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
20 Post Office Lane, Westport, CT 06880
Latitude- 41.12338700
Longitude- -73.31304500

Dear Ms. Bachman,

T-Mobile currently maintains (10) existing antennas 90' level of the existing 142' monopole at 20 Post Office Lane in Westport, Connecticut. The tower is owned by American Tower. The property is owned by Jay Sherwood. T-Mobile now intends to remove (6) of the existing antennas and add (7) new 600/700/1900/2100 MHz antennas. These antennas would be installed at the same 90' level of the tower. T-Mobile also intends to swap (3) remote radio heads and add (2) hybrid cables.

This tower facility was approved by the Siting Council through Petition No. 394 dated August 25, 1998. This modification complies with the previous approval.

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 tower owner and property 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.

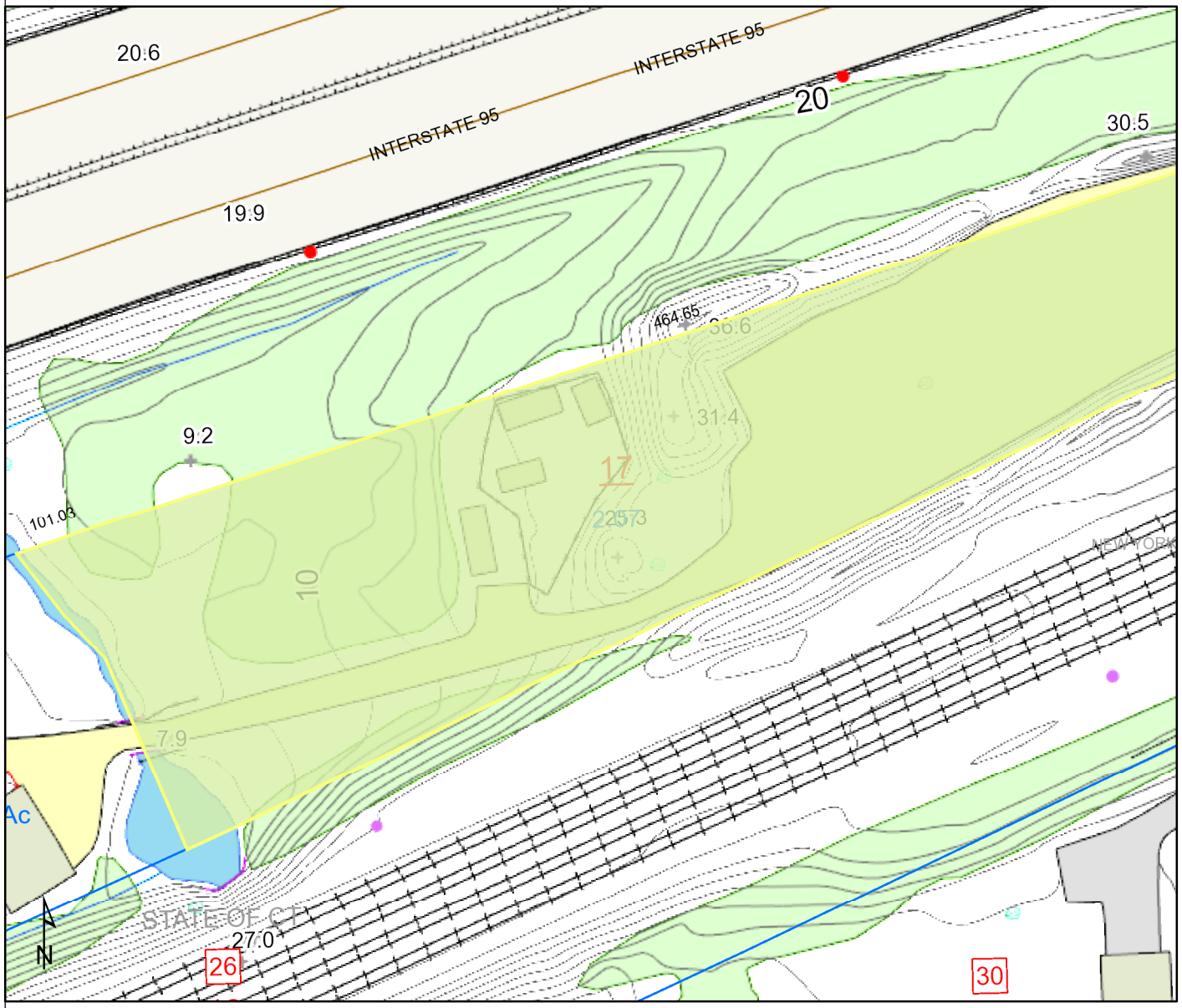
For the foregoing reasons, T-Mobile respectfully submits that the proposed modifications to the above-referenced telecommunications facility constitute an exempt modification under R.C.S.A. 16-50j-72(b)(2).

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 owner
Jay Sherwood- as property owner



1 inch = 71 feet

Westport and its mapping contractors assume no legal responsibility for the information contained herein.

Westport CT Web GIS Map Legend

- CAM_line
- Deleted_Wetland
- Amended_Wetland
- dot_line
- Tidal_Wetland
- Waterbody_Watercourse
- wet_text_line
- Wetland
- 100 Year Flood Zone
- 500 Year Flood Zone
- Floodway in Zone AE
- Basins
- Spot Elevation
- Water Spot Elevation
- bulkhead_polylines
- landhook_polylines
- original_parcel_polylines
- Index
- Index Depression
- Index Obscured
- Index Depression Obscured
- Intermediate
- Intermediate Depression
- Intermediate Obscured
- Intermediate Depression (Obs)
- Tree
- Pipe
- Outfall
- Catchbasin
- Manhole
- Electrical Box
- Hydrant
- Light Pole
- Utility Pole
- Sign
- Unknown
- Billboard
- Pipeline Above Ground
- Tower
- townline_polyline
- Unknown Lines
- Culvert
- Dam
- Ditch
- Rip Rap
- Elevation Well
- Fence
- Guardrail
- Hedge
- Retaining Wall
- Stone Wall
- Trails
- Abandoned Railroad Tracks
- Railroad Tracks
- Paved Road Centerline
- Unpaved Road Centerline
- Stream
- Coast Line
- Easement
- Utility Right of Way
- Private Right of Way
- Proposed Right of Way
- Public Right of Way
- Parcel
- Fuel Tank
- Water Tank
- Quarry or Pit
- Building
- Building Construction
- Cement Pad
- Deck
- Foundation
- Greenhouse
- Mobile Home
- Ruins
- Silo
- Somkestack
- Substation
- Bridge
- Paved Road
- Runway
- Unpaved Road
- Golf Path
- Paved Parking
- Unpaved Parking
- Paved Driveway
- Unpaved Driveway
- Public Sidewalk
- Treeline
- Wet Area
- Sound, Lake, Pond, or River
- Pool
- Golf Green
- Golf Bunker
- Tennis Court
- Golf Tee
- Wharf, Dock, or Pier
- Park
- Athletic Field
- Golf Course
- index_polygon
- HYDRIC SOILS
- NON-HYDRIC SOILS
- WATER
- A
- AA
- AAA
- B
- BCD
- BPD
- CPD
- DDD4
- GBD
- GBD/S
- HDD
- HSD
- MHP
- OSRD
- PRD
- RBD
- RORD
- RPOD

MAPLE LN

Location	MAPLE LN	**Mblu**	H06/ / 017/000 /
Acct#	5452217-C	**Owner**	SHERWOOD JAY
Assessment	$919,330	**Appraisal**	$1,313,300
PID	7785	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$1,253,900	$59,400	$1,313,300

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$877,730	$41,600	$919,330

Owner of Record

Owner	SHERWOOD JAY
Co-Owner	
Address	P O BOX 48 WESTPORT, CT 06881

Sale Price	$0
Certificate	1
Book & Page	469/ 137
Sale Date	12/08/1977
Instrument	29

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
SHERWOOD JAY	$0	1	469/ 137	29	12/08/1977

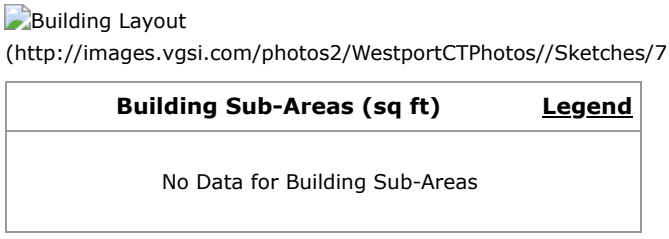
Building Information

Building 1 : Section 1

Year Built:	
Living Area:	0
Replacement Cost:	$0
Building Percent Good:	
Replacement Cost Less Depreciation:	$0

Building Attributes	
Field	**Description**

Building Layout



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

Style	Outbuildings
Model	
Grade:	
Stories:	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure:	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type:	
AC Type:	
Total Bedrooms:	
Total Bthrms:	
Total Half Baths:	
Total Xtra Fixtrs:	
Total Rooms:	
Bath Style:	
Kitchen Style:	
Kitchens	
Whirlpool Tubs	
Hot Tubs	
Sauna (SF Area)	
Fin Basement	
Fin Bsmt Qual	
Bsmt. Garages	
Interior Cond	
Fireplaces	
Ceiling Height	
Sprinklers	
Acc Apts	

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	100
Description	Res Vacant Lnd
Zone	AAA
Neighborhood	140
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	2.07
Frontage	0
Depth	0
Assessed Value	$41,600
Appraised Value	$59,400

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
CELL	Cell on TWR	TW		5 Sites	$1,253,900	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$1,253,900	$59,400	$1,313,300
2016	$1,253,900	$59,400	$1,313,300
2014	$818,000	$54,625	$872,625

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$877,730	$41,600	$919,330
2016	$877,730	$41,600	$919,330
2014	$572,600	$38,200	$610,800

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: CT11012B

Westport/I-95/X18/Sher
20 Post Office Lane
Westport, CT 06880

August 16, 2018

EBI Project Number: 6218005628

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	21.89 %

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

EBI Consulting
environmental | engineering | due diligence

August 16, 2018

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

Emissions Analysis for Site: **CT11012B – Westport/I-95/X18/Sher**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **20 Post Office 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 **20 Post Office 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 channel (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) 1 UMTS channel (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 sectors A, B & C 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 sectors A, B & C 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 B2A/B66A** & **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 **90 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.

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T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C	Sector:	D
Antenna #:	**1**	Antenna #:	**1**	Antenna #:	**1**	Antenna #:	**1**
Make / Model:	Ericsson AIR32 B2A/B66A	Make / Model:	Ericsson AIR32 B2A/B66A	Make / Model:	Ericsson AIR32 B2A/B66A	Make / Model:	Ericsson AIR32 B2A/B66A
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	90 feet	Height (AGL):	90 feet	Height (AGL):	90 feet	Height (AGL):	90 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)	Frequency Bands	1900 MHz (PCS) / 2100 MHz (AWS)
Channel Count	4	Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	200	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	ERP (W):	7,780.90
Antenna A1 MPE%	**3.97**	Antenna B1 MPE%	**3.97**	Antenna C1 MPE%	**3.96**	Antenna D1 MPE%	**3.97**
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	Ericsson AIR21 B2A/B4P	Make / Model:	Ericsson AIR21 B2A/B4P	Make / Model:	Ericsson AIR21 B2A/B4P	Make / Model:	Ericsson AIR21 B2A/B4P
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	90 feet	Height (AGL):	90 feet	Height (AGL):	90 feet	Height (AGL):	90 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)	Frequency Bands	1900 MHz (PCS) / 2100 MHz (AWS)
Channel Count	2	Channel Count	2	Channel Count	2	Channel Count	2
Total TX Power(W):	55	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	ERP (W):	2,139.75
Antenna A2 MPE%	**1.09**	Antenna B2 MPE%	**1.09**	Antenna C2 MPE%	**1.09**	Antenna D2 MPE%	**1.09**
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):	90 feet	Height (AGL):	90 feet	Height (AGL):	90 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%	**2.95**	Antenna B3 MPE%	**2.95**	Antenna C3 MPE%	**2.95**		

Site Composite MPE%	
Carrier	**MPE%**
T-Mobile (Sectors A, B & C)	**8.01 %**
AT&T	**2.90**
Verizon Wireless	**5.88**
MetroPCS	**1.24**
Clearwire	**0.08**
Sprint	**3.78**
Enertrac	**0.00**
Site Total MPE %:	**21.89 %**

T-Mobile Sector A Total:	8.01 %
T-Mobile Sector B Total:	8.01 %
T-Mobile Sector C Total:	8.01 %
T-Mobile Sector D Total:	5.05 %
Site Total:	21.89 %

T-Mobile Maximum MPE Power Values (Sectors A, B & C)

T-Mobile _Frequency Band / Technology (Sectors A, B & C)	# 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	90	15.86	PCS - 1900 MHz	1000.00	1.59%
T-Mobile AWS - 2100 MHz LTE	2	2,334.27	90	23.79	AWS - 2100 MHz	1000.00	2.38%
T-Mobile PCS - 1900 MHz GSM	1	583.57	90	2.97	PCS - 1900 MHz	1000.00	0.30%
T-Mobile AWS - 2100 MHz UMTS	1	1,556.18	90	7.93	AWS - 2100 MHz	1000.00	0.79%
T-Mobile 600 MHz LTE	2	788.97	90	8.04	600 MHz	400.00	2.01%
T-Mobile 700 MHz LTE	2	432.54	90	4.41	700 MHz	467.00	0.94%
						Total:	**8.01%**

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:	8.01 %
Sector B:	8.01 %
Sector C:	8.01 %
Sector D:	5.05 %
T-Mobile Maximum MPE % (Sectors A, B & C):	8.01 %
Site Total:	21.89 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **21.89%** 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

This report was prepared for American Tower Corporation by

TOWER ENGINEERING PROFESSIONALS

Structural Analysis Report

Structure	:	**142 ft Monopole**
ATC Site Name	:	**WSPT - South, CT**
ATC Site Number	:	**302511**
Engineering Number	:	**OAA735666_C3_01**
Proposed Carrier	:	**T-Mobile**
Carrier Site Name	:	**Westport/ I-95/ X18/ Sher**
Carrier Site Number	:	**CT11012B**
Site Location	:	**20 Post Office Lane** **Westport, CT 06880-6226** **41.123400,-73.313100**
County	:	**Fairfield**
Date	:	**July 2, 2018**
Max Usage	:	**91%**
Result	:	**Pass**

Prepared By:
Connor Klein
TEP

Reviewed By:

STATE OF CONNECTICUT
AARON THOMAS TUCKER
32608
LICENSED PROFESSIONAL ENGINEER

07/02/2018

COA: PEC.0001553

Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 142 ft monopole to reflect the change in loading by T-Mobile.

Supporting Documents

Tower Drawings	SpectraSite Site #CT-0047, dated August 12, 2005
Foundation Drawing	Mapping by TEP Project #65218-72422, dated December 28, 2015
Geotechnical Report	MB&A Project #011105, dated July 17, 2001
Modifications	ATC Job #42046633, dated October 16, 2008 ATC Job #46844332/46993332, dated April 15, 2011

Analysis

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

Basic Wind Speed:	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:	C
Topographic Category:	1
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					
137.0	137.0	3	RCU (Remote Control Unit)	Flush	(6) 1 5/8" Coax (1) 3/8" Coax	Metro PCS
		3	Kathrein 742-218 / AP20-1940/045D/ADT/XP			
131.0	131.0	3	Kaelus DBC0061F1V51-2	Platform w/ Handrails	(12) 1 1/4" Coax (2) 0.39" Fiber Trunk (2) 0.78" 8 AWG 6 (2) 0.65" 8 AWG 2C (2) 2" Conduit	AT&T Mobility
	127.0	12	Powerwave 7020.00 Dual Band RET			
		6	Powerwave LGP21401			
		2	Raycap DC6-48-60-18-8F ("Squid")			
		3	Ericsson RRUS-11 (50 lbs.)			
		3	Ericsson RRUS 32 B2			
		3	Ericsson RRUS 32 w/ Solar Shield (52.9 lbs)			
		3	Powerwave 7770.00			
		3	Quintel QS66512-2			
		3	CCI HPA-65R-BUU-H6			
120.0	120.0	2	DragonWave Horizon Compact	Platform w/ Handrails	(6) 5/16" Coax (2) 1/2" Coax (1) 2" Conduit	Clearwire
		3	NextNet BTS-2500			
		3	Argus LLPX310R			
		2	DragonWave A-ANT-18G-2-C			
		3	Alcatel-Lucent RRH2x50-08		(2) 1.7" Hybrid (3) 1 1/4" Hybriflex	Sprint Nextel
		3	Alcatel-Lucent 800MHz 2X50W RRh w/ Filter			
		3	Commscope NNVV-65B-R4			
		3	Alcatel-Lucent 1900MHz 4x45 RRH			
		3	Nokia 2.5G MAA - AAHC(64T64R)			
111.0	111.0	9	Decibel DB844G90A-XY	Platform w/ Handrails	(12) 7/8" Coax (1) 1/2" Coax	
100.0	101.0	1	GPS	Platform w/ Handrails	(11) 1 5/8" Coax (2) 1 5/8" Hybriflex (1) 1/2" Coax	Verizon
	100.0	6	RFS FD9R6004/1C-3L			
		3	Alcatel-Lucent RRH2x60 700			
		3	Alcatel-Lucent B66A RRH 4x45			
		3	Rymsa MGD3-800TX			
		2	Commscope RC2DC-3315-PF-48			
		3	Antel BXA-70080/6CF__			
		6	Commscope NHH-65B-R2B			
90.0	90.0	4	RFS ATMAA1412D-1A20	Platform w/ Handrails	(12) 1 5/8" Coax (1) 1 1/4" Fiber	T-Mobile
		4	Ericsson AIR 21, 1.3 M, B2A B4P			
63.0	63.0	1	PCTEL GPS-TMG-HR-26N	Stand-Off	(1) 1/2" Coax	Sprint Nextel

Equipment to be Removed

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
90.0	90.0	3	Ericsson AIR 21, 1.3M, B4A B2P	-	(2) 1 5/8" Coax	T-Mobile
		3	Andrew LNX-6515DS-VTM			
		3	Ericsson RRUS 11 B12			

Proposed Equipment

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
90.0	90.0	4	Ericsson Radio 4449 B12,B71	Platform w/ Handrails	(2) 1 5/8" Fiber (1) 1 1/4" Fiber	T-Mobile
		4	Ericsson Air 3246 B66			
		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 outside the pole shaft.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	58%	Pass
Shaft	91%	Pass
Base Plate	60%	Pass
Flanges	37%	Pass
Reinforcement	81%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Moment (Kips-Ft)	3,894.7	47%
Axial (Kips)	94.0	14%
Shear (Kips)	42.9	20%

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

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
120.0	DragonWave A-ANT-18G-2-C	Clearwire	1.746	1.751
	Commscope NNVV-65B-R4	Sprint Nextel		
90.0	Ericsson Radio 4449 B12,B71	T-Mobile	0.923	1.317
	Ericsson Air 3246 B66			
	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:

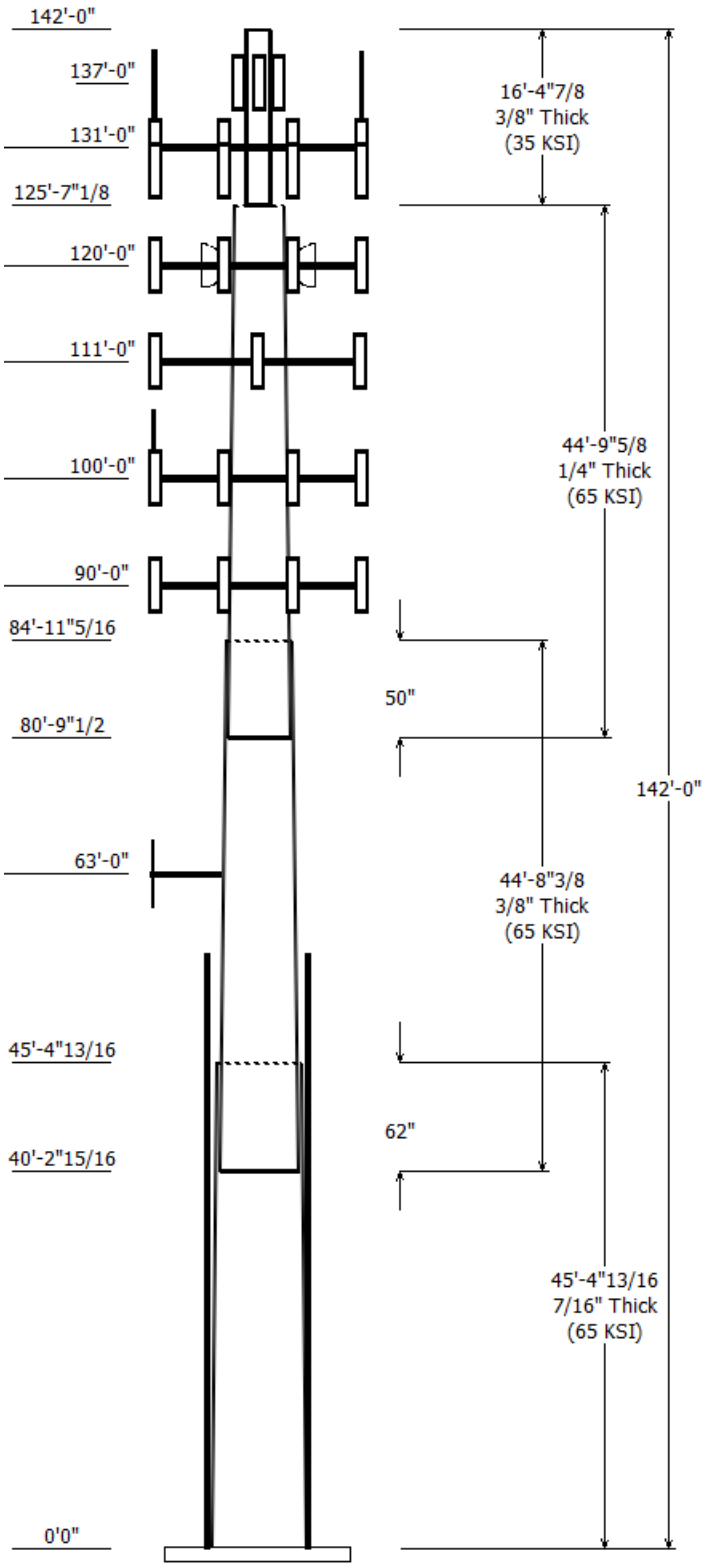
- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

