Transcend Wireless

10 Industrial Ave,
Suite 3
Mahwah NJ 07430

Phone: 201.684.0055
Fax: 201.684.0066

September 6, 2018

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

Notice of Exempt Modification
180A Bayberry Lane, Westport, CT 06880
Latitude- 41.17167000
Longitude- -73.32881000

Dear Ms. Bachman,

T-Mobile currently maintains (9) existing antennas 87' level of the existing 140' monopole at 180A Bayberry Lane in Westport, Connecticut. The tower and property are owned by American Tower. T-Mobile now intends to remove (6) of the existing antennas and add (6) new 600/700/1900/2100 MHz antennas. These antennas would be installed at the same 87' level of the tower. T-Mobile also intends to swap (3) remote radio heads and add (2) hybrid cables.

This tower facility was originally approved by the Siting Council through Docket No. 45 dated September 14, 1984, as amended through Docket No. 278 dated May 19, 2004. This modification complies with the previous approvals.

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 James Marpe, First Selectmen of the Town of Westport, Mary Young, Planning and Zoning Director for the Town of Westport, as well as the owner.

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

1. The proposed modification 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 replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.

5. The proposed modification 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.

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,

Kyle Richers

Kyle Richers
Transcend Wireless
10 Industrial Ave., Suite 3
Mahwah, New Jersey 07430
908-447-4716
krichers@transcendwireless.com

cc: James Marpe- as elected official
Mary Young- as zoning official
American Tower- as tower and property owner

webmap.jws.com/taxmap/viewer.aspx?JWSCONFIG=CT_Westport

Westport CT - CityMap

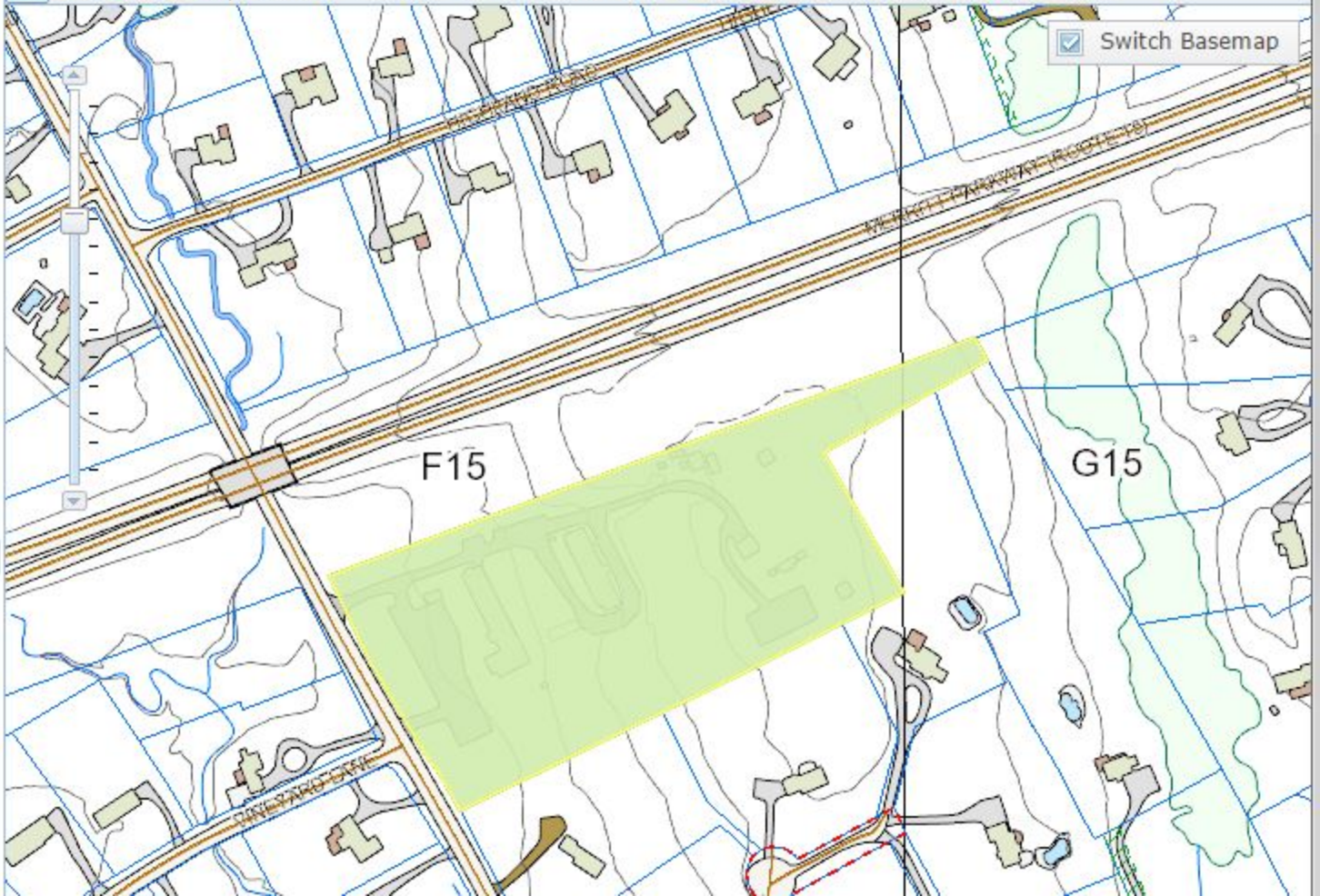
Tasks

IDENTIFY SELECT HYPERLINK MEASURE CLEAR BING PLACES PRINT HELP

Switch Basemap

Parcel Details

Field	Value
OBJECTID	9445
VISION_PID	100658
GIS_ID	F15058000
ST_	180
STREET	BAYBERRY LN
UNIT	
ALTERNATE_PID	F1558CELL
MAP	F15
LOT	58
SUB_LOT	
GRANTEE	AMERICAN TOWERS, INC.
MAILING_ADDRES	PO BOX 723597
CITY	ATLANTA
ST	GA
ZIP	31139
BOOK__PAGE	000/ 000
LAND_USE	
SURVEY	
ACRE_S	0



EBI Consulting
environmental | engineering | due diligence

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

T-Mobile Existing Facility

Site ID: CT11323A

CT323/SS Tower Rebuild
180-182 Bayberry Lane
Westport, CT 06880

August 17, 2018

EBI Project Number: 6218005630

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	22.68 %

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

EBI Consulting
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August 17, 2018

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

Emissions Analysis for Site: **CT11323A – CT323/SS Tower Rebuild**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **180-182 Bayberry Lane, Westport, CT**, for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

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

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

General population/uncontrolled exposure limits apply to situations in which the general 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 ($\mu W/cm^2$). The general population exposure limits for the 600 MHz and 700 MHz frequency bands are approximately 400 $\mu W/cm^2$ and 467 $\mu W/cm^2$ respectively. The general population exposure limit for the 1900 MHz (PCS) and 2100 MHz (AWS) frequency bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at **180-182 Bayberry Lane, Westport, 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, 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) 1 GSM channels (PCS Band - 1900 MHz) was considered for each sector of the proposed installation. These Channels have a transmit power of 15 Watts per Channel.

2) 2 UMTS channels (AWS Band – 2100 MHz) was considered for each sector of the proposed installation. These Channels have a transmit power of 40 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 40 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) 2 LTE channels (600 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

6) 2 LTE channels (700 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 20 Watts per Channel.

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, 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 AIR32 B66AA/B2A** & **Ericsson AIR21 B2A/B4P** for 1900 MHz (PCS) and 2100 MHz (AWS) channels and the **RFS APXVAARR24_43-U-NA20** for 600 MHz and 700 MHz channels. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB for directional panel antennas, 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 antennas is **87 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 AIR32 B66AA/B2A	Make / Model:	Ericsson AIR32 B66AA/B2A	Make / Model:	Ericsson AIR32 B66AA/B2A
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	87 feet	Height (AGL):	87 feet	Height (AGL):	87 feet
Frequency Bands	1900 MHz (PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz (PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz (PCS) / 2100 MHz (AWS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	200	Total TX Power(W):	200	Total TX Power(W):	200
ERP (W):	7,780.90	ERP (W):	7,780.90	ERP (W):	7,780.90
Antenna A1 MPE%	**4.26**	Antenna B1 MPE%	**4.26**	Antenna C1 MPE%	**4.26**
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:	dBd	Gain:	dBd	Gain:	dBd
Height (AGL):	87 feet	Height (AGL):	87 feet	Height (AGL):	87 feet
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	2	Channel Count	2	Channel Count	2
Total TX Power(W):	55	Total TX Power(W):	55	Total TX Power(W):	55
ERP (W):	2,139.75	ERP (W):	2,139.75	ERP (W):	2,139.75
Antenna A2 MPE%	**1.17**	Antenna B2 MPE%	**1.17**	Antenna C2 MPE%	**1.17**
Antenna #:	**3**	Antenna #:	**3**	Antenna #:	**3**
Make / Model:	RFS APXVAARR24_43-U-NA20	Make / Model:	RFS APXVAARR24_43-U-NA20	Make / Model:	RFS APXVAARR24_43-U-NA20
Gain:	12.95 / 13.35 dBd	Gain:	12.95 / 13.35 dBd	Gain:	12.95 / 13.35 dBd
Height (AGL):	87 feet	Height (AGL):	87 feet	Height (AGL):	87 feet
Frequency Bands	600 MHz / 700 MHz	Frequency Bands	600 MHz / 700 MHz	Frequency Bands	600 MHz / 700 MHz
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	120	Total TX Power(W):	120	Total TX Power(W):	120
ERP (W):	2,443.03	ERP (W):	2,443.03	ERP (W):	2,443.03
Antenna A3 MPE%	**3.18**	Antenna B3 MPE%	**3.18**	Antenna C3 MPE%	**3.18**

Site Composite MPE%	
Carrier	**MPE%**
T-Mobile (Per Sector Max)	**8.61 %**
Enertrac (Receive Only)	**0.00 %**
Verizon Wireless	**6.41 %**
Westport Fire Dept	**1.00 %**
AT&T	**5.03 %**
Sprint	**0.81 %**
CL&P	**0.07 %**
FBI	**0.22 %**
Westport Fire Low Band	**0.05 %**
Westport Police	**0.45 %**
Westport Townwide	**0.03 %**
Site Total MPE %:	**22.68 %**

T-Mobile Sector A Total:	8.61 %
T-Mobile Sector B Total:	8.61 %
T-Mobile Sector C Total:	8.61 %
Site Total:	22.68 %

T-Mobile Maximum MPE Power Values (Per Sector)

T-Mobile _Frequency Band / Technology (Per Sector)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
T-Mobile PCS - 1900 MHz LTE	2	1,556.18	87	17.05	PCS - 1900 MHz	1000.00	1.71%
T-Mobile AWS - 2100 MHz LTE	2	2,334.27	87	25.58	AWS - 2100 MHz	1000.00	2.55%
T-Mobile PCS - 1900 MHz GSM	1	583.57	87	3.20	PCS - 1900 MHz	1000.00	0.32%
T-Mobile AWS - 2100 MHz GSM	1	1,556.18	87	8.53	AWS - 2100 MHz	1000.00	0.85%
T-Mobile 600 MHz LTE	2	788.97	87	8.65	600 MHz	400.00	2.16%
T-Mobile 700 MHz LTE	2	432.54	87	4.74	700 MHz	467.00	1.02%
						Total:	**8.61%**

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:	8.61 %
Sector B:	8.61 %
Sector C:	8.61 %
T-Mobile Maximum MPE % (Per Sector):	8.61 %
Site Total:	22.68 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **22.68%** 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.

AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure	:	**140 ft Monopole**
ATC Site Name	:	**WSPT-Westport Rebuild CT, CT**
ATC Site Number	:	**310968**
Engineering Number	:	**OAA735667_C3_02**
Proposed Carrier	:	**T-Mobile**
Carrier Site Name	:	**CT323/SS Tower Rebuild**
Carrier Site Number	:	**CT11323A**
Site Location	:	**180A Bayberry Lane** **Westport, CT 06880-2844** **41.171700,-73.328500**
County	:	**Fairfield**
Date	:	**July 11, 2018**
Max Usage	:	**66%**
Result	:	**Pass**

Prepared By:
Cole Melody Koffi
Structural Engineer I

Reviewed By:

STATE OF CONNECTICUT
ESHA KAUSHAL MODI
32593
LICENSED
PROFESSIONAL ENGINEER

Authorized by "EOR"
Jul 12 2018 11:05 AM cosign

COA: PEC.0001553

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Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 140 ft monopole to reflect the change in loading by T-Mobile.

Supporting Documents

Tower Drawings	PJF, Penn Summit Job #29204-0171, dated July 1, 2004
Foundation Drawing	PJF, Penn Summit Job #29204-0171, dated June 10, 2004
Geotechnical Report	GeoTechnologies Project #1-02-1190-EA, dated September 23, 2002

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:	93 mph (3-Second Gust V_{ASD}) / 120 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
Crest Height:	0 ft
Spectral Response:	Ss = 0.22, S_1 = 0.07
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					
138.0	141.0	1	12' Dipole	Platform w/ Handrails	(7) 7/8" Coax (4) 3/8" Coax (3) 1 5/8" Coax	--
	138.0	2	6' Omni			
		4	12' Omni			
		1	6' FM antenna			
		1	4' HP Dish			
131.0	131.0	3	Alcatel-Lucent 800MHz 2X50W RRH w/ Filter	Platform w/ Handrails	(3) 1 1/4" Hybriflex (1) 1.7" Hybrid	Sprint Nextel
		3	Alcatel-Lucent 4x40W RRH (91 lb)			
		3	Nokia 2.5G MAA - AAHC(64T64R)			
		3	RFS APXVSPP18-C-A20			
120.0	116.0	2	6' Omni	Low Profile Platform	(2) 1 1/4" Coax (1) 1/2" Coax	-
	123.0	1	Andrew DB586			Eversource Energy
110.0	110.0	6	RFS FD9R6004/2C-3L	Low Profile Platform	(12) 1 5/8" Coax (1) 1 5/8" Hybriflex	Verizon
		3	Nokia AirScale RRH 4T4R B5 160W AHCA			
		3	Alcatel-Lucent RRH2X60-1900			
		3	Alcatel-Lucent B66a RRH4x45 (AWS-3)			
		1	RFS DB-T1-6Z-8AB-0Z			
		3	Antel BXA-70080/6CF__			
		6	Commscope JAHH-65B-R3B			
100.0	100.0	12	Powerwave 7020.00 Dual Band RET	Low Profile Platform	(12) 1 5/8" Coax (2) 0.78" 8 AWG 6 (1) 0.39" Fiber Trunk (1) 3" conduit (1) 3/8" RET Control Cable	AT&T Mobility
		12	Powerwave LGP21401			
		1	Raycap DC6-48-60-18-8F ("Squid")			
		3	Ericsson RRUS-11 (50 lbs.)			
		3	Ericsson RRUS 32 B2			
		6	Powerwave 7770.00			
		3	CCI HPA-65R-BUU-H6			
87.0	87.0	3	RFS ATMAA1412D-1A20	Low Profile Platform	(12) 1 5/8" Coax (1) 1 1/4" Fiber	T-Mobile
		3	Ericsson AIR 21, 1.3M, B4A B2P			

Equipment to be Removed

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
87.0	87.0	3	Andrew LNX-6515DS-VTM	-	-	T-Mobile
		3	Ericsson AIR 21, 1.3 M, B2A B4P			
		3	Ericsson RRUS 11 B12			

Proposed Equipment

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
87.0	87.0	3	Ericsson Radio 4449 B12,B71	Low Profile Platform	(3) 1 5/8" Fiber	T-Mobile
		3	Ericsson AIR32 B66Aa/B2a			
		3	RFS APXVAARR24_43-U-NA20			

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

Install proposed coax inside the pole shaft.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	54%	Pass
Shaft	58%	Pass
Base Plate	27%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Moment (Kips-Ft)	2,753.0	3,716.6	2,456.9	66%
Shear (Kips)	27.3	36.9	23.8	65%

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

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

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
138.0	4' HP Dish	--	1.449	1.107
87.0	Ericsson Radio 4449 B12,B71	T-Mobile	0.593	0.757
	Ericsson AIR32 B66Aa/B2a			
	RFS APXVAARR24_43-U-NA20			

***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:

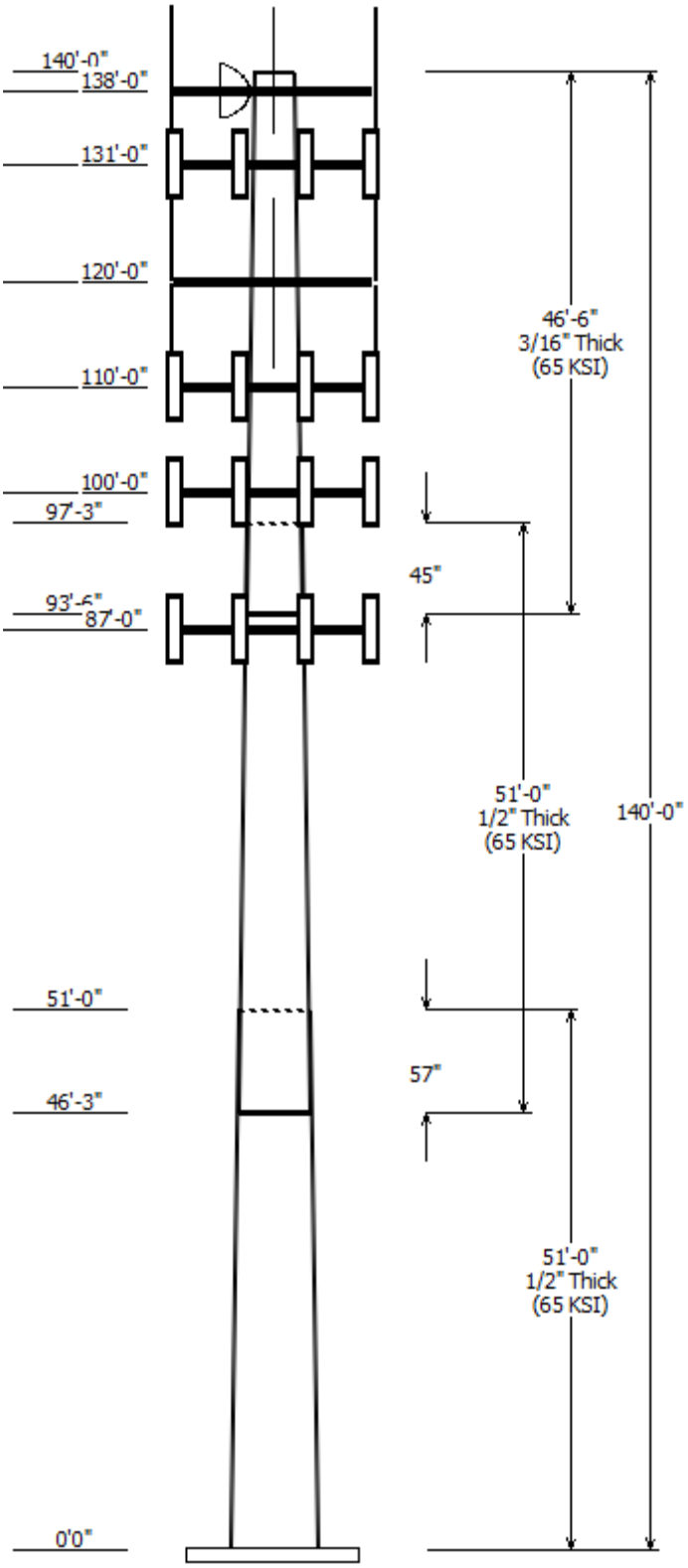
- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

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.



Job Information

Pole :	310968	Code:	ANSI/TIA-222-G
Location :	WSPT-WESTPORT REBUILD CT, CT		
Description :	140 ft Summit Monopole		
Client :	T-MOBILE	Struct Class :	II
Shape :	18 Sides	Exposure :	B
Height :	140.00 (ft)	Topo :	1
Base Elev (ft):	0.00		
Taper:	0.200036 (in/ft)		

Sections Properties

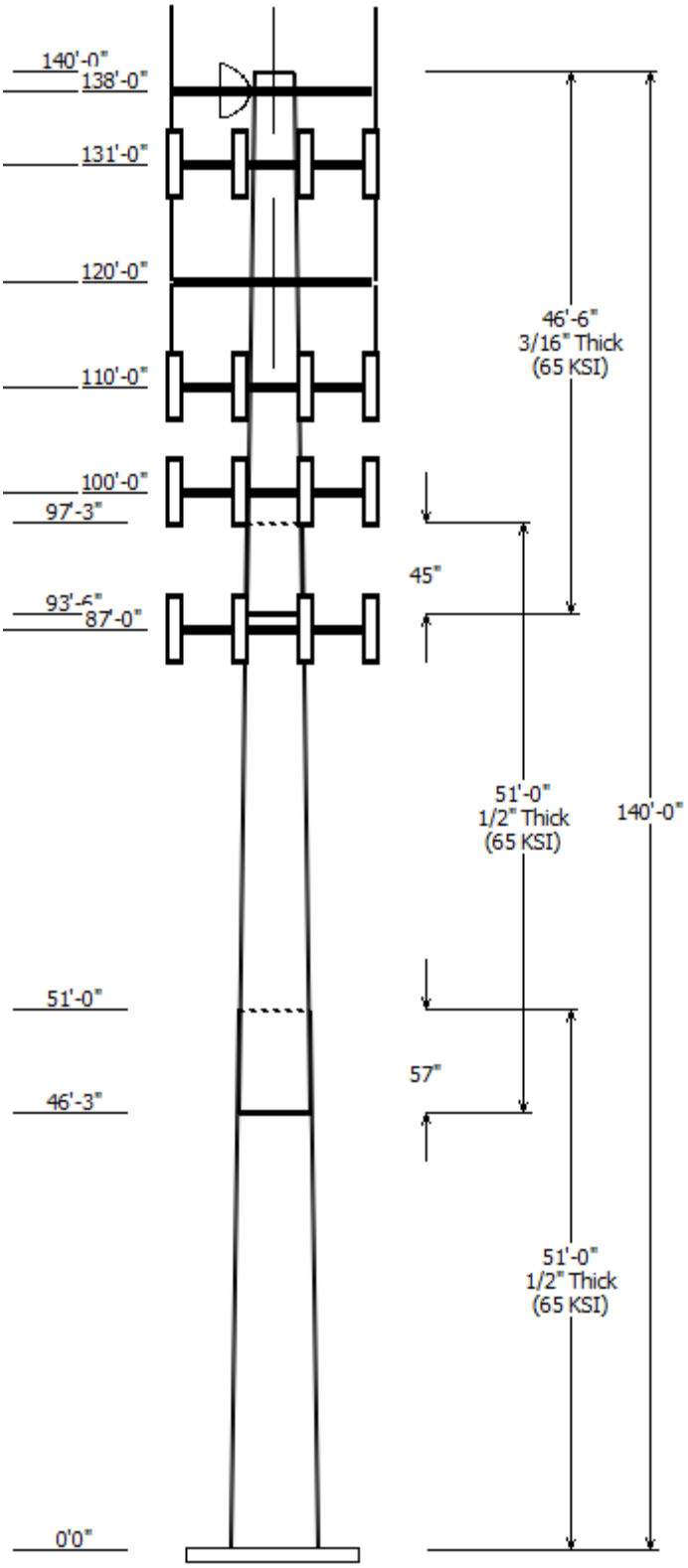
Shaft Section	Length (ft)	Diameter (in) Accross Flats Top	Bottom	Thick (in)	Joint Type	Overlap Length (in)	Shape	Steel Grade (ksi)
1	51.000	36.92	47.13	0.500		0.000	18 Sides	65
2	51.000	28.67	38.87	0.500	Slip Joint	57.000	18 Sides	65
3	46.500	20.50	29.80	0.188	Slip Joint	45.000	18 Sides	65

Discrete Appurtenance

Attach Elev (ft)	Force Elev (ft)	Qty	Description
138.000	138.000	4	12' Omni
138.000	141.000	1	12' Dipole
138.000	138.000	1	Flat Platform w/ Handrails
138.000	138.000	2	6' Omni
138.000	138.000	1	4' HP Dish
138.000	138.000	1	6' FM antenna
131.000	131.000	3	Nokia 2.5G MAA -
131.000	131.000	1	Flat Platform w/ Handrails
131.000	131.000	3	RFS APXVSPP18-C-A20
131.000	131.000	3	Alcatel-Lucent 4x40W RRH (91 l
131.000	131.000	3	Alcatel-Lucent 800 MHz 2X50W
120.000	123.000	1	Andrew DB586
120.000	120.000	1	Flat Low Profile Platform
120.000	116.000	2	6' Omni
110.000	110.000	6	RFS FD9R6004/2C-3L
110.000	110.000	3	Alcatel-Lucent RRH2X60-1900
110.000	110.000	1	RFS DB-T1-6Z-8AB-0Z
110.000	110.000	3	Antel BXA-70080/6CF__
110.000	110.000	3	Alcatel-Lucent B66a RRH4x45
110.000	110.000	3	Nokia AirScale RRH 4T4R B5 160
110.000	110.000	6	Commscope JAHH-65B-R3B
110.000	110.000	1	Round Low Profile Platform
100.000	100.000	12	Powerwave Allgon 7020.00
100.000	100.000	12	Powerwave Allgon LGP21401
100.000	100.000	3	Ericsson RRUS 32 B2
100.000	100.000	3	CCI HPA-65R-BUU-H6
100.000	100.000	1	Raycap DC6-48-60-18-8F
100.000	100.000	6	Powerwave 7770.00
100.000	100.000	3	Ericsson RRUS-11 (50 lbs.)
100.000	100.000	1	Flat Low Profile Platform
87.000	87.000	3	RFS APXVAARR24_43-U-NA20
87.000	87.000	3	Ericsson Radio 4449 B12,B71
87.000	87.000	3	Ericsson AIR32 B66Aa/B2a
87.000	87.000	1	Flat Low Profile Platform
87.000	87.000	3	Ericsson AIR 21, 1.3M, B4A B2P
87.000	87.000	3	RFS ATMAA1412D-1A20

Linear Appurtenance

Elev (ft) From	To	Description	Exposed To Wind
0.000	87.000	1 1/4" (1.25"-	No
0.000	87.000	1 5/8" (1.63"-	No
0.000	87.000	1 5/8" Coax	No



0.000	100.0	0.39" (10mm)	No
0.000	100.0	0.78" (19.7mm) 8	No
0.000	100.0	1 5/8" Coax	No
0.000	100.0	3" conduit	No
0.000	100.0	3/8" (0.38"-	No
0.000	110.0	1 5/8" Coax	No
0.000	110.0	1 5/8" Hybriflex	No
0.000	120.0	1 1/4" Coax	No
0.000	120.0	1/2" Coax	No
0.000	131.0	1 1/4" Hybriflex	No
0.000	131.0	1.7" (43.2mm)	No
0.000	138.0	1 5/8" Coax	No
0.000	138.0	3/8" Coax	No
0.000	138.0	7/8" Coax	No

Load Cases

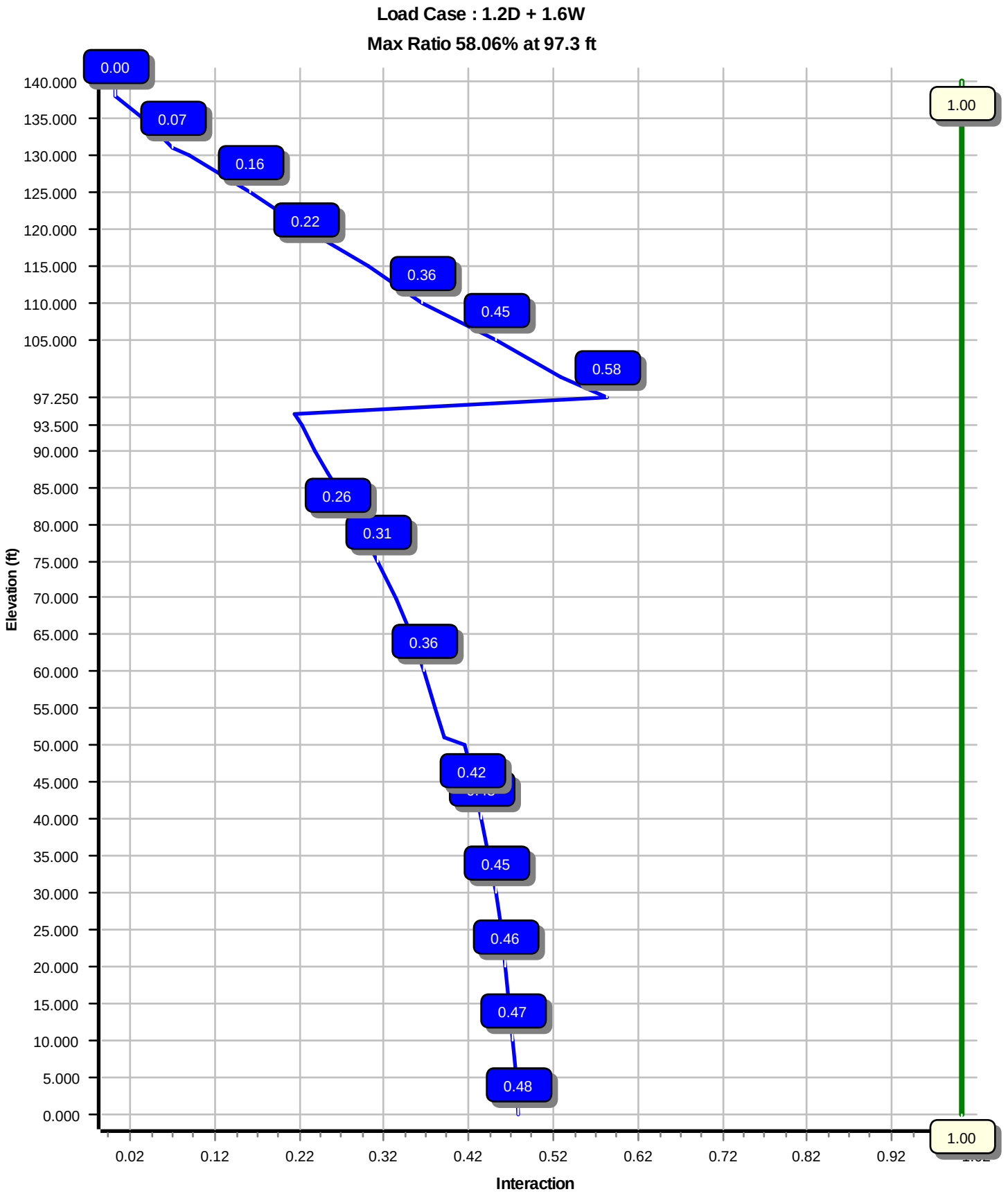
1.2D + 1.6W	93 mph with No Ice
0.9D + 1.6W	93 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 in Radial Ice
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Lateral
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Modal
1.0D + 1.0W	Serviceability 60 mph

Reactions

Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.6W	2456.92	23.83	51.85
0.9D + 1.6W	2428.14	23.81	38.88
1.2D + 1.0Di + 1.0Wi	734.08	7.10	75.46
(1.2 + 0.2Sds) * DL + E ELFM	151.54	1.38	52.02
(1.2 + 0.2Sds) * DL + E EMAM	195.55	1.81	52.02
(0.9 - 0.2Sds) * DL + E ELFM	149.28	1.38	35.56
(0.9 - 0.2Sds) * DL + E EMAM	192.34	1.81	35.56
1.0D + 1.0W	634.55	6.19	43.23

Dish Deflections

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
1.0D + 1.0W	138.00	17.385	1.107


Load Case : 1.2D + 1.6W
Max Ratio 58.06% at 97.3 ft
0.00
0.07
0.16
0.22
0.36
0.45
0.58
0.26
0.31
0.36
0.42
0.45
0.46
0.47
0.48
1.00
1.00
140.000
135.000
130.000
125.000
120.000
115.000
110.000
105.000
97.250
93.500
90.000
85.000
80.000
75.000
70.000
65.000
60.000
55.000
50.000
45.000
40.000
35.000
30.000
25.000
20.000
15.000
10.000
5.000
0.000
Elevation (ft)
0.02
0.12
0.22
0.32
0.42
0.52
0.62
0.72
0.82
0.92
Interaction

Site Number: 310968 Code: ANSI/TIA-222-G

Site Name: WSPT-WESTPORT REBUILD CT, CT Engineering Number: OAA735667_C3_02 7/11/2018 1:22:14 PM

Customer: T-MOBILE

Analysis Parameters

Location :	FAIRFIELD County, CT	Height (ft) :	140
Code :	ANSI/TIA-222-G	Base Diameter (in) :	47.13
Shape :	18 Sides	Top Diameter (in) :	20.50
Pole Type :	Taper	Taper (in/ft) :	0.200
Pole Manfacturer :	PennSummit Tub	Rotation (deg) :	0.00

Ice & Wind Parameters

Structure Class:	II	Design Wind Speed Without Ice:	93 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):	2.21				
T_L (sec):	6	p:	1	C_s:	0.032
S_s:	0.222	S_1:	0.066	C_s Max:	0.032
F_a:	1.600	F_v:	2.400	C_s Min:	0.030
S_{ds}:	0.237	S_{d1}:	0.106		

Load Cases

1.2D + 1.6W	93 mph with No Ice
0.9D + 1.6W	93 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 ELFM	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E EMAM	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E ELFM	Seismic (Reduced DL) Equivalent Lateral Forces Method
(0.9 - 0.2Sds) * DL + E EMAM	Seismic (Reduced DL) Equivalent Modal Analysis Method
1.0D + 1.0W	Serviceability 60 mph

Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint Len (in)	Weight (lb)	Bottom Dia (in)	Bottom Elev (ft)	Bottom Area (in²)	Bottom Ix (in⁴)	Bottom W/t Ratio	Bottom D/t Ratio	Top Dia (in)	Top Elev (ft)	Top Area (in²)	Top Ix (in⁴)	Top W/t Ratio	Top D/t Ratio	Taper (in/ft)
1-18	51.000	0.5000	65		0.00	11,437	47.13	0.00	74.00	20328.7	14.86	94.26	36.92	51.00	57.81	9692.3	11.26	73.86	0.200036
2-18	51.000	0.5000	65	Slip	57.00	9,165	38.87	46.25	60.90	11333.7	11.95	77.76	28.67	97.25	44.71	4485.1	8.35	57.35	0.200036
3-18	46.500	0.1875	65	Slip	45.00	2,351	29.80	93.50	17.62	1952.7	26.26	158.94	20.50	140.00	12.09	630.1	17.52	109.33	0.200036
				Shaft Weight		22,952													

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	Distance From Face (ft)	Vert Ecc (ft)	Weight (lb)	No Ice EPAa (sf)	Orientation Factor
138.00	12' Dipole	1	0.000	3.000	40.00	4.510	1.00
138.00	12' Omni	4	0.000	0.000	40.00	3.600	1.00
138.00	4' HP Dish	1	0.000	0.000	170.00	15.860	1.00
138.00	6' FM antenna	1	0.000	0.000	30.00	13.450	1.00
138.00	6' Omni	2	0.000	0.000	25.00	1.760	1.00
138.00	Flat Platform w/ Handrails	1	0.000	0.000	1750.00	33.000	1.00
131.00	Alcatel-Lucent 4x40W RRH (91 l	3	0.000	0.000	91.00	3.290	0.67
131.00	Alcatel-Lucent 800 MHz 2X50W R	3	0.000	0.000	64.00	2.060	0.67
131.00	Flat Platform w/ Handrails	1	0.000	0.000	2000.00	42.400	1.00
131.00	Nokia 2.5G MAA - AAHC(64T64R)	3	0.000	0.000	103.60	4.200	0.64
131.00	RFS APXVSPP18-C-A20	3	0.000	0.000	57.00	8.020	0.69
120.00	6' Omni	2	0.000	-4.000	25.00	1.760	1.00
120.00	Andrew DB586	1	0.000	3.000	8.30	0.740	1.00
120.00	Flat Low Profile Platform	1	0.000	0.000	1500.00	26.100	1.00
110.00	Alcatel-Lucent B66a RRH4x45 (A	3	0.000	0.000	67.00	2.660	0.67
110.00	Alcatel-Lucent RRH2X60-1900	3	0.000	0.000	43.00	1.880	0.50
110.00	Antel BXA-70080/6CF__	3	0.000	0.000	18.00	5.840	0.72
110.00	Commscope JAHH-65B-R3B	6	0.000	0.000	60.60	9.110	0.69
110.00	Nokia AirScale RRH 4T4R B5 160	3	0.000	0.000	35.30	1.290	0.50
110.00	RFS DB-T1-6Z-8AB-0Z	1	0.000	0.000	44.00	4.800	0.67
110.00	RFS FD9R6004/2C-3L	6	0.000	0.000	2.60	0.370	0.50
110.00	Round Low Profile Platform	1	0.000	0.000	1500.00	21.700	1.00
100.00	CCI HPA-65R-BUU-H6	3	0.000	0.000	51.00	9.660	0.69
100.00	Ericsson RRUS 32 B2	3	0.000	0.000	53.00	2.740	0.67
100.00	Ericsson RRUS-11 (50 lbs.)	3	0.000	0.000	50.00	2.570	0.67
100.00	Flat Low Profile Platform	1	0.000	0.000	1500.00	26.100	1.00
100.00	Powerwave 7770.00	6	0.000	0.000	35.00	5.510	0.65
100.00	Powerwave Allgon 7020.00 Dual	12	0.000	0.000	2.20	0.400	0.50
100.00	Powerwave Allgon LGP21401	12	0.000	0.000	14.10	1.100	0.50
100.00	Raycap DC6-48-60-18-8F ("Squid	1	0.000	0.000	31.80	1.280	1.00
87.00	Ericsson AIR 21, 1.3M, B4A B2P	3	0.000	0.000	81.50	6.090	0.70
87.00	Ericsson AIR32 B66Aa/B2a	3	0.000	0.000	132.20	6.510	0.71
87.00	Ericsson Radio 4449 B12,B71	3	0.000	0.000	74.00	1.640	0.50
87.00	Flat Low Profile Platform	1	0.000	0.000	1500.00	26.100	1.00
87.00	RFS APXVAARR24_43-U-NA20	3	0.000	0.000	127.90	20.240	0.63
87.00	RFS ATMAA1412D-1A20	3	0.000	0.000	13.00	1.000	0.50
Totals	Num Loadings:36	110			14303.40		

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Diameter (in)	Coax Weight (lb/ft)	Flat	Projected Width (in)	Exposed To Wind	Carrier
0.00	138.00	3	1 5/8" Coax	1.98	0.82	N	0.00	N	--
0.00	138.00	4	3/8" Coax	0.44	0.08	N	0.00	N	--

0.00	138.00	7	7/8" Coax	1.09	0.33	N	0.00	N	--
0.00	131.00	3	1 1/4" Hybriflex Cable	1.54	1.00	N	0.00	N	Sprint Nextel
0.00	131.00	1	1.7" (43.2mm) Hybrid	1.70	1.78	N	0.00	N	Sprint Nextel
0.00	120.00	2	1 1/4" Coax	1.55	0.63	N	0.00	N	Eversource Energy
0.00	120.00	1	1/2" Coax	0.63	0.15	N	0.00	N	Eversource Energy
0.00	110.00	12	1 5/8" Coax	1.98	0.82	N	0.00	N	Verizon
0.00	110.00	1	1 5/8" Hybriflex	1.98	1.30	N	0.00	N	Verizon
0.00	100.00	1	0.39" (10mm) Fiber	0.39	0.06	N	0.00	N	AT&T Mobility
0.00	100.00	2	0.78" (19.7mm) 8 AWG	0.78	0.59	N	0.00	N	AT&T Mobility
0.00	100.00	12	1 5/8" Coax	1.98	0.82	N	0.00	N	AT&T Mobility
0.00	100.00	1	3" conduit	3.50	7.58	N	0.00	N	AT&T Mobility
0.00	100.00	1	3/8" (0.38"- 9.5mm)	0.38	0.23	N	0.00	N	AT&T Mobility
0.00	87.00	1	1 1/4" (1.25"- 31.8mm)	1.25	1.05	N	0.00	N	T-Mobile
0.00	87.00	3	1 5/8" (1.63"-41.3mm)	1.63	1.61	N	0.00	N	T-Mobile
0.00	87.00	12	1 5/8" Coax	1.98	0.82	N	0.00	N	T-Mobile

Segment Properties (Max Len : 5. ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in^3)	Z (in^3)	Weight (lb)
0.00		0.5000	47.130	73.999	20,328.7	14.86	94.26	82.6	849.6	0.0	0.0
5.00		0.5000	46.130	72.412	19,048.5	14.50	92.26	82.6	813.3	0.0	1,245.5
10.00		0.5000	45.130	70.825	17,823.2	14.15	90.26	82.6	777.9	0.0	1,218.5
15.00		0.5000	44.129	69.237	16,651.5	13.80	88.26	82.6	743.2	0.0	1,191.5
20.00		0.5000	43.129	67.650	15,532.4	13.45	86.26	82.6	709.3	0.0	1,164.5
25.00		0.5000	42.129	66.063	14,464.6	13.09	84.26	82.6	676.2	0.0	1,137.5
30.00		0.5000	41.129	64.476	13,446.8	12.74	82.26	82.6	644.0	0.0	1,110.5
35.00		0.5000	40.129	62.889	12,478.0	12.39	80.26	82.6	612.5	0.0	1,083.5
40.00		0.5000	39.129	61.301	11,556.9	12.04	78.26	82.6	581.7	0.0	1,056.5
45.00		0.5000	38.128	59.714	10,682.2	11.68	76.26	82.6	551.8	0.0	1,029.5
46.25	Bot - Section 2	0.5000	37.878	59.317	10,470.7	11.59	75.76	82.6	544.5	0.0	253.1
50.00		0.5000	37.128	58.127	9,852.8	11.33	74.26	82.6	522.7	0.0	1,518.9
51.00	Top - Section 1	0.5000	37.928	59.396	10,512.6	11.61	75.86	82.6	545.9	0.0	399.9
55.00		0.5000	37.128	58.127	9,852.7	11.33	74.26	82.6	522.7	0.0	799.8
60.00		0.5000	36.128	56.539	9,067.4	10.98	72.26	82.6	494.3	0.0	975.5
65.00		0.5000	35.128	54.952	8,325.0	10.62	70.26	82.6	466.8	0.0	948.5
70.00		0.5000	34.128	53.365	7,624.3	10.27	68.26	82.6	440.0	0.0	921.4
75.00		0.5000	33.127	51.778	6,964.0	9.92	66.25	82.6	414.1	0.0	894.4
80.00		0.5000	32.127	50.190	6,343.0	9.57	64.25	82.6	388.9	0.0	867.4
85.00		0.5000	31.127	48.603	5,760.0	9.21	62.25	82.6	364.5	0.0	840.4
87.00		0.5000	30.727	47.968	5,537.3	9.07	61.45	82.6	354.9	0.0	328.6
90.00		0.5000	30.127	47.016	5,214.0	8.86	60.25	82.6	340.9	0.0	484.8
93.50	Bot - Section 3	0.5000	29.427	45.905	4,853.0	8.61	58.85	82.6	324.8	0.0	553.3
95.00		0.5000	29.127	45.429	4,703.5	8.51	58.25	82.6	318.1	0.0	322.6
97.25	Top - Section 2	0.1875	29.052	17.177	1,808.1	25.56	154.94	71.3	122.6	0.0	477.6
100.0		0.1875	28.501	16.850	1,706.7	25.04	152.01	71.9	117.9	0.0	159.2
105.0		0.1875	27.501	16.255	1,532.1	24.10	146.67	73.1	109.7	0.0	281.6
110.0		0.1875	26.501	15.659	1,369.9	23.16	141.34	74.2	101.8	0.0	271.5
115.0		0.1875	25.501	15.064	1,219.5	22.22	136.00	75.3	94.2	0.0	261.4
120.0		0.1875	24.501	14.469	1,080.6	21.28	130.67	76.4	86.9	0.0	251.2
125.0		0.1875	23.501	13.874	952.7	20.34	125.34	77.5	79.8	0.0	241.1
130.0		0.1875	22.500	13.278	835.2	19.40	120.00	78.6	73.1	0.0	231.0
131.0		0.1875	22.300	13.159	813.0	19.21	118.94	78.8	71.8	0.0	45.0
135.0		0.1875	21.500	12.683	727.9	18.46	114.67	79.7	66.7	0.0	175.9
138.0		0.1875	20.900	12.326	668.1	17.89	111.47	80.4	63.0	0.0	127.7
140.0		0.1875	20.500	12.088	630.1	17.52	109.33	80.8	60.5	0.0	83.1
											22,952.4

