0.0	2.34	6	196
194.0	Round Sector	3	677	31.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	2.34	94	2653

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

Site Name: Ansonia Wakelee, CT Engineering Number: 63533021 9/4/2015 3:39:39 PM

Customer: T-MOBILE

Tower Loading

190.0	Alcatel-Lucent 1900	3	158	3.0	2.1	11.1	10.7	1.00	0.67	1.0	12.0	2.33	12	611
188.0	Alcatel-Lucent 800	3	143	2.8	1.6	13.0	10.8	1.00	0.67	1.0	11.0	2.32	11	552
183.0	12" x 12" Junction	1	64	1.7	1.0	12.0	8.0	0.80	1.00	2.0	5.3	2.31	3	79
183.0	Alcatel-Lucent TD-	3	165	5.8	2.2	18.6	6.7	0.80	0.67	2.0	36.5	2.31	18	643
183.0	Powerwave Allgon	2	279	10.3	4.5	20.0	6.5	0.80	0.61	2.0	39.6	2.31	20	701
183.0	RFS APXVSPP18-C-	1	262	9.3	6.0	11.8	7.0	0.80	0.69	2.0	20.2	2.31	10	328
183.0	RFS RFS	3	202	8.6	4.7	12.6	6.3	0.80	0.66	2.0	53.3	2.31	27	767
183.0	Round Sector	3	621	24.7	0.0	0.0	0.0	0.75	0.75	0.0	0.0	2.30	81	2453
175.0	Amphenol Antel BXA-	3	95	3.8	4.0	6.1	4.1	0.80	0.71	2.0	25.2	2.28	13	350
175.0	Amphenol Antel BXA-	1	192	8.5	5.7	11.2	5.3	0.80	0.66	2.0	17.4	2.28	9	235
175.0	Antel BXA-80080/4CF	3	144	5.8	4.0	11.2	5.9	0.80	0.67	2.0	36.0	2.28	18	530
175.0	Flat Light Sector	3	705	33.2	0.0	0.0	0.0	0.75	0.67	0.0	0.0	2.27	97	2827
175.0	Powerwave Allgon	1	218	9.4	6.0	12.0	5.0	0.80	0.65	2.0	19.0	2.28	10	269
175.0	RFS FD9R6004/2C-3L	12	16	0.6	0.5	6.5	1.5	0.80	0.50	2.0	10.9	2.28	5	239
175.0	Rymsa MGD3-800TX	3	21	4.5	4.4	6.3	3.5	0.80	0.69	2.0	29.0	2.28	14	86
175.0	Swedcom SLCP	1	223	7.6	4.4	14.0	11.0	0.80	0.73	2.0	17.2	2.28	9	272
167.0	14" x 9" TTA	9	14	1.2	1.2	9.0	6.0	0.80	0.50	0.0	0.0	2.24	8	168
167.0	36" x 8" x 6" Panel	3	110	3.3	3.0	8.0	6.0	0.80	0.73	0.0	0.0	2.24	11	414
167.0	72" x 12" Panel	9	240	9.4	6.0	12.0	6.0	0.80	0.67	0.0	0.0	2.24	87	2684
167.0	Ericsson RRUS 11	6	137	3.2	1.5	17.0	7.2	0.80	0.67	0.0	0.0	2.24	19	1063
167.0	Raycap DC6-48-60-	1	102	2.5	2.0	9.7	9.7	0.80	1.00	0.0	0.0	2.24	4	127
167.0	Round Sector	3	618	24.6	0.0	0.0	0.0	0.75	0.67	0.0	0.0	2.24	71	2441
157.0	Kathrein 742 213	3	135	6.4	6.4	6.1	2.7	1.00	0.67	0.0	0.0	2.20	24	502
148.0	Andrew LNX-	3	315	13.1	8.0	11.9	7.1	0.80	0.70	0.0	0.0	2.16	40	1170
148.0	Ericsson AIR 21, 1.3	3	252	7.1	4.7	12.0	8.0	0.80	0.71	0.0	0.0	2.16	22	967
148.0	Ericsson AIR 21,	3	250	7.2	4.7	12.1	7.9	0.80	0.70	0.0	0.0	2.16	22	960
148.0	Ericsson KRY 112	3	27	0.6	0.6	6.1	2.7	0.80	0.50	0.0	0.0	2.16	1	107
148.0	Ericsson RRUS 11	3	137	3.5	1.6	17.0	7.2	0.80	0.67	0.0	0.0	2.16	10	530
148.0	Round Sector Frame	3	669	31.0	0.0	0.0	0.0	0.75	0.67	0.0	0.0	2.16	86	2623
125.0	Motorola PTP54600	2	16	2.4	1.2	14.5	3.8	1.00	0.58	0.0	0.0	2.06	5	45
101.0	GPS	2	15	3.3	1.0	9.0	6.0	1.00	1.00	1.0	11.0	1.95	11	42
101.0	Standoffs	2	100	2.8	0.0	0.0	0.0	1.00	0.90	0.0	0.0	1.94	8	277
79.00	10' Dipole	1	40	5.0	10.0	3.0	3.0	1.00	1.00	10.0	79.2	1.87	8	55
79.00	Standoffs	1	99	2.8	0.0	0.0	0.0	1.00	1.00	0.0	0.0	1.81	4	137
76.00	PCTEL GPS-TMG-HR-	1	10	0.3	0.4	3.2	3.2	1.00	1.00	0.0	0.0	1.79	0	12
76.00	Standoffs	1	99	2.8	0.0	0.0	0.0	1.00	1.00	0.0	0.0	1.79	4	137
	Totals	136	22911	1007.2										

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)
194.0	48" x 12" Panels	9	30	5.1	4.0	12.0	6.0	0.80	0.66	0.0	0.0	9.36	192	270
194.0	72" x 12" Panels	3	45	8.1	6.0	12.0	6.0	0.80	0.67	0.0	0.0	9.36	104	135
194.0	Argus LLPX310R	3	29	4.3	3.5	11.8	4.5	0.80	0.63	0.0	0.0	9.36	52	86
194.0	DragonWave A-ANT-	2	27	4.7	2.2	0.0	0.0	0.80	1.00	0.0	0.0	9.36	60	54
194.0	DragonWave	2	11	0.4	0.4	9.3	9.3	0.80	0.50	0.0	0.0	9.36	3	21
194.0	KMW TTA (HB-X-WM-	3	16	0.6	1.3	7.3	3.7	0.80	0.50	0.0	0.0	9.36	6	48
194.0	NextNet BTS-2500	3	35	1.8	1.6	11.3	5.1	0.80	0.50	0.0	0.0	9.36	17	105
194.0	Round Sector	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	9.36	173	900
190.0	Alcatel-Lucent 1900	3	60	2.3	2.1	11.1	10.7	1.00	0.67	1.0	36.9	9.31	37	180
188.0	Alcatel-Lucent 800	3	53	2.1	1.6	13.0	10.8	1.00	0.67	1.0	33.8	9.29	34	159
183.0	12" x 12" Junction	1	10	1.2	1.0	12.0	8.0	0.80	1.00	2.0	15.1	9.23	8	10
183.0	Alcatel-Lucent TD-	3	70	4.1	2.2	18.6	6.7	0.80	0.67	2.0	102.2	9.23	51	210
183.0	Powerwave Allgon	2	64	9.1	4.5	20.0	6.5	0.80	0.61	2.0	138.9	9.23	69	128
183.0	RFS APXVSPP18-C-	1	57	8.0	6.0	11.8	7.0	0.80	0.69	2.0	69.5	9.23	35	57