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

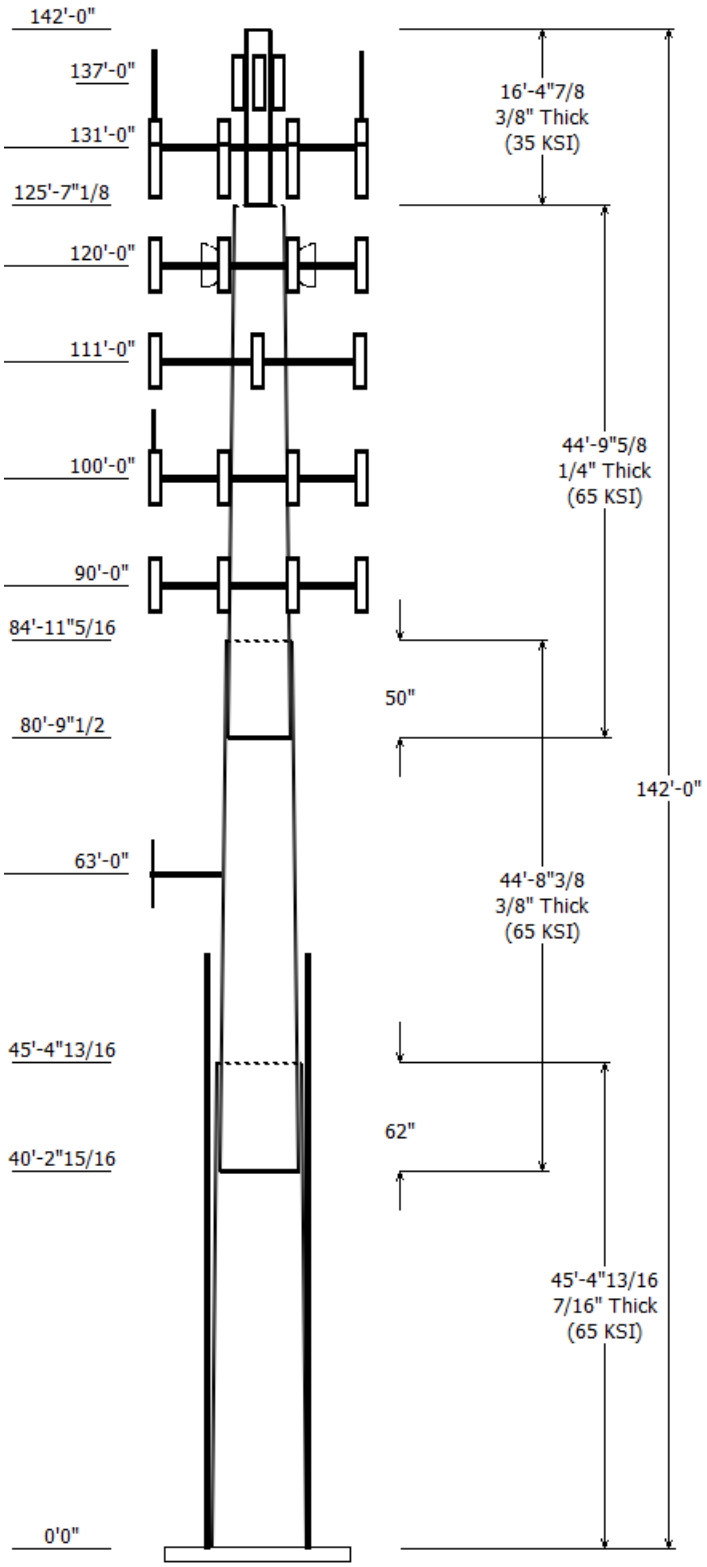
Pole : 302511	Code: ANSI/TIA-222-G
Location : WSPT - South, CT	
Description : 142 ft EEI Monopole	
Client : T-MOBILE	Struct Class : II
Shape : 12 Sides	Exposure : C
Height : 142.00 (ft)	Topo : 1
Base Elev (ft): 0.00	
Taper: 0.212638 (in/ft)	

Sections Properties

Shaft Section	Length (ft)	Diameter (in) Accross Flats Top	Bottom	Thick (in)	Joint Type	Overlap Length (in)	Shape	Steel Grade (ksi)
1	45.400	35.346	45.000	0.438		0.000	12 Sides	65
2	44.700	27.688	37.193	0.375	Slip Joint	61.875	12 Sides	65
3	44.800	19.544	29.070	0.250	Slip Joint	49.813	12 Sides	65
4	16.407	10.750	10.750	0.375	Butt Joint	0.000	Round	35

Discrete Appurtenance

Attach Elev (ft)	Force Elev (ft)	Qty	Description
137.000	137.000	3	Kathrein Scala 742-218 / AP20-
137.000	137.000	3	RCU (Remote Control Unit)
131.000	131.000	1	Flat Platform w/ Handrails
131.000	127.000	3	CCI HPA-65R-BUU-H6
131.000	127.000	3	Quintel QS66512-2
131.000	127.000	3	Powerwave Allgon 7770.00
131.000	127.000	3	Ericsson RRUS 32 w/ Solar Shie
131.000	127.000	3	Ericsson RRUS 32 B2
131.000	127.000	3	Ericsson RRUS-11 (50 lbs.)
131.000	127.000	2	Raycap DC6-48-60-18-8F ("Squid
131.000	127.000	6	Powerwave Allgon LGP21401
131.000	131.000	3	Kaelus DBC0061F1V51-2
131.000	127.000	12	Powerwave Allgon 7020.00 Dual
120.000	120.000	3	Commscope NNVV-65B-R4
120.000	120.000	3	Nokia 2.5G MAA - AAHC(64T64R)
120.000	120.000	3	Alcatel-Lucent RRH2x50-08
120.000	120.000	3	Alcatel-Lucent 800 MHz 2X50W R
120.000	120.000	3	Alcatel-Lucent 1900 MHz 4x45 R
120.000	120.000	3	Argus LLPX310R
120.000	120.000	2	DragonWave Horizon Compact
120.000	120.000	2	DragonWave A-ANT-18G-2-C
120.000	120.000	3	NextNet BTS-2500
120.000	120.000	1	Flat Platform w/ Handrails
111.000	111.000	1	Flat Platform w/ Handrails
111.000	111.000	9	Decibel DB844G90A-XY
100.000	101.000	1	GPS
100.000	100.000	6	Commscope NHH-65B-R2B
100.000	100.000	2	Commscope RC2DC-3315-PF-48
100.000	100.000	3	Alcatel-Lucent B66A RRH 4x45
100.000	100.000	3	Alcatel-Lucent RRH2x60 700
100.000	100.000	3	Antel BXA-70080/6CF__
100.000	100.000	6	RFS FD9R6004/1C-3L
100.000	100.000	3	Rymsa MGD3-800TX
100.000	100.000	1	Flat Platform w/ Handrails
90.000	90.000	3	RFS APXVAARR24_43-U-NA20
90.000	90.000	4	Ericsson Air 3246 B66
90.000	90.000	4	Ericsson Radio 4449 B12,B71
90.000	90.000	4	Ericsson AIR 21, 1.3 M, B2A B4
90.000	90.000	4	RFS ATMAA1412D-1A20
90.000	90.000	1	Flat Platform w/ Handrails
63.000	63.000	1	Stand-Off
63.000	63.000	1	PCTEL GPS-TMG-HR-26N



Linear Appurtenance

Elev (ft) From	To	Description	Exposed To Wind
0.000	63.000	1/2" Coax	No
0.000	63.000	DYWIDAG	Yes
0.000	90.000	1 1/4" Fiber	No
0.000	90.000	1 1/4" Fiber	No
0.000	90.000	1 5/8" Coax	Yes
0.000	90.000	1 5/8" Fiber	No
0.000	100.00	1 5/8" Coax	No
0.000	100.00	1 5/8" Hybriflex	No
0.000	100.00	1/2" Coax	No
0.000	111.00	1/2" Coax	No
0.000	111.00	7/8" Coax	No
0.000	120.00	1 1/4" Hybriflex	No
0.000	120.00	1.7" Hybrid	No
0.000	120.00	1/2" Coax	Yes
0.000	120.00	2" Conduit	Yes
0.000	120.00	5/16" Coax	Yes
0.000	131.00	0.39" Fiber Trunk	No
0.000	131.00	0.65" 8 AWG 2C	No
0.000	131.00	0.78" 8 AWG 6	No
0.000	131.00	1 1/4" Coax	No
0.000	131.00	2" Conduit	No
0.000	137.00	1 5/8" Coax	Yes
0.000	137.00	3/8" Coax	Yes

Load Cases

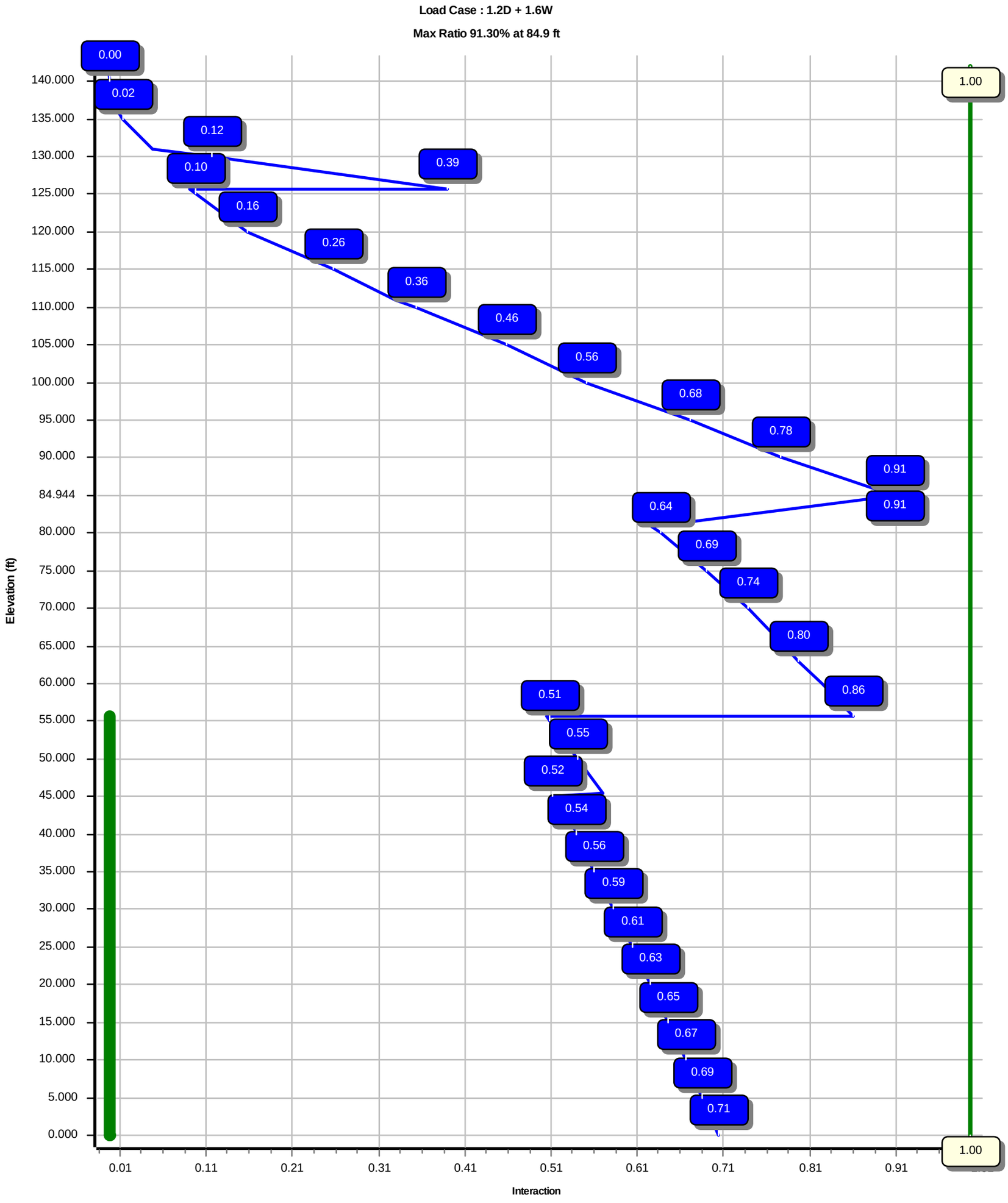
1.2D + 1.6W	93 mph with No Ice
0.9D + 1.6W	93 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 in Radial Ice
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E ELFM	Seismic (Reduced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

Reactions

Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.6W	3894.75	42.92	58.44
0.9D + 1.6W	3793.19	42.34	43.81
1.2D + 1.0Di + 1.0Wi	1000.36	10.53	94.00
(1.2 + 0.2Sds) * DL + E ELFM	213.00	1.99	58.28
(1.2 + 0.2Sds) * DL + E EMAM	161.91	1.93	58.28
(0.9 - 0.2Sds) * DL + E ELFM	209.69	1.99	39.85
(0.9 - 0.2Sds) * DL + E EMAM	159.18	1.93	39.85
1.0D + 1.0W	992.79	11.02	48.77

Dish Deflections

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
1.0D + 1.0W	120.00	20.951	1.751


Load Case : 1.2D + 1.6W
Max Ratio 91.30% at 84.9 ft
0.00
0.02
0.12
0.10
0.39
0.16
0.26
0.36
0.46
0.56
0.68
0.78
0.91
0.91
0.64
0.69
0.74
0.80
0.86
0.51
0.55
0.52
0.54
0.56
0.59
0.61
0.63
0.65
0.67
0.69
0.71
1.00
1.00
Elevation (ft)
140.000
135.000
130.000
125.000
120.000
115.000
110.000
105.000
100.000
95.000
90.000
84.944
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
0.01
0.11
0.21
0.31
0.41
0.51
0.61
0.71
0.81
0.91
Interaction

Site Number: 302511 Code: ANSI/TIA-222-G

Site Name: WSPT - South, CT Engineering Number: OAA735666_C3_01 7/2/2018 4:56:08 PM

Customer: T-MOBILE

Analysis Parameters

Location :	FAIRFIELD County, CT	Height (ft) :	142
Code :	ANSI/TIA-222-G	Base Diameter (in) :	45.00
Shape :	12 Sides. Sect 4: Round	Top Diameter (in) :	10.75
Pole Type :	Custom	Taper (in/ft) :	0.213
Pole Manfacturer :	EEI	Rotation (deg) :	0.00

Ice & Wind Parameters

Structure Class:	II	Design Wind Speed Without Ice:	93 mph
Exposure Category:	C	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): 2.25

T_L (sec):	6	p:	1.3	C_s:	0.031
S_s:	0.221	S_1:	0.066	C_s Max:	0.031
F_a:	1.600	F_v:	2.400	C_s Min:	0.030
S_{ds}:	0.236	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)
1-12	45.400	0.4375	65		0.00	8,648	45.00	0.00	62.78	15912.1	25.42	102.86	35.346	45.40	49.18	7649.3	19.50	80.79	0.212638
2-12	44.700	0.3750	65	Slip	61.88	5,889	37.19	40.24	44.46	7692.0	24.43	99.18	27.688	84.94	32.98	3140.3	17.64	73.83	0.212638
3-12	44.800	0.2500	65	Slip	49.81	2,952	29.07	80.79	23.20	2459.7	29.01	116.28	19.544	125.59	15.53	738.0	18.80	78.18	0.212638
4-R	16.407	0.3750	35	Butt	0.00	682	10.75	125.59	12.22	164.6	0.00	28.67	10.750	142.00	12.22	164.6	0.00	28.67	0.000000
					Shaft Weight	18,172													

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	Distance From Face (ft)	Vert Ecc (ft)	Weight (lb)	No Ice EPAa (sf)	Orientation Factor
137.00	Kathrein Scala 742-218 / AP20-	3	0.000	0.000	22.50	3.850	0.63
137.00	RCU (Remote Control Unit)	3	0.000	0.000	1.00	0.160	0.50
131.00	CCI HPA-65R-BUU-H6	3	0.000	-4.000	51.00	9.660	0.69
131.00	Ericsson RRUS 32 B2	3	0.000	-4.000	53.00	2.740	0.67
131.00	Ericsson RRUS 32 w/ Solar Shie	3	0.000	-4.000	52.90	2.740	0.67
131.00	Ericsson RRUS-11 (50 lbs.)	3	0.000	-4.000	50.00	2.570	0.67
131.00	Flat Platform w/ Handrails	1	0.000	0.000	2000.00	42.400	1.00
131.00	Kaelus DBC0061F1V51-2	3	0.000	0.000	25.50	0.510	0.50
131.00	Powerwave Allgon 7020.00 Dual	12	0.000	-4.000	2.20	0.400	0.50
131.00	Powerwave Allgon 7770.00	3	0.000	-4.000	35.00	5.510	0.65
131.00	Powerwave Allgon LGP21401	6	0.000	-4.000	14.10	1.100	0.50
131.00	Quintel QS66512-2	3	0.000	-4.000	111.00	8.130	0.74
131.00	Raycap DC6-48-60-18-8F ("Squid	2	0.000	-4.000	31.80	1.280	1.00
120.00	Alcatel-Lucent 1900 MHz 4x45 R	3	0.000	0.000	60.00	2.320	0.67
120.00	Alcatel-Lucent 800 MHz 2X50W R	3	0.000	0.000	64.00	2.060	0.67
120.00	Alcatel-Lucent RRH2x50-08	3	0.000	0.000	52.90	1.700	0.50
120.00	Argus LLPX310R	3	0.000	0.000	28.60	4.290	0.63
120.00	Commscope NNVV-65B-R4	3	0.000	0.000	77.40	12.270	0.64
120.00	DragonWave A-ANT-18G-2-C	2	0.000	0.000	27.10	4.690	1.00
120.00	DragonWave Horizon Compact	2	0.000	0.000	10.60	0.430	0.50
120.00	Flat Platform w/ Handrails	1	0.000	0.000	2000.00	42.400	1.00
120.00	NextNet BTS-2500	3	0.000	0.000	35.00	1.820	0.50
120.00	Nokia 2.5G MAA - AAHC(64T64R)	3	0.000	0.000	103.60	4.200	0.64
111.00	Decibel DB844G90A-XY	9	0.000	0.000	14.00	3.610	0.74
111.00	Flat Platform w/ Handrails	1	0.000	0.000	2000.00	42.400	1.00
100.00	Alcatel-Lucent B66A RRH 4x45	3	0.000	0.000	67.00	2.580	0.67
100.00	Alcatel-Lucent RRH2x60 700	3	0.000	0.000	56.70	2.150	0.67
100.00	Antel BXA-70080/6CF__	3	0.000	0.000	18.00	5.840	0.72
100.00	Commscope NHH-65B-R2B	6	0.000	0.000	43.70	8.080	0.69
100.00	Commscope RC2DC-3315-PF-48	2	0.000	0.000	32.00	3.780	0.67
100.00	Flat Platform w/ Handrails	1	0.000	0.000	2000.00	42.400	1.00
100.00	GPS	1	0.000	1.000	10.00	1.000	1.00
100.00	RFS FD9R6004/1C-3L	6	0.000	0.000	3.10	0.370	0.50
100.00	Rymsa MGD3-800TX	3	0.000	0.000	15.40	3.340	0.69
90.00	Ericsson AIR 21, 1.3 M, B2A B4	4	0.000	0.000	83.00	6.050	0.71
90.00	Ericsson Air 3246 B66	4	0.000	0.000	180.00	7.940	0.69
90.00	Ericsson Radio 4449 B12,B71	4	0.000	0.000	74.00	1.640	0.50
90.00	Flat Platform w/ Handrails	1	0.000	0.000	2000.00	42.400	1.00
90.00	RFS APXVAARR24_43-U-NA20	3	0.000	0.000	127.90	20.240	0.63
90.00	RFS ATMAA1412D-1A20	4	0.000	0.000	13.00	1.000	0.50
63.00	PCTEL GPS-TMG-HR-26N	1	0.000	0.000	0.60	0.090	1.00
63.00	Stand-Off	1	0.000	0.000	30.00	1.000	1.00
Totals	Num Loadings: 42	134			15486.60		

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	137.00	6	1 5/8" Coax	1.98	0.82	N	1.98	Y	Metro PCS
0.00	137.00	1	3/8" Coax	0.44	0.08	N	0.44	Y	Metro PCS
0.00	131.00	2	0.39" Fiber Trunk	0.39	0.06	N	0.00	N	AT&T Mobility
0.00	131.00	2	0.65" 8 AWG 2C	0.65	0.31	N	0.00	N	AT&T Mobility
0.00	131.00	2	0.78" 8 AWG 6	0.78	0.59	N	0.00	N	AT&T Mobility
0.00	131.00	12	1 1/4" Coax	1.55	0.63	N	0.00	N	AT&T Mobility
0.00	131.00	2	2" Conduit	2.38	3.65	N	0.00	N	AT&T Mobility
0.00	120.00	3	1 1/4" Hybriflex	1.54	1.00	N	0.00	N	Sprint Nextel
0.00	120.00	2	1.7" Hybrid	1.70	1.78	N	0.00	N	Sprint Nextel
0.00	120.00	2	1/2" Coax	0.63	0.15	N	0.00	Y	Clearwire
0.00	120.00	1	2" Conduit	2.38	3.65	N	2.38	Y	Clearwire
0.00	120.00	6	5/16" Coax	0.31	0.05	N	0.00	Y	Clearwire
0.00	111.00	1	1/2" Coax	0.63	0.15	N	0.00	N	Sprint Nextel
0.00	111.00	12	7/8" Coax	1.09	0.33	N	0.00	N	Sprint Nextel
0.00	100.00	11	1 5/8" Coax	1.98	0.82	N	0.00	N	Verizon
0.00	100.00	2	1 5/8" Hybriflex	1.98	1.30	N	0.00	N	Verizon
0.00	100.00	1	1/2" Coax	0.63	0.15	N	0.00	N	Verizon
0.00	90.00	1	1 1/4" Fiber	1.25	1.05	N	1.25	N	T-Mobile
0.00	90.00	1	1 1/4" Fiber	1.25	1.05	N	0.00	N	T-Mobile
0.00	90.00	12	1 5/8" Coax	1.98	0.82	N	3.96	Y	T-Mobile
0.00	90.00	2	1 5/8" Fiber	1.63	1.61	N	0.00	N	T-Mobile
0.00	63.00	1	1/2" Coax	0.63	0.15	N	0.00	N	Sprint Nextel
0.00	63.00	4	DYWIDAG	4.00	16.70	N	1.62	Y	--

Additional Steel

Elev From (ft)	Elev To (ft)	Qty	Description	Fy (ksi)	Offset (in)	Intermediate Connections: Description	Spacing (in)	Len (in)	Connectors	Continuation?
0.00	55.68	4	SOL #20 All Thread	80	2.19	6" Angle Bracket	30.00	3.31	5/8" A36 U-Bolt	Yes

