



July 1<sup>st</sup>, 2019

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

**Re:** Notice of Exempt Modification – Antenna and RRU Add  
**Property Address:** 14 Canton Springs Road, Canton, CT 06019  
**Applicant:** AT&T Mobility, LLC

Dear Ms. Bachman:

On behalf of AT&T, please accept this application as notification pursuant to R.C.S.A. §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. §16- 50j-72(b) (2).

AT&T currently maintains a wireless telecommunications facility consisting of twelve (12) wireless telecommunication antennas at an antenna center line height of 130-feet on an existing 140-foot monopole, owned by American Tower Corporation at 10 Presidential Way, Woburn, MA 01801. AT&T now intends to remove one (1) Andrew SBNH-1D6565C panel antenna, two (2) KMW Panel Antennas, each currently installed in position [3], and swap these for three (3) 840-370799k Kathrein Panel Antennas to be installed in position [4], all sectors. AT&T intends to remove six (6) existing RRUS-11. In addition, AT&T intends to add one (1) RRUS 8843 B2, B66A and (1) RRUS 4449 B5, B12 in position [3 + 4], all sectors, for a total of six (6) new RRUs. AT&T is also proposing to add (1) Raycap Squid, as well as (2) DC Power Cables to their equipment configuration. All of the changes will take place on the existing antenna mount.

Attached is a summary of the planned modifications including power density calculations reflecting the change in AT&T's operations at the site. Also included is documentation of the structural sufficiency of the tower to accommodate the revised antenna configuration.

Please accept this letter pursuant to Regulation 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., a copy of this letter is being sent to Jerry Waters – Town Building Official, Town of Canton, CT at 4 Market Street, Collinsville, CT 06022 and Beth Kandrysaawtz – First Selectman, Town of Canton, CT at 4 Market Street, Collinsville, CT 06022. A copy of this letter is being sent to the property owner, Canton Volunteer Fire Company Inc. at P.O Box 104, Canton, CT 06019 and to the tower company, American Tower Corporation at 10 Presidential Way, Woburn, MA 01801.

The following is a list of subsequent decisions by the Connecticut Siting Council:

- **EM-AT&T-023-020415** - AT&T notice of intent to modify an existing telecommunications facility located at 14 Canton Springs Road, Canton, Connecticut.
- **EM-CING-023-081-099-126-146-070816** - New Cingular Wireless PCS, LLC notice of intent to modify existing telecommunications facilities located at 14 Canton Springs Road, Canton; 2 Larkin Drive, Middlebury; 108 Foxon Road, North Branford; 309 River Road, Shelton; and 60 Industrial Park Road, Vernon, Connecticut
- **EM-CING-023-121102** – New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 14 Canton Springs Road, Canton, Connecticut.
- **EM-CING-023-140617** —New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 14 Canton Springs Road, Canton, Connecticut
- **EM-AT&T-023-160222** - AT&T Mobility, LLC notice of intent to modify an existing telecommunications facility located at 14 Canton Springs Road, Canton, Connecticut
- **EM-AT&T-023-190521** - AT&T Mobility, LLC notice of intent to modify an existing telecommunications facility located at 14 Canton Springs Road, Canton, Connecticut.



The planned modifications to AT&T's facility fall squarely within those activities explicitly provided for in R.C.S.A. §16-50j-72(b) (2).

1. The proposed modifications will not result in an increase in the height of the existing tower. AT&T's replacement antennas will be installed at the 105-foot level of the 147-foot self-support tower.
2. The proposed modifications will not involve any changes to ground-mounted equipment and, therefore, will not require an extension of the site boundary.
3. The proposed modifications will not increase the noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the modified facility will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. A cumulative worst-case RF emissions calculation for AT&T's modified facility is provided in the RF Emissions Compliance Report, included in [Tab 2](#).
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The tower and its foundation can support AT&T's proposed modifications. (See Structural Analysis Report included in [Tab 3](#)).

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

Sincerely,

Kristina Cottone

CC w/enclosures:

Jerry Waters – Town Building Official, Town of Canton, CT  
Beth Kandrysawtz – First Selectman, Town of Canton, CT  
Canton Volunteer Fire Company Inc. – Property Owners  
American Tower Corporation – Tower Company



**AMERICAN TOWER®**  
CORPORATION

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## Structural Analysis Report

**Structure** : 140 ft Monopole  
**ATC Site Name** : CANTON CT, CT  
**ATC Site Number** : 411256  
**Engineering Number** : OAA745738\_C3\_02  
**Proposed Carrier** : AT&T MOBILITY  
**Carrier Site Name** : Canton Spring Road - Canton  
**Carrier Site Number** : CTL01022 - FA#10035260  
**Site Location** : 14 CANTON SPRINGS ROAD  
Canton, CT 06019-2401  
41.822900,-72.895200  
**County** : Hartford  
**Date** : June 25, 2019  
**Max Usage** : 47%  
**Result** : Pass

Prepared By:  
Cole Melody Koffi  
Structural Engineer I

Reviewed By:

**COA: PEC.0001553**



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## Introduction

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

## Supporting Documents

<b>Tower Drawings</b>	EI Project Drawing #GS51426, dated May 20, 1999
<b>Foundation Drawing</b>	EI Project Drawing #F4960-140, dated May 21, 1999
<b>Geotechnical Report</b>	Clarence Welti Project #Banm Tower Site, dated November 23, 1998

## 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.

<b>Basic Wind Speed:</b>	93 mph (3-Second Gust, $V_{ASD}$ )/119 mph (3-Second Gust, $V_{ULT}$ )
<b>Basic Wind Speed w/ Ice:</b>	50 mph (3-Second Gust) w/ 1" radial ice concurrent
<b>Code:</b>	ANSI/TIA-222-G / 2015 IBC / 2018 Connecticut State Building Code
<b>Structure Class:</b>	II
<b>Exposure Category:</b>	B
<b>Topographic Category:</b>	1
<b>Crest Height:</b>	0 ft
<b>Spectral Response:</b>	$S_s = 0.18$ , $S_1 = 0.06$
<b>Site Class:</b>	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](mailto: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**

Elev. <sup>1</sup> (ft)	Qty	Antenna	Mount Type	Lines	Carrier
148.0	1	Generic 18' Omni	Stand-Off	(2) 7/8" Coax	TOWN OF CANTON
130.0	3	Kathrein Scala 800-10121	Platform with Handrails	(1) 3" conduit (12) 7/8" Coax	AT&T MOBILITY
	3	Ericsson RRUS 32 (50.8 lbs)			
	2	Raycap DC6-48-60-0-8F			
	6	CCI DTMAPB7819VG12A			
	1	Andrew SBNHH-1D65A (33.5 lbs)			
	2	CCI HPA-65R-BUU-H8			
120.0	4	Antel LPA-80080/4CF ____	Platform with Handrails	(2) 1 5/8" Fiber (16) 1 5/8" Coax (1) 1/2" Coax	VERIZON WIRELESS
	2	RFS DB-T1-6Z-8AB-OZ			
	3	Samsung 700/850MHz Dual Band RRH			
	3	Samsung PCS/AWS Dual Band RRH			
	1	Generic GPS			
	2	Antel LPA-80063/4CF ____			
	6	Commscope SBNHH-1D65B			
	3	Amphenol Antel BXA-70063-6CF-EDIN-2			
100.0	3	RFS ATMA4P4DBP-1A20	Low Profile Platform	(12) 1 5/8" Coax	T-MOBILE
	3	Commscope ATSBT-TOP-MF-4G			
	3	Andrew LNX-6515DS-A1M			
	3	RFS APXV18-209014-C-A20			
90.0	3	Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield	Platform with Handrails	(4) 1 1/4" Hybriflex Cable (1) 1/2" Coax	SPRINT NEXTEL
	3	Alcatel-Lucent 1900 MHz 4X45 RRH			
	3	Alcatel-Lucent 800 MHz RRH			
	3	Alcatel-Lucent RRH2x50-08			
	3	RFS APXVSPP18-C-A20			
	1	PCTEL GPS-TMG-HR-26N			
	3	Generic 12" x 12" Junction Box			

**Equipment to be Removed**

Elev. <sup>1</sup> (ft)	Qty	Antenna	Mount Type	Lines	Carrier
130.0	6	Ericsson RRUS-11 (50 lbs.)	-	-	AT&T MOBILITY
	1	KMW AM-X-CD-14-65-00T-RET			
	1	Andrew SBNH-1D6565C (60.8 lbs)			
	1	KMW AM-X-CD-17-65-00T-RET (96" Height)			
	3	CSS DUO1417- 8686			



**Proposed Equipment**

Elev. <sup>1</sup> (ft)	Qty	Antenna	Mount Type	Lines	Carrier
130.0	1	Raycap DC6-48-60-0-8F	Platform with Handrails	(2) 0.39" Fiber Trunk (6) 0.78" 8 AWG 6 (2) 3" conduit	AT&T MOBILITY
	3	Ericsson RRUS 8843 B2, B66A			
	3	Ericsson RRUS 4449 B5, B12			
	3	Kathrein Scala 840370799			

<sup>1</sup> Contracted elevations are shown for appurtenances within contracted installation tolerances. Appurtenances outside of contract limits are shown at installed elevations.

Install proposed lines inside the pole shaft.

**Structure Usages**

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	39%	Pass
Shaft	43%	Pass
Base Plate	47%	Pass

**Foundations**

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Moment (Kips-Ft)	3,921.8	5,294.4	2,421.1	46%
Shear (Kips)	38.7	52.2	23.5	45%

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

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

**Deflection and Sway\***

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
130.0	Raycap DC6-48-60-0-8F	AT&T MOBILITY	1.050	0.895
	Ericsson RRUS 8843 B2, B66A			
	Ericsson RRUS 4449 B5, B12			
	Kathrein Scala 840370799			

\*Deflection and Sway was evaluated considering a design wind speed of 60 mph (3-Second Gust) per ANSI/TIA-222-G



## Standard Conditions

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

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

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

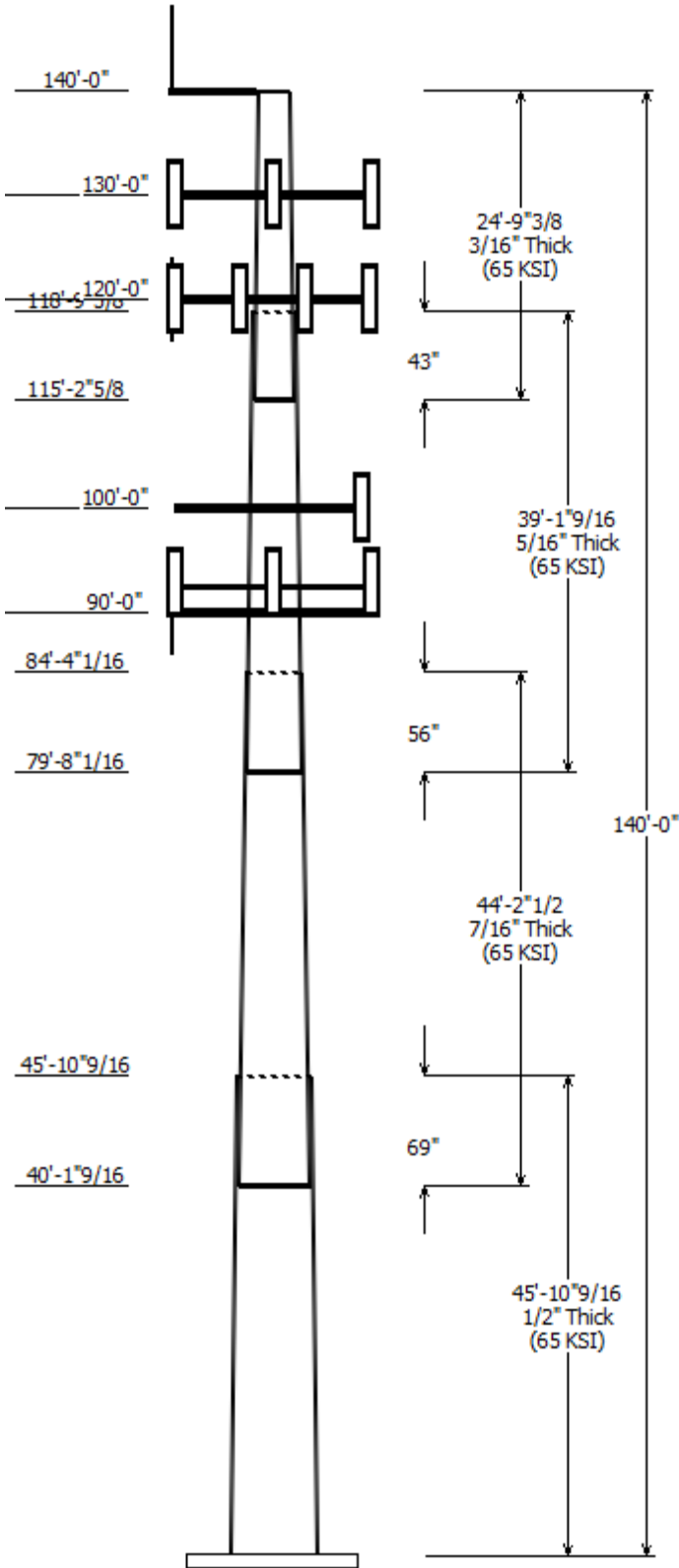
All assets of American Tower Corporation, its affiliates and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with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

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

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



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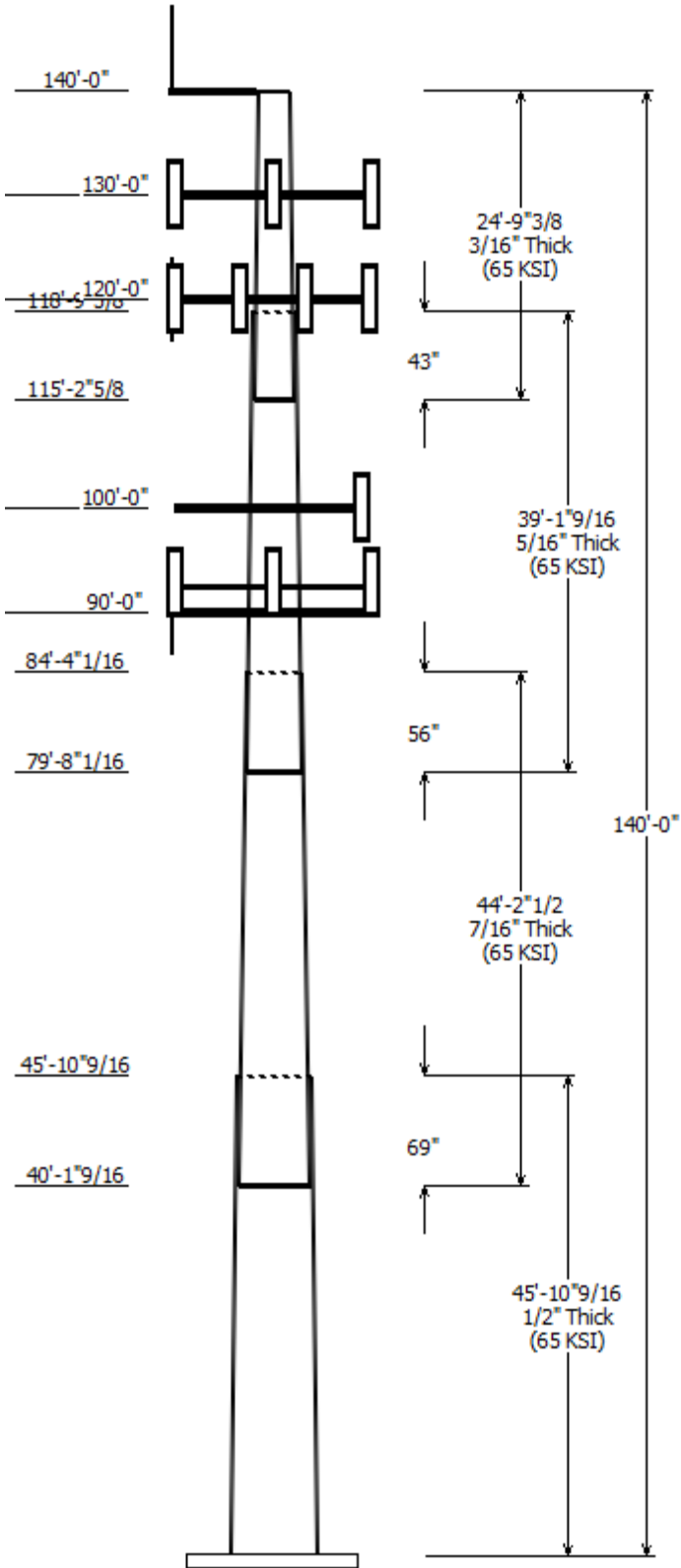


Job Information	
Client : AT&T MOBILITY	Code: ANSI/TIA-222-G
Pole : 411256	
Location : CANTON CT, CT	Struct Class : II
Description : 140 ft Monopole	Exposure : B
Shape : 18 Sides	Topo : 1
Height : 140.00 (ft)	
Base Elev (ft): 0.00	
Taper: 0.249107(in/ft)	

Sections Properties						
Shaft Section	Length (ft)	Diameter (in)		Thick Joint (in)	Overlap Length (in)	Steel Grade
		Across Flats Top	Across Flats Bottom			
1	45.880	39.57	51.00	0.500	0.000	18 Sides 65
2	44.210	30.86	41.87	0.438	69.000	18 Sides 65
3	39.130	22.90	32.65	0.313	56.000	18 Sides 65
4	24.780	18.00	24.17	0.188	43.000	18 Sides 65

Discrete Appurtenance			
Attach Elev (ft)	Force Elev (ft)	Qty	Description
140.000	148.000	1	Generic 18' Omni
140.000	140.000	1	Stand-Off
130.000	130.000	1	Flat Platform w/ Handrails
130.000	130.000	3	Kathrein Scala 840370799
130.000	130.000	2	CCI HPA-65R-BUU-H8
130.000	130.000	1	Andrew SBNHH-1D65A (33.5
130.000	130.000	3	Kathrein Scala 800-10121
130.000	130.000	3	Ericsson RRUS 32 (50.8 lbs)
130.000	130.000	3	Ericsson RRUS 4449 B5, B12
130.000	130.000	3	Ericsson RRUS 8843 B2, B66A
130.000	130.000	1	Raycap DC6-48-60-0-8F
130.000	130.000	2	Raycap DC6-48-60-0-8F
130.000	130.000	6	CCI DTMABP7819VG12A
120.000	120.000	1	VZW Unused Reserve: 15988
120.000	120.000	1	Flat Platform w/ Handrails
120.000	120.000	6	Commscope SBNHH-1D65B
120.000	120.000	3	Amphenol Antel BXA-70063-
120.000	120.000	2	Antel LPA-80063/4CF
120.000	120.000	4	Antel LPA-80080/4CF
120.000	120.000	2	RFS DB-T1-6Z-8AB-0Z
120.000	120.000	3	Samsung 700/850MHz Dual
120.000	120.000	3	Samsung PCS/AWS Dual Band
120.000	120.000	1	Generic GPS
100.000	100.000	1	Flat Low Profile Platform
100.000	100.000	3	Andrew LNX-6515DS-A1M
100.000	100.000	3	RFS APXV18-209014-C-A20
100.000	100.000	3	RFS ATMA4P4DBP-1A20
100.000	100.000	3	Commscope ATSBT-TOP-MF-
90.000	90.000	1	Generic Round Platform with
90.000	94.000	3	RFS APXVSP18-C-A20
90.000	94.000	3	Alcatel-Lucent TD-RRH8x20-25
90.000	94.000	3	Alcatel-Lucent 1900 MHz 4X45
90.000	94.000	3	Alcatel-Lucent 800 MHz RRH
90.000	94.000	3	Alcatel-Lucent RRH2x50-08
90.000	90.000	3	Generic 12" x 12" Junction Box
90.000	90.000	1	PCTEL GPS-TMG-HR-26N

Linear Appurtenance			
Elev (ft)		Description	Exposed To Wind
From	To		
0.000	90.000	1 1/4" Hybriflex	No
0.000	90.000	1/2" Coax	No



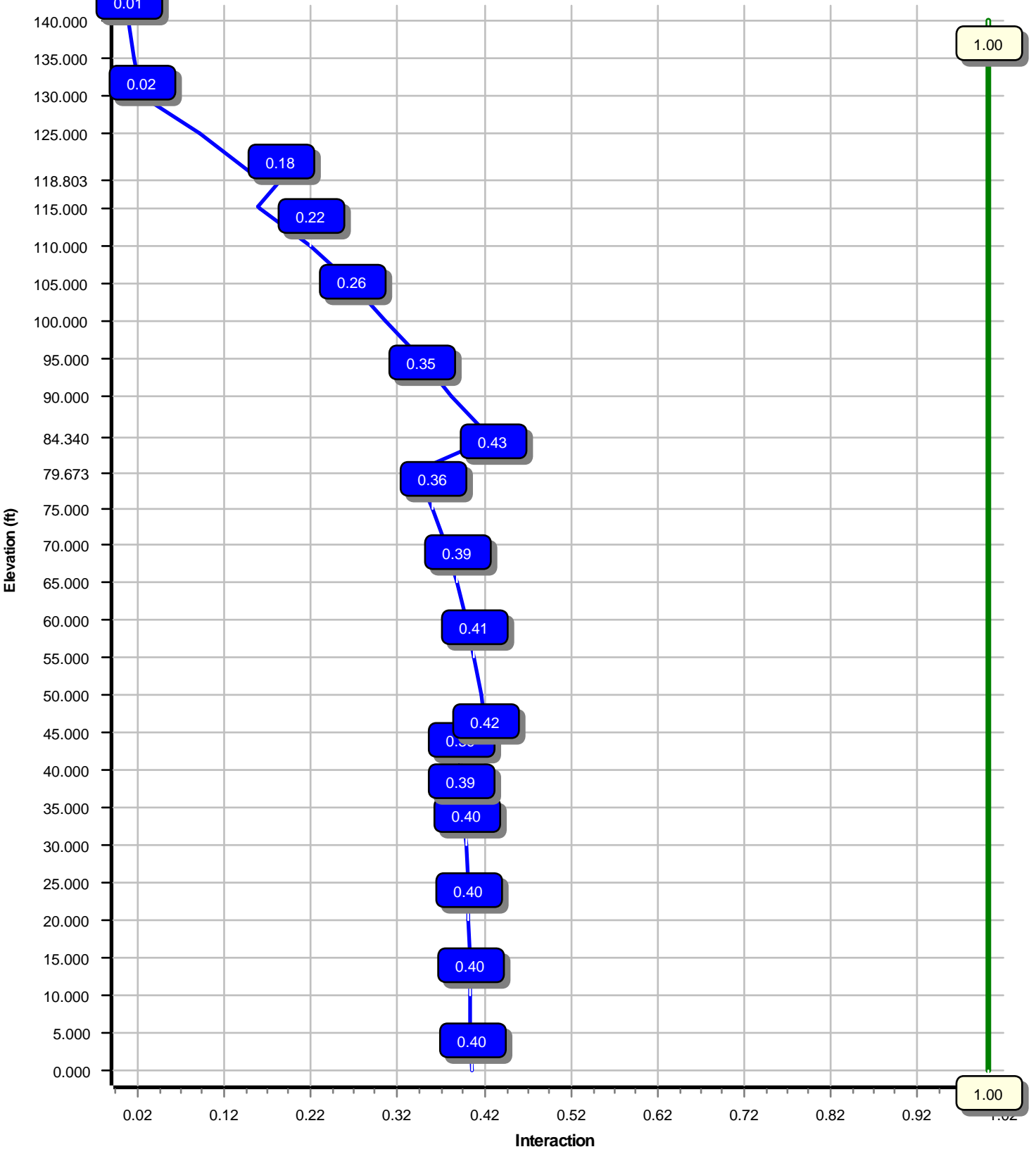
0.000	100.0	1 5/8" Coax	No
0.000	120.0	1 5/8" (1.63"-	No
0.000	120.0	1 5/8" Coax	Yes
0.000	120.0	1 5/8" Coax	No
0.000	120.0	1/2" Coax	No
0.000	130.0	0.39" (10mm)	No
0.000	130.0	0.78" (19.7mm) 8	No
0.000	130.0	3" conduit	No
0.000	130.0	3" conduit	No
0.000	130.0	7/8" Coax	No
0.000	140.0	7/8" Coax	No

Load Cases	
1.2D + 1.6W	93 mph with No Ice
0.9D + 1.6W	93 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Lateral
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Modal
1.0D + 1.0W	Serviceability 60 mph

Reactions			
Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.6W	2421.13	23.46	52.04
0.9D + 1.6W	2396.16	23.44	39.03
1.2D + 1.0Di + 1.0Wi	1029.82	11.29	81.93
(1.2 + 0.2Sds) * DL + E ELFM	154.54	1.45	51.69
(1.2 + 0.2Sds) * DL + E EMAM	138.72	1.40	51.69
(0.9 - 0.2Sds) * DL + E ELFM	152.70	1.45	35.96
(0.9 - 0.2Sds) * DL + E EMAM	136.96	1.40	35.96
1.0D + 1.0W	559.93	5.46	43.39

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

Load Case : 1.2D + 1.6W  
Max Ratio 42.61% at 84.3 ft



Site Number: 411256

Code: ANSI/TIA-222-G

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Site Name: CANTON CT, CT

Engineering Number: OAA745738\_C3\_02

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Customer: AT&T MOBILITY

Analysis Parameters

Location :	Hartford County, CT	Height (ft) :	140
Code :	ANSI/TIA-222-G	Base Diameter (in) :	51.00
Shape :	18 Sides	Top Diameter (in) :	18.00
Pole Type :	Taper	Taper (in/ft) :	0.249
Pole Manufacturer :	EEl	Rotation (deg) :	0.00

Ice & Wind Parameters

Structure Class:	II	Design Wind Speed Without Ice:	93 mph
Exposure Category:	B	Design Wind Speed With Ice:	50 mph
Topographic Category:	1	Operational Wind Speed:	60 mph
Crest Height:	0 ft	Design Ice Thickness:	1.00 in

Seismic Parameters

Analysis Method:	Equivalent Modal Analysis & Equivalent Lateral Force Methods		
Site Class:	D - Stiff Soil		
Period Based on Rayleigh Method (sec):	2.05		
T <sub>L</sub> (sec):	6	p:	1
S <sub>s</sub> :	0.180	S <sub>1</sub> :	0.064
F <sub>a</sub> :	1.600	F <sub>v</sub> :	2.400
S <sub>ds</sub> :	0.192	S <sub>d1</sub> :	0.102
		C <sub>s</sub> :	0.033
		C <sub>s</sub> Max:	0.033
		C <sub>s</sub> Min:	0.030