Load Case: 1.2D + 1.6W — 93 mph with No Ice — 23 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 Wind FX (lb)	Shaft Forces Dead Load (lb)	Discrete Forces Wind FX (lb)	Discrete Forces Torsion MY (lb-ft)	Discrete Forces Moment MZ (lb-ft)	Discrete Forces Dead Load (lb)	Linear Forces Wind FX (lb)	Linear Forces Dead Load (lb)	Sum of Forces Wind FX (lb)	Sum of Forces Dead Load (lb)	Sum of Forces Torsion MY (lb-ft)	Sum of Forces Moment MZ (lb)
0.00		166.2	0.0					0.0	0.0	166.2	0.0	0.0	0.0
5.00		328.8	1,494.6					0.0	342.2	328.8	1,836.8	0.0	0.0
10.00		321.6	1,462.2					0.0	342.2	321.6	1,804.4	0.0	0.0
15.00		314.5	1,429.8					0.0	342.2	314.5	1,772.0	0.0	0.0
20.00		307.4	1,397.4					0.0	342.2	307.4	1,739.6	0.0	0.0
25.00		300.2	1,365.0					0.0	342.2	300.2	1,707.1	0.0	0.0
30.00		296.6	1,332.6					0.0	342.2	296.6	1,674.7	0.0	0.0
35.00		298.9	1,300.2					0.0	342.2	298.9	1,642.3	0.0	0.0
40.00		302.8	1,267.8					0.0	342.2	302.8	1,609.9	0.0	0.0
45.00		190.4	1,235.4					0.0	342.2	190.4	1,577.5	0.0	0.0
46.25	Bot - Section 2	156.1	303.8					0.0	85.5	156.1	389.3	0.0	0.0
50.00		149.4	1,822.7					0.0	256.6	149.4	2,079.3	0.0	0.0
51.00	Top - Section 1	157.5	479.9					0.0	68.4	157.5	548.3	0.0	0.0
55.00		283.3	959.8					0.0	273.7	283.3	1,233.5	0.0	0.0
60.00		314.0	1,170.5					0.0	342.2	314.0	1,512.7	0.0	0.0
65.00		312.4	1,138.1					0.0	342.2	312.4	1,480.3	0.0	0.0
70.00		310.0	1,105.7					0.0	342.2	310.0	1,447.9	0.0	0.0
75.00		306.9	1,073.3					0.0	342.2	306.9	1,415.5	0.0	0.0
80.00		303.2	1,040.9					0.0	342.2	303.2	1,383.1	0.0	0.0
85.00		210.2	1,008.5					0.0	342.2	210.2	1,350.7	0.0	0.0
87.00	Appurtenance(s)	148.3	394.3	2,854.6	0.0	0.0	3,343.0	0.0	136.9	3,002.9	3,874.2	0.0	0.0
90.00		191.0	581.8					0.0	148.7	191.0	730.5	0.0	0.0
93.50	Bot - Section 3	146.3	664.0					0.0	173.5	146.3	837.5	0.0	0.0
95.00		109.5	387.1					0.0	74.4	109.5	461.5	0.0	0.0
97.25	Top - Section 2	144.8	573.1					0.0	111.5	144.8	684.7	0.0	0.0
100.00	Appurtenance(s)	221.2	191.0	2,782.3	0.0	0.0	2,879.3	0.0	136.3	3,003.5	3,206.6	0.0	0.0
105.00		280.5	337.9					0.0	134.5	280.5	472.5	0.0	0.0
110.00	Appurtenance(s)	273.9	325.8	2,763.4	0.0	0.0	2,895.7	0.0	134.5	3,037.4	3,356.0	0.0	0.0
115.00		267.0	313.6					0.0	67.7	267.0	381.3	0.0	0.0
120.00	Appurtenance(s)	259.6	301.5	1,169.0	0.0	-451.3	1,870.0	0.0	67.7	1,428.6	2,239.1	0.0	0.0
125.00		252.0	289.3					0.0	59.2	252.0	348.5	0.0	0.0
130.00		148.3	277.2					0.0	59.2	148.3	336.4	0.0	0.0
131.00	Appurtenance(s)	119.9	54.0	2,725.4	0.0	0.0	3,536.2	0.0	11.8	2,845.3	3,602.0	0.0	0.0
135.00		165.6	211.0					0.0	24.4	165.6	235.5	0.0	0.0
138.00	Appurtenance(s)	115.7	153.2	3,400.1	0.0	546.1	2,640.0	0.0	18.3	3,515.8	2,811.5	0.0	0.0
140.00		45.8	99.7					0.0	0.0	45.8	99.7	0.0	0.0
								Totals:		23,914.6	51,882.2	0.00	0.00

Site Number: 310968 Code: ANSI/TIA-222-G

Site Name: WSPT-WESTPORT REBUILD CT, CT Engineering Number: OAA735667_C3_02 7/11/2018 1:22:17 PM

Customer: T-MOBILE

Load Case: 1.2D + 1.6W 93 mph with No Ice 23 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	-51.85	-23.83	0.00	-2,456.92	0.00	2,456.92	5,497.77	2,748.88	10,504.0	5,259.85	0.00	0.00	0.477
5.00	-49.94	-23.64	0.00	-2,337.80	0.00	2,337.80	5,379.84	2,689.92	10,055.9	5,035.45	0.09	-0.17	0.474
10.00	-48.07	-23.46	0.00	-2,219.59	0.00	2,219.59	5,261.92	2,630.96	9,617.62	4,815.96	0.36	-0.34	0.470
15.00	-46.23	-23.27	0.00	-2,102.32	0.00	2,102.32	5,144.00	2,572.00	9,189.04	4,601.35	0.80	-0.51	0.466
20.00	-44.42	-23.08	0.00	-1,985.98	0.00	1,985.98	5,026.07	2,513.04	8,770.23	4,391.63	1.43	-0.69	0.461
25.00	-42.65	-22.89	0.00	-1,870.59	0.00	1,870.59	4,908.15	2,454.08	8,361.19	4,186.81	2.24	-0.86	0.456
30.00	-40.91	-22.69	0.00	-1,756.15	0.00	1,756.15	4,790.23	2,395.11	7,961.92	3,986.88	3.24	-1.04	0.449
35.00	-39.20	-22.48	0.00	-1,642.70	0.00	1,642.70	4,672.31	2,336.15	7,572.42	3,791.84	4.43	-1.22	0.442
40.00	-37.53	-22.26	0.00	-1,530.28	0.00	1,530.28	4,554.38	2,277.19	7,192.68	3,601.69	5.80	-1.40	0.433
45.00	-35.91	-22.10	0.00	-1,418.97	0.00	1,418.97	4,436.46	2,218.23	6,822.72	3,416.43	7.37	-1.58	0.424
46.25	-35.49	-21.99	0.00	-1,391.34	0.00	1,391.34	4,406.98	2,203.49	6,731.76	3,370.88	7.79	-1.63	0.421
50.00	-33.38	-21.83	0.00	-1,308.87	0.00	1,308.87	4,318.54	2,159.27	6,462.53	3,236.07	9.12	-1.77	0.412
51.00	-32.81	-21.71	0.00	-1,287.03	0.00	1,287.03	4,412.85	2,206.43	6,749.84	3,379.93	9.50	-1.80	0.388
55.00	-31.52	-21.47	0.00	-1,200.19	0.00	1,200.19	4,318.52	2,159.26	6,462.46	3,236.03	11.07	-1.95	0.378
60.00	-29.96	-21.19	0.00	-1,092.82	0.00	1,092.82	4,200.59	2,100.30	6,112.04	3,060.56	13.20	-2.12	0.364
65.00	-28.44	-20.90	0.00	-986.86	0.00	986.86	4,082.67	2,041.33	5,771.38	2,889.98	15.50	-2.28	0.349
70.00	-26.95	-20.61	0.00	-882.35	0.00	882.35	3,964.75	1,982.37	5,440.50	2,724.29	17.98	-2.44	0.331
75.00	-25.49	-20.31	0.00	-779.31	0.00	779.31	3,846.82	1,923.41	5,119.38	2,563.49	20.61	-2.59	0.311
80.00	-24.07	-20.00	0.00	-677.77	0.00	677.77	3,728.90	1,864.45	4,808.03	2,407.59	23.41	-2.74	0.288
85.00	-22.70	-19.76	0.00	-577.77	0.00	577.77	3,610.98	1,805.49	4,506.45	2,256.57	26.36	-2.88	0.262
87.00	-18.97	-16.59	0.00	-538.25	0.00	538.25	3,563.81	1,781.90	4,388.55	2,197.54	27.58	-2.94	0.250
90.00	-18.22	-16.39	0.00	-488.48	0.00	488.48	3,493.05	1,746.53	4,214.63	2,110.45	29.45	-3.02	0.237
93.50	-17.38	-16.22	0.00	-431.12	0.00	431.12	3,410.51	1,705.25	4,016.18	2,011.07	31.69	-3.10	0.220
95.00	-16.91	-16.09	0.00	-406.80	0.00	406.80	3,375.13	1,687.57	3,932.59	1,969.22	32.67	-3.14	0.212
97.25	-16.22	-15.93	0.00	-370.59	0.00	370.59	1,102.89	551.44	1,309.83	655.89	34.17	-3.19	0.581
100.00	-13.15	-12.78	0.00	-326.79	0.00	326.79	1,091.10	545.55	1,270.97	636.43	36.02	-3.26	0.526
105.00	-12.65	-12.53	0.00	-262.87	0.00	262.87	1,068.74	534.37	1,200.66	601.22	39.57	-3.50	0.450
110.00	-9.46	-9.32	0.00	-200.23	0.00	200.23	1,045.19	522.60	1,130.92	566.30	43.35	-3.72	0.363
115.00	-9.07	-9.05	0.00	-153.64	0.00	153.64	1,020.46	510.23	1,061.89	531.74	47.34	-3.90	0.298
120.00	-6.91	-7.49	0.00	-108.38	0.00	108.38	994.55	497.27	993.73	497.61	51.51	-4.05	0.225
125.00	-6.57	-7.22	0.00	-70.94	0.00	70.94	967.45	483.72	926.59	463.98	55.82	-4.17	0.160
130.00	-6.24	-7.06	0.00	-34.82	0.00	34.82	939.16	469.58	860.60	430.94	60.23	-4.25	0.088
131.00	-2.86	-3.95	0.00	-27.77	0.00	27.77	933.36	466.68	847.55	424.41	61.12	-4.26	0.069
135.00	-2.64	-3.77	0.00	-11.96	0.00	11.96	909.69	454.85	795.92	398.55	64.70	-4.29	0.033
138.00	-0.10	-0.05	0.00	-0.11	0.00	0.11	891.44	445.72	757.80	379.46	67.40	-4.30	0.000
140.00	0.00	-0.05	0.00	0.00	0.00	0.00	879.04	439.52	732.69	366.89	69.20	-4.30	0.000

Load Case: 0.9D + 1.6W — 93 mph with No Ice (Reduced DL) — 23 Iterations

Gust Response Factor :1.10
Dead Load Factor :0.90
Wind Load Factor :1.60

Wind Importance Factor 1.00

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
Seg Elev (ft)	Description	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		166.2	0.0					0.0	0.0	166.2	0.0	0.0	0.0
5.00		328.8	1,121.0					0.0	256.6	328.8	1,377.6	0.0	0.0
10.00		321.6	1,096.7					0.0	256.6	321.6	1,353.3	0.0	0.0
15.00		314.5	1,072.4					0.0	256.6	314.5	1,329.0	0.0	0.0
20.00		307.4	1,048.0					0.0	256.6	307.4	1,304.7	0.0	0.0
25.00		300.2	1,023.7					0.0	256.6	300.2	1,280.4	0.0	0.0
30.00		296.6	999.4					0.0	256.6	296.6	1,256.1	0.0	0.0
35.00		298.9	975.1					0.0	256.6	298.9	1,231.8	0.0	0.0
40.00		302.8	950.8					0.0	256.6	302.8	1,207.4	0.0	0.0
45.00		190.4	926.5					0.0	256.6	190.4	1,183.1	0.0	0.0
46.25	Bot - Section 2	156.1	227.8					0.0	64.2	156.1	292.0	0.0	0.0
50.00		149.4	1,367.0					0.0	192.5	149.4	1,559.5	0.0	0.0
51.00	Top - Section 1	157.5	359.9					0.0	51.3	157.5	411.2	0.0	0.0
55.00		283.3	719.8					0.0	205.3	283.3	925.1	0.0	0.0
60.00		314.0	877.9					0.0	256.6	314.0	1,134.5	0.0	0.0
65.00		312.4	853.6					0.0	256.6	312.4	1,110.2	0.0	0.0
70.00		310.0	829.3					0.0	256.6	310.0	1,085.9	0.0	0.0
75.00		306.9	805.0					0.0	256.6	306.9	1,061.6	0.0	0.0
80.00		303.2	780.7					0.0	256.6	303.2	1,037.3	0.0	0.0
85.00		210.2	756.4					0.0	256.6	210.2	1,013.0	0.0	0.0
87.00	Appurtenance(s)	148.3	295.8	2,854.6	0.0	0.0	2,507.2	0.0	102.6	3,002.9	2,905.6	0.0	0.0
90.00		191.0	436.3					0.0	111.5	191.0	547.9	0.0	0.0
93.50	Bot - Section 3	146.3	498.0					0.0	130.1	146.3	628.1	0.0	0.0
95.00		109.5	290.3					0.0	55.8	109.5	346.1	0.0	0.0
97.25	Top - Section 2	144.8	429.9					0.0	83.6	144.8	513.5	0.0	0.0
100.00	Appurtenance(s)	221.2	143.3	2,782.3	0.0	0.0	2,159.5	0.0	102.2	3,003.5	2,405.0	0.0	0.0
105.00		280.5	253.5					0.0	100.9	280.5	354.3	0.0	0.0
110.00	Appurtenance(s)	273.9	244.3	2,763.4	0.0	0.0	2,171.8	0.0	100.9	3,037.4	2,517.0	0.0	0.0
115.00		267.0	235.2					0.0	50.8	267.0	286.0	0.0	0.0
120.00	Appurtenance(s)	259.6	226.1	1,169.0	0.0	-451.3	1,402.5	0.0	50.8	1,428.6	1,679.3	0.0	0.0
125.00		252.0	217.0					0.0	44.4	252.0	261.4	0.0	0.0
130.00		148.3	207.9					0.0	44.4	148.3	252.3	0.0	0.0
131.00	Appurtenance(s)	119.9	40.5	2,725.4	0.0	0.0	2,652.1	0.0	8.9	2,845.3	2,701.5	0.0	0.0
135.00		165.6	158.3					0.0	18.3	165.6	176.6	0.0	0.0
138.00	Appurtenance(s)	115.7	114.9	3,400.1	0.0	546.1	1,980.0	0.0	13.7	3,515.8	2,108.6	0.0	0.0
140.00		45.8	74.8					0.0	0.0	45.8	74.8	0.0	0.0
								Totals:		23,914.6	38,911.7	0.00	0.00

Site Number: 310968 Code: ANSI/TIA-222-G

Site Name: WSPT-WESTPORT REBUILD CT, CT Engineering Number: OAA735667_C3_02 7/11/2018 1:22:20 PM

Customer: T-MOBILE

Load Case: 0.9D + 1.6W 93 mph with No Ice (Reduced DL) 23 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	-38.88	-23.81	0.00	-2,428.14	0.00	2,428.14	5,497.77	2,748.88	10,504.0	5,259.85	0.00	0.00	0.469
5.00	-37.43	-23.58	0.00	-2,309.12	0.00	2,309.12	5,379.84	2,689.92	10,055.9	5,035.45	0.09	-0.17	0.466
10.00	-36.01	-23.36	0.00	-2,191.20	0.00	2,191.20	5,261.92	2,630.96	9,617.62	4,815.96	0.35	-0.33	0.462
15.00	-34.61	-23.14	0.00	-2,074.39	0.00	2,074.39	5,144.00	2,572.00	9,189.04	4,601.35	0.79	-0.50	0.458
20.00	-33.24	-22.92	0.00	-1,958.68	0.00	1,958.68	5,026.07	2,513.04	8,770.23	4,391.63	1.41	-0.68	0.453
25.00	-31.90	-22.70	0.00	-1,844.07	0.00	1,844.07	4,908.15	2,454.08	8,361.19	4,186.81	2.22	-0.85	0.447
30.00	-30.58	-22.48	0.00	-1,730.57	0.00	1,730.57	4,790.23	2,395.11	7,961.92	3,986.88	3.20	-1.03	0.441
35.00	-29.28	-22.25	0.00	-1,618.17	0.00	1,618.17	4,672.31	2,336.15	7,572.42	3,791.84	4.37	-1.20	0.433
40.00	-28.02	-22.00	0.00	-1,506.94	0.00	1,506.94	4,554.38	2,277.19	7,192.68	3,601.69	5.73	-1.38	0.425
45.00	-26.79	-21.84	0.00	-1,396.92	0.00	1,396.92	4,436.46	2,218.23	6,822.72	3,416.43	7.27	-1.56	0.415
46.25	-26.47	-21.71	0.00	-1,369.62	0.00	1,369.62	4,406.98	2,203.49	6,731.76	3,370.88	7.68	-1.61	0.412
50.00	-24.89	-21.56	0.00	-1,288.19	0.00	1,288.19	4,318.54	2,159.27	6,462.53	3,236.07	9.00	-1.74	0.404
51.00	-24.45	-21.43	0.00	-1,266.64	0.00	1,266.64	4,412.85	2,206.43	6,749.84	3,379.93	9.37	-1.78	0.380
55.00	-23.47	-21.18	0.00	-1,180.94	0.00	1,180.94	4,318.52	2,159.26	6,462.46	3,236.03	10.92	-1.92	0.370
60.00	-22.29	-20.88	0.00	-1,075.06	0.00	1,075.06	4,200.59	2,100.30	6,112.04	3,060.56	13.02	-2.09	0.357
65.00	-21.14	-20.59	0.00	-970.64	0.00	970.64	4,082.67	2,041.33	5,771.38	2,889.98	15.29	-2.25	0.341
70.00	-20.01	-20.29	0.00	-867.69	0.00	867.69	3,964.75	1,982.37	5,440.50	2,724.29	17.73	-2.40	0.324
75.00	-18.91	-19.99	0.00	-766.25	0.00	766.25	3,846.82	1,923.41	5,119.38	2,563.49	20.32	-2.56	0.304
80.00	-17.84	-19.68	0.00	-666.31	0.00	666.31	3,728.90	1,864.45	4,808.03	2,407.59	23.08	-2.70	0.282
85.00	-16.81	-19.45	0.00	-567.91	0.00	567.91	3,610.98	1,805.49	4,506.45	2,256.57	25.98	-2.84	0.256
87.00	-14.04	-16.32	0.00	-529.01	0.00	529.01	3,563.81	1,781.90	4,388.55	2,197.54	27.18	-2.89	0.245
90.00	-13.47	-16.12	0.00	-480.05	0.00	480.05	3,493.05	1,746.53	4,214.63	2,110.45	29.03	-2.97	0.231
93.50	-12.84	-15.96	0.00	-423.63	0.00	423.63	3,410.51	1,705.25	4,016.18	2,011.07	31.24	-3.06	0.214
95.00	-12.49	-15.84	0.00	-399.69	0.00	399.69	3,375.13	1,687.57	3,932.59	1,969.22	32.20	-3.09	0.207
97.25	-11.97	-15.68	0.00	-364.06	0.00	364.06	1,102.89	551.44	1,309.83	655.89	33.67	-3.15	0.567
100.00	-9.70	-12.57	0.00	-320.95	0.00	320.95	1,091.10	545.55	1,270.97	636.43	35.50	-3.21	0.514
105.00	-9.31	-12.31	0.00	-258.09	0.00	258.09	1,068.74	534.37	1,200.66	601.22	38.99	-3.45	0.439
110.00	-6.96	-9.14	0.00	-196.56	0.00	196.56	1,045.19	522.60	1,130.92	566.30	42.72	-3.66	0.354
115.00	-6.66	-8.88	0.00	-150.84	0.00	150.84	1,020.46	510.23	1,061.89	531.74	46.65	-3.84	0.291
120.00	-5.07	-7.35	0.00	-106.45	0.00	106.45	994.55	497.27	993.73	497.61	50.75	-3.99	0.219
125.00	-4.81	-7.09	0.00	-69.71	0.00	69.71	967.45	483.72	926.59	463.98	54.99	-4.10	0.155
130.00	-4.57	-6.92	0.00	-34.27	0.00	34.27	939.16	469.58	860.60	430.94	59.33	-4.18	0.085
131.00	-2.08	-3.89	0.00	-27.35	0.00	27.35	933.36	466.68	847.55	424.41	60.21	-4.19	0.067
135.00	-1.92	-3.71	0.00	-11.79	0.00	11.79	909.69	454.85	795.92	398.55	63.73	-4.22	0.032
138.00	-0.07	-0.05	0.00	-0.10	0.00	0.10	891.44	445.72	757.80	379.46	66.39	-4.23	0.000
140.00	0.00	-0.05	0.00	0.00	0.00	0.00	879.04	439.52	732.69	366.89	68.15	-4.23	0.000

Load Case: 1.2D + 1.0Di + 1.0Wi — 50 mph with 0.75 in Radial Ice — 22 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

		Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
Seg Elev (ft)	Description	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		58.1	0.0					0.0	0.0	58.1	0.0	0.0	0.0
5.00		115.4	1,837.9					0.0	342.2	115.4	2,180.1	0.0	0.0
10.00		113.5	1,838.3					0.0	342.2	113.5	2,180.5	0.0	0.0
15.00		111.4	1,817.7					0.0	342.2	111.4	2,159.8	0.0	0.0
20.00		109.2	1,790.1					0.0	342.2	109.2	2,132.3	0.0	0.0
25.00		107.0	1,759.0					0.0	342.2	107.0	2,101.1	0.0	0.0
30.00		106.0	1,725.6					0.0	342.2	106.0	2,067.8	0.0	0.0
35.00		107.1	1,690.7					0.0	342.2	107.1	2,032.8	0.0	0.0
40.00		108.8	1,654.6					0.0	342.2	108.8	1,996.7	0.0	0.0
45.00		68.5	1,617.6					0.0	342.2	68.5	1,959.7	0.0	0.0
46.25	Bot - Section 2	56.2	399.4					0.0	85.5	56.2	485.0	0.0	0.0
50.00		53.8	2,113.0					0.0	256.6	53.8	2,369.7	0.0	0.0
51.00	Top - Section 1	56.8	557.3					0.0	68.4	56.8	625.7	0.0	0.0
55.00		102.4	1,264.7					0.0	273.7	102.4	1,538.5	0.0	0.0
60.00		113.8	1,545.1					0.0	342.2	113.8	1,887.2	0.0	0.0
65.00		113.6	1,505.9					0.0	342.2	113.6	1,848.1	0.0	0.0
70.00		113.0	1,466.4					0.0	342.2	113.0	1,808.5	0.0	0.0
75.00		112.3	1,426.5					0.0	342.2	112.3	1,768.6	0.0	0.0
80.00		111.3	1,386.3					0.0	342.2	111.3	1,728.5	0.0	0.0
85.00		77.3	1,345.9					0.0	342.2	77.3	1,688.0	0.0	0.0
87.00	Appurtenance(s)	54.7	528.2	677.3	0.0	0.0	6,247.7	0.0	136.9	732.0	6,912.7	0.0	0.0
90.00		70.6	779.5					0.0	148.7	70.6	928.2	0.0	0.0
93.50	Bot - Section 3	54.2	890.4					0.0	173.5	54.2	1,063.9	0.0	0.0
95.00		40.6	484.6					0.0	74.4	40.6	559.0	0.0	0.0
97.25	Top - Section 2	53.8	717.6					0.0	111.5	53.8	829.2	0.0	0.0
100.00	Appurtenance(s)	82.4	365.0	701.8	0.0	0.0	5,910.5	0.0	136.3	784.2	6,411.8	0.0	0.0
105.00		104.8	644.9					0.0	134.5	104.8	779.4	0.0	0.0
110.00	Appurtenance(s)	102.9	623.7	729.6	0.0	0.0	6,048.8	0.0	134.5	832.4	6,807.0	0.0	0.0
115.00		100.7	602.4					0.0	67.7	100.7	670.0	0.0	0.0
120.00	Appurtenance(s)	98.5	580.9	367.5	0.0	-126.2	2,506.5	0.0	67.7	465.9	3,155.1	0.0	0.0
125.00		96.1	559.2					0.0	59.2	96.1	618.5	0.0	0.0
130.00		56.8	537.5					0.0	59.2	56.8	596.7	0.0	0.0
131.00	Appurtenance(s)	46.2	105.7	667.4	0.0	0.0	6,100.2	0.0	11.8	713.5	6,217.8	0.0	0.0
135.00		63.9	411.6					0.0	24.4	63.9	436.0	0.0	0.0
138.00	Appurtenance(s)	44.9	300.1	975.0	0.0	254.0	4,409.0	0.0	18.3	1,019.9	4,727.4	0.0	0.0
140.00		17.8	196.1					0.0	0.0	17.8	196.1	0.0	0.0
								Totals:		7,122.86	75,467.2	0.00	0.00

Load Case: 1.2D + 1.0Di + 1.0Wi — 50 mph with 0.75 in Radial Ice — 22 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	-75.46	-7.10	0.00	-734.08	0.00	734.08	5,497.77	2,748.88	10,504.0	5,259.85	0.00	0.00	0.153
5.00	-73.28	-7.05	0.00	-698.59	0.00	698.59	5,379.84	2,689.92	10,055.9	5,035.45	0.03	-0.05	0.152
10.00	-71.09	-6.99	0.00	-663.36	0.00	663.36	5,261.92	2,630.96	9,617.62	4,815.96	0.11	-0.10	0.151
15.00	-68.93	-6.94	0.00	-628.40	0.00	628.40	5,144.00	2,572.00	9,189.04	4,601.35	0.24	-0.15	0.150
20.00	-66.79	-6.88	0.00	-593.70	0.00	593.70	5,026.07	2,513.04	8,770.23	4,391.63	0.43	-0.20	0.148
25.00	-64.68	-6.83	0.00	-559.28	0.00	559.28	4,908.15	2,454.08	8,361.19	4,186.81	0.67	-0.26	0.147
30.00	-62.61	-6.77	0.00	-525.14	0.00	525.14	4,790.23	2,395.11	7,961.92	3,986.88	0.97	-0.31	0.145
35.00	-60.57	-6.71	0.00	-491.28	0.00	491.28	4,672.31	2,336.15	7,572.42	3,791.84	1.32	-0.36	0.143
40.00	-58.57	-6.64	0.00	-457.74	0.00	457.74	4,554.38	2,277.19	7,192.68	3,601.69	1.73	-0.42	0.140
45.00	-56.60	-6.59	0.00	-424.52	0.00	424.52	4,436.46	2,218.23	6,822.72	3,416.43	2.20	-0.47	0.137
46.25	-56.12	-6.56	0.00	-416.28	0.00	416.28	4,406.98	2,203.49	6,731.76	3,370.88	2.33	-0.49	0.136
50.00	-53.74	-6.51	0.00	-391.69	0.00	391.69	4,318.54	2,159.27	6,462.53	3,236.07	2.73	-0.53	0.133
51.00	-53.12	-6.47	0.00	-385.18	0.00	385.18	4,412.85	2,206.43	6,749.84	3,379.93	2.84	-0.54	0.126
55.00	-51.57	-6.40	0.00	-359.30	0.00	359.30	4,318.52	2,159.26	6,462.46	3,236.03	3.31	-0.58	0.123
60.00	-49.68	-6.31	0.00	-327.32	0.00	327.32	4,200.59	2,100.30	6,112.04	3,060.56	3.95	-0.63	0.119
65.00	-47.83	-6.21	0.00	-295.79	0.00	295.79	4,082.67	2,041.33	5,771.38	2,889.98	4.64	-0.68	0.114
70.00	-46.02	-6.11	0.00	-264.74	0.00	264.74	3,964.75	1,982.37	5,440.50	2,724.29	5.38	-0.73	0.109
75.00	-44.25	-6.01	0.00	-234.17	0.00	234.17	3,846.82	1,923.41	5,119.38	2,563.49	6.16	-0.78	0.103
80.00	-42.51	-5.91	0.00	-204.11	0.00	204.11	3,728.90	1,864.45	4,808.03	2,407.59	7.00	-0.82	0.096
85.00	-40.82	-5.83	0.00	-174.56	0.00	174.56	3,610.98	1,805.49	4,506.45	2,256.57	7.88	-0.86	0.089
87.00	-33.92	-5.00	0.00	-162.90	0.00	162.90	3,563.81	1,781.90	4,388.55	2,197.54	8.25	-0.88	0.084
90.00	-32.99	-4.93	0.00	-147.89	0.00	147.89	3,493.05	1,746.53	4,214.63	2,110.45	8.81	-0.90	0.080
93.50	-31.93	-4.87	0.00	-130.62	0.00	130.62	3,410.51	1,705.25	4,016.18	2,011.07	9.48	-0.93	0.074
95.00	-31.37	-4.83	0.00	-123.32	0.00	123.32	3,375.13	1,687.57	3,932.59	1,969.22	9.78	-0.94	0.072
97.25	-30.54	-4.77	0.00	-112.45	0.00	112.45	1,102.89	551.44	1,309.83	655.89	10.22	-0.96	0.199
100.00	-24.14	-3.90	0.00	-99.33	0.00	99.33	1,091.10	545.55	1,270.97	636.43	10.78	-0.98	0.178
105.00	-23.36	-3.81	0.00	-79.83	0.00	79.83	1,068.74	534.37	1,200.66	601.22	11.85	-1.05	0.155
110.00	-16.56	-2.87	0.00	-60.78	0.00	60.78	1,045.19	522.60	1,130.92	566.30	12.98	-1.12	0.123
115.00	-15.89	-2.77	0.00	-46.45	0.00	46.45	1,020.46	510.23	1,061.89	531.74	14.18	-1.17	0.103
120.00	-12.75	-2.24	0.00	-32.62	0.00	32.62	994.55	497.27	993.73	497.61	15.44	-1.22	0.078
125.00	-12.13	-2.14	0.00	-21.40	0.00	21.40	967.45	483.72	926.59	463.98	16.73	-1.25	0.059
130.00	-11.53	-2.07	0.00	-10.70	0.00	10.70	939.16	469.58	860.60	430.94	18.06	-1.28	0.037
131.00	-5.33	-1.22	0.00	-8.63	0.00	8.63	933.36	466.68	847.55	424.41	18.33	-1.28	0.026
135.00	-4.90	-1.15	0.00	-3.74	0.00	3.74	909.69	454.85	795.92	398.55	19.40	-1.29	0.015
138.00	-0.20	-0.02	0.00	-0.04	0.00	0.04	891.44	445.72	757.80	379.46	20.21	-1.29	0.000
140.00	0.00	-0.02	0.00	0.00	0.00	0.00	879.04	439.52	732.69	366.89	20.76	-1.29	0.000

Load Case: 1.0D + 1.0W Serviceability 60 mph 22 Iterations

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

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces Wind FX (lb)	Shaft Forces Dead Load (lb)	Discrete Forces Wind FX (lb)	Discrete Forces Torsion MY (lb-ft)	Discrete Forces Moment MZ (lb-ft)	Discrete Forces Dead Load (lb)	Linear Forces Wind FX (lb)	Linear Forces Dead Load (lb)	Sum of Forces Wind FX (lb)	Sum of Forces Dead Load (lb)	Sum of Forces Torsion MY (lb-ft)	Sum of Forces Moment MZ (lb)
0.00		43.2	0.0					0.0	0.0	43.2	0.0	0.0	0.0
5.00		85.5	1,245.5					0.0	285.1	85.5	1,530.6	0.0	0.0
10.00		83.7	1,218.5					0.0	285.1	83.7	1,503.6	0.0	0.0
15.00		81.8	1,191.5					0.0	285.1	81.8	1,476.6	0.0	0.0
20.00		80.0	1,164.5					0.0	285.1	80.0	1,449.6	0.0	0.0
25.00		78.1	1,137.5					0.0	285.1	78.1	1,422.6	0.0	0.0
30.00		77.2	1,110.5					0.0	285.1	77.2	1,395.6	0.0	0.0
35.00		77.8	1,083.5					0.0	285.1	77.8	1,368.6	0.0	0.0
40.00		78.8	1,056.5					0.0	285.1	78.8	1,341.6	0.0	0.0
45.00		49.5	1,029.5					0.0	285.1	49.5	1,314.6	0.0	0.0
46.25	Bot - Section 2	40.6	253.1					0.0	71.3	40.6	324.4	0.0	0.0
50.00		38.9	1,518.9					0.0	213.8	38.9	1,732.7	0.0	0.0
51.00	Top - Section 1	41.0	399.9					0.0	57.0	41.0	456.9	0.0	0.0
55.00		73.7	799.8					0.0	228.1	73.7	1,027.9	0.0	0.0
60.00		81.7	975.5					0.0	285.1	81.7	1,260.6	0.0	0.0
65.00		81.3	948.5					0.0	285.1	81.3	1,233.6	0.0	0.0
70.00		80.6	921.4					0.0	285.1	80.6	1,206.6	0.0	0.0
75.00		79.8	894.4					0.0	285.1	79.8	1,179.6	0.0	0.0
80.00		78.9	867.4					0.0	285.1	78.9	1,152.6	0.0	0.0
85.00		54.7	840.4					0.0	285.1	54.7	1,125.6	0.0	0.0
87.00	Appurtenance(s)	38.6	328.6	742.6	0.0	0.0	2,785.8	0.0	114.1	781.2	3,228.5	0.0	0.0
90.00		49.7	484.8					0.0	123.9	49.7	608.7	0.0	0.0
93.50	Bot - Section 3	38.1	553.3					0.0	144.6	38.1	697.9	0.0	0.0
95.00		28.5	322.6					0.0	62.0	28.5	384.5	0.0	0.0
97.25	Top - Section 2	37.7	477.6					0.0	92.9	37.7	570.6	0.0	0.0
100.00	Appurtenance(s)	57.5	159.2	723.8	0.0	0.0	2,399.4	0.0	113.6	781.3	2,672.2	0.0	0.0
105.00		73.0	281.6					0.0	112.1	73.0	393.7	0.0	0.0
110.00	Appurtenance(s)	71.3	271.5	718.9	0.0	0.0	2,413.1	0.0	112.1	790.2	2,796.7	0.0	0.0
115.00		69.5	261.4					0.0	56.4	69.5	317.8	0.0	0.0
120.00	Appurtenance(s)	67.5	251.2	304.1	0.0	-117.4	1,558.3	0.0	56.4	371.7	1,865.9	0.0	0.0
125.00		65.5	241.1					0.0	49.3	65.5	290.5	0.0	0.0
130.00		38.6	231.0					0.0	49.3	38.6	280.3	0.0	0.0
131.00	Appurtenance(s)	31.2	45.0	709.0	0.0	0.0	2,946.8	0.0	9.9	740.2	3,001.7	0.0	0.0
135.00		43.1	175.9					0.0	20.4	43.1	196.2	0.0	0.0
138.00	Appurtenance(s)	30.1	127.7	884.5	0.0	142.1	2,200.0	0.0	15.3	914.6	2,342.9	0.0	0.0
140.00		11.9	83.1					0.0	0.0	11.9	83.1	0.0	0.0
								Totals:		6,221.29	43,235.2	0.00	0.00

Load Case: 1.0D + 1.0W Serviceability 60 mph 22 Iterations

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

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-43.23	-6.19	0.00	-634.55	0.00	634.55	5,497.77	2,748.88	10,504.0	5,259.85	0.00	0.00	0.129
5.00	-41.70	-6.14	0.00	-603.58	0.00	603.58	5,379.84	2,689.92	10,055.9	5,035.45	0.02	-0.04	0.128
10.00	-40.19	-6.09	0.00	-572.88	0.00	572.88	5,261.92	2,630.96	9,617.62	4,815.96	0.09	-0.09	0.127
15.00	-38.71	-6.03	0.00	-542.46	0.00	542.46	5,144.00	2,572.00	9,189.04	4,601.35	0.21	-0.13	0.125
20.00	-37.25	-5.98	0.00	-512.30	0.00	512.30	5,026.07	2,513.04	8,770.23	4,391.63	0.37	-0.18	0.124
25.00	-35.83	-5.92	0.00	-482.42	0.00	482.42	4,908.15	2,454.08	8,361.19	4,186.81	0.58	-0.22	0.123
30.00	-34.43	-5.87	0.00	-452.81	0.00	452.81	4,790.23	2,395.11	7,961.92	3,986.88	0.84	-0.27	0.121
35.00	-33.05	-5.81	0.00	-423.47	0.00	423.47	4,672.31	2,336.15	7,572.42	3,791.84	1.14	-0.31	0.119
40.00	-31.71	-5.75	0.00	-394.43	0.00	394.43	4,554.38	2,277.19	7,192.68	3,601.69	1.50	-0.36	0.116
45.00	-30.39	-5.71	0.00	-365.69	0.00	365.69	4,436.46	2,218.23	6,822.72	3,416.43	1.90	-0.41	0.114
46.25	-30.06	-5.67	0.00	-358.56	0.00	358.56	4,406.98	2,203.49	6,731.76	3,370.88	2.01	-0.42	0.113
50.00	-28.33	-5.63	0.00	-337.28	0.00	337.28	4,318.54	2,159.27	6,462.53	3,236.07	2.35	-0.46	0.111
51.00	-27.87	-5.60	0.00	-331.64	0.00	331.64	4,412.85	2,206.43	6,749.84	3,379.93	2.45	-0.47	0.104
55.00	-26.84	-5.54	0.00	-309.24	0.00	309.24	4,318.52	2,159.26	6,462.46	3,236.03	2.86	-0.50	0.102
60.00	-25.58	-5.46	0.00	-281.55	0.00	281.55	4,200.59	2,100.30	6,112.04	3,060.56	3.41	-0.55	0.098
65.00	-24.34	-5.39	0.00	-254.24	0.00	254.24	4,082.67	2,041.33	5,771.38	2,889.98	4.00	-0.59	0.094
70.00	-23.13	-5.31	0.00	-227.31	0.00	227.31	3,964.75	1,982.37	5,440.50	2,724.29	4.64	-0.63	0.089
75.00	-21.95	-5.23	0.00	-200.76	0.00	200.76	3,846.82	1,923.41	5,119.38	2,563.49	5.32	-0.67	0.084
80.00	-20.79	-5.15	0.00	-174.60	0.00	174.60	3,728.90	1,864.45	4,808.03	2,407.59	6.04	-0.71	0.078
85.00	-19.67	-5.09	0.00	-148.83	0.00	148.83	3,610.98	1,805.49	4,506.45	2,256.57	6.80	-0.74	0.071
87.00	-16.45	-4.27	0.00	-138.65	0.00	138.65	3,563.81	1,781.90	4,388.55	2,197.54	7.11	-0.76	0.068
90.00	-15.84	-4.22	0.00	-125.83	0.00	125.83	3,493.05	1,746.53	4,214.63	2,110.45	7.60	-0.78	0.064
93.50	-15.14	-4.18	0.00	-111.05	0.00	111.05	3,410.51	1,705.25	4,016.18	2,011.07	8.17	-0.80	0.060
95.00	-14.75	-4.15	0.00	-104.78	0.00	104.78	3,375.13	1,687.57	3,932.59	1,969.22	8.43	-0.81	0.058
97.25	-14.18	-4.11	0.00	-95.45	0.00	95.45	1,102.89	551.44	1,309.83	655.89	8.81	-0.82	0.158
100.00	-11.52	-3.29	0.00	-84.16	0.00	84.16	1,091.10	545.55	1,270.97	636.43	9.29	-0.84	0.143
105.00	-11.12	-3.23	0.00	-67.69	0.00	67.69	1,068.74	534.37	1,200.66	601.22	10.21	-0.90	0.123
110.00	-8.34	-2.40	0.00	-51.56	0.00	51.56	1,045.19	522.60	1,130.92	566.30	11.18	-0.96	0.099
115.00	-8.02	-2.33	0.00	-39.57	0.00	39.57	1,020.46	510.23	1,061.89	531.74	12.21	-1.01	0.082
120.00	-6.16	-1.93	0.00	-27.92	0.00	27.92	994.55	497.27	993.73	497.61	13.29	-1.04	0.062
125.00	-5.87	-1.86	0.00	-18.28	0.00	18.28	967.45	483.72	926.59	463.98	14.40	-1.07	0.045
130.00	-5.59	-1.82	0.00	-8.98	0.00	8.98	939.16	469.58	860.60	430.94	15.54	-1.10	0.027
131.00	-2.60	-1.02	0.00	-7.17	0.00	7.17	933.36	466.68	847.55	424.41	15.77	-1.10	0.020
135.00	-2.41	-0.97	0.00	-3.09	0.00	3.09	909.69	454.85	795.92	398.55	16.69	-1.11	0.010
138.00	-0.08	-0.01	0.00	-0.03	0.00	0.03	891.44	445.72	757.80	379.46	17.38	-1.11	0.000
140.00	0.00	-0.01	0.00	0.00	0.00	0.00	879.04	439.52	732.69	366.89	17.85	-1.11	0.000

Equivalent Lateral Forces Method Analysis

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

Spectral Response Acceleration for Short Period (S_s):	0.22	
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.07	
Long-Period Transition Period (T_L):	6	
Importance Factor (I_E):	1.00	
Site Coefficient F_a:	1.60	
Site Coeffiecient F_v:	2.40	
Response Modification Coefficient (R):	1.50	
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.24	
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.11	
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):	2.21	
Redundancy Factor (p):	1.00	
Seismic Force Distribution Exponent (k):	1.85	
Total Unfactored Dead Load:	43.24	k
Seismic Base Shear (E):	1.38	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)
35	139.00	83	783	0.005	7	104
34	136.50	143	1,303	0.008	12	178
33	133.00	196	1,704	0.011	15	245
32	130.50	55	460	0.003	4	68
31	127.50	280	2,251	0.015	20	350
30	122.50	290	2,166	0.014	19	362
29	117.50	308	2,123	0.014	19	384
28	112.50	318	2,023	0.013	18	396
27	107.50	384	2,245	0.015	20	478
26	102.50	394	2,109	0.014	19	491
25	98.63	273	1,361	0.009	12	340
24	96.13	571	2,714	0.018	24	712
23	94.25	385	1,763	0.011	16	480
22	91.75	698	3,045	0.020	27	871
21	88.50	609	2,484	0.016	22	759
20	86.00	443	1,713	0.011	15	552
19	82.50	1,126	4,032	0.026	36	1,404
18	77.50	1,153	3,677	0.024	33	1,438
17	72.50	1,180	3,325	0.022	30	1,471
16	67.50	1,207	2,979	0.019	27	1,505
15	62.50	1,234	2,641	0.017	24	1,539
14	57.50	1,261	2,312	0.015	21	1,572
13	53.00	1,028	1,621	0.011	15	1,282

12	50.50	457	659	0.004	6	570
11	48.13	1,733	2,284	0.015	20	2,161
10	45.63	324	387	0.003	3	405
9	42.50	1,315	1,376	0.009	12	1,640
8	37.50	1,342	1,114	0.007	10	1,673
7	32.50	1,369	871	0.006	8	1,707
6	27.50	1,396	652	0.004	6	1,741
5	22.50	1,423	458	0.003	4	1,775
4	17.50	1,450	293	0.002	3	1,808
3	12.50	1,477	160	0.001	1	1,842
2	7.50	1,504	63	0.000	1	1,876
1	2.50	1,531	8	0.000	0	1,909
6' Omni	138.00	50	465	0.003	4	62
12' Omni	138.00	160	1,488	0.010	13	200
12' Dipole	138.00	40	372	0.002	3	50
6' FM antenna	138.00	30	279	0.002	3	37
4' HP Dish	138.00	170	1,581	0.010	14	212
Flat Platform w/ Han	138.00	1,750	16,276	0.106	146	2,183
Alcatel-Lucent 800 M	131.00	192	1,621	0.011	15	239
Alcatel-Lucent 4x40W	131.00	273	2,305	0.015	21	341
Nokia 2.5G MAA - AAH	131.00	311	2,625	0.017	24	388
RFS APXVSPP18-C-A20	131.00	171	1,444	0.009	13	213
Flat Platform w/ Han	131.00	2,000	16,889	0.110	151	2,495
Andrew DB586	120.00	8	60	0.000	1	10
6' Omni	120.00	50	359	0.002	3	62
Flat Low Profile Pla	120.00	1,500	10,765	0.070	96	1,871
RFS FD9R6004/2C-3L	110.00	16	95	0.001	1	19
Nokia AirScale RRH 4	110.00	106	647	0.004	6	132
Alcatel-Lucent RRH2X	110.00	129	788	0.005	7	161
Alcatel-Lucent B66a	110.00	201	1,228	0.008	11	251
RFS DB-T1-6Z-8AB-0Z	110.00	44	269	0.002	2	55
Antel BXA-70080/6CF_	110.00	54	330	0.002	3	67
Commscope JAHH-65B-R	110.00	364	2,221	0.014	20	454
Round Low Profile Pl	110.00	1,500	9,161	0.060	82	1,871
Powerwave Allgon 702	100.00	26	135	0.001	1	33
Powerwave Allgon LGP	100.00	169	866	0.006	8	211
Raycap DC6-48-60-18-	100.00	32	163	0.001	1	40
Ericsson RRUS-11 (50	100.00	150	768	0.005	7	187
Ericsson RRUS 32 B2	100.00	159	814	0.005	7	198
Powerwave 7770.00	100.00	210	1,075	0.007	10	262
CCI HPA-65R-BUU-H6	100.00	153	783	0.005	7	191
Flat Low Profile Pla	100.00	1,500	7,677	0.050	69	1,871
RFS ATMAA1412D-1A20	87.00	39	154	0.001	1	49
Ericsson Radio 4449	87.00	222	878	0.006	8	277
Ericsson AIR 21, 1.3	87.00	244	967	0.006	9	305
Ericsson AIR32 B66Aa	87.00	397	1,568	0.010	14	495
RFS APXVAARR24_43-U-	87.00	384	1,517	0.010	14	479
Flat Low Profile Pla	87.00	1,500	5,929	0.039	53	1,871
		43,235	153,717	1.000	1,378	53,930

Load Case (0.9 - 0.2Sds) * DL + E ELFM Seismic (Reduced DL) Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
35	139.00	83	783	0.005	7	71
34	136.50	143	1,303	0.008	12	122
33	133.00	196	1,704	0.011	15	167
32	130.50	55	460	0.003	4	47
31	127.50	280	2,251	0.015	20	239
30	122.50	290	2,166	0.014	19	248

29	117.50	308	2,123	0.014	19	262
28	112.50	318	2,023	0.013	18	271
27	107.50	384	2,245	0.015	20	327
26	102.50	394	2,109	0.014	19	336
25	98.63	273	1,361	0.009	12	233
24	96.13	571	2,714	0.018	24	486
23	94.25	385	1,763	0.011	16	328
22	91.75	698	3,045	0.020	27	595
21	88.50	609	2,484	0.016	22	519
20	86.00	443	1,713	0.011	15	377
19	82.50	1,126	4,032	0.026	36	960
18	77.50	1,153	3,677	0.024	33	983
17	72.50	1,180	3,325	0.022	30	1,006
16	67.50	1,207	2,979	0.019	27	1,029
15	62.50	1,234	2,641	0.017	24	1,052
14	57.50	1,261	2,312	0.015	21	1,075
13	53.00	1,028	1,621	0.011	15	876
12	50.50	457	659	0.004	6	390
11	48.13	1,733	2,284	0.015	20	1,477
10	45.63	324	387	0.003	3	277
9	42.50	1,315	1,376	0.009	12	1,121
8	37.50	1,342	1,114	0.007	10	1,144
7	32.50	1,369	871	0.006	8	1,167
6	27.50	1,396	652	0.004	6	1,190
5	22.50	1,423	458	0.003	4	1,213
4	17.50	1,450	293	0.002	3	1,236
3	12.50	1,477	160	0.001	1	1,259
2	7.50	1,504	63	0.000	1	1,282
1	2.50	1,531	8	0.000	0	1,305
6' Omni	138.00	50	465	0.003	4	43
12' Omni	138.00	160	1,488	0.010	13	136
12' Dipole	138.00	40	372	0.002	3	34
6' FM antenna	138.00	30	279	0.002	3	26
4' HP Dish	138.00	170	1,581	0.010	14	145
Flat Platform w/ Han	138.00	1,750	16,276	0.106	146	1,492
Alcatel-Lucent 800 M	131.00	192	1,621	0.011	15	164
Alcatel-Lucent 4x40W	131.00	273	2,305	0.015	21	233
Nokia 2.5G MAA - AAH	131.00	311	2,625	0.017	24	265
RFS APXVSPP18-C-A20	131.00	171	1,444	0.009	13	146
Flat Platform w/ Han	131.00	2,000	16,889	0.110	151	1,705
Andrew DB586	120.00	8	60	0.000	1	7
6' Omni	120.00	50	359	0.002	3	43
Flat Low Profile Pla	120.00	1,500	10,765	0.070	96	1,279
RFS FD9R6004/2C-3L	110.00	16	95	0.001	1	13
Nokia AirScale RRH 4	110.00	106	647	0.004	6	90
Alcatel-Lucent RRH2X	110.00	129	788	0.005	7	110
Alcatel-Lucent B66a	110.00	201	1,228	0.008	11	171
RFS DB-T1-6Z-8AB-0Z	110.00	44	269	0.002	2	38
Antel BXA-70080/6CF_	110.00	54	330	0.002	3	46
Commscope JAHH-65B-R	110.00	364	2,221	0.014	20	310
Round Low Profile Pl	110.00	1,500	9,161	0.060	82	1,279
Powerwave Allgon 702	100.00	26	135	0.001	1	23
Powerwave Allgon LGP	100.00	169	866	0.006	8	144
Raycap DC6-48-60-18-	100.00	32	163	0.001	1	27
Ericsson RRUS-11 (50	100.00	150	768	0.005	7	128
Ericsson RRUS 32 B2	100.00	159	814	0.005	7	136
Powerwave 7770.00	100.00	210	1,075	0.007	10	179
CCI HPA-65R-BUU-H6	100.00	153	783	0.005	7	130
Flat Low Profile Pla	100.00	1,500	7,677	0.050	69	1,279
RFS ATMAA1412D-1A20	87.00	39	154	0.001	1	33
Ericsson Radio 4449	87.00	222	878	0.006	8	189
Ericsson AIR 21, 1.3	87.00	244	967	0.006	9	208
Ericsson AIR32 B66Aa	87.00	397	1,568	0.010	14	338
RFS APXVAARR24_43-U-	87.00	384	1,517	0.010	14	327

Flat Low Profile Pla	87.00	1,500	5,929	0.039	53	1,279
		43,235	153,717	1.000	1,378	36,864

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	-52.02	-1.38	0.00	-151.54	0.00	151.54	5,497.77	2,748.88	10,504.0	5,259.85	0.00	0.00	0.038
5.00	-50.14	-1.39	0.00	-144.63	0.00	144.63	5,379.84	2,689.92	10,055.9	5,035.45	0.01	-0.01	0.038
10.00	-48.30	-1.40	0.00	-137.68	0.00	137.68	5,261.92	2,630.96	9,617.62	4,815.96	0.02	-0.02	0.038
15.00	-46.49	-1.40	0.00	-130.69	0.00	130.69	5,144.00	2,572.00	9,189.04	4,601.35	0.05	-0.03	0.037
20.00	-44.72	-1.41	0.00	-123.68	0.00	123.68	5,026.07	2,513.04	8,770.23	4,391.63	0.09	-0.04	0.037
25.00	-42.98	-1.41	0.00	-116.64	0.00	116.64	4,908.15	2,454.08	8,361.19	4,186.81	0.14	-0.05	0.037
30.00	-41.27	-1.41	0.00	-109.61	0.00	109.61	4,790.23	2,395.11	7,961.92	3,986.88	0.20	-0.06	0.036
35.00	-39.60	-1.40	0.00	-102.58	0.00	102.58	4,672.31	2,336.15	7,572.42	3,791.84	0.27	-0.08	0.036
40.00	-37.96	-1.39	0.00	-95.58	0.00	95.58	4,554.38	2,277.19	7,192.68	3,601.69	0.36	-0.09	0.035
45.00	-37.55	-1.39	0.00	-88.61	0.00	88.61	4,436.46	2,218.23	6,822.72	3,416.43	0.46	-0.10	0.034
46.25	-35.39	-1.37	0.00	-86.86	0.00	86.86	4,406.98	2,203.49	6,731.76	3,370.88	0.48	-0.10	0.034
50.00	-34.82	-1.37	0.00	-81.71	0.00	81.71	4,318.54	2,159.27	6,462.53	3,236.07	0.57	-0.11	0.033
51.00	-33.54	-1.36	0.00	-80.34	0.00	80.34	4,412.85	2,206.43	6,749.84	3,379.93	0.59	-0.11	0.031
55.00	-31.97	-1.34	0.00	-74.91	0.00	74.91	4,318.52	2,159.26	6,462.46	3,236.03	0.69	-0.12	0.031
60.00	-30.43	-1.32	0.00	-68.22	0.00	68.22	4,200.59	2,100.30	6,112.04	3,060.56	0.82	-0.13	0.030
65.00	-28.92	-1.29	0.00	-61.64	0.00	61.64	4,082.67	2,041.33	5,771.38	2,889.98	0.96	-0.14	0.028
70.00	-27.45	-1.26	0.00	-55.18	0.00	55.18	3,964.75	1,982.37	5,440.50	2,724.29	1.12	-0.15	0.027
75.00	-26.01	-1.23	0.00	-48.87	0.00	48.87	3,846.82	1,923.41	5,119.38	2,563.49	1.28	-0.16	0.026
80.00	-24.61	-1.19	0.00	-42.72	0.00	42.72	3,728.90	1,864.45	4,808.03	2,407.59	1.46	-0.17	0.024
85.00	-24.06	-1.18	0.00	-36.75	0.00	36.75	3,610.98	1,805.49	4,506.45	2,256.57	1.64	-0.18	0.023
87.00	-19.82	-1.05	0.00	-34.39	0.00	34.39	3,563.81	1,781.90	4,388.55	2,197.54	1.72	-0.18	0.021
90.00	-18.95	-1.02	0.00	-31.25	0.00	31.25	3,493.05	1,746.53	4,214.63	2,110.45	1.83	-0.19	0.020
93.50	-18.47	-1.00	0.00	-27.69	0.00	27.69	3,410.51	1,705.25	4,016.18	2,011.07	1.97	-0.19	0.019
95.00	-17.76	-0.98	0.00	-26.19	0.00	26.19	3,375.13	1,687.57	3,932.59	1,969.22	2.04	-0.20	0.019
97.25	-17.42	-0.96	0.00	-23.99	0.00	23.99	1,102.89	551.44	1,309.83	655.89	2.13	-0.20	0.052
100.00	-13.94	-0.83	0.00	-21.34	0.00	21.34	1,091.10	545.55	1,270.97	636.43	2.25	-0.20	0.046
105.00	-13.46	-0.81	0.00	-17.22	0.00	17.22	1,068.74	534.37	1,200.66	601.22	2.47	-0.22	0.041
110.00	-10.05	-0.65	0.00	-13.18	0.00	13.18	1,045.19	522.60	1,130.92	566.30	2.71	-0.23	0.033
115.00	-9.67	-0.63	0.00	-9.96	0.00	9.96	1,020.46	510.23	1,061.89	531.74	2.96	-0.25	0.028
120.00	-7.36	-0.50	0.00	-6.82	0.00	6.82	994.55	497.27	993.73	497.61	3.22	-0.26	0.021
125.00	-7.01	-0.48	0.00	-4.33	0.00	4.33	967.45	483.72	926.59	463.98	3.49	-0.26	0.017
130.00	-6.94	-0.47	0.00	-1.95	0.00	1.95	939.16	469.58	860.60	430.94	3.77	-0.27	0.012
131.00	-3.03	-0.22	0.00	-1.48	0.00	1.48	933.36	466.68	847.55	424.41	3.83	-0.27	0.007
135.00	-2.85	-0.20	0.00	-0.61	0.00	0.61	909.69	454.85	795.92	398.55	4.05	-0.27	0.005
138.00	0.00	0.00	0.00	0.00	0.00	0.00	891.44	445.72	757.80	379.46	4.22	-0.27	0.000
140.00	0.00	0.00	0.00	0.00	0.00	0.00	879.04	439.52	732.69	366.89	4.34	-0.27	0.000

Load Case (0.9 - 0.2Sds) * DL + E ELFM Seismic (Reduced DL) Equivalent Lateral Forces Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-35.56	-1.38	0.00	-149.28	0.00	149.28	5,497.77	2,748.88	10,504.0	5,259.85	0.00	0.00	0.035
5.00	-34.28	-1.39	0.00	-142.38	0.00	142.38	5,379.84	2,689.92	10,055.9	5,035.45	0.01	-0.01	0.035
10.00	-33.02	-1.39	0.00	-135.45	0.00	135.45	5,261.92	2,630.96	9,617.62	4,815.96	0.02	-0.02	0.034
15.00	-31.78	-1.39	0.00	-128.50	0.00	128.50	5,144.00	2,572.00	9,189.04	4,601.35	0.05	-0.03	0.034
20.00	-30.57	-1.39	0.00	-121.54	0.00	121.54	5,026.07	2,513.04	8,770.23	4,391.63	0.09	-0.04	0.034
25.00	-29.38	-1.39	0.00	-114.57	0.00	114.57	4,908.15	2,454.08	8,361.19	4,186.81	0.14	-0.05	0.033
30.00	-28.21	-1.39	0.00	-107.60	0.00	107.60	4,790.23	2,395.11	7,961.92	3,986.88	0.20	-0.06	0.033
35.00	-27.07	-1.38	0.00	-100.66	0.00	100.66	4,672.31	2,336.15	7,572.42	3,791.84	0.27	-0.07	0.032
40.00	-25.95	-1.37	0.00	-93.74	0.00	93.74	4,554.38	2,277.19	7,192.68	3,601.69	0.35	-0.09	0.032
45.00	-25.67	-1.37	0.00	-86.88	0.00	86.88	4,436.46	2,218.23	6,822.72	3,416.43	0.45	-0.10	0.031
46.25	-24.19	-1.35	0.00	-85.16	0.00	85.16	4,406.98	2,203.49	6,731.76	3,370.88	0.48	-0.10	0.031
50.00	-23.80	-1.35	0.00	-80.09	0.00	80.09	4,318.54	2,159.27	6,462.53	3,236.07	0.56	-0.11	0.030
51.00	-22.92	-1.33	0.00	-78.74	0.00	78.74	4,412.85	2,206.43	6,749.84	3,379.93	0.58	-0.11	0.028
55.00	-21.85	-1.32	0.00	-73.40	0.00	73.40	4,318.52	2,159.26	6,462.46	3,236.03	0.68	-0.12	0.028
60.00	-20.80	-1.29	0.00	-66.83	0.00	66.83	4,200.59	2,100.30	6,112.04	3,060.56	0.81	-0.13	0.027
65.00	-19.77	-1.27	0.00	-60.36	0.00	60.36	4,082.67	2,041.33	5,771.38	2,889.98	0.95	-0.14	0.026
70.00	-18.76	-1.24	0.00	-54.03	0.00	54.03	3,964.75	1,982.37	5,440.50	2,724.29	1.10	-0.15	0.025
75.00	-17.78	-1.21	0.00	-47.84	0.00	47.84	3,846.82	1,923.41	5,119.38	2,563.49	1.26	-0.16	0.023
80.00	-16.82	-1.17	0.00	-41.81	0.00	41.81	3,728.90	1,864.45	4,808.03	2,407.59	1.43	-0.17	0.022
85.00	-16.44	-1.15	0.00	-35.97	0.00	35.97	3,610.98	1,805.49	4,506.45	2,256.57	1.61	-0.18	0.020
87.00	-13.55	-1.03	0.00	-33.66	0.00	33.66	3,563.81	1,781.90	4,388.55	2,197.54	1.69	-0.18	0.019
90.00	-12.95	-1.00	0.00	-30.59	0.00	30.59	3,493.05	1,746.53	4,214.63	2,110.45	1.80	-0.18	0.018
93.50	-12.63	-0.98	0.00	-27.10	0.00	27.10	3,410.51	1,705.25	4,016.18	2,011.07	1.94	-0.19	0.017
95.00	-12.14	-0.96	0.00	-25.62	0.00	25.62	3,375.13	1,687.57	3,932.59	1,969.22	2.00	-0.19	0.017
97.25	-11.91	-0.94	0.00	-23.47	0.00	23.47	1,102.89	551.44	1,309.83	655.89	2.09	-0.20	0.047
100.00	-9.53	-0.81	0.00	-20.88	0.00	20.88	1,091.10	545.55	1,270.97	636.43	2.20	-0.20	0.042
105.00	-9.20	-0.79	0.00	-16.84	0.00	16.84	1,068.74	534.37	1,200.66	601.22	2.42	-0.22	0.037
110.00	-6.87	-0.63	0.00	-12.89	0.00	12.89	1,045.19	522.60	1,130.92	566.30	2.66	-0.23	0.029
115.00	-6.61	-0.61	0.00	-9.73	0.00	9.73	1,020.46	510.23	1,061.89	531.74	2.90	-0.24	0.025
120.00	-5.03	-0.49	0.00	-6.67	0.00	6.67	994.55	497.27	993.73	497.61	3.16	-0.25	0.018
125.00	-4.79	-0.47	0.00	-4.24	0.00	4.24	967.45	483.72	926.59	463.98	3.43	-0.26	0.014
130.00	-4.75	-0.46	0.00	-1.91	0.00	1.91	939.16	469.58	860.60	430.94	3.70	-0.26	0.009
131.00	-2.07	-0.21	0.00	-1.44	0.00	1.44	933.36	466.68	847.55	424.41	3.76	-0.26	0.006
135.00	-1.95	-0.20	0.00	-0.60	0.00	0.60	909.69	454.85	795.92	398.55	3.98	-0.26	0.004
138.00	0.00	0.00	0.00	0.00	0.00	0.00	891.44	445.72	757.80	379.46	4.14	-0.26	0.000
140.00	0.00	0.00	0.00	0.00	0.00	0.00	879.04	439.52	732.69	366.89	4.25	-0.26	0.000

Equivalent Modal Forces Analysis

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

Spectral Response Acceleration for Short Period (S_s):	0.22
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.07
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}):	0.24
Desing Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.11
Period Based on Rayleigh Method (sec):	2.21
Redundancy Factor (p):	1.00

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)
35	139.00	83	1.863	1.841	1.090	0.427	24	104
34	136.50	143	1.797	1.523	0.972	0.376	36	178
33	133.00	196	1.706	1.144	0.823	0.309	40	245
32	130.50	55	1.642	0.915	0.729	0.265	10	68
31	127.50	280	1.568	0.682	0.627	0.216	40	350
30	122.50	290	1.447	0.379	0.482	0.143	28	362
29	117.50	308	1.331	0.166	0.364	0.082	17	384
28	112.50	318	1.220	0.025	0.270	0.032	7	396
27	107.50	384	1.114	-0.061	0.196	-0.008	-2	478
26	102.50	394	1.013	-0.106	0.138	-0.036	-10	491
25	98.63	273	0.938	-0.120	0.103	-0.051	-9	340
24	96.13	571	0.891	-0.122	0.084	-0.057	-22	712
23	94.25	385	0.857	-0.120	0.072	-0.060	-15	480
22	91.75	698	0.812	-0.114	0.057	-0.061	-28	871
21	88.50	609	0.755	-0.102	0.042	-0.059	-24	759
20	86.00	443	0.713	-0.091	0.032	-0.054	-16	552
19	82.50	1,126	0.656	-0.073	0.022	-0.043	-33	1,404
18	77.50	1,153	0.579	-0.045	0.012	-0.022	-17	1,438
17	72.50	1,180	0.507	-0.019	0.007	0.002	2	1,471
16	67.50	1,207	0.439	0.005	0.006	0.025	20	1,505
15	62.50	1,234	0.377	0.025	0.007	0.044	36	1,539
14	57.50	1,261	0.319	0.041	0.011	0.056	47	1,572
13	53.00	1,028	0.271	0.051	0.015	0.063	43	1,282
12	50.50	457	0.246	0.056	0.018	0.065	20	570
11	48.13	1,733	0.223	0.060	0.020	0.066	76	2,161
10	45.63	324	0.201	0.063	0.023	0.066	14	405
9	42.50	1,315	0.174	0.066	0.027	0.066	58	1,640
8	37.50	1,342	0.136	0.069	0.032	0.065	58	1,673
7	32.50	1,369	0.102	0.071	0.037	0.064	58	1,707
6	27.50	1,396	0.073	0.072	0.040	0.062	58	1,741
5	22.50	1,423	0.049	0.071	0.042	0.060	57	1,775
4	17.50	1,450	0.030	0.068	0.040	0.058	56	1,808
3	12.50	1,477	0.015	0.061	0.036	0.052	52	1,842
2	7.50	1,504	0.005	0.046	0.026	0.042	42	1,876

1	2.50	1,531	0.001	0.019	0.010	0.020	21	1,909
6' Omni	138.00	50	1.836	1.709	1.041	0.406	14	62
12' Omni	138.00	160	1.836	1.709	1.041	0.406	43	200
12' Dipole	138.00	40	1.836	1.709	1.041	0.406	11	50
6' FM antenna	138.00	30	1.836	1.709	1.041	0.406	8	37
4' HP Dish	138.00	170	1.836	1.709	1.041	0.406	46	212
Flat Platform w/ Han	138.00	1,750	1.836	1.709	1.041	0.406	474	2,183
Alcatel-Lucent 800 M	131.00	192	1.655	0.958	0.747	0.274	35	239
Alcatel-Lucent 4x40W	131.00	273	1.655	0.958	0.747	0.274	50	341
Nokia 2.5G MAA - AAH	131.00	311	1.655	0.958	0.747	0.274	57	388
RFS APXVSPP18-C-A20	131.00	171	1.655	0.958	0.747	0.274	31	213
Flat Platform w/ Han	131.00	2,000	1.655	0.958	0.747	0.274	365	2,495
Andrew DB586	120.00	8	1.389	0.263	0.420	0.111	1	10
6' Omni	120.00	50	1.389	0.263	0.420	0.111	4	62
Flat Low Profile Pla	120.00	1,500	1.389	0.263	0.420	0.111	111	1,871
RFS FD9R6004/2C-3L	110.00	16	1.167	-0.024	0.231	0.011	0	19
Nokia AirScale RRH 4	110.00	106	1.167	-0.024	0.231	0.011	1	132
Alcatel-Lucent RRH2X	110.00	129	1.167	-0.024	0.231	0.011	1	161
Alcatel-Lucent B66a	110.00	201	1.167	-0.024	0.231	0.011	1	251
RFS DB-T1-6Z-8AB-0Z	110.00	44	1.167	-0.024	0.231	0.011	0	55
Antel BXA-70080/6CF_	110.00	54	1.167	-0.024	0.231	0.011	0	67
Commscope JAHH-65B-	110.00	364	1.167	-0.024	0.231	0.011	3	454
Round Low Profile Pl	110.00	1,500	1.167	-0.024	0.231	0.011	11	1,871
Powerwave Allgon 702	100.00	26	0.964	-0.117	0.114	-0.047	-1	33
Powerwave Allgon LGP	100.00	169	0.964	-0.117	0.114	-0.047	-5	211
Raycap DC6-48-60-18-	100.00	32	0.964	-0.117	0.114	-0.047	-1	40
Ericsson RRUS-11 (50	100.00	150	0.964	-0.117	0.114	-0.047	-5	187
Ericsson RRUS 32 B2	100.00	159	0.964	-0.117	0.114	-0.047	-5	198
Powerwave 7770.00	100.00	210	0.964	-0.117	0.114	-0.047	-7	262
CCI HPA-65R-BUU-H6	100.00	153	0.964	-0.117	0.114	-0.047	-5	191
Flat Low Profile Pla	100.00	1,500	0.964	-0.117	0.114	-0.047	-47	1,871
RFS ATMAA1412D-1A20	87.00	39	0.730	-0.096	0.036	-0.056	-1	49
Ericsson Radio 4449	87.00	222	0.730	-0.096	0.036	-0.056	-8	277
Ericsson AIR 21, 1.3	87.00	244	0.730	-0.096	0.036	-0.056	-9	305
Ericsson AIR32 B66Aa	87.00	397	0.730	-0.096	0.036	-0.056	-15	495
RFS APXVAARR24_43-U-	87.00	384	0.730	-0.096	0.036	-0.056	-14	479
Flat Low Profile Pla	87.00	1,500	0.730	-0.096	0.036	-0.056	-56	1,871
		43,235	68.955	20.674	20.733	5.787	1,830	53,930

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)
35	139.00	83	1.863	1.841	1.090	0.427	24	71
34	136.50	143	1.797	1.523	0.972	0.376	36	122
33	133.00	196	1.706	1.144	0.823	0.309	40	167
32	130.50	55	1.642	0.915	0.729	0.265	10	47
31	127.50	280	1.568	0.682	0.627	0.216	40	239
30	122.50	290	1.447	0.379	0.482	0.143	28	248
29	117.50	308	1.331	0.166	0.364	0.082	17	262
28	112.50	318	1.220	0.025	0.270	0.032	7	271
27	107.50	384	1.114	-0.061	0.196	-0.008	-2	327
26	102.50	394	1.013	-0.106	0.138	-0.036	-10	336
25	98.63	273	0.938	-0.120	0.103	-0.051	-9	233
24	96.13	571	0.891	-0.122	0.084	-0.057	-22	486
23	94.25	385	0.857	-0.120	0.072	-0.060	-15	328
22	91.75	698	0.812	-0.114	0.057	-0.061	-28	595
21	88.50	609	0.755	-0.102	0.042	-0.059	-24	519
20	86.00	443	0.713	-0.091	0.032	-0.054	-16	377

19	82.50	1,126	0.656	-0.073	0.022	-0.043	-33	960
18	77.50	1,153	0.579	-0.045	0.012	-0.022	-17	983
17	72.50	1,180	0.507	-0.019	0.007	0.002	2	1,006
16	67.50	1,207	0.439	0.005	0.006	0.025	20	1,029
15	62.50	1,234	0.377	0.025	0.007	0.044	36	1,052
14	57.50	1,261	0.319	0.041	0.011	0.056	47	1,075
13	53.00	1,028	0.271	0.051	0.015	0.063	43	876
12	50.50	457	0.246	0.056	0.018	0.065	20	390
11	48.13	1,733	0.223	0.060	0.020	0.066	76	1,477
10	45.63	324	0.201	0.063	0.023	0.066	14	277
9	42.50	1,315	0.174	0.066	0.027	0.066	58	1,121
8	37.50	1,342	0.136	0.069	0.032	0.065	58	1,144
7	32.50	1,369	0.102	0.071	0.037	0.064	58	1,167
6	27.50	1,396	0.073	0.072	0.040	0.062	58	1,190
5	22.50	1,423	0.049	0.071	0.042	0.060	57	1,213
4	17.50	1,450	0.030	0.068	0.040	0.058	56	1,236
3	12.50	1,477	0.015	0.061	0.036	0.052	52	1,259
2	7.50	1,504	0.005	0.046	0.026	0.042	42	1,282
1	2.50	1,531	0.001	0.019	0.010	0.020	21	1,305
6' Omni	138.00	50	1.836	1.709	1.041	0.406	14	43
12' Omni	138.00	160	1.836	1.709	1.041	0.406	43	136
12' Dipole	138.00	40	1.836	1.709	1.041	0.406	11	34
6' FM antenna	138.00	30	1.836	1.709	1.041	0.406	8	26
4' HP Dish	138.00	170	1.836	1.709	1.041	0.406	46	145
Flat Platform w/ Han	138.00	1,750	1.836	1.709	1.041	0.406	474	1,492
Alcatel-Lucent 800 M	131.00	192	1.655	0.958	0.747	0.274	35	164
Alcatel-Lucent 4x40W	131.00	273	1.655	0.958	0.747	0.274	50	233
Nokia 2.5G MAA - AAH	131.00	311	1.655	0.958	0.747	0.274	57	265
RFS APXVSPP18-C-A20	131.00	171	1.655	0.958	0.747	0.274	31	146
Flat Platform w/ Han	131.00	2,000	1.655	0.958	0.747	0.274	365	1,705
Andrew DB586	120.00	8	1.389	0.263	0.420	0.111	1	7
6' Omni	120.00	50	1.389	0.263	0.420	0.111	4	43
Flat Low Profile Pla	120.00	1,500	1.389	0.263	0.420	0.111	111	1,279
RFS FD9R6004/2C-3L	110.00	16	1.167	-0.024	0.231	0.011	0	13
Nokia AirScale RRH 4	110.00	106	1.167	-0.024	0.231	0.011	1	90
Alcatel-Lucent RRH2X	110.00	129	1.167	-0.024	0.231	0.011	1	110
Alcatel-Lucent B66a	110.00	201	1.167	-0.024	0.231	0.011	1	171
RFS DB-T1-6Z-8AB-0Z	110.00	44	1.167	-0.024	0.231	0.011	0	38
Antel BXA-70080/6CF_	110.00	54	1.167	-0.024	0.231	0.011	0	46
Commscope JAHH-65B-	110.00	364	1.167	-0.024	0.231	0.011	3	310
Round Low Profile Pl	110.00	1,500	1.167	-0.024	0.231	0.011	11	1,279
Powerwave Allgon 702	100.00	26	0.964	-0.117	0.114	-0.047	-1	23
Powerwave Allgon LGP	100.00	169	0.964	-0.117	0.114	-0.047	-5	144
Raycap DC6-48-60-18-	100.00	32	0.964	-0.117	0.114	-0.047	-1	27
Ericsson RRUS-11 (50	100.00	150	0.964	-0.117	0.114	-0.047	-5	128
Ericsson RRUS 32 B2	100.00	159	0.964	-0.117	0.114	-0.047	-5	136
Powerwave 7770.00	100.00	210	0.964	-0.117	0.114	-0.047	-7	179
CCI HPA-65R-BUU-H6	100.00	153	0.964	-0.117	0.114	-0.047	-5	130
Flat Low Profile Pla	100.00	1,500	0.964	-0.117	0.114	-0.047	-47	1,279
RFS ATMAA1412D-1A20	87.00	39	0.730	-0.096	0.036	-0.056	-1	33
Ericsson Radio 4449	87.00	222	0.730	-0.096	0.036	-0.056	-8	189
Ericsson AIR 21, 1.3	87.00	244	0.730	-0.096	0.036	-0.056	-9	208
Ericsson AIR32 B66Aa	87.00	397	0.730	-0.096	0.036	-0.056	-15	338
RFS APXVAARR24_43-U-	87.00	384	0.730	-0.096	0.036	-0.056	-14	327
Flat Low Profile Pla	87.00	1,500	0.730	-0.096	0.036	-0.056	-56	1,279
		43,235	68.955	20.674	20.733	5.787	1,830	36,864

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	-52.02	-1.81	0.00	-195.55	0.00	195.55	5,497.77	2,748.88	10,504.0	5,259.85	0.00	0.00	0.047
5.00	-50.14	-1.78	0.00	-186.47	0.00	186.47	5,379.84	2,689.92	10,055.9	5,035.45	0.01	-0.01	0.046
10.00	-48.30	-1.74	0.00	-177.55	0.00	177.55	5,261.92	2,630.96	9,617.62	4,815.96	0.03	-0.03	0.046
15.00	-46.49	-1.70	0.00	-168.83	0.00	168.83	5,144.00	2,572.00	9,189.04	4,601.35	0.06	-0.04	0.046
20.00	-44.72	-1.65	0.00	-160.34	0.00	160.34	5,026.07	2,513.04	8,770.23	4,391.63	0.11	-0.05	0.045
25.00	-42.98	-1.60	0.00	-152.09	0.00	152.09	4,908.15	2,454.08	8,361.19	4,186.81	0.18	-0.07	0.045
30.00	-41.27	-1.55	0.00	-144.08	0.00	144.08	4,790.23	2,395.11	7,961.92	3,986.88	0.26	-0.08	0.045
35.00	-39.60	-1.50	0.00	-136.32	0.00	136.32	4,672.31	2,336.15	7,572.42	3,791.84	0.36	-0.10	0.044
40.00	-37.96	-1.45	0.00	-128.82	0.00	128.82	4,554.38	2,277.19	7,192.68	3,601.69	0.47	-0.11	0.044
45.00	-37.55	-1.44	0.00	-121.57	0.00	121.57	4,436.46	2,218.23	6,822.72	3,416.43	0.59	-0.13	0.044
46.25	-35.39	-1.37	0.00	-119.76	0.00	119.76	4,406.98	2,203.49	6,731.76	3,370.88	0.63	-0.13	0.044
50.00	-34.82	-1.35	0.00	-114.65	0.00	114.65	4,318.54	2,159.27	6,462.53	3,236.07	0.74	-0.15	0.043
51.00	-33.54	-1.31	0.00	-113.30	0.00	113.30	4,412.85	2,206.43	6,749.84	3,379.93	0.77	-0.15	0.041
55.00	-31.97	-1.26	0.00	-108.07	0.00	108.07	4,318.52	2,159.26	6,462.46	3,236.03	0.90	-0.16	0.041
60.00	-30.43	-1.23	0.00	-101.75	0.00	101.75	4,200.59	2,100.30	6,112.04	3,060.56	1.07	-0.18	0.040
65.00	-28.92	-1.21	0.00	-95.59	0.00	95.59	4,082.67	2,041.33	5,771.38	2,889.98	1.27	-0.19	0.040
70.00	-27.45	-1.21	0.00	-89.53	0.00	89.53	3,964.75	1,982.37	5,440.50	2,724.29	1.48	-0.21	0.040
75.00	-26.01	-1.23	0.00	-83.45	0.00	83.45	3,846.82	1,923.41	5,119.38	2,563.49	1.70	-0.22	0.039
80.00	-24.61	-1.27	0.00	-77.28	0.00	77.28	3,728.90	1,864.45	4,808.03	2,407.59	1.95	-0.24	0.039
85.00	-24.05	-1.29	0.00	-70.94	0.00	70.94	3,610.98	1,805.49	4,506.45	2,256.57	2.21	-0.26	0.038
87.00	-19.82	-1.40	0.00	-68.37	0.00	68.37	3,563.81	1,781.90	4,388.55	2,197.54	2.32	-0.26	0.037
90.00	-18.95	-1.43	0.00	-64.18	0.00	64.18	3,493.05	1,746.53	4,214.63	2,110.45	2.49	-0.27	0.036
93.50	-18.47	-1.44	0.00	-59.18	0.00	59.18	3,410.51	1,705.25	4,016.18	2,011.07	2.69	-0.29	0.035
95.00	-17.76	-1.46	0.00	-57.02	0.00	57.02	3,375.13	1,687.57	3,932.59	1,969.22	2.78	-0.29	0.034
97.25	-17.42	-1.47	0.00	-53.73	0.00	53.73	1,102.89	551.44	1,309.83	655.89	2.92	-0.30	0.098
100.00	-13.93	-1.54	0.00	-49.68	0.00	49.68	1,091.10	545.55	1,270.97	636.43	3.10	-0.31	0.091
105.00	-13.45	-1.55	0.00	-41.96	0.00	41.96	1,068.74	534.37	1,200.66	601.22	3.44	-0.35	0.082
110.00	-10.04	-1.51	0.00	-34.20	0.00	34.20	1,045.19	522.60	1,130.92	566.30	3.82	-0.38	0.070
115.00	-9.66	-1.50	0.00	-26.63	0.00	26.63	1,020.46	510.23	1,061.89	531.74	4.24	-0.41	0.060
120.00	-7.35	-1.34	0.00	-19.14	0.00	19.14	994.55	497.27	993.73	497.61	4.68	-0.44	0.046
125.00	-7.00	-1.30	0.00	-12.44	0.00	12.44	967.45	483.72	926.59	463.98	5.16	-0.46	0.034
130.00	-6.94	-1.29	0.00	-5.94	0.00	5.94	939.16	469.58	860.60	430.94	5.65	-0.47	0.021
131.00	-3.02	-0.68	0.00	-4.65	0.00	4.65	933.36	466.68	847.55	424.41	5.75	-0.48	0.014
135.00	-2.84	-0.64	0.00	-1.93	0.00	1.93	909.69	454.85	795.92	398.55	6.15	-0.48	0.008
138.00	0.00	0.00	0.00	0.00	0.00	0.00	891.44	445.72	757.80	379.46	6.45	-0.48	0.000
140.00	0.00	0.00	0.00	0.00	0.00	0.00	879.04	439.52	732.69	366.89	6.65	-0.48	0.000

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	-35.56	-1.81	0.00	-192.34	0.00	192.34	5,497.77	2,748.88	10,504.0	5,259.85	0.00	0.00	0.043
5.00	-34.28	-1.78	0.00	-183.27	0.00	183.27	5,379.84	2,689.92	10,055.9	5,035.45	0.01	-0.01	0.043
10.00	-33.02	-1.73	0.00	-174.38	0.00	174.38	5,261.92	2,630.96	9,617.62	4,815.96	0.03	-0.03	0.042
15.00	-31.78	-1.69	0.00	-165.71	0.00	165.71	5,144.00	2,572.00	9,189.04	4,601.35	0.06	-0.04	0.042
20.00	-30.57	-1.63	0.00	-157.28	0.00	157.28	5,026.07	2,513.04	8,770.23	4,391.63	0.11	-0.05	0.042
25.00	-29.38	-1.58	0.00	-149.11	0.00	149.11	4,908.15	2,454.08	8,361.19	4,186.81	0.18	-0.07	0.042
30.00	-28.21	-1.53	0.00	-141.19	0.00	141.19	4,790.23	2,395.11	7,961.92	3,986.88	0.25	-0.08	0.041
35.00	-27.07	-1.48	0.00	-133.54	0.00	133.54	4,672.31	2,336.15	7,572.42	3,791.84	0.35	-0.10	0.041
40.00	-25.94	-1.42	0.00	-126.16	0.00	126.16	4,554.38	2,277.19	7,192.68	3,601.69	0.46	-0.11	0.041
45.00	-25.67	-1.41	0.00	-119.04	0.00	119.04	4,436.46	2,218.23	6,822.72	3,416.43	0.58	-0.13	0.041
46.25	-24.19	-1.34	0.00	-117.27	0.00	117.27	4,406.98	2,203.49	6,731.76	3,370.88	0.62	-0.13	0.040
50.00	-23.80	-1.32	0.00	-112.26	0.00	112.26	4,318.54	2,159.27	6,462.53	3,236.07	0.72	-0.14	0.040
51.00	-22.92	-1.28	0.00	-110.94	0.00	110.94	4,412.85	2,206.43	6,749.84	3,379.93	0.75	-0.15	0.038
55.00	-21.85	-1.23	0.00	-105.83	0.00	105.83	4,318.52	2,159.26	6,462.46	3,236.03	0.88	-0.16	0.038
60.00	-20.80	-1.20	0.00	-99.67	0.00	99.67	4,200.59	2,100.30	6,112.04	3,060.56	1.05	-0.17	0.038
65.00	-19.77	-1.18	0.00	-93.67	0.00	93.67	4,082.67	2,041.33	5,771.38	2,889.98	1.24	-0.19	0.037
70.00	-18.76	-1.18	0.00	-87.77	0.00	87.77	3,964.75	1,982.37	5,440.50	2,724.29	1.45	-0.20	0.037
75.00	-17.78	-1.20	0.00	-81.87	0.00	81.87	3,846.82	1,923.41	5,119.38	2,563.49	1.67	-0.22	0.037
80.00	-16.82	-1.23	0.00	-75.87	0.00	75.87	3,728.90	1,864.45	4,808.03	2,407.59	1.91	-0.24	0.036
85.00	-16.44	-1.25	0.00	-69.71	0.00	69.71	3,610.98	1,805.49	4,506.45	2,256.57	2.17	-0.25	0.035
87.00	-13.55	-1.37	0.00	-67.21	0.00	67.21	3,563.81	1,781.90	4,388.55	2,197.54	2.27	-0.26	0.034
90.00	-12.95	-1.40	0.00	-63.10	0.00	63.10	3,493.05	1,746.53	4,214.63	2,110.45	2.44	-0.27	0.034
93.50	-12.62	-1.41	0.00	-58.22	0.00	58.22	3,410.51	1,705.25	4,016.18	2,011.07	2.64	-0.28	0.033
95.00	-12.14	-1.43	0.00	-56.10	0.00	56.10	3,375.13	1,687.57	3,932.59	1,969.22	2.73	-0.29	0.032
97.25	-11.90	-1.44	0.00	-52.88	0.00	52.88	1,102.89	551.44	1,309.83	655.89	2.86	-0.29	0.091
100.00	-9.52	-1.52	0.00	-48.91	0.00	48.91	1,091.10	545.55	1,270.97	636.43	3.04	-0.30	0.086
105.00	-9.19	-1.52	0.00	-41.32	0.00	41.32	1,068.74	534.37	1,200.66	601.22	3.37	-0.34	0.077
110.00	-6.86	-1.49	0.00	-33.70	0.00	33.70	1,045.19	522.60	1,130.92	566.30	3.75	-0.37	0.066
115.00	-6.60	-1.47	0.00	-26.25	0.00	26.25	1,020.46	510.23	1,061.89	531.74	4.16	-0.41	0.056
120.00	-5.02	-1.32	0.00	-18.88	0.00	18.88	994.55	497.27	993.73	497.61	4.60	-0.43	0.043
125.00	-4.79	-1.28	0.00	-12.27	0.00	12.27	967.45	483.72	926.59	463.98	5.06	-0.45	0.031
130.00	-4.74	-1.27	0.00	-5.86	0.00	5.86	939.16	469.58	860.60	430.94	5.54	-0.47	0.019
131.00	-2.06	-0.67	0.00	-4.59	0.00	4.59	933.36	466.68	847.55	424.41	5.64	-0.47	0.013
135.00	-1.94	-0.64	0.00	-1.91	0.00	1.91	909.69	454.85	795.92	398.55	6.03	-0.47	0.007
138.00	0.00	0.00	0.00	0.00	0.00	0.00	891.44	445.72	757.80	379.46	6.33	-0.47	0.000
140.00	0.00	0.00	0.00	0.00	0.00	0.00	879.04	439.52	732.69	366.89	6.53	-0.47	0.000