Segment Properties (Max Len : 5. ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in^3)	Z (in^3)	Weight (lb)	Additional Reinforcing Area (in^2)	Additional Reinforcing Ix (in^4)	Additional Reinforcing Weight (lb)
0.00		0.4375	45.000	62.777	15,912.1	25.42	102.86	77.0	683.1	0.0	0.0	19.64	6,615.	0.0
5.00		0.4375	43.937	61.280	14,800.2	24.77	100.43	77.7	650.7	0.0	1,055.3	19.64	6,347.	334.0
10.00		0.4375	42.874	59.782	13,741.3	24.11	98.00	78.4	619.2	0.0	1,029.9	19.64	6,084.	334.0
15.00		0.4375	41.810	58.284	12,734.1	23.46	95.57	79.1	588.4	0.0	1,004.4	19.64	5,827.	334.0
20.00		0.4375	40.747	56.786	11,777.4	22.81	93.14	79.8	558.4	0.0	978.9	19.64	5,576.	334.0
25.00		0.4375	39.684	55.289	10,869.9	22.16	90.71	80.5	529.2	0.0	953.4	19.64	5,330.	334.0
30.00		0.4375	38.621	53.791	10,010.2	21.51	88.28	81.3	500.7	0.0	927.9	19.64	5,090.	334.0
35.00		0.4375	37.558	52.293	9,197.1	20.86	85.85	81.9	473.1	0.0	902.4	19.64	4,855.	334.0
40.00		0.4375	36.494	50.795	8,429.2	20.21	83.42	81.9	446.2	0.0	877.0	19.64	4,626.	334.0
40.24	Bot - Section 2	0.4375	36.443	50.722	8,392.9	20.18	83.30	81.9	444.9	0.0	42.1	19.64	4,615.	16.3
45.00		0.4375	35.431	49.297	7,705.4	19.56	80.99	81.9	420.1	0.0	1,519.0	19.64	4,559.	317.7
45.40	Top - Section 1	0.3750	36.096	43.133	7,025.1	23.65	96.26	78.9	376.0	0.0	125.8	19.64	4,541.	26.7
50.00		0.3750	35.118	41.952	6,463.7	22.95	93.65	79.7	355.6	0.0	665.9	19.64	4,337.	307.3
55.00		0.3750	34.055	40.668	5,888.2	22.19	90.81	80.5	334.0	0.0	702.9	19.64	4,121.	334.0
55.68	Reinf. Top	0.3750	33.911	40.495	5,813.1	22.09	90.43	80.6	331.2	0.0	93.5	19.64	4,092.	45.2
60.00		0.3750	32.992	39.385	5,348.0	21.43	87.98	81.3	313.2	0.0	587.5			
63.00		0.3750	32.354	38.614	5,040.3	20.97	86.28	81.8	301.0	0.0	398.1			
65.00		0.3750	31.929	38.101	4,841.9	20.67	85.14	81.9	293.0	0.0	261.0			
70.00		0.3750	30.865	36.817	4,368.8	19.91	82.31	81.9	273.4	0.0	637.3			
75.00		0.3750	29.802	35.533	3,927.5	19.15	79.47	81.9	254.6	0.0	615.5			
80.00		0.3750	28.739	34.249	3,517.0	18.39	76.64	81.9	236.4	0.0	593.6			
80.79	Bot - Section 3	0.3750	28.570	34.046	3,454.7	18.27	76.19	81.9	233.6	0.0	92.1			
84.94	Top - Section 2	0.2500	28.188	22.490	2,240.5	28.07	112.75	74.1	153.6	0.0	796.1			
85.00		0.2500	28.176	22.480	2,237.7	28.06	112.70	74.1	153.4	0.0	4.3			
90.00		0.2500	27.113	21.624	1,991.7	26.92	108.45	75.4	141.9	0.0	375.2			
95.00		0.2500	26.049	20.768	1,764.4	25.78	104.20	76.6	130.9	0.0	360.6			
100.00		0.2500	24.986	19.913	1,555.2	24.64	99.94	77.8	120.2	0.0	346.1			
105.00		0.2500	23.923	19.057	1,363.1	23.50	95.69	79.1	110.1	0.0	331.5			
110.00		0.2500	22.860	18.201	1,187.6	22.36	91.44	80.3	100.4	0.0	316.9			
111.00		0.2500	22.647	18.030	1,154.4	22.13	90.59	80.6	98.5	0.0	61.6			
115.00		0.2500	21.797	17.345	1,027.8	21.22	87.19	81.6	91.1	0.0	240.7			
120.00		0.2500	20.733	16.489	883.1	20.08	82.93	81.9	82.3	0.0	287.8			
125.00		0.2500	19.670	15.633	752.6	18.94	78.68	81.9	73.9	0.0	273.3			
125.59	Top - Section 3	0.2500	19.544	15.532	738.0	18.80	78.18	81.9	72.9	0.0	31.4			
125.59	Bot - Section 4	0.3750	10.750	12.223	164.6	0.00	28.67	35.0	30.6	40.4				
130.00		0.3750	10.750	12.223	164.6	0.00	28.67	35.0	30.6	40.4	183.3			
131.00		0.3750	10.750	12.223	164.6	0.00	28.67	35.0	30.6	40.4	41.6			
135.00		0.3750	10.750	12.223	164.6	0.00	28.67	35.0	30.6	40.4	166.4			
137.00		0.3750	10.750	12.223	164.6	0.00	28.67	35.0	30.6	40.4	83.2			
140.00		0.3750	10.750	12.223	164.6	0.00	28.67	35.0	30.6	40.4	124.8			
142.00		0.3750	10.750	12.223	164.6	0.00	28.67	35.0	30.6	40.4	83.2			
											18,171.7			3,719.2

Site Number: 302511 Code: ANSI/TIA-222-G

Site Name: WSPT - South, CT Engineering Number: OAA735666_C3_01 7/2/2018 4:56:09 PM

Customer: T-MOBILE

Load Case: 1.2D + 1.6W 93 mph with No Ice 25 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		362.2	0.0					0.0	0.0	362.2	0.0	0.0	0.0
5.00		715.7	1,266.4					163.3	1,184.3	879.0	2,450.7	0.0	0.0
10.00		698.4	1,235.8					163.3	1,184.3	861.7	2,420.1	0.0	0.0
15.00		691.7	1,205.3					163.3	1,184.3	855.0	2,389.5	0.0	0.0
20.00		703.1	1,174.7					168.5	1,184.3	871.6	2,358.9	0.0	0.0
25.00		718.0	1,144.1					177.6	1,184.3	895.7	2,328.4	0.0	0.0
30.00		726.4	1,113.5					185.3	1,184.3	911.7	2,297.8	0.0	0.0
35.00		729.8	1,082.9					191.9	1,184.3	921.7	2,267.2	0.0	0.0
40.00		383.0	1,052.4					197.8	1,184.3	580.8	2,236.6	0.0	0.0
40.24	Bot - Section 2	371.4	50.5					9.8	57.7	381.2	108.3	0.0	0.0
45.00		383.3	1,822.8					193.3	1,126.5	576.6	2,949.3	0.0	0.0
45.40	Top - Section 1	369.6	151.0					16.5	94.7	386.0	245.7	0.0	0.0
50.00		706.1	799.1					191.4	1,089.5	897.6	1,888.6	0.0	0.0
55.00		415.5	843.4					211.7	1,184.3	627.1	2,027.7	0.0	0.0
55.68	Reinf. Top	361.8	112.2					28.9	160.3	390.7	272.5	0.0	0.0
60.00		527.1	705.0					186.1	677.4	713.2	1,382.4	0.0	0.0
63.00	Appurtenance(s)	356.5	477.7	46.3	0.0	0.0	36.7	130.5	470.1	533.3	984.5	0.0	0.0
65.00		492.4	313.3					73.8	152.7	566.2	466.0	0.0	0.0
70.00		694.3	764.8					186.0	381.8	880.3	1,146.5	0.0	0.0
75.00		680.2	738.6					188.2	381.8	868.4	1,120.3	0.0	0.0
80.00		389.0	712.4					190.3	381.8	579.3	1,094.1	0.0	0.0
80.79	Bot - Section 3	329.7	110.5					30.3	60.5	360.0	171.1	0.0	0.0
84.94	Top - Section 2	280.8	955.3					159.7	316.9	440.5	1,272.2	0.0	0.0
85.00		329.7	5.2					2.2	4.3	331.8	9.5	0.0	0.0
90.00	Appurtenance(s)	649.2	450.2	4,783.0	0.0	0.0	4,540.4	194.1	381.8	5,626.3	5,372.4	0.0	0.0
95.00		642.6	432.8					0.0	290.8	642.6	723.6	0.0	0.0
100.00	Appurtenance(s)	634.5	415.3	4,446.4	0.0	47.0	3,391.3	0.0	290.8	5,080.9	4,097.4	0.0	0.0
105.00		625.9	397.8					0.0	220.2	625.9	618.0	0.0	0.0
110.00		367.1	380.3					0.0	220.2	367.1	600.5	0.0	0.0
111.00	Appurtenance(s)	277.6	74.0	2,894.4	0.0	0.0	2,551.2	23.0	44.0	3,194.9	2,669.2	0.0	0.0
115.00		488.0	288.9					92.3	156.4	580.3	445.3	0.0	0.0
120.00	Appurtenance(s)	489.9	345.4	4,387.6	0.0	0.0	4,007.9	116.3	195.5	4,993.8	4,548.8	0.0	0.0
125.00		249.2	327.9					0.0	130.7	249.2	458.6	0.0	0.0
125.59	Top - Section 3	142.9	37.7					0.0	15.5	142.9	53.2	0.0	0.0
130.00		143.5	220.0					52.6	115.2	196.1	335.1	0.0	0.0
131.00	Appurtenance(s)	133.6	49.9	4,837.4	0.0	-10,824.5	3,971.8	12.0	26.1	4,983.0	4,047.8	0.0	0.0
135.00		160.7	199.6					48.2	24.0	208.9	223.6	0.0	0.0
137.00	Appurtenance(s)	94.2	99.8	376.3	0.0	0.0	84.6	24.2	12.0	494.7	196.4	0.0	0.0
140.00		67.5	149.7					0.0	0.0	67.5	149.7	0.0	0.0
142.00		27.1	99.8					0.0	0.0	27.1	99.8	0.0	0.0
								Totals:		43,152.75	58,527.45	0.00	0.00

Site Number: 302511 Code: ANSI/TIA-222-G

Site Name: WSPT - South, CT Engineering Number: OAA735666_C3_01 7/2/2018 4:56:15 PM

Customer: T-MOBILE

Load Case: 1.2D + 1.6W 93 mph with No Ice 25 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	-58.44	-42.92	0.00	-3,894.75	0.00	3,894.75	4,350.13	2,175.06	7,987.32	3,944.64	0.00	0.00	0.708
5.00	-55.81	-42.27	0.00	-3,680.17	0.00	3,680.17	4,285.51	2,142.75	7,679.11	3,792.42	0.13	-0.24	0.689
10.00	-53.22	-41.61	0.00	-3,468.85	0.00	3,468.85	4,218.97	2,109.49	7,373.27	3,641.38	0.51	-0.48	0.670
15.00	-50.67	-40.95	0.00	-3,260.79	0.00	3,260.79	4,150.52	2,075.26	7,070.06	3,491.64	1.14	-0.72	0.650
20.00	-48.15	-40.24	0.00	-3,056.06	0.00	3,056.06	4,080.16	2,040.08	6,769.73	3,343.32	2.03	-0.96	0.630
25.00	-45.67	-39.50	0.00	-2,854.84	0.00	2,854.84	4,007.88	2,003.94	6,472.54	3,196.54	3.17	-1.21	0.608
30.00	-43.24	-38.72	0.00	-2,657.35	0.00	2,657.35	3,933.69	1,966.85	6,178.73	3,051.44	4.56	-1.45	0.586
35.00	-40.84	-37.90	0.00	-2,463.78	0.00	2,463.78	3,854.52	1,927.26	5,883.88	2,905.83	6.21	-1.69	0.563
40.00	-38.54	-37.34	0.00	-2,274.26	0.00	2,274.26	3,744.12	1,872.06	5,549.75	2,740.81	8.11	-1.93	0.544
40.24	-38.36	-37.03	0.00	-2,265.16	0.00	2,265.16	3,738.74	1,869.37	5,533.71	2,732.89	8.20	-1.94	0.543
45.00	-35.36	-36.43	0.00	-2,089.02	0.00	2,089.02	3,633.72	1,816.86	5,225.39	2,580.62	10.25	-2.17	0.516
45.40	-35.06	-36.10	0.00	-2,074.45	0.00	2,074.45	3,063.79	1,531.89	4,506.32	2,225.50	10.44	-2.19	0.575
50.00	-33.07	-35.26	0.00	-1,908.38	0.00	1,908.38	3,008.67	1,504.34	4,302.82	2,125.00	12.65	-2.40	0.545
55.00	-30.99	-34.62	0.00	-1,732.07	0.00	1,732.07	2,946.93	1,473.46	4,084.17	2,017.02	15.29	-2.64	0.513
55.68	-30.66	-34.28	0.00	-1,708.63	0.00	1,708.63	2,938.42	1,469.21	4,054.78	2,002.51	15.67	-2.67	0.508
55.68	-30.66	-34.28	0.00	-1,708.63	0.00	1,708.63	2,938.42	1,469.21	4,054.78	2,002.51	15.67	-2.67	0.864
60.00	-29.18	-33.61	0.00	-1,560.44	0.00	1,560.44	2,883.27	1,441.64	3,868.42	1,910.47	18.19	-2.88	0.827
63.00	-28.11	-33.13	0.00	-1,459.60	0.00	1,459.60	2,844.16	1,422.08	3,740.46	1,847.27	20.07	-3.12	0.801
65.00	-27.52	-32.67	0.00	-1,393.35	0.00	1,393.35	2,808.42	1,404.21	3,643.77	1,799.52	21.41	-3.28	0.785
70.00	-26.22	-31.90	0.00	-1,230.00	0.00	1,230.00	2,713.79	1,356.89	3,400.96	1,679.61	25.05	-3.66	0.743
75.00	-24.96	-31.12	0.00	-1,070.52	0.00	1,070.52	2,619.16	1,309.58	3,166.52	1,563.83	29.09	-4.04	0.695
80.00	-23.80	-30.54	0.00	-914.94	0.00	914.94	2,524.53	1,262.26	2,940.46	1,452.18	33.51	-4.40	0.640
80.79	-23.57	-30.24	0.00	-890.73	0.00	890.73	2,509.53	1,254.76	2,905.39	1,434.86	34.24	-4.46	0.631
84.94	-22.26	-29.76	0.00	-765.19	0.00	765.19	1,499.90	749.95	1,728.05	853.42	38.24	-4.74	0.913
85.00	-22.16	-29.51	0.00	-763.52	0.00	763.52	1,499.54	749.77	1,726.89	852.85	38.30	-4.74	0.912
90.00	-17.13	-23.57	0.00	-615.96	0.00	615.96	1,466.64	733.32	1,624.12	802.09	43.50	-5.18	0.781
95.00	-16.32	-22.97	0.00	-498.12	0.00	498.12	1,431.82	715.91	1,522.23	751.77	49.14	-5.58	0.675
100.00	-12.65	-17.57	0.00	-383.24	0.00	383.24	1,395.09	697.54	1,421.47	702.01	55.17	-5.93	0.556
105.00	-12.02	-16.95	0.00	-295.37	0.00	295.37	1,356.44	678.22	1,322.10	652.93	61.54	-6.24	0.462
110.00	-11.42	-16.55	0.00	-210.63	0.00	210.63	1,315.88	657.94	1,224.36	604.67	68.21	-6.51	0.358
111.00	-9.11	-13.08	0.00	-194.09	0.00	194.09	1,307.54	653.77	1,205.03	595.12	69.58	-6.56	0.334
115.00	-8.69	-12.48	0.00	-141.75	0.00	141.75	1,273.40	636.70	1,128.51	557.33	75.14	-6.72	0.262
120.00	-4.76	-6.99	0.00	-79.34	0.00	79.34	1,215.41	607.71	1,023.37	505.40	82.25	-6.88	0.161
125.00	-4.32	-6.70	0.00	-44.37	0.00	44.37	1,152.33	576.16	919.28	454.00	89.49	-6.97	0.102
125.59	-4.29	-6.55	0.00	-40.41	0.00	40.41	1,144.85	572.43	907.31	448.09	90.35	-6.98	0.094
125.59	-4.29	-6.55	0.00	-40.41	0.00	40.41	385.02	192.51	160.54	106.00	90.35	-6.98	0.393
130.00	-3.97	-6.32	0.00	-11.54	0.00	11.54	385.02	192.51	160.54	106.00	96.81	-7.03	0.120
131.00	-0.57	-0.87	0.00	-5.23	0.00	5.23	385.02	192.51	160.54	106.00	98.28	-7.04	0.051
135.00	-0.37	-0.64	0.00	-1.73	0.00	1.73	385.02	192.51	160.54	106.00	104.18	-7.07	0.017
137.00	-0.24	-0.12	0.00	-0.45	0.00	0.45	385.02	192.51	160.54	106.00	107.13	-7.07	0.005
140.00	-0.10	-0.04	0.00	-0.08	0.00	0.08	385.02	192.51	160.54	106.00	111.56	-7.07	0.001
142.00	0.00	-0.03	0.00	0.00	0.00	0.00	385.02	192.51	160.54	106.00	114.52	-7.07	0.000

Site Number: 302511 Code: ANSI/TIA-222-G

Site Name: WSPT - South, CT Engineering Number: OAA735666_C3_01 7/2/2018 4:56:15 PM

Customer: T-MOBILE

Load Case: 0.9D + 1.6W — 93 mph with No Ice (Reduced DL) — 25 Iterations

Gust Response Factor 1.10 — Wind Importance Factor 1.00

Dead Load Factor : 0.90

Wind Load Factor : 1.60

Applied Segment Forces Summary

		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		362.2	0.0					0.0	0.0	362.2	0.0	0.0	0.0
5.00		715.7	949.8					163.3	888.2	879.0	1,838.0	0.0	0.0
10.00		698.4	926.9					163.3	888.2	861.7	1,815.1	0.0	0.0
15.00		691.7	903.9					163.3	888.2	855.0	1,792.1	0.0	0.0
20.00		703.1	881.0					168.5	888.2	871.6	1,769.2	0.0	0.0
25.00		718.0	858.1					177.6	888.2	895.7	1,746.3	0.0	0.0
30.00		726.4	835.1					185.3	888.2	911.7	1,723.3	0.0	0.0
35.00		729.8	812.2					191.9	888.2	921.7	1,700.4	0.0	0.0
40.00		383.0	789.3					197.8	888.2	580.8	1,677.5	0.0	0.0
40.24	Bot - Section 2	371.4	37.9					9.8	43.3	381.2	81.2	0.0	0.0
45.00		383.3	1,367.1					193.3	844.9	576.6	2,212.0	0.0	0.0
45.40	Top - Section 1	369.6	113.2					16.5	71.1	386.0	184.3	0.0	0.0
50.00		706.1	599.3					191.4	817.1	897.6	1,416.5	0.0	0.0
55.00		415.5	632.6					211.7	888.2	627.1	1,520.8	0.0	0.0
55.68	Reinf. Top	361.8	84.1					28.9	120.3	390.7	204.4	0.0	0.0
60.00		527.1	528.8					186.1	508.0	713.2	1,036.8	0.0	0.0
63.00	Appurtenance(s)	356.5	358.3	46.3	0.0	0.0	27.5	130.5	352.6	533.3	738.4	0.0	0.0
65.00		492.4	234.9					73.8	114.5	566.2	349.5	0.0	0.0
70.00		694.3	573.6					186.0	286.3	880.3	859.9	0.0	0.0
75.00		680.2	553.9					188.2	286.3	868.4	840.2	0.0	0.0
80.00		389.0	534.3					190.3	286.3	579.3	820.6	0.0	0.0
80.79	Bot - Section 3	329.7	82.9					30.3	45.4	360.0	128.3	0.0	0.0
84.94	Top - Section 2	280.8	716.5					159.7	237.7	440.5	954.2	0.0	0.0
85.00		329.7	3.9					2.2	3.2	331.8	7.1	0.0	0.0
90.00	Appurtenance(s)	590.2	337.7	4,783.0	0.0	0.0	3,405.3	194.1	286.3	5,567.3	4,029.3	0.0	0.0
95.00		520.7	324.6					0.0	218.1	520.7	542.7	0.0	0.0
100.00	Appurtenance(s)	504.9	311.5	4,446.4	0.0	47.0	2,543.5	0.0	218.1	4,951.3	3,073.1	0.0	0.0
105.00		488.4	298.4					0.0	165.1	488.4	463.5	0.0	0.0
110.00		296.4	285.3					0.0	165.1	296.4	450.4	0.0	0.0
111.00	Appurtenance(s)	277.6	55.5	2,894.4	0.0	0.0	1,913.4	23.0	33.0	3,194.9	2,001.9	0.0	0.0
115.00		488.0	216.7					92.3	117.3	580.3	334.0	0.0	0.0
120.00	Appurtenance(s)	479.8	259.0	4,387.6	0.0	0.0	3,005.9	116.3	146.6	4,983.8	3,411.6	0.0	0.0
125.00		237.7	245.9					0.0	98.0	237.7	343.9	0.0	0.0
125.59	Top - Section 3	141.5	28.3					0.0	11.6	141.5	39.9	0.0	0.0
130.00		143.5	165.0					52.6	86.4	196.1	251.4	0.0	0.0
131.00	Appurtenance(s)	133.6	37.4	4,837.4	0.0	-10,824.5	2,978.8	12.0	19.6	4,983.0	3,035.9	0.0	0.0
135.00		160.7	149.7					48.2	18.0	208.9	167.7	0.0	0.0
137.00	Appurtenance(s)	94.2	74.9	376.3	0.0	0.0	63.4	24.2	9.0	494.7	147.3	0.0	0.0
140.00		67.5	112.3					0.0	0.0	67.5	112.3	0.0	0.0
142.00		27.1	74.9					0.0	0.0	27.1	74.9	0.0	0.0
								Totals:		42,611.13	43,895.58	0.00	0.00

Load Case: 0.9D + 1.6W — 93 mph with No Ice (Reduced DL) — 25 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	-43.81	-42.34	0.00	-3,793.19	0.00	3,793.19	4,350.13	2,175.06	7,987.32	3,944.64	0.00	0.00	0.687
5.00	-41.80	-41.63	0.00	-3,581.49	0.00	3,581.49	4,285.51	2,142.75	7,679.11	3,792.42	0.13	-0.23	0.669
10.00	-39.82	-40.92	0.00	-3,373.35	0.00	3,373.35	4,218.97	2,109.49	7,373.27	3,641.38	0.50	-0.47	0.650
15.00	-37.88	-40.20	0.00	-3,168.76	0.00	3,168.76	4,150.52	2,075.26	7,070.06	3,491.64	1.11	-0.70	0.630
20.00	-35.96	-39.45	0.00	-2,967.76	0.00	2,967.76	4,080.16	2,040.08	6,769.73	3,343.32	1.97	-0.94	0.609
25.00	-34.07	-38.66	0.00	-2,770.50	0.00	2,770.50	4,007.88	2,003.94	6,472.54	3,196.54	3.08	-1.17	0.588
30.00	-32.21	-37.85	0.00	-2,577.18	0.00	2,577.18	3,933.69	1,966.85	6,178.73	3,051.44	4.44	-1.41	0.566
35.00	-30.39	-37.00	0.00	-2,387.96	0.00	2,387.96	3,854.52	1,927.26	5,883.88	2,905.83	6.04	-1.64	0.544
40.00	-28.65	-36.43	0.00	-2,202.94	0.00	2,202.94	3,744.12	1,872.06	5,549.75	2,740.81	7.88	-1.87	0.525
40.24	-28.51	-36.11	0.00	-2,194.06	0.00	2,194.06	3,738.74	1,869.37	5,533.71	2,732.89	7.98	-1.88	0.524
45.00	-26.25	-35.51	0.00	-2,022.33	0.00	2,022.33	3,633.72	1,816.86	5,225.39	2,580.62	9.97	-2.10	0.498
45.40	-26.01	-35.17	0.00	-2,008.13	0.00	2,008.13	3,063.79	1,531.89	4,506.32	2,225.50	10.14	-2.12	0.554
50.00	-24.50	-34.31	0.00	-1,846.37	0.00	1,846.37	3,008.67	1,504.34	4,302.82	2,125.00	12.29	-2.33	0.526
55.00	-22.93	-33.67	0.00	-1,674.83	0.00	1,674.83	2,946.93	1,473.46	4,084.17	2,017.02	14.86	-2.56	0.494
55.68	-22.67	-33.32	0.00	-1,652.04	0.00	1,652.04	2,938.42	1,469.21	4,054.78	2,002.51	15.22	-2.59	0.490
55.68	-22.67	-33.32	0.00	-1,652.04	0.00	1,652.04	2,938.42	1,469.21	4,054.78	2,002.51	15.22	-2.59	0.833
60.00	-21.55	-32.64	0.00	-1,508.02	0.00	1,508.02	2,883.27	1,441.64	3,868.42	1,910.47	17.66	-2.79	0.797
63.00	-20.73	-32.14	0.00	-1,410.11	0.00	1,410.11	2,844.16	1,422.08	3,740.46	1,847.27	19.49	-3.02	0.771
65.00	-20.26	-31.65	0.00	-1,345.84	0.00	1,345.84	2,808.42	1,404.21	3,643.77	1,799.52	20.79	-3.18	0.756
70.00	-19.26	-30.84	0.00	-1,187.62	0.00	1,187.62	2,713.79	1,356.89	3,400.96	1,679.61	24.32	-3.55	0.715
75.00	-18.29	-30.03	0.00	-1,033.42	0.00	1,033.42	2,619.16	1,309.58	3,166.52	1,563.83	28.23	-3.91	0.668
80.00	-17.41	-29.46	0.00	-883.26	0.00	883.26	2,524.53	1,262.26	2,940.46	1,452.18	32.51	-4.26	0.616
80.79	-17.23	-29.14	0.00	-859.91	0.00	859.91	2,509.53	1,254.76	2,905.39	1,434.86	33.22	-4.31	0.607
84.94	-16.24	-28.66	0.00	-738.95	0.00	738.95	1,499.90	749.95	1,728.05	853.42	37.10	-4.59	0.878
85.00	-16.15	-28.40	0.00	-737.34	0.00	737.34	1,499.54	749.77	1,726.89	852.85	37.15	-4.59	0.877
90.00	-12.45	-22.60	0.00	-595.37	0.00	595.37	1,466.64	733.32	1,624.12	802.09	42.19	-5.02	0.752
95.00	-11.81	-22.11	0.00	-482.38	0.00	482.38	1,431.82	715.91	1,522.23	751.77	47.64	-5.40	0.651
100.00	-9.14	-16.93	0.00	-371.81	0.00	371.81	1,395.09	697.54	1,421.47	702.01	53.48	-5.74	0.537
105.00	-8.65	-16.44	0.00	-287.16	0.00	287.16	1,356.44	678.22	1,322.10	652.93	59.65	-6.05	0.447
110.00	-8.19	-16.12	0.00	-204.97	0.00	204.97	1,315.88	657.94	1,224.36	604.67	66.12	-6.30	0.346
111.00	-6.53	-12.73	0.00	-188.85	0.00	188.85	1,307.54	653.77	1,205.03	595.12	67.44	-6.35	0.323
115.00	-6.23	-12.14	0.00	-137.92	0.00	137.92	1,273.40	636.70	1,128.51	557.33	72.82	-6.51	0.253
120.00	-3.40	-6.80	0.00	-77.24	0.00	77.24	1,215.41	607.71	1,023.37	505.40	79.71	-6.66	0.156
125.00	-3.08	-6.53	0.00	-43.24	0.00	43.24	1,152.33	576.16	919.28	454.00	86.73	-6.76	0.098
125.59	-3.06	-6.38	0.00	-39.37	0.00	39.37	1,144.85	572.43	907.31	448.09	87.57	-6.77	0.091
125.59	-3.06	-6.38	0.00	-39.37	0.00	39.37	385.02	192.51	160.54	106.00	87.57	-6.77	0.380
130.00	-2.83	-6.16	0.00	-11.24	0.00	11.24	385.02	192.51	160.54	106.00	93.82	-6.81	0.114
131.00	-0.40	-0.85	0.00	-5.08	0.00	5.08	385.02	192.51	160.54	106.00	95.25	-6.82	0.049
135.00	-0.26	-0.62	0.00	-1.67	0.00	1.67	385.02	192.51	160.54	106.00	100.96	-6.85	0.016
137.00	-0.17	-0.12	0.00	-0.42	0.00	0.42	385.02	192.51	160.54	106.00	103.82	-6.85	0.004
140.00	-0.07	-0.04	0.00	-0.07	0.00	0.07	385.02	192.51	160.54	106.00	108.12	-6.85	0.001
142.00	0.00	-0.03	0.00	0.00	0.00	0.00	385.02	192.51	160.54	106.00	110.98	-6.85	0.000

