



Alex Murshteyn, Site Acquisition Consultant
c/o T-Mobile Northeast LLC ("T-Mobile")
Centerline Communications, LLC
750 West Center Street, Floor 3
West Bridgewater, MA 02379
Mobile: (508) 821-0159
AMurshteyn@centerlinecommunications.com

June 6, 2018

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

**RE: Notice of Exempt Modification // Site Number: CTNH521A (ATC: 302480)
18(A) Jeremy Garden Lane (77 Pease Road), Woodbridge, CT 06525
N 41.3414 // W 72.9936**

Dear Ms. Bachman:

T-Mobile Northeast LLC ("T-Mobile") currently maintains 6 antennas at the 130-foot level of the existing 150-foot monopole tower located at 18 Jeremy Garden Lane (aka 77 Pease Road), Woodbridge, CT. The Council has allowed T-Mobile predecessors' use of the existing site since 2008. The tower is owned by American Tower Corporation. Properties are owned by Kenneth W. Johnson. T-Mobile now intends to install 1 new microwave backhaul channel (5.0 GHz) at the 128-foot level of the tower. T-Mobile will also install 2 new CATs and 1 new fiber cable in order to connect the microwave dish.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Beth Heller, First Selectman for the Town of Woodbridge, the Town's Zoning Enforcement Officer Terry Gilbertson, including for Town Plan & Zoning Commission, American Tower, the tower owner and the ground owner, Kenneth W. Johnson.

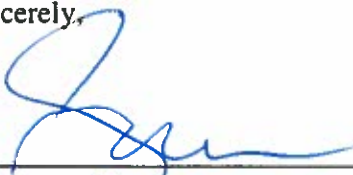
The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

Enclosed to accommodate this filing are construction drawings dated May 31, 2018 by A.T. Engineering Service, PLLC a structural analysis dated April 12, 2018 by A.T. Engineering Service, PLLC and an RF Emissions Analysis Report dated April 17, 2018 by EBI Consulting.

1. The proposed modifications will not result in an increase in the height of the existing structure.
2. The proposed modifications will not require the extension of the site boundary.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the new antenna will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading, as shown in the attached structural analysis by A.T. Engineering Service, PLLC, dated April 12, 2018.

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

Sincerely,



Alex Murshteyn, Site Acquisition Consultant
c/o T-Mobile Northeast LLC
Centerline Communications, LLC
750 West Center Street, Floor 3
West Bridgewater, MA 02379
Mobile: (508) 821-0159
AMurshteyn@centerlinecommunications.com

Attachments

cc: Beth Heller, First Selectman, Town of Woodbridge - as elected official - 1Z9Y45030328527634
Terry Gilbertson, ZEO, Town Plan & Zoning - as P&Z officials - 1Z9Y45030321882021
American Tower Corporation - as tower owner - 1Z9Y45030334466242
Kenneth W. Johnson - as property owner - 1Z9Y45030320597850



AMERICAN TOWER®
CORPORATION

This report was prepared for American Tower Corporation by



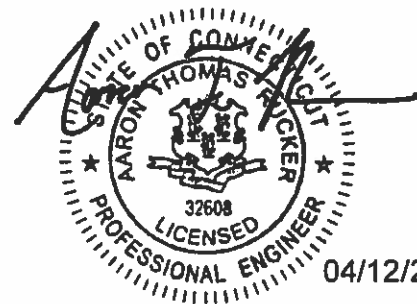
T O W E R
E N G I N E E R I N G
P R O F E S S I O N A L S

Structural Analysis Report

Structure : 150 ft Monopole
ATC Site Name : Woodbridge CT 1, CT
ATC Site Number : 302480
Engineering Number : OAA727016_C3_01
Proposed Carrier : Metro PCS
Carrier Site Name : CTNH521A
Carrier Site Number : CTNH521A
Site Location : 77 Pease Road
Woodbridge, CT 06525-2044
41.341400,-72.993600
County : New Haven
Date : April 12, 2018
Max Usage : 91%
Result : Pass

Prepared By:
Connor Klein
TEP

Reviewed By:



COA: PEC.0001553



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Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 150 ft monopole to reflect the change in loading by Metro PCS.

Supporting Documents

Tower Drawings	Smith Cullum Acquisition #CT-0016, dated May 15, 2001 AT&T SPEC #AT-8935, dated April 13, 1984
Foundation Drawing	Mapping By ATC, PIT ID#302480, dated April 1, 2009
Geotechnical Report	Johnson Soil Job#15220, dated May 20, 2002
Modifications	Spectrasite Drawing #CT-0016-E1, dated September 19, 2002 ATC Project #40430532, dated May 29, 2007 ATC Project #42299235, dated November 18, 2008 ATC Project #44303434, dated January 18, 2010 ATC Project #447950F2, dated April 2, 2010

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}) / 124 mph (3-Second Gust, V_{ult})
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
Code:	ANSI/TIA-222-G / 2012 IBC / 2016 Connecticut State Building Code
Structure Class:	II
Exposure Category:	B
Topographic Category:	1
Spectral Response:	$S_s = 0.19$, $S_1 = 0.06$
Site Class:	D - Stiff Soil

Conclusion

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

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



Existing and Reserved Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
150.0	153.0	6	Powerwave LGP13519	Platform w/ Handrails	(12) 1 5/8" Coax (2) 0.78" 8 AWG 6 (1) 3" Conduit (1) 0.39" Fiber Trunk	AT&T Mobility
		6	LGP TMA-DD 1900			
		1	Raycap DC6-48-60-18-8F ("Squid")			
		3	Ericsson RRUS 11 (Band 12) (55 lb)			
		3	Ericsson RRUS 32 B2			
		6	Powerwave 7770.00			
		3	CCI HPA-65R-BUU-H6			
	167.0	1	22' Omni		(2) 1 5/8" Coax	Other
160.0	1	20' Dipole		(2) 1 5/8" Coax		
142.0	142.0	1	Scala CL-FM	Flush	(1) 7/8" Coax	Blount Comm.
130.0	130.0	3	Ericsson RRUS 11 B12	Stand-Offs	(6) 1 5/8" Coax (1) 1 5/8" Hybriflex	Metro PCS
		3	Ericsson AIR 21, 1.3M, B2A B4P (91.5 lbs)			
		3	Ericsson AIR B4A/B12P-B8P, 4FT			
123.0	123.0	3	Alcatel-Lucent RRH2x40-AWS	Collar	(1) 1 5/8" Hybriflex	
		1	RFS DB-T1-6Z-8AB-OZ			
119.0	119.0	6	RFS FD9R6004/1C-3L	T-Arms	(12) 1 5/8" Coax	Verizon
		6	ADC ClearGain Dual Band 800/1900MHz			
		3	Antel BXA-171063-8BF-EDIN-X			
		3	Antel BXA-171085-8CF-EDIN-X			
		3	Antel BXA-80063/4CF			
		3	Antel BXA-70063/6CF			
107.0	107.0	1	GPS	Flush	(1) 1/2" Coax	
39.0	39.0	1	GPS	Flush	(1) 1/2" Coax	AT&T Mobility

Equipment to be Removed

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



Proposed Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
128.0	128.0	1	Fastback Intelligent Backhaul Radio 1300 Series	Flush	(2) 0.27" Cat 5e (1) 1.58" Hybrid	Metro PCS

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

Install proposed coax outside the pole shaft. Stacking coax is not allowed.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	62%	Pass
Shaft	90%	Pass
Base Plate	39%	Pass
Flanges	91%	Pass
Reinforcement	76%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Moment (Kips-Ft)	2,257.0	25%
Axial (Kips)	59.8	5%

The structure base reactions resulting from this analysis were found to be acceptable through analysis based on geotechnical and foundation information, therefore no modification or reinforcement of the foundation will be required.

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
128.0	Fastback Intelligent Backhaul Radio 1300 Series	Metro PCS	1.787	1.882

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

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

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

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

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

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

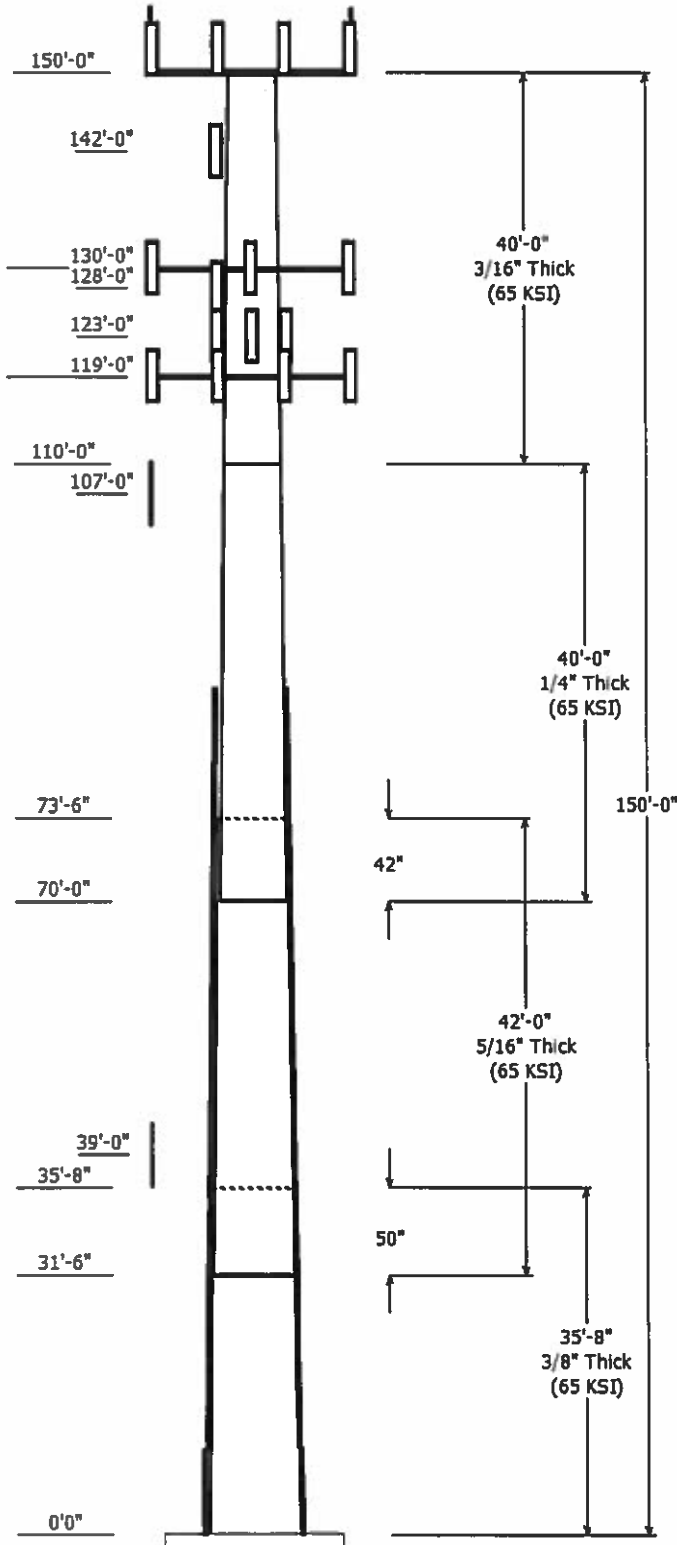
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Job Information	
Pole : 302480	Code: ANSI/TIA-222-G
Location : Woodbridge CT 1, CT	
Description : 150 ft ITT Meyer Monopole	
Client : METRO PCS INC	Struct Class : II
Shape : 12 Sides	Exposure : B
Height : 150.00 (ft)	Topo : 1
Base Elev (ft): 0.00	
Taper: 0.156707(in/ft)	

Sections Properties							
Shaft Section	Length (ft)	Diameter (In)		Thick Joint (in)	Type	Overlap Length (in)	Steel Grade Shape (ksi)
		Across Flats Top	Bottom				
1	35.667	31.791	37.380	0.375		0.000	12 Sides 65
2	42.000	26.487	33.069	0.313	Slip Joint	50.000	12 Sides 65
3	40.000	21.267	27.535	0.250	Slip Joint	42.000	12 Sides 65
4	40.000	14.999	21.267	0.188	Butt Joint	0.000	12 Sides 65

Discrete Appurtenance				
Attach Elev (ft)	Force Elev (ft)	Qty	Description	
150.000	153.000	3	Ericsson RRUS 32 B2	
150.000	153.000	3	CCI HPA-65R-BUU-H6	
150.000	160.000	1	20' Dipole	
150.000	167.000	1	22' Omni	
150.000	150.000	1	Flat Platform w/ Handrails	
150.000	153.000	6	Powerwave 7770.00	
150.000	153.000	3	Ericsson RRUS 11 (Band 12) (55	
150.000	153.000	1	Raycap DC6-48-60-18-8F ("Squid	
150.000	153.000	6	LGP Allgon TMA-DD 1900	
150.000	153.000	6	Powerwave LGP13519	
142.000	142.000	1	Scala CL-FM	
130.000	130.000	3	Ericsson AIR B4A/B12P-B8P, 4FT	
130.000	130.000	3	Stand-Off	
130.000	130.000	3	Ericsson AIR 21, 1.3M, B2A B4P	
130.000	130.000	3	Ericsson RRUS 11 B12	
128.000	128.000	1	Fastback Intelligent Backhaul	
123.000	123.000	1	RFS DB-T1-6Z-8AB-0Z	
123.000	123.000	3	Alcatel-Lucent RRH2x40-AWS	
119.000	119.000	6	ADC ClearGain Dual Band 800/19	
119.000	119.000	3	Amphenol Antel BXA-171085-	
119.000	119.000	3	Amphenol Antel BXA-171063-	
119.000	119.000	3	Antel BXA-70063/6CF_	
119.000	119.000	6	RFS FD9R6004/1C-3L	
119.000	119.000	3	Round T-Arms	
119.000	119.000	3	Antel BXA-80063/4CF	
107.000	107.000	1	GPS	
39.000	39.000	1	GPS	

Linear Appurtenance			
Elev From (ft)	To (ft)	Description	Exposed To Wind
33.000	81.000	Plate	Yes
0.000	94.000	#20 Reinforcement	Yes
0.000	107.00	1/2" Coax	No
0.000	119.00	1 5/8" Coax	No
0.000	123.00	1 5/8" Hybriflex	No
0.000	128.00	0.27" Cat 5e	Yes
0.000	128.00	1.58" Hybrid	Yes
0.000	130.00	1 5/8" Coax	Yes
0.000	130.00	1 5/8" Hybriflex	Yes

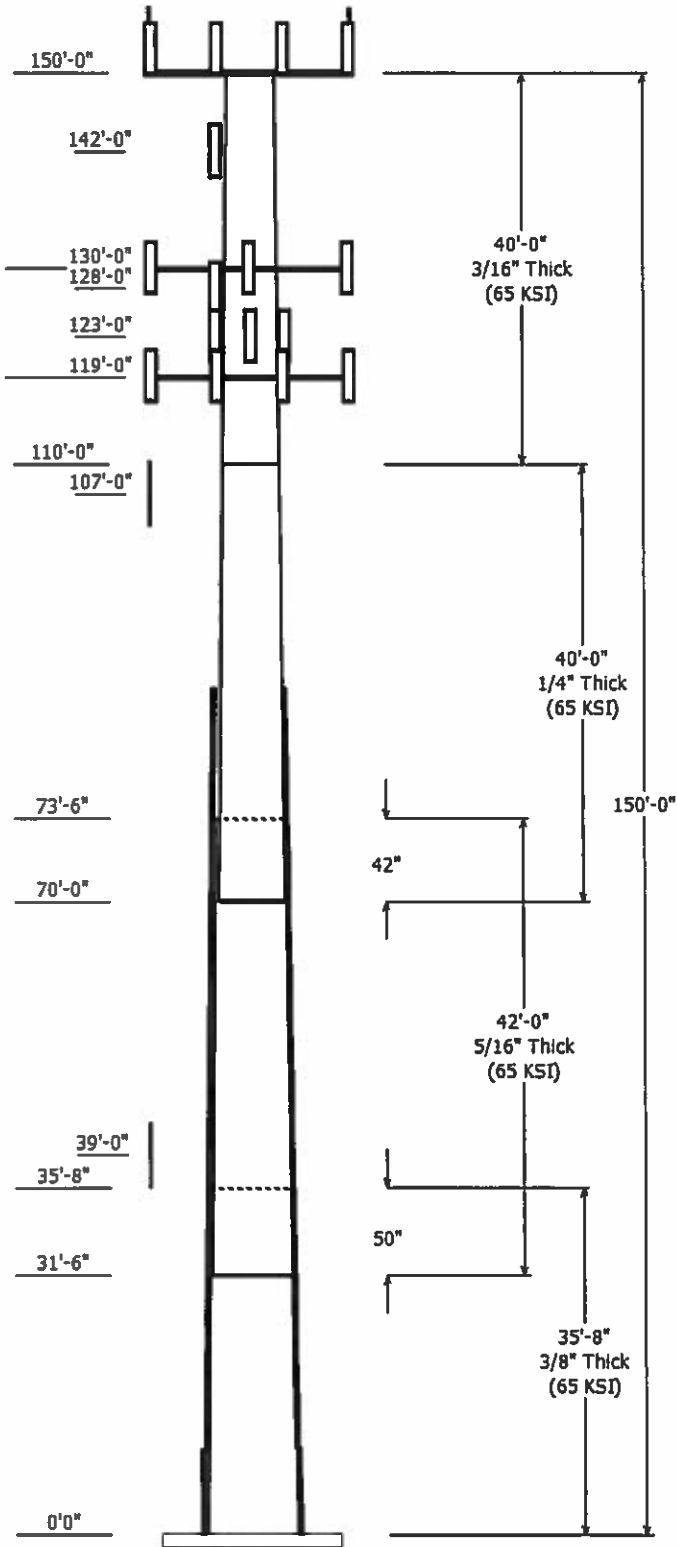


0.000	142.00	7/8" Coax	No
0.000	150.00	0.39" (10mm) Fiber	No
0.000	150.00	0.78" (19.7mm) 8	No
0.000	150.00	1 5/8" Coax	No
0.000	150.00	1 5/8" Coax	No
0.000	150.00	3" Conduit	No
0.000	39.000	1/2" Coax	No

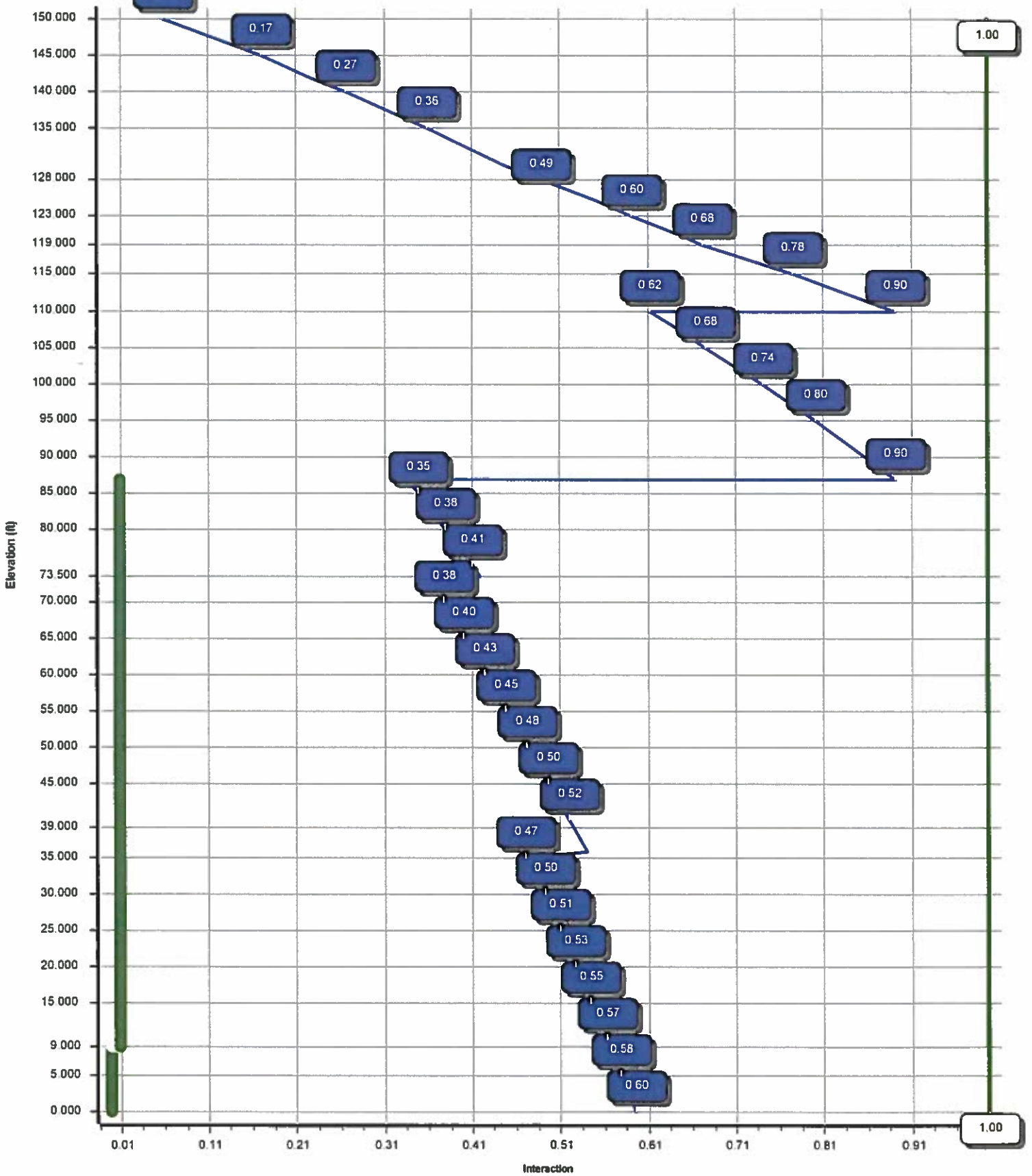
Load Cases	
1.2D + 1.6W	97 mph with No Ice
0.9D + 1.6W	97 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 in Radial Ice
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E	ELFM Seismic (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	2296.14	23.57	36.23
0.9D + 1.6W	2263.49	23.55	27.16
1.2D + 1.0Di + 1.0Wi	589.20	5.44	59.84
(1.2 + 0.2Sds) * DL + E ELFM	146.17	1.18	35.90
(1.2 + 0.2Sds) * DL + E EMAM	224.68	1.93	35.90
(0.9 - 0.2Sds) * DL + E ELFM	143.51	1.18	24.87
(0.9 - 0.2Sds) * DL + E EMAM	220.20	1.93	24.87
1.0D + 1.0W	551.83	5.75	30.23

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 89.57% at 110.0 ft



Site Number: 302480

Code: ANSI/TIA-222-G

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Site Name: Woodbridge CT 1, CT

Engineering Number: OAA727016_C3_01

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Customer: METRO PCS INC

Analysis Parameters

Location :	NEW HAVEN County, CT	Height (ft) :	150
Code :	ANSI/TIA-222-G	Base Diameter (in) :	37.38
Shape :	12 Sides	Top Diameter (in) :	15.00
Pole Type :	Taper	Taper (in/ft) :	0.157
Pole Manufacturer :	ITT Meyer	Rotation (deg) :	0.00

Ice & Wind Parameters

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

Seismic Parameters

Analysis Method:	Equivalent Modal Analysis & Equivalent Lateral Force Methods		
Site Class:	D - Stiff Soil		
Period Based on Rayleigh Method (sec):	2.62		
T _L (sec):	6	p:	1.3
S _s :	0.190	S ₁ :	0.063
F _a :	1.600	F _v :	2.400
S _{ds} :	0.203	S _{d1} :	0.101
		C _s :	0.030
		C _s Max:	0.030
		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 0.75 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: 302480

Code: ANSI/TIA-222-G

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Site Name: Woodbridge CT 1, CT

Engineering Number: OAA727016_C3_01

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Customer: METRO PCS INC

Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint Len (in)	Weight (lb)	Bottom					Top							
							Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Taper (in/ft)
1-12	35.667	0.3750	65		0.00	5,014	37.38	0.00	44.68	7810.1	24.03	99.68	31.791	35.67	37.93	4778.8	20.04	84.78	0.156707
2-12	42.000	0.3125	65	Slip	50.00	4,237	33.06	31.50	32.96	4514.1	25.67	105.82	26.487	73.50	26.34	2303.2	20.03	84.76	0.156707
3-12	40.000	0.2500	65	Slip	42.00	2,646	27.53	70.00	21.96	2087.3	26.83	110.14	21.267	110.00	16.92	953.9	20.11	85.07	0.156707
4-12	40.000	0.1875	65	Butt	0.00	1,475	21.26	110.00	12.73	721.8	27.71	113.43	14.999	150.00	8.94	250.4	18.76	79.99	0.156707
Shaft Weight						13,372													

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	Distance From Face (ft)	Vert Ecc (ft)	Weight (lb)	No Ice EPAa (sf)	Orientation Factor
150.00	20' Dipole	1	0.000	10.000	60.00	7.520	1.00
150.00	22' Omni	1	0.000	17.000	70.00	6.600	1.00
150.00	CCI HPA-65R-BUU-H6	3	0.000	3.000	51.00	9.660	0.69
150.00	Ericsson RRUS 11 (Band 12) (55	3	0.000	3.000	55.00	2.520	0.67
150.00	Ericsson RRUS 32 B2	3	0.000	3.000	53.00	2.740	0.67
150.00	Flat Platform w/ Handrails	1	0.000	0.000	2000.00	42.400	1.00
150.00	LGP Allgon TMA-DD 1900	6	0.000	3.000	10.40	0.590	0.50
150.00	Powerwave 7770.00	6	0.000	3.000	35.00	5.510	0.65
150.00	Powerwave LGP13519	6	0.000	3.000	5.30	0.340	0.50
150.00	Raycap DC6-48-60-18-8F ("Squid	1	0.000	3.000	31.80	1.280	1.00
142.00	Scala CL-FM	1	0.000	0.000	45.00	5.870	1.00
130.00	Ericsson AIR 21, 1.3M, B2A B4P	3	0.000	0.000	91.50	6.040	0.70
130.00	Ericsson AIR B4A/B12P-B8P, 4FT	3	0.000	0.000	113.00	7.420	0.70
130.00	Ericsson RRUS 11 B12	3	0.000	0.000	50.70	2.790	0.67
130.00	Stand-Off	3	0.000	0.000	100.00	3.000	0.67
128.00	Fastback Intelligent Backhaul	1	0.000	0.000	8.80	0.780	0.50
123.00	Alcatel-Lucent RRH2x40-AWS	3	0.000	0.000	44.00	2.160	0.67
123.00	RFS DB-T1-6Z-8AB-0Z	1	0.000	0.000	44.00	4.800	0.67
119.00	ADC ClearGain Dual Band 800/19	6	0.000	0.000	28.70	1.330	0.50
119.00	Amphenol Antel BXA-171063-8BF-	3	0.000	0.000	10.50	2.940	0.71
119.00	Amphenol Antel BXA-171085-8CF-	3	0.000	0.000	10.50	2.944	0.71
119.00	Antel BXA-70063/6CF_	3	0.000	0.000	17.00	7.730	0.65
119.00	Antel BXA-80063/4CF_	3	0.000	0.000	9.90	4.710	0.65
119.00	RFS FD9R6004/1C-3L	6	0.000	0.000	3.10	0.370	0.50
119.00	Round T-Arms	3	0.000	0.000	250.00	9.700	0.67
107.00	GPS	1	0.000	0.000	10.00	1.000	1.00
39.00	GPS	1	0.000	0.000	10.00	1.000	1.00
Totals	Num Loadings: 27	78			5342.90		

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Diameter (in)	Coax Weight (lb/ft)	Projected Width Flat (in)	Exposed To Wind	Carrier
0.00	150.00	1	0.39" (10mm) Fiber	0.39	0.06	N	0.00	AT&T Mobility
0.00	150.00	2	0.78" (19.7mm) 8 AWG	60.78	0.59	N	0.00	AT&T Mobility
0.00	150.00	12	1 5/8" Coax	1.98	0.82	N	0.00	AT&T Mobility
0.00	150.00	4	1 5/8" Coax	1.98	0.82	N	0.00	Other
0.00	150.00	1	3" Conduit	3.50	7.58	N	0.00	AT&T Mobility
0.00	142.00	1	7/8" Coax	1.09	0.33	N	0.00	Blount Communications
0.00	130.00	6	1 5/8" Coax	1.98	0.82	N	0.00	Metro PCS
0.00	130.00	1	1 5/8" Hybriflex	1.98	1.30	N	1.98	Metro PCS

Site Number: 302480

Code: ANSI/TIA-222-G

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Site Name: Woodbridge CT 1, CT

Engineering Number: OAA727016_C3_01

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Customer: METRO PCS INC

0.00	128.00	2	0.27" Cat 5e	0.27	0.03	N	0.00	Y	Metro PCS
0.00	128.00	1	1.58" Hybrid	1.58	1.61	N	0.00	Y	Metro PCS
0.00	123.00	1	1 5/8" Hybriflex	1.98	1.30	N	0.00	N	Verizon
0.00	119.00	12	1 5/8" Coax	1.98	0.82	N	0.00	N	Verizon
0.00	107.00	1	1/2" Coax	0.63	0.15	N	0.00	N	AT&T Mobility
0.00	94.00	4	#20 Reinforcement	2.50	0.00	N	6.02	Y	--
33.00	81.00	4	Plate Reinforcement	1.00	0.00	Y	0.00	Y	--
0.00	39.00	1	1/2" Coax	0.63	0.15	N	0.00	N	AT&T Mobility

Additional Steel

Elev From (ft)	Elev To (ft)	Qty	Description	Fy (ksi)	Offset (in)	— Intermediate Connections —			Connectors	Continuation?
						Description	Spacing (in)	Len (in)		
0.00	9.00	4	SOL #20 All Thread	80	2.19	6" Angle Bracket	39.00	0.00	5/8" A36 U-Bolt	No
9.00	86.94	4	SOL #20 All Thread	80	2.19	6" Angle Bracket	30.00	3.31	5/8" A36 U-Bolt	Yes

Site Number: 302480

Code: ANSI/TIA-222-G

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Site Name: Woodbridge CT 1, CT

Engineering Number: OAA727016_C3_01

4/12/2018 12:57:38 PM

Customer: METRO PCS INC

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)	Additional Reinforcing		
												Area (in ²)	Ix (in ⁴)	Weight (lb)
0.00		0.3750	37.380	44.684	7,810.1	24.03	99.68	78.5	403.6	0.0	0.0	19.64	4,958.	0.0
5.00		0.3750	36.596	43.737	7,324.4	23.47	97.59	79.1	386.6	0.0	752.2	19.64	4,781.	334.0
9.00	Reinf. Top Reinf	0.3750	35.970	42.981	6,950.7	23.02	95.92	79.6	373.3	0.0	590.2	19.64	4,642.	267.2
10.00		0.3750	35.813	42.791	6,859.3	22.91	95.50	79.7	370.0	0.0	145.9	19.64	4,607.	66.8
15.00		0.3750	35.029	41.845	6,414.3	22.35	93.41	80.3	353.7	0.0	720.0	19.64	4,436.	334.0
20.00		0.3750	34.246	40.899	5,989.0	21.79	91.32	80.9	337.8	0.0	703.9	19.64	4,269.	334.0
25.00		0.3750	33.462	39.953	5,582.9	21.23	89.23	81.6	322.3	0.0	687.8	19.64	4,105.	334.0
30.00		0.3750	32.679	39.007	5,195.6	20.67	87.14	81.9	307.1	0.0	671.7	19.64	3,943.	334.0
31.50	Bot - Section 2	0.3750	32.444	38.723	5,083.0	20.50	86.52	81.9	302.7	0.0	198.4	19.64	3,896.	100.2
35.00		0.3750	31.895	38.061	4,826.6	20.11	85.05	81.9	292.3	0.0	846.5	19.64	3,911.	233.8
35.67	Top - Section 1	0.3125	32.416	32.304	4,249.5	25.12	103.73	77.3	253.3	0.0	159.6	19.64	3,890.	44.5
39.00		0.3125	31.893	31.778	4,045.5	24.67	102.06	77.8	245.0	0.0	363.4	19.64	3,785.	222.7
40.00		0.3125	31.737	31.621	3,985.5	24.53	101.56	78.0	242.6	0.0	107.9	19.64	3,754.	66.8
45.00		0.3125	30.953	30.832	3,694.8	23.86	99.05	78.7	230.6	0.0	531.3	19.64	3,600.	334.0
50.00		0.3125	30.170	30.044	3,418.5	23.19	96.54	79.4	218.9	0.0	517.9	19.64	3,449.	334.0
55.00		0.3125	29.386	29.255	3,156.4	22.52	94.04	80.2	207.5	0.0	504.5	19.64	3,302.	334.0
60.00		0.3125	28.603	28.467	2,908.0	21.85	91.53	80.9	196.4	0.0	491.0	19.64	3,157.	334.0
65.00		0.3125	27.819	27.678	2,673.0	21.17	89.02	81.6	185.6	0.0	477.6	19.64	3,016.	334.0
70.00	Bot - Section 3	0.3125	27.036	26.890	2,451.0	20.50	86.51	81.9	175.1	0.0	464.2	19.64	2,879.	334.0
73.50	Top - Section 2	0.2500	26.987	21.523	1,963.9	26.25	107.95	76.1	140.6	0.0	575.9	19.64	2,870.	233.8
75.00		0.2500	26.752	21.334	1,912.6	25.99	107.01	76.4	138.1	0.0	109.4	19.64	2,830.	100.2
80.00		0.2500	25.968	20.703	1,747.9	25.15	103.87	77.3	130.0	0.0	357.6	19.64	2,696.	334.0
85.00		0.2500	25.185	20.073	1,593.0	24.31	100.74	78.2	122.2	0.0	346.9	19.64	2,566.	334.0
86.94	Reinf. Top	0.2500	24.881	19.828	1,535.4	23.99	99.52	78.6	119.2	0.0	131.7	19.64	2,516.	129.6
90.00		0.2500	24.401	19.442	1,447.5	23.47	97.61	79.1	114.6	0.0	204.4			
95.00		0.2500	23.618	18.811	1,311.1	22.63	94.47	80.0	107.2	0.0	325.4			
100.00		0.2500	22.834	18.180	1,183.6	21.79	91.34	80.9	100.1	0.0	314.7			
105.00		0.2500	22.051	17.550	1,064.6	20.95	88.20	81.9	93.3	0.0	304.0			
107.00		0.2500	21.737	17.297	1,019.4	20.62	86.95	81.9	90.6	0.0	118.6			
110.00	Top - Section 3	0.2500	21.267	16.919	953.9	20.11	85.07	81.9	86.7	0.0	174.6			
110.00	Bot - Section 4	0.1875	21.267	12.727	721.8	27.71	113.43	74.5	65.6	0.0				
115.00		0.1875	20.484	12.254	644.3	26.59	109.25	75.7	60.8	0.0	212.5			
119.00		0.1875	19.857	11.875	586.4	25.70	105.90	76.7	57.1	0.0	164.2			
120.00		0.1875	19.700	11.781	572.5	25.47	105.07	76.9	56.1	0.0	40.2			
123.00		0.1875	19.230	11.497	532.1	24.80	102.56	77.7	53.5	0.0	118.8			
125.00		0.1875	18.917	11.308	506.3	24.35	100.89	78.2	51.7	0.0	77.6			
128.00		0.1875	18.447	11.024	469.1	23.68	98.38	78.9	49.1	0.0	114.0			
130.00		0.1875	18.133	10.835	445.4	23.23	96.71	79.4	47.4	0.0	74.4			
135.00		0.1875	17.350	10.362	389.5	22.11	92.53	80.6	43.4	0.0	180.3			
140.00		0.1875	16.566	9.889	338.6	20.99	88.35	81.8	39.5	0.0	172.3			
142.00		0.1875	16.253	9.699	319.5	20.55	86.68	81.9	38.0	0.0	66.7			
145.00		0.1875	15.783	9.416	292.3	19.87	84.17	81.9	35.8	0.0	97.6			
150.00		0.1875	14.999	8.942	250.4	18.76	79.99	81.9	32.3	0.0	156.2			
											13,371.9			5,807.6

Site Number: 302480

Code: ANSI/TIA-222-G

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Site Name: Woodbridge CT 1, CT

Engineering Number: OAA727016_C3_01

4/12/2018 12:57:38 PM

Customer: METRO PCS INC

Load Case: 1.2D + 1.6W	97 mph with No Ice	27 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		269.9	0.0					0.0	0.0	269.9	0.0	0.0	0.0
5.00		481.7	902.6					94.6	650.4	576.3	1,553.0	0.0	0.0
9.00	Reinf. Top Reinf Bot	264.2	708.2					75.7	520.3	339.9	1,228.5	0.0	0.0
10.00		310.8	175.1					18.9	130.1	329.7	305.2	0.0	0.0
15.00		511.2	864.0					94.6	650.4	605.8	1,514.4	0.0	0.0
20.00		499.7	844.7					94.6	650.4	594.4	1,495.1	0.0	0.0
25.00		488.3	825.4					94.6	650.4	582.9	1,475.8	0.0	0.0
30.00		313.1	806.0					94.6	650.4	407.7	1,456.4	0.0	0.0
31.50	Bot - Section 2	244.5	238.0					28.5	195.1	273.0	433.2	0.0	0.0
35.00		205.8	1,015.8					67.5	455.3	273.3	1,471.1	0.0	0.0
35.67	Top - Section 1	199.8	191.5					13.0	86.7	212.8	278.2	0.0	0.0
39.00	Appurtenance(s)	216.9	436.1	30.4	0.0	0.0	12.0	65.7	433.6	313.0	881.7	0.0	0.0
40.00		303.1	129.4					19.9	129.9	323.0	259.3	0.0	0.0
45.00		507.3	637.5					101.0	649.5	608.3	1,287.0	0.0	0.0
50.00		509.7	621.4					103.1	649.5	612.8	1,270.9	0.0	0.0
55.00		510.2	605.3					105.1	649.5	615.2	1,254.8	0.0	0.0
60.00		509.1	589.2					106.9	649.5	615.9	1,238.7	0.0	0.0
65.00		506.6	573.2					108.6	649.5	615.1	1,222.6	0.0	0.0
70.00	Bot - Section 3	431.3	557.1					110.1	649.5	541.4	1,206.6	0.0	0.0
73.50	Top - Section 2	255.0	691.1					78.0	454.6	333.0	1,145.8	0.0	0.0
75.00		328.7	131.3					33.6	194.8	362.4	326.1	0.0	0.0
80.00		501.8	429.1					113.0	649.5	614.9	1,078.6	0.0	0.0
85.00		345.2	416.3					114.4	649.5	459.6	1,065.8	0.0	0.0
86.94	Reinf. Top	245.8	158.0					44.7	252.0	290.6	410.0	0.0	0.0
90.00		391.9	245.3					70.9	152.2	462.8	397.5	0.0	0.0
95.00		439.8	390.5					101.2	248.7	541.0	639.2	0.0	0.0
100.00		392.0	377.6					0.0	248.7	392.0	626.3	0.0	0.0
105.00		270.5	364.7					0.0	248.7	270.5	613.4	0.0	0.0
107.00	Appurtenance(s)	189.8	142.3	40.6	0.0	0.0	12.0	0.0	99.5	230.4	253.8	0.0	0.0
110.00	Top - Section 3	298.7	209.6					0.0	148.7	298.7	358.3	0.0	0.0
115.00		330.2	255.0					0.0	247.8	330.2	502.8	0.0	0.0
119.00	Appurtenance(s)	180.6	197.1	2,013.4	0.0	0.0	1,301.4	0.0	198.2	2,194.0	1,696.7	0.0	0.0
120.00		141.7	48.3					0.0	37.8	141.7	86.1	0.0	0.0
123.00	Appurtenance(s)	175.7	142.6	319.1	0.0	0.0	211.2	0.0	113.3	494.8	467.0	0.0	0.0
125.00		173.3	93.1					0.0	72.4	173.3	165.5	0.0	0.0
128.00	Appurtenance(s)	172.1	136.8	16.7	0.0	0.0	10.6	0.0	108.6	188.8	255.9	0.0	0.0
130.00	Appurtenance(s)	233.5	89.3	1,421.2	0.0	0.0	1,278.7	0.0	68.4	1,654.7	1,436.4	0.0	0.0
135.00		324.5	216.4					0.0	133.6	324.5	350.0	0.0	0.0
140.00		221.6	206.7					0.0	133.6	221.6	340.3	0.0	0.0
142.00	Appurtenance(s)	153.6	80.0	258.2	0.0	0.0	54.0	0.0	53.4	411.9	187.4	0.0	0.0
145.00		239.1	117.1					0.0	79.0	239.1	196.1	0.0	0.0
150.00	Appurtenance(s)	147.6	187.4	4,271.4	0.0	12,120.5	3,531.6	0.0	131.6	4,419.1	3,850.6	0.0	0.0
Totals:										23,759.8336	282.40	0.00	0.00

Site Number: 302480

Code: ANSI/TIA-222-G

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Site Name: Woodbridge CT 1, CT

Engineering Number: OAA727016_C3_01

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Customer: METRO PCS INC

Load Case: 1.2D + 1.6W

97 mph with No Ice

27 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	-36.23	-23.57	0.00	-2,296.14	0.00	2,296.14	3,157.17	1,578.58	4,812.28	2,376.61	0.00	0.00	0.599
5.00	-34.59	-23.13	0.00	-2,178.30	0.00	2,178.30	3,114.35	1,557.18	4,645.51	2,294.24	0.13	-0.25	0.582
9.00	-33.31	-22.85	0.00	-2,085.80	0.00	2,085.80	3,079.35	1,539.68	4,513.00	2,228.80	0.43	-0.45	0.569
9.00	-33.31	-22.85	0.00	-2,085.80	0.00	2,085.80	3,079.35	1,539.68	4,513.00	2,228.80	0.43	-0.45	0.569
10.00	-32.95	-22.61	0.00	-2,062.95	0.00	2,062.95	3,070.50	1,535.25	4,480.00	2,212.51	0.53	-0.50	0.565
15.00	-31.35	-22.12	0.00	-1,949.92	0.00	1,949.92	3,025.61	1,512.80	4,315.88	2,131.45	1.19	-0.75	0.548
20.00	-29.77	-21.63	0.00	-1,839.33	0.00	1,839.33	2,979.67	1,489.84	4,153.23	2,051.12	2.11	-1.00	0.530
25.00	-28.21	-21.14	0.00	-1,731.17	0.00	1,731.17	2,932.70	1,466.35	3,992.16	1,971.58	3.28	-1.25	0.513
30.00	-26.71	-20.77	0.00	-1,625.47	0.00	1,625.47	2,875.19	1,437.60	3,820.15	1,886.63	4.72	-1.49	0.496
31.50	-26.24	-20.55	0.00	-1,594.31	0.00	1,594.31	2,854.27	1,427.14	3,764.44	1,859.12	5.20	-1.57	0.492
35.00	-24.74	-20.27	0.00	-1,522.40	0.00	1,522.40	2,805.46	1,402.73	3,636.05	1,795.71	6.41	-1.74	0.474
35.67	-24.43	-20.09	0.00	-1,508.88	0.00	1,508.88	2,248.06	1,124.03	2,973.87	1,468.68	6.66	-1.77	0.543
39.00	-23.53	-19.80	0.00	-1,441.90	0.00	1,441.90	2,225.45	1,112.72	2,895.60	1,430.03	7.96	-1.93	0.528
40.00	-23.23	-19.53	0.00	-1,422.10	0.00	1,422.10	2,218.58	1,109.29	2,872.20	1,418.47	8.37	-1.99	0.523
45.00	-21.88	-18.97	0.00	-1,324.47	0.00	1,324.47	2,183.59	1,091.80	2,755.72	1,360.95	10.58	-2.24	0.499
50.00	-20.55	-18.39	0.00	-1,229.63	0.00	1,229.63	2,147.57	1,073.78	2,640.25	1,303.92	13.06	-2.49	0.475
55.00	-19.25	-17.80	0.00	-1,137.67	0.00	1,137.67	2,110.50	1,055.25	2,525.89	1,247.44	15.80	-2.73	0.451
60.00	-17.98	-17.20	0.00	-1,048.65	0.00	1,048.65	2,072.40	1,036.20	2,412.73	1,191.56	18.79	-2.97	0.427
65.00	-16.72	-16.59	0.00	-962.65	0.00	962.65	2,033.25	1,016.63	2,300.88	1,136.32	22.03	-3.21	0.403
70.00	-15.49	-16.03	0.00	-879.71	0.00	879.71	1,982.07	991.03	2,178.35	1,075.80	25.51	-3.44	0.381
73.50	-14.34	-15.66	0.00	-823.61	0.00	823.61	1,473.95	736.97	1,624.53	802.29	28.09	-3.60	0.423
75.00	-14.00	-15.31	0.00	-800.12	0.00	800.12	1,466.27	733.13	1,601.72	791.03	29.23	-3.67	0.413
80.00	-12.90	-14.68	0.00	-723.57	0.00	723.57	1,439.98	719.99	1,526.07	753.67	33.19	-3.89	0.383
85.00	-11.84	-14.17	0.00	-650.20	0.00	650.20	1,412.66	706.33	1,451.06	716.62	37.39	-4.11	0.352
86.94	-11.42	-13.88	0.00	-622.70	0.00	622.70	1,401.78	700.89	1,422.15	702.35	39.08	-4.20	0.340
86.94	-11.42	-13.88	0.00	-622.70	0.00	622.70	1,401.78	700.89	1,422.15	702.35	39.08	-4.20	0.895
90.00	-10.98	-13.45	0.00	-580.24	0.00	580.24	1,384.30	692.15	1,376.80	679.95	41.81	-4.33	0.862
95.00	-10.27	-12.95	0.00	-512.99	0.00	512.99	1,354.89	677.45	1,303.39	643.70	46.62	-4.86	0.805
100.00	-9.57	-12.59	0.00	-448.21	0.00	448.21	1,324.45	662.22	1,230.93	607.91	51.99	-5.39	0.745
105.00	-8.91	-12.32	0.00	-385.24	0.00	385.24	1,292.96	646.48	1,159.52	572.65	57.90	-5.89	0.680
107.00	-8.63	-12.10	0.00	-360.61	0.00	360.61	1,274.99	637.49	1,126.78	556.47	60.40	-6.09	0.655
110.00	-8.23	-11.82	0.00	-324.31	0.00	324.31	1,247.09	623.55	1,077.73	532.25	64.31	-6.37	0.616
110.00	-8.23	-11.82	0.00	-324.31	0.00	324.31	853.22	426.61	741.75	366.32	64.31	-6.37	0.896
115.00	-7.68	-11.49	0.00	-265.22	0.00	265.22	834.98	417.49	698.66	345.04	71.21	-6.81	0.779
119.00	-6.23	-9.13	0.00	-219.26	0.00	219.26	819.63	409.82	664.45	328.15	77.09	-7.24	0.676
120.00	-6.13	-9.00	0.00	-210.13	0.00	210.13	815.69	407.85	655.94	323.94	78.62	-7.34	0.657
123.00	-5.69	-8.48	0.00	-183.12	0.00	183.12	803.62	401.81	630.51	311.39	83.31	-7.64	0.596
125.00	-5.52	-8.30	0.00	-166.16	0.00	166.16	795.37	397.68	613.67	303.07	86.54	-7.82	0.556
128.00	-5.26	-8.10	0.00	-141.25	0.00	141.25	782.67	391.34	588.56	290.67	91.53	-8.08	0.493
130.00	-4.05	-6.28	0.00	-125.05	0.00	125.05	774.00	387.00	571.95	282.46	94.94	-8.25	0.448
135.00	-3.72	-5.93	0.00	-93.67	0.00	93.67	751.59	375.80	530.89	262.19	103.74	-8.59	0.362
140.00	-3.40	-5.67	0.00	-64.04	0.00	64.04	728.15	364.07	490.60	242.29	112.86	-8.88	0.269
142.00	-3.26	-5.24	0.00	-52.71	0.00	52.71	714.94	357.47	472.37	233.29	116.59	-8.98	0.231
145.00	-3.10	-4.98	0.00	-37.00	0.00	37.00	694.02	347.01	444.98	219.76	122.25	-9.10	0.173
150.00	0.00	-4.42	0.00	-12.12	0.00	12.12	659.15	329.57	401.14	198.11	131.81	-9.22	0.061

Site Number: 302480

Code: ANSI/TIA-222-G

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Site Name: Woodbridge CT 1, CT

Engineering Number: OAA727016_C3_01

4/12/2018 12:57:43 PM

Customer: METRO PCS INC

Load Case: 0.9D + 1.6W

97 mph with No Ice (Reduced DL)

27 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		269.9	0.0					0.0	0.0	269.9	0.0	0.0	0.0
5.00		481.7	677.0					94.6	487.8	576.3	1,164.8	0.0	0.0
9.00	Reinf. Top Reinf Bot	264.2	531.1					75.7	390.2	339.9	921.4	0.0	0.0
10.00		310.8	131.3					18.9	97.6	329.7	228.9	0.0	0.0
15.00		511.2	648.0					94.6	487.8	605.8	1,135.8	0.0	0.0
20.00		499.7	633.5					94.6	487.8	594.4	1,121.3	0.0	0.0
25.00		488.3	619.0					94.6	487.8	582.9	1,106.8	0.0	0.0
30.00		313.1	604.5					94.6	487.8	407.7	1,092.3	0.0	0.0
31.50	Bot - Section 2	244.5	178.5					28.5	146.3	273.0	324.9	0.0	0.0
35.00		205.8	761.9					67.5	341.5	273.3	1,103.3	0.0	0.0
35.67	Top - Section 1	199.8	143.6					13.0	65.0	212.8	208.7	0.0	0.0
39.00	Appurtenance(s)	216.9	327.1	30.4	0.0	0.0	9.0	65.7	325.2	313.0	661.3	0.0	0.0
40.00		303.1	97.1					19.9	97.4	323.0	194.5	0.0	0.0
45.00		507.3	478.2					101.0	487.1	608.3	965.3	0.0	0.0
50.00		509.7	466.1					103.1	487.1	612.8	953.2	0.0	0.0
55.00		510.2	454.0					105.1	487.1	615.2	941.1	0.0	0.0
60.00		509.1	441.9					106.9	487.1	615.9	929.1	0.0	0.0
65.00		506.6	429.9					108.6	487.1	615.1	917.0	0.0	0.0
70.00	Bot - Section 3	431.3	417.8					110.1	487.1	541.4	904.9	0.0	0.0
73.50	Top - Section 2	255.0	518.3					78.0	341.0	333.0	859.3	0.0	0.0
75.00		328.7	98.4					33.6	146.1	362.4	244.6	0.0	0.0
80.00		501.8	321.8					113.0	487.1	614.9	809.0	0.0	0.0
85.00		345.2	312.2					114.4	487.1	459.6	799.3	0.0	0.0
86.94	Reinf. Top	245.8	118.5					44.7	189.0	290.6	307.5	0.0	0.0
90.00		391.9	184.0					70.9	114.2	462.8	298.2	0.0	0.0
95.00		439.8	292.9					101.2	186.5	541.0	479.4	0.0	0.0
100.00		392.0	283.2					0.0	186.5	392.0	469.7	0.0	0.0
105.00		270.5	273.6					0.0	186.5	270.5	460.1	0.0	0.0
107.00	Appurtenance(s)	189.8	106.7	40.6	0.0	0.0	9.0	0.0	74.6	230.4	190.3	0.0	0.0
110.00	Top - Section 3	298.7	157.2					0.0	111.5	298.7	268.7	0.0	0.0
115.00		330.2	191.3					0.0	185.8	330.2	377.1	0.0	0.0
119.00	Appurtenance(s)	180.6	147.8	2,013.4	0.0	0.0	976.0	0.0	148.7	2,194.0	1,272.5	0.0	0.0
120.00		141.7	36.2					0.0	28.3	141.7	64.5	0.0	0.0
123.00	Appurtenance(s)	175.6	106.9	319.1	0.0	0.0	158.4	0.0	84.9	494.7	350.3	0.0	0.0
125.00		172.5	69.8					0.0	54.3	172.5	124.1	0.0	0.0
128.00	Appurtenance(s)	170.4	102.6	16.7	0.0	0.0	7.9	0.0	81.4	187.1	191.9	0.0	0.0
130.00	Appurtenance(s)	232.6	66.9	1,421.2	0.0	0.0	959.0	0.0	51.3	1,653.7	1,077.3	0.0	0.0
135.00		324.5	162.3					0.0	100.2	324.5	262.5	0.0	0.0
140.00		221.6	155.0					0.0	100.2	221.6	255.3	0.0	0.0
142.00	Appurtenance(s)	153.6	60.0	258.2	0.0	0.0	40.5	0.0	40.1	411.9	140.6	0.0	0.0
145.00		239.1	87.8					0.0	59.2	239.1	147.0	0.0	0.0
150.00	Appurtenance(s)	147.6	140.6	4,271.4	0.0	12,120.5	2,648.7	0.0	98.7	4,419.1	2,888.0	0.0	0.0
Totals:										23,756.39	2,211.80	0.00	0.00

Site Number: 302480

Code: ANSI/TIA-222-G

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Site Name: Woodbridge CT 1, CT

Engineering Number: OAA727016_C3_01

4/12/2018 12:57:49 PM

Customer: METRO PCS INC

Load Case: 0.9D + 1.6W

97 mph with No Ice (Reduced DL)

27 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	-27.16	-23.55	0.00	-2,263.49	0.00	2,263.49	3,157.17	1,578.58	4,812.28	2,376.61	0.00	0.00	0.589
5.00	-25.91	-23.07	0.00	-2,145.77	0.00	2,145.77	3,114.35	1,557.18	4,645.51	2,294.24	0.13	-0.25	0.572
9.00	-24.94	-22.77	0.00	-2,053.51	0.00	2,053.51	3,079.35	1,539.68	4,513.00	2,228.80	0.42	-0.44	0.558
9.00	-24.94	-22.77	0.00	-2,053.51	0.00	2,053.51	3,079.35	1,539.68	4,513.00	2,228.80	0.42	-0.44	0.558
10.00	-24.66	-22.51	0.00	-2,030.73	0.00	2,030.73	3,070.50	1,535.25	4,480.00	2,212.51	0.52	-0.49	0.555
15.00	-23.43	-21.99	0.00	-1,918.20	0.00	1,918.20	3,025.61	1,512.80	4,315.88	2,131.45	1.17	-0.74	0.537
20.00	-22.23	-21.47	0.00	-1,808.25	0.00	1,808.25	2,979.67	1,489.84	4,153.23	2,051.12	2.07	-0.98	0.520
25.00	-21.04	-20.96	0.00	-1,700.89	0.00	1,700.89	2,932.70	1,466.35	3,992.16	1,971.58	3.23	-1.23	0.502
30.00	-19.91	-20.58	0.00	-1,596.10	0.00	1,596.10	2,875.19	1,437.60	3,820.15	1,886.63	4.65	-1.47	0.486
31.50	-19.55	-20.34	0.00	-1,565.23	0.00	1,565.23	2,854.27	1,427.14	3,764.44	1,859.12	5.12	-1.54	0.481
35.00	-18.42	-20.07	0.00	-1,494.04	0.00	1,494.04	2,805.46	1,402.73	3,636.05	1,795.71	6.31	-1.71	0.464
35.67	-18.18	-19.88	0.00	-1,480.66	0.00	1,480.66	2,248.06	1,124.03	2,973.87	1,468.68	6.55	-1.74	0.532
39.00	-17.49	-19.58	0.00	-1,414.40	0.00	1,414.40	2,225.45	1,112.72	2,895.60	1,430.03	7.83	-1.90	0.516
40.00	-17.26	-19.29	0.00	-1,394.83	0.00	1,394.83	2,218.58	1,109.29	2,872.20	1,418.47	8.23	-1.95	0.511
45.00	-16.24	-18.72	0.00	-1,298.36	0.00	1,298.36	2,183.59	1,091.80	2,755.72	1,360.95	10.41	-2.20	0.488
50.00	-15.23	-18.13	0.00	-1,204.77	0.00	1,204.77	2,147.57	1,073.78	2,640.25	1,303.92	12.85	-2.44	0.464
55.00	-14.25	-17.54	0.00	-1,114.10	0.00	1,114.10	2,110.50	1,055.25	2,525.89	1,247.44	15.54	-2.68	0.441
60.00	-13.28	-16.93	0.00	-1,026.42	0.00	1,026.42	2,072.40	1,036.20	2,412.73	1,191.56	18.47	-2.92	0.417
65.00	-12.33	-16.32	0.00	-941.78	0.00	941.78	2,033.25	1,016.63	2,300.88	1,136.32	21.65	-3.15	0.393
70.00	-11.41	-15.76	0.00	-860.20	0.00	860.20	1,982.07	991.03	2,178.35	1,075.80	25.07	-3.38	0.371
73.50	-10.54	-15.40	0.00	-805.03	0.00	805.03	1,473.95	736.97	1,624.53	802.29	27.61	-3.53	0.412
75.00	-10.28	-15.05	0.00	-781.94	0.00	781.94	1,466.27	733.13	1,601.72	791.03	28.73	-3.60	0.403
80.00	-9.46	-14.42	0.00	-706.70	0.00	706.70	1,439.98	719.99	1,526.07	753.67	32.61	-3.82	0.373
85.00	-8.66	-13.93	0.00	-634.62	0.00	634.62	1,412.66	706.33	1,451.06	716.62	36.73	-4.04	0.343
86.94	-8.35	-13.63	0.00	-607.60	0.00	607.60	1,401.78	700.89	1,422.15	702.35	38.38	-4.12	0.331
86.94	-8.35	-13.63	0.00	-607.60	0.00	607.60	1,401.78	700.89	1,422.15	702.35	38.38	-4.12	0.871
90.00	-8.01	-13.19	0.00	-565.90	0.00	565.90	1,384.30	692.15	1,376.80	679.95	41.06	-4.24	0.838
95.00	-7.46	-12.68	0.00	-499.93	0.00	499.93	1,354.89	677.45	1,303.39	643.70	45.78	-4.77	0.783
100.00	-6.92	-12.31	0.00	-436.52	0.00	436.52	1,324.45	662.22	1,230.93	607.91	51.04	-5.28	0.724
105.00	-6.41	-12.04	0.00	-374.96	0.00	374.96	1,292.96	646.48	1,159.52	572.65	56.82	-5.76	0.660
107.00	-6.20	-11.81	0.00	-350.88	0.00	350.88	1,274.99	637.49	1,126.78	556.47	59.28	-5.96	0.636
110.00	-5.89	-11.53	0.00	-315.44	0.00	315.44	1,247.09	623.55	1,077.73	532.25	63.10	-6.24	0.598
110.00	-5.89	-11.53	0.00	-315.44	0.00	315.44	853.22	426.61	741.75	366.32	63.10	-6.24	0.869
115.00	-5.47	-11.20	0.00	-257.81	0.00	257.81	834.98	417.49	698.66	345.04	69.85	-6.66	0.754
119.00	-4.43	-8.88	0.00	-213.03	0.00	213.03	819.63	409.82	664.45	328.15	75.60	-7.08	0.655
120.00	-4.36	-8.75	0.00	-204.15	0.00	204.15	815.69	407.85	655.94	323.94	77.09	-7.18	0.636
123.00	-4.04	-8.23	0.00	-177.90	0.00	177.90	803.62	401.81	630.51	311.39	81.69	-7.47	0.577
125.00	-3.91	-8.06	0.00	-161.43	0.00	161.43	795.37	397.68	613.67	303.07	84.84	-7.65	0.538
128.00	-3.72	-7.86	0.00	-137.25	0.00	137.25	782.67	391.34	588.56	290.67	89.72	-7.90	0.477
130.00	-2.85	-6.09	0.00	-121.53	0.00	121.53	774.00	387.00	571.95	282.46	93.05	-8.06	0.434
135.00	-2.61	-5.74	0.00	-91.10	0.00	91.10	751.59	375.80	530.89	262.19	101.64	-8.39	0.351
140.00	-2.37	-5.49	0.00	-62.39	0.00	62.39	728.15	364.07	490.60	242.29	110.56	-8.68	0.261
142.00	-2.28	-5.07	0.00	-51.40	0.00	51.40	714.94	357.47	472.37	233.29	114.20	-8.77	0.224
145.00	-2.16	-4.81	0.00	-36.19	0.00	36.19	694.02	347.01	444.98	219.76	119.73	-8.89	0.168
150.00	0.00	-4.42	0.00	-12.12	0.00	12.12	659.15	329.57	401.14	198.11	129.07	-9.01	0.061

Site Number: 302480

Code: ANSI/TIA-222-G

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Site Name: Woodbridge CT 1, CT

Engineering Number: OAA727016_C3_01

4/12/2018 12:57:49 PM

Customer: METRO PCS INC

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 0.75 in Radial Ice

27 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		47.5	0.0					0.0	0.0	47.5	0.0	0.0	0.0
5.00		85.1	1,185.9					29.6	831.5	114.7	2,017.4	0.0	0.0
9.00	Reinf. Top Reinf Bot	46.9	956.1					24.6	682.9	71.5	1,638.9	0.0	0.0
10.00		55.4	238.8					6.2	172.2	61.6	411.0	0.0	0.0
15.00		91.4	1,184.7					31.5	867.5	122.8	2,052.2	0.0	0.0
20.00		89.7	1,169.6					31.9	876.2	121.6	2,045.8	0.0	0.0
25.00		87.9	1,151.5					32.2	882.9	120.2	2,034.4	0.0	0.0
30.00		56.5	1,131.6					32.5	888.5	89.0	2,020.1	0.0	0.0
31.50	Bot - Section 2	44.2	336.2					9.9	267.5	54.1	603.7	0.0	0.0
35.00		37.2	1,247.2					23.7	641.2	60.9	1,888.4	0.0	0.0
35.67	Top - Section 1	36.2	235.7					4.6	124.6	40.8	360.4	0.0	0.0
39.00	Appurtenance(s)	39.3	655.0	4.4	0.0	0.0	44.0	23.4	624.4	67.2	1,323.5	0.0	0.0
40.00		55.1	195.2					7.2	187.5	62.2	382.7	0.0	0.0
45.00		92.4	961.0					36.6	940.3	129.0	1,901.3	0.0	0.0
50.00		93.1	940.8					38.0	944.2	131.1	1,885.0	0.0	0.0
55.00		93.5	920.1					39.3	947.8	132.8	1,867.9	0.0	0.0
60.00		93.6	899.0					40.5	951.2	134.1	1,850.1	0.0	0.0
65.00		93.5	877.5					41.6	954.3	135.1	1,831.8	0.0	0.0
70.00	Bot - Section 3	79.8	855.7					42.7	957.2	122.5	1,812.8	0.0	0.0
73.50	Top - Section 2	47.2	901.1					30.5	671.6	77.7	1,572.8	0.0	0.0
75.00		61.1	220.8					13.2	288.2	74.3	509.1	0.0	0.0
80.00		93.5	720.8					44.7	962.4	138.2	1,683.3	0.0	0.0
85.00		64.5	701.5					45.6	929.9	110.1	1,631.4	0.0	0.0
86.94	Reinf. Top	46.1	268.0					17.9	357.9	64.0	625.9	0.0	0.0
90.00		73.7	416.1					28.6	319.9	102.2	735.9	0.0	0.0
95.00		90.5	662.4					41.3	505.7	131.8	1,168.1	0.0	0.0
100.00		89.2	642.5					0.0	433.4	89.2	1,076.0	0.0	0.0
105.00		61.8	622.5					0.0	434.6	61.8	1,057.2	0.0	0.0
107.00	Appurtenance(s)	43.5	244.4	6.2	0.0	0.0	48.8	0.0	174.2	49.7	467.3	0.0	0.0
110.00	Top - Section 3	68.7	360.0					0.0	261.1	68.7	621.1	0.0	0.0
115.00		76.3	498.2					0.0	436.0	76.3	934.2	0.0	0.0
119.00	Appurtenance(s)	41.9	386.9	471.6	0.0	0.0	3,372.3	0.0	349.6	513.5	4,108.7	0.0	0.0
120.00		33.0	95.5					0.0	75.7	33.0	171.2	0.0	0.0
123.00	Appurtenance(s)	41.0	281.3	65.9	0.0	0.0	566.2	0.0	227.3	106.9	1,074.9	0.0	0.0
125.00		40.4	184.4					0.0	148.6	40.4	333.1	0.0	0.0
128.00	Appurtenance(s)	40.0	270.9	3.7	0.0	0.0	36.1	0.0	223.2	43.7	530.3	0.0	0.0
130.00	Appurtenance(s)	55.0	177.5	292.5	0.0	0.0	2,629.7	0.0	124.5	347.5	2,931.6	0.0	0.0
135.00		77.1	428.8					0.0	133.6	77.1	562.4	0.0	0.0
140.00		52.9	411.2					0.0	133.6	52.9	544.9	0.0	0.0
142.00	Appurtenance(s)	37.0	160.6	181.6	0.0	0.0	2,060.4	0.0	53.4	218.5	2,274.5	0.0	0.0
145.00		57.9	235.1					0.0	79.0	57.9	314.1	0.0	0.0
150.00	Appurtenance(s)	35.9	375.8	1,067.1	0.0	3,720.8	6,484.2	0.0	131.6	1,102.9	6,991.7	0.0	0.0
Totals:										5,457.0459	8,846.98	0.00	0.00

Site Number: 302480

Code: ANSI/TIA-222-G

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Site Name: Woodbridge CT 1, CT

Engineering Number: OAA727016_C3_01

4/12/2018 12:57:54 PM

Customer: METRO PCS INC

Load Case: 1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 in Radial Ice	27 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	-59.84	-5.44	0.00	-589.20	0.00	589.20	3,157.17	1,578.58	4,812.28	2,376.61	0.00	0.00	0.165
5.00	-57.82	-5.39	0.00	-561.98	0.00	561.98	3,114.35	1,557.18	4,645.51	2,294.24	0.03	-0.06	0.161
9.00	-56.18	-5.34	0.00	-540.44	0.00	540.44	3,079.35	1,539.68	4,513.00	2,228.80	0.11	-0.12	0.158
9.00	-56.18	-5.34	0.00	-540.44	0.00	540.44	3,079.35	1,539.68	4,513.00	2,228.80	0.11	-0.12	0.158
10.00	-55.76	-5.32	0.00	-535.09	0.00	535.09	3,070.50	1,535.25	4,480.00	2,212.51	0.14	-0.13	0.157
15.00	-53.71	-5.25	0.00	-508.50	0.00	508.50	3,025.61	1,512.80	4,315.88	2,131.45	0.31	-0.19	0.153
20.00	-51.66	-5.18	0.00	-482.24	0.00	482.24	2,979.67	1,489.84	4,153.23	2,051.12	0.54	-0.26	0.149
25.00	-49.62	-5.11	0.00	-456.34	0.00	456.34	2,932.70	1,466.35	3,992.16	1,971.58	0.85	-0.32	0.145
30.00	-47.59	-5.04	0.00	-430.81	0.00	430.81	2,875.19	1,437.60	3,820.15	1,886.63	1.22	-0.39	0.141
31.50	-46.99	-5.01	0.00	-423.25	0.00	423.25	2,854.27	1,427.14	3,764.44	1,859.12	1.35	-0.41	0.140
35.00	-45.10	-4.95	0.00	-405.73	0.00	405.73	2,805.46	1,402.73	3,636.05	1,795.71	1.67	-0.45	0.135
35.67	-44.73	-4.93	0.00	-402.42	0.00	402.42	2,248.06	1,124.03	2,973.87	1,468.68	1.73	-0.46	0.155
39.00	-43.41	-4.87	0.00	-385.98	0.00	385.98	2,225.45	1,112.72	2,895.60	1,430.03	2.07	-0.51	0.152
40.00	-43.02	-4.84	0.00	-381.11	0.00	381.11	2,218.58	1,109.29	2,872.20	1,418.47	2.18	-0.52	0.150
45.00	-41.12	-4.74	0.00	-356.91	0.00	356.91	2,183.59	1,091.80	2,755.72	1,360.95	2.76	-0.59	0.144
50.00	-39.23	-4.64	0.00	-333.21	0.00	333.21	2,147.57	1,073.78	2,640.25	1,303.92	3.41	-0.66	0.138
55.00	-37.36	-4.52	0.00	-310.03	0.00	310.03	2,110.50	1,055.25	2,525.89	1,247.44	4.13	-0.72	0.132
60.00	-35.50	-4.41	0.00	-287.42	0.00	287.42	2,072.40	1,036.20	2,412.73	1,191.56	4.93	-0.79	0.126
65.00	-33.67	-4.28	0.00	-265.39	0.00	265.39	2,033.25	1,016.63	2,300.88	1,136.32	5.79	-0.85	0.119
70.00	-31.86	-4.16	0.00	-243.98	0.00	243.98	1,982.07	991.03	2,178.35	1,075.80	6.71	-0.92	0.114
73.50	-30.28	-4.07	0.00	-229.42	0.00	229.42	1,473.95	736.97	1,624.53	802.29	7.40	-0.96	0.127
75.00	-29.77	-4.01	0.00	-223.31	0.00	223.31	1,466.27	733.13	1,601.72	791.03	7.71	-0.98	0.124
80.00	-28.09	-3.88	0.00	-203.25	0.00	203.25	1,439.98	719.99	1,526.07	753.67	8.77	-1.04	0.116
85.00	-26.45	-3.75	0.00	-183.87	0.00	183.87	1,412.66	706.33	1,451.06	716.62	9.90	-1.11	0.108
86.94	-25.83	-3.69	0.00	-176.58	0.00	176.58	1,401.78	700.89	1,422.15	702.35	10.35	-1.13	0.105
86.94	-25.83	-3.69	0.00	-176.58	0.00	176.58	1,401.78	700.89	1,422.15	702.35	10.35	-1.13	0.270
90.00	-25.09	-3.62	0.00	-165.29	0.00	165.29	1,384.30	692.15	1,376.80	679.95	11.09	-1.17	0.261
95.00	-23.91	-3.52	0.00	-147.20	0.00	147.20	1,354.89	677.45	1,303.39	643.70	12.39	-1.32	0.246
100.00	-22.83	-3.47	0.00	-129.58	0.00	129.58	1,324.45	662.22	1,230.93	607.91	13.85	-1.47	0.230
105.00	-21.77	-3.42	0.00	-112.25	0.00	112.25	1,292.96	646.48	1,159.52	572.65	15.47	-1.62	0.213
107.00	-21.30	-3.38	0.00	-105.41	0.00	105.41	1,274.99	637.49	1,126.78	556.47	16.16	-1.67	0.206
110.00	-20.68	-3.33	0.00	-95.28	0.00	95.28	1,247.09	623.55	1,077.73	532.25	17.24	-1.76	0.196
110.00	-20.68	-3.33	0.00	-95.28	0.00	95.28	853.22	426.61	741.75	366.32	17.24	-1.76	0.284
115.00	-19.74	-3.27	0.00	-78.63	0.00	78.63	834.98	417.49	698.66	345.04	19.15	-1.89	0.252
119.00	-15.64	-2.64	0.00	-65.55	0.00	65.55	819.63	409.82	664.45	328.15	20.79	-2.01	0.219
120.00	-15.47	-2.61	0.00	-62.92	0.00	62.92	815.69	407.85	655.94	323.94	21.21	-2.05	0.213
123.00	-14.40	-2.49	0.00	-55.07	0.00	55.07	803.62	401.81	630.51	311.39	22.52	-2.13	0.195
125.00	-14.06	-2.45	0.00	-50.10	0.00	50.10	795.37	397.68	613.67	303.07	23.43	-2.19	0.183
128.00	-13.53	-2.40	0.00	-42.75	0.00	42.75	782.67	391.34	588.56	290.67	24.83	-2.27	0.164
130.00	-10.62	-1.95	0.00	-37.95	0.00	37.95	774.00	387.00	571.95	282.46	25.79	-2.32	0.148
135.00	-10.05	-1.87	0.00	-28.20	0.00	28.20	751.59	375.80	530.89	262.19	28.28	-2.42	0.121
140.00	-9.51	-1.80	0.00	-18.87	0.00	18.87	728.15	364.07	490.60	242.29	30.86	-2.51	0.091
142.00	-7.25	-1.49	0.00	-15.27	0.00	15.27	714.94	357.47	472.37	233.29	31.92	-2.54	0.076
145.00	-6.93	-1.42	0.00	-10.81	0.00	10.81	694.02	347.01	444.98	219.76	33.52	-2.57	0.059
150.00	0.00	-1.10	0.00	-3.72	0.00	3.72	659.15	329.57	401.14	198.11	36.24	-2.61	0.019

Site Number: 302480

Code: ANSI/TIA-222-G

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Site Name: Woodbridge CT 1, CT

Engineering Number: OAA727016_C3_01

4/12/2018 12:57:54 PM

Customer: METRO PCS INC

Load Case: 1.0D + 1.0W

Serviceability 60 mph

26 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		64.5	0.0					0.0	0.0	64.5	0.0	0.0	0.0
5.00		115.2	752.2					27.0	542.0	142.2	1,294.2	0.0	0.0
9.00	Reinf. Top Reinf Bot	63.2	590.2					21.6	433.6	84.7	1,023.8	0.0	0.0
10.00		74.3	145.9					5.4	108.4	79.7	254.3	0.0	0.0
15.00		122.2	720.0					27.0	542.0	149.2	1,262.0	0.0	0.0
20.00		119.5	703.9					27.0	542.0	146.5	1,245.9	0.0	0.0
25.00		116.8	687.8					27.0	542.0	143.7	1,229.8	0.0	0.0
30.00		74.9	671.7					27.0	542.0	101.8	1,213.7	0.0	0.0
31.50	Bot - Section 2	58.5	198.4					8.2	162.6	66.6	361.0	0.0	0.0
35.00		49.2	846.5					19.5	379.4	68.7	1,225.9	0.0	0.0
35.67	Top - Section 1	47.8	159.6					3.8	72.3	51.5	231.9	0.0	0.0
39.00	Appurtenance(s)	51.9	363.4	7.3	0.0	0.0	10.0	19.2	361.3	78.3	734.8	0.0	0.0
40.00		72.5	107.9					5.8	108.2	78.3	216.1	0.0	0.0
45.00		121.3	531.3					29.8	541.2	151.1	1,072.5	0.0	0.0
50.00		121.9	517.9					30.8	541.2	152.7	1,059.1	0.0	0.0
55.00		122.0	504.5					31.7	541.2	153.7	1,045.7	0.0	0.0
60.00		121.7	491.0					32.5	541.2	154.2	1,032.3	0.0	0.0
65.00		121.1	477.6					33.3	541.2	154.4	1,018.9	0.0	0.0
70.00	Bot - Section 3	103.1	464.2					34.0	541.2	137.2	1,005.5	0.0	0.0
73.50	Top - Section 2	61.0	575.9					24.2	378.9	85.2	954.8	0.0	0.0
75.00		78.6	109.4					10.5	162.4	89.1	271.8	0.0	0.0
80.00		120.0	357.6					35.4	541.2	155.4	898.9	0.0	0.0
85.00		82.5	346.9					36.0	541.2	118.6	888.1	0.0	0.0
86.94	Reinf. Top	58.8	131.7					14.1	210.0	72.9	341.7	0.0	0.0
90.00		93.7	204.4					22.5	126.8	116.2	331.3	0.0	0.0
95.00		105.2	325.4					31.6	207.3	136.8	532.7	0.0	0.0
100.00		93.7	314.7					0.0	207.3	93.7	521.9	0.0	0.0
105.00		64.7	304.0					0.0	207.3	64.7	511.2	0.0	0.0
107.00	Appurtenance(s)	45.4	118.6	9.7	0.0	0.0	10.0	0.0	82.9	55.1	211.5	0.0	0.0
110.00	Top - Section 3	71.4	174.6					0.0	123.9	71.4	298.5	0.0	0.0
115.00		79.0	212.5					0.0	206.5	79.0	419.0	0.0	0.0
119.00	Appurtenance(s)	43.2	164.2	481.5	0.0	0.0	1,084.5	0.0	165.2	524.7	1,413.9	0.0	0.0
120.00		33.9	40.2					0.0	31.5	33.9	71.7	0.0	0.0
123.00	Appurtenance(s)	42.0	118.8	76.3	0.0	0.0	176.0	0.0	94.4	118.3	389.2	0.0	0.0
125.00		41.3	77.6					0.0	60.3	41.3	137.9	0.0	0.0
128.00	Appurtenance(s)	40.8	114.0	4.0	0.0	0.0	8.8	0.0	90.5	44.7	213.3	0.0	0.0
130.00	Appurtenance(s)	55.6	74.4	339.8	0.0	0.0	1,065.6	0.0	57.0	395.5	1,197.0	0.0	0.0
135.00		77.6	180.3					0.0	111.4	77.6	291.7	0.0	0.0
140.00		53.0	172.3					0.0	111.4	53.0	283.6	0.0	0.0
142.00	Appurtenance(s)	36.7	66.7	61.8	0.0	0.0	45.0	0.0	44.5	98.5	156.2	0.0	0.0
145.00		57.2	97.6					0.0	65.8	57.2	163.4	0.0	0.0
150.00	Appurtenance(s)	35.3	156.2	1,021.4	0.0	2,898.4	2,943.0	0.0	109.7	1,056.7	3,208.9	0.0	0.0
Totals:										5,798	5730,235.33	0.00	0.00

Site Number: 302480

Code: ANSI/TIA-222-G

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Site Name: Woodbridge CT 1, CT

Engineering Number: OAA727016_C3_01

4/12/2018 12:58:00 PM

Customer: METRO PCS INC

Load Case: 1.0D + 1.0W

Serviceability 60 mph

26 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	-30.23	-5.75	0.00	-551.83	0.00	551.83	3,157.17	1,578.58	4,812.28	2,376.61	0.00	0.00	0.149
5.00	-28.93	-5.63	0.00	-523.09	0.00	523.09	3,114.35	1,557.18	4,645.51	2,294.24	0.03	-0.06	0.144
9.00	-27.91	-5.56	0.00	-500.55	0.00	500.55	3,079.35	1,539.68	4,513.00	2,228.80	0.10	-0.11	0.141
9.00	-27.91	-5.56	0.00	-500.55	0.00	500.55	3,079.35	1,539.68	4,513.00	2,228.80	0.10	-0.11	0.141
10.00	-27.65	-5.50	0.00	-494.99	0.00	494.99	3,070.50	1,535.25	4,480.00	2,212.51	0.13	-0.12	0.140
15.00	-26.38	-5.37	0.00	-467.49	0.00	467.49	3,025.61	1,512.80	4,315.88	2,131.45	0.29	-0.18	0.136
20.00	-25.13	-5.25	0.00	-440.62	0.00	440.62	2,979.67	1,489.84	4,153.23	2,051.12	0.51	-0.24	0.131
25.00	-23.90	-5.12	0.00	-414.37	0.00	414.37	2,932.70	1,466.35	3,992.16	1,971.58	0.79	-0.30	0.127
30.00	-22.68	-5.03	0.00	-388.75	0.00	388.75	2,875.19	1,437.60	3,820.15	1,886.63	1.13	-0.36	0.122
31.50	-22.32	-4.97	0.00	-381.21	0.00	381.21	2,854.27	1,427.14	3,764.44	1,859.12	1.25	-0.38	0.121
35.00	-21.09	-4.91	0.00	-363.80	0.00	363.80	2,805.46	1,402.73	3,636.05	1,795.71	1.54	-0.42	0.117
35.67	-20.86	-4.86	0.00	-360.53	0.00	360.53	2,248.06	1,124.03	2,973.87	1,468.68	1.60	-0.42	0.134
39.00	-20.12	-4.79	0.00	-344.33	0.00	344.33	2,225.45	1,112.72	2,895.60	1,430.03	1.91	-0.46	0.130
40.00	-19.90	-4.72	0.00	-339.54	0.00	339.54	2,218.58	1,109.29	2,872.20	1,418.47	2.01	-0.48	0.129
45.00	-18.83	-4.58	0.00	-315.95	0.00	315.95	2,183.59	1,091.80	2,755.72	1,360.95	2.54	-0.54	0.123
50.00	-17.76	-4.43	0.00	-293.07	0.00	293.07	2,147.57	1,073.78	2,640.25	1,303.92	3.13	-0.60	0.117
55.00	-16.71	-4.28	0.00	-270.90	0.00	270.90	2,110.50	1,055.25	2,525.89	1,247.44	3.79	-0.65	0.111
60.00	-15.68	-4.13	0.00	-249.48	0.00	249.48	2,072.40	1,036.20	2,412.73	1,191.56	4.50	-0.71	0.105
65.00	-14.66	-3.98	0.00	-228.82	0.00	228.82	2,033.25	1,016.63	2,300.88	1,136.32	5.28	-0.77	0.099
70.00	-13.65	-3.84	0.00	-208.92	0.00	208.92	1,982.07	991.03	2,178.35	1,075.80	6.11	-0.82	0.093
73.50	-12.70	-3.75	0.00	-195.48	0.00	195.48	1,473.95	736.97	1,624.53	802.29	6.73	-0.86	0.104
75.00	-12.43	-3.66	0.00	-189.86	0.00	189.86	1,466.27	733.13	1,601.72	791.03	7.00	-0.88	0.101
80.00	-11.53	-3.50	0.00	-171.56	0.00	171.56	1,439.98	719.99	1,526.07	753.67	7.95	-0.93	0.094
85.00	-10.64	-3.38	0.00	-154.05	0.00	154.05	1,412.66	706.33	1,451.06	716.62	8.95	-0.98	0.086
86.94	-10.30	-3.30	0.00	-147.50	0.00	147.50	1,401.78	700.89	1,422.15	702.35	9.35	-1.00	0.083
86.94	-10.30	-3.30	0.00	-147.50	0.00	147.50	1,401.78	700.89	1,422.15	702.35	9.35	-1.00	0.217
90.00	-9.96	-3.19	0.00	-137.40	0.00	137.40	1,384.30	692.15	1,376.80	679.95	10.00	-1.03	0.209
95.00	-9.43	-3.07	0.00	-121.43	0.00	121.43	1,354.89	677.45	1,303.39	643.70	11.15	-1.16	0.196
100.00	-8.90	-2.98	0.00	-106.10	0.00	106.10	1,324.45	662.22	1,230.93	607.91	12.43	-1.28	0.181
105.00	-8.39	-2.92	0.00	-91.20	0.00	91.20	1,292.96	646.48	1,159.52	572.65	13.84	-1.40	0.166
107.00	-8.17	-2.86	0.00	-85.37	0.00	85.37	1,274.99	637.49	1,126.78	556.47	14.44	-1.45	0.160
110.00	-7.87	-2.80	0.00	-76.78	0.00	76.78	1,247.09	623.55	1,077.73	532.25	15.37	-1.52	0.151
110.00	-7.87	-2.80	0.00	-76.78	0.00	76.78	853.22	426.61	741.75	366.32	15.37	-1.52	0.219
115.00	-7.45	-2.72	0.00	-62.79	0.00	62.79	834.98	417.49	698.66	345.04	17.02	-1.62	0.191
119.00	-6.05	-2.16	0.00	-51.91	0.00	51.91	819.63	409.82	664.45	328.15	18.42	-1.72	0.166
120.00	-5.98	-2.13	0.00	-49.75	0.00	49.75	815.69	407.85	655.94	323.94	18.78	-1.75	0.161
123.00	-5.59	-2.00	0.00	-43.37	0.00	43.37	803.62	401.81	630.51	311.39	19.90	-1.82	0.146
125.00	-5.45	-1.96	0.00	-39.36	0.00	39.36	795.37	397.68	613.67	303.07	20.67	-1.86	0.137
128.00	-5.24	-1.92	0.00	-33.47	0.00	33.47	782.67	391.34	588.56	290.67	21.86	-1.92	0.122
130.00	-4.05	-1.49	0.00	-29.63	0.00	29.63	774.00	387.00	571.95	282.46	22.68	-1.96	0.110
135.00	-3.76	-1.40	0.00	-22.20	0.00	22.20	751.59	375.80	530.89	262.19	24.77	-2.04	0.090
140.00	-3.48	-1.34	0.00	-15.19	0.00	15.19	728.15	364.07	490.60	242.29	26.95	-2.11	0.067
142.00	-3.33	-1.24	0.00	-12.51	0.00	12.51	714.94	357.47	472.37	233.29	27.84	-2.13	0.058
145.00	-3.17	-1.18	0.00	-8.79	0.00	8.79	694.02	347.01	444.98	219.76	29.19	-2.16	0.045
150.00	0.00	-1.06	0.00	-2.90	0.00	2.90	659.15	329.57	401.14	198.11	31.47	-2.19	0.015

Site Number: 302480

Code: ANSI/TIA-222-G

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Site Name: Woodbridge CT 1, CT

Engineering Number: OAA727016_C3_01

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Customer: METRO PCS INC

Equivalent Lateral Forces Method Analysis

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

Spectral Response Acceleration for Short Period (S_{ps}):	0.19
Spectral Response Acceleration at 1.0 Second Period (S_{p1}):	0.06
Long-Period Transition Period (T_L):	6
Importance Factor (I_p):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.20
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Seismic Response Coefficient (C_s):	0.03
Upper Limit C_s	0.03
Lower Limit C_s	0.03
Period based on Rayleigh Method (sec):	2.62
Redundancy Factor (ρ):	1.30
Seismic Force Distribution Exponent (k):	2.00
Total Unfactored Dead Load:	30.24 k
Seismic Base Shear (E):	1.18 k

Load Case (1.2 + 0.2Sds) * DL + E ELFM Seismic Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
41	147.50	266	5,784	0.027	32	330
40	143.50	163	3,364	0.016	18	203
39	141.00	111	2,211	0.010	12	138
38	137.50	284	5,362	0.025	29	352
37	132.50	292	5,121	0.024	28	362
36	129.00	131	2,186	0.010	12	163
35	126.50	204	3,272	0.015	18	254
34	124.00	138	2,121	0.010	12	171
33	121.50	213	3,147	0.015	17	264
32	119.50	72	1,024	0.005	6	89
31	117.00	329	4,509	0.021	25	409
30	112.50	419	5,303	0.025	29	520
29	108.50	299	3,515	0.016	19	370
28	106.00	201	2,264	0.011	12	250
27	102.50	511	5,371	0.025	29	634
26	97.50	522	4,962	0.023	27	647
25	92.50	533	4,558	0.021	25	661
24	88.47	331	2,593	0.012	14	411
23	85.97	342	2,525	0.012	14	424
22	82.50	888	6,045	0.028	33	1,102
21	77.50	899	5,399	0.025	30	1,115
20	74.25	272	1,498	0.007	8	337
19	71.75	955	4,915	0.023	27	1,184

Site Number: 302480

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Site Name: Woodbridge CT 1, CT

Engineering Number: OAA727016_C3_01

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Customer: METRO PCS INC

18	67.50	1,005	4,581	0.021	25	1,247
17	62.50	1,019	3,980	0.018	22	1,264
16	57.50	1,032	3,413	0.016	19	1,281
15	52.50	1,046	2,882	0.013	16	1,297
14	47.50	1,059	2,390	0.011	13	1,314
13	42.50	1,073	1,937	0.009	11	1,331
12	39.50	216	337	0.002	2	268
11	37.33	725	1,010	0.005	6	899
10	35.33	232	289	0.001	2	288
9	33.25	1,226	1,355	0.006	7	1,521
8	30.75	361	341	0.002	2	448
7	27.50	1,214	918	0.004	5	1,506
6	22.50	1,230	623	0.003	3	1,526
5	17.50	1,246	382	0.002	2	1,546
4	12.50	1,262	197	0.001	1	1,566
3	9.50	254	23	0.000	0	316
2	7.00	1,024	50	0.000	0	1,270
1	2.50	1,294	8	0.000	0	1,605
Powerwave LGP13519	150.00	32	716	0.003	4	39
LGP Allgon TMA-DD 19	150.00	62	1,404	0.007	8	77
Raycap DC6-48-60-18-	150.00	32	715	0.003	4	39
Ericsson RRUS 11 (Ba	150.00	165	3,713	0.017	20	205
Ericsson RRUS 32 B2	150.00	159	3,577	0.017	20	197
Powerwave 7770.00	150.00	210	4,725	0.022	26	261
22' Omni	150.00	70	1,575	0.007	9	87
20' Dipole	150.00	60	1,350	0.006	7	74
CCI HPA-65R-BUU-H6	150.00	153	3,443	0.016	19	190
Flat Platform w/ Han	150.00	2,000	45,000	0.209	247	2,481
Scala CL-FM	142.00	45	907	0.004	5	56
Ericsson RRUS 11 B12	130.00	152	2,570	0.012	14	189
Stand-Off	130.00	300	5,070	0.024	28	372
Ericsson AIR 21, 1.3	130.00	275	4,639	0.022	25	341
Ericsson AIR B4A/B12	130.00	339	5,729	0.027	31	421
Fastback Intelligent	128.00	9	144	0.001	1	11
Alcatel-Lucent RRH2x	123.00	132	1,997	0.009	11	164
RFS DB-T1-6Z-8AB-0Z	123.00	44	666	0.003	4	55
RFS FD9R6004/1C-3L	119.00	19	263	0.001	1	23
ADC ClearGain Dual B	119.00	172	2,439	0.011	13	214
Amphenol Antel BXA-1	119.00	32	446	0.002	2	39
Amphenol Antel BXA-1	119.00	32	446	0.002	2	39
Antel BXA-80063/4CF	119.00	30	421	0.002	2	37
Antel BXA-70063/6CF_	119.00	51	722	0.003	4	63
Round T-Arms	119.00	750	10,621	0.049	58	930
GPS	107.00	10	114	0.001	1	12
GPS	39.00	10	15	0.000	0	12
		30,235	215,193	1.000	1,179	37,508

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

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)
41	147.50	266	5,784	0.027	32	229
40	143.50	163	3,364	0.016	18	140
39	141.00	111	2,211	0.010	12	96
38	137.50	284	5,362	0.025	29	244
37	132.50	292	5,121	0.024	28	251
36	129.00	131	2,186	0.010	12	113
35	126.50	204	3,272	0.015	18	176
34	124.00	138	2,121	0.010	12	119
33	121.50	213	3,147	0.015	17	183

Site Number: 302480

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Site Name: Woodbridge CT 1, CT

Engineering Number: OAA727016_C3_01

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Customer: METRO PCS INC

32	119.50	72	1,024	0.005	6	62
31	117.00	329	4,509	0.021	25	283
30	112.50	419	5,303	0.025	29	360
29	108.50	299	3,515	0.016	19	257
28	106.00	201	2,264	0.011	12	173
27	102.50	511	5,371	0.025	29	439
26	97.50	522	4,962	0.023	27	449
25	92.50	533	4,558	0.021	25	458
24	88.47	331	2,593	0.012	14	285
23	85.97	342	2,525	0.012	14	294
22	82.50	888	6,045	0.028	33	763
21	77.50	899	5,399	0.025	30	773
20	74.25	272	1,498	0.007	8	234
19	71.75	955	4,915	0.023	27	821
18	67.50	1,005	4,581	0.021	25	864
17	62.50	1,019	3,980	0.018	22	876
16	57.50	1,032	3,413	0.016	19	887
15	52.50	1,046	2,882	0.013	16	899
14	47.50	1,059	2,390	0.011	13	910
13	42.50	1,073	1,937	0.009	11	922
12	39.50	216	337	0.002	2	186
11	37.33	725	1,010	0.005	6	623
10	35.33	232	289	0.001	2	199
9	33.25	1,226	1,355	0.006	7	1,054
8	30.75	361	341	0.002	2	310
7	27.50	1,214	918	0.004	5	1,043
6	22.50	1,230	623	0.003	3	1,057
5	17.50	1,246	382	0.002	2	1,071
4	12.50	1,262	197	0.001	1	1,085
3	9.50	254	23	0.000	0	219
2	7.00	1,024	50	0.000	0	880
1	2.50	1,294	8	0.000	0	1,112
Powerwave LGP13519	150.00	32	716	0.003	4	27
LGP Allgon TMA-DD 19	150.00	62	1,404	0.007	8	54
Raycap DC6-48-60-18-	150.00	32	715	0.003	4	27
Ericsson RRUS 11 (Ba	150.00	165	3,713	0.017	20	142
Ericsson RRUS 32 B2	150.00	159	3,577	0.017	20	137
Powerwave 7770.00	150.00	210	4,725	0.022	26	180
22' Omni	150.00	70	1,575	0.007	9	60
20' Dipole	150.00	60	1,350	0.006	7	52
CCI HPA-65R-BUU-H6	150.00	153	3,443	0.016	19	131
Flat Platform w/ Han	150.00	2,000	45,000	0.209	247	1,719
Scala CL-FM	142.00	45	907	0.004	5	39
Ericsson RRUS 11 B12	130.00	152	2,570	0.012	14	131
Stand-Off	130.00	300	5,070	0.024	28	258
Ericsson AIR 21, 1.3	130.00	275	4,639	0.022	25	236
Ericsson AIR B4A/B12	130.00	339	5,729	0.027	31	291
Fastback Intelligent	128.00	9	144	0.001	1	8
Alcatel-Lucent RRH2x	123.00	132	1,997	0.009	11	113
RFS DB-T1-6Z-8AB-0Z	123.00	44	666	0.003	4	38
RFS FD9R6004/1C-3L	119.00	19	263	0.001	1	16
ADC ClearGain Dual B	119.00	172	2,439	0.011	13	148
Amphenol Antel BXA-1	119.00	32	446	0.002	2	27
Amphenol Antel BXA-1	119.00	32	446	0.002	2	27
Antel BXA-80063/4CF	119.00	30	421	0.002	2	26
Antel BXA-70063/6CF_	119.00	51	722	0.003	4	44
Round T-Arms	119.00	750	10,621	0.049	58	645
GPS	107.00	10	114	0.001	1	9
GPS	39.00	10	15	0.000	0	9
		30,235	215,193	1.000	1,179	25,986

Site Number: 302480

Code: ANSI/TIA-222-G

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Site Name: Woodbridge CT 1, CT

Engineering Number: OAA727016_C3_01

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Customer: METRO PCS INC

Site Number: 302480

Code: ANSI/TIA-222-G

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Site Name: Woodbridge CT 1, CT

Engineering Number: OAA727016_C3_01

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Customer: METRO PCS INC

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	-35.90	-1.18	0.00	-146.17	0.00	146.17	3,157.17	1,578.58	4,812.28	2,376.61	0.00	0.00	0.046
5.00	-34.63	-1.19	0.00	-140.26	0.00	140.26	3,114.35	1,557.18	4,645.51	2,294.24	0.01	-0.02	0.045
9.00	-34.32	-1.20	0.00	-135.49	0.00	135.49	3,079.35	1,539.68	4,513.00	2,228.80	0.03	-0.03	0.044
9.00	-34.32	-1.20	0.00	-135.49	0.00	135.49	3,079.35	1,539.68	4,513.00	2,228.80	0.03	-0.03	0.044
10.00	-32.75	-1.20	0.00	-134.29	0.00	134.29	3,070.50	1,535.25	4,480.00	2,212.51	0.03	-0.03	0.044
15.00	-31.20	-1.21	0.00	-128.29	0.00	128.29	3,025.61	1,512.80	4,315.88	2,131.45	0.08	-0.05	0.043
20.00	-29.68	-1.21	0.00	-122.26	0.00	122.26	2,979.67	1,489.84	4,153.23	2,051.12	0.14	-0.06	0.042
25.00	-28.17	-1.21	0.00	-116.22	0.00	116.22	2,932.70	1,466.35	3,992.16	1,971.58	0.21	-0.08	0.040
30.00	-27.72	-1.21	0.00	-110.16	0.00	110.16	2,875.19	1,437.60	3,820.15	1,886.63	0.31	-0.10	0.040
31.50	-26.20	-1.21	0.00	-108.34	0.00	108.34	2,854.27	1,427.14	3,764.44	1,859.12	0.34	-0.10	0.039
35.00	-25.92	-1.21	0.00	-104.12	0.00	104.12	2,805.46	1,402.73	3,636.05	1,795.71	0.42	-0.11	0.038
35.67	-25.02	-1.20	0.00	-103.31	0.00	103.31	2,248.06	1,124.03	2,973.87	1,468.68	0.43	-0.12	0.044
39.00	-24.74	-1.20	0.00	-99.30	0.00	99.30	2,225.45	1,112.72	2,895.60	1,430.03	0.52	-0.13	0.043
40.00	-23.41	-1.20	0.00	-98.09	0.00	98.09	2,218.58	1,109.29	2,872.20	1,418.47	0.55	-0.13	0.042
45.00	-22.09	-1.19	0.00	-92.12	0.00	92.12	2,183.59	1,091.80	2,755.72	1,360.95	0.70	-0.15	0.040
50.00	-20.79	-1.17	0.00	-86.19	0.00	86.19	2,147.57	1,073.78	2,640.25	1,303.92	0.86	-0.17	0.039
55.00	-19.51	-1.16	0.00	-80.33	0.00	80.33	2,110.50	1,055.25	2,525.89	1,247.44	1.05	-0.18	0.037
60.00	-18.25	-1.13	0.00	-74.55	0.00	74.55	2,072.40	1,036.20	2,412.73	1,191.56	1.25	-0.20	0.035
65.00	-17.00	-1.11	0.00	-68.88	0.00	68.88	2,033.25	1,016.63	2,300.88	1,136.32	1.47	-0.22	0.033
70.00	-15.82	-1.08	0.00	-63.33	0.00	63.33	1,982.07	991.03	2,178.35	1,075.80	1.70	-0.23	0.032
73.50	-15.48	-1.08	0.00	-59.54	0.00	59.54	1,473.95	736.97	1,624.53	802.29	1.88	-0.25	0.036
75.00	-14.36	-1.04	0.00	-57.93	0.00	57.93	1,466.27	733.13	1,601.72	791.03	1.96	-0.25	0.035
80.00	-13.26	-1.01	0.00	-52.71	0.00	52.71	1,439.98	719.99	1,526.07	753.67	2.23	-0.27	0.032
85.00	-12.84	-1.00	0.00	-47.66	0.00	47.66	1,412.66	706.33	1,451.06	716.62	2.52	-0.28	0.030
86.94	-12.43	-0.98	0.00	-45.73	0.00	45.73	1,401.78	700.89	1,422.15	702.35	2.63	-0.29	0.029
86.94	-12.43	-0.98	0.00	-45.73	0.00	45.73	1,401.78	700.89	1,422.15	702.35	2.63	-0.29	0.074
90.00	-11.77	-0.96	0.00	-42.73	0.00	42.73	1,384.30	692.15	1,376.80	679.95	2.82	-0.30	0.071
95.00	-11.12	-0.93	0.00	-37.94	0.00	37.94	1,354.89	677.45	1,303.39	643.70	3.16	-0.34	0.067
100.00	-10.48	-0.91	0.00	-33.27	0.00	33.27	1,324.45	662.22	1,230.93	607.91	3.53	-0.38	0.063
105.00	-10.23	-0.90	0.00	-28.73	0.00	28.73	1,292.96	646.48	1,159.52	572.65	3.95	-0.41	0.058
107.00	-9.85	-0.88	0.00	-26.93	0.00	26.93	1,274.99	637.49	1,126.78	556.47	4.13	-0.43	0.056
110.00	-9.33	-0.85	0.00	-24.29	0.00	24.29	1,247.09	623.55	1,077.73	532.25	4.40	-0.45	0.053
110.00	-9.33	-0.85	0.00	-24.29	0.00	24.29	853.22	426.61	741.75	366.32	4.40	-0.45	0.077
115.00	-8.92	-0.83	0.00	-20.04	0.00	20.04	834.98	417.49	698.66	345.04	4.89	-0.48	0.069
119.00	-7.49	-0.73	0.00	-16.73	0.00	16.73	819.63	409.82	664.45	328.15	5.31	-0.52	0.060
120.00	-7.22	-0.71	0.00	-16.00	0.00	16.00	815.69	407.85	655.94	323.94	5.42	-0.52	0.058
123.00	-6.83	-0.68	0.00	-13.87	0.00	13.87	803.62	401.81	630.51	311.39	5.76	-0.55	0.053
125.00	-6.58	-0.66	0.00	-12.50	0.00	12.50	795.37	397.68	613.67	303.07	5.99	-0.56	0.050
128.00	-6.41	-0.65	0.00	-10.51	0.00	10.51	782.67	391.34	588.56	290.67	6.35	-0.58	0.044
130.00	-4.72	-0.51	0.00	-9.21	0.00	9.21	774.00	387.00	571.95	282.46	6.59	-0.59	0.039
135.00	-4.37	-0.48	0.00	-6.66	0.00	6.66	751.59	375.80	530.89	262.19	7.23	-0.62	0.031
140.00	-4.23	-0.47	0.00	-4.27	0.00	4.27	728.15	364.07	490.60	242.29	7.89	-0.64	0.023
142.00	-3.98	-0.44	0.00	-3.34	0.00	3.34	714.94	357.47	472.37	233.29	8.16	-0.64	0.020
145.00	-3.65	-0.40	0.00	-2.02	0.00	2.02	694.02	347.01	444.98	219.76	8.56	-0.65	0.014
150.00	0.00	-0.36	0.00	0.00	0.00	0.00	659.15	329.57	401.14	198.11	9.25	-0.66	0.000

Site Number: 302480

Code: ANSI/TIA-222-G

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Site Name: Woodbridge CT 1, CT

Engineering Number: OAA727016_C3_01

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Customer: METRO PCS INC

Load Case (0.9 - 0.2Sds) * DL + E ELMF 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	-24.87	-1.18	0.00	-143.51	0.00	143.51	3,157.17	1,578.58	4,812.28	2,376.61	0.00	0.00	0.042
5.00	-23.99	-1.19	0.00	-137.60	0.00	137.60	3,114.35	1,557.18	4,645.51	2,294.24	0.01	-0.02	0.042
9.00	-23.77	-1.19	0.00	-132.85	0.00	132.85	3,079.35	1,539.68	4,513.00	2,228.80	0.03	-0.03	0.041
9.00	-23.77	-1.19	0.00	-132.85	0.00	132.85	3,079.35	1,539.68	4,513.00	2,228.80	0.03	-0.03	0.041
10.00	-22.69	-1.19	0.00	-131.66	0.00	131.66	3,070.50	1,535.25	4,480.00	2,212.51	0.03	-0.03	0.041
15.00	-21.62	-1.20	0.00	-125.69	0.00	125.69	3,025.61	1,512.80	4,315.88	2,131.45	0.07	-0.05	0.040
20.00	-20.56	-1.20	0.00	-119.71	0.00	119.71	2,979.67	1,489.84	4,153.23	2,051.12	0.13	-0.06	0.039
25.00	-19.52	-1.20	0.00	-113.72	0.00	113.72	2,932.70	1,466.35	3,992.16	1,971.58	0.21	-0.08	0.038
30.00	-19.21	-1.20	0.00	-107.74	0.00	107.74	2,875.19	1,437.60	3,820.15	1,886.63	0.30	-0.10	0.037
31.50	-18.15	-1.19	0.00	-105.95	0.00	105.95	2,854.27	1,427.14	3,764.44	1,859.12	0.33	-0.10	0.036
35.00	-17.95	-1.19	0.00	-101.78	0.00	101.78	2,805.46	1,402.73	3,636.05	1,795.71	0.41	-0.11	0.036
35.67	-17.33	-1.19	0.00	-100.98	0.00	100.98	2,248.06	1,124.03	2,973.87	1,468.68	0.43	-0.11	0.041
39.00	-17.14	-1.19	0.00	-97.03	0.00	97.03	2,225.45	1,112.72	2,895.60	1,430.03	0.51	-0.13	0.040
40.00	-16.21	-1.18	0.00	-95.84	0.00	95.84	2,218.58	1,109.29	2,872.20	1,418.47	0.54	-0.13	0.039
45.00	-15.30	-1.17	0.00	-89.96	0.00	89.96	2,183.59	1,091.80	2,755.72	1,360.95	0.68	-0.15	0.038
50.00	-14.41	-1.15	0.00	-84.13	0.00	84.13	2,147.57	1,073.78	2,640.25	1,303.92	0.84	-0.16	0.036
55.00	-13.52	-1.13	0.00	-78.37	0.00	78.37	2,110.50	1,055.25	2,525.89	1,247.44	1.02	-0.18	0.035
60.00	-12.64	-1.11	0.00	-72.70	0.00	72.70	2,072.40	1,036.20	2,412.73	1,191.56	1.22	-0.20	0.033
65.00	-11.78	-1.09	0.00	-67.13	0.00	67.13	2,033.25	1,016.63	2,300.88	1,136.32	1.44	-0.21	0.031
70.00	-10.96	-1.06	0.00	-61.69	0.00	61.69	1,982.07	991.03	2,178.35	1,075.80	1.67	-0.23	0.030
73.50	-10.72	-1.05	0.00	-57.97	0.00	57.97	1,473.95	736.97	1,624.53	802.29	1.84	-0.24	0.033
75.00	-9.95	-1.02	0.00	-56.39	0.00	56.39	1,466.27	733.13	1,601.72	791.03	1.92	-0.25	0.032
80.00	-9.19	-0.99	0.00	-51.28	0.00	51.28	1,439.98	719.99	1,526.07	753.67	2.18	-0.26	0.030
85.00	-8.89	-0.97	0.00	-46.34	0.00	46.34	1,412.66	706.33	1,451.06	716.62	2.46	-0.28	0.028
86.94	-8.61	-0.96	0.00	-44.45	0.00	44.45	1,401.78	700.89	1,422.15	702.35	2.58	-0.28	0.027
86.94	-8.61	-0.96	0.00	-44.45	0.00	44.45	1,401.78	700.89	1,422.15	702.35	2.58	-0.28	0.069
90.00	-8.15	-0.94	0.00	-41.51	0.00	41.51	1,384.30	692.15	1,376.80	679.95	2.76	-0.29	0.067
95.00	-7.70	-0.91	0.00	-36.82	0.00	36.82	1,354.89	677.45	1,303.39	643.70	3.09	-0.33	0.063
100.00	-7.26	-0.88	0.00	-32.26	0.00	32.26	1,324.45	662.22	1,230.93	607.91	3.46	-0.37	0.059
105.00	-7.09	-0.87	0.00	-27.84	0.00	27.84	1,292.96	646.48	1,159.52	572.65	3.86	-0.40	0.054
107.00	-6.82	-0.85	0.00	-26.09	0.00	26.09	1,274.99	637.49	1,126.78	556.47	4.03	-0.42	0.052
110.00	-6.46	-0.83	0.00	-23.53	0.00	23.53	1,247.09	623.55	1,077.73	532.25	4.30	-0.44	0.049
110.00	-6.46	-0.83	0.00	-23.53	0.00	23.53	853.22	426.61	741.75	366.32	4.30	-0.44	0.072
115.00	-6.18	-0.80	0.00	-19.40	0.00	19.40	834.98	417.49	698.66	345.04	4.78	-0.47	0.064
119.00	-5.19	-0.71	0.00	-16.19	0.00	16.19	819.63	409.82	664.45	328.15	5.19	-0.50	0.056
120.00	-5.00	-0.69	0.00	-15.48	0.00	15.48	815.69	407.85	655.94	323.94	5.29	-0.51	0.054
123.00	-4.73	-0.66	0.00	-13.42	0.00	13.42	803.62	401.81	630.51	311.39	5.62	-0.53	0.049
125.00	-4.56	-0.64	0.00	-12.09	0.00	12.09	795.37	397.68	613.67	303.07	5.85	-0.55	0.046
128.00	-4.44	-0.63	0.00	-10.16	0.00	10.16	782.67	391.34	588.56	290.67	6.20	-0.56	0.041
130.00	-3.27	-0.49	0.00	-8.90	0.00	8.90	774.00	387.00	571.95	282.46	6.44	-0.58	0.036
135.00	-3.03	-0.46	0.00	-6.44	0.00	6.44	751.59	375.80	530.89	262.19	7.05	-0.60	0.029
140.00	-2.93	-0.45	0.00	-4.13	0.00	4.13	728.15	364.07	490.60	242.29	7.69	-0.62	0.021
142.00	-2.75	-0.42	0.00	-3.23	0.00	3.23	714.94	357.47	472.37	233.29	7.95	-0.63	0.018
145.00	-2.53	-0.39	0.00	-1.95	0.00	1.95	694.02	347.01	444.98	219.76	8.35	-0.63	0.013
150.00	0.00	-0.36	0.00	0.00	0.00	0.00	659.15	329.57	401.14	198.11	9.02	-0.64	0.000

Site Number: 302480

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Site Name: Woodbridge CT 1, CT

Engineering Number: OAA727016_C3_01

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Customer: METRO PCS INC

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):	0.19
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Importance Factor (I_e):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.20
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Period Based on Rayleigh Method (sec):	2.62
Redundancy Factor (p):	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)
41	147.50	266	1.828	1.667	1.025	0.341	79	330
40	143.50	163	1.730	1.238	0.861	0.278	39	203
39	141.00	111	1.670	1.012	0.769	0.242	23	138
38	137.50	284	1.588	0.742	0.654	0.195	48	352
37	132.50	292	1.475	0.441	0.513	0.135	34	362
36	129.00	131	1.398	0.280	0.430	0.098	11	163
35	126.50	204	1.344	0.186	0.377	0.074	13	254
34	124.00	138	1.292	0.109	0.329	0.052	6	171
33	121.50	213	1.240	0.046	0.286	0.032	6	264
32	119.50	72	1.200	0.004	0.254	0.018	1	89
31	117.00	329	1.150	-0.037	0.219	0.002	0	409
30	112.50	419	1.063	-0.088	0.165	-0.023	-8	520
29	108.50	299	0.989	-0.113	0.126	-0.039	-10	370
28	106.00	201	0.944	-0.120	0.105	-0.046	-8	250
27	102.50	511	0.883	-0.121	0.081	-0.053	-24	634
26	97.50	522	0.799	-0.112	0.053	-0.056	-25	647
25	92.50	533	0.719	-0.092	0.034	-0.051	-24	661
24	88.47	331	0.657	-0.073	0.022	-0.041	-12	411
23	85.97	342	0.621	-0.060	0.017	-0.033	-10	424
22	82.50	888	0.572	-0.043	0.012	-0.020	-16	1,102
21	77.50	899	0.505	-0.018	0.007	0.000	0	1,115
20	74.25	272	0.463	-0.003	0.006	0.014	3	337
19	71.75	955	0.432	0.008	0.006	0.023	19	1,184
18	67.50	1,005	0.383	0.023	0.007	0.036	32	1,247
17	62.50	1,019	0.328	0.039	0.010	0.048	42	1,264
16	57.50	1,032	0.278	0.050	0.014	0.054	49	1,281
15	52.50	1,046	0.232	0.058	0.019	0.057	52	1,297
14	47.50	1,059	0.190	0.064	0.025	0.058	54	1,314
13	42.50	1,073	0.152	0.068	0.030	0.058	54	1,331
12	39.50	216	0.131	0.069	0.033	0.057	11	268
11	37.33	725	0.117	0.070	0.035	0.057	36	899
10	35.33	232	0.105	0.071	0.037	0.056	11	288
9	33.25	1,226	0.093	0.071	0.038	0.055	59	1,521
8	30.75	361	0.079	0.072	0.040	0.055	17	448

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Customer: METRO PCS INC

7	27.50	1,214	0.064	0.072	0.041	0.054	57	1,506
6	22.50	1,230	0.043	0.070	0.042	0.052	56	1,526
5	17.50	1,246	0.026	0.067	0.040	0.050	54	1,546
4	12.50	1,262	0.013	0.059	0.034	0.045	49	1,566
3	9.50	254	0.008	0.051	0.029	0.041	9	316
2	7.00	1,024	0.004	0.042	0.023	0.035	31	1,270
1	2.50	1,294	0.001	0.018	0.010	0.017	19	1,605
Powerwave LGP13519	150.00	32	1.890	1.980	1.140	0.383	11	39
LGP Allgon TMA-DD 19	150.00	62	1.890	1.980	1.140	0.383	21	77
Raycap DC6-48-60-18-	150.00	32	1.890	1.980	1.140	0.383	11	39
Ericsson RRUS 11 (Ba	150.00	165	1.890	1.980	1.140	0.383	55	205
Ericsson RRUS 32 B2	150.00	159	1.890	1.980	1.140	0.383	53	197
Powerwave 7770.00	150.00	210	1.890	1.980	1.140	0.383	70	261
22' Omni	150.00	70	1.890	1.980	1.140	0.383	23	87
20' Dipole	150.00	60	1.890	1.980	1.140	0.383	20	74
CCI HPA-65R-BUU-H6	150.00	153	1.890	1.980	1.140	0.383	51	190
Flat Platform w/ Han	150.00	2,000	1.890	1.980	1.140	0.383	663	2,481
Scala CL-FM	142.00	45	1.694	1.099	0.805	0.256	10	56
Ericsson RRUS 11 B12	130.00	152	1.420	0.322	0.452	0.108	14	189
Stand-Off	130.00	300	1.420	0.322	0.452	0.108	28	372
Ericsson AIR 21, 1.3	130.00	275	1.420	0.322	0.452	0.108	26	341
Ericsson AIR B4A/B12	130.00	339	1.420	0.322	0.452	0.108	32	421
Fastback Intelligent	128.00	9	1.376	0.240	0.408	0.088	1	11
Alcatel-Lucent RRH2x	123.00	132	1.271	0.082	0.311	0.044	5	164
RFS DB-T1-6Z-8AB-OZ	123.00	44	1.271	0.082	0.311	0.044	2	55
RFS FD9R6004/1C-3L	119.00	19	1.190	-0.005	0.247	0.014	0	23
ADC ClearGain Dual B	119.00	172	1.190	-0.005	0.247	0.014	2	214
Amphenol Antel BXA-1	119.00	32	1.190	-0.005	0.247	0.014	0	39
Amphenol Antel BXA-1	119.00	32	1.190	-0.005	0.247	0.014	0	39
Antel BXA-80063/4CF	119.00	30	1.190	-0.005	0.247	0.014	0	37
Antel BXA-70063/6CF_	119.00	51	1.190	-0.005	0.247	0.014	1	63
Round T-Arms	119.00	750	1.190	-0.005	0.247	0.014	9	930
GPS	107.00	10	0.962	-0.117	0.113	-0.043	0	12
GPS	39.00	10	0.128	0.070	0.033	0.057	0	12
		30,235	66.409	28.395	23.777	6.836	1,945	37,508

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)
41	147.50	266	1.828	1.667	1.025	0.341	79	229
40	143.50	163	1.730	1.238	0.861	0.278	39	140
39	141.00	111	1.670	1.012	0.769	0.242	23	96
38	137.50	284	1.588	0.742	0.654	0.195	48	244
37	132.50	292	1.475	0.441	0.513	0.135	34	251
36	129.00	131	1.398	0.280	0.430	0.098	11	113
35	126.50	204	1.344	0.186	0.377	0.074	13	176
34	124.00	138	1.292	0.109	0.329	0.052	6	119
33	121.50	213	1.240	0.046	0.286	0.032	6	183
32	119.50	72	1.200	0.004	0.254	0.018	1	62
31	117.00	329	1.150	-0.037	0.219	0.002	0	283
30	112.50	419	1.063	-0.088	0.165	-0.023	-8	360
29	108.50	299	0.989	-0.113	0.126	-0.039	-10	257
28	106.00	201	0.944	-0.120	0.105	-0.046	-8	173
27	102.50	511	0.883	-0.121	0.081	-0.053	-24	439
26	97.50	522	0.799	-0.112	0.053	-0.056	-25	449
25	92.50	533	0.719	-0.092	0.034	-0.051	-24	458
24	88.47	331	0.657	-0.073	0.022	-0.041	-12	285
23	85.97	342	0.621	-0.060	0.017	-0.033	-10	294

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22	82.50	888	0.572	-0.043	0.012	-0.020	-16	763
21	77.50	899	0.505	-0.018	0.007	0.000	0	773
20	74.25	272	0.463	-0.003	0.006	0.014	3	234
19	71.75	955	0.432	0.008	0.006	0.023	19	821
18	67.50	1,005	0.383	0.023	0.007	0.036	32	864
17	62.50	1,019	0.328	0.039	0.010	0.048	42	876
16	57.50	1,032	0.278	0.050	0.014	0.054	49	887
15	52.50	1,046	0.232	0.058	0.019	0.057	52	899
14	47.50	1,059	0.190	0.064	0.025	0.058	54	910
13	42.50	1,073	0.152	0.068	0.030	0.058	54	922
12	39.50	216	0.131	0.069	0.033	0.057	11	186
11	37.33	725	0.117	0.070	0.035	0.057	36	623
10	35.33	232	0.105	0.071	0.037	0.056	11	199
9	33.25	1,226	0.093	0.071	0.038	0.055	59	1,054
8	30.75	361	0.079	0.072	0.040	0.055	17	310
7	27.50	1,214	0.064	0.072	0.041	0.054	57	1,043
6	22.50	1,230	0.043	0.070	0.042	0.052	56	1,057
5	17.50	1,246	0.026	0.067	0.040	0.050	54	1,071
4	12.50	1,262	0.013	0.059	0.034	0.045	49	1,085
3	9.50	254	0.008	0.051	0.029	0.041	9	219
2	7.00	1,024	0.004	0.042	0.023	0.035	31	880
1	2.50	1,294	0.001	0.018	0.010	0.017	19	1,112
Powerwave LGP13519	150.00	32	1.890	1.980	1.140	0.383	11	27
LGP Allgon TMA-DD 19	150.00	62	1.890	1.980	1.140	0.383	21	54
Raycap DC6-48-60-18-	150.00	32	1.890	1.980	1.140	0.383	11	27
Ericsson RRUS 11 (Ba	150.00	165	1.890	1.980	1.140	0.383	55	142
Ericsson RRUS 32 B2	150.00	159	1.890	1.980	1.140	0.383	53	137
Powerwave 7770.00	150.00	210	1.890	1.980	1.140	0.383	70	180
22' Omni	150.00	70	1.890	1.980	1.140	0.383	23	60
20' Dipole	150.00	60	1.890	1.980	1.140	0.383	20	52
CCI HPA-65R-BUU-H6	150.00	153	1.890	1.980	1.140	0.383	51	131
Flat Platform w/ Han	150.00	2,000	1.890	1.980	1.140	0.383	663	1,719
Scala CL-FM	142.00	45	1.694	1.099	0.805	0.256	10	39
Ericsson RRUS 11 B12	130.00	152	1.420	0.322	0.452	0.108	14	131
Stand-Off	130.00	300	1.420	0.322	0.452	0.108	28	258
Ericsson AIR 21, 1.3	130.00	275	1.420	0.322	0.452	0.108	26	236
Ericsson AIR B4A/B12	130.00	339	1.420	0.322	0.452	0.108	32	291
Fastback Intelligent	128.00	9	1.376	0.240	0.408	0.088	1	8
Alcatel-Lucent RRH2x	123.00	132	1.271	0.082	0.311	0.044	5	113
RFS DB-T1-6Z-8AB-OZ	123.00	44	1.271	0.082	0.311	0.044	2	38
RFS FD9R6004/1C-3L	119.00	19	1.190	-0.005	0.247	0.014	0	16
ADC ClearGain Dual B	119.00	172	1.190	-0.005	0.247	0.014	2	148
Amphenol Antel BXA-1	119.00	32	1.190	-0.005	0.247	0.014	0	27
Amphenol Antel BXA-1	119.00	32	1.190	-0.005	0.247	0.014	0	27
Antel BXA-80063/4CF	119.00	30	1.190	-0.005	0.247	0.014	0	26
Antel BXA-70063/6CF_	119.00	51	1.190	-0.005	0.247	0.014	1	44
Round T-Arms	119.00	750	1.190	-0.005	0.247	0.014	9	645
GPS	107.00	10	0.962	-0.117	0.113	-0.043	0	9
GPS	39.00	10	0.128	0.070	0.033	0.057	0	9
		30,235	66.409	28.395	23.777	6.836	1,945	25,986

Site Number: 302480

Code: ANSI/TIA-222-G

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Site Name: Woodbridge CT 1, CT

Engineering Number: OAA727016_C3_01

4/12/2018 12:58:00 PM

Customer: METRO PCS INC

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	-35.90	-1.93	0.00	-224.68	0.00	224.68	3,157.17	1,578.58	4,812.28	2,376.61	0.00	0.00	0.066
5.00	-34.63	-1.91	0.00	-215.02	0.00	215.02	3,114.35	1,557.18	4,645.51	2,294.24	0.01	-0.02	0.064
9.00	-34.32	-1.91	0.00	-207.36	0.00	207.36	3,079.35	1,539.68	4,513.00	2,228.80	0.04	-0.04	0.063
9.00	-34.32	-1.91	0.00	-207.36	0.00	207.36	3,079.35	1,539.68	4,513.00	2,228.80	0.04	-0.04	0.063
10.00	-32.75	-1.87	0.00	-205.44	0.00	205.44	3,070.50	1,535.25	4,480.00	2,212.51	0.05	-0.05	0.063
15.00	-31.20	-1.83	0.00	-196.09	0.00	196.09	3,025.61	1,512.80	4,315.88	2,131.45	0.12	-0.07	0.061
20.00	-29.68	-1.78	0.00	-186.95	0.00	186.95	2,979.67	1,489.84	4,153.23	2,051.12	0.21	-0.10	0.060
25.00	-28.17	-1.74	0.00	-178.03	0.00	178.03	2,932.70	1,466.35	3,992.16	1,971.58	0.33	-0.12	0.058
30.00	-27.72	-1.73	0.00	-169.34	0.00	169.34	2,875.19	1,437.60	3,820.15	1,886.63	0.47	-0.15	0.057
31.50	-26.20	-1.67	0.00	-166.75	0.00	166.75	2,854.27	1,427.14	3,764.44	1,859.12	0.52	-0.16	0.057
35.00	-25.91	-1.66	0.00	-160.91	0.00	160.91	2,805.46	1,402.73	3,636.05	1,795.71	0.64	-0.18	0.056
35.67	-25.01	-1.63	0.00	-159.80	0.00	159.80	2,248.06	1,124.03	2,973.87	1,468.68	0.67	-0.18	0.064
39.00	-24.73	-1.62	0.00	-154.37	0.00	154.37	2,225.45	1,112.72	2,895.60	1,430.03	0.80	-0.20	0.063
40.00	-23.40	-1.57	0.00	-152.75	0.00	152.75	2,218.58	1,109.29	2,872.20	1,418.47	0.84	-0.20	0.062
45.00	-22.09	-1.52	0.00	-144.90	0.00	144.90	2,183.59	1,091.80	2,755.72	1,360.95	1.07	-0.23	0.060
50.00	-20.79	-1.47	0.00	-137.29	0.00	137.29	2,147.57	1,073.78	2,640.25	1,303.92	1.32	-0.26	0.058
55.00	-19.51	-1.43	0.00	-129.92	0.00	129.92	2,110.50	1,055.25	2,525.89	1,247.44	1.61	-0.29	0.056
60.00	-18.24	-1.39	0.00	-122.77	0.00	122.77	2,072.40	1,036.20	2,412.73	1,191.56	1.92	-0.31	0.055
65.00	-17.00	-1.36	0.00	-115.83	0.00	115.83	2,033.25	1,016.63	2,300.88	1,136.32	2.26	-0.34	0.053
70.00	-15.81	-1.34	0.00	-109.03	0.00	109.03	1,982.07	991.03	2,178.35	1,075.80	2.63	-0.37	0.051
73.50	-15.47	-1.34	0.00	-104.34	0.00	104.34	1,473.95	736.97	1,624.53	802.29	2.91	-0.39	0.058
75.00	-14.36	-1.33	0.00	-102.34	0.00	102.34	1,466.27	733.13	1,601.72	791.03	3.04	-0.40	0.057
80.00	-13.26	-1.35	0.00	-95.66	0.00	95.66	1,439.98	719.99	1,526.07	753.67	3.47	-0.43	0.055
85.00	-12.83	-1.36	0.00	-88.92	0.00	88.92	1,412.66	706.33	1,451.06	716.62	3.93	-0.46	0.052
86.94	-12.42	-1.37	0.00	-86.28	0.00	86.28	1,401.78	700.89	1,422.15	702.35	4.12	-0.47	0.051
86.94	-12.42	-1.37	0.00	-86.28	0.00	86.28	1,401.78	700.89	1,422.15	702.35	4.12	-0.47	0.132
90.00	-11.76	-1.40	0.00	-82.08	0.00	82.08	1,384.30	692.15	1,376.80	679.95	4.43	-0.49	0.129
95.00	-11.11	-1.43	0.00	-75.08	0.00	75.08	1,354.89	677.45	1,303.39	643.70	4.98	-0.56	0.125
100.00	-10.47	-1.47	0.00	-67.90	0.00	67.90	1,324.45	662.22	1,230.93	607.91	5.61	-0.64	0.120
105.00	-10.22	-1.48	0.00	-60.57	0.00	60.57	1,292.96	646.48	1,159.52	572.65	6.32	-0.72	0.114
107.00	-9.84	-1.49	0.00	-57.61	0.00	57.61	1,274.99	637.49	1,126.78	556.47	6.63	-0.75	0.111
110.00	-9.32	-1.50	0.00	-53.14	0.00	53.14	1,247.09	623.55	1,077.73	532.25	7.11	-0.80	0.107
110.00	-9.32	-1.50	0.00	-53.14	0.00	53.14	853.22	426.61	741.75	366.32	7.11	-0.80	0.156
115.00	-8.91	-1.51	0.00	-45.62	0.00	45.62	834.98	417.49	698.66	345.04	7.99	-0.87	0.143
119.00	-7.47	-1.48	0.00	-39.58	0.00	39.58	819.63	409.82	664.45	328.15	8.75	-0.95	0.130
120.00	-7.21	-1.47	0.00	-38.10	0.00	38.10	815.69	407.85	655.94	323.94	8.95	-0.96	0.126
123.00	-6.81	-1.46	0.00	-33.69	0.00	33.69	803.62	401.81	630.51	311.39	9.57	-1.02	0.117
125.00	-6.56	-1.44	0.00	-30.77	0.00	30.77	795.37	397.68	613.67	303.07	10.01	-1.05	0.110
128.00	-6.39	-1.43	0.00	-26.44	0.00	26.44	782.67	391.34	588.56	290.67	10.68	-1.10	0.099
130.00	-4.70	-1.27	0.00	-23.57	0.00	23.57	774.00	387.00	571.95	282.46	11.15	-1.13	0.090
135.00	-4.35	-1.22	0.00	-17.22	0.00	17.22	751.59	375.80	530.89	262.19	12.37	-1.20	0.071
140.00	-4.21	-1.20	0.00	-11.11	0.00	11.11	728.15	364.07	490.60	242.29	13.65	-1.25	0.052
142.00	-3.96	-1.14	0.00	-8.72	0.00	8.72	714.94	357.47	472.37	233.29	14.18	-1.26	0.043
145.00	-3.63	-1.06	0.00	-5.29	0.00	5.29	694.02	347.01	444.98	219.76	14.98	-1.28	0.029
150.00	0.00	-0.98	0.00	0.00	0.00	0.00	659.15	329.57	401.14	198.11	16.33	-1.30	0.000

Site Number: 302480

Code: ANSI/TIA-222-G

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Site Name: Woodbridge CT 1, CT

Engineering Number: OAA727016_C3_01

4/12/2018 12:58:00 PM

Customer: METRO PCS INC

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	-24.87	-1.93	0.00	-220.20	0.00	220.20	3,157.17	1,578.58	4,812.28	2,376.61	0.00	0.00	0.062
5.00	-23.99	-1.91	0.00	-210.55	0.00	210.55	3,114.35	1,557.18	4,645.51	2,294.24	0.01	-0.02	0.061
9.00	-23.77	-1.90	0.00	-202.92	0.00	202.92	3,079.35	1,539.68	4,513.00	2,228.80	0.04	-0.04	0.060
9.00	-23.77	-1.90	0.00	-202.92	0.00	202.92	3,079.35	1,539.68	4,513.00	2,228.80	0.04	-0.04	0.060
10.00	-22.69	-1.86	0.00	-201.02	0.00	201.02	3,070.50	1,535.25	4,480.00	2,212.51	0.05	-0.05	0.059
15.00	-21.62	-1.81	0.00	-191.72	0.00	191.72	3,025.61	1,512.80	4,315.88	2,131.45	0.11	-0.07	0.058
20.00	-20.56	-1.77	0.00	-182.65	0.00	182.65	2,979.67	1,489.84	4,153.23	2,051.12	0.20	-0.10	0.057
25.00	-19.52	-1.72	0.00	-173.82	0.00	173.82	2,932.70	1,466.35	3,992.16	1,971.58	0.32	-0.12	0.055
30.00	-19.21	-1.70	0.00	-165.25	0.00	165.25	2,875.19	1,437.60	3,820.15	1,886.63	0.46	-0.15	0.054
31.50	-18.15	-1.65	0.00	-162.69	0.00	162.69	2,854.27	1,427.14	3,764.44	1,859.12	0.51	-0.15	0.054
35.00	-17.95	-1.64	0.00	-156.93	0.00	156.93	2,805.46	1,402.73	3,636.05	1,795.71	0.63	-0.17	0.052
35.67	-17.33	-1.60	0.00	-155.84	0.00	155.84	2,248.06	1,124.03	2,973.87	1,468.68	0.65	-0.18	0.060
39.00	-17.13	-1.59	0.00	-150.50	0.00	150.50	2,225.45	1,112.72	2,895.60	1,430.03	0.78	-0.19	0.059
40.00	-16.21	-1.54	0.00	-148.91	0.00	148.91	2,218.58	1,109.29	2,872.20	1,418.47	0.82	-0.20	0.059
45.00	-15.30	-1.49	0.00	-141.20	0.00	141.20	2,183.59	1,091.80	2,755.72	1,360.95	1.04	-0.22	0.057
50.00	-14.40	-1.44	0.00	-133.74	0.00	133.74	2,147.57	1,073.78	2,640.25	1,303.92	1.29	-0.25	0.055
55.00	-13.51	-1.40	0.00	-126.53	0.00	126.53	2,110.50	1,055.25	2,525.89	1,247.44	1.57	-0.28	0.053
60.00	-12.64	-1.36	0.00	-119.55	0.00	119.55	2,072.40	1,036.20	2,412.73	1,191.56	1.88	-0.31	0.052
65.00	-11.77	-1.33	0.00	-112.77	0.00	112.77	2,033.25	1,016.63	2,300.88	1,136.32	2.21	-0.33	0.050
70.00	-10.95	-1.31	0.00	-106.15	0.00	106.15	1,982.07	991.03	2,178.35	1,075.80	2.57	-0.36	0.049
73.50	-10.72	-1.30	0.00	-101.58	0.00	101.58	1,473.95	736.97	1,624.53	802.29	2.84	-0.38	0.055
75.00	-9.95	-1.30	0.00	-99.62	0.00	99.62	1,466.27	733.13	1,601.72	791.03	2.96	-0.39	0.054
80.00	-9.18	-1.32	0.00	-93.11	0.00	93.11	1,439.98	719.99	1,526.07	753.67	3.39	-0.42	0.052
85.00	-8.89	-1.33	0.00	-86.53	0.00	86.53	1,412.66	706.33	1,451.06	716.62	3.84	-0.45	0.049
86.94	-8.60	-1.34	0.00	-83.96	0.00	83.96	1,401.78	700.89	1,422.15	702.35	4.02	-0.46	0.048
86.94	-8.60	-1.34	0.00	-83.96	0.00	83.96	1,401.78	700.89	1,422.15	702.35	4.02	-0.46	0.126
90.00	-8.14	-1.37	0.00	-79.86	0.00	79.86	1,384.30	692.15	1,376.80	679.95	4.32	-0.47	0.123
95.00	-7.69	-1.40	0.00	-73.04	0.00	73.04	1,354.89	677.45	1,303.39	643.70	4.86	-0.55	0.119
100.00	-7.25	-1.43	0.00	-66.05	0.00	66.05	1,324.45	662.22	1,230.93	607.91	5.47	-0.62	0.114
105.00	-7.08	-1.44	0.00	-58.92	0.00	58.92	1,292.96	646.48	1,159.52	572.65	6.17	-0.70	0.108
107.00	-6.81	-1.45	0.00	-56.05	0.00	56.05	1,274.99	637.49	1,126.78	556.47	6.47	-0.73	0.106
110.00	-6.45	-1.46	0.00	-51.70	0.00	51.70	1,247.09	623.55	1,077.73	532.25	6.94	-0.78	0.102
110.00	-6.45	-1.46	0.00	-51.70	0.00	51.70	853.22	426.61	741.75	366.32	6.94	-0.78	0.149
115.00	-6.16	-1.46	0.00	-44.40	0.00	44.40	834.98	417.49	698.66	345.04	7.79	-0.85	0.136
119.00	-5.17	-1.44	0.00	-38.55	0.00	38.55	819.63	409.82	664.45	328.15	8.53	-0.92	0.124
120.00	-4.99	-1.43	0.00	-37.11	0.00	37.11	815.69	407.85	655.94	323.94	8.73	-0.94	0.121
123.00	-4.71	-1.42	0.00	-32.82	0.00	32.82	803.62	401.81	630.51	311.39	9.34	-0.99	0.111
125.00	-4.54	-1.40	0.00	-29.98	0.00	29.98	795.37	397.68	613.67	303.07	9.76	-1.02	0.105
128.00	-4.42	-1.39	0.00	-25.77	0.00	25.77	782.67	391.34	588.56	290.67	10.42	-1.07	0.094
130.00	-3.25	-1.24	0.00	-22.98	0.00	22.98	774.00	387.00	571.95	282.46	10.87	-1.10	0.086
135.00	-3.01	-1.19	0.00	-16.78	0.00	16.78	751.59	375.80	530.89	262.19	12.06	-1.16	0.068
140.00	-2.91	-1.17	0.00	-10.83	0.00	10.83	728.15	364.07	490.60	242.29	13.31	-1.22	0.049
142.00	-2.73	-1.11	0.00	-8.50	0.00	8.50	714.94	357.47	472.37	233.29	13.82	-1.23	0.040
145.00	-2.51	-1.03	0.00	-5.16	0.00	5.16	694.02	347.01	444.98	219.76	14.60	-1.25	0.027
150.00	0.00	-0.98	0.00	0.00	0.00	0.00	659.15	329.57	401.14	198.11	15.92	-1.26	0.000

Site Number: 302480

Code: ANSI/TIA-222-G

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Site Name: Woodbridge CT 1, CT

Engineering Number: OAA727016_C3_01

4/12/2018 12:58:00 PM

Customer: METRO PCS INC

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	23.57	0.00	36.23	0.00	0.00	2296.14	110.00	0.90
0.9D + 1.6W	23.55	0.00	27.16	0.00	0.00	2263.49	86.94	0.87
1.2D + 1.0Di + 1.0Wi	5.44	0.00	59.84	0.00	0.00	589.20	110.00	0.28
(1.2 + 0.2Sds) * DL + E ELFM	1.18	0.00	35.90	0.00	0.00	146.17	110.00	0.08
(1.2 + 0.2Sds) * DL + E EMAM	1.93	0.00	35.90	0.00	0.00	224.68	110.00	0.16
(0.9 - 0.2Sds) * DL + E ELFM	1.18	0.00	24.87	0.00	0.00	143.51	110.00	0.07
(0.9 - 0.2Sds) * DL + E EMAM	1.93	0.00	24.87	0.00	0.00	220.20	110.00	0.15
1.0D + 1.0W	5.75	0.00	30.23	0.00	0.00	551.83	110.00	0.22

Additional Steel Summary

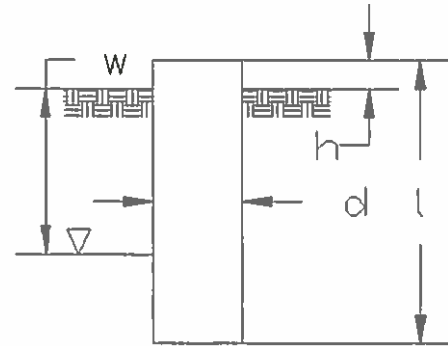
Elev From (ft)	Elev To (ft)	Member	Intermediate Connectors			Upper Termination Connectors				Lower Termination Connectors				Max Member		
			VQ/I (lb/in)	Shear Applied (kips)	Shear phiVn (kips)	MQ/I (kips)	phiVn (kips)	Num Reqd	Num Actual	MQ/I (kips)	phiVn (kips)	Num Reqd	Num Actual	Pu (kip)	phiPn (kip)	Ratio
0.00	9.00	(4) SOL-#20 All Thre	210.3	8.2	16.8	0.0	12.0	0	0	0.0	12.0	0	0	240.7	315.5	0.763
9.00	86.94	(4) SOL-#20 All Thre	270.1	8.1	16.8	144.7	12.0	13	14	0.0	12.0	0	0	232.9	330.5	0.705

Site Name: Woodbridge CT 1, CT
 Site Number: 302480
 Engineer: Connor.Klein
 Engineering Number: OAA727016
 Date: 04/12/18

Program Last Updated: 5/13/2014
 American Tower Corporation

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

Analyze or Design a Foundation? Analyze
 Foundation Mapped: Y
 Moment (M): 2296.1 k-ft
 Shear/Leg (V): 23.6 k
 Axial Load (P): 36.2 k
 Uplift/Leg (U): 0.0 k
 Tower Type (GT / SST / MP): MP
 Diameter of Caisson (d): 5.0 ft
 Caisson Embedment (L-h): 30.8 ft
 Caisson Height Above Ground (h): 0.3 ft
 Depth Below Ground Surface to Water Table (w): 2.0 ft
 Unit Weight of Concrete: 150.0 pcf
 Unit Weight of Water: 62.4 pcf
 Tension Skin Friction/Compression Skin Friction: 0.75
 Pullout Angle: 30.0 degrees



Engineer Notes

Soil Mechanical Properties

Depth (ft)		γ_{soil}	Cohesion	ϕ	Ultimate Skin	Ultimate Bearing
Top	Bottom	(pcf)	(psf)	(degree)	Friction (psf)	Pressure (psf)
0.0	4.0	105	0	0	0	0
4.0	7.0	122	0	32	546	0
7.0	10.0	131	0	41	628	0
10.0	15.0	134	0	51	993	0
15.0	31.8	135	0	48	1189	45779

Required Embedment: 20.3 ft - OK, Caisson Embedment Satisfactory
 Volume of Concrete: 608.7 ft³ = 22.5 yd³
 Weight of Concrete (Buoyancy Effect Considered): 56.1 k
 Average Soil Unit Weight: 70.9 pcf
 Skin Friction Resistance: 427.5 k
 Compressive Bearing Resistance: 898.9 k
 Pullout Weight (Minus Concrete Weight): 1024.1 k
 Nominal Uplift Capacity per Leg ($\phi_s T_n$): 282.5 k
 Nominal Compressive Capacity per Leg ($\phi_s P_n$): 994.8 k
 P_u : 51.2 k
 $T_u / \phi_s T_n$: 0.00 Result: OK
 $P_u / \phi_s P_n$: 0.05 Result: OK
 Total Lateral Resistance: 2802.2 k
 Inflection Point (Below Ground Surface): 22.3 ft
 Design Overturning Moment At Inflection Point (M_D): 2827.2 k-ft
 Nominal Moment Capacity ($\phi_s M_n$): 11225.0 k-ft
 $M_D / \phi_s M_n$: 0.25 Result: OK
 ϕ_s : 0.75

Base/Flange Plate	Plate Type	Baseplate
	Pole Diameter	37.38 in
	Pole Thickness	0.375 in
	Plate Length	44 in
	Plate Thickness	2.5 in
	Plate Fy	60 ksi
	Weld Length	0.3125 in
	ϕ_s Resistance	1382.37 k-in
	Applied	539.54 k-in
	#	0
Stiffeners		

Code Rev. **G** Date **4/12/2018**
 Engineer **Connor Klein**
 Site # **302480**
 Carrier **METRO PCS INC**

Moment **2296.1 k-ft**
 Axial **36.2 k**

Bolts	#	8
	Bolt Circle (R)adial / (S)quare	44 in S
	Bolt Gap	6 in
	Diameter	2.25 in
	Hole Diameter	2.625 in
	Type	A615-75
	Fy	75 ksi
	Fu	100 ksi
	ϕ_s Resistance	259.82 k
	Applied	160.10 k
Reinforcement	#	4
	DYW. Circle	44 in
	Offset Angle	0°
	Type	#20
	Diameter	2.5 in
	Fu	100 ksi
	ϕ_s Resistance	392.70 k
Applied	172.15 k	
Extra Bolts	#	4
	Bolt Circle (R)adial / (S)quare	44 in R
	Offset Angle	20°
	Diameter	1.5 in
	Type	A354-BC
	Fy	109 ksi
	Fu	125 ksi
	ϕ_s Resistance	140.53 k
Applied	72.91 k	

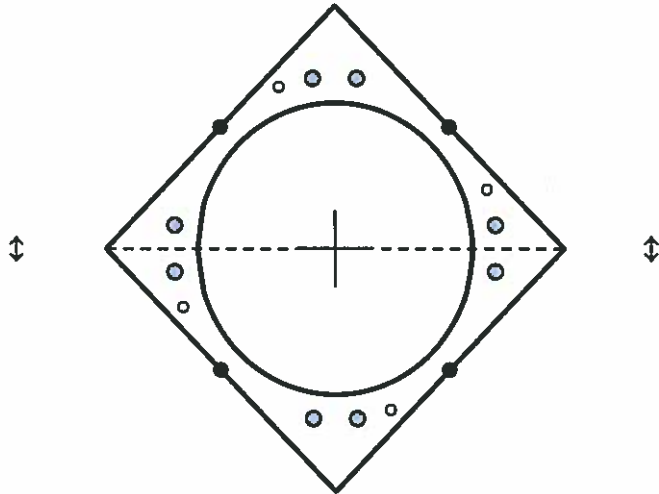


Plate Stress Ratio:
0.39 (Pass)

Bolt Stress Ratio:
0.62 (Pass)

Extra Bolt Stress Ratio:
0.52 (Pass)

Reinforcement Stress Ratio:
0.44 (Pass)

Base/Flange Plate	Plate Type	Flange @ 110.0 ft
	Pole Diameter	21.268 in
	Pole Thickness	0.188 in
	Plate Diameter	28.5 in
	Plate Thickness	1 in
	Plate Fy	36 ksi
	Weld Length	0.1875 in
	ϕ_s Resistance	114.22 k-in
	Applied	70.94 k-in
	Stiffeners	#
Thickness		0.5 in
Length		3 in
Height		4 in
Chamfer		1 in
Offset Angle		0°
Fy		36 ksi

Code Rev. **G**

Moment **324.3 k-ft**
Axial **8.2 k**

Date **4/12/2018**
Engineer **Connor Klein**
Site # **302480**
Carrier **METRO PCS INC**

Bolts	#	12
	Bolt Circle	25.75 in
	(R)adial / (S)quare	R
	Diameter	1 in
	Hole Diameter	1.25 in
	Type	A325
	Fy	92 ksi
	Fu	120 ksi
	ϕ_s Resistance	54.52 k
	Applied	49.66 k
Reinforcement	#	0
Extra Bolts O	#	0

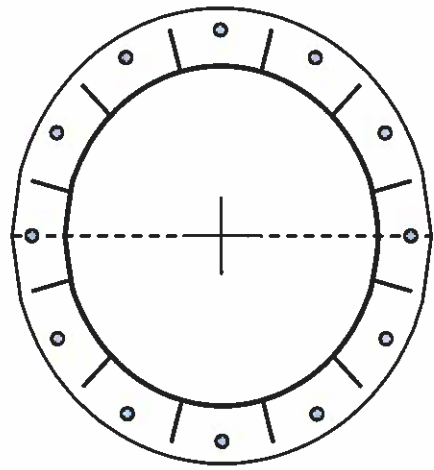


Plate Stress Ratio:
0.62 (Pass)

Bolt Stress Ratio:
0.91 (Pass)



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

T-Mobile Existing Facility

Site ID: CTNH521A

ATC Woodbridge CT1
77 Pease Road
Woodbridge, CT 06525

April 17, 2018

EBI Project Number: 6218003017

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	7.691%



April 17, 2018

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

Emissions Analysis for Site: **CTNH521A – ATC Woodbridge CT1**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **77 Pease Road, Woodbridge, CT**, for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

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

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

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

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The general population exposure limit for the 700 MHz band is approximately 467 $\mu\text{W}/\text{cm}^2$. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 5 GHz Microwave bands is 1000 $\mu\text{W}/\text{cm}^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.



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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at **77 Pease Road, Woodbridge, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB for directional panel antennas for broadcast and microwave backhaul, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

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

- 1) 2 UMTS channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 2) 2 UMTS channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 3) 2 LTE channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 4) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 5) 1 LTE channel (700 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 30 Watts.
- 6) 1 microwave backhaul channel (5 GHz) was considered for the proposed facility. This channel has a transmit power of 1 Watt.



- 7) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
- 8) For the following calculations the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB for directional panel antennas for broadcast and microwave backhaul, was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 9) The antennas used in this modeling are the **Ericsson AIR21 B4A/B12P-8** & the **Ericsson AIR21 B2A/B4P** for 700 MHz, 1900 MHz (PCS) and 2100 MHz (AWS) channels and the **Fastback IBR1300** for the proposed 5 GHz microwave backhaul. This is based on feedback from the carrier with regard to anticipated antenna selection. The **Ericsson AIR21 B4A/B12P-8** has a maximum gain of **15.9 dBd** at its main lobe at 2100 MHz and a maximum gain of **13.6 dBd** at its main lobe at 700 MHz. The **Ericsson AIR21 B2A/B4P** has a maximum gain of **15.9 dBd** at its main lobe at 1900 MHz and 2100 MHz. The **Fastback IBR1300** has a maximum gain of **10 dBd** at its main lobe at 5 GHz. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB for directional panel antennas for broadcast and microwave backhaul, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 10) The antenna mounting height centerline of the proposed broadcast panel antennas is **130 feet** above ground level (AGL). The antenna mounting height centerline of the proposed microwave panel antenna / radio is **128 feet** above ground level (AGL)
- 11) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.
- 12) All calculations were done with respect to uncontrolled / general population threshold limits.



T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Ericsson AIR21 B4A/B12P-8	Make / Model:	Ericsson AIR21 B4A/B12P-8	Make / Model:	Ericsson AIR21 B4A/B12P-8
Gain:	15.9 / 13.6 dBd	Gain:	15.9 / 13.6 dBd	Gain:	15.9 / 13.6 dBd
Height (AGL):	130	Height (AGL):	130	Height (AGL):	130
Frequency Bands	700 MHz / 2100 MHz (AWS)	Frequency Bands	700 MHz / 2100 MHz (AWS)	Frequency Bands	700 MHz / 2100 MHz (AWS)
Channel Count	3	Channel Count	3	Channel Count	3
Total TX Power(W):	150	Total TX Power(W):	150	Total TX Power(W):	150
ERP (W):	5,355.80	ERP (W):	5,355.80	ERP (W):	5,355.80
Antenna A1 MPE%	1.436	Antenna B1 MPE%	1.436	Antenna C1 MPE%	1.436
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	Ericsson AIR21 B2A/B4P	Make / Model:	Ericsson AIR21 B2A/B4P	Make / Model:	Ericsson AIR21 B2A/B4P
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	130	Height (AGL):	130	Height (AGL):	130
Frequency Bands	1900 MHz (PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz (PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz (PCS) / 2100 MHz (AWS)
Channel Count	6	Channel Count	6	Channel Count	6
Total TX Power(W):	240	Total TX Power(W):	240	Total TX Power(W):	240
ERP (W):	9,337.08	ERP (W):	9,337.08	ERP (W):	9,337.08
Antenna A2 MPE%	2.183	Antenna B2 MPE%	2.183	Antenna C2 MPE%	2.183

Microwave Backhaul Data

Make / Model:	Gain	Height (AGL):	Frequency Bands	Channel Count	Total TX Power(W)	ERP (W)	MPE %	Sector
Fastback IBR1300	10 dBd	128	5 GHz	1	1	10.00	0.002	B

Site Composite MPE%	
Carrier	MPE%
T-Mobile (Sector B)	3.621%
AT&T	1.480%
Verizon Wireless	2.590%
Site Total MPE %:	7.691%

T-Mobile Sector A Total:	3.619 %
T-Mobile Sector B Total:	3.621 %
T-Mobile Sector C Total:	3.619 %
Site Total:	7.691 %



T-Mobile Max Power Values (Sector B)

T-Mobile_Max Power Values (Sector B)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
T-Mobile AWS - 2100 MHz LTE	2	2,334.27	130	10.92	AWS - 2100 MHz	1000	1.092%
T-Mobile 700 MHz LTE	1	687.26	130	1.61	700 MHz	467	0.344%
T-Mobile AWS - 2100 MHz UMTS	2	1,167.14	130	5.46	AWS - 2100 MHz	1000	0.546%
T-Mobile PCS - 1900 MHz UMTS	2	1,167.14	130	5.46	PCS - 1900 MHz	1000	0.546%
T-Mobile PCS - 1900 MHz LTE	2	2,334.27	130	10.92	PCS - 1900 MHz	1000	1.092%
T-Mobile 5 GHz Microwave	1	10.00	128	0.02	5 GHz	1000	0.002%
						Total:	3.621%

Summary

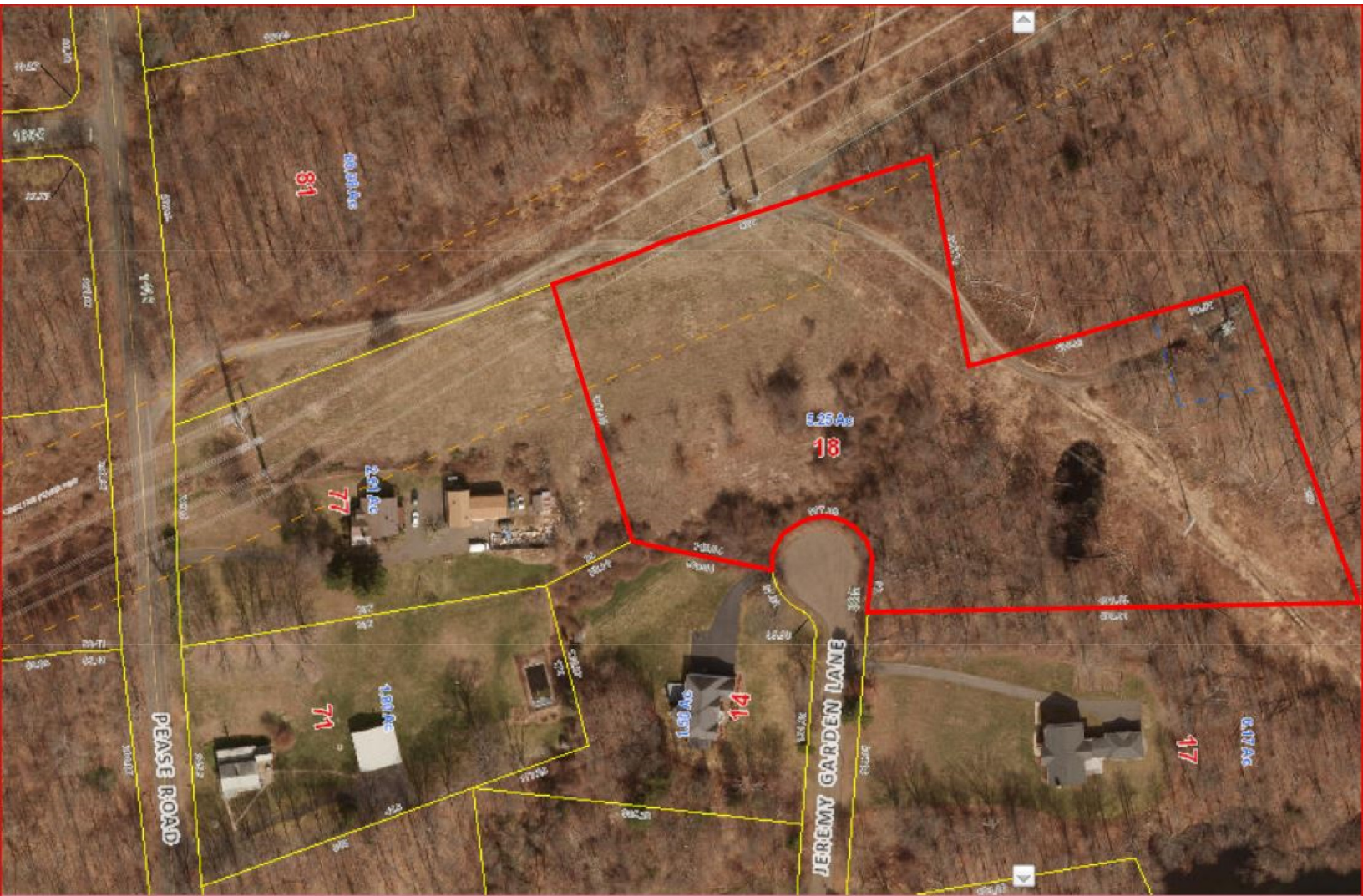
All calculations performed for this analysis yielded results that were **within** the allowable limits for general population exposure to RF Emissions.

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

T-Mobile Sector	Power Density Value (%)
Sector A:	3.619 %
Sector B:	3.621 %
Sector C:	3.619 %
T-Mobile Per Sector Maximum (Sector B):	3.621 %
Site Total:	7.691 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **7.691%** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

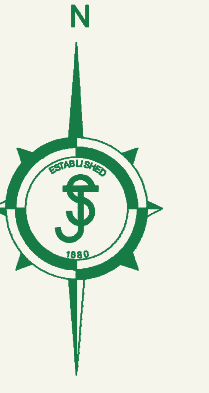
FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100%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



Tax Map 22.4



WOODBRIDGE
CONNECTICUT



LEGEND

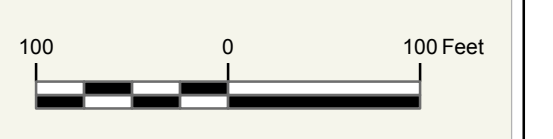
- PROPERTY LINE
- DEVELOPER'S LOT LINE
- PUBLIC RIGHT-OF-WAY
- PROPOSED ROAD
- CITY/TOWN LIMIT
- EASEMENT
- HYDROLOGY
- BOG LINE
- RAILROAD RIGHT-OF-WAY
- UTILITY RIGHT-OF-WAY
- PARCEL NUMBER
- 66.35 AC PARCEL AREA
- 160 DIMENSIONS
- 160+ SCALE DIMENSION
- (2) SURVEY LOT NUMBER

INTENDED FOR ASSESSMENT PURPOSES ONLY. COMPILED FROM TAX MAPS, ORTHOPHOTOGRAPHY AND OTHER PUBLIC RECORDS AND DATA. USERS SHOULD CONSULT THE PUBLIC PRIMARY SOURCE DOCUMENTS FOR VERIFICATION OF THE INFORMATION APPEARING ON THIS MAP.

22.1	22.2	23.1
22.3	22.4	23.3
26.1	26.2	27.1

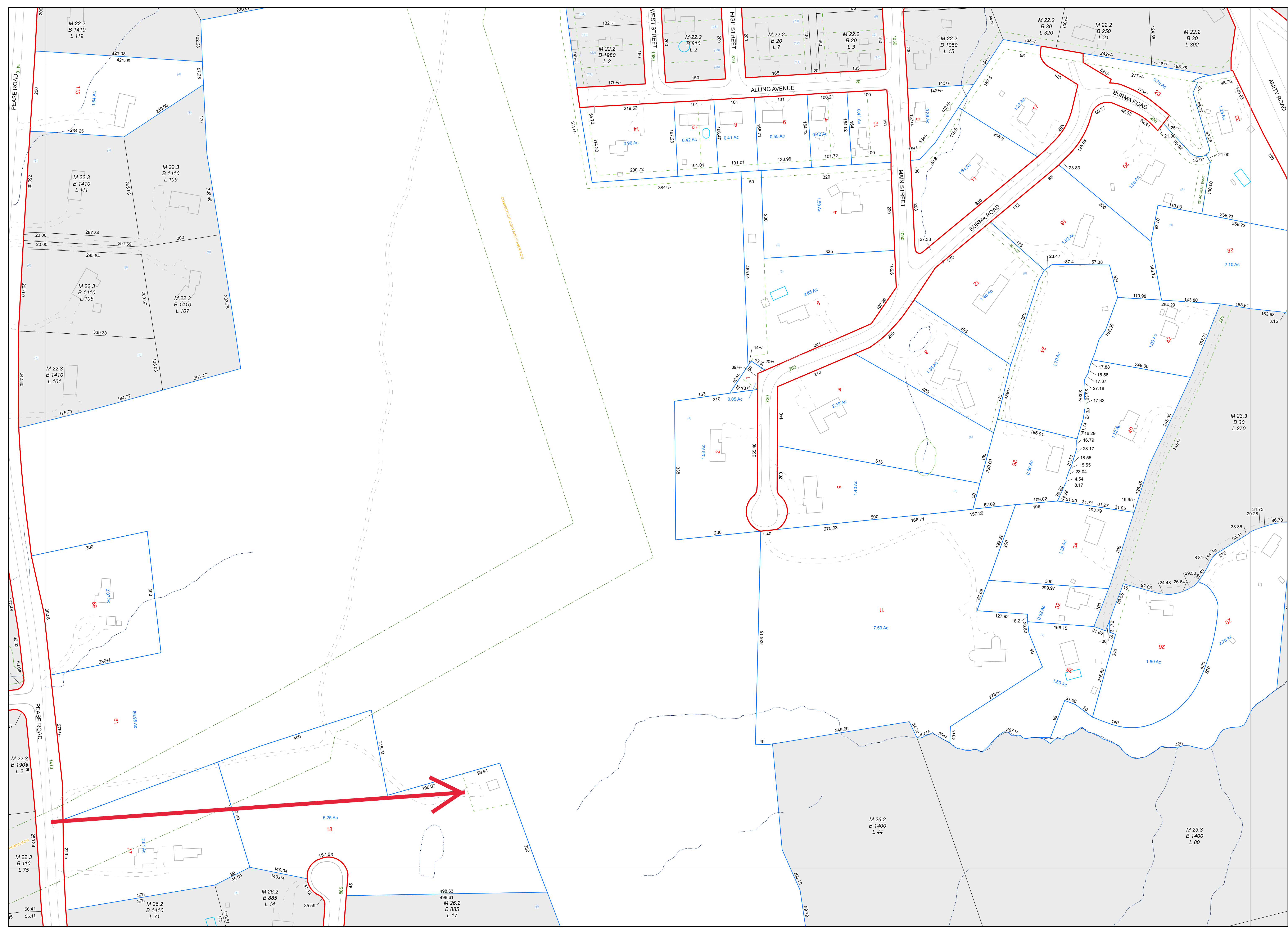
New Haven

Bethany									
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
Seymour									
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
Hamden									
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
Ansonia									
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100
New Haven									
101	102	103	104	105	106	107	108	109	110
Derby									
111	112	113	114	115	116	117	118	119	120
Orange									
121	122	123	124	125	126	127	128	129	130
West Haven									



Date of Revisions:

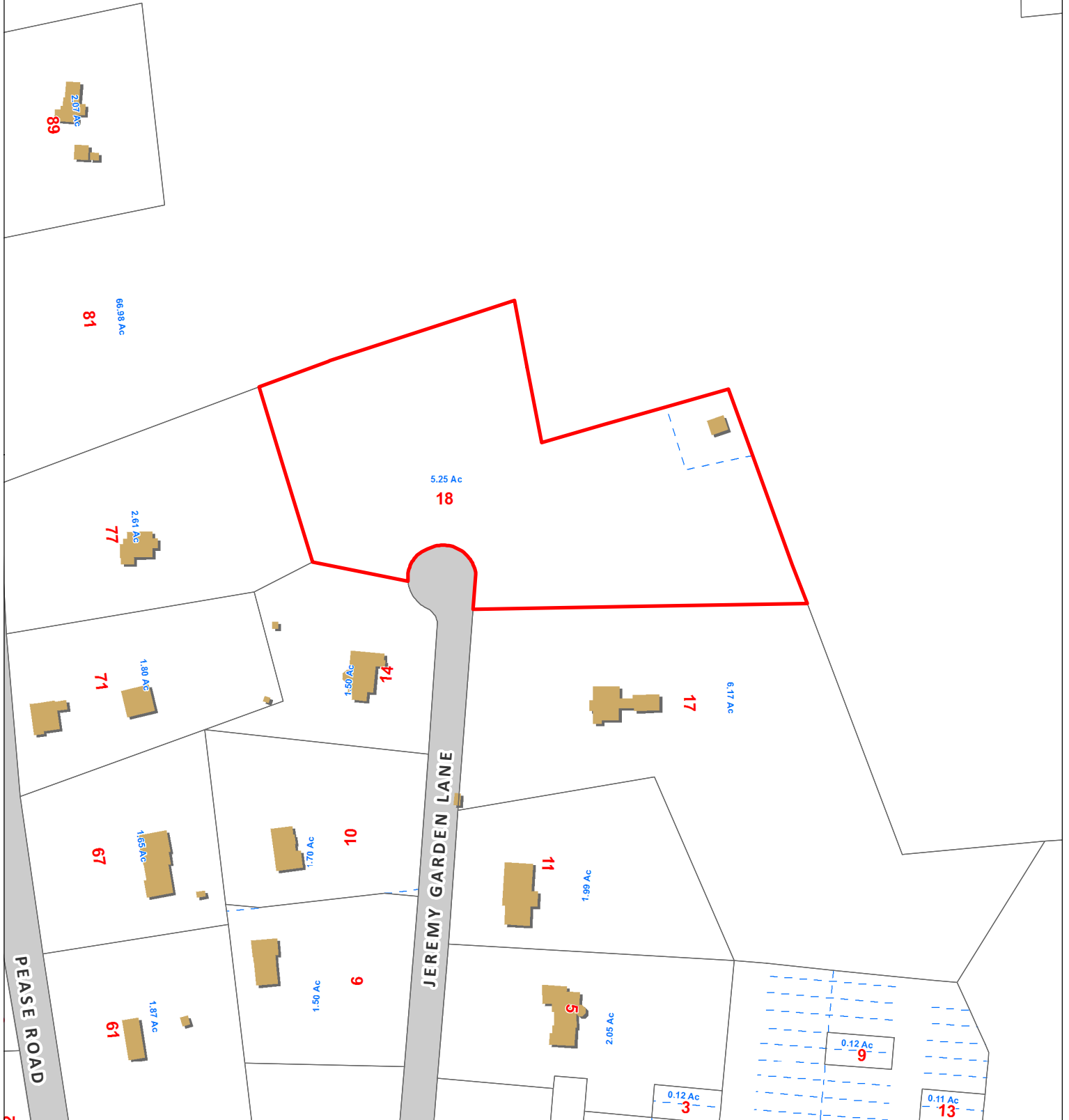
OCTOBER 2012



Town of Woodbridge, Connecticut - Assessment Parcel Map

GIS ID: 825

Address:



Map Produced May 2015



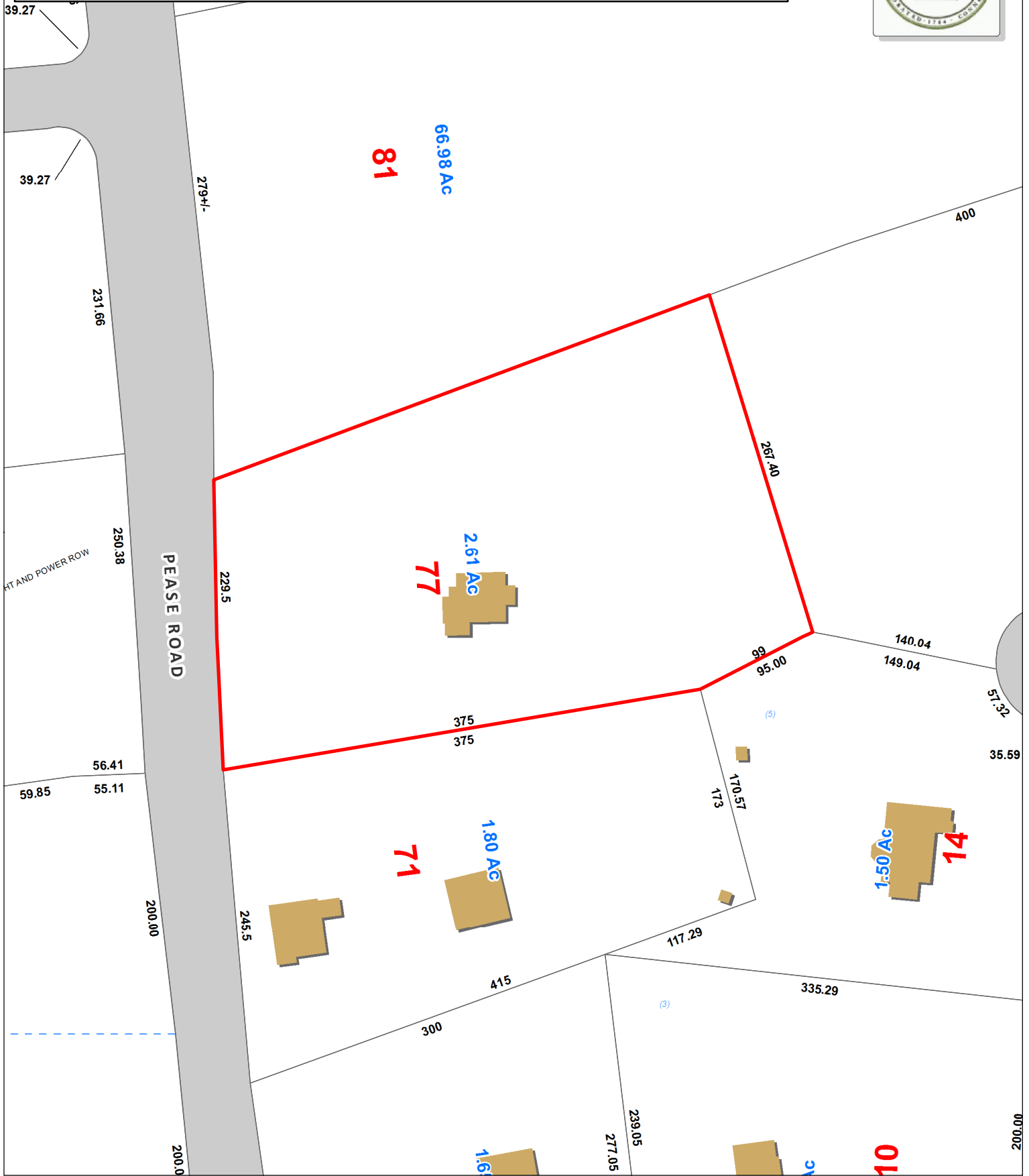
Approximate Scale: 1 inch = 200 feet

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

Town of Woodbridge, Connecticut - Assessment Parcel Map

GIS ID: 896

Address: 77 PEASE RD



Map Produced May 2015

Approximate Scale: 1 inch = 100 feet

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

18 JEREMY GARDEN LN

Location 18 JEREMY GARDEN LN

Mblu 2204/ 885/ 18/ /

Owner JOHNSON KENNETH W

Assessment \$120,050

Appraisal \$171,500

PID 825

Building Count 1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2014	\$0	\$171,500	\$171,500

Assessment			
Valuation Year	Improvements	Land	Total
2014	\$0	\$120,050	\$120,050

Owner of Record

Owner JOHNSON KENNETH W

Sale Price \$0

Co-Owner

Certificate

Address 77 PEASE RD
WOODBIDGE, CT 06525

Book & Page 608/ 161

Sale Date 10/20/2008

Ownership History

Ownership History				
Owner	Sale Price	Certificate	Book & Page	Sale Date
JOHNSON KENNETH W	\$0		608/ 161	10/20/2008
JOHNSON KENNETH W & JOAN A	\$0		150/ 271	08/11/1988

Building Information

Building 1 : Section 1

Year Built:

Living Area: 0

Building Attributes	
Field	Description
Style	Vacant Land
Model	
Stories:	


Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure:	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type:	
AC Type:	
Total Bedrooms:	
Total Bthrms:	
Total Half Baths:	
Total Xtra Fixtrs:	
Total Rooms:	
Bath Style:	
Kitchen Style:	
Dormer	

Building Photo



(<http://images.vgsi.com/photos/WoodbridgeCTPhotos//\00\00\55>)

Building Layout

 Building Layout

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

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	1300
Description	Vacant
Zone	A
Neighborhood	
Alt Land Appr Category	No

Land Line Valuation

Size (Acres)	5.02
Frontage	0
Depth	0
Assessed Value	\$120,050
Appraised Value	\$171,500

Outbuildings

Outbuildings	Legend
No Data for Outbuildings	

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2016	\$0	\$171,500	\$171,500
2015	\$0	\$171,500	\$171,500
2013	\$0	\$193,700	\$193,700

Assessment			
Valuation Year	Improvements	Land	Total
2016	\$0	\$120,050	\$120,050
2015	\$0	\$120,050	\$120,050
2013	\$0	\$135,590	\$135,590

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77 PEASE RD

Location 77 PEASE RD

Mblu 2204/ 1410/ 77/ /

Owner JOHNSON KENNETH W

Assessment \$202,580

Appraisal \$289,400

PID 896

Building Count 1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2014	\$197,700	\$91,700	\$289,400

Assessment			
Valuation Year	Improvements	Land	Total
2014	\$138,390	\$64,190	\$202,580

Owner of Record

Owner JOHNSON KENNETH W

Sale Price \$0

Co-Owner

Certificate

Address 77 PEASE RD

Book & Page 608/ 161

WOODBIDGE, CT 06525

Sale Date 10/20/2008

Ownership History

Ownership History				
Owner	Sale Price	Certificate	Book & Page	Sale Date
JOHNSON KENNETH W	\$0		608/ 161	10/20/2008
JOHNSON JOAN A & KENNETH W	\$0		98/ 082	04/03/1972

Building Information

Building 1 : Section 1

Year Built: 1930

Living Area: 2,379

Building Attributes	
Field	Description
Style	Conventional
Model	Residential
Stories:	1 1/2 Stories

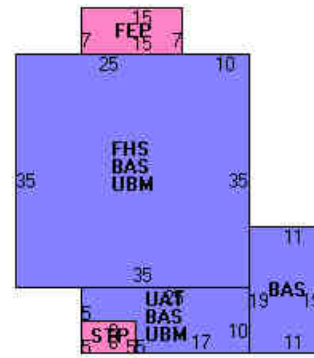
Occupancy	1
Exterior Wall 1	Brick/Masonry
Exterior Wall 2	
Roof Structure:	Gambrel
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Drywall/Sheet
Interior Wall 2	Plastered
Interior Flr 1	Carpet
Interior Flr 2	Hardwood
Heat Fuel	Propane
Heat Type:	Forced Air-Duc
AC Type:	Central
Total Bedrooms:	4 Bedrooms
Total Bthrms:	2
Total Half Baths:	0
Total Xtra Fixtrs:	1
Total Rooms:	7
Bath Style:	Average
Kitchen Style:	Average
Dormer	

Building Photo



(http://images.vgsi.com/photos/WoodbridgeCTPhotos//\00\00\55

Building Layout



Building Sub-Areas (sq ft)			Legend	
Code	Description	Gross Area	Living Area	
BAS	First Floor	1,644	1,644	
FHS	Half Story, Finished	1,225	735	
FEP	Enclosed Porch	105	0	
STP	Stoop	40	0	
UAT	Attic, Unfinished	210	0	
UBM	Basement, Unfinished	1,435	0	
		4,659	2,379	

Extra Features

Extra Features				Legend
Code	Description	Size	Value	Bldg #
FPL1	Fireplace	1 UNITS	\$1,800	1

Land

Land Use

Use Code 1010
Description Single Family
Zone A
Neighborhood
Alt Land Appr No
Category

Land Line Valuation

Size (Acres) 2.61
Frontage 0
Depth 0
Assessed Value \$64,190
Appraised Value \$91,700

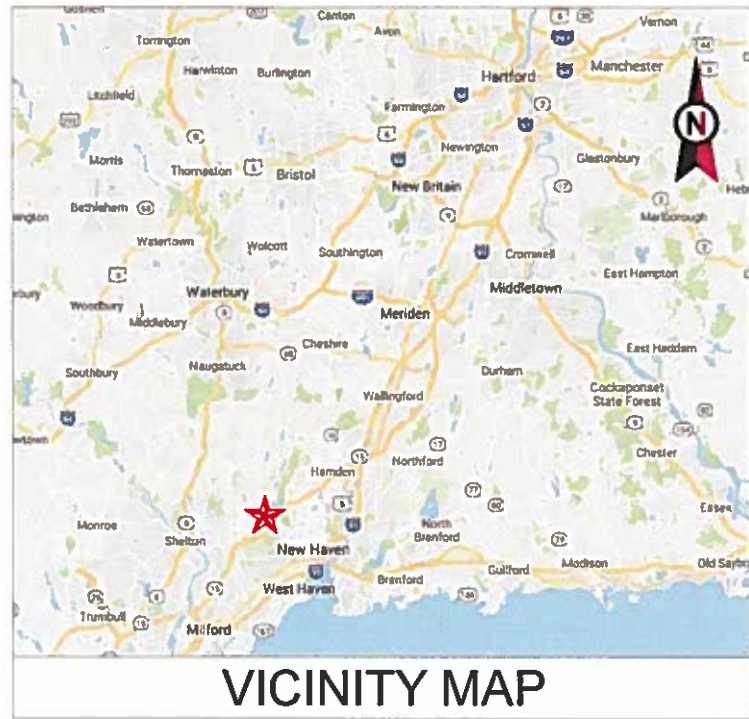
Outbuildings

Outbuildings						Legend
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
FGR4	Garage w Lft			864 S.F	\$18,100	1
BRN3	Barn w Loft			864 S.F.	\$19,000	1

Valuation History

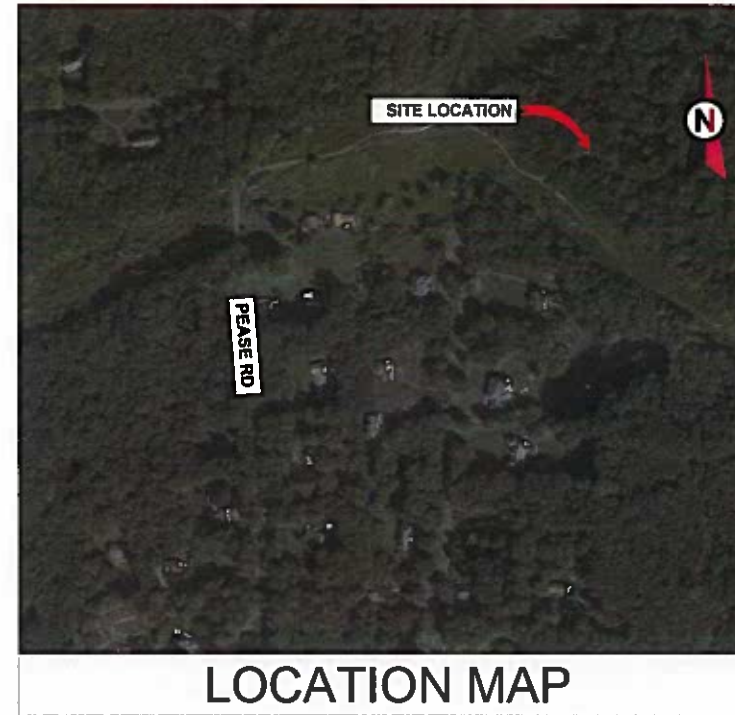
Appraisal			
Valuation Year	Improvements	Land	Total
2016	\$197,700	\$91,700	\$289,400
2015	\$197,700	\$91,700	\$289,400
2013	\$199,000	\$105,400	\$304,400

Assessment			
Valuation Year	Improvements	Land	Total
2016	\$138,390	\$64,190	\$202,580
2015	\$138,390	\$64,190	\$202,580
2013	\$139,300	\$73,780	\$213,080



AMERICAN TOWER®

ATC SITE NAME: WOODBRIDGE CT 1
 ATC SITE NUMBER: 302480
 T-MOBILE SITE ID: CTNH521A
 SITE ADDRESS: 77 PEASE ROAD
 WOODBRIDGE, CT
 06525-2044



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

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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	KTL	05/31/18

ATC SITE NUMBER:
302480
 ATC SITE NAME:
WOODBRIDGE CT 1
 SITE ADDRESS:
 77 PEASE ROAD
 WOODBRIDGE, CT 06525-2044



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DRAWN BY:	KTL
APPROVED BY:	KRF
DATE DRAWN:	05/31/18
ATC JOB NO:	12482799

TITLE SHEET

SHEET NUMBER:	REVISION:
G-001	0

T-MOBILE ANTENNA TEMPORARY RADIO/ODU ADD

COMPLIANCE CODE	PROJECT SUMMARY	PROJECT DESCRIPTION	SHEET INDEX				
ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNMENT AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES. 1. INTERNATIONAL BUILDING CODE (IBC) 2. NATIONAL ELECTRIC CODE (NEC) 3. LOCAL BUILDING CODE 4. CITY/COUNTY ORDINANCES	<u>SITE ADDRESS:</u> 77 PEASE ROAD WOODBRIDGE, CT 06525-2044 COUNTY: NEW HAVEN <u>GEOGRAPHIC COORDINATES:</u> LATITUDE: 41.34144444 LONGITUDE: -72.9936 GROUND ELEVATION: 322' AMSL	THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW: INSTALL (1) RADIO/ODU, (2) .27" CAT5 CABLES, AND (1) 1.58" HYBRID CABLE EXISTING (6) PANELS, (3) RRU's, (6) 1-5/8" COAX CABLES, AND (1) 1-5/8" HYBRID CABLES TO REMAIN PROJECT NOTES 1. THE FACILITY IS UNMANNED. 2. A TECHNICIAN WILL VISIT THE SITE APPROXIMATELY ONCE A MONTH FOR ROUTINE INSPECTION AND MAINTENANCE. 3. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT LAND DISTURBANCE OR EFFECT OF STORM WATER DRAINAGE. 4. NO SANITARY SEWER, POTABLE WATER OR TRASH DISPOSAL IS REQUIRED. 5. HANDICAP ACCESS IS NOT REQUIRED.	SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
	UTILITY COMPANIES POWER COMPANY: UNITED ILLUMINATING PHONE: (800) 722-5584 TELEPHONE COMPANY: FRONTIER COMMUNICATIONS PHONE: (800) 376-6843	PROJECT TEAM <u>TOWER OWNER:</u> AMERICAN TOWER 10 PRESIDENTIAL WAY WOBURN, MA 01801 <u>ENGINEER:</u> ATC TOWER SERVICES, LLC 3500 REGENCY PKWY STE 100 CARY, NC 27518 <u>PROPERTY OWNER:</u> KENNETH W JOHNSON 77 PEASE RD WOODBRIDGE, CT 06525	PROJECT LOCATION DIRECTIONS FROM HARTFORD, CT: TAKE I-91 SOUTH TO MERRIT PKWY SOUTH TO EXIT 59. TAKE RT 63 NORTH, TURN LEFT ON RT 114. FOLLOW TO PEASE RD (FIRST LEFT). ACCESS ROAD IS DOWN ON LEFT.	G-001	TITLE SHEET	0	05/31/18
PROJECT LOCATION DIRECTIONS FROM HARTFORD, CT: TAKE I-91 SOUTH TO MERRIT PKWY SOUTH TO EXIT 59. TAKE RT 63 NORTH, TURN LEFT ON RT 114. FOLLOW TO PEASE RD (FIRST LEFT). ACCESS ROAD IS DOWN ON LEFT.	<u>APPLICANT:</u> T-MOBILE 15 COMMERCE WAY, SUITE B NORTON, MA 02766 <u>CARRIER CONTACT:</u> RICH BANCROFT (617) 586-6776		G-002	GENERAL NOTES	0	05/31/18	KTL
			C-101	DETAILED SITE PLAN & TOWER ELEVATION	0	05/31/18	KTL
			C-501	ANTENNA INFORMATION & SCHEDULE	0	05/31/18	KTL
			E-501	GROUNDING DETAILS	0	05/31/18	KTL



GENERAL CONSTRUCTION NOTES:

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

27. THE CONTRACTOR SHALL PROTECT AT HIS OWN EXPENSE, ALL EXISTING FACILITIES AND SUCH OF HIS NEW WORK LIABLE TO INJURY DURING THE CONSTRUCTION PERIOD. ANY DAMAGE CAUSED BY NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, EITHER TO THE EXISTING WORK, OR TO HIS WORK OR THE WORK OF ANY OTHER CONTRACTOR, SHALL BE REPAIRED AT HIS EXPENSE TO THE OWNER'S SATISFACTION.
28. ALL WORK SHALL BE INSTALLED IN A FIRST CLASS, NEAT AND WORKMANLIKE MANNER BY MECHANICS SKILLED IN THE TRADE INVOLVED. THE QUALITY OF WORKMANSHIP SHALL BE SUBJECT TO THE APPROVAL OF THE T-MOBILE WIRELESS REP. ANY WORK FOUND BY THE T-MOBILE WIRELESS REP TO BE OF INFERIOR QUALITY AND/OR WORKMANSHIP SHALL BE REPLACED AND/OR REWORKED AT CONTRACTOR EXPENSE UNTIL APPROVAL IS OBTAINED.
29. IN ORDER TO ESTABLISH STANDARDS OF QUALITY AND PERFORMANCE, ALL TYPES OF MATERIALS LISTED HEREINAFTER BY MANUFACTURER'S NAMES AND/OR MANUFACTURER'S CATALOG NUMBER SHALL BE PROVIDED BY THESE MANUFACTURERS AS SPECIFIED.

STRUCTURAL STEEL NOTES:

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



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0	FOR CONSTRUCTION	KTL	05/31/18

ATC SITE NUMBER:
302480
 ATC SITE NAME:
WOODBIDGE CT 1
 SITE ADDRESS:
 77 PEASE ROAD
 WOODBRIDGE, CT 06525-2044

SEAL:



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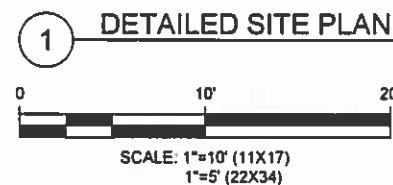
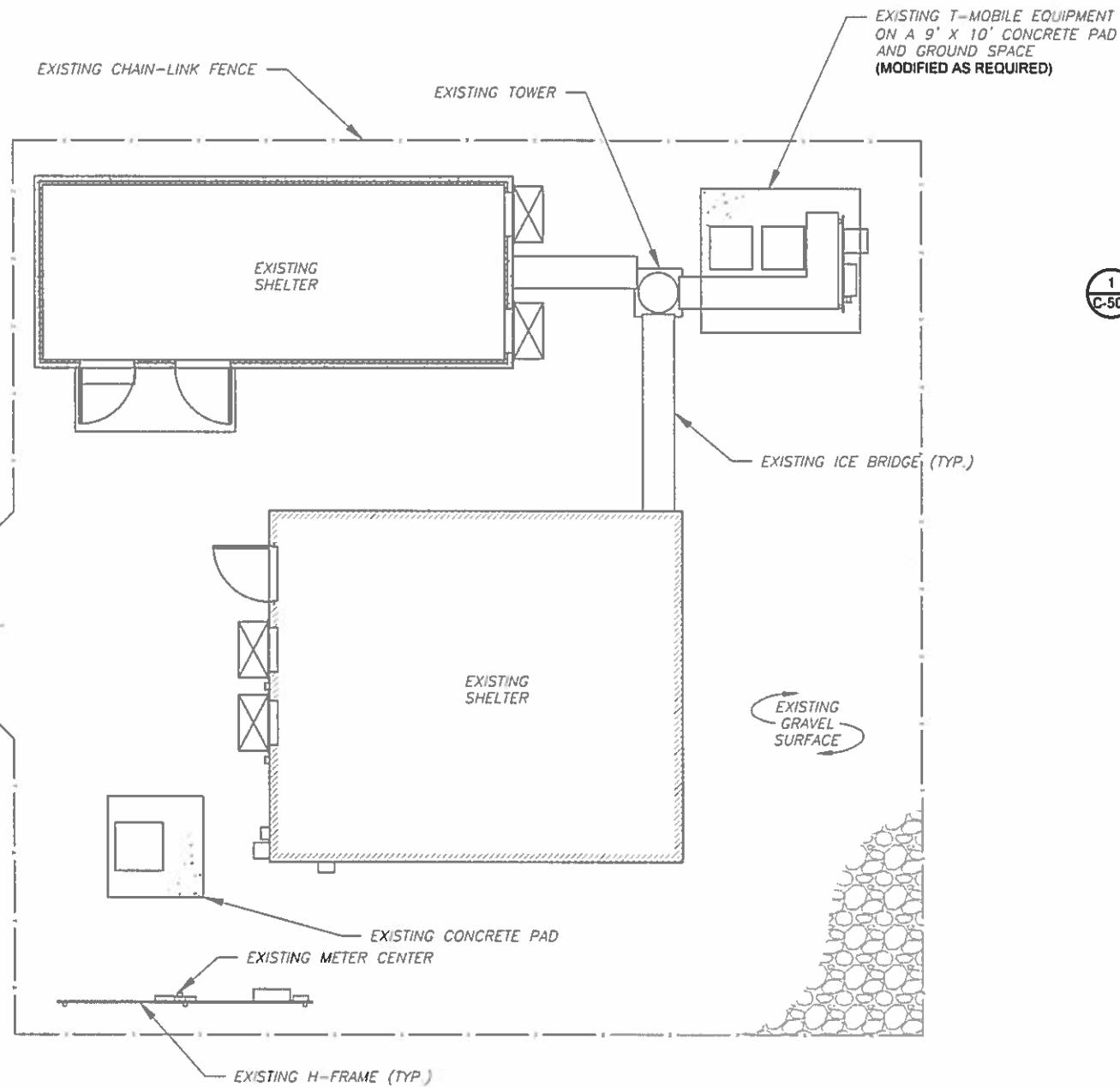
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APPROVED BY:	KRF
DATE DRAWN:	05/31/18
ATC JOB NO:	12482799

GENERAL NOTES

SHEET NUMBER:	REVISION:
G-002	0

SITE PLAN NOTES:

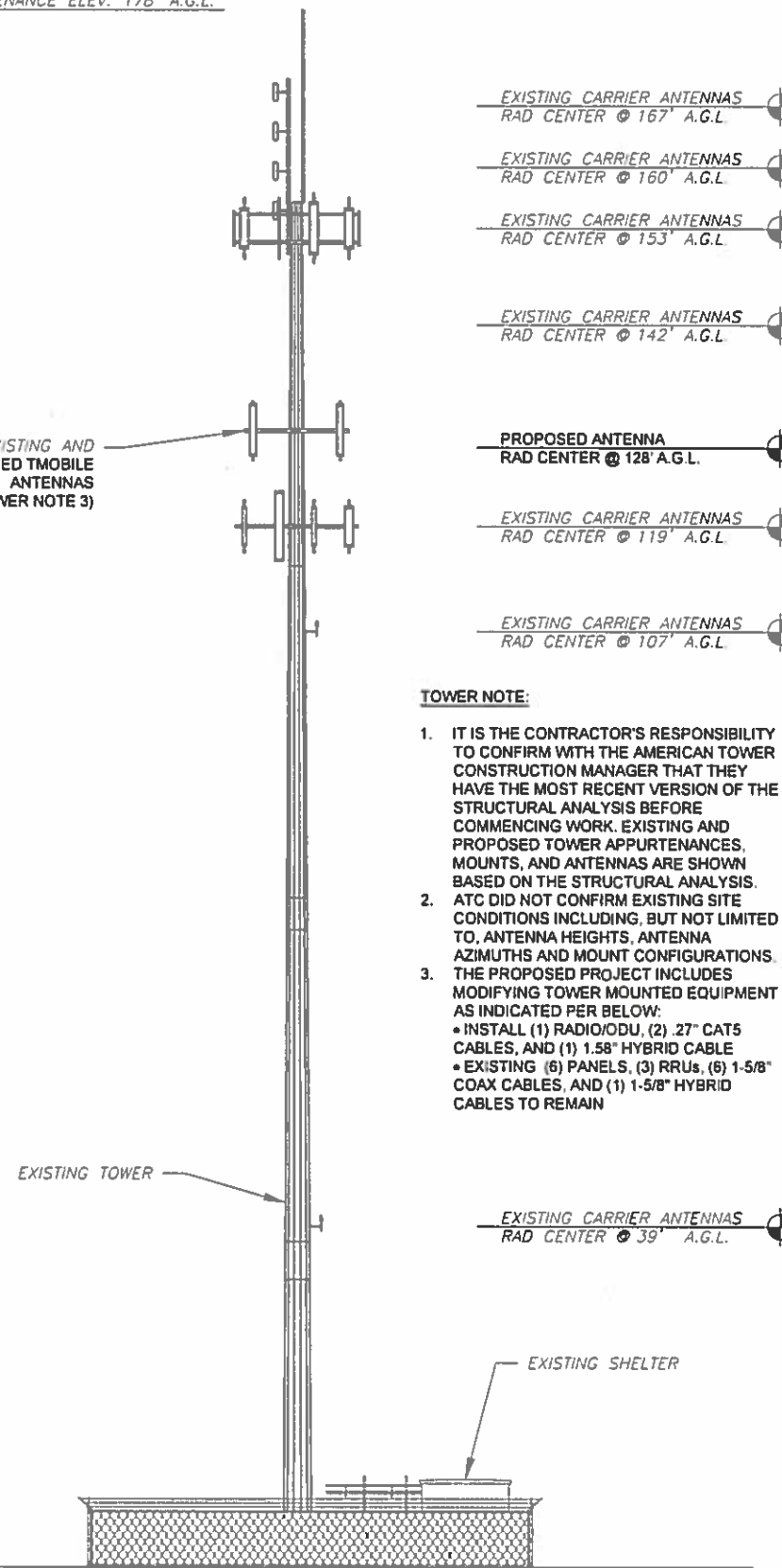
1. THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.
2. ICE BRIDGE, CABLE LADDER, COAX PORT, AND COAX CABLE ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL CONFIRM THE EXACT LOCATION OF ALL PROPOSED AND EXISTING EQUIPMENT AND STRUCTURES DEPICTED ON THIS PLAN. BEFORE UTILIZING EXISTING CABLE SUPPORTS, COAX PORTS, INSTALLING NEW PORTS OR ANY OTHER EQUIPMENT, CONTRACTOR SHALL VERIFY ALL ASPECTS OF THE COMPONENTS MEET THE ATC SPECIFICATIONS.
3. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE T-MOBILE REPRESENTATIVE AND LOCAL UTILITY COMPANY FOR THE INSTALLATION OF CONDUITS, CONDUCTORS, BREAKERS, DISCONNECTS, OR ANY OTHER EQUIPMENT REQUIRED FOR ELECTRICAL SERVICE. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH LATEST EDITION OF THE STATE AND NATIONAL CODES, ORDINANCES AND REGULATIONS APPLICABLE TO THIS PROJECT.



TOP OF EXISTING HIGHEST APPURTENANCE ELEV. 178' A.G.L.

EXISTING AND PROPOSED TMOBILE ANTENNAS (SEE TOWER NOTE 3)

1 C-501 2 C-501



TOWER NOTE:

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM WITH THE AMERICAN TOWER CONSTRUCTION MANAGER THAT THEY HAVE THE MOST RECENT VERSION OF THE STRUCTURAL ANALYSIS BEFORE COMMENCING WORK. EXISTING AND PROPOSED TOWER APPURTENANCES, MOUNTS, AND ANTENNAS ARE SHOWN BASED ON THE STRUCTURAL ANALYSIS.
2. ATC DID NOT CONFIRM EXISTING SITE CONDITIONS INCLUDING, BUT NOT LIMITED TO, ANTENNA HEIGHTS, ANTENNA AZIMUTHS AND MOUNT CONFIGURATIONS. THE PROPOSED PROJECT INCLUDES MODIFYING TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW:
 - INSTALL (1) RADIO/ODU, (2) 27" CAT5 CABLES, AND (1) 1.58" HYBRID CABLE
 - EXISTING (6) PANELS, (3) RRUs, (6) 1-5/8" COAX CABLES, AND (1) 1-5/8" HYBRID CABLES TO REMAIN
- 3.

2 TOWER ELEVATION
SCALE: NOT TO SCALE



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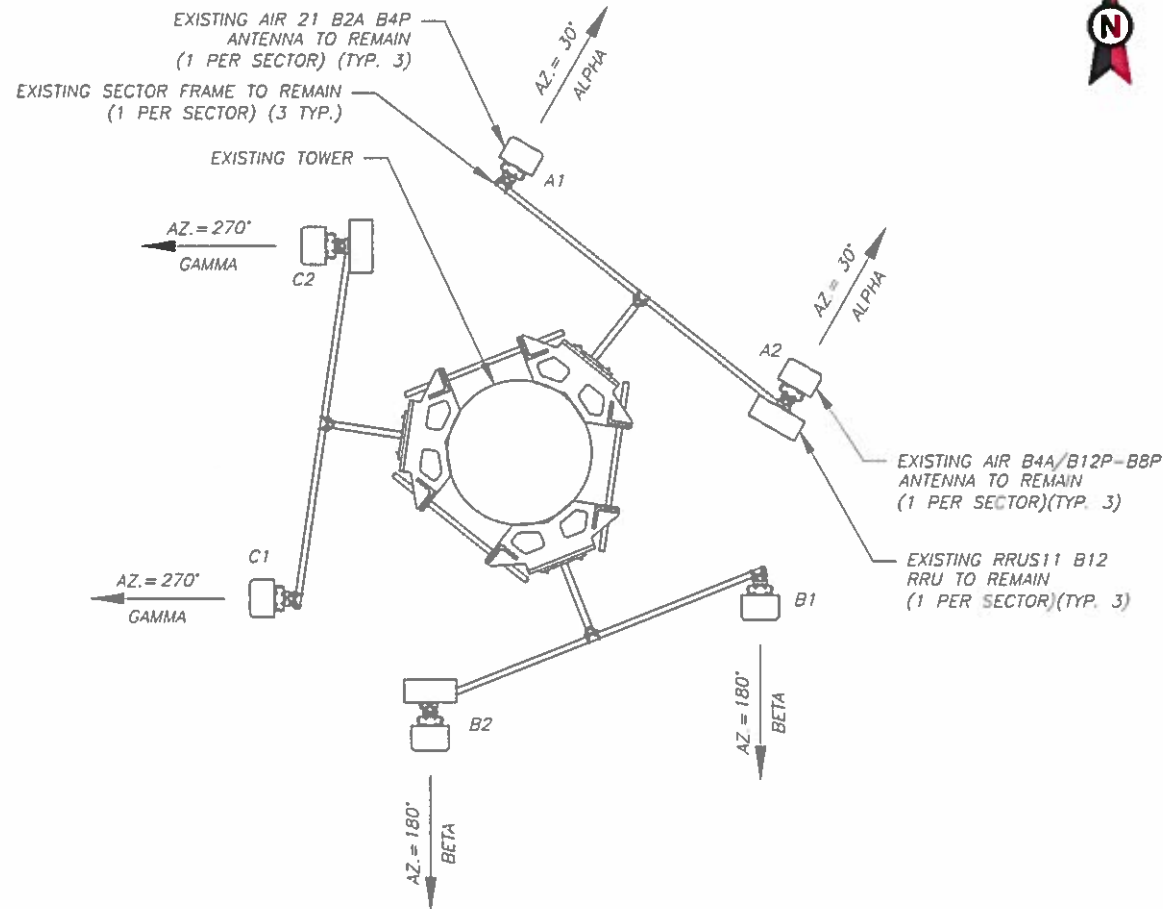
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DRAWN BY: KTL
APPROVED BY: KRF
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DETAILED SITE PLAN & TOWER ELEVATION

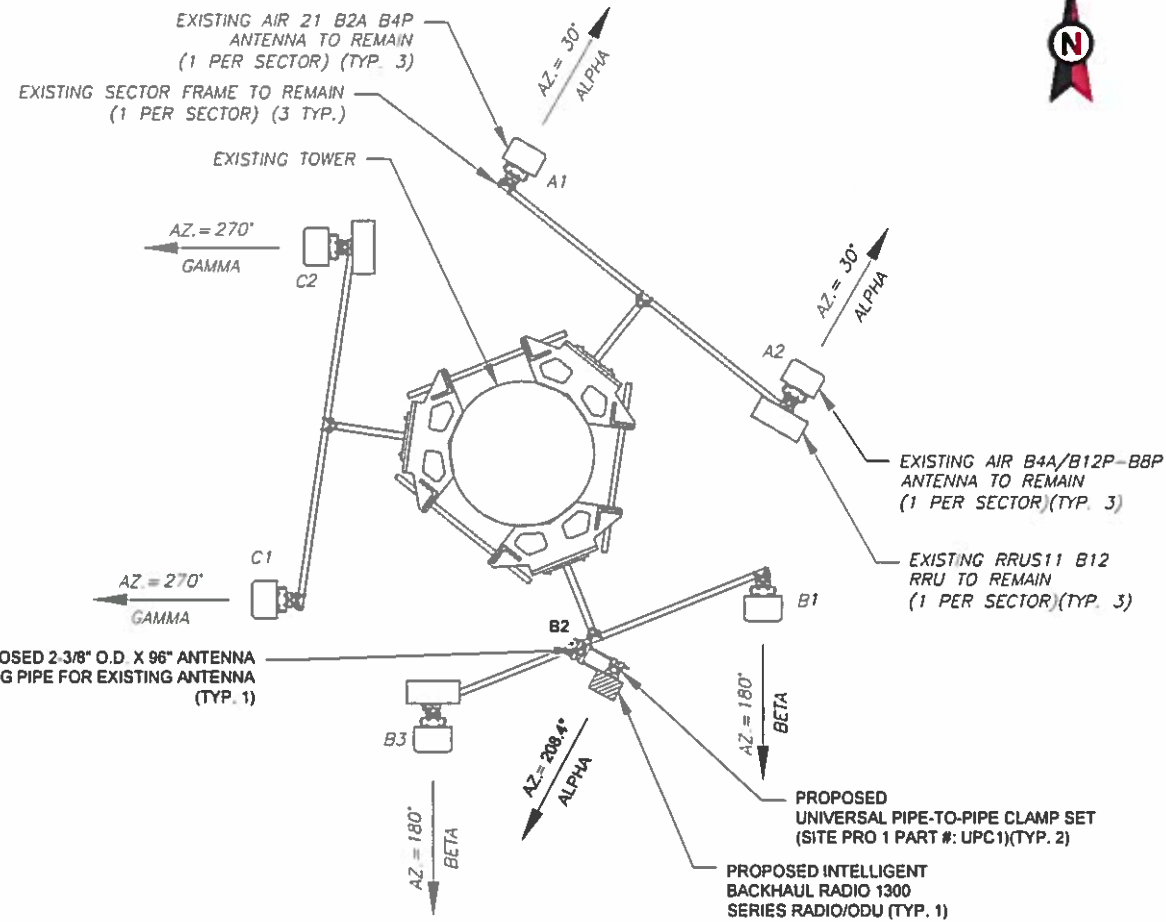
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1 EXISTING ANTENNA PLAN

NOTES:

1. ATC HAS NOT YET VERIFIED ANY EXISTING ANTENNA CONFIGURATION OR MOUNT CONFIGURATION. CONTRACTOR TO VERIFY MOUNT CONFIGURATION HAS SUFFICIENT SPACE FOR PROPOSED LESSEE EQUIPMENT (I.E. CLEARANCES, MOUNT PIPE OR SUFFICIENT LENGTH, ETC.) ATC DID NOT ANALYZE ANTENNA MOUNT TO DETERMINE ADEQUATE STRUCTURAL CAPACITY FOR ANY LESSEE LOADING.



2 FINAL ANTENNA PLAN

NOTES:

1. ALL PROPOSED EQUIPMENT INCLUDING ANTENNAS, COAX, ETC. SHALL BE MOUNTED IN ACCORDANCE WITH THE TOWER STRUCTURAL ANALYSIS ON FILE WITH THE ATC CM.
2. SPACING OF PROPOSED EQUIPMENT SHALL BE CONFIRMED FOR TOWER CONFLICTS AND PROPOSED MOUNTS SHALL NOT IMPEDE TOWER CLIMBING PEGS.

EXISTING ANTENNA/ COAX SCHEDULE

SECTOR	ANT.	MANUFACTURER (MODEL #)	RAD CENTER	AZIMUTH (TN)	MECH. D-TILT	ELEC. D-TILT	ADDITIONAL TOWER MOUNTED EQUIPMENT	ANTENNA COAX DESCRIPTION
ALPHA	A1	AIR 21 B2A B4P	130'-0"	30°	-	-	-	(2) 1-5/8"
ALPHA	A2	AIR B4A/B12P-B8P	130'-0"	30°	-	-	RRUS11 B12	SEE NOTE 1
BETA	B1	AIR 21 B2A B4P	130'-0"	180°	-	-	-	(2) 1-5/8"
BETA	B2	AIR B4A/B12P-B8P	130'-0"	180°	-	-	RRUS11 B12	SEE NOTE 1
GAMMA	C1	AIR 21 B2A B4P	130'-0"	270°	-	-	-	(2) 1-5/8"
GAMMA	C2	AIR B4A/B12P-B8P	130'-0"	270°	-	-	RRUS11 B12	SEE NOTE 1

1. (1) EXISTING 1-5/8" HYBRID CABLE (TO REMAIN).

FINAL ANTENNA/ COAX SCHEDULE

SECTOR	ANT.	MANUFACTURER (MODEL #)	RAD CENTER	AZIMUTH (TN)	MECH. D-TILT	ELEC. D-TILT	ADDITIONAL TOWER MOUNTED EQUIPMENT	ANTENNA COAX DESCRIPTION
ALPHA	A1	AIR 21 B2A B4P	130'-0"	30°	-	-	-	(2) 1-5/8"
ALPHA	A2	AIR B4A/B12P-B8P	130'-0"	30°	-	-	RRUS11 B12	SEE NOTE 1
BETA	B1	AIR 21 B2A B4P	130'-0"	180°	-	-	-	(2) 1-5/8"
BETA	B2	-	128'-0"	208.4°	-	-	INTELLIGENT BACKHAUL RADIO 1300 SERIES	(2) .27" CAT5 (1) 1.58" HYBRID
BETA	B3	AIR B4A/B12P-B8P	130'-0"	180°	-	-	RRUS11 B12	SEE NOTE 1
GAMMA	C1	AIR 21 B2A B4P	130'-0"	270°	-	-	-	(2) 1-5/8"
GAMMA	C2	AIR B4A/B12P-B8P	130'-0"	270°	-	-	RRUS11 B12	SEE NOTE 1

1. BASED ON APPROVED ATC APPLICATION QAA727016, DATED 03-20-2018. CONFIRM WITH T-MOBILE REP FOR APPLICABLE UPDATES/REVISIONS AND MOST RECENT RFDS.
2. (1) EXISTING 1-5/8" HYBRID CABLE (TO REMAIN).

3 ANTENNA SCHEDULE



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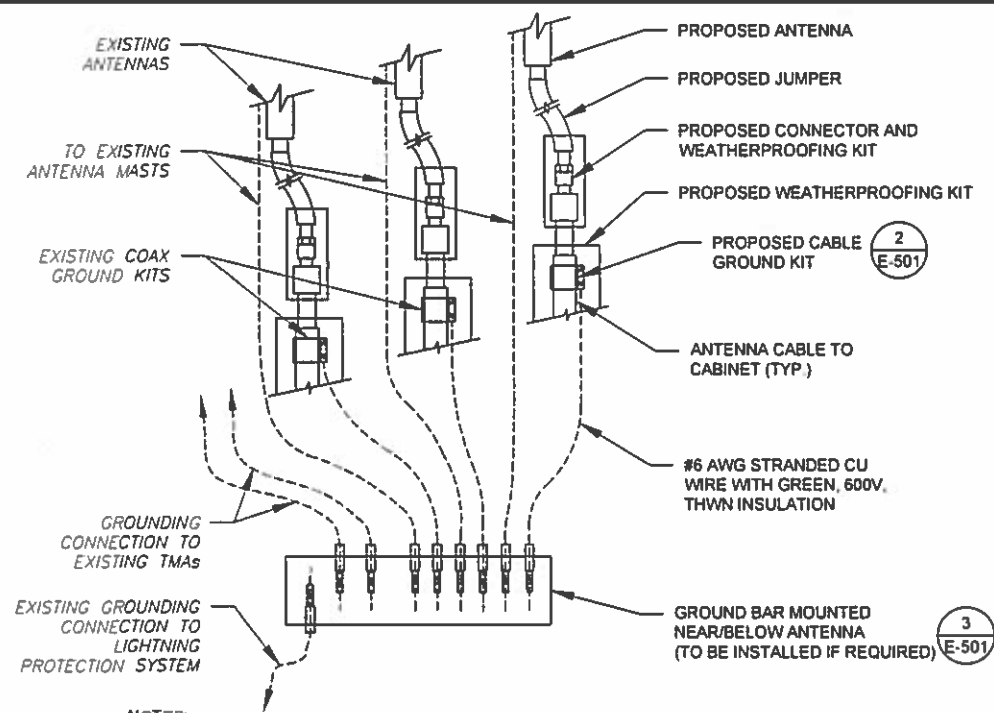
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DATE DRAWN:	05/31/18
ATC JOB NO:	12482799

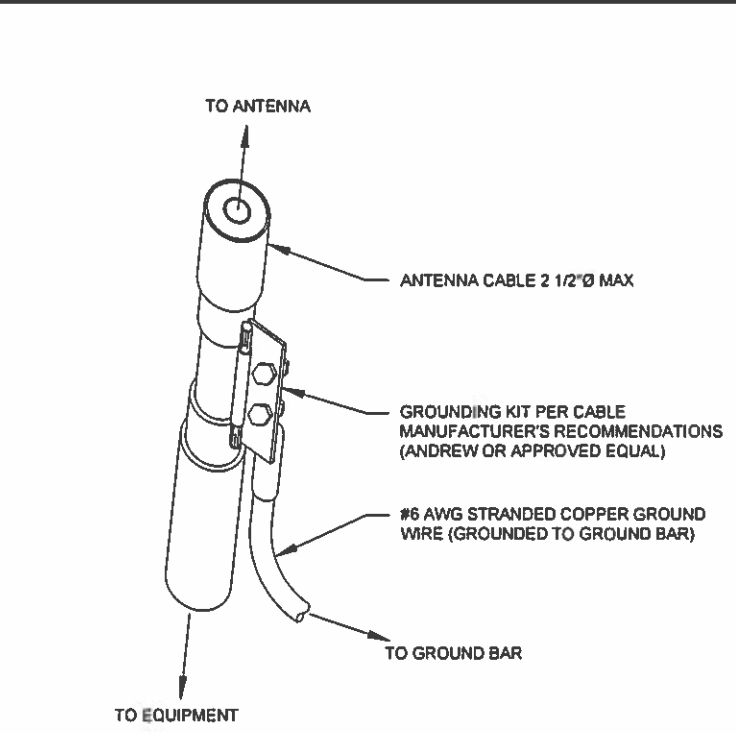
ANTENNA INFORMATION & SCHEDULE

SHEET NUMBER:	REVISION:
C-501	0



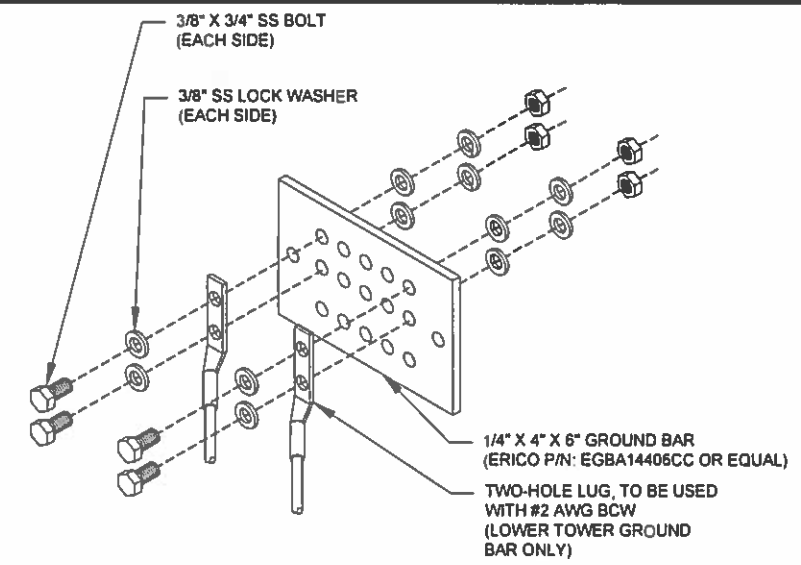
- NOTES:**
1. THIS DETAIL IS INTENDED TO SHOW THE GENERAL GROUNDING REQUIREMENTS. SLIGHT ADJUSTMENTS MAY BE REQUIRED BASED ON EXISTING SITE CONDITIONS. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS AS NEEDED AND INFORM THE CONSTRUCTION MANAGER OF ANY CONFLICTS.
 2. SITE GROUNDING SHALL COMPLY WITH T-MOBILE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

1 TYPICAL ANTENNA GROUNDING DIAGRAM
SCALE: NOT TO SCALE



- GROUND KIT NOTES:**
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR
 2. CONTRACTOR SHALL PROVIDE WEATHERPROOFING KIT (ANDREW PART NUMBER 221213) AND INSTALL/TAPE PER MANUFACTURER'S SPECIFICATIONS.

2 CABLE GROUND KIT CONNECTION DETAIL
SCALE: NOT TO SCALE



- GROUND BAR NOTES:**
1. GROUND BAR KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
 2. GROUND BAR TO BE BONDED DIRECTLY TO TOWER.

3 TOWER GROUND BAR DETAIL
SCALE: NOT TO SCALE

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

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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	KTL	05/31/18

ATC SITE NUMBER:
302480

ATC SITE NAME:
WOODBIDGE CT 1

SITE ADDRESS:
77 PEASE ROAD
WOODBIDGE, CT 06525-2044

SEAL:

Patrick P. Barry
28959
PROFESSIONAL ENGINEER

Authorized by "EOR"
May 31 2018 3:59 PM cosign



DRAWN BY:	KTL
APPROVED BY:	KRF
DATE DRAWN:	05/31/18
ATC JOB NO:	12482799

GROUNDING DETAILS	
SHEET NUMBER: E-501	REVISION: 0