Load Cases

1.2D + 1.6W	93 mph with No Ice
0.9D + 1.6W	93 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice
(1.2 + 0.2S <sub>ds</sub> ) * DL + E ELFM	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2S <sub>ds</sub> ) * DL + E EMAM	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2S <sub>ds</sub> ) * DL + E ELFM	Seismic (Reduced DL) Equivalent Lateral Forces Method
(0.9 - 0.2S <sub>ds</sub> ) * DL + E EMAM	Seismic (Reduced DL) Equivalent Modal Analysis Method
1.0D + 1.0W	Serviceability 60 mph

Site Number: 411256

Code: ANSI/TIA-222-G

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Site Name: CANTON CT, CT

Engineering Number: OAA745738\_C3\_02

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Customer: AT&T MOBILITY

**Shaft Section Properties**

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Joint Len (in)	Weight (lb)	Bottom						Top						
							Dia (in)	Elev (ft)	Area (in <sup>2</sup> )	Ix (in <sup>4</sup> )	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (in <sup>2</sup> )	Ix (in <sup>4</sup> )	W/t Ratio	D/t Ratio	Taper (in/ft)
1-18	45.880	0.5000	65		0.00	11,096	51.00	0.00	80.14	25821.9	16.57	102.00	39.57	45.88	62.00	11958.5	12.54	79.14	0.249107
2-18	44.210	0.4375	65	Slip	69.00	7,506	41.87	40.13	57.54	12485.6	15.47	95.72	30.86	84.34	42.25	4942.4	11.03	70.55	0.249107
3-18	39.130	0.3125	65	Slip	56.00	3,627	32.65	79.67	32.08	4238.6	17.01	104.49	22.90	118.80	22.41	1445.1	11.51	73.30	0.249107
4-18	24.780	0.1875	65	Slip	43.00	1,049	24.17	115.22	14.27	1037.5	21.32	128.92	18.00	140.00	10.60	424.9	15.52	96.00	0.249107
Shaft Weight						23,278													

**Discrete Appurtenance Properties**

Attach Elev (ft)	Description	Qty	Ka	Vert Ecc (ft)	Weight (lb)	No Ice EPAa (sf)	Orientation Factor	Weight (lb)	Ice EPAa (sf)	Orientation Factor
140.00	Stand-Off	1	1.00	0.000	100.00	3.000	1.00	164.59	5.076	1.00
140.00	Generic 18' Omni	1	1.00	8.000	55.00	5.400	1.00	234.45	13.861	1.00
130.00	CCI DTMABP7819VG12A	6	0.75	0.000	19.20	0.970	0.50	52.68	1.829	0.50
130.00	Raycap DC6-48-60-0-8F	2	0.75	0.000	32.80	1.360	1.00	109.22	2.232	1.00
130.00	Raycap DC6-48-60-0-8F	1	0.75	0.000	32.80	1.360	1.00	109.22	2.232	1.00
130.00	Ericsson RRUS 8843 B2, B66A	3	0.75	0.000	72.00	1.640	0.50	152.57	2.751	0.50
130.00	Ericsson RRUS 4449 B5, B12	3	0.75	0.000	71.00	1.970	0.50	155.72	3.197	0.50
130.00	Ericsson RRUS 32 (50.8 lbs)	3	0.75	0.000	50.80	2.690	0.67	144.82	4.207	0.67
130.00	Kathrein Scala 800-10121	3	0.75	0.000	44.10	5.160	0.68	194.78	7.929	0.68
130.00	Andrew SBNHH-1D65A (33.5 lbs)	1	0.75	0.000	33.50	5.880	1.00	211.44	8.675	1.00
130.00	CCI HPA-65R-BUU-H8	2	0.75	0.000	68.00	12.980	0.75	405.77	17.687	0.75
130.00	Kathrein Scala 840370799	3	0.75	0.000	105.80	13.660	0.65	442.59	18.551	0.65
130.00	Flat Platform w/ Handrails	1	1.00	0.000	2,000.00	42.400	1.00	3,868.18	69.969	1.00
120.00	Generic GPS	1	1.00	0.000	10.00	0.900	1.00	48.21	1.735	1.00
120.00	Samsung PCS/AWS Dual Band	3	0.75	0.000	84.40	1.880	0.50	167.87	3.058	0.50
120.00	Samsung 700/850MHz Dual Band	3	0.75	0.000	70.30	1.880	0.50	145.07	3.058	0.50
120.00	RFS DB-T1-6Z-8AB-OZ	2	0.75	0.000	44.00	4.800	0.72	208.37	6.656	0.72
120.00	Antel LPA-80080/4CF	4	0.75	0.000	12.00	5.400	0.62	200.06	3.748	0.62
120.00	Antel LPA-80063/4CF	2	0.75	0.000	20.00	6.140	0.82	301.91	7.524	0.82
120.00	Amphenol Antel BXA-70063-6CF-	3	0.75	0.000	17.00	7.570	0.66	210.27	11.172	0.66
120.00	Commscope SBNHH-1D65B	6	0.75	0.000	50.70	8.170	0.69	279.90	11.864	0.69
120.00	Flat Platform w/ Handrails	1	1.00	0.000	2,000.00	42.400	1.00	3,855.97	69.788	1.00
120.00	VZW Unused Reserve: 15988 sq	1	0.75	0.000	1,496.60	111.000	0.90	2,858.19	211.986	0.90
100.00	Commscope ATSBT-TOP-MF-4G	3	0.80	0.000	1.80	0.170	0.50	9.26	0.547	0.50
100.00	RFS ATMA4P4DBP-1A20	3	0.80	0.000	15.90	0.750	0.50	46.15	1.504	0.50
100.00	RFS APXV18-209014-C-A20	3	0.80	0.000	18.70	3.530	0.67	106.54	5.834	0.67
100.00	Andrew LNX-6515DS-A1M	3	0.80	0.000	49.80	11.410	0.70	342.96	15.560	0.70
100.00	Flat Low Profile Platform	1	1.00	0.000	1,500.00	26.100	1.00	2,329.13	50.533	1.00
90.00	PCTEL GPS-TMG-HR-26N	1	1.00	0.000	0.60	0.090	1.00	6.73	0.318	1.00
90.00	Generic 12" x 12" Junction Box	3	0.75	0.000	10.00	1.200	0.50	62.73	2.119	0.50
90.00	Alcatel-Lucent RRH2x50-08	3	0.75	4.000	52.90	1.700	0.50	127.92	2.791	0.50
90.00	Alcatel-Lucent 800 MHz RRH	3	0.75	4.000	53.00	2.130	0.67	146.44	3.366	0.67
90.00	Alcatel-Lucent 1900 MHz 4X45	3	0.75	4.000	60.00	2.320	0.67	162.02	3.687	0.67
90.00	Alcatel-Lucent TD-RRH8x20-25	3	0.75	4.000	70.00	4.050	0.61	189.64	5.732	0.61
90.00	RFS APXVSP18-C-A20	3	0.75	4.000	57.00	8.020	0.69	275.38	11.550	0.69
90.00	Generic Round Platform with	1	1.00	0.000	2,000.00	27.200	1.00	3,640.41	58.146	1.00
Totals	Num Loadings:36	89			12,739.00			31,420.94		

**Linear Appurtenance Properties**

Load Case Azimuth (deg) : 180

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Dia (in)	Coax Wt (lb/ft)	Max Coax / Row	Dist Between Rows (in)	Dist Between Cols (in)	Dist Azimuth (deg)	Dist Exposed From Face (in)	Dist Exposed To Wind Carrier
0.00	140.00	2	7/8" Coax	1.09	0.33	N	0	0.00	0.00	0	N TOWN OF CANTON

Site Number: 411256

Code: ANSI/TIA-222-G

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Site Name: CANTON CT, CT

Engineering Number: OAA745738\_C3\_02

6/25/2019 6:26:29 PM

Customer: AT&T MOBILITY

0.00	130.00	2	0.39" (10mm) Fiber	0.39	0.06	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	130.00	6	0.78" (19.7mm) 8 AWG	0.78	0.59	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	130.00	1	3" conduit	3.50	7.58	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	130.00	2	3" conduit	3.50	7.58	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	130.00	12	7/8" Coax	1.09	0.33	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	120.00	2	1 5/8" (1.63"-41.3mm)	1.63	1.61	N	0	0.00	0.00	0	0.00	N	VERIZON WIRELESS
0.00	120.00	6	1 5/8" Coax	1.98	0.82	N	6	0.00	0.00	80	0.50	Y	VERIZON WIRELESS
0.00	120.00	10	1 5/8" Coax	1.98	0.82	N	0	0.00	0.00	0	0.00	N	VERIZON WIRELESS
0.00	120.00	1	1/2" Coax	0.63	0.15	N	0	0.00	0.00	0	0.00	N	VERIZON WIRELESS
0.00	100.00	12	1 5/8" Coax	1.98	0.82	N	0	0.00	0.00	0	0.00	N	T-MOBILE
0.00	90.00	4	1 1/4" Hybriflex Cable	1.54	1.00	N	0	0.00	0.00	0	0.00	N	SPRINT NEXTEL
0.00	90.00	1	1/2" Coax	0.63	0.15	N	0	0.00	0.00	0	0.00	N	SPRINT NEXTEL

Segment Properties (Max Len : 5. ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in <sup>2</sup> )	Ix (in <sup>4</sup> )	W/t Ratio	D/t Ratio	F'y (ksi)	S (in <sup>3</sup> )	Z (in <sup>3</sup> )	Weight (lb)
0.00		0.5000	51.000	80.141	25,821.9	16.57	102.00	81.9	997.2	0.0	0.0
5.00		0.5000	49.754	78.164	23,958.0	16.14	99.51	82.4	948.4	0.0	1,346.7
10.00		0.5000	48.509	76.187	22,186.1	15.70	97.02	82.6	900.8	0.0	1,313.1
15.00		0.5000	47.263	74.211	20,503.7	15.26	94.53	82.6	854.5	0.0	1,279.4
20.00		0.5000	46.018	72.234	18,908.6	14.82	92.04	82.6	809.3	0.0	1,245.8
25.00		0.5000	44.772	70.258	17,398.5	14.38	89.54	82.6	765.4	0.0	1,212.2
30.00		0.5000	43.527	68.281	15,971.0	13.94	87.05	82.6	722.7	0.0	1,178.5
35.00		0.5000	42.281	66.304	14,623.7	13.50	84.56	82.6	681.2	0.0	1,144.9
40.00		0.5000	41.036	64.328	13,354.5	13.06	82.07	82.6	641.0	0.0	1,111.3
40.13	Bot - Section 2	0.5000	41.003	64.276	13,322.5	13.05	82.01	82.6	640.0	0.0	28.4
45.00		0.5000	39.790	62.351	12,160.9	12.62	79.58	82.6	602.0	0.0	1,988.8
45.88	Top - Section 1	0.4375	40.446	55.555	11,235.1	14.89	92.45	82.6	547.1	0.0	353.0
50.00		0.4375	39.420	54.130	10,392.5	14.48	90.10	82.6	519.3	0.0	768.9
55.00		0.4375	38.174	52.400	9,427.8	13.97	87.26	82.6	486.4	0.0	906.2
60.00		0.4375	36.929	50.671	8,524.8	13.47	84.41	82.6	454.7	0.0	876.8
65.00		0.4375	35.683	48.941	7,681.3	12.97	81.56	82.6	424.0	0.0	847.4
70.00		0.4375	34.438	47.212	6,895.4	12.47	78.71	82.6	394.4	0.0	818.0
75.00		0.4375	33.192	45.482	6,165.0	11.97	75.87	82.6	365.8	0.0	788.5
79.67	Bot - Section 3	0.4375	32.028	43.866	5,530.7	11.50	73.21	82.6	340.1	0.0	710.4
80.00		0.4375	31.946	43.753	5,488.1	11.46	73.02	82.6	338.4	0.0	84.3
84.34	Top - Section 2	0.3125	31.490	30.923	3,797.8	16.36	100.77	82.2	237.5	0.0	1,099.6
85.00		0.3125	31.326	30.760	3,738.0	16.26	100.24	82.3	235.0	0.0	69.3
90.00		0.3125	30.080	29.525	3,305.5	15.56	96.26	82.6	216.4	0.0	512.8
95.00		0.3125	28.835	28.290	2,907.7	14.86	92.27	82.6	198.6	0.0	491.8
100.0		0.3125	27.589	27.054	2,543.2	14.16	88.29	82.6	181.6	0.0	470.8
105.0		0.3125	26.344	25.819	2,210.4	13.45	84.30	82.6	165.3	0.0	449.8
110.0		0.3125	25.098	24.583	1,908.1	12.75	80.31	82.6	149.7	0.0	428.8
115.0		0.3125	23.853	23.348	1,634.6	12.05	76.33	82.6	135.0	0.0	407.8
115.2	Bot - Section 4	0.3125	23.798	23.294	1,623.3	12.02	76.15	82.6	134.3	0.0	17.5
118.8	Top - Section 3	0.1875	23.280	13.743	925.9	20.48	124.16	77.3	78.3	0.0	449.4
120.0		0.1875	22.982	13.565	890.5	20.20	122.57	77.6	76.3	0.0	55.6
125.0		0.1875	21.737	12.824	752.4	19.03	115.93	79.0	68.2	0.0	224.5
130.0		0.1875	20.491	12.083	629.3	17.86	109.29	80.4	60.5	0.0	211.9
135.0		0.1875	19.246	11.342	520.5	16.69	102.64	81.8	53.3	0.0	199.3
140.0		0.1875	18.000	10.600	424.9	15.52	96.00	82.6	46.5	0.0	186.7
											23,278.2

<b>Load Case:</b> 1.2D + 1.6W	93 mph with No Ice	22 Iterations
Gust Response Factor :1.10		Wind Importance Factor :1.00
Dead Load Factor :1.20		
Wind Load Factor :1.60		

**Applied Segment Forces Summary**

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		179.5	0.0					0.0	0.0	179.5	0.0	0.0	0.0
5.00		354.6	1,616.0					0.0	369.0	354.6	1,985.0	0.0	0.0
10.00		345.7	1,575.7					0.0	369.0	345.7	1,944.7	0.0	0.0
15.00		336.8	1,535.3					0.0	369.0	336.8	1,904.3	0.0	0.0
20.00		328.0	1,495.0					0.0	369.0	328.0	1,864.0	0.0	0.0
25.00		319.1	1,454.6					0.0	369.0	319.1	1,823.6	0.0	0.0
30.00		313.9	1,414.2					0.0	369.0	313.9	1,783.2	0.0	0.0
35.00		314.9	1,373.9					0.0	369.0	314.9	1,742.9	0.0	0.0
40.00		162.5	1,333.5					0.0	369.0	162.5	1,702.5	0.0	0.0
40.13	Bot - Section 2	162.6	34.1					0.0	9.6	162.6	43.7	0.0	0.0
45.00		187.1	2,386.6					0.0	359.4	187.1	2,746.0	0.0	0.0
45.88	Top - Section 1	162.8	423.6					0.0	64.9	162.8	488.5	0.0	0.0
50.00		296.5	922.6					0.0	304.1	296.5	1,226.7	0.0	0.0
55.00		323.6	1,087.5					0.0	369.0	323.6	1,456.5	0.0	0.0
60.00		321.0	1,052.2					0.0	369.0	321.0	1,421.2	0.0	0.0
65.00		317.3	1,016.9					0.0	369.0	317.3	1,385.9	0.0	0.0
70.00		312.8	981.6					0.0	369.0	312.8	1,350.6	0.0	0.0
75.00		297.7	946.2					0.0	369.0	297.7	1,315.2	0.0	0.0
79.67	Bot - Section 3	152.5	852.5					0.0	344.9	152.5	1,197.4	0.0	0.0
80.00		142.3	101.2					0.0	24.1	142.3	125.3	0.0	0.0
84.34	Top - Section 2	152.1	1,319.6					0.0	320.3	152.1	1,639.9	0.0	0.0
85.00		168.6	83.1					0.0	48.7	168.6	131.8	0.0	0.0
90.00	Appurtenance(s)	293.6	615.4	1,973.9	0.0	3,828.8	3,491.2	0.0	369.0	2,267.5	4,475.6	0.0	0.0
95.00		285.8	590.2					0.0	344.1	285.8	934.3	0.0	0.0
100.00	Appurtenance(s)	277.5	565.0	1,904.2	0.0	0.0	2,110.3	0.0	344.1	2,181.7	3,019.4	0.0	0.0
105.00		268.7	539.7					0.0	285.1	268.7	824.8	0.0	0.0
110.00		259.4	514.5					0.0	285.1	259.4	799.6	0.0	0.0
115.00		132.9	489.3					0.0	285.1	132.9	774.4	0.0	0.0
115.22	Bot - Section 4	96.0	20.9					0.0	12.5	96.0	33.5	0.0	0.0
118.80	Top - Section 3	120.3	539.3					0.0	204.3	120.3	743.6	0.0	0.0
120.00	Appurtenance(s)	148.9	66.7	7,008.5	0.0	0.0	5,402.3	0.0	68.2	7,157.4	5,537.2	0.0	0.0
125.00		233.0	269.4					0.0	186.1	233.0	455.5	0.0	0.0
130.00	Appurtenance(s)	222.2	254.3	4,047.5	0.0	0.0	4,097.0	0.0	186.1	4,269.7	4,537.4	0.0	0.0
135.00		210.9	239.1					0.0	4.0	210.9	243.1	0.0	0.0
140.00	Appurtenance(s)	102.6	224.0	341.8	0.0	1,767.8	186.0	0.0	4.0	444.4	413.9	0.0	0.0
Totals:										23,579.7	52,071.2	0.00	0.00



Site Number: 411256

Code: ANSI/TIA-222-G

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Site Name: CANTON CT, CT

Engineering Number: OAA745738\_C3\_02

6/25/2019 6:26:33 PM

Customer: AT&T MOBILITY

Load Case: 1.2D + 1.6W

93 mph with No Ice

22 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :1.20

Wind Load Factor :1.60

Calculated Forces1

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-52.04	-23.46	0.00	-2,421.13	0.00	2,421.13	5,907.57	2,953.79	12,233.7	6,125.97	0.00	0.00	0.404
5.00	-50.01	-23.22	0.00	-2,303.83	0.00	2,303.83	5,798.21	2,899.11	11,708.2	5,862.82	0.07	-0.13	0.402
10.00	-48.01	-22.98	0.00	-2,187.74	0.00	2,187.74	5,660.34	2,830.17	11,137.9	5,577.23	0.28	-0.26	0.401
15.00	-46.05	-22.74	0.00	-2,072.85	0.00	2,072.85	5,513.49	2,756.75	10,564.5	5,290.14	0.63	-0.40	0.400
20.00	-44.13	-22.51	0.00	-1,959.14	0.00	1,959.14	5,366.64	2,683.32	10,006.4	5,010.64	1.12	-0.54	0.399
25.00	-42.26	-22.28	0.00	-1,846.60	0.00	1,846.60	5,219.79	2,609.90	9,463.38	4,738.72	1.76	-0.68	0.398
30.00	-40.42	-22.04	0.00	-1,735.21	0.00	1,735.21	5,072.94	2,536.47	8,935.51	4,474.39	2.56	-0.83	0.396
35.00	-38.63	-21.80	0.00	-1,625.00	0.00	1,625.00	4,926.09	2,463.04	8,422.78	4,217.65	3.51	-0.98	0.393
40.00	-36.90	-21.66	0.00	-1,515.98	0.00	1,515.98	4,779.24	2,389.62	7,925.21	3,968.49	4.61	-1.13	0.390
40.13	-36.83	-21.55	0.00	-1,513.17	0.00	1,513.17	4,775.42	2,387.71	7,912.47	3,962.12	4.65	-1.14	0.390
45.00	-34.05	-21.36	0.00	-1,408.23	0.00	1,408.23	4,632.39	2,316.19	7,442.78	3,726.92	5.88	-1.29	0.385
45.88	-33.54	-21.23	0.00	-1,389.44	0.00	1,389.44	4,127.44	2,063.72	6,764.69	3,387.37	6.12	-1.32	0.418
50.00	-32.26	-20.99	0.00	-1,301.98	0.00	1,301.98	4,021.56	2,010.78	6,420.25	3,214.89	7.32	-1.45	0.413
55.00	-30.76	-20.72	0.00	-1,197.04	0.00	1,197.04	3,893.07	1,946.53	6,014.32	3,011.63	8.93	-1.62	0.405
60.00	-29.28	-20.44	0.00	-1,093.45	0.00	1,093.45	3,764.57	1,882.29	5,621.66	2,815.01	10.72	-1.79	0.396
65.00	-27.85	-20.17	0.00	-991.24	0.00	991.24	3,636.08	1,818.04	5,242.25	2,625.02	12.69	-1.97	0.385
70.00	-26.45	-19.89	0.00	-890.41	0.00	890.41	3,507.58	1,753.79	4,876.10	2,441.67	14.84	-2.14	0.372
75.00	-25.09	-19.61	0.00	-790.99	0.00	790.99	3,379.09	1,689.54	4,523.20	2,264.96	17.18	-2.31	0.357
79.67	-23.87	-19.44	0.00	-699.35	0.00	699.35	3,258.99	1,629.49	4,205.34	2,105.80	19.52	-2.47	0.340
80.00	-23.72	-19.33	0.00	-693.00	0.00	693.00	3,250.59	1,625.30	4,183.56	2,094.89	19.69	-2.49	0.338
84.34	-22.06	-19.14	0.00	-609.11	0.00	609.11	2,286.62	1,143.31	2,923.12	1,463.73	22.02	-2.63	0.426
85.00	-21.90	-19.01	0.00	-596.48	0.00	596.48	2,277.59	1,138.79	2,896.06	1,450.18	22.39	-2.66	0.421
90.00	-17.48	-16.59	0.00	-497.62	0.00	497.62	2,193.55	1,096.78	2,676.08	1,340.03	25.28	-2.86	0.380
95.00	-16.51	-16.31	0.00	-414.69	0.00	414.69	2,101.77	1,050.89	2,455.71	1,229.68	28.39	-3.06	0.345
100.00	-13.57	-14.01	0.00	-333.15	0.00	333.15	2,009.99	1,005.00	2,244.80	1,124.07	31.70	-3.24	0.303
105.00	-12.73	-13.72	0.00	-263.12	0.00	263.12	1,918.21	959.10	2,043.37	1,023.20	35.18	-3.41	0.264
110.00	-11.91	-13.44	0.00	-194.51	0.00	194.51	1,826.43	913.21	1,851.40	927.08	38.84	-3.56	0.217
115.00	-11.13	-13.27	0.00	-127.28	0.00	127.28	1,734.64	867.32	1,668.90	835.69	42.63	-3.68	0.159
115.22	-11.10	-13.18	0.00	-124.36	0.00	124.36	1,730.61	865.30	1,661.09	831.78	42.80	-3.68	0.156
118.80	-10.36	-13.02	0.00	-77.13	0.00	77.13	956.19	478.10	907.08	454.21	45.59	-3.75	0.181
120.00	-5.30	-5.52	0.00	-61.54	0.00	61.54	947.87	473.94	887.49	444.40	46.53	-3.76	0.144
125.00	-4.85	-5.26	0.00	-33.94	0.00	33.94	911.98	455.99	806.85	404.02	50.51	-3.84	0.089
130.00	-0.61	-0.70	0.00	-7.62	0.00	7.62	874.25	437.12	728.37	364.73	54.56	-3.88	0.022
135.00	-0.38	-0.47	0.00	-4.13	0.00	4.13	834.68	417.34	652.35	326.66	58.62	-3.89	0.013
140.00	0.00	-0.44	0.00	-1.77	0.00	1.77	787.55	393.77	574.90	287.88	62.70	-3.90	0.006

<b>Load Case:</b> 0.9D + 1.6W	93 mph with No Ice (Reduced DL)	22 Iterations
Gust Response Factor :1.10		Wind Importance Factor :1.00
Dead Load Factor :0.90		
Wind Load Factor :1.60		

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		179.5	0.0					0.0	0.0	179.5	0.0	0.0	0.0
5.00		354.6	1,212.0					0.0	276.7	354.6	1,488.8	0.0	0.0
10.00		345.7	1,181.8					0.0	276.7	345.7	1,458.5	0.0	0.0
15.00		336.8	1,151.5					0.0	276.7	336.8	1,428.2	0.0	0.0
20.00		328.0	1,121.2					0.0	276.7	328.0	1,398.0	0.0	0.0
25.00		319.1	1,091.0					0.0	276.7	319.1	1,367.7	0.0	0.0
30.00		313.9	1,060.7					0.0	276.7	313.9	1,337.4	0.0	0.0
35.00		314.9	1,030.4					0.0	276.7	314.9	1,307.2	0.0	0.0
40.00		162.5	1,000.2					0.0	276.7	162.5	1,276.9	0.0	0.0
40.13	Bot - Section 2	162.6	25.6					0.0	7.2	162.6	32.8	0.0	0.0
45.00		187.1	1,790.0					0.0	269.6	187.1	2,059.5	0.0	0.0
45.88	Top - Section 1	162.8	317.7					0.0	48.7	162.8	366.4	0.0	0.0
50.00		296.5	692.0					0.0	228.0	296.5	920.0	0.0	0.0
55.00		323.6	815.6					0.0	276.7	323.6	1,092.4	0.0	0.0
60.00		321.0	789.1					0.0	276.7	321.0	1,065.9	0.0	0.0
65.00		317.3	762.7					0.0	276.7	317.3	1,039.4	0.0	0.0
70.00		312.8	736.2					0.0	276.7	312.8	1,012.9	0.0	0.0
75.00		297.7	709.7					0.0	276.7	297.7	986.4	0.0	0.0
79.67	Bot - Section 3	152.5	639.4					0.0	258.7	152.5	898.0	0.0	0.0
80.00		142.3	75.9					0.0	18.1	142.3	94.0	0.0	0.0
84.34	Top - Section 2	152.1	989.7					0.0	240.2	152.1	1,229.9	0.0	0.0
85.00		168.6	62.3					0.0	36.5	168.6	98.9	0.0	0.0
90.00	Appurtenance(s)	293.6	461.6	1,973.9	0.0	3,828.8	2,618.4	0.0	276.7	2,267.5	3,356.7	0.0	0.0
95.00		285.8	442.6					0.0	258.1	285.8	700.7	0.0	0.0
100.00	Appurtenance(s)	277.5	423.7	1,904.2	0.0	0.0	1,582.7	0.0	258.1	2,181.7	2,264.5	0.0	0.0
105.00		268.7	404.8					0.0	213.8	268.7	618.6	0.0	0.0
110.00		259.4	385.9					0.0	213.8	259.4	599.7	0.0	0.0
115.00		132.8	367.0					0.0	213.8	132.8	580.8	0.0	0.0
115.22	Bot - Section 4	95.0	15.7					0.0	9.4	95.0	25.1	0.0	0.0
118.80	Top - Section 3	118.8	404.5					0.0	153.2	118.8	557.7	0.0	0.0
120.00	Appurtenance(s)	148.5	50.0	7,008.5	0.0	0.0	4,051.7	0.0	51.2	7,157.0	4,152.9	0.0	0.0
125.00		233.0	202.0					0.0	139.6	233.0	341.6	0.0	0.0
130.00	Appurtenance(s)	222.2	190.7	4,047.5	0.0	0.0	3,072.8	0.0	139.6	4,269.7	3,403.1	0.0	0.0
135.00		210.9	179.3					0.0	3.0	210.9	182.3	0.0	0.0
140.00	Appurtenance(s)	102.6	168.0	341.8	0.0	1,767.8	139.5	0.0	3.0	444.4	310.5	0.0	0.0
Totals:										23,576.6	39,053.4	0.00	0.00

