Transcend Wireless

10 Industrial Ave,
Suite 3
Mahwah NJ 07430

Phone: 201.684.0055
Fax: 201.684.0066

September 20, 2018

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

Notice of Exempt Modification
2 Sunny Lane, Westport, CT 06880
Latitude- 41.162917
Longitude- -73.373083

Dear Ms. Bachman,

T-Mobile currently maintains (12) existing antennas 110' level of the existing 130' monopole at 2 Sunny Lane in Westport, Connecticut (also known as 2 Allen Raymond Lane). The tower is owned by American Tower. The property is owned by Cellco Partnership. T-Mobile now intends to remove (6) of the existing antennas and add (6) new 600/700/1900/2100 MHz antennas. These antennas would be installed at the same 110' level of the tower. T-Mobile also intends to swap (3) remote radio heads and add (3) hybrid cables.

This tower facility was approved by the Siting Council through Docket No. 188 dated December 17, 1998. This approval did not come with conditions that would be violated by this proposed modification.

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).

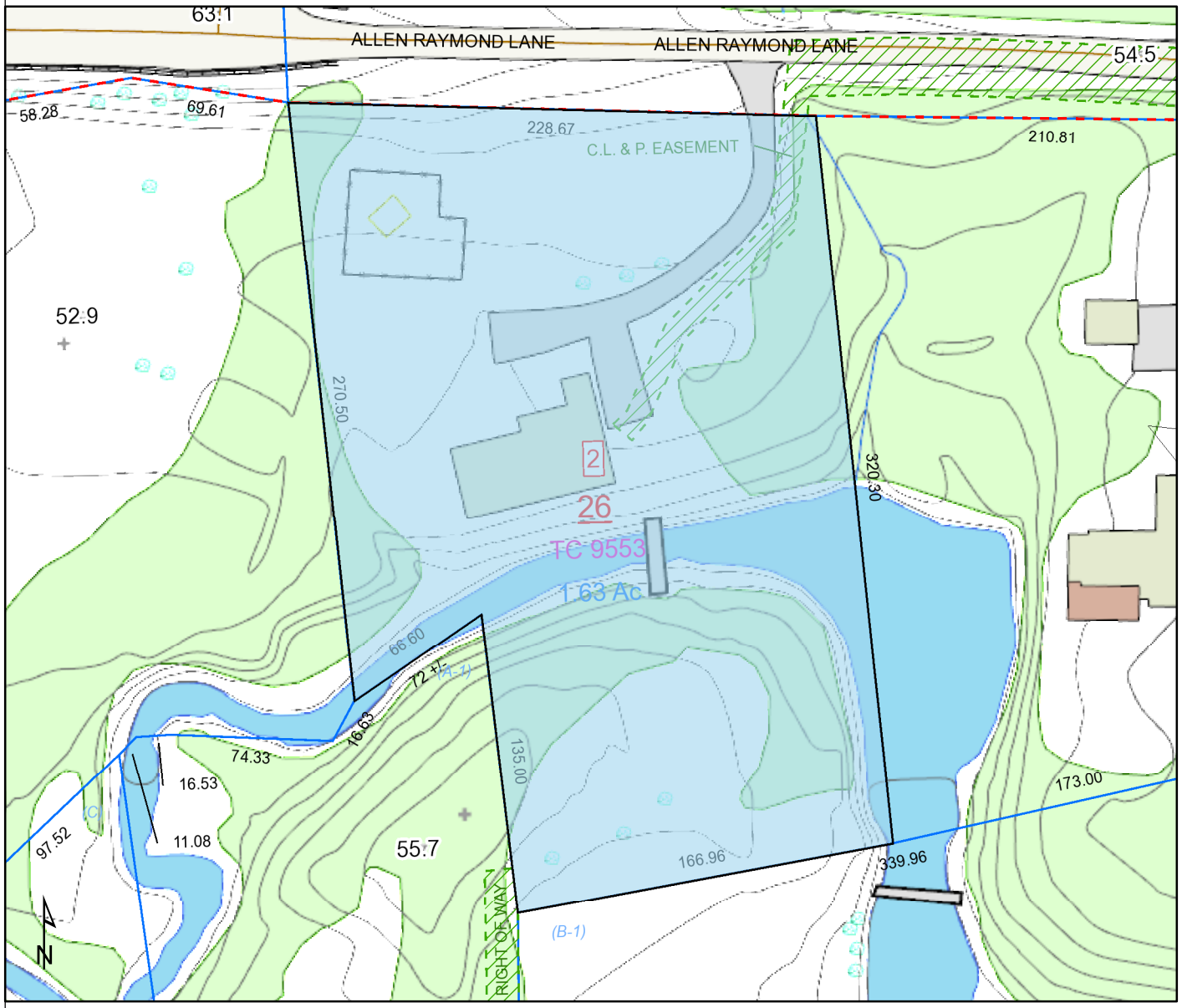
Sincerely,

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
Cellco Partnership- as property owner

CT11075C



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

2 ALLEN RAYMOND LN

Location	2 ALLEN RAYMOND LN	**Mblu**	B13/ / 026/000 /
Acct#	5298022	**Owner**	CELLCO PARTNERSHIP
Assessment	$1,378,920	**Appraisal**	$1,969,900
PID	4500	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$1,444,300	$525,600	$1,969,900
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$1,011,020	$367,900	$1,378,920

Owner of Record

Owner	CELLCO PARTNERSHIP	**Sale Price**	$415,000
Co-Owner	BELL ATLANTIC NYNEX MOBILE DBA	**Certificate**	1
Address	PO BOX 2549 ADDISON , TX 75001	**Book & Page**	1488/ 99
		Sale Date	12/10/1996
		Instrument	00

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
CELLCO PARTNERSHIP	$415,000	1	1488/ 99	00	12/10/1996

Building Information

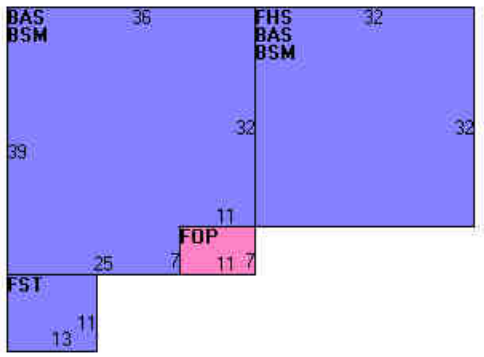
Building 1 : Section 1

Year Built:	1968
Living Area:	3,006
Replacement Cost:	$508,423
Building Percent Good:	80
Replacement Cost Less Depreciation:	$406,700

Building Attributes	
Field	**Description**

STYLE	Res Typ Comm
MODEL	Commercial
Grade	Average +20
Stories:	1
Occupancy	1
Exterior Wall 1	Board & Batten
Exterior Wall 2	
Roof Structure	Gable
Roof Cover	Asphalt/F Glas
Interior Wall 1	Drywall
Interior Wall 2	
Interior Floor 1	Vinyl/Asphalt
Interior Floor 2	
Heating Fuel	Oil
Heating Type	Forced Air
AC Type	Central
Bldg Use	Cell Site
Income Adj	
1st Floor Use:	
Heat/AC	Heat/AC Pkgs
Frame Type	Wood Frame
Baths/Plumbing	Average
Ceiling/Walls	Ceil & Walls
Rooms/Prtns	Average
Wall Height	8
% Comn Wall	

Building Layout



(http://images.vgsi.com/photos2/WestportCTPhotos//Sketches/4

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	2,351	2,351
FHS	Half Story, Finished	1,024	512
FST	Utility Storage, Fin	143	143
BSM	Basement Area	2,351	0
FOP	Porch, Open	77	0
		5,946	3,006

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	434
Description	Cell Site
Zone	AAA
Neighborhood	C
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	1.63
Frontage	0
Depth	0
Assessed Value	$367,900
Appraised Value	$525,600

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
CELL	Cell on TWR	TW		6 Sites	$1,037,600	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$1,444,300	$525,600	$1,969,900
2016	$1,444,300	$525,600	$1,969,900
2014	$1,333,500	$519,600	$1,853,100

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$1,011,020	$367,900	$1,378,920
2016	$1,011,020	$367,900	$1,378,920
2014	$933,400	$363,700	$1,297,100

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: CT11075C

Westport/ MP X 41
2 Sunny Lane
Westport, CT 06880

August 18, 2018

EBI Project Number: 6218005633

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	11.49 %

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

EBI Consulting
environmental | engineering | due diligence

August 18, 2018

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

Emissions Analysis for Site: **CT11075C – Westport/ MP X 41**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **2 Sunny 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 **2 Sunny Lane, Westport, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB for directional panel antennas, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

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

1) 1 GSM channels (PCS Band - 1900 MHz) was considered for each sector of the proposed installation. These Channels have a transmit power of 15 Watts per Channel.

2) 1 UMTS channels (AWS Band – 2100 MHz) was considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

3) 2 LTE channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

4) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

5) 2 LTE channels (600 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

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

7) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.

8) For the following calculations the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB for directional panel antennas, was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

9) The antennas used in this modeling are the **Ericsson AIR32 B2A/B66AA** & **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 **110 feet** above ground level (AGL).

11) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

12) All calculations were done with respect to uncontrolled / general population threshold limits.

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	**1**	Antenna #:	**1**	Antenna #:	**1**
Make / Model:	Ericsson AIR32 B2A/B66AA	Make / Model:	Ericsson AIR32 B2A/B66AA	Make / Model:	Ericsson AIR32 B2A/B66AA
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	110 feet	Height (AGL):	110 feet	Height (AGL):	110 feet
Frequency Bands	1900 MHz (PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz (PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz (PCS) / 2100 MHz (AWS)
Channel Count	2	Channel Count	2	Channel Count	2
Total TX Power(W):	55	Total TX Power(W):	55	Total TX Power(W):	55
ERP (W):	2,139.75	ERP (W):	2,139.75	ERP (W):	2,139.75
Antenna A1 MPE%	**0.71**	Antenna B1 MPE%	**0.71**	Antenna C1 MPE%	**0.71**
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	Ericsson AIR21 B2A/B4P	Make / Model:	Ericsson AIR21 B2A/B4P	Make / Model:	Ericsson AIR21 B2A/B4P
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	110 feet	Height (AGL):	110 feet	Height (AGL):	110 feet
Frequency Bands	1900 MHz (PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz (PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz (PCS) / 2100 MHz (AWS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	200	Total TX Power(W):	200	Total TX Power(W):	200
ERP (W):	7,780.90	ERP (W):	7,780.90	ERP (W):	7,780.90
Antenna A2 MPE%	**2.59**	Antenna B2 MPE%	**2.59**	Antenna C2 MPE%	**2.59**
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):	110 feet	Height (AGL):	110 feet	Height (AGL):	110 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%	**1.93**	Antenna B3 MPE%	**1.93**	Antenna C3 MPE%	**1.93**

Site Composite MPE%	
Carrier	**MPE%**
T-Mobile (Per Sector Max)	**5.22 %**
Clearwire	**0.14**
Nextel	**0.40**
Verizon Wireless	**2.28**
Sprint	**0.96**
AT&T	**2.49**
Site Total MPE %:	**11.49 %**

T-Mobile Sector A Total:	5.22 %
T-Mobile Sector B Total:	5.22 %
T-Mobile Sector C Total:	5.22 %
Site Total:	11.49 %

T-Mobile Maximum MPE Power Values (Per Sector)

T-Mobile _Frequency Band / Technology (Per Sector)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
T-Mobile PCS - 1900 MHz GSM	1	583.57	110	1.94	PCS - 1900 MHz	1000.00	0.19%
T-Mobile AWS - 2100 MHz UMTS	1	1,556.18	110	5.17	AWS - 2100 MHz	1000.00	0.52%
T-Mobile PCS - 1900 MHz LTE	2	1,556.18	110	10.34	PCS - 1900 MHz	1000.00	1.03%
T-Mobile AWS - 2100 MHz LTE	2	2,334.27	110	15.52	AWS - 2100 MHz	1000.00	1.55%
T-Mobile 600 MHz LTE	2	788.97	110	5.24	600 MHz	400.00	1.31%
T-Mobile 700 MHz LTE	2	432.54	110	2.88	700 MHz	467.00	0.62%
						Total:	**5.22%**

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:	5.22 %
Sector B:	5.22 %
Sector C:	5.22 %
T-Mobile Maximum MPE % (Per Sector):	5.22 %
Site Total:	11.49 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **11.49%** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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

AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure	:	**130 ft Monopole**
ATC Site Name	:	**Cranburysu CT, CT**
ATC Site Number	:	**411189**
Engineering Number	:	**OAA736471_C3_02**
Proposed Carrier	:	**T-Mobile**
Carrier Site Name	:	**Westport/MP X 41**
Carrier Site Number	:	**CT11075C**
Site Location	:	**2 Sunny Lane** **Westport, CT 06880-1906** **41.162900,-73.373100**
County	:	**Fairfield**
Date	:	**July 27, 2018**
Max Usage	:	**42%**
Result	:	**Pass**

Prepared By:
Parvin NikpoorParizi
Structural Engineer I

Reviewed By:

COA: PEC.0001553

AMERICAN TOWER®
CORPORATION

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Calculations ..... Attached

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 130 ft monopole to reflect the change in loading by T-Mobile.

Supporting Documents

Tower Drawings	EEI Job #10847, dated June 7, 2002
Foundation Drawing	EEI Project #10847, dated June 10, 2002
Geotechnical Report	Clarence Welti Association Project Name 2 Sunny Lane, dated January 29, 1999

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:	94 mph (3-Second Gust, V_{ASD}) / 121 mph (3-Second Gust, V_{ULT})
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
Code:	ANSI/TIA-222-G / 2012 IBC / 2016 Connecticut State Building Code
Structure Class:	II
Exposure Category:	B
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	Ss = 0.23, 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					
130.0	134.0	3	Alcatel-Lucent RRH2X60-1900	Low Profile Platform	(12) 1 5/8" Coax (2) 1 5/8" Fiber	Verizon
		3	Alcatel-Lucent RRH2X60-AWS			
		3	Alcatel-Lucent RRH2x60 700			
		2	RFS DB-T1-6Z-8AB-0Z			
	133.0	3	Antel BXA-171085-8BF-EDIN-X			
		4	Decibel DB846F65ZAXY			
		2	Antel LPA-80080/6CF ___			
		6	Commscope SBNHH-1D85C			
126.0	126.0	1	Andrew VHLP800-11 (49 lbs)	Flush	(1) 1/2" Coax	Sprint Nextel
125.0	125.0	3	Alcatel-Lucent RRH2x50-08	Low Profile Platform	(6) 1 5/8" Coax (3) 1 1/4" Hybriflex (3) 0.78" 8 AWG 6 (2) 2" Conduit (1) 1.7" Hybrid	
		3	Alcatel-Lucent 800MHz RRH			
		3	Alcatel-Lucent 1900MHz RRH			
		3	Nokia 2.5G MAA - AAHC(64T64R)			
		1	24" x 24" Junction Box			
		3	Commscope NNVV-65B-R4			
110.0	110.0	3	Ericsson KRY 112 71	Low Profile Platform	(9) 1 5/8" Coax (6) 7/8" Coax	T-Mobile
		3	EMS RR90-17-02DP			
		3	Ericsson AIR 21, 1.3 M, B2A B4P			
107.0	107.0	1	GPS	Flush	(1) 7/8" Coax	AT&T Mobility
104.0	104.0	12	Powerwave LGP21901	Low Profile Platform	(12) 1 5/8" Coax (2) 0.78" 8 AWG 6 (1) 0.39" Fiber Trunk (1) 3" conduit	
		6	Powerwave 7020			
		12	Powerwave LGP21401			
		1	Raycap DC6-48-60-18-8F			
		3	Ericsson RRUS-11 (50 lbs.)			
		3	Ericsson RRUS			
		3	Ericsson RRUS 12 w/ RRUS A2			
		6	Powerwave 7770.00			
		3	Powerwave P65-16-XLH-RR			
		3	CCI HPA-65R-BUU-H6			
76.0	76.0	1	2" x 8" GPS	Stand-Off	(1) 0.63" LDF4-50A	Verizon
75.0	75.0	1	GPS	Flush	(1) 1/2" Coax	Sprint Nextel
		1	2" x 8" GPS		(1) 0.63" LDF4-50A	Verizon
68.0	68.0	1	GPS	Side Arm	(1) 1/2" Coax	AT&T Mobility
60.0	60.0	1	GPS	Side Arm	(1) 1/2" Coax	T-Mobile

Equipment to be Removed

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
110.0	110.0	3	Ericsson AIR 21, 1.3 M, B2A B4P	-	(3) 1 5/8" Coax (1) 7/8" Fiber	T-Mobile
		3	Commscope LNX-6515DS-VTM			
		3	Ericsson RRUS 11 B12			

Proposed Equipment

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
110.0	110.0	3	Ericsson Radio 4449 B12,B71	Low Profile Platform	(3) 1 1/4" Fiber	T-Mobile
		3	Ericsson AIR-32 B2A/B66Aa			
		3	RFS APXVAARR24_43-U-NA20			

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

Install proposed coax inside the pole shaft.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	34%	Pass
Shaft	34%	Pass
Base Plate	42%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Moment (Kips-Ft)	2,520.0	34%
Axial (Kips)	58.0	26%
Shear (Kips)	26.0	17%

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) (°)
126.0	Andrew Microwaves VHLP800-11 (49 lbs)	Sprint Nextel	0.575	0.485
110.0	Ericsson Radio 4449 B12,B71	T-Mobile	0.443	0.460
	Ericsson AIR-32 B2A/B66Aa			
	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:

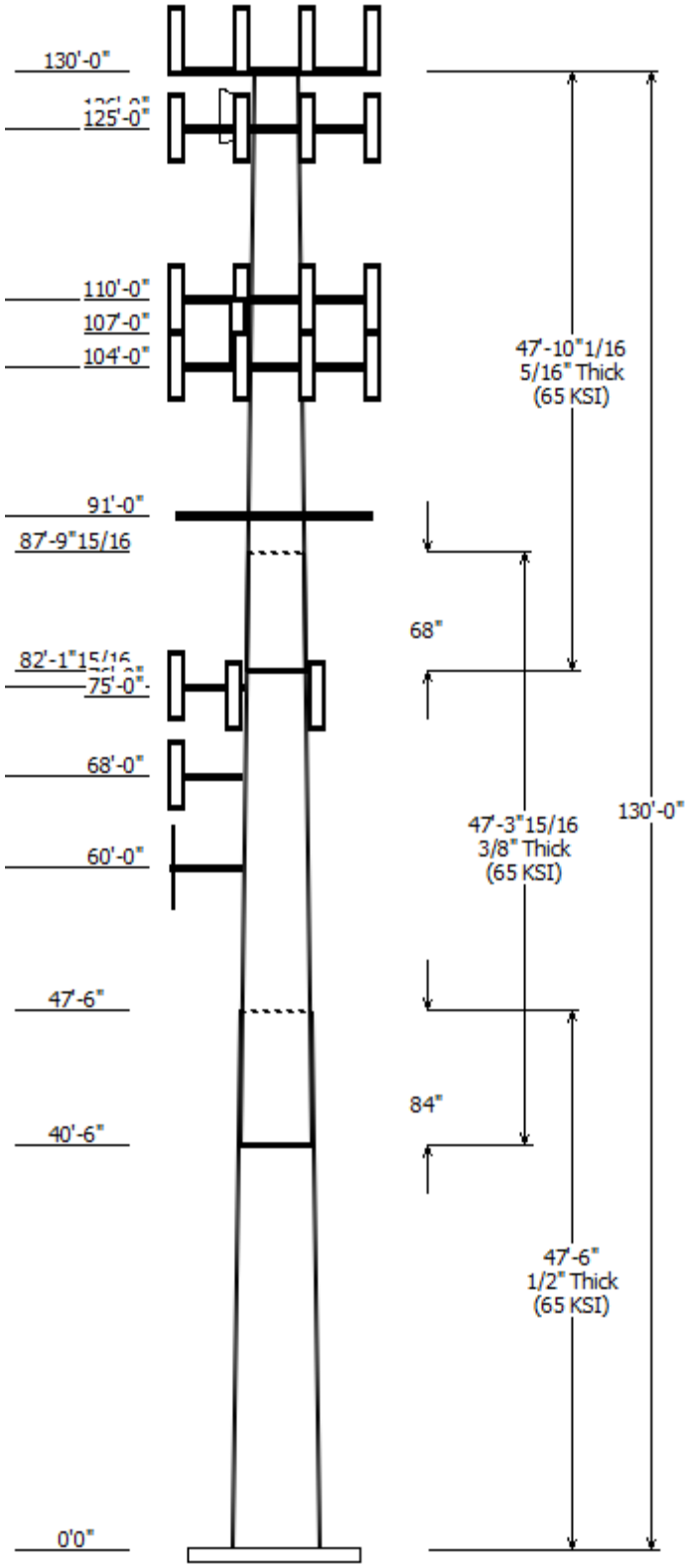
- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

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

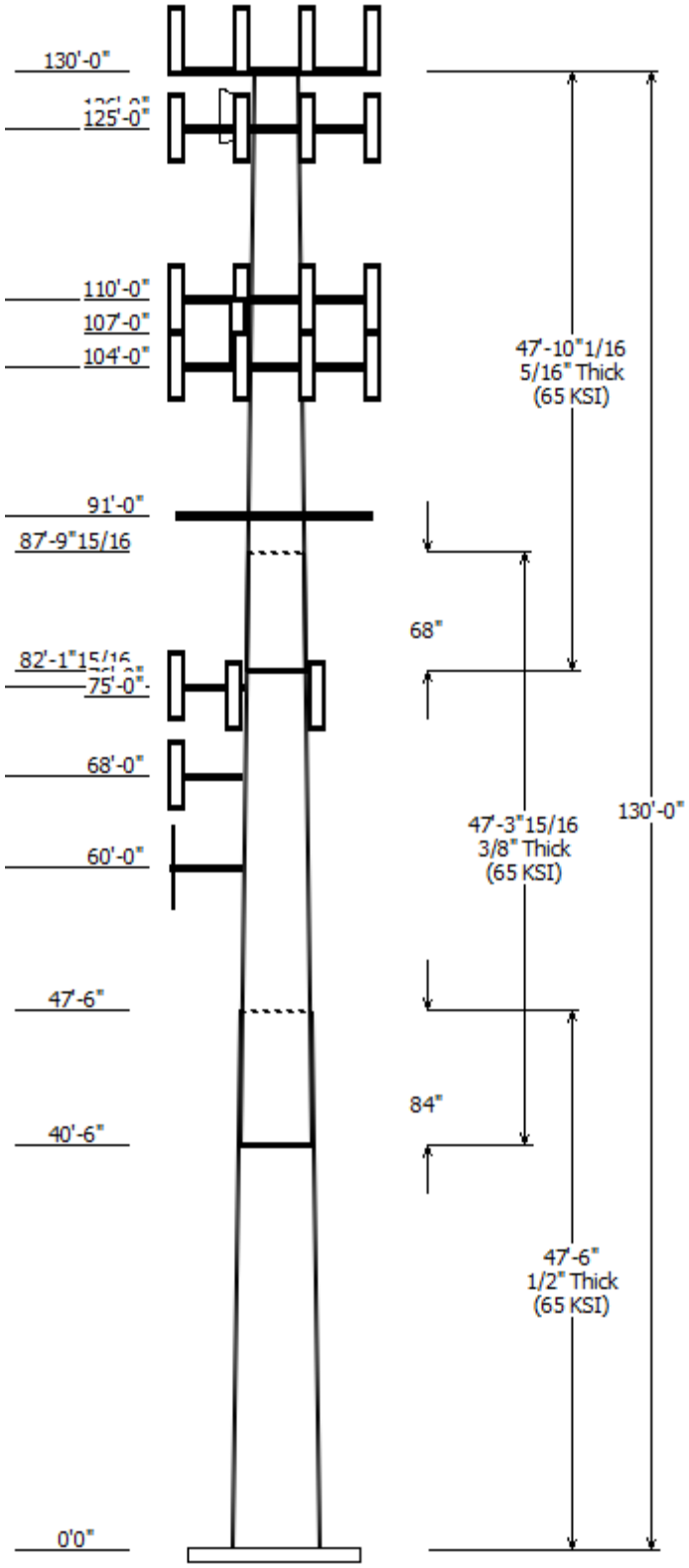
Pole :	411189	Code:	ANSI/TIA-222-G
Location :	CRANBURYSU CT, CT		
Description :	130 ft EEI Monopole		
Client :	T-MOBILE	Struct Class :	II
Shape :	18 Sides	Exposure :	B
Height :	130.00 (ft)	Topo :	1
Base Elev (ft):	0.00		
Taper:	0.270745 (in/ft)		

Sections Properties

Shaft Section	Length (ft)	Diameter (in) Accross Flats Top	Bottom	Thick (in)	Joint Type	Overlap Length (in)	Shape	Steel Grade (ksi)
1	47.500	49.14	62.00	0.500		0.000	18 Sides	65
2	47.330	38.97	51.78	0.375	Slip Joint	84.000	18 Sides	65
3	47.837	28.17	41.13	0.313	Slip Joint	68.000	18 Sides	65

Discrete Appurtenance

Attach Elev (ft)	Force Elev (ft)	Qty	Description
130.000	130.000	1	Flat Low Profile Platform
130.000	133.000	6	Commscope SBNHH-1D85C
130.000	133.000	2	Antel LPA-80080/6CF ___
130.000	133.000	4	Decibel DB846F65ZAXY
130.000	134.000	2	RFS DB-T1-6Z-8AB-0Z
130.000	133.000	3	Amphenol Antel BXA-171085-
130.000	134.000	3	Alcatel-Lucent RRH2x60 700
130.000	134.000	3	Alcatel-Lucent RRH2X60-1900
130.000	134.000	3	Alcatel-Lucent RRH2X60-AWS
126.000	126.000	1	Andrew Microwaves VHLP800-
125.000	125.000	1	Flat Low Profile Platform
125.000	125.000	3	Commscope NNVV-65B-R4
125.000	125.000	1	24" x 24" Junction Box
125.000	125.000	3	Nokia 2.5G MAA -
125.000	125.000	3	Alcatel-Lucent 1900MHz RRH
125.000	125.000	3	Alcatel-Lucent 800MHz RRH
125.000	125.000	3	Alcatel-Lucent RRH2x50-08
110.000	110.000	3	RFS APXVAARR24_43-U-NA20
110.000	110.000	3	Ericsson AIR-32 B2A/B66Aa
110.000	110.000	3	Ericsson Radio 4449 B12,B71
110.000	110.000	1	Flat Low Profile Platform
110.000	110.000	3	Ericsson AIR 21, 1.3 M, B2A B4
110.000	110.000	3	EMS RR90-17-02DP
110.000	110.000	3	Ericsson KRY 112 71
107.000	107.000	1	GPS
104.000	104.000	1	Flat Low Profile Platform
104.000	104.000	3	CCI HPA-65R-BUU-H6
104.000	104.000	3	Powerwave Allgon P65-16-
104.000	104.000	6	Powerwave Allgon 7770.00
104.000	104.000	3	Ericsson RRUS 12 w/ RRUS A2
104.000	104.000	3	Ericsson RRUS
104.000	104.000	3	Ericsson RRUS-11 (50 lbs.)
104.000	104.000	1	Raycap DC6-48-60-18-8F
104.000	104.000	12	Powerwave Allgon LGP21401
104.000	104.000	6	Powerwave Allgon 7020
104.000	104.000	12	Powerwave Allgon LGP21901
91.000	91.000	1	Empty Flat Low Profile Platfor
76.000	76.000	1	Stand-Off
76.000	76.000	1	2" x 8" GPS
75.000	75.000	1	2" x 8" GPS
75.000	75.000	1	GPS
68.000	68.000	1	Side Arm
68.000	68.000	1	GPS
60.000	60.000	1	Flat Side Arm
60.000	60.000	1	GPS



Linear Appurtenance

Elev (ft) From	To	Description	Exposed To Wind
0.000	60.000	1/2" Coax	No
0.000	68.000	1/2" Coax	No
0.000	75.000	0.63" (16mm)	No
0.000	75.000	1/2" Coax	No
0.000	76.000	0.63" (16mm)	No
0.000	104.0	0.39" Fiber Trunk	No
0.000	104.0	0.78" 8 AWG 6	No
0.000	104.0	1 5/8" Coax	No
0.000	104.0	3" conduit	No
0.000	107.0	7/8" Coax	No
0.000	110.0	1 1/4" (1.25"-	No
0.000	110.0	1 5/8" Coax	No
0.000	110.0	7/8" Coax	No
0.000	125.0	0.78" 8 AWG 6	No
0.000	125.0	1 1/4" Hybriflex	No
0.000	125.0	1 5/8" Coax	No
0.000	125.0	1.7" (43.2mm)	No
0.000	125.0	2" Conduit	No
0.000	126.0	1/2" Coax	No
0.000	130.0	1 5/8" Coax	Yes
0.000	130.0	1 5/8" Fiber	No

Load Cases

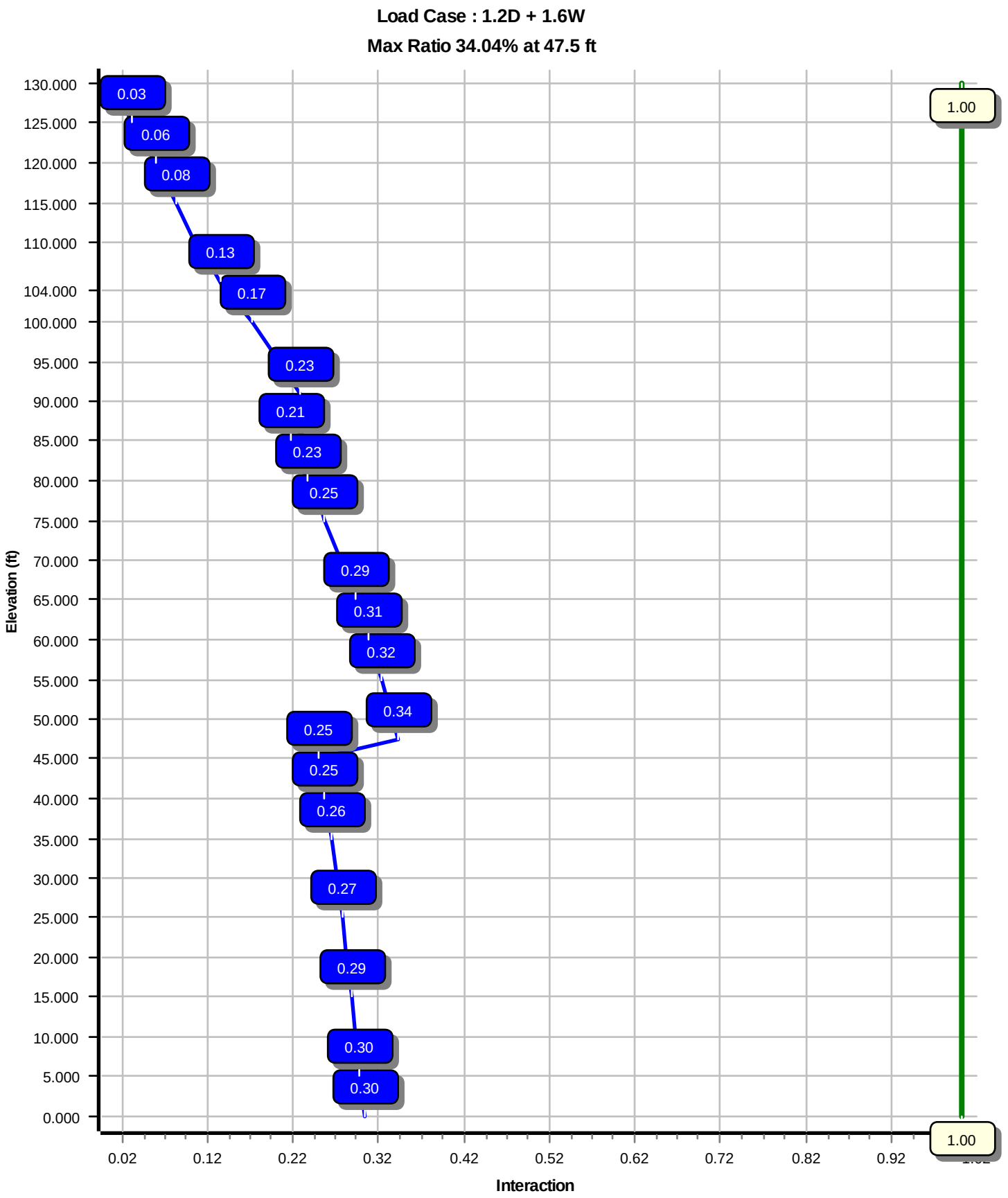
1.2D + 1.6W	94 mph with No Ice
0.9D + 1.6W	94 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 in Radial Ice
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Lateral
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Modal
1.0D + 1.0W	Serviceability 60 mph

Reactions

Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.6W	2520.02	25.97	57.97
0.9D + 1.6W	2489.91	25.82	43.47
1.2D + 1.0Di + 1.0Wi	686.57	7.35	87.92
(1.2 + 0.2Sds) * DL + E ELFM	230.36	2.32	57.87
(1.2 + 0.2Sds) * DL + E EMAM	293.16	2.85	57.87
(0.9 - 0.2Sds) * DL + E ELFM	228.83	2.32	39.48
(0.9 - 0.2Sds) * DL + E EMAM	291.05	2.85	39.48
1.0D + 1.0W	635.27	6.58	48.32

Dish Deflections

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
1.0D + 1.0W	126.00	6.903	0.485


Load Case : 1.2D + 1.6W
Max Ratio 34.04% at 47.5 ft
Elevation (ft)
130.000
125.000
120.000
115.000
110.000
104.000
100.000
95.000
90.000
85.000
80.000
75.000
70.000
65.000
60.000
55.000
50.000
45.000
40.000
35.000
30.000
25.000
20.000
15.000
10.000
5.000
0.000
0.03
0.06
0.08
0.13
0.17
0.23
0.21
0.23
0.25
0.29
0.31
0.32
0.34
0.25
0.25
0.26
0.27
0.29
0.30
0.30
1.00
1.00
0.02
0.12
0.22
0.32
0.42
0.52
0.62
0.72
0.82
0.92
Interaction

Site Number:	411189	Code: ANSI/TIA-222-G	
Site Name:	CRANBURYSU CT, CT	Engineering Number:OAA736471_C3_02	7/27/2018 11:47:46 AM
Customer:	T-MOBILE		

Analysis Parameters

Location :	FAIRFIELD County, CT	Height (ft) :	130
Code :	ANSI/TIA-222-G	Base Diameter (in) :	62.00
Shape :	18 Sides	Top Diameter (in) :	28.18
Pole Type :	Taper	Taper (in/ft) :	0.271
Pole Manfacturer :	EEI	Rotation (deg) :	0.00

Ice & Wind Parameters

Structure Class:	II	Design Wind Speed Without Ice:	94 mph
Exposure Category:	B	Design Wind Speed With Ice:	50 mph
Topographic Category:	1	Operational Wind Speed:	60 mph
Crest Height:	0 ft	Design Ice Thickness:	0.75 in

Seismic Parameters

Analysis Method:	Equivalent Modal Analysis & Equivalent Lateral Force Methods				
Site Class:	D - Stiff Soil				
Period Based on Rayleigh Method (sec):	1.49				
T_L (sec):	6	p:	1	C_s:	0.048
S_s:	0.227	S_1:	0.067	C_s Max:	0.048
F_a:	1.600	F_v:	2.400	C_s Min:	0.030
S_{ds}:	0.242	S_{d1}:	0.107		

Load Cases

1.2D + 1.6W	94 mph with No Ice
0.9D + 1.6W	94 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

Site Number: 411189 Code: ANSI/TIA-222-G

Site Name: CRANBURYSU CT, CT Engineering Number:OAA736471_C3_02 7/27/2018 11:47:46 AM

Customer: T-MOBILE

Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Slip Joint Type	Slip Joint Len (in)	Weight (lb)	Bottom Dia (in)	Bottom Elev (ft)	Bottom Area (in²)	Bottom Ix (in⁴)	Bottom W/t Ratio	Bottom D/t Ratio	Top Dia (in)	Top Elev (ft)	Top Area (in²)	Top Ix (in⁴)	Top W/t Ratio	Top D/t Ratio	Taper (in/ft)
1-18	47.500	0.5000	65		0.00	14,125	62.00	0.00	97.60	46638.0	20.10	124.00	49.14	47.50	77.19	23072.0	15.57	98.28	0.270745
2-18	47.330	0.3750	65	Slip	84.00	8,626	51.78	40.50	61.19	20432.2	22.59	138.09	38.97	87.83	45.94	8645.4	16.56	103.92	0.270745
3-18	47.837	0.3125	65	Slip	68.00	5,544	41.13	82.16	40.48	8521.7	21.44	131.62	28.17	130.00	27.64	2711.5	14.14	90.17	0.270745
				Shaft Weight		28,296													

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	Distance From Face (ft)	Vert Ecc (ft)	Weight (lb)	No Ice EPAa (sf)	Orientation Factor
130.00	Alcatel-Lucent RRH2x60 700	3	0.000	4.000	56.70	2.150	0.67
130.00	Alcatel-Lucent RRH2X60-1900	3	0.000	4.000	43.00	1.880	0.50
130.00	Alcatel-Lucent RRH2X60-AWS	3	0.000	4.000	44.00	1.880	0.50
130.00	Amphenol Antel BXA-171085-	3	0.000	3.000	10.50	2.940	0.71
130.00	Antel LPA-80080/6CF ___	2	0.000	3.000	21.00	8.630	0.65
130.00	Commscope SBNHH-1D85C	6	0.000	3.000	44.10	11.390	0.70
130.00	Decibel DB846F65ZAXY	4	0.000	3.000	21.00	7.030	0.75
130.00	Flat Low Profile Platform	1	0.000	0.000	1500.00	26.100	1.00
130.00	RFS DB-T1-6Z-8AB-0Z	2	0.000	4.000	44.00	4.800	0.67
126.00	Andrew Microwaves VHLP800-	1	0.000	0.000	49.00	7.760	1.00
125.00	24" x 24" Junction Box	1	0.000	0.000	20.00	4.800	0.67
125.00	Alcatel-Lucent 1900MHz RRH	3	0.000	0.000	44.00	3.260	0.67
125.00	Alcatel-Lucent 800MHz RRH	3	0.000	0.000	53.00	2.130	0.67
125.00	Alcatel-Lucent RRH2x50-08	3	0.000	0.000	52.90	1.700	0.50
125.00	Commscope NNVV-65B-R4	3	0.000	0.000	77.40	12.270	0.64
125.00	Flat Low Profile Platform	1	0.000	0.000	1500.00	26.100	1.00
125.00	Nokia 2.5G MAA - AAHC(64T64R)	3	0.000	0.000	103.60	4.200	0.64
110.00	EMS RR90-17-02DP	3	0.000	0.000	13.50	4.360	0.64
110.00	Ericsson AIR 21, 1.3 M, B2A B4	3	0.000	0.000	83.00	6.050	0.71
110.00	Ericsson AIR-32 B2A/B66Aa	3	0.000	0.000	132.20	6.510	0.71
110.00	Ericsson KRY 112 71	3	0.000	0.000	13.20	0.680	0.50
110.00	Ericsson Radio 4449 B12,B71	3	0.000	0.000	74.00	1.640	0.50
110.00	Flat Low Profile Platform	1	0.000	0.000	1500.00	26.100	1.00
110.00	RFS APXVAARR24_43-U-NA20	3	0.000	0.000	127.90	20.240	0.63
107.00	GPS	1	0.000	0.000	10.00	1.000	1.00
104.00	CCI HPA-65R-BUU-H6	3	0.000	0.000	51.00	9.660	0.69
104.00	Ericsson RRUS	3	0.000	0.000	44.10	3.130	0.67
104.00	Ericsson RRUS 12 w/ RRUS A2	3	0.000	0.000	71.40	3.150	0.67
104.00	Ericsson RRUS-11 (50 lbs.)	3	0.000	0.000	50.00	2.570	0.67
104.00	Flat Low Profile Platform	1	0.000	0.000	1500.00	26.100	1.00
104.00	Powerwave Allgon 7020	6	0.000	0.000	2.20	0.400	0.50
104.00	Powerwave Allgon 7770.00	6	0.000	0.000	35.00	5.510	0.65
104.00	Powerwave Allgon LGP21401	12	0.000	0.000	14.10	1.100	0.50
104.00	Powerwave Allgon LGP21901	12	0.000	0.000	5.50	0.230	0.50
104.00	Powerwave Allgon P65-16-XLH-	3	0.000	0.000	53.00	8.130	0.67
104.00	Raycap DC6-48-60-18-8F	1	0.000	0.000	20.00	1.110	1.00
91.00	Empty Flat Low Profile Platfor	1	0.000	0.000	1500.00	26.100	1.00
76.00	2" x 8" GPS	1	0.000	0.000	10.00	0.160	1.00
76.00	Stand-Off	1	0.000	0.000	100.00	3.000	1.00
75.00	2" x 8" GPS	1	0.000	0.000	10.00	0.160	1.00
75.00	GPS	1	0.000	0.000	10.00	1.000	1.00
68.00	GPS	1	0.000	0.000	10.00	1.000	1.00
68.00	Side Arm	1	0.000	0.000	126.00	5.000	1.00
60.00	Flat Side Arm	1	0.000	0.000	150.00	6.300	1.00
60.00	GPS	1	0.000	0.000	10.00	1.000	1.00
Totals	Num Loadings:45	127			12557.20		

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Diameter (in)	Coax Weight (lb/ft)	Flat	Projected Width (in)	Exposed To Wind	Carrier
0.00	130.00	12	1 5/8" Coax	1.98	0.82	N	3.96	Y	Verizon
0.00	130.00	2	1 5/8" Fiber	1.63	1.61	N	0.00	N	Verizon
0.00	126.00	1	1/2" Coax	0.63	0.15	N	0.00	N	Sprint Nextel
0.00	125.00	3	0.78" 8 AWG 6	0.78	0.59	N	0.00	N	Sprint Nextel
0.00	125.00	3	1 1/4" Hybriflex Cable	1.54	1.00	N	0.00	N	Sprint Nextel
0.00	125.00	6	1 5/8" Coax	1.98	0.82	N	0.00	N	Sprint Nextel
0.00	125.00	1	1.7" (43.2mm) Hybrid	1.70	1.78	N	0.00	N	Sprint Nextel
0.00	125.00	2	2" Conduit	2.38	3.65	N	0.00	N	Sprint Nextel
0.00	110.00	3	1 1/4" (1.25"- 31.8mm)	1.25	1.05	N	0.00	N	T-Mobile
0.00	110.00	9	1 5/8" Coax	1.98	0.82	N	0.00	N	T-Mobile
0.00	110.00	6	7/8" Coax	1.09	0.33	N	0.00	N	T-Mobile
0.00	107.00	1	7/8" Coax	1.09	0.33	N	0.00	N	AT&T Mobility
0.00	104.00	1	0.39" Fiber Trunk	0.39	0.06	N	0.00	N	AT&T Mobility
0.00	104.00	2	0.78" 8 AWG 6	0.78	0.59	N	0.00	N	AT&T Mobility
0.00	104.00	12	1 5/8" Coax	1.98	0.82	N	0.00	N	AT&T Mobility
0.00	104.00	1	3" conduit	3.50	7.58	N	0.00	N	AT&T Mobility
0.00	76.00	1	0.63" (16mm) LDF4-	0.63	0.15	N	0.00	N	Verizon
0.00	75.00	1	0.63" (16mm) LDF4-	0.63	0.15	N	0.00	N	Verizon
0.00	75.00	1	1/2" Coax	0.63	0.15	N	0.00	N	Sprint Nextel
0.00	68.00	1	1/2" Coax	0.63	0.15	N	0.00	N	AT&T Mobility
0.00	60.00	1	1/2" Coax	0.63	0.15	N	0.00	N	T-Mobile

Segment Properties (Max Len : 5. ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in^3)	Z (in^3)	Weight (lb)
0.00		0.5000	62.000	97.597	46,638.0	20.10	124.00	77.8	1481.	0.0	0.0
5.00		0.5000	60.646	95.449	43,625.5	19.62	121.29	78.3	1416.	0.0	1,642.2
10.00		0.5000	59.293	93.300	40,745.7	19.15	118.59	78.9	1353.	0.0	1,605.7
15.00		0.5000	57.939	91.152	37,995.4	18.67	115.88	79.4	1291.	0.0	1,569.1
20.00		0.5000	56.585	89.004	35,371.8	18.19	113.17	80.0	1231.	0.0	1,532.6
25.00		0.5000	55.231	86.856	32,871.8	17.71	110.46	80.6	1172.	0.0	1,496.0
30.00		0.5000	53.878	84.707	30,492.5	17.24	107.76	81.1	1114.	0.0	1,459.5
35.00		0.5000	52.524	82.559	28,230.9	16.76	105.05	81.7	1058.	0.0	1,422.9
40.00		0.5000	51.170	80.411	26,083.9	16.28	102.34	82.2	1004.	0.0	1,386.4
40.50	Bot - Section 2	0.5000	51.035	80.196	25,875.4	16.23	102.07	82.3	998.6	0.0	136.6
45.00		0.5000	49.816	78.262	24,048.7	15.80	99.63	82.6	950.8	0.0	2,139.0
47.50	Top - Section 1	0.3750	49.890	58.933	18,254.8	21.70	133.04	75.9	720.7	0.0	1,166.0
50.00		0.3750	49.213	58.127	17,516.3	21.38	131.23	76.3	701.0	0.0	497.9
55.00		0.3750	47.859	56.516	16,099.7	20.74	127.62	77.0	662.6	0.0	975.3
60.00		0.3750	46.505	54.905	14,761.7	20.10	124.01	77.8	625.2	0.0	947.8
65.00		0.3750	45.152	53.293	13,499.9	19.47	120.40	78.5	588.9	0.0	920.4
68.00		0.3750	44.339	52.327	12,778.4	19.09	118.24	79.0	567.6	0.0	539.1
70.00		0.3750	43.798	51.682	12,312.1	18.83	116.79	79.3	553.7	0.0	353.9
75.00		0.3750	42.444	50.071	11,196.1	18.19	113.18	80.0	519.6	0.0	865.6
76.00		0.3750	42.173	49.749	10,981.3	18.07	112.46	80.2	512.9	0.0	169.8
80.00		0.3750	41.090	48.460	10,149.7	17.56	109.57	80.7	486.5	0.0	668.4
82.16	Bot - Section 3	0.3750	40.505	47.763	9,717.9	17.28	108.01	81.1	472.6	0.0	354.2
85.00		0.3750	39.737	46.849	9,170.6	16.92	105.96	81.5	454.6	0.0	843.7
87.83	Top - Section 2	0.3125	39.595	38.962	7,596.4	20.58	126.71	77.2	377.9	0.0	825.6
90.00		0.3125	39.008	38.380	7,260.6	20.25	124.83	77.6	366.6	0.0	285.5
91.00		0.3125	38.737	38.111	7,109.3	20.09	123.96	77.8	361.5	0.0	130.1
95.00		0.3125	37.654	37.037	6,525.0	19.48	120.49	78.5	341.3	0.0	511.4
100.0		0.3125	36.301	35.694	5,840.8	18.72	116.16	79.4	316.9	0.0	618.7
104.0		0.3125	35.218	34.620	5,329.2	18.11	112.70	80.1	298.0	0.0	478.5
105.0		0.3125	34.947	34.352	5,206.1	17.96	111.83	80.3	293.4	0.0	117.3
107.0		0.3125	34.405	33.815	4,965.7	17.65	110.10	80.6	284.3	0.0	232.0
110.0		0.3125	33.593	33.009	4,619.2	17.19	107.50	81.2	270.8	0.0	341.1
115.0		0.3125	32.239	31.666	4,078.1	16.43	103.17	82.1	249.1	0.0	550.2
120.0		0.3125	30.886	30.324	3,581.1	15.66	98.83	82.6	228.4	0.0	527.3
125.0		0.3125	29.532	28.981	3,126.1	14.90	94.50	82.6	208.5	0.0	504.5
126.0		0.3125	29.261	28.712	3,040.0	14.75	93.64	82.6	204.6	0.0	98.2
130.0		0.3125	28.178	27.638	2,711.5	14.14	90.17	82.6	189.5	0.0	383.5
											28,296.3

Load Case: 1.2D + 1.6W 94 mph with No Ice 18 Iterations

Gust Response Factor :1.10 Wind Importance Factor 1.00
Dead Load Factor :1.20
Wind Load Factor :1.60

Applied Segment Forces Summary

		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		223.2	0.0					0.0	0.0	223.2	0.0	0.0	0.0
5.00		441.6	1,970.7					0.0	385.4	441.6	2,356.1	0.0	0.0
10.00		431.7	1,926.8					0.0	385.4	431.7	2,312.2	0.0	0.0
15.00		421.8	1,883.0					0.0	385.4	421.8	2,268.3	0.0	0.0
20.00		412.0	1,839.1					0.0	385.4	412.0	2,224.5	0.0	0.0
25.00		402.1	1,795.2					0.0	385.4	402.1	2,180.6	0.0	0.0
30.00		396.9	1,751.4					0.0	385.4	396.9	2,136.8	0.0	0.0
35.00		399.7	1,707.5					0.0	385.4	399.7	2,092.9	0.0	0.0
40.00		221.6	1,663.6					0.0	385.4	221.6	2,049.0	0.0	0.0
40.50	Bot - Section 2	205.9	164.0					0.0	38.5	205.9	202.5	0.0	0.0
45.00		289.2	2,566.8					0.0	346.8	289.2	2,913.7	0.0	0.0
47.50	Top - Section 1	207.3	1,399.2					0.0	192.7	207.3	1,591.9	0.0	0.0
50.00		311.2	597.5					0.0	192.7	311.2	790.2	0.0	0.0
55.00		414.5	1,170.3					0.0	385.4	414.5	1,555.7	0.0	0.0
60.00	Appurtenance(s)	413.0	1,137.4	235.8	0.0	0.0	192.0	0.0	385.4	648.7	1,714.8	0.0	0.0
65.00		328.7	1,104.5					0.0	384.5	328.7	1,489.0	0.0	0.0
68.00	Appurtenance(s)	204.3	646.9	200.9	0.0	0.0	163.2	0.0	230.7	405.1	1,040.8	0.0	0.0
70.00		283.6	424.7					0.0	153.4	283.6	578.1	0.0	0.0
75.00	Appurtenance(s)	242.3	1,038.7	39.9	0.0	0.0	24.0	0.0	383.6	282.2	1,446.3	0.0	0.0
76.00	Appurtenance(s)	199.6	203.8	109.2	0.0	0.0	132.0	0.0	76.4	308.8	412.2	0.0	0.0
80.00		244.9	802.0					0.0	304.7	244.9	1,106.7	0.0	0.0
82.16	Bot - Section 3	198.3	425.0					0.0	164.8	198.3	589.8	0.0	0.0
85.00		224.4	1,012.5					0.0	216.1	224.4	1,228.5	0.0	0.0
87.83	Top - Section 2	196.3	990.7					0.0	215.6	196.3	1,206.3	0.0	0.0
90.00		123.6	342.7					0.0	165.3	123.6	508.0	0.0	0.0
91.00	Appurtenance(s)	193.7	156.2	949.6	0.0	0.0	1,800.0	0.0	76.2	1,143.2	2,032.3	0.0	0.0
95.00		346.6	613.7					0.0	304.7	346.6	918.4	0.0	0.0
100.00		343.6	742.5					0.0	380.9	343.6	1,123.3	0.0	0.0
104.00	Appurtenance(s)	189.6	574.2	3,584.1	0.0	0.0	3,344.3	0.0	304.7	3,773.7	4,223.2	0.0	0.0
105.00		112.9	140.8					0.0	53.8	112.9	194.6	0.0	0.0
107.00	Appurtenance(s)	187.2	278.3	30.5	0.0	0.0	12.0	0.0	107.6	217.7	397.9	0.0	0.0
110.00	Appurtenance(s)	296.7	409.3	3,364.0	0.0	0.0	3,397.7	0.0	160.2	3,660.7	3,967.1	0.0	0.0
115.00		366.5	660.2					0.0	191.9	366.5	852.1	0.0	0.0
120.00		360.8	632.8					0.0	191.9	360.8	824.7	0.0	0.0
125.00	Appurtenance(s)	214.3	605.4	2,576.5	0.0	0.0	3,015.2	0.0	191.9	2,790.8	3,812.5	0.0	0.0
126.00	Appurtenance(s)	175.7	117.8	309.8	0.0	0.0	58.8	0.0	15.9	485.6	192.4	0.0	0.0
130.00	Appurtenance(s)	140.3	460.2	4,387.4	0.0	10,540.8	2,929.4	0.0	62.7	4,527.7	3,452.3	0.0	0.0
								Totals:		26,153.3	57,985.8	0.00	0.00

Load Case: 1.2D + 1.6W 94 mph with No Ice 18 Iterations

Gust Response Factor :1.10 Wind Importance Factor 1.00
Dead Load Factor :1.20
Wind Load Factor :1.60

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-57.97	-25.97	0.00	-2,520.02	0.00	2,520.02	6,830.05	3,415.02	17,255.2	8,640.43	0.00	0.00	0.300
5.00	-55.58	-25.60	0.00	-2,390.18	0.00	2,390.18	6,727.94	3,363.97	16,620.1	8,322.40	0.04	-0.07	0.296
10.00	-53.23	-25.23	0.00	-2,262.19	0.00	2,262.19	6,623.66	3,311.83	15,991.1	8,007.48	0.16	-0.15	0.291
15.00	-50.93	-24.87	0.00	-2,136.03	0.00	2,136.03	6,517.21	3,258.61	15,368.8	7,695.85	0.36	-0.23	0.285
20.00	-48.68	-24.52	0.00	-2,011.67	0.00	2,011.67	6,408.59	3,204.29	14,753.4	7,387.69	0.64	-0.31	0.280
25.00	-46.47	-24.16	0.00	-1,889.09	0.00	1,889.09	6,297.80	3,148.90	14,145.3	7,083.19	1.00	-0.38	0.274
30.00	-44.30	-23.81	0.00	-1,768.27	0.00	1,768.27	6,184.83	3,092.42	13,544.9	6,782.53	1.45	-0.46	0.268
35.00	-42.18	-23.45	0.00	-1,649.21	0.00	1,649.21	6,069.70	3,034.85	12,952.5	6,485.89	1.98	-0.54	0.261
40.00	-40.11	-23.24	0.00	-1,531.94	0.00	1,531.94	5,952.39	2,976.20	12,368.5	6,193.46	2.59	-0.62	0.254
40.50	-39.90	-23.06	0.00	-1,520.32	0.00	1,520.32	5,940.54	2,970.27	12,310.6	6,164.45	2.65	-0.63	0.253
45.00	-36.96	-22.78	0.00	-1,416.54	0.00	1,416.54	5,814.51	2,907.25	11,756.0	5,886.78	3.28	-0.70	0.247
47.50	-35.36	-22.57	0.00	-1,359.60	0.00	1,359.60	4,024.81	2,012.40	8,191.06	4,101.62	3.66	-0.74	0.340
50.00	-34.54	-22.30	0.00	-1,303.16	0.00	1,303.16	3,989.37	1,994.69	8,007.13	4,009.51	4.06	-0.79	0.334
55.00	-32.96	-21.92	0.00	-1,191.69	0.00	1,191.69	3,916.87	1,958.44	7,642.03	3,826.70	4.94	-0.89	0.320
60.00	-31.22	-21.29	0.00	-1,082.11	0.00	1,082.11	3,842.20	1,921.10	7,280.96	3,645.89	5.93	-0.99	0.305
65.00	-29.70	-20.98	0.00	-975.64	0.00	975.64	3,765.36	1,882.68	6,924.26	3,467.28	7.01	-1.09	0.289
68.00	-28.65	-20.58	0.00	-912.70	0.00	912.70	3,718.21	1,859.10	6,712.50	3,361.24	7.72	-1.15	0.279
70.00	-28.06	-20.32	0.00	-871.54	0.00	871.54	3,686.34	1,843.17	6,572.31	3,291.04	8.21	-1.19	0.273
75.00	-26.60	-20.03	0.00	-769.96	0.00	769.96	3,605.16	1,802.58	6,225.47	3,117.36	9.50	-1.28	0.254
76.00	-26.18	-19.73	0.00	-749.93	0.00	749.93	3,588.66	1,794.33	6,156.74	3,082.95	9.77	-1.30	0.251
80.00	-25.06	-19.49	0.00	-671.00	0.00	671.00	3,521.80	1,760.90	5,884.10	2,946.42	10.89	-1.37	0.235
82.16	-24.46	-19.29	0.00	-628.84	0.00	628.84	3,485.06	1,742.53	5,738.19	2,873.36	11.52	-1.41	0.226
85.00	-23.22	-19.06	0.00	-574.11	0.00	574.11	3,436.27	1,718.13	5,548.57	2,778.41	12.38	-1.46	0.214
87.83	-22.00	-18.85	0.00	-520.18	0.00	520.18	2,707.00	1,353.50	4,369.08	2,187.78	13.26	-1.51	0.246
90.00	-21.49	-18.72	0.00	-479.28	0.00	479.28	2,679.98	1,339.99	4,260.27	2,133.30	13.96	-1.55	0.233
91.00	-19.48	-17.54	0.00	-460.56	0.00	460.56	2,667.39	1,333.70	4,210.35	2,108.30	14.28	-1.57	0.226
95.00	-18.55	-17.19	0.00	-390.41	0.00	390.41	2,616.17	1,308.08	4,012.17	2,009.07	15.63	-1.63	0.202
100.00	-17.41	-16.83	0.00	-304.47	0.00	304.47	2,550.19	1,275.09	3,768.02	1,886.81	17.38	-1.71	0.168
104.00	-13.30	-12.94	0.00	-237.14	0.00	237.14	2,495.84	1,247.92	3,575.79	1,790.55	18.84	-1.76	0.138
105.00	-13.11	-12.82	0.00	-224.21	0.00	224.21	2,482.03	1,241.02	3,528.19	1,766.72	19.21	-1.77	0.132
107.00	-12.71	-12.60	0.00	-198.56	0.00	198.56	2,454.17	1,227.08	3,433.54	1,719.32	19.96	-1.80	0.121
110.00	-8.85	-8.82	0.00	-160.76	0.00	160.76	2,411.71	1,205.86	3,293.03	1,648.96	21.10	-1.83	0.101
115.00	-8.01	-8.43	0.00	-116.65	0.00	116.65	2,339.22	1,169.61	3,062.91	1,533.73	23.03	-1.87	0.080
120.00	-7.19	-8.05	0.00	-74.48	0.00	74.48	2,252.89	1,126.45	2,823.60	1,413.90	25.01	-1.90	0.056
125.00	-3.47	-5.13	0.00	-34.24	0.00	34.24	2,153.14	1,076.57	2,577.88	1,290.85	27.02	-1.93	0.028
126.00	-3.30	-4.64	0.00	-29.11	0.00	29.11	2,133.19	1,066.59	2,530.07	1,266.92	27.42	-1.93	0.025
130.00	0.00	-4.53	0.00	-10.54	0.00	10.54	2,053.39	1,026.69	2,343.34	1,173.41	29.04	-1.94	0.009

Load Case: 0.9D + 1.6W — 94 mph with No Ice (Reduced DL) — 18 Iterations

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

Wind Importance Factor 1.00

Applied Segment Forces Summary

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		223.2	0.0					0.0	0.0	223.2	0.0	0.0	0.0
5.00		441.6	1,478.0					0.0	289.0	441.6	1,767.0	0.0	0.0
10.00		431.7	1,445.1					0.0	289.0	431.7	1,734.1	0.0	0.0
15.00		421.8	1,412.2					0.0	289.0	421.8	1,701.2	0.0	0.0
20.00		412.0	1,379.3					0.0	289.0	412.0	1,668.4	0.0	0.0
25.00		402.1	1,346.4					0.0	289.0	402.1	1,635.5	0.0	0.0
30.00		396.9	1,313.5					0.0	289.0	396.9	1,602.6	0.0	0.0
35.00		399.7	1,280.6					0.0	289.0	399.7	1,569.7	0.0	0.0
40.00		221.6	1,247.7					0.0	289.0	221.6	1,536.8	0.0	0.0
40.50	Bot - Section 2	205.9	123.0					0.0	28.9	205.9	151.9	0.0	0.0
45.00		289.2	1,925.1					0.0	260.1	289.2	2,185.3	0.0	0.0
47.50	Top - Section 1	207.3	1,049.4					0.0	144.5	207.3	1,193.9	0.0	0.0
50.00		311.2	448.1					0.0	144.5	311.2	592.6	0.0	0.0
55.00		414.5	877.7					0.0	289.0	414.5	1,166.8	0.0	0.0
60.00	Appurtenance(s)	413.0	853.1	235.8	0.0	0.0	144.0	0.0	289.0	648.7	1,286.1	0.0	0.0
65.00		328.7	828.4					0.0	288.4	328.7	1,116.8	0.0	0.0
68.00	Appurtenance(s)	204.3	485.2	200.9	0.0	0.0	122.4	0.0	173.0	405.1	780.6	0.0	0.0
70.00		283.6	318.5					0.0	115.1	283.6	433.6	0.0	0.0
75.00	Appurtenance(s)	242.3	779.0	39.9	0.0	0.0	18.0	0.0	287.7	282.2	1,084.7	0.0	0.0
76.00	Appurtenance(s)	199.6	152.8	109.2	0.0	0.0	99.0	0.0	57.3	308.8	309.1	0.0	0.0
80.00		244.9	601.5					0.0	228.5	244.9	830.1	0.0	0.0
82.16	Bot - Section 3	198.3	318.7					0.0	123.6	198.3	442.3	0.0	0.0
85.00		224.4	759.3					0.0	162.1	224.4	921.4	0.0	0.0
87.83	Top - Section 2	196.3	743.1					0.0	161.7	196.3	904.7	0.0	0.0
90.00		123.6	257.0					0.0	124.0	123.6	381.0	0.0	0.0
91.00	Appurtenance(s)	192.7	117.1	949.6	0.0	0.0	1,350.0	0.0	57.1	1,142.2	1,524.3	0.0	0.0
95.00		342.5	460.3					0.0	228.5	342.5	688.8	0.0	0.0
100.00		336.5	556.8					0.0	285.7	336.5	842.5	0.0	0.0
104.00	Appurtenance(s)	184.4	430.7	3,584.1	0.0	0.0	2,508.2	0.0	228.5	3,768.4	3,167.4	0.0	0.0
105.00		109.0	105.6					0.0	40.3	109.0	146.0	0.0	0.0
107.00	Appurtenance(s)	179.8	208.8	30.5	0.0	0.0	9.0	0.0	80.7	210.3	298.4	0.0	0.0
110.00	Appurtenance(s)	282.3	307.0	3,364.0	0.0	0.0	2,548.3	0.0	120.1	3,646.2	2,975.4	0.0	0.0
115.00		344.8	495.2					0.0	143.9	344.8	639.1	0.0	0.0
120.00		334.4	474.6					0.0	143.9	334.4	618.5	0.0	0.0
125.00	Appurtenance(s)	196.8	454.1	2,576.5	0.0	0.0	2,261.4	0.0	143.9	2,773.3	2,859.4	0.0	0.0
126.00	Appurtenance(s)	159.0	88.3	309.8	0.0	0.0	44.1	0.0	11.9	468.8	144.3	0.0	0.0
130.00	Appurtenance(s)	126.7	345.1	4,387.4	0.0	10,540.8	2,197.1	0.0	47.0	4,514.1	2,589.2	0.0	0.0
								Totals:		26,014.1	43,489.4	0.00	0.00

Load Case: 0.9D + 1.6W 94 mph with No Ice (Reduced DL) 18 Iterations

Gust Response Factor :1.10 Wind Importance Factor 1.00
Dead Load Factor :0.90
Wind Load Factor :1.60

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-43.47	-25.82	0.00	-2,489.91	0.00	2,489.91	6,830.05	3,415.02	17,255.2	8,640.43	0.00	0.00	0.295
5.00	-41.67	-25.43	0.00	-2,360.82	0.00	2,360.82	6,727.94	3,363.97	16,620.1	8,322.40	0.04	-0.07	0.290
10.00	-39.91	-25.05	0.00	-2,233.67	0.00	2,233.67	6,623.66	3,311.83	15,991.1	8,007.48	0.16	-0.15	0.285
15.00	-38.17	-24.67	0.00	-2,108.44	0.00	2,108.44	6,517.21	3,258.61	15,368.8	7,695.85	0.36	-0.22	0.280
20.00	-36.47	-24.30	0.00	-1,985.08	0.00	1,985.08	6,408.59	3,204.29	14,753.4	7,387.69	0.63	-0.30	0.274
25.00	-34.81	-23.94	0.00	-1,863.58	0.00	1,863.58	6,297.80	3,148.90	14,145.3	7,083.19	0.99	-0.38	0.269
30.00	-33.18	-23.57	0.00	-1,743.91	0.00	1,743.91	6,184.83	3,092.42	13,544.9	6,782.53	1.43	-0.46	0.263
35.00	-31.58	-23.20	0.00	-1,626.05	0.00	1,626.05	6,069.70	3,034.85	12,952.5	6,485.89	1.95	-0.54	0.256
40.00	-30.03	-22.99	0.00	-1,510.03	0.00	1,510.03	5,952.39	2,976.20	12,368.5	6,193.46	2.55	-0.61	0.249
40.50	-29.86	-22.80	0.00	-1,498.54	0.00	1,498.54	5,940.54	2,970.27	12,310.6	6,164.45	2.62	-0.62	0.248
45.00	-27.66	-22.51	0.00	-1,395.93	0.00	1,395.93	5,814.51	2,907.25	11,756.0	5,886.78	3.24	-0.69	0.242
47.50	-26.45	-22.31	0.00	-1,339.65	0.00	1,339.65	4,024.81	2,012.40	8,191.06	4,101.62	3.62	-0.73	0.333
50.00	-25.84	-22.02	0.00	-1,283.87	0.00	1,283.87	3,989.37	1,994.69	8,007.13	4,009.51	4.01	-0.78	0.327
55.00	-24.64	-21.64	0.00	-1,173.75	0.00	1,173.75	3,916.87	1,958.44	7,642.03	3,826.70	4.88	-0.87	0.313
60.00	-23.33	-21.01	0.00	-1,065.58	0.00	1,065.58	3,842.20	1,921.10	7,280.96	3,645.89	5.85	-0.97	0.298
65.00	-22.19	-20.69	0.00	-960.55	0.00	960.55	3,765.36	1,882.68	6,924.26	3,467.28	6.92	-1.07	0.283
68.00	-21.40	-20.29	0.00	-898.49	0.00	898.49	3,718.21	1,859.10	6,712.50	3,361.24	7.61	-1.13	0.273
70.00	-20.95	-20.02	0.00	-857.92	0.00	857.92	3,686.34	1,843.17	6,572.31	3,291.04	8.10	-1.17	0.266
75.00	-19.85	-19.73	0.00	-757.83	0.00	757.83	3,605.16	1,802.58	6,225.47	3,117.36	9.37	-1.26	0.249
76.00	-19.53	-19.43	0.00	-738.10	0.00	738.10	3,588.66	1,794.33	6,156.74	3,082.95	9.64	-1.28	0.245
80.00	-18.69	-19.19	0.00	-660.37	0.00	660.37	3,521.80	1,760.90	5,884.10	2,946.42	10.74	-1.35	0.230
82.16	-18.24	-18.99	0.00	-618.86	0.00	618.86	3,485.06	1,742.53	5,738.19	2,873.36	11.37	-1.39	0.221
85.00	-17.30	-18.76	0.00	-564.99	0.00	564.99	3,436.27	1,718.13	5,548.57	2,778.41	12.21	-1.44	0.209
87.83	-16.39	-18.55	0.00	-511.90	0.00	511.90	2,707.00	1,353.50	4,369.08	2,187.78	13.08	-1.49	0.240
90.00	-16.01	-18.43	0.00	-471.65	0.00	471.65	2,679.98	1,339.99	4,260.27	2,133.30	13.77	-1.52	0.227
91.00	-14.50	-17.25	0.00	-453.22	0.00	453.22	2,667.39	1,333.70	4,210.35	2,108.30	14.09	-1.54	0.221
95.00	-13.80	-16.91	0.00	-384.21	0.00	384.21	2,616.17	1,308.08	4,012.17	2,009.07	15.41	-1.61	0.197
100.00	-12.95	-16.56	0.00	-299.66	0.00	299.66	2,550.19	1,275.09	3,768.02	1,886.81	17.14	-1.68	0.164
104.00	-9.89	-12.71	0.00	-233.41	0.00	233.41	2,495.84	1,247.92	3,575.79	1,790.55	18.57	-1.74	0.134
105.00	-9.74	-12.60	0.00	-220.70	0.00	220.70	2,482.03	1,241.02	3,528.19	1,766.72	18.94	-1.75	0.129
107.00	-9.44	-12.38	0.00	-195.51	0.00	195.51	2,454.17	1,227.08	3,433.54	1,719.32	19.68	-1.77	0.118
110.00	-6.58	-8.65	0.00	-158.36	0.00	158.36	2,411.71	1,205.86	3,293.03	1,648.96	20.80	-1.80	0.099
115.00	-5.95	-8.29	0.00	-115.12	0.00	115.12	2,339.22	1,169.61	3,062.91	1,533.73	22.71	-1.84	0.078
120.00	-5.33	-7.94	0.00	-73.68	0.00	73.68	2,252.89	1,126.45	2,823.60	1,413.90	24.66	-1.88	0.055
125.00	-2.57	-5.07	0.00	-34.00	0.00	34.00	2,153.14	1,076.57	2,577.88	1,290.85	26.64	-1.90	0.028
126.00	-2.44	-4.60	0.00	-28.93	0.00	28.93	2,133.19	1,066.59	2,530.07	1,266.92	27.03	-1.90	0.024
130.00	0.00	-4.51	0.00	-10.54	0.00	10.54	2,053.39	1,026.69	2,343.34	1,173.41	28.63	-1.91	0.009

Load Case: 1.2D + 1.0Di + 1.0Wi — 50 mph with 0.75 in Radial Ice — 18 Iterations

Gust Response Factor :1.10 — Ice Dead Load Factor :1.00 — Wind Importance Factor :1.00
Dead Load Factor :1.20 — Ice Importance Factor :1.00
Wind Load Factor :1.00

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces 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		75.6	0.0					0.0	0.0	75.6	0.0	0.0	0.0
5.00		149.9	2,419.4					0.0	520.3	149.9	2,939.7	0.0	0.0
10.00		147.1	2,417.7					0.0	534.7	147.1	2,952.5	0.0	0.0
15.00		144.2	2,388.6					0.0	542.1	144.2	2,930.7	0.0	0.0
20.00		141.2	2,350.5					0.0	547.2	141.2	2,897.7	0.0	0.0
25.00		138.1	2,307.8					0.0	551.1	138.1	2,858.9	0.0	0.0
30.00		136.6	2,262.1					0.0	554.4	136.6	2,816.4	0.0	0.0
35.00		137.9	2,214.3					0.0	557.1	137.9	2,771.4	0.0	0.0
40.00		76.5	2,165.1					0.0	559.5	76.5	2,724.6	0.0	0.0
40.50	Bot - Section 2	71.2	214.3					0.0	56.1	71.2	270.4	0.0	0.0
45.00		100.1	3,019.0					0.0	505.5	100.1	3,524.6	0.0	0.0
47.50	Top - Section 1	71.8	1,649.1					0.0	281.5	71.8	1,930.7	0.0	0.0
50.00		108.0	845.5					0.0	282.0	108.0	1,127.5	0.0	0.0
55.00		144.1	1,656.8					0.0	565.3	144.1	2,222.1	0.0	0.0
60.00	Appurtenance(s)	143.9	1,615.0	53.9	0.0	0.0	212.5	0.0	566.9	197.8	2,394.4	0.0	0.0
65.00		114.8	1,572.7					0.0	567.5	114.8	2,140.2	0.0	0.0
68.00	Appurtenance(s)	71.4	924.7	58.5	0.0	0.0	209.3	0.0	341.1	129.9	1,475.2	0.0	0.0
70.00		99.4	608.4					0.0	227.3	99.4	835.8	0.0	0.0
75.00	Appurtenance(s)	85.0	1,486.6	26.5	0.0	0.0	48.2	0.0	569.2	111.5	2,104.1	0.0	0.0
76.00	Appurtenance(s)	70.2	293.2	30.5	0.0	0.0	131.3	0.0	113.6	100.6	538.1	0.0	0.0
80.00		86.2	1,152.0					0.0	454.3	86.2	1,606.3	0.0	0.0
82.16	Bot - Section 3	69.9	612.4					0.0	246.0	69.9	858.4	0.0	0.0
85.00		79.2	1,258.2					0.0	322.9	79.2	1,581.1	0.0	0.0
87.83	Top - Section 2	69.3	1,232.2					0.0	322.5	69.3	1,554.7	0.0	0.0
90.00		43.7	525.7					0.0	247.5	43.7	773.2	0.0	0.0
91.00	Appurtenance(s)	68.3	240.1	284.9	0.0	0.0	2,217.2	0.0	114.1	353.2	2,571.5	0.0	0.0
95.00		121.6	941.4					0.0	456.9	121.6	1,398.4	0.0	0.0
100.00		119.8	1,140.0					0.0	572.0	119.8	1,712.0	0.0	0.0
104.00	Appurtenance(s)	65.8	884.6	891.5	0.0	0.0	6,642.9	0.0	458.3	957.3	7,985.8	0.0	0.0
105.00		39.0	218.0					0.0	92.3	39.0	310.3	0.0	0.0
107.00	Appurtenance(s)	64.4	430.7	9.1	0.0	0.0	32.3	0.0	184.7	73.5	647.7	0.0	0.0
110.00	Appurtenance(s)	101.4	633.3	792.5	0.0	0.0	6,452.2	0.0	276.1	893.9	7,361.6	0.0	0.0
115.00		124.3	1,020.6					0.0	385.8	124.3	1,406.3	0.0	0.0
120.00		121.0	980.4					0.0	386.6	121.0	1,366.9	0.0	0.0
125.00	Appurtenance(s)	71.4	940.0	629.4	0.0	0.0	5,512.7	0.0	387.4	700.8	6,840.0	0.0	0.0
126.00	Appurtenance(s)	58.0	184.3	65.7	0.0	0.0	183.6	0.0	55.1	123.7	422.9	0.0	0.0
130.00	Appurtenance(s)	46.2	717.4	990.7	0.0	2,129.9	7,134.2	0.0	219.8	1,036.9	8,071.4	0.0	0.0
								Totals:		7,409.66	87,923.6	0.00	0.00

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph with 0.75 in Radial Ice 18 Iterations

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

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-87.92	-7.35	0.00	-686.57	0.00	686.57	6,830.05	3,415.02	17,255.2	8,640.43	0.00	0.00	0.092
5.00	-84.98	-7.23	0.00	-649.82	0.00	649.82	6,727.94	3,363.97	16,620.1	8,322.40	0.01	-0.02	0.091
10.00	-82.03	-7.11	0.00	-613.67	0.00	613.67	6,623.66	3,311.83	15,991.1	8,007.48	0.04	-0.04	0.089
15.00	-79.09	-6.99	0.00	-578.12	0.00	578.12	6,517.21	3,258.61	15,368.8	7,695.85	0.10	-0.06	0.087
20.00	-76.19	-6.88	0.00	-543.15	0.00	543.15	6,408.59	3,204.29	14,753.4	7,387.69	0.17	-0.08	0.085
25.00	-73.33	-6.76	0.00	-508.78	0.00	508.78	6,297.80	3,148.90	14,145.3	7,083.19	0.27	-0.10	0.083
30.00	-70.51	-6.64	0.00	-474.97	0.00	474.97	6,184.83	3,092.42	13,544.9	6,782.53	0.39	-0.13	0.081
35.00	-67.74	-6.53	0.00	-441.75	0.00	441.75	6,069.70	3,034.85	12,952.5	6,485.89	0.54	-0.15	0.079
40.00	-65.01	-6.45	0.00	-409.13	0.00	409.13	5,952.39	2,976.20	12,368.5	6,193.46	0.70	-0.17	0.077
40.50	-64.74	-6.39	0.00	-405.90	0.00	405.90	5,940.54	2,970.27	12,310.6	6,164.45	0.72	-0.17	0.077
45.00	-61.22	-6.30	0.00	-377.13	0.00	377.13	5,814.51	2,907.25	11,756.0	5,886.78	0.89	-0.19	0.075
47.50	-59.28	-6.23	0.00	-361.38	0.00	361.38	4,024.81	2,012.40	8,191.06	4,101.62	0.99	-0.20	0.103
50.00	-58.15	-6.14	0.00	-345.80	0.00	345.80	3,989.37	1,994.69	8,007.13	4,009.51	1.10	-0.21	0.101
55.00	-55.93	-6.01	0.00	-315.10	0.00	315.10	3,916.87	1,958.44	7,642.03	3,826.70	1.33	-0.24	0.097
60.00	-53.53	-5.83	0.00	-285.03	0.00	285.03	3,842.20	1,921.10	7,280.96	3,645.89	1.60	-0.26	0.092
65.00	-51.39	-5.72	0.00	-255.88	0.00	255.88	3,765.36	1,882.68	6,924.26	3,467.28	1.89	-0.29	0.087
68.00	-49.92	-5.60	0.00	-238.72	0.00	238.72	3,718.21	1,859.10	6,712.50	3,361.24	2.08	-0.31	0.084
70.00	-49.08	-5.51	0.00	-227.52	0.00	227.52	3,686.34	1,843.17	6,572.31	3,291.04	2.21	-0.32	0.082
75.00	-46.98	-5.40	0.00	-199.99	0.00	199.99	3,605.16	1,802.58	6,225.47	3,117.36	2.55	-0.34	0.077
76.00	-46.44	-5.30	0.00	-194.59	0.00	194.59	3,588.66	1,794.33	6,156.74	3,082.95	2.63	-0.35	0.076
80.00	-44.83	-5.22	0.00	-173.38	0.00	173.38	3,521.80	1,760.90	5,884.10	2,946.42	2.93	-0.37	0.072
82.16	-43.97	-5.15	0.00	-162.10	0.00	162.10	3,485.06	1,742.53	5,738.19	2,873.36	3.09	-0.38	0.069
85.00	-42.39	-5.07	0.00	-147.48	0.00	147.48	3,436.27	1,718.13	5,548.57	2,778.41	3.32	-0.39	0.065
87.83	-40.83	-5.00	0.00	-133.14	0.00	133.14	2,707.00	1,353.50	4,369.08	2,187.78	3.56	-0.40	0.076
90.00	-40.06	-4.95	0.00	-122.29	0.00	122.29	2,679.98	1,339.99	4,260.27	2,133.30	3.74	-0.41	0.072
91.00	-37.49	-4.59	0.00	-117.34	0.00	117.34	2,667.39	1,333.70	4,210.35	2,108.30	3.83	-0.41	0.070
95.00	-36.09	-4.47	0.00	-98.98	0.00	98.98	2,616.17	1,308.08	4,012.17	2,009.07	4.18	-0.43	0.063
100.00	-34.38	-4.35	0.00	-76.64	0.00	76.64	2,550.19	1,275.09	3,768.02	1,886.81	4.65	-0.45	0.054
104.00	-26.40	-3.33	0.00	-59.26	0.00	59.26	2,495.84	1,247.92	3,575.79	1,790.55	5.03	-0.46	0.044
105.00	-26.09	-3.29	0.00	-55.93	0.00	55.93	2,482.03	1,241.02	3,528.19	1,766.72	5.13	-0.47	0.042
107.00	-25.44	-3.21	0.00	-49.35	0.00	49.35	2,454.17	1,227.08	3,433.54	1,719.32	5.32	-0.47	0.039
110.00	-18.09	-2.26	0.00	-39.71	0.00	39.71	2,411.71	1,205.86	3,293.03	1,648.96	5.62	-0.48	0.032
115.00	-16.68	-2.13	0.00	-28.41	0.00	28.41	2,339.22	1,169.61	3,062.91	1,533.73	6.13	-0.49	0.026
120.00	-15.32	-2.00	0.00	-17.78	0.00	17.78	2,252.89	1,126.45	2,823.60	1,413.90	6.65	-0.50	0.019
125.00	-8.48	-1.24	0.00	-7.80	0.00	7.80	2,153.14	1,076.57	2,577.88	1,290.85	7.18	-0.50	0.010
126.00	-8.06	-1.11	0.00	-6.56	0.00	6.56	2,133.19	1,066.59	2,530.07	1,266.92	7.29	-0.51	0.009
130.00	0.00	-1.04	0.00	-2.13	0.00	2.13	2,053.39	1,026.69	2,343.34	1,173.41	7.71	-0.51	0.002

Load Case: 1.0D + 1.0W Serviceability 60 mph 18 Iterations

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

Applied Segment Forces Summary

		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		56.8	0.0					0.0	0.0	56.8	0.0	0.0	0.0
5.00		112.4	1,642.2					0.0	321.2	112.4	1,963.4	0.0	0.0
10.00		109.9	1,605.7					0.0	321.2	109.9	1,926.8	0.0	0.0
15.00		107.4	1,569.1					0.0	321.2	107.4	1,890.3	0.0	0.0
20.00		104.9	1,532.6					0.0	321.2	104.9	1,853.7	0.0	0.0
25.00		102.4	1,496.0					0.0	321.2	102.4	1,817.2	0.0	0.0
30.00		101.1	1,459.5					0.0	321.2	101.1	1,780.6	0.0	0.0
35.00		101.8	1,422.9					0.0	321.2	101.8	1,744.1	0.0	0.0
40.00		56.4	1,386.4					0.0	321.2	56.4	1,707.5	0.0	0.0
40.50	Bot - Section 2	52.4	136.6					0.0	32.1	52.4	168.7	0.0	0.0
45.00		73.6	2,139.0					0.0	289.0	73.6	2,428.1	0.0	0.0
47.50	Top - Section 1	52.8	1,166.0					0.0	160.6	52.8	1,326.5	0.0	0.0
50.00		79.2	497.9					0.0	160.6	79.2	658.5	0.0	0.0
55.00		105.6	975.3					0.0	321.2	105.6	1,296.4	0.0	0.0
60.00	Appurtenance(s)	105.2	947.8	60.0	0.0	0.0	160.0	0.0	321.2	165.2	1,429.0	0.0	0.0
65.00		83.7	920.4					0.0	320.4	83.7	1,240.8	0.0	0.0
68.00	Appurtenance(s)	52.0	539.1	51.1	0.0	0.0	136.0	0.0	192.2	103.2	867.3	0.0	0.0
70.00		72.2	353.9					0.0	127.9	72.2	481.8	0.0	0.0
75.00	Appurtenance(s)	61.7	865.6	10.2	0.0	0.0	20.0	0.0	319.7	71.9	1,205.3	0.0	0.0
76.00	Appurtenance(s)	50.8	169.8	27.8	0.0	0.0	110.0	0.0	63.6	78.6	343.5	0.0	0.0
80.00		62.4	668.4					0.0	253.9	62.4	922.3	0.0	0.0
82.16	Bot - Section 3	50.5	354.2					0.0	137.3	50.5	491.5	0.0	0.0
85.00		57.1	843.7					0.0	180.1	57.1	1,023.8	0.0	0.0
87.83	Top - Section 2	50.0	825.6					0.0	179.6	50.0	1,005.3	0.0	0.0
90.00		31.5	285.5					0.0	137.8	31.5	423.3	0.0	0.0
91.00	Appurtenance(s)	49.1	130.1	241.8	0.0	0.0	1,500.0	0.0	63.5	290.9	1,693.6	0.0	0.0
95.00		87.2	511.4					0.0	253.9	87.2	765.3	0.0	0.0
100.00		85.7	618.7					0.0	317.4	85.7	936.1	0.0	0.0
104.00	Appurtenance(s)	46.9	478.5	912.6	0.0	0.0	2,786.9	0.0	253.9	959.6	3,519.3	0.0	0.0
105.00		27.8	117.3					0.0	44.8	27.8	162.2	0.0	0.0
107.00	Appurtenance(s)	45.8	232.0	7.8	0.0	0.0	10.0	0.0	89.6	53.5	331.6	0.0	0.0
110.00	Appurtenance(s)	71.9	341.1	856.6	0.0	0.0	2,831.4	0.0	133.5	928.5	3,305.9	0.0	0.0
115.00		87.8	550.2					0.0	159.9	87.8	710.1	0.0	0.0
120.00		85.1	527.3					0.0	159.9	85.1	687.2	0.0	0.0
125.00	Appurtenance(s)	50.1	504.5	656.1	0.0	0.0	2,512.7	0.0	159.9	706.2	3,177.1	0.0	0.0
126.00	Appurtenance(s)	40.5	98.2	78.9	0.0	0.0	49.0	0.0	13.2	119.4	160.4	0.0	0.0
130.00	Appurtenance(s)	32.3	383.5	1,117.2	0.0	2,684.1	2,441.2	0.0	52.2	1,149.5	2,876.9	0.0	0.0
								Totals:		6,624.24	48,321.5	0.00	0.00

Load Case: 1.0D + 1.0W Serviceability 60 mph 18 Iterations

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

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-48.32	-6.58	0.00	-635.27	0.00	635.27	6,830.05	3,415.02	17,255.2	8,640.43	0.00	0.00	0.081
5.00	-46.35	-6.48	0.00	-602.40	0.00	602.40	6,727.94	3,363.97	16,620.1	8,322.40	0.01	-0.02	0.079
10.00	-44.43	-6.38	0.00	-570.01	0.00	570.01	6,623.66	3,311.83	15,991.1	8,007.48	0.04	-0.04	0.078
15.00	-42.53	-6.29	0.00	-538.10	0.00	538.10	6,517.21	3,258.61	15,368.8	7,695.85	0.09	-0.06	0.076
20.00	-40.68	-6.19	0.00	-506.66	0.00	506.66	6,408.59	3,204.29	14,753.4	7,387.69	0.16	-0.08	0.075
25.00	-38.86	-6.10	0.00	-475.69	0.00	475.69	6,297.80	3,148.90	14,145.3	7,083.19	0.25	-0.10	0.073
30.00	-37.08	-6.01	0.00	-445.18	0.00	445.18	6,184.83	3,092.42	13,544.9	6,782.53	0.36	-0.12	0.072
35.00	-35.33	-5.92	0.00	-415.12	0.00	415.12	6,069.70	3,034.85	12,952.5	6,485.89	0.50	-0.14	0.070
40.00	-33.62	-5.86	0.00	-385.53	0.00	385.53	5,952.39	2,976.20	12,368.5	6,193.46	0.65	-0.16	0.068
40.50	-33.45	-5.82	0.00	-382.60	0.00	382.60	5,940.54	2,970.27	12,310.6	6,164.45	0.67	-0.16	0.068
45.00	-31.02	-5.74	0.00	-356.43	0.00	356.43	5,814.51	2,907.25	11,756.0	5,886.78	0.83	-0.18	0.066
47.50	-29.70	-5.69	0.00	-342.07	0.00	342.07	4,024.81	2,012.40	8,191.06	4,101.62	0.92	-0.19	0.091
50.00	-29.04	-5.62	0.00	-327.84	0.00	327.84	3,989.37	1,994.69	8,007.13	4,009.51	1.02	-0.20	0.089
55.00	-27.74	-5.52	0.00	-299.74	0.00	299.74	3,916.87	1,958.44	7,642.03	3,826.70	1.24	-0.22	0.085
60.00	-26.31	-5.36	0.00	-272.13	0.00	272.13	3,842.20	1,921.10	7,280.96	3,645.89	1.49	-0.25	0.081
65.00	-25.06	-5.28	0.00	-245.32	0.00	245.32	3,765.36	1,882.68	6,924.26	3,467.28	1.77	-0.27	0.077
68.00	-24.20	-5.18	0.00	-229.48	0.00	229.48	3,718.21	1,859.10	6,712.50	3,361.24	1.94	-0.29	0.075
70.00	-23.71	-5.11	0.00	-219.12	0.00	219.12	3,686.34	1,843.17	6,572.31	3,291.04	2.07	-0.30	0.073
75.00	-22.51	-5.04	0.00	-193.56	0.00	193.56	3,605.16	1,802.58	6,225.47	3,117.36	2.39	-0.32	0.068
76.00	-22.16	-4.96	0.00	-188.52	0.00	188.52	3,588.66	1,794.33	6,156.74	3,082.95	2.46	-0.33	0.067
80.00	-21.24	-4.90	0.00	-168.67	0.00	168.67	3,521.80	1,760.90	5,884.10	2,946.42	2.74	-0.35	0.063
82.16	-20.75	-4.85	0.00	-158.07	0.00	158.07	3,485.06	1,742.53	5,738.19	2,873.36	2.90	-0.36	0.061
85.00	-19.72	-4.79	0.00	-144.31	0.00	144.31	3,436.27	1,718.13	5,548.57	2,778.41	3.12	-0.37	0.058
87.83	-18.72	-4.74	0.00	-130.75	0.00	130.75	2,707.00	1,353.50	4,369.08	2,187.78	3.34	-0.38	0.067
90.00	-18.29	-4.71	0.00	-120.47	0.00	120.47	2,679.98	1,339.99	4,260.27	2,133.30	3.51	-0.39	0.063
91.00	-16.60	-4.41	0.00	-115.77	0.00	115.77	2,667.39	1,333.70	4,210.35	2,108.30	3.60	-0.39	0.061
95.00	-15.84	-4.32	0.00	-98.14	0.00	98.14	2,616.17	1,308.08	4,012.17	2,009.07	3.93	-0.41	0.055
100.00	-14.90	-4.23	0.00	-76.54	0.00	76.54	2,550.19	1,275.09	3,768.02	1,886.81	4.38	-0.43	0.046
104.00	-11.39	-3.25	0.00	-59.62	0.00	59.62	2,495.84	1,247.92	3,575.79	1,790.55	4.74	-0.44	0.038
105.00	-11.22	-3.22	0.00	-56.37	0.00	56.37	2,482.03	1,241.02	3,528.19	1,766.72	4.83	-0.45	0.036
107.00	-10.89	-3.16	0.00	-49.93	0.00	49.93	2,454.17	1,227.08	3,433.54	1,719.32	5.02	-0.45	0.033
110.00	-7.59	-2.21	0.00	-40.44	0.00	40.44	2,411.71	1,205.86	3,293.03	1,648.96	5.31	-0.46	0.028
115.00	-6.88	-2.12	0.00	-29.40	0.00	29.40	2,339.22	1,169.61	3,062.91	1,533.73	5.80	-0.47	0.022
120.00	-6.20	-2.03	0.00	-18.81	0.00	18.81	2,252.89	1,126.45	2,823.60	1,413.90	6.30	-0.48	0.016
125.00	-3.03	-1.29	0.00	-8.67	0.00	8.67	2,153.14	1,076.57	2,577.88	1,290.85	6.80	-0.48	0.008
126.00	-2.87	-1.17	0.00	-7.38	0.00	7.38	2,133.19	1,066.59	2,530.07	1,266.92	6.90	-0.49	0.007
130.00	0.00	-1.15	0.00	-2.68	0.00	2.68	2,053.39	1,026.69	2,343.34	1,173.41	7.31	-0.49	0.002

Equivalent Lateral Forces Method Analysis

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

Spectral Response Acceleration for Short Period (S_s):	0.23	
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):	0.05	
Upper Limit C_s	0.05	
Lower Limit C_s	0.03	
Period based on Rayleigh Method (sec):	1.49	
Redundancy Factor (p):	1.00	
Seismic Force Distribution Exponent (k):	1.49	
Total Unfactored Dead Load:	48.32	k
Seismic Base Shear (E):	2.32	k

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

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
36	128.00	436	614	0.020	47	544
35	125.50	111	152	0.005	12	139
34	122.50	664	876	0.029	68	829
33	117.50	687	851	0.028	66	858
32	112.50	710	824	0.027	64	886
31	108.50	475	522	0.017	40	592
30	106.00	322	342	0.011	26	401
29	104.50	162	169	0.006	13	202
28	102.00	732	735	0.024	57	914
27	97.50	936	878	0.029	68	1,169
26	93.00	765	669	0.022	52	955
25	90.50	194	162	0.005	13	242
24	88.92	423	346	0.011	27	528
23	86.42	1,005	787	0.026	61	1,255
22	83.58	1,024	763	0.025	59	1,278
21	81.08	491	350	0.012	27	614
20	78.00	922	620	0.021	48	1,151
19	75.50	233	149	0.005	12	291
18	72.50	1,185	714	0.024	55	1,480
17	69.00	482	269	0.009	21	601
16	66.50	731	387	0.013	30	913
15	62.50	1,241	599	0.020	46	1,549
14	57.50	1,269	540	0.018	42	1,584

13	52.50	1,296	482	0.016	37	1,618
12	48.75	658	219	0.007	17	822
11	46.25	1,327	408	0.014	31	1,656
10	42.75	2,428	664	0.022	51	3,031
9	40.25	169	42	0.001	3	211
8	37.50	1,708	384	0.013	30	2,132
7	32.50	1,744	317	0.011	24	2,177
6	27.50	1,781	252	0.008	19	2,223
5	22.50	1,817	190	0.006	15	2,269
4	17.50	1,854	133	0.004	10	2,314
3	12.50	1,890	82	0.003	6	2,360
2	7.50	1,927	39	0.001	3	2,406
1	2.50	1,963	8	0.000	1	2,451
Alcatel-Lucent RRH2X	130.00	132	190	0.006	15	165
Alcatel-Lucent RRH2X	130.00	129	186	0.006	14	161
Alcatel-Lucent RRH2x	130.00	170	245	0.008	19	212
Amphenol Antel BXA-1	130.00	32	45	0.002	3	39
RFS DB-T1-6Z-8AB-0Z	130.00	88	127	0.004	10	110
Decibel DB846F65ZAXY	130.00	84	121	0.004	9	105
Antel LPA-80080/6CF	130.00	42	61	0.002	5	52
Commscope SBNHH-1D85	130.00	265	381	0.013	29	330
Flat Low Profile Pla	130.00	1,500	2,162	0.072	167	1,873
Andrew Microwaves VH	126.00	49	67	0.002	5	61
Alcatel-Lucent RRH2x	125.00	159	216	0.007	17	198
Alcatel-Lucent 800MH	125.00	159	216	0.007	17	198
Alcatel-Lucent 1900M	125.00	132	179	0.006	14	165
Nokia 2.5G MAA - AAH	125.00	311	422	0.014	33	388
24" x 24" Junction B	125.00	20	27	0.001	2	25
Commscope NNVV-65B-R	125.00	232	316	0.010	24	290
Flat Low Profile Pla	125.00	1,500	2,039	0.068	157	1,873
Ericsson KRY 112 71	110.00	40	44	0.001	3	49
Ericsson Radio 4449	110.00	222	249	0.008	19	277
EMS RR90-17-02DP	110.00	41	45	0.002	4	51
Ericsson AIR 21, 1.3	110.00	249	280	0.009	22	311
Ericsson AIR-32 B2A/	110.00	397	445	0.015	34	495
RFS APXVAARR24_43-U-	110.00	384	431	0.014	33	479
Flat Low Profile Pla	110.00	1,500	1,684	0.056	130	1,873
GPS	107.00	10	11	0.000	1	12
Powerwave Allgon LGP	104.00	66	68	0.002	5	82
Powerwave Allgon 702	104.00	13	14	0.000	1	16
Powerwave Allgon LGP	104.00	169	175	0.006	13	211
Raycap DC6-48-60-18-	104.00	20	21	0.001	2	25
Ericsson RRUS-11 (50	104.00	150	155	0.005	12	187
Ericsson RRUS	104.00	132	137	0.005	11	165
Ericsson RRUS 12 w/	104.00	214	221	0.007	17	267
Powerwave Allgon 777	104.00	210	217	0.007	17	262
Powerwave Allgon P65	104.00	159	164	0.005	13	198
CCI HPA-65R-BUU-H6	104.00	153	158	0.005	12	191
Flat Low Profile Pla	104.00	1,500	1,549	0.051	119	1,873
Empty Flat Low Profi	91.00	1,500	1,269	0.042	98	1,873
2" x 8" GPS	76.00	10	6	0.000	0	12
Stand-Off	76.00	100	65	0.002	5	125
2" x 8" GPS	75.00	10	6	0.000	0	12
GPS	75.00	10	6	0.000	0	12
GPS	68.00	10	5	0.000	0	12
Side Arm	68.00	126	69	0.002	5	157
GPS	60.00	10	5	0.000	0	12
Flat Side Arm	60.00	150	68	0.002	5	187
		48,322	30,104	1.000	2,320	60,326

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

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
36	128.00	436	614	0.020	47	371
35	125.50	111	152	0.005	12	95
34	122.50	664	876	0.029	68	566
33	117.50	687	851	0.028	66	585
32	112.50	710	824	0.027	64	605
31	108.50	475	522	0.017	40	404
30	106.00	322	342	0.011	26	274
29	104.50	162	169	0.006	13	138
28	102.00	732	735	0.024	57	624
27	97.50	936	878	0.029	68	797
26	93.00	765	669	0.022	52	652
25	90.50	194	162	0.005	13	165
24	88.92	423	346	0.011	27	360
23	86.42	1,005	787	0.026	61	856
22	83.58	1,024	763	0.025	59	872
21	81.08	491	350	0.012	27	419
20	78.00	922	620	0.021	48	785
19	75.50	233	149	0.005	12	199
18	72.50	1,185	714	0.024	55	1,009
17	69.00	482	269	0.009	21	410
16	66.50	731	387	0.013	30	623
15	62.50	1,241	599	0.020	46	1,057
14	57.50	1,269	540	0.018	42	1,081
13	52.50	1,296	482	0.016	37	1,104
12	48.75	658	219	0.007	17	561
11	46.25	1,327	408	0.014	31	1,130
10	42.75	2,428	664	0.022	51	2,068
9	40.25	169	42	0.001	3	144
8	37.50	1,708	384	0.013	30	1,454
7	32.50	1,744	317	0.011	24	1,485
6	27.50	1,781	252	0.008	19	1,516
5	22.50	1,817	190	0.006	15	1,547
4	17.50	1,854	133	0.004	10	1,579
3	12.50	1,890	82	0.003	6	1,610
2	7.50	1,927	39	0.001	3	1,641
1	2.50	1,963	8	0.000	1	1,672
Alcatel-Lucent RRH2X	130.00	132	190	0.006	15	112
Alcatel-Lucent RRH2X	130.00	129	186	0.006	14	110
Alcatel-Lucent RRH2x	130.00	170	245	0.008	19	145
Amphenol Antel BXA-1	130.00	32	45	0.002	3	27
RFS DB-T1-6Z-8AB-0Z	130.00	88	127	0.004	10	75
Decibel DB846F65ZAXY	130.00	84	121	0.004	9	72
Antel LPA-80080/6CF	130.00	42	61	0.002	5	36
Commscope SBNHH-1D85	130.00	265	381	0.013	29	225
Flat Low Profile Pla	130.00	1,500	2,162	0.072	167	1,277
Andrew Microwaves VH	126.00	49	67	0.002	5	42
Alcatel-Lucent RRH2x	125.00	159	216	0.007	17	135
Alcatel-Lucent 800MH	125.00	159	216	0.007	17	135
Alcatel-Lucent 1900M	125.00	132	179	0.006	14	112
Nokia 2.5G MAA - AAH	125.00	311	422	0.014	33	265
24" x 24" Junction B	125.00	20	27	0.001	2	17
Commscope NNVV-65B-R	125.00	232	316	0.010	24	198
Flat Low Profile Pla	125.00	1,500	2,039	0.068	157	1,277
Ericsson KRY 112 71	110.00	40	44	0.001	3	34
Ericsson Radio 4449	110.00	222	249	0.008	19	189
EMS RR90-17-02DP	110.00	41	45	0.002	4	34
Ericsson AIR 21, 1.3	110.00	249	280	0.009	22	212

Ericsson AIR-32 B2A/	110.00	397	445	0.015	34	338
RFS APXVAARR24_43-U-	110.00	384	431	0.014	33	327
Flat Low Profile Pla	110.00	1,500	1,684	0.056	130	1,277
GPS	107.00	10	11	0.000	1	9
Powerwave Allgon LGP	104.00	66	68	0.002	5	56
Powerwave Allgon 702	104.00	13	14	0.000	1	11
Powerwave Allgon LGP	104.00	169	175	0.006	13	144
Raycap DC6-48-60-18-	104.00	20	21	0.001	2	17
Ericsson RRUS-11 (50	104.00	150	155	0.005	12	128
Ericsson RRUS	104.00	132	137	0.005	11	113
Ericsson RRUS 12 w/	104.00	214	221	0.007	17	182
Powerwave Allgon 777	104.00	210	217	0.007	17	179
Powerwave Allgon P65	104.00	159	164	0.005	13	135
CCI HPA-65R-BUU-H6	104.00	153	158	0.005	12	130
Flat Low Profile Pla	104.00	1,500	1,549	0.051	119	1,277
Empty Flat Low Profi	91.00	1,500	1,269	0.042	98	1,277
2" x 8" GPS	76.00	10	6	0.000	0	9
Stand-Off	76.00	100	65	0.002	5	85
2" x 8" GPS	75.00	10	6	0.000	0	9
GPS	75.00	10	6	0.000	0	9
GPS	68.00	10	5	0.000	0	9
Side Arm	68.00	126	69	0.002	5	107
GPS	60.00	10	5	0.000	0	9
Flat Side Arm	60.00	150	68	0.002	5	128
		48,322	30,104	1.000	2,320	41,149

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	-57.87	-2.32	0.00	-230.36	0.00	230.36	6,830.05	3,415.02	17,255.2	8,640.43	0.00	0.00	0.035
5.00	-55.47	-2.33	0.00	-218.75	0.00	218.75	6,727.94	3,363.97	16,620.1	8,322.40	0.00	-0.01	0.035
10.00	-53.11	-2.33	0.00	-207.12	0.00	207.12	6,623.66	3,311.83	15,991.1	8,007.48	0.01	-0.01	0.034
15.00	-50.79	-2.32	0.00	-195.49	0.00	195.49	6,517.21	3,258.61	15,368.8	7,695.85	0.03	-0.02	0.033
20.00	-48.53	-2.31	0.00	-183.88	0.00	183.88	6,408.59	3,204.29	14,753.4	7,387.69	0.06	-0.03	0.032
25.00	-46.30	-2.30	0.00	-172.32	0.00	172.32	6,297.80	3,148.90	14,145.3	7,083.19	0.09	-0.04	0.032
30.00	-44.12	-2.28	0.00	-160.84	0.00	160.84	6,184.83	3,092.42	13,544.9	6,782.53	0.13	-0.04	0.031
35.00	-41.99	-2.25	0.00	-149.46	0.00	149.46	6,069.70	3,034.85	12,952.5	6,485.89	0.18	-0.05	0.030
40.00	-41.78	-2.25	0.00	-138.21	0.00	138.21	5,952.39	2,976.20	12,368.5	6,193.46	0.24	-0.06	0.029
40.50	-38.75	-2.20	0.00	-137.08	0.00	137.08	5,940.54	2,970.27	12,310.6	6,164.45	0.24	-0.06	0.029
45.00	-37.09	-2.17	0.00	-127.19	0.00	127.19	5,814.51	2,907.25	11,756.0	5,886.78	0.30	-0.06	0.028
47.50	-36.27	-2.15	0.00	-121.77	0.00	121.77	4,024.81	2,012.40	8,191.06	4,101.62	0.33	-0.07	0.039
50.00	-34.65	-2.12	0.00	-116.39	0.00	116.39	3,989.37	1,994.69	8,007.13	4,009.51	0.37	-0.07	0.038
55.00	-33.07	-2.08	0.00	-105.80	0.00	105.80	3,916.87	1,958.44	7,642.03	3,826.70	0.45	-0.08	0.036
60.00	-31.32	-2.03	0.00	-95.41	0.00	95.41	3,842.20	1,921.10	7,280.96	3,645.89	0.54	-0.09	0.034
65.00	-30.41	-2.00	0.00	-85.26	0.00	85.26	3,765.36	1,882.68	6,924.26	3,467.28	0.64	-0.10	0.033
68.00	-29.64	-1.98	0.00	-79.26	0.00	79.26	3,718.21	1,859.10	6,712.50	3,361.24	0.70	-0.10	0.032
70.00	-28.16	-1.92	0.00	-75.30	0.00	75.30	3,686.34	1,843.17	6,572.31	3,291.04	0.75	-0.11	0.031
75.00	-27.84	-1.91	0.00	-65.70	0.00	65.70	3,605.16	1,802.58	6,225.47	3,117.36	0.86	-0.11	0.029
76.00	-26.55	-1.86	0.00	-63.79	0.00	63.79	3,588.66	1,794.33	6,156.74	3,082.95	0.89	-0.12	0.028
80.00	-25.94	-1.83	0.00	-56.36	0.00	56.36	3,521.80	1,760.90	5,884.10	2,946.42	0.99	-0.12	0.026
82.16	-24.66	-1.77	0.00	-52.40	0.00	52.40	3,485.06	1,742.53	5,738.19	2,873.36	1.04	-0.13	0.025
85.00	-23.40	-1.71	0.00	-47.38	0.00	47.38	3,436.27	1,718.13	5,548.57	2,778.41	1.12	-0.13	0.024
87.83	-22.87	-1.68	0.00	-42.54	0.00	42.54	2,707.00	1,353.50	4,369.08	2,187.78	1.20	-0.13	0.028
90.00	-22.63	-1.67	0.00	-38.89	0.00	38.89	2,679.98	1,339.99	4,260.27	2,133.30	1.26	-0.14	0.027
91.00	-19.81	-1.52	0.00	-37.22	0.00	37.22	2,667.39	1,333.70	4,210.35	2,108.30	1.29	-0.14	0.025
95.00	-18.64	-1.45	0.00	-31.16	0.00	31.16	2,616.17	1,308.08	4,012.17	2,009.07	1.41	-0.14	0.023
100.00	-17.72	-1.39	0.00	-23.93	0.00	23.93	2,550.19	1,275.09	3,768.02	1,886.81	1.56	-0.15	0.020
104.00	-14.04	-1.15	0.00	-18.37	0.00	18.37	2,495.84	1,247.92	3,575.79	1,790.55	1.69	-0.15	0.016
105.00	-13.64	-1.12	0.00	-17.23	0.00	17.23	2,482.03	1,241.02	3,528.19	1,766.72	1.72	-0.16	0.015
107.00	-13.03	-1.08	0.00	-14.99	0.00	14.99	2,454.17	1,227.08	3,433.54	1,719.32	1.79	-0.16	0.014
110.00	-8.61	-0.76	0.00	-11.76	0.00	11.76	2,411.71	1,205.86	3,293.03	1,648.96	1.89	-0.16	0.011
115.00	-7.76	-0.69	0.00	-7.99	0.00	7.99	2,339.22	1,169.61	3,062.91	1,533.73	2.05	-0.16	0.009
120.00	-6.93	-0.62	0.00	-4.55	0.00	4.55	2,252.89	1,126.45	2,823.60	1,413.90	2.22	-0.16	0.006
125.00	-3.65	-0.33	0.00	-1.45	0.00	1.45	2,153.14	1,076.57	2,577.88	1,290.85	2.40	-0.17	0.003
126.00	-3.05	-0.28	0.00	-1.12	0.00	1.12	2,133.19	1,066.59	2,530.07	1,266.92	2.43	-0.17	0.002
130.00	0.00	-0.27	0.00	0.00	0.00	0.00	2,053.39	1,026.69	2,343.34	1,173.41	2.57	-0.17	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	-39.48	-2.32	0.00	-228.83	0.00	228.83	6,830.05	3,415.02	17,255.2	8,640.43	0.00	0.00	0.032
5.00	-37.84	-2.32	0.00	-217.23	0.00	217.23	6,727.94	3,363.97	16,620.1	8,322.40	0.00	-0.01	0.032
10.00	-36.23	-2.32	0.00	-205.61	0.00	205.61	6,623.66	3,311.83	15,991.1	8,007.48	0.01	-0.01	0.031
15.00	-34.65	-2.31	0.00	-194.01	0.00	194.01	6,517.21	3,258.61	15,368.8	7,695.85	0.03	-0.02	0.031
20.00	-33.10	-2.30	0.00	-182.44	0.00	182.44	6,408.59	3,204.29	14,753.4	7,387.69	0.06	-0.03	0.030
25.00	-31.58	-2.29	0.00	-170.92	0.00	170.92	6,297.80	3,148.90	14,145.3	7,083.19	0.09	-0.03	0.029
30.00	-30.10	-2.26	0.00	-159.49	0.00	159.49	6,184.83	3,092.42	13,544.9	6,782.53	0.13	-0.04	0.028
35.00	-28.64	-2.24	0.00	-148.17	0.00	148.17	6,069.70	3,034.85	12,952.5	6,485.89	0.18	-0.05	0.028
40.00	-28.50	-2.24	0.00	-136.98	0.00	136.98	5,952.39	2,976.20	12,368.5	6,193.46	0.23	-0.06	0.027
40.50	-26.43	-2.18	0.00	-135.86	0.00	135.86	5,940.54	2,970.27	12,310.6	6,164.45	0.24	-0.06	0.026
45.00	-25.30	-2.15	0.00	-126.03	0.00	126.03	5,814.51	2,907.25	11,756.0	5,886.78	0.30	-0.06	0.026
47.50	-24.74	-2.14	0.00	-120.64	0.00	120.64	4,024.81	2,012.40	8,191.06	4,101.62	0.33	-0.07	0.036
50.00	-23.64	-2.10	0.00	-115.30	0.00	115.30	3,989.37	1,994.69	8,007.13	4,009.51	0.37	-0.07	0.035
55.00	-22.56	-2.06	0.00	-104.78	0.00	104.78	3,916.87	1,958.44	7,642.03	3,826.70	0.45	-0.08	0.033
60.00	-21.36	-2.01	0.00	-94.47	0.00	94.47	3,842.20	1,921.10	7,280.96	3,645.89	0.54	-0.09	0.031
65.00	-20.74	-1.98	0.00	-84.41	0.00	84.41	3,765.36	1,882.68	6,924.26	3,467.28	0.63	-0.10	0.030
68.00	-20.21	-1.96	0.00	-78.45	0.00	78.45	3,718.21	1,859.10	6,712.50	3,361.24	0.70	-0.10	0.029
70.00	-19.20	-1.90	0.00	-74.54	0.00	74.54	3,686.34	1,843.17	6,572.31	3,291.04	0.74	-0.11	0.028
75.00	-18.99	-1.89	0.00	-65.02	0.00	65.02	3,605.16	1,802.58	6,225.47	3,117.36	0.85	-0.11	0.026
76.00	-18.11	-1.84	0.00	-63.13	0.00	63.13	3,588.66	1,794.33	6,156.74	3,082.95	0.88	-0.12	0.026
80.00	-17.69	-1.81	0.00	-55.77	0.00	55.77	3,521.80	1,760.90	5,884.10	2,946.42	0.98	-0.12	0.024
82.16	-16.82	-1.75	0.00	-51.85	0.00	51.85	3,485.06	1,742.53	5,738.19	2,873.36	1.03	-0.12	0.023
85.00	-15.96	-1.69	0.00	-46.88	0.00	46.88	3,436.27	1,718.13	5,548.57	2,778.41	1.11	-0.13	0.022
87.83	-15.60	-1.66	0.00	-42.09	0.00	42.09	2,707.00	1,353.50	4,369.08	2,187.78	1.19	-0.13	0.025
90.00	-15.44	-1.65	0.00	-38.48	0.00	38.48	2,679.98	1,339.99	4,260.27	2,133.30	1.25	-0.14	0.024
91.00	-13.51	-1.50	0.00	-36.83	0.00	36.83	2,667.39	1,333.70	4,210.35	2,108.30	1.28	-0.14	0.023
95.00	-12.71	-1.43	0.00	-30.83	0.00	30.83	2,616.17	1,308.08	4,012.17	2,009.07	1.39	-0.14	0.020
100.00	-12.09	-1.37	0.00	-23.68	0.00	23.68	2,550.19	1,275.09	3,768.02	1,886.81	1.55	-0.15	0.017
104.00	-9.58	-1.13	0.00	-18.18	0.00	18.18	2,495.84	1,247.92	3,575.79	1,790.55	1.67	-0.15	0.014
105.00	-9.30	-1.11	0.00	-17.05	0.00	17.05	2,482.03	1,241.02	3,528.19	1,766.72	1.71	-0.15	0.013
107.00	-8.89	-1.06	0.00	-14.83	0.00	14.83	2,454.17	1,227.08	3,433.54	1,719.32	1.77	-0.16	0.012
110.00	-5.88	-0.75	0.00	-11.64	0.00	11.64	2,411.71	1,205.86	3,293.03	1,648.96	1.87	-0.16	0.009
115.00	-5.29	-0.68	0.00	-7.90	0.00	7.90	2,339.22	1,169.61	3,062.91	1,533.73	2.04	-0.16	0.007
120.00	-4.72	-0.61	0.00	-4.50	0.00	4.50	2,252.89	1,126.45	2,823.60	1,413.90	2.21	-0.16	0.005
125.00	-2.49	-0.33	0.00	-1.44	0.00	1.44	2,153.14	1,076.57	2,577.88	1,290.85	2.38	-0.16	0.002
126.00	-2.08	-0.28	0.00	-1.11	0.00	1.11	2,133.19	1,066.59	2,530.07	1,266.92	2.41	-0.16	0.002
130.00	0.00	-0.27	0.00	0.00	0.00	0.00	2,053.39	1,026.69	2,343.34	1,173.41	2.55	-0.16	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):	0.23
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):	1.49
Redundancy Factor (p):	1.00

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

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
36	128.00	436	1.832	1.689	1.034	0.423	123	544
35	125.50	111	1.761	1.369	0.912	0.369	27	139
34	122.50	664	1.678	1.041	0.782	0.309	137	829
33	117.50	687	1.544	0.615	0.597	0.220	101	858
32	112.50	710	1.415	0.314	0.448	0.145	69	886
31	108.50	475	1.317	0.144	0.351	0.095	30	592
30	106.00	322	1.257	0.065	0.299	0.068	15	401
29	104.50	162	1.221	0.026	0.271	0.054	6	202
28	102.00	732	1.164	-0.027	0.229	0.033	16	914
27	97.50	936	1.063	-0.088	0.165	0.003	2	1,169
26	93.00	765	0.967	-0.117	0.116	-0.017	-8	955
25	90.50	194	0.916	-0.121	0.094	-0.023	-3	242
24	88.92	423	0.884	-0.121	0.081	-0.025	-7	528
23	86.42	1,005	0.835	-0.117	0.064	-0.027	-18	1,255
22	83.58	1,024	0.781	-0.108	0.049	-0.026	-17	1,278
21	81.08	491	0.735	-0.097	0.037	-0.022	-7	614
20	78.00	922	0.680	-0.081	0.026	-0.015	-9	1,151
19	75.50	233	0.637	-0.066	0.019	-0.007	-1	291
18	72.50	1,185	0.588	-0.049	0.013	0.003	2	1,480
17	69.00	482	0.532	-0.028	0.009	0.015	5	601
16	66.50	731	0.495	-0.014	0.007	0.023	11	913
15	62.50	1,241	0.437	0.006	0.006	0.035	29	1,549
14	57.50	1,269	0.370	0.027	0.008	0.047	40	1,584
13	52.50	1,296	0.308	0.043	0.012	0.054	47	1,618
12	48.75	658	0.266	0.052	0.015	0.057	25	822
11	46.25	1,327	0.239	0.057	0.018	0.058	51	1,656
10	42.75	2,428	0.204	0.062	0.023	0.058	94	3,031
9	40.25	169	0.181	0.065	0.026	0.058	7	211
8	37.50	1,708	0.157	0.067	0.029	0.057	65	2,132
7	32.50	1,744	0.118	0.070	0.035	0.056	65	2,177
6	27.50	1,781	0.085	0.071	0.039	0.054	64	2,223
5	22.50	1,817	0.057	0.071	0.042	0.051	62	2,269
4	17.50	1,854	0.034	0.069	0.041	0.049	60	2,314
3	12.50	1,890	0.017	0.062	0.037	0.044	55	2,360

2	7.50	1,927	0.006	0.048	0.027	0.035	44	2,406
1	2.50	1,963	0.001	0.021	0.011	0.016	21	2,451
Alcatel-Lucent RRH2X	130.00	132	1.890	1.980	1.140	0.469	41	165
Alcatel-Lucent RRH2X	130.00	129	1.890	1.980	1.140	0.469	40	161
Alcatel-Lucent RRH2x	130.00	170	1.890	1.980	1.140	0.469	53	212
Amphenol Antel BXA-1	130.00	32	1.890	1.980	1.140	0.469	10	39
RFS DB-T1-6Z-8AB-0Z	130.00	88	1.890	1.980	1.140	0.469	28	110
Decibel DB846F65ZAXY	130.00	84	1.890	1.980	1.140	0.469	26	105
Antel LPA-80080/6CF	130.00	42	1.890	1.980	1.140	0.469	13	52
Commscope SBNHH-	130.00	265	1.890	1.980	1.140	0.469	83	330
Flat Low Profile Pla	130.00	1,500	1.890	1.980	1.140	0.469	469	1,873
Andrew Microwaves	126.00	49	1.775	1.429	0.936	0.380	12	61
Alcatel-Lucent RRH2x	125.00	159	1.747	1.310	0.889	0.359	38	198
Alcatel-Lucent 800MH	125.00	159	1.747	1.310	0.889	0.359	38	198
Alcatel-Lucent 1900M	125.00	132	1.747	1.310	0.889	0.359	32	165
Nokia 2.5G MAA - AAH	125.00	311	1.747	1.310	0.889	0.359	74	388
24" x 24" Junction B	125.00	20	1.747	1.310	0.889	0.359	5	25
Commscope NNVV-	125.00	232	1.747	1.310	0.889	0.359	56	290
Flat Low Profile Pla	125.00	1,500	1.747	1.310	0.889	0.359	359	1,873
Ericsson KRY 112 71	110.00	40	1.353	0.201	0.385	0.113	3	49
Ericsson Radio 4449	110.00	222	1.353	0.201	0.385	0.113	17	277
EMS RR90-17-02DP	110.00	41	1.353	0.201	0.385	0.113	3	51
Ericsson AIR 21, 1.3	110.00	249	1.353	0.201	0.385	0.113	19	311
Ericsson AIR-32 B2A/	110.00	397	1.353	0.201	0.385	0.113	30	495
RFS APXVAARR24_43-U-	110.00	384	1.353	0.201	0.385	0.113	29	479
Flat Low Profile Pla	110.00	1,500	1.353	0.201	0.385	0.113	113	1,873
GPS	107.00	10	1.280	0.094	0.319	0.079	1	12
Powerwave Allgon LGP	104.00	66	1.210	0.014	0.262	0.049	2	82
Powerwave Allgon 702	104.00	13	1.210	0.014	0.262	0.049	0	16
Powerwave Allgon LGP	104.00	169	1.210	0.014	0.262	0.049	6	211
Raycap DC6-48-60-18-	104.00	20	1.210	0.014	0.262	0.049	1	25
Ericsson RRUS-11 (50	104.00	150	1.210	0.014	0.262	0.049	5	187
Ericsson RRUS	104.00	132	1.210	0.014	0.262	0.049	4	165
Ericsson RRUS 12 w/	104.00	214	1.210	0.014	0.262	0.049	7	267
Powerwave Allgon 777	104.00	210	1.210	0.014	0.262	0.049	7	262
Powerwave Allgon P65	104.00	159	1.210	0.014	0.262	0.049	5	198
CCI HPA-65R-BUU-H6	104.00	153	1.210	0.014	0.262	0.049	5	191
Flat Low Profile Pla	104.00	1,500	1.210	0.014	0.262	0.049	49	1,873
Empty Flat Low Profi	91.00	1,500	0.926	-0.121	0.098	-0.022	-22	1,873
2" x 8" GPS	76.00	10	0.646	-0.069	0.021	-0.009	0	12
Stand-Off	76.00	100	0.646	-0.069	0.021	-0.009	-1	125
2" x 8" GPS	75.00	10	0.629	-0.063	0.018	-0.006	0	12
GPS	75.00	10	0.629	-0.063	0.018	-0.006	0	12
GPS	68.00	10	0.517	-0.022	0.008	0.018	0	12
Side Arm	68.00	126	0.517	-0.022	0.008	0.018	2	157
GPS	60.00	10	0.403	0.017	0.006	0.042	0	12
Flat Side Arm	60.00	150	0.403	0.017	0.006	0.042	4	187
		48,322	85.176	34.701	29.492	10.920	2,866	60,326

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

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
36	128.00	436	1.832	1.689	1.034	0.423	123	371
35	125.50	111	1.761	1.369	0.912	0.369	27	95
34	122.50	664	1.678	1.041	0.782	0.309	137	566
33	117.50	687	1.544	0.615	0.597	0.220	101	585
32	112.50	710	1.415	0.314	0.448	0.145	69	605
31	108.50	475	1.317	0.144	0.351	0.095	30	404

30	106.00	322	1.257	0.065	0.299	0.068	15	274
29	104.50	162	1.221	0.026	0.271	0.054	6	138
28	102.00	732	1.164	-0.027	0.229	0.033	16	624
27	97.50	936	1.063	-0.088	0.165	0.003	2	797
26	93.00	765	0.967	-0.117	0.116	-0.017	-8	652
25	90.50	194	0.916	-0.121	0.094	-0.023	-3	165
24	88.92	423	0.884	-0.121	0.081	-0.025	-7	360
23	86.42	1,005	0.835	-0.117	0.064	-0.027	-18	856
22	83.58	1,024	0.781	-0.108	0.049	-0.026	-17	872
21	81.08	491	0.735	-0.097	0.037	-0.022	-7	419
20	78.00	922	0.680	-0.081	0.026	-0.015	-9	785
19	75.50	233	0.637	-0.066	0.019	-0.007	-1	199
18	72.50	1,185	0.588	-0.049	0.013	0.003	2	1,009
17	69.00	482	0.532	-0.028	0.009	0.015	5	410
16	66.50	731	0.495	-0.014	0.007	0.023	11	623
15	62.50	1,241	0.437	0.006	0.006	0.035	29	1,057
14	57.50	1,269	0.370	0.027	0.008	0.047	40	1,081
13	52.50	1,296	0.308	0.043	0.012	0.054	47	1,104
12	48.75	658	0.266	0.052	0.015	0.057	25	561
11	46.25	1,327	0.239	0.057	0.018	0.058	51	1,130
10	42.75	2,428	0.204	0.062	0.023	0.058	94	2,068
9	40.25	169	0.181	0.065	0.026	0.058	7	144
8	37.50	1,708	0.157	0.067	0.029	0.057	65	1,454
7	32.50	1,744	0.118	0.070	0.035	0.056	65	1,485
6	27.50	1,781	0.085	0.071	0.039	0.054	64	1,516
5	22.50	1,817	0.057	0.071	0.042	0.051	62	1,547
4	17.50	1,854	0.034	0.069	0.041	0.049	60	1,579
3	12.50	1,890	0.017	0.062	0.037	0.044	55	1,610
2	7.50	1,927	0.006	0.048	0.027	0.035	44	1,641
1	2.50	1,963	0.001	0.021	0.011	0.016	21	1,672
Alcatel-Lucent RRH2X	130.00	132	1.890	1.980	1.140	0.469	41	112
Alcatel-Lucent RRH2X	130.00	129	1.890	1.980	1.140	0.469	40	110
Alcatel-Lucent RRH2x	130.00	170	1.890	1.980	1.140	0.469	53	145
Amphenol Antel BXA-1	130.00	32	1.890	1.980	1.140	0.469	10	27
RFS DB-T1-6Z-8AB-0Z	130.00	88	1.890	1.980	1.140	0.469	28	75
Decibel DB846F65ZAXY	130.00	84	1.890	1.980	1.140	0.469	26	72
Antel LPA-80080/6CF	130.00	42	1.890	1.980	1.140	0.469	13	36
Commscope SBNHH-	130.00	265	1.890	1.980	1.140	0.469	83	225
Flat Low Profile Pla	130.00	1,500	1.890	1.980	1.140	0.469	469	1,277
Andrew Microwaves	126.00	49	1.775	1.429	0.936	0.380	12	42
Alcatel-Lucent RRH2x	125.00	159	1.747	1.310	0.889	0.359	38	135
Alcatel-Lucent 800MH	125.00	159	1.747	1.310	0.889	0.359	38	135
Alcatel-Lucent 1900M	125.00	132	1.747	1.310	0.889	0.359	32	112
Nokia 2.5G MAA - AAH	125.00	311	1.747	1.310	0.889	0.359	74	265
24" x 24" Junction B	125.00	20	1.747	1.310	0.889	0.359	5	17
Commscope NNVV-	125.00	232	1.747	1.310	0.889	0.359	56	198
Flat Low Profile Pla	125.00	1,500	1.747	1.310	0.889	0.359	359	1,277
Ericsson KRY 112 71	110.00	40	1.353	0.201	0.385	0.113	3	34
Ericsson Radio 4449	110.00	222	1.353	0.201	0.385	0.113	17	189
EMS RR90-17-02DP	110.00	41	1.353	0.201	0.385	0.113	3	34
Ericsson AIR 21, 1.3	110.00	249	1.353	0.201	0.385	0.113	19	212
Ericsson AIR-32 B2A/	110.00	397	1.353	0.201	0.385	0.113	30	338
RFS APXVAARR24_43-U-	110.00	384	1.353	0.201	0.385	0.113	29	327
Flat Low Profile Pla	110.00	1,500	1.353	0.201	0.385	0.113	113	1,277
GPS	107.00	10	1.280	0.094	0.319	0.079	1	9
Powerwave Allgon LGP	104.00	66	1.210	0.014	0.262	0.049	2	56
Powerwave Allgon 702	104.00	13	1.210	0.014	0.262	0.049	0	11
Powerwave Allgon LGP	104.00	169	1.210	0.014	0.262	0.049	6	144
Raycap DC6-48-60-18-	104.00	20	1.210	0.014	0.262	0.049	1	17
Ericsson RRUS-11 (50	104.00	150	1.210	0.014	0.262	0.049	5	128
Ericsson RRUS	104.00	132	1.210	0.014	0.262	0.049	4	113
Ericsson RRUS 12 w/	104.00	214	1.210	0.014	0.262	0.049	7	182
Powerwave Allgon 777	104.00	210	1.210	0.014	0.262	0.049	7	179
Powerwave Allgon P65	104.00	159	1.210	0.014	0.262	0.049	5	135

CCI HPA-65R-BUU-H6	104.00	153	1.210	0.014	0.262	0.049	5	130
Flat Low Profile Pla	104.00	1,500	1.210	0.014	0.262	0.049	49	1,277
Empty Flat Low Profi	91.00	1,500	0.926	-0.121	0.098	-0.022	-22	1,277
2" x 8" GPS	76.00	10	0.646	-0.069	0.021	-0.009	0	9
Stand-Off	76.00	100	0.646	-0.069	0.021	-0.009	-1	85
2" x 8" GPS	75.00	10	0.629	-0.063	0.018	-0.006	0	9
GPS	75.00	10	0.629	-0.063	0.018	-0.006	0	9
GPS	68.00	10	0.517	-0.022	0.008	0.018	0	9
Side Arm	68.00	126	0.517	-0.022	0.008	0.018	2	107
GPS	60.00	10	0.403	0.017	0.006	0.042	0	9
Flat Side Arm	60.00	150	0.403	0.017	0.006	0.042	4	128
		48,322	85.176	34.701	29.492	10.920	2,866	41,149

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	-57.87	-2.85	0.00	-293.16	0.00	293.16	6,830.05	3,415.02	17,255.2	8,640.43	0.00	0.00	0.042
5.00	-55.47	-2.81	0.00	-278.91	0.00	278.91	6,727.94	3,363.97	16,620.1	8,322.40	0.00	-0.01	0.042
10.00	-53.11	-2.77	0.00	-264.85	0.00	264.85	6,623.66	3,311.83	15,991.1	8,007.48	0.02	-0.02	0.041
15.00	-50.79	-2.71	0.00	-251.02	0.00	251.02	6,517.21	3,258.61	15,368.8	7,695.85	0.04	-0.03	0.040
20.00	-48.52	-2.66	0.00	-237.46	0.00	237.46	6,408.59	3,204.29	14,753.4	7,387.69	0.07	-0.04	0.040
25.00	-46.30	-2.60	0.00	-224.17	0.00	224.17	6,297.80	3,148.90	14,145.3	7,083.19	0.12	-0.05	0.039
30.00	-44.12	-2.54	0.00	-211.18	0.00	211.18	6,184.83	3,092.42	13,544.9	6,782.53	0.17	-0.05	0.038
35.00	-41.99	-2.48	0.00	-198.48	0.00	198.48	6,069.70	3,034.85	12,952.5	6,485.89	0.23	-0.06	0.038
40.00	-41.78	-2.48	0.00	-186.08	0.00	186.08	5,952.39	2,976.20	12,368.5	6,193.46	0.30	-0.07	0.037
40.50	-38.75	-2.38	0.00	-184.84	0.00	184.84	5,940.54	2,970.27	12,310.6	6,164.45	0.31	-0.07	0.037
45.00	-37.09	-2.33	0.00	-174.12	0.00	174.12	5,814.51	2,907.25	11,756.0	5,886.78	0.39	-0.08	0.036
47.50	-36.27	-2.31	0.00	-168.29	0.00	168.29	4,024.81	2,012.40	8,191.06	4,101.62	0.43	-0.09	0.050
50.00	-34.65	-2.27	0.00	-162.51	0.00	162.51	3,989.37	1,994.69	8,007.13	4,009.51	0.48	-0.09	0.049
55.00	-33.07	-2.23	0.00	-151.18	0.00	151.18	3,916.87	1,958.44	7,642.03	3,826.70	0.58	-0.11	0.048
60.00	-31.32	-2.20	0.00	-140.03	0.00	140.03	3,842.20	1,921.10	7,280.96	3,645.89	0.70	-0.12	0.047
65.00	-30.40	-2.19	0.00	-129.02	0.00	129.02	3,765.36	1,882.68	6,924.26	3,467.28	0.84	-0.13	0.045
68.00	-29.63	-2.19	0.00	-122.44	0.00	122.44	3,718.21	1,859.10	6,712.50	3,361.24	0.92	-0.14	0.044
70.00	-28.15	-2.19	0.00	-118.07	0.00	118.07	3,686.34	1,843.17	6,572.31	3,291.04	0.98	-0.15	0.044
75.00	-27.84	-2.19	0.00	-107.13	0.00	107.13	3,605.16	1,802.58	6,225.47	3,117.36	1.14	-0.16	0.042
76.00	-26.55	-2.20	0.00	-104.94	0.00	104.94	3,588.66	1,794.33	6,156.74	3,082.95	1.17	-0.16	0.041
80.00	-25.93	-2.21	0.00	-96.14	0.00	96.14	3,521.80	1,760.90	5,884.10	2,946.42	1.31	-0.17	0.040
82.16	-24.66	-2.23	0.00	-91.36	0.00	91.36	3,485.06	1,742.53	5,738.19	2,873.36	1.39	-0.18	0.039
85.00	-23.40	-2.24	0.00	-85.04	0.00	85.04	3,436.27	1,718.13	5,548.57	2,778.41	1.50	-0.18	0.037
87.83	-22.87	-2.25	0.00	-78.70	0.00	78.70	2,707.00	1,353.50	4,369.08	2,187.78	1.61	-0.19	0.044
90.00	-22.63	-2.25	0.00	-73.81	0.00	73.81	2,679.98	1,339.99	4,260.27	2,133.30	1.70	-0.20	0.043
91.00	-19.80	-2.28	0.00	-71.56	0.00	71.56	2,667.39	1,333.70	4,210.35	2,108.30	1.74	-0.20	0.041
95.00	-18.63	-2.28	0.00	-62.45	0.00	62.45	2,616.17	1,308.08	4,012.17	2,009.07	1.91	-0.21	0.038
100.00	-17.72	-2.26	0.00	-51.07	0.00	51.07	2,550.19	1,275.09	3,768.02	1,886.81	2.14	-0.22	0.034
104.00	-14.04	-2.15	0.00	-42.03	0.00	42.03	2,495.84	1,247.92	3,575.79	1,790.55	2.33	-0.23	0.029
105.00	-13.63	-2.13	0.00	-39.88	0.00	39.88	2,482.03	1,241.02	3,528.19	1,766.72	2.38	-0.23	0.028
107.00	-13.03	-2.10	0.00	-35.62	0.00	35.62	2,454.17	1,227.08	3,433.54	1,719.32	2.48	-0.24	0.026
110.00	-8.61	-1.80	0.00	-29.31	0.00	29.31	2,411.71	1,205.86	3,293.03	1,648.96	2.63	-0.24	0.021
115.00	-7.75	-1.70	0.00	-20.31	0.00	20.31	2,339.22	1,169.61	3,062.91	1,533.73	2.89	-0.25	0.017
120.00	-6.92	-1.56	0.00	-11.82	0.00	11.82	2,252.89	1,126.45	2,823.60	1,413.90	3.16	-0.26	0.011
125.00	-3.65	-0.92	0.00	-4.02	0.00	4.02	2,153.14	1,076.57	2,577.88	1,290.85	3.43	-0.26	0.005
126.00	-3.04	-0.78	0.00	-3.11	0.00	3.11	2,133.19	1,066.59	2,530.07	1,266.92	3.49	-0.26	0.004
130.00	0.00	-0.76	0.00	0.00	0.00	0.00	2,053.39	1,026.69	2,343.34	1,173.41	3.71	-0.26	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	-39.48	-2.85	0.00	-291.05	0.00	291.05	6,830.05	3,415.02	17,255.2	8,640.43	0.00	0.00	0.039
5.00	-37.84	-2.81	0.00	-276.81	0.00	276.81	6,727.94	3,363.97	16,620.1	8,322.40	0.00	-0.01	0.039
10.00	-36.23	-2.76	0.00	-262.76	0.00	262.76	6,623.66	3,311.83	15,991.1	8,007.48	0.02	-0.02	0.038
15.00	-34.65	-2.70	0.00	-248.97	0.00	248.97	6,517.21	3,258.61	15,368.8	7,695.85	0.04	-0.03	0.038
20.00	-33.10	-2.65	0.00	-235.45	0.00	235.45	6,408.59	3,204.29	14,753.4	7,387.69	0.07	-0.04	0.037
25.00	-31.58	-2.59	0.00	-222.22	0.00	222.22	6,297.80	3,148.90	14,145.3	7,083.19	0.12	-0.04	0.036
30.00	-30.10	-2.53	0.00	-209.29	0.00	209.29	6,184.83	3,092.42	13,544.9	6,782.53	0.17	-0.05	0.036
35.00	-28.64	-2.46	0.00	-196.66	0.00	196.66	6,069.70	3,034.85	12,952.5	6,485.89	0.23	-0.06	0.035
40.00	-28.50	-2.46	0.00	-184.34	0.00	184.34	5,952.39	2,976.20	12,368.5	6,193.46	0.30	-0.07	0.035
40.50	-26.43	-2.36	0.00	-183.11	0.00	183.11	5,940.54	2,970.27	12,310.6	6,164.45	0.31	-0.07	0.034
45.00	-25.30	-2.31	0.00	-172.47	0.00	172.47	5,814.51	2,907.25	11,756.0	5,886.78	0.38	-0.08	0.034
47.50	-24.74	-2.29	0.00	-166.69	0.00	166.69	4,024.81	2,012.40	8,191.06	4,101.62	0.43	-0.09	0.047
50.00	-23.64	-2.25	0.00	-160.96	0.00	160.96	3,989.37	1,994.69	8,007.13	4,009.51	0.48	-0.09	0.046
55.00	-22.55	-2.21	0.00	-149.73	0.00	149.73	3,916.87	1,958.44	7,642.03	3,826.70	0.58	-0.11	0.045
60.00	-21.36	-2.18	0.00	-138.68	0.00	138.68	3,842.20	1,921.10	7,280.96	3,645.89	0.70	-0.12	0.044
65.00	-20.74	-2.17	0.00	-127.79	0.00	127.79	3,765.36	1,882.68	6,924.26	3,467.28	0.83	-0.13	0.042
68.00	-20.21	-2.16	0.00	-121.28	0.00	121.28	3,718.21	1,859.10	6,712.50	3,361.24	0.91	-0.14	0.042
70.00	-19.20	-2.16	0.00	-116.95	0.00	116.95	3,686.34	1,843.17	6,572.31	3,291.04	0.97	-0.14	0.041
75.00	-18.99	-2.17	0.00	-106.13	0.00	106.13	3,605.16	1,802.58	6,225.47	3,117.36	1.13	-0.16	0.039
76.00	-18.11	-2.18	0.00	-103.97	0.00	103.97	3,588.66	1,794.33	6,156.74	3,082.95	1.16	-0.16	0.039
80.00	-17.69	-2.18	0.00	-95.26	0.00	95.26	3,521.80	1,760.90	5,884.10	2,946.42	1.30	-0.17	0.037
82.16	-16.82	-2.20	0.00	-90.54	0.00	90.54	3,485.06	1,742.53	5,738.19	2,873.36	1.38	-0.18	0.036
85.00	-15.96	-2.22	0.00	-84.30	0.00	84.30	3,436.27	1,718.13	5,548.57	2,778.41	1.49	-0.18	0.035
87.83	-15.60	-2.23	0.00	-78.02	0.00	78.02	2,707.00	1,353.50	4,369.08	2,187.78	1.60	-0.19	0.041
90.00	-15.43	-2.23	0.00	-73.19	0.00	73.19	2,679.98	1,339.99	4,260.27	2,133.30	1.69	-0.20	0.040
91.00	-13.50	-2.25	0.00	-70.96	0.00	70.96	2,667.39	1,333.70	4,210.35	2,108.30	1.73	-0.20	0.039
95.00	-12.71	-2.25	0.00	-61.94	0.00	61.94	2,616.17	1,308.08	4,012.17	2,009.07	1.90	-0.21	0.036
100.00	-12.08	-2.24	0.00	-50.68	0.00	50.68	2,550.19	1,275.09	3,768.02	1,886.81	2.12	-0.22	0.032
104.00	-9.57	-2.13	0.00	-41.73	0.00	41.73	2,495.84	1,247.92	3,575.79	1,790.55	2.31	-0.23	0.027
105.00	-9.30	-2.11	0.00	-39.60	0.00	39.60	2,482.03	1,241.02	3,528.19	1,766.72	2.36	-0.23	0.026
107.00	-8.88	-2.08	0.00	-35.37	0.00	35.37	2,454.17	1,227.08	3,433.54	1,719.32	2.46	-0.24	0.024
110.00	-5.87	-1.79	0.00	-29.12	0.00	29.12	2,411.71	1,205.86	3,293.03	1,648.96	2.61	-0.24	0.020
115.00	-5.28	-1.69	0.00	-20.18	0.00	20.18	2,339.22	1,169.61	3,062.91	1,533.73	2.87	-0.25	0.015
120.00	-4.72	-1.55	0.00	-11.74	0.00	11.74	2,252.89	1,126.45	2,823.60	1,413.90	3.13	-0.26	0.010
125.00	-2.49	-0.91	0.00	-4.00	0.00	4.00	2,153.14	1,076.57	2,577.88	1,290.85	3.40	-0.26	0.004
126.00	-2.08	-0.77	0.00	-3.09	0.00	3.09	2,133.19	1,066.59	2,530.07	1,266.92	3.46	-0.26	0.003
130.00	0.00	-0.76	0.00	0.00	0.00	0.00	2,053.39	1,026.69	2,343.34	1,173.41	3.67	-0.26	0.000

Analysis Summary

	Reactions						Max Usage	
Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.6W	25.97	0.00	57.97	0.00	0.00	2520.02	47.50	0.34
0.9D + 1.6W	25.82	0.00	43.47	0.00	0.00	2489.91	47.50	0.33
1.2D + 1.0Di + 1.0Wi	7.35	0.00	87.92	0.00	0.00	686.57	47.50	0.10
(1.2 + 0.2Sds) * DL + E ELFM	2.32	0.00	57.87	0.00	0.00	230.36	47.50	0.04
(1.2 + 0.2Sds) * DL + E EMAM	2.85	0.00	57.87	0.00	0.00	293.16	47.50	0.05
(0.9 - 0.2Sds) * DL + E ELFM	2.32	0.00	39.48	0.00	0.00	228.83	47.50	0.04
(0.9 - 0.2Sds) * DL + E EMAM	2.85	0.00	39.48	0.00	0.00	291.05	47.50	0.05
1.0D + 1.0W	6.58	0.00	48.32	0.00	0.00	635.27	47.50	0.09

Base Plate & Anchor Rod Analysis

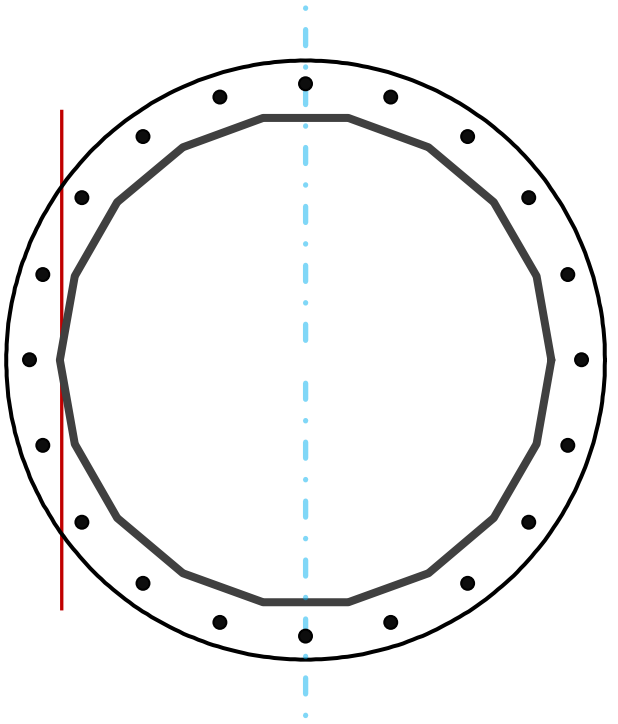
Pole Dimensions		
Number of Sides	18	-
Diameter	62	in
Thickness	0.5	in
Orientation Offset		°

Base Reactions		
Moment, Mu	2520.3	k-ft
Axial, Pu	58.0	k
Shear, Vu	26.0	k
Neutral Axis	90	°

Report Capacities		
Component	Capacity	Result
Base Plate	42%	Pass
Anchor Rods	34%	Pass
Dwyidag	-	-

Base Plate		
Shape	Round	-
Diameter, ø	77	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	d	η=0.5
Clear Distance	3	in
Applied Moment, Mu	827.8	k
Bending Stress, ϕMn	1981.0	k

Original Anchor Rods		
Arrangement	Radial	-
Quantity	20	-
Diameter, ø	2 1/4	in
Bolt Circle	71	in
Grade	A615-75	
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Spacing	11.2	in
Orientation Offset		°
Applied Force, Pu	88.1	k
Anchor Rods, ϕPn	259.8	k



Calculations for Monopole Base Plate & Anchor Rod Analysis

Reaction Distribution

Reaction	Shear Vu	Moment Mu	Factor
-	k	k-ft	-
Base Forces	26.0	2520.3	1.00
Anchor Rod Forces	26.0	2520.3	1.00
Additional Bolt (Grp1) Forces	0.0	0.0	0.00
Additional Bolt (Grp2) Forces	0.0	0.0	0.00
Dywidag Forces	0.0	0.0	0.00
Stiffener Forces	0.0	0.0	0.00

Geometric Properties

Section	Gross Area	Net Area	Individual Inertia	Threads per Inch	Moment of Inertia
-	in^2	in^2	in^4	#	in^4
Pole	96.1143	5.3397	0.4468		45449.07
Bolt	3.9761	3.2477	0.8393	4.5	40945.79
Bolt1	0.0000	0.0000	0.0000	0	0.00
Bolt2	0.0000	0.0000	0.0000	0	0.00
Dywidag	0.0000	0.0000	0.0000		0.00
Stiffener	0.0000	0.0000	0.0000		0.00

Base Plate

Shape	Round	-
Diameter, D	77	in
Thickness, t	2	in
Yield Strength, Fy	60	ksi
Tensile Strength, Fu	75	ksi
Base Plate Chord	45.662	in
Detail Type	d	-
Detail Factor	0.50	-
Clear Distance	3	-

External Base Plate

Chord Length AA	39.079	in
Additional AA	4.000	in
Section Modulus, Z	43.079	in^3
Applied Moment, Mu	827.8	k-ft
Bending Capacity, ϕMn	2326.3	k-ft
Capacity, Mu/ϕMn	0.356	OK
Chord Length AB	37.506	in
Additional AB	4.000	in
Section Modulus, Z	41.506	in^3
Applied Moment, Mu	704.9	k-ft
Bending Capacity, ϕMn	2241.3	k-ft
Capacity, Mu/ϕMn	0.315	OK
Bend Line Length	36.686	in
Additional Bend Line	0.000	in
Section Modulus, Z	36.686	in^3
Applied Moment, Mu	827.8	k-ft
Bending Capacity, ϕMn	1981.0	k-ft
Capacity, Mu/ϕMn	0.418	OK

Internal Base Plate

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

Anchor Rods

Anchor Rod Quantity, N	20	-
Rod Diameter, d	2.25	in
Bolt Circle, BC	71	in
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	88.1	k
Applied Shear, Vu	0.0	k
Compressive Capacity, ϕPn	259.8	k
Tensile Capacity, ϕRnt	0.339	OK
Interaction Capacity	0.339	OK

Additional Bolt Group 1

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

Additional Bolt Group 2

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

Dywidag Reinforcement

Dywidag Quantity, N	0	-
Dywidag Diameter, d	2.5	in
Bolt Circle, BC	68.88	in
Yield Strength, Fy	80	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	0.0	k
Compressive Capacity, ϕPn	0.0	k
Capacity, Pu/ϕPn		

Base Plate Stiffeners

Applied Axial Force, Pu	0.0	k
Applied Horizontal Force, Vu	0.00	k

Vertical Weld

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

Horizontal Weld

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

Plate Tension

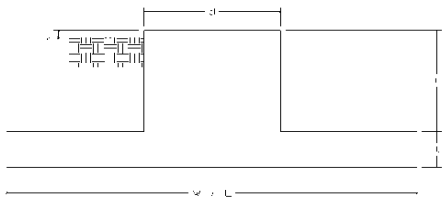
Gross Cross Section	0.000	in^2
Net Cross Section	0.000	in^2
Tensile Capacity, ϕTn	0.0	k
Capacity, Tu/ϕTn		

Plate Compression

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

Site Name:	CRANBURYSU CT, CT
Site Number:	411189
Engineering Number:	OAA736471
Engineer:	Parvin.NikpoorParizi
Date:	07/27/18
Tower Type:	MP

Program Last Updated: *5/13/2014*



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

Design / Analysis / Mapping:	Analysis				
Compression/Leg:	58.0	k	Concrete Strength (f'_c):	4000	psi
Uplift/Leg:	0.0	k	Pad Tension Steel Depth:	32.00	in
Total Shear:	26.0	k	ϕ_{Shear}:	0.75	
Moment:	2520.0	k-ft	$\phi_{Flexure\ /\ Tension}$:	0.90	
Tower + Appurtenance Weight:	57.4	k	$\phi_{Compression:}$	0.65	
Depth to Base of Foundation (l + t - h):	4.50	ft	β:	0.85	
Diameter of Pier (d):	9.02	ft	Bottom Pad Rebar Size #:	8	
Height of Pier above Ground (h):	1.00		# of Bottom Pad Rebar:	44	
Width of Pad (W):	29.50	ft	Pad Bottom Steel Area:	34.76	in^2
Length of Pad (L):	29.50	ft	Pad Steel F_y:	60000	psi
Thickness of Pad (t):	3.00	ft	Top Pad Rebar Size #:	8	
Tower Leg Center to Center:	0.00	ft	# of Top Pad Rebar:	28	
Number of Tower Legs:	1.0	(1 if MP or GT)	Pad Top Steel Area:	22.12	in^2
Tower Center from Mat Center:	0.00	ft	Pier Rebar Size #:	8	
Depth Below Ground Surface to Water Table:	6.00	ft	Pier Steel Area (Single Bar):	0.79	in^2
Unit Weight of Concrete:	150.0	pcf	# of Pier Rebar:	44	
Unit Weight of Soil Above Water Table:	100.0	pcf	Pier Steel F_y:	60000	psi
Unit Weight of Water:	62.4	pcf	Pier Cage Diameter:	100.2	in
Unit Weight of Soil Below Water Table:	37.6	pcf	Rebar Strain Limit:	0.008	
Friction Angle of Uplift:	15.0	Degrees	Steel Elastic Modulus:	29000	ksi
Ultimate Coefficient of Shear Friction:	0.60		Tie Rebar Size #:	4	
Ultimate Compressive Bearing Pressure:	6000.0	psf	Tie Steel Area (Single Bar):	0.20	in^2
Ultimate Passive Pressure on Pad Face:	0.0	psf	Tie Spacing:	8	in
$\phi_{Soil\ and\ Concrete\ Weight}$:	0.9		Tie Steel F_y:	60000	psi
ϕ_{Soil}:	0.75				

Overturning Moment Usage

Design OTM:	2662.9	k-ft
OTM Resistance:	7972.8	k-ft
Design OTM / OTM Resistance:	0.33	Result: OK

Soil Bearing Pressure Usage

Net Bearing Pressure:	1192	psf
Factored Nominal Bearing Pressure:	4500	psf
Net Bearing Pressure/Factored Nominal Bearing Pressure:	0.26	Result: OK
Load Direction Controling Design Bearing Pressure:	Diagonal to Pad Edge	

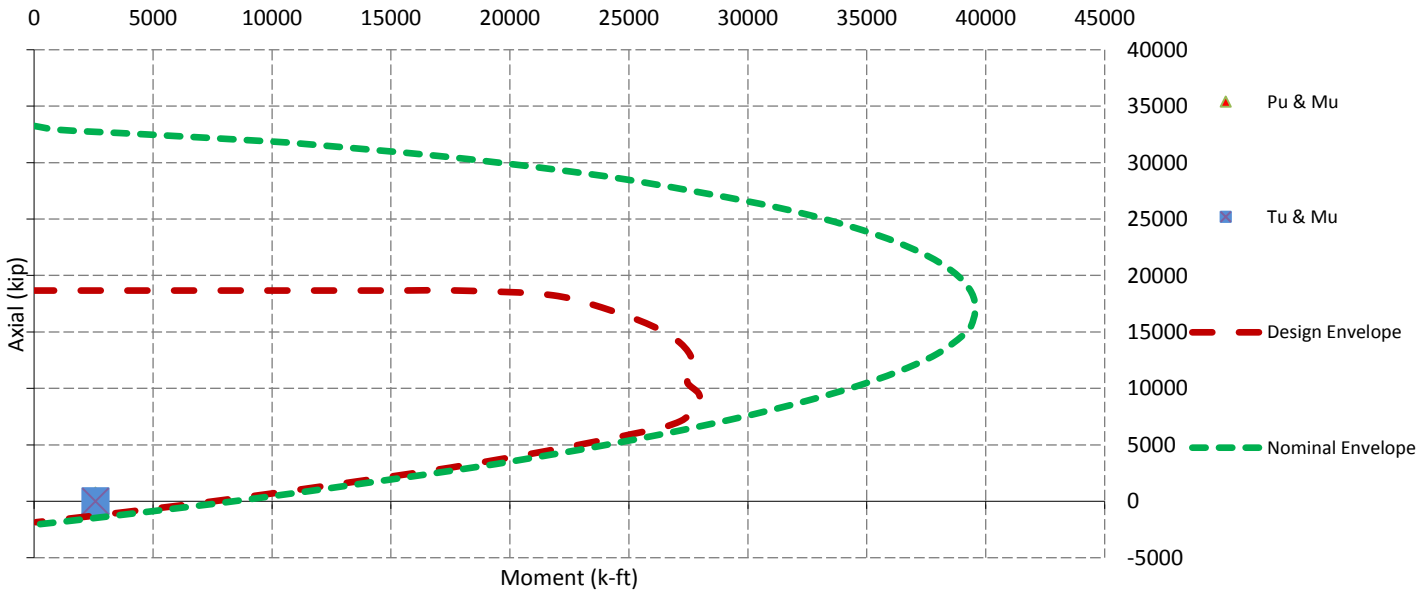
Sliding Factor of Safety

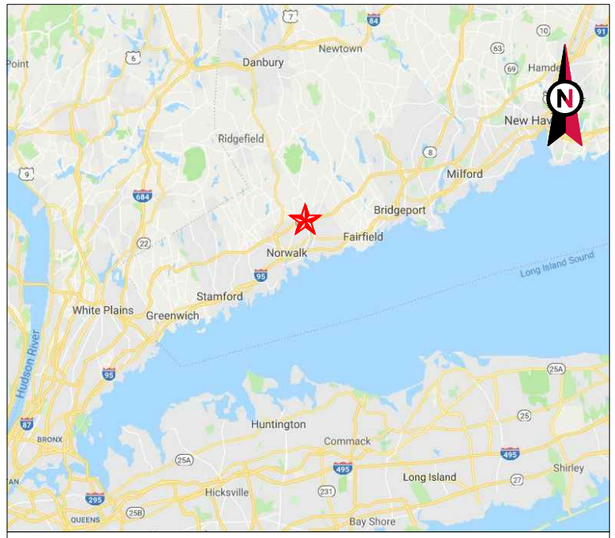
Total Factored Sliding Resistance:	263.0	k
Sliding Design / Sliding Resistance:	0.10	Result: OK

One Way Shear, Flexual Capacity, and Punching Shear

Factored One Way Shear (V_u):	180.9	k
One Way Shear Capacity (ϕV_c):	1074.7	k - ACI11.3.1.1
V_u / ϕV_c:	0.17	Result: OK
Load Direction Controling Shear Capacity:	Parallel to Pad Edge	
Lower Steel Pad Factored Moment (M_u):	1276.1	k-ft
Lower Steel Pad Moment Capacity (ϕM_n):	4890.2	k-ft - ACI10.3
M_u / ϕM_n:	0.26	Result: OK
Load Direction Controling Flexural Capacity:	Parallel to Pad Edge	
Upper Steel Pad Factored Moment (M_u):	551.1	k-ft
Upper Steel Pad Moment Capacity (ϕM_n):	3138.6	k-ft
M_u / ϕM_n:	0.18	Result: OK
Lower Pad Flexural Reinforcement Ratio:	0.0031	OK - Minimum Reinforcement Ratio Met - ACI10.5.1
Upper Pad Flexural Reinforcement Ratio:	0.0020	OK - Minimum Reinforcement Ratio Met - ACI10.5.1
Lower Pad Reinforcement Spacing:	8	in - Pad Reinforcing Spacing OK - ACI7.12.2.2 & 10.5.4
Upper Pad Reinforcement Spacing:	13	in - Pad Reinforcing Spacing OK - ACI7.12.2.2 & 10.5.4
Factored Punching Shear (V_u):	0.0	k
Nominal Punching Shear Capacity ($\phi_c V_n$):	2675.0	k - ACI11.12.2.1
V_u / ϕV_c:	0.00	Result: OK
Factored Moment in Pier (M_u):	2584.9	k-ft
Pier Moment Capacity (ϕM_n):	7667.0	k-ft
M_u / ϕM_n:	0.34	Result: OK
Factored Shear in Pier (V_u):	26.0	k
Pier Shear Capacity (ϕV_n):	875.7	k
V_u / ϕV_c:	0.03	Result: OK
Pier Shear Reinforcement Ratio:	0.0002	No Ties Necessary for Shear - ACI11.5.6.1
Factored Tension in Pier (T_u):	0.0	k
Pier Tension Capacity (ϕT_n):	1877.0	k
T_u / ϕT_n:	0.00	Result: OK
Factored Compression in Pier (P_u):	58.0	k
Pier Compression Capacity (ϕP_n):	16207.1	k - ACI10.3.6.2
P_u / ϕP_n:	0.00	Result: OK
$M_u/\phi_B M_n + T_u/\phi_T T_n$:	0.34	Result: OK

Nominal and Design Moment Capacity and Factored Design Loads



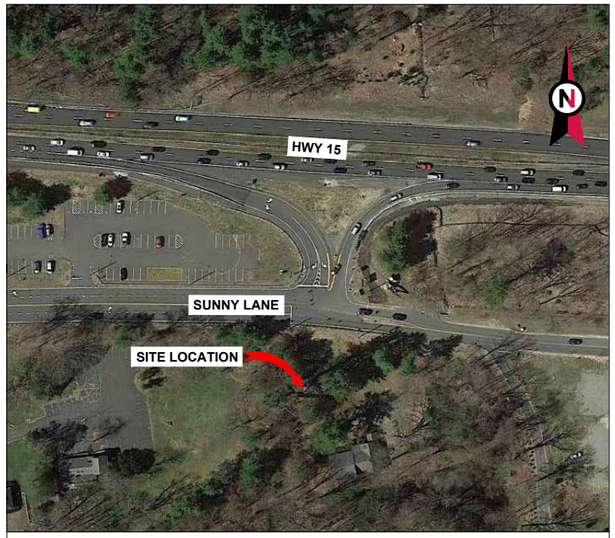


VICINITY MAP

AMERICAN TOWER®

ATC SITE NAME: CRANBURYSU CT
ATC SITE NUMBER: 411189
T-MOBILE SITE ID: CT11075C
SITE ADDRESS: 2 SUNNY LANE
WESTPORT, CT 06880

T-MOBILE ANTENNA AMENDMENT
67D92DB OUTDOOR CONFIGURATION



LOCATION MAP

COMPLIANCE CODE

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

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

UTILITY COMPANIES

POWER COMPANY: EVERSOURCE
PHONE: (888) 783-6617

TELEPHONE COMPANY: AT&T
PHONE: (866) 593-1383

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

PROJECT SUMMARY

SITE ADDRESS:

2 SUNNY LANE
WESTPORT, CT 06880
COUNTY: FAIRFIELD

GEOGRAPHIC COORDINATES:

LATITUDE: 41.162917

LONGITUDE: -73.373083

GROUND ELEVATION: 51' 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:

AMERICAN TOWER
116 HUNTINGTON AVE
BOSTON, MA 02116

APPLICANT:

T-MOBILE
103 MONARCH DRIVE
LIVERPOOL, NY 13088

CARRIER CONTACT:

PETE BERIE
(315) 263-1882

PROJECT DESCRIPTION

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

REMOVE (6) PANELS, (3) RRUs, (3) 1-5/8" COAX CABLES AND (1) 7/8" HYBRID CABLE

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

EXISTING (6) PANELS, (3) TTAs, (9) 1-5/8" COAX CABLES AND (6) 7/8" 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 NEW HAVEN, CT:

HEAD SOUTHWEST ON I-95 S, TAKE EXIT 16 TOWARD EAST NORWALK 0.1 MI, TURN RIGHT ONTO EAST AVE (SIGNS FOR U.S. 1) 1.2 MI, CONTINUE ONTO NEWTOWN AVE 1.4 MI, TURN RIGHT ONTO PARTRICK AVE 1.7 MI, TURN LEFT ONTO WILTON RD 0.3 MI, TURN RIGHT ONTO SUNNY LN 0.1 MI

SHEET INDEX

SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
G-001	TITLE SHEET	1	09/06/18	SF
G-002	GENERAL NOTES	0	08/29/18	SRF
C-101	DETAILED SITE PLAN & TOWER ELEVATION	1	09/06/18	SF
C-501	ANTENNA INFORMATION & SCHEDULE	1	09/06/18	SF
E-501	GROUNDING DETAILS	1	09/06/18	SF
E-502	ONE-LINE DIAGRAM	1	09/06/18	SF
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	SRF	08/29/18
1	CARRIER COMMENTS	SF	09/06/18

ATC SITE NUMBER:
411189

ATC SITE NAME:
CRANBURYSU CT

SITE ADDRESS:
2 SUNNY LANE
WESTPORT, CT 06880

SEAL:

T-Mobile

DRAWN BY:	SRF
APPROVED BY:	KRF
DATE DRAWN:	08/29/18
ATC JOB NO:	12607173

TITLE SHEET

SHEET NUMBER: G-001

REVISION: 1

GENERAL CONSTRUCTION NOTES:

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

STRUCTURAL STEEL NOTES:

1. STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITION OF THE AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS."
2. STRUCTURAL STEEL ROLLED SHAPES, PLATES AND BARS SHALL CONFORM TO THE FOLLOWING ASTM DESIGNATIONS:
   A. ASTM A-572, GRADE 50 - ALL W SHAPES, UNLESS NOTED OR A992 OTHERWISE
   B. ASTM A-36 - ALL OTHER ROLLED SHAPES, PLATES AND BARS UNLESS NOTED OTHERWISE.
   C. ASTM A-500, GRADE B - HSS SECTION (SQUARE, RECTANGULAR, AND ROUND)
   D. ASTM A-325, TYPE SC OR N - ALL BOLTS FOR CONNECTING STRUCTURAL MEMBERS
   E. ASTM F-1554 07 - ALL ANCHOR BOLTS, UNLESS NOTED OTHERWISE
3. ALL EXPOSED STRUCTURAL STEEL MEMBERS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION PER ASTM A123. EXPOSED STEEL HARDWARE AND ANCHOR BOLTS SHALL BE GALVANIZED PER ASTM A153 OR B695.
4. ALL FIELD CUT SURFACES, FIELD DRILLED HOLES AND GROUND SURFACES WHERE EXISTING PAINT OR GALVANIZATION REMOVAL WAS REQUIRED SHALL BE REPAIRED WITH (2) BRUSHED COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.
5. DO NOT DRILL HOLES THROUGH STRUCTURAL STEEL MEMBERS EXCEPT AS SHOWN AND DETAILED ON STRUCTURAL DRAWINGS.
6. CONNECTIONS:
   A. ALL WELDING TO BE PERFORMED BY AWS CERTIFIED WELDERS AND CONDUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1.
   B. ALL WELDS SHALL BE INSPECTED VISUALLY. 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. REPAIR ALL WELDS AS NECESSARY.
   C. INSPECTION SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.
   D. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE BURNING/WELDING PERMITS AS REQUIRED BY LOCAL GOVERNING AUTHORITY AND IF REQUIRED SHALL HAVE FIRE DEPARTMENT DETAIL FOR ANY WELDING ACTIVITY.
   E. ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL, PER AWS D1.1, UNLESS NOTED OTHERWISE.
   F. MINIMUM WELD SIZE TO BE 0.1875 INCH FILLET WELDS, UNLESS NOTED OTHERWISE.
   G. PRIOR TO FIELD WELDING GALVANIZING MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING ½" BEYOND ALL FIELD WELD SURFACES. AFTER WELD AND WELD INSPECTION IS COMPLETE, REPAIR ALL GROUND AND WELDED SURFACES WITH ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.

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COA: PEC.0001553

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

ATC SITE NUMBER:
411189

ATC SITE NAME:
CRANBURYSU CT

SITE ADDRESS:
2 SUNNY LANE
WESTPORT, CT 06880

SEAL:

T-Mobile

DRAWN BY:	SRF
APPROVED BY:	KRF
DATE DRAWN:	08/29/18
ATC JOB NO:	12607173

GENERAL NOTES

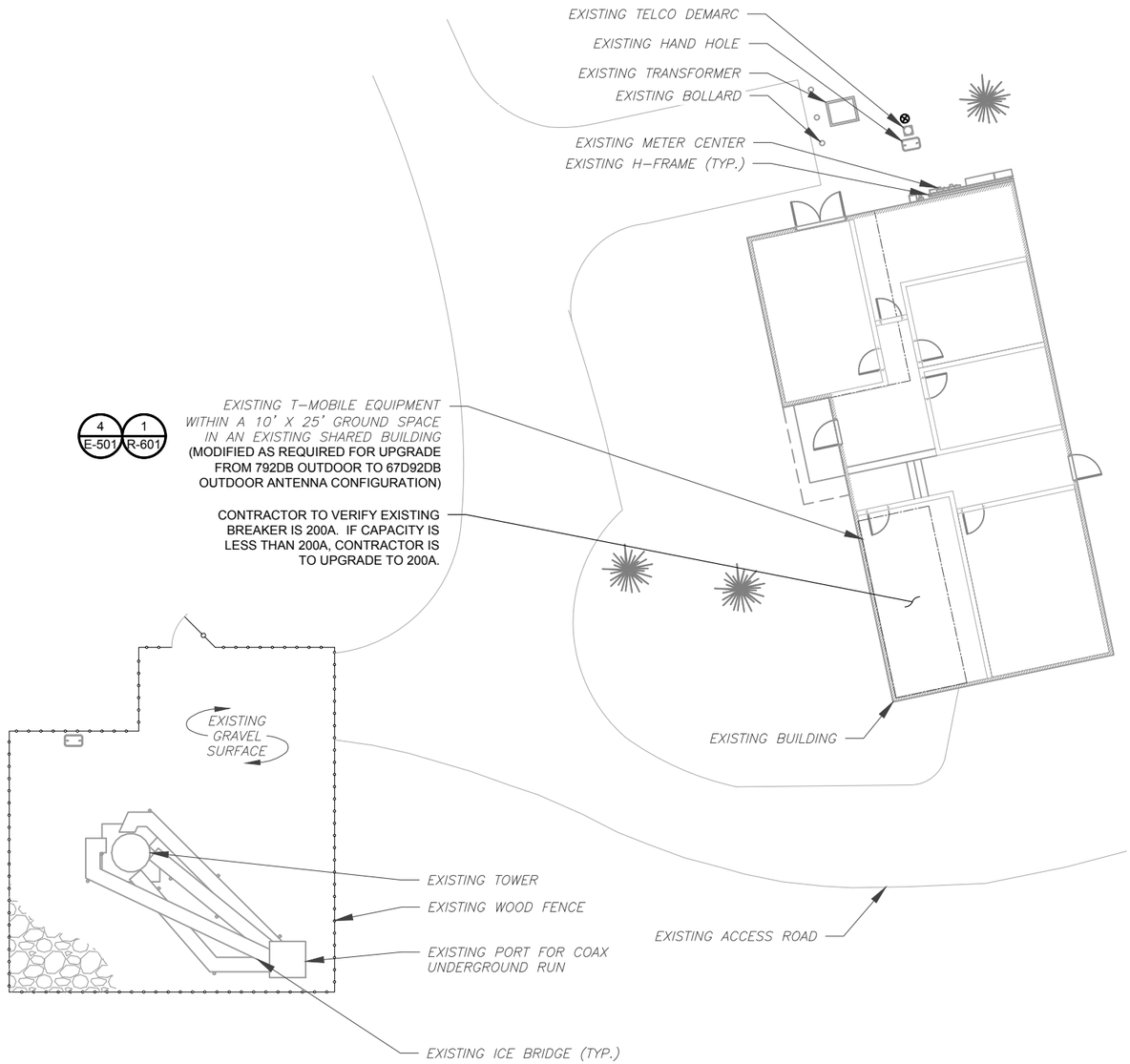
SHEET NUMBER:	REVISION:
G-002	0

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.

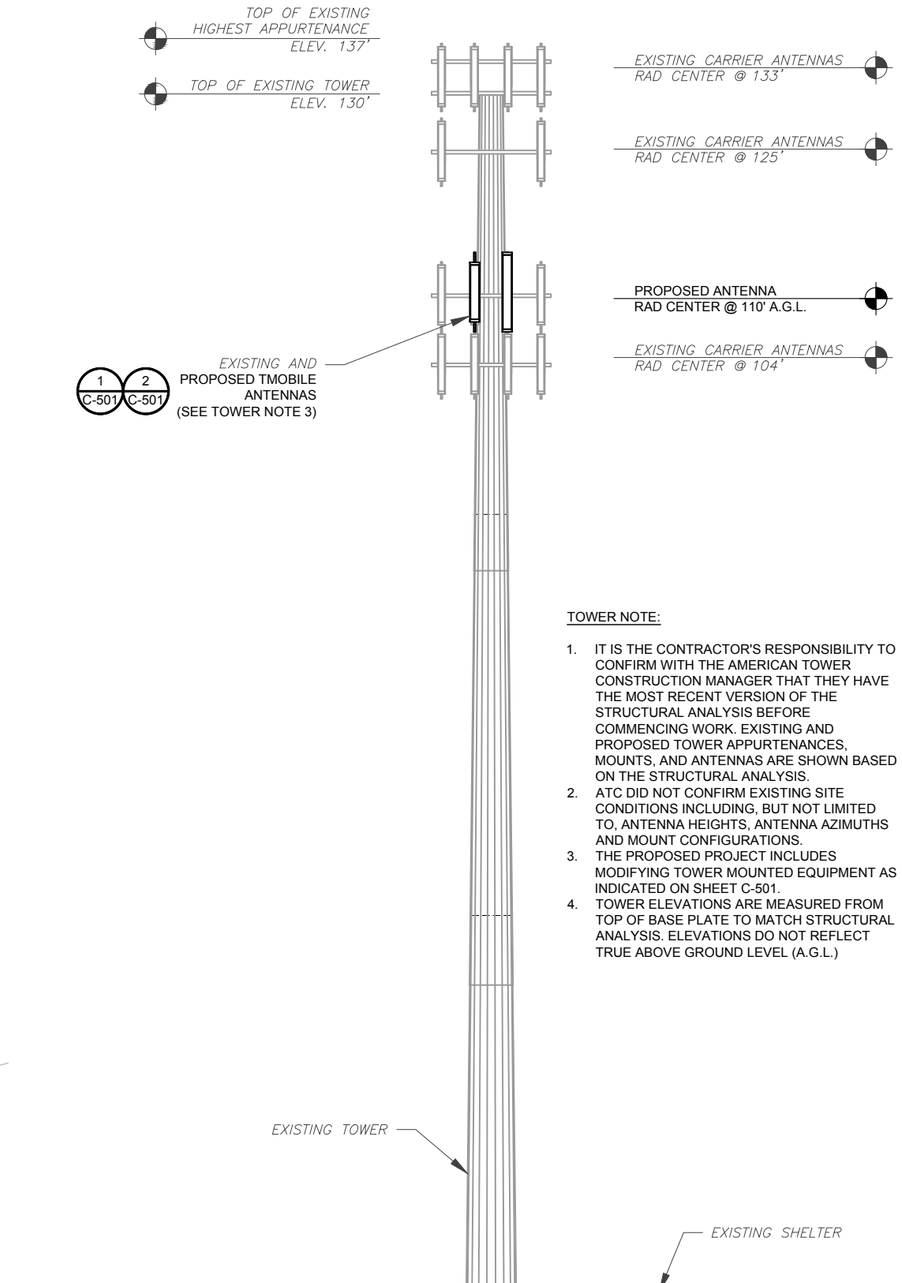
3. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE T-MOBILE REPRESENTATIVE AND LOCAL UTILITY COMPANY FOR THE INSTALLATION OF CONDUITS, CONDUCTORS, BREAKERS, DISCONNECTS, OR ANY OTHER EQUIPMENT REQUIRED FOR ELECTRICAL SERVICE. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH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



1 DETAILED SITE PLAN

0 10' 20'

SCALE: 1"=10' (11X17)
1"=5' (22X34)



TOWER NOTE:

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

2 TOWER ELEVATION
SCALE: NOT TO SCALE

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0	FOR CONSTRUCTION	SRF	08/29/18
1	CARRIER COMMENTS	SF	09/06/18

ATC SITE NUMBER:
411189

ATC SITE NAME:
CRANBURYSU CT

SITE ADDRESS:
2 SUNNY LANE
WESTPORT, CT 06880

SEAL:

T-Mobile

DRAWN BY:	SRF
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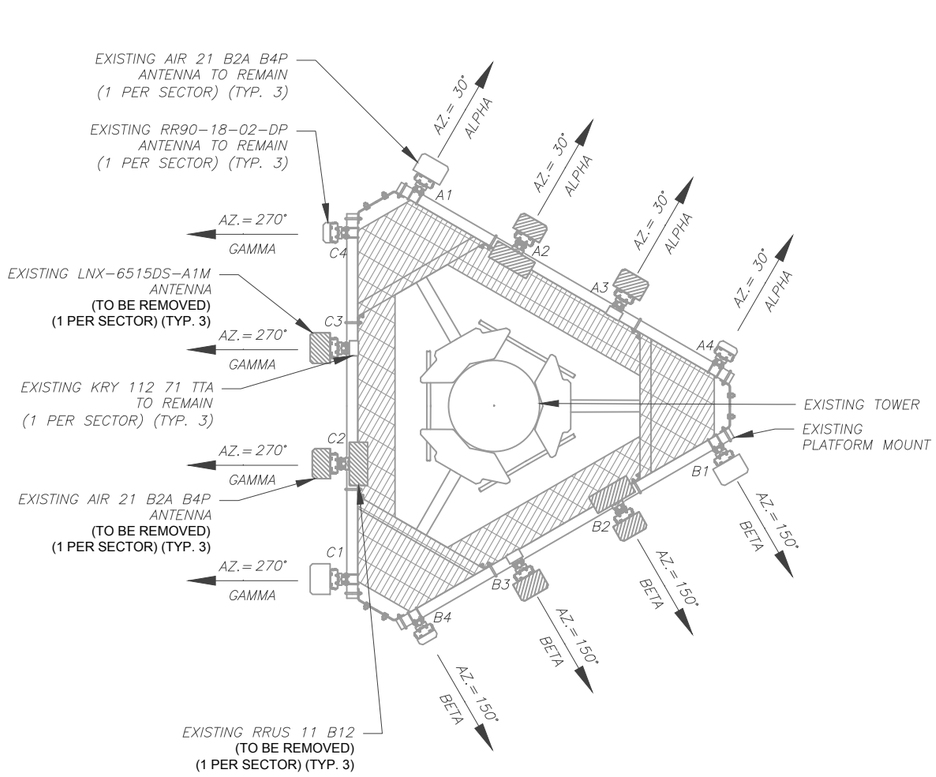
ATC JOB NO:	12607173

