

November 16, 2015

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

Re: **Notice of Exempt Modification – Facility Modification**
234 Melba Street, Milford, Connecticut

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless (“Cellco”) currently maintains nine (9) wireless telecommunications antennas (three (3) antennas at the 130-foot level; three (3) antennas at the 120-foot level; and three (3) antennas at the 110-foot level) of the existing 134-foot flag pole tower at 234 Melba Street in Milford, Connecticut (the “Property”). The tower is owned by American Tower Corporation (“ATC”). The Council approved Cellco’s use of the existing tower in 2011. Cellco now intends to modify its facility by replacing six (6) of its existing antennas with three (3) model SBNHH-1D65B, 700/1900 MHz antennas at the 110-foot level and three (3) model SBNHH-1D65B, 2100 MHz antennas, at the 130-foot level on the tower. Cellco also intends to install twelve (12) coaxial cable diplexers behind its antennas. Included in Attachment 1 are specifications for Cellco’s replacement antennas and diplexers.

Please accept this letter as notification pursuant to R.C.S.A. § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Benjamin G. Blake, Mayor of the City of Milford. A copy of this letter is also being sent to Melba Realty LLC, the Property owner and ATC, 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).

14284892-v1

Melanie A. Bachman

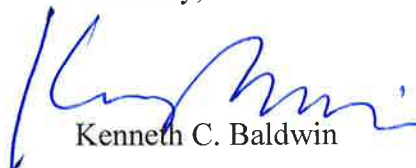
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Page 2

1. The proposed modifications will not result in an increase in the height of the existing tower. The replacement antennas and diplexers will be located at the 130-foot and 110-foot levels on the 134-foot tower.
2. The proposed modifications will not involve any change to ground-mounted equipment and, therefore, will not require the extension of the site boundary.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the modified facility will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. A General Power Density table for Cellco's modified facility is included behind Attachment 2.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The tower and its foundation can support Cellco's proposed modifications. (*See Structural Analysis Report included in Attachment 3*).

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

Sincerely,



Kenneth C. Baldwin

Enclosures

Copy to:

Benjamin G. Blake, Milford Mayor

Melba Realty LLC

ATC

Tim Parks

ATTACHMENT 1



SBNHH-1D65B

Andrew® Tri-band Antenna, 698–896 and 2x 1695–2360 MHz, 65° horizontal beamwidth, internal RET. Both high bands share the same electrical tilt.

- Interleaved dipole technology providing for attractive, low wind load mechanical package

Electrical Specifications

Frequency Band, MHz	698–806	806–896	1695–1880	1850–1990	1920–2200	2300–2360
Gain, dBi	14.9	14.7	17.7	18.2	18.6	18.6
Beamwidth, Horizontal, degrees	68	66	69	66	63	58
Beamwidth, Vertical, degrees	12.1	10.7	5.6	5.2	5.0	4.5
Beam Tilt, degrees	0–14	0–14	0–7	0–7	0–7	0–7
USLS (First Lobe), dB	14	13	15	15	15	13
Front-to-Back Ratio at 180°, dB	27	29	28	28	28	27
CPR at Boresight, dB	20	23	20	20	17	21
CPR at Sector, dB	14	10	12	10	9	1
Isolation, dB	25	25	25	25	25	25
Isolation, Intersystem, dB	30	30	30	30	30	30
VSWR Return Loss, dB	1.5 14.0	1.5 14.0	1.5 14.0	1.5 14.0	1.5 14.0	1.5 14.0
PIM, 3rd Order, 2 x 20 W, dBc	-153	-153	-153	-153	-153	-153
Input Power per Port, maximum, watts	350	350	350	350	350	300
Polarization	±45°	±45°	±45°	±45°	±45°	±45°
Impedance	50 ohm	50 ohm	50 ohm	50 ohm	50 ohm	50 ohm

Electrical Specifications, BASTA*

Frequency Band, MHz	698–806	806–896	1695–1880	1850–1990	1920–2200	2300–2360
Gain by all Beam Tilts, average, dBi	14.5	14.3	17.4	17.9	18.2	18.3
Gain by all Beam Tilts Tolerance, dB	±0.5	±0.8	±0.4	±0.3	±0.5	±0.3
Gain by Beam Tilt, average, dBi	0° 14.6	0° 14.5	0° 17.4	0° 17.8	0° 18.1	0° 18.2
	7° 14.6	7° 14.4	3° 17.5	3° 17.9	3° 18.3	3° 18.4
	14° 14.2	14° 13.6	7° 17.4	7° 17.9	7° 18.2	7° 18.4
Beamwidth, Horizontal Tolerance, degrees	±2.2	±3.4	±2	±4.6	±5.7	±4.3
Beamwidth, Vertical Tolerance, degrees	±0.8	±1	±0.3	±0.2	±0.3	±0.2
USLS, beampeak to 20° above beampeak, dB	16	14	16	16	16	15
Front-to-Back Total Power at 180° ± 30°, dB	25	26	27	26	26	26
CPR at Boresight, dB	22	23	21	20	20	22
CPR at Sector, dB	13	11	16	12	11	4

* CommScope® supports NGMN recommendations on Base Station Antenna Standards (BASTA). To learn more about the benefits of BASTA, [download the whitepaper Time to Raise the Bar on BSAs.](#)

General Specifications

Antenna Brand	Andrew®
Antenna Type	DualPol® multiband with internal RET
Band	Multiband
Brand	DualPol® Teletilt®
Operating Frequency Band	1695 – 2360 MHz 698 – 896 MHz
Performance Note	Outdoor usage

SBNHH-1D65B

POWERED BY



Mechanical Specifications

Color	Light gray
Lightning Protection	dc Ground
Radiator Material	Aluminum Low loss circuit board
Radome Material	Fiberglass, UV resistant
Reflector Material	Aluminum
RF Connector Interface	7-16 DIN Female
RF Connector Location	Bottom
RF Connector Quantity, total	6
Wind Loading, maximum	617.7 N @ 150 km/h 138.9 lbf @ 150 km/h
Wind Speed, maximum	241 km/h 150 mph

Dimensions

Depth	180.0 mm 7.1 in
Length	1851.0 mm 72.9 in
Width	301.0 mm 11.9 in
Net Weight	18.4 kg 40.6 lb

Remote Electrical Tilt (RET) Information

Input Voltage	10–30 Vdc
Power Consumption, idle state, maximum	2.0 W
Power Consumption, normal conditions, maximum	13.0 W
Protocol	3GPP/AISG 2.0 (Multi-RET)
RET Interface	8-pin DIN Female 8-pin DIN Male
RET Interface, quantity	1 female 1 male
RET System	Teletilt®

Packed Dimensions

Depth	299.0 mm 11.8 in
Length	1970.0 mm 77.6 in
Width	409.0 mm 16.1 in
Shipping Weight	31.0 kg 68.3 lb

Regulatory Compliance/Certifications

Agency

RoHS 2011/65/EU
China RoHS SJ/T 11364-2006
ISO 9001:2008

Classification

Compliant by Exemption
Above Maximum Concentration Value (MCV)
Designed, manufactured and/or distributed under this quality management system



Included Products

Product Specifications

COMMSCOPE®

SBNHH-1D65B

POWERED BY



BSAMNT-1 — Wide Profile Antenna Downtilt Mounting Kit for 2.4 - 4.5 in (60 - 115 mm) OD round members. Kit contains one scissor top bracket set and one bottom bracket set.

* Footnotes

Performance Note Severe environmental conditions may degrade optimum performance



CBC71921-DF | E11F05P64
Triplexer 700–750 and Cellular/PCS/AWS

General Specifications

Product Type	Triplexer
Product Family	CBC71921
Modularity	1-Single
Includes	Mounting hardware

Electrical Specifications

Sub-module	1	1	1
Branch	1	2	3
Port Designation	700/850	PCS	AWS
	APT 700 CEL 850 LMR 750		
License Band	LMR 800 USA 700 USA 750	PCS 1900	AWS 1700

Electrical Specifications, Band Pass

Frequency Range	698–894 MHz	1850–1990 MHz	1710–1755 MHz 2110–2155 MHz
Insertion Loss, typical	0.30 dB	0.30 dB	0.30 dB
Total Group Delay, maximum	20 ns	20 ns	20 ns
Return Loss, minimum	22 dB	22 dB	22 dB
Return Loss, typical	24 dB	24 dB	24 dB
Isolation, minimum	50 dB	50 dB	50 dB
3rd Order IMD, maximum	-107 dBm	-107 dBm	
3rd Order IMD Test Method	Two +43 dBm carriers	Two +43 dBm carriers	

Common Port Electrical Specifications

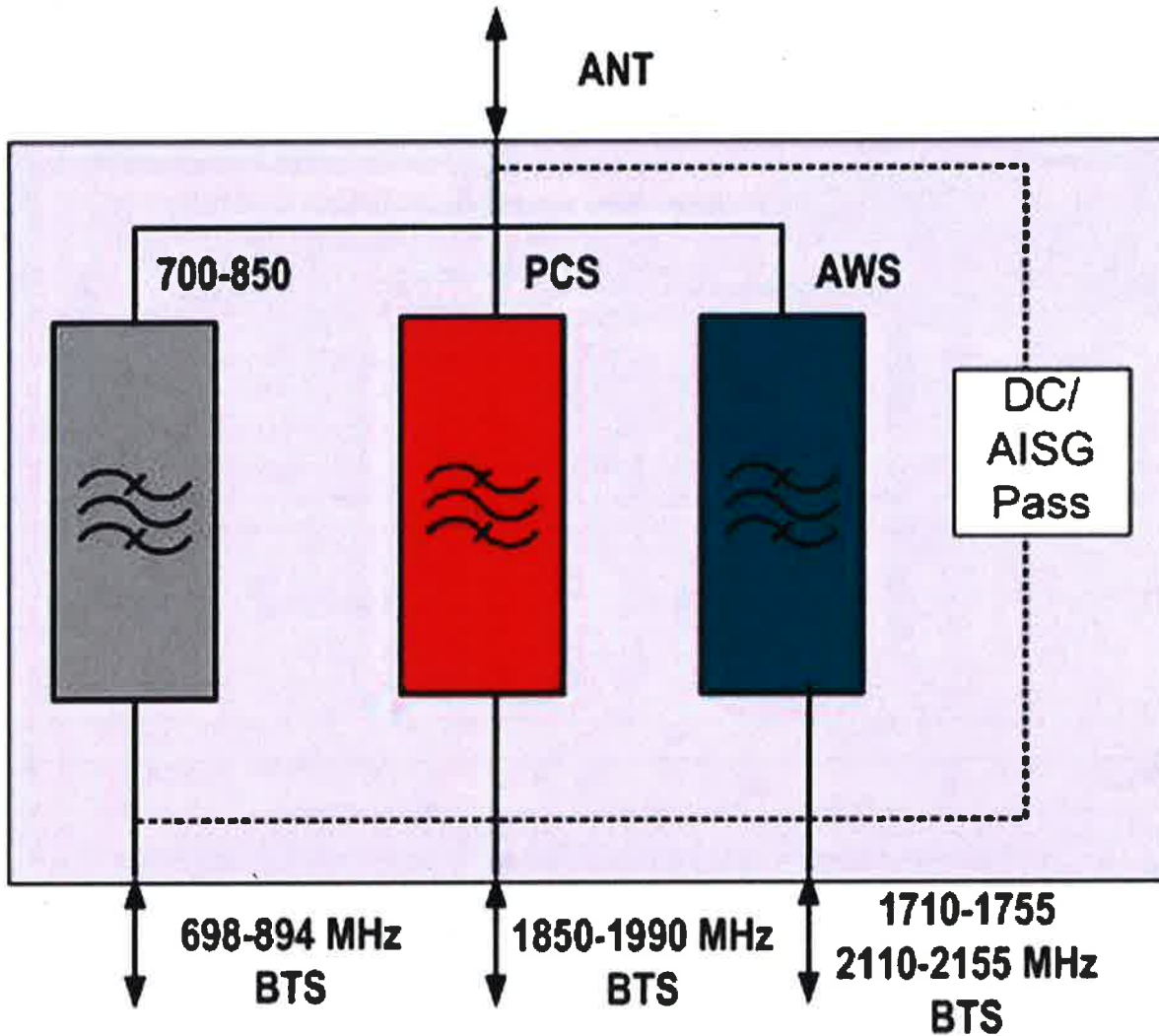
Composite Power, RMS	500 W
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dc Power/Alarm Electrical Specifications

dc/AISG Pass-through, combiner	Branch 1 Branch 2 Branch 3
dc/AISG Pass-through, demultiplexer	Branch 1 Branch 2 Branch 3
Lightning Surge Current	5 kA
Lightning Surge Current Waveform	8/20 waveform



Block Diagram



Mechanical Specifications

RF Connector Interface	7-16 DIN Female
RF Connector Interface Body Style	Medium neck
Ground Screw Diameter	0.25 in
Color	Gray
Mount Type	Pole Wall
Mounting Pipe Diameter	40-160 mm
Mounting Pipe Hardware	Band clamps (2)

Dimensions

Height	210.0 mm 8.3 in
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Product Specifications

COMMSCOPE®

CBC71921-DF | E11F05P64



Width	182.0 mm 7.2 in
Depth	62.0 mm 2.4 in
Volume	2.4 L
Weight	3.5 kg 7.7 lb

Environmental Specifications

Operating Temperature	-40 °C to +65 °C (-40 °F to +149 °F)
Relative Humidity	5%–100%
Ingress Protection Test Method	IEC 60529:2001, IP67

Product Specifications

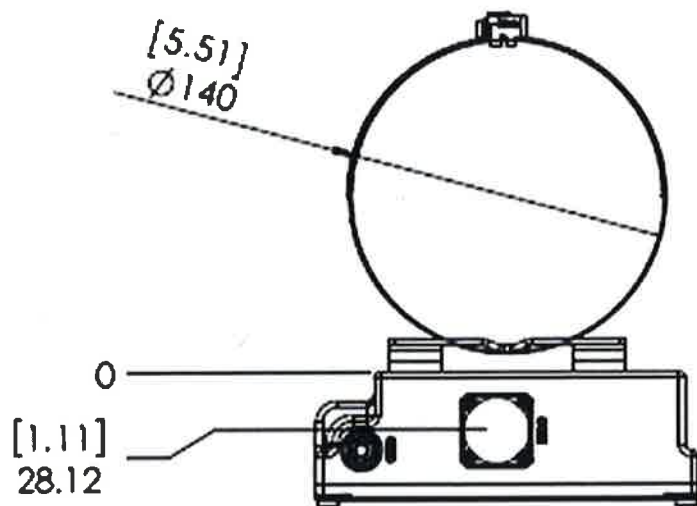
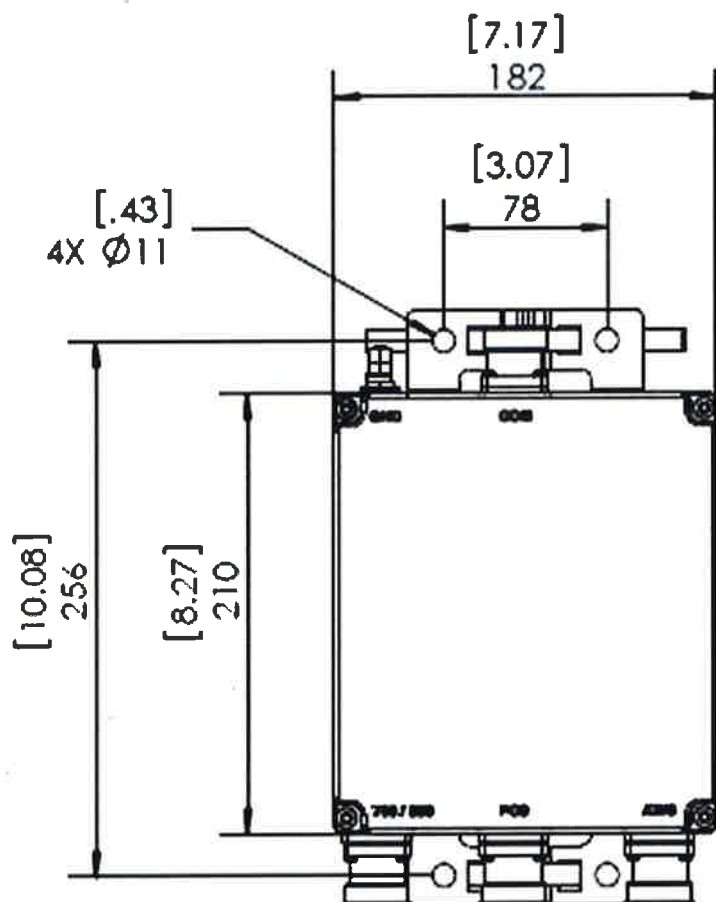
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CBC71921-DF | E11F05P64

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Outline Drawing



CBC71921-DF | E11F05P64



Regulatory Compliance/Certifications

Agency	Classification
ISO 9001:2008	Designed, manufactured and/or distributed under this quality management system

ATTACHMENT 2

Site Name: **BAYVIEW CT**
 Cumulative Power Density

Operator	Operating Frequency (MHz)	Number of Trans.	ERP Per Trans. (watts)	Total ERP (watts)	Distance to Target (feet)	Calculated Power Density (mW/cm ²)	Maximum Permissible Exposure* (mW/cm ²)	Fraction of MPE (%)
VZW 700	746	1	1050	1050	110	0.0312	0.4973	6.27%
VZW Cellular	869	9	403	3631	120	0.0907	0.5793	15.65%
VZW PCS	1970	1	1517	1517	110	0.0451	1.0000	4.51%
VZW AWS	2145	1	1455	1455	130	0.0310	1.0000	3.10%
Total Percentage of Maximum Permissible Exposure								29.53%

*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

MHz = Megahertz

mW/cm² = milliwatts per square centimeter

ERP = Effective Radiated Power

Absolute worst case maximum values used.