Site Number: 411256

Code: ANSI/TIA-222-G

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Site Name: CANTON CT, CT

Engineering Number: OAA745738\_C3\_02

6/25/2019 6:26:37 PM

Customer: AT&T MOBILITY

Load Case: 0.9D + 1.6W

93 mph with No Ice (Reduced DL)

22 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :0.90

Wind Load Factor :1.60

Calculated Forces1

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	-39.03	-23.44	0.00	-2,396.16	0.00	2,396.16	5,907.57	2,953.79	12,233.7	6,125.97	0.00	0.00	0.398
5.00	-37.49	-23.17	0.00	-2,278.95	0.00	2,278.95	5,798.21	2,899.11	11,708.2	5,862.82	0.07	-0.13	0.395
10.00	-35.97	-22.90	0.00	-2,163.10	0.00	2,163.10	5,660.34	2,830.17	11,137.9	5,577.23	0.27	-0.26	0.394
15.00	-34.49	-22.64	0.00	-2,048.58	0.00	2,048.58	5,513.49	2,756.75	10,564.5	5,290.14	0.62	-0.40	0.394
20.00	-33.04	-22.38	0.00	-1,935.37	0.00	1,935.37	5,366.64	2,683.32	10,006.4	5,010.64	1.11	-0.53	0.392
25.00	-31.63	-22.13	0.00	-1,823.46	0.00	1,823.46	5,219.79	2,609.90	9,463.38	4,738.72	1.74	-0.68	0.391
30.00	-30.24	-21.87	0.00	-1,712.82	0.00	1,712.82	5,072.94	2,536.47	8,935.51	4,474.39	2.53	-0.82	0.389
35.00	-28.88	-21.61	0.00	-1,603.46	0.00	1,603.46	4,926.09	2,463.04	8,422.78	4,217.65	3.47	-0.97	0.386
40.00	-27.58	-21.47	0.00	-1,495.39	0.00	1,495.39	4,779.24	2,389.62	7,925.21	3,968.49	4.56	-1.12	0.383
40.13	-27.52	-21.34	0.00	-1,492.60	0.00	1,492.60	4,775.42	2,387.71	7,912.47	3,962.12	4.59	-1.12	0.383
45.00	-25.43	-21.15	0.00	-1,388.68	0.00	1,388.68	4,632.39	2,316.19	7,442.78	3,726.92	5.82	-1.27	0.378
45.88	-25.04	-21.01	0.00	-1,370.07	0.00	1,370.07	4,127.44	2,063.72	6,764.69	3,387.37	6.05	-1.30	0.411
50.00	-24.07	-20.76	0.00	-1,283.50	0.00	1,283.50	4,021.56	2,010.78	6,420.25	3,214.89	7.23	-1.43	0.405
55.00	-22.93	-20.47	0.00	-1,179.71	0.00	1,179.71	3,893.07	1,946.53	6,014.32	3,011.63	8.82	-1.60	0.398
60.00	-21.81	-20.19	0.00	-1,077.35	0.00	1,077.35	3,764.57	1,882.29	5,621.66	2,815.01	10.59	-1.77	0.389
65.00	-20.72	-19.90	0.00	-976.42	0.00	976.42	3,636.08	1,818.04	5,242.25	2,625.02	12.53	-1.94	0.378
70.00	-19.66	-19.61	0.00	-876.94	0.00	876.94	3,507.58	1,753.79	4,876.10	2,441.67	14.66	-2.11	0.365
75.00	-18.63	-19.33	0.00	-778.91	0.00	778.91	3,379.09	1,689.54	4,523.20	2,264.96	16.96	-2.28	0.350
79.67	-17.71	-19.16	0.00	-688.59	0.00	688.59	3,258.99	1,629.49	4,205.34	2,105.80	19.28	-2.44	0.333
80.00	-17.60	-19.04	0.00	-682.33	0.00	682.33	3,250.59	1,625.30	4,183.56	2,094.89	19.45	-2.45	0.331
84.34	-16.35	-18.86	0.00	-599.70	0.00	599.70	2,286.62	1,143.31	2,923.12	1,463.73	21.74	-2.60	0.417
85.00	-16.22	-18.72	0.00	-587.26	0.00	587.26	2,277.59	1,138.79	2,896.06	1,450.18	22.10	-2.62	0.412
90.00	-12.92	-16.34	0.00	-489.84	0.00	489.84	2,193.55	1,096.78	2,676.08	1,340.03	24.96	-2.83	0.372
95.00	-12.18	-16.06	0.00	-408.15	0.00	408.15	2,101.77	1,050.89	2,455.71	1,229.68	28.02	-3.02	0.338
100.00	-10.00	-13.79	0.00	-327.87	0.00	327.87	2,009.99	1,005.00	2,244.80	1,124.07	31.28	-3.20	0.297
105.00	-9.36	-13.51	0.00	-258.94	0.00	258.94	1,918.21	959.10	2,043.37	1,023.20	34.72	-3.36	0.258
110.00	-8.75	-13.23	0.00	-191.41	0.00	191.41	1,826.43	913.21	1,851.40	927.08	38.32	-3.51	0.211
115.00	-8.16	-13.07	0.00	-125.25	0.00	125.25	1,734.64	867.32	1,668.90	835.69	42.06	-3.63	0.155
115.22	-8.13	-12.98	0.00	-122.37	0.00	122.37	1,730.61	865.30	1,661.09	831.78	42.23	-3.63	0.152
118.80	-7.58	-12.83	0.00	-75.86	0.00	75.86	956.19	478.10	907.08	454.21	44.98	-3.69	0.176
120.00	-3.89	-5.42	0.00	-60.51	0.00	60.51	947.87	473.94	887.49	444.40	45.91	-3.71	0.140
125.00	-3.56	-5.17	0.00	-33.39	0.00	33.39	911.98	455.99	806.85	404.02	49.83	-3.78	0.087
130.00	-0.45	-0.69	0.00	-7.52	0.00	7.52	874.25	437.12	728.37	364.73	53.82	-3.82	0.021
135.00	-0.28	-0.46	0.00	-4.09	0.00	4.09	834.68	417.34	652.35	326.66	57.83	-3.84	0.013
140.00	0.00	-0.44	0.00	-1.77	0.00	1.77	787.55	393.77	574.90	287.88	61.84	-3.84	0.006

<b>Load Case:</b> 1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice	22 Iterations
Gust Response Factor :1.10	Ice Dead Load Factor :1.00	Wind Importance Factor :1.00
Dead Load Factor :1.20		Ice Importance Factor :1.00
Wind Load Factor :1.00		

**Applied Segment Forces Summary**

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		63.5	0.0					0.0	0.0	63.5	0.0	0.0	0.0
5.00		125.9	2,112.5					164.8	435.7	290.7	2,548.2	0.0	0.0
10.00		123.6	2,118.3					162.1	443.5	285.7	2,561.8	0.0	0.0
15.00		121.0	2,093.2					159.0	447.5	279.9	2,540.7	0.0	0.0
20.00		118.3	2,058.0					155.6	450.3	273.9	2,508.3	0.0	0.0
25.00		115.5	2,017.5					152.2	452.5	267.8	2,470.0	0.0	0.0
30.00		114.1	1,973.7					148.8	454.3	262.8	2,428.0	0.0	0.0
35.00		114.9	1,927.6					148.8	455.8	263.6	2,383.4	0.0	0.0
40.00		59.4	1,879.8					151.2	457.2	210.6	2,337.0	0.0	0.0
40.13	Bot - Section 2	59.5	48.4					4.0	11.9	63.5	60.3	0.0	0.0
45.00		68.5	2,921.1					148.9	446.5	217.4	3,367.6	0.0	0.0
45.88	Top - Section 1	59.8	520.3					27.0	80.8	86.8	601.1	0.0	0.0
50.00		109.2	1,367.1					129.1	378.6	238.4	1,745.8	0.0	0.0
55.00		119.7	1,615.8					157.0	460.4	276.7	2,076.2	0.0	0.0
60.00		119.2	1,569.0					156.8	461.3	276.0	2,030.3	0.0	0.0
65.00		118.3	1,521.6					156.2	462.2	274.5	1,983.8	0.0	0.0
70.00		117.2	1,473.7					155.1	462.9	272.3	1,936.6	0.0	0.0
75.00		112.0	1,425.2					153.7	463.7	265.8	1,888.9	0.0	0.0
79.67	Bot - Section 3	57.6	1,288.4					142.1	434.0	199.6	1,722.4	0.0	0.0
80.00		53.8	132.2					9.9	30.4	63.7	162.6	0.0	0.0
84.34	Top - Section 2	57.6	1,720.6					130.2	403.6	187.8	2,124.2	0.0	0.0
85.00		64.1	144.0					20.0	61.4	84.1	205.4	0.0	0.0
90.00	Appurtenance(s)	112.1	1,061.0	647.2	0.0	1,027.8	6,269.8	150.0	465.6	909.3	7,796.5	0.0	0.0
95.00		109.8	1,021.2					147.4	441.3	257.2	1,462.5	0.0	0.0
100.00	Appurtenance(s)	107.3	981.0	585.0	0.0	0.0	3,613.3	144.6	441.9	836.9	5,036.1	0.0	0.0
105.00		104.7	940.5					141.5	383.4	246.2	1,323.9	0.0	0.0
110.00		101.8	899.8					138.2	383.9	240.1	1,283.7	0.0	0.0
115.00		52.4	858.8					134.7	384.4	187.1	1,243.2	0.0	0.0
115.22	Bot - Section 4	37.6	37.2					5.8	16.9	43.5	54.1	0.0	0.0
118.80	Top - Section 3	47.1	799.4					94.2	275.8	141.3	1,075.2	0.0	0.0
120.00	Appurtenance(s)	59.4	152.8	2,077.2	0.0	0.0	11,417.6	31.4	92.2	2,168.1	11,662.6	0.0	0.0
125.00		93.8	612.1					0.0	186.1	93.8	798.2	0.0	0.0
130.00	Appurtenance(s)	90.4	580.6	1,124.2	0.0	0.0	8,306.1	0.0	186.1	1,214.6	9,072.9	0.0	0.0
135.00		86.9	548.9					0.0	4.0	86.9	552.9	0.0	0.0
140.00	Appurtenance(s)	42.6	517.0	139.4	0.0	819.7	371.4	0.0	4.0	182.0	892.4	0.0	0.0
Totals:										11,312.2	81,936.8	0.00	0.00

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 1.00 in Radial Ice

22 Iterations

Gust Response Factor :1.10

Ice Dead Load Factor :1.00

Wind Importance Factor :1.00

Dead Load Factor :1.20

Ice Importance Factor :1.00

Wind Load Factor :1.00

Calculated Forces1

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	-81.93	-11.29	0.00	-1,029.82	0.00	1,029.82	5,907.57	2,953.79	12,233.7	6,125.97	0.00	0.00	0.182
5.00	-79.37	-11.07	0.00	-973.37	0.00	973.37	5,798.21	2,899.11	11,708.2	5,862.82	0.03	-0.06	0.180
10.00	-76.80	-10.86	0.00	-918.00	0.00	918.00	5,660.34	2,830.17	11,137.9	5,577.23	0.12	-0.11	0.178
15.00	-74.25	-10.65	0.00	-863.70	0.00	863.70	5,513.49	2,756.75	10,564.5	5,290.14	0.27	-0.17	0.177
20.00	-71.73	-10.44	0.00	-810.46	0.00	810.46	5,366.64	2,683.32	10,006.4	5,010.64	0.47	-0.23	0.175
25.00	-69.25	-10.23	0.00	-758.26	0.00	758.26	5,219.79	2,609.90	9,463.38	4,738.72	0.74	-0.29	0.173
30.00	-66.82	-10.03	0.00	-707.10	0.00	707.10	5,072.94	2,536.47	8,935.51	4,474.39	1.07	-0.35	0.171
35.00	-64.42	-9.82	0.00	-656.96	0.00	656.96	4,926.09	2,463.04	8,422.78	4,217.65	1.47	-0.41	0.169
40.00	-62.08	-9.62	0.00	-607.88	0.00	607.88	4,779.24	2,389.62	7,925.21	3,968.49	1.93	-0.47	0.166
40.13	-62.02	-9.59	0.00	-606.63	0.00	606.63	4,775.42	2,387.71	7,912.47	3,962.12	1.94	-0.47	0.166
45.00	-58.65	-9.38	0.00	-559.92	0.00	559.92	4,632.39	2,316.19	7,442.78	3,726.92	2.45	-0.53	0.163
45.88	-58.04	-9.32	0.00	-551.66	0.00	551.66	4,127.44	2,063.72	6,764.69	3,387.37	2.55	-0.54	0.177
50.00	-56.29	-9.13	0.00	-513.26	0.00	513.26	4,021.56	2,010.78	6,420.25	3,214.89	3.04	-0.59	0.174
55.00	-54.20	-8.89	0.00	-467.63	0.00	467.63	3,893.07	1,946.53	6,014.32	3,011.63	3.70	-0.66	0.169
60.00	-52.17	-8.65	0.00	-423.19	0.00	423.19	3,764.57	1,882.29	5,621.66	2,815.01	4.43	-0.73	0.164
65.00	-50.18	-8.41	0.00	-379.94	0.00	379.94	3,636.08	1,818.04	5,242.25	2,625.02	5.22	-0.80	0.159
70.00	-48.24	-8.16	0.00	-337.90	0.00	337.90	3,507.58	1,753.79	4,876.10	2,441.67	6.09	-0.86	0.152
75.00	-46.34	-7.92	0.00	-297.09	0.00	297.09	3,379.09	1,689.54	4,523.20	2,264.96	7.03	-0.93	0.145
79.67	-44.62	-7.71	0.00	-260.09	0.00	260.09	3,258.99	1,629.49	4,205.34	2,105.80	7.97	-0.99	0.137
80.00	-44.45	-7.67	0.00	-257.57	0.00	257.57	3,250.59	1,625.30	4,183.56	2,094.89	8.04	-0.99	0.137
84.34	-42.33	-7.47	0.00	-224.28	0.00	224.28	2,286.62	1,143.31	2,923.12	1,463.73	8.96	-1.05	0.172
85.00	-42.12	-7.41	0.00	-219.35	0.00	219.35	2,277.59	1,138.79	2,896.06	1,450.18	9.11	-1.05	0.170
90.00	-34.33	-6.40	0.00	-181.26	0.00	181.26	2,193.55	1,096.78	2,676.08	1,340.03	10.25	-1.13	0.151
95.00	-32.87	-6.15	0.00	-149.26	0.00	149.26	2,101.77	1,050.89	2,455.71	1,229.68	11.48	-1.20	0.137
100.00	-27.85	-5.24	0.00	-118.51	0.00	118.51	2,009.99	1,005.00	2,244.80	1,124.07	12.77	-1.27	0.119
105.00	-26.52	-4.99	0.00	-92.33	0.00	92.33	1,918.21	959.10	2,043.37	1,023.20	14.13	-1.33	0.104
110.00	-25.24	-4.74	0.00	-67.41	0.00	67.41	1,826.43	913.21	1,851.40	927.08	15.55	-1.38	0.087
115.00	-24.00	-4.53	0.00	-43.73	0.00	43.73	1,734.64	867.32	1,668.90	835.69	17.02	-1.42	0.066
115.22	-23.95	-4.49	0.00	-42.73	0.00	42.73	1,730.61	865.30	1,661.09	831.78	17.08	-1.42	0.065
118.80	-22.88	-4.32	0.00	-26.66	0.00	26.66	956.19	478.10	907.08	454.21	18.16	-1.44	0.083
120.00	-11.27	-1.87	0.00	-21.48	0.00	21.48	947.87	473.94	887.49	444.40	18.52	-1.45	0.060
125.00	-10.48	-1.76	0.00	-12.15	0.00	12.15	911.98	455.99	806.85	404.02	20.05	-1.47	0.042
130.00	-1.44	-0.31	0.00	-3.38	0.00	3.38	874.25	437.12	728.37	364.73	21.61	-1.49	0.011
135.00	-0.89	-0.21	0.00	-1.85	0.00	1.85	834.68	417.34	652.35	326.66	23.17	-1.50	0.007
140.00	0.00	-0.18	0.00	-0.82	0.00	0.82	787.55	393.77	574.90	287.88	24.74	-1.50	0.003

<b>Load Case:</b> 1.0D + 1.0W	Serviceability 60 mph	21 Iterations
Gust Response Factor :1.10		Wind Importance Factor :1.00
Dead Load Factor :1.00		
Wind Load Factor :1.00		

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		41.8	0.0					0.0	0.0	41.8	0.0	0.0	0.0
5.00		82.5	1,346.7					0.0	307.5	82.5	1,654.2	0.0	0.0
10.00		80.5	1,313.1					0.0	307.5	80.5	1,620.6	0.0	0.0
15.00		78.4	1,279.4					0.0	307.5	78.4	1,586.9	0.0	0.0
20.00		76.3	1,245.8					0.0	307.5	76.3	1,553.3	0.0	0.0
25.00		74.3	1,212.2					0.0	307.5	74.3	1,519.7	0.0	0.0
30.00		73.1	1,178.5					0.0	307.5	73.1	1,486.0	0.0	0.0
35.00		73.3	1,144.9					0.0	307.5	73.3	1,452.4	0.0	0.0
40.00		37.8	1,111.3					0.0	307.5	37.8	1,418.8	0.0	0.0
40.13	Bot - Section 2	37.8	28.4					0.0	8.0	37.8	36.4	0.0	0.0
45.00		43.5	1,988.8					0.0	299.5	43.5	2,288.3	0.0	0.0
45.88	Top - Section 1	37.9	353.0					0.0	54.1	37.9	407.1	0.0	0.0
50.00		69.0	768.9					0.0	253.4	69.0	1,022.2	0.0	0.0
55.00		75.3	906.2					0.0	307.5	75.3	1,213.7	0.0	0.0
60.00		74.7	876.8					0.0	307.5	74.7	1,184.3	0.0	0.0
65.00		73.9	847.4					0.0	307.5	73.9	1,154.9	0.0	0.0
70.00		72.8	818.0					0.0	307.5	72.8	1,125.5	0.0	0.0
75.00		69.3	788.5					0.0	307.5	69.3	1,096.0	0.0	0.0
79.67	Bot - Section 3	35.5	710.4					0.0	287.4	35.5	997.8	0.0	0.0
80.00		33.1	84.3					0.0	20.1	33.1	104.4	0.0	0.0
84.34	Top - Section 2	35.4	1,099.6					0.0	266.9	35.4	1,366.6	0.0	0.0
85.00		39.2	69.3					0.0	40.6	39.2	109.9	0.0	0.0
90.00	Appurtenance(s)	68.3	512.8	459.5	0.0	891.2	2,909.3	0.0	307.5	527.8	3,729.6	0.0	0.0
95.00		66.5	491.8					0.0	286.8	66.5	778.6	0.0	0.0
100.00	Appurtenance(s)	64.6	470.8	443.2	0.0	0.0	1,758.6	0.0	286.8	507.8	2,516.2	0.0	0.0
105.00		62.5	449.8					0.0	237.6	62.5	687.3	0.0	0.0
110.00		60.4	428.8					0.0	237.6	60.4	666.3	0.0	0.0
115.00		30.9	407.8					0.0	237.6	30.9	645.3	0.0	0.0
115.22	Bot - Section 4	22.1	17.5					0.0	10.5	22.1	27.9	0.0	0.0
118.80	Top - Section 3	27.6	449.4					0.0	170.2	27.6	619.7	0.0	0.0
120.00	Appurtenance(s)	34.6	55.6	1,631.3	0.0	0.0	4,501.9	0.0	56.9	1,665.9	4,614.4	0.0	0.0
125.00		54.2	224.5					0.0	155.1	54.2	379.6	0.0	0.0
130.00	Appurtenance(s)	51.7	211.9	942.1	0.0	0.0	3,414.2	0.0	155.1	993.8	3,781.2	0.0	0.0
135.00		49.1	199.3					0.0	3.3	49.1	202.6	0.0	0.0
140.00	Appurtenance(s)	23.9	186.7	79.6	0.0	411.5	155.0	0.0	3.3	103.4	345.0	0.0	0.0
Totals:										5,487.75	43,392.6	0.00	0.00

Site Number: 411256

Code: ANSI/TIA-222-G

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Site Name: CANTON CT, CT

Engineering Number: OAA745738\_C3\_02

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Customer: AT&T MOBILITY

Load Case: 1.0D + 1.0W

Serviceability 60 mph

21 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :1.00

Wind Load Factor :1.00

Calculated Forces1

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	-43.39	-5.46	0.00	-559.93	0.00	559.93	5,907.57	2,953.79	12,233.7	6,125.97	0.00	0.00	0.099
5.00	-41.73	-5.40	0.00	-532.65	0.00	532.65	5,798.21	2,899.11	11,708.2	5,862.82	0.02	-0.03	0.098
10.00	-40.11	-5.34	0.00	-505.66	0.00	505.66	5,660.34	2,830.17	11,137.9	5,577.23	0.06	-0.06	0.098
15.00	-38.52	-5.28	0.00	-478.98	0.00	478.98	5,513.49	2,756.75	10,564.5	5,290.14	0.15	-0.09	0.098
20.00	-36.96	-5.22	0.00	-452.60	0.00	452.60	5,366.64	2,683.32	10,006.4	5,010.64	0.26	-0.12	0.097
25.00	-35.44	-5.16	0.00	-426.50	0.00	426.50	5,219.79	2,609.90	9,463.38	4,738.72	0.41	-0.16	0.097
30.00	-33.95	-5.10	0.00	-400.69	0.00	400.69	5,072.94	2,536.47	8,935.51	4,474.39	0.59	-0.19	0.096
35.00	-32.50	-5.05	0.00	-375.17	0.00	375.17	4,926.09	2,463.04	8,422.78	4,217.65	0.81	-0.23	0.096
40.00	-31.08	-5.01	0.00	-349.94	0.00	349.94	4,779.24	2,389.62	7,925.21	3,968.49	1.07	-0.26	0.095
40.13	-31.04	-4.98	0.00	-349.29	0.00	349.29	4,775.42	2,387.71	7,912.47	3,962.12	1.07	-0.26	0.095
45.00	-28.75	-4.94	0.00	-325.02	0.00	325.02	4,632.39	2,316.19	7,442.78	3,726.92	1.36	-0.30	0.093
45.88	-28.34	-4.91	0.00	-320.67	0.00	320.67	4,127.44	2,063.72	6,764.69	3,387.37	1.42	-0.30	0.102
50.00	-27.32	-4.85	0.00	-300.45	0.00	300.45	4,021.56	2,010.78	6,420.25	3,214.89	1.69	-0.33	0.100
55.00	-26.10	-4.79	0.00	-276.20	0.00	276.20	3,893.07	1,946.53	6,014.32	3,011.63	2.06	-0.37	0.098
60.00	-24.91	-4.72	0.00	-252.27	0.00	252.27	3,764.57	1,882.29	5,621.66	2,815.01	2.48	-0.41	0.096
65.00	-23.76	-4.65	0.00	-228.67	0.00	228.67	3,636.08	1,818.04	5,242.25	2,625.02	2.93	-0.45	0.094
70.00	-22.63	-4.59	0.00	-205.40	0.00	205.40	3,507.58	1,753.79	4,876.10	2,441.67	3.43	-0.49	0.091
75.00	-21.53	-4.52	0.00	-182.46	0.00	182.46	3,379.09	1,689.54	4,523.20	2,264.96	3.97	-0.53	0.087
79.67	-20.53	-4.49	0.00	-161.32	0.00	161.32	3,258.99	1,629.49	4,205.34	2,105.80	4.51	-0.57	0.083
80.00	-20.43	-4.46	0.00	-159.86	0.00	159.86	3,250.59	1,625.30	4,183.56	2,094.89	4.55	-0.57	0.083
84.34	-19.06	-4.41	0.00	-140.51	0.00	140.51	2,286.62	1,143.31	2,923.12	1,463.73	5.09	-0.61	0.104
85.00	-18.95	-4.38	0.00	-137.60	0.00	137.60	2,277.59	1,138.79	2,896.06	1,450.18	5.17	-0.61	0.103
90.00	-15.22	-3.83	0.00	-114.79	0.00	114.79	2,193.55	1,096.78	2,676.08	1,340.03	5.84	-0.66	0.093
95.00	-14.44	-3.76	0.00	-95.66	0.00	95.66	2,101.77	1,050.89	2,455.71	1,229.68	6.56	-0.71	0.085
100.00	-11.93	-3.23	0.00	-76.85	0.00	76.85	2,009.99	1,005.00	2,244.80	1,124.07	7.32	-0.75	0.074
105.00	-11.24	-3.17	0.00	-60.70	0.00	60.70	1,918.21	959.10	2,043.37	1,023.20	8.13	-0.79	0.065
110.00	-10.57	-3.10	0.00	-44.87	0.00	44.87	1,826.43	913.21	1,851.40	927.08	8.97	-0.82	0.054
115.00	-9.93	-3.06	0.00	-29.37	0.00	29.37	1,734.64	867.32	1,668.90	835.69	9.85	-0.85	0.041
115.22	-9.90	-3.04	0.00	-28.69	0.00	28.69	1,730.61	865.30	1,661.09	831.78	9.89	-0.85	0.040
118.80	-9.28	-3.01	0.00	-17.79	0.00	17.79	956.19	478.10	907.08	454.21	10.53	-0.86	0.049
120.00	-4.69	-1.27	0.00	-14.19	0.00	14.19	947.87	473.94	887.49	444.40	10.75	-0.87	0.037
125.00	-4.31	-1.21	0.00	-7.83	0.00	7.83	911.98	455.99	806.85	404.02	11.67	-0.89	0.024
130.00	-0.55	-0.16	0.00	-1.76	0.00	1.76	874.25	437.12	728.37	364.73	12.60	-0.90	0.005
135.00	-0.34	-0.11	0.00	-0.96	0.00	0.96	834.68	417.34	652.35	326.66	13.54	-0.90	0.003
140.00	0.00	-0.10	0.00	-0.41	0.00	0.41	787.55	393.77	574.90	287.88	14.48	-0.90	0.001