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

Site Name: Ansonia Wakelee, CT Engineering Number: 63533021 9/4/2015 3:39:39 PM

Customer: T-MOBILE

Tower Loading

183.0	RFS RFS	3	55	6.3	4.7	12.6	6.3	0.80	0.66	2.0	157.6	9.23	79	165
183.0	Round Sector	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	9.20	190	900
175.0	Amphenol Antel BXA-	3	11	2.9	4.0	6.1	4.1	0.80	0.71	2.0	77.6	9.11	39	32
175.0	Amphenol Antel BXA-	1	19	7.3	5.7	11.2	5.3	0.80	0.66	2.0	59.4	9.11	30	19
175.0	Antel BXA-80080/4CF	3	14	4.8	4.0	11.2	5.9	0.80	0.67	2.0	119.6	9.11	60	43
175.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	9.08	208	1200
175.0	Powerwave Allgon	1	33	8.1	6.0	12.0	5.0	0.80	0.65	2.0	65.5	9.11	33	33
175.0	RFS FD9R6004/2C-3L	12	3	0.4	0.5	6.5	1.5	0.80	0.50	2.0	27.5	9.11	14	31
175.0	Rymsa MGD3-800TX	3	15	3.3	4.4	6.3	3.5	0.80	0.69	2.0	85.7	9.11	43	46
175.0	Swedcom SLCP	1	20	6.5	4.4	14.0	11.0	0.80	0.73	2.0	58.6	9.11	29	20
167.0	14" x 9" TTA	9	10	1.0	1.2	9.0	6.0	0.80	0.50	0.0	0.0	8.96	29	90
167.0	36" x 8" x 6" Panel	3	25	2.6	3.0	8.0	6.0	0.80	0.73	0.0	0.0	8.96	34	75
167.0	72" x 12" Panel	9	45	8.1	6.0	12.0	6.0	0.80	0.67	0.0	0.0	8.96	299	405
167.0	Ericsson RRUS 11	6	55	2.5	1.5	17.0	7.2	0.80	0.67	0.0	0.0	8.96	62	330
167.0	Raycap DC6-48-60-	1	20	1.1	2.0	9.7	9.7	0.80	1.00	0.0	0.0	8.96	7	20
167.0	Round Sector	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	8.96	165	900
157.0	Kathrein 742 213	3	22	5.1	6.4	6.1	2.7	1.00	0.67	0.0	0.0	8.81	77	66
148.0	Andrew LNX-	3	51	11.4	8.0	11.9	7.1	0.80	0.70	0.0	0.0	8.66	141	154
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	8.66	76	249
148.0	Ericsson AIR 21,	3	82	6.1	4.7	12.1	7.9	0.80	0.70	0.0	0.0	8.66	75	245
148.0	Ericsson KRY 112	3	11	0.4	0.6	6.1	2.7	0.80	0.50	0.0	0.0	8.66	4	33
148.0	Ericsson RRUS 11	3	51	2.8	1.6	17.0	7.2	0.80	0.67	0.0	0.0	8.66	33	152
148.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	8.66	160	900
125.0	Motorola PTP54600	2	12	1.8	1.2	14.5	3.8	1.00	0.58	0.0	0.0	8.25	14	24
101.0	GPS	2	10	1.0	1.0	9.0	6.0	1.00	1.00	1.0	13.2	7.79	13	20
101.0	Standoffs	2	75	2.5	0.0	0.0	0.0	1.00	0.90	0.0	0.0	7.76	30	150
79.00	10' Dipole	1	30	3.8	10.0	3.0	3.0	1.00	1.00	10.0	239.3	7.49	24	30
79.00	Standoffs	1	75	2.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	7.24	15	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	7.16	1	1
76.00	Standoffs	1	75	2.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	7.16	15	75
	Totals	136	8845	680.1										

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

Site Name: Ansonia Wakelee, CT Engineering Number: 63533021 9/4/2015 3:39:39 PM

Customer: T-MOBILE

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
5.00	194.0	Climbing Ladder	1	1.50	6.90	0	Lin App	Individual	0.00	N	1.00	1.00	0.00
8.00	194.0	1 1/4" Coax	10	1.55	0.63	90	3	Block	0.00	N	0.00	1.00	0.00
8.00	194.0	1 5/8" Coax	6	1.98	0.82	50	3	Block	0.00	N	0.00	1.00	0.00
8.00	194.0	1/2" Coax	2	0.63	0.15	0	2	Individual	0.00	N	1.00	1.00	0.00
8.00	194.0	2" Conduit	2	2.38	3.65	0	Lin App	Individual	0.00	N	1.00	1.00	0.00
8.00	194.0	5/16" Coax	6	0.32	0.04	0	2	Individual	0.00	N	0.00	1.00	0.01
8.00	194.0	Wave Guide	1	1.50	5.00	0	3	Individual	0.00	N	0.00	1.00	0.00
8.00	194.0	Wave Guide	1	1.50	5.00	0	3	Individual	0.00	N	0.00	1.00	0.01
8.00	183.0	1 1/4" Hybriflex Cab	3	1.54	1.00	0	Lin App	Individual	0.00	N	0.00	1.00	0.00
8.00	183.0	1 1/4" Hybriflex Cab	1	1.54	1.00	0	Lin App	Individual	0.00	N	1.00	1.00	0.00
8.00	183.0	Wave Guide	1	1.00	5.00	0	2	Individual	0.00	N	0.00	1.00	0.00
8.00	175.0	1 5/8" Coax	12	1.98	0.82	50	Lin App	Block	0.00	N	0.00	1.00	0.00
8.00	167.0	0.39" Cable	1	0.39	0.07	0	Lin App	Individual	0.00	N	0.00	1.00	0.01
8.00	167.0	0.78" 8 AWG 6	2	0.78	0.59	0	Lin App	Individual	0.00	N	0.00	1.00	0.01
8.00	167.0	1 5/8" Coax	12	1.98	0.82	0	1	Individual	0.00	N	1.00	1.00	0.00
8.00	167.0	3" Conduit	1	3.50	7.58	0	Lin App	Individual	0.00	N	1.00	1.00	0.01
8.00	167.0	Wave Guide	1	1.50	5.00	0	1	Individual	0.00	N	0.00	1.00	0.00
8.00	157.0	1 5/8" Coax	6	1.98	0.82	0	1	Individual	0.00	N	0.00	1.00	0.00
8.00	157.0	Waveguide	1	1.50	6.00	0	Lin App	Individual	0.00	N	1.00	1.00	0.00
8.00	148.0	1 1/4" Hybriflex	1	1.54	1.00	0	Lin App	Individual	0.00	N	1.00	1.00	0.01
8.00	148.0	1 5/8" Coax	12	1.98	0.82	67	3	Block	0.00	N	0.00	1.00	0.00
8.00	148.0	Wave Guide	1	1.50	5.00	0	3	Individual	0.00	N	0.00	1.00	0.00
8.00	125.0	1/4" Coax	2	0.34	0.06	0	1	Individual	0.00	N	0.00	1.00	0.00
8.00	101.0	1/2" Coax	2	0.63	0.15	0	3	Individual	0.00	N	0.00	1.00	0.00
8.00	79.00	1/2" Coax	1	0.63	0.15	0	1	Individual	0.00	N	0.00	1.00	0.00
8.00	76.00	1/2" Coax	1	0.63	0.15	0	2	Individual	0.00	N	0.00	1.00	0.00

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

Site Name: Ansonia Wakelee, CT Engineering Number: 63533021 9/4/2015 3:39:39 PM

Customer: T-MOBILE

Section Forces

LoadCase 1.2D + 1.6W Normal — 105 mph Normal to Face with No Ice

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	188.0	28.39	9.82	7.67	0.00	0.16	2.74	1.00	1.00	0.0	14.18	41.28	0.00	1483	0	1501	1158	2659
9	170.0	27.59	12.47	11.67	0.00	0.17	2.69	1.00	1.00	0.0	17.53	101.11	0.00	2877	0	1771	2801	4572
8	150.0	26.62	12.83	15.03	0.00	0.17	2.70	1.00	1.00	0.0	19.91	172.19	0.00	4225	0	1944	4570	6514
7	130.0	25.55	14.16	18.57	0.00	0.16	2.74	1.00	1.00	0.0	23.56	196.69	0.00	5070	0	2243	5104	7347
6	110.0	24.36	16.35	18.58	0.00	0.14	2.80	1.00	1.00	0.0	25.55	197.65	0.00	5228	0	2373	4890	7263
5	90.00	23.01	22.17	22.12	0.00	0.15	2.76	1.00	1.00	0.0	33.99	199.65	0.00	5806	0	2934	4662	7596
4	70.00	21.41	21.08	22.12	0.00	0.13	2.84	1.00	1.00	0.0	32.60	201.49	0.00	6159	0	2697	4378	7074
3	50.00	19.45	22.98	28.80	0.00	0.14	2.81	1.00	1.00	0.0	34.88	201.75	0.00	6634	0	2596	3981	6577
2	30.00	16.81	28.71	28.80	0.00	0.14	2.81	1.00	1.00	0.0	44.91	201.75	0.00	7043	0	2888	3441	6329
1	10.00	16.79	31.13	28.80	0.00	0.13	2.84	1.00	1.00	0.0	47.31	121.42	0.00	6967	0	3068	2073	5141
														51491	0			61071