ATTACHMENT 3



AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure : 134 ft Monopole
ATC Site Name : Milford CT, CT
ATC Site Number : 283564
Engineering Number : 63423422
Proposed Carrier : Verizon
Carrier Site Name : Bayview
Carrier Site Number : N/A
Site Location : 234 Melba Street
Milford, CT 06460-7633
41.209867,-73.019408
County : New Haven
Date : September 8, 2015
Max Usage : 67%
Result : Pass

Reviewed by:
Scott Wirgau, PE
Structural Team Leader

Prepared By:
Travis J. Gatling

Travis J. Gatling



Sep 8 2015 4:37 PM

COA: PEC.0001553



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Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 134 ft monopole to reflect the change in loading by Verizon.

Supporting Documents

Tower Drawings	CellXion Job #50016, dated October 4, 2011 Stealth Job #SA11-01013H-00R1, dated October 10, 2011
Foundation Drawing	CellXion Job #50016, dated October 4, 2011
Geotechnical Report	DET Job #2011.07, dated May 27, 2011

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:	110 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 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:	C
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	$S_s = 0.19, S_1 = 0.06$
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					
130.0	-	-	-	-	(6) 1 5/8" Coax	Verizon
120.0	120.0	3	Antel BXA-80063-6BF-EDIN-X	Canister	(6) 1 5/8" Coax	
110.0	-	-	-	-	(6) 1 5/8" Coax	

Equipment to be Removed

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
130.0	130.0	3	Antel BXA-70063-6BF-EDIN-X	-	-	Verizon
110.0	110.0	3	Antel BXA-171063-8BF-EDIN-X	-	-	

Proposed Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
130.0	130.0	6	Commscope CBC71921-DF	Canister	-	Verizon
		3	Commscope SBNHH-1D65B			
110.0	110.0	6	Commscope CBC71921-DF	Canister	-	
		3	Commscope SBNHH-1D65B			

¹Mount 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).

Install proposed coax inside the pole shaft.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	46%	Pass
Shaft	61%	Pass
Base Plate	67%	Pass
Flanges	58%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Moment (Kips-Ft)	1,179.1	33%
Axial (Kips)	25.0	15%
Shear (Kips)	17.4	10%

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. All foundations and anchorages have a factor of safety equal to or greater than 2

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
130.0	Commscope CBC71921-DF	Verizon	0.515	0.610
	Commscope SBNHH-1D65B			
110.0	Commscope CBC71921-DF		0.312	0.513
	Commscope SBNHH-1D65B			

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



Standard Conditions

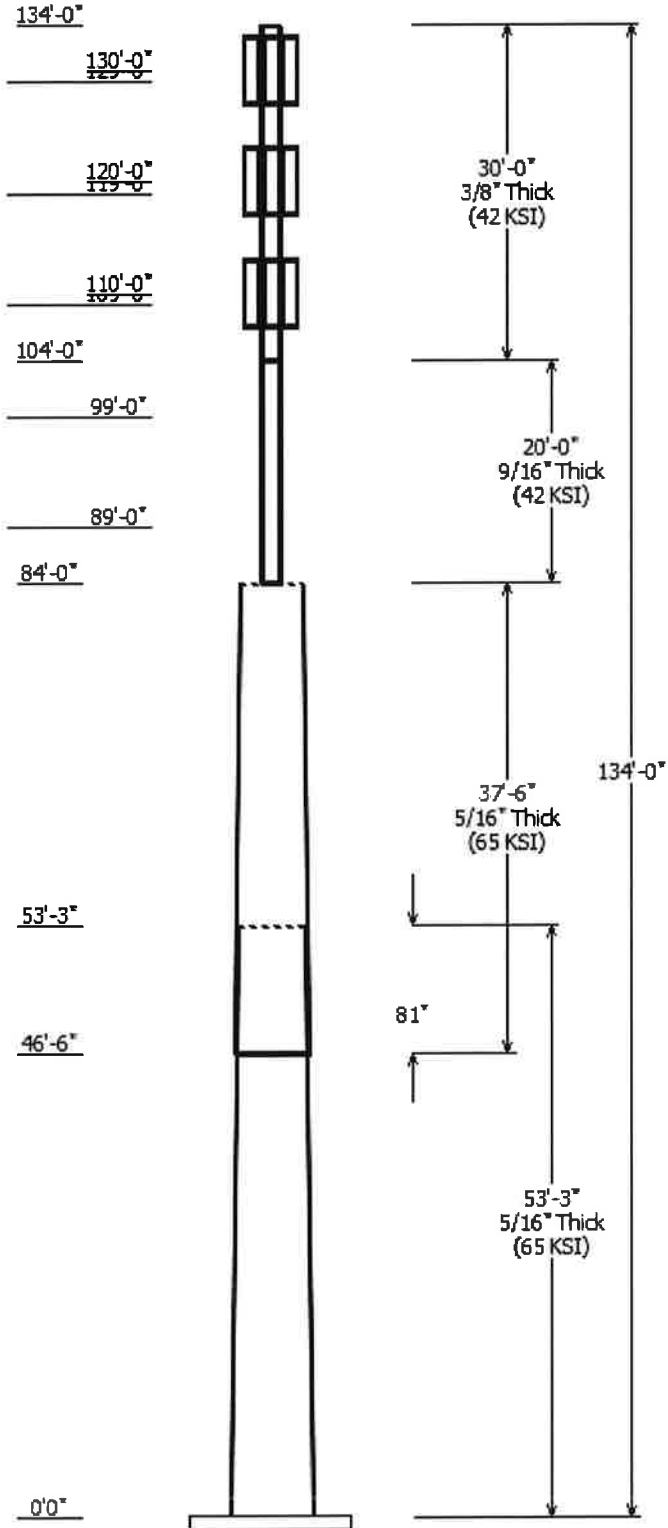
All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessary limited, to:

- 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.



Job Information	
Pole :	283564
Code:	ANSI/TIA-222-G
Description :	134 ft Stealth Flagpole
Client :	VERIZON WIRELESS
Struct Class :	II
Location :	Milford CT, CT
Shape :	Round
Exposure :	C
Height :	134.00 (ft)
Topo :	1
Base Elev (ft):	0.00
Taper:	0.14994(in/ft)

Sections Properties						
Shaft Section	Length (ft)	Diameter (in)		Thick Joint (in)	Overlap Length (in)	Steel Taper Grade (ksi)
		Top	Bottom			
1	53.250	45.98	53.97	0.313	0.000	0.149940 65
2	37.500	42.00	47.62	0.313 Slip Joint	81.000	0.149940 65
3	20.000	12.75	12.75	0.562 Butt Joint	0.000	0.000000 42
4	30.000	10.75	10.75	0.365 Butt Joint	0.000	0.000000 42

Discrete Appurtenance			
Attach Elev (ft)	Force Elev (ft)	Qty	Description
130.000	130.000	3	Commscope SBNHH-1D65B
130.000	130.000	6	Commscope CBC71921-DF
129.000	129.000	1	Canister 5
120.000	120.000	3	Amphenol Antel BXA-80063-
119.000	119.000	1	Canister 4
110.000	110.000	3	Commscope SBNHH-1D65B
110.000	110.000	6	Commscope CBC71921-DF
109.000	109.000	1	Canister 3
99.000	99.000	1	Canister 2
89.000	89.000	1	Canister 1

Linear Appurtenance			
Elev (ft)		Description	Exposed To Wind
From	To		
0.000	110.0	1 5/8" Coax	No
0.000	120.0	1 5/8" Coax	No
0.000	130.0	1 5/8" Coax	No

Load Cases	
1.2D + 1.6W	110 mph with No Ice
0.9D + 1.6W	110 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 in Radial Ice
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Lateral
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Modal
1.0D + 1.0W	Serviceability 60 mph

Reactions			
Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.6W	1179.11	17.44	24.94
0.9D + 1.6W	1175.06	17.44	18.70
1.2D + 1.0Di + 1.0Wi	296.78	4.36	41.92
(1.2 + 0.2Sds) * DL + E E LFM	121.27	1.44	24.60
(1.2 + 0.2Sds) * DL + E E MAM	76.11	0.93	24.60
(0.9 - 0.2Sds) * DL + E E LFM	120.75	1.44	17.03
(0.9 - 0.2Sds) * DL + E E MAM	75.66	0.93	17.03

1.0D + 1.0W

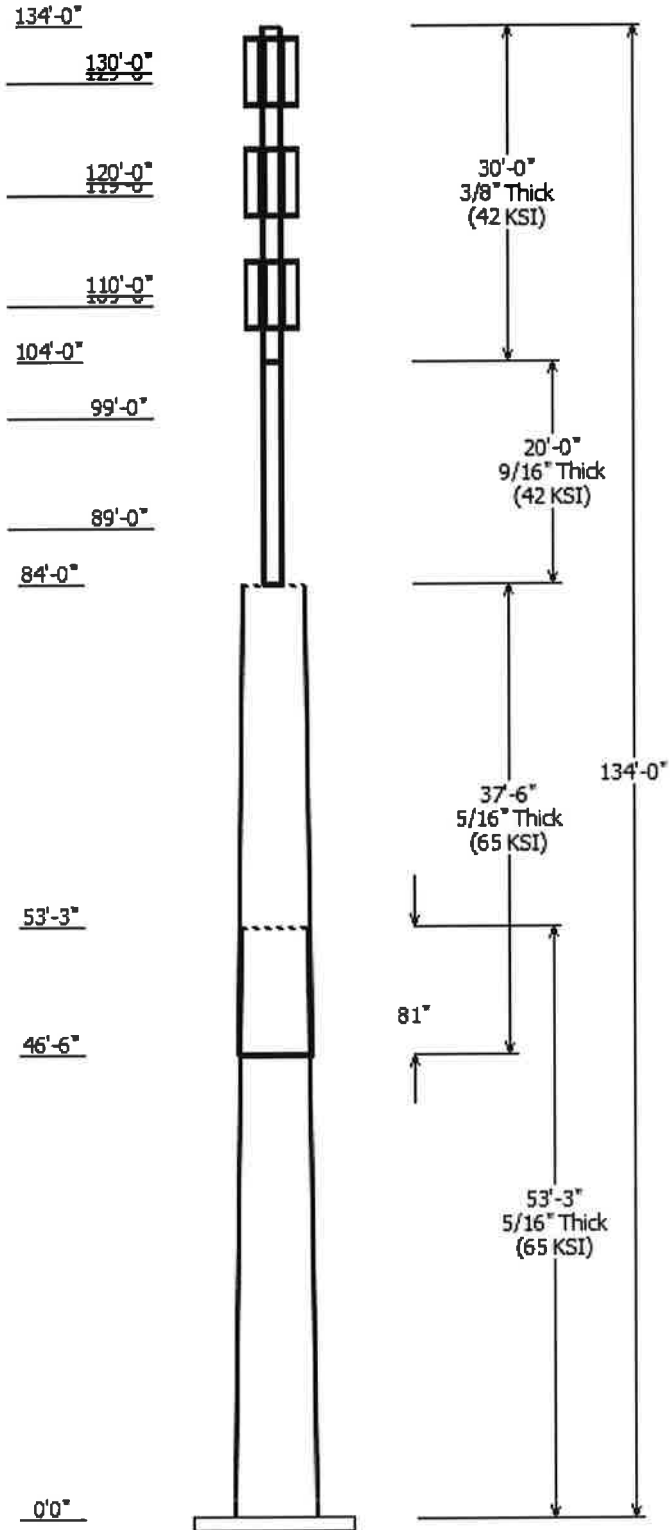
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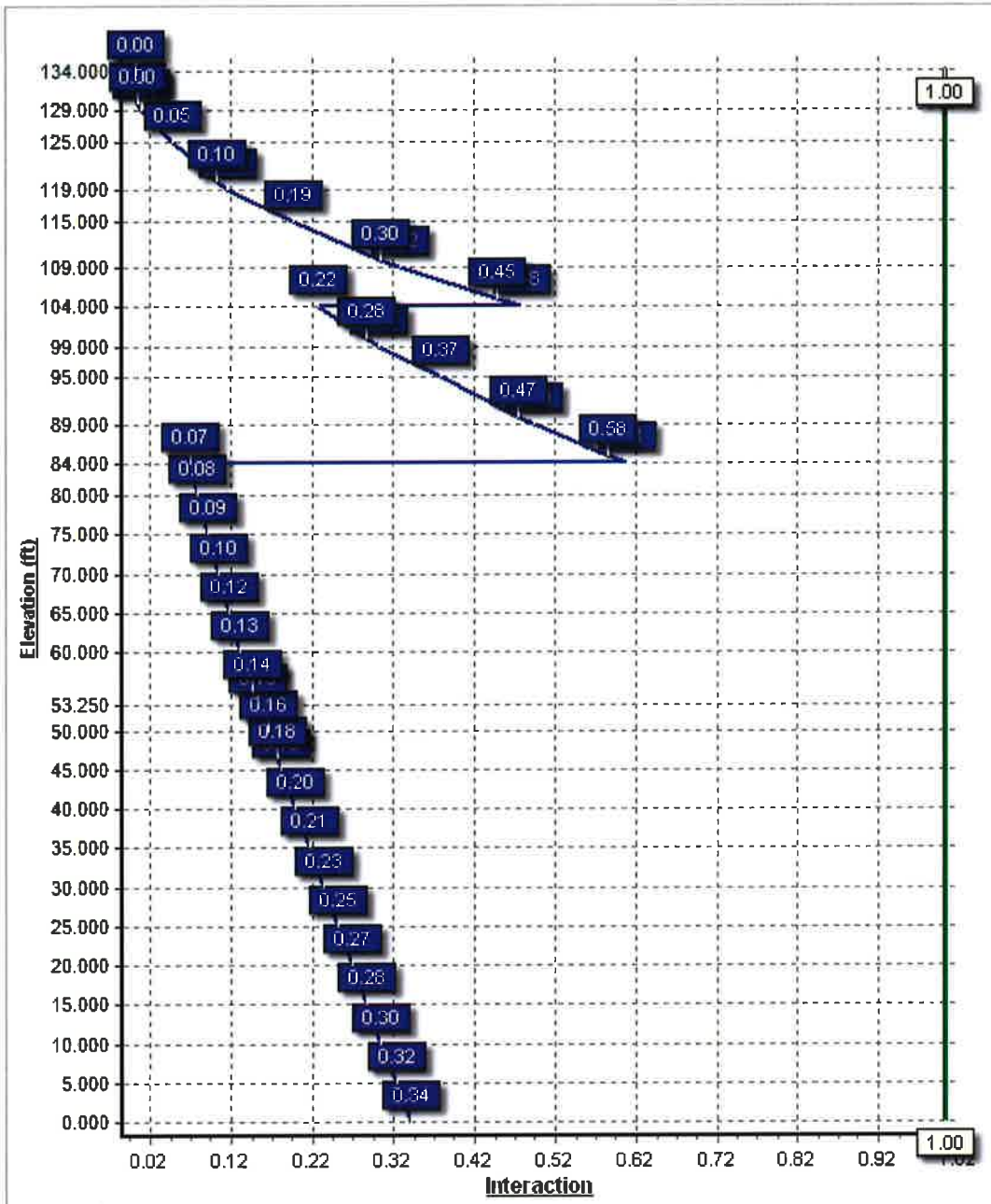
3.25

20.80

Dish Deflections

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
	0.00	0.000	0.000





Site Number: 283564

Code: ANSI/TIA-222-G

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Site Name: Milford CT, CT

Engineering Number: 63423422

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Customer: VERIZON WIRELESS

Analysis Parameters

Location:	New Haven County, CT	Height (ft):	134
Code:	ANSI/TIA-222-G	Shape:	Round. Sect 1: 18 Sides. Sect 2: 18 Sides
Shape:	Round. Sect 1: 18 Sides. Sect 2: 18 Sides	Top Diameter (in):	53.97
Pole Type:	Custom	Top Diameter (in):	10.75
Pole Manufacturer:		Taper (in/ft) :	0.150

Ice & Wind Parameters

Structure Class:	II	Design Wind Speed Without Ice:	110 mph
Exposure Category:	C	Design Wind Speed With Ice:	50 mph
Topographic Category:	1	Operational Wind Speed:	60 mph
Crest Height:	0.0 ft	Design Ice Thickness:	0.50 in

Seismic Parameters

Analysis Method:	Equivalent Modal Analysis & Equivalent Lateral Force Methods		
Site Class:	D - Stiff Soil		
Period Based on Rayleigh Method (sec):	1.24		
T _L (sec):	6	p:	1.3
S _s :	0.191	S ₁ :	0.062
F _a :	1.600	F _v :	2.400
S _{ds} :	0.204	S _{d1} :	0.099
		C _s :	0.053
		C _s Max:	0.053
		C _s Min:	0.030