Analysis Summary

	Reactions						Max Usage	
Load Case	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	23.83	0.00	51.85	0.00	0.00	2456.92	97.25	0.58
0.9D + 1.6W	23.81	0.00	38.88	0.00	0.00	2428.14	97.25	0.57
1.2D + 1.0Di + 1.0Wi	7.10	0.00	75.46	0.00	0.00	734.08	97.25	0.20
(1.2 + 0.2Sds) * DL + E ELFM	1.38	0.00	52.02	0.00	0.00	151.54	97.25	0.05
(1.2 + 0.2Sds) * DL + E EMAM	1.81	0.00	52.02	0.00	0.00	195.55	97.25	0.10
(0.9 - 0.2Sds) * DL + E ELFM	1.38	0.00	35.56	0.00	0.00	149.28	97.25	0.05
(0.9 - 0.2Sds) * DL + E EMAM	1.81	0.00	35.56	0.00	0.00	192.34	97.25	0.09
1.0D + 1.0W	6.19	0.00	43.23	0.00	0.00	634.55	97.25	0.16

Base Plate & Anchor Rod Analysis

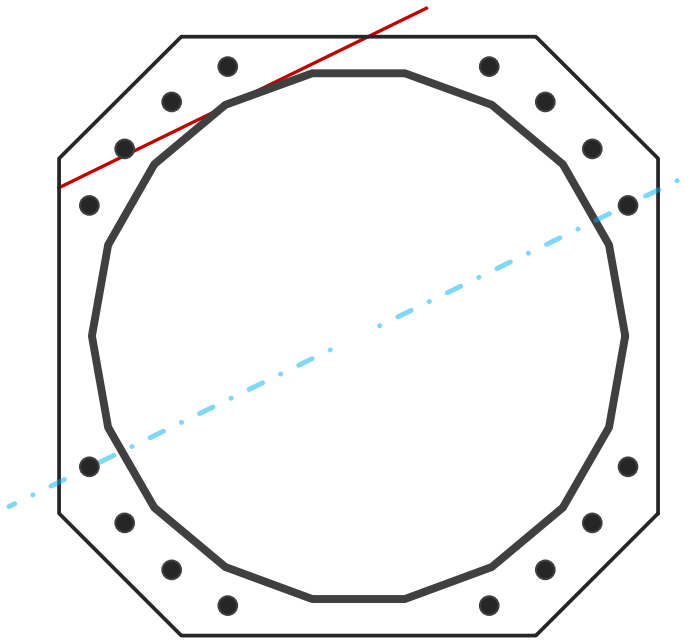
Pole Dimensions		
Number of Sides	18	-
Diameter	47.13	in
Thickness	0.5	in
Orientation Offset	0	°

Base Reactions		
Moment, Mu	2456.9	k-ft
Axial, Pu	51.9	k
Shear, Vu	23.8	k
Neutral Axis	26	°

Report Capacities		
Component	Capacity	Result
Base Plate	27%	Pass
Anchor Rods	54%	Pass
Dwyidag	-	-

Base Plate		
Shape	Square	-
Width	54	in
Thickness	3 1/4	in
Grade	A572-50	-
Yield Strength, Fy	50	ksi
Tensile Strength, Fu	65	ksi
Clip	11	in
Orientation Offset	0	°
Anchor Rod Detail	d	η=0.5
Clear Distance	3	in
Applied Moment, Mu	913.8	k
Bending Stress, ϕMn	3444.5	k

Original Anchor Rods		
Arrangement	Cluster	-
Quantity	16	-
Diameter, ø	2 1/4	in
Bolt Circle	54	in
Grade	A615-75	
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Spacing	6.0	in
Orientation Offset	0	°
Applied Force, Pu	139.6	k
Anchor Rods, ϕPn	259.8	k



Calculations for Monopole Base Plate & Anchor Rod Analysis

Reaction Distribution

Reaction	Shear Vu	Moment Mu	Factor
-	k	k-ft	-
Base Forces	23.8	2456.9	1.00
Anchor Rod Forces	23.8	2456.9	1.00
Additional Bolt (Grp1) Forces	0.0	0.0	0.00
Additional Bolt (Grp2) Forces	0.0	0.0	0.00
Dywidag Forces	0.0	0.0	0.00
Stiffener Forces	0.0	0.0	0.00

Geometric Properties

Section	Gross Area	Net Area	Individual Inertia	Threads per Inch	Moment of Inertia
-	in^2	in^2	in^4	#	in^4
Pole	72.8749	4.0486	0.3392		19813.12
Bolt	3.9761	3.2477	0.8393	4.5	18953.95
Bolt1	0.0000	0.0000	0.0000	0	0.00
Bolt2	0.0000	0.0000	0.0000	0	0.00
Dywidag	0.0000	0.0000	0.0000		0.00
Stiffener	0.0000	0.0000	0.0000		0.00

Base Plate		
Shape	Square	-
Width, W	54	in
Thickness, t	3.25	in
Yield Strength, Fy	50	ksi
Tensile Strength, Fu	65	ksi
Base Plate Chord	26.358	in
Detail Type	d	-
Detail Factor	0.50	-
Clear Distance	3	-

External Base Plate		
Chord Length AA	28.988	in
Additional AA	0.000	in
Section Modulus, Z	76.545	in^3
Applied Moment, Mu	913.8	k-ft
Bending Capacity, ϕMn	3444.5	k-ft
Capacity, Mu/ϕMn	0.265	OK
Chord Length AB	28.257	in
Additional AB	0.000	in
Section Modulus, Z	74.615	in^3
Applied Moment, Mu	766.7	k-ft
Bending Capacity, ϕMn	3357.7	k-ft
Capacity, Mu/ϕMn	0.228	OK
Bend Line Length	0.000	in
Additional Bend Line	0.000	in
Section Modulus, Z	0.000	in^3
Applied Moment, Mu	0.0	k-ft
Bending Capacity, ϕMn	0.0	k-ft
Capacity, Mu/ϕMn		

Internal Base Plate		
Arc Length	0.000	in
Section Modulus, Z	0.000	in^3
Moment Arm	0.000	in
Applied Moment, Mu	0.0	k-ft
Bending Capacity, ϕMn	0.0	k-ft
Capacity, Mu/ϕMn		

Anchor Rods		
Anchor Rod Quantity, N	16	-
Rod Diameter, d	2.25	in
Bolt Circle, BC	54	in
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	139.6	k
Applied Shear, Vu	0.0	k
Compressive Capacity, ϕPn	259.8	k
Tensile Capacity, ϕRnt	0.537	OK
Interaction Capacity	0.537	OK

Additional Bolt Group 1		
Bolt Quantity, N	0	-
Bolt Diameter, d	0	in
Bolt Circle, BC	0	in
Yield Strength, Fy	0	ksi
Tensile Strength, Fu	0	ksi
Applied Axial, Pu	0.0	k
Applied Shear, Vu	0.0	k
Compressive Capacity, ϕPn	0.0	k
Compressive Capacity, ϕPn		
Interaction Capacity		

Additional Bolt Group 2		
Bolt Quantity, N	0	-
Bolt Diameter, d	0	in
Bolt Circle, BC	0	in
Yield Strength, Fy	0	ksi
Tensile Strength, Fu	0	ksi
Applied Axial, Pu	0.0	k
Applied Shear, Vu	0.0	k
Compressive Capacity, ϕPn	0.0	k
Compressive Capacity, ϕPn		
Interaction Capacity		

Dywidag Reinforcement		
Dywidag Quantity, N	0	-
Dywidag Diameter, d	2.5	in
Bolt Circle, BC	54.01	in
Yield Strength, Fy	80	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	0.0	k
Compressive Capacity, ϕPn	0.0	k
Capacity, Pu/ϕPn		

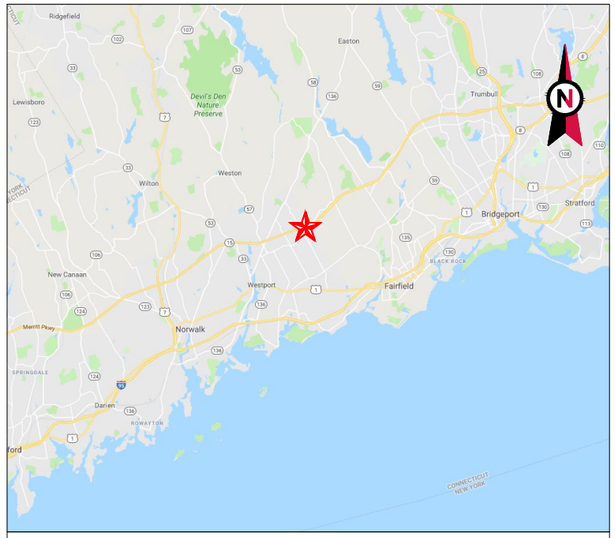
Base Plate Stiffeners		
Applied Axial Force, Pu	0.0	k
Applied Horizontal Force, Vu	0.00	k

Vertical Weld		
Vert.-to-Stiffener a=e_x/l	#DIV/0!	-
Spacing Ratio, k	#DIV/0!	-
Weld Coefficient, C	#DIV/0!	-
Compressive Capacity, ϕPn	#DIV/0!	k
Vert.-to-Plate a=e_x/l	#DIV/0!	-
Spacing Ratio, k	#DIV/0!	-
Weld Coefficient, C	#DIV/0!	-
Shear Capacity, ϕVn	#DIV/0!	k
$P_u/\phi_P P_n + V_u/\phi_V V_n$	-	

Horizontal Weld		
Horz.-to-Stiffener a=e_x/l	#DIV/0!	-
Spacing Ratio, k	#DIV/0!	-
Weld Coefficient, C	#DIV/0!	-
Effective Fillet	0.000	in
Compressive Capacity, ϕPn	#DIV/0!	k
Horz.-to-Pole a=e_x/l	#DIV/0!	-
Spacing Ratio, k	#DIV/0!	-
Weld Coefficient, C	#DIV/0!	-
Shear Capacity, ϕVn	#DIV/0!	k
$P_u/\phi_P P_n + V_u/\phi_V V_n$	-	

Plate Tension		
Gross Cross Section	0.000	in^2
Net Cross Section	0.000	in^2
Tensile Capacity, ϕTn	0.0	k
Capacity, Tu/ϕTn	-	

Plate Compression		
Radius of Gyration	#DIV/0!	in^3
kl/r	#DIV/0!	-
4.71 √(E/Fy)	0.00	-
Buckling Stress(Fe)	0.0	-
Crit. Buckling Stress(Fcr)	0.0	ksi
Compressive Capacity, ϕPn	0.0	k
Capacity, Pu/ϕPn	-	



VICINITY MAP

AMERICAN TOWER®

ATC SITE NAME: WSPT-WESTPORT REBUILD CT
ATC SITE NUMBER: 310968
T-MOBILE SITE ID: CT11323A
SITE ADDRESS: 180A BAYBERRY LN WESTPORT, CT 06880

T-MOBILE ANTENNA AMENDMENT
67D92DB OUTDOOR CONFIGURATION

LOCATION MAP

COMPLIANCE CODE

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

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

UTILITY COMPANIES

POWER COMPANY: NORTHEAST UTILITIES
PHONE: (800) 286-5000

TELEPHONE COMPANY: FRONTIER COMMUNICATIONS
PHONE: (800) 921-8102

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

PROJECT SUMMARY

SITE ADDRESS:

180A BAYBERRY LN
WESTPORT, CT 06880
COUNTY: FAIRFIELD

GEOGRAPHIC COORDINATES:

LATITUDE: 41.17166667

LONGITUDE: -73.32846667

GROUND ELEVATION: 250' AMSL

PROJECT TEAM

TOWER OWNER:

AMERICAN TOWER
10 PRESIDENTIAL WAY
WOBURN, MA 01801

ENGINEER:

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

PROPERTY OWNER:
TOWN OF WESTPORT CONN
FINANCE DEPARTMENT
110 MYRTLE AVE
WESTPORT, CT 06880

PROJECT DESCRIPTION

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

REMOVE (6) PANELS AND (3) RRUs

INSTALL (6) NEW PANELS, (3) RRUs, AND (2) 1-5/8" HYBRID CABLES

EXISTING (3) PANELS, (3) TTAs, AND (1) 1-1/4" HYBRID CABLE TO REMAIN

PROJECT NOTES

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

PROJECT LOCATION DIRECTIONS

FROM BRIDGEPORT, CT:

HEAD WEST ON FAIRFIELD AVE TOWARD BROAD ST/TURN LEFT ONTO LAFAYETTE CIR/CONTINUE STRAIGHT ONTO LAFAYETTE BLVD/TURN RIGHT AT NORTH FRONTAGE RD/USE THE LEFT LANE TO TURN SLIGHTLY RIGHT ONTO SOUTH AVE/KEEP LEFT TO STAY ON SOUTH AVE/USE THE RIGHT LANE TO MERGE ONTO I-95 S VIA THE RAMP TO NY CITY/MERGE ONTO I-95 S/TAKE EXIT 19 TOWARD US-1/CONTINUE ONTO PEASE AVE/SLIGHT RIGHT AFTER 7-ELEVEN/TURN RIGHT ONTO N BULKLEY AVE/TURN LEFT ONTO LONG LOTS RD/TURN RIGHT ONTO BAYBERRY LN

DESTINATION WILL BE ON THE RIGHT

SHEET INDEX

SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
G-001	TITLE SHEET	0	08/29/18	MG
G-002	GENERAL NOTES	0	08/29/18	MG
C-101	DETAILED SITE PLAN & TOWER ELEVATION	0	08/29/18	MG
C-501	ANTENNA INFORMATION & SCHEDULE	0	08/29/18	MG
E-501	GROUNDING DETAILS	0	08/29/18	MG
R-601	SUPPLEMENTAL			

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

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	MG	08/29/18

ATC SITE NUMBER:
310968

ATC SITE NAME:
WSPT-WESTPORT
REBUILD CT

SITE ADDRESS:
180A BAYBERRY LN
WESTPORT, CT 06880

SEAL:

Authorized by "EOR"
Aug 29 2018 3:38 PM cosign

T-Mobile

DRAWN BY:	MG
APPROVED BY:	PPB
DATE DRAWN:	08/29/18
ATC JOB NO:	12607175

TITLE SHEET

SHEET NUMBER:	REVISION:
G-001	0

GENERAL CONSTRUCTION NOTES:

1. ALL WORK SHALL CONFORM TO ALL CURRENT APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING ANSI/EIA/TIA-222, AND COMPLY WITH ATC 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 NEGLECT ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLECT ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, EITHER TO THE EXISTING WORK, OR TO HIS WORK OR THE WORK OF ANY OTHER CONTRACTOR, SHALL BE REPAIRED AT HIS EXPENSE TO THE OWNER'S SATISFACTION.
28. ALL WORK SHALL BE INSTALLED IN A FIRST CLASS, NEAT AND WORKMANLIKE MANNER BY MECHANICS SKILLED IN THE TRADE INVOLVED. THE QUALITY OF WORKMANSHIP SHALL BE SUBJECT TO THE APPROVAL OF THE 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 GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.
5. DO NOT DRILL HOLES THROUGH STRUCTURAL STEEL MEMBERS EXCEPT AS SHOWN AND DETAILED ON STRUCTURAL DRAWINGS.
6. CONNECTIONS:
   A. ALL WELDING TO BE PERFORMED BY AWS CERTIFIED WELDERS AND CONDUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1.
   B. ALL WELDS SHALL BE INSPECTED VISUALLY. 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. REPAIR ALL WELDS AS NECESSARY.
   C. INSPECTION SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.
   D. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE BURNING/WELDING PERMITS AS REQUIRED BY LOCAL GOVERNING AUTHORITY AND IF REQUIRED SHALL HAVE FIRE DEPARTMENT DETAIL FOR ANY WELDING ACTIVITY.
   E. ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL, PER AWS D1.1, UNLESS NOTED OTHERWISE.
   F. MINIMUM WELD SIZE TO BE 0.1875 INCH FILLET WELDS, UNLESS NOTED OTHERWISE.
   G. PRIOR TO FIELD WELDING GALVANIZING MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING ½" BEYOND ALL FIELD WELD SURFACES. AFTER WELD AND WELD INSPECTION IS COMPLETE, REPAIR ALL GROUND AND WELDED SURFACES WITH ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.

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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	MG	08/29/18

ATC SITE NUMBER:
310968

ATC SITE NAME:
WSPT-WESTPORT
REBUILD CT

SITE ADDRESS:
180A BAYBERRY LN
WESTPORT, CT 06880

SEAL:

Authorized by "EOR"
Aug 29 2018 3:38 PM cosign

T-Mobile

DRAWN BY:	MG
APPROVED BY:	PPB
DATE DRAWN:	08/29/18
ATC JOB NO:	12607175

GENERAL NOTES

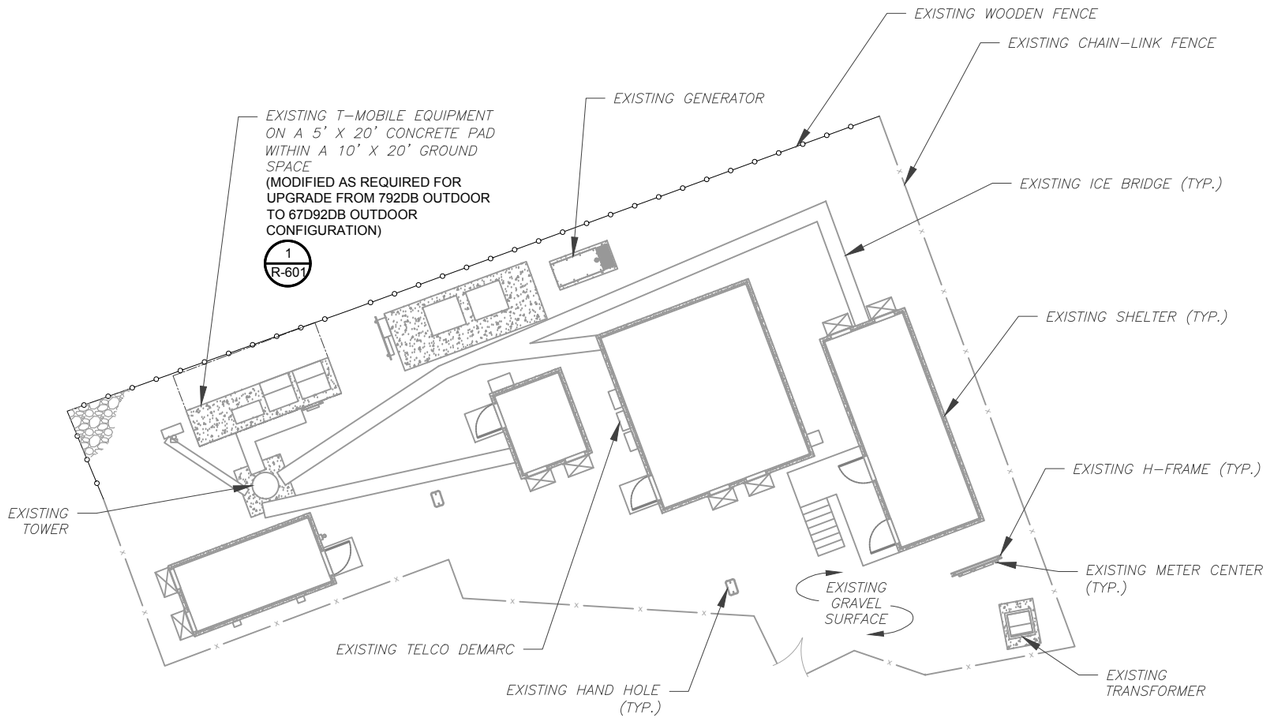
SHEET NUMBER:	REVISION:
G-002	0

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.

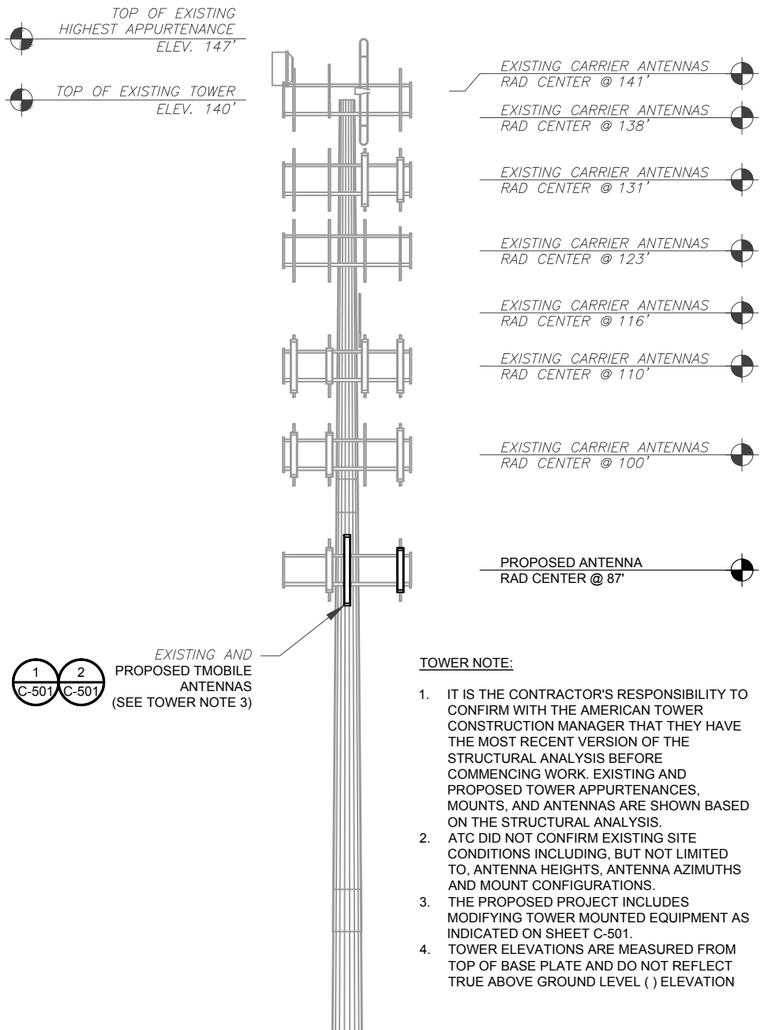
3. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE T-MOBILE REPRESENTATIVE AND LOCAL UTILITY COMPANY FOR THE INSTALLATION OF CONDUITS, CONDUCTORS, BREAKERS, DISCONNECTS, OR ANY OTHER EQUIPMENT REQUIRED FOR ELECTRICAL SERVICE. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH LATEST EDITION OF THE STATE AND NATIONAL CODES, ORDINANCES AND REGULATIONS APPLICABLE TO THIS PROJECT.



1 DETAILED SITE PLAN

0 20' 40'

SCALE: 1"=20' (11X17)
1"=10' (22X34)



TOWER NOTE:

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM WITH THE AMERICAN TOWER CONSTRUCTION MANAGER THAT THEY HAVE THE MOST RECENT VERSION OF THE STRUCTURAL ANALYSIS BEFORE COMMENCING WORK. EXISTING AND PROPOSED TOWER APPURTENANCES, MOUNTS, AND ANTENNAS ARE SHOWN BASED ON THE STRUCTURAL ANALYSIS.
2. ATC DID NOT CONFIRM EXISTING SITE CONDITIONS INCLUDING, BUT NOT LIMITED TO, ANTENNA HEIGHTS, ANTENNA AZIMUTHS AND MOUNT CONFIGURATIONS.
3. THE PROPOSED PROJECT INCLUDES MODIFYING TOWER MOUNTED EQUIPMENT AS INDICATED ON SHEET C-501.
4. TOWER ELEVATIONS ARE MEASURED FROM TOP OF BASE PLATE AND DO NOT REFLECT TRUE ABOVE GROUND LEVEL ( ) ELEVATION

2 TOWER ELEVATION

SCALE: NOT TO SCALE

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0	FOR CONSTRUCTION	MG	08/29/18

ATC SITE NUMBER:
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WSPT-WESTPORT REBUILD CT

SITE ADDRESS:
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WESTPORT, CT 06880

SEAL:

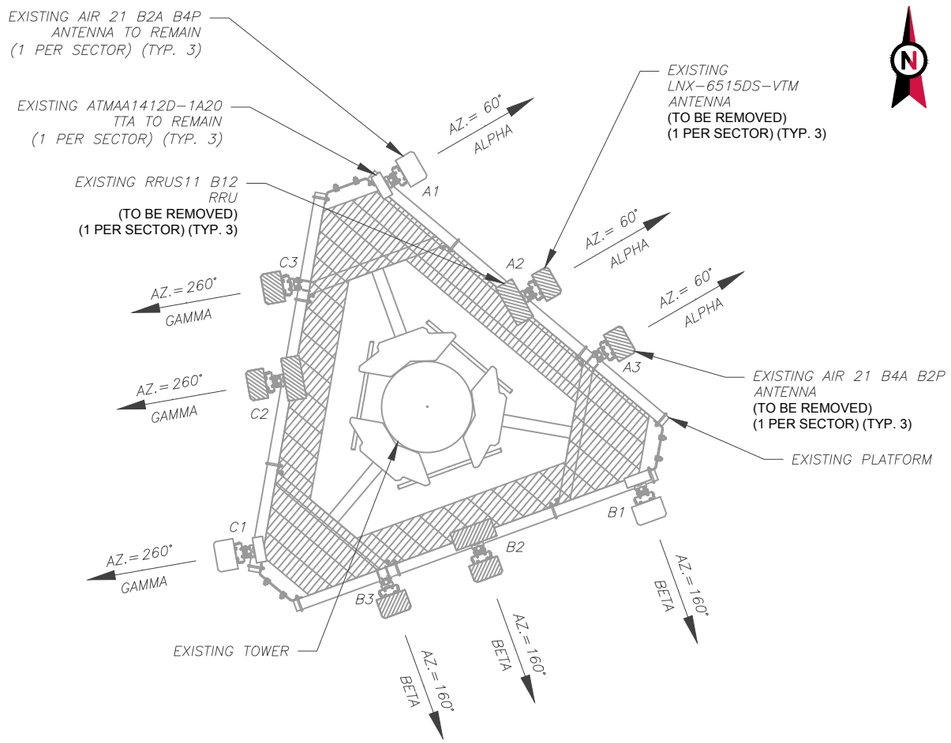
Authorized by "EOR"
Aug 29 2018 3:38 PM cosign

T-Mobile

DRAWN BY:	MG
APPROVED BY:	PPB
DATE DRAWN:	08/29/18
ATC JOB NO:	12607175

DETAILED SITE PLAN & TOWER ELEVATION

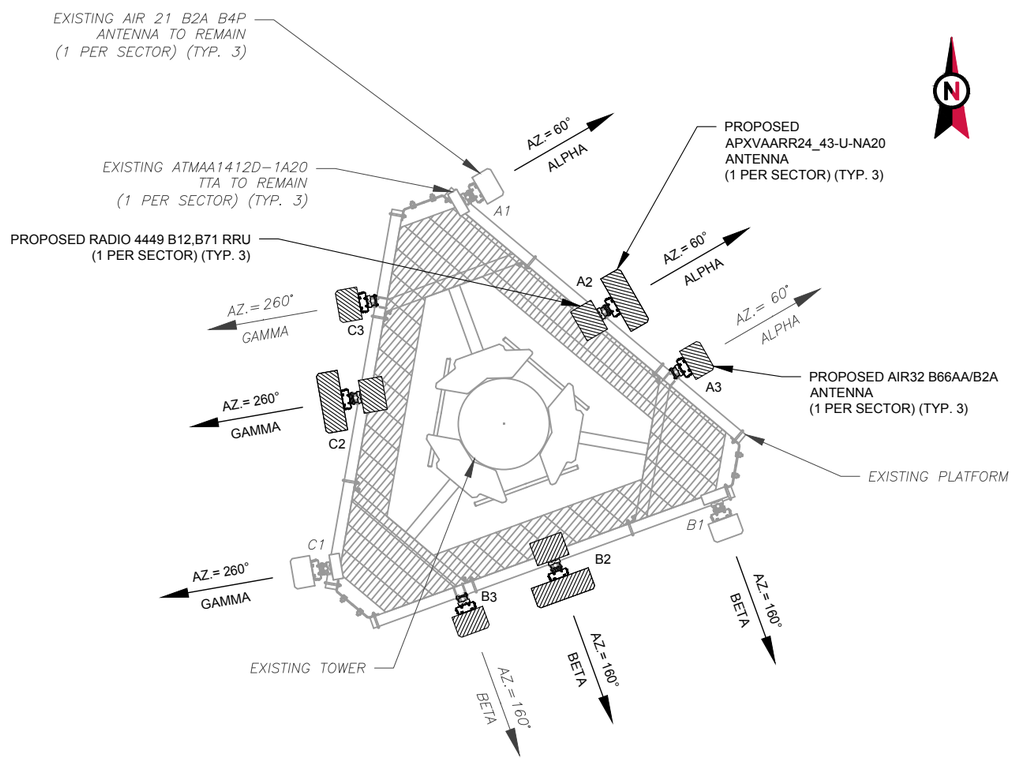
SHEET NUMBER:	REVISION:
C-101	0



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	87'-0"	60°	0°	2°	ATMAA1412D-1A20	(2) 1-5/8"
ALPHA	A2	LNX-6515DS-VTM	87'-0"	60°	0°	2°	RRUS11 B12	-
ALPHA	A3	AIR 21 B4A B2P	87'-0"	60°	0°	2°	-	-
BETA	B1	AIR 21 B2A B4P	87'-0"	160°	0°	7°	ATMAA1412D-1A20	(2) 1-5/8"
BETA	B2	LNX-6515DS-VTM	87'-0"	160°	0°	2°	RRUS11 B12	-
BETA	B3	AIR 21 B4A B2P	87'-0"	160°	0°	7°	-	-
GAMMA	C1	AIR 21 B2A B4P	87'-0"	260°	0°	5°	ATMAA1412D-1A20	(2) 1-5/8"
GAMMA	C2	LNX-6515DS-VTM	87'-0"	260°	0°	2°	RRUS11 B12	-
GAMMA	C3	AIR 21 B4A B2P	87'-0"	260°	0°	6°	-	-

1. (1) EXISTING 1-1/4" 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	87'-0"	60°	0°	-	ATMAA1412D-1A20	(2) 1-5/8"
ALPHA	A2	APXVAARR24_43-U-NA20	87'-0"	60°	0°	-	RADIO 4449 B12,B71	-
ALPHA	A3	AIR32 B66AA/B2A	87'-0"	60°	0°	-	-	-
BETA	B1	AIR 21 B2A B4P	87'-0"	160°	0°	-	ATMAA1412D-1A20	(2) 1-5/8"
BETA	B2	APXVAARR24_43-U-NA20	87'-0"	160°	0°	-	RADIO 4449 B12,B71	-
BETA	B3	AIR32 B66AA/B2A	87'-0"	160°	0°	-	-	-
GAMMA	C1	AIR 21 B2A B4P	87'-0"	260°	0°	-	ATMAA1412D-1A20	(2) 1-5/8"
GAMMA	C2	APXVAARR24_43-U-NA20	87'-0"	260°	0°	-	RADIO 4449 B12,B71	-
GAMMA	C3	AIR32 B66AA/B2A	87'-0"	260°	0°	-	-	-

1. BASED ON APPROVED ATC APPLICATION 12605186, DATED 08-15-2018. CONFIRM WITH T-MOBILE REP FOR APPLICABLE UPDATES/REVISIONS AND MOST RECENT RFDS.
2. (1) EXISTING 1-1/4" HYBRID CABLE (TO REMAIN)
3. (2) PROPOSED 1-5/8" HYBRID CABLES (115'±)

3 ANTENNA SCHEDULE

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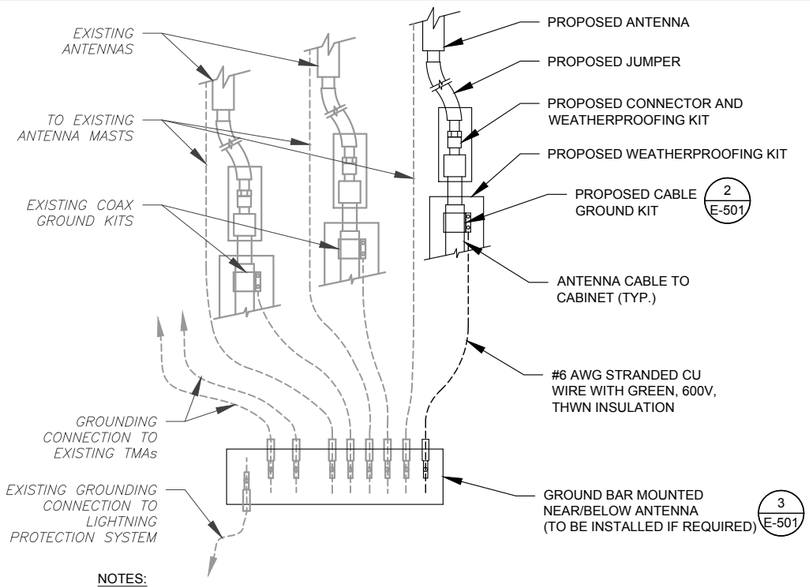
ANTENNA INFORMATION & SCHEDULE

SHEET NUMBER:	REVISION:
C-501	0

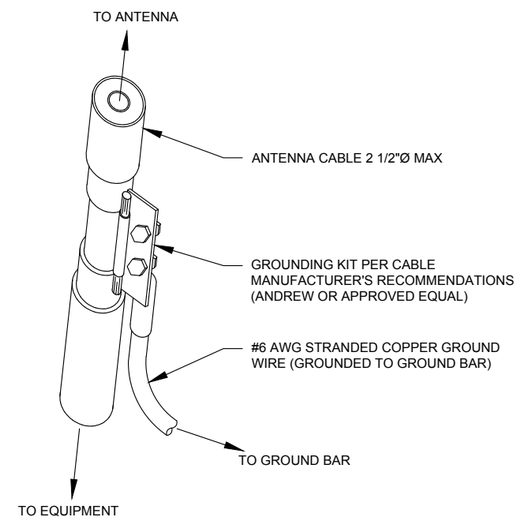


NOTES:

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

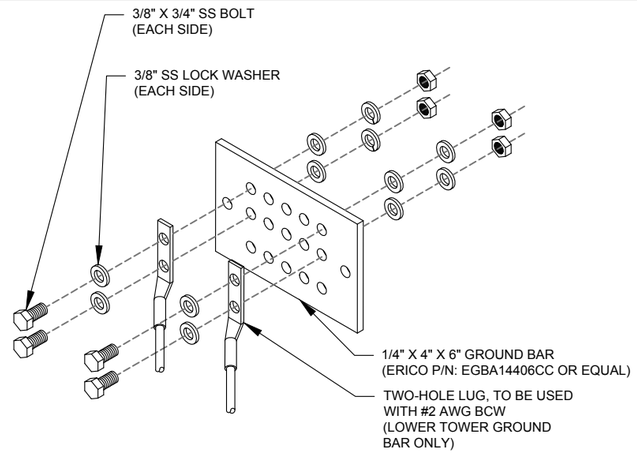


GROUND KIT NOTES:

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

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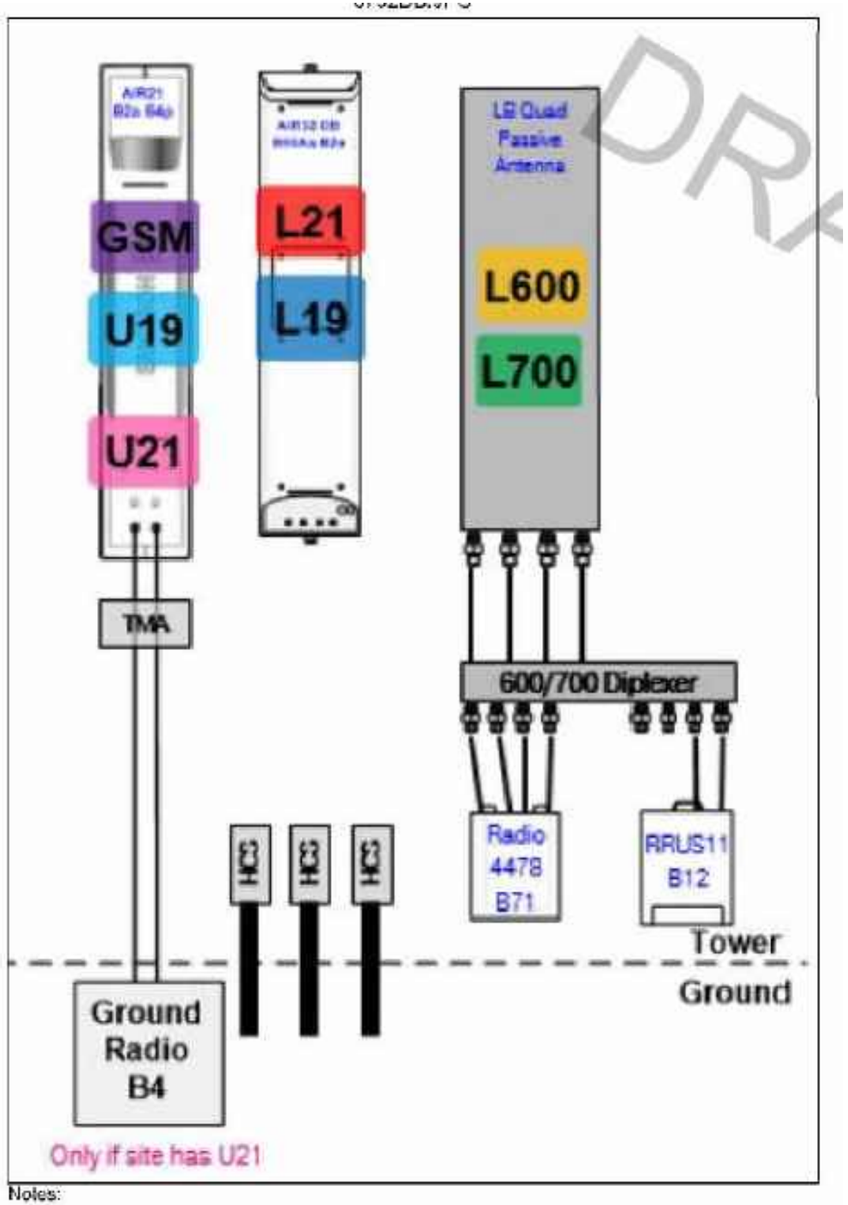
GROUNDING DETAILS

SHEET NUMBER:	REVISION:
E-501	0

Existing RAN Equipment		
Template: 7920B Outdoor		
Enclosure	1	2
Enclosure Type	RBS 6131	Ancillary Equipment
Baseband	DUS41 (L2100) DUW30 (U2100) DUG20 (G1900)	
Hybrid Cable System		Ericsson 9x18 HCS *Select Length*
Multiplexer	XMU (L1900) (L700)	
Radio	RU22 (x6)	

Proposed RAN Equipment		
Template: 6702B Outdoor		
Enclosure	1	2
Enclosure Type	RBS 6131	Ancillary Equipment
Baseband	DUW30 (U1900 (DECOMMISSIONED)) DUW30 (U2100) DUG20 (G1900) BB 5216 (L2100) (L1900) (L700) (L600)	
Hybrid Cable System		Ericsson 9x18 HCS 40m Ericsson 8x12 HCS 8AWG 40m (x2)
Multiplexer	XMU	
Radio	RU22 (x6) (U2100)	
RAN Scope of Work:		

1 CABINET CONFIGURATION
SCALE: NOT TO SCALE



Notes:

2 ANTENNA CONFIGURATION
SCALE: NOT TO SCALE

SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-601	0

Kyle Richers

From: UPS Quantum View <pkginfo@ups.com>
Sent: Friday, September 14, 2018 12:48 PM
To: krichers@transcendwireless.com
Subject: UPS Delivery Notification, Reference Number 1: CT11323A FS

Your package has been delivered.

Delivery Date: Friday, 09/14/2018
Delivery Time: 12:45 PM

At the request of TRANSCEND WIRELESS this notice alerts you that the status of the shipment listed below has changed.

Shipment Detail

Tracking Number:	1ZV257424295332268
Ship To:	James Marpe Town of Westport 110 MYRTLE AVE WESTPORT, CT 06880 US
UPS Service:	UPS GROUND
Number of Packages:	1
Weight:	1.0 LBS
Delivery Location:	OFFICE LIZ
Signature Required:	A signature is required for package delivery
Reference Number 1:	CT11323A FS

Download the UPS mobile app

Kyle Richers

From: UPS Quantum View <pkginfo@ups.com>
Sent: Friday, September 14, 2018 12:48 PM
To: krichers@transcendwireless.com
Subject: UPS Delivery Notification, Reference Number 1: CT11323A Zoning Official

Your package has been delivered.

Delivery Date: Friday, 09/14/2018
Delivery Time: 12:45 PM

At the request of TRANSCEND WIRELESS this notice alerts you that the status of the shipment listed below has changed.

Shipment Detail

Tracking Number:	1ZV257424299882274
Ship To:	Mary Young Town of Westport 110 MYRTLE AVE WESTPORT, CT 06880 US
UPS Service:	UPS GROUND
Number of Packages:	1
Weight:	1.0 LBS
Delivery Location:	OFFICE LIZ
Signature Required:	A signature is required for package delivery
Reference Number 1:	CT11323A Zoning Official

Download the UPS mobile app

Kyle Richers

From: UPS Quantum View <pkginfo@ups.com>
Sent: Monday, September 17, 2018 11:13 AM
To: krichers@transcendwireless.com
Subject: UPS Delivery Notification, Reference Number 1: CT11323A owner

Your package has been delivered.

Delivery Date: Monday, 09/17/2018
Delivery Time: 11:09 AM

At the request of TRANSCEND WIRELESS this notice alerts you that the status of the shipment listed below has changed.

Shipment Detail

Tracking Number:	1ZV257424299452283
Ship To:	American Tower Corporation 10 PRESIDENTIAL WAY WOBURN, MA 01801 US
UPS Service:	UPS GROUND
Number of Packages:	1
Weight:	1.0 LBS
Delivery Location:	RECEIVER
	LONG
Signature Required:	A signature is required for package delivery
Reference Number 1:	CT11323A owner

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