LoadCase 1.2D + 1.6W 60 deg — 105 mph 60 degree with No Ice

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	188.0	28.39	9.82	7.67	0.00	0.16	2.74	0.80	1.00	0.0	12.22	41.28	0.00	1483	0	1293	1158	2451
9	170.0	27.59	12.47	11.67	0.00	0.17	2.69	0.80	1.00	0.0	15.04	101.11	0.00	2877	0	1519	2801	4320
8	150.0	26.62	12.83	15.03	0.00	0.17	2.70	0.80	1.00	0.0	17.34	172.19	0.00	4225	0	1694	4570	6264
7	130.0	25.55	14.16	18.57	0.00	0.16	2.74	0.80	1.00	0.0	20.73	196.69	0.00	5070	0	1973	5104	7077
6	110.0	24.36	16.35	18.58	0.00	0.14	2.80	0.80	1.00	0.0	22.28	197.65	0.00	5228	0	2070	4890	6959
5	90.00	23.01	22.17	22.12	0.00	0.15	2.76	0.80	1.00	0.0	29.56	199.65	0.00	5806	0	2552	4662	7214
4	70.00	21.41	21.08	22.12	0.00	0.13	2.84	0.80	1.00	0.0	28.39	201.49	0.00	6159	0	2348	4378	6725
3	50.00	19.45	22.98	28.80	0.00	0.14	2.81	0.80	1.00	0.0	30.29	201.75	0.00	6634	0	2254	3981	6235
2	30.00	16.81	28.71	28.80	0.00	0.14	2.81	0.80	1.00	0.0	39.17	201.75	0.00	7043	0	2519	3441	5959
1	10.00	16.79	31.13	28.80	0.00	0.13	2.84	0.80	1.00	0.0	41.08	121.42	0.00	6967	0	2664	2073	4737
														51491	0			57941

LoadCase 1.2D + 1.6W 90 deg — 105 mph 90 degree with No Ice

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	188.0	28.39	9.82	7.67	0.00	0.16	2.74	0.85	1.00	0.0	12.71	41.28	0.00	1483	0	1345	1158	2503
9	170.0	27.59	12.47	11.67	0.00	0.17	2.69	0.85	1.00	0.0	15.66	101.11	0.00	2877	0	1582	2801	4383
8	150.0	26.62	12.83	15.03	0.00	0.17	2.70	0.85	1.00	0.0	17.99	172.19	0.00	4225	0	1756	4570	6326
7	130.0	25.55	14.16	18.57	0.00	0.16	2.74	0.85	1.00	0.0	21.44	196.69	0.00	5070	0	2040	5104	7145
6	110.0	24.36	16.35	18.58	0.00	0.14	2.80	0.85	1.00	0.0	23.10	197.65	0.00	5228	0	2145	4890	7035
5	90.00	23.01	22.17	22.12	0.00	0.15	2.76	0.85	1.00	0.0	30.67	199.65	0.00	5806	0	2647	4662	7309
4	70.00	21.41	21.08	22.12	0.00	0.13	2.84	0.85	1.00	0.0	29.44	201.49	0.00	6159	0	2435	4378	6813
3	50.00	19.45	22.98	28.80	0.00	0.14	2.81	0.85	1.00	0.0	31.44	201.75	0.00	6634	0	2339	3981	6320
2	30.00	16.81	28.71	28.80	0.00	0.14	2.81	0.85	1.00	0.0	40.60	201.75	0.00	7043	0	2611	3441	6052
1	10.00	16.79	31.13	28.80	0.00	0.13	2.84	0.85	1.00	0.0	42.64	121.42	0.00	6967	0	2765	2073	4838

Section Forces

51491	0	58724

LoadCase 0.9D + 1.6W Normal — 105 mph Normal to Face with No Ice (Reduced DL)

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	188.0	28.39	9.82	7.67	0.00	0.16	2.74	1.00	1.00	0.0	14.18	41.28	0.00	1112	0	1501	1158	2659
9	170.0	27.59	12.47	11.67	0.00	0.17	2.69	1.00	1.00	0.0	17.53	101.11	0.00	2157	0	1771	2801	4572
8	150.0	26.62	12.83	15.03	0.00	0.17	2.70	1.00	1.00	0.0	19.91	172.19	0.00	3169	0	1944	4570	6514
7	130.0	25.55	14.16	18.57	0.00	0.16	2.74	1.00	1.00	0.0	23.56	196.69	0.00	3802	0	2243	5104	7347
6	110.0	24.36	16.35	18.58	0.00	0.14	2.80	1.00	1.00	0.0	25.55	197.65	0.00	3921	0	2373	4890	7263
5	90.00	23.01	22.17	22.12	0.00	0.15	2.76	1.00	1.00	0.0	33.99	199.65	0.00	4355	0	2934	4662	7596
4	70.00	21.41	21.08	22.12	0.00	0.13	2.84	1.00	1.00	0.0	32.60	201.49	0.00	4619	0	2697	4378	7074
3	50.00	19.45	22.98	28.80	0.00	0.14	2.81	1.00	1.00	0.0	34.88	201.75	0.00	4976	0	2596	3981	6577
2	30.00	16.81	28.71	28.80	0.00	0.14	2.81	1.00	1.00	0.0	44.91	201.75	0.00	5283	0	2888	3441	6329
1	10.00	16.79	31.13	28.80	0.00	0.13	2.84	1.00	1.00	0.0	47.31	121.42	0.00	5226	0	3068	2073	5141
														38618	0			61071

LoadCase 0.9D + 1.6W 60 deg — 105 mph 60 deg with No Ice (Reduced DL)

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	188.0	28.39	9.82	7.67	0.00	0.16	2.74	0.80	1.00	0.0	12.22	41.28	0.00	1112	0	1293	1158	2451
9	170.0	27.59	12.47	11.67	0.00	0.17	2.69	0.80	1.00	0.0	15.04	101.11	0.00	2157	0	1519	2801	4320
8	150.0	26.62	12.83	15.03	0.00	0.17	2.70	0.80	1.00	0.0	17.34	172.19	0.00	3169	0	1694	4570	6264
7	130.0	25.55	14.16	18.57	0.00	0.16	2.74	0.80	1.00	0.0	20.73	196.69	0.00	3802	0	1973	5104	7077
6	110.0	24.36	16.35	18.58	0.00	0.14	2.80	0.80	1.00	0.0	22.28	197.65	0.00	3921	0	2070	4890	6959
5	90.00	23.01	22.17	22.12	0.00	0.15	2.76	0.80	1.00	0.0	29.56	199.65	0.00	4355	0	2552	4662	7214
4	70.00	21.41	21.08	22.12	0.00	0.13	2.84	0.80	1.00	0.0	28.39	201.49	0.00	4619	0	2348	4378	6725
3	50.00	19.45	22.98	28.80	0.00	0.14	2.81	0.80	1.00	0.0	30.29	201.75	0.00	4976	0	2254	3981	6235
2	30.00	16.81	28.71	28.80	0.00	0.14	2.81	0.80	1.00	0.0	39.17	201.75	0.00	5283	0	2519	3441	5959
1	10.00	16.79	31.13	28.80	0.00	0.13	2.84	0.80	1.00	0.0	41.08	121.42	0.00	5226	0	2664	2073	4737
														38618	0			57941

LoadCase 0.9D + 1.6W 90 deg — 105 mph 90 deg with No Ice (Reduced DL)

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	188.0	28.39	9.82	7.67	0.00	0.16	2.74	0.85	1.00	0.0	12.71	41.28	0.00	1112	0	1345	1158	2503
9	170.0	27.59	12.47	11.67	0.00	0.17	2.69	0.85	1.00	0.0	15.66	101.11	0.00	2157	0	1582	2801	4383
8	150.0	26.62	12.83	15.03	0.00	0.17	2.70	0.85	1.00	0.0	17.99	172.19	0.00	3169	0	1756	4570	6326
7	130.0	25.55	14.16	18.57	0.00	0.16	2.74	0.85	1.00	0.0	21.44	196.69	0.00	3802	0	2040	5104	7145
6	110.0	24.36	16.35	18.58	0.00	0.14	2.80	0.85	1.00	0.0	23.10	197.65	0.00	3921	0	2145	4890	7035
5	90.00	23.01	22.17	22.12	0.00	0.15	2.76	0.85	1.00	0.0	30.67	199.65	0.00	4355	0	2647	4662	7309
4	70.00	21.41	21.08	22.12	0.00	0.13	2.84	0.85	1.00	0.0	29.44	201.49	0.00	4619	0	2435	4378	6813
3	50.00	19.45	22.98	28.80	0.00	0.14	2.81	0.85	1.00	0.0	31.44	201.75	0.00	4976	0	2339	3981	6320

Section Forces

2	30.00	16.81	28.71	28.80	0.00	0.14	2.81	0.85	1.00	0.0	40.60	201.75	0.00	5283	0	2611	3441	6052
1	10.00	16.79	31.13	28.80	0.00	0.13	2.84	0.85	1.00	0.0	42.64	121.42	0.00	5226	0	2765	2073	4838
														38618	0			58724

LoadCase 1.2D + 1.0Di + 1.0Wi Normal — 30 mph Normal with 0.75 in Radial Ice

Gust Response Factor (Gh): 0.85 Ice Dead Load Factor : 1.00 Ice Importance Factor : 1.00

