

December 13, 2017

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

Re: **SUPPLEMENTAL FILING**
EM-VER-052-171122 – 199 Town Farm Road, Farmington, Connecticut

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless (“Cellco”) currently maintains antennas at the top of an existing 111-foot tree tower at 199 Town Farm Road in Farmington, Connecticut (the “Property”). The tower is owned by Cellco and is managed American Tower Corporation (“ATC”). The Council approved Cellco’s use of this tower in 2009 (Docket No. 374).

On November 20, 2017, Cellco filed EM-VER-052-171122, for modifications to this same tower, swapping out certain antennas and adding nine (9) new Alcatel-Lucent Remote Radio Heads (“RRHs”). Cellco now intends to replace the nine (9) Alcatel-Lucent RRHs with six (6) Samsung RRHs. Included in Attachment 1 are specifications for the new Samsung RRHs.

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 supplemental filing is being sent to Kathleen Eagen, Town Manager of the Town of Farmington; William Warner, Farmington’s Town Planner; and ATC, the tower manager. The Town is the owner of the Property.

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

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

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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 installation of the new Samsung model RRHs will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. An updated cumulative General Power Density table for the modified facility with the new Samsung RRHs is included in 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 Celco's proposed modifications. (*See* Structural Analysis Report ("SAR") included in Attachment 3). The attached SAR assumes that the modifications described in the EM-VER-052-171122 filing were completed.

A copy of the parcel map and owner information for the Property is included in Attachment 4. A Certificate of Mailing verifying that this supplemental filing was sent to municipal officials is included in Attachment 5.

For the foregoing reasons, Celco respectfully submits that the proposed supplemental 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:

Kathleen Eagen, Farmington Town Manager

William Warner, Farmington Town Planner

ATC

Tim Parks

ATTACHMENT 1

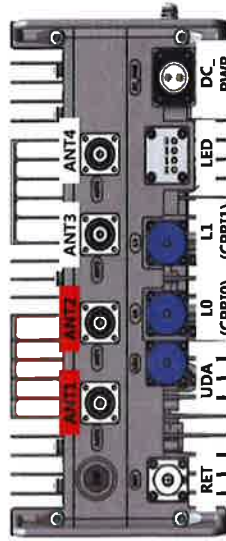
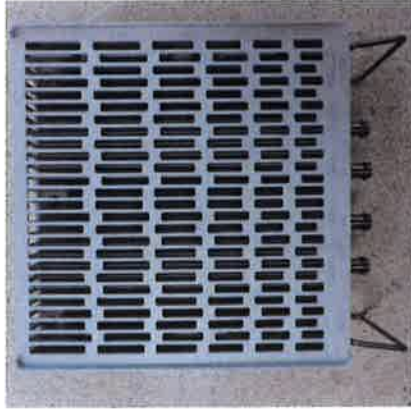
Verizon Samsung RRH & CDU30 Specification October 2017

Samsung Electronics Co. LTD.

Disclaimer

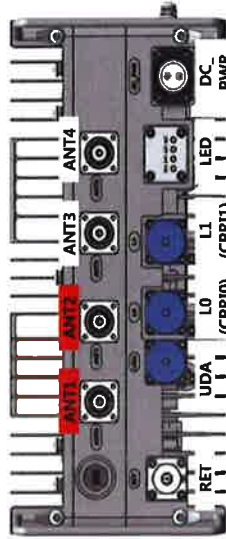
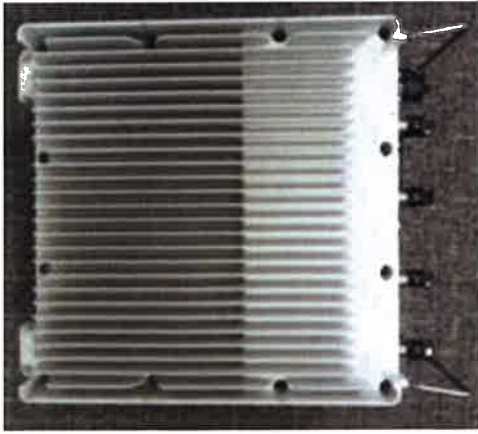
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700MHz Single Band RRH



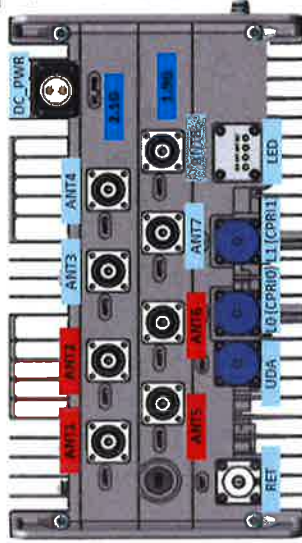
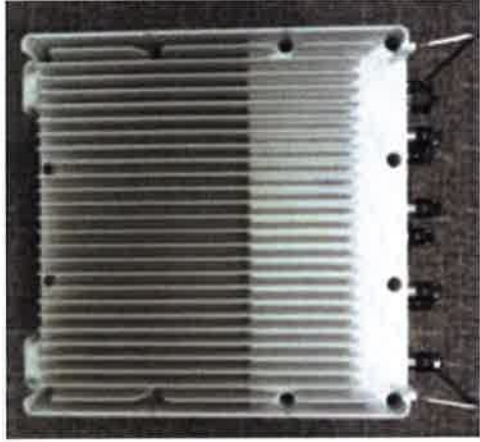
Item	Specification
Band	Band13 (700MHz)
Frequency	DL : 746~756MHz UL : 777~787MHz
IBW	10MHz
OBW	10MHz
Carrier Bandwidth	10MHz
# of carriers	1 carrier
Total # of carriers	1 carrier
RF Chain	4T4R, 2T4R, 2T2R SW configurable Total : 160W
RF Output Power	4 x 40W or 2 x 60W
Spectrum Analyzer	TX/RX Support
Noise Figure	Less than 3.0 dB
RX Sensitivity	Typical : -105dBm @1Rx (25RBs,5MHz)
Modulation	256QAM support
Input Power	-48VDC (-38VDC to -57VDC)
Power Consumption	About 620 Watt @ 100% RF load, typical conditions + TMA/RET
Size (WHD)	320 x 320 x 151 mm (12.6" x 12.6" x 6.0")
Volume	15.5 L
Weight	17 kg (37.5 lb)
(W/o Solar Shield & finger guard)	
Operating Temperature	-40°C (-40°F) ~ 55°C (131°F) (Without solar load)
Cooling	Natural convection
Unwanted Emission	3GPP 36.104 Category A, FCC 47 CFR 27.53 c), f)
CPRI Cascade	Supported up to three B13 single band RRHs
Optic Interface	20km, 2 ports (9.8Gbps x 2), SFP, single mode, Duplex
RET & TMA Interface	AISG 2.2
Bias-T	2 ports (Max. 30W)
Mounting Options	Pole, wall, tower, side by side, back to back
NB-IoT	Support
PIM Cancellation	Not supported
# of antenna port	4
External Alarm	4

700+850MHz Dual Band RRH



Item	Specification
Band	Band13 (700MHz) Band5 (850MHz)
Frequency	DL : 746~756MHz UL : 777~787MHz
IBW	10MHz
OBW	10MHz
Carrier Bandwidth	10MHz
# of carriers	1 carrier
Total # of carriers	4C
RF Chain	4T4R, 2T4R, 2T2R (SW configurable)
RF Output Power	Total : 320W 4 x 40W or 2 x 60W 4 x 40W or 2 x 60W
Spectrum Analyzer	TX/RX Support
Noise Figure	Less than 3.0 dB
RX Sensitivity	Typical : -105dBm @1Rx (25RBs 5MHz)
Modulation	256QAM support
Input Power	-48VDC (-38VDC to -57VDC)
Power Consumption	About 1,106Watt @ 100% RF load, typical conditions + TMA/RET
Size (WHD)	380 x 380 x 207 mm (15.0" x 15.0" x 8.1")
Volume	29.9 L
Weight	31.9 kg(70.3 lb)
(W/o Solar Shield & finger guard)	
Operating Temperature	-40°C (-40°F) ~ 55°C (131°F) (Without solar load)
Cooling	Natural convection
Unwanted Emission	3GPP 36.104 Category A, 3GPP 36.104 Category A FCC 47 CFR 27.53 c), f) FCC 47 CFR 22.917
CPRI Cascade	Not supported
Optic Interface	20km, 2 ports (9.8Gbps x 2), SFP, single mode, Duplex
RET & TMA Interface	AISG 2.2
Bias-T	2 ports (Max. 49W)
Mounting Options	Pole, wall, tower, side by side, back to back
NB-IoT	Support
PIM Cancellation	Support
# of antenna port	4
External Alarm	4

PCS+AWS Dual Band RRH



Item	Specification
Band	Band2 (1.9GHz) Band66 (2.1GHz)
Frequency	DL : 1930~1990MHz DL : 2110~2180MHz
	UL : 1850~1910MHz UL : 1710~1780MHz
IBW	60MHz 70MHz
OBW	20MHz 30MHz
Carrier Bandwidth	5MHz, 10MHz, 15MHz, 20MHz
# of carriers	2 carriers 3 carriers
Total # of carriers	4 carriers
RF Chain	4T4R, 2T4R, 2T2R (SW configurable)
RF Output Power	Total : 320W (for OBW 40MHz) 4 x 40W or 2 x 60W 4 x 60W or 2 x 90W
Spectrum Analyzer	TX/RX Support
Noise Figure	Less than 3.0 dB
RX Sensitivity	Typical : -105dBm @1Rx (25RBs 5MHz)
Modulation	256QAM support
Input Power	-48VDC (-38VDC to -57VDC)
Power Consumption	About 1,270 Watt @ 100% RF load, typical conditions (w/ BAS OOB)+TMA/RET
Size (WHD)	380 x 380 x 255 mm (15.0" x 15.0" x 10.0") (w/ BAS OOB)
Volume	36.8 L
Weight	38.3 kg(84.4lb)
(W/o Solar Shield & finger guard)	
Operating Temperature	-40°C (-40°F) ~ 55°C (131°F) (Without solar load)
Cooling	Natural convection
Unwanted Emission	3GPP 36.104 Category A 3GPP 36.104 Category A, [B2] : FCC 47 CFR 24.238 [B66] : FCC 47 CFR 27.53 h)
CPRI Cascade	Not supported
Optic Interface	20km, 2 ports (9.8Gbps x 2), SFP, single mode, Duplex
RET & TMA Interface	AISG 2.2
Bias-T	4 ports (2 ports per band) (Max. 49W)
Mounting Options	Pole, wall, tower, side by side, back to back
NB-IoT	Support
PIM Cancellation	Support
# of antenna port	4 4
External Alarm	4

Dual-band RRH Power consumption

RRH type	Output power	Temp.	Load condition	Power consumption	Remark
700 single band	4T 40W*4 port (160W)	25 degC	100% load + TMA/RET	620W	
			100% load	1057W	
700/850 dual band	4T 80W*4 port(320W)	25degC	50% load	650W	
			100% load + TMA/RET	1106W	
			100% load	798W	
			50% load	497W	
PCS/AWS dual band	4T 90W*2port, 60W*2port (300W)	25degC	100% load + TMA/RET	847W	
			100% load	1221W	
			50% load	769W	with BAS filter
			100% load + TMA/RET	1270W	
PCS/AWS dual band	4T 90W*2port, 60W*2port (300W)	25degC	100% load	1067W	
			50% load	666W	with BAS filter
			100% load + TMA/RET	1116W	

CDU30 - BBU Specification



LCC: LTE Channel Card

LMD: LTE Main Card

Category	Specification
No. of CPRI Port	36
Backhaul	100/1000Base-T (RJ-45) 1port 1000Base-LX/SX (SFP) 1port 1000Base-LX/SX or 10GBase-SR (SFP) 1port
Clock	GPS, IEEE1588v2
Size (W x D x H, mm)	434 x 385 x 88 (19" rack mountable)
Weight (kg)	Under 16kg
Operating temperature	0°C ~ 50°C
Power consumption	LMD + LCC x 1 : 357W@ 25°C , 460W@ 50°C LMD + LCC x 3 : 857W@ 25°C , 1054W@ 50°C



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ATTACHMENT 2

Site Name: Farmington N 2 Tower Height: 111ft		General	Power	Density						
CARRIER	# OF CHAN.	WATTS ERP	HEIGHT	CALC. POWER DENS	FREQ.	PERMISS. EXP.	FRACTION MPE	Total		
*AT&T	1	427	100	880	0.0174	0.5867	0.30%			
*AT&T	1	500	100	1900	0.0203	1.0000	0.20%			
*AT&T	1	500	100	740	0.0203	0.4933	0.41%			
Verizon PCS	1	6015	110	0.1787	1970	1.0000	17.87%			
Verizon Cellular	3	395	110	0.0352	869	0.5793	6.08%			
Verizon AWS	1	6445	110	0.1915	2145	1.0000	19.15%			
Verizon 700	1	2749	110	0.0817	746	0.4973	16.43%			60.44%
* Source: Siting Council										

ATTACHMENT 3



AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure : 111 ft Monopole
ATC Site Name : Farmington North 2 CT, CT
ATC Site Number : 411258
Engineering Number : OAA715612_C3_01
Proposed Carrier : Verizon
Carrier Site Name : Farmington North 2
Carrier Site Number : N/A
Site Location : 199 Town Farm Road
Farmington, CT 06032-1554
41.757800,-72.829900
County : Hartford
Date : November 2, 2017
Max Usage : 63%
Result : Pass

Prepared By:
Tyler Ferguson, E.I.
Structural Engineer I

Reviewed By:



Nov 2 2017 5:26 PM **cosign**

COA: PEC.0001553



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Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 111 ft monopole to reflect the change in loading by Verizon.

Supporting Documents

Tower Drawings	EI Project #16046 Rev. 3, dated February 8, 2011
Foundation Drawing	EI Project #16046 Rev. 2, dated December 14, 2010
Geotechnical Report	Dr. Clarence Welti Project Name Verizon Wireless Cell Tower, dated July 24, 2009

Analysis

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

Basic Wind Speed:	97 mph (3-Second Gust V_{asd}) / 125 mph (3-second Gust, V_{ult})
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1" radial ice concurrent
Code:	ANSI/TIA-222-G / 2012 IBC / 2016 Connecticut State Building Code
Structure Class:	II
Exposure Category:	C
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	$S_s = 0.18, S_1 = 0.06$
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					
109.0	111.0	6	Antel LPA-80063/4CF	T-Arms	(12) 1 5/8" Coax (2) 1 1/4" Hybriflex	Verizon
		6	CommScope SBNHH-1D65B			
	109.0	2	Raycap RC2DC-3315-PF-48			
		1	VZW Unused Reserve: 18,229 sq in			
101.0	101.0	18	RCU	T-Arms	(18) 1 5/8" Coax (2) 0.78" 8 AWG 6 (1) 0.39" Fiber Trunk (1) 3" Conduit	AT&T Mobility
		1	Raycap DC6-48-60-18-8F(32.8 lbs)			
		9	CCI DTMABP7819VG12A (w/ Bracket)			
		6	Ericsson RRU5-11 (50 lbs.)			
		9	Andrew SBNH-1D6565C (60.8 lbs)			

Equipment to be Removed

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
109.0	109.0	3	Alcatel-Lucent B66A RRH 4x45	-	-	Verizon
		3	Alcatel-Lucent B25 RRH4x30			
		3	Alcatel-Lucent B13 RRH4x30-4R			

Proposed Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
109.0	109.0	3	Samsung 700/850MHz Dual Band RRH	T-Arms	-	Verizon
		3	Samsung PCS/AWS Dual Band RRH			

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).



Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	63%	Pass
Shaft	56%	Pass
Base Plate	38%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Moment (Kips-Ft)	6,395.5	8,633.9	4,344.4	50%
Shear (Kips)	68.9	93.0	50.6	54%

* The design reactions are factored by 1.35 per ANSI/TIA-222-G, Sec. 15.5.1

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

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
109.0	Samsung PCS/AWS Dual Band RRH	Verizon	0.748	0.696
	Samsung 700/850MHz Dual Band RRH			

*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:

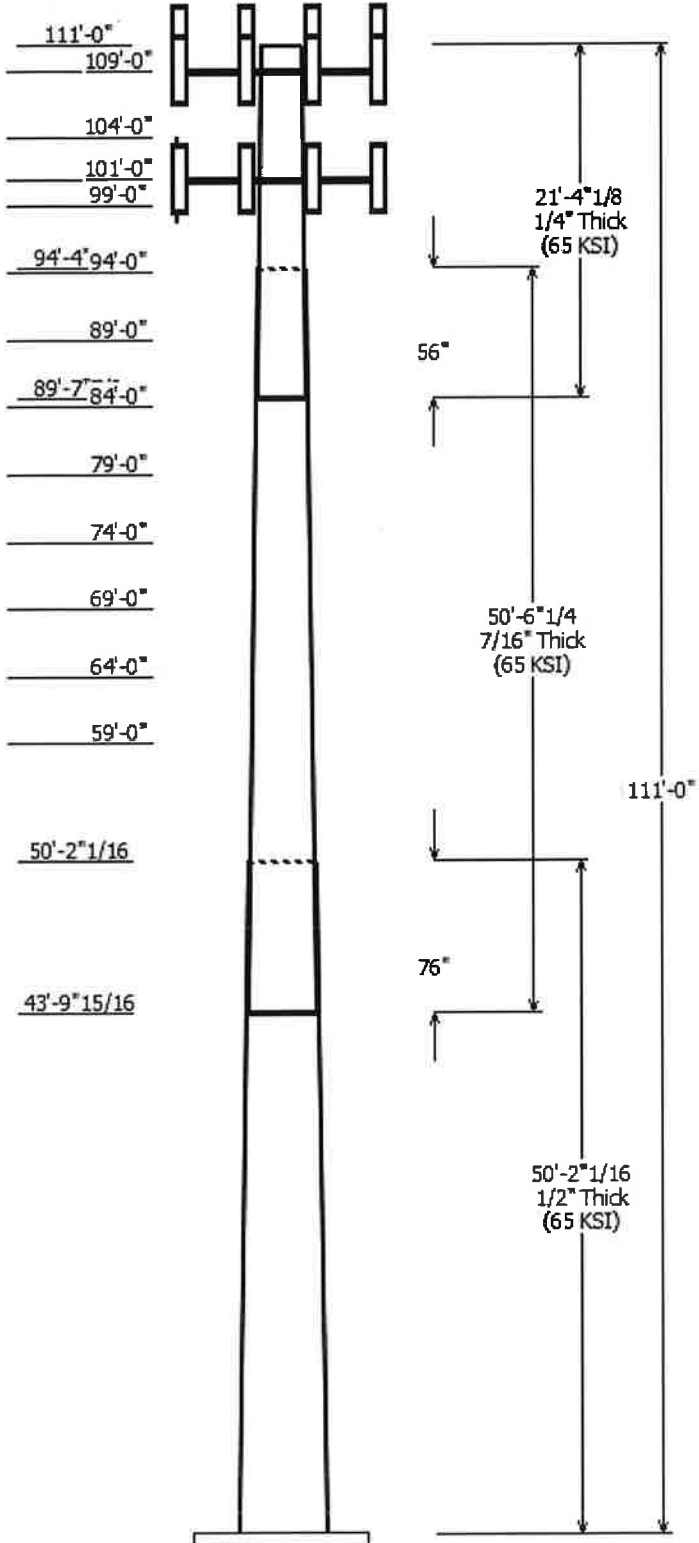
- Information supplied by the client regarding the structure itself, antenna, mounts and feed line loading on the structure and its components, or other relevant information.
- Information from drawings in the possession of American Tower Corporation, or generated by field inspections or measurements 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.