Load Cases

1.2D + 1.6W	110 mph with No Ice
0.9D + 1.6W	110 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 in Radial Ice
(1.2 + 0.2S _{ds}) * DL + E E LFM	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2S _{ds}) * DL + E E MAM	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2S _{ds}) * DL + E E LFM	Seismic (Reduced DL) Equivalent Lateral Forces Method
(0.9 - 0.2S _{ds}) * DL + E E MAM	Seismic (Reduced DL) Equivalent Modal Analysis Method
1.0D + 1.0W	Serviceability 60 mph

Site Number: 283564

Code: ANSITIA-222-G

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Site Name: Milford CT, CT

Engineering Number: 63423422

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Customer: VERIZON WIRELESS

Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint Len (in)	Weight (lb)	Bottom						Top						
							Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Taper (in/ft)
1-18	53.250	0.3125	65		0.00	8,926	53.97	0.00	53.22	19359.1	29.04	172.70	45.98	53.25	45.30	11939.3	24.54	147.15	0.149940
2-18	37.500	0.3125	65	Slip	81.00	5,632	47.62	46.50	46.92	13269.7	25.46	152.39	42.00	84.00	41.35	9078.5	22.29	134.40	0.149940
3-R	20.000	0.5620	42	Butt	0.00	1,464	12.75	84.00	21.52	399.9	0.00	22.69	12.75	104.00	21.52	399.9	0.00	22.69	0.000000
4-R	30.000	0.3650	42	Butt	0.00	1,216	10.75	104.00	11.91	160.7	0.00	29.45	10.75	134.00	11.91	160.7	0.00	29.45	0.000000
Shaft Weight						17,238													

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	No Ice			Ice			Distance From Face (ft)	Vert Ecc (ft)
			Weight (lb)	EPAA (sf)	Orientation Factor	Weight (lb)	EPAA (sf)	Orientation Factor		
130.00	Commscope CBC71921-DF	6	7.70	0.580	0.01	25.91	1.132	0.01	0.000	0.000
130.00	Commscope SBNHH-1D65B	3	50.70	8.170	0.01	224.00	10.963	0.01	0.000	0.000
129.00	Canister 5	1	266.67	12.400	1.00	1,363.90	19.134	1.00	0.000	0.000
120.00	Amphenol Antel BXA-80063-	3	19.20	7.260	0.01	160.44	9.866	0.01	0.000	0.000
119.00	Canister 4	1	266.67	12.400	1.00	1,354.40	19.121	1.00	0.000	0.000
110.00	Commscope CBC71921-DF	6	7.70	0.580	0.01	25.60	1.123	0.01	0.000	0.000
110.00	Commscope SBNHH-1D65B	3	50.70	8.170	0.01	221.12	10.917	0.01	0.000	0.000
109.00	Canister 3	1	266.67	12.400	1.00	1,344.18	19.103	1.00	0.000	0.000
99.00	Canister 2	1	266.67	11.400	1.00	1,333.13	17.548	1.00	0.000	0.000
89.00	Canister 1	1	266.67	11.400	1.00	1,320.88	17.527	1.00	0.000	0.000
Totals		26	1787.55			8,842.21			Number of Loadings : 10	

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Diameter (in)	Coax Weight (lb/ft)	Flat	Projected Width (in)	Exposed To Wind	Carrier
0.00	130.00	6	1 5/8" Coax	1.98	0.82	N	1.98	N	Verizon
0.00	120.00	6	1 5/8" Coax	1.98	0.82	N	1.98	N	Verizon
0.00	110.00	6	1 5/8" Coax	1.98	0.82	N	1.98	N	Verizon

Site Number: 283564

Code: ANSI/TIA-222-G

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Site Name: Milford CT, CT

Engineering Number: 63423422

9/8/2015 4:32:03 PM

Customer: VERIZON WIRELESS

Segment Properties (Max Len : 5.ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Fy (ksi)	S (in ³)	Z (in ³)	Weight (lb)
0.00		0.3125	53.970	53.220	19,359.1	29.04	172.70	67.2	706.5	0.0	0.0
5.00		0.3125	53.220	52.476	18,559.0	28.62	170.30	67.7	686.8	0.0	899.1
10.00		0.3125	52.471	51.732	17,781.1	28.20	167.91	68.2	667.5	0.0	886.5
15.00		0.3125	51.721	50.989	17,025.4	27.77	165.51	68.7	648.4	0.0	873.8
20.00		0.3125	50.971	50.245	16,291.3	27.35	163.11	69.2	629.5	0.0	861.2
25.00		0.3125	50.221	49.502	15,578.7	26.93	160.71	69.7	611.0	0.0	848.5
30.00		0.3125	49.472	48.758	14,887.1	26.50	158.31	70.2	592.7	0.0	835.9
35.00		0.3125	48.722	48.015	14,216.4	26.08	155.91	70.7	574.7	0.0	823.2
40.00		0.3125	47.972	47.271	13,566.0	25.66	153.51	71.2	557.0	0.0	810.6
45.00		0.3125	47.223	46.527	12,935.9	25.23	151.11	71.7	539.5	0.0	797.9
46.50	Bot - Section 2	0.3125	46.998	46.304	12,750.7	25.11	150.39	71.9	534.4	0.0	236.9
50.00		0.3125	46.473	45.784	12,325.5	24.81	148.71	72.2	522.4	0.0	1,104.1
53.25	Top - Section 1	0.3125	46.611	45.920	12,436.1	24.89	149.15	72.1	525.5	0.0	1,014.2
55.00		0.3125	46.348	45.660	12,225.9	24.74	148.31	72.3	519.6	0.0	272.7
60.00		0.3125	45.599	44.917	11,638.3	24.32	145.92	72.8	502.7	0.0	770.5
65.00		0.3125	44.849	44.173	11,069.8	23.90	143.52	73.3	486.1	0.0	757.9
70.00		0.3125	44.099	43.429	10,520.1	23.47	141.12	73.8	469.9	0.0	745.2
75.00		0.3125	43.349	42.686	9,988.9	23.05	138.72	74.3	453.9	0.0	732.6
80.00		0.3125	42.600	41.942	9,476.0	22.63	136.32	74.8	438.1	0.0	719.9
84.00	Top - Section 2	0.3125	42.000	41.347	9,078.5	22.29	134.40	75.2	425.7	0.0	566.8
84.00	Bot - Section 3	0.5620	12.750	21.519	399.9	0.00	22.69	42.0	62.7	83.5	
85.00		0.5620	12.750	21.519	399.9	0.00	22.69	42.0	62.7	83.5	73.2
89.00		0.5620	12.750	21.519	399.9	0.00	22.69	42.0	62.7	83.5	292.9
90.00		0.5620	12.750	21.519	399.9	0.00	22.69	42.0	62.7	83.5	73.2
95.00		0.5620	12.750	21.519	399.9	0.00	22.69	42.0	62.7	83.5	366.1
99.00		0.5620	12.750	21.519	399.9	0.00	22.69	42.0	62.7	83.5	292.9
100.0		0.5620	12.750	21.519	399.9	0.00	22.69	42.0	62.7	83.5	73.2
104.0	Top - Section 3	0.5620	12.750	21.519	399.9	0.00	22.69	42.0	62.7	83.5	292.9
104.0	Bot - Section 4	0.3650	10.750	11.908	160.7	0.00	29.45	42.0	29.9	39.4	
105.0		0.3650	10.750	11.908	160.7	0.00	29.45	42.0	29.9	39.4	40.5
109.0		0.3650	10.750	11.908	160.7	0.00	29.45	42.0	29.9	39.4	162.1
110.0		0.3650	10.750	11.908	160.7	0.00	29.45	42.0	29.9	39.4	40.5
115.0		0.3650	10.750	11.908	160.7	0.00	29.45	42.0	29.9	39.4	202.6
119.0		0.3650	10.750	11.908	160.7	0.00	29.45	42.0	29.9	39.4	162.1
120.0		0.3650	10.750	11.908	160.7	0.00	29.45	42.0	29.9	39.4	40.5
125.0		0.3650	10.750	11.908	160.7	0.00	29.45	42.0	29.9	39.4	202.6
129.0		0.3650	10.750	11.908	160.7	0.00	29.45	42.0	29.9	39.4	162.1
130.0		0.3650	10.750	11.908	160.7	0.00	29.45	42.0	29.9	39.4	40.5
134.0		0.3650	10.750	11.908	160.7	0.00	29.45	42.0	29.9	39.4	162.1

17,237.8

Site Number: 283564

Code: ANSI/TIA-222-G

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Site Name: Milford CT, CT

Engineering Number: 63423422

9/8/2015 4:32:03 PM

Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.6W

110 mph with No Ice

24 Iterations

Gust Response Factor : 1.10

Wind Importance Factor : 1.00

Dead Load Factor : 1.20

Wind Load Factor : 1.60

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion Moment MY (lb-ft)	MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion Moment MY (lb-ft)	MZ (lb)
0.00		324.4	0.0					0.0	0.0	324.4	0.0	0.0	0.0
5.00		644.3	1,079.0					0.0	88.6	644.3	1,167.5	0.0	0.0
10.00		635.3	1,063.8					0.0	88.6	635.3	1,152.4	0.0	0.0
15.00		636.0	1,048.6					0.0	88.6	636.0	1,137.2	0.0	0.0
20.00		653.8	1,033.4					0.0	88.6	653.8	1,122.0	0.0	0.0
25.00		675.5	1,018.3					0.0	88.6	675.5	1,106.8	0.0	0.0
30.00		691.6	1,003.1					0.0	88.6	691.6	1,091.6	0.0	0.0
35.00		703.8	987.9					0.0	88.6	703.8	1,076.4	0.0	0.0
40.00		712.8	972.7					0.0	88.6	712.8	1,061.3	0.0	0.0
45.00		466.3	957.5					0.0	88.6	466.3	1,046.1	0.0	0.0
46.50	Bot - Section 2	364.4	284.3					0.0	26.6	364.4	310.9	0.0	0.0
50.00		495.1	1,325.0					0.0	62.0	495.1	1,386.9	0.0	0.0
53.25	Top - Section 1	367.7	1,217.0					0.0	57.6	367.7	1,274.6	0.0	0.0
55.00		497.7	327.2					0.0	31.0	497.7	358.2	0.0	0.0
60.00		738.0	924.6					0.0	88.6	738.0	1,013.2	0.0	0.0
65.00		738.2	909.5					0.0	88.6	738.2	998.0	0.0	0.0
70.00		737.3	894.3					0.0	88.6	737.3	982.8	0.0	0.0
75.00		735.4	879.1					0.0	88.6	735.4	967.7	0.0	0.0
80.00		659.6	863.9					0.0	88.6	659.6	952.5	0.0	0.0
84.00	Top - Section 2	312.7	680.2					0.0	70.8	312.7	751.0	0.0	0.0
85.00		101.3	87.9					0.0	17.7	101.3	105.6	0.0	0.0
89.00	Appertunance(s)	101.6	351.5	729.1	0.0	0.0	320.0	0.0	70.8	830.7	742.3	0.0	0.0
90.00		123.2	87.9					0.0	17.7	123.2	105.6	0.0	0.0
95.00		185.8	439.3					0.0	88.6	185.8	527.9	0.0	0.0
99.00	Appertunance(s)	103.9	351.5	745.7	0.0	0.0	320.0	0.0	70.8	849.6	742.3	0.0	0.0
100.00		104.8	87.9					0.0	17.7	104.8	105.6	0.0	0.0
104.00	Top - Section 3	101.7	351.5					0.0	70.8	101.7	422.3	0.0	0.0
105.00		89.3	48.6					0.0	17.7	89.3	66.3	0.0	0.0
109.00	Appertunance(s)	89.4	194.5	827.7	0.0	0.0	320.0	0.0	70.8	917.1	585.4	0.0	0.0
110.00	Appertunance(s)	108.2	48.6	18.7	0.0	0.0	238.0	0.0	17.7	127.0	304.3	0.0	0.0
115.00		163.1	243.1					0.0	59.0	163.1	302.2	0.0	0.0
119.00	Appertunance(s)	91.1	194.5	843.1	0.0	0.0	320.0	0.0	47.2	934.2	561.7	0.0	0.0
120.00	Appertunance(s)	110.2	48.6	14.8	0.0	0.0	69.1	0.0	11.8	125.1	129.6	0.0	0.0
125.00		166.0	243.1					0.0	29.5	166.0	272.6	0.0	0.0
129.00	Appertunance(s)	92.7	194.5	857.6	0.0	0.0	320.0	0.0	23.6	950.3	538.1	0.0	0.0
130.00	Appertunance(s)	93.3	48.6	19.4	0.0	0.0	238.0	0.0	5.9	112.7	292.5	0.0	0.0
134.00		74.7	194.5					0.0	0.0	74.7	194.5	0.0	0.0
Totals:										17,746.5	24,955.9	0.00	0.00

Site Number: 283564

Code: ANSI/TIA-222-G

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Site Name: Milford CT, CT

Engineering Number: 63423422

9/8/2015 4:32:03 PM

Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.6W

110 mph with No Ice

24 Iterations

Gust Response Factor : 1.10

Wind Importance Factor : 1.00

Dead Load Factor : 1.20

Wind Load Factor : 1.60

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-24.94	-17.44	0.00	-1,179.11	0.00	1,179.11	3,220.76	1,610.38	7,115.50	3,563.04	0.00	0.00	0.339
5.00	-23.75	-16.83	0.00	-1,091.91	0.00	1,091.91	3,199.26	1,599.63	6,968.67	3,489.51	0.05	-0.08	0.320
10.00	-22.58	-16.22	0.00	-1,007.76	0.00	1,007.76	3,177.09	1,588.55	6,821.74	3,415.94	0.18	-0.16	0.302
15.00	-21.42	-15.61	0.00	-926.65	0.00	926.65	3,154.26	1,577.13	6,674.79	3,342.35	0.39	-0.24	0.284
20.00	-20.29	-14.98	0.00	-848.59	0.00	848.59	3,130.76	1,565.38	6,527.86	3,268.78	0.68	-0.32	0.266
25.00	-19.17	-14.32	0.00	-773.71	0.00	773.71	3,106.59	1,553.29	6,381.02	3,195.25	1.05	-0.39	0.248
30.00	-18.06	-13.64	0.00	-702.12	0.00	702.12	3,081.76	1,540.88	6,234.34	3,121.80	1.50	-0.45	0.231
35.00	-16.98	-12.94	0.00	-633.92	0.00	633.92	3,056.26	1,528.13	6,087.87	3,048.46	2.01	-0.52	0.214
40.00	-15.91	-12.24	0.00	-569.20	0.00	569.20	3,030.09	1,515.05	5,941.68	2,975.25	2.58	-0.58	0.197
45.00	-14.86	-11.77	0.00	-508.01	0.00	508.01	3,003.26	1,501.63	5,795.83	2,902.22	3.22	-0.63	0.180
46.50	-14.55	-11.41	0.00	-490.35	0.00	490.35	2,995.08	1,497.54	5,752.15	2,880.35	3.42	-0.65	0.175
50.00	-13.16	-10.91	0.00	-450.42	0.00	450.42	2,975.77	1,487.88	5,650.38	2,829.39	3.91	-0.69	0.164
53.25	-11.89	-10.53	0.00	-414.98	0.00	414.98	2,980.87	1,490.43	5,677.06	2,842.75	4.39	-0.72	0.150
55.00	-11.53	-10.03	0.00	-396.55	0.00	396.55	2,971.13	1,485.56	5,626.23	2,817.29	4.66	-0.74	0.145
60.00	-10.52	-9.29	0.00	-346.40	0.00	346.40	2,942.86	1,471.43	5,481.32	2,744.74	5.45	-0.78	0.130
65.00	-9.53	-8.54	0.00	-299.96	0.00	299.96	2,913.92	1,456.96	5,336.96	2,672.45	6.29	-0.82	0.116
70.00	-8.55	-7.80	0.00	-257.25	0.00	257.25	2,884.31	1,442.16	5,193.19	2,600.45	7.17	-0.86	0.102
75.00	-7.59	-7.05	0.00	-218.28	0.00	218.28	2,854.04	1,427.02	5,050.08	2,528.79	8.08	-0.89	0.089
80.00	-6.65	-6.38	0.00	-183.03	0.00	183.03	2,823.11	1,411.55	4,907.69	2,457.49	9.03	-0.92	0.077
84.00	-5.90	-6.05	0.00	-157.52	0.00	157.52	2,797.88	1,398.94	4,794.35	2,400.74	9.80	-0.94	0.068
84.00	-5.90	-6.05	0.00	-157.52	0.00	157.52	813.41	406.71	394.63	263.16	9.80	-0.94	0.606
85.00	-5.77	-5.97	0.00	-151.47	0.00	151.47	813.41	406.71	394.63	263.16	10.00	-0.94	0.583
89.00	-5.03	-5.15	0.00	-127.58	0.00	127.58	813.41	406.71	394.63	263.16	10.96	-1.34	0.491
90.00	-4.90	-5.04	0.00	-122.43	0.00	122.43	813.41	406.71	394.63	263.16	11.25	-1.43	0.471
95.00	-4.35	-4.87	0.00	-97.22	0.00	97.22	813.41	406.71	394.63	263.16	12.96	-1.82	0.375
99.00	-3.63	-4.00	0.00	-77.76	0.00	77.76	813.41	406.71	394.63	263.16	14.59	-2.07	0.300
100.00	-3.52	-3.90	0.00	-73.76	0.00	73.76	813.41	406.71	394.63	263.16	15.03	-2.12	0.285
104.00	-3.10	-3.79	0.00	-58.16	0.00	58.16	813.41	406.71	394.63	263.16	16.89	-2.31	0.225
104.00	-3.10	-3.79	0.00	-58.16	0.00	58.16	450.13	225.07	188.05	124.05	16.89	-2.31	0.476
105.00	-3.02	-3.71	0.00	-54.37	0.00	54.37	450.13	225.07	188.05	124.05	17.38	-2.35	0.445
109.00	-2.47	-2.77	0.00	-39.54	0.00	39.54	450.13	225.07	188.05	124.05	19.49	-2.68	0.324
110.00	-2.16	-2.64	0.00	-36.77	0.00	36.77	450.13	225.07	188.05	124.05	20.06	-2.75	0.301
115.00	-1.86	-2.47	0.00	-23.58	0.00	23.58	450.13	225.07	188.05	124.05	23.09	-3.02	0.194
119.00	-1.35	-1.51	0.00	-13.71	0.00	13.71	450.13	225.07	188.05	124.05	25.67	-3.15	0.114
120.00	-1.22	-1.37	0.00	-12.21	0.00	12.21	450.13	225.07	188.05	124.05	26.34	-3.17	0.101
125.00	-0.96	-1.19	0.00	-5.33	0.00	5.33	450.13	225.07	188.05	124.05	29.70	-3.25	0.045
129.00	-0.48	-0.21	0.00	-0.56	0.00	0.56	450.13	225.07	188.05	124.05	32.43	-3.27	0.006
130.00	-0.19	-0.09	0.00	-0.34	0.00	0.34	450.13	225.07	188.05	124.05	33.12	-3.27	0.003
134.00	0.00	-0.07	0.00	0.00	0.00	0.00	450.13	225.07	188.05	124.05	35.86	-3.27	0.000