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F_{st} (lb)	F_a (lb)	Force (lb)	
10	188.0	2.32	7.86	30.08	29.93	0.33	2.22	1.00	1.00	1.8	30.73	61.19	45.22	5362	3879	135	133	268	
9	170.0	2.25	9.98	37.08	34.68	0.32	2.24	1.00	1.00	1.8	38.06	140.35	115.46	9956	7079	163	340	503	
8	150.0	2.17	12.83	50.06	35.03	0.37	2.12	1.00	1.00	1.7	44.09	225.75	206.52	14484	10260	173	548	656	**
7	130.0	2.09	14.16	50.35	31.78	0.30	2.28	1.00	1.00	1.7	44.39	257.18	215.05	16056	10986	180	617	788	**
6	110.0	1.99	16.35	52.79	34.21	0.27	2.37	1.00	1.00	1.7	47.56	257.11	220.51	16377	11150	190	612	802	
5	90.00	1.88	22.17	58.62	36.50	0.27	2.37	1.00	1.00	1.7	56.84	257.87	226.63	17591	11785	215	589	803	
4	70.00	1.75	21.08	53.00	30.88	0.22	2.52	1.00	1.00	1.6	51.75	258.20	230.44	17482	11323	194	579	773	
3	50.00	1.59	22.98	60.53	31.73	0.22	2.53	1.00	1.00	1.6	58.00	256.50	224.12	17930	11295	198	518	716	
2	30.00	1.37	28.71	60.76	31.96	0.21	2.55	1.00	1.00	1.5	63.77	253.64	212.96	18120	11077	190	438	628	
1	10.00	1.37	31.13	59.05	30.25	0.20	2.61	1.00	1.00	1.3	65.01	149.83	114.48	14374	7407	198	253	450	
														147733	96242			6388	

** = Section Force Exceeds Solidity Ratio Criteria

LoadCase 1.2D + 1.0Di + 1.0Wi 60 deg — 30 mph 60 degree with 0.75 in Radial Ice

Gust Response Factor (Gh): 0.85 Ice Dead Load Factor : 1.00 Ice Importance Factor : 1.00

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F_{st} (lb)	F_a (lb)	Force (lb)	
10	188.0	2.32	7.86	30.08	29.93	0.33	2.22	0.80	1.00	1.8	29.16	61.19	45.22	5362	3879	128	133	261	
9	170.0	2.25	9.98	37.08	34.68	0.32	2.24	0.80	1.00	1.8	36.07	140.35	115.46	9956	7079	155	340	495	
8	150.0	2.17	12.83	50.06	35.03	0.37	2.12	0.80	1.00	1.7	41.52	225.75	206.52	14484	10260	163	548	656	**
7	130.0	2.09	14.16	50.35	31.78	0.30	2.28	0.80	1.00	1.7	41.56	257.18	215.05	16056	10986	168	617	785	
6	110.0	1.99	16.35	52.79	34.21	0.27	2.37	0.80	1.00	1.7	44.29	257.11	220.51	16377	11150	177	612	789	
5	90.00	1.88	22.17	58.62	36.50	0.27	2.37	0.80	1.00	1.7	52.40	257.87	226.63	17591	11785	198	589	786	
4	70.00	1.75	21.08	53.00	30.88	0.22	2.52	0.80	1.00	1.6	47.54	258.20	230.44	17482	11323	178	579	757	
3	50.00	1.59	22.98	60.53	31.73	0.22	2.53	0.80	1.00	1.6	53.40	256.50	224.12	17930	11295	182	518	701	
2	30.00	1.37	28.71	60.76	31.96	0.21	2.55	0.80	1.00	1.5	58.03	253.64	212.96	18120	11077	173	438	611	
1	10.00	1.37	31.13	59.05	30.25	0.20	2.61	0.80	1.00	1.3	58.79	149.83	114.48	14374	7407	179	253	431	
														147733	96242			6272	

** = Section Force Exceeds Solidity Ratio Criteria

LoadCase 1.2D + 1.0Di + 1.0Wi 90 deg — 30 mph 90 degree with 0.75 in Radial Ice

Gust Response Factor (Gh): 0.85 Ice Dead Load Factor : 1.00 Ice Importance Factor : 1.00

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F_{st} (lb)	F_a (lb)	Force (lb)	
10	188.0	2.32	7.86	30.08	29.93	0.33	2.22	0.85	1.00	1.8	29.56	61.19	45.22	5362	3879	129	133	263	
9	170.0	2.25	9.98	37.08	34.68	0.32	2.24	0.85	1.00	1.8	36.57	140.35	115.46	9956	7079	157	340	497	
8	150.0	2.17	12.83	50.06	35.03	0.37	2.12	0.85	1.00	1.7	42.17	225.75	206.52	14484	10260	165	548	656	**
7	130.0	2.09	14.16	50.35	31.78	0.30	2.28	0.85	1.00	1.7	42.27	257.18	215.05	16056	10986	171	617	788	
6	110.0	1.99	16.35	52.79	34.21	0.27	2.37	0.85	1.00	1.7	45.11	257.11	220.51	16377	11150	181	612	792	
5	90.00	1.88	22.17	58.62	36.50	0.27	2.37	0.85	1.00	1.7	53.51	257.87	226.63	17591	11785	202	589	791	

Section Forces

4	70.00	1.75	21.08	53.00	30.88	0.22	2.52	0.85	1.00	1.6	48.59	258.20	230.44	17482	11323	182	579	761
3	50.00	1.59	22.98	60.53	31.73	0.22	2.53	0.85	1.00	1.6	54.55	256.50	224.12	17930	11295	186	518	705
2	30.00	1.37	28.71	60.76	31.96	0.21	2.55	0.85	1.00	1.5	59.46	253.64	212.96	18120	11077	177	438	615
1	10.00	1.37	31.13	59.05	30.25	0.20	2.61	0.85	1.00	1.3	60.35	149.83	114.48	14374	7407	183	253	436
														147733	96242			6304

** = Section Force Exceeds Solidity Ratio Criteria

LoadCase 1.0D + 1.0W Service Normal — **Serviceability - 60 mph Wind Normal**

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (s.f)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	188.0	9.27	9.82	7.67	0.00	0.16	2.74	1.00	1.00	0.0	14.18	41.28	0.00	1236	0	306	236	543
9	170.0	9.01	12.47	11.67	0.00	0.17	2.69	1.00	1.00	0.0	19.12	101.11	0.00	2397	0	394	572	966
8	150.0	8.69	12.83	15.03	0.00	0.17	2.70	1.00	1.00	0.0	21.40	172.19	0.00	3521	0	426	933	1359
7	130.0	8.34	14.16	18.57	0.00	0.16	2.74	1.00	1.00	0.0	24.72	196.69	0.00	4225	0	480	1042	1522
6	110.0	7.96	16.35	18.58	0.00	0.14	2.80	1.00	1.00	0.0	26.88	197.65	0.00	4356	0	509	998	1507
5	90.00	7.51	22.17	22.12	0.00	0.15	2.76	1.00	1.00	0.0	31.51	199.65	0.00	4838	0	555	951	1507
4	70.00	6.99	21.08	22.12	0.00	0.13	2.84	1.00	1.00	0.0	33.60	201.49	0.00	5132	0	567	893	1461
3	50.00	6.35	22.98	28.80	0.00	0.14	2.81	1.00	1.00	0.0	35.83	201.75	0.00	5529	0	544	813	1357
2	30.00	5.49	28.71	28.80	0.00	0.14	2.81	1.00	1.00	0.0	41.17	201.75	0.00	5869	0	540	702	1243
1	10.00	5.48	31.13	28.80	0.00	0.13	2.84	1.00	1.00	0.0	43.50	121.42	0.00	5806	0	576	423	999
														42909	0			12462

** = Section Force Exceeds Solidity Ratio Criteria

LoadCase 1.0D + 1.0W Service 60 deg — **Serviceability - 60 mph Wind 60 degree**

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (s.f)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	188.0	9.27	9.82	7.67	0.00	0.16	2.74	0.80	1.00	0.0	12.22	41.28	0.00	1236	0	264	236	500
9	170.0	9.01	12.47	11.67	0.00	0.17	2.69	0.80	1.00	0.0	16.63	101.11	0.00	2397	0	343	572	914
8	150.0	8.69	12.83	15.03	0.00	0.17	2.70	0.80	1.00	0.0	18.83	172.19	0.00	3521	0	375	933	1308
7	130.0	8.34	14.16	18.57	0.00	0.16	2.74	0.80	1.00	0.0	21.89	196.69	0.00	4225	0	425	1042	1467
6	110.0	7.96	16.35	18.58	0.00	0.14	2.80	0.80	1.00	0.0	23.61	197.65	0.00	4356	0	447	998	1445
5	90.00	7.51	22.17	22.12	0.00	0.15	2.76	0.80	1.00	0.0	27.08	199.65	0.00	4838	0	477	951	1428
4	70.00	6.99	21.08	22.12	0.00	0.13	2.84	0.80	1.00	0.0	29.39	201.49	0.00	5132	0	496	893	1389
3	50.00	6.35	22.98	28.80	0.00	0.14	2.81	0.80	1.00	0.0	31.23	201.75	0.00	5529	0	474	813	1287
2	30.00	5.49	28.71	28.80	0.00	0.14	2.81	0.80	1.00	0.0	35.43	201.75	0.00	5869	0	465	702	1167
1	10.00	5.48	31.13	28.80	0.00	0.13	2.84	0.80	1.00	0.0	37.28	121.42	0.00	5806	0	493	423	916
														42909	0			11823