Site Number: 302511 Code: ANSI/TIA-222-G

Site Name: WSPT - South, CT Engineering Number: OAA735666_C3_01 7/2/2018 4:56:22 PM

Customer: T-MOBILE

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph with 0.75 in Radial Ice 24 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		68.7	0.0					0.0	0.0	68.7	0.0	0.0	0.0
5.00		136.3	1,604.9					62.4	1,560.5	198.7	3,165.4	0.0	0.0
10.00		133.7	1,605.8					66.3	1,604.7	200.0	3,210.5	0.0	0.0
15.00		133.0	1,585.8					68.2	1,627.6	201.1	3,213.4	0.0	0.0
20.00		135.6	1,558.9					71.7	1,643.6	207.3	3,202.5	0.0	0.0
25.00		138.9	1,528.5					76.7	1,656.0	215.7	3,184.5	0.0	0.0
30.00		141.0	1,495.8					81.0	1,666.2	222.0	3,162.0	0.0	0.0
35.00		142.1	1,461.6					84.7	1,674.9	226.8	3,136.5	0.0	0.0
40.00		74.7	1,426.2					88.0	1,682.5	162.7	3,108.7	0.0	0.0
40.24	Bot - Section 2	72.5	68.9					4.4	82.2	76.9	151.1	0.0	0.0
45.00		74.9	2,180.2					86.7	1,607.1	161.6	3,787.3	0.0	0.0
45.40	Top - Section 1	72.4	181.1					7.4	135.4	79.8	316.5	0.0	0.0
50.00		138.6	1,139.0					86.4	1,560.0	225.0	2,699.0	0.0	0.0
55.00		81.7	1,205.7					96.4	1,701.0	178.1	2,906.8	0.0	0.0
55.68	Reinf. Top	71.3	161.3					13.2	230.7	84.6	392.0	0.0	0.0
60.00		104.1	1,012.0					85.6	1,128.9	189.6	2,140.9	0.0	0.0
63.00	Appurtenance(s)	70.5	688.2	13.3	0.0	0.0	39.3	60.4	785.5	144.2	1,513.1	0.0	0.0
65.00		97.7	452.4					33.3	307.1	131.0	759.5	0.0	0.0
70.00		138.1	1,103.4					84.4	770.1	222.5	1,873.5	0.0	0.0
75.00		135.8	1,068.6					86.0	773.4	221.8	1,841.9	0.0	0.0
80.00		77.9	1,033.4					87.6	776.4	165.4	1,809.8	0.0	0.0
80.79	Bot - Section 3	66.2	161.3					14.0	123.4	80.2	284.7	0.0	0.0
84.94	Top - Section 2	56.4	1,218.8					74.0	647.2	130.4	1,866.0	0.0	0.0
85.00		66.4	8.7					1.0	8.8	67.4	17.5	0.0	0.0
90.00	Appurtenance(s)	129.9	758.0	1,098.9	0.0	0.0	8,485.0	90.5	782.0	1,319.3	10,025.0	0.0	0.0
95.00		126.9	730.8					0.0	503.5	126.9	1,234.4	0.0	0.0
100.00	Appurtenance(s)	123.6	703.5	1,102.0	0.0	7.8	6,419.3	0.0	505.0	1,225.7	7,627.8	0.0	0.0
105.00		120.3	676.0					0.0	435.9	120.3	1,111.9	0.0	0.0
110.00		70.9	648.3					0.0	437.2	70.9	1,085.5	0.0	0.0
111.00	Appurtenance(s)	57.5	127.3	736.8	0.0	0.0	4,441.2	12.9	87.6	807.2	4,656.1	0.0	0.0
115.00		101.5	495.1					52.0	331.2	153.5	826.3	0.0	0.0
120.00	Appurtenance(s)	109.4	592.4	1,050.7	0.0	0.0	7,540.3	65.8	415.2	1,225.9	8,547.9	0.0	0.0
125.00		60.0	564.3					0.0	258.2	60.0	822.5	0.0	0.0
125.59	Top - Section 3	34.1	65.6					0.0	30.7	34.1	96.3	0.0	0.0
130.00		34.2	335.2					36.5	228.2	70.7	563.4	0.0	0.0
131.00	Appurtenance(s)	31.9	76.1	1,179.6	0.0	-2,426.5	8,128.5	8.3	51.8	1,219.8	8,256.5	0.0	0.0
135.00		38.4	304.7					33.5	127.1	71.9	431.8	0.0	0.0
137.00	Appurtenance(s)	32.2	152.5	85.5	0.0	0.0	378.8	16.9	63.7	134.5	595.0	0.0	0.0
140.00		32.3	228.9					0.0	0.0	32.3	228.9	0.0	0.0
142.00		12.9	152.7					0.0	0.0	12.9	152.7	0.0	0.0
								Totals:		10,547.45	94,004.93	0.00	0.00

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph with 0.75 in Radial Ice 24 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	-94.00	-10.53	0.00	-1,000.36	0.00	1,000.36	4,350.13	2,175.06	7,987.32	3,944.64	0.00	0.00	0.196
5.00	-90.82	-10.43	0.00	-947.71	0.00	947.71	4,285.51	2,142.75	7,679.11	3,792.42	0.03	-0.06	0.191
10.00	-87.60	-10.32	0.00	-895.58	0.00	895.58	4,218.97	2,109.49	7,373.27	3,641.38	0.13	-0.12	0.186
15.00	-84.38	-10.20	0.00	-843.99	0.00	843.99	4,150.52	2,075.26	7,070.06	3,491.64	0.29	-0.19	0.181
20.00	-81.16	-10.07	0.00	-793.00	0.00	793.00	4,080.16	2,040.08	6,769.73	3,343.32	0.52	-0.25	0.176
25.00	-77.97	-9.92	0.00	-742.65	0.00	742.65	4,007.88	2,003.94	6,472.54	3,196.54	0.82	-0.31	0.170
30.00	-74.80	-9.77	0.00	-693.04	0.00	693.04	3,933.69	1,966.85	6,178.73	3,051.44	1.18	-0.37	0.165
35.00	-71.65	-9.59	0.00	-644.21	0.00	644.21	3,854.52	1,927.26	5,883.88	2,905.83	1.60	-0.44	0.159
40.00	-68.54	-9.45	0.00	-596.24	0.00	596.24	3,744.12	1,872.06	5,549.75	2,740.81	2.10	-0.50	0.154
40.24	-68.39	-9.41	0.00	-593.94	0.00	593.94	3,738.74	1,869.37	5,533.71	2,732.89	2.12	-0.50	0.153
45.00	-64.59	-9.24	0.00	-549.21	0.00	549.21	3,633.72	1,816.86	5,225.39	2,580.62	2.65	-0.56	0.146
45.40	-64.27	-9.20	0.00	-545.51	0.00	545.51	3,063.79	1,531.89	4,506.32	2,225.50	2.70	-0.57	0.163
50.00	-61.57	-9.01	0.00	-503.21	0.00	503.21	3,008.67	1,504.34	4,302.82	2,125.00	3.28	-0.62	0.156
55.00	-58.66	-8.83	0.00	-458.17	0.00	458.17	2,946.93	1,473.46	4,084.17	2,017.02	3.97	-0.69	0.147
55.68	-58.26	-8.78	0.00	-452.19	0.00	452.19	2,938.42	1,469.21	4,054.78	2,002.51	4.06	-0.70	0.146
55.68	-58.26	-8.78	0.00	-452.19	0.00	452.19	2,938.42	1,469.21	4,054.78	2,002.51	4.06	-0.70	0.246
60.00	-56.12	-8.62	0.00	-414.26	0.00	414.26	2,883.27	1,441.64	3,868.42	1,910.47	4.72	-0.75	0.236
63.00	-54.60	-8.50	0.00	-388.41	0.00	388.41	2,844.16	1,422.08	3,740.46	1,847.27	5.21	-0.81	0.229
65.00	-53.83	-8.43	0.00	-371.41	0.00	371.41	2,808.42	1,404.21	3,643.77	1,799.52	5.56	-0.86	0.226
70.00	-51.94	-8.27	0.00	-329.26	0.00	329.26	2,713.79	1,356.89	3,400.96	1,679.61	6.52	-0.96	0.215
75.00	-50.09	-8.10	0.00	-287.92	0.00	287.92	2,619.16	1,309.58	3,166.52	1,563.83	7.58	-1.06	0.203
80.00	-48.28	-7.95	0.00	-247.41	0.00	247.41	2,524.53	1,262.26	2,940.46	1,452.18	8.74	-1.16	0.190
80.79	-47.99	-7.90	0.00	-241.11	0.00	241.11	2,509.53	1,254.76	2,905.39	1,434.86	8.93	-1.17	0.187
84.94	-46.12	-7.76	0.00	-208.32	0.00	208.32	1,499.90	749.95	1,728.05	853.42	9.99	-1.25	0.275
85.00	-46.10	-7.74	0.00	-207.88	0.00	207.88	1,499.54	749.77	1,726.89	852.85	10.00	-1.25	0.275
90.00	-36.09	-6.27	0.00	-169.16	0.00	169.16	1,466.64	733.32	1,624.12	802.09	11.38	-1.37	0.236
95.00	-34.85	-6.17	0.00	-137.82	0.00	137.82	1,431.82	715.91	1,522.23	751.77	12.87	-1.48	0.208
100.00	-27.25	-4.79	0.00	-106.95	0.00	106.95	1,395.09	697.54	1,421.47	702.01	14.48	-1.58	0.172
105.00	-26.14	-4.67	0.00	-83.01	0.00	83.01	1,356.44	678.22	1,322.10	652.93	16.18	-1.67	0.146
110.00	-25.05	-4.59	0.00	-59.64	0.00	59.64	1,315.88	657.94	1,224.36	604.67	17.97	-1.74	0.118
111.00	-20.42	-3.65	0.00	-55.05	0.00	55.05	1,307.54	653.77	1,205.03	595.12	18.33	-1.75	0.108
115.00	-19.59	-3.49	0.00	-40.45	0.00	40.45	1,273.40	636.70	1,128.51	557.33	19.82	-1.80	0.088
120.00	-11.09	-2.00	0.00	-23.01	0.00	23.01	1,215.41	607.71	1,023.37	505.40	21.74	-1.85	0.055
125.00	-10.27	-1.91	0.00	-13.02	0.00	13.02	1,152.33	576.16	919.28	454.00	23.69	-1.87	0.038
125.59	-10.17	-1.88	0.00	-11.89	0.00	11.89	1,144.85	572.43	907.31	448.09	23.92	-1.88	0.035
125.59	-10.17	-1.88	0.00	-11.89	0.00	11.89	385.02	192.51	160.54	106.00	23.92	-1.88	0.139
130.00	-9.61	-1.79	0.00	-3.61	0.00	3.61	385.02	192.51	160.54	106.00	25.66	-1.89	0.059
131.00	-1.40	-0.30	0.00	-1.82	0.00	1.82	385.02	192.51	160.54	106.00	26.05	-1.89	0.021
135.00	-0.97	-0.21	0.00	-0.63	0.00	0.63	385.02	192.51	160.54	106.00	27.65	-1.90	0.008
137.00	-0.38	-0.06	0.00	-0.21	0.00	0.21	385.02	192.51	160.54	106.00	28.44	-1.90	0.003
140.00	-0.15	-0.02	0.00	-0.04	0.00	0.04	385.02	192.51	160.54	106.00	29.64	-1.91	0.001
142.00	0.00	-0.01	0.00	0.00	0.00	0.00	385.02	192.51	160.54	106.00	30.44	-1.91	0.000

Load Case: 1.0D + 1.0W Serviceability 60 mph 24 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		94.2	0.0					0.0	0.0	94.2	0.0	0.0	0.0
5.00		186.2	1,055.3					42.5	986.9	228.7	2,042.2	0.0	0.0
10.00		181.7	1,029.9					42.5	986.9	224.2	2,016.7	0.0	0.0
15.00		179.9	1,004.4					42.5	986.9	222.4	1,991.3	0.0	0.0
20.00		182.9	978.9					43.8	986.9	226.7	1,965.8	0.0	0.0
25.00		186.8	953.4					46.2	986.9	233.0	1,940.3	0.0	0.0
30.00		189.0	927.9					48.2	986.9	237.2	1,914.8	0.0	0.0
35.00		189.9	902.4					49.9	986.9	239.8	1,889.3	0.0	0.0
40.00		99.6	877.0					51.5	986.9	151.1	1,863.8	0.0	0.0
40.24	Bot - Section 2	96.6	42.1					2.5	48.1	99.2	90.2	0.0	0.0
45.00		99.7	1,519.0					50.3	938.8	150.0	2,457.8	0.0	0.0
45.40	Top - Section 1	96.1	125.8					4.3	79.0	100.4	204.7	0.0	0.0
50.00		183.7	665.9					49.8	907.9	233.5	1,573.8	0.0	0.0
55.00		108.1	702.9					55.2	986.9	163.3	1,689.7	0.0	0.0
55.68	Reinf. Top	94.1	93.5					7.6	133.6	101.7	227.1	0.0	0.0
60.00		137.1	587.5					48.7	564.5	185.9	1,152.0	0.0	0.0
63.00	Appurtenance(s)	92.7	398.1	12.1	0.0	0.0	30.6	34.3	391.7	139.1	820.4	0.0	0.0
65.00		128.1	261.0					19.4	127.3	147.5	388.3	0.0	0.0
70.00		180.6	637.3					49.1	318.1	229.8	955.5	0.0	0.0
75.00		176.9	615.5					49.9	318.1	226.8	933.6	0.0	0.0
80.00		101.2	593.6					50.6	318.1	151.8	911.8	0.0	0.0
80.79	Bot - Section 3	85.8	92.1					8.1	50.4	93.8	142.5	0.0	0.0
84.94	Top - Section 2	73.0	796.1					42.6	264.1	115.6	1,060.2	0.0	0.0
85.00		85.8	4.3					0.6	3.6	86.3	7.9	0.0	0.0
90.00	Appurtenance(s)	153.5	375.2	1,244.3	0.0	0.0	3,783.7	51.9	318.1	1,449.7	4,477.0	0.0	0.0
95.00		135.5	360.6					0.0	242.3	135.5	603.0	0.0	0.0
100.00	Appurtenance(s)	131.4	346.1	1,156.7	0.0	12.2	2,826.1	0.0	242.3	1,288.1	3,414.5	0.0	0.0
105.00		127.1	331.5					0.0	183.5	127.1	515.0	0.0	0.0
110.00		77.1	316.9					0.0	183.5	77.1	500.4	0.0	0.0
111.00	Appurtenance(s)	72.2	61.6	753.0	0.0	0.0	2,126.0	6.0	36.7	831.1	2,224.3	0.0	0.0
115.00		126.9	240.7					24.0	130.4	151.0	371.1	0.0	0.0
120.00	Appurtenance(s)	124.8	287.8	1,141.4	0.0	0.0	3,339.9	30.3	162.9	1,296.5	3,790.7	0.0	0.0
125.00		61.8	273.3					0.0	108.9	61.8	382.2	0.0	0.0
125.59	Top - Section 3	36.8	31.4					0.0	12.9	36.8	44.3	0.0	0.0
130.00		37.3	183.3					13.7	96.0	51.0	279.3	0.0	0.0
131.00	Appurtenance(s)	34.8	41.6	1,258.4	0.0	-2,815.9	3,309.8	3.1	21.8	1,296.3	3,373.2	0.0	0.0
135.00		41.8	166.4					12.5	20.0	54.3	186.4	0.0	0.0
137.00	Appurtenance(s)	24.7	83.2	97.9	0.0	0.0	70.5	6.3	10.0	128.9	163.7	0.0	0.0
140.00		18.0	124.8					0.0	0.0	18.0	124.8	0.0	0.0
142.00		7.2	83.2					0.0	0.0	7.2	83.2	0.0	0.0
								Totals:		11,092.4	448,772.87	0.00	0.00

Load Case: 1.0D + 1.0W Serviceability 60 mph 24 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	-48.77	-11.02	0.00	-992.79	0.00	992.79	4,350.13	2,175.06	7,987.32	3,944.64	0.00	0.00	0.186
5.00	-46.71	-10.84	0.00	-937.67	0.00	937.67	4,285.51	2,142.75	7,679.11	3,792.42	0.03	-0.06	0.181
10.00	-44.69	-10.67	0.00	-883.44	0.00	883.44	4,218.97	2,109.49	7,373.27	3,641.38	0.13	-0.12	0.176
15.00	-42.68	-10.48	0.00	-830.12	0.00	830.12	4,150.52	2,075.26	7,070.06	3,491.64	0.29	-0.18	0.171
20.00	-40.71	-10.29	0.00	-777.71	0.00	777.71	4,080.16	2,040.08	6,769.73	3,343.32	0.52	-0.25	0.165
25.00	-38.76	-10.09	0.00	-726.24	0.00	726.24	4,007.88	2,003.94	6,472.54	3,196.54	0.81	-0.31	0.160
30.00	-36.83	-9.88	0.00	-675.78	0.00	675.78	3,933.69	1,966.85	6,178.73	3,051.44	1.16	-0.37	0.154
35.00	-34.94	-9.67	0.00	-626.37	0.00	626.37	3,854.52	1,927.26	5,883.88	2,905.83	1.58	-0.43	0.148
40.00	-33.07	-9.52	0.00	-578.03	0.00	578.03	3,744.12	1,872.06	5,549.75	2,740.81	2.06	-0.49	0.143
40.24	-32.97	-9.44	0.00	-575.71	0.00	575.71	3,738.74	1,869.37	5,533.71	2,732.89	2.09	-0.49	0.142
45.00	-30.51	-9.28	0.00	-530.83	0.00	530.83	3,633.72	1,816.86	5,225.39	2,580.62	2.61	-0.55	0.135
45.40	-30.30	-9.19	0.00	-527.11	0.00	527.11	3,063.79	1,531.89	4,506.32	2,225.50	2.66	-0.56	0.151
50.00	-28.72	-8.97	0.00	-484.82	0.00	484.82	3,008.67	1,504.34	4,302.82	2,125.00	3.22	-0.61	0.143
55.00	-27.03	-8.81	0.00	-439.95	0.00	439.95	2,946.93	1,473.46	4,084.17	2,017.02	3.89	-0.67	0.135
55.68	-26.80	-8.72	0.00	-433.98	0.00	433.98	2,938.42	1,469.21	4,054.78	2,002.51	3.99	-0.68	0.133
55.68	-26.80	-8.72	0.00	-433.98	0.00	433.98	2,938.42	1,469.21	4,054.78	2,002.51	3.99	-0.68	0.226
60.00	-25.64	-8.54	0.00	-396.30	0.00	396.30	2,883.27	1,441.64	3,868.42	1,910.47	4.63	-0.73	0.216
63.00	-24.82	-8.42	0.00	-370.67	0.00	370.67	2,844.16	1,422.08	3,740.46	1,847.27	5.11	-0.79	0.209
65.00	-24.42	-8.29	0.00	-353.84	0.00	353.84	2,808.42	1,404.21	3,643.77	1,799.52	5.45	-0.83	0.205
70.00	-23.45	-8.09	0.00	-312.38	0.00	312.38	2,713.79	1,356.89	3,400.96	1,679.61	6.38	-0.93	0.195
75.00	-22.51	-7.88	0.00	-271.94	0.00	271.94	2,619.16	1,309.58	3,166.52	1,563.83	7.40	-1.03	0.183
80.00	-21.60	-7.73	0.00	-232.54	0.00	232.54	2,524.53	1,262.26	2,940.46	1,452.18	8.53	-1.12	0.169
80.79	-21.45	-7.65	0.00	-226.41	0.00	226.41	2,509.53	1,254.76	2,905.39	1,434.86	8.71	-1.13	0.166
84.94	-20.39	-7.53	0.00	-194.65	0.00	194.65	1,499.90	749.95	1,728.05	853.42	9.73	-1.20	0.242
85.00	-20.37	-7.46	0.00	-194.23	0.00	194.23	1,499.54	749.77	1,726.89	852.85	9.75	-1.21	0.241
90.00	-15.92	-5.94	0.00	-156.92	0.00	156.92	1,466.64	733.32	1,624.12	802.09	11.07	-1.32	0.207
95.00	-15.31	-5.82	0.00	-127.21	0.00	127.21	1,431.82	715.91	1,522.23	751.77	12.51	-1.42	0.180
100.00	-11.92	-4.46	0.00	-98.10	0.00	98.10	1,395.09	697.54	1,421.47	702.01	14.04	-1.51	0.148
105.00	-11.41	-4.34	0.00	-75.80	0.00	75.80	1,356.44	678.22	1,322.10	652.93	15.67	-1.59	0.125
110.00	-10.90	-4.25	0.00	-54.12	0.00	54.12	1,315.88	657.94	1,224.36	604.67	17.37	-1.66	0.098
111.00	-8.70	-3.36	0.00	-49.87	0.00	49.87	1,307.54	653.77	1,205.03	595.12	17.72	-1.67	0.090
115.00	-8.33	-3.20	0.00	-36.43	0.00	36.43	1,273.40	636.70	1,128.51	557.33	19.14	-1.71	0.072
120.00	-4.58	-1.80	0.00	-20.41	0.00	20.41	1,215.41	607.71	1,023.37	505.40	20.95	-1.75	0.044
125.00	-4.20	-1.72	0.00	-11.43	0.00	11.43	1,152.33	576.16	919.28	454.00	22.80	-1.78	0.029
125.59	-4.16	-1.69	0.00	-10.41	0.00	10.41	1,144.85	572.43	907.31	448.09	23.02	-1.78	0.027
125.59	-4.16	-1.69	0.00	-10.41	0.00	10.41	385.02	192.51	160.54	106.00	23.02	-1.78	0.109
130.00	-3.88	-1.63	0.00	-2.98	0.00	2.98	385.02	192.51	160.54	106.00	24.67	-1.79	0.038
131.00	-0.55	-0.23	0.00	-1.35	0.00	1.35	385.02	192.51	160.54	106.00	25.04	-1.79	0.014
135.00	-0.37	-0.17	0.00	-0.45	0.00	0.45	385.02	192.51	160.54	106.00	26.55	-1.80	0.005
137.00	-0.21	-0.03	0.00	-0.11	0.00	0.11	385.02	192.51	160.54	106.00	27.30	-1.80	0.002
140.00	-0.08	-0.01	0.00	-0.02	0.00	0.02	385.02	192.51	160.54	106.00	28.44	-1.80	0.000
142.00	0.00	-0.01	0.00	0.00	0.00	0.00	385.02	192.51	160.54	106.00	29.19	-1.80	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):	2.25
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	1.88
Total Unfactored Dead Load:	48.77 k
Seismic Base Shear (E):	1.98 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)
39	141.00	83	895	0.005	10	104
38	138.50	125	1,298	0.008	15	156
37	136.00	93	937	0.005	11	116
36	133.00	186	1,797	0.010	21	232
35	130.50	63	590	0.003	7	79
34	127.80	279	2,498	0.014	29	348
33	125.30	44	382	0.002	4	55
32	122.50	382	3,158	0.018	36	477
31	117.50	451	3,445	0.020	40	562
30	113.00	371	2,635	0.015	30	463
29	110.50	98	670	0.004	8	123
28	107.50	500	3,236	0.019	37	624
27	102.50	515	3,046	0.018	35	642
26	97.50	588	3,169	0.018	36	734
25	92.50	603	2,942	0.017	34	752
24	87.50	693	3,048	0.018	35	865
23	84.97	8	33	0.000	0	10
22	82.87	1,060	4,208	0.024	48	1,322
21	80.40	143	535	0.003	6	178
20	77.50	912	3,192	0.018	37	1,137
19	72.50	934	2,884	0.017	33	1,164
18	67.50	955	2,581	0.015	30	1,192
17	64.00	388	949	0.005	11	484