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Job Information	
Pole :	411258
Code:	ANSI/TIA-222-G
Description :	
Client :	VERIZON WIRELESS
Struct Class :	II
Location :	Farmington North 2 CT, CT
Shape :	18 Sides
Exposure :	C
Height :	111.00 (ft)
Topo :	1
Base Elev (ft):	0.00
Taper:	0.300225in/ft

Sections Properties								
Shaft Section	Length (ft)	Diameter (in)		Thick (in)	Joint Type	Overlap Length (in)	Steel Taper (in/ft)	Grade (ksi)
		Top	Bottom					
1	50.175	43.93	59.00	0.500		0.000	0.300200	65
2	50.518	31.55	46.71	0.438	Slip Joint	76.156	0.300200	65
3	21.341	27.05	33.45	0.250	Slip Joint	56.250	0.300200	65

Discrete Appurtenance			
Attach Elev (ft)	Force Elev (ft)	Qty	Description
109.000	109.000	3	Samsung 700/850MHz Dual
109.000	109.000	3	Samsung PCS/AWS Dual Band
109.000	111.000	6	Commscope SBNHH-1D65B
109.000	109.000	2	Raycap RC2DC-3315-PF-48
109.000	109.000	1	VZW Unused Reserve: 18,229
109.000	109.000	3	Flat T-Arm
109.000	111.000	6	Antel LPA-80063/4CF
109.000	109.000	1	Pine Branch
104.000	104.000	1	Pine Branch
101.000	101.000	18	RCU
101.000	101.000	3	Flat T-Arm
101.000	101.000	9	Andrew SBNH-1D6565C (60.8
101.000	101.000	6	Ericsson RRUS-11 (50 lbs.)
101.000	101.000	9	CCI DTMABP7819VG12A (w/
101.000	101.000	1	Raycap DC6-48-60-18-8F(32.8 lb
99.000	99.000	1	Pine Branch
94.000	94.000	1	Pine Branch
89.000	89.000	1	Pine Branch
84.000	84.000	1	Pine Branch
79.000	79.000	1	Pine Branch
74.000	74.000	1	Pine Branch
69.000	69.000	1	Pine Branch
64.000	64.000	1	Pine Branch
59.000	59.000	1	Pine Branch

Linear Appurtenance			
Elev (ft)		Description	Exposed To Wind
From	To		
3.000	101.0	0.39" Fiber Trunk	No
3.000	101.0	0.78" (19.7mm) 8	No
3.000	101.0	1 5/8" Coax	No
3.000	101.0	3" Conduit	No
3.000	109.0	1 1/4" Hybriflex	No
3.000	109.0	1 5/8" Coax	No

Load Cases	
1.2D + 1.6W	97 mph with No Ice
0.9D + 1.6W	97 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 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

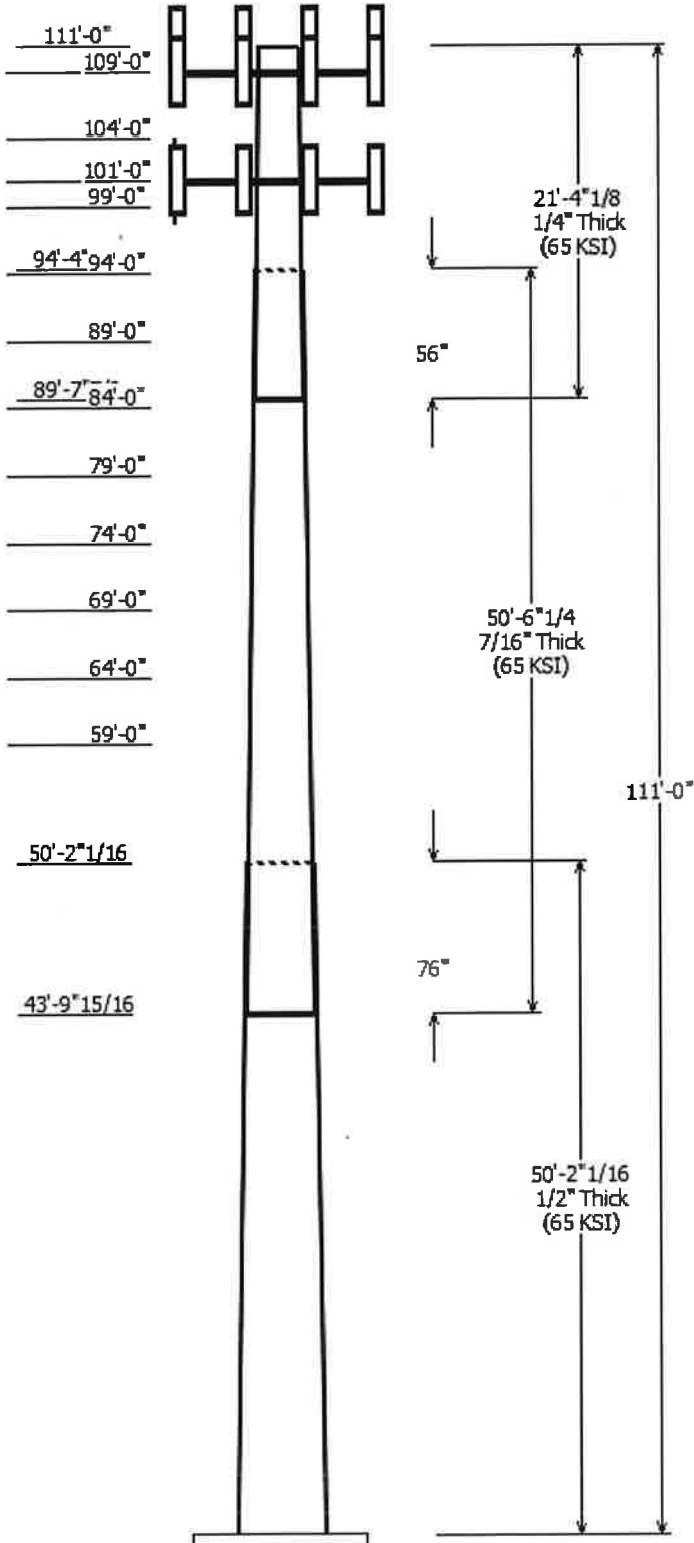
(0.9 - 0.2Sds) * DL + E Seismic (Reduced DL) Equivalent Lateral
 (0.9 - 0.2Sds) * DL + E Seismic (Reduced DL) Equivalent Modal
 1.0D + 1.0W Serviceability 60 mph

Reactions

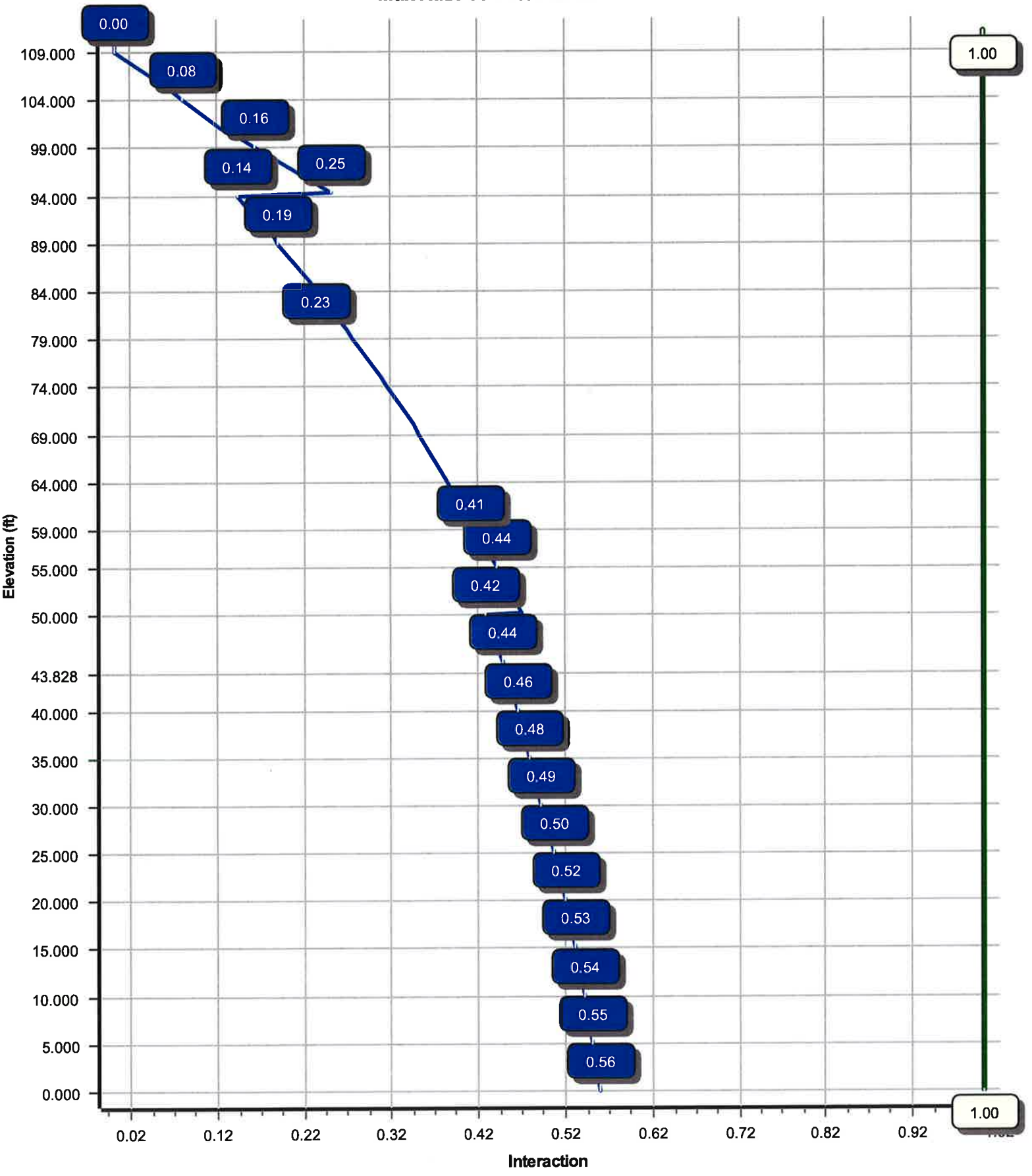
Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.6W	4344.45	50.55	47.95
0.9D + 1.6W	4328.48	50.53	35.94
1.2D + 1.0Di + 1.0Wi	1318.83	15.34	83.03
(1.2 + 0.2Sds) * DL + E ELFM	258.44	3.12	47.55
(1.2 + 0.2Sds) * DL + E EMAM	285.02	3.16	47.55
(0.9 - 0.2Sds) * DL + E ELFM	257.34	3.12	33.05
(0.9 - 0.2Sds) * DL + E EMAM	283.71	3.16	33.05
1.0D + 1.0W	1036.76	12.09	40.01

Dish Deflections

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



Load Case : 1.2D + 1.6W
Max Ratio 55.76% at 0.0 ft



Site Number: 411258

Code: ANSI/TIA-222-G

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Site Name: Farmington North 2 CT, CT

Engineering Number: OAA715612_C3_01

11/2/2017 2:28:10 PM

Customer: VERIZON WIRELESS

Analysis Parameters

Location:	HARTFORD County, CT	Height (ft):	111
Code:	ANSI/TIA-222-G	Base Diameter (in):	59.00
Shape:	18 Sides	Top Diameter (in):	27.05
Pole Type:	Taper	Taper (in/ft) :	0.300
Pole Manufacturer:		Rotation (deg) :	0.00

Ice & Wind Parameters

Structure Class:	II	Design Wind Speed Without Ice:	97 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:	1.00 in

Seismic Parameters

Analysis Method:	Equivalent Modal Analysis & Equivalent Lateral Force Methods		
Site Class:	D - Stiff Soil		
Period Based on Rayleigh Method (sec):	1.14		
T _L (sec):	6	p:	1.3
S _s :	0.182	S ₁ :	0.064
F _a :	1.600	F _v :	2.400
S _{ds} :	0.194	S _{d1} :	0.102
		C _s :	0.060
		C _s Max:	0.060
		C _s Min:	0.030

Load Cases

1.2D + 1.6W	97 mph with No Ice
0.9D + 1.6W	97 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice
(1.2 + 0.2S _{ds}) * DL + E ELFM	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2S _{ds}) * DL + E EMAM	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2S _{ds}) * DL + E ELFM	Seismic (Reduced DL) Equivalent Lateral Forces Method
(0.9 - 0.2S _{ds}) * DL + E EMAM	Seismic (Reduced DL) Equivalent Modal Analysis Method
1.0D + 1.0W	Serviceability 60 mph

Site Number: 411258

Code: ANSI/TIA-222-G

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Site Name: Farmington North 2 CT, CT

Engineering Number: OAA715612_C3_01

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Customer: VERIZON WIRELESS

Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Slip		Weight (lb)	Bottom						Top						
				Joint Type	Joint Len (in)		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	50.174	0.5000	65		0.00	13,809	59.00	0.00	92.84	40140.4	19.40	118.00	43.93	50.17	68.93	16431.4	14.08	87.87	0.300225
2-18	50.518	0.4375	65	Slip	76.16	9,237	46.71	43.83	64.26	17389.2	17.42	106.78	31.55	94.35	43.20	5283.5	11.31	72.11	0.300225
3-18	21.341	0.2500	65	Slip	56.25	1,729	33.45	89.66	26.35	3671.0	22.19	133.83	27.05	111.00	21.27	1929.7	17.67	108.20	0.300225
						Shaft Weight	24,775												

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		
109.00	Antel LPA-80063/4CF	6	20.00	6.140	0.76	298.22	7.508	0.76	0.000	2.000
109.00	Commscope SBNHH-1D65B	6	50.70	8.170	0.69	327.61	9.887	0.69	0.000	2.000
109.00	Flat T-Arm	3	250.00	12.900	0.67	519.96	23.463	0.67	0.000	0.000
109.00	Pine Branch	1	600.00	45.000	1.00	1,139.92	85.494	1.00	0.000	0.000
109.00	Raycap RC2DC-3315-PF-48	2	32.00	3.780	0.67	204.20	4.858	0.67	0.000	0.000
109.00	Samsung 700/850MHz Dual	3	70.30	1.880	0.50	166.49	2.630	0.50	0.000	0.000
109.00	Samsung PCS/AWS Dual	3	84.40	1.880	0.50	190.14	2.630	0.50	0.000	0.000
109.00	VZW Unused Reserve:	1	1547.70	126.70	1.00	2,940.42	240.713	1.00	0.000	0.000
104.00	Pine Branch	1	600.00	45.000	1.00	1,137.60	85.320	1.00	0.000	0.000
101.00	Andrew SBNH-1D6565C (60.8	9	60.80	11.450	0.70	416.10	13.592	0.70	0.000	0.000
101.00	CCI DTMAPB7819VG12A (w/	9	19.20	1.370	0.50	81.06	2.028	0.50	0.000	0.000
101.00	Ericsson RRUS-11 (50 lbs.)	6	50.00	2.570	0.67	161.54	3.426	0.67	0.000	0.000
101.00	Flat T-Arm	3	250.00	12.900	0.67	518.27	23.397	0.67	0.000	0.000
101.00	Raycap DC6-48-60-18-	1	32.80	1.280	1.00	159.54	2.141	1.00	0.000	0.000
101.00	RCU	18	1.00	0.160	0.50	16.89	0.448	0.50	0.000	0.000
99.00	Pine Branch	1	600.00	45.000	1.00	1,134.65	85.099	1.00	0.000	0.000
94.00	Pine Branch	1	600.00	45.000	1.00	1,131.82	84.887	1.00	0.000	0.000
89.00	Pine Branch	1	600.00	45.000	1.00	1,128.86	84.665	1.00	0.000	0.000
84.00	Pine Branch	1	600.00	45.000	1.00	1,125.74	84.430	1.00	0.000	0.000
79.00	Pine Branch	1	600.00	45.000	1.00	1,122.44	84.183	1.00	0.000	0.000
74.00	Pine Branch	1	600.00	45.000	1.00	1,118.95	83.921	1.00	0.000	0.000
69.00	Pine Branch	1	600.00	45.000	1.00	1,115.23	83.642	1.00	0.000	0.000
64.00	Pine Branch	1	600.00	45.000	1.00	1,111.24	83.343	1.00	0.000	0.000
59.00	Pine Branch	1	600.00	45.000	1.00	1,106.96	83.022	1.00	0.000	0.000
Totals		81	11670.80			29,569.07			Number of Loadings : 24	