DETAILED SITE PLAN & TOWER ELEVATION

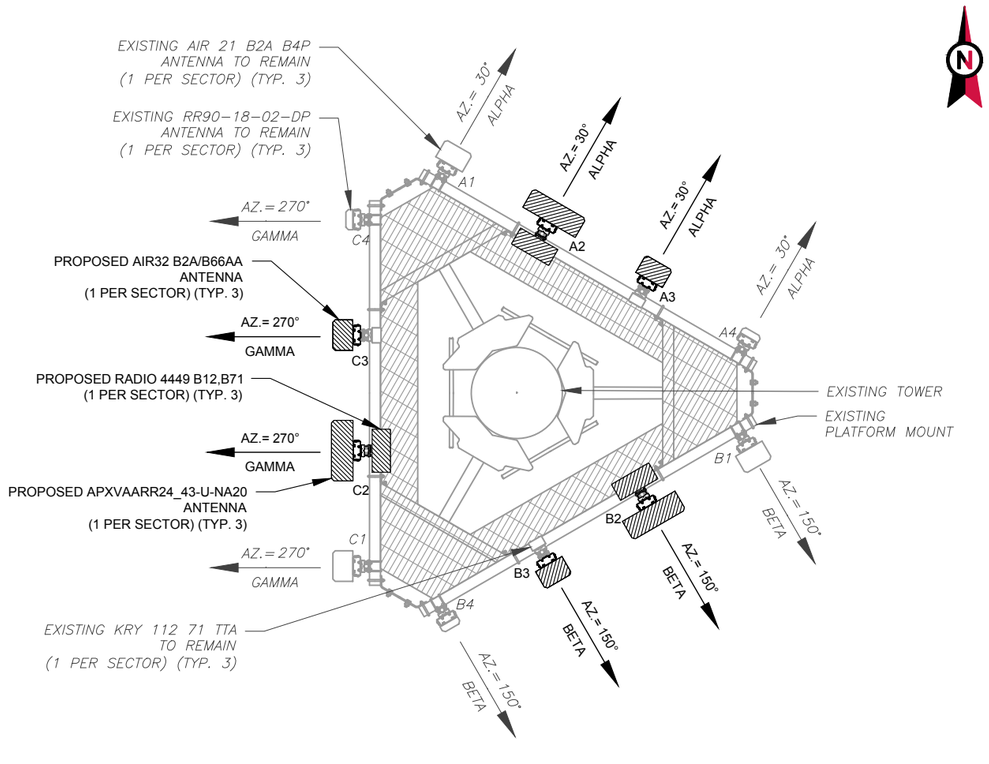
SHEET NUMBER:	REVISION:
C-101	1



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	110'-0"	30°	0°	3°	–	(2) 7/8"
ALPHA	A2	LNX-6515DS-A1M	110'-0"	30°	0°	3°	RRUS11 B12	–
ALPHA	A3	AIR 21 B2A B4P	110'-0"	30°	0°	3°	KRY 112 71	–
ALPHA	A4	RR90-18-02-DP	110'-0"	30°	0°	–	–	(4) 1-5/8"
BETA	B1	AIR 21 B2A B4P	110'-0"	150°	0°	6°	–	(2) 7/8"
BETA	B2	LNX-6515DS-A1M	110'-0"	150°	0°	2°	RRUS11 B12	–
BETA	B3	AIR 21 B2A B4P	110'-0"	150°	0°	6°	KRY 112 71	–
BETA	B4	RR90-18-02-DP	110'-0"	150°	0°	–	–	(4) 1-5/8"
GAMMA	C1	AIR 21 B2A B4P	110'-0"	270°	0°	2°	–	(2) 7/8"
GAMMA	C2	LNX-6515DS-A1M	110'-0"	270°	0°	2°	RRUS11 B12	–
GAMMA	C3	AIR 21 B2A B4P	110'-0"	270°	0°	2°	KRY 112 71	–
GAMMA	C4	RR90-18-02-DP	110'-0"	270°	0°	–	–	(4) 1-5/8"

1. (1) EXISTING 7/8" HYBRID CABLE (TO BE REMOVED)
2. (3) EXISTING 1-5/8" COAX CABLES (TO BE REMOVED)

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	110'-0"	30°	0°	3°	KRY 112 71	(2) 7/8"
ALPHA	A2	APXVAARR24_43-U-NA20	110'-0"	30°	-	-	RADIO 4449 B12,B71	-
ALPHA	A3	AIR32 B2A/B66AA	110'-0"	30°	-	-	–	-
ALPHA	A4	RR90-18-02-DP	110'-0"	30°	0°	–	–	(3) 1-5/8"
BETA	B1	AIR 21 B2A B4P	110'-0"	150°	0°	6°	KRY 112 71	(2) 7/8"
BETA	B2	APXVAARR24_43-U-NA20	110'-0"	150°	-	-	RADIO 4449 B12,B71	-
BETA	B3	AIR32 B2A/B66AA	110'-0"	150°	-	-	–	-
BETA	B4	RR90-18-02-DP	110'-0"	150°	0°	–	–	(3) 1-5/8"
GAMMA	C1	AIR 21 B2A B4P	110'-0"	270°	0°	2°	KRY 112 71	(2) 7/8"
GAMMA	C2	APXVAARR24_43-U-NA20	110'-0"	270°	-	-	RADIO 4449 B12,B71	-
GAMMA	C3	AIR32 B2A/B66AA	110'-0"	270°	-	-	–	-
GAMMA	C4	RR90-18-02-DP	110'-0"	270°	0°	–	–	(3) 1-5/8"

1. BASED ON APPROVED ATC APPLICATION 12605192, DATED 08-15-2018. CONFIRM WITH T-MOBILE REP FOR APPLICABLE UPDATES/REVISIONS AND MOST RECENT RFDS.
2. (3) PROPOSED 1-1/4" HYBRID CABLES

3 ANTENNA SCHEDULE

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SUITE 100
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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	SRF	08/29/18
1	CARRIER COMMENTS	SF	09/06/18

ATC SITE NUMBER:
411189

ATC SITE NAME:
CRANBURYSU CT

SITE ADDRESS:
2 SUNNY LANE
WESTPORT, CT 06880

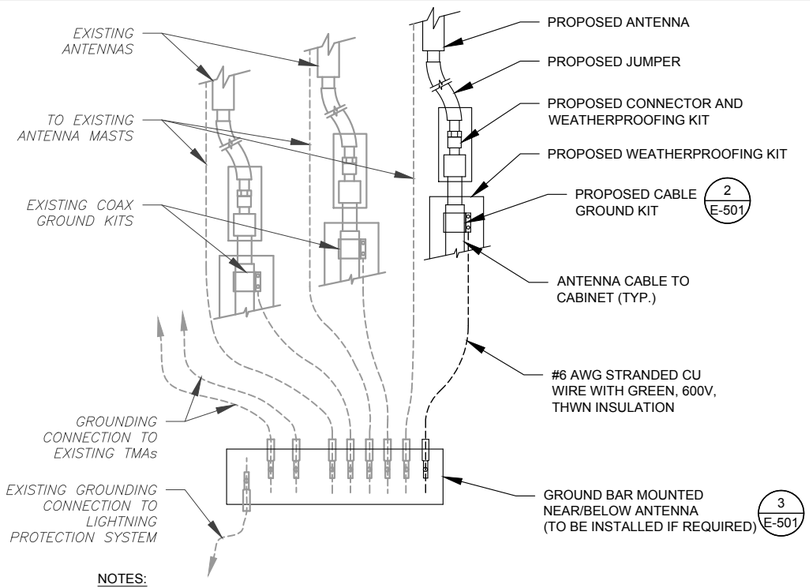
SEAL:

T-Mobile

DRAWN BY:	SRF
APPROVED BY:	KRF
DATE DRAWN:	08/29/18
ATC JOB NO:	12607173

ANTENNA INFORMATION & SCHEDULE

SHEET NUMBER:	REVISION:
C-501	1

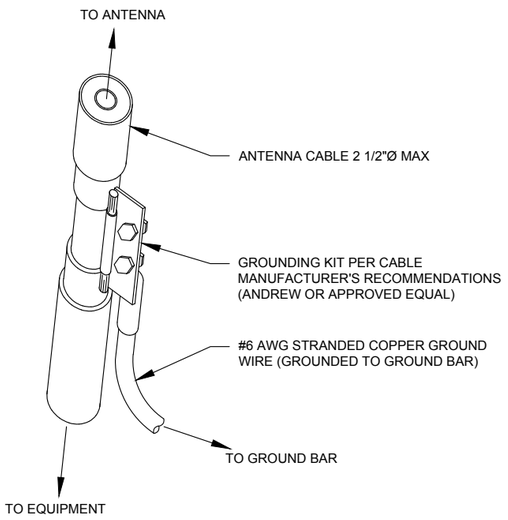


NOTES:

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

1 TYPICAL ANTENNA GROUNDING DIAGRAM

SCALE: NOT TO SCALE

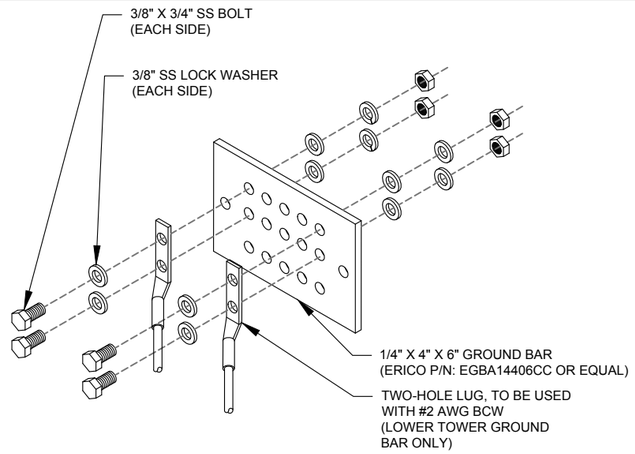


GROUND KIT NOTES:

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

2 CABLE GROUND KIT CONNECTION DETAIL

SCALE: NOT TO SCALE



GROUND BAR NOTES:

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

3 TOWER GROUND BAR DETAIL

SCALE: NOT TO SCALE

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ATC SITE NUMBER:
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SITE ADDRESS:
2 SUNNY LANE
WESTPORT, CT 06880

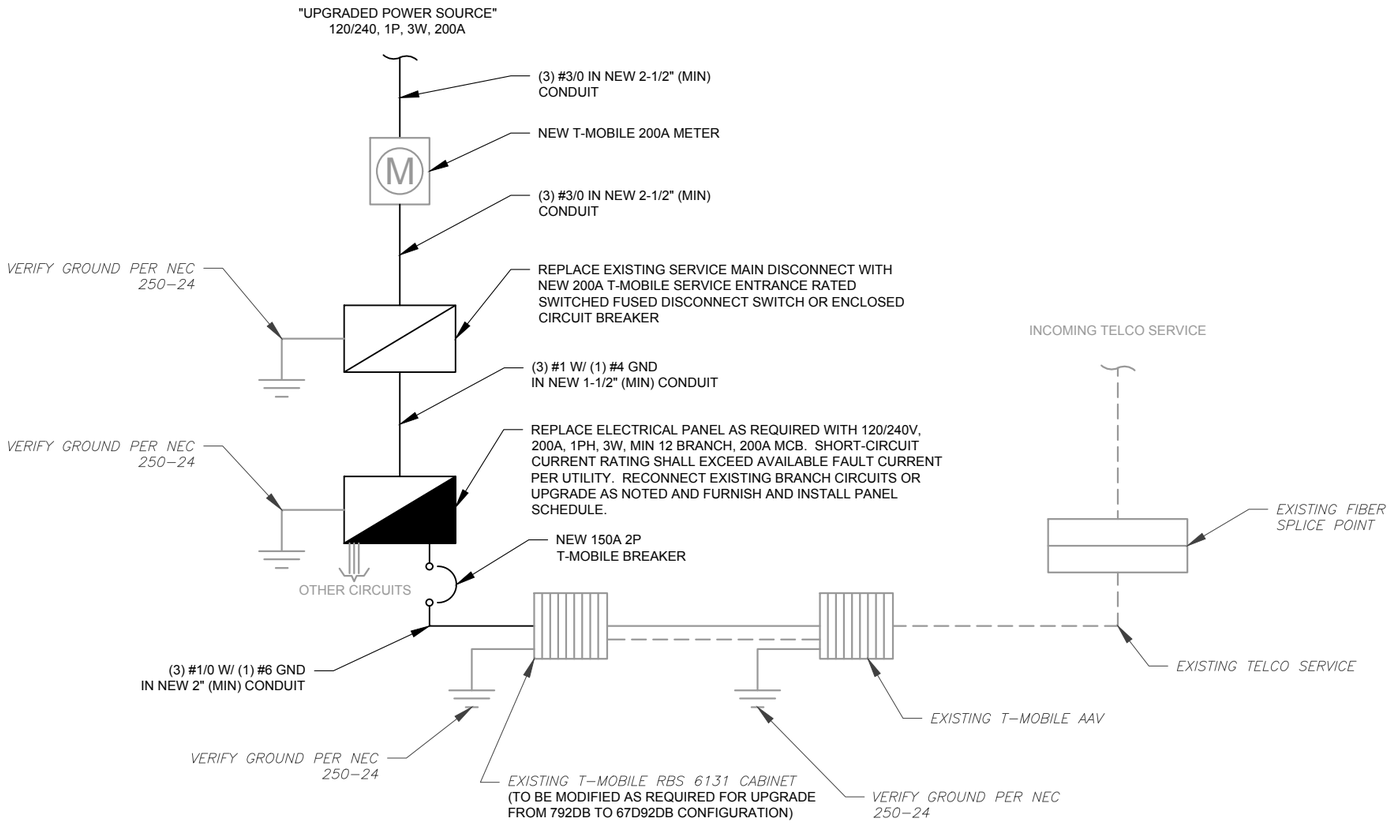
SEAL:

T-Mobile

DRAWN BY:	SRF
APPROVED BY:	KRF
DATE DRAWN:	08/29/18
ATC JOB NO:	12607173

GROUNDING DETAILS

SHEET NUMBER:	REVISION:
E-501	1



1 ELECTRICAL AND TELCO ONE-LINE DIAGRAM

SCALE: NOT TO SCALE

NOTES:

1. ALL ELECTRICAL WORK SHALL BE DONE IN ACCORDANCE WITH CURRENT NATIONAL ELECTRIC CODES AND ALL LOCAL AND STATE CODES, LAWS, AND ORDINANCES. PROVIDE ALL COMPONENTS AND WIRING SIZES AS REQUIRED TO MEET NEC.
2. EXTERIOR CONDUIT: UNDERGROUND POWER AND BACKHAUL SERVICE LINES SHALL BE ROUTED IN A COMMON TRENCH. ALL UNDERGROUND CONDUIT SHALL BE PVC SCHEDULE 40 AND CONDUIT EXPOSED ABOVE GROUND SHALL BE RIGID GALVANIZED STEEL UNLESS OTHERWISE INDICATED. POWER CONDUIT LINES SHALL BE SIZED AS REQUIRED PER CABLE SIZING AND NEC.
3. INTERIOR CONDUIT: ALL CIRCUITS SHALL CONSIST OF PULLED CONDUCTORS IN EMT. WHEN REQUIRED TO CONNECT INTO EQUIPMENT. FLEXIBLE METALLIC CONDUIT SHALL BE ALLOWED PROVIDED THAT IT DOES NOT EXCEED 3' IN LENGTH. FLEXIBLE METAL CONDUIT SHALL BE GROUNDED IN ACCORDANCE WITH THE APLICABLE CODE.
4. CLASSIFIED "DAMP" OR "WET" LOCATION: ALL CIRCUITS SHALL CONSIST OF PULLED CONDUCTORS IN RMC CONDUIT. CONNECTIONS TO COMMUNICATION CABINET AND VIVRATING EQUIPMENT SHALL CONSIST OF PULLED CONDUCTORS IN LIQUID TIGHT FLEXIBLE STEEL CONDUIT, MAXIMUM 6' IN LENGTH. LIQUID TIGHT FLEXIBLE STEEL CONDUIT SHALL BE GROUNDED IN ACCORDANCE WITH THE APPLICABLE CODE.
5. CONTRACTOR SHALL PROVIDE A TEMPORARY SHUNT WHEN REQUIRED. SHUNT SHALL BE THROUGH METERING DEVICE WHEN APPLICABLE IF ALLOWED BY UTILITY SERVICE CO.
6. COORDINATE ALL DISCONNECTS AND INTERRUPTIONS OF ELECTRICAL SERVICE WITH OWNER. A TIMETABLE OF INTERRUPTIONS AND SHUTDOWNS SHALL BE SUBMITTED TO THE OWNER FOR APPROVAL NO LATER THAN ONE WEEK BEFORE INTERRUPTIONS ARE SCHEDULED. FORTY EIGHT HOURS PRIOR CONTRACTOR SHALL NOTIFY ALL INVOLVED PARTIES.

LEGEND

- EXISTING POWER CONDUIT
- NEW POWER CONDUIT
- EXISTING TELCO CONDUIT
- NEW TELCO CONDUIT
- ELECTRICAL BREAKER
- ELECTRICAL METER
- ELECTRICAL GROUNDING
- ELECTRICAL SINK
- INCOMING TELCO SERVICE
- DISCONNECT

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DRAWN BY:	SRF
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ONE-LINE DIAGRAM

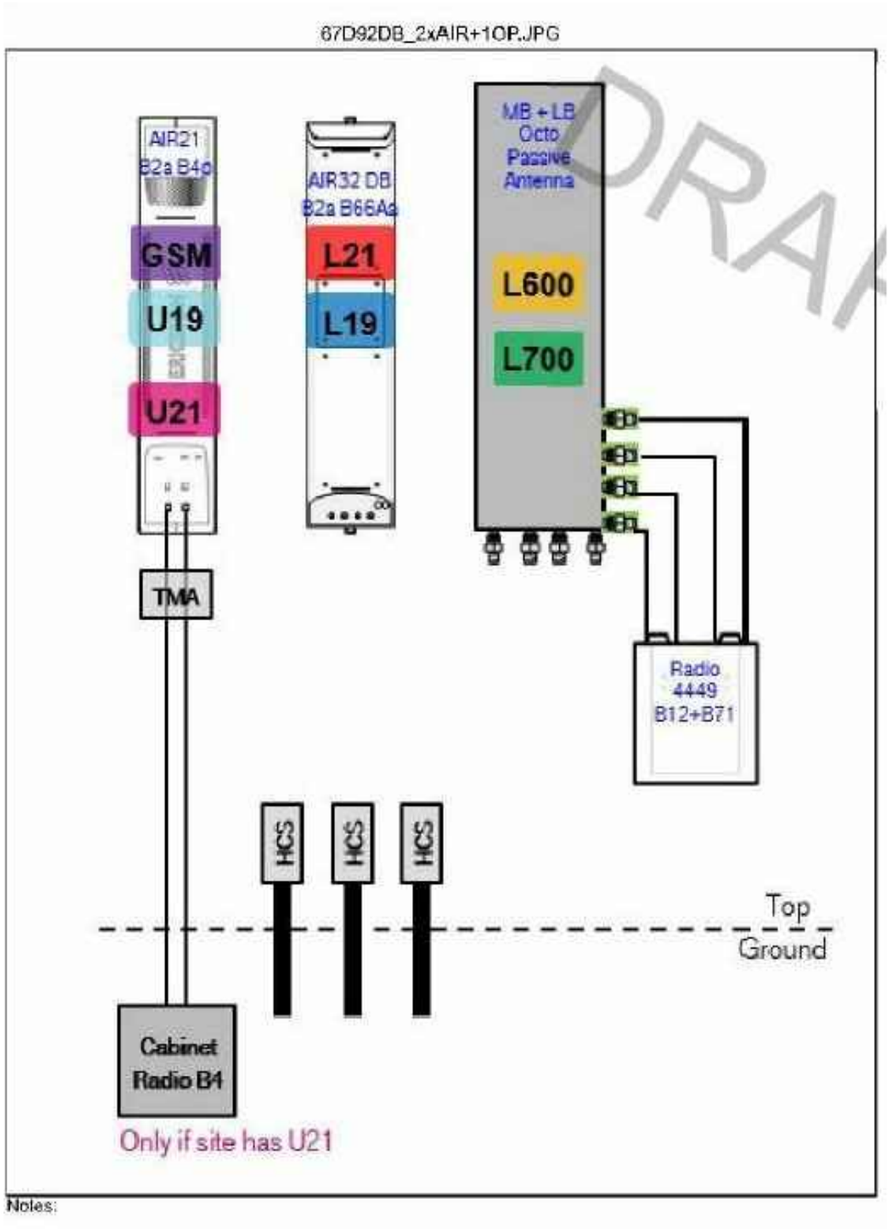
SHEET NUMBER:	REVISION:
E-502	1

Section 5 - RAN Equipment

Existing RAN Equipment		
Template: 792DB Outdoor		
Enclosure	1	2
Enclosure Type	RBS 6131	S12000 Outdoor
Baseband	DUW30 (U1900 (DECOMMISSIONED)) DUG20 (G1900) DUW30 (U2100) DUS41 (L2100, L1900) RBS6601 (x2)	
Multiplexer	XMU (L2100, L1900, L700)	
Radio	RUS01 B4 (x6)	

Proposed RAN Equipment		
Template: 67D92DB Outdoor		
Enclosure	1	2
Enclosure Type	RBS 6131	S12000 Outdoor
Baseband	DUW30 (U1900 (DECOMMISSIONED)) DUW30 (U2100) DUG20 (G1900) BB 5216 (L2100, L1900, L700, L600)	
Hybrid Cable System		Ericsson 6x12 HCS 4AWG 110m (x3)
Multiplexer	XMU	
Radio	RU22 (x6) (U2100)	
RAN Scope of Work:		

1 CABINET CONFIGURATION
SCALE: NOT TO SCALE



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: Wednesday, September 26, 2018 11:07 AM
To: krichers@transcendwireless.com
Subject: UPS Delivery Notification, Reference Number 1: CT11075C ATC

Your package has been delivered.

Delivery Date: Wednesday, 09/26/2018
Delivery Time: 11:01 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:	1ZV257424299452701
Ship To:	American Tower Corporation 10 PRESIDENTIAL WAY WOBURN, MA 01801 US
UPS Service:	UPS GROUND
Number of Packages:	1
Weight:	1.0 LBS
Delivery Location:	RECEIVER ANCRI
Signature Required:	A signature is required for package delivery
Reference Number 1:	CT11075C ATC

Download the UPS mobile app

Kyle Richers

From: UPS Quantum View <pkginfo@ups.com>
Sent: Tuesday, September 25, 2018 9:57 AM
To: krichers@transcendwireless.com
Subject: UPS Delivery Notification, Reference Number 1: CT11075C zoning

Your package has been delivered.

Delivery Date: Tuesday, 09/25/2018
Delivery Time: 09:53 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:	1ZV257424295332722
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:	CT11075C zoning

Download the UPS mobile app

Kyle Richers

From: UPS Quantum View <pkginfo@ups.com>
Sent: Tuesday, September 25, 2018 9:57 AM
To: krichers@transcendwireless.com
Subject: UPS Delivery Notification, Reference Number 1: CT11075C selectmen

Your package has been delivered.

Delivery Date: Tuesday, 09/25/2018
Delivery Time: 09:53 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:	1ZV257424299882710
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:	CT11075C selectmen

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U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
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ADDISON, TX 75001

OFFICIAL USE

Certified Mail Fee $3.45 $ $2.75	0690 14
Extra Services & Fees *(check box, add fee as appropriate)* ☐ Return Receipt (hardcopy) $ $0.00 ☐ Return Receipt (electronic) $ $0.00 ☐ Certified Mail Restricted Delivery $ $0.00 ☐ Adult Signature Required $ $0.00 ☐ Adult Signature Restricted Delivery $	Postmark Here SEP 24 2018 USPS 09/24/2018
Postage $1.63 $	
Total Postage and Fees $7.83 $	

Sent To Cellco Partnership

Street and Apt. No., or PO Box No. PO Box 2549

City, State, ZIP+4® Addison, TX 75001

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