16	61.50	790	1,792	0.010	21	985
15	57.84	1,152	2,329	0.013	27	1,437
14	55.34	227	423	0.002	5	283
13	52.50	1,690	2,849	0.016	33	2,107
12	47.70	1,574	2,217	0.013	25	1,963
11	45.20	205	261	0.002	3	255
10	42.62	2,458	2,803	0.016	32	3,065
9	40.12	90	92	0.001	1	113
8	37.50	1,864	1,672	0.010	19	2,324
7	32.50	1,889	1,296	0.008	15	2,356
6	27.50	1,915	960	0.006	11	2,388
5	22.50	1,940	667	0.004	8	2,420
4	17.50	1,966	422	0.002	5	2,452
3	12.50	1,991	227	0.001	3	2,483
2	7.50	2,017	88	0.001	1	2,515
1	2.50	2,042	11	0.000	0	2,547
RCU (Remote Control	137.00	3	31	0.000	0	4
Kathrein Scala 742-2	137.00	68	688	0.004	8	84
Powerwave Allgon 702	131.00	26	247	0.001	3	33
Kaelus DBC0061F1V51-	131.00	76	717	0.004	8	95
Powerwave Allgon LGP	131.00	85	793	0.005	9	106
Raycap DC6-48-60-18-	131.00	64	596	0.003	7	79
Ericsson RRUS-11 (50	131.00	150	1,406	0.008	16	187
Ericsson RRUS 32 B2	131.00	159	1,490	0.009	17	198
Ericsson RRUS 32 w/	131.00	159	1,487	0.009	17	198
Powerwave Allgon 777	131.00	105	984	0.006	11	131
Quintel QS66512-2	131.00	333	3,121	0.018	36	415
CCI HPA-65R-BUU-H6	131.00	153	1,434	0.008	16	191
Flat Platform w/ Han	131.00	2,000	18,742	0.109	215	2,494
DragonWave Horizon C	120.00	21	169	0.001	2	26
Alcatel-Lucent RRH2x	120.00	159	1,262	0.007	14	198
NextNet BTS-2500	120.00	105	835	0.005	10	131
Alcatel-Lucent 800 M	120.00	192	1,526	0.009	18	239
Alcatel-Lucent 1900	120.00	180	1,431	0.008	16	224
Nokia 2.5G MAA - AAH	120.00	311	2,471	0.014	28	388
Argus LLPX310R	120.00	86	682	0.004	8	107
DragonWave A-ANT-18G	120.00	54	431	0.002	5	68
Commscope NNVV-65B-R	120.00	232	1,846	0.011	21	290
Flat Platform w/ Han	120.00	2,000	15,899	0.092	183	2,494
Decibel DB844G90A-XY	111.00	126	865	0.005	10	157
Flat Platform w/ Han	111.00	2,000	13,736	0.080	158	2,494
RFS FD9R6004/1C-3L	100.00	19	105	0.001	1	23
GPS	100.00	10	56	0.000	1	12
Alcatel-Lucent RRH2x	100.00	170	961	0.006	11	212
Alcatel-Lucent B66A	100.00	201	1,135	0.007	13	251
Rymsa MGD3-800TX	100.00	46	261	0.002	3	58
Commscope RC2DC-3315	100.00	64	361	0.002	4	80
Antel BXA-70080/6CF_	100.00	54	305	0.002	4	67
Commscope NHH-65B-R2	100.00	262	1,481	0.009	17	327
Flat Platform w/ Han	100.00	2,000	11,294	0.065	130	2,494
RFS ATMAA1412D-1A20	90.00	52	241	0.001	3	65
Ericsson Radio 4449	90.00	296	1,372	0.008	16	369
Ericsson AIR 21, 1.3	90.00	332	1,539	0.009	18	414
Ericsson Air 3246 B6	90.00	720	3,337	0.019	38	898
RFS APXVAARR24_43-U-	90.00	384	1,778	0.010	20	479
Flat Platform w/ Han	90.00	2,000	9,268	0.054	106	2,494
PCTEL GPS-TMG-HR-26N	63.00	1	1	0.000	0	1
Stand-Off	63.00	30	71	0.000	1	37
		48,773	172,686	1.000	1,982	60,827

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

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
39	141.00	83	895	0.005	10	71
38	138.50	125	1,298	0.008	15	106
37	136.00	93	937	0.005	11	79
36	133.00	186	1,797	0.010	21	159
35	130.50	63	590	0.003	7	54
34	127.80	279	2,498	0.014	29	238
33	125.30	44	382	0.002	4	38
32	122.50	382	3,158	0.018	36	326
31	117.50	451	3,445	0.020	40	384
30	113.00	371	2,635	0.015	30	316
29	110.50	98	670	0.004	8	84
28	107.50	500	3,236	0.019	37	427
27	102.50	515	3,046	0.018	35	439
26	97.50	588	3,169	0.018	36	502
25	92.50	603	2,942	0.017	34	514
24	87.50	693	3,048	0.018	35	591
23	84.97	8	33	0.000	0	7
22	82.87	1,060	4,208	0.024	48	904
21	80.40	143	535	0.003	6	122
20	77.50	912	3,192	0.018	37	778
19	72.50	934	2,884	0.017	33	796
18	67.50	955	2,581	0.015	30	815
17	64.00	388	949	0.005	11	331
16	61.50	790	1,792	0.010	21	674
15	57.84	1,152	2,329	0.013	27	982
14	55.34	227	423	0.002	5	194
13	52.50	1,690	2,849	0.016	33	1,441
12	47.70	1,574	2,217	0.013	25	1,342
11	45.20	205	261	0.002	3	175
10	42.62	2,458	2,803	0.016	32	2,096
9	40.12	90	92	0.001	1	77
8	37.50	1,864	1,672	0.010	19	1,590
7	32.50	1,889	1,296	0.008	15	1,611
6	27.50	1,915	960	0.006	11	1,633
5	22.50	1,940	667	0.004	8	1,655
4	17.50	1,966	422	0.002	5	1,677
3	12.50	1,991	227	0.001	3	1,698
2	7.50	2,017	88	0.001	1	1,720
1	2.50	2,042	11	0.000	0	1,742
RCU (Remote Control	137.00	3	31	0.000	0	3
Kathrein Scala 742-2	137.00	68	688	0.004	8	58
Powerwave Allgon 702	131.00	26	247	0.001	3	23
Kaelus DBC0061F1V51-	131.00	76	717	0.004	8	65
Powerwave Allgon LGP	131.00	85	793	0.005	9	72
Raycap DC6-48-60-18-	131.00	64	596	0.003	7	54
Ericsson RRUS-11 (50	131.00	150	1,406	0.008	16	128
Ericsson RRUS 32 B2	131.00	159	1,490	0.009	17	136
Ericsson RRUS 32 w/	131.00	159	1,487	0.009	17	135
Powerwave Allgon 777	131.00	105	984	0.006	11	90
Quintel QS66512-2	131.00	333	3,121	0.018	36	284
CCI HPA-65R-BUU-H6	131.00	153	1,434	0.008	16	130
Flat Platform w/ Han	131.00	2,000	18,742	0.109	215	1,706
DragonWave Horizon C	120.00	21	169	0.001	2	18
Alcatel-Lucent RRH2x	120.00	159	1,262	0.007	14	135
NextNet BTS-2500	120.00	105	835	0.005	10	90
Alcatel-Lucent 800 M	120.00	192	1,526	0.009	18	164
Alcatel-Lucent 1900	120.00	180	1,431	0.008	16	154

Nokia 2.5G MAA - AAH	120.00	311	2,471	0.014	28	265
Argus LLPX310R	120.00	86	682	0.004	8	73
DragonWave A-ANT-18G	120.00	54	431	0.002	5	46
Commscope NNVV-65B-R	120.00	232	1,846	0.011	21	198
Flat Platform w/ Han	120.00	2,000	15,899	0.092	183	1,706
Decibel DB844G90A-XY	111.00	126	865	0.005	10	107
Flat Platform w/ Han	111.00	2,000	13,736	0.080	158	1,706
RFS FD9R6004/1C-3L	100.00	19	105	0.001	1	16
GPS	100.00	10	56	0.000	1	9
Alcatel-Lucent RRH2x	100.00	170	961	0.006	11	145
Alcatel-Lucent B66A	100.00	201	1,135	0.007	13	171
Rymsa MGD3-800TX	100.00	46	261	0.002	3	39
Commscope RC2DC-3315	100.00	64	361	0.002	4	55
Antel BXA-70080/6CF_	100.00	54	305	0.002	4	46
Commscope NHH-65B-R2	100.00	262	1,481	0.009	17	224
Flat Platform w/ Han	100.00	2,000	11,294	0.065	130	1,706
RFS ATMAA1412D-1A20	90.00	52	241	0.001	3	44
Ericsson Radio 4449	90.00	296	1,372	0.008	16	252
Ericsson AIR 21, 1.3	90.00	332	1,539	0.009	18	283
Ericsson Air 3246 B6	90.00	720	3,337	0.019	38	614
RFS APXVAARR24_43-U-	90.00	384	1,778	0.010	20	327
Flat Platform w/ Han	90.00	2,000	9,268	0.054	106	1,706
PCTEL GPS-TMG-HR-26N	63.00	1	1	0.000	0	1
Stand-Off	63.00	30	71	0.000	1	26
		48,773	172,686	1.000	1,982	41,596

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	-58.28	-1.99	0.00	-213.00	0.00	213.00	4,350.13	2,175.06	7,987.32	3,944.64	0.00	0.00	0.048
5.00	-55.76	-2.00	0.00	-203.06	0.00	203.06	4,285.51	2,142.75	7,679.11	3,792.42	0.01	-0.01	0.047
10.00	-53.28	-2.01	0.00	-193.06	0.00	193.06	4,218.97	2,109.49	7,373.27	3,641.38	0.03	-0.03	0.046
15.00	-50.83	-2.01	0.00	-183.02	0.00	183.02	4,150.52	2,075.26	7,070.06	3,491.64	0.06	-0.04	0.045
20.00	-48.41	-2.02	0.00	-172.95	0.00	172.95	4,080.16	2,040.08	6,769.73	3,343.32	0.11	-0.05	0.044
25.00	-46.02	-2.01	0.00	-162.87	0.00	162.87	4,007.88	2,003.94	6,472.54	3,196.54	0.18	-0.07	0.043
30.00	-43.66	-2.01	0.00	-152.80	0.00	152.80	3,933.69	1,966.85	6,178.73	3,051.44	0.25	-0.08	0.041
35.00	-41.34	-1.99	0.00	-142.77	0.00	142.77	3,854.52	1,927.26	5,883.88	2,905.83	0.35	-0.10	0.040
40.00	-41.22	-2.00	0.00	-132.80	0.00	132.80	3,744.12	1,872.06	5,549.75	2,740.81	0.45	-0.11	0.039
40.24	-38.16	-1.96	0.00	-132.32	0.00	132.32	3,738.74	1,869.37	5,533.71	2,732.89	0.46	-0.11	0.039
45.00	-37.90	-1.97	0.00	-122.97	0.00	122.97	3,633.72	1,816.86	5,225.39	2,580.62	0.58	-0.12	0.037
45.40	-35.94	-1.94	0.00	-122.19	0.00	122.19	3,063.79	1,531.89	4,506.32	2,225.50	0.59	-0.12	0.041
50.00	-33.83	-1.91	0.00	-113.26	0.00	113.26	3,008.67	1,504.34	4,302.82	2,125.00	0.71	-0.14	0.040
55.00	-33.55	-1.91	0.00	-103.71	0.00	103.71	2,946.93	1,473.46	4,084.17	2,017.02	0.86	-0.15	0.038
55.68	-32.11	-1.88	0.00	-102.42	0.00	102.42	2,938.42	1,469.21	4,054.78	2,002.51	0.88	-0.15	0.037
55.68	-32.11	-1.88	0.00	-102.42	0.00	102.42	2,938.42	1,469.21	4,054.78	2,002.51	0.88	-0.15	0.062
60.00	-31.13	-1.87	0.00	-94.28	0.00	94.28	2,883.27	1,441.64	3,868.42	1,910.47	1.03	-0.17	0.060
63.00	-30.60	-1.86	0.00	-88.67	0.00	88.67	2,844.16	1,422.08	3,740.46	1,847.27	1.14	-0.18	0.059
65.00	-29.41	-1.84	0.00	-84.95	0.00	84.95	2,808.42	1,404.21	3,643.77	1,799.52	1.21	-0.19	0.058
70.00	-28.25	-1.81	0.00	-75.78	0.00	75.78	2,713.79	1,356.89	3,400.96	1,679.61	1.43	-0.21	0.056
75.00	-27.11	-1.78	0.00	-66.73	0.00	66.73	2,619.16	1,309.58	3,166.52	1,563.83	1.66	-0.24	0.053
80.00	-26.93	-1.78	0.00	-57.83	0.00	57.83	2,524.53	1,262.26	2,940.46	1,452.18	1.92	-0.26	0.050
80.79	-25.61	-1.73	0.00	-56.42	0.00	56.42	2,509.53	1,254.76	2,905.39	1,434.86	1.97	-0.26	0.050
84.94	-25.60	-1.73	0.00	-49.24	0.00	49.24	1,499.90	749.95	1,728.05	853.42	2.20	-0.28	0.075
85.00	-24.73	-1.70	0.00	-49.14	0.00	49.14	1,499.54	749.77	1,726.89	852.85	2.21	-0.28	0.074
90.00	-19.26	-1.45	0.00	-40.64	0.00	40.64	1,466.64	733.32	1,624.12	802.09	2.52	-0.31	0.064
95.00	-18.53	-1.41	0.00	-33.41	0.00	33.41	1,431.82	715.91	1,522.23	751.77	2.85	-0.34	0.057
100.00	-14.36	-1.18	0.00	-26.34	0.00	26.34	1,395.09	697.54	1,421.47	702.01	3.22	-0.36	0.048
105.00	-13.74	-1.14	0.00	-20.46	0.00	20.46	1,356.44	678.22	1,322.10	652.93	3.61	-0.38	0.041
110.00	-13.62	-1.13	0.00	-14.76	0.00	14.76	1,315.88	657.94	1,224.36	604.67	4.02	-0.40	0.035
111.00	-10.50	-0.92	0.00	-13.62	0.00	13.62	1,307.54	653.77	1,205.03	595.12	4.10	-0.40	0.031
115.00	-9.94	-0.87	0.00	-9.96	0.00	9.96	1,273.40	636.70	1,128.51	557.33	4.45	-0.41	0.026
120.00	-5.30	-0.50	0.00	-5.59	0.00	5.59	1,215.41	607.71	1,023.37	505.40	4.89	-0.43	0.015
125.00	-5.25	-0.50	0.00	-3.09	0.00	3.09	1,152.33	576.16	919.28	454.00	5.34	-0.43	0.011
125.59	-4.90	-0.46	0.00	-2.80	0.00	2.80	1,144.85	572.43	907.31	448.09	5.39	-0.43	0.011
125.59	-4.90	-0.46	0.00	-2.80	0.00	2.80	385.02	192.51	160.54	106.00	5.39	-0.43	0.039
130.00	-4.82	-0.46	0.00	-0.75	0.00	0.75	385.02	192.51	160.54	106.00	5.79	-0.44	0.020
131.00	-0.46	-0.05	0.00	-0.29	0.00	0.29	385.02	192.51	160.54	106.00	5.88	-0.44	0.004
135.00	-0.35	-0.04	0.00	-0.10	0.00	0.10	385.02	192.51	160.54	106.00	6.25	-0.44	0.002
137.00	-0.10	-0.01	0.00	-0.03	0.00	0.03	385.02	192.51	160.54	106.00	6.43	-0.44	0.001
140.00	0.00	0.00	0.00	0.00	0.00	0.00	385.02	192.51	160.54	106.00	6.71	-0.44	0.000
142.00	0.00	0.00	0.00	0.00	0.00	0.00	385.02	192.51	160.54	106.00	6.89	-0.44	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	-39.85	-1.99	0.00	-209.69	0.00	209.69	4,350.13	2,175.06	7,987.32	3,944.64	0.00	0.00	0.045
5.00	-38.13	-1.99	0.00	-199.76	0.00	199.76	4,285.51	2,142.75	7,679.11	3,792.42	0.01	-0.01	0.044
10.00	-36.43	-2.00	0.00	-189.80	0.00	189.80	4,218.97	2,109.49	7,373.27	3,641.38	0.03	-0.03	0.043
15.00	-34.76	-2.00	0.00	-179.80	0.00	179.80	4,150.52	2,075.26	7,070.06	3,491.64	0.06	-0.04	0.042
20.00	-33.10	-2.00	0.00	-169.80	0.00	169.80	4,080.16	2,040.08	6,769.73	3,343.32	0.11	-0.05	0.040
25.00	-31.47	-1.99	0.00	-159.80	0.00	159.80	4,007.88	2,003.94	6,472.54	3,196.54	0.17	-0.07	0.039
30.00	-29.86	-1.98	0.00	-149.83	0.00	149.83	3,933.69	1,966.85	6,178.73	3,051.44	0.25	-0.08	0.038
35.00	-28.27	-1.97	0.00	-139.91	0.00	139.91	3,854.52	1,927.26	5,883.88	2,905.83	0.34	-0.09	0.037
40.00	-28.19	-1.97	0.00	-130.07	0.00	130.07	3,744.12	1,872.06	5,549.75	2,740.81	0.45	-0.11	0.036
40.24	-26.09	-1.94	0.00	-129.58	0.00	129.58	3,738.74	1,869.37	5,533.71	2,732.89	0.45	-0.11	0.036
45.00	-25.92	-1.94	0.00	-120.36	0.00	120.36	3,633.72	1,816.86	5,225.39	2,580.62	0.57	-0.12	0.034
45.40	-24.58	-1.91	0.00	-119.59	0.00	119.59	3,063.79	1,531.89	4,506.32	2,225.50	0.58	-0.12	0.038
50.00	-23.14	-1.88	0.00	-110.79	0.00	110.79	3,008.67	1,504.34	4,302.82	2,125.00	0.70	-0.13	0.036
55.00	-22.94	-1.88	0.00	-101.37	0.00	101.37	2,946.93	1,473.46	4,084.17	2,017.02	0.85	-0.15	0.035
55.68	-21.96	-1.85	0.00	-100.10	0.00	100.10	2,938.42	1,469.21	4,054.78	2,002.51	0.87	-0.15	0.034
55.68	-21.96	-1.85	0.00	-100.10	0.00	100.10	2,938.42	1,469.21	4,054.78	2,002.51	0.87	-0.15	0.057
60.00	-21.28	-1.84	0.00	-92.09	0.00	92.09	2,883.27	1,441.64	3,868.42	1,910.47	1.01	-0.16	0.056
63.00	-20.93	-1.83	0.00	-86.58	0.00	86.58	2,844.16	1,422.08	3,740.46	1,847.27	1.12	-0.18	0.054
65.00	-20.11	-1.80	0.00	-82.92	0.00	82.92	2,808.42	1,404.21	3,643.77	1,799.52	1.19	-0.19	0.053
70.00	-19.31	-1.77	0.00	-73.91	0.00	73.91	2,713.79	1,356.89	3,400.96	1,679.61	1.40	-0.21	0.051
75.00	-18.54	-1.74	0.00	-65.05	0.00	65.05	2,619.16	1,309.58	3,166.52	1,563.83	1.63	-0.23	0.049
80.00	-18.41	-1.74	0.00	-56.34	0.00	56.34	2,524.53	1,262.26	2,940.46	1,452.18	1.89	-0.25	0.046
80.79	-17.51	-1.69	0.00	-54.96	0.00	54.96	2,509.53	1,254.76	2,905.39	1,434.86	1.93	-0.26	0.045
84.94	-17.50	-1.69	0.00	-47.95	0.00	47.95	1,499.90	749.95	1,728.05	853.42	2.16	-0.27	0.068
85.00	-16.91	-1.66	0.00	-47.86	0.00	47.86	1,499.54	749.77	1,726.89	852.85	2.16	-0.27	0.067
90.00	-13.17	-1.41	0.00	-39.56	0.00	39.56	1,466.64	733.32	1,624.12	802.09	2.47	-0.30	0.058
95.00	-12.67	-1.38	0.00	-32.51	0.00	32.51	1,431.82	715.91	1,522.23	751.77	2.80	-0.33	0.052
100.00	-9.82	-1.15	0.00	-25.63	0.00	25.63	1,395.09	697.54	1,421.47	702.01	3.15	-0.35	0.044
105.00	-9.39	-1.11	0.00	-19.90	0.00	19.90	1,356.44	678.22	1,322.10	652.93	3.53	-0.37	0.037
110.00	-9.31	-1.10	0.00	-14.36	0.00	14.36	1,315.88	657.94	1,224.36	604.67	3.93	-0.39	0.031
111.00	-7.18	-0.89	0.00	-13.26	0.00	13.26	1,307.54	653.77	1,205.03	595.12	4.02	-0.39	0.028
115.00	-6.80	-0.85	0.00	-9.69	0.00	9.69	1,273.40	636.70	1,128.51	557.33	4.35	-0.41	0.023
120.00	-3.63	-0.49	0.00	-5.44	0.00	5.44	1,215.41	607.71	1,023.37	505.40	4.78	-0.42	0.014
125.00	-3.59	-0.48	0.00	-3.01	0.00	3.01	1,152.33	576.16	919.28	454.00	5.22	-0.42	0.010
125.59	-3.35	-0.45	0.00	-2.72	0.00	2.72	1,144.85	572.43	907.31	448.09	5.27	-0.42	0.009
125.59	-3.35	-0.45	0.00	-2.72	0.00	2.72	385.02	192.51	160.54	106.00	5.27	-0.42	0.034
130.00	-3.30	-0.45	0.00	-0.73	0.00	0.73	385.02	192.51	160.54	106.00	5.67	-0.43	0.015
131.00	-0.32	-0.05	0.00	-0.29	0.00	0.29	385.02	192.51	160.54	106.00	5.76	-0.43	0.004
135.00	-0.24	-0.03	0.00	-0.10	0.00	0.10	385.02	192.51	160.54	106.00	6.11	-0.43	0.002
137.00	-0.07	-0.01	0.00	-0.03	0.00	0.03	385.02	192.51	160.54	106.00	6.29	-0.43	0.000
140.00	0.00	0.00	0.00	0.00	0.00	0.00	385.02	192.51	160.54	106.00	6.56	-0.43	0.000
142.00	0.00	0.00	0.00	0.00	0.00	0.00	385.02	192.51	160.54	106.00	6.74	-0.43	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):	2.25
Redundancy Factor (p):	1.30