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Diameter (in)	Coax Weight (lb/ft)	Projected Width (in)	Exposed To Wind	Carrier
3.00	109.00	2	1 1/4" Hybriflex Cable	1.54	1.00	N 0.00	N	Verizon
3.00	109.00	12	1 5/8" Coax	1.98	0.82	N 0.00	N	Verizon
3.00	101.00	1	0.39" Fiber Trunk	0.39	0.06	N 0.00	N	AT&T Mobility
3.00	101.00	2	0.78" (19.7mm) 8	0.78	0.59	N 0.00	N	AT&T Mobility
3.00	101.00	18	1 5/8" Coax	1.98	0.82	N 0.00	N	AT&T Mobility
3.00	101.00	1	3" Conduit	3.50	7.58	N 0.00	N	AT&T Mobility

Site Number: 411258

Code: ANSI/TIA-222-G

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Site Name: Farmington North 2 CT, CT

Engineering Number: OAA715612_C3_01

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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	F'y (ksi)	S (in ³)	Z (in ³)	Weight (lb)
0.00		0.5000	59.000	92.836	40,140.4	19.40	118.00	78.6	1340.	0.0	0.0
5.00		0.5000	57.499	90.454	37,129.0	18.87	115.00	79.2	1271.	0.0	1,559.2
10.00		0.5000	55.998	88.072	34,272.1	18.34	112.00	79.8	1205.	0.0	1,518.7
15.00		0.5000	54.497	85.690	31,565.6	17.81	108.99	80.5	1140.	0.0	1,478.2
20.00		0.5000	52.995	83.307	29,005.5	17.28	105.99	81.1	1078.	0.0	1,437.6
25.00		0.5000	51.494	80.925	26,587.7	16.75	102.99	81.7	1017.	0.0	1,397.1
30.00		0.5000	49.993	78.543	24,308.2	16.22	99.99	82.3	957.7	0.0	1,356.6
35.00		0.5000	48.492	76.161	22,162.8	15.69	96.98	82.6	900.2	0.0	1,316.1
40.00		0.5000	46.991	73.779	20,147.5	15.16	93.98	82.6	844.5	0.0	1,275.5
43.83	Bot - Section 2	0.5000	45.842	71.955	18,689.9	14.76	91.68	82.6	803.0	0.0	949.2
45.00		0.5000	45.490	71.396	18,258.2	14.63	90.98	82.6	790.5	0.0	541.1
50.00		0.5000	43.989	69.014	16,490.9	14.10	87.98	82.6	738.4	0.0	2,261.8
50.17	Top - Section 1	0.4375	44.811	61.616	15,328.7	16.65	102.43	81.8	673.7	0.0	77.5
55.00		0.4375	43.363	59.605	13,875.8	16.07	99.11	82.5	630.3	0.0	995.2
59.00		0.4375	42.162	57.937	12,743.4	15.58	96.37	82.6	595.3	0.0	799.9
60.00		0.4375	41.861	57.520	12,470.3	15.46	95.68	82.6	586.7	0.0	196.4
64.00		0.4375	40.661	55.853	11,416.9	14.98	92.94	82.6	553.0	0.0	771.6
65.00		0.4375	40.360	55.436	11,163.2	14.86	92.25	82.6	544.8	0.0	189.3
69.00		0.4375	39.159	53.768	10,185.8	14.37	89.51	82.6	512.3	0.0	743.2
70.00		0.4375	38.859	53.351	9,950.7	14.25	88.82	82.6	504.4	0.0	182.3
74.00		0.4375	37.658	51.684	9,046.5	13.77	86.08	82.6	473.2	0.0	714.8
75.00		0.4375	37.358	51.267	8,829.4	13.65	85.39	82.6	465.5	0.0	175.2
79.00		0.4375	36.157	49.599	7,995.5	13.16	82.65	82.6	435.5	0.0	686.5
80.00		0.4375	35.857	49.183	7,795.6	13.04	81.96	82.6	428.2	0.0	168.1
84.00		0.4375	34.656	47.515	7,029.2	12.56	79.21	82.6	399.5	0.0	658.1
85.00		0.4375	34.356	47.098	6,845.8	12.44	78.53	82.6	392.5	0.0	161.0
89.00		0.4375	33.155	45.431	6,144.1	11.95	75.78	82.6	365.0	0.0	629.7
89.66	Bot - Section 3	0.4375	32.957	45.156	6,033.4	11.87	75.33	82.6	360.6	0.0	101.5
90.00		0.4375	32.855	45.014	5,976.5	11.83	75.10	82.6	358.3	0.0	82.9
94.00		0.4375	31.654	43.346	5,336.6	11.35	72.35	82.6	332.1	0.0	952.4
94.35	Top - Section 2	0.2500	32.050	25.232	3,223.7	21.19	128.20	76.5	198.1	0.0	80.8
95.00		0.2500	31.854	25.077	3,164.4	21.06	127.41	76.6	195.7	0.0	55.9
99.00		0.2500	30.653	24.124	2,817.2	20.21	122.61	77.6	181.0	0.0	334.8
100.0		0.2500	30.352	23.885	2,734.6	20.00	121.41	77.9	177.5	0.0	81.7
101.0		0.2500	30.052	23.647	2,653.6	19.79	120.21	78.1	173.9	0.0	80.9
104.0		0.2500	29.152	22.933	2,420.2	19.15	116.61	78.9	163.5	0.0	237.8
105.0		0.2500	28.851	22.694	2,345.5	18.94	115.41	79.1	160.1	0.0	77.6
109.0		0.2500	27.650	21.741	2,062.3	18.09	110.60	80.1	146.9	0.0	302.4
110.0		0.2500	27.350	21.503	1,995.3	17.88	109.40	80.4	143.7	0.0	73.6
111.0		0.2500	27.050	21.265	1,929.7	17.67	108.20	80.6	140.5	0.0	72.8
24,775.0											

Site Number: 411258

Code: ANSI/TIA-222-G

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Site Name: Farmington North 2 CT, CT

Engineering Number: OAA715612_C3_01

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Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.6W	97 mph with No Ice	18 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 MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		274.2	0.0					0.0	0.0	274.2	0.0	0.0	0.0
5.00		541.3	1,871.1					0.0	85.0	541.3	1,956.1	0.0	0.0
10.00		527.2	1,822.4					0.0	212.5	527.2	2,035.0	0.0	0.0
15.00		521.1	1,773.8					0.0	212.5	521.1	1,986.3	0.0	0.0
20.00		528.5	1,725.2					0.0	212.5	528.5	1,937.7	0.0	0.0
25.00		538.5	1,676.5					0.0	212.5	538.5	1,889.1	0.0	0.0
30.00		543.4	1,627.9					0.0	212.5	543.4	1,840.4	0.0	0.0
35.00		544.6	1,579.3					0.0	212.5	544.6	1,791.8	0.0	0.0
40.00		479.6	1,530.6					0.0	212.5	479.6	1,743.2	0.0	0.0
43.83	Bot - Section 2	271.9	1,139.0					0.0	162.7	271.9	1,301.7	0.0	0.0
45.00		337.8	649.3					0.0	49.8	337.8	699.1	0.0	0.0
50.00		282.8	2,714.1					0.0	212.5	282.8	2,926.6	0.0	0.0
50.17	Top - Section 1	270.0	93.1					0.0	7.4	270.0	100.5	0.0	0.0
55.00		473.5	1,194.3					0.0	205.1	473.5	1,399.4	0.0	0.0
59.00	Appertunance(s)	265.8	959.9	2,052.5	0.0	0.0	720.0	0.0	170.0	2,318.4	1,849.9	0.0	0.0
60.00		262.0	235.7					0.0	42.5	262.0	278.2	0.0	0.0
64.00	Appertunance(s)	261.0	925.9	2,088.0	0.0	0.0	720.0	0.0	170.0	2,349.0	1,815.9	0.0	0.0
65.00		256.7	227.2					0.0	42.5	256.7	269.7	0.0	0.0
69.00	Appertunance(s)	255.6	891.8	2,121.3	0.0	0.0	720.0	0.0	170.0	2,376.9	1,781.9	0.0	0.0
70.00		250.8	218.7					0.0	42.5	250.8	261.2	0.0	0.0
74.00	Appertunance(s)	249.6	857.8	2,152.8	0.0	0.0	720.0	0.0	170.0	2,402.4	1,747.8	0.0	0.0
75.00		244.5	210.2					0.0	42.5	244.5	252.7	0.0	0.0
79.00	Appertunance(s)	243.2	823.7	2,182.6	0.0	0.0	720.0	0.0	170.0	2,425.8	1,713.8	0.0	0.0
80.00		237.7	201.7					0.0	42.5	237.7	244.2	0.0	0.0
84.00	Appertunance(s)	236.3	789.7	2,211.0	0.0	0.0	720.0	0.0	170.0	2,447.3	1,679.7	0.0	0.0
85.00		230.5	193.2					0.0	42.5	230.5	235.7	0.0	0.0
89.00	Appertunance(s)	213.6	755.7	2,238.1	0.0	0.0	720.0	0.0	170.0	2,451.7	1,645.7	0.0	0.0
89.66	Bot - Section 3	45.4	121.9					0.0	28.0	45.4	149.9	0.0	0.0
90.00		196.1	99.5					0.0	14.5	196.1	114.0	0.0	0.0
94.00	Appertunance(s)	195.8	1,142.9	2,264.0	0.0	0.0	720.0	0.0	170.0	2,459.9	2,032.9	0.0	0.0
94.35	Top - Section 2	44.3	96.9					0.0	14.7	44.3	111.7	0.0	0.0
95.00		203.1	67.1					0.0	27.8	203.1	94.9	0.0	0.0
99.00	Appertunance(s)	216.8	401.8	2,288.8	0.0	0.0	720.0	0.0	170.0	2,505.7	1,291.8	0.0	0.0
100.00		85.1	98.0					0.0	42.5	85.1	140.5	0.0	0.0
101.00	Appertunance(s)	167.5	97.0	4,726.1	0.0	0.0	2,185.0	0.0	42.5	4,893.6	2,324.5	0.0	0.0
104.00	Appertunance(s)	166.2	285.3	2,312.7	0.0	0.0	720.0	0.0	42.6	2,478.9	1,047.9	0.0	0.0
105.00		201.7	93.2					0.0	14.2	201.7	107.4	0.0	0.0
109.00	Appertunance(s)	200.0	362.9	12,942.7	0.0	5,153.8	4,620.0	0.0	56.8	13,142.7	5,039.7	0.0	0.0
110.00		78.2	88.3					0.0	0.0	78.2	88.3	0.0	0.0
111.00		38.9	87.3					0.0	0.0	38.9	87.3	0.0	0.0
Totals:										50,761.4	48,013.9	0.00	0.00

Site Number: 411258

Code: ANSI/TIA-222-G

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Site Name: Farmington North 2 CT, CT

Engineering Number: OAA715612_C3_01

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Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.6W	97 mph with No Ice	18 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	-47.95	-50.55	0.00	-4,344.45	0.00	4,344.45	6,566.18	3,283.09	15,772.8	7,898.16	0.00	0.00	0.558
5.00	-45.86	-50.13	0.00	-4,091.70	0.00	4,091.70	6,448.38	3,224.19	15,089.0	7,555.74	0.08	-0.15	0.549
10.00	-43.69	-49.71	0.00	-3,841.07	0.00	3,841.07	6,327.91	3,163.95	14,413.8	7,217.61	0.32	-0.30	0.539
15.00	-41.58	-49.29	0.00	-3,592.53	0.00	3,592.53	6,204.77	3,102.38	13,747.6	6,884.02	0.72	-0.46	0.529
20.00	-39.51	-48.85	0.00	-3,346.09	0.00	3,346.09	6,078.95	3,039.48	13,090.9	6,555.22	1.28	-0.61	0.517
25.00	-37.49	-48.39	0.00	-3,101.85	0.00	3,101.85	5,950.47	2,975.24	12,444.4	6,231.45	2.01	-0.77	0.504
30.00	-35.53	-47.92	0.00	-2,859.89	0.00	2,859.89	5,819.32	2,909.66	11,808.4	5,912.97	2.90	-0.93	0.490
35.00	-33.61	-47.44	0.00	-2,620.29	0.00	2,620.29	5,658.36	2,829.18	11,130.0	5,573.30	3.96	-1.09	0.476
40.00	-31.76	-47.00	0.00	-2,383.09	0.00	2,383.09	5,481.38	2,740.69	10,441.2	5,228.37	5.19	-1.25	0.462
43.83	-30.40	-46.74	0.00	-2,203.16	0.00	2,203.16	5,345.87	2,672.94	9,928.68	4,971.72	6.25	-1.37	0.449
45.00	-29.63	-46.44	0.00	-2,148.38	0.00	2,148.38	5,304.39	2,652.20	9,774.36	4,894.45	6.59	-1.41	0.445
50.00	-26.65	-46.12	0.00	-1,916.18	0.00	1,916.18	5,127.41	2,563.70	9,129.52	4,571.55	8.16	-1.57	0.425
50.17	-26.49	-45.88	0.00	-1,908.13	0.00	1,908.13	4,537.16	2,268.58	8,256.36	4,134.32	8.22	-1.58	0.468
55.00	-24.99	-45.43	0.00	-1,686.72	0.00	1,686.72	4,425.87	2,212.93	7,788.33	3,899.95	9.89	-1.73	0.439
59.00	-23.16	-43.09	0.00	-1,505.00	0.00	1,505.00	4,304.44	2,152.22	7,360.60	3,685.77	11.40	-1.86	0.414
60.00	-22.83	-42.85	0.00	-1,461.91	0.00	1,461.91	4,273.47	2,136.74	7,254.51	3,632.65	11.79	-1.89	0.408
64.00	-21.04	-40.47	0.00	-1,290.51	0.00	1,290.51	4,149.58	2,074.79	6,837.85	3,424.01	13.43	-2.02	0.382
65.00	-20.72	-40.23	0.00	-1,250.04	0.00	1,250.04	4,118.61	2,059.30	6,735.61	3,372.81	13.86	-2.05	0.376
69.00	-18.98	-37.81	0.00	-1,089.12	0.00	1,089.12	3,994.72	1,997.36	6,334.35	3,171.88	15.63	-2.17	0.348
70.00	-18.68	-37.58	0.00	-1,051.30	0.00	1,051.30	3,963.75	1,981.87	6,235.97	3,122.62	16.08	-2.20	0.342
74.00	-16.99	-35.13	0.00	-901.00	0.00	901.00	3,839.86	1,919.93	5,850.11	2,929.41	17.97	-2.31	0.312
75.00	-16.71	-34.89	0.00	-865.87	0.00	865.87	3,808.88	1,904.44	5,755.58	2,882.07	18.46	-2.34	0.305
79.00	-15.06	-32.41	0.00	-726.30	0.00	726.30	3,684.99	1,842.50	5,385.13	2,696.57	20.47	-2.44	0.274
80.00	-14.79	-32.18	0.00	-693.88	0.00	693.88	3,654.02	1,827.01	5,294.44	2,651.15	20.98	-2.47	0.266
84.00	-13.19	-29.68	0.00	-565.15	0.00	565.15	3,530.13	1,765.07	4,939.39	2,473.37	23.09	-2.56	0.233
85.00	-12.94	-29.45	0.00	-535.48	0.00	535.48	3,499.16	1,749.58	4,852.56	2,429.89	23.62	-2.58	0.224
89.00	-11.39	-26.93	0.00	-417.69	0.00	417.69	3,375.27	1,687.63	4,512.92	2,259.81	25.82	-2.66	0.188
89.66	-11.24	-26.88	0.00	-399.95	0.00	399.95	3,354.86	1,677.43	4,458.16	2,232.39	26.19	-2.67	0.183
90.00	-11.12	-26.69	0.00	-390.78	0.00	390.78	3,344.30	1,672.15	4,429.93	2,218.26	26.38	-2.68	0.180
94.00	-9.19	-24.14	0.00	-284.03	0.00	284.03	3,220.41	1,610.20	4,105.69	2,055.90	28.65	-2.74	0.141
94.35	-9.08	-24.09	0.00	-275.67	0.00	275.67	1,736.61	868.31	2,269.16	1,136.27	28.85	-2.75	0.249
95.00	-8.97	-23.89	0.00	-259.92	0.00	259.92	1,729.57	864.78	2,245.90	1,124.62	29.23	-2.76	0.237
99.00	-7.79	-21.33	0.00	-164.36	0.00	164.36	1,685.48	842.74	2,104.83	1,053.98	31.57	-2.83	0.161
100.00	-7.65	-21.24	0.00	-143.03	0.00	143.03	1,674.19	837.09	2,069.91	1,036.50	32.17	-2.85	0.143
101.00	-5.56	-16.24	0.00	-121.79	0.00	121.79	1,662.79	831.39	2,035.15	1,019.09	32.77	-2.86	0.123
104.00	-4.63	-13.71	0.00	-73.07	0.00	73.07	1,627.96	813.98	1,931.80	967.34	34.58	-2.89	0.079
105.00	-4.53	-13.51	0.00	-59.35	0.00	59.35	1,616.13	808.07	1,897.68	950.25	35.19	-2.90	0.066
109.00	-0.17	-0.13	0.00	-0.17	0.00	0.17	1,567.77	783.88	1,762.92	882.77	37.63	-2.92	0.000
110.00	-0.09	-0.04	0.00	-0.04	0.00	0.04	1,555.41	777.71	1,729.69	866.13	38.24	-2.92	0.000
111.00	0.00	-0.04	0.00	0.00	0.00	0.00	1,542.95	771.47	1,696.65	849.58	38.85	-2.92	0.000

Site Number: 411258

Code: ANSI/TIA-222-G

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Site Name: Farmington North 2 CT, CT

Engineering Number: OAA715612_C3_01

11/2/2017 2:28:12 PM

Customer: VERIZON WIRELESS

Load Case: 0.9D + 1.6W

97 mph with No Ice (Reduced DL)

18 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 MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		274.2	0.0					0.0	0.0	274.2	0.0	0.0	0.0
5.00		541.3	1,403.3					0.0	63.8	541.3	1,467.1	0.0	0.0
10.00		527.2	1,366.8					0.0	159.4	527.2	1,526.2	0.0	0.0
15.00		521.1	1,330.4					0.0	159.4	521.1	1,489.7	0.0	0.0
20.00		528.5	1,293.9					0.0	159.4	528.5	1,453.3	0.0	0.0
25.00		538.5	1,257.4					0.0	159.4	538.5	1,416.8	0.0	0.0
30.00		543.4	1,220.9					0.0	159.4	543.4	1,380.3	0.0	0.0
35.00		544.6	1,184.5					0.0	159.4	544.6	1,343.8	0.0	0.0
40.00		479.6	1,148.0					0.0	159.4	479.6	1,307.4	0.0	0.0
43.83	Bot - Section 2	271.9	854.3					0.0	122.0	271.9	976.3	0.0	0.0
45.00		337.8	487.0					0.0	37.4	337.8	524.3	0.0	0.0
50.00		282.8	2,035.6					0.0	159.4	282.8	2,195.0	0.0	0.0
50.17	Top - Section 1	270.0	69.8					0.0	5.6	270.0	75.4	0.0	0.0
55.00		473.5	895.7					0.0	153.8	473.5	1,049.5	0.0	0.0
59.00	Appertunance(s)	265.8	719.9	2,052.5	0.0	0.0	540.0	0.0	127.5	2,318.4	1,387.5	0.0	0.0
60.00		262.0	176.8					0.0	31.9	262.0	208.7	0.0	0.0
64.00	Appertunance(s)	261.0	694.4	2,088.0	0.0	0.0	540.0	0.0	127.5	2,349.0	1,361.9	0.0	0.0
65.00		256.7	170.4					0.0	31.9	256.7	202.3	0.0	0.0
69.00	Appertunance(s)	255.6	668.9	2,121.3	0.0	0.0	540.0	0.0	127.5	2,376.9	1,336.4	0.0	0.0
70.00		250.8	164.0					0.0	31.9	250.8	195.9	0.0	0.0
74.00	Appertunance(s)	249.6	643.3	2,152.8	0.0	0.0	540.0	0.0	127.5	2,402.4	1,310.9	0.0	0.0
75.00		244.5	157.6					0.0	31.9	244.5	189.5	0.0	0.0
79.00	Appertunance(s)	243.2	617.8	2,182.6	0.0	0.0	540.0	0.0	127.5	2,425.8	1,285.3	0.0	0.0
80.00		237.7	151.3					0.0	31.9	237.7	183.1	0.0	0.0
84.00	Appertunance(s)	236.3	592.3	2,211.0	0.0	0.0	540.0	0.0	127.5	2,447.3	1,259.8	0.0	0.0
85.00		230.5	144.9					0.0	31.9	230.5	176.8	0.0	0.0
89.00	Appertunance(s)	213.6	566.7	2,238.1	0.0	0.0	540.0	0.0	127.5	2,451.7	1,234.3	0.0	0.0
89.66	Bot - Section 3	45.4	91.4					0.0	21.0	45.4	112.4	0.0	0.0
90.00		196.1	74.6					0.0	10.9	196.1	85.5	0.0	0.0
94.00	Appertunance(s)	195.8	857.1	2,264.0	0.0	0.0	540.0	0.0	127.5	2,459.9	1,524.7	0.0	0.0
94.35	Top - Section 2	44.3	72.7					0.0	11.0	44.3	83.7	0.0	0.0
95.00		203.1	50.4					0.0	20.8	203.1	71.2	0.0	0.0
99.00	Appertunance(s)	216.8	301.4	2,288.8	0.0	0.0	540.0	0.0	127.5	2,505.7	968.9	0.0	0.0
100.00		85.1	73.5					0.0	31.9	85.1	105.4	0.0	0.0
101.00	Appertunance(s)	167.5	72.8	4,726.1	0.0	0.0	1,638.7	0.0	31.9	4,893.6	1,743.4	0.0	0.0
104.00	Appertunance(s)	166.2	214.0	2,312.7	0.0	0.0	540.0	0.0	32.0	2,478.9	785.9	0.0	0.0
105.00		201.7	69.9					0.0	10.7	201.7	80.5	0.0	0.0
109.00	Appertunance(s)	200.0	272.2	12,942.7	0.0	5,153.8	3,465.0	0.0	42.6	13,142.7	3,779.8	0.0	0.0
110.00		78.2	66.2					0.0	0.0	78.2	66.2	0.0	0.0
111.00		38.9	65.5					0.0	0.0	38.9	65.5	0.0	0.0
Totals:										50,761.4	36,010.4	0.00	0.00

Site Number: 411258

Code: ANSI/TIA-222-G

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Site Name: Farmington North 2 CT, CT

Engineering Number: OAA715612_C3_01

11/2/2017 2:28:13 PM

Customer: VERIZON WIRELESS

Load Case: 0.9D + 1.6W

97 mph with No Ice (Reduced DL)

18 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	-35.94	-50.53	0.00	-4,328.48	0.00	4,328.48	6,566.18	3,283.09	15,772.8	7,898.16	0.00	0.00	0.554
5.00	-34.34	-50.08	0.00	-4,075.81	0.00	4,075.81	6,448.38	3,224.19	15,089.0	7,555.74	0.08	-0.15	0.545
10.00	-32.69	-49.63	0.00	-3,825.41	0.00	3,825.41	6,327.91	3,163.95	14,413.8	7,217.61	0.32	-0.30	0.535
15.00	-31.07	-49.19	0.00	-3,577.24	0.00	3,577.24	6,204.77	3,102.38	13,747.6	6,884.02	0.72	-0.45	0.525
20.00	-29.49	-48.73	0.00	-3,331.30	0.00	3,331.30	6,078.95	3,039.48	13,090.9	6,555.22	1.28	-0.61	0.513
25.00	-27.94	-48.25	0.00	-3,087.67	0.00	3,087.67	5,950.47	2,975.24	12,444.4	6,231.45	2.00	-0.77	0.500
30.00	-26.44	-47.76	0.00	-2,846.43	0.00	2,846.43	5,819.32	2,909.66	11,808.4	5,912.97	2.89	-0.93	0.486
35.00	-24.97	-47.26	0.00	-2,607.64	0.00	2,607.64	5,658.36	2,829.18	11,130.0	5,573.30	3.95	-1.09	0.473
40.00	-23.56	-46.81	0.00	-2,371.34	0.00	2,371.34	5,481.38	2,740.69	10,441.2	5,228.37	5.17	-1.25	0.458
43.83	-22.53	-46.55	0.00	-2,192.14	0.00	2,192.14	5,345.87	2,672.94	9,928.68	4,971.72	6.22	-1.37	0.445
45.00	-21.93	-46.24	0.00	-2,137.59	0.00	2,137.59	5,304.39	2,652.20	9,774.36	4,894.45	6.56	-1.41	0.441
50.00	-19.68	-45.93	0.00	-1,906.40	0.00	1,906.40	5,127.41	2,563.70	9,129.52	4,571.55	8.12	-1.56	0.421
50.17	-19.55	-45.68	0.00	-1,898.39	0.00	1,898.39	4,537.16	2,268.58	8,256.36	4,134.32	8.18	-1.57	0.464
55.00	-18.40	-45.22	0.00	-1,677.96	0.00	1,677.96	4,425.87	2,212.93	7,788.33	3,899.95	9.85	-1.72	0.435
59.00	-17.03	-42.89	0.00	-1,497.07	0.00	1,497.07	4,304.44	2,152.22	7,360.60	3,685.77	11.35	-1.85	0.411
60.00	-16.77	-42.64	0.00	-1,454.19	0.00	1,454.19	4,273.47	2,136.74	7,254.51	3,632.65	11.74	-1.88	0.405
64.00	-15.43	-40.27	0.00	-1,283.63	0.00	1,283.63	4,149.58	2,074.79	6,837.85	3,424.01	13.37	-2.01	0.379
65.00	-15.19	-40.02	0.00	-1,243.36	0.00	1,243.36	4,118.61	2,059.30	6,735.61	3,372.81	13.79	-2.04	0.373
69.00	-13.89	-37.62	0.00	-1,083.27	0.00	1,083.27	3,994.72	1,997.36	6,334.35	3,171.88	15.56	-2.16	0.345
70.00	-13.66	-37.38	0.00	-1,045.65	0.00	1,045.65	3,963.75	1,981.87	6,235.97	3,122.62	16.01	-2.19	0.339
74.00	-12.40	-34.94	0.00	-896.15	0.00	896.15	3,839.86	1,919.93	5,850.11	2,929.41	17.89	-2.30	0.309
75.00	-12.18	-34.70	0.00	-861.21	0.00	861.21	3,808.88	1,904.44	5,755.58	2,882.07	18.38	-2.33	0.302
79.00	-10.96	-32.24	0.00	-722.40	0.00	722.40	3,684.99	1,842.50	5,385.13	2,696.57	20.37	-2.43	0.271
80.00	-10.76	-32.00	0.00	-690.17	0.00	690.17	3,654.02	1,827.01	5,294.44	2,651.15	20.88	-2.45	0.264
84.00	-9.58	-29.51	0.00	-562.16	0.00	562.16	3,530.13	1,765.07	4,939.39	2,473.37	22.98	-2.54	0.230
85.00	-9.38	-29.28	0.00	-532.65	0.00	532.65	3,499.16	1,749.58	4,852.56	2,429.89	23.52	-2.57	0.222
89.00	-8.24	-26.78	0.00	-415.52	0.00	415.52	3,375.27	1,687.63	4,512.92	2,259.81	25.70	-2.65	0.187
89.66	-8.13	-26.73	0.00	-397.88	0.00	397.88	3,354.86	1,677.43	4,458.16	2,232.39	26.07	-2.66	0.181
90.00	-8.03	-26.54	0.00	-388.76	0.00	388.76	3,344.30	1,672.15	4,429.93	2,218.26	26.26	-2.66	0.178
94.00	-6.61	-24.01	0.00	-282.60	0.00	282.60	3,220.41	1,610.20	4,105.69	2,055.90	28.52	-2.73	0.140
94.35	-6.53	-23.97	0.00	-274.28	0.00	274.28	1,736.61	868.31	2,269.16	1,136.27	28.72	-2.73	0.246
95.00	-6.45	-23.77	0.00	-258.62	0.00	258.62	1,729.57	864.78	2,245.90	1,124.62	29.09	-2.74	0.234
99.00	-5.59	-21.22	0.00	-163.55	0.00	163.55	1,685.48	842.74	2,104.83	1,053.98	31.43	-2.82	0.159
100.00	-5.48	-21.13	0.00	-142.33	0.00	142.33	1,674.19	837.09	2,069.91	1,036.50	32.02	-2.83	0.141
101.00	-3.97	-16.16	0.00	-121.20	0.00	121.20	1,662.79	831.39	2,035.15	1,019.09	32.62	-2.85	0.122
104.00	-3.31	-13.65	0.00	-72.73	0.00	72.73	1,627.96	813.98	1,931.80	967.34	34.42	-2.88	0.077
105.00	-3.24	-13.44	0.00	-59.08	0.00	59.08	1,616.13	808.07	1,897.68	950.25	35.02	-2.89	0.064
109.00	-0.13	-0.12	0.00	-0.17	0.00	0.17	1,567.77	783.88	1,762.92	882.77	37.45	-2.90	0.000
110.00	-0.06	-0.04	0.00	-0.04	0.00	0.04	1,555.41	777.71	1,729.69	866.13	38.06	-2.90	0.000
111.00	0.00	-0.04	0.00	0.00	0.00	0.00	1,542.95	771.47	1,696.65	849.58	38.67	-2.90	0.000

Site Number: 411258

Code: ANSI/TIA-222-G

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Site Name: Farmington North 2 CT, CT

Engineering Number: OAA715612_C3_01

11/2/2017 2:28:13 PM

Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 1.00 in Radial Ice

18 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 MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		88.5	0.0					0.0	0.0	88.5	0.0	0.0	0.0
5.00		175.2	2,442.6					0.0	85.0	175.2	2,527.6	0.0	0.0
10.00		171.7	2,446.0					0.0	212.5	171.7	2,658.5	0.0	0.0
15.00		170.4	2,414.0					0.0	212.5	170.4	2,626.5	0.0	0.0
20.00		173.5	2,370.3					0.0	212.5	173.5	2,582.8	0.0	0.0
25.00		177.4	2,320.5					0.0	212.5	177.4	2,533.1	0.0	0.0
30.00		179.6	2,267.0					0.0	212.5	179.6	2,479.5	0.0	0.0
35.00		180.6	2,210.7					0.0	212.5	180.6	2,423.2	0.0	0.0
40.00		159.5	2,152.5					0.0	212.5	159.5	2,365.0	0.0	0.0
43.83	Bot - Section 2	90.6	1,609.4					0.0	162.7	90.6	1,772.1	0.0	0.0
45.00		112.8	795.8					0.0	49.8	112.8	845.6	0.0	0.0
50.00		94.5	3,323.8					0.0	212.5	94.5	3,536.3	0.0	0.0
50.17	Top - Section 1	90.5	114.4					0.0	7.4	90.5	121.8	0.0	0.0
55.00		159.0	1,770.0					0.0	205.1	159.0	1,975.1	0.0	0.0
59.00	Appertunance(s)	89.5	1,428.4	628.9	0.0	0.0	1,827.0	0.0	170.0	718.3	3,425.4	0.0	0.0
60.00		88.5	352.6					0.0	42.5	88.5	395.1	0.0	0.0
64.00	Appertunance(s)	88.2	1,382.5	642.2	0.0	0.0	1,831.2	0.0	170.0	730.4	3,383.8	0.0	0.0
65.00		87.0	341.0					0.0	42.5	87.0	383.5	0.0	0.0
69.00	Appertunance(s)	86.7	1,336.0	654.8	0.0	0.0	1,835.2	0.0	170.0	741.5	3,341.3	0.0	0.0
70.00		85.4	329.4					0.0	42.5	85.4	371.9	0.0	0.0
74.00	Appertunance(s)	85.1	1,289.1	666.7	0.0	0.0	1,838.9	0.0	170.0	751.8	3,298.1	0.0	0.0
75.00		83.7	317.6					0.0	42.5	83.7	360.1	0.0	0.0
79.00	Appertunance(s)	83.3	1,241.7	678.1	0.0	0.0	1,842.4	0.0	170.0	761.4	3,254.2	0.0	0.0
80.00		81.7	305.7					0.0	42.5	81.7	348.2	0.0	0.0
84.00	Appertunance(s)	81.3	1,194.0	688.9	0.0	0.0	1,845.7	0.0	170.0	770.2	3,209.7	0.0	0.0
85.00		79.7	293.7					0.0	42.5	79.7	336.2	0.0	0.0
89.00	Appertunance(s)	73.9	1,145.9	699.3	0.0	0.0	1,848.9	0.0	170.0	773.2	3,164.8	0.0	0.0
89.66	Bot - Section 3	15.8	185.9					0.0	28.0	15.8	214.0	0.0	0.0
90.00		68.1	133.0					0.0	14.5	68.1	147.5	0.0	0.0
94.00	Appertunance(s)	68.1	1,524.3	709.2	0.0	0.0	1,851.8	0.0	170.0	777.3	3,546.2	0.0	0.0
94.35	Top - Section 2	15.4	130.0					0.0	14.7	15.4	144.7	0.0	0.0
95.00		71.0	129.1					0.0	27.8	71.0	156.9	0.0	0.0
99.00	Appertunance(s)	75.9	768.6	718.8	0.0	0.0	1,854.6	0.0	170.0	794.6	2,793.3	0.0	0.0
100.00		29.9	189.1					0.0	42.5	29.9	231.6	0.0	0.0
101.00	Appertunance(s)	59.0	187.4	1,077.5	0.0	0.0	7,634.2	0.0	42.5	1,136.5	7,864.2	0.0	0.0
104.00	Appertunance(s)	58.6	549.4	728.2	0.0	0.0	1,857.6	0.0	42.6	786.8	2,449.6	0.0	0.0
105.00		71.5	180.5					0.0	14.2	71.5	194.7	0.0	0.0
109.00	Appertunance(s)	71.0	699.7	3,736.2	0.0	1,040.6	10,474.2	0.0	56.8	3,807.2	11,230.8	0.0	0.0
110.00		27.9	171.9					0.0	0.0	27.9	171.9	0.0	0.0
111.00		13.9	170.1					0.0	0.0	13.9	170.1	0.0	0.0
Totals:										15,392.3	83,034.8	0.00	0.00

Site Number: 411258

Code: ANSI/TIA-222-G

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Site Name: Farmington North 2 CT, CT

Engineering Number: OAA715612_C3_01

11/2/2017 2:28:14 PM

Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 1.00 in Radial Ice

18 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

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	-83.03	-15.34	0.00	-1,318.83	0.00	1,318.83	6,566.18	3,283.09	15,772.8	7,898.16	0.00	0.00	0.180
5.00	-80.49	-15.23	0.00	-1,242.14	0.00	1,242.14	6,448.38	3,224.19	15,089.0	7,555.74	0.02	-0.05	0.177
10.00	-77.82	-15.11	0.00	-1,166.02	0.00	1,166.02	6,327.91	3,163.95	14,413.8	7,217.61	0.10	-0.09	0.174
15.00	-75.18	-15.00	0.00	-1,090.45	0.00	1,090.45	6,204.77	3,102.38	13,747.6	6,884.02	0.22	-0.14	0.171
20.00	-72.59	-14.88	0.00	-1,015.46	0.00	1,015.46	6,078.95	3,039.48	13,090.9	6,555.22	0.39	-0.19	0.167
25.00	-70.04	-14.75	0.00	-941.06	0.00	941.06	5,950.47	2,975.24	12,444.4	6,231.45	0.61	-0.23	0.163
30.00	-67.55	-14.62	0.00	-867.30	0.00	867.30	5,819.32	2,909.66	11,808.4	5,912.97	0.88	-0.28	0.158
35.00	-65.11	-14.48	0.00	-794.21	0.00	794.21	5,658.36	2,829.18	11,130.0	5,573.30	1.20	-0.33	0.154
40.00	-62.74	-14.35	0.00	-721.82	0.00	721.82	5,481.38	2,740.69	10,441.2	5,228.37	1.58	-0.38	0.150
43.83	-60.96	-14.28	0.00	-666.87	0.00	666.87	5,345.87	2,672.94	9,928.68	4,971.72	1.90	-0.42	0.146
45.00	-60.11	-14.19	0.00	-650.15	0.00	650.15	5,304.39	2,652.20	9,774.36	4,894.45	2.00	-0.43	0.144
50.00	-56.57	-14.09	0.00	-579.20	0.00	579.20	5,127.41	2,563.70	9,129.52	4,571.55	2.48	-0.48	0.138
50.17	-56.44	-14.02	0.00	-576.75	0.00	576.75	4,537.16	2,268.58	8,256.36	4,134.32	2.49	-0.48	0.152
55.00	-54.46	-13.89	0.00	-509.08	0.00	509.08	4,425.87	2,212.93	7,788.33	3,899.95	3.00	-0.52	0.143
59.00	-51.03	-13.16	0.00	-453.54	0.00	453.54	4,304.44	2,152.22	7,360.60	3,685.77	3.46	-0.56	0.135
60.00	-50.63	-13.09	0.00	-440.38	0.00	440.38	4,273.47	2,136.74	7,254.51	3,632.65	3.58	-0.57	0.133
64.00	-47.25	-12.34	0.00	-388.04	0.00	388.04	4,149.58	2,074.79	6,837.85	3,424.01	4.07	-0.61	0.125
65.00	-46.87	-12.27	0.00	-375.70	0.00	375.70	4,118.61	2,059.30	6,735.61	3,372.81	4.20	-0.62	0.123
69.00	-43.53	-11.51	0.00	-326.63	0.00	326.63	3,994.72	1,997.36	6,334.35	3,171.88	4.74	-0.66	0.114
70.00	-43.15	-11.43	0.00	-315.12	0.00	315.12	3,963.75	1,981.87	6,235.97	3,122.62	4.88	-0.67	0.112
74.00	-39.86	-10.66	0.00	-269.40	0.00	269.40	3,839.86	1,919.93	5,850.11	2,929.41	5.45	-0.70	0.102
75.00	-39.50	-10.58	0.00	-258.74	0.00	258.74	3,808.88	1,904.44	5,755.58	2,882.07	5.60	-0.71	0.100
79.00	-36.25	-9.79	0.00	-216.42	0.00	216.42	3,684.99	1,842.50	5,385.13	2,696.57	6.20	-0.74	0.090
80.00	-35.90	-9.72	0.00	-206.63	0.00	206.63	3,654.02	1,827.01	5,294.44	2,651.15	6.36	-0.75	0.088
84.00	-32.70	-8.91	0.00	-167.77	0.00	167.77	3,530.13	1,765.07	4,939.39	2,473.37	6.99	-0.77	0.077
85.00	-32.36	-8.84	0.00	-158.85	0.00	158.85	3,499.16	1,749.58	4,852.56	2,429.89	7.16	-0.78	0.075
89.00	-29.21	-8.03	0.00	-123.51	0.00	123.51	3,375.27	1,687.63	4,512.92	2,259.81	7.82	-0.80	0.063
89.66	-28.99	-8.01	0.00	-118.22	0.00	118.22	3,354.86	1,677.43	4,458.16	2,232.39	7.93	-0.81	0.062
90.00	-28.84	-7.94	0.00	-115.49	0.00	115.49	3,344.30	1,672.15	4,429.93	2,218.26	7.99	-0.81	0.061
94.00	-25.31	-7.12	0.00	-83.71	0.00	83.71	3,220.41	1,610.20	4,105.69	2,055.90	8.68	-0.83	0.049
94.35	-25.16	-7.10	0.00	-81.24	0.00	81.24	1,736.61	868.31	2,269.16	1,136.27	8.74	-0.83	0.086
95.00	-25.01	-7.04	0.00	-76.60	0.00	76.60	1,729.57	864.78	2,245.90	1,124.62	8.85	-0.83	0.083
99.00	-22.22	-6.21	0.00	-48.45	0.00	48.45	1,685.48	842.74	2,104.83	1,053.98	9.56	-0.85	0.059
100.00	-21.99	-6.17	0.00	-42.25	0.00	42.25	1,674.19	837.09	2,069.91	1,036.50	9.74	-0.86	0.054
101.00	-14.14	-4.92	0.00	-36.07	0.00	36.07	1,662.79	831.39	2,035.15	1,019.09	9.92	-0.86	0.044
104.00	-11.71	-4.10	0.00	-21.31	0.00	21.31	1,627.96	813.98	1,931.80	967.34	10.46	-0.87	0.029
105.00	-11.51	-4.03	0.00	-17.21	0.00	17.21	1,616.13	808.07	1,897.68	950.25	10.65	-0.87	0.025
109.00	-0.34	-0.05	0.00	-0.06	0.00	0.06	1,567.77	783.88	1,762.92	882.77	11.38	-0.88	0.000
110.00	-0.17	-0.02	0.00	-0.02	0.00	0.02	1,555.41	777.71	1,729.69	866.13	11.56	-0.88	0.000
111.00	0.00	-0.01	0.00	0.00	0.00	0.00	1,542.95	771.47	1,696.65	849.58	11.75	-0.88	0.000

Site Number: 411258

Code: ANSI/TIA-222-G

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Site Name: Farmington North 2 CT, CT

Engineering Number: OAA715612_C3_01

11/2/2017 2:28:15 PM

Customer: VERIZON WIRELESS

Load Case: 1.0D + 1.0W

Serviceability 60 mph

18 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 MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		65.6	0.0					0.0	0.0	65.6	0.0	0.0	0.0
5.00		129.4	1,559.2					0.0	70.8	129.4	1,630.1	0.0	0.0
10.00		126.1	1,518.7					0.0	177.1	126.1	1,695.8	0.0	0.0
15.00		124.6	1,478.2					0.0	177.1	124.6	1,655.3	0.0	0.0
20.00		126.4	1,437.6					0.0	177.1	126.4	1,614.7	0.0	0.0
25.00		128.8	1,397.1					0.0	177.1	128.8	1,574.2	0.0	0.0
30.00		130.0	1,356.6					0.0	177.1	130.0	1,533.7	0.0	0.0
35.00		130.2	1,316.1					0.0	177.1	130.2	1,493.2	0.0	0.0
40.00		114.7	1,275.5					0.0	177.1	114.7	1,452.6	0.0	0.0
43.83	Bot - Section 2	65.0	949.2					0.0	135.6	65.0	1,084.8	0.0	0.0
45.00		80.8	541.1					0.0	41.5	80.8	582.6	0.0	0.0
50.00		67.6	2,261.8					0.0	177.1	67.6	2,438.9	0.0	0.0
50.17	Top - Section 1	64.6	77.5					0.0	6.2	64.6	83.7	0.0	0.0
55.00		113.2	995.2					0.0	170.9	113.2	1,166.2	0.0	0.0
59.00	Appertunance(s)	63.6	799.9	490.8	0.0	0.0	600.0	0.0	141.7	554.4	1,541.6	0.0	0.0
60.00		62.7	196.4					0.0	35.4	62.7	231.9	0.0	0.0
64.00	Appertunance(s)	62.4	771.6	499.3	0.0	0.0	600.0	0.0	141.7	561.7	1,513.2	0.0	0.0
65.00		61.4	189.3					0.0	35.4	61.4	224.8	0.0	0.0
69.00	Appertunance(s)	61.1	743.2	507.3	0.0	0.0	600.0	0.0	141.7	568.4	1,484.9	0.0	0.0
70.00		60.0	182.3					0.0	35.4	60.0	217.7	0.0	0.0
74.00	Appertunance(s)	59.7	714.8	514.8	0.0	0.0	600.0	0.0	141.7	574.5	1,456.5	0.0	0.0
75.00		58.5	175.2					0.0	35.4	58.5	210.6	0.0	0.0
79.00	Appertunance(s)	58.1	686.5	521.9	0.0	0.0	600.0	0.0	141.7	580.1	1,428.1	0.0	0.0
80.00		56.8	168.1					0.0	35.4	56.8	203.5	0.0	0.0
84.00	Appertunance(s)	56.5	658.1	528.7	0.0	0.0	600.0	0.0	141.7	585.2	1,399.8	0.0	0.0
85.00		55.1	161.0					0.0	35.4	55.1	196.4	0.0	0.0
89.00	Appertunance(s)	51.1	629.7	535.2	0.0	0.0	600.0	0.0	141.7	586.3	1,371.4	0.0	0.0
89.66	Bot - Section 3	10.9	101.5					0.0	23.3	10.9	124.9	0.0	0.0
90.00		46.9	82.9					0.0	12.1	46.9	95.0	0.0	0.0
94.00	Appertunance(s)	46.8	952.4	541.4	0.0	0.0	600.0	0.0	141.7	588.2	1,694.1	0.0	0.0
94.35	Top - Section 2	10.6	80.8					0.0	12.3	10.6	93.1	0.0	0.0
95.00		48.6	55.9					0.0	23.2	48.6	79.1	0.0	0.0
99.00	Appertunance(s)	51.9	334.8	547.3	0.0	0.0	600.0	0.0	141.7	599.2	1,076.5	0.0	0.0
100.00		20.3	81.7					0.0	35.4	20.3	117.1	0.0	0.0
101.00	Appertunance(s)	40.1	80.9	1,130.2	0.0	0.0	1,820.8	0.0	35.4	1,170.2	1,937.1	0.0	0.0
104.00	Appertunance(s)	39.7	237.8	553.0	0.0	0.0	600.0	0.0	35.5	592.8	873.3	0.0	0.0
105.00		48.2	77.6					0.0	11.8	48.2	89.5	0.0	0.0
109.00	Appertunance(s)	47.8	302.4	3,095.0	0.0	1,232.4	3,850.0	0.0	47.4	3,142.8	4,199.8	0.0	0.0
110.00		18.7	73.6					0.0	0.0	18.7	73.6	0.0	0.0
111.00		9.3	72.8					0.0	0.0	9.3	72.8	0.0	0.0
Totals:										12,138.7	40,011.6	0.00	0.00

Site Number: 411258

Code: ANSI/TIA-222-G

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Site Name: Farmington North 2 CT, CT

Engineering Number: OAA715612_C3_01

11/2/2017 2:28:16 PM

Customer: VERIZON WIRELESS

Load Case: 1.0D + 1.0W

Serviceability 60 mph

18 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	-40.01	-12.09	0.00	-1,036.76	0.00	1,036.76	6,566.18	3,283.09	15,772.8	7,898.16	0.00	0.00	0.137
5.00	-38.37	-11.98	0.00	-976.34	0.00	976.34	6,448.38	3,224.19	15,089.0	7,555.74	0.02	-0.04	0.135
10.00	-36.67	-11.88	0.00	-916.44	0.00	916.44	6,327.91	3,163.95	14,413.8	7,217.61	0.08	-0.07	0.133
15.00	-35.00	-11.77	0.00	-857.06	0.00	857.06	6,204.77	3,102.38	13,747.6	6,884.02	0.17	-0.11	0.130
20.00	-33.38	-11.66	0.00	-798.21	0.00	798.21	6,078.95	3,039.48	13,090.9	6,555.22	0.31	-0.15	0.127
25.00	-31.80	-11.55	0.00	-739.89	0.00	739.89	5,950.47	2,975.24	12,444.4	6,231.45	0.48	-0.18	0.124
30.00	-30.26	-11.44	0.00	-682.14	0.00	682.14	5,819.32	2,909.66	11,808.4	5,912.97	0.69	-0.22	0.121
35.00	-28.76	-11.32	0.00	-624.97	0.00	624.97	5,658.36	2,829.18	11,130.0	5,573.30	0.95	-0.26	0.117
40.00	-27.30	-11.21	0.00	-568.38	0.00	568.38	5,481.38	2,740.69	10,441.2	5,228.37	1.24	-0.30	0.114
43.83	-26.21	-11.15	0.00	-525.45	0.00	525.45	5,345.87	2,672.94	9,928.68	4,971.72	1.49	-0.33	0.111
45.00	-25.63	-11.08	0.00	-512.39	0.00	512.39	5,304.39	2,652.20	9,774.36	4,894.45	1.57	-0.34	0.110
50.00	-23.18	-11.00	0.00	-457.00	0.00	457.00	5,127.41	2,563.70	9,129.52	4,571.55	1.95	-0.37	0.105
50.17	-23.10	-10.94	0.00	-455.09	0.00	455.09	4,537.16	2,268.58	8,256.36	4,134.32	1.96	-0.38	0.115
55.00	-21.93	-10.84	0.00	-402.27	0.00	402.27	4,425.87	2,212.93	7,788.33	3,899.95	2.36	-0.41	0.108
59.00	-20.38	-10.28	0.00	-358.93	0.00	358.93	4,304.44	2,152.22	7,360.60	3,685.77	2.72	-0.44	0.102
60.00	-20.15	-10.22	0.00	-348.66	0.00	348.66	4,273.47	2,136.74	7,254.51	3,632.65	2.81	-0.45	0.101
64.00	-18.64	-9.65	0.00	-307.78	0.00	307.78	4,149.58	2,074.79	6,837.85	3,424.01	3.20	-0.48	0.094
65.00	-18.41	-9.59	0.00	-298.13	0.00	298.13	4,118.61	2,059.30	6,735.61	3,372.81	3.31	-0.49	0.093
69.00	-16.93	-9.02	0.00	-259.75	0.00	259.75	3,994.72	1,997.36	6,334.35	3,171.88	3.73	-0.52	0.086
70.00	-16.71	-8.96	0.00	-250.74	0.00	250.74	3,963.75	1,981.87	6,235.97	3,122.62	3.84	-0.52	0.085
74.00	-15.25	-8.38	0.00	-214.90	0.00	214.90	3,839.86	1,919.93	5,850.11	2,929.41	4.29	-0.55	0.077
75.00	-15.04	-8.32	0.00	-206.52	0.00	206.52	3,808.88	1,904.44	5,755.58	2,882.07	4.40	-0.56	0.076
79.00	-13.62	-7.73	0.00	-173.24	0.00	173.24	3,684.99	1,842.50	5,385.13	2,696.57	4.88	-0.58	0.068
80.00	-13.41	-7.67	0.00	-165.51	0.00	165.51	3,654.02	1,827.01	5,294.44	2,651.15	5.01	-0.59	0.066
84.00	-12.02	-7.08	0.00	-134.81	0.00	134.81	3,530.13	1,765.07	4,939.39	2,473.37	5.51	-0.61	0.058
85.00	-11.82	-7.02	0.00	-127.74	0.00	127.74	3,499.16	1,749.58	4,852.56	2,429.89	5.64	-0.62	0.056
89.00	-10.45	-6.42	0.00	-99.65	0.00	99.65	3,375.27	1,687.63	4,512.92	2,259.81	6.16	-0.63	0.047
89.66	-10.33	-6.41	0.00	-95.42	0.00	95.42	3,354.86	1,677.43	4,458.16	2,232.39	6.25	-0.64	0.046
90.00	-10.23	-6.36	0.00	-93.23	0.00	93.23	3,344.30	1,672.15	4,429.93	2,218.26	6.29	-0.64	0.045
94.00	-8.55	-5.76	0.00	-67.77	0.00	67.77	3,220.41	1,610.20	4,105.69	2,055.90	6.84	-0.65	0.036
94.35	-8.45	-5.75	0.00	-65.77	0.00	65.77	1,736.61	868.31	2,269.16	1,136.27	6.88	-0.66	0.063
95.00	-8.37	-5.70	0.00	-62.02	0.00	62.02	1,729.57	864.78	2,245.90	1,124.62	6.97	-0.66	0.060
99.00	-7.30	-5.09	0.00	-39.22	0.00	39.22	1,685.48	842.74	2,104.83	1,053.98	7.53	-0.68	0.042
100.00	-7.19	-5.07	0.00	-34.13	0.00	34.13	1,674.19	837.09	2,069.91	1,036.50	7.68	-0.68	0.037
101.00	-5.26	-3.88	0.00	-29.06	0.00	29.06	1,662.79	831.39	2,035.15	1,019.09	7.82	-0.68	0.032
104.00	-4.40	-3.27	0.00	-17.44	0.00	17.44	1,627.96	813.98	1,931.80	967.34	8.25	-0.69	0.021
105.00	-4.31	-3.22	0.00	-14.17	0.00	14.17	1,616.13	808.07	1,897.68	950.25	8.40	-0.69	0.018
109.00	-0.15	-0.03	0.00	-0.04	0.00	0.04	1,567.77	783.88	1,762.92	882.77	8.98	-0.70	0.000
110.00	-0.07	-0.01	0.00	-0.01	0.00	0.01	1,555.41	777.71	1,729.69	866.13	9.12	-0.70	0.000
111.00	0.00	-0.01	0.00	0.00	0.00	0.00	1,542.95	771.47	1,696.65	849.58	9.27	-0.70	0.000

Site Number: 411258

Code: ANSI/TIA-222-G

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Site Name: Farmington North 2 CT, CT

Engineering Number: OAA715612_C3_01

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Customer: VERIZON WIRELESS

Equivalent Lateral Forces Method Analysis

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

Spectral Response Acceleration for Short Period (S_a):	0.18
Spectral Response Acceleration at 1.0 Second Period (S_{a1}):	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}):	0.19
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Seismic Response Coefficient (C_s):	0.06
Upper Limit C_s	0.06
Lower Limit C_s	0.03
Period based on Rayleigh Method (sec):	1.14
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	1.32
Total Unfactored Dead Load:	40.01 k
Seismic Base Shear (E):	3.12 k

Load Case (1.2 + 0.2S_{ds}) * DL + E ELM

Seismic Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
39	110.50	73	36	0.004	12	90
38	109.50	74	36	0.004	12	91
37	107.00	350	166	0.017	54	433
36	104.50	89	41	0.004	13	111
35	102.50	273	123	0.013	40	339
34	100.50	116	51	0.005	17	144
33	99.50	117	51	0.005	17	145
32	97.00	477	199	0.021	65	590
31	94.67	79	32	0.003	10	98
30	94.17	93	37	0.004	12	115
29	92.00	1,094	426	0.045	139	1,355
28	89.83	95	36	0.004	12	118
27	89.33	125	47	0.005	15	155
26	87.00	771	279	0.029	91	956
25	84.50	196	68	0.007	22	243
24	82.00	800	268	0.028	87	991
23	79.50	203	65	0.007	21	252
22	77.00	828	255	0.027	83	1,026
21	74.50	211	62	0.007	20	261
20	72.00	857	242	0.025	79	1,061
19	69.50	218	59	0.006	19	270
18	67.00	885	227	0.024	74	1,096
17	64.50	225	55	0.006	18	278

Site Number: 411258

Code: ANSI/TIA-222-G

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Site Name: Farmington North 2 CT, CT

Engineering Number: OAA715612_C3_01

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Customer: VERIZON WIRELESS

16	62.00	913	211	0.022	69	1,131
15	59.50	232	51	0.005	17	287
14	57.00	942	195	0.020	64	1,167
13	52.59	1,166	217	0.023	71	1,445
12	50.09	84	15	0.002	5	104
11	47.50	2,439	397	0.042	130	3,021
10	44.41	583	87	0.009	28	722
9	41.91	1,085	150	0.016	49	1,344
8	37.50	1,453	173	0.018	57	1,800
7	32.50	1,493	147	0.015	48	1,850
6	27.50	1,534	122	0.013	40	1,900
5	22.50	1,574	96	0.010	31	1,950
4	17.50	1,615	70	0.007	23	2,000
3	12.50	1,655	46	0.005	15	2,051
2	7.50	1,696	24	0.003	8	2,101
1	2.50	1,630	5	0.001	2	2,019
Samsung PCS/AWS Dual	109.00	253	123	0.013	40	314
Samsung 700/850MHz D	109.00	211	103	0.011	34	261
Raycap RC2DC-3315-PF	109.00	64	31	0.003	10	79
Antel LPA-80063/4CF	109.00	120	58	0.006	19	149
Commscope SBNHH-1D65	109.00	304	148	0.016	48	377
Flat T-Arm	109.00	750	366	0.038	119	929
Pine Branch	109.00	600	292	0.031	95	743
VZW Unused Reserve:	109.00	1,548	754	0.079	246	1,917
Pine Branch	104.00	600	275	0.029	90	743
RCU	101.00	18	8	0.001	3	22
Raycap DC6-48-60-18-	101.00	33	14	0.002	5	41
CCI DTMABP7819VG12A	101.00	173	76	0.008	25	214
Ericsson RRUS-11 (50	101.00	300	132	0.014	43	372
Andrew SBNH-1D6565C	101.00	547	241	0.025	79	678
Flat T-Arm	101.00	750	331	0.035	108	929
Pine Branch	99.00	600	258	0.027	84	743
Pine Branch	94.00	600	241	0.025	79	743
Pine Branch	89.00	600	224	0.023	73	743
Pine Branch	84.00	600	207	0.022	68	743
Pine Branch	79.00	600	191	0.020	62	743
Pine Branch	74.00	600	175	0.018	57	743
Pine Branch	69.00	600	160	0.017	52	743
Pine Branch	64.00	600	145	0.015	47	743
Pine Branch	59.00	600	130	0.014	42	743
		40,012	9,555	1.000	3,119	49,567

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)
39	110.50	73	36	0.004	12	63
38	109.50	74	36	0.004	12	63
37	107.00	350	166	0.017	54	301
36	104.50	89	41	0.004	13	77
35	102.50	273	123	0.013	40	235
34	100.50	116	51	0.005	17	100
33	99.50	117	51	0.005	17	101
32	97.00	477	199	0.021	65	410
31	94.67	79	32	0.003	10	68
30	94.17	93	37	0.004	12	80
29	92.00	1,094	426	0.045	139	942
28	89.83	95	36	0.004	12	82
27	89.33	125	47	0.005	15	108
26	87.00	771	279	0.029	91	664

Site Number: 411258

Code: ANSI/TIA-222-G

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Site Name: Farmington North 2 CT, CT

Engineering Number:OAA715612_C3_01

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Customer: VERIZON WIRELESS

25	84.50	196	68	0.007	22	169
24	82.00	800	268	0.028	87	689
23	79.50	203	65	0.007	21	175
22	77.00	828	255	0.027	83	713
21	74.50	211	62	0.007	20	181
20	72.00	857	242	0.025	79	738
19	69.50	218	59	0.006	19	187
18	67.00	885	227	0.024	74	762
17	64.50	225	55	0.006	18	194
16	62.00	913	211	0.022	69	786
15	59.50	232	51	0.005	17	200
14	57.00	942	195	0.020	64	811
13	52.59	1,166	217	0.023	71	1,004
12	50.09	84	15	0.002	5	72
11	47.50	2,439	397	0.042	130	2,100
10	44.41	583	87	0.009	28	502
9	41.91	1,085	150	0.016	49	934
8	37.50	1,453	173	0.018	57	1,251
7	32.50	1,493	147	0.015	48	1,286
6	27.50	1,534	122	0.013	40	1,321
5	22.50	1,574	96	0.010	31	1,356
4	17.50	1,615	70	0.007	23	1,391
3	12.50	1,655	46	0.005	15	1,425
2	7.50	1,696	24	0.003	8	1,460
1	2.50	1,630	5	0.001	2	1,404
Samsung PCS/AWS Dual	109.00	253	123	0.013	40	218
Samsung 700/850MHz D	109.00	211	103	0.011	34	182
Raycap RC2DC-3315-PF	109.00	64	31	0.003	10	55
Antel LPA-80063/4CF	109.00	120	58	0.006	19	103
Commscope SBNHH-1D65	109.00	304	148	0.016	48	262
Flat T-Arm	109.00	750	366	0.038	119	646
Pine Branch	109.00	600	292	0.031	95	517
VZW Unused Reserve:	109.00	1,548	754	0.079	246	1,333
Pine Branch	104.00	600	275	0.029	90	517
RCU	101.00	18	8	0.001	3	16
Raycap DC6-48-60-18-	101.00	33	14	0.002	5	28
CCI DTMABP7819VG12A	101.00	173	76	0.008	25	149
Ericsson RRUS-11 (50	101.00	300	132	0.014	43	258
Andrew SBNH-1D6565C	101.00	547	241	0.025	79	471
Flat T-Arm	101.00	750	331	0.035	108	646
Pine Branch	99.00	600	258	0.027	84	517
Pine Branch	94.00	600	241	0.025	79	517
Pine Branch	89.00	600	224	0.023	73	517
Pine Branch	84.00	600	207	0.022	68	517
Pine Branch	79.00	600	191	0.020	62	517
Pine Branch	74.00	600	175	0.018	57	517
Pine Branch	69.00	600	160	0.017	52	517
Pine Branch	64.00	600	145	0.015	47	517
Pine Branch	59.00	600	130	0.014	42	517
		40,012	9,555	1.000	3,119	34,457

Site Number: 411258

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Site Name: Farmington North 2 CT, CT

Engineering Number: OAA715612_C3_01

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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	-47.55	-3.12	0.00	-258.44	0.00	258.44	6,566.18	3,283.09	15,772.8	7,898.16	0.00	0.00	0.040
5.00	-45.45	-3.12	0.00	-242.84	0.00	242.84	6,448.38	3,224.19	15,089.0	7,555.74	0.00	-0.01	0.039
10.00	-43.40	-3.11	0.00	-227.25	0.00	227.25	6,327.91	3,163.95	14,413.8	7,217.61	0.02	-0.02	0.038
15.00	-41.39	-3.09	0.00	-211.69	0.00	211.69	6,204.77	3,102.38	13,747.6	6,884.02	0.04	-0.03	0.037
20.00	-39.44	-3.07	0.00	-196.23	0.00	196.23	6,078.95	3,039.48	13,090.9	6,555.22	0.08	-0.04	0.036
25.00	-37.54	-3.03	0.00	-180.89	0.00	180.89	5,950.47	2,975.24	12,444.4	6,231.45	0.12	-0.05	0.035
30.00	-35.69	-2.99	0.00	-165.73	0.00	165.73	5,819.32	2,909.66	11,808.4	5,912.97	0.17	-0.05	0.034
35.00	-33.89	-2.94	0.00	-150.78	0.00	150.78	5,658.36	2,829.18	11,130.0	5,573.30	0.23	-0.06	0.033
40.00	-32.55	-2.89	0.00	-136.11	0.00	136.11	5,481.38	2,740.69	10,441.2	5,228.37	0.31	-0.07	0.032
43.83	-31.83	-2.86	0.00	-125.04	0.00	125.04	5,345.87	2,672.94	9,928.68	4,971.72	0.37	-0.08	0.031
45.00	-28.81	-2.73	0.00	-121.69	0.00	121.69	5,304.39	2,652.20	9,774.36	4,894.45	0.39	-0.08	0.030
50.00	-28.70	-2.73	0.00	-108.03	0.00	108.03	5,127.41	2,563.70	9,129.52	4,571.55	0.48	-0.09	0.029
50.17	-27.26	-2.66	0.00	-107.55	0.00	107.55	4,537.16	2,268.58	8,256.36	4,134.32	0.48	-0.09	0.032
55.00	-26.09	-2.60	0.00	-94.73	0.00	94.73	4,425.87	2,212.93	7,788.33	3,899.95	0.58	-0.10	0.030
59.00	-25.06	-2.54	0.00	-84.34	0.00	84.34	4,304.44	2,152.22	7,360.60	3,685.77	0.67	-0.11	0.029
60.00	-23.93	-2.47	0.00	-81.81	0.00	81.81	4,273.47	2,136.74	7,254.51	3,632.65	0.69	-0.11	0.028
64.00	-22.91	-2.40	0.00	-71.94	0.00	71.94	4,149.58	2,074.79	6,837.85	3,424.01	0.78	-0.12	0.027
65.00	-21.81	-2.33	0.00	-69.53	0.00	69.53	4,118.61	2,059.30	6,735.61	3,372.81	0.81	-0.12	0.026
69.00	-20.80	-2.26	0.00	-60.22	0.00	60.22	3,994.72	1,997.36	6,334.35	3,171.88	0.91	-0.12	0.024
70.00	-19.74	-2.18	0.00	-57.97	0.00	57.97	3,963.75	1,981.87	6,235.97	3,122.62	0.94	-0.13	0.024
74.00	-18.73	-2.10	0.00	-49.27	0.00	49.27	3,839.86	1,919.93	5,850.11	2,929.41	1.05	-0.13	0.022
75.00	-17.71	-2.01	0.00	-47.17	0.00	47.17	3,808.88	1,904.44	5,755.58	2,882.07	1.07	-0.13	0.021
79.00	-16.71	-1.93	0.00	-39.12	0.00	39.12	3,684.99	1,842.50	5,385.13	2,696.57	1.19	-0.14	0.019
80.00	-15.72	-1.84	0.00	-37.19	0.00	37.19	3,654.02	1,827.01	5,294.44	2,651.15	1.22	-0.14	0.018
84.00	-14.73	-1.75	0.00	-29.84	0.00	29.84	3,530.13	1,765.07	4,939.39	2,473.37	1.34	-0.15	0.016
85.00	-13.78	-1.65	0.00	-28.09	0.00	28.09	3,499.16	1,749.58	4,852.56	2,429.89	1.37	-0.15	0.015
89.00	-12.88	-1.56	0.00	-21.48	0.00	21.48	3,375.27	1,687.63	4,512.92	2,259.81	1.49	-0.15	0.013
89.66	-12.76	-1.55	0.00	-20.45	0.00	20.45	3,354.86	1,677.43	4,458.16	2,232.39	1.52	-0.15	0.013
90.00	-11.41	-1.41	0.00	-19.92	0.00	19.92	3,344.30	1,672.15	4,429.93	2,218.26	1.53	-0.15	0.012
94.00	-10.55	-1.32	0.00	-14.28	0.00	14.28	3,220.41	1,610.20	4,105.69	2,055.90	1.65	-0.16	0.010
94.35	-10.45	-1.31	0.00	-13.82	0.00	13.82	1,736.61	868.31	2,269.16	1,136.27	1.67	-0.16	0.018
95.00	-9.86	-1.24	0.00	-12.97	0.00	12.97	1,729.57	864.78	2,245.90	1,124.62	1.69	-0.16	0.017
99.00	-8.97	-1.14	0.00	-8.01	0.00	8.01	1,685.48	842.74	2,104.83	1,053.98	1.82	-0.16	0.013
100.00	-8.83	-1.12	0.00	-6.87	0.00	6.87	1,674.19	837.09	2,069.91	1,036.50	1.85	-0.16	0.012
101.00	-6.24	-0.81	0.00	-5.75	0.00	5.75	1,662.79	831.39	2,035.15	1,019.09	1.89	-0.16	0.009
104.00	-5.38	-0.71	0.00	-3.32	0.00	3.32	1,627.96	813.98	1,931.80	967.34	1.99	-0.16	0.007
105.00	-4.95	-0.65	0.00	-2.61	0.00	2.61	1,616.13	808.07	1,897.68	950.25	2.02	-0.16	0.006
109.00	-0.09	-0.01	0.00	-0.01	0.00	0.01	1,567.77	783.88	1,762.92	882.77	2.16	-0.16	0.000
110.00	0.00	0.00	0.00	0.00	0.00	0.00	1,555.41	777.71	1,729.69	866.13	2.19	-0.16	0.000
111.00	0.00	0.00	0.00	0.00	0.00	0.00	1,542.95	771.47	1,696.65	849.58	2.23	-0.16	0.000

Site Number: 411258

Code: ANSI/TIA-222-G

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Site Name: Farmington North 2 CT, CT

Engineering Number: OAA715612_C3_01

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Customer: VERIZON WIRELESS

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	-33.05	-3.12	0.00	-257.34	0.00	257.34	6,566.18	3,283.09	15,772.8	7,898.16	0.00	0.00	0.038
5.00	-31.59	-3.12	0.00	-241.74	0.00	241.74	6,448.38	3,224.19	15,089.0	7,555.74	0.00	-0.01	0.037
10.00	-30.17	-3.11	0.00	-226.16	0.00	226.16	6,327.91	3,163.95	14,413.8	7,217.61	0.02	-0.02	0.036
15.00	-28.78	-3.09	0.00	-210.64	0.00	210.64	6,204.77	3,102.38	13,747.6	6,884.02	0.04	-0.03	0.035
20.00	-27.42	-3.06	0.00	-195.21	0.00	195.21	6,078.95	3,039.48	13,090.9	6,555.22	0.08	-0.04	0.034
25.00	-26.10	-3.02	0.00	-179.91	0.00	179.91	5,950.47	2,975.24	12,444.4	6,231.45	0.12	-0.05	0.033
30.00	-24.81	-2.98	0.00	-164.80	0.00	164.80	5,819.32	2,909.66	11,808.4	5,912.97	0.17	-0.05	0.032
35.00	-23.56	-2.92	0.00	-149.92	0.00	149.92	5,658.36	2,829.18	11,130.0	5,573.30	0.23	-0.06	0.031
40.00	-22.63	-2.88	0.00	-135.30	0.00	135.30	5,481.38	2,740.69	10,441.2	5,228.37	0.30	-0.07	0.030
43.83	-22.12	-2.85	0.00	-124.29	0.00	124.29	5,345.87	2,672.94	9,928.68	4,971.72	0.37	-0.08	0.029
45.00	-20.02	-2.72	0.00	-120.95	0.00	120.95	5,304.39	2,652.20	9,774.36	4,894.45	0.39	-0.08	0.028
50.00	-19.95	-2.71	0.00	-107.36	0.00	107.36	5,127.41	2,563.70	9,129.52	4,571.55	0.48	-0.09	0.027
50.17	-18.95	-2.64	0.00	-106.89	0.00	106.89	4,537.16	2,268.58	8,256.36	4,134.32	0.48	-0.09	0.030
55.00	-18.14	-2.58	0.00	-94.13	0.00	94.13	4,425.87	2,212.93	7,788.33	3,899.95	0.58	-0.10	0.028
59.00	-17.42	-2.52	0.00	-83.80	0.00	83.80	4,304.44	2,152.22	7,360.60	3,685.77	0.66	-0.11	0.027
60.00	-16.63	-2.45	0.00	-81.28	0.00	81.28	4,273.47	2,136.74	7,254.51	3,632.65	0.69	-0.11	0.026
64.00	-15.92	-2.39	0.00	-71.47	0.00	71.47	4,149.58	2,074.79	6,837.85	3,424.01	0.78	-0.12	0.025
65.00	-15.16	-2.31	0.00	-69.08	0.00	69.08	4,118.61	2,059.30	6,735.61	3,372.81	0.80	-0.12	0.024
69.00	-14.46	-2.24	0.00	-59.83	0.00	59.83	3,994.72	1,997.36	6,334.35	3,171.88	0.91	-0.12	0.022
70.00	-13.72	-2.16	0.00	-57.59	0.00	57.59	3,963.75	1,981.87	6,235.97	3,122.62	0.93	-0.13	0.022
74.00	-13.02	-2.08	0.00	-48.94	0.00	48.94	3,839.86	1,919.93	5,850.11	2,929.41	1.04	-0.13	0.020
75.00	-12.31	-2.00	0.00	-46.85	0.00	46.85	3,808.88	1,904.44	5,755.58	2,882.07	1.07	-0.13	0.019
79.00	-11.62	-1.91	0.00	-38.86	0.00	38.86	3,684.99	1,842.50	5,385.13	2,696.57	1.18	-0.14	0.018
80.00	-10.93	-1.83	0.00	-36.94	0.00	36.94	3,654.02	1,827.01	5,294.44	2,651.15	1.21	-0.14	0.017
84.00	-10.24	-1.74	0.00	-29.64	0.00	29.64	3,530.13	1,765.07	4,939.39	2,473.37	1.33	-0.15	0.015
85.00	-9.58	-1.64	0.00	-27.90	0.00	27.90	3,499.16	1,749.58	4,852.56	2,429.89	1.36	-0.15	0.014
89.00	-8.95	-1.55	0.00	-21.33	0.00	21.33	3,375.27	1,687.63	4,512.92	2,259.81	1.49	-0.15	0.012
89.66	-8.87	-1.54	0.00	-20.31	0.00	20.31	3,354.86	1,677.43	4,458.16	2,232.39	1.51	-0.15	0.012
90.00	-7.93	-1.40	0.00	-19.78	0.00	19.78	3,344.30	1,672.15	4,429.93	2,218.26	1.52	-0.15	0.011
94.00	-7.33	-1.31	0.00	-14.18	0.00	14.18	3,220.41	1,610.20	4,105.69	2,055.90	1.65	-0.15	0.009
94.35	-7.26	-1.30	0.00	-13.73	0.00	13.73	1,736.61	868.31	2,269.16	1,136.27	1.66	-0.15	0.016
95.00	-6.85	-1.23	0.00	-12.88	0.00	12.88	1,729.57	864.78	2,245.90	1,124.62	1.68	-0.16	0.015
99.00	-6.24	-1.13	0.00	-7.95	0.00	7.95	1,685.48	842.74	2,104.83	1,053.98	1.81	-0.16	0.011
100.00	-6.14	-1.11	0.00	-6.83	0.00	6.83	1,674.19	837.09	2,069.91	1,036.50	1.84	-0.16	0.010
101.00	-4.33	-0.81	0.00	-5.71	0.00	5.71	1,662.79	831.39	2,035.15	1,019.09	1.88	-0.16	0.008
104.00	-3.74	-0.70	0.00	-3.30	0.00	3.30	1,627.96	813.98	1,931.80	967.34	1.98	-0.16	0.006
105.00	-3.44	-0.65	0.00	-2.59	0.00	2.59	1,616.13	808.07	1,897.68	950.25	2.01	-0.16	0.005
109.00	-0.06	-0.01	0.00	-0.01	0.00	0.01	1,567.77	783.88	1,762.92	882.77	2.15	-0.16	0.000
110.00	0.00	0.00	0.00	0.00	0.00	0.00	1,555.41	777.71	1,729.69	866.13	2.18	-0.16	0.000
111.00	0.00	0.00	0.00	0.00	0.00	0.00	1,542.95	771.47	1,696.65	849.58	2.22	-0.16	0.000

Site Number: 411258

Code: ANSI/TIA-222-G

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Site Name: Farmington North 2 CT, CT

Engineering Number: OAA715612_C3_01

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Customer: VERIZON WIRELESS

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_s):	0.18
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}):	0.19
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Period Based on Rayleigh Method (sec):	1.14
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)
39	110.50	73	1.873	1.892	1.108	0.387	24	90
38	109.50	74	1.839	1.723	1.046	0.366	23	91
37	107.00	350	1.756	1.347	0.904	0.316	96	433
36	104.50	89	1.675	1.030	0.777	0.271	21	111
35	102.50	273	1.612	0.815	0.686	0.237	56	339
34	100.50	116	1.549	0.630	0.603	0.207	21	144
33	99.50	117	1.519	0.548	0.565	0.192	20	145
32	97.00	477	1.443	0.371	0.478	0.159	66	590
31	94.67	79	1.375	0.238	0.406	0.131	9	98
30	94.17	93	1.360	0.213	0.392	0.126	10	115
29	92.00	1,094	1.298	0.118	0.335	0.104	99	1,355
28	89.83	95	1.238	0.043	0.284	0.085	7	118
27	89.33	125	1.224	0.029	0.273	0.081	9	155
26	87.00	771	1.161	-0.029	0.227	0.064	43	956
25	84.50	196	1.095	-0.073	0.184	0.050	9	243
24	82.00	800	1.031	-0.101	0.148	0.039	27	991
23	79.50	203	0.970	-0.116	0.117	0.031	5	252
22	77.00	828	0.909	-0.122	0.091	0.026	19	1,026
21	74.50	211	0.851	-0.119	0.070	0.023	4	261
20	72.00	857	0.795	-0.111	0.052	0.022	17	1,061
19	69.50	218	0.741	-0.099	0.039	0.023	4	270
18	67.00	885	0.689	-0.083	0.028	0.025	19	1,096
17	64.50	225	0.638	-0.067	0.019	0.028	6	278
16	62.00	913	0.590	-0.049	0.013	0.031	25	1,131
15	59.50	232	0.543	-0.032	0.009	0.035	7	287
14	57.00	942	0.498	-0.016	0.007	0.038	31	1,167
13	52.59	1,166	0.424	0.010	0.006	0.042	42	1,445
12	50.09	84	0.385	0.023	0.007	0.043	3	104
11	47.50	2,439	0.346	0.034	0.009	0.044	94	3,021
10	44.41	583	0.303	0.045	0.012	0.045	23	722
9	41.91	1,085	0.269	0.052	0.015	0.044	42	1,344
8	37.50	1,453	0.216	0.061	0.021	0.043	54	1,800
7	32.50	1,493	0.162	0.067	0.028	0.040	52	1,850
6	27.50	1,534	0.116	0.070	0.035	0.037	49	1,900

Site Number: 411258

Code: ANSI/TIA-222-G

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Site Name: Farmington North 2 CT, CT

Engineering Number: OAA715612_C3_01

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Customer: VERIZON WIRELESS

5	22.50	1,574	0.078	0.072	0.040	0.034	46	1,950
4	17.50	1,615	0.047	0.071	0.042	0.031	43	2,000
3	12.50	1,655	0.024	0.066	0.039	0.027	39	2,051
2	7.50	1,696	0.009	0.053	0.030	0.021	31	2,101
1	2.50	1,630	0.001	0.024	0.013	0.010	14	2,019
Samsung PCS/AWS	109.00	253	1.823	1.643	1.016	0.356	78	314
Samsung 700/850MHz D	109.00	211	1.823	1.643	1.016	0.356	65	261
Raycap RC2DC-3315-PF	109.00	64	1.823	1.643	1.016	0.356	20	79
Antel LPA-80063/4CF	109.00	120	1.823	1.643	1.016	0.356	37	149
Commscope SBNHH-	109.00	304	1.823	1.643	1.016	0.356	94	377
Flat T-Arm	109.00	750	1.823	1.643	1.016	0.356	231	929
Pine Branch	109.00	600	1.823	1.643	1.016	0.356	185	743
VZW Unused Reserve:	109.00	1,548	1.823	1.643	1.016	0.356	477	1,917
Pine Branch	104.00	600	1.659	0.973	0.753	0.262	136	743
RCU	101.00	18	1.565	0.674	0.623	0.214	3	22
Raycap DC6-48-60-18-	101.00	33	1.565	0.674	0.623	0.214	6	41
CCI DTMABP7819VG12A	101.00	173	1.565	0.674	0.623	0.214	32	214
Ericsson RRUS-11 (50	101.00	300	1.565	0.674	0.623	0.214	56	372
Andrew SBNH-1D6565C	101.00	547	1.565	0.674	0.623	0.214	102	678
Flat T-Arm	101.00	750	1.565	0.674	0.623	0.214	139	929
Pine Branch	99.00	600	1.503	0.510	0.547	0.185	96	743
Pine Branch	94.00	600	1.355	0.205	0.387	0.124	64	743
Pine Branch	89.00	600	1.215	0.019	0.266	0.078	41	743
Pine Branch	84.00	600	1.082	-0.079	0.176	0.048	25	743
Pine Branch	79.00	600	0.957	-0.118	0.111	0.030	15	743
Pine Branch	74.00	600	0.840	-0.118	0.066	0.023	12	743
Pine Branch	69.00	600	0.730	-0.096	0.036	0.024	12	743
Pine Branch	64.00	600	0.628	-0.063	0.018	0.029	15	743
Pine Branch	59.00	600	0.534	-0.029	0.009	0.035	18	743
		40,012	67.128	27.016	23.401	8.531	3,169	49,567

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)
39	110.50	73	1.873	1.892	1.108	0.387	24	63
38	109.50	74	1.839	1.723	1.046	0.366	23	63
37	107.00	350	1.756	1.347	0.904	0.316	96	301
36	104.50	89	1.675	1.030	0.777	0.271	21	77
35	102.50	273	1.612	0.815	0.686	0.237	56	235
34	100.50	116	1.549	0.630	0.603	0.207	21	100
33	99.50	117	1.519	0.548	0.565	0.192	20	101
32	97.00	477	1.443	0.371	0.478	0.159	66	410
31	94.67	79	1.375	0.238	0.406	0.131	9	68
30	94.17	93	1.360	0.213	0.392	0.126	10	80
29	92.00	1,094	1.298	0.118	0.335	0.104	99	942
28	89.83	95	1.238	0.043	0.284	0.085	7	82
27	89.33	125	1.224	0.029	0.273	0.081	9	108
26	87.00	771	1.161	-0.029	0.227	0.064	43	664
25	84.50	196	1.095	-0.073	0.184	0.050	9	169
24	82.00	800	1.031	-0.101	0.148	0.039	27	689
23	79.50	203	0.970	-0.116	0.117	0.031	5	175
22	77.00	828	0.909	-0.122	0.091	0.026	19	713
21	74.50	211	0.851	-0.119	0.070	0.023	4	181
20	72.00	857	0.795	-0.111	0.052	0.022	17	738
19	69.50	218	0.741	-0.099	0.039	0.023	4	187
18	67.00	885	0.689	-0.083	0.028	0.025	19	762
17	64.50	225	0.638	-0.067	0.019	0.028	6	194
16	62.00	913	0.590	-0.049	0.013	0.031	25	786

Site Number: 411258

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Site Name: Farmington North 2 CT, CT

Engineering Number:OAA715612_C3_01

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Customer: VERIZON WIRELESS

15	59.50	232	0.543	-0.032	0.009	0.035	7	200
14	57.00	942	0.498	-0.016	0.007	0.038	31	811
13	52.59	1,166	0.424	0.010	0.006	0.042	42	1,004
12	50.09	84	0.385	0.023	0.007	0.043	3	72
11	47.50	2,439	0.346	0.034	0.009	0.044	94	2,100
10	44.41	583	0.303	0.045	0.012	0.045	23	502
9	41.91	1,085	0.269	0.052	0.015	0.044	42	934
8	37.50	1,453	0.216	0.061	0.021	0.043	54	1,251
7	32.50	1,493	0.162	0.067	0.028	0.040	52	1,286
6	27.50	1,534	0.116	0.070	0.035	0.037	49	1,321
5	22.50	1,574	0.078	0.072	0.040	0.034	46	1,356
4	17.50	1,615	0.047	0.071	0.042	0.031	43	1,391
3	12.50	1,655	0.024	0.066	0.039	0.027	39	1,425
2	7.50	1,696	0.009	0.053	0.030	0.021	31	1,460
1	2.50	1,630	0.001	0.024	0.013	0.010	14	1,404
Samsung PCS/AWS	109.00	253	1.823	1.643	1.016	0.356	78	218
Samsung 700/850MHz D	109.00	211	1.823	1.643	1.016	0.356	65	182
Raycap RC2DC-3315-PF	109.00	64	1.823	1.643	1.016	0.356	20	55
Antel LPA-80063/4CF	109.00	120	1.823	1.643	1.016	0.356	37	103
Commscope SBNHH-Flat T-Arm	109.00	304	1.823	1.643	1.016	0.356	94	262
Pine Branch	109.00	750	1.823	1.643	1.016	0.356	231	646
VZW Unused Reserve:	109.00	1,548	1.823	1.643	1.016	0.356	477	1,333
Pine Branch	104.00	600	1.659	0.973	0.753	0.262	136	517
RCU	101.00	18	1.565	0.674	0.623	0.214	3	16
Raycap DC6-48-60-18-	101.00	33	1.565	0.674	0.623	0.214	6	28
CCI DTMABP7819VG12A	101.00	173	1.565	0.674	0.623	0.214	32	149
Ericsson RRUS-11 (50	101.00	300	1.565	0.674	0.623	0.214	56	258
Andrew SBNH-1D6565C	101.00	547	1.565	0.674	0.623	0.214	102	471
Flat T-Arm	101.00	750	1.565	0.674	0.623	0.214	139	646
Pine Branch	99.00	600	1.503	0.510	0.547	0.185	96	517
Pine Branch	94.00	600	1.355	0.205	0.387	0.124	64	517
Pine Branch	89.00	600	1.215	0.019	0.266	0.078	41	517
Pine Branch	84.00	600	1.082	-0.079	0.176	0.048	25	517
Pine Branch	79.00	600	0.957	-0.118	0.111	0.030	15	517
Pine Branch	74.00	600	0.840	-0.118	0.066	0.023	12	517
Pine Branch	69.00	600	0.730	-0.096	0.036	0.024	12	517
Pine Branch	64.00	600	0.628	-0.063	0.018	0.029	15	517
Pine Branch	59.00	600	0.534	-0.029	0.009	0.035	18	517
		40,012	67.128	27.016	23.401	8.531	3,169	34,457

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	-47.55	-3.16	0.00	-285.02	0.00	285.02	6,566.18	3,283.09	15,772.8	7,898.16	0.00	0.00	0.043
5.00	-45.45	-3.14	0.00	-269.22	0.00	269.22	6,448.38	3,224.19	15,089.0	7,555.74	0.01	-0.01	0.043
10.00	-43.40	-3.10	0.00	-253.55	0.00	253.55	6,327.91	3,163.95	14,413.8	7,217.61	0.02	-0.02	0.042
15.00	-41.39	-3.07	0.00	-238.03	0.00	238.03	6,204.77	3,102.38	13,747.6	6,884.02	0.05	-0.03	0.041
20.00	-39.44	-3.03	0.00	-222.70	0.00	222.70	6,078.95	3,039.48	13,090.9	6,555.22	0.08	-0.04	0.040
25.00	-37.54	-2.98	0.00	-207.57	0.00	207.57	5,950.47	2,975.24	12,444.4	6,231.45	0.13	-0.05	0.040
30.00	-35.69	-2.94	0.00	-192.66	0.00	192.66	5,819.32	2,909.66	11,808.4	5,912.97	0.19	-0.06	0.039
35.00	-33.89	-2.89	0.00	-177.98	0.00	177.98	5,658.36	2,829.18	11,130.0	5,573.30	0.26	-0.07	0.038
40.00	-32.55	-2.85	0.00	-163.55	0.00	163.55	5,481.38	2,740.69	10,441.2	5,228.37	0.34	-0.08	0.037
43.83	-31.83	-2.83	0.00	-152.65	0.00	152.65	5,345.87	2,672.94	9,928.68	4,971.72	0.41	-0.09	0.037
45.00	-28.81	-2.73	0.00	-149.33	0.00	149.33	5,304.39	2,652.20	9,774.36	4,894.45	0.44	-0.09	0.036
50.00	-28.70	-2.73	0.00	-135.67	0.00	135.67	5,127.41	2,563.70	9,129.52	4,571.55	0.54	-0.11	0.035
50.17	-27.26	-2.69	0.00	-135.20	0.00	135.20	4,537.16	2,268.58	8,256.36	4,134.32	0.55	-0.11	0.039
55.00	-26.09	-2.66	0.00	-122.22	0.00	122.22	4,425.87	2,212.93	7,788.33	3,899.95	0.66	-0.12	0.037
59.00	-25.06	-2.64	0.00	-111.58	0.00	111.58	4,304.44	2,152.22	7,360.60	3,685.77	0.76	-0.13	0.036
60.00	-23.93	-2.61	0.00	-108.94	0.00	108.94	4,273.47	2,136.74	7,254.51	3,632.65	0.79	-0.13	0.036
64.00	-22.91	-2.59	0.00	-98.50	0.00	98.50	4,149.58	2,074.79	6,837.85	3,424.01	0.90	-0.14	0.034
65.00	-21.81	-2.57	0.00	-95.91	0.00	95.91	4,118.61	2,059.30	6,735.61	3,372.81	0.93	-0.14	0.034
69.00	-20.80	-2.55	0.00	-85.62	0.00	85.62	3,994.72	1,997.36	6,334.35	3,171.88	1.05	-0.15	0.032
70.00	-19.73	-2.54	0.00	-83.07	0.00	83.07	3,963.75	1,981.87	6,235.97	3,122.62	1.08	-0.15	0.032
74.00	-18.73	-2.52	0.00	-72.93	0.00	72.93	3,839.86	1,919.93	5,850.11	2,929.41	1.22	-0.16	0.030
75.00	-17.70	-2.50	0.00	-70.41	0.00	70.41	3,808.88	1,904.44	5,755.58	2,882.07	1.25	-0.16	0.029
79.00	-16.71	-2.48	0.00	-60.41	0.00	60.41	3,684.99	1,842.50	5,385.13	2,696.57	1.39	-0.17	0.027
80.00	-15.72	-2.45	0.00	-57.93	0.00	57.93	3,654.02	1,827.01	5,294.44	2,651.15	1.43	-0.17	0.026
84.00	-14.73	-2.41	0.00	-48.14	0.00	48.14	3,530.13	1,765.07	4,939.39	2,473.37	1.58	-0.18	0.024
85.00	-13.78	-2.37	0.00	-45.73	0.00	45.73	3,499.16	1,749.58	4,852.56	2,429.89	1.62	-0.18	0.023
89.00	-12.88	-2.32	0.00	-36.25	0.00	36.25	3,375.27	1,687.63	4,512.92	2,259.81	1.77	-0.19	0.020
89.66	-12.76	-2.31	0.00	-34.73	0.00	34.73	3,354.86	1,677.43	4,458.16	2,232.39	1.80	-0.19	0.019
90.00	-11.40	-2.21	0.00	-33.94	0.00	33.94	3,344.30	1,672.15	4,429.93	2,218.26	1.81	-0.19	0.019
94.00	-10.55	-2.13	0.00	-25.11	0.00	25.11	3,220.41	1,610.20	4,105.69	2,055.90	1.98	-0.20	0.015
94.35	-10.45	-2.12	0.00	-24.37	0.00	24.37	1,736.61	868.31	2,269.16	1,136.27	1.99	-0.20	0.027
95.00	-9.86	-2.05	0.00	-22.99	0.00	22.99	1,729.57	864.78	2,245.90	1,124.62	2.02	-0.20	0.026
99.00	-8.97	-1.94	0.00	-14.77	0.00	14.77	1,685.48	842.74	2,104.83	1,053.98	2.19	-0.21	0.019
100.00	-8.83	-1.91	0.00	-12.84	0.00	12.84	1,674.19	837.09	2,069.91	1,036.50	2.23	-0.21	0.018
101.00	-6.23	-1.51	0.00	-10.92	0.00	10.92	1,662.79	831.39	2,035.15	1,019.09	2.28	-0.21	0.014
104.00	-5.38	-1.35	0.00	-6.39	0.00	6.39	1,627.96	813.98	1,931.80	967.34	2.41	-0.21	0.010
105.00	-4.95	-1.25	0.00	-5.04	0.00	5.04	1,616.13	808.07	1,897.68	950.25	2.45	-0.21	0.008
109.00	-0.09	-0.02	0.00	-0.02	0.00	0.02	1,567.77	783.88	1,762.92	882.77	2.63	-0.21	0.000
110.00	0.00	0.00	0.00	0.00	0.00	0.00	1,555.41	777.71	1,729.69	866.13	2.68	-0.21	0.000
111.00	0.00	0.00	0.00	0.00	0.00	0.00	1,542.95	771.47	1,696.65	849.58	2.72	-0.21	0.000

Site Number: 411258

Code: ANSI/TIA-222-G

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Site Name: Farmington North 2 CT, CT

Engineering Number: OAA715612_C3_01

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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	-33.05	-3.16	0.00	-283.71	0.00	283.71	6,566.18	3,283.09	15,772.8	7,898.16	0.00	0.00	0.041
5.00	-31.59	-3.13	0.00	-267.92	0.00	267.92	6,448.38	3,224.19	15,089.0	7,555.74	0.01	-0.01	0.040
10.00	-30.17	-3.10	0.00	-252.26	0.00	252.26	6,327.91	3,163.95	14,413.8	7,217.61	0.02	-0.02	0.040
15.00	-28.77	-3.06	0.00	-236.78	0.00	236.78	6,204.77	3,102.38	13,747.6	6,884.02	0.05	-0.03	0.039
20.00	-27.42	-3.02	0.00	-221.48	0.00	221.48	6,078.95	3,039.48	13,090.9	6,555.22	0.08	-0.04	0.038
25.00	-26.10	-2.97	0.00	-206.40	0.00	206.40	5,950.47	2,975.24	12,444.4	6,231.45	0.13	-0.05	0.038
30.00	-24.81	-2.92	0.00	-191.55	0.00	191.55	5,819.32	2,909.66	11,808.4	5,912.97	0.19	-0.06	0.037
35.00	-23.56	-2.87	0.00	-176.93	0.00	176.93	5,658.36	2,829.18	11,130.0	5,573.30	0.26	-0.07	0.036
40.00	-22.62	-2.83	0.00	-162.58	0.00	162.58	5,481.38	2,740.69	10,441.2	5,228.37	0.34	-0.08	0.035
43.83	-22.12	-2.81	0.00	-151.73	0.00	151.73	5,345.87	2,672.94	9,928.68	4,971.72	0.41	-0.09	0.035
45.00	-20.02	-2.72	0.00	-148.44	0.00	148.44	5,304.39	2,652.20	9,774.36	4,894.45	0.44	-0.09	0.034
50.00	-19.95	-2.72	0.00	-134.86	0.00	134.86	5,127.41	2,563.70	9,129.52	4,571.55	0.54	-0.11	0.033
50.17	-18.95	-2.67	0.00	-134.38	0.00	134.38	4,537.16	2,268.58	8,256.36	4,134.32	0.54	-0.11	0.037
55.00	-18.13	-2.64	0.00	-121.48	0.00	121.48	4,425.87	2,212.93	7,788.33	3,899.95	0.66	-0.12	0.035
59.00	-17.42	-2.62	0.00	-110.91	0.00	110.91	4,304.44	2,152.22	7,360.60	3,685.77	0.76	-0.13	0.034
60.00	-16.63	-2.59	0.00	-108.29	0.00	108.29	4,273.47	2,136.74	7,254.51	3,632.65	0.78	-0.13	0.034
64.00	-15.92	-2.57	0.00	-97.91	0.00	97.91	4,149.58	2,074.79	6,837.85	3,424.01	0.90	-0.14	0.032
65.00	-15.16	-2.55	0.00	-95.34	0.00	95.34	4,118.61	2,059.30	6,735.61	3,372.81	0.93	-0.14	0.032
69.00	-14.45	-2.54	0.00	-85.13	0.00	85.13	3,994.72	1,997.36	6,334.35	3,171.88	1.05	-0.15	0.030
70.00	-13.72	-2.52	0.00	-82.59	0.00	82.59	3,963.75	1,981.87	6,235.97	3,122.62	1.08	-0.15	0.030
74.00	-13.02	-2.50	0.00	-72.51	0.00	72.51	3,839.86	1,919.93	5,850.11	2,929.41	1.21	-0.16	0.028
75.00	-12.30	-2.48	0.00	-70.01	0.00	70.01	3,808.88	1,904.44	5,755.58	2,882.07	1.24	-0.16	0.028
79.00	-11.61	-2.46	0.00	-60.08	0.00	60.08	3,684.99	1,842.50	5,385.13	2,696.57	1.38	-0.17	0.025
80.00	-10.92	-2.43	0.00	-57.62	0.00	57.62	3,654.02	1,827.01	5,294.44	2,651.15	1.42	-0.17	0.025
84.00	-10.24	-2.40	0.00	-47.89	0.00	47.89	3,530.13	1,765.07	4,939.39	2,473.37	1.57	-0.18	0.022
85.00	-9.57	-2.35	0.00	-45.49	0.00	45.49	3,499.16	1,749.58	4,852.56	2,429.89	1.61	-0.18	0.021
89.00	-8.95	-2.30	0.00	-36.07	0.00	36.07	3,375.27	1,687.63	4,512.92	2,259.81	1.76	-0.19	0.019
89.66	-8.87	-2.30	0.00	-34.55	0.00	34.55	3,354.86	1,677.43	4,458.16	2,232.39	1.79	-0.19	0.018
90.00	-7.93	-2.19	0.00	-33.77	0.00	33.77	3,344.30	1,672.15	4,429.93	2,218.26	1.80	-0.19	0.018
94.00	-7.33	-2.12	0.00	-24.99	0.00	24.99	3,220.41	1,610.20	4,105.69	2,055.90	1.97	-0.20	0.014
94.35	-7.26	-2.11	0.00	-24.25	0.00	24.25	1,736.61	868.31	2,269.16	1,136.27	1.98	-0.20	0.026
95.00	-6.85	-2.04	0.00	-22.88	0.00	22.88	1,729.57	864.78	2,245.90	1,124.62	2.01	-0.20	0.024
99.00	-6.23	-1.93	0.00	-14.70	0.00	14.70	1,685.48	842.74	2,104.83	1,053.98	2.18	-0.20	0.018
100.00	-6.13	-1.90	0.00	-12.78	0.00	12.78	1,674.19	837.09	2,069.91	1,036.50	2.22	-0.21	0.016
101.00	-4.33	-1.50	0.00	-10.87	0.00	10.87	1,662.79	831.39	2,035.15	1,019.09	2.26	-0.21	0.013
104.00	-3.74	-1.34	0.00	-6.36	0.00	6.36	1,627.96	813.98	1,931.80	967.34	2.39	-0.21	0.009
105.00	-3.44	-1.25	0.00	-5.02	0.00	5.02	1,616.13	808.07	1,897.68	950.25	2.44	-0.21	0.007
109.00	-0.06	-0.02	0.00	-0.02	0.00	0.02	1,567.77	783.88	1,762.92	882.77	2.62	-0.21	0.000
110.00	0.00	0.00	0.00	0.00	0.00	0.00	1,555.41	777.71	1,729.69	866.13	2.66	-0.21	0.000
111.00	0.00	0.00	0.00	0.00	0.00	0.00	1,542.95	771.47	1,696.65	849.58	2.70	-0.21	0.000

Site Number: 411258

Code: ANSI/TIA-222-G

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Site Name: Farmington North 2 CT, CT

Engineering Number: OAA715612_C3_01

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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	50.55	0.00	47.95	0.00	0.00	4344.45	0.00	0.56
0.9D + 1.6W	50.53	0.00	35.94	0.00	0.00	4328.48	0.00	0.55
1.2D + 1.0Di + 1.0Wi	15.34	0.00	83.03	0.00	0.00	1318.83	0.00	0.18
(1.2 + 0.2Sds) * DL + E ELFM	3.12	0.00	47.55	0.00	0.00	258.44	0.00	0.04
(1.2 + 0.2Sds) * DL + E EMAM	3.16	0.00	47.55	0.00	0.00	285.02	0.00	0.04
(0.9 - 0.2Sds) * DL + E ELFM	3.12	0.00	33.05	0.00	0.00	257.34	0.00	0.04
(0.9 - 0.2Sds) * DL + E EMAM	3.16	0.00	33.05	0.00	0.00	283.71	0.00	0.04
1.0D + 1.0W	12.09	0.00	40.01	0.00	0.00	1036.76	0.00	0.14

Site Number: 411258

Code: ANSI/TIA-222-G

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Site Name: Farmington North 2 CT, CT

Engineering Number: OAA715612_C3_01

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Customer: VERIZON WIRELESS

Base Summary

Reactions

Original Design			Analysis			
Moment (kip-ft)	Axial (kip)	Shear (kip)	Moment (kip-ft)	Axial (kip)	Shear (kip)	Moment Design %
6,395.50	48.80	68.90	4,344.45	83.03	50.55	50.32

Base Plate

Yield (ksi)	Thick (in)	Width (in)	Style	Poly Sides	Clip Len (in)	Effective Len (in)	Mu (kip-in)	Phi Mn (kip-in)	Ratio
50.0	3.000	73.000	Round	0	0.00	9.363	359.81	948.00	0.38

Anchor Bolts

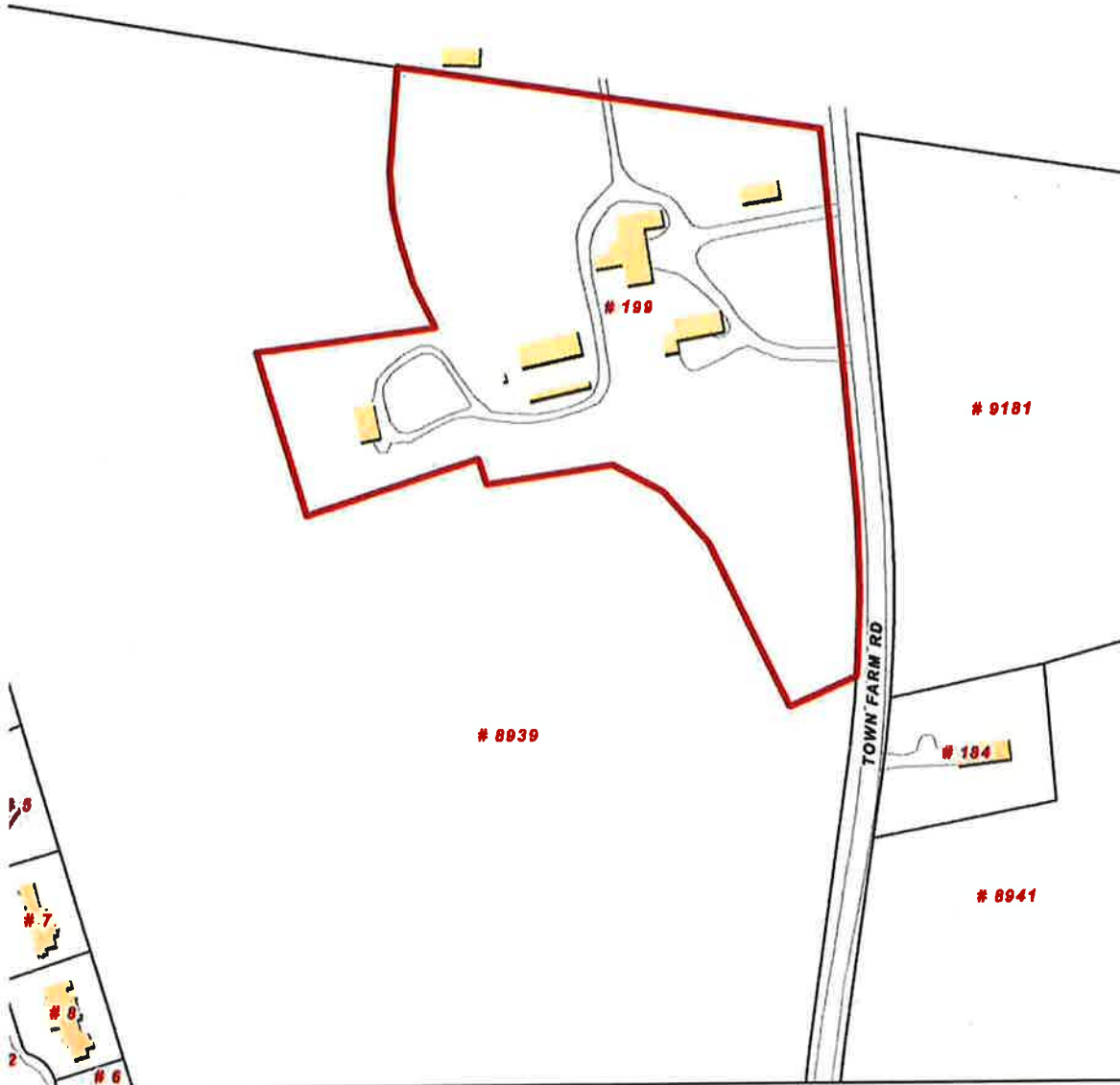
Bolt Circle	Num Bolts	Bolt Type	Bolt Dia (in)	Yield (ksi)	Ultimate (ksi)	Arrange	Cluster Dist (in)	Start Angle (deg)	Compression			Tension		
									Force (kip)	Allow (kip)	Ratio	Force (kip)	Allow (kip)	Ratio
67.00	20	2.25" 18J	2.25	75.00	100.00	Radial	0.00	0.0	159.77	260.00	0.63	151.47	260.00	0.60

ATTACHMENT 4

Town of Farmington, Connecticut - Assessment Parcel Map

UNIQUE ID: 19200199

Address: 199 TOWN FARM RD



Map Produced Aug 2017

Approximate Scale: 1 Inch = 200 feet

Disclaimer: This map is for informational purposes only. All information is subject to verification by any user. The Town of Farmington and its mapping contractors assume no legal responsibility for the information contained herein.



The Assessor's office is responsible for the maintenance of records on the ownership of properties. Assessments are computed at 70% of the estimated market value of real property at the time of the last revaluation which was 2012.



Information on the Property Records for the Municipality of Farmington was last updated on 11/13/2017.

Property Summary Information

[Parcel Data And Values](#)
[Building](#)
[Outbuildings](#)
[Sales](#)
[Google Map](#)

Parcel Information

Location:	199 TOWN FARM RD	Property Use:	Residential	Primary Use:	Residential
Unique ID:	19200199	Map Block Lot:	0017 27	Acres:	9.94
490 Acres:	0.00	Zone:	R40	Volume / Page:	0690/0666
Developers Map / Lot:		Census:	4602-01		

Value Information

	Appraised Value	70% Assessed Value
Land	224,878	157,420
Buildings	126,086	88,260
Detached Outbuildings	230,120	161,080
Total	581,084	406,760

Owner's Information

Owner's Data
 FARMINGTON TOWN OF
 C/O RODGER PHILLIPS
 199 TOWN FARM RD
 FARMINGTON, CT 06032

[Back To Search \(JavaScript>window.history.back\(1\);\)](#)

[Print View \(PrintPage.aspx?towncode=052&uniqueid=19200199\)](#)

ATTACHMENT 5



Certificate of Mailing — Firm

Name and Address of Sender

Kenneth C. Baldwin, Esq.
Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103

TOTAL NO.
of Pieces Listed by Sender

2

TOTAL NO.
of Pieces Received at Post Office™

2

Affix Stamp Here

Postmark with Date of Receipt.

neopost™
12/13/2017
US POSTAGE \$002.38
ZIP 06103
041L122083

Postmaster, per (name of receiving employee)

[Handwritten Signature]

USPS® Tracking Number
Firm-specific Identifier

Address
(Name, Street, City, State, and ZIP Code™)

1. Kathleen A. Eagen, Town Manager
Town of Farmington
1 Monteith Drive
Farmington, CT 06032

2. William Warner, Town Planner
Town of Farmington
1 Monteith Drive
Farmington, CT 06032

Postage

Fee

Special Handling

Parcel Airlift



1.

2.

3.

4.

5.

6.