### Equivalent Lateral Forces Method Analysis

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

Spectral Response Acceleration for Short Period ( $S_s$ ):	0.18
Spectral Response Acceleration at 1.0 Second Period ( $S_1$ ):	0.06
Long-Period Transition Period ( $T_L$ ):	6
Importance Factor ( $I_E$ ):	1.00
Site Coefficient $F_a$ :	1.60
Site Coefficient $F_v$ :	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period ( $S_{ds}$ ):	0.19
Design Spectral Response Acceleration at 1.0 Second Period ( $S_{d1}$ ):	0.10
Seismic Response Coefficient ( $C_s$ ):	0.03
Upper Limit $C_s$	0.03
Lower Limit $C_s$	0.03
Period based on Rayleigh Method (sec):	2.05
Redundancy Factor ( $\rho$ ):	1.00
Seismic Force Distribution Exponent (k):	1.77
Total Unfactored Dead Load:	43.39 k
Seismic Base Shear (E):	1.45 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)
34	137.50	190	1,177	0.011	17	235
33	132.50	203	1,175	0.011	17	251
32	127.50	367	1,989	0.019	28	454
31	122.50	380	1,916	0.019	27	470
30	119.40	112	542	0.005	8	139
29	117.01	620	2,884	0.028	41	767
28	115.11	28	126	0.001	2	35
27	112.50	645	2,801	0.027	39	799
26	107.50	666	2,668	0.026	38	825
25	102.50	687	2,529	0.025	36	851
24	97.50	758	2,551	0.025	36	938
23	92.50	779	2,388	0.023	34	964
22	87.50	820	2,280	0.022	32	1,016
21	84.67	110	288	0.003	4	136
20	82.17	1,367	3,398	0.033	48	1,692
19	79.84	104	247	0.002	3	129
18	77.34	998	2,228	0.022	31	1,236
17	72.50	1,096	2,183	0.021	31	1,357
16	67.50	1,125	1,974	0.019	28	1,394
15	62.50	1,155	1,768	0.017	25	1,430
14	57.50	1,184	1,563	0.015	22	1,467
13	52.50	1,214	1,364	0.013	19	1,503
12	47.94	1,022	977	0.010	14	1,266



Site Number: 411256

Code: ANSI/TIA-222-G

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Site Name: CANTON CT, CT

Engineering Number: OAA745738\_C3\_02

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Customer: AT&T MOBILITY

11	45.44	407	354	0.003	5	504
10	42.56	2,288	1,772	0.017	25	2,834
9	40.06	36	25	0.000	0	45
8	37.50	1,419	878	0.009	12	1,757
7	32.50	1,452	697	0.007	10	1,799
6	27.50	1,486	530	0.005	7	1,840
5	22.50	1,520	380	0.004	5	1,882
4	17.50	1,553	249	0.002	3	1,924
3	12.50	1,587	140	0.001	2	1,965
2	7.50	1,621	58	0.001	1	2,007
1	2.50	1,654	8	0.000	0	2,049
Stand-Off	140.00	100	640	0.006	9	124
Generic 18' Omni	140.00	55	352	0.003	5	68
CCI DTMAPB7819VG12A	130.00	115	646	0.006	9	143
Raycap DC6-48-60-0-8	130.00	66	368	0.004	5	81
Raycap DC6-48-60-0-8	130.00	33	184	0.002	3	41
Ericsson RRUS 8843 B	130.00	216	1,212	0.012	17	267
Ericsson RRUS 4449 B	130.00	213	1,195	0.012	17	264
Ericsson RRUS 32 (50	130.00	152	855	0.008	12	189
Kathrein Scala 800-1	130.00	132	742	0.007	10	164
Andrew SBNHH-1D65A (	130.00	34	188	0.002	3	41
CCI HPA-65R-BUU-H8	130.00	136	763	0.007	11	168
Kathrein Scala 84037	130.00	317	1,780	0.017	25	393
Flat Platform w/ Han	130.00	2,000	11,218	0.109	158	2,477
Generic GPS	120.00	10	49	0.000	1	12
Samsung PCS/AWS Dual	120.00	253	1,232	0.012	17	314
Samsung 700/850MHz D	120.00	211	1,026	0.010	14	261
RFS DB-T1-6Z-8AB-0Z	120.00	88	428	0.004	6	109
Antel LPA-80080/4CF	120.00	48	234	0.002	3	59
Antel LPA-80063/4CF	120.00	40	195	0.002	3	50
Amphenol Antel BXA-7	120.00	51	248	0.002	3	63
Commscope SBNHH-1D65	120.00	304	1,480	0.014	21	377
Flat Platform w/ Han	120.00	2,000	9,733	0.095	137	2,477
VZW Unused Reserve:	120.00	1,497	7,283	0.071	102	1,853
Commscope ATSBT-TOP-	100.00	5	19	0.000	0	7
RFS ATMA4P4DBP-1A20	100.00	48	168	0.002	2	59
RFS APXV18-209014-C-	100.00	56	198	0.002	3	69
Andrew LNX-6515DS-A1	100.00	149	526	0.005	7	185
Flat Low Profile Pla	100.00	1,500	5,283	0.051	74	1,858
PCTEL GPS-TMG-HR-26N	90.00	1	2	0.000	0	1
Generic 12" x 12" Ju	90.00	30	88	0.001	1	37
Alcatel-Lucent RRH2x	90.00	159	464	0.005	7	197
Alcatel-Lucent 800 M	90.00	159	465	0.005	7	197
Alcatel-Lucent 1900	90.00	180	526	0.005	7	223
Alcatel-Lucent TD-RR	90.00	210	614	0.006	9	260
RFS APXVSP18-C-A20	90.00	171	500	0.005	7	212
Generic Round Platfo	90.00	2,000	5,844	0.057	82	2,477
		43,393	102,852	1.000	1,447	53,737

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

Seismic (Reduced DL) Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	W <sub>z</sub> (lb-ft)	C <sub>vx</sub>	Horizontal Force (lb)	Vertical Force (lb)
34	137.50	190	1,177	0.011	17	164
33	132.50	203	1,175	0.011	17	175
32	127.50	367	1,989	0.019	28	316
31	122.50	380	1,916	0.019	27	327
30	119.40	112	542	0.005	8	97
29	117.01	620	2,884	0.028	41	534
28	115.11	28	126	0.001	2	24

27	112.50	645	2,801	0.027	39	556
26	107.50	666	2,668	0.026	38	574
25	102.50	687	2,529	0.025	36	592
24	97.50	758	2,551	0.025	36	653
23	92.50	779	2,388	0.023	34	671
22	87.50	820	2,280	0.022	32	707
21	84.67	110	288	0.003	4	95
20	82.17	1,367	3,398	0.033	48	1,177
19	79.84	104	247	0.002	3	90
18	77.34	998	2,228	0.022	31	860
17	72.50	1,096	2,183	0.021	31	944
16	67.50	1,125	1,974	0.019	28	970
15	62.50	1,155	1,768	0.017	25	995
14	57.50	1,184	1,563	0.015	22	1,020
13	52.50	1,214	1,364	0.013	19	1,046
12	47.94	1,022	977	0.010	14	881
11	45.44	407	354	0.003	5	351
10	42.56	2,288	1,772	0.017	25	1,972
9	40.06	36	25	0.000	0	31
8	37.50	1,419	878	0.009	12	1,222
7	32.50	1,452	697	0.007	10	1,251
6	27.50	1,486	530	0.005	7	1,280
5	22.50	1,520	380	0.004	5	1,309
4	17.50	1,553	249	0.002	3	1,338
3	12.50	1,587	140	0.001	2	1,367
2	7.50	1,621	58	0.001	1	1,396
1	2.50	1,654	8	0.000	0	1,425
Stand-Off	140.00	100	640	0.006	9	86
Generic 18' Omni	140.00	55	352	0.003	5	47
CCI DTMAPB7819VG12A	130.00	115	646	0.006	9	99
Raycap DC6-48-60-0-8	130.00	66	368	0.004	5	57
Raycap DC6-48-60-0-8	130.00	33	184	0.002	3	28
Ericsson RRUS 8843 B	130.00	216	1,212	0.012	17	186
Ericsson RRUS 4449 B	130.00	213	1,195	0.012	17	184
Ericsson RRUS 32 (50	130.00	152	855	0.008	12	131
Kathrein Scala 800-1	130.00	132	742	0.007	10	114
Andrew SBNHH-1D65A (	130.00	34	188	0.002	3	29
CCI HPA-65R-BUU-H8	130.00	136	763	0.007	11	117
Kathrein Scala 84037	130.00	317	1,780	0.017	25	273
Flat Platform w/ Han	130.00	2,000	11,218	0.109	158	1,723
Generic GPS	120.00	10	49	0.000	1	9
Samsung PCS/AWS Dual	120.00	253	1,232	0.012	17	218
Samsung 700/850MHz D	120.00	211	1,026	0.010	14	182
RFS DB-T1-6Z-8AB-0Z	120.00	88	428	0.004	6	76
Antel LPA-80080/4CF	120.00	48	234	0.002	3	41
Antel LPA-80063/4CF	120.00	40	195	0.002	3	34
Amphenol Antel BXA-7	120.00	51	248	0.002	3	44
Commscope SBNHH-1D65	120.00	304	1,480	0.014	21	262
Flat Platform w/ Han	120.00	2,000	9,733	0.095	137	1,723
VZW Unused Reserve:	120.00	1,497	7,283	0.071	102	1,289
Commscope ATSBT-TOP-	100.00	5	19	0.000	0	5
RFS ATMA4P4DBP-1A20	100.00	48	168	0.002	2	41
RFS APXV18-209014-C-	100.00	56	198	0.002	3	48
Andrew LNX-6515DS-A1	100.00	149	526	0.005	7	129
Flat Low Profile Pla	100.00	1,500	5,283	0.051	74	1,292
PCTEL GPS-TMG-HR-26N	90.00	1	2	0.000	0	1
Generic 12" x 12" Ju	90.00	30	88	0.001	1	26
Alcatel-Lucent RRH2x	90.00	159	464	0.005	7	137
Alcatel-Lucent 800 M	90.00	159	465	0.005	7	137
Alcatel-Lucent 1900	90.00	180	526	0.005	7	155
Alcatel-Lucent TD-RR	90.00	210	614	0.006	9	181
RFS APXVSP18-C-A20	90.00	171	500	0.005	7	147
Generic Round Platfo	90.00	2,000	5,844	0.057	82	1,723

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Site Number: 411256

Code: ANSI/TIA-222-G © 2007 - 2019 by ATC IP LLC. All rights reserved.

Site Name: CANTON CT, CT

Engineering Number: OAA745738\_C3\_02

6/25/2019 6:26:46 PM

Customer: AT&T MOBILITY

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43,393

102,852

1.000

1,447

37,387

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	-51.69	-1.45	0.00	-154.54	0.00	154.54	5,907.57	2,953.79	12,233.7	6,125.97	0.00	0.00	0.034
5.00	-49.68	-1.46	0.00	-147.29	0.00	147.29	5,798.21	2,899.11	11,708.2	5,862.82	0.00	-0.01	0.034
10.00	-47.72	-1.46	0.00	-140.01	0.00	140.01	5,660.34	2,830.17	11,137.9	5,577.23	0.02	-0.02	0.034
15.00	-45.79	-1.46	0.00	-132.70	0.00	132.70	5,513.49	2,756.75	10,564.5	5,290.14	0.04	-0.03	0.033
20.00	-43.91	-1.47	0.00	-125.38	0.00	125.38	5,366.64	2,683.32	10,006.4	5,010.64	0.07	-0.03	0.033
25.00	-42.07	-1.46	0.00	-118.05	0.00	118.05	5,219.79	2,609.90	9,463.38	4,738.72	0.11	-0.04	0.033
30.00	-40.27	-1.46	0.00	-110.73	0.00	110.73	5,072.94	2,536.47	8,935.51	4,474.39	0.16	-0.05	0.033
35.00	-38.51	-1.45	0.00	-103.44	0.00	103.44	4,926.09	2,463.04	8,422.78	4,217.65	0.22	-0.06	0.032
40.00	-38.47	-1.45	0.00	-96.19	0.00	96.19	4,779.24	2,389.62	7,925.21	3,968.49	0.30	-0.07	0.032
40.13	-35.63	-1.43	0.00	-96.00	0.00	96.00	4,775.42	2,387.71	7,912.47	3,962.12	0.30	-0.07	0.032
45.00	-35.13	-1.43	0.00	-89.04	0.00	89.04	4,632.39	2,316.19	7,442.78	3,726.92	0.38	-0.08	0.031
45.88	-33.86	-1.41	0.00	-87.79	0.00	87.79	4,127.44	2,063.72	6,764.69	3,387.37	0.39	-0.08	0.034
50.00	-32.36	-1.40	0.00	-81.96	0.00	81.96	4,021.56	2,010.78	6,420.25	3,214.89	0.47	-0.09	0.034
55.00	-30.89	-1.38	0.00	-74.98	0.00	74.98	3,893.07	1,946.53	6,014.32	3,011.63	0.57	-0.10	0.033
60.00	-29.46	-1.36	0.00	-68.08	0.00	68.08	3,764.57	1,882.29	5,621.66	2,815.01	0.68	-0.11	0.032
65.00	-28.07	-1.33	0.00	-61.30	0.00	61.30	3,636.08	1,818.04	5,242.25	2,625.02	0.81	-0.12	0.031
70.00	-26.71	-1.30	0.00	-54.64	0.00	54.64	3,507.58	1,753.79	4,876.10	2,441.67	0.95	-0.14	0.030
75.00	-25.48	-1.27	0.00	-48.13	0.00	48.13	3,379.09	1,689.54	4,523.20	2,264.96	1.09	-0.15	0.029
79.67	-25.35	-1.27	0.00	-42.18	0.00	42.18	3,258.99	1,629.49	4,205.34	2,105.80	1.24	-0.16	0.028
80.00	-23.65	-1.22	0.00	-41.77	0.00	41.77	3,250.59	1,625.30	4,183.56	2,094.89	1.25	-0.16	0.027
84.34	-23.52	-1.22	0.00	-36.47	0.00	36.47	2,286.62	1,143.31	2,923.12	1,463.73	1.40	-0.17	0.035
85.00	-22.50	-1.19	0.00	-35.66	0.00	35.66	2,277.59	1,138.79	2,896.06	1,450.18	1.42	-0.17	0.034
90.00	-17.94	-1.02	0.00	-29.73	0.00	29.73	2,193.55	1,096.78	2,676.08	1,340.03	1.60	-0.18	0.030
95.00	-17.00	-0.99	0.00	-24.62	0.00	24.62	2,101.77	1,050.89	2,455.71	1,229.68	1.80	-0.19	0.028
100.00	-13.97	-0.86	0.00	-19.68	0.00	19.68	2,009.99	1,005.00	2,244.80	1,124.07	2.00	-0.20	0.024
105.00	-13.14	-0.82	0.00	-15.40	0.00	15.40	1,918.21	959.10	2,043.37	1,023.20	2.22	-0.21	0.022
110.00	-12.34	-0.78	0.00	-11.31	0.00	11.31	1,826.43	913.21	1,851.40	927.08	2.44	-0.22	0.019
115.00	-12.31	-0.78	0.00	-7.42	0.00	7.42	1,734.64	867.32	1,668.90	835.69	2.68	-0.23	0.016
115.22	-11.54	-0.73	0.00	-7.25	0.00	7.25	1,730.61	865.30	1,661.09	831.78	2.69	-0.23	0.015
118.80	-11.40	-0.73	0.00	-4.62	0.00	4.62	956.19	478.10	907.08	454.21	2.86	-0.23	0.022
120.00	-5.36	-0.37	0.00	-3.75	0.00	3.75	947.87	473.94	887.49	444.40	2.92	-0.23	0.014
125.00	-4.90	-0.34	0.00	-1.92	0.00	1.92	911.98	455.99	806.85	404.02	3.17	-0.24	0.010
130.00	-0.43	-0.03	0.00	-0.23	0.00	0.23	874.25	437.12	728.37	364.73	3.41	-0.24	0.001
135.00	-0.19	-0.01	0.00	-0.07	0.00	0.07	834.68	417.34	652.35	326.66	3.66	-0.24	0.000
140.00	0.00	-0.01	0.00	0.00	0.00	0.00	787.55	393.77	574.90	287.88	3.91	-0.24	0.000

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

Seismic (Reduced DL) Equivalent Lateral Forces Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-35.96	-1.45	0.00	-152.70	0.00	152.70	5,907.57	2,953.79	12,233.7	6,125.97	0.00	0.00	0.031
5.00	-34.57	-1.45	0.00	-145.46	0.00	145.46	5,798.21	2,899.11	11,708.2	5,862.82	0.00	-0.01	0.031
10.00	-33.20	-1.46	0.00	-138.19	0.00	138.19	5,660.34	2,830.17	11,137.9	5,577.23	0.02	-0.02	0.031
15.00	-31.86	-1.46	0.00	-130.91	0.00	130.91	5,513.49	2,756.75	10,564.5	5,290.14	0.04	-0.03	0.031
20.00	-30.55	-1.46	0.00	-123.62	0.00	123.62	5,366.64	2,683.32	10,006.4	5,010.64	0.07	-0.03	0.030
25.00	-29.27	-1.45	0.00	-116.35	0.00	116.35	5,219.79	2,609.90	9,463.38	4,738.72	0.11	-0.04	0.030
30.00	-28.02	-1.45	0.00	-109.09	0.00	109.09	5,072.94	2,536.47	8,935.51	4,474.39	0.16	-0.05	0.030
35.00	-26.79	-1.44	0.00	-101.86	0.00	101.86	4,926.09	2,463.04	8,422.78	4,217.65	0.22	-0.06	0.030
40.00	-26.76	-1.44	0.00	-94.67	0.00	94.67	4,779.24	2,389.62	7,925.21	3,968.49	0.29	-0.07	0.029
40.13	-24.79	-1.41	0.00	-94.49	0.00	94.49	4,775.42	2,387.71	7,912.47	3,962.12	0.29	-0.07	0.029
45.00	-24.44	-1.41	0.00	-87.60	0.00	87.60	4,632.39	2,316.19	7,442.78	3,726.92	0.37	-0.08	0.029
45.88	-23.56	-1.40	0.00	-86.36	0.00	86.36	4,127.44	2,063.72	6,764.69	3,387.37	0.39	-0.08	0.031
50.00	-22.51	-1.38	0.00	-80.61	0.00	80.61	4,021.56	2,010.78	6,420.25	3,214.89	0.46	-0.09	0.031
55.00	-21.49	-1.36	0.00	-73.71	0.00	73.71	3,893.07	1,946.53	6,014.32	3,011.63	0.56	-0.10	0.030
60.00	-20.50	-1.34	0.00	-66.90	0.00	66.90	3,764.57	1,882.29	5,621.66	2,815.01	0.67	-0.11	0.029
65.00	-19.53	-1.31	0.00	-60.22	0.00	60.22	3,636.08	1,818.04	5,242.25	2,625.02	0.80	-0.12	0.028
70.00	-18.58	-1.28	0.00	-53.66	0.00	53.66	3,507.58	1,753.79	4,876.10	2,441.67	0.93	-0.13	0.027
75.00	-17.72	-1.25	0.00	-47.25	0.00	47.25	3,379.09	1,689.54	4,523.20	2,264.96	1.08	-0.14	0.026
79.67	-17.63	-1.25	0.00	-41.40	0.00	41.40	3,258.99	1,629.49	4,205.34	2,105.80	1.22	-0.15	0.025
80.00	-16.46	-1.20	0.00	-40.99	0.00	40.99	3,250.59	1,625.30	4,183.56	2,094.89	1.23	-0.15	0.025
84.34	-16.36	-1.20	0.00	-35.79	0.00	35.79	2,286.62	1,143.31	2,923.12	1,463.73	1.38	-0.16	0.032
85.00	-15.65	-1.16	0.00	-35.00	0.00	35.00	2,277.59	1,138.79	2,896.06	1,450.18	1.40	-0.16	0.031
90.00	-12.48	-1.00	0.00	-29.17	0.00	29.17	2,193.55	1,096.78	2,676.08	1,340.03	1.58	-0.18	0.027
95.00	-11.82	-0.97	0.00	-24.15	0.00	24.15	2,101.77	1,050.89	2,455.71	1,229.68	1.77	-0.19	0.025
100.00	-9.72	-0.84	0.00	-19.30	0.00	19.30	2,009.99	1,005.00	2,244.80	1,124.07	1.97	-0.20	0.022
105.00	-9.14	-0.80	0.00	-15.10	0.00	15.10	1,918.21	959.10	2,043.37	1,023.20	2.18	-0.21	0.020
110.00	-8.59	-0.76	0.00	-11.09	0.00	11.09	1,826.43	913.21	1,851.40	927.08	2.41	-0.22	0.017
115.00	-8.56	-0.76	0.00	-7.27	0.00	7.27	1,734.64	867.32	1,668.90	835.69	2.64	-0.22	0.014
115.22	-8.03	-0.72	0.00	-7.11	0.00	7.11	1,730.61	865.30	1,661.09	831.78	2.65	-0.22	0.013
118.80	-7.93	-0.71	0.00	-4.53	0.00	4.53	956.19	478.10	907.08	454.21	2.82	-0.23	0.018
120.00	-3.73	-0.36	0.00	-3.68	0.00	3.68	947.87	473.94	887.49	444.40	2.87	-0.23	0.012
125.00	-3.41	-0.33	0.00	-1.88	0.00	1.88	911.98	455.99	806.85	404.02	3.12	-0.23	0.008
130.00	-0.30	-0.03	0.00	-0.23	0.00	0.23	874.25	437.12	728.37	364.73	3.36	-0.23	0.001
135.00	-0.13	-0.01	0.00	-0.07	0.00	0.07	834.68	417.34	652.35	326.66	3.61	-0.23	0.000
140.00	0.00	-0.01	0.00	0.00	0.00	0.00	787.55	393.77	574.90	287.88	3.85	-0.23	0.000

### Equivalent Modal Analysis Method

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

Spectral Response Acceleration for Short Period ( $S_s$ ):	0.18
Spectral Response Acceleration at 1.0 Second Period ( $S_1$ ):	0.06
Importance Factor ( $I_E$ ):	1.00
Site Coefficient $F_a$ :	1.60
Site Coefficient $F_v$ :	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period ( $S_{ds}$ ):	0.19
Design Spectral Response Acceleration at 1.0 Second Period ( $S_{d1}$ ):	0.10
Period Based on Rayleigh Method (sec):	2.05
Redundancy Factor ( $\rho$ ):	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)
34	137.50	190	1.823	1.646	1.018	0.326	41	235
33	132.50	203	1.693	1.096	0.804	0.249	34	251
32	127.50	367	1.568	0.682	0.627	0.182	44	454
31	122.50	380	1.447	0.379	0.482	0.124	31	470
30	119.40	112	1.375	0.238	0.406	0.092	7	139
29	117.01	620	1.320	0.150	0.354	0.071	29	767
28	115.11	28	1.278	0.091	0.317	0.055	1	35
27	112.50	645	1.220	0.025	0.270	0.036	15	799
26	107.50	666	1.114	-0.061	0.196	0.005	2	825
25	102.50	687	1.013	-0.106	0.138	-0.016	-7	851
24	97.50	758	0.917	-0.121	0.094	-0.028	-14	938
23	92.50	779	0.825	-0.116	0.061	-0.032	-17	964
22	87.50	820	0.738	-0.098	0.038	-0.028	-15	1,016
21	84.67	110	0.691	-0.084	0.028	-0.023	-2	136
20	82.17	1,367	0.651	-0.071	0.021	-0.017	-16	1,692
19	79.84	104	0.615	-0.058	0.016	-0.011	-1	129
18	77.34	998	0.577	-0.044	0.012	-0.004	-2	1,236
17	72.50	1,096	0.507	-0.019	0.007	0.011	8	1,357
16	67.50	1,125	0.439	0.005	0.006	0.025	19	1,394
15	62.50	1,155	0.377	0.025	0.007	0.036	27	1,430
14	57.50	1,184	0.319	0.041	0.011	0.043	34	1,467
13	52.50	1,214	0.266	0.052	0.015	0.047	38	1,503
12	47.94	1,022	0.222	0.060	0.020	0.048	33	1,266
11	45.44	407	0.199	0.063	0.023	0.049	13	504
10	42.56	2,288	0.175	0.066	0.027	0.048	74	2,834
9	40.06	36	0.155	0.067	0.029	0.048	1	45
8	37.50	1,419	0.136	0.069	0.032	0.047	45	1,757
7	32.50	1,452	0.102	0.071	0.037	0.046	45	1,799
6	27.50	1,486	0.073	0.072	0.040	0.045	44	1,840
5	22.50	1,520	0.049	0.071	0.042	0.043	44	1,882
4	17.50	1,553	0.030	0.068	0.040	0.041	42	1,924
3	12.50	1,587	0.015	0.061	0.036	0.037	39	1,965
2	7.50	1,621	0.005	0.046	0.026	0.029	31	2,007
1	2.50	1,654	0.001	0.019	0.010	0.013	15	2,049

Stand-Off	140.00	100	1.890	1.980	1.140	0.368	25	124
Generic 18' Omni	140.00	55	1.890	1.980	1.140	0.368	14	68
CCI DTMAPB7819VG12A	130.00	115	1.630	0.873	0.711	0.214	16	143
Raycap DC6-48-60-0-8	130.00	66	1.630	0.873	0.711	0.214	9	81
Raycap DC6-48-60-0-8	130.00	33	1.630	0.873	0.711	0.214	5	41
Ericsson RRUS 8843 B	130.00	216	1.630	0.873	0.711	0.214	31	267
Ericsson RRUS 4449 B	130.00	213	1.630	0.873	0.711	0.214	30	264
Ericsson RRUS 32 (50	130.00	152	1.630	0.873	0.711	0.214	22	189
Kathrein Scala 800-1	130.00	132	1.630	0.873	0.711	0.214	19	164
Andrew SBNHH-1D65A (	130.00	34	1.630	0.873	0.711	0.214	5	41
CCI HPA-65R-BUU-H8	130.00	136	1.630	0.873	0.711	0.214	19	168
Kathrein Scala 84037	130.00	317	1.630	0.873	0.711	0.214	45	393
Flat Platform w/ Han	130.00	2,000	1.630	0.873	0.711	0.214	285	2,477
Generic GPS	120.00	10	1.389	0.263	0.420	0.098	1	12
Samsung PCS/AWS	120.00	253	1.389	0.263	0.420	0.098	17	314
Samsung 700/850MHz D	120.00	211	1.389	0.263	0.420	0.098	14	261
RFS DB-T1-6Z-8AB-OZ	120.00	88	1.389	0.263	0.420	0.098	6	109
Antel LPA-80080/4CF	120.00	48	1.389	0.263	0.420	0.098	3	59
Antel LPA-80063/4CF	120.00	40	1.389	0.263	0.420	0.098	3	50
Amphenol Antel BXA-7	120.00	51	1.389	0.263	0.420	0.098	3	63
Commscope SBNHH-	120.00	304	1.389	0.263	0.420	0.098	20	377
Flat Platform w/ Han	120.00	2,000	1.389	0.263	0.420	0.098	131	2,477
VZW Unused Reserve:	120.00	1,497	1.389	0.263	0.420	0.098	98	1,853
Commscope ATSBT-	100.00	5	0.964	-0.117	0.114	-0.023	0	7
RFS ATMA4P4DBP-1A20	100.00	48	0.964	-0.117	0.114	-0.023	-1	59
RFS APXV18-209014-C-	100.00	56	0.964	-0.117	0.114	-0.023	-1	69
Andrew LNX-6515DS-A1	100.00	149	0.964	-0.117	0.114	-0.023	-2	185
Flat Low Profile Pla	100.00	1,500	0.964	-0.117	0.114	-0.023	-23	1,858
PCTEL GPS-TMG-HR-	90.00	1	0.781	-0.108	0.049	-0.031	0	1
Generic 12" x 12" Ju	90.00	30	0.781	-0.108	0.049	-0.031	-1	37
Alcatel-Lucent RRH2x	90.00	159	0.781	-0.108	0.049	-0.031	-3	197
Alcatel-Lucent 800 M	90.00	159	0.781	-0.108	0.049	-0.031	-3	197
Alcatel-Lucent 1900	90.00	180	0.781	-0.108	0.049	-0.031	-4	223
Alcatel-Lucent TD-RR	90.00	210	0.781	-0.108	0.049	-0.031	-4	260
RFS APXVSP18-C-A20	90.00	171	0.781	-0.108	0.049	-0.031	-4	212
Generic Round Platfo	90.00	2,000	0.781	-0.108	0.049	-0.031	-41	2,477
		43,393	68.594	19.121	20.555	5.343	1,415	53,737

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)
34	137.50	190	1.823	1.646	1.018	0.326	41	164
33	132.50	203	1.693	1.096	0.804	0.249	34	175
32	127.50	367	1.568	0.682	0.627	0.182	44	316
31	122.50	380	1.447	0.379	0.482	0.124	31	327
30	119.40	112	1.375	0.238	0.406	0.092	7	97
29	117.01	620	1.320	0.150	0.354	0.071	29	534
28	115.11	28	1.278	0.091	0.317	0.055	1	24
27	112.50	645	1.220	0.025	0.270	0.036	15	556
26	107.50	666	1.114	-0.061	0.196	0.005	2	574
25	102.50	687	1.013	-0.106	0.138	-0.016	-7	592
24	97.50	758	0.917	-0.121	0.094	-0.028	-14	653
23	92.50	779	0.825	-0.116	0.061	-0.032	-17	671
22	87.50	820	0.738	-0.098	0.038	-0.028	-15	707
21	84.67	110	0.691	-0.084	0.028	-0.023	-2	95
20	82.17	1,367	0.651	-0.071	0.021	-0.017	-16	1,177
19	79.84	104	0.615	-0.058	0.016	-0.011	-1	90
18	77.34	998	0.577	-0.044	0.012	-0.004	-2	860

17	72.50	1,096	0.507	-0.019	0.007	0.011	8	944
16	67.50	1,125	0.439	0.005	0.006	0.025	19	970
15	62.50	1,155	0.377	0.025	0.007	0.036	27	995
14	57.50	1,184	0.319	0.041	0.011	0.043	34	1,020
13	52.50	1,214	0.266	0.052	0.015	0.047	38	1,046
12	47.94	1,022	0.222	0.060	0.020	0.048	33	881
11	45.44	407	0.199	0.063	0.023	0.049	13	351
10	42.56	2,288	0.175	0.066	0.027	0.048	74	1,972
9	40.06	36	0.155	0.067	0.029	0.048	1	31
8	37.50	1,419	0.136	0.069	0.032	0.047	45	1,222
7	32.50	1,452	0.102	0.071	0.037	0.046	45	1,251
6	27.50	1,486	0.073	0.072	0.040	0.045	44	1,280
5	22.50	1,520	0.049	0.071	0.042	0.043	44	1,309
4	17.50	1,553	0.030	0.068	0.040	0.041	42	1,338
3	12.50	1,587	0.015	0.061	0.036	0.037	39	1,367
2	7.50	1,621	0.005	0.046	0.026	0.029	31	1,396
1	2.50	1,654	0.001	0.019	0.010	0.013	15	1,425
Stand-Off	140.00	100	1.890	1.980	1.140	0.368	25	86
Generic 18' Omni	140.00	55	1.890	1.980	1.140	0.368	14	47
CCI DTMAPB7819VG12A	130.00	115	1.630	0.873	0.711	0.214	16	99
Raycap DC6-48-60-0-8	130.00	66	1.630	0.873	0.711	0.214	9	57
Raycap DC6-48-60-0-8	130.00	33	1.630	0.873	0.711	0.214	5	28
Ericsson RRUS 8843 B	130.00	216	1.630	0.873	0.711	0.214	31	186
Ericsson RRUS 4449 B	130.00	213	1.630	0.873	0.711	0.214	30	184
Ericsson RRUS 32 (50	130.00	152	1.630	0.873	0.711	0.214	22	131
Kathrein Scala 800-1	130.00	132	1.630	0.873	0.711	0.214	19	114
Andrew SBNHH-1D65A (	130.00	34	1.630	0.873	0.711	0.214	5	29
CCI HPA-65R-BUU-H8	130.00	136	1.630	0.873	0.711	0.214	19	117
Kathrein Scala 84037	130.00	317	1.630	0.873	0.711	0.214	45	273
Flat Platform w/ Han	130.00	2,000	1.630	0.873	0.711	0.214	285	1,723
Generic GPS	120.00	10	1.389	0.263	0.420	0.098	1	9
Samsung PCS/AWS	120.00	253	1.389	0.263	0.420	0.098	17	218
Samsung 700/850MHz D	120.00	211	1.389	0.263	0.420	0.098	14	182
RFS DB-T1-6Z-8AB-0Z	120.00	88	1.389	0.263	0.420	0.098	6	76
Antel LPA-80080/4CF	120.00	48	1.389	0.263	0.420	0.098	3	41
Antel LPA-80063/4CF	120.00	40	1.389	0.263	0.420	0.098	3	34
Amphenol Antel BXA-7	120.00	51	1.389	0.263	0.420	0.098	3	44
Commscope SBNHH-	120.00	304	1.389	0.263	0.420	0.098	20	262
Flat Platform w/ Han	120.00	2,000	1.389	0.263	0.420	0.098	131	1,723
VZW Unused Reserve:	120.00	1,497	1.389	0.263	0.420	0.098	98	1,289
Commscope ATSBT-	100.00	5	0.964	-0.117	0.114	-0.023	0	5
RFS ATMA4P4DBP-1A20	100.00	48	0.964	-0.117	0.114	-0.023	-1	41
RFS APXV18-209014-C-	100.00	56	0.964	-0.117	0.114	-0.023	-1	48
Andrew LNX-6515DS-A1	100.00	149	0.964	-0.117	0.114	-0.023	-2	129
Flat Low Profile Pla	100.00	1,500	0.964	-0.117	0.114	-0.023	-23	1,292
PCTEL GPS-TMG-HR-	90.00	1	0.781	-0.108	0.049	-0.031	0	1
Generic 12" x 12" Ju	90.00	30	0.781	-0.108	0.049	-0.031	-1	26
Alcatel-Lucent RRH2x	90.00	159	0.781	-0.108	0.049	-0.031	-3	137
Alcatel-Lucent 800 M	90.00	159	0.781	-0.108	0.049	-0.031	-3	137
Alcatel-Lucent 1900	90.00	180	0.781	-0.108	0.049	-0.031	-4	155
Alcatel-Lucent TD-RR	90.00	210	0.781	-0.108	0.049	-0.031	-4	181
RFS APXVSP18-C-A20	90.00	171	0.781	-0.108	0.049	-0.031	-4	147
Generic Round Platfo	90.00	2,000	0.781	-0.108	0.049	-0.031	-41	1,723
		43,393	68.594	19.121	20.555	5.343	1,415	37,387



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	-51.69	-1.40	0.00	-138.72	0.00	138.72	5,907.57	2,953.79	12,233.76	6,125.97	0.00	0.00	0.031
5.00	-49.68	-1.38	0.00	-131.71	0.00	131.71	5,798.21	2,899.11	11,708.23	5,862.82	0.00	-0.01	0.031
10.00	-47.72	-1.35	0.00	-124.81	0.00	124.81	5,660.34	2,830.17	11,137.90	5,577.23	0.02	-0.02	0.031
15.00	-45.79	-1.31	0.00	-118.08	0.00	118.08	5,513.49	2,756.75	10,564.58	5,290.14	0.04	-0.02	0.031
20.00	-43.91	-1.27	0.00	-111.54	0.00	111.54	5,366.64	2,683.32	10,006.41	5,010.64	0.06	-0.03	0.030
25.00	-42.07	-1.23	0.00	-105.19	0.00	105.19	5,219.79	2,609.90	9,463.38	4,738.72	0.10	-0.04	0.030
30.00	-40.27	-1.19	0.00	-99.03	0.00	99.03	5,072.94	2,536.47	8,935.51	4,474.39	0.15	-0.05	0.030
35.00	-38.51	-1.15	0.00	-93.07	0.00	93.07	4,926.09	2,463.04	8,422.78	4,217.65	0.20	-0.06	0.030
40.00	-38.47	-1.15	0.00	-87.32	0.00	87.32	4,779.24	2,389.62	7,925.21	3,968.49	0.26	-0.06	0.030
40.13	-35.63	-1.08	0.00	-87.17	0.00	87.17	4,775.42	2,387.71	7,912.47	3,962.12	0.27	-0.06	0.029
45.00	-35.13	-1.07	0.00	-81.92	0.00	81.92	4,632.39	2,316.19	7,442.78	3,726.92	0.34	-0.07	0.030
45.88	-33.86	-1.04	0.00	-80.98	0.00	80.98	4,127.44	2,063.72	6,764.69	3,387.37	0.35	-0.08	0.032
50.00	-32.36	-1.00	0.00	-76.72	0.00	76.72	4,021.56	2,010.78	6,420.25	3,214.89	0.42	-0.08	0.032
55.00	-30.89	-0.97	0.00	-71.71	0.00	71.71	3,893.07	1,946.53	6,014.32	3,011.63	0.51	-0.09	0.032
60.00	-29.46	-0.95	0.00	-66.86	0.00	66.86	3,764.57	1,882.29	5,621.66	2,815.01	0.61	-0.10	0.032
65.00	-28.07	-0.93	0.00	-62.13	0.00	62.13	3,636.08	1,818.04	5,242.25	2,625.02	0.73	-0.11	0.031
70.00	-26.71	-0.92	0.00	-57.48	0.00	57.48	3,507.58	1,753.79	4,876.10	2,441.67	0.85	-0.13	0.031
75.00	-25.48	-0.93	0.00	-52.86	0.00	52.86	3,379.09	1,689.54	4,523.20	2,264.96	0.99	-0.14	0.031
79.67	-25.35	-0.93	0.00	-48.52	0.00	48.52	3,258.99	1,629.49	4,205.34	2,105.80	1.13	-0.15	0.031
80.00	-23.66	-0.95	0.00	-48.22	0.00	48.22	3,250.59	1,625.30	4,183.56	2,094.89	1.14	-0.15	0.030
84.34	-23.52	-0.95	0.00	-44.11	0.00	44.11	2,286.62	1,143.31	2,923.12	1,463.73	1.28	-0.16	0.040
85.00	-22.50	-0.97	0.00	-43.49	0.00	43.49	2,277.59	1,138.79	2,896.06	1,450.18	1.30	-0.16	0.040
90.00	-17.94	-1.03	0.00	-38.66	0.00	38.66	2,193.55	1,096.78	2,676.08	1,340.03	1.48	-0.18	0.037
95.00	-17.00	-1.05	0.00	-33.49	0.00	33.49	2,101.77	1,050.89	2,455.71	1,229.68	1.67	-0.19	0.035
100.00	-13.97	-1.08	0.00	-28.24	0.00	28.24	2,009.99	1,005.00	2,244.80	1,124.07	1.88	-0.21	0.032
105.00	-13.14	-1.07	0.00	-22.86	0.00	22.86	1,918.21	959.10	2,043.37	1,023.20	2.11	-0.22	0.029
110.00	-12.34	-1.06	0.00	-17.49	0.00	17.49	1,826.43	913.21	1,851.40	927.08	2.35	-0.23	0.026
115.00	-12.31	-1.06	0.00	-12.19	0.00	12.19	1,734.64	867.32	1,668.90	835.69	2.60	-0.25	0.022
115.22	-11.54	-1.03	0.00	-11.96	0.00	11.96	1,730.61	865.30	1,661.09	831.78	2.61	-0.25	0.021
118.80	-11.40	-1.02	0.00	-8.28	0.00	8.28	956.19	478.10	907.08	454.21	2.80	-0.25	0.030
120.00	-5.36	-0.67	0.00	-7.06	0.00	7.06	947.87	473.94	887.49	444.40	2.86	-0.25	0.022
125.00	-4.90	-0.62	0.00	-3.71	0.00	3.71	911.98	455.99	806.85	404.02	3.13	-0.26	0.015
130.00	-0.43	-0.08	0.00	-0.60	0.00	0.60	874.25	437.12	728.37	364.73	3.41	-0.27	0.002
135.00	-0.19	-0.04	0.00	-0.19	0.00	0.19	834.68	417.34	652.35	326.66	3.69	-0.27	0.001
140.00	0.00	-0.04	0.00	0.00	0.00	0.00	787.55	393.77	574.90	287.88	3.97	-0.27	0.000

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

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-35.96	-1.40	0.00	-136.96	0.00	136.96	5,907.57	2,953.79	12,233.76	6,125.97	0.00	0.00	0.028
5.00	-34.57	-1.38	0.00	-129.95	0.00	129.95	5,798.21	2,899.11	11,708.23	5,862.82	0.00	-0.01	0.028
10.00	-33.20	-1.34	0.00	-123.07	0.00	123.07	5,660.34	2,830.17	11,137.90	5,577.23	0.02	-0.01	0.028
15.00	-31.86	-1.30	0.00	-116.37	0.00	116.37	5,513.49	2,756.75	10,564.58	5,290.14	0.04	-0.02	0.028
20.00	-30.55	-1.26	0.00	-109.85	0.00	109.85	5,366.64	2,683.32	10,006.41	5,010.64	0.06	-0.03	0.028
25.00	-29.27	-1.22	0.00	-103.54	0.00	103.54	5,219.79	2,609.90	9,463.38	4,738.72	0.10	-0.04	0.027
30.00	-28.02	-1.18	0.00	-97.44	0.00	97.44	5,072.94	2,536.47	8,935.51	4,474.39	0.14	-0.05	0.027
35.00	-26.80	-1.14	0.00	-91.54	0.00	91.54	4,926.09	2,463.04	8,422.78	4,217.65	0.20	-0.06	0.027
40.00	-26.76	-1.14	0.00	-85.85	0.00	85.85	4,779.24	2,389.62	7,925.21	3,968.49	0.26	-0.06	0.027
40.13	-24.79	-1.06	0.00	-85.70	0.00	85.70	4,775.42	2,387.71	7,912.47	3,962.12	0.26	-0.06	0.027
45.00	-24.44	-1.05	0.00	-80.52	0.00	80.52	4,632.39	2,316.19	7,442.78	3,726.92	0.33	-0.07	0.027
45.88	-23.56	-1.02	0.00	-79.59	0.00	79.59	4,127.44	2,063.72	6,764.69	3,387.37	0.34	-0.07	0.029
50.00	-22.51	-0.99	0.00	-75.38	0.00	75.38	4,021.56	2,010.78	6,420.25	3,214.89	0.41	-0.08	0.029
55.00	-21.49	-0.95	0.00	-70.46	0.00	70.46	3,893.07	1,946.53	6,014.32	3,011.63	0.50	-0.09	0.029
60.00	-20.50	-0.93	0.00	-65.69	0.00	65.69	3,764.57	1,882.29	5,621.66	2,815.01	0.60	-0.10	0.029
65.00	-19.53	-0.91	0.00	-61.05	0.00	61.05	3,636.08	1,818.04	5,242.25	2,625.02	0.72	-0.11	0.029
70.00	-18.58	-0.91	0.00	-56.49	0.00	56.49	3,507.58	1,753.79	4,876.10	2,441.67	0.84	-0.12	0.028
75.00	-17.72	-0.91	0.00	-51.97	0.00	51.97	3,379.09	1,689.54	4,523.20	2,264.96	0.98	-0.13	0.028
79.67	-17.63	-0.91	0.00	-47.72	0.00	47.72	3,258.99	1,629.49	4,205.34	2,105.80	1.11	-0.15	0.028
80.00	-16.46	-0.93	0.00	-47.42	0.00	47.42	3,250.59	1,625.30	4,183.56	2,094.89	1.12	-0.15	0.028
84.34	-16.36	-0.93	0.00	-43.41	0.00	43.41	2,286.62	1,143.31	2,923.12	1,463.73	1.26	-0.16	0.037
85.00	-15.66	-0.94	0.00	-42.79	0.00	42.79	2,277.59	1,138.79	2,896.06	1,450.18	1.28	-0.16	0.036
90.00	-12.48	-1.02	0.00	-38.07	0.00	38.07	2,193.55	1,096.78	2,676.08	1,340.03	1.46	-0.17	0.034
95.00	-11.82	-1.03	0.00	-32.99	0.00	32.99	2,101.77	1,050.89	2,455.71	1,229.68	1.65	-0.19	0.032
100.00	-9.72	-1.06	0.00	-27.84	0.00	27.84	2,009.99	1,005.00	2,244.80	1,124.07	1.85	-0.20	0.030
105.00	-9.14	-1.06	0.00	-22.54	0.00	22.54	1,918.21	959.10	2,043.37	1,023.20	2.07	-0.22	0.027
110.00	-8.59	-1.04	0.00	-17.25	0.00	17.25	1,826.43	913.21	1,851.40	927.08	2.31	-0.23	0.023
115.00	-8.56	-1.04	0.00	-12.03	0.00	12.03	1,734.64	867.32	1,668.90	835.69	2.56	-0.24	0.019
115.22	-8.03	-1.01	0.00	-11.81	0.00	11.81	1,730.61	865.30	1,661.09	831.78	2.57	-0.24	0.019
118.80	-7.93	-1.00	0.00	-8.18	0.00	8.18	956.19	478.10	907.08	454.21	2.75	-0.25	0.026
120.00	-3.73	-0.66	0.00	-6.98	0.00	6.98	947.87	473.94	887.49	444.40	2.81	-0.25	0.020
125.00	-3.41	-0.62	0.00	-3.67	0.00	3.67	911.98	455.99	806.85	404.02	3.08	-0.26	0.013
130.00	-0.30	-0.08	0.00	-0.60	0.00	0.60	874.25	437.12	728.37	364.73	3.35	-0.26	0.002
135.00	-0.13	-0.04	0.00	-0.19	0.00	0.19	834.68	417.34	652.35	326.66	3.63	-0.26	0.001
140.00	0.00	-0.04	0.00	0.00	0.00	0.00	787.55	393.77	574.90	287.88	3.91	-0.26	0.000

Site Number: 411256

Code: ANSI/TIA-222-G

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Site Name: CANTON CT, CT

Engineering Number: OAA745738\_C3\_02

6/25/2019 6:26:46 PM

Customer: AT&T MOBILITY

## Analysis Summary

Load Case	Reactions						Max Usage	
	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.6W	23.46	0.00	52.04	0.00	0.00	2421.13	84.34	0.43
0.9D + 1.6W	23.44	0.00	39.03	0.00	0.00	2396.16	84.34	0.42
1.2D + 1.0Di + 1.0Wi	11.29	0.00	81.93	0.00	0.00	1029.82	0.00	0.18
(1.2 + 0.2Sds) * DL + E ELFM	1.45	0.00	51.69	0.00	0.00	154.54	84.34	0.04
(1.2 + 0.2Sds) * DL + E EMAM	1.40	0.00	51.69	0.00	0.00	138.72	84.34	0.04
(0.9 - 0.2Sds) * DL + E ELFM	1.45	0.00	35.96	0.00	0.00	152.70	84.34	0.03
(0.9 - 0.2Sds) * DL + E EMAM	1.40	0.00	35.96	0.00	0.00	136.96	84.34	0.04
1.0D + 1.0W	5.46	0.00	43.39	0.00	0.00	559.93	84.34	0.10



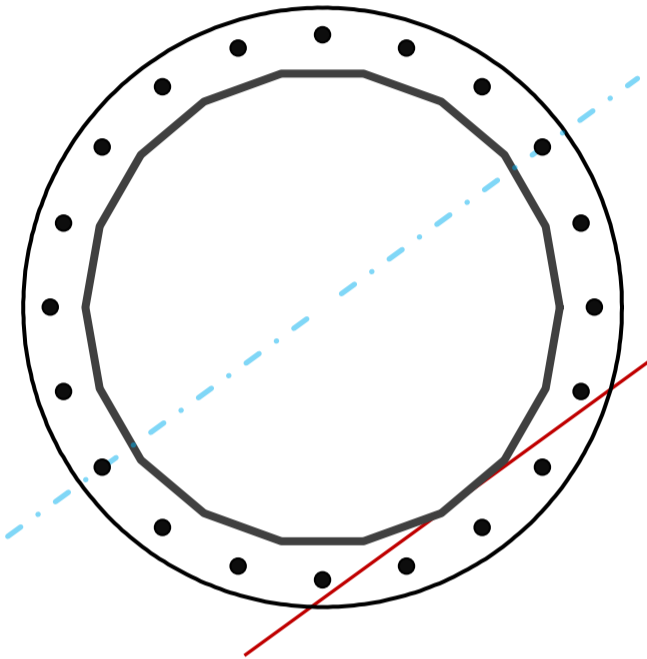
## Base Plate & Anchor Rod Analysis

Pole Dimensions		
Number of Sides	18	-
Diameter	51	in
Thickness	0.5	in
Orientation Offset	0	°

Base Reactions		
Moment, Mu	2421.1	k-ft
Axial, Pu	52.0	k
Shear, Vu	23.5	k
Neutral Axis	216	°

Report Capacities		
Component	Capacity	Result
Base Plate	47%	Pass
Anchor Rods	39%	Pass
Dwyidag	-	-

Base Plate		
Shape	Round	-
Diameter, $\phi$	66	in
Thickness	2 1/4	in
Grade	Other	-
Yield Strength, Fy	60	ksi
Tensile Strength, Fu	75	ksi
Clip	N/A	in
Orientation Offset	0	°
Anchor Rod Detail	d	$\eta=0.5$
Clear Distance	3	in
Applied Moment, Mu	949.0	k
Bending Stress, $\phi Mn$	2035.1	k



Original Anchor Rods		
Arrangement	Radial	-
Quantity	20	-
Diameter, $\phi$	2 1/4	in
Bolt Circle	60	in
Grade	A615-75	
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Spacing	9.4	in
Orientation Offset	0	°
Applied Force, Pu	99.4	k
Anchor Rods, $\phi Pn$	259.8	k

# Calculations for Monopole Base Plate & Anchor Rod Analysis

## Reaction Distribution

Reaction	Shear Vu	Moment Mu	Factor
-	k	k-ft	-
Base Forces	23.5	2421.1	1.00
Anchor Rod Forces	23.5	2421.1	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 <sup>2</sup>	in <sup>2</sup>	in <sup>4</sup>	#	in <sup>4</sup>
Pole	78.9231	4.3846	0.3672		25165.81
Bolt	3.9761	3.2477	0.8393	4.5	29245.99
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	66	in
Thickness, t	2.25	in
Yield Strength, Fy	60	ksi
Tensile Strength, Fu	75	ksi
Base Plate Chord	41.893	in
Detail Type	d	-
Detail Factor	0.50	-
Clear Distance	3	-

### Anchor Rods

Anchor Rod Quantity, N	20	-
Rod Diameter, d	2.25	in
Bolt Circle, BC	60	in
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	99.4	k
Applied Shear, Vu	0.6	k
Compressive Capacity, $\phi P_n$	259.8	k
Tensile Capacity, $\phi R_n$	0.383	OK
Interaction Capacity	0.387	OK

### External Base Plate

Chord Length AA	35.412	in
Additional AA	4.500	in
Section Modulus, Z	50.513	in <sup>3</sup>
Applied Moment, Mu	949.0	k-ft
Bending Capacity, $\phi M_n$	2727.7	k-ft
Capacity, $M_u/\phi M_n$	0.348	OK

Chord Length AB	34.228	in
Additional AB	4.500	in
Section Modulus, Z	49.015	in <sup>3</sup>
Applied Moment, Mu	834.3	k-ft
Bending Capacity, $\phi M_n$	2646.8	k-ft
Capacity, $M_u/\phi M_n$	0.315	OK

Bend Line Length	29.778	in
Additional Bend Line	0.000	in
Section Modulus, Z	37.687	in <sup>3</sup>
Applied Moment, Mu	949.0	k-ft
Bending Capacity, $\phi M_n$	2035.1	k-ft
Capacity, $M_u/\phi M_n$	0.466	OK

### Internal Base Plate

Arc Length	0.000	in
Section Modulus, Z	0.000	in <sup>3</sup>
Moment Arm	0.000	in
Applied Moment, Mu	0.0	k-ft
Bending Capacity, $\phi M_n$	0.0	k-ft
Capacity, $M_u/\phi M_n$		



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**Smartlink on behalf of  
AT&T Mobility, LLC  
Site FA – 10035260  
Site ID – CT1022 (MRCTB034855-  
MRCTB034843)  
USID – 25969  
Site Name – CANTON-FIRE  
DEPARTMENT**

**14 CANTON SPRINGS RD.  
CANTON, CT 06019**

Latitude: N41-49-22.27  
Longitude: W72-53-42.60  
Structure Type: Monopole

Report generated date: May 8, 2019  
Report by: Zyotty Thamsil  
Customer Contact: Kristina Cottone

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**AT&T Mobility, LLC will be compliant when the  
remediation recommended in Section 5.2 or  
other appropriate remediation is implemented.**

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# 1 General Site Summary

## 1.1 Report Summary

AT&T Mobility, LLC	Summary
Max Cumulative Simulated RFE Level on the Ground	<1% General Public Limit
Compliant per FCC Rules and Regulations?	Will Be Compliant
Compliant per AT&T Mobility, LLC's Policy?	No

The following documents were provided by the client and were utilized to create this report:

**RFDS:** NEW-ENGLAND\_CONNECTICUT\_CTV1022\_2019-LTE-Next-Carrier\_LTE\_sp656b\_2051A0KDHN\_10035260\_25969\_09-19-2018\_Final-Approved\_v4.00

**CD's:** 10035260\_AE201\_190425\_CTL01022\_REV2

**RF Powers Used:** Max RRH Power

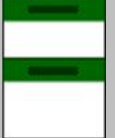








## 1.2 Fall Arrest Anchor Point Summary

Fall Arrest Anchor & Parapet Info	Parapet Available (Y/N)	Parapet Height (inches)	Fall Arrest Anchor Available (Y/N)
Roof Safety Info	N	N/A	N












### 1.3 Signage Summary

#### a. Pre-Site Visit AT&T Signage (Existing Signage)

AT&T Signage Locations									
	Information 1	Information 2	Notice	Notice 2	Caution	Caution 2	Warning	Warning 2	Barriers
Access Point(s)									
Alpha									
Beta									
Gamma									
Delta									
Epsilon									

#### b. Proposed AT&T Signage

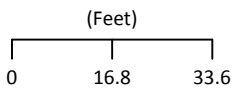
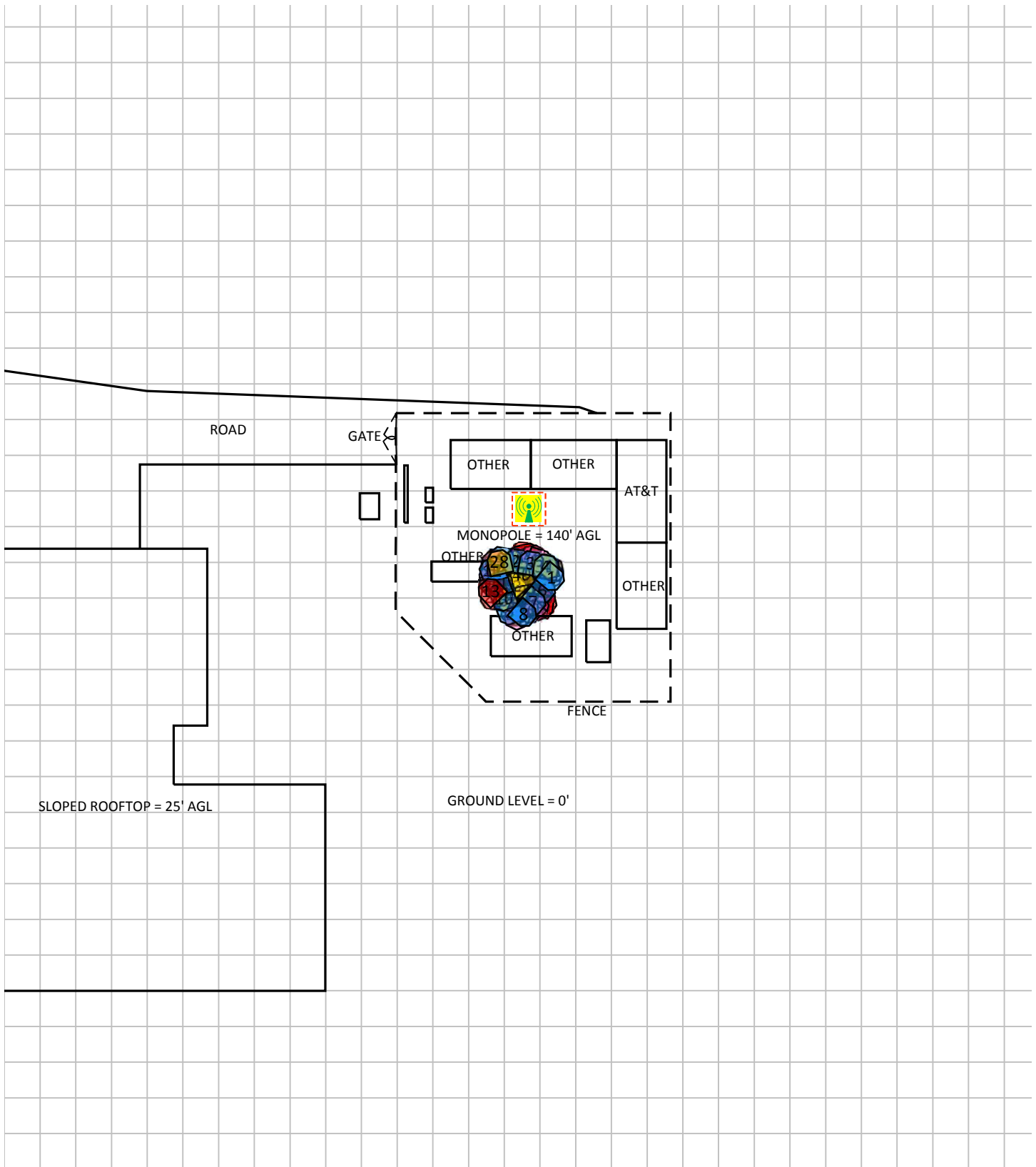
AT&T Signage Locations									
	Information 1	Information 2	Notice	Notice 2	Caution	Caution 2	Warning	Warning 2	Barriers
Access Point(s)						1			
Alpha									
Beta									
Gamma									
Delta									
Epsilon									

## 2 Scale Maps of Site

The following diagrams are included:

- ) Site Scale Map
- ) RF Exposure Diagram
- ) RF Exposure Diagram – All Sector Detailed View
- ) RF Exposure Diagram – Elevation View
- ) AT&T Mobility, LLC Contribution

# Site Scale Map For: CANTON-FIRE DEPARTMENT



www.sitesafe.com  
 Site Name: CANTON-FIRE DEPARTMENT  
 5/8/2019 4:14:25 PM

Carrier Identification					
	AT&T MOBILITY LLC		VERIZON WIRELESS		T-MOBILE
	SPRINT		UNKNOWN CARRIER		

Sign Legend					
	Caution 1		Caution 2		Notice 2
	Notice 1		Warning		Warning 2
	Info 1		Info 2		RF Safety Plan

Proposed Barriers/ Signs	
	Barrier
	Proposed Barriers/ Signs

### 3 Antenna Inventory

The following antenna inventory was obtained by the customer and was utilized to create the site model diagrams:

Ant ID	Operator	Antenna Make & Model	Type	TX Freq (MHz)	Technology	Az (Deg)	Hor BW (Deg)	Ant Len (ft)	Power	Power Type	Power Unit	Misc Loss	TX Count	Total ERP (Watts)	Ant Gain (dBd)	Z (AGL)	MDT	EDT
1	AT&T MOBILITY LLC	Kathrein-Scala 800-10121	Panel	850	UMTS	143	87.6	4.5	40	TPO	Watt	0	1	545.8	11.35	127.7'	0°	8°
2	AT&T MOBILITY LLC	Andrew SBNHH-1D65A	Panel	2300	LTE	23	61	4.6	100	TPO	Watt	0	1	2691.5	14.3	127.7'	0°	2°
3	AT&T MOBILITY LLC (PROPOSED)	Kathrein-Scala 800-10964	Panel	1900	LTE	23	63.7	4.9	160	TPO	Watt	0	1	5153.7	15.08	127.5'	0°	4°
4	AT&T MOBILITY LLC (PROPOSED)	Kathrein-Scala 800-10964	Panel	737	LTE	23	64.9	4.9	160	TPO	Watt	0	1	2208.6	11.4	127.5'	0°	3°
4	AT&T MOBILITY LLC (PROPOSED)	Kathrein-Scala 800-10964	Panel	850	LTE	23	62.4	4.9	80	TPO	Watt	0	1	1315.5	12.16	127.5'	0°	3°
4	AT&T MOBILITY LLC (PROPOSED)	Kathrein-Scala 800-10964	Panel	5G 850	LTE	23	62.4	4.9	80	TPO	Watt	0	1	1315.5	12.16	127.5'	0°	3°
4	AT&T MOBILITY LLC (PROPOSED)	Kathrein-Scala 800-10964	Panel	2100	LTE	23	60.7	4.9	160	TPO	Watt	0	1	5273.8	15.18	127.5'	0°	4°
5	AT&T MOBILITY LLC	Kathrein-Scala 800-10121	Panel	850	UMTS	263	87.6	4.5	40	TPO	Watt	0	1	545.8	11.35	127.7'	0°	8°
6	AT&T MOBILITY LLC	CCI Antennas HPA-65R-BUU-H8	Panel	2300	LTE	143	63.3	7.7	100	TPO	Watt	0	1	3357.4	15.26	126.2'	0°	3°
7	AT&T MOBILITY LLC (PROPOSED)	Kathrein-Scala 800-10966	Panel	1900	LTE	143	66	8	160	TPO	Watt	0	1	6153.5	15.85	126'	0°	3°
8	AT&T MOBILITY LLC (PROPOSED)	Kathrein-Scala 800-10966	Panel	737	LTE	143	67.9	8	160	TPO	Watt	0	1	3623.4	13.55	126'	0°	3°
8	AT&T MOBILITY LLC (PROPOSED)	Kathrein-Scala 800-10966	Panel	850	LTE	143	66	8	80	TPO	Watt	0	1	2128.6	14.25	126'	0°	2°
8	AT&T MOBILITY LLC (PROPOSED)	Kathrein-Scala 800-10966	Panel	5G 850	LTE	143	66	8	80	TPO	Watt	0	1	2128.6	14.25	126'	0°	2°
8	AT&T MOBILITY LLC (PROPOSED)	Kathrein-Scala 800-10966	Panel	2100	LTE	143	64.4	8	160	TPO	Watt	0	1	6593.6	16.15	126'	0°	3°
9	AT&T MOBILITY LLC	Kathrein-Scala 800-10121	Panel	850	UMTS	23	87.6	4.5	40	TPO	Watt	0	1	545.8	11.35	127.7'	0°	6°
10	AT&T MOBILITY LLC	CCI Antennas HPA-65R-BUU-H8	Panel	2300	LTE	263	63.3	7.7	100	TPO	Watt	0	1	3357.4	15.26	126.2'	0°	2°
11	AT&T MOBILITY LLC (PROPOSED)	Kathrein-Scala 800-10966	Panel	1900	LTE	263	66	8	160	TPO	Watt	0	1	6153.5	15.85	126'	0°	3°
12	AT&T MOBILITY LLC (PROPOSED)	Kathrein-Scala 800-10966	Panel	737	LTE	263	67.9	8	160	TPO	Watt	0	1	3623.4	13.55	126'	0°	3°
12	AT&T MOBILITY LLC (PROPOSED)	Kathrein-Scala 800-10966	Panel	850	LTE	263	66	8	80	TPO	Watt	0	1	2128.6	14.25	126'	0°	3°
12	AT&T MOBILITY LLC (PROPOSED)	Kathrein-Scala 800-10966	Panel	5G 850	LTE	263	66	8	80	TPO	Watt	0	1	2128.6	14.25	126'	0°	3°
12	AT&T MOBILITY LLC (PROPOSED)	Kathrein-Scala 800-10966	Panel	2100	LTE	263	64.4	8	160	TPO	Watt	0	1	6593.6	16.15	126'	0°	3°

Ant ID	Operator	Antenna Make & Model	Type	TX Freq (MHz)	Technology	Az (Deg)	Hor BW (Deg)	Ant Len (ft)	Power	Power Type	Power Unit	Misc Loss	TX Count	Total ERP (Watts)	Ant Gain (dBd)	Z (AGL)	MDT	EDT
13	VERIZON WIRELESS	Generic	Panel	850		330	65	4.6	160	TPO	Watt	0	0	3027.7	12.77	117.7'	0°	0°
14	VERIZON WIRELESS	Generic	Panel	1900		330	65	4.6	160	TPO	Watt	0	0	5586.2	15.43	117.7'	0°	0°
15	VERIZON WIRELESS	Generic	Panel	2100		330	65	4.6	180	TPO	Watt	0	0	6001.7	15.23	117.7'	0°	0°
16	VERIZON WIRELESS	Generic	Panel	751		330	65	4.6	160	TPO	Watt	0	0	2618.9	12.14	117.7'	0°	0°
17	VERIZON WIRELESS	Generic	Panel	850		330	65	4.6	160	TPO	Watt	0	0	3027.7	12.77	117.7'	0°	0°
18	VERIZON WIRELESS	Generic	Panel	850		90	65	4.6	160	TPO	Watt	0	0	3027.7	12.77	117.7'	0°	0°
19	VERIZON WIRELESS	Generic	Panel	1900		90	65	4.6	160	TPO	Watt	0	0	5586.2	15.43	117.7'	0°	0°
20	VERIZON WIRELESS	Generic	Panel	2100		90	65	4.6	180	TPO	Watt	0	0	6001.7	15.23	117.7'	0°	0°
21	VERIZON WIRELESS	Generic	Panel	751		90	65	4.6	160	TPO	Watt	0	0	2618.9	12.14	117.7'	0°	0°
22	VERIZON WIRELESS	Generic	Panel	850		90	65	4.6	160	TPO	Watt	0	0	3027.7	12.77	117.7'	0°	0°
23	VERIZON WIRELESS	Generic	Panel	850		200	65	4.6	160	TPO	Watt	0	0	3027.7	12.77	117.7'	0°	0°
24	VERIZON WIRELESS	Generic	Panel	1900		200	65	4.6	160	TPO	Watt	0	0	5586.2	15.43	117.7'	0°	0°
25	VERIZON WIRELESS	Generic	Panel	2100		200	65	4.6	180	TPO	Watt	0	0	6001.7	15.23	117.7'	0°	0°
26	VERIZON WIRELESS	Generic	Panel	751		200	65	4.6	160	TPO	Watt	0	0	2618.9	12.14	117.7'	0°	0°
27	VERIZON WIRELESS	Generic	Panel	850		200	65	4.6	160	TPO	Watt	0	0	3027.7	12.77	117.7'	0°	0°
28	SPRINT (DECOMMISSIONED)	Generic	Panel	862		0	65	4.6	0	TPO	Watt	0	0	0	12.77	107.7'	0°	0°
29	SPRINT (DECOMMISSIONED)	Generic	Panel	862		0	65	4.6	0	TPO	Watt	0	0	0	12.77	107.7'	0°	0°
30	SPRINT (DECOMMISSIONED)	Generic	Panel	862		0	65	4.6	0	TPO	Watt	0	0	0	12.77	107.7'	0°	0°
31	SPRINT (DECOMMISSIONED)	Generic	Panel	862		0	65	4.6	0	TPO	Watt	0	0	0	12.77	107.7'	0°	0°
32	SPRINT (DECOMMISSIONED)	Generic	Panel	862		120	65	4.6	0	TPO	Watt	0	0	0	12.77	107.7'	0°	0°
33	SPRINT (DECOMMISSIONED)	Generic	Panel	862		120	65	4.6	0	TPO	Watt	0	0	0	12.77	107.7'	0°	0°
34	SPRINT (DECOMMISSIONED)	Generic	Panel	862		120	65	4.6	0	TPO	Watt	0	0	0	12.77	107.7'	0°	0°
35	SPRINT (DECOMMISSIONED)	Generic	Panel	862		120	65	4.6	0	TPO	Watt	0	0	0	12.77	107.7'	0°	0°
36	SPRINT (DECOMMISSIONED)	Generic	Panel	862		240	65	4.6	0	TPO	Watt	0	0	0	12.77	107.7'	0°	0°
37	SPRINT (DECOMMISSIONED)	Generic	Panel	862		240	65	4.6	0	TPO	Watt	0	0	0	12.77	107.7'	0°	0°
38	SPRINT (DECOMMISSIONED)	Generic	Panel	862		240	65	4.6	0	TPO	Watt	0	0	0	12.77	107.7'	0°	0°
39	SPRINT (DECOMMISSIONED)	Generic	Panel	862		240	65	4.6	0	TPO	Watt	0	0	0	12.77	107.7'	0°	0°

Ant ID	Operator	Antenna Make & Model	Type	TX Freq (MHz)	Technology	Az (Deg)	Hor BW (Deg)	Ant Len (ft)	Power	Power Type	Power Unit	Misc Loss	TX Count	Total ERP (Watts)	Ant Gain (dBd)	Z (AGL)	MDT	EDT
40	SPRINT	Generic	Panel	862		0	65	6.3	100	TPO	Watt	0	0	2202.9	13.43	76.9'	0°	0°
40	SPRINT	Generic	Panel	1900		0	65	6.3	90	TPO	Watt	0	0	3804	16.26	76.9'	0°	0°
41	SPRINT	Generic	Panel	862		120	65	6.3	100	TPO	Watt	0	0	2202.9	13.43	76.9'	0°	0°
41	SPRINT	Generic	Panel	1900		120	65	6.3	90	TPO	Watt	0	0	3804	16.26	76.9'	0°	0°
42	SPRINT	Generic	Panel	862		240	65	6.3	100	TPO	Watt	0	0	2202.9	13.43	76.9'	0°	0°
42	SPRINT	Generic	Panel	1900		240	65	6.3	90	TPO	Watt	0	0	3804	16.26	76.9'	0°	0°
43	T-MOBILE	Generic	Panel	2100		330	65	4.6	60	TPO	Watt	0	0	2000.6	15.23	97.7'	0°	0°
44	T-MOBILE	Generic	Panel	2100		90	65	4.6	60	TPO	Watt	0	0	2000.6	15.23	97.7'	0°	0°
45	T-MOBILE	Generic	Panel	2100		220	65	4.6	60	TPO	Watt	0	0	2000.6	15.23	97.7'	0°	0°
46	T-MOBILE	Generic	Panel	2100		0	65	4.6	60	TPO	Watt	0	0	2000.6	15.23	87.7'	0°	0°
47	T-MOBILE	Generic	Panel	1900		0	65	4.6	60	TPO	Watt	0	0	2094.8	15.43	87.7'	0°	0°
48	T-MOBILE	Generic	Panel	2100		120	65	4.6	60	TPO	Watt	0	0	2000.6	15.23	87.7'	0°	0°
49	T-MOBILE	Generic	Panel	1900		120	65	4.6	60	TPO	Watt	0	0	2094.8	15.43	87.7'	0°	0°
50	T-MOBILE	Generic	Panel	2100		240	65	4.6	60	TPO	Watt	0	0	2000.6	15.23	87.7'	0°	0°
51	T-MOBILE	Generic	Panel	1900		240	65	4.6	60	TPO	Watt	0	0	2094.8	15.43	87.7'	0°	0°
52	UNKNOWN	Generic	Omni	450		0	360	9.5	100	ERP	Watt	0	0	100	5.97	135.3'	0°	0°

Note: The Z reference indicates the bottom of the antenna height above the main site level unless otherwise indicated. Effective Radiated Power (ERP) is provided by the operator or based on Sitesafe experience. The values used in the modeling may be greater than are currently deployed. For other operators at this site the use of "Generic" as an antenna model or "Unknown" for a wireless operator means the information with regard to operator, their FCC license and/or antenna information was not available nor could it be secured while on site. Other operator's equipment, antenna models and powers used for modeling are based on obtained information or Sitesafe experience.

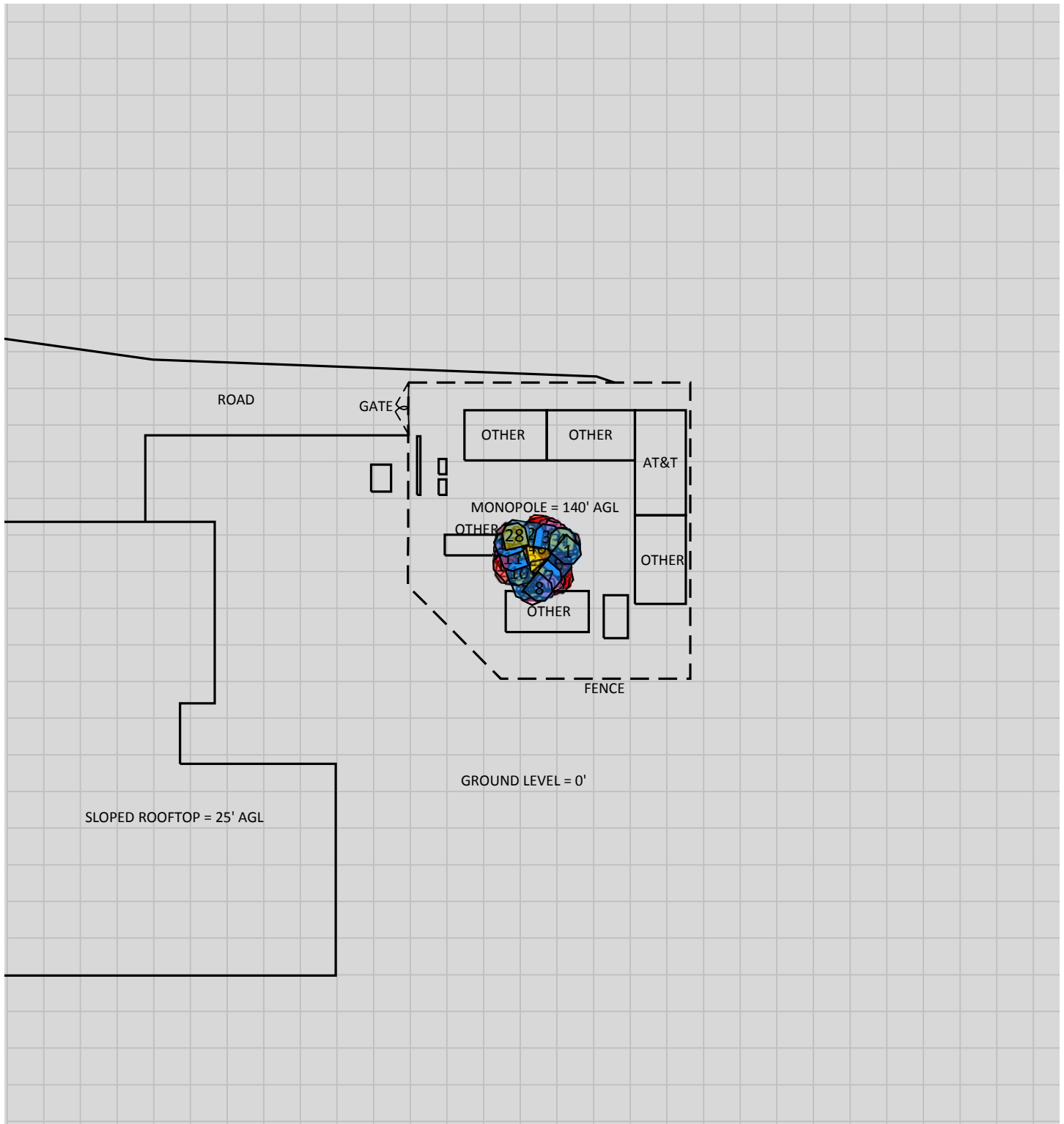
## 4 Emission Predictions

In the RF Exposure Simulations below all heights are reflected with respect to main site level. In most rooftop cases this is the height of the main rooftop and in other cases this can be ground level. Each different height area, rooftop, or platform level is labeled with its height relative to the main site level. Emissions are calculated appropriately based on the relative height and location of that area to all antennas. The total analyzed elevations in the below RF Exposure Simulations are listed below.

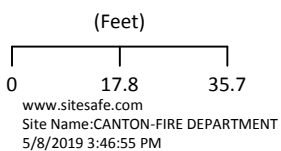
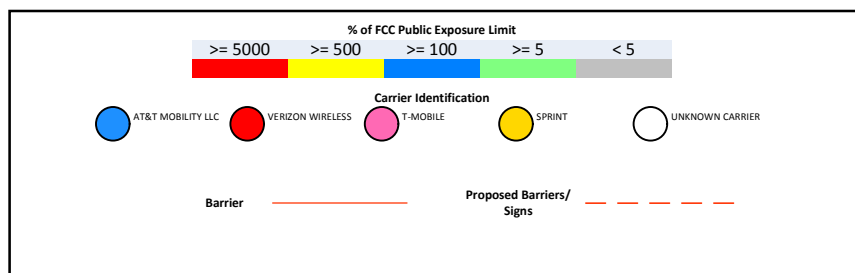
- ) Ground Level = 0'
- ) Sloped Rooftop = 25'

The Antenna Inventory heights are referenced to the same level.

# RF Exposure Simulation For: CANTON-FIRE DEPARTMENT Composite Diagram



% of FCC Public Exposure Limit  
Spatial average 0' - 6'



Sitesafe OET-65 Model  
Near Field Boundary:  
1.5 \* Aperture  
Reflection Factor: 1  
Spatially Averaged



# RF Exposure Simulation For: CANTON-FIRE DEPARTMENT All Sector Detailed View

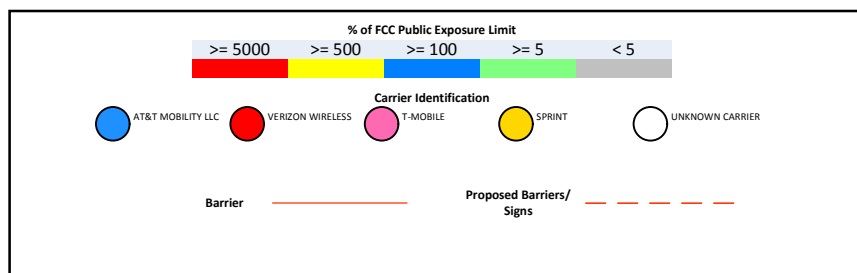


MONOPOLE = 140' AGL

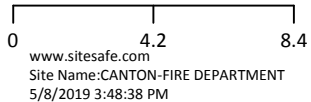
OTHER

OTHER

% of FCC Public Exposure Limit  
Spatial average 0' - 6'

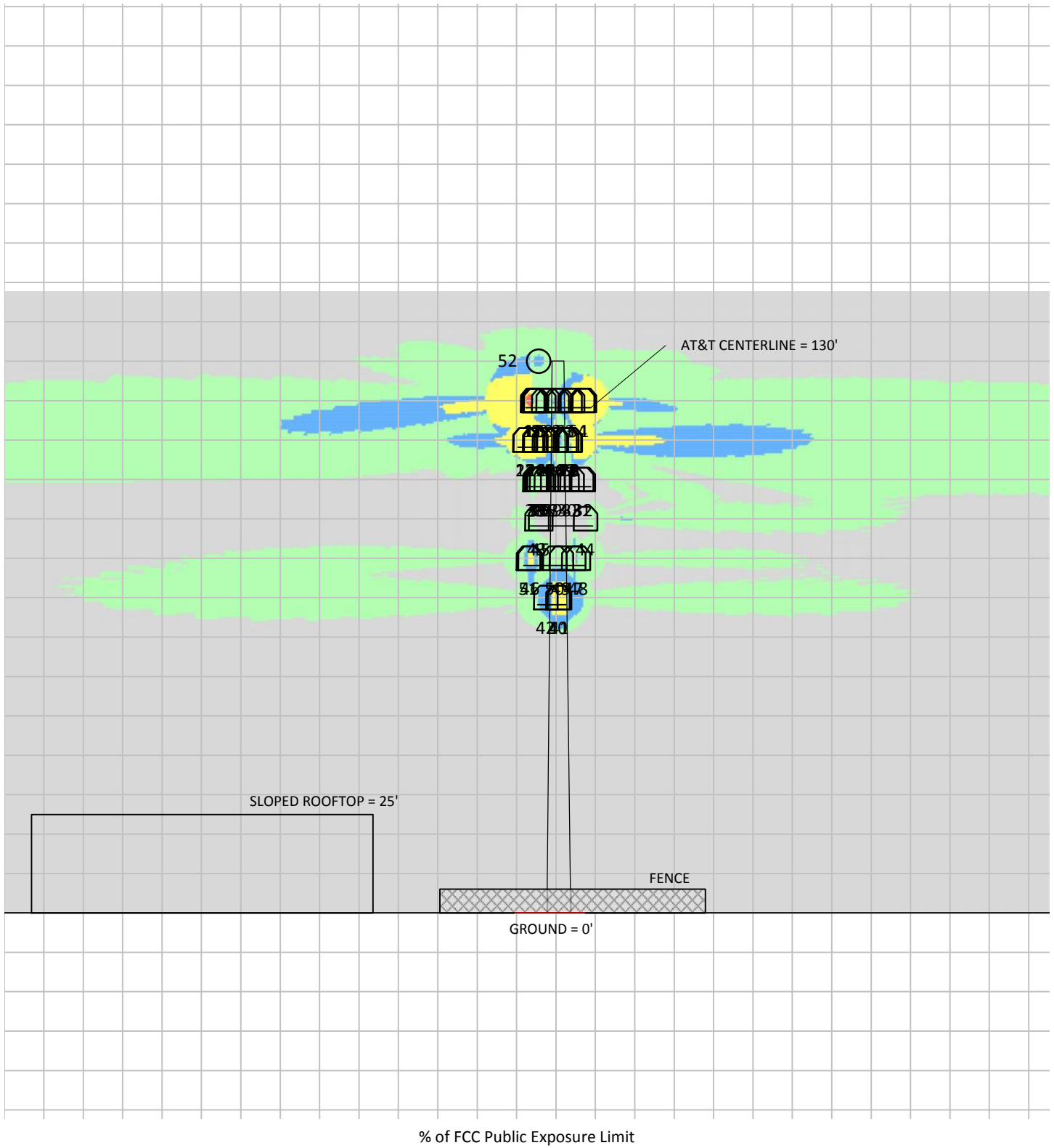


(Feet)

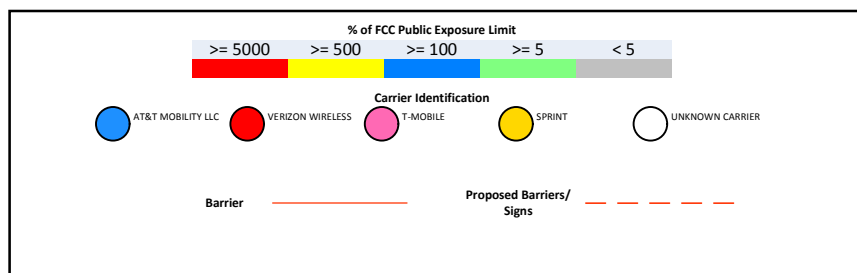


Sitesafe OET-65 Model  
Near Field Boundary:  
1.5 \* Aperture  
Reflection Factor: 1  
Spatially Averaged

# RF Exposure Simulation For: CANTON-FIRE DEPARTMENT Elevation View



% of FCC Public Exposure Limit



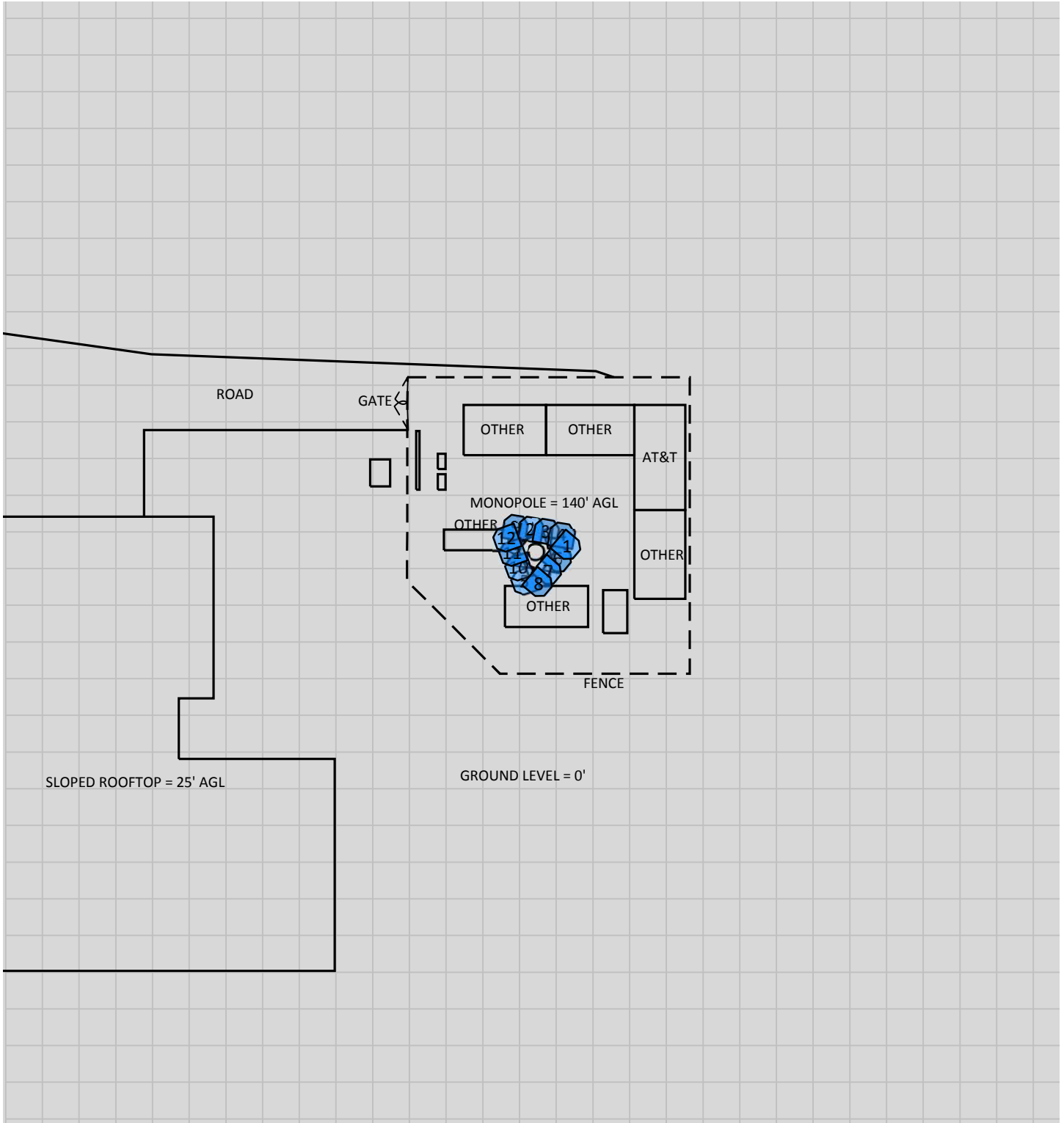
(Feet)

0      20.1      40.1

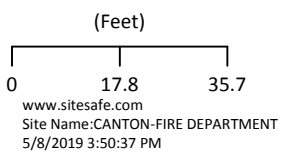
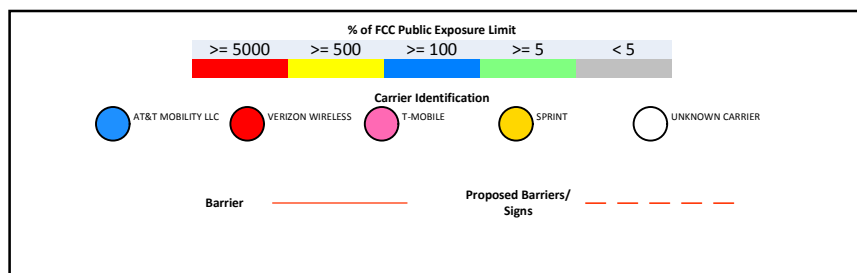
www.sitesafe.com  
Site Name: CANTON-FIRE DEPARTMENT  
5/8/2019 4:13:24 PM

Sitesafe OET-65 Model  
Near Field Boundary:  
1.5 \* Aperture  
Reflection Factor: 1  
Single Level (0)

# RF Exposure Simulation For: CANTON-FIRE DEPARTMENT AT&T Mobility, LLC Contribution



% of FCC Public Exposure Limit  
Spatial average 0' - 6'



Sitesafe OET-65 Model  
Near Field Boundary:  
1.5 \* Aperture  
Reflection Factor: 1  
Spatially Averaged

## 5 Site Compliance

### 5.1 Site Compliance Statement

Upon evaluation of the cumulative RF emission levels from all operators at this site, RF hazard signage and antenna locations, Sitesafe has determined that:

AT&T Mobility, LLC will be compliant when the remediation recommended in Section 5.2 or other appropriate remediation is implemented.

The compliance determination is based on General Public RFE levels derived from theoretical modeling, RF signage placement, proposed antenna inventory and the level of restricted access to the antennas at the site. Any deviation from the AT&T Mobility, LLC's proposed deployment plan could result in the site being rendered non-compliant.

Modeling is used for determining compliance and the percentage of MPE contribution.

### 5.2 Actions for Site Compliance

Based on FCC regulations, common industry practice, and our understanding of AT&T Mobility, LLC RF Safety Policy requirements, this section provides a statement of recommendations for site compliance. Recommendations have been proposed based on our understanding of existing access restrictions, signage, and an analysis of predicted RFE levels.

AT&T Mobility, LLC will be made compliant if the following changes are implemented:

#### Site Access Location

(1) Yellow Caution 2B sign(s) required.

#### Notes:

- ) This report's diagrams do not show the Access locations because the data provided did not include them.
- ) Signage may already be in place. Sitesafe does not have record of any existing signage because there were no previous visits or data supplied regarding them. All remediation is based on a worst-case scenario.
- ) Any existing signage that conflicts with the proposed signage in this report should be removed per AT&T Signage Posting Rules.

## 6 Reviewer Certification

The reviewer whose signature appears below hereby certifies and affirms:

That I am an employee of Site Safe, LLC, in Vienna, Virginia, at which place the staff and I provide RF compliance services to clients in the wireless communications industry; and

That I am thoroughly familiar with the Rules and Regulations of the Federal Communications Commission (FCC) as well as the regulations of the Occupational Safety and Health Administration (OSHA), both in general and specifically as they apply to the FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields; and

That I have thoroughly reviewed this Site Compliance Report and believe it to be true and accurate to the best of my knowledge as assembled by and attested to by Zyotty Thamsil.

May 8, 2019

## Appendix A – Statement of Limiting Conditions

Sitesafe has provided computer generated model(s) in this Site Compliance Report to show approximate dimensions of the site, and the model is included to assist the reader of the compliance report to visualize the site area, and to provide supporting documentation for Sitesafe's recommendations.

Sitesafe may note in the Site Compliance Report any adverse physical conditions, such as needed repairs, that Sitesafe became aware of during the normal research involved in creating this report. Sitesafe will not be responsible for any such conditions that do exist or for any engineering or testing that might be required to discover whether such conditions exist. Because Sitesafe is not an expert in the field of mechanical engineering or building maintenance, the Site Compliance Report must not be considered a structural or physical engineering report.

Sitesafe obtained information used in this Site Compliance Report from sources that Sitesafe considers reliable and believes them to be true and correct. Sitesafe does not assume any responsibility for the accuracy of such items that were furnished by other parties. When conflicts in information occur between data collected by Sitesafe provided by a second party and data collected by Sitesafe, the data will be used.

## Appendix B – Regulatory Background Information

### FCC Rules and Regulations

In 1996, the Federal Communications Commission (FCC) adopted regulations for the evaluating of the effects of RF emissions in 47 CFR § 1.1307 and 1.1310. The guideline from the FCC Office of Engineering and Technology is Bulletin 65 (“OET Bulletin 65”), *Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields*, Edition 97-01, published August 1997. Since 1996 the FCC periodically reviews these rules and regulations as per their congressional mandate.

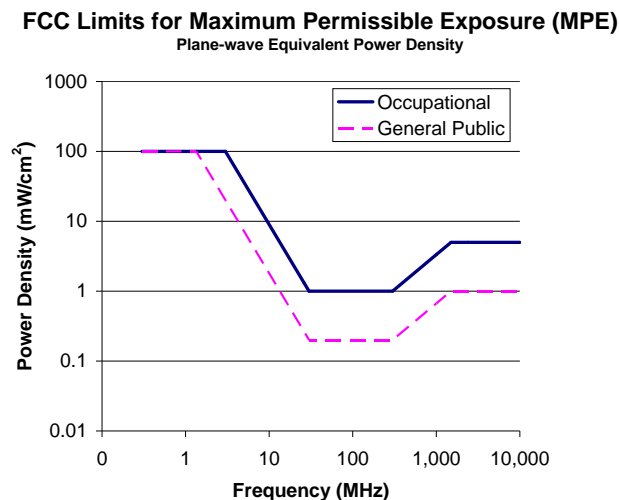
FCC regulations define two separate tiers of exposure limits: Occupational or “Controlled environment” and General Public or “Uncontrolled environment”. The General Public limits are generally five times more conservative or restrictive than the Occupational limit. These limits apply to *accessible* areas where workers or the general public may be exposed to Radio Frequency (RF) electromagnetic fields.

Occupational or Controlled limits apply in situations in which persons are exposed as a consequence of their employment and where those persons exposed have been made fully aware of the potential for exposure and can exercise control over their exposure.

An area is considered a Controlled environment when access is limited to these aware personnel. Typical criteria are restricted access (i.e. locked or alarmed doors, barriers, etc.) to the areas where antennas are located coupled with proper RF warning signage. A site with Controlled environments is evaluated with Occupational limits.

All other areas are considered Uncontrolled environments. If a site has no access controls or no RF warning signage it is evaluated with General Public limits.

The theoretical modeling of the RF electromagnetic fields has been performed in accordance with OET Bulletin 65. The Maximum Permissible Exposure (MPE) limits utilized in this analysis are outlined in the following diagram:



### Limits for Occupational/Controlled Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f <sup>2</sup> )*	6
30-300	61.4	0.163	1.0	6
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6

### Limits for General Population/Uncontrolled Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f <sup>2</sup> )*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

f = frequency in MHz      \*Plane-wave equivalent power density

### OSHA Statement

The General Duty clause of the OSHA Act (Section 5) outlines the occupational safety and health responsibilities of the employer and employee. The General Duty clause in Section 5 states:

- (a) Each employer –
  - (1) shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees;
  - (2) shall comply with occupational safety and health standards promulgated under this Act.
- (b) Each employee shall comply with occupational safety and health standards and all rules, regulations, and orders issued pursuant to this Act which are applicable to his own actions and conduct.

OSHA has defined Radiofrequency and Microwave Radiation safety standards for workers who may enter hazardous RF areas. Regulation Standards 29 CFR § 1910.147 identify a generic Lockout/Tagout procedure aimed to control the unexpected energization or startup of machines when maintenance or service is being performed.



## Appendix C – Safety Plan and Procedures

The following items are general safety recommendations that should be administered on a site by site basis as needed by the carrier.

**General Maintenance Work:** Any maintenance personnel required to work immediately in front of antennas and / or in areas indicated as above 100% of the Occupational MPE limits should coordinate with the wireless operators to disable transmitters during their work activities.

**Training and Qualification Verification:** All personnel accessing areas indicated as exceeding the General Population MPE limits should have a basic understanding of EME awareness and RF Safety procedures when working around transmitting antennas. Awareness training increases a worker's understanding to potential RF exposure scenarios. Awareness can be achieved in a number of ways (e.g. videos, formal classroom lecture or internet-based courses).

**Physical Access Control:** Access restrictions to transmitting antennas locations is the primary element in a site safety plan. Examples of access restrictions are as follows:

- ) Locked door or gate
- ) Alarmed door
- ) Locked ladder access
- ) Restrictive Barrier at antenna (e.g. Chain link with posted RF Sign)

**RF Signage:** Everyone should obey all posted signs at all times. RF signs play an important role in properly warning a worker prior to entering into a potential RF Exposure area.

**Assume all antennas are active:** Due to the nature of telecommunications transmissions, an antenna transmits intermittently. Always assume an antenna is transmitting. Never stop in front of an antenna. If you have to pass by an antenna, move through as quickly and safely as possible thereby reducing any exposure to a minimum.

**Maintain a 3 foot clearance from all antennas:** There is a direct correlation between the strength of an EME field and the distance from the transmitting antenna. The further away from an antenna, the lower the corresponding EME field is.

**Site RF Emissions Diagram:** Section 4 of this report contains an RF Diagram that outlines various theoretical Maximum Permissible Exposure (MPE) areas at the site. The modeling is a worst-case scenario assuming a duty cycle of 100% for each transmitting antenna at full power. This analysis is based on one of two access control criteria: General Public criteria means the access to the site is uncontrolled and anyone can gain access. Occupational criteria means the access is restricted and only properly trained individuals can gain access to the antenna locations.

## Appendix D – RF Emissions

The RF Emissions Simulation(s) in this report display theoretical spatially averaged percentage of the Maximum Permissible Exposure for all systems at the site unless otherwise noted. These diagrams use modeling as prescribed in OET Bulletin 65 and assumptions detailed in Appendix E.

The key at the bottom of each RF Emissions Simulation indicates percentages displayed referenced to FCC General Public Maximum Permissible Exposure (MPE) limits. Color coding on the diagram is as follows:

- J Areas indicated as Gray are predicted to be below 5% of the MPE limits. Gray represents areas more than 20 times below the most conservative exposure limit. **Gray areas are accessible to anyone.**
- J Green represents areas are predicted to be between 5% and 100% of the MPE limits. **Green areas are accessible to anyone.**
- J Blue represents areas predicted to exceed the General Public MPE limits but are less than Occupational limits. **Blue areas should be accessible only to RF trained workers.**
- J Yellow represents areas predicted to exceed Occupational MPE limits. **Yellow areas should be accessible only to RF trained workers able to assess current exposure levels.**
- J Red represents areas predicted to have exposure more than 10 times the Occupational MPE limits. **Red indicates that the RF levels must be reduced prior to access.** An RF Safety Plan is required which outlines how to reduce the RF energy in these areas prior to access.

If trained occupational personnel require access to areas that are delineated as above 100% of the limit, Sitesafe recommends that they utilize the proper personal protection equipment (RF monitors), coordinate with the carriers to reduce or shutdown power, or make real-time power density measurements with the appropriate power density meter to determine real-time MPE levels. This will allow the personnel to ensure that their work area is within exposure limits.

## Appendix E – Assumptions and Definitions

### General Model Assumptions

In this site compliance report, it is assumed that all antennas are operating at **full power at all times**. Software modeling was performed for all transmitting antennas located on the site. Sitesafe has further assumed a 100% duty cycle and maximum radiated power.

The modeling is based on recommendations from the FCC's OET-65 bulletin with the following variances per AT&T guidance. Reflection has not been considered in the modeling, i.e. the reflection factor is 1.0. The near / far field boundary has been set to 1.5 times the aperture height of the antenna and modeling beyond that point is the lesser of the near field cylindrical model and the far field model taking into account the gain of the antenna.

The site has been modeled with these assumptions to show the maximum RF energy density. Areas modeled with exposure greater than 100% of the General Public MPE level may not actually occur but are shown as a prediction that could be realized. Sitesafe believes these areas to be safe for entry by occupationally trained personnel utilizing appropriate personal protective equipment (in most cases, a personal monitor).

### Use of Generic Antennas

For the purposes of this report, the use of "Generic" as an antenna model, or "Unknown" for an operator means the information about a carrier, their FCC license and/or antenna information was not provided and could not be obtained while on site. In the event of unknown information, Sitesafe will use our industry specific knowledge of equipment, antenna models, and transmit power to model the site. If more specific information can be obtained for the unknown measurement criteria, Sitesafe recommends remodeling of the site utilizing the more complete and accurate data. Information about similar facilities is used when the service is identified and associated with a particular antenna. If no information is available regarding the transmitting service associated with an unidentified antenna, using the antenna manufacturer's published data regarding the antenna's physical characteristics makes more conservative assumptions.

Where the frequency is unknown, Sitesafe uses the closest frequency in the antenna's range that corresponds to the highest Maximum Permissible Exposure (MPE), resulting in a conservative analysis.

## Appendix F – Definitions

**5% Rule** – The rules adopted by the FCC specify that, in general, at multiple transmitter sites actions necessary to bring the area into compliance with the guidelines are the shared responsibility of all licensees whose transmitters produce field strengths or power density levels at the area in question in excess of 5% of the exposure limits. In other words, any wireless operator that contributes 5% or greater of the MPE limit in an area that is identified to be greater than 100% of the MPE limit is responsible for taking corrective actions to bring the site into compliance.

**Compliance** – The determination of whether a site complies with FCC standards with regards to Human Exposure to Radio Frequency Electromagnetic Fields from transmitting antennas.

**Decibel (dB)** – A unit for measuring power or strength of a signal.

**Duty Cycle** – The percent of pulse duration to the pulse period of a periodic pulse train. Also, may be a measure of the temporal transmission characteristic of an intermittently transmitting RF source such as a paging antenna by dividing average transmission duration by the average period for transmission. A duty cycle of 100% corresponds to continuous operation.

**Effective (or Equivalent) Isotropic Radiated Power (EIRP)** – The product of the power supplied to the antenna and the antenna gain in a given direction relative to an isotropic antenna.

**Effective Radiated Power (ERP)** – The product of the power supplied to the antenna and the antenna gain in a given direction relative to a half-wave dipole antenna.

**Gain (of an antenna)** – The ratio of the maximum power in a given direction to the maximum power in the same direction from an isotropic radiator. Gain is a measure of the relative efficiency of a directional antenna as compared to an omnidirectional antenna.

**General Population/Uncontrolled Environment** – Defined by the FCC as an area where RF exposure may occur to persons who are **unaware** of the potential for exposure and who have no control over their exposure. General Population is also referenced as General Public.

**Generic Antenna** – For the purposes of this report, the use of “Generic” as an antenna model means the antenna information was not provided and could not be obtained while on site. In the event of unknown information, Sitesafe will use its industry specific knowledge of antenna models to select a worst-case scenario antenna to model the site.

**Isotropic Antenna** – An antenna that is completely non-directional. In other words, an antenna that radiates energy equally in all directions.

**Maximum Measurement** – This measurement represents the single largest measurement recorded when performing a spatial average measurement.

**Maximum Permissible Exposure (MPE)** – The rms and peak electric and magnetic field strength, their squares, or the plane-wave equivalent power densities associated with these fields to which a person may be exposed without harmful effect and with acceptable safety factor.

**Occupational/Controlled Environment** – Defined by the FCC as an area where RF exposure may occur to persons who are **aware** of the potential for exposure as a condition of employment or specific activity and can exercise control over their exposure.

**OET Bulletin 65** – Technical guideline developed by the FCC's Office of Engineering and Technology to determine the impact of RF exposure on humans. The guideline was published in August 1997.

**OSHA (Occupational Safety and Health Administration)** – Under the Occupational Safety and Health Act of 1970, employers are responsible for providing a safe and healthy workplace for their employees. OSHA's role is to promote the safety and health of America's working men and women by setting and enforcing standards; providing training, outreach and education; establishing partnerships; and encouraging continual process improvement in workplace safety and health. For more information, visit [www.osha.gov](http://www.osha.gov).

**Radio Frequency Exposure or Electromagnetic Fields** – Electromagnetic waves that are propagated from antennas through space.

**Spatial Average Measurement** – A technique used to average a minimum of ten (10) measurements taken in a ten (10) second interval from zero (0) to six (6) feet. This measurement is intended to model the average energy a 6-foot tall human body will absorb while present in an electromagnetic field of energy.

**Transmitter Power Output (TPO)** – The radio frequency output power of a transmitter's final radio frequency stage as measured at the output terminal while connected to a load.

## Appendix G – References

The following references can be followed for further information about RF Health and Safety.

Site Safe, LLC

<http://www.sitesafe.com>

FCC Radio Frequency Safety

<http://www.fcc.gov/encyclopedia/radio-frequency-safety>

National Council on Radiation Protection and Measurements (NCRP)

<http://www.ncrponline.org>

Institute of Electrical and Electronics Engineers, Inc., (IEEE)

<http://www.ieee.org>

American National Standards Institute (ANSI)

<http://www.ansi.org>

Environmental Protection Agency (EPA)

<http://www.epa.gov/radtown/wireless-tech.html>

National Institutes of Health (NIH)

<http://www.niehs.nih.gov/health/topics/agents/emf/>

Occupational Safety and Health Agency (OSHA)

<http://www.osha.gov/SLTC/radiofrequencyradiation/>

International Commission on Non-Ionizing Radiation Protection (ICNIRP)

<http://www.icnirp.org>

World Health Organization (WHO)

<http://www.who.int/peh-emf/en/>

National Cancer Institute

<http://www.cancer.gov/cancertopics/factsheet/Risk/cellphones>

American Cancer Society (ACS)

[http://www.cancer.org/docroot/PED/content/PED\\_1\\_3X\\_Cellular\\_Phone\\_Towers.asp?sitearea=PED](http://www.cancer.org/docroot/PED/content/PED_1_3X_Cellular_Phone_Towers.asp?sitearea=PED)

European Commission Scientific Committee on Emerging and Newly Identified Health Risks

[http://ec.europa.eu/health/ph\\_risk/committees/04\\_scenihp/docs/scenihp\\_o\\_022.pdf](http://ec.europa.eu/health/ph_risk/committees/04_scenihp/docs/scenihp_o_022.pdf)

Fairfax County, Virginia Public School Survey

<http://www.fcps.edu/fts/safety-security/RFEESurvey/>

UK Health Protection Agency Advisory Group on Non-Ionizing Radiation

[http://www.hpa.org.uk/webw/HPAweb&HPAwebStandard/HPAweb\\_C/1317133826368](http://www.hpa.org.uk/webw/HPAweb&HPAwebStandard/HPAweb_C/1317133826368)

Norwegian Institute of Public Health

<http://www.fhi.no/dokumenter/545eea7147.pdf>

## Property Search

Name: ex. Smith

House No:

Street:

Unique Parcel Id: ex.3650004



## Information Updates

GIS Parcels Updated

June 2018

Property Info Data Updated  
Nightly

Current Parcel Count

3,974 +/-

## Detailed Parcel Information

GIS ID

31/164/0014

Parcel ID

31/164/0014

Unique ID

1640014

Owner

CANTON VOLUNTEER FIRE

Location

14 CANTON SPRINGS  
ROAD

MAILING ADDRESS

P.O. BOX 104  
CANTON CT 06019

**Quick Links:**

[Quick Map](#) [eQuality Property Card](#) [Assessor Tax Map](#) [Zoom to GIS](#)

Scroll Down For Complete Property Detail

## PARCEL VALUATIONS

	Appraised Value	Assessed Value
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## Property Search

Name: ex. Smith

House No:

Street:

Unique Parcel Id: ex.3650004

GO

## Information Updates

GIS Parcels Updated

June 2018

Property Info Data Updated

Nightly

Current Parcel Count

3,974 +/-

## PARCEL VALUATIONS

	Appraised Value	Assessed Value
Buildings	463513	324460
Land	36750	25720
TOTAL:	504263	352980

## PROPERTY INFORMATION

Total Acres	0.49
GIS Acres	0
Land Use	Fire Station - Volunteer
Land Class Code	Commercial
Zoning	MCPF
Census Tract	
Neighborhood	C05
Lot Description	
Lot Utilities	

## SALE INFORMATION

Sale Date	01/01/1900
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## Kristina Cottone

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**From:** TrackingUpdates@fedex.com  
**Sent:** Friday, July 12, 2019 10:07 AM  
**To:** Kristina Cottone  
**Subject:** FedEx Shipment 775592492313 Delivered

# Your package has been delivered

Tracking # 775592492313

Ship date: <b>Tue, 7/9/2019</b>	Delivery date: <b>Fri, 7/12/2019 10:03 am</b>
<b>Kristina Cottone</b> Smartlink LLC NORTH BILLERICA, MA 01862 US	<b>ATTN: First Selectman Beth K.</b> Town of Canton 4 Market Street COLLINSVILLE, CT 06022 US




Delivered

## Shipment Facts

Our records indicate that the following package has been delivered.

<b>Tracking number:</b>	<a href="#">775592492313</a>
<b>Status:</b>	Delivered: 07/12/2019 10:03 AM Signed for By: R.KUBRAN
<b>Reference:</b>	CTL01022- CSC
<b>Signed for by:</b>	R.KUBRAN
<b>Delivery location:</b>	COLLINSVILLE, CT
<b>Delivered to:</b>	Receptionist/Front Desk
<b>Service type:</b>	FedEx Express Saver®
<b>Packaging type:</b>	FedEx® Envelope
<b>Number of pieces:</b>	1
<b>Weight:</b>	1.00 lb.
<b>Special handling/Services:</b>	Deliver Weekday
<b>Standard transit:</b>	7/12/2019 by 4:30 pm

 Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 9:06 AM CDT on 07/12/2019.

## Kristina Cottone

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**From:** TrackingUpdates@fedex.com  
**Sent:** Friday, July 12, 2019 10:07 AM  
**To:** Kristina Cottone  
**Subject:** FedEx Shipment 775592465489 Delivered

# Your package has been delivered

Tracking # [775592465489](#)

Ship date: <b>Tue, 7/9/2019</b>	Delivery date: <b>Fri, 7/12/2019 10:03 am</b>
<b>Kristina Cottone</b> Smartlink LLC NORTH BILLERICA, MA 01862 US	<b>ATTN: Building Department</b> <b>Jerry W.</b> Town of Canton 4 Market Street COLLINSVILLE, CT 06022 US




Delivered

## Shipment Facts

Our records indicate that the following package has been delivered.

<b>Tracking number:</b>	<a href="#">775592465489</a>
<b>Status:</b>	Delivered: 07/12/2019 10:03 AM Signed for By: R.KUBRAN
<b>Reference:</b>	CTL01022 - CSC
<b>Signed for by:</b>	R.KUBRAN
<b>Delivery location:</b>	COLLINSVILLE, CT
<b>Delivered to:</b>	Receptionist/Front Desk
<b>Service type:</b>	FedEx Express Saver®
<b>Packaging type:</b>	FedEx® Envelope
<b>Number of pieces:</b>	1
<b>Weight:</b>	1.00 lb.
<b>Special handling/Services:</b>	Deliver Weekday
<b>Standard transit:</b>	7/12/2019 by 4:30 pm


 Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 9:06 AM CDT on 07/12/2019.

## Kristina Cottone

**From:** TrackingUpdates@fedex.com  
**Sent:** Wednesday, July 10, 2019 9:43 AM  
**To:** Kristina Cottone  
**Subject:** FedEx Shipment 775592395125 Delivered

# Your package has been delivered


Tracking # [775592395125](#)

Ship date: <b>Tue, 7/9/2019</b>	Delivery date: <b>Wed, 7/10/2019 9:39 am</b>
<b>Kristina Cottone</b> Smartlink LLC NORTH BILLERICA, MA 01862 US	 <b>Ryan Tierney</b> American Tower Corporation 10 Presidential Way WOBURN, MA 01801 US
<b>Delivered</b>	

## Shipment Facts

Our records indicate that the following package has been delivered.

<b>Tracking number:</b>	<a href="#">775592395125</a>
<b>Status:</b>	Delivered: 07/10/2019 09:39 AM Signed for By: P.ANCRI
<b>Reference:</b>	CTL01022 - CSC
<b>Signed for by:</b>	P.ANCRI
<b>Delivery location:</b>	WOBURN, MA
<b>Delivered to:</b>	Receptionist/Front Desk
<b>Service type:</b>	FedEx Express Saver®
<b>Packaging type:</b>	FedEx® Envelope
<b>Number of pieces:</b>	1
<b>Weight:</b>	0.50 lb.
<b>Special handling/Services:</b>	Deliver Weekday
<b>Standard transit:</b>	7/12/2019 by 4:30 pm

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TROPICAL STORM THREATENS GULF COAST. SEE IMPACTS TO USPS OPERATION...

# USPS Tracking<sup>®</sup> FAQs > (<https://www.usps.com/faqs/uspstracking-faqs.htm>)

**Track Another Package +**

**Tracking Number:** 9505510019679190245178

Remove X

**On Time**

**Expected Delivery on**

**THURSDAY**

**11**

JULY  
2019 ⓘ

by

**8:00pm** ⓘ

Feedback

## Available for Pickup

July 11, 2019 at 11:09 am  
Available for Pickup  
CANTON, CT 06019

**Get Updates** ✓

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**Text & Email Updates**



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**Tracking History**



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**Product Information**

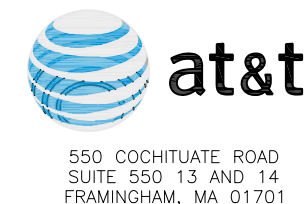


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**See Less** ^



PROJECT: LTE 4C/5C  
 SITE NUMBER: CTL01022  
 FA NUMBER: 10035260  
 PTN NUMBER: 2051A0KDHN, 2051A0KG4C  
 PACE NUMBER: MRCTB034855, MRCTB034843  
 ATC#: 411256  
 SITE NAME: CANTON-FIRE DEPARTMENT  
 SITE ADDRESS: 14 CANTON SPRINGS RD.  
 CANTON, CT 06019



**PROJECT INFORMATION**

**SITE NAME:** CANTON-FIRE DEPARTMENT  
**SITE NUMBER:** CTL01022  
**SITE ADDRESS:** 14 CANTON SPRINGS RD. CANTON, CT 06019  
**FA NUMBER:** 10035260  
**PTN NUMBER:** 2051A0KDHN, 2051A0KG4C  
**PACE NUMBER:** MRCTB034855, MRCTB034843  
**USID NUMBER:** 25969  
**ATC NUMBER:** 411256  
**APPLICANT:** AT&T WIRELESS  
 550 COCHITUATE ROAD SUITE 550 13 AND 14 FRAMINGHAM, MA 01701  
**TOWER OWNER:** AMERICAN TOWER CORPORATION  
 111 SHILOH ST PITTSBURGH, PA 15211  
**JURISDICTION/ ZONING:** CANTON VILLAGE DESIGN DISTRICT  
**COUNTY:** HARTFORD  
**SITE COORDINATES FROM (RFDS)**  
**LATITUDE:** 41.822853° / 41° 49' 22.27"  
**LONGITUDE:** -72.895166° / -72° 53' 42.5979"  
**GROUND ELEV.:** 341'  
**PROPOSED USE:** TELECOMMUNICATIONS FACILITY  
**AT&T RF MANAGER:** DEEPAK RATHORE  
 PHONE: (860) 965-3068  
 EMAIL: dr701e@att.com

**SCOPE OF WORK**

LTE AWS/850/PCS/700 WILL BE 4C/5C/RETROFIT AT THE SITE WITH BRONZE CONFIGURATION. PROPOSED 4C PROJECT SCOPE HEREIN BASED ON RFDS ID # 2572160, VERSION 5.00 LAST UPDATED 5/29/2019.

- (3) NEW ANTENNAS TO REPLACE (3) EXISTING ANTENNAS
- (3) NEW RRUS-8843 B2/B66A
- (3) NEW RRUS-4449 B5/B12
- UPGRADE DUS W/6630
- INSTALL (1) NEW XMU CARD
- INSTALL (1) RBS 6630 FOR 5G & HARVEST RXAIT

- CONTRACTOR SHALL FURNISH ALL MATERIAL WITH THE EXCEPTION OF AT&T SUPPLIED MATERIAL.
- ALL MATERIAL SHALL BE INSTALLED BY THE CONTRACTOR, UNLESS STATED OTHERWISE.

**APPLICABLE BUILDING CODES AND STANDARDS**

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES.

**BUILDING CODE:** 2015 INTERNATIONAL BUILDING CODE  
 2018 CONNECTICUT STATE BUILDING CODE SUPPLEMENT

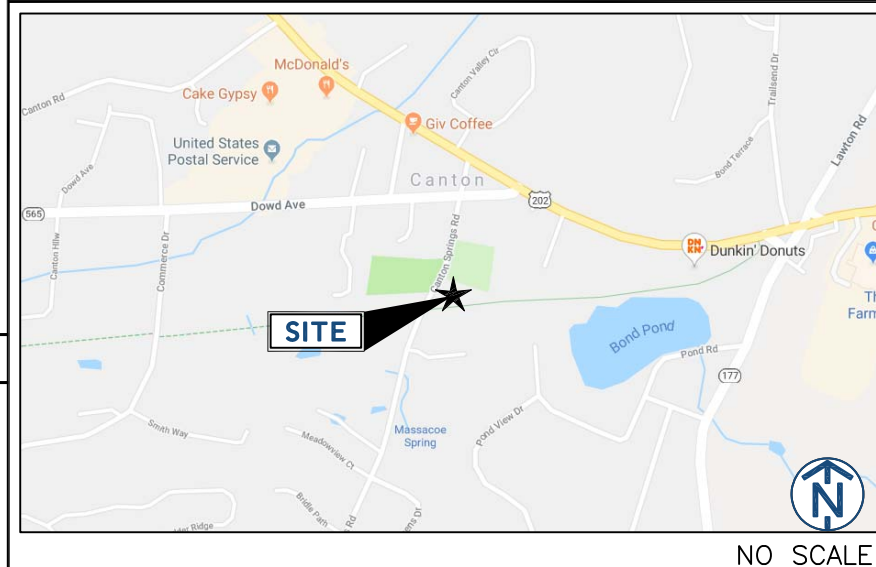
**ELECTRICAL CODE:** 2017 NATIONAL ELECTRIC CODE

- FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION.
- ADA ACCESS REQUIREMENTS ARE NOT REQUIRED.
- THIS FACILITY DOES NOT REQUIRE POTABLE WATER AND WILL NOT PRODUCE ANY SEWAGE

REV	DATE	DESCRIPTION	BY
0	01/31/19	90% REVIEW	SB
1	02/07/19	FOR PERMIT	EB
2	04/25/19	FOR PERMIT	EB
3	05/09/19	FOR CONSTRUCTION	SB
4	06/28/19	FOR CONSTRUCTION	SB

I HEREBY CERTIFY THAT THESE DRAWINGS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND CONTROL, AND TO THE BEST OF MY KNOWLEDGE AND BELIEF COMPLY WITH THE REQUIREMENTS OF ALL APPLICABLE CODES.

**SITE LOCATION MAP**



NO SCALE

**DRAWING INDEX**

T	TITLE SHEET
T1	TITLE SHEET
SP1	NOTES AND SPECIFICATIONS
SP2	NOTES AND SPECIFICATIONS
A1	COMPOUND PLAN
A2	EQUIPMENT PLAN
A3	ELEVATIONS
A4	ANTENNA PLANS
A5	EQUIPMENT DETAILS
A6	ANTENNA & CABLE CONFIGURATION
A7	CABLE NOTES AND COLOR CODING
A8	GROUNDING DETAILS

**PROJECT CONSULTANTS**

**PROJECT MANAGER:** SMARTLINK  
 ADDRESS: 85 RANGEWAY ROAD, SUITE 102 NORTH BILLERICA, MA 01862  
**CONTACT:** EDWARD WEISSMAN (917) 528-1857  
 EMAIL: Edward.Weissman@smartlinkllc.com  
**SITE ACQUISITION:** SMARTLINK  
 ADDRESS: 85 RANGEWAY ROAD, SUITE 102 NORTH BILLERICA, MA 01862  
**CONTACT:** SHARON KEEFE (978) 930-3918  
 EMAIL: Sharon.Keefe@smartlinkllc.com  
**ENGINEER/ARCHITECT:** FULLERTON ENGINEERING  
 ADDRESS: 1100 E. WOODFIELD ROAD, SUITE 500 SCHAUMBURG, IL 60173  
**CONTACT:** MILEN DIMITROV (847) 908-8439  
 EMAIL: MDimitrov@FullertonEngineering.com  
**CONSTRUCTION:** SMARTLINK  
 ADDRESS: 85 RANGEWAY ROAD, SUITE 102 NORTH BILLERICA, MA 01862  
**CONTACT:** MARK DONNELLY (617) 515-2080  
 EMAIL: mark.donnely@smartlinkllc.com

**DIRECTIONS**

SCAN QR CODE FOR LINK TO SITE LOCATION MAP



NOTE: DRAWING SCALES ARE FOR 11"x17" SHEETS UNLESS OTHERWISE NOTED

SITE NAME  
**CANTON-FIRE DEPARTMENT**

SITE NUMBER:  
**CTL01022**

SITE ADDRESS  
**14 CANTON SPRINGS RD.  
CANTON, CT 06019**

SHEET NAME  
**TITLE SHEET**

SHEET NUMBER  
**T1**



**GENERAL CONSTRUCTION**

- FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY:  
CONTRACTOR/CM – SMARTLINK  
OWNER – AT&T WIRELESS
- ALL SITE WORK SHALL BE COMPLETED AS INDICATED ON THE DRAWINGS AND AT&T PROJECT SPECIFICATIONS.
- GENERAL CONTRACTOR SHALL VISIT THE SITE AND SHALL FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND SHALL MAKE PROVISIONS. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS, DIMENSIONS, AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.
- ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. GENERAL CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF WORK.
- ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES, AND APPLICABLE REGULATIONS.
- UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- PLANS ARE NOT TO BE SCALED. THESE PLANS ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE ONLY UNLESS OTHERWISE NOTED. DIMENSIONS SHOWN ARE TO FINISH SURFACES UNLESS OTHERWISE NOTED. SPACING BETWEEN EQUIPMENT IS THE MINIMUM REQUIRED CLEARANCE. THEREFORE, IT IS CRITICAL TO FIELD VERIFY DIMENSIONS, SHOULD THERE BE ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE ENGINEER PRIOR TO PROCEEDING WITH THE WORK. DETAILS ARE INTENDED TO SHOW DESIGN INTENT. MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF WORK AND PREPARED BY THE ENGINEER PRIOR TO PROCEEDING WITH WORK.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE ENGINEER PRIOR TO PROCEEDING.
- GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF WORK AREA, ADJACENT AREAS AND BUILDING OCCUPANTS THAT ARE LIKELY TO BE AFFECTED BY THE WORK UNDER THIS CONTRACT. WORK SHALL CONFIRM TO ALL OSHA REQUIREMENTS AND THE LOCAL JURISDICTION.
- GENERAL CONTRACTOR SHALL COORDINATE WORK AND SCHEDULE WORK ACTIVITIES WITH OTHER DISCIPLINES.
- ERECTION SHALL BE DONE IN A WORKMANLIKE MANNER BY COMPETENT EXPERIENCED WORKMAN IN ACCORDANCE WITH APPLICABLE CODES AND THE BEST ACCEPTED PRACTICE. ALL MEMBERS SHALL BE LAID PLUMB AND TRUE AS INDICATED ON THE DRAWINGS.
- SEAL PENETRATIONS THROUGH FIRE RATED AREAS WITH UL LISTED MATERIALS APPROVED BY LOCAL JURISDICTION. CONTRACTOR SHALL KEEP AREA CLEAN, HAZARD FREE, AND DISPOSE OF ALL DEBRIS.
- WORK PREVIOUSLY COMPLETED IS REPRESENTED BY LIGHT SHADED LINES AND NOTES. THE SCOPE OF WORK FOR THIS PROJECT IS REPRESENTED BY DARK SHADED LINES AND NOTES. CONTRACTOR SHALL NOTIFY THE GENERAL CONTRACTOR OF ANY EXISTING CONDITIONS THAT DEVIATE FROM THE DRAWINGS PRIOR TO BEGINNING CONSTRUCTION.
- CONTRACTOR SHALL PROVIDE WRITTEN NOTICE TO THE CONSTRUCTION MANAGER 48 HOURS PRIOR TO COMMENCEMENT OF WORK.
- THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
- THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
- GENERAL CONTRACTOR SHALL COORDINATE AND MAINTAIN ACCESS FOR ALL TRADES AND CONTRACTORS TO THE SITE AND/OR BUILDING.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR SECURITY OF THE SITE FOR THE DURATION OF CONSTRUCTION UNTIL JOB COMPLETION.

- THE GENERAL CONTRACTOR SHALL MAINTAIN IN GOOD CONDITION ONE COMPLETE SET OF PLANS WITH ALL REVISIONS, ADDENDA, AND CHANGE ORDERS ON THE PREMISES AT ALL TIMES.
- THE GENERAL CONTRACTOR SHALL PROVIDE PORTABLE FIRE EXTINGUISHERS WITH A RATING OF NOT LESS THAN 2-A OT 2-A:10-B:C AND SHALL BE WITHIN 25 FEET OF TRAVEL DISTANCE TO ALL PORTIONS OF WHERE THE WORK IS BEING COMPLETED DURING CONSTRUCTION.
- ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY THE ENGINEER. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS SHALL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION, B) CONFINED SPACE, C) ELECTRICAL SAFETY, AND D) TRENCHING & EXCAVATION.
- ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED, CAPPED, PLUGGED OR OTHERWISE DISCONNECTED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, AS DIRECTED BY THE RESPONSIBLE ENGINEER, AND SUBJECT TO THE APPROVAL OF THE OWNER AND/OR LOCAL UTILITIES.
- THE AREAS OF THE OWNER'S PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION.
- CONTRACTOR SHALL MINIMIZE DISTURBANCE TO THE EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE FEDERAL AND LOCAL JURISDICTION FOR EROSION AND SEDIMENT CONTROL.
- NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUNDING. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
- THE SUBGRADE SHALL BE BROUGHT TO A SMOOTH UNIFORM GRADE AND COMPACTED TO 95 PERCENT STANDARD PROCTOR DENSITY UNDER PAVEMENT AND STRUCTURES AND 80 PERCENT STANDARD PROCTOR DENSITY IN OPEN SPACE. ALL TRENCHES IN PUBLIC RIGHT OF WAY SHALL BE BACKFILLED WITH FLOWABLE FILL OR OTHER MATERIAL PRE-APPROVED BY THE LOCAL JURISDICTION.
- ALL NECESSARY RUBBISH, STUMPS, DEBRIS, STICKS, STONES, AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A LAWFUL MANNER.
- ALL BROCHURES, OPERATING AND MAINTENANCE MANUALS, CATALOGS, SHOP DRAWINGS, AND OTHER DOCUMENTS SHALL BE TURNED OVER TO THE GENERAL CONTRACTOR AT COMPLETION OF CONSTRUCTION AND PRIOR TO PAYMENT.
- CONTRACTOR SHALL SUBMIT A COMPLETE SET OF AS-BUILT REDLINES TO THE GENERAL CONTRACTOR UPON COMPLETION OF PROJECT AND PRIOR TO FINAL PAYMENT.
- CONTRACTOR SHALL LEAVE PREMISES IN A CLEAN CONDITION.
- THE PROPOSED FACILITY WILL BE UNMANNED AND DOES NOT REQUIRE POTABLE WATER OR SEWER SERVICE, AND IS NOT FOR HUMAN HABITAT (NO HANDICAP ACCESS REQUIRED).
- OCCUPANCY IS LIMITED TO PERIODIC MAINTENANCE AND INSPECTION, APPROXIMATELY 2 TIMES PER MONTH, BY AT&T TECHNICIANS.
- NO OUTDOOR STORAGE OR SOLID WASTE CONTAINERS ARE PROPOSED.
- ALL MATERIAL SHALL BE FURNISHED AND WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST REVISION AT&T MOBILITY GROUNDING STANDARD "TECHNICAL SPECIFICATION FOR CONSTRUCTION OF GSM/GPRS WIRELESS SITES" AND "TECHNICAL SPECIFICATION FOR FACILITY GROUNDING". IN CASE OF A CONFLICT BETWEEN THE CONSTRUCTION SPECIFICATION AND THE DRAWINGS, THE DRAWINGS SHALL GOVERN.
- CONTRACTORS SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS REQUIRED FOR CONSTRUCTION. IF CONTRACTOR CANNOT OBTAIN A PERMIT, THEY MUST NOTIFY THE GENERAL CONTRACTOR IMMEDIATELY.
- CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE ON A DAILY BASIS.
- INFORMATION SHOWN ON THESE DRAWINGS WAS OBTAINED FROM SITE VISITS AND/OR DRAWINGS PROVIDED BY THE SITE OWNER. CONTRACTORS SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
- NO WHITE STROBE LIGHTS ARE PERMITTED. LIGHTING IF REQUIRED, WILL MEET FAA STANDARDS AND REQUIREMENTS.

**ANTENNA MOUNTING**

- DESIGN AND CONSTRUCTION OF ANTENNA SUPPORTS SHALL CONFORM TO CURRENT ANS/TIA-222 OR APPLICABLE LOCAL CODES.

- ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS NOTED OTHERWISE.
- ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS NOTED OTHERWISE.
- DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED BY COLD GALVANIZING IN ACCORDANCE WITH ASTM A780.
- ALL ANTENNA MOUNTS SHALL BE INSTALLED WITH LOCK NUTS, DOUBLE NUTS AND SHALL BE TORQUED TO MANUFACTURER'S RECOMMENDATIONS.
- CONTRACTOR SHALL INSTALL ANTENNA PER MANUFACTURER'S RECOMMENDATION FOR INSTALLATION AND GROUNDING.
- ALL UNUSED PORTS ON ANY ANTENNAS SHALL BE TERMINATED WITH A 50-OHM LOAD TO ENSURE ANTENNAS PERFORM AS DESIGNED.
- PRIOR TO SETTING ANTENNA AZIMUTHS AND DOWNTILTS, ANTENNA CONTRACTOR SHALL CHECK THE ANTENNA MOUNT FOR TIGHTNESS AND ENSURE THAT THEY ARE PLUMB. ANTENNA AZIMUTHS SHALL BE SET FROM TRUE NORTH AND BE ORIENTED WITHIN +/- 5% AS DEFINED BY THE RFDS. ANTENNA DOWNTILTS SHALL BE WITHIN +/- 0.5% AS DEFINED BY THE RFDS. REFER TO ND-00246.
- JUMPERS FROM THE TMA'S MUST TERMINATE TO OPPOSITE POLARIZATION'S IN EACH SECTOR.
- CONTRACTOR SHALL RECORD THE SERIAL #, SECTOR, AND POSITION OF EACH ACTUATOR INSTALLED AT THE ANTENNAS AND PROVIDE THE INFORMATION TO AT&T.
- TMA'S SHALL BE MOUNTED ON PIPE DIRECTLY