Load Case (1.2 + 0.2Sds) * DL + E EMAM Seismic Equivalent Modal Analysis Method

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
39	141.00	83	1.863	1.843	1.090	0.425	31	104
38	138.50	125	1.798	1.529	0.974	0.375	41	156
37	136.00	93	1.734	1.254	0.867	0.327	26	116
36	133.00	186	1.658	0.969	0.752	0.274	44	232
35	130.50	63	1.596	0.767	0.665	0.233	13	79
34	127.80	279	1.531	0.580	0.580	0.192	46	348
33	125.30	44	1.472	0.433	0.510	0.156	6	55
32	122.50	382	1.407	0.296	0.439	0.120	40	477
31	117.50	451	1.294	0.112	0.331	0.063	25	562
30	113.00	371	1.197	0.002	0.252	0.021	7	463
29	110.50	98	1.144	-0.041	0.215	0.002	0	123
28	107.50	500	1.083	-0.079	0.177	-0.018	-8	624
27	102.50	515	0.985	-0.113	0.124	-0.043	-19	642
26	97.50	588	0.891	-0.122	0.084	-0.058	-30	734
25	92.50	603	0.802	-0.112	0.054	-0.062	-32	752
24	87.50	693	0.718	-0.092	0.033	-0.056	-33	865
23	84.97	8	0.677	-0.080	0.026	-0.049	0	10
22	82.87	1,060	0.644	-0.068	0.020	-0.041	-38	1,322
21	80.40	143	0.606	-0.055	0.015	-0.031	-4	178
20	77.50	912	0.563	-0.039	0.011	-0.018	-14	1,137
19	72.50	934	0.493	-0.013	0.007	0.007	5	1,164
18	67.50	955	0.427	0.009	0.006	0.029	24	1,192
17	64.00	388	0.384	0.023	0.007	0.042	14	484
16	61.50	790	0.355	0.032	0.008	0.049	34	985
15	57.84	1,152	0.314	0.042	0.011	0.057	57	1,437
14	55.34	227	0.287	0.048	0.013	0.061	12	283
13	52.50	1,690	0.258	0.054	0.016	0.064	94	2,107
12	47.70	1,574	0.213	0.061	0.021	0.066	90	1,963
11	45.20	205	0.191	0.064	0.024	0.067	12	255
10	42.62	2,458	0.170	0.066	0.027	0.066	141	3,065
9	40.12	90	0.151	0.068	0.030	0.066	5	113
8	37.50	1,864	0.132	0.069	0.033	0.065	105	2,324
7	32.50	1,889	0.099	0.071	0.037	0.064	104	2,356
6	27.50	1,915	0.071	0.072	0.041	0.062	103	2,388

5	22.50	1,940	0.047	0.071	0.042	0.060	101	2,420
4	17.50	1,966	0.029	0.068	0.040	0.057	98	2,452
3	12.50	1,991	0.015	0.060	0.035	0.052	90	2,483
2	7.50	2,017	0.005	0.045	0.026	0.042	74	2,515
1	2.50	2,042	0.001	0.019	0.010	0.020	36	2,547
RCU (Remote Control	137.00	3	1.759	1.360	0.909	0.346	1	4
Kathrein Scala 742-2	137.00	68	1.759	1.360	0.909	0.346	20	84
Powerwave Allgon 702	131.00	26	1.609	0.805	0.682	0.241	6	33
Kaelus DBC0061F1V51-	131.00	76	1.609	0.805	0.682	0.241	16	95
Powerwave Allgon LGP	131.00	85	1.609	0.805	0.682	0.241	18	106
Raycap DC6-48-60-18-	131.00	64	1.609	0.805	0.682	0.241	13	79
Ericsson RRUS-11 (50	131.00	150	1.609	0.805	0.682	0.241	31	187
Ericsson RRUS 32 B2	131.00	159	1.609	0.805	0.682	0.241	33	198
Ericsson RRUS 32 w/	131.00	159	1.609	0.805	0.682	0.241	33	198
Powerwave Allgon 777	131.00	105	1.609	0.805	0.682	0.241	22	131
Quintel QS66512-2	131.00	333	1.609	0.805	0.682	0.241	70	415
CCI HPA-65R-BUU-H6	131.00	153	1.609	0.805	0.682	0.241	32	191
Flat Platform w/ Han	131.00	2,000	1.609	0.805	0.682	0.241	418	2,494
DragonWave Horizon C	120.00	21	1.350	0.195	0.382	0.090	2	26
Alcatel-Lucent RRH2x	120.00	159	1.350	0.195	0.382	0.090	12	198
NextNet BTS-2500	120.00	105	1.350	0.195	0.382	0.090	8	131
Alcatel-Lucent 800 M	120.00	192	1.350	0.195	0.382	0.090	15	239
Alcatel-Lucent 1900	120.00	180	1.350	0.195	0.382	0.090	14	224
Nokia 2.5G MAA - AAH	120.00	311	1.350	0.195	0.382	0.090	24	388
Argus LLPX310R	120.00	86	1.350	0.195	0.382	0.090	7	107
DragonWave A-ANT-18G	120.00	54	1.350	0.195	0.382	0.090	4	68
Commscope NNVV-65B-R	120.00	232	1.350	0.195	0.382	0.090	18	290
Flat Platform w/ Han	120.00	2,000	1.350	0.195	0.382	0.090	157	2,494
Decibel DB844G90A-XY	111.00	126	1.155	-0.034	0.223	0.006	1	157
Flat Platform w/ Han	111.00	2,000	1.155	-0.034	0.223	0.006	10	2,494
RFS FD9R6004/1C-3L	100.00	19	0.937	-0.120	0.102	-0.052	-1	23
GPS	100.00	10	0.937	-0.120	0.102	-0.052	0	12
Alcatel-Lucent RRH2x	100.00	170	0.937	-0.120	0.102	-0.052	-8	212
Alcatel-Lucent B66A	100.00	201	0.937	-0.120	0.102	-0.052	-9	251
Rymsa MGD3-800TX	100.00	46	0.937	-0.120	0.102	-0.052	-2	58
Commscope RC2DC-3315	100.00	64	0.937	-0.120	0.102	-0.052	-3	80
Antel BXA-70080/6CF_	100.00	54	0.937	-0.120	0.102	-0.052	-2	67
Commscope NHH-65B-R2	100.00	262	0.937	-0.120	0.102	-0.052	-12	327
Flat Platform w/ Han	100.00	2,000	0.937	-0.120	0.102	-0.052	-90	2,494
RFS ATMAA1412D-1A20	90.00	52	0.759	-0.103	0.043	-0.060	-3	65
Ericsson Radio 4449	90.00	296	0.759	-0.103	0.043	-0.060	-15	369
Ericsson AIR 21, 1.3	90.00	332	0.759	-0.103	0.043	-0.060	-17	414
Ericsson Air 3246 B6	90.00	720	0.759	-0.103	0.043	-0.060	-37	898
RFS APXVAARR24_43-U-	90.00	384	0.759	-0.103	0.043	-0.060	-20	479
Flat Platform w/ Han	90.00	2,000	0.759	-0.103	0.043	-0.060	-104	2,494
PCTEL GPS-TMG-HR-26N	63.00	1	0.372	0.027	0.008	0.045	0	1
Stand-Off	63.00	30	0.372	0.027	0.008	0.045	1	37
		48,773	78.057	19.727	22.429	6.331	1,961	60,827

Load Case (0.9 - 0.2Sds) * DL + E EMAM Seismic (Reduced DL) Equivalent Modal Analysis Method

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
39	141.00	83	1.863	1.843	1.090	0.425	31	71
38	138.50	125	1.798	1.529	0.974	0.375	41	106
37	136.00	93	1.734	1.254	0.867	0.327	26	79
36	133.00	186	1.658	0.969	0.752	0.274	44	159
35	130.50	63	1.596	0.767	0.665	0.233	13	54
34	127.80	279	1.531	0.580	0.580	0.192	46	238

33	125.30	44	1.472	0.433	0.510	0.156	6	38
32	122.50	382	1.407	0.296	0.439	0.120	40	326
31	117.50	451	1.294	0.112	0.331	0.063	25	384
30	113.00	371	1.197	0.002	0.252	0.021	7	316
29	110.50	98	1.144	-0.041	0.215	0.002	0	84
28	107.50	500	1.083	-0.079	0.177	-0.018	-8	427
27	102.50	515	0.985	-0.113	0.124	-0.043	-19	439
26	97.50	588	0.891	-0.122	0.084	-0.058	-30	502
25	92.50	603	0.802	-0.112	0.054	-0.062	-32	514
24	87.50	693	0.718	-0.092	0.033	-0.056	-33	591
23	84.97	8	0.677	-0.080	0.026	-0.049	0	7
22	82.87	1,060	0.644	-0.068	0.020	-0.041	-38	904
21	80.40	143	0.606	-0.055	0.015	-0.031	-4	122
20	77.50	912	0.563	-0.039	0.011	-0.018	-14	778
19	72.50	934	0.493	-0.013	0.007	0.007	5	796
18	67.50	955	0.427	0.009	0.006	0.029	24	815
17	64.00	388	0.384	0.023	0.007	0.042	14	331
16	61.50	790	0.355	0.032	0.008	0.049	34	674
15	57.84	1,152	0.314	0.042	0.011	0.057	57	982
14	55.34	227	0.287	0.048	0.013	0.061	12	194
13	52.50	1,690	0.258	0.054	0.016	0.064	94	1,441
12	47.70	1,574	0.213	0.061	0.021	0.066	90	1,342
11	45.20	205	0.191	0.064	0.024	0.067	12	175
10	42.62	2,458	0.170	0.066	0.027	0.066	141	2,096
9	40.12	90	0.151	0.068	0.030	0.066	5	77
8	37.50	1,864	0.132	0.069	0.033	0.065	105	1,590
7	32.50	1,889	0.099	0.071	0.037	0.064	104	1,611
6	27.50	1,915	0.071	0.072	0.041	0.062	103	1,633
5	22.50	1,940	0.047	0.071	0.042	0.060	101	1,655
4	17.50	1,966	0.029	0.068	0.040	0.057	98	1,677
3	12.50	1,991	0.015	0.060	0.035	0.052	90	1,698
2	7.50	2,017	0.005	0.045	0.026	0.042	74	1,720
1	2.50	2,042	0.001	0.019	0.010	0.020	36	1,742
RCU (Remote Control	137.00	3	1.759	1.360	0.909	0.346	1	3
Kathrein Scala 742-2	137.00	68	1.759	1.360	0.909	0.346	20	58
Powerwave Allgon 702	131.00	26	1.609	0.805	0.682	0.241	6	23
Kaelus DBC0061F1V51-	131.00	76	1.609	0.805	0.682	0.241	16	65
Powerwave Allgon LGP	131.00	85	1.609	0.805	0.682	0.241	18	72
Raycap DC6-48-60-18-	131.00	64	1.609	0.805	0.682	0.241	13	54
Ericsson RRUS-11 (50	131.00	150	1.609	0.805	0.682	0.241	31	128
Ericsson RRUS 32 B2	131.00	159	1.609	0.805	0.682	0.241	33	136
Ericsson RRUS 32 w/	131.00	159	1.609	0.805	0.682	0.241	33	135
Powerwave Allgon 777	131.00	105	1.609	0.805	0.682	0.241	22	90
Quintel QS66512-2	131.00	333	1.609	0.805	0.682	0.241	70	284
CCI HPA-65R-BUU-H6	131.00	153	1.609	0.805	0.682	0.241	32	130
Flat Platform w/ Han	131.00	2,000	1.609	0.805	0.682	0.241	418	1,706
DragonWave Horizon C	120.00	21	1.350	0.195	0.382	0.090	2	18
Alcatel-Lucent RRH2x	120.00	159	1.350	0.195	0.382	0.090	12	135
NextNet BTS-2500	120.00	105	1.350	0.195	0.382	0.090	8	90
Alcatel-Lucent 800 M	120.00	192	1.350	0.195	0.382	0.090	15	164
Alcatel-Lucent 1900	120.00	180	1.350	0.195	0.382	0.090	14	154
Nokia 2.5G MAA - AAH	120.00	311	1.350	0.195	0.382	0.090	24	265
Argus LLPX310R	120.00	86	1.350	0.195	0.382	0.090	7	73
DragonWave A-ANT-18G	120.00	54	1.350	0.195	0.382	0.090	4	46
Commscope NNVV-65B-R	120.00	232	1.350	0.195	0.382	0.090	18	198
Flat Platform w/ Han	120.00	2,000	1.350	0.195	0.382	0.090	157	1,706
Decibel DB844G90A-XY	111.00	126	1.155	-0.034	0.223	0.006	1	107
Flat Platform w/ Han	111.00	2,000	1.155	-0.034	0.223	0.006	10	1,706
RFS FD9R6004/1C-3L	100.00	19	0.937	-0.120	0.102	-0.052	-1	16
GPS	100.00	10	0.937	-0.120	0.102	-0.052	0	9
Alcatel-Lucent RRH2x	100.00	170	0.937	-0.120	0.102	-0.052	-8	145
Alcatel-Lucent B66A	100.00	201	0.937	-0.120	0.102	-0.052	-9	171
Rymsa MGD3-800TX	100.00	46	0.937	-0.120	0.102	-0.052	-2	39
Commscope RC2DC-3315	100.00	64	0.937	-0.120	0.102	-0.052	-3	55

Antel BXA-70080/6CF_	100.00	54	0.937	-0.120	0.102	-0.052	-2	46
Commscope NHH-65B-R2	100.00	262	0.937	-0.120	0.102	-0.052	-12	224
Flat Platform w/ Han	100.00	2,000	0.937	-0.120	0.102	-0.052	-90	1,706
RFS ATMAA1412D-1A20	90.00	52	0.759	-0.103	0.043	-0.060	-3	44
Ericsson Radio 4449	90.00	296	0.759	-0.103	0.043	-0.060	-15	252
Ericsson AIR 21, 1.3	90.00	332	0.759	-0.103	0.043	-0.060	-17	283
Ericsson Air 3246 B6	90.00	720	0.759	-0.103	0.043	-0.060	-37	614
RFS APXVAARR24_43-U-	90.00	384	0.759	-0.103	0.043	-0.060	-20	327
Flat Platform w/ Han	90.00	2,000	0.759	-0.103	0.043	-0.060	-104	1,706
PCTEL GPS-TMG-HR-26N	63.00	1	0.372	0.027	0.008	0.045	0	1
Stand-Off	63.00	30	0.372	0.027	0.008	0.045	1	26
		48,773	78.057	19.727	22.429	6.331	1,961	41,596

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	-58.28	-1.93	0.00	-161.91	0.00	161.91	4,350.13	2,175.06	7,987.32	3,944.64	0.00	0.00	0.039
5.00	-55.76	-1.87	0.00	-152.26	0.00	152.26	4,285.51	2,142.75	7,679.11	3,792.42	0.01	-0.01	0.038
10.00	-53.28	-1.78	0.00	-142.93	0.00	142.93	4,218.97	2,109.49	7,373.27	3,641.38	0.02	-0.02	0.037
15.00	-50.83	-1.69	0.00	-134.01	0.00	134.01	4,150.52	2,075.26	7,070.06	3,491.64	0.05	-0.03	0.035
20.00	-48.41	-1.60	0.00	-125.54	0.00	125.54	4,080.16	2,040.08	6,769.73	3,343.32	0.08	-0.04	0.034
25.00	-46.02	-1.50	0.00	-117.55	0.00	117.55	4,007.88	2,003.94	6,472.54	3,196.54	0.13	-0.05	0.033
30.00	-43.66	-1.40	0.00	-110.03	0.00	110.03	3,933.69	1,966.85	6,178.73	3,051.44	0.19	-0.06	0.032
35.00	-41.34	-1.30	0.00	-103.02	0.00	103.02	3,854.52	1,927.26	5,883.88	2,905.83	0.26	-0.07	0.031
40.00	-41.23	-1.30	0.00	-96.50	0.00	96.50	3,744.12	1,872.06	5,549.75	2,740.81	0.33	-0.08	0.031
40.24	-38.16	-1.16	0.00	-96.19	0.00	96.19	3,738.74	1,869.37	5,533.71	2,732.89	0.34	-0.08	0.030
45.00	-37.91	-1.15	0.00	-90.67	0.00	90.67	3,633.72	1,816.86	5,225.39	2,580.62	0.42	-0.09	0.030
45.40	-35.94	-1.06	0.00	-90.21	0.00	90.21	3,063.79	1,531.89	4,506.32	2,225.50	0.43	-0.09	0.033
50.00	-33.84	-0.97	0.00	-85.34	0.00	85.34	3,008.67	1,504.34	4,302.82	2,125.00	0.52	-0.10	0.032
55.00	-33.55	-0.96	0.00	-80.49	0.00	80.49	2,946.93	1,473.46	4,084.17	2,017.02	0.63	-0.11	0.031
55.68	-32.12	-0.90	0.00	-79.84	0.00	79.84	2,938.42	1,469.21	4,054.78	2,002.51	0.65	-0.11	0.031
55.68	-32.12	-0.90	0.00	-79.84	0.00	79.84	2,938.42	1,469.21	4,054.78	2,002.51	0.65	-0.11	0.051
60.00	-31.13	-0.87	0.00	-75.94	0.00	75.94	2,883.27	1,441.64	3,868.42	1,910.47	0.76	-0.12	0.051
63.00	-30.61	-0.86	0.00	-73.32	0.00	73.32	2,844.16	1,422.08	3,740.46	1,847.27	0.84	-0.13	0.050
65.00	-29.42	-0.84	0.00	-71.59	0.00	71.59	2,808.42	1,404.21	3,643.77	1,799.52	0.90	-0.14	0.050
70.00	-28.25	-0.84	0.00	-67.38	0.00	67.38	2,713.79	1,356.89	3,400.96	1,679.61	1.06	-0.16	0.051
75.00	-27.11	-0.87	0.00	-63.15	0.00	63.15	2,619.16	1,309.58	3,166.52	1,563.83	1.24	-0.18	0.051
80.00	-26.94	-0.88	0.00	-58.82	0.00	58.82	2,524.53	1,262.26	2,940.46	1,452.18	1.44	-0.21	0.051
80.79	-25.61	-0.91	0.00	-58.13	0.00	58.13	2,509.53	1,254.76	2,905.39	1,434.86	1.48	-0.21	0.051
84.94	-25.60	-0.92	0.00	-54.34	0.00	54.34	1,499.90	749.95	1,728.05	853.42	1.67	-0.23	0.081
85.00	-24.74	-0.96	0.00	-54.29	0.00	54.29	1,499.54	749.77	1,726.89	852.85	1.67	-0.23	0.080
90.00	-19.27	-1.17	0.00	-49.51	0.00	49.51	1,466.64	733.32	1,624.12	802.09	1.93	-0.26	0.075
95.00	-18.53	-1.21	0.00	-43.65	0.00	43.65	1,431.82	715.91	1,522.23	751.77	2.22	-0.30	0.071
100.00	-14.36	-1.34	0.00	-37.60	0.00	37.60	1,395.09	697.54	1,421.47	702.01	2.55	-0.33	0.064
105.00	-13.74	-1.35	0.00	-30.89	0.00	30.89	1,356.44	678.22	1,322.10	652.93	2.91	-0.36	0.057
110.00	-13.62	-1.36	0.00	-24.13	0.00	24.13	1,315.88	657.94	1,224.36	604.67	3.30	-0.39	0.050
111.00	-10.50	-1.32	0.00	-22.78	0.00	22.78	1,307.54	653.77	1,205.03	595.12	3.39	-0.39	0.046
115.00	-9.94	-1.29	0.00	-17.50	0.00	17.50	1,273.40	636.70	1,128.51	557.33	3.72	-0.41	0.039
120.00	-5.30	-0.96	0.00	-11.03	0.00	11.03	1,215.41	607.71	1,023.37	505.40	4.17	-0.43	0.026
125.00	-5.24	-0.95	0.00	-6.22	0.00	6.22	1,152.33	576.16	919.28	454.00	4.63	-0.45	0.018
125.59	-4.90	-0.91	0.00	-5.66	0.00	5.66	1,144.85	572.43	907.31	448.09	4.69	-0.45	0.017
125.59	-4.90	-0.91	0.00	-5.66	0.00	5.66	385.02	192.51	160.54	106.00	4.69	-0.45	0.066
130.00	-4.82	-0.89	0.00	-1.67	0.00	1.67	385.02	192.51	160.54	106.00	5.11	-0.46	0.028
131.00	-0.46	-0.12	0.00	-0.77	0.00	0.77	385.02	192.51	160.54	106.00	5.20	-0.46	0.008
135.00	-0.35	-0.09	0.00	-0.28	0.00	0.28	385.02	192.51	160.54	106.00	5.59	-0.46	0.004
137.00	-0.10	-0.03	0.00	-0.09	0.00	0.09	385.02	192.51	160.54	106.00	5.78	-0.46	0.001
140.00	0.00	0.00	0.00	0.00	0.00	0.00	385.02	192.51	160.54	106.00	6.07	-0.46	0.000
142.00	0.00	0.00	0.00	0.00	0.00	0.00	385.02	192.51	160.54	106.00	6.26	-0.46	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	-39.85	-1.93	0.00	-159.18	0.00	159.18	4,350.13	2,175.06	7,987.32	3,944.64	0.00	0.00	0.035
5.00	-38.13	-1.86	0.00	-149.54	0.00	149.54	4,285.51	2,142.75	7,679.11	3,792.42	0.01	-0.01	0.034
10.00	-36.44	-1.78	0.00	-140.24	0.00	140.24	4,218.97	2,109.49	7,373.27	3,641.38	0.02	-0.02	0.033
15.00	-34.76	-1.68	0.00	-131.36	0.00	131.36	4,150.52	2,075.26	7,070.06	3,491.64	0.05	-0.03	0.032
20.00	-33.10	-1.59	0.00	-122.94	0.00	122.94	4,080.16	2,040.08	6,769.73	3,343.32	0.08	-0.04	0.031
25.00	-31.47	-1.49	0.00	-115.01	0.00	115.01	4,007.88	2,003.94	6,472.54	3,196.54	0.13	-0.05	0.030
30.00	-29.86	-1.39	0.00	-107.57	0.00	107.57	3,933.69	1,966.85	6,178.73	3,051.44	0.18	-0.06	0.029
35.00	-28.27	-1.29	0.00	-100.63	0.00	100.63	3,854.52	1,927.26	5,883.88	2,905.83	0.25	-0.07	0.028
40.00	-28.19	-1.28	0.00	-94.20	0.00	94.20	3,744.12	1,872.06	5,549.75	2,740.81	0.33	-0.08	0.028
40.24	-26.10	-1.14	0.00	-93.89	0.00	93.89	3,738.74	1,869.37	5,533.71	2,732.89	0.33	-0.08	0.027
45.00	-25.92	-1.13	0.00	-88.47	0.00	88.47	3,633.72	1,816.86	5,225.39	2,580.62	0.42	-0.09	0.027
45.40	-24.58	-1.04	0.00	-88.02	0.00	88.02	3,063.79	1,531.89	4,506.32	2,225.50	0.42	-0.09	0.030
50.00	-23.14	-0.95	0.00	-83.23	0.00	83.23	3,008.67	1,504.34	4,302.82	2,125.00	0.51	-0.10	0.029
55.00	-22.94	-0.94	0.00	-78.49	0.00	78.49	2,946.93	1,473.46	4,084.17	2,017.02	0.62	-0.11	0.028
55.68	-21.96	-0.88	0.00	-77.85	0.00	77.85	2,938.42	1,469.21	4,054.78	2,002.51	0.64	-0.11	0.028
55.68	-21.96	-0.88	0.00	-77.85	0.00	77.85	2,938.42	1,469.21	4,054.78	2,002.51	0.64	-0.11	0.046
60.00	-21.29	-0.85	0.00	-74.04	0.00	74.04	2,883.27	1,441.64	3,868.42	1,910.47	0.74	-0.12	0.046
63.00	-20.93	-0.84	0.00	-71.49	0.00	71.49	2,844.16	1,422.08	3,740.46	1,847.27	0.82	-0.13	0.046
65.00	-20.12	-0.82	0.00	-69.81	0.00	69.81	2,808.42	1,404.21	3,643.77	1,799.52	0.88	-0.14	0.046
70.00	-19.32	-0.82	0.00	-65.73	0.00	65.73	2,713.79	1,356.89	3,400.96	1,679.61	1.03	-0.16	0.046
75.00	-18.54	-0.84	0.00	-61.65	0.00	61.65	2,619.16	1,309.58	3,166.52	1,563.83	1.21	-0.18	0.046
80.00	-18.42	-0.84	0.00	-57.47	0.00	57.47	2,524.53	1,262.26	2,940.46	1,452.18	1.41	-0.20	0.047
80.79	-17.52	-0.88	0.00	-56.80	0.00	56.80	2,509.53	1,254.76	2,905.39	1,434.86	1.45	-0.21	0.047
84.94	-17.51	-0.88	0.00	-53.14	0.00	53.14	1,499.90	749.95	1,728.05	853.42	1.63	-0.22	0.074
85.00	-16.92	-0.92	0.00	-53.09	0.00	53.09	1,499.54	749.77	1,726.89	852.85	1.63	-0.22	0.074
90.00	-13.17	-1.14	0.00	-48.49	0.00	48.49	1,466.64	733.32	1,624.12	802.09	1.89	-0.26	0.069
95.00	-12.67	-1.18	0.00	-42.79	0.00	42.79	1,431.82	715.91	1,522.23	751.77	2.17	-0.29	0.066
100.00	-9.82	-1.31	0.00	-36.91	0.00	36.91	1,395.09	697.54	1,421.47	702.01	2.49	-0.32	0.060
105.00	-9.39	-1.32	0.00	-30.34	0.00	30.34	1,356.44	678.22	1,322.10	652.93	2.85	-0.35	0.053
110.00	-9.31	-1.32	0.00	-23.73	0.00	23.73	1,315.88	657.94	1,224.36	604.67	3.23	-0.38	0.046
111.00	-7.18	-1.30	0.00	-22.41	0.00	22.41	1,307.54	653.77	1,205.03	595.12	3.31	-0.39	0.043
115.00	-6.79	-1.27	0.00	-17.22	0.00	17.22	1,273.40	636.70	1,128.51	557.33	3.64	-0.41	0.036
120.00	-3.62	-0.95	0.00	-10.87	0.00	10.87	1,215.41	607.71	1,023.37	505.40	4.08	-0.42	0.024
125.00	-3.58	-0.94	0.00	-6.14	0.00	6.14	1,152.33	576.16	919.28	454.00	4.53	-0.44	0.017
125.59	-3.35	-0.89	0.00	-5.58	0.00	5.58	1,144.85	572.43	907.31	448.09	4.59	-0.44	0.015
125.59	-3.35	-0.89	0.00	-5.58	0.00	5.58	385.02	192.51	160.54	106.00	4.59	-0.44	0.061
130.00	-3.29	-0.88	0.00	-1.65	0.00	1.65	385.02	192.51	160.54	106.00	5.00	-0.45	0.024
131.00	-0.32	-0.12	0.00	-0.76	0.00	0.76	385.02	192.51	160.54	106.00	5.09	-0.45	0.008
135.00	-0.24	-0.09	0.00	-0.28	0.00	0.28	385.02	192.51	160.54	106.00	5.47	-0.45	0.003
137.00	-0.07	-0.03	0.00	-0.09	0.00	0.09	385.02	192.51	160.54	106.00	5.66	-0.45	0.001
140.00	0.00	0.00	0.00	0.00	0.00	0.00	385.02	192.51	160.54	106.00	5.94	-0.45	0.000
142.00	0.00	0.00	0.00	0.00	0.00	0.00	385.02	192.51	160.54	106.00	6.13	-0.45	0.000