** = Section Force Exceeds Solidity Ratio Criteria

LoadCase 1.0D + 1.0W Service 90 deg — **Serviceability - 60 mph Wind 90 degree**

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (s.f)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
10	188.0	34.06	9.82	7.67	0.00	0.16	2.74	0.85	1.00	0.0	12.71	41.28	0.00	1236	0	1008	868	1877
9	170.0	33.09	12.47	11.67	0.00	0.17	2.69	0.85	1.00	0.0	15.82	101.11	0.00	2397	0	1198	2100	3298
8	150.0	31.93	12.83	15.03	0.00	0.17	2.70	0.85	1.00	0.0	18.25	172.19	0.00	3521	0	1336	3426	4762

Section Forces

7	130.0	30.65	14.16	18.57	0.00	0.16	2.74	0.85	1.00	0.0	21.84	196.69	0.00	4225	0	1558	3827	5385
6	110.0	29.22	16.35	18.58	0.00	0.14	2.80	0.85	1.00	0.0	23.51	197.65	0.00	4356	0	1637	3666	5303
5	90.00	27.60	22.17	22.12	0.00	0.15	2.76	0.85	1.00	0.0	31.22	199.65	0.00	4838	0	2020	3495	5516
4	70.00	25.68	21.08	22.12	0.00	0.13	2.84	0.85	1.00	0.0	30.01	201.49	0.00	5132	0	1861	3282	5142
3	50.00	23.33	22.98	28.80	0.00	0.14	2.81	0.85	1.00	0.0	31.44	201.75	0.00	5529	0	1754	2985	4738
2	30.00	20.16	28.71	28.80	0.00	0.14	2.81	0.85	1.00	0.0	36.30	201.75	0.00	5869	0	1750	2580	4330
1	10.00	20.14	31.13	28.80	0.00	0.13	2.84	0.85	1.00	0.0	38.26	121.42	0.00	5806	0	1860	1554	3414
														42909	0			43765

** = Section Force Exceeds Solidity Ratio Criteria

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

Site Name: Ansonia Wakelee, CT Engineering Number: 63533021 9/4/2015 3:39:39 PM

Customer: T-MOBILE

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	-426.14	1.2D + 1.6W	9.77	100	100	100	40.7	50.0	510.32	0	0	0.00	0.00	83	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	-14.24	1.2D + 1.6W 90	23.62	48	48	48	171.1	43.5	14.96	1	1	17.89	23.40	95	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)	Use %	Controls
LEG PX - 8" DIA PIPE	386.64	0.9D + 1.6W 60	50	65	576.00	0	0	0.00	0.00	67	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 4X4X0.25	13.96	1.2D + 1.6W 90	50	65	62.93	1	1	17.89	14.14	98	Bolt Bear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	350.35	0.9D + 1.6W 60	0.00	0	0	
Top Compression	396.83	1.2D + 1.6W	0.00	0		
Bot Tension	386.64	0.9D + 1.6W 60	605.70	64	10	1" A354-BC
Bot Compression	437.52	1.2D + 1.6W	0.00	0		

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	-383.89	1.2D + 1.6W	9.77	100	100	100	40.1	50.0	388.80	0	0	0.00	0.00	98	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	-13.69	1.2D + 1.6W 90	22.69	48	48	48	164.4	43.5	16.22	1	1	17.89	23.40	84	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)	Use %	Controls
LEG PSP - ROHN 8 EHS	350.68	0.9D + 1.6W 60	50	65	437.40	0	0	0.00	0.00	80	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 4X4X0.25	13.44	1.2D + 1.6W 90	50	65	62.93	1	1	17.89	14.14	95	Bolt Bear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	311.19	0.9D + 1.6W 60	0.00	0	0	
Top Compression	351.90	1.2D + 1.6W	0.00	0		
Bot Tension	350.35	0.9D + 1.6W 60	436.16	80	8	1 A325
Bot Compression	396.83	1.2D + 1.6W	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	-339.53	1.2D + 1.6W	9.77	100	100	100	40.1	50.0	388.78	0	0	0.00	0.00	87	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	-12.35	1.2D + 1.6W 90	20.87	48	48	48	173.3	42.0	12.72	1	1	17.89	23.40	97	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)	Use %	Controls
LEG PSP - ROHN 8 EHS	311.66	0.9D + 1.6W 60	50	65	437.40	0	0	0.00	0.00	71	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 3.5X3.5X0.25	12.18	1.2D + 1.6W 90	50	65	53.79	1	1	17.89	14.14	86	Bolt Bear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	272.54	0.9D + 1.6W 60	0.00	0	0	
Top Compression	307.61	1.2D + 1.6W	0.00	0		
Bot Tension	311.19	0.9D + 1.6W 60	436.16	71	8	1 A325
Bot Compression	351.90	1.2D + 1.6W	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	-294.63	1.2D + 1.6W	9.77	100	100	100	53.4	50.0	306.88	0	0	0.00	0.00	96	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	-12.02	1.2D + 1.6W 90	19.04	48	48	48	158.1	42.0	15.28	1	1	17.89	23.40	78	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)	Use %	Controls
LEG PX - 6" DIA PIPE	272.88	0.9D + 1.6W 60	50	65	378.00	0	0	0.00	0.00	72	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 3.5X3.5X0.25	11.90	1.2D + 1.6W 90	50	65	53.79	1	1	17.89	14.14	84	Bolt Bear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	230.87	0.9D + 1.6W 60	0.00	0	0	
Top Compression	260.39	1.2D + 1.6W	0.00	0		
Bot Tension	272.54	0.9D + 1.6W 60	436.16	62	8	1 A325
Bot Compression	307.61	1.2D + 1.6W	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	-250.58	1.2D + 1.6W	6.51	100	100	100	35.1	50.0	275.92	0	0	0.00	0.00	90	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	-10.75	1.2D + 1.6W 90	15.90	48	48	48	154.7	50.0	13.59	1	1	17.89	23.40	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)	Use %	Controls
LEG PSP - ROHN 6 EHS	231.18	0.9D + 1.6W 60	50	65	301.95	0	0	0.00	0.00	76	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 3X3X0.25	10.54	1.2D + 1.6W 90	50	65	44.65	1	1	17.89	14.14	74	Bolt Bear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	186.91	0.9D + 1.6W 60	0.00	0	0	
Top Compression	211.09	1.2D + 1.6W	0.00	0		
Bot Tension	230.87	0.9D + 1.6W 60	327.12	71	6	1 A325
Bot Compression	260.39	1.2D + 1.6W	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	-202.14	1.2D + 1.6W	6.51	100	100	100	42.5	50.0	240.98	0	0	0.00	0.00	83	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	-8.97	1.2D + 1.6W 90	14.13	48	48	48	165.8	36.0	9.77	1	1	12.43	17.40	91	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)	Use %	Controls
LEG PX - 5" DIA PIPE	187.21	0.9D + 1.6W 60	50	65	274.95	0	0	0.00	0.00	68	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 2.5X2.5X0.25	8.99	1.2D + 1.6W 90	36	58	32.71	1	1	12.43	10.44	86	Bolt Bear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	144.61	0.9D + 1.6W 60	0.00	0	0	
Top Compression	164.19	1.2D + 1.6W	0.00	0		
Bot Tension	186.91	0.9D + 1.6W 60	327.12	57	6	1 A325
Bot Compression	211.09	1.2D + 1.6W	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	-154.70	1.2D + 1.6W	6.51	100	100	100	42.5	50.0	240.99	0	0	0.00	0.00	64	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	-8.70	1.2D + 1.6W 90	11.25	48	48	48	132.0	36.0	15.41	1	1	12.43	17.40	70	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)	Use %	Controls
LEG PX - 5" DIA PIPE	143.28	1.2D + 1.6W 60	50	65	274.95	0	0	0.00	0.00	52	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 2.5X2.5X0.25	8.51	1.2D + 1.6W 90	36	58	32.71	1	1	12.43	10.44	81	Bolt Bear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	98.70	0.9D + 1.6W 60	0.00	0	0	
Top Compression	114.01	1.2D + 1.6W	0.00	0		
Bot Tension	144.61	0.9D + 1.6W 60	218.08	66	4	1 A325
Bot Compression	164.19	1.2D + 1.6W	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	-106.94	1.2D + 1.6W	4.88	100	100	100	39.6	50.0	176.95	0	0	0.00	0.00	60	Member X
HORIZ SAE - 2X2X0.125	-0.39	1.2D + 1.6W 60	6.760	100	100	100	203.8	36.0	2.61	1	1	12.43	8.70	14	Member Z
DIAG SAE - 2X2X0.25	-6.89	1.2D + 1.6W 90	9.847	48	48	48	145.1	36.0	10.09	1	1	12.43	17.40	68	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)	Use %	Controls
LEG PX - 4" DIA PIPE	97.72	1.2D + 1.6W 60	50	65	198.45	0	0	0.00	0.00	49	Member
HORIZ SAE - 2X2X0.125	0.29	1.2D + 1.6W	36	58	12.60	1	1	12.43	5.22	5	Bolt Bear
DIAG SAE - 2X2X0.25	6.88	1.2D + 1.6W 90	36	58	24.55	1	1	12.43	10.44	65	Bolt Bear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	54.07	0.9D + 1.6W 60	0.00	0	0	
Top Compression	64.47	1.2D + 1.6W	0.00	0		
Bot Tension	98.70	0.9D + 1.6W 60	218.08	45	4	1 A325
Bot Compression	114.01	1.2D + 1.6W	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	-57.41	1.2D + 1.6W	3.90	100	100	100	41.1	50.0	120.14	0	0	0.00	0.00	47	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	-6.90	1.2D + 1.6W 90	7.798	48	48	48	115.5	36.0	11.48	2	1	24.86	26.10	60	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)	Use %	Controls
LEG PX - 3" DIA PIPE	53.78	0.9D + 1.6W 60	50	65	135.90	0	0	0.00	0.00	39	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 2X2X0.1875	6.80	1.2D + 1.6W 90	36	58	18.74	2	1	24.86	20.88	36	Member