Site Number: 283564

Code: ANSI/TIA-222-G

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Site Name: Milford CT, CT

Engineering Number: 63423422

9/8/2015 4:32:03 PM

Customer: VERIZON WIRELESS

Load Case: 0.9D + 1.6W

110 mph with No Ice (Reduced DL)

24 Iterations

Gust Response Factor : 1.10

Wind Importance Factor : 1.00

Dead Load Factor : 0.90

Wind Load Factor : 1.60

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion Moment MY (lb-ft)	MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion Moment MY (lb-ft)	MZ (lb)
0.00		324.4	0.0					0.0	0.0	324.4	0.0	0.0	0.0
5.00		644.3	809.2					0.0	66.4	644.3	875.7	0.0	0.0
10.00		635.3	797.8					0.0	66.4	635.3	864.3	0.0	0.0
15.00		636.0	786.5					0.0	66.4	636.0	852.9	0.0	0.0
20.00		653.8	775.1					0.0	66.4	653.8	841.5	0.0	0.0
25.00		675.5	763.7					0.0	66.4	675.5	830.1	0.0	0.0
30.00		691.6	752.3					0.0	66.4	691.6	818.7	0.0	0.0
35.00		703.8	740.9					0.0	66.4	703.8	807.3	0.0	0.0
40.00		712.8	729.5					0.0	66.4	712.8	795.9	0.0	0.0
45.00		466.3	718.1					0.0	66.4	466.3	784.6	0.0	0.0
46.50	Bot - Section 2	364.4	213.2					0.0	19.9	364.4	233.1	0.0	0.0
50.00		495.1	993.7					0.0	46.5	495.1	1,040.2	0.0	0.0
53.25	Top - Section 1	367.7	912.7					0.0	43.2	367.7	955.9	0.0	0.0
55.00		497.7	245.4					0.0	23.2	497.7	268.7	0.0	0.0
60.00		738.0	693.5					0.0	66.4	738.0	759.9	0.0	0.0
65.00		738.2	682.1					0.0	66.4	738.2	748.5	0.0	0.0
70.00		737.3	670.7					0.0	66.4	737.3	737.1	0.0	0.0
75.00		735.4	659.3					0.0	66.4	735.4	725.7	0.0	0.0
80.00		659.6	647.9					0.0	66.4	659.6	714.4	0.0	0.0
84.00	Top - Section 2	312.7	510.1					0.0	53.1	312.7	563.3	0.0	0.0
85.00		101.3	65.9					0.0	13.3	101.3	79.2	0.0	0.0
89.00	Appertunance(s)	101.6	263.6	729.1	0.0	0.0	240.0	0.0	53.1	830.7	556.7	0.0	0.0
90.00		123.2	65.9					0.0	13.3	123.2	79.2	0.0	0.0
95.00		185.8	329.5					0.0	66.4	185.8	395.9	0.0	0.0
99.00	Appertunance(s)	103.9	263.6	745.7	0.0	0.0	240.0	0.0	53.1	849.6	556.7	0.0	0.0
100.00		104.8	65.9					0.0	13.3	104.8	79.2	0.0	0.0
104.00	Top - Section 3	101.7	263.6					0.0	53.1	101.7	316.7	0.0	0.0
105.00		89.3	36.5					0.0	13.3	89.3	49.8	0.0	0.0
109.00	Appertunance(s)	89.4	145.9	827.7	0.0	0.0	240.0	0.0	53.1	917.1	439.0	0.0	0.0
110.00	Appertunance(s)	108.2	36.5	18.7	0.0	0.0	178.5	0.0	13.3	127.0	228.2	0.0	0.0
115.00		163.1	182.3					0.0	44.3	163.1	226.6	0.0	0.0
119.00	Appertunance(s)	91.1	145.9	843.1	0.0	0.0	240.0	0.0	35.4	934.2	421.3	0.0	0.0
120.00	Appertunance(s)	110.2	36.5	14.8	0.0	0.0	51.8	0.0	8.9	125.1	97.2	0.0	0.0
125.00		166.0	182.3					0.0	22.1	166.0	204.5	0.0	0.0
129.00	Appertunance(s)	92.7	145.9	857.6	0.0	0.0	240.0	0.0	17.7	950.3	403.6	0.0	0.0
130.00	Appertunance(s)	93.3	36.5	19.4	0.0	0.0	178.5	0.0	4.4	112.7	219.4	0.0	0.0
134.00		74.7	145.9					0.0	0.0	74.7	145.9	0.0	0.0
Totals:										17,746.5	18,716.9	0.00	0.00

Site Number: 283564

Code: ANSI/TIA-222-G

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Site Name: Milford CT, CT

Engineering Number: 63423422

9/8/2015 4:32:04 PM

Customer: VERIZON WIRELESS

Load Case: 0.9D + 1.6W

110 mph with No Ice (Reduced DL)

24 Iterations

Gust Response Factor : 1.10

Wind Importance Factor : 1.00

Dead Load Factor : 0.90

Wind Load Factor : 1.60

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-18.70	-17.44	0.00	-1,175.06	0.00	1,175.06	3,220.76	1,610.38	7,115.50	3,563.04	0.00	0.00	0.336
5.00	-17.80	-16.82	0.00	-1,087.88	0.00	1,087.88	3,199.26	1,599.63	6,968.67	3,489.51	0.05	-0.08	0.317
10.00	-16.92	-16.20	0.00	-1,003.80	0.00	1,003.80	3,177.09	1,588.55	6,821.74	3,415.94	0.18	-0.16	0.299
15.00	-16.05	-15.58	0.00	-922.79	0.00	922.79	3,154.26	1,577.13	6,674.79	3,342.35	0.39	-0.24	0.281
20.00	-15.19	-14.95	0.00	-844.87	0.00	844.87	3,130.76	1,565.38	6,527.86	3,268.78	0.68	-0.31	0.263
25.00	-14.35	-14.28	0.00	-770.14	0.00	770.14	3,106.59	1,553.29	6,381.02	3,195.25	1.05	-0.38	0.246
30.00	-13.52	-13.60	0.00	-698.73	0.00	698.73	3,081.76	1,540.88	6,234.34	3,121.80	1.49	-0.45	0.228
35.00	-12.70	-12.90	0.00	-630.73	0.00	630.73	3,056.26	1,528.13	6,087.87	3,048.46	2.00	-0.52	0.211
40.00	-11.90	-12.20	0.00	-566.21	0.00	566.21	3,030.09	1,515.05	5,941.68	2,975.25	2.57	-0.58	0.194
45.00	-11.12	-11.73	0.00	-505.24	0.00	505.24	3,003.26	1,501.63	5,795.83	2,902.22	3.20	-0.63	0.178
46.50	-10.88	-11.37	0.00	-487.65	0.00	487.65	2,995.08	1,497.54	5,752.15	2,880.35	3.40	-0.65	0.173
50.00	-9.84	-10.86	0.00	-447.87	0.00	447.87	2,975.77	1,487.88	5,650.38	2,829.39	3.89	-0.68	0.162
53.25	-8.88	-10.49	0.00	-412.56	0.00	412.56	2,980.87	1,490.43	5,677.06	2,842.75	4.37	-0.72	0.148
55.00	-8.62	-9.99	0.00	-394.20	0.00	394.20	2,971.13	1,485.56	5,626.23	2,817.29	4.64	-0.73	0.143
60.00	-7.86	-9.25	0.00	-344.24	0.00	344.24	2,942.86	1,471.43	5,481.32	2,744.74	5.43	-0.78	0.128
65.00	-7.12	-8.51	0.00	-297.99	0.00	297.99	2,913.92	1,456.96	5,336.96	2,672.45	6.26	-0.82	0.114
70.00	-6.39	-7.76	0.00	-255.47	0.00	255.47	2,884.31	1,442.16	5,193.19	2,600.45	7.14	-0.85	0.100
75.00	-5.67	-7.02	0.00	-216.66	0.00	216.66	2,854.04	1,427.02	5,050.08	2,528.79	8.05	-0.88	0.088
80.00	-4.96	-6.35	0.00	-181.57	0.00	181.57	2,823.11	1,411.55	4,907.69	2,457.49	8.99	-0.91	0.076
84.00	-4.40	-6.03	0.00	-156.17	0.00	156.17	2,797.88	1,398.94	4,794.35	2,400.74	9.76	-0.93	0.067
84.00	-4.40	-6.03	0.00	-156.17	0.00	156.17	813.41	406.71	394.63	263.16	9.76	-0.93	0.599
85.00	-4.30	-5.94	0.00	-150.14	0.00	150.14	813.41	406.71	394.63	263.16	9.96	-0.94	0.576
89.00	-3.74	-5.12	0.00	-126.37	0.00	126.37	813.41	406.71	394.63	263.16	10.91	-1.33	0.485
90.00	-3.64	-5.01	0.00	-121.26	0.00	121.26	813.41	406.71	394.63	263.16	11.20	-1.42	0.465
95.00	-3.23	-4.83	0.00	-96.23	0.00	96.23	813.41	406.71	394.63	263.16	12.90	-1.80	0.370
99.00	-2.69	-3.97	0.00	-76.92	0.00	76.92	813.41	406.71	394.63	263.16	14.51	-2.05	0.296
100.00	-2.61	-3.86	0.00	-72.95	0.00	72.95	813.41	406.71	394.63	263.16	14.95	-2.10	0.281
104.00	-2.29	-3.75	0.00	-57.50	0.00	57.50	813.41	406.71	394.63	263.16	16.79	-2.29	0.221
104.00	-2.29	-3.75	0.00	-57.50	0.00	57.50	450.13	225.07	188.05	124.05	16.79	-2.29	0.469
105.00	-2.23	-3.67	0.00	-53.74	0.00	53.74	450.13	225.07	188.05	124.05	17.28	-2.33	0.438
109.00	-1.82	-2.74	0.00	-39.06	0.00	39.06	450.13	225.07	188.05	124.05	19.37	-2.66	0.319
110.00	-1.59	-2.61	0.00	-36.32	0.00	36.32	450.13	225.07	188.05	124.05	19.94	-2.73	0.296
115.00	-1.36	-2.44	0.00	-23.27	0.00	23.27	450.13	225.07	188.05	124.05	22.94	-2.99	0.191
119.00	-0.99	-1.48	0.00	-13.52	0.00	13.52	450.13	225.07	188.05	124.05	25.50	-3.12	0.111
120.00	-0.90	-1.36	0.00	-12.03	0.00	12.03	450.13	225.07	188.05	124.05	26.16	-3.14	0.099
125.00	-0.70	-1.18	0.00	-5.26	0.00	5.26	450.13	225.07	188.05	124.05	29.49	-3.22	0.044
129.00	-0.35	-0.21	0.00	-0.54	0.00	0.54	450.13	225.07	188.05	124.05	32.20	-3.24	0.005
130.00	-0.14	-0.08	0.00	-0.33	0.00	0.33	450.13	225.07	188.05	124.05	32.88	-3.24	0.003
134.00	0.00	-0.07	0.00	0.00	0.00	0.00	450.13	225.07	188.05	124.05	35.59	-3.24	0.000

Site Number: 283564

Code: ANSI/TIA-222-G

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Site Name: Milford CT, CT

Engineering Number: 63423422

9/8/2015 4:32:04 PM

Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 0.75 in Radial Ice

23 Iterations

Gust Response Factor : 1.10

Ice Dead Load Factor : 1.00

Wind Importance Factor : 1.00

Dead Load Factor : 1.20

Ice Importance Factor : 1.00

Wind Load Factor : 1.00

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion Moment MY (lb-ft)	MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion Moment MY (lb-ft)	MZ (lb)
0.00		80.6	0.0					0.0	0.0	80.6	0.0	0.0	0.0
5.00		160.6	1,473.8					0.0	88.6	160.6	1,562.3	0.0	0.0
10.00		159.0	1,499.4					0.0	88.6	159.0	1,588.0	0.0	0.0
15.00		159.6	1,501.2					0.0	88.6	159.6	1,589.8	0.0	0.0
20.00		164.5	1,495.3					0.0	88.6	164.5	1,583.9	0.0	0.0
25.00		170.3	1,485.5					0.0	88.6	170.3	1,574.0	0.0	0.0
30.00		174.6	1,473.1					0.0	88.6	174.6	1,561.6	0.0	0.0
35.00		178.0	1,459.0					0.0	88.6	178.0	1,547.6	0.0	0.0
40.00		180.6	1,443.7					0.0	88.6	180.6	1,532.3	0.0	0.0
45.00		118.3	1,427.4					0.0	88.6	118.3	1,516.0	0.0	0.0
46.50	Bot - Section 2	92.5	425.7					0.0	26.6	92.5	452.2	0.0	0.0
50.00		125.8	1,657.3					0.0	62.0	125.8	1,719.3	0.0	0.0
53.25	Top - Section 1	93.5	1,524.7					0.0	57.6	93.5	1,582.2	0.0	0.0
55.00		126.7	492.8					0.0	31.0	126.7	523.8	0.0	0.0
60.00		188.0	1,393.3					0.0	88.6	188.0	1,481.8	0.0	0.0
65.00		188.4	1,374.6					0.0	88.6	188.4	1,463.2	0.0	0.0
70.00		188.5	1,355.6					0.0	88.6	188.5	1,444.1	0.0	0.0
75.00		188.3	1,336.2					0.0	88.6	188.3	1,424.8	0.0	0.0
80.00		169.1	1,316.5					0.0	88.6	169.1	1,405.1	0.0	0.0
84.00	Top - Section 2	81.6	1,039.5					0.0	70.8	81.6	1,110.3	0.0	0.0
85.00		32.9	116.8					0.0	17.7	32.9	134.6	0.0	0.0
89.00	Appertunance(s)	33.0	467.7	144.8	0.0	0.0	1,640.9	0.0	70.8	177.8	2,179.5	0.0	0.0
90.00		40.1	117.0					0.0	17.7	40.1	134.7	0.0	0.0
95.00		60.5	585.7					0.0	88.6	60.5	674.2	0.0	0.0
99.00	Appertunance(s)	33.9	469.2	148.2	0.0	0.0	1,653.1	0.0	70.8	182.1	2,193.1	0.0	0.0
100.00		34.2	117.4					0.0	17.7	34.2	135.1	0.0	0.0
104.00	Top - Section 3	33.4	469.8					0.0	70.8	33.4	540.7	0.0	0.0
105.00		30.3	74.2					0.0	17.7	30.3	91.9	0.0	0.0
109.00	Appertunance(s)	30.4	297.0	164.7	0.0	0.0	1,664.2	0.0	70.8	195.0	2,032.0	0.0	0.0
110.00	Appertunance(s)	36.8	74.3	3.4	0.0	0.0	674.5	0.0	17.7	40.2	766.6	0.0	0.0
115.00		55.4	372.0					0.0	59.0	55.4	431.0	0.0	0.0
119.00	Appertunance(s)	31.0	298.0	167.9	0.0	0.0	1,674.4	0.0	47.2	198.9	2,019.7	0.0	0.0
120.00	Appertunance(s)	37.5	74.6	2.6	0.0	0.0	368.6	0.0	11.8	40.1	455.0	0.0	0.0
125.00		56.5	373.2					0.0	29.5	56.5	402.8	0.0	0.0
129.00	Appertunance(s)	31.6	299.0	170.9	0.0	0.0	1,683.9	0.0	23.6	202.5	2,006.5	0.0	0.0
130.00	Appertunance(s)	31.8	74.8	3.5	0.0	0.0	685.0	0.0	5.9	35.4	765.7	0.0	0.0
134.00		25.5	299.5					0.0	0.0	25.5	299.5	0.0	0.0
								Totals:		4,429.27	41,924.9	0.00	0.00

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 0.75 in Radial Ice

23 Iterations

Gust Response Factor : 1.10
 Dead Load Factor : 1.20
 Wind Load Factor : 1.00

Ice Dead Load Factor : 1.00

Wind Importance Factor : 1.00
 Ice Importance Factor : 1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-41.92	-4.36	0.00	-296.78	0.00	296.78	3,220.76	1,610.38	7,115.50	3,563.04	0.00	0.00	0.096
5.00	-40.36	-4.21	0.00	-275.00	0.00	275.00	3,199.26	1,599.63	6,968.67	3,489.51	0.01	-0.02	0.091
10.00	-38.77	-4.06	0.00	-253.95	0.00	253.95	3,177.09	1,588.55	6,821.74	3,415.94	0.04	-0.04	0.087
15.00	-37.18	-3.91	0.00	-233.64	0.00	233.64	3,154.26	1,577.13	6,674.79	3,342.35	0.10	-0.06	0.082
20.00	-35.60	-3.76	0.00	-214.06	0.00	214.06	3,130.76	1,565.38	6,527.86	3,268.78	0.17	-0.08	0.077
25.00	-34.02	-3.60	0.00	-195.27	0.00	195.27	3,106.59	1,553.29	6,381.02	3,195.25	0.27	-0.10	0.072
30.00	-32.46	-3.43	0.00	-177.28	0.00	177.28	3,081.76	1,540.88	6,234.34	3,121.80	0.38	-0.11	0.067
35.00	-30.91	-3.26	0.00	-160.13	0.00	160.13	3,056.26	1,528.13	6,087.87	3,048.46	0.51	-0.13	0.063
40.00	-29.38	-3.08	0.00	-143.85	0.00	143.85	3,030.09	1,515.05	5,941.68	2,975.25	0.65	-0.15	0.058
45.00	-27.86	-2.96	0.00	-128.45	0.00	128.45	3,003.26	1,501.63	5,795.83	2,902.22	0.81	-0.16	0.054
46.50	-27.41	-2.87	0.00	-124.01	0.00	124.01	2,995.08	1,497.54	5,752.15	2,880.35	0.86	-0.16	0.052
50.00	-25.69	-2.74	0.00	-113.96	0.00	113.96	2,975.77	1,487.88	5,650.38	2,829.39	0.99	-0.17	0.049
53.25	-24.11	-2.65	0.00	-105.04	0.00	105.04	2,980.87	1,490.43	5,677.06	2,842.75	1.11	-0.18	0.045
55.00	-23.58	-2.52	0.00	-100.41	0.00	100.41	2,971.13	1,485.56	5,626.23	2,817.29	1.17	-0.19	0.044
60.00	-22.10	-2.33	0.00	-87.79	0.00	87.79	2,942.86	1,471.43	5,481.32	2,744.74	1.38	-0.20	0.039
65.00	-20.64	-2.14	0.00	-76.12	0.00	76.12	2,913.92	1,456.96	5,336.96	2,672.45	1.59	-0.21	0.036
70.00	-19.20	-1.95	0.00	-65.40	0.00	65.40	2,884.31	1,442.16	5,193.19	2,600.45	1.81	-0.22	0.032
75.00	-17.77	-1.76	0.00	-55.63	0.00	55.63	2,854.04	1,427.02	5,050.08	2,528.79	2.04	-0.22	0.028
80.00	-16.37	-1.59	0.00	-46.82	0.00	46.82	2,823.11	1,411.55	4,907.69	2,457.49	2.28	-0.23	0.025
84.00	-15.26	-1.50	0.00	-40.47	0.00	40.47	2,797.88	1,398.94	4,794.35	2,400.74	2.47	-0.24	0.022
84.00	-15.26	-1.50	0.00	-40.47	0.00	40.47	813.41	406.71	394.63	263.16	2.47	-0.24	0.173
85.00	-15.12	-1.48	0.00	-38.96	0.00	38.96	813.41	406.71	394.63	263.16	2.52	-0.24	0.167
89.00	-12.94	-1.31	0.00	-33.02	0.00	33.02	813.41	406.71	394.63	263.16	2.77	-0.34	0.141
90.00	-12.80	-1.28	0.00	-31.72	0.00	31.72	813.41	406.71	394.63	263.16	2.84	-0.36	0.136
95.00	-12.13	-1.23	0.00	-25.30	0.00	25.30	813.41	406.71	394.63	263.16	3.28	-0.46	0.111
99.00	-9.94	-1.04	0.00	-20.36	0.00	20.36	813.41	406.71	394.63	263.16	3.70	-0.53	0.090
100.00	-9.80	-1.01	0.00	-19.32	0.00	19.32	813.41	406.71	394.63	263.16	3.81	-0.54	0.085
104.00	-9.26	-0.98	0.00	-15.28	0.00	15.28	813.41	406.71	394.63	263.16	4.28	-0.59	0.069
104.00	-9.26	-0.98	0.00	-15.28	0.00	15.28	450.13	225.07	188.05	124.05	4.28	-0.59	0.144
105.00	-9.17	-0.95	0.00	-14.30	0.00	14.30	450.13	225.07	188.05	124.05	4.41	-0.60	0.136
109.00	-7.14	-0.74	0.00	-10.49	0.00	10.49	450.13	225.07	188.05	124.05	4.96	-0.69	0.100
110.00	-6.37	-0.70	0.00	-9.75	0.00	9.75	450.13	225.07	188.05	124.05	5.10	-0.71	0.093
115.00	-5.94	-0.64	0.00	-6.26	0.00	6.26	450.13	225.07	188.05	124.05	5.88	-0.78	0.064
119.00	-3.92	-0.42	0.00	-3.70	0.00	3.70	450.13	225.07	188.05	124.05	6.55	-0.82	0.039
120.00	-3.47	-0.37	0.00	-3.28	0.00	3.28	450.13	225.07	188.05	124.05	6.73	-0.82	0.034
125.00	-3.07	-0.31	0.00	-1.43	0.00	1.43	450.13	225.07	188.05	124.05	7.60	-0.84	0.018
129.00	-1.06	-0.08	0.00	-0.20	0.00	0.20	450.13	225.07	188.05	124.05	8.31	-0.85	0.004
130.00	-0.30	-0.03	0.00	-0.12	0.00	0.12	450.13	225.07	188.05	124.05	8.49	-0.85	0.002
134.00	0.00	-0.03	0.00	0.00	0.00	0.00	450.13	225.07	188.05	124.05	9.20	-0.85	0.000

Site Number: 283564

Code: ANSI/TIA-222-G

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Site Name: Milford CT, CT

Engineering Number: 63423422

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Customer: VERIZON WIRELESS

Load Case: 1.0D + 1.0W

Serviceability 60 mph

22 Iterations

Gust Response Factor : 1.10

Wind Importance Factor : 1.00

Dead Load Factor : 1.00

Wind Load Factor : 1.00

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion Moment MY (lb-ft)	MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion Moment MY (lb-ft)	Moment MZ (lb)
0.00		60.3	0.0					0.0	0.0	60.3	0.0	0.0	0.0
5.00		119.8	899.1					0.0	73.8	119.8	972.9	0.0	0.0
10.00		118.1	886.5					0.0	73.8	118.1	960.3	0.0	0.0
15.00		118.3	873.8					0.0	73.8	118.3	947.6	0.0	0.0
20.00		121.6	861.2					0.0	73.8	121.6	935.0	0.0	0.0
25.00		125.6	848.5					0.0	73.8	125.6	922.3	0.0	0.0
30.00		128.6	835.9					0.0	73.8	128.6	909.7	0.0	0.0
35.00		130.9	823.2					0.0	73.8	130.9	897.0	0.0	0.0
40.00		132.5	810.6					0.0	73.8	132.5	884.4	0.0	0.0
45.00		86.7	797.9					0.0	73.8	86.7	871.7	0.0	0.0
46.50	Bot - Section 2	67.8	236.9					0.0	22.1	67.8	259.1	0.0	0.0
50.00		92.1	1,104.1					0.0	51.7	92.1	1,155.8	0.0	0.0
53.25	Top - Section 1	68.4	1,014.2					0.0	48.0	68.4	1,062.1	0.0	0.0
55.00		92.5	272.7					0.0	25.8	92.5	298.5	0.0	0.0
60.00		137.2	770.5					0.0	73.8	137.2	844.3	0.0	0.0
65.00		137.3	757.9					0.0	73.8	137.3	831.7	0.0	0.0
70.00		137.1	745.2					0.0	73.8	137.1	819.0	0.0	0.0
75.00		136.7	732.6					0.0	73.8	136.7	806.4	0.0	0.0
80.00		122.7	719.9					0.0	73.8	122.7	793.7	0.0	0.0
84.00	Top - Section 2	58.1	566.8					0.0	59.0	58.1	625.9	0.0	0.0
85.00		18.8	73.2					0.0	14.8	18.8	88.0	0.0	0.0
89.00	Appertunance(s)	18.9	292.9	135.6	0.0	0.0	266.7	0.0	59.0	154.5	618.6	0.0	0.0
90.00		22.9	73.2					0.0	14.8	22.9	88.0	0.0	0.0
95.00		34.6	366.1					0.0	73.8	34.6	439.9	0.0	0.0
99.00	Appertunance(s)	19.3	292.9	138.7	0.0	0.0	266.7	0.0	59.0	158.0	618.6	0.0	0.0
100.00		19.5	73.2					0.0	14.8	19.5	88.0	0.0	0.0
104.00	Top - Section 3	19.1	292.9					0.0	59.0	19.1	351.9	0.0	0.0
105.00		17.5	40.5					0.0	14.8	17.5	55.3	0.0	0.0
109.00	Appertunance(s)	17.5	162.1	153.9	0.0	0.0	266.7	0.0	59.0	171.4	487.8	0.0	0.0
110.00	Appertunance(s)	21.1	40.5	3.5	0.0	0.0	198.3	0.0	14.8	24.5	253.6	0.0	0.0
115.00		31.7	202.6					0.0	49.2	31.7	251.8	0.0	0.0
119.00	Appertunance(s)	17.6	162.1	156.8	0.0	0.0	266.7	0.0	39.4	174.4	468.1	0.0	0.0
120.00	Appertunance(s)	21.2	40.5	2.8	0.0	0.0	57.6	0.0	9.8	24.0	108.0	0.0	0.0
125.00		31.9	202.6					0.0	24.6	31.9	227.2	0.0	0.0
129.00	Appertunance(s)	17.8	162.1	159.5	0.0	0.0	266.7	0.0	19.7	177.2	448.4	0.0	0.0
130.00	Appertunance(s)	17.8	40.5	3.6	0.0	0.0	198.3	0.0	4.9	21.4	243.7	0.0	0.0
134.00		14.3	162.1					0.0	0.0	14.3	162.1	0.0	0.0
Totals:										3,308.01	20,796.5	0.00	0.00

Site Number: 283564

Code: ANSI/TIA-222-G

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Site Name: Milford CT, CT

Engineering Number: 63423422

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Customer: VERIZON WIRELESS

Load Case: 1.0D + 1.0W

Serviceability 60 mph

22 Iterations

Gust Response Factor : 1.10

Wind Importance Factor : 1.00

Dead Load Factor : 1.00

Wind Load Factor : 1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-20.80	-3.25	0.00	-219.67	0.00	219.67	3,220.76	1,610.38	7,115.50	3,563.04	0.00	0.00	0.068
5.00	-19.82	-3.14	0.00	-203.42	0.00	203.42	3,199.26	1,599.63	6,968.67	3,489.51	0.01	-0.02	0.064
10.00	-18.86	-3.02	0.00	-187.74	0.00	187.74	3,177.09	1,588.55	6,821.74	3,415.94	0.03	-0.03	0.061
15.00	-17.91	-2.91	0.00	-172.63	0.00	172.63	3,154.26	1,577.13	6,674.79	3,342.35	0.07	-0.04	0.057
20.00	-16.98	-2.79	0.00	-158.10	0.00	158.10	3,130.76	1,565.38	6,527.86	3,268.78	0.13	-0.06	0.054
25.00	-16.05	-2.67	0.00	-144.16	0.00	144.16	3,106.59	1,553.29	6,381.02	3,195.25	0.20	-0.07	0.050
30.00	-15.14	-2.54	0.00	-130.83	0.00	130.83	3,081.76	1,540.88	6,234.34	3,121.80	0.28	-0.08	0.047
35.00	-14.25	-2.41	0.00	-118.13	0.00	118.13	3,056.26	1,528.13	6,087.87	3,048.46	0.37	-0.10	0.043
40.00	-13.36	-2.28	0.00	-106.09	0.00	106.09	3,030.09	1,515.05	5,941.68	2,975.25	0.48	-0.11	0.040
45.00	-12.49	-2.19	0.00	-94.70	0.00	94.70	3,003.26	1,501.63	5,795.83	2,902.22	0.60	-0.12	0.037
46.50	-12.23	-2.12	0.00	-91.41	0.00	91.41	2,995.08	1,497.54	5,752.15	2,880.35	0.64	-0.12	0.036
50.00	-11.08	-2.03	0.00	-83.98	0.00	83.98	2,975.77	1,487.88	5,650.38	2,829.39	0.73	-0.13	0.033
53.25	-10.01	-1.96	0.00	-77.38	0.00	77.38	2,980.87	1,490.43	5,677.06	2,842.75	0.82	-0.13	0.031
55.00	-9.72	-1.87	0.00	-73.95	0.00	73.95	2,971.13	1,485.56	5,626.23	2,817.29	0.87	-0.14	0.030
60.00	-8.87	-1.73	0.00	-64.61	0.00	64.61	2,942.86	1,471.43	5,481.32	2,744.74	1.02	-0.15	0.027
65.00	-8.04	-1.59	0.00	-55.96	0.00	55.96	2,913.92	1,456.96	5,336.96	2,672.45	1.17	-0.15	0.024
70.00	-7.22	-1.45	0.00	-48.00	0.00	48.00	2,884.31	1,442.16	5,193.19	2,600.45	1.34	-0.16	0.021
75.00	-6.41	-1.31	0.00	-40.73	0.00	40.73	2,854.04	1,427.02	5,050.08	2,528.79	1.51	-0.17	0.018
80.00	-5.62	-1.19	0.00	-34.16	0.00	34.16	2,823.11	1,411.55	4,907.69	2,457.49	1.68	-0.17	0.016
84.00	-5.00	-1.13	0.00	-29.40	0.00	29.40	2,797.88	1,398.94	4,794.35	2,400.74	1.83	-0.17	0.014
84.00	-5.00	-1.13	0.00	-29.40	0.00	29.40	813.41	406.71	394.63	263.16	1.83	-0.17	0.118
85.00	-4.91	-1.11	0.00	-28.27	0.00	28.27	813.41	406.71	394.63	263.16	1.86	-0.18	0.113
89.00	-4.29	-0.96	0.00	-23.81	0.00	23.81	813.41	406.71	394.63	263.16	2.04	-0.25	0.096
90.00	-4.20	-0.94	0.00	-22.85	0.00	22.85	813.41	406.71	394.63	263.16	2.10	-0.27	0.092
95.00	-3.76	-0.91	0.00	-18.14	0.00	18.14	813.41	406.71	394.63	263.16	2.42	-0.34	0.074
99.00	-3.14	-0.75	0.00	-14.51	0.00	14.51	813.41	406.71	394.63	263.16	2.72	-0.39	0.059
100.00	-3.05	-0.73	0.00	-13.76	0.00	13.76	813.41	406.71	394.63	263.16	2.80	-0.40	0.056
104.00	-2.70	-0.71	0.00	-10.85	0.00	10.85	813.41	406.71	394.63	263.16	3.15	-0.43	0.045
104.00	-2.70	-0.71	0.00	-10.85	0.00	10.85	450.13	225.07	188.05	124.05	3.15	-0.43	0.093
105.00	-2.65	-0.69	0.00	-10.14	0.00	10.14	450.13	225.07	188.05	124.05	3.24	-0.44	0.088
109.00	-2.16	-0.52	0.00	-7.37	0.00	7.37	450.13	225.07	188.05	124.05	3.63	-0.50	0.064
110.00	-1.90	-0.49	0.00	-6.85	0.00	6.85	450.13	225.07	188.05	124.05	3.74	-0.51	0.059
115.00	-1.65	-0.46	0.00	-4.39	0.00	4.39	450.13	225.07	188.05	124.05	4.31	-0.56	0.039
119.00	-1.19	-0.28	0.00	-2.55	0.00	2.55	450.13	225.07	188.05	124.05	4.79	-0.59	0.023
120.00	-1.08	-0.26	0.00	-2.27	0.00	2.27	450.13	225.07	188.05	124.05	4.91	-0.59	0.021
125.00	-0.85	-0.22	0.00	-0.99	0.00	0.99	450.13	225.07	188.05	124.05	5.54	-0.61	0.010
129.00	-0.41	-0.04	0.00	-0.10	0.00	0.10	450.13	225.07	188.05	124.05	6.05	-0.61	0.002
130.00	-0.16	-0.02	0.00	-0.06	0.00	0.06	450.13	225.07	188.05	124.05	6.18	-0.61	0.001
134.00	0.00	-0.01	0.00	0.00	0.00	0.00	450.13	225.07	188.05	124.05	6.69	-0.61	0.000

Equivalent Lateral Forces Method Analysis

(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):	6
Importance Factor (I_E):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	1.50
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):	0.05
Upper Limit C_s	0.05
Lower Limit C_s	0.03
Period based on Rayleigh Method (sec):	1.24
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	1.37
Total Unfactored Dead Load:	20.80 k
Seismic Base Shear (E):	1.44 k

Load Case (1.2 + 0.2Sds) * DL + E ELFM

Seismic Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
36	132.00	162	131	0.022	32	201
35	129.50	45	36	0.006	9	56
34	127.00	182	140	0.024	34	226
33	122.50	227	166	0.028	41	282
32	119.50	50	36	0.006	9	62
31	117.00	201	138	0.024	34	250
30	112.50	252	164	0.028	40	312
29	109.50	55	35	0.006	8	69
28	107.00	221	134	0.023	33	274
27	104.50	55	32	0.006	8	69
26	102.00	352	200	0.034	49	437
25	99.50	88	48	0.008	12	109
24	97.00	352	187	0.032	46	437
23	92.50	440	219	0.037	54	546
22	89.50	88	42	0.007	10	109
21	87.00	352	161	0.027	39	437
20	84.50	88	39	0.007	9	109
19	82.00	626	264	0.045	65	777
18	77.50	794	310	0.053	76	985
17	72.50	806	287	0.049	70	1,001
16	67.50	819	264	0.045	65	1,016
15	62.50	832	242	0.041	59	1,032
14	57.50	844	219	0.037	54	1,048

Site Number: 283564

Code: ANSI/TIA-222-G

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Site Name: Milford CT, CT

Engineering Number: 63423422

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Customer: VERIZON WIRELESS

13	54.13	299	71	0.012	17	370
12	51.63	1,062	237	0.040	58	1,318
11	48.25	1,156	235	0.040	58	1,434
10	45.75	259	49	0.008	12	321
9	42.50	872	149	0.025	37	1,082
8	37.50	884	127	0.022	31	1,097
7	32.50	897	106	0.018	26	1,113
6	27.50	910	86	0.015	21	1,129
5	22.50	922	66	0.011	16	1,144
4	17.50	935	47	0.008	12	1,160
3	12.50	948	30	0.005	7	1,176
2	7.50	960	15	0.003	4	1,191
1	2.50	973	3	0.001	1	1,207
Commscope CBC71921-D	130.00	46	37	0.006	9	57
Commscope SBNHH-1D65	130.00	152	121	0.021	30	189
Canister 5	129.00	267	209	0.036	51	331
Amphenol Antel BXA-8	120.00	58	41	0.007	10	71
Canister 4	119.00	267	187	0.032	46	331
Commscope CBC71921-D	110.00	46	29	0.005	7	57
Commscope SBNHH-1D65	110.00	152	96	0.016	23	189
Canister 3	109.00	267	166	0.028	41	331
Canister 2	99.00	267	146	0.025	36	331
Canister 1	89.00	267	126	0.021	31	331
		20,797	5,874	1.000	1,438	25,803

Load Case (0.9 - 0.2Sds) * DL + E ELFM

Seismic (Reduced DL) Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
36	132.00	162	131	0.022	32	139
35	129.50	45	36	0.006	9	39
34	127.00	182	140	0.024	34	156
33	122.50	227	166	0.028	41	195
32	119.50	50	36	0.006	9	43
31	117.00	201	138	0.024	34	173
30	112.50	252	164	0.028	40	216
29	109.50	55	35	0.006	8	48
28	107.00	221	134	0.023	33	190
27	104.50	55	32	0.006	8	48
26	102.00	352	200	0.034	49	302
25	99.50	88	48	0.008	12	76
24	97.00	352	187	0.032	46	302
23	92.50	440	219	0.037	54	378
22	89.50	88	42	0.007	10	76
21	87.00	352	161	0.027	39	302
20	84.50	88	39	0.007	9	76
19	82.00	626	264	0.045	65	538
18	77.50	794	310	0.053	76	682
17	72.50	806	287	0.049	70	693
16	67.50	819	264	0.045	65	704
15	62.50	832	242	0.041	59	715
14	57.50	844	219	0.037	54	725
13	54.13	299	71	0.012	17	256
12	51.63	1,062	237	0.040	58	913
11	48.25	1,156	235	0.040	58	993
10	45.75	259	49	0.008	12	223
9	42.50	872	149	0.025	37	749
8	37.50	884	127	0.022	31	760
7	32.50	897	106	0.018	26	771
6	27.50	910	86	0.015	21	782

Site Number: 283564

Code: ANSI/TIA-222-G

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Site Name: Milford CT, CT

Engineering Number: 63423422

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Customer: VERIZON WIRELESS

5	22.50	922	66	0.011	16	793
4	17.50	935	47	0.008	12	803
3	12.50	948	30	0.005	7	814
2	7.50	960	15	0.003	4	825
1	2.50	973	3	0.001	1	836
Commscope CBC71921-D	130.00	46	37	0.006	9	40
Commscope SBNHH-1D65	130.00	152	121	0.021	30	131
Canister 5	129.00	267	209	0.036	51	229
Amphenol Antel BXA-8	120.00	58	41	0.007	10	49
Canister 4	119.00	267	187	0.032	46	229
Commscope CBC71921-D	110.00	46	29	0.005	7	40
Commscope SBNHH-1D65	110.00	152	96	0.016	23	131
Canister 3	109.00	267	166	0.028	41	229
Canister 2	99.00	267	146	0.025	36	229
Canister 1	89.00	267	126	0.021	31	229
		20,797	5,874	1.000	1,438	17,870

Site Number: 283564

Code: ANSI/TIA-222-G

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Site Name: Milford CT, CT

Engineering Number: 63423422

9/8/2015 4:32:06 PM

Customer: VERIZON WIRELESS

Load Case (1.2 + 0.2Sds) * DL + E ELFM

Seismic Equivalent Lateral Forces Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-24.60	-1.44	0.00	-121.27	0.00	121.27	3,220.76	1,610.38	7,115.50	3,563.04	0.00	0.00	0.042
5.00	-23.40	-1.44	0.00	-114.08	0.00	114.08	3,199.26	1,599.63	6,968.67	3,489.51	0.00	-0.01	0.040
10.00	-22.23	-1.43	0.00	-106.88	0.00	106.88	3,177.09	1,588.55	6,821.74	3,415.94	0.02	-0.02	0.038
15.00	-21.07	-1.43	0.00	-99.71	0.00	99.71	3,154.26	1,577.13	6,674.79	3,342.35	0.04	-0.03	0.037
20.00	-19.92	-1.41	0.00	-92.59	0.00	92.59	3,130.76	1,565.38	6,527.86	3,268.78	0.07	-0.03	0.035
25.00	-18.79	-1.39	0.00	-85.53	0.00	85.53	3,106.59	1,553.29	6,381.02	3,195.25	0.11	-0.04	0.033
30.00	-17.68	-1.37	0.00	-78.57	0.00	78.57	3,081.76	1,540.88	6,234.34	3,121.80	0.16	-0.05	0.031
35.00	-16.58	-1.34	0.00	-71.73	0.00	71.73	3,056.26	1,528.13	6,087.87	3,048.46	0.21	-0.06	0.029
40.00	-15.50	-1.30	0.00	-65.05	0.00	65.05	3,030.09	1,515.05	5,941.68	2,975.25	0.28	-0.06	0.027
45.00	-15.18	-1.29	0.00	-58.54	0.00	58.54	3,003.26	1,501.63	5,795.83	2,902.22	0.34	-0.07	0.025
46.50	-13.75	-1.23	0.00	-56.61	0.00	56.61	2,995.08	1,497.54	5,752.15	2,880.35	0.37	-0.07	0.024
50.00	-12.43	-1.17	0.00	-52.30	0.00	52.30	2,975.77	1,487.88	5,650.38	2,829.39	0.42	-0.08	0.023
53.25	-12.06	-1.16	0.00	-48.49	0.00	48.49	2,980.87	1,490.43	5,677.06	2,842.75	0.47	-0.08	0.021
55.00	-11.01	-1.10	0.00	-46.46	0.00	46.46	2,971.13	1,485.56	5,626.23	2,817.29	0.50	-0.08	0.020
60.00	-9.98	-1.04	0.00	-40.96	0.00	40.96	2,942.86	1,471.43	5,481.32	2,744.74	0.59	-0.09	0.018
65.00	-8.96	-0.98	0.00	-35.76	0.00	35.76	2,913.92	1,456.96	5,336.96	2,672.45	0.68	-0.09	0.016
70.00	-7.96	-0.90	0.00	-30.88	0.00	30.88	2,884.31	1,442.16	5,193.19	2,600.45	0.78	-0.10	0.015
75.00	-6.98	-0.83	0.00	-26.36	0.00	26.36	2,854.04	1,427.02	5,050.08	2,528.79	0.88	-0.10	0.013
80.00	-6.20	-0.76	0.00	-22.22	0.00	22.22	2,823.11	1,411.55	4,907.69	2,457.49	0.99	-0.10	0.011
84.00	-6.09	-0.75	0.00	-19.18	0.00	19.18	2,797.88	1,398.94	4,794.35	2,400.74	1.07	-0.10	0.010
84.00	-6.09	-0.75	0.00	-19.18	0.00	19.18	813.41	406.71	394.63	263.16	1.07	-0.10	0.080
85.00	-5.66	-0.71	0.00	-18.43	0.00	18.43	813.41	406.71	394.63	263.16	1.10	-0.11	0.077
89.00	-5.21	-0.67	0.00	-15.57	0.00	15.57	813.41	406.71	394.63	263.16	1.21	-0.15	0.066
90.00	-4.67	-0.62	0.00	-14.90	0.00	14.90	813.41	406.71	394.63	263.16	1.24	-0.16	0.062
95.00	-4.23	-0.58	0.00	-11.79	0.00	11.79	813.41	406.71	394.63	263.16	1.44	-0.21	0.050
99.00	-3.79	-0.53	0.00	-9.47	0.00	9.47	813.41	406.71	394.63	263.16	1.63	-0.24	0.041
100.00	-3.36	-0.48	0.00	-8.94	0.00	8.94	813.41	406.71	394.63	263.16	1.68	-0.25	0.038
104.00	-3.29	-0.47	0.00	-7.03	0.00	7.03	813.41	406.71	394.63	263.16	1.90	-0.27	0.031
104.00	-3.29	-0.47	0.00	-7.03	0.00	7.03	450.13	225.07	188.05	124.05	1.90	-0.27	0.064
105.00	-3.01	-0.44	0.00	-6.55	0.00	6.55	450.13	225.07	188.05	124.05	1.96	-0.28	0.060
109.00	-2.61	-0.39	0.00	-4.80	0.00	4.80	450.13	225.07	188.05	124.05	2.21	-0.32	0.044
110.00	-2.05	-0.32	0.00	-4.41	0.00	4.41	450.13	225.07	188.05	124.05	2.27	-0.32	0.040
115.00	-1.80	-0.28	0.00	-2.83	0.00	2.83	450.13	225.07	188.05	124.05	2.63	-0.36	0.027
119.00	-1.41	-0.22	0.00	-1.70	0.00	1.70	450.13	225.07	188.05	124.05	2.94	-0.37	0.017
120.00	-1.06	-0.17	0.00	-1.48	0.00	1.48	450.13	225.07	188.05	124.05	3.02	-0.38	0.014
125.00	-0.83	-0.14	0.00	-0.62	0.00	0.62	450.13	225.07	188.05	124.05	3.42	-0.39	0.007
129.00	-0.45	-0.07	0.00	-0.07	0.00	0.07	450.13	225.07	188.05	124.05	3.74	-0.39	0.002
130.00	0.00	0.00	0.00	0.00	0.00	0.00	450.13	225.07	188.05	124.05	3.82	-0.39	0.000
134.00	0.00	0.00	0.00	0.00	0.00	0.00	450.13	225.07	188.05	124.05	4.15	-0.39	0.000

Load Case (0.9 - 0.2Sds) * DL + E ELFM

Seismic (Reduced DL) Equivalent Lateral Forces Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-17.03	-1.44	0.00	-120.75	0.00	120.75	3,220.76	1,610.38	7,115.50	3,563.04	0.00	0.00	0.039
5.00	-16.21	-1.44	0.00	-113.56	0.00	113.56	3,199.26	1,599.63	6,968.67	3,489.51	0.00	-0.01	0.038
10.00	-15.39	-1.43	0.00	-106.37	0.00	106.37	3,177.09	1,588.55	6,821.74	3,415.94	0.02	-0.02	0.036
15.00	-14.59	-1.42	0.00	-99.21	0.00	99.21	3,154.26	1,577.13	6,674.79	3,342.35	0.04	-0.03	0.034
20.00	-13.80	-1.41	0.00	-92.11	0.00	92.11	3,130.76	1,565.38	6,527.86	3,268.78	0.07	-0.03	0.033
25.00	-13.02	-1.39	0.00	-85.07	0.00	85.07	3,106.59	1,553.29	6,381.02	3,195.25	0.11	-0.04	0.031
30.00	-12.24	-1.36	0.00	-78.13	0.00	78.13	3,081.76	1,540.88	6,234.34	3,121.80	0.16	-0.05	0.029
35.00	-11.48	-1.33	0.00	-71.32	0.00	71.32	3,056.26	1,528.13	6,087.87	3,048.46	0.21	-0.06	0.027
40.00	-10.74	-1.30	0.00	-64.66	0.00	64.66	3,030.09	1,515.05	5,941.68	2,975.25	0.27	-0.06	0.025
45.00	-10.51	-1.28	0.00	-58.18	0.00	58.18	3,003.26	1,501.63	5,795.83	2,902.22	0.34	-0.07	0.024
46.50	-9.52	-1.23	0.00	-56.26	0.00	56.26	2,995.08	1,497.54	5,752.15	2,880.35	0.36	-0.07	0.023
50.00	-8.61	-1.17	0.00	-51.97	0.00	51.97	2,975.77	1,487.88	5,650.38	2,829.39	0.42	-0.07	0.021
53.25	-8.35	-1.15	0.00	-48.17	0.00	48.17	2,980.87	1,490.43	5,677.06	2,842.75	0.47	-0.08	0.020
55.00	-7.62	-1.10	0.00	-46.16	0.00	46.16	2,971.13	1,485.56	5,626.23	2,817.29	0.50	-0.08	0.019
60.00	-6.91	-1.04	0.00	-40.68	0.00	40.68	2,942.86	1,471.43	5,481.32	2,744.74	0.59	-0.09	0.017
65.00	-6.21	-0.97	0.00	-35.50	0.00	35.50	2,913.92	1,456.96	5,336.96	2,672.45	0.68	-0.09	0.015
70.00	-5.51	-0.90	0.00	-30.65	0.00	30.65	2,884.31	1,442.16	5,193.19	2,600.45	0.78	-0.09	0.014
75.00	-4.83	-0.82	0.00	-26.15	0.00	26.15	2,854.04	1,427.02	5,050.08	2,528.79	0.88	-0.10	0.012
80.00	-4.29	-0.76	0.00	-22.03	0.00	22.03	2,823.11	1,411.55	4,907.69	2,457.49	0.98	-0.10	0.010
84.00	-4.22	-0.75	0.00	-19.00	0.00	19.00	2,797.88	1,398.94	4,794.35	2,400.74	1.07	-0.10	0.009
84.00	-4.22	-0.75	0.00	-19.00	0.00	19.00	813.41	406.71	394.63	263.16	1.07	-0.10	0.077
85.00	-3.92	-0.71	0.00	-18.25	0.00	18.25	813.41	406.71	394.63	263.16	1.09	-0.10	0.074
89.00	-3.61	-0.67	0.00	-15.41	0.00	15.41	813.41	406.71	394.63	263.16	1.20	-0.15	0.063
90.00	-3.23	-0.62	0.00	-14.74	0.00	14.74	813.41	406.71	394.63	263.16	1.23	-0.16	0.060
95.00	-2.93	-0.57	0.00	-11.66	0.00	11.66	813.41	406.71	394.63	263.16	1.43	-0.21	0.048
99.00	-2.63	-0.52	0.00	-9.37	0.00	9.37	813.41	406.71	394.63	263.16	1.62	-0.24	0.039
100.00	-2.32	-0.47	0.00	-8.84	0.00	8.84	813.41	406.71	394.63	263.16	1.67	-0.25	0.036
104.00	-2.28	-0.47	0.00	-6.94	0.00	6.94	813.41	406.71	394.63	263.16	1.89	-0.27	0.029
104.00	-2.28	-0.47	0.00	-6.94	0.00	6.94	450.13	225.07	188.05	124.05	1.89	-0.27	0.061
105.00	-2.09	-0.43	0.00	-6.47	0.00	6.47	450.13	225.07	188.05	124.05	1.94	-0.27	0.057
109.00	-1.81	-0.38	0.00	-4.74	0.00	4.74	450.13	225.07	188.05	124.05	2.19	-0.31	0.042
110.00	-1.42	-0.31	0.00	-4.35	0.00	4.35	450.13	225.07	188.05	124.05	2.26	-0.32	0.038
115.00	-1.25	-0.28	0.00	-2.79	0.00	2.79	450.13	225.07	188.05	124.05	2.61	-0.35	0.025
119.00	-0.98	-0.22	0.00	-1.68	0.00	1.68	450.13	225.07	188.05	124.05	2.92	-0.37	0.016
120.00	-0.73	-0.17	0.00	-1.46	0.00	1.46	450.13	225.07	188.05	124.05	2.99	-0.37	0.013
125.00	-0.58	-0.13	0.00	-0.61	0.00	0.61	450.13	225.07	188.05	124.05	3.39	-0.38	0.006
129.00	-0.31	-0.07	0.00	-0.07	0.00	0.07	450.13	225.07	188.05	124.05	3.71	-0.38	0.001
130.00	0.00	0.00	0.00	0.00	0.00	0.00	450.13	225.07	188.05	124.05	3.79	-0.38	0.000
134.00	0.00	0.00	0.00	0.00	0.00	0.00	450.13	225.07	188.05	124.05	4.11	-0.38	0.000

Equivalent Modal Forces Analysis

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

Spectral Response Acceleration for Short Period (S_g):	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):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.20
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Period Based on Rayleigh Method (sec):	1.24
Redundancy Factor (ρ):	1.30

Load Case (1.2 + 0.2Sds) * DL + E EMAM

Seismic Equivalent Modal Analysis Method

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
36	132.00	162	1.834	1.698	1.037	0.370	52	201
35	129.50	45	1.765	1.385	0.919	0.326	13	56
34	127.00	182	1.698	1.114	0.811	0.285	45	226
33	122.50	227	1.580	0.716	0.643	0.219	43	282
32	119.50	50	1.503	0.509	0.546	0.180	8	62
31	117.00	201	1.441	0.366	0.475	0.151	26	250
30	112.50	252	1.332	0.168	0.365	0.105	23	312
29	109.50	55	1.262	0.071	0.304	0.080	4	69
28	107.00	221	1.205	0.010	0.259	0.062	12	274
27	104.50	55	1.149	-0.038	0.219	0.046	2	69
26	102.00	352	1.095	-0.073	0.184	0.033	10	437
25	99.50	88	1.042	-0.097	0.153	0.023	2	109
24	97.00	352	0.990	-0.112	0.127	0.015	5	437
23	92.50	440	0.901	-0.122	0.088	0.007	3	546
22	89.50	88	0.843	-0.118	0.067	0.005	0	109
21	87.00	352	0.797	-0.111	0.053	0.005	1	437
20	84.50	88	0.752	-0.101	0.041	0.006	0	109
19	82.00	626	0.708	-0.089	0.031	0.009	5	777
18	77.50	794	0.632	-0.064	0.019	0.016	11	985
17	72.50	806	0.553	-0.036	0.010	0.025	17	1,001
16	67.50	819	0.480	-0.009	0.006	0.033	23	1,016
15	62.50	832	0.411	0.015	0.006	0.040	29	1,032
14	57.50	844	0.348	0.033	0.009	0.044	32	1,048
13	54.13	299	0.308	0.043	0.012	0.045	12	370
12	51.63	1,062	0.281	0.049	0.014	0.046	42	1,318
11	48.25	1,156	0.245	0.056	0.018	0.046	46	1,434
10	45.75	259	0.220	0.060	0.021	0.046	10	321
9	42.50	872	0.190	0.064	0.025	0.045	34	1,082
8	37.50	884	0.148	0.068	0.030	0.043	33	1,097
7	32.50	897	0.111	0.070	0.036	0.041	32	1,113
6	27.50	910	0.080	0.072	0.040	0.039	31	1,129
5	22.50	922	0.053	0.071	0.042	0.037	29	1,144
4	17.50	935	0.032	0.069	0.041	0.034	28	1,160
3	12.50	948	0.016	0.062	0.036	0.030	25	1,176

Site Number: 283564

Code: ANSI/TIA-222-G

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Site Name: Milford CT, CT

Engineering Number: 63423422

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Customer: VERIZON WIRELESS

2	7.50	960	0.006	0.047	0.027	0.023	19	1,191
1	2.50	973	0.001	0.020	0.011	0.010	9	1,207
Commscope	130.00	46	1.779	1.444	0.941	0.334	13	57
Commscope SBNHH-	130.00	152	1.779	1.444	0.941	0.334	44	189
Canister 5	129.00	267	1.752	1.328	0.896	0.317	73	331
Amphenol Antel BXA-8	120.00	58	1.516	0.541	0.562	0.186	9	71
Canister 4	119.00	267	1.491	0.478	0.532	0.174	40	331
Commscope	110.00	46	1.274	0.086	0.313	0.084	3	57
Commscope SBNHH-	110.00	152	1.274	0.086	0.313	0.084	11	189
Canister 3	109.00	267	1.251	0.058	0.294	0.076	18	331
Canister 2	99.00	267	1.032	-0.101	0.148	0.021	5	331
Canister 1	89.00	267	0.834	-0.117	0.064	0.005	1	331
		20,797	39.991	11.110	11.725	4.186	935	25,803

Load Case (0.9 - 0.2Sds) * DL + E EMAM

Seismic (Reduced DL) Equivalent Modal Analysis Method

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
36	132.00	162	1.834	1.698	1.037	0.370	52	139
35	129.50	45	1.765	1.385	0.919	0.326	13	39
34	127.00	182	1.698	1.114	0.811	0.285	45	156
33	122.50	227	1.580	0.716	0.643	0.219	43	195
32	119.50	50	1.503	0.509	0.546	0.180	8	43
31	117.00	201	1.441	0.366	0.475	0.151	26	173
30	112.50	252	1.332	0.168	0.365	0.105	23	216
29	109.50	55	1.262	0.071	0.304	0.080	4	48
28	107.00	221	1.205	0.010	0.259	0.062	12	190
27	104.50	55	1.149	-0.038	0.219	0.046	2	48
26	102.00	352	1.095	-0.073	0.184	0.033	10	302
25	99.50	88	1.042	-0.097	0.153	0.023	2	76
24	97.00	352	0.990	-0.112	0.127	0.015	5	302
23	92.50	440	0.901	-0.122	0.088	0.007	3	378
22	89.50	88	0.843	-0.118	0.067	0.005	0	76
21	87.00	352	0.797	-0.111	0.053	0.005	1	302
20	84.50	88	0.752	-0.101	0.041	0.006	0	76
19	82.00	626	0.708	-0.089	0.031	0.009	5	538
18	77.50	794	0.632	-0.064	0.019	0.016	11	682
17	72.50	806	0.553	-0.036	0.010	0.025	17	693
16	67.50	819	0.480	-0.009	0.006	0.033	23	704
15	62.50	832	0.411	0.015	0.006	0.040	29	715
14	57.50	844	0.348	0.033	0.009	0.044	32	725
13	54.13	299	0.308	0.043	0.012	0.045	12	256
12	51.63	1,062	0.281	0.049	0.014	0.046	42	913
11	48.25	1,156	0.245	0.056	0.018	0.046	46	993
10	45.75	259	0.220	0.060	0.021	0.046	10	223
9	42.50	872	0.190	0.064	0.025	0.045	34	749
8	37.50	884	0.148	0.068	0.030	0.043	33	760
7	32.50	897	0.111	0.070	0.036	0.041	32	771
6	27.50	910	0.080	0.072	0.040	0.039	31	782
5	22.50	922	0.053	0.071	0.042	0.037	29	793
4	17.50	935	0.032	0.069	0.041	0.034	28	803
3	12.50	948	0.016	0.062	0.036	0.030	25	814
2	7.50	960	0.006	0.047	0.027	0.023	19	825
1	2.50	973	0.001	0.020	0.011	0.010	9	836
Commscope	130.00	46	1.779	1.444	0.941	0.334	13	40
Commscope SBNHH-	130.00	152	1.779	1.444	0.941	0.334	44	131
Canister 5	129.00	267	1.752	1.328	0.896	0.317	73	229
Amphenol Antel BXA-8	120.00	58	1.516	0.541	0.562	0.186	9	49
Canister 4	119.00	267	1.491	0.478	0.532	0.174	40	229

Site Number: 283564

Code: ANSITIA-222-G

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Site Name: Milford CT, CT

Engineering Number: 63423422

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Customer: VERIZON WIRELESS

Commscope	110.00	46	1.274	0.086	0.313	0.084	3	40
Commscope SBNHH-	110.00	152	1.274	0.086	0.313	0.084	11	131
Canister 3	109.00	267	1.251	0.058	0.294	0.076	18	229
Canister 2	99.00	267	1.032	-0.101	0.148	0.021	5	229
Canister 1	89.00	267	0.834	-0.117	0.064	0.005	1	229
		20,797	39.991	11.110	11.725	4.186	935	17,870

Site Number: 283564

Code: ANSI/TIA-222-G

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Site Name: Milford CT, CT

Engineering Number: 63423422

9/8/2015 4:32:06 PM

Customer: VERIZON WIRELESS

Load Case (1.2 + 0.2Sds) * DL + E EMAM

Seismic Equivalent Modal Analysis Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-24.60	-0.93	0.00	-76.11	0.00	76.11	3,220.76	1,610.38	7,115.50	3,563.04	0.00	0.00	0.029
5.00	-23.40	-0.91	0.00	-71.48	0.00	71.48	3,199.26	1,599.63	6,968.67	3,489.51	0.00	-0.01	0.028
10.00	-22.23	-0.89	0.00	-66.93	0.00	66.93	3,177.09	1,588.55	6,821.74	3,415.94	0.01	-0.01	0.027
15.00	-21.07	-0.86	0.00	-62.50	0.00	62.50	3,154.26	1,577.13	6,674.79	3,342.35	0.03	-0.02	0.025
20.00	-19.92	-0.83	0.00	-58.19	0.00	58.19	3,130.76	1,565.38	6,527.86	3,268.78	0.04	-0.02	0.024
25.00	-18.80	-0.80	0.00	-54.02	0.00	54.02	3,106.59	1,553.29	6,381.02	3,195.25	0.07	-0.03	0.023
30.00	-17.68	-0.77	0.00	-50.01	0.00	50.01	3,081.76	1,540.88	6,234.34	3,121.80	0.10	-0.03	0.022
35.00	-16.58	-0.74	0.00	-46.14	0.00	46.14	3,056.26	1,528.13	6,087.87	3,048.46	0.13	-0.04	0.021
40.00	-15.50	-0.71	0.00	-42.44	0.00	42.44	3,030.09	1,515.05	5,941.68	2,975.25	0.17	-0.04	0.019
45.00	-15.18	-0.70	0.00	-38.91	0.00	38.91	3,003.26	1,501.63	5,795.83	2,902.22	0.22	-0.04	0.018
46.50	-13.75	-0.65	0.00	-37.86	0.00	37.86	2,995.08	1,497.54	5,752.15	2,880.35	0.23	-0.05	0.018
50.00	-12.43	-0.61	0.00	-35.59	0.00	35.59	2,975.77	1,487.88	5,650.38	2,829.39	0.27	-0.05	0.017
53.25	-12.06	-0.60	0.00	-33.61	0.00	33.61	2,980.87	1,490.43	5,677.06	2,842.75	0.30	-0.05	0.016
55.00	-11.01	-0.56	0.00	-32.57	0.00	32.57	2,971.13	1,485.56	5,626.23	2,817.29	0.32	-0.05	0.015
60.00	-9.98	-0.53	0.00	-29.76	0.00	29.76	2,942.86	1,471.43	5,481.32	2,744.74	0.37	-0.06	0.014
65.00	-8.96	-0.51	0.00	-27.09	0.00	27.09	2,913.92	1,456.96	5,336.96	2,672.45	0.43	-0.06	0.013
70.00	-7.96	-0.49	0.00	-24.54	0.00	24.54	2,884.31	1,442.16	5,193.19	2,600.45	0.50	-0.06	0.012
75.00	-6.98	-0.48	0.00	-22.08	0.00	22.08	2,854.04	1,427.02	5,050.08	2,528.79	0.56	-0.07	0.011
80.00	-6.20	-0.47	0.00	-19.67	0.00	19.67	2,823.11	1,411.55	4,907.69	2,457.49	0.64	-0.07	0.010
84.00	-6.09	-0.47	0.00	-17.77	0.00	17.77	2,797.88	1,398.94	4,794.35	2,400.74	0.69	-0.07	0.010
84.00	-6.09	-0.47	0.00	-17.77	0.00	17.77	813.41	406.71	394.63	263.16	0.69	-0.07	0.075
85.00	-5.66	-0.47	0.00	-17.30	0.00	17.30	813.41	406.71	394.63	263.16	0.71	-0.07	0.073
89.00	-5.22	-0.48	0.00	-15.40	0.00	15.40	813.41	406.71	394.63	263.16	0.79	-0.12	0.065
90.00	-4.67	-0.47	0.00	-14.92	0.00	14.92	813.41	406.71	394.63	263.16	0.81	-0.13	0.062
95.00	-4.23	-0.47	0.00	-12.55	0.00	12.55	813.41	406.71	394.63	263.16	0.98	-0.18	0.053
99.00	-3.79	-0.46	0.00	-10.67	0.00	10.67	813.41	406.71	394.63	263.16	1.14	-0.21	0.045
100.00	-3.36	-0.45	0.00	-10.21	0.00	10.21	813.41	406.71	394.63	263.16	1.18	-0.22	0.043
104.00	-3.29	-0.45	0.00	-8.39	0.00	8.39	813.41	406.71	394.63	263.16	1.38	-0.24	0.036
104.00	-3.29	-0.45	0.00	-8.39	0.00	8.39	450.13	225.07	188.05	124.05	1.38	-0.24	0.075
105.00	-3.01	-0.44	0.00	-7.94	0.00	7.94	450.13	225.07	188.05	124.05	1.43	-0.25	0.071
109.00	-2.61	-0.42	0.00	-6.18	0.00	6.18	450.13	225.07	188.05	124.05	1.66	-0.30	0.056
110.00	-2.05	-0.38	0.00	-5.76	0.00	5.76	450.13	225.07	188.05	124.05	1.72	-0.31	0.051
115.00	-1.80	-0.35	0.00	-3.87	0.00	3.87	450.13	225.07	188.05	124.05	2.07	-0.35	0.035
119.00	-1.41	-0.30	0.00	-2.46	0.00	2.46	450.13	225.07	188.05	124.05	2.38	-0.38	0.023
120.00	-1.06	-0.25	0.00	-2.15	0.00	2.15	450.13	225.07	188.05	124.05	2.46	-0.38	0.020
125.00	-0.83	-0.20	0.00	-0.92	0.00	0.92	450.13	225.07	188.05	124.05	2.87	-0.39	0.009
129.00	-0.45	-0.11	0.00	-0.11	0.00	0.11	450.13	225.07	188.05	124.05	3.20	-0.40	0.002
130.00	0.00	0.00	0.00	0.00	0.00	0.00	450.13	225.07	188.05	124.05	3.28	-0.40	0.000
134.00	0.00	0.00	0.00	0.00	0.00	0.00	450.13	225.07	188.05	124.05	3.61	-0.40	0.000

Site Number: 283564

Code: ANSI/TIA-222-G

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Site Name: Milford CT, CT

Engineering Number: 63423422

9/8/2015 4:32:06 PM

Customer: VERIZON WIRELESS

Load Case (0.9 - 0.2Sds) * DL + E EMAM

Seismic (Reduced DL) Equivalent Modal Analysis Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-17.03	-0.93	0.00	-75.66	0.00	75.66	3,220.76	1,610.38	7,115.50	3,563.04	0.00	0.00	0.027
5.00	-16.21	-0.91	0.00	-71.03	0.00	71.03	3,199.26	1,599.63	6,968.67	3,489.51	0.00	-0.01	0.025
10.00	-15.39	-0.88	0.00	-66.49	0.00	66.49	3,177.09	1,588.55	6,821.74	3,415.94	0.01	-0.01	0.024
15.00	-14.59	-0.86	0.00	-62.07	0.00	62.07	3,154.26	1,577.13	6,674.79	3,342.35	0.03	-0.02	0.023
20.00	-13.80	-0.83	0.00	-57.78	0.00	57.78	3,130.76	1,565.38	6,527.86	3,268.78	0.04	-0.02	0.022
25.00	-13.02	-0.80	0.00	-53.63	0.00	53.63	3,106.59	1,553.29	6,381.02	3,195.25	0.07	-0.03	0.021
30.00	-12.25	-0.77	0.00	-49.63	0.00	49.63	3,081.76	1,540.88	6,234.34	3,121.80	0.10	-0.03	0.020
35.00	-11.49	-0.74	0.00	-45.78	0.00	45.78	3,056.26	1,528.13	6,087.87	3,048.46	0.13	-0.03	0.019
40.00	-10.74	-0.70	0.00	-42.10	0.00	42.10	3,030.09	1,515.05	5,941.68	2,975.25	0.17	-0.04	0.018
45.00	-10.51	-0.69	0.00	-38.59	0.00	38.59	3,003.26	1,501.63	5,795.83	2,902.22	0.22	-0.04	0.017
46.50	-9.52	-0.65	0.00	-37.55	0.00	37.55	2,995.08	1,497.54	5,752.15	2,880.35	0.23	-0.04	0.016
50.00	-8.61	-0.60	0.00	-35.29	0.00	35.29	2,975.77	1,487.88	5,650.38	2,829.39	0.26	-0.05	0.015
53.25	-8.35	-0.59	0.00	-33.33	0.00	33.33	2,980.87	1,490.43	5,677.06	2,842.75	0.30	-0.05	0.015
55.00	-7.63	-0.56	0.00	-32.29	0.00	32.29	2,971.13	1,485.56	5,626.23	2,817.29	0.32	-0.05	0.014
60.00	-6.91	-0.53	0.00	-29.50	0.00	29.50	2,942.86	1,471.43	5,481.32	2,744.74	0.37	-0.06	0.013
65.00	-6.21	-0.51	0.00	-26.85	0.00	26.85	2,913.92	1,456.96	5,336.96	2,672.45	0.43	-0.06	0.012
70.00	-5.51	-0.49	0.00	-24.31	0.00	24.31	2,884.31	1,442.16	5,193.19	2,600.45	0.49	-0.06	0.011
75.00	-4.83	-0.48	0.00	-21.87	0.00	21.87	2,854.04	1,427.02	5,050.08	2,528.79	0.56	-0.07	0.010
80.00	-4.29	-0.47	0.00	-19.48	0.00	19.48	2,823.11	1,411.55	4,907.69	2,457.49	0.63	-0.07	0.009
84.00	-4.22	-0.47	0.00	-17.59	0.00	17.59	2,797.88	1,398.94	4,794.35	2,400.74	0.69	-0.07	0.009
84.00	-4.22	-0.47	0.00	-17.59	0.00	17.59	813.41	406.71	394.63	263.16	0.69	-0.07	0.072
85.00	-3.92	-0.47	0.00	-17.12	0.00	17.12	813.41	406.71	394.63	263.16	0.70	-0.07	0.070
89.00	-3.61	-0.47	0.00	-15.24	0.00	15.24	813.41	406.71	394.63	263.16	0.78	-0.12	0.062
90.00	-3.23	-0.47	0.00	-14.77	0.00	14.77	813.41	406.71	394.63	263.16	0.81	-0.13	0.060
95.00	-2.93	-0.47	0.00	-12.42	0.00	12.42	813.41	406.71	394.63	263.16	0.97	-0.18	0.051
99.00	-2.63	-0.46	0.00	-10.56	0.00	10.56	813.41	406.71	394.63	263.16	1.13	-0.21	0.043
100.00	-2.32	-0.45	0.00	-10.10	0.00	10.10	813.41	406.71	394.63	263.16	1.17	-0.22	0.041
104.00	-2.28	-0.45	0.00	-8.30	0.00	8.30	813.41	406.71	394.63	263.16	1.37	-0.24	0.034
104.00	-2.28	-0.45	0.00	-8.30	0.00	8.30	450.13	225.07	188.05	124.05	1.37	-0.24	0.072
105.00	-2.09	-0.44	0.00	-7.85	0.00	7.85	450.13	225.07	188.05	124.05	1.42	-0.25	0.068
109.00	-1.81	-0.41	0.00	-6.11	0.00	6.11	450.13	225.07	188.05	124.05	1.65	-0.30	0.053
110.00	-1.42	-0.37	0.00	-5.70	0.00	5.70	450.13	225.07	188.05	124.05	1.71	-0.31	0.049
115.00	-1.25	-0.35	0.00	-3.83	0.00	3.83	450.13	225.07	188.05	124.05	2.06	-0.35	0.034
119.00	-0.98	-0.30	0.00	-2.43	0.00	2.43	450.13	225.07	188.05	124.05	2.36	-0.37	0.022
120.00	-0.73	-0.25	0.00	-2.13	0.00	2.13	450.13	225.07	188.05	124.05	2.44	-0.38	0.019
125.00	-0.58	-0.20	0.00	-0.91	0.00	0.91	450.13	225.07	188.05	124.05	2.84	-0.39	0.009
129.00	-0.31	-0.11	0.00	-0.11	0.00	0.11	450.13	225.07	188.05	124.05	3.17	-0.39	0.002
130.00	0.00	0.00	0.00	0.00	0.00	0.00	450.13	225.07	188.05	124.05	3.25	-0.39	0.000
134.00	0.00	0.00	0.00	0.00	0.00	0.00	450.13	225.07	188.05	124.05	3.58	-0.39	0.000

Site Number: 283564

Code: ANSI/TIA-222-G

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Site Name: Milford CT, CT

Engineering Number: 63423422

9/8/2015 4:32:06 PM

Customer: VERIZON WIRELESS

Analysis Summary

Load Case	Reactions						Max Usage	
	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.6W	17.44	0.00	24.94	0.00	0.00	1179.11	84.00	0.61
0.9D + 1.6W	17.44	0.00	18.70	0.00	0.00	1175.06	84.00	0.60
1.2D + 1.0Di + 1.0Wi	4.36	0.00	41.92	0.00	0.00	296.78	84.00	0.17
(1.2 + 0.2Sds) * DL + E ELFM	1.44	0.00	24.60	0.00	0.00	121.27	84.00	0.08
(1.2 + 0.2Sds) * DL + E EMAM	0.93	0.00	24.60	0.00	0.00	76.11	84.00	0.08
(0.9 - 0.2Sds) * DL + E ELFM	1.44	0.00	17.03	0.00	0.00	120.75	84.00	0.08
(0.9 - 0.2Sds) * DL + E EMAM	0.93	0.00	17.03	0.00	0.00	75.66	84.00	0.07
1.0D + 1.0W	3.25	0.00	20.80	0.00	0.00	219.67	84.00	0.12

Base/Flange Plate	Plate Type	Baseplate
	Pole Diameter	53.97 in
	Pole Thickness	0.3125 in
	Plate Length	58 in
	Plate Thickness	1.75 in
	Plate Fy	50 ksi
	Weld Length	0.3125 in
	ϕ_s Resistance	544.18 k-in
	Applied	363.27 k-in
	Stiffeners	#

Code Rev. **G**

Date **9/3/2015**
 Engineer **TJG**
 Site # **283564**
 Carrier **Verizon**

Moment **1179.1 k-ft**
 Axial **24.9 k**

Bolts	#	8
	Bolt Circle (R)adial / (S)quare	60.25 in S
	Bolt Gap	6 in
	Diameter	2.25 in
	Hole Diameter	2.625 in
	Type	A615-75
	Fy	75 ksi
	Fu	100 ksi
	ϕ_s Resistance	259.82 k
	Applied	119.89 k
Reinforcement	#	0
Extra Bolts	#	0

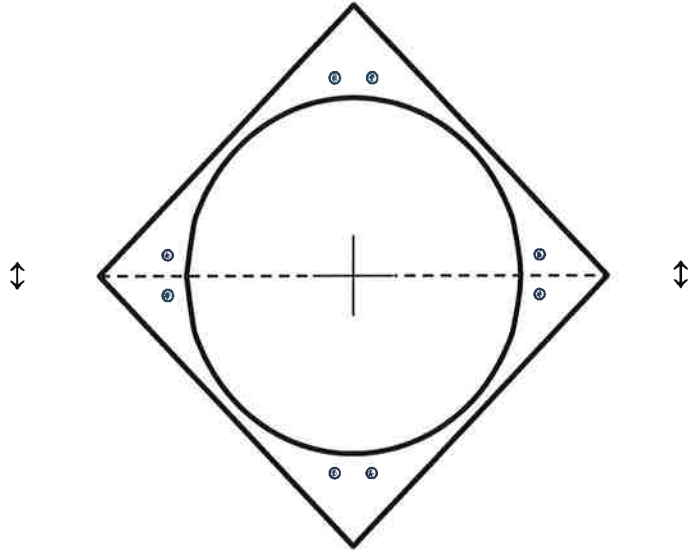


Plate Stress Ratio: **0.67** (Pass)

Bolt Stress Ratio: **0.46** (Pass)

Base/Flange Plate	Plate Type	Flange @ 84.0 ft
	Pole Diameter	12.75 in
	Pole Thickness	0.562 in
	Plate Diameter	21 in
	Plate Thickness	2 in
	Plate Fy	36 ksi
	Weld Length	0.4375 in
	ϕ_s Resistance	669.06 k-in
	Applied	63.80 k-in
	#	6 Show
Stiffeners	Thickness	0.5 in
	Length	3.75 in
	Height	12 in
	Chamfer	0.5 in
	Offset Angle	60°
	Fy	36 ksi

Code Rev. **G**

Date **9/3/2015**
 Engineer **TJG**
 Site # **283564**
 Carrier **Verizon**

Moment **157.5 k-ft**
 Axial **5.9 k**

Bolts	#	6
	Bolt Circle	17 in
	(R)adial / (S)quare	R
	Diameter	1.5 in
	Hole Diameter	1.625 in
	Type	A325
	Fy	92 ksi
	Fu	120 ksi
	ϕ_s Resistance	126.47 k
	Applied	72.91 k
Reinforcement	#	0
	#	0
Extra Bolts	#	0
	#	0

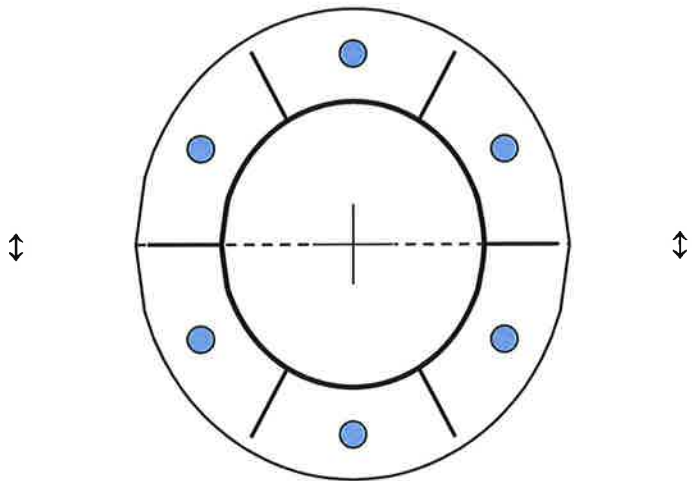


Plate Stress Ratio:
0.10 (Pass)

Bolt Stress Ratio:
0.58 (Pass)

Base/Flange Plate	Plate Type	Flange @ 104.0 ft	
	Pole Diameter	10.75	in
	Pole Thickness	0.365	in
	Plate Diameter	18.5	in
	Plate Thickness	1.5	in
	Plate Fy	36	ksi
	Weld Length	0.25	in
	ϕ_s Resistance	463.38	k-in
	Applied	48.90	k-in
	Stiffeners	#	6
Thickness		0.5	in
Length		3.5	in
Height		10	in
Chamfer		0.5	in
Offset Angle		60	°
Fy		36	ksi

Code Rev. **G**

Date **9/3/2015**
 Engineer **TJG**
 Site # **283564**
 Carrier **Verizon**

Moment **58.2 k-ft**
 Axial **3.1 k**

Bolts	#	6
	Bolt Circle	15.75 in
	(R)adial / (S)quare	R
	Diameter	1 in
	Hole Diameter	1.125 in
	Type	A325
	Fy	92 ksi
	Fu	120 ksi
ϕ_s Resistance		54.52 k
	Applied	28.98 k
Reinforcement	#	0
Extra Bolts	#	0

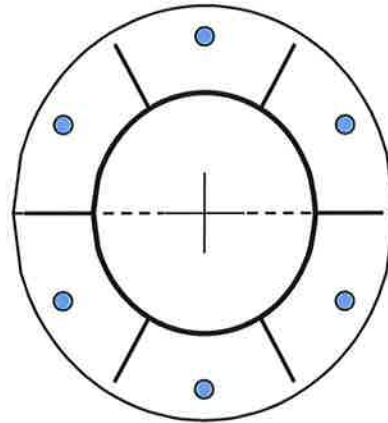
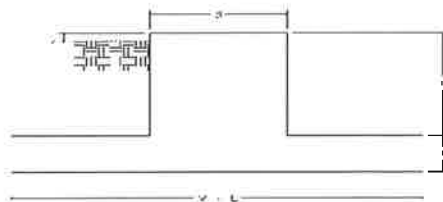


Plate Stress Ratio:
0.11 (Pass)

Bolt Stress Ratio:
0.53 (Pass)

Site Name: Milford CT, CT
 Site Number: 283564
 Engineering Number: 63423422
 Engineer: T. Gatling
 Date: 09/08/15
 Tower Type: MP

Program Last Updated: 5/13/2014



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

Design / Analysis / Mapping:

	Analysis
Compression/Leg:	24.9 k
Uplift/Leg:	0.0 k
Total Shear:	17.4 k
Moment:	1179.1 k-ft
Tower + Appurtenance Weight:	20.8 k
Depth to Base of Foundation (l + t - h):	6.00 ft
Diameter of Pier (d):	7.00 ft
Height of Pier above Ground (h):	0.50
Width of Pad (W):	20.00 ft
Length of Pad (L):	24.00 ft
Thickness of Pad (t):	3.00 ft
Tower Leg Center to Center:	0.00 ft
Number of Tower Legs:	1.0 (1 if MP or GT)
Tower Center from Mat Center:	0.00 ft
Depth Below Ground Surface to Water Table:	6.00 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:	60.0 pcf
Friction Angle of Uplift:	15.0 Degrees
Ultimate Coefficient of Shear Friction:	0.45
Ultimate Compressive Bearing Pressure:	12000.0 psf
Ultimate Passive Pressure on Pad Face:	0.0 psf
$\phi_{\text{Soil and Concrete Weight}}$:	0.9
ϕ_{Soil} :	0.75

Concrete Strength (f'_c):	4000 psi
Pad Tension Steel Depth:	32.00 in
ϕ_{Shear} :	0.75
$\phi_{\text{Flexure / Tension}}$:	0.90
$\phi_{\text{Compression}}$:	0.65
β :	0.85
Bottom Pad Rebar Size #:	9
# of Bottom Pad Rebar:	26
Pad Bottom Steel Area:	26.00 in ²
Pad Steel F_y :	60000 psi
Top Pad Rebar Size #:	9
# of Top Pad Rebar:	26
Pad Top Steel Area:	26.00 in ²
Pier Rebar Size #:	8
Pier Steel Area (Single Bar):	0.79 in ²
# of Pier Rebar:	36
Pier Steel F_y :	60000 psi
Pier Cage Diameter:	76.0 in
Rebar Strain Limit:	0.008
Steel Elastic Modulus:	29000 ksi
Tie Rebar Size #:	4
Tie Steel Area (Single Bar):	0.20 in ²
Tie Spacing:	12 in
Tie Steel F_y :	60000 psi

Overtuning Moment Usage

Design OTM:	1292.5 k-ft
OTM Resistance:	3898.8 k-ft
Design OTM / OTM Resistance:	0.33 Result: OK

Soil Bearing Pressure Usage

Net Bearing Pressure:	1385 psf
Factored Nominal Bearing Pressure:	9000 psf
Net Bearing Pressure/Factored Nominal Bearing Pressure:	0.15 Result: OK
Load Direction Controlling Design Bearing Pressure:	Diagonal to Pad Edge

Sliding Factor of Safety

Total Factored Sliding Resistance:	137.0 k
Sliding Design / Sliding Resistance:	0.13 Result: OK

One Way Shear, Flexural Capacity, and Punching Shear

Factored One Way Shear (V_u):	60.8 k
One Way Shear Capacity (ϕV_c):	581.1 k - ACI11.3.1.1
$V_u / \phi V_c$:	0.10 Result: OK
Load Direction Controlling Shear Capacity:	Diagonal to Pad Edge
Lower Steel Pad Factored Moment (M_u):	384.0 k-ft
Lower Steel Pad Moment Capacity (ϕM_n):	3178.8 k-ft - ACI10.3
$M_u / \phi M_n$:	0.12 Result: OK
Load Direction Controlling Flexural Capacity:	Diagonal to Pad Edge
Upper Steel Pad Factored Moment (M_u):	265.3 k-ft
Upper Steel Pad Moment Capacity (ϕM_n):	3664.8 k-ft
$M_u / \phi M_n$:	0.07 Result: OK
Lower Pad Flexural Reinforcement Ratio:	0.0028 OK - Minimum Reinforcement Ratio Met - ACI10.5.1
Upper Pad Flexural Reinforcement Ratio:	0.0028 OK - Minimum Reinforcement Ratio Met - ACI10.5.1
Lower Pad Reinforcement Spacing:	11 in - Pad Reinforcing Spacing OK - ACI7.12.2.2 & 10.5.4
Upper Pad Reinforcement Spacing:	11 in - Pad Reinforcing Spacing OK - ACI7.12.2.2 & 10.5.4
Factored Punching Shear (V_u):	0.0 k
Nominal Punching Shear Capacity ($\phi_c V_n$):	2212.6 k - ACI11.12.2.1
$V_u / \phi V_c$:	0.00 Result: OK
Factored Moment in Pier (M_u):	1240.2 k-ft
Pier Moment Capacity (ϕM_n):	4756.5 k-ft
$M_u / \phi M_n$:	0.26 Result: OK
Factored Shear in Pier (V_u):	17.4 k
Pier Shear Capacity (ϕV_n):	526.9 k
$V_u / \phi V_c$:	0.03 Result: OK
Pier Shear Reinforcement Ratio:	0.0004 No Ties Necessary for Shear - ACI11.5.6.1
Factored Tension in Pier (T_u):	0.0 k
Pier Tension Capacity (ϕT_n):	1535.8 k
$T_u / \phi T_n$:	0.00 Result: OK
Factored Compression in Pier (P_u):	24.9 k
Pier Compression Capacity (ϕP_n):	9747.6 k - ACI10.3.6.2
$P_u / \phi P_n$:	0.00 Result: OK
Pier Compression Reinforcement Ratio:	0.005 OK - Reinforcement Ratio Met - ACI10.9.1 & 10.8.4
$M_u / \phi_B M_n + T_u / \phi_T T_n$:	0.26 Result: OK

Nominal and Design Moment Capacity and Factored Design Loads