Analysis Summary

Load Case	Reactions Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Max Usage Elev (ft)	Interaction Ratio
1.2D + 1.6W	42.92	0.00	58.44	0.00	0.00	3894.75	84.94	0.91
0.9D + 1.6W	42.34	0.00	43.81	0.00	0.00	3793.19	84.94	0.88
1.2D + 1.0Di + 1.0Wi	10.53	0.00	94.00	0.00	0.00	1000.36	84.94	0.27
(1.2 + 0.2Sds) * DL + E ELFM	1.99	0.00	58.28	0.00	0.00	213.00	84.94	0.07
(1.2 + 0.2Sds) * DL + E EMAM	1.93	0.00	58.28	0.00	0.00	161.91	84.94	0.08
(0.9 - 0.2Sds) * DL + E ELFM	1.99	0.00	39.85	0.00	0.00	209.69	84.94	0.07
(0.9 - 0.2Sds) * DL + E EMAM	1.93	0.00	39.85	0.00	0.00	159.18	84.94	0.07
1.0D + 1.0W	11.02	0.00	48.77	0.00	0.00	992.79	84.94	0.24

Additional Steel Summary

Elev From (ft)	Elev To (ft)	Member	Intermediate Connectors VQ/I (lb/in)	Shear Applied (kips)	Shear phiVn (kips)	Upper Termination Connectors MQ/I (kips)	phiVn (kips)	Num Reqd	Num Actual	Lower Termination Connectors MQ/I (kips)	phiVn (kips)	Num Reqd	Num Actual	Max Member Pu (kip)	phiPn (kip)	Ratio
0.00	55.68	(4) SOL-#20 All Thre	347.6	10.4	16.8	207.3	12.0	18	22	0.0	12.0	0	0	267.7	330.5	0.810

AMERICAN TOWER CORPORATION

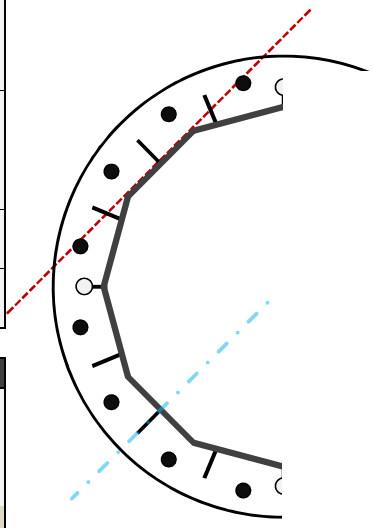
Base Plate & Anchor Rod Analysis

Pole Dimensions		
Number of Sides	12	-
Diameter	45	in
Thickness	0.4375	in
Orientation Offset		°

Base Reactions		
Moment, Mu	3894.8	k-ft
Axial, Pu	58.4	k
Shear, Vu	42.9	k
Neutral Axis	45	°

Report Capacities		
Component	Capacity	Result
Base Plate	71%	Pass
Anchor Rods	58%	Pass
Dwyidag	51%	Pass

Base Plate		
Shape	Round	-
Diameter, ø	60	in
Thickness	2	in
Grade	A572-60	-
Yield Strength, Fy	60	ksi
Tensile Strength, Fu	75	ksi
Clip	N/A	in
Orientation Offset		°
Anchor Rod Detail	c	η=0.55
Clear Distance	N/A	in
Applied Moment, Mu	1155.4	k
Bending Stress, ϕMn	1625.5	k



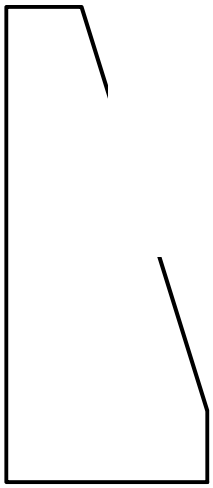
Dywidag Reinforcement		
Quantity	4	-
Bar Size	#20	in
Diameter, ø	2.5	in
t Type	Angle	-
	51.88	in
ation Offset	0	°
d Force, Pu	198.8	k
ag Bar, ϕPn	392.7	k

Original Anchor Rods		
Arrangement	Radial	-
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	10.6	in
Orientation Offset	11.25	°
Applied Force, Pu	149.8	k
Anchor Rods, ϕPn	259.8	k

Additional Anchor Rods		
ity		-
ter, ø		in
rcle		in
trength, Fy	#N/A	ksi
e Strength, Fu	#N/A	ksi
s Base?		
ation Offset	0	°
d Force, Pu	0.0	k
onal Rod, ϕPn	0.0	k

Additional Anchor Rods		
Quantity		-
Diameter, ø		in
Bolt Circle		in
Grade		
trength, Fy	#N/A	ksi
e Strength, Fu	#N/A	ksi
s Base?		
ation Offset	0	°
d Force, Pu	0.0	k
onal Rod, ϕPn	0.0	k

Stiffeners		
Arrangement	Radial	-
Quantity	16	-
Height	10	in
Width	4	in
Effective Width	4.000	in
Thickness	1/2	in
Effective Thickness	0.500	in
Notch	0	in
Flat Edge	1.5	in
Grade	A36	-
Yield Strength, Fy	36	ksi
Tensile Strength, Fu	58	ksi
Horizontal Weld	Bevel	
Horizontal Fillet Size	5/16	in
Bevel Depth	5/16	in
Vertical Weld	Fillet	
Vertical Fillet Size	5/16	in
Weld Strength	70	ksi
Electrode Coefficient	1	-
Orientation Offset	11.25	°
Vertical Weld, ϕRn	139.5	k
Horz. Weld, ϕRn	83.6	k
Ten. Capacity, ϕTn	64.8	k
Comp. Capacity, ϕPn	261.5	k



Individual Capacity Summary		
Component	Capacity	-
Base Plate	71%	Pass
Anchor Rods	58%	Pass
Dwyidag	51%	Pass
Bolt Group 1	-	-
Bolt Group 2	-	-
Stiffener Weld (V)	44%	Pass
Stiffener Weld (H)	74%	Pass
Stiffener Tension	47%	Pass
Stiffener Comp.	12%	Pass

Code Rev.	G	Date	7/2/2018
		Engineer	Connor.Klein
		Site #	302511
Moment	40.4 k-ft	Carrier	T-MOBILE
Axial	4.3 k		

Base/Flange Plate	Plate Type	*Flange*	*@ 125.6 ft*
	Pole Diameter	10.75	in
	Pole Thickness	0.375	in
	Plate Diameter	28.5	in
	Plate Thickness	1	in
	Plate Fy	36	ksi
	Weld Length	0.3125	in
	ϕ_s Resistance	85.53	k-in
	Applied	31.36	k-in
Stiffeners	#	*9*	*Show*
	Thickness	0.25	in
	Length	4	in
	Height	6	in
	Chamfer	0	in
	Offset Angle	0	°
	Fy	36	ksi

Bolts	#	*15*	
	Bolt Circle	25.75	in
	(R)adial / (S)quare	R	
●	Diameter	1	in
	Hole Diameter	1.125	in
	Type	A325	
	Fy	92	ksi
	Fu	120	ksi
	ϕ_s Resistance	54.52	k
	Applied	4.73	k
Reinforcement ●	#	*0*	
Extra Bolts O	#	*0*	

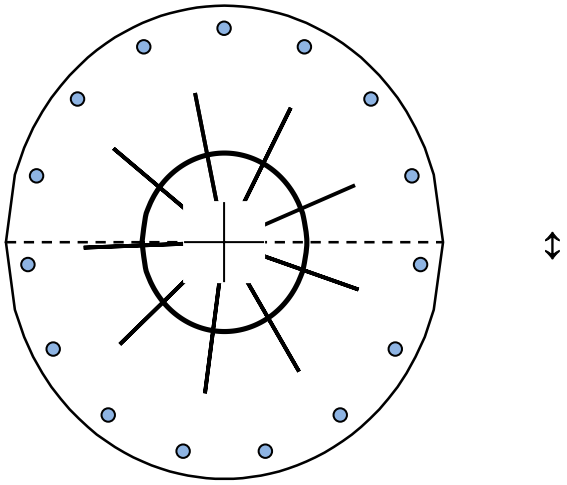
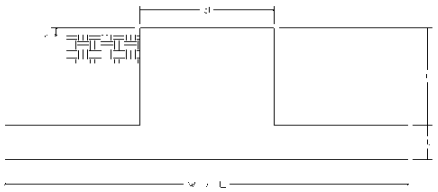


Plate Stress Ratio:
0.37 (Pass)

Bolt Stress Ratio:
0.09 (Pass)

Site Name:	WSPT - South, CT	*Program Last Updated: 5/13/2014*
Site Number:	302511	
Engineering Number:	OAA735666	
Engineer:	Connor.Klein	
Date:	06/29/18	
Tower Type:	MP	



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

Design / Analysis / Mapping:	Mapping	
Compression/Leg:	58.4	k
Uplift/Leg:	0.0	k
Total Shear:	42.9	k
Moment:	3894.8	k-ft
Tower + Appurtenance Weight:	57.1	k
Depth to Base of Foundation (l + t - h):	7.00	ft
Diameter of Pier (d):	6.50	ft
Height of Pier above Ground (h):	0.50	
Width of Pad (W):	26.50	ft
Length of Pad (L):	26.50	ft
Thickness of Pad (t):	3.00	ft
Tower Leg Center to Center:	0.00	ft
Number of Tower Legs:	1.0	(1 if MP or GT)
Tower Center from Mat Center:	0.00	ft
Depth Below Ground Surface to Water Table:	9.50	ft
Unit Weight of Concrete:	150.0	pcf
Unit Weight of Soil Above Water Table:	120.0	pcf
Unit Weight of Water:	62.4	pcf
Unit Weight of Soil Below Water Table:	65.0	pcf
Friction Angle of Uplift:	15.0	Degrees
Ultimate Coefficient of Shear Friction:	0.35	
Ultimate Compressive Bearing Pressure:	20000.0	psf
Ultimate Passive Pressure on Pad Face:	500.0	psf
$\phi_{\text{Soil and Concrete Weight}}$:	0.9	
ϕ_{Soil}:	0.75	

Overturning Moment Usage

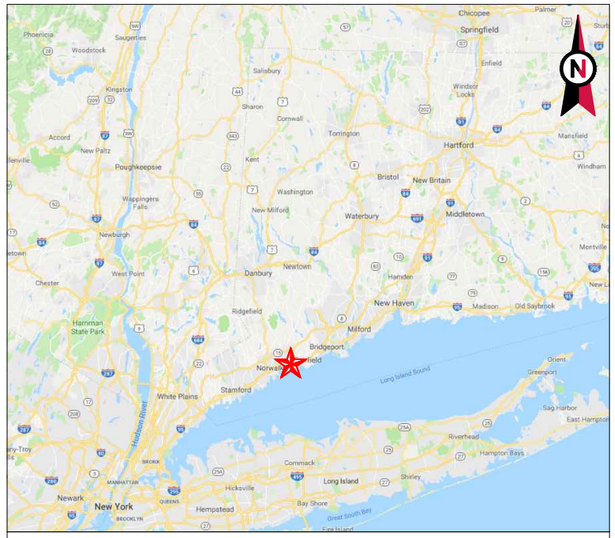
Design OTM:	4216.7	k-ft	
OTM Resistance:	8991.1	k-ft	
Design OTM / OTM Resistance:	0.47		Result: OK

Soil Bearing Pressure Usage

Net Bearing Pressure:	2117	psf	
Factored Nominal Bearing Pressure:	15000	psf	
Net Bearing Pressure/Factored Nominal Bearing Pressure:	0.14		Result: OK
Load Direction Controling Design Bearing Pressure:	Diagonal to Pad Edge		

Sliding Factor of Safety

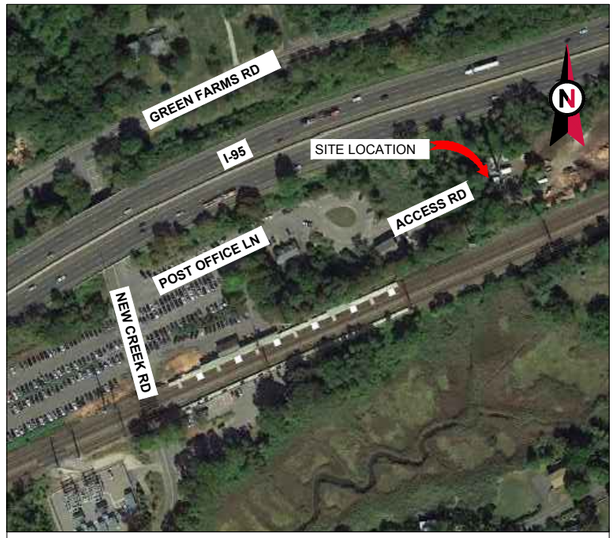
Total Factored Sliding Resistance:	212.5	k	
Sliding Design / Sliding Resistance:	0.20		Result: OK



VICINITY MAP

AMERICAN TOWER®

ATC SITE NAME: WSPT - SOUTH
ATC SITE NUMBER: 302511
T-MOBILE SITE ID: CT11012B
SITE ADDRESS: 20 POST OFFICE LANE
WESTPORT, CT 06880



LOCATION MAP

T-MOBILE ANTENNA AMENDMENT
4SEC-67D92DB CONFIGURATION

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: UNITED ILLUMINATING
PHONE: (800) 722-5584

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

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

PROJECT SUMMARY

SITE ADDRESS:

20 POST OFFICE LANE
WESTPORT, CT 06880
COUNTY: FAIRFIELD

GEOGRAPHIC COORDINATES:

LATITUDE: 41.12344444

LONGITUDE: -73.3131

GROUND ELEVATION: 15' 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:

JAY SHERWOOD
1158 5TH AVE #2C
NEW YORK, NY 10029

PROJECT DESCRIPTION

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

REMOVE (6) PANELS, (3) RRUs, (2) 1-5/8" COAX CABLES, AND (1) PLATFORM MOUNT

INSTALL (6) NEW PANELS, (3) RRUs, (2) 1-1/4" HYBRID CABLES, AND (1) PLATFORM MOUNT

EXISTING (3) PANELS, (3) TTAs, (1) 1-1/4" HYBRID CABLE, AND (12) 1-5/8" COAX CABLES TO REMAIN

PROJECT NOTES

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

PROJECT LOCATION DIRECTIONS

FROM HARTFORD, CT:

TAKE I-91 SOUTH TO I-95 SOUTH. TAKE EXIT 18 STAYING TO THE RIGHT OFF THE EXIT. AT SECOND LIGHT TAKE A RIGHT AND FOLLOW ABOUT 1.25 MILES AND TURN RIGHT ONTO NEW CREEK ROAD. GO UNDER BRIDGE AND TURN LEFT ONTO POST OFFICE LANE. FOLLOW TO END PAST THE HOUSE TO THE SITE.

SHEET INDEX

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

ATC SITE NUMBER:
302511

ATC SITE NAME:
WSPT - SOUTH

SITE ADDRESS:
20 POST OFFICE LANE
WESTPORT, CT 06880

SEAL:

Authorized by "EOR"
Aug 29 2018 3:39 PM cosign

T-Mobile

DRAWN BY:	KTL
APPROVED BY:	KRF
DATE DRAWN:	08/29/18
ATC JOB NO:	12607171

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.

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	KTL	08/29/18

ATC SITE NUMBER:
302511

ATC SITE NAME:
WSPT - SOUTH

SITE ADDRESS:
20 POST OFFICE LANE
WESTPORT, CT 06880

SEAL:

Authorized by "EOR"
Aug 29 2018 3:39 PM cosign

T-Mobile

DRAWN BY:	KTL
APPROVED BY:	KRF
DATE DRAWN:	08/29/18
ATC JOB NO:	12607171

GENERAL NOTES

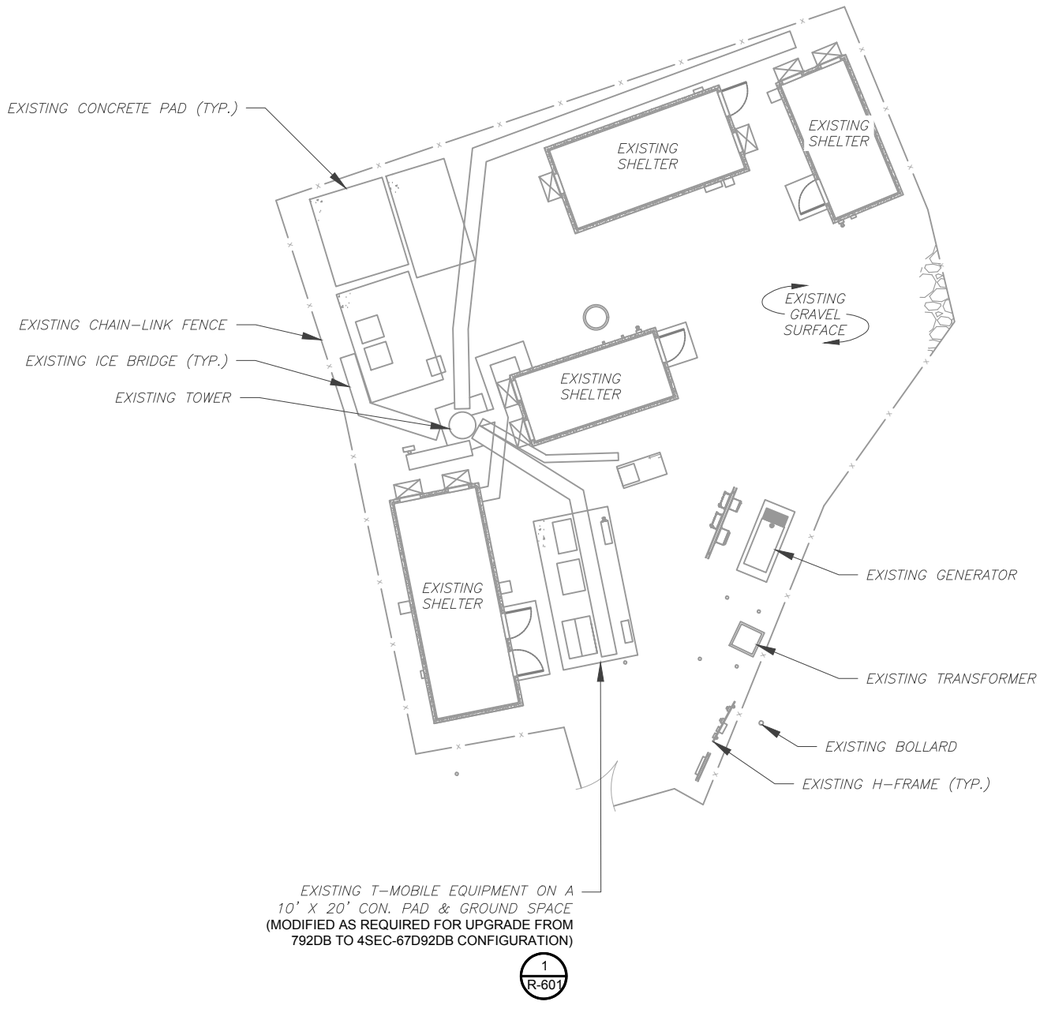
SHEET NUMBER:	REVISION:
G-002	0

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.