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	9.91	0.9D + 1.6W 60	0.00	0	0	
Top Compression	14.37	1.2D + 1.6W	0.00	0		
Bot Tension	54.07	0.9D + 1.6W 60	166.24	33	4	7/8 A325
Bot Compression	64.47	1.2D + 1.6W	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	-14.23	1.2D + 1.6W	0.25	100	100	100	3.2	50.0	76.62	0	0	0.00	0.00	18	Member X
HORIZ SAE - 2X2X0.125	-0.36	1.2D + 1.6W 90	6.646	100	100	100	200.4	36.0	2.70	1	1	12.43	8.70	13	Member Z
DIAG SAE - 1.75X1.75X0.18	-2.90	1.2D + 1.6W 90	7.757	48	48	48	130.3	36.0	8.23	1	1	12.43	13.05	35	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)	Use %	Controls
LEG PST - 2-1/2" DIA PIP	10.01	0.9D + 1.6W 60	50	65	76.68	0	0	0.00	0.00	13	Member
HORIZ SAE - 2X2X0.125	0.38	1.2D + 1.6W 60	36	58	12.60	1	1	12.43	5.22	7	Bolt Bear
DIAG SAE - 1.75X1.75X0.18	2.89	1.2D + 1.6W 90	36	58	15.67	1	1	12.43	7.83	36	Bolt Bear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	0.00		0.00	0	0	
Top Compression	0.39	(1.2 + 0.2Sds) *	0.00	0		
Bot Tension	9.91	0.9D + 1.6W 60	120.40	8	4	3/4 A325
Bot Compression	14.37	1.2D + 1.6W	0.00	0		

Support Forces Summary

Load Case	Node	FX (kip)	FY (kip)	FZ (kip)	(-) = Uplift (+) = Down
(0.9 - 0.2Sds) * DL + E 60 deg M1	1b	-0.38	-1.10	-0.22	
	1a	-1.46	22.26	0.75	
	1	-0.09	22.26	-1.64	
(0.9 - 0.2Sds) * DL + E 60 deg M2	1b	-0.14	1.55	-0.08	
	1a	-1.33	20.94	0.70	
	1	-0.06	20.94	-1.50	
(0.9 - 0.2Sds) * DL + E 90 deg M1	1b	-0.25	0.99	-0.09	
	1a	-1.89	27.96	1.03	
	1	-0.10	14.48	-0.95	
(0.9 - 0.2Sds) * DL + E 90 deg M2	1b	-0.02	3.28	0.02	
	1a	-1.66	25.67	0.92	
	1	-0.07	14.48	-0.95	
(0.9 - 0.2Sds) * DL + E Normal M1	1b	0.26	6.69	0.05	
	1a	-0.26	6.69	0.05	
	1	0.00	30.05	-2.34	
(0.9 - 0.2Sds) * DL + E Normal M2	1b	0.37	8.01	0.15	
	1a	-0.37	8.01	0.15	
	1	0.00	27.40	-2.05	
(1.2 + 0.2Sds) * DL + E 60 deg M1	1b	-0.02	5.34	-0.01	
	1a	-1.83	28.74	0.96	
	1	-0.09	28.74	-2.06	
(1.2 + 0.2Sds) * DL + E 60 deg M2	1b	0.23	7.99	0.13	
	1a	-1.69	27.41	0.91	
	1	-0.06	27.41	-1.92	
(1.2 + 0.2Sds) * DL + E 90 deg M1	1b	0.12	7.43	0.13	
	1a	-2.25	34.45	1.24	
	1	-0.10	20.94	-1.37	
(1.2 + 0.2Sds) * DL + E 90 deg M2	1b	0.34	9.72	0.23	
	1a	-2.03	32.15	1.13	
	1	-0.07	20.94	-1.37	
(1.2 + 0.2Sds) * DL + E Normal M1	1b	0.63	13.14	0.26	
	1a	-0.63	13.14	0.26	
	1	0.00	36.54	-2.76	
(1.2 + 0.2Sds) * DL + E Normal M2	1b	0.74	14.46	0.36	
	1a	-0.74	14.46	0.36	
	1	0.00	33.89	-2.47	
0.9D + 1.6W 60 deg	1b	-36.17	-384.54	-20.88	
	1a	-21.45	215.32	7.07	
	1	-4.60	215.80	-22.12	
0.9D + 1.6W 90 deg	1b	-32.94	-333.89	-15.76	
	1a	-34.20	364.93	16.67	
	1	-5.49	15.53	-0.91	
0.9D + 1.6W Normal	1b	-15.92	-191.88	-14.99	
	1a	15.92	-191.88	-14.99	

	1	0.00	430.34	-44.99
1.0D + 1.0W Service 60 deg	1b	-6.58	-65.01	-3.80
	1a	-5.18	58.33	1.91
	1	-0.94	58.43	-5.44
1.0D + 1.0W Service 90 deg	1b	-24.25	-245.23	-11.62
	1a	-25.90	279.73	12.67
	1	-4.04	17.26	-1.06
1.0D + 1.0W Service Normal	1b	-2.46	-25.26	-2.57
	1a	2.46	-25.26	-2.57
	1	0.00	102.27	-10.12
1.2D + 1.0Di + 1.0Wi 60 deg	1b	-3.55	17.44	-2.05
	1a	-2.29	77.47	0.77
	1	-0.47	77.50	-2.37
1.2D + 1.0Di + 1.0Wi 90 deg	1b	-3.20	22.71	-1.53
	1a	-3.56	92.24	1.74
	1	-0.55	57.47	-0.21
1.2D + 1.0Di + 1.0Wi Normal	1b	-1.46	37.22	-1.41
	1a	1.46	37.22	-1.41
	1	0.00	97.98	-4.58
1.2D + 1.6W 60 deg	1b	-35.89	-379.94	-20.72
	1a	-21.73	220.78	7.25
	1	-4.60	221.27	-22.46
1.2D + 1.6W 90 deg	1b	-32.66	-329.22	-15.60
	1a	-34.49	370.61	16.85
	1	-5.48	20.71	-1.24
1.2D + 1.6W Normal	1b	-15.64	-187.00	-14.82
	1a	15.64	-187.00	-14.82
	1	0.00	436.11	-45.34

Max Uplift:	384.54 (kip)	Moment:	8,274.27 (kip-ft)	1.2D + 1.6W Normal
Max Down:	436.11 (kip)	Total Down:	62.11 (kip)	
Max Shear:	45.34 (kip)	Total Shear:	74.98 (kip)	

Deflections and Rotations

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)
105 mph 60 deg with No Ice (Reduced DL)	79.75	0.3422	0.0377	0.5429
	100.25	0.5464	0.0502	0.6984
	126.75	0.8924	0.0685	0.8308
	150.00	1.2682	0.0908	1.0225
	154.88	1.3559	0.0957	1.0319
	168.05	1.6098	0.1284	1.1526
	175.85	1.7681	0.1499	1.1444
	184.19	1.9410	0.1715	1.1318
	188.13	2.0229	0.1755	1.2019
	192.06	2.1040	0.1750	1.1892
105 mph 60 degree with No Ice	79.75	0.3427	0.0378	0.5442
	100.25	0.5474	0.0503	0.6999
	126.75	0.8941	0.0687	0.8328
	150.00	1.2709	0.0910	1.0251
	154.88	1.3588	0.0960	1.0345
	168.05	1.6134	0.1288	1.1556
	175.85	1.7721	0.1503	1.1475
	184.19	1.9455	0.1720	1.1349
	188.13	2.0276	0.1759	1.2052
	192.06	2.1089	0.1754	1.1924
105 mph 90 deg with No Ice (Reduced DL)	79.75	0.3445	0.0193	0.5397
	100.25	0.5500	0.0233	0.6960
	126.75	0.8982	0.0268	0.8350
	150.00	1.2766	0.0306	1.0252
	154.88	1.3645	0.0306	1.0397
	168.05	1.6202	0.0350	1.1575
	175.85	1.7792	0.0362	1.1345
	184.19	1.9530	0.0372	1.0946
	188.13	2.0347	0.0376	1.2092
	192.06	2.1166	0.0373	1.1967
105 mph 90 degree with No Ice	79.75	0.3450	0.0193	0.5404
	100.25	0.5509	0.0234	0.6974
	126.75	0.8999	0.0269	0.8369
	150.00	1.2793	0.0307	1.0278
	154.88	1.3674	0.0307	1.0424
	168.05	1.6238	0.0351	1.1606
	175.85	1.7832	0.0363	1.1377
	184.19	1.9575	0.0373	1.0978
	188.13	2.0394	0.0377	1.2125
	192.06	2.1215	0.0374	1.2000
105 mph Normal to Face with No Ice (Reduced DL)	79.75	0.3538	0.0157	0.5688
	100.25	0.5647	0.0206	0.7235
	126.75	0.9215	0.0248	0.8573
	150.00	1.3100	0.0277	1.0568
	154.88	1.4001	0.0275	1.0654
	168.05	1.6637	0.0283	1.1955
	175.85	1.8277	0.0267	1.2438
	184.19	2.0072	0.0251	1.2987
	188.13	2.0911	0.0244	1.2319
	192.06	2.1764	0.0247	1.2357
105 mph Normal to Face with No Ice	79.75	0.3544	0.0157	0.5696

	100.25	0.5657	0.0206	0.7249
	126.75	0.9233	0.0249	0.8594
	150.00	1.3128	0.0278	1.0595
	154.88	1.4031	0.0276	1.0682
	168.05	1.6674	0.0285	1.1988
	175.85	1.8318	0.0269	1.2471
	184.19	2.0118	0.0252	1.3021
	188.13	2.0959	0.0246	1.2353
	192.06	2.1815	0.0248	1.2391
30 mph 60 degree with 0.75 in Radial Ice	79.75	0.0354	0.0024	0.0572
	100.25	0.0553	0.0029	0.0693
	126.75	0.0887	0.0033	0.0804
	150.00	0.1248	0.0037	0.0975
	154.88	0.1329	0.0037	0.0981
	168.05	0.1573	0.0040	0.1114
	175.85	0.1723	0.0041	0.1088
	184.19	0.1887	0.0041	0.1080
	188.13	0.1965	0.0040	0.1141
	192.06	0.2042	0.0040	0.1125
30 mph 90 degree with 0.75 in Radial Ice	79.75	0.0353	0.0017	0.0562
	100.25	0.0552	0.0020	0.0685
	126.75	0.0887	0.0022	0.0805
	150.00	0.1249	0.0024	0.0981
	154.88	0.1331	0.0024	0.0991
	168.05	0.1575	0.0026	0.1112
	175.85	0.1725	0.0026	0.1086
	184.19	0.1889	0.0026	0.1059
	188.13	0.1967	0.0026	0.1142
	192.06	0.2044	0.0026	0.1131
30 mph Normal with 0.75 in Radial Ice	79.75	0.0351	0.0018	0.0548
	100.25	0.0552	0.0022	0.0691
	126.75	0.0891	0.0026	0.0812
	150.00	0.1257	0.0028	0.0994
	154.88	0.1340	0.0027	0.1002
	168.05	0.1587	0.0028	0.1122
	175.85	0.1739	0.0026	0.1152
	184.19	0.1906	0.0024	0.1188
	188.13	0.1984	0.0024	0.1143
	192.06	0.2063	0.0023	0.1148
Seismic (Reduced DL) 60 degree M1	79.75	0.0136	0.0009	0.0232
	100.25	0.0223	0.0011	0.0301
	126.75	0.0375	0.0013	0.0372
	150.00	0.0545	0.0013	0.0468
	154.88	0.0586	0.0013	0.0475
	168.05	0.0704	0.0014	0.0543
	175.85	0.0779	0.0013	0.0546
	184.19	0.0860	0.0013	0.0547
	188.13	0.0899	0.0012	0.0566
	192.06	0.0937	0.0012	0.0559
Seismic (Reduced DL) 60 degree M2	79.75	0.0113	0.0006	0.0192
	100.25	0.0188	0.0008	0.0257
	126.75	0.0324	0.0009	0.0344
	150.00	0.0486	0.0010	0.0457
	154.88	0.0525	0.0009	0.0470
	168.05	0.0645	0.0011	0.0562
	175.85	0.0723	0.0010	0.0570
	184.19	0.0810	0.0010	0.0576

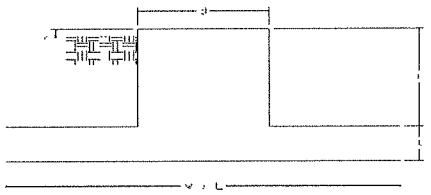
	188.13	0.0851	0.0010	0.0602
	192.06	0.0892	0.0009	0.0591
Seismic (Reduced DL) 90 degree M1	79.75	0.0136	0.0005	0.0229
	100.25	0.0223	0.0006	0.0298
	126.75	0.0376	0.0007	0.0372
	150.00	0.0546	0.0008	0.0470
	154.88	0.0587	0.0008	0.0480
	168.05	0.0704	0.0008	0.0544
	175.85	0.0779	0.0008	0.0551
	184.19	0.0861	0.0008	0.0551
	188.13	0.0899	0.0007	0.0565
	192.06	0.0937	0.0007	0.0559
Seismic (Reduced DL) 90 degree M2	79.75	0.0113	0.0004	0.0191
	100.25	0.0188	0.0005	0.0255
	126.75	0.0325	0.0005	0.0344
	150.00	0.0486	0.0006	0.0459
	154.88	0.0526	0.0006	0.0476
	168.05	0.0646	0.0007	0.0563
	175.85	0.0723	0.0006	0.0576
	184.19	0.0810	0.0006	0.0581
	188.13	0.0851	0.0006	0.0601
	192.06	0.0892	0.0006	0.0592
Seismic (Reduced DL) Normal M1	79.75	0.0137	0.0009	0.0223
	100.25	0.0224	0.0011	0.0299
	126.75	0.0376	0.0013	0.0371
	150.00	0.0546	0.0013	0.0472
	154.88	0.0587	0.0013	0.0478
	168.05	0.0704	0.0014	0.0544
	175.85	0.0779	0.0013	0.0549
	184.19	0.0861	0.0012	0.0549
	188.13	0.0899	0.0012	0.0564
	192.06	0.0937	0.0012	0.0559
Seismic (Reduced DL) Normal M2	79.75	0.0113	0.0006	0.0187
	100.25	0.0189	0.0008	0.0255
	126.75	0.0325	0.0009	0.0344
	150.00	0.0486	0.0009	0.0462
	154.88	0.0527	0.0009	0.0473
	168.05	0.0646	0.0010	0.0564
	175.85	0.0723	0.0009	0.0572
	184.19	0.0810	0.0009	0.0578
	188.13	0.0851	0.0009	0.0601
	192.06	0.0892	0.0009	0.0592
Seismic 60 degree M1	79.75	0.0136	0.0009	0.0236
	100.25	0.0223	0.0011	0.0302
	126.75	0.0376	0.0013	0.0373
	150.00	0.0547	0.0013	0.0468
	154.88	0.0587	0.0013	0.0476
	168.05	0.0706	0.0014	0.0547
	175.85	0.0781	0.0013	0.0547
	184.19	0.0863	0.0013	0.0549
	188.13	0.0902	0.0012	0.0568
	192.06	0.0940	0.0012	0.0561
Seismic 60 degree M2	79.75	0.0113	0.0006	0.0196
	100.25	0.0188	0.0008	0.0258
	126.75	0.0325	0.0009	0.0346
	150.00	0.0487	0.0010	0.0458
	154.88	0.0527	0.0009	0.0471

	168.05	0.0647	0.0011	0.0565
	175.85	0.0725	0.0010	0.0571
	184.19	0.0812	0.0010	0.0577
	188.13	0.0853	0.0010	0.0604
	192.06	0.0894	0.0009	0.0593
Seismic 90 degree M1	79.75	0.0137	0.0005	0.0233
	100.25	0.0224	0.0006	0.0299
	126.75	0.0377	0.0007	0.0373
	150.00	0.0547	0.0008	0.0472
	154.88	0.0588	0.0008	0.0482
	168.05	0.0706	0.0008	0.0547
	175.85	0.0781	0.0008	0.0553
	184.19	0.0863	0.0008	0.0552
	188.13	0.0902	0.0007	0.0567
	192.06	0.0940	0.0007	0.0561
Seismic 90 degree M2	79.75	0.0114	0.0004	0.0194
	100.25	0.0189	0.0005	0.0256
	126.75	0.0326	0.0005	0.0345
	150.00	0.0487	0.0006	0.0461
	154.88	0.0528	0.0006	0.0477
	168.05	0.0647	0.0007	0.0566
	175.85	0.0725	0.0007	0.0578
	184.19	0.0812	0.0006	0.0582
	188.13	0.0853	0.0006	0.0603
	192.06	0.0894	0.0006	0.0594
Seismic Normal M1	79.75	0.0137	0.0009	0.0225
	100.25	0.0225	0.0011	0.0299
	126.75	0.0377	0.0013	0.0373
	150.00	0.0547	0.0013	0.0475
	154.88	0.0589	0.0013	0.0481
	168.05	0.0706	0.0014	0.0547
	175.85	0.0781	0.0013	0.0551
	184.19	0.0863	0.0012	0.0551
	188.13	0.0902	0.0012	0.0566
	192.06	0.0940	0.0012	0.0561
Seismic Normal M2	79.75	0.0114	0.0006	0.0190
	100.25	0.0189	0.0008	0.0255
	126.75	0.0326	0.0009	0.0345
	150.00	0.0488	0.0009	0.0464
	154.88	0.0528	0.0009	0.0475
	168.05	0.0648	0.0010	0.0567
	175.85	0.0726	0.0009	0.0575
	184.19	0.0812	0.0009	0.0580
	188.13	0.0853	0.0009	0.0602
	192.06	0.0894	0.0009	0.0594
Serviceability - 60 mph Wind 60 degree	79.75	0.0703	0.0054	0.1127
	100.25	0.1123	0.0068	0.1443
	126.75	0.1836	0.0083	0.1711
	150.00	0.2612	0.0098	0.2107
	154.88	0.2792	0.0100	0.2121
	168.05	0.3316	0.0118	0.2377
	175.85	0.3642	0.0127	0.2356
	184.19	0.3999	0.0135	0.2329
	188.13	0.4166	0.0136	0.2476
	192.06	0.4334	0.0135	0.2448
Serviceability - 60 mph Wind 90 degree	79.75	0.2589	0.0144	0.4058
	100.25	0.4135	0.0175	0.5233

	126.75	0.6753	0.0201	0.6279
	150.00	0.9599	0.0229	0.7708
	154.88	1.0259	0.0229	0.7818
	168.05	1.2182	0.0261	0.8702
	175.85	1.3377	0.0270	0.8530
	184.19	1.4685	0.0278	0.8230
	188.13	1.5298	0.0280	0.9090
	192.06	1.5915	0.0279	0.8996
Serviceability - 60 mph Wind Normal	79.75	0.0727	0.0032	0.1158
	100.25	0.1160	0.0042	0.1484
	126.75	0.1894	0.0050	0.1761
	150.00	0.2691	0.0055	0.2171
	154.88	0.2877	0.0054	0.2189
	168.05	0.3416	0.0055	0.2456
	175.85	0.3753	0.0050	0.2554
	184.19	0.4121	0.0046	0.2665
	188.13	0.4294	0.0045	0.2527
	192.06	0.4468	0.0045	0.2536

Site Name:	Ansonia Waklee, CT
Site Number:	302470
Engineering Number:	63533021
Engineer:	Harleen Sandhu
Date:	09/04/15
Tower Type:	SST w/3 Legs

Program Last Updated: *11/15/2012*



Design Loads (Factored) - Analysis per TIA-222-G Standards

Design / Analysis / Mapping:	Analysis				
Compression/Leg:	436.1	k	Concrete Strength (f'_c):	3000	psi
Uplift/Leg:	384.5	k	Pad Tension Steel Depth:	44.00	in
Total Shear:	75.0	k	ϕ_{Shear}:	0.75	
Moment:	8274.3	k-ft	$\phi_{Flexure\ /\ Tension}$:	0.90	
Tower + Appurtenance Weight:	62.1	k	$\phi_{Compression}$:	0.65	
Depth to Base of Foundation (l + t - h):	3.50	ft	β:	0.85	
Diameter of Pier (d):	1.00	ft	Bottom Pad Rebar Size #:	9	
Height of Pier above Ground (h):	0.00		# of Bottom Pad Rebar:	33	
Width of Pad (W):	32.50	ft	Pad Bottom Steel Area:	33.00	in^2
Length of Pad (L):	32.50	ft	Pad Steel F_y:	60000	psi
Thickness of Pad (t):	4.00	ft	Top Pad Rebar Size #:	9	
Tower Leg Center to Center:	23.00	ft	# of Top Pad Rebar:	33	
Number of Tower Legs:	3.0	(1 if MP or GT)	Pad Top Steel Area:	33.00	in^2
Tower Center from Mat Center:	0.00	ft			
Depth Below Ground Surface to Water Table:	99.00	ft			
Unit Weight of Concrete:	150.0	pcf			
Unit Weight of Soil Above Water Table:	115.0	pcf			
Unit Weight of Water:	62.4	pcf			
Unit Weight of Soil Below Water Table:	50.0	pcf			
Friction Angle of Uplift:	15.0	Degrees			
Ultimate Coefficient of Shear Friction:	0.35				
Ultimate Compressive Bearing Pressure:	15000.0	psf			
Ultimate Passive Pressure on Pad Face:	0.0	psf			
$\phi_{Soil\ and\ Concrete\ Weight}$:	0.9				
ϕ_{Soil}:	0.75				

Overturning Moment Usage

Design OTM:	8536.7	k-ft
OTM Resistance:	10206.7	k-ft
Design OTM / OTM Resistance:	0.84	Result: OK

Soil Bearing Pressure Usage

Net Bearing Pressure:	2654	psf
Factored Nominal Bearing Pressure:	11250	psf
Net Bearing Pressure/Factored Nominal Bearing Pressure:	0.24	Result: OK
Load Direction Controling Design Bearing Pressure:	Diagonal to Pad Edge	

Sliding Factor of Safety

Total Factored Sliding Resistance:	179.9	k
Sliding Design / Sliding Resistance:	0.42	Result: OK

One Way Shear, Flexual Capacity, and Punching Shear

Factored One Way Shear (V_u):	273.5	k
One Way Shear Capacity (ϕV_c):	1077.4	k - ACI11.3.1.1
$V_u / \phi V_c$:	0.25	Result: OK
Load Direction Controling Shear Capacity:	Diagonal to Pad Edge	
Lower Steel Pad Factored Moment (M_u):	2495.4	k-ft
Lower Steel Pad Moment Capacity (ϕM_n):	6295.2	k-ft - ACI10.3
$M_u / \phi M_n$:	0.40	Result: OK
Load Direction Controling Flexural Capacity:	Diagonal to Pad Edge	
Upper Steel Pad Factored Moment (M_u):	1287.3	k-ft
Upper Steel Pad Moment Capacity (ϕM_n):	6408.3	k-ft
$M_u / \phi M_n$:	0.20	Result: OK
Lower Pad Flexural Reinforcement Ratio:	0.0019	OK - Minimum Reinforcement Ratio Met - ACI10.5.1
Upper Pad Flexural Reinforcement Ratio:	0.0019	OK - Minimum Reinforcement Ratio Met - ACI10.5.1
Lower Pad Reinforcement Spacing:	12	in - Pad Reinforcing Spacing OK - ACI7.12.2.2 & 10.5.4
Upper Pad Reinforcement Spacing:	12	in - Pad Reinforcing Spacing OK - ACI7.12.2.2 & 10.5.4
Factored Punching Shear (V_u):	413.4	k
Nominal Punching Shear Capacity ($\phi_c V_n$):	1272.0	k - ACI11.12.2.1
$V_u / \phi V_c$:	0.32	Result: OK