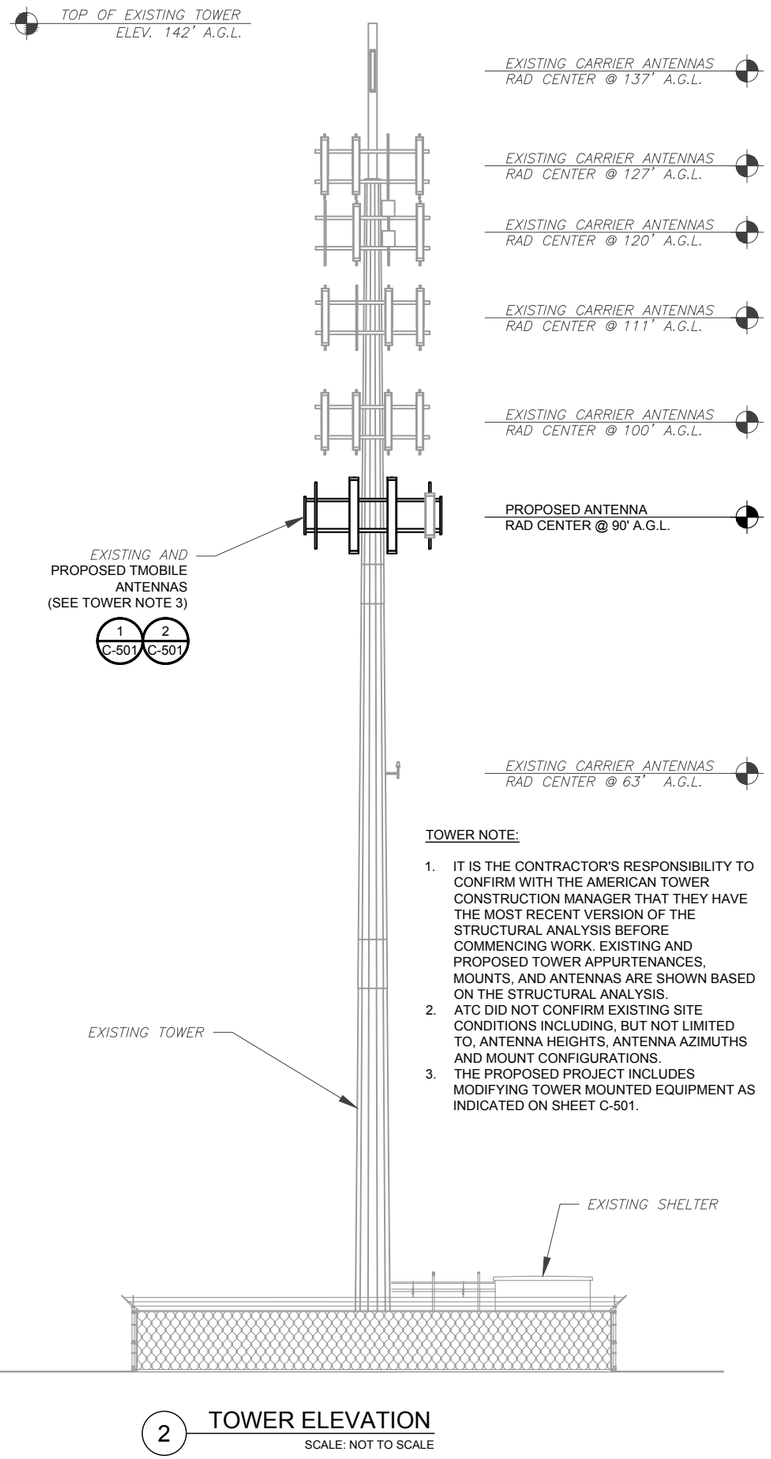
3. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE T-MOBILE REPRESENTATIVE AND LOCAL UTILITY COMPANY FOR THE INSTALLATION OF CONDUITS, CONDUCTORS, BREAKERS, DISCONNECTS, OR ANY OTHER EQUIPMENT REQUIRED FOR ELECTRICAL SERVICE. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH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

2 TOWER ELEVATION

SCALE: NOT TO SCALE

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
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COA: PEC.0001553

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

ATC SITE NUMBER:
302511

ATC SITE NAME:
WSPT - SOUTH

SITE ADDRESS:
20 POST OFFICE LANE
WESTPORT, CT 06880

SEAL:

STATE OF CONNECTICUT
PATRICK P. BARRY
28959
LICENSED
PROFESSIONAL ENGINEER

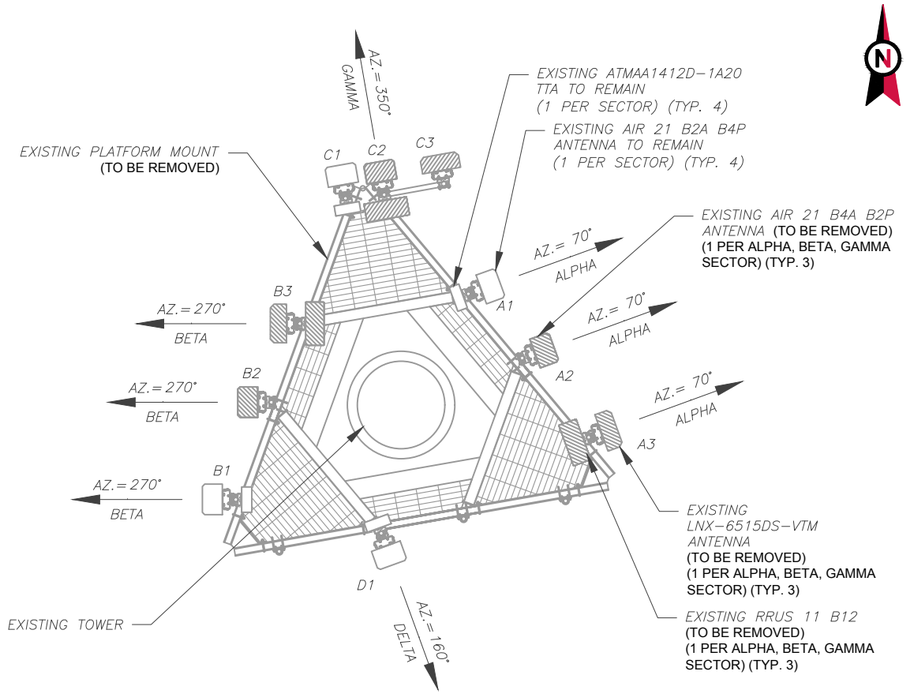
Authorized by "EOR"
Aug 29 2018 3:39 PM cosign

T-Mobile

DRAWN BY:	KTL
APPROVED BY:	KRF
DATE DRAWN:	08/29/18
ATC JOB NO:	12607171

DETAILED SITE PLAN & TOWER ELEVATION

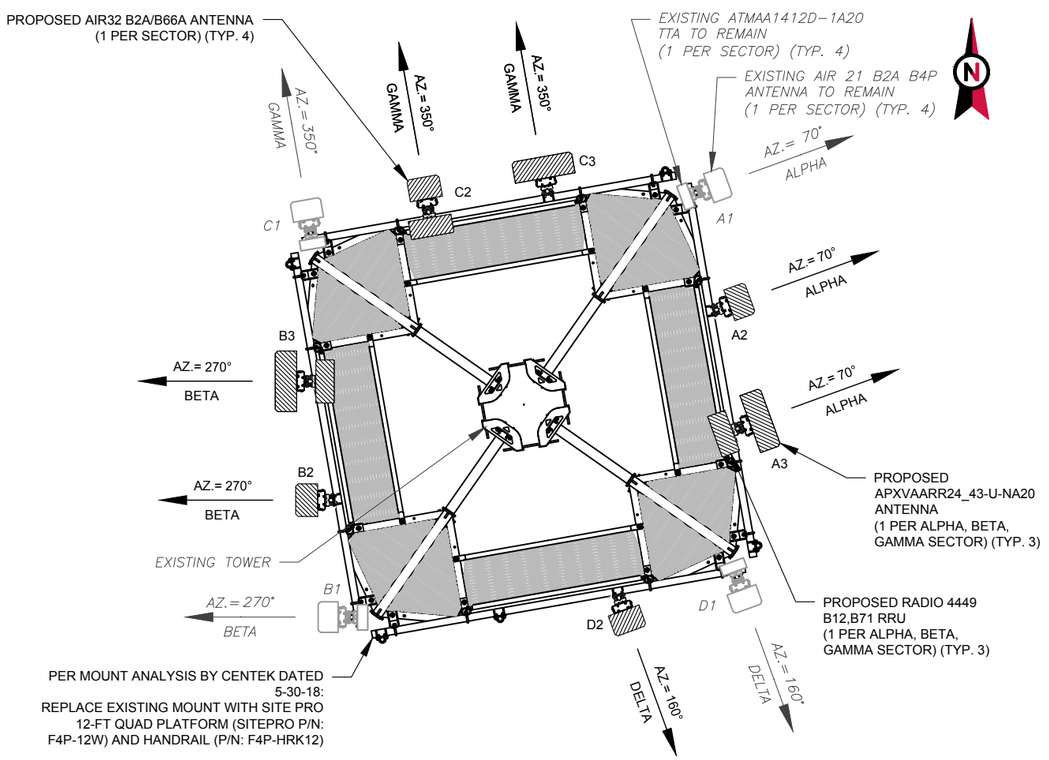
SHEET NUMBER:	REVISION:
C-101	0



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	90'-0"	70°	0°	3°	ATMAA1412D-1A20	(14) 1-5/8"
ALPHA	A2	AIR 21 B4A B2P	90'-0"	70°	0°	3°	RRUS 11	
ALPHA	A3	LNX-6515DS-VTM	90'-0"	70°	0°	2°	–	
BETA	B1	AIR 21 B2A B4P	90'-0"	270°	0°	3°	ATMAA1412D-1A20	
BETA	B2	AIR 21 B4A B2P	90'-0"	270°	0°	3°	–	
BETA	B3	LNX-6515DS-VTM	90'-0"	270°	0°	2°	RRUS 11	
GAMMA	C1	AIR 21 B2A B4P	90'-0"	350°	0°	3°	ATMAA1412D-1A20	
GAMMA	C2	AIR 21 B4A B2P	90'-0"	350°	0°	3°	–	
GAMMA	C3	LNX-6515DS-VTM	90'-0"	350°	0°	2°	RRUS 11	
DELTA	D1	AIR 21 B2A B4P	90'-0"	160°	0°	3°	ATMAA1412D-1A20	

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	90'-0"	70°	0°	–	ATMAA1412D-1A20	(12) 1-5/8"
ALPHA	A2	AIR32 B66AAB2A	90'-0"	70°	0°	-	-	
ALPHA	A3	APXVAARR24_43-U-NA20	90'-0"	70°	0°	-	RADIO 4449 B12,B71	
BETA	B1	AIR 21 B2A B4P	90'-0"	270°	0°	–	ATMAA1412D-1A20	
BETA	B2	AIR32 B66AAB2A	90'-0"	270°	0°	-	-	
BETA	B3	APXVAARR24_43-U-NA20	90'-0"	270°	0°	-	RADIO 4449 B12,B71	
GAMMA	C1	AIR 21 B2A B4P	90'-0"	350°	0°	–	ATMAA1412D-1A20	
GAMMA	C2	AIR32 B66AAB2A	90'-0"	350°	0°	-	-	
GAMMA	C3	APXVAARR24_43-U-NA20	90'-0"	350°	0°	-	RADIO 4449 B12,B71	
DELTA	D1	AIR 21 B2A B4P	90'-0"	160°	0°	–	ATMAA1412D-1A20	
DELTA	D2	AIR32 B66AAB2A	90'-0"	350°	0°	-	-	

1. BASED ON APPROVED ATC APPLICATION 12605182, DATED 08-22-2018. 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 1-1/4 HYBRID CABLE (127'±)

3 ANTENNA SCHEDULE

AMERICAN TOWER®
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3500 REGENCY PARKWAY
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PHONE: (919) 468-0112
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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	KTL	08/29/18

ATC SITE NUMBER:
302511

ATC SITE NAME:
WSPT - SOUTH

SITE ADDRESS:
20 POST OFFICE LANE
WESTPORT, CT 06880

SEAL:

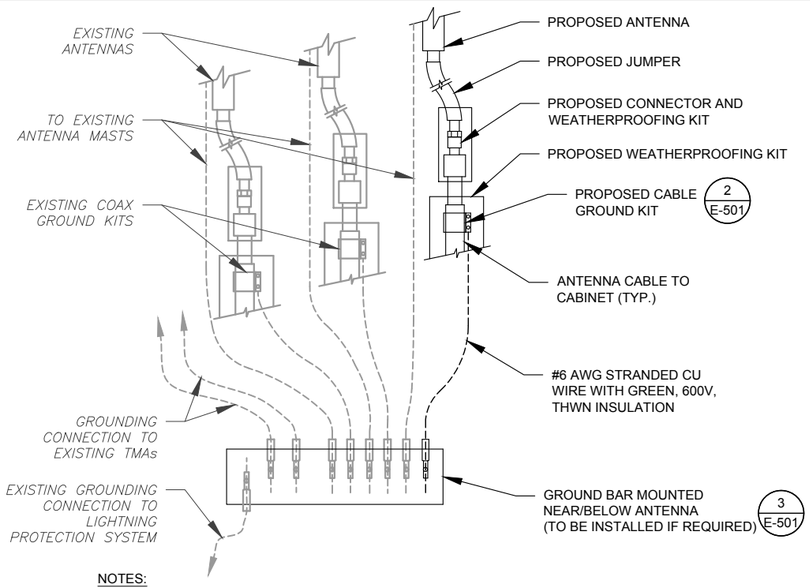
Authorized by "EOR"
Aug 29 2018 3:39 PM cosign

T-Mobile

DRAWN BY:	KTL
APPROVED BY:	KRF
DATE DRAWN:	08/29/18
ATC JOB NO:	12607171

ANTENNA INFORMATION & SCHEDULE

SHEET NUMBER:	REVISION:
C-501	0

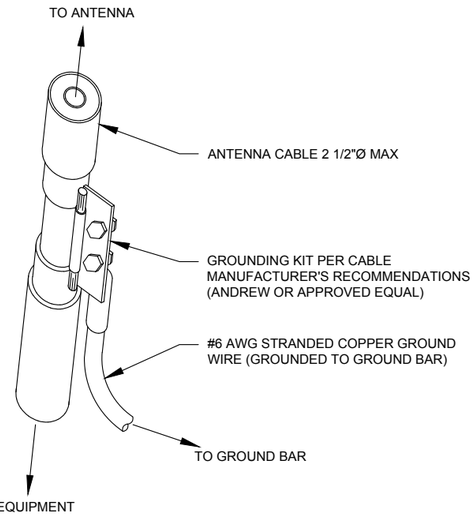


NOTES:

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

1 TYPICAL ANTENNA GROUNDING DIAGRAM

SCALE: NOT TO SCALE

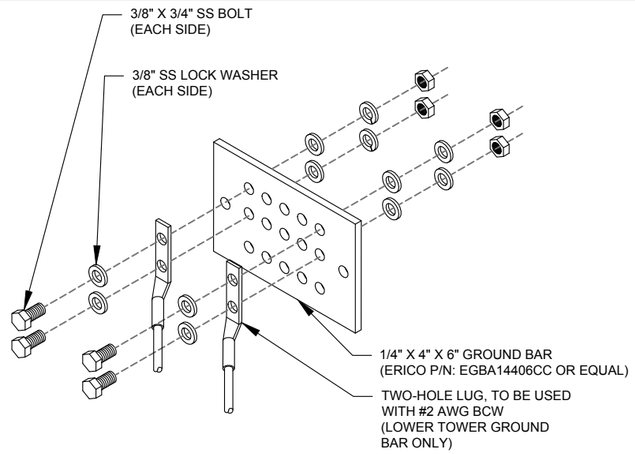


GROUND KIT NOTES:

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

2 CABLE GROUND KIT CONNECTION DETAIL

SCALE: NOT TO SCALE



GROUND BAR NOTES:

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

3 TOWER GROUND BAR DETAIL

SCALE: NOT TO SCALE

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

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

ATC SITE NUMBER:
302511

ATC SITE NAME:
WSPT - SOUTH

SITE ADDRESS:
20 POST OFFICE LANE
WESTPORT, CT 06880

SEAL:

Authorized by "EOR"
Aug 29 2018 3:39 PM cosign

T-Mobile

DRAWN BY:	KTL
APPROVED BY:	KRF
DATE DRAWN:	08/29/18
ATC JOB NO:	12607171

GROUNDING DETAILS

SHEET NUMBER:	REVISION:
E-501	0

Section 5 - RAN Equipment

Existing RAN Equipment

Template: 792DB Outdoor

Enclosure	1	2	3
Enclosure Type	RBS 6102	S12000 Outdoor	RBS 3106
Baseband	DUW30 (U2100) DUS41 (L2100, L1900) DUG20 (G1900) DUW30		
Hybrid Cable System	Ericsson 3x6 HCS *Select Length* Ericsson 9x16 HCS *Select Length*		
Multiplexer	XMU (L2100, L1900, L700)		
Radio	RUS01 B4 (x8) (U2100)		

Proposed RAN Equipment

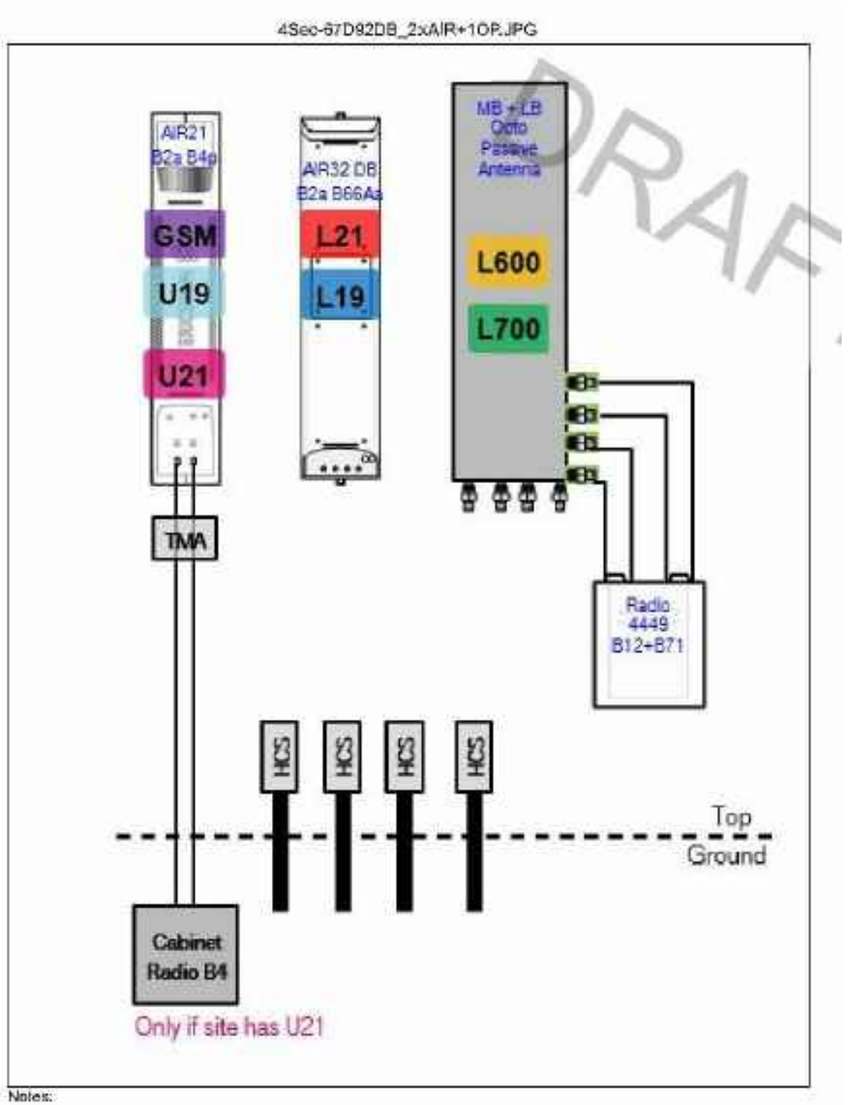
Template: 4Sec-67D92DB Outdoor

Enclosure	1	2	3
Enclosure Type	RBS 6102 MU AC	Ancillary Equipment	S12000 Outdoor
Baseband	DUW30 (U1900 (DECOMMISSIONED)) DUW30 (U2100) DUG20 (G1900) BB 5216 (L2100, L1900, L700, L600)		
Hybrid Cable System		Ericsson 9x18 HCS *Select Length* Ericsson 3x6 HCS 30m Ericsson 6x12 HCS *Select AWG & Length* Ericsson 6x12 HCS *Select Length & AWG*	
Multiplexer	XMU (x2)		
Radio	RU22 (x8) (U2100)		

RAN Scope of Work:

Take down 2 coax from tower.

1 CABINET CONFIGURATION
SCALE: NOT TO SCALE



Notes:

2 ANTENNA CONFIGURATION
SCALE: NOT TO SCALE

NOTE: THIS SHEET CREATED BY OTHERS AND PROVIDED BY REQUEST OF CUSTOMER WITHOUT EDIT.

SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-601	0

Kyle Richers

From: UPS Quantum View <pkginfo@ups.com>
Sent: Thursday, September 13, 2018 11:57 AM
To: krichers@transcendwireless.com
Subject: UPS Delivery Notification, Reference Number 1: CT11012B Zoning Official

Your package has been delivered.

Delivery Date: Thursday, 09/13/2018
Delivery Time: 11:52 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:	1ZV257424297292147
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:	CT11012B Zoning Official

Download the UPS mobile app

Kyle Richers

From: UPS Quantum View <pkginfo@ups.com>
Sent: Thursday, September 13, 2018 11:57 AM
To: krichers@transcendwireless.com
Subject: UPS Delivery Notification, Reference Number 1: CT11012B FS

Your package has been delivered.

Delivery Date: Thursday, 09/13/2018
Delivery Time: 11:52 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:	1ZV257424298002136
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:	CT11012B FS

Download the UPS mobile app

Kyle Richers

From: UPS Quantum View <pkginfo@ups.com>
Sent: Friday, September 14, 2018 10:58 AM
To: krichers@transcendwireless.com
Subject: UPS Delivery Notification, Reference Number 1: CT11012B to ATC

Your package has been delivered.

Delivery Date: Friday, 09/14/2018
Delivery Time: 10:51 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:	1ZV257424296602152
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:	OFFICE LONG
Signature Required:	A signature is required for package delivery
Reference Number 1:	CT11012B to ATC

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U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at *www.usps.com®*.

WESTPORT CT 06881

OFFICIAL USE

Certified Mail Fee	$3.45	0690 14
$	$2.75	
Extra Services & Fees (check box, add fee as appropriate)		
☐ Return Receipt (hardcopy)	$ $0.00	
☐ Return Receipt (electronic)	$ $0.00	Postmark Here
☐ Certified Mail Restricted Delivery	$0.00	
☐ Adult Signature Required	$0.00	
☐ Adult Signature Restricted Delivery	$	
Postage	$1.84	09/12/2018
$		
Total Postage and Fees	$8.04	
$		

SEP 12 2018 USPS

Sent To Jax Sherwood

Street and Apt. No., or PO Box No. PO Box 48

City, State, ZIP+4® Westport, CT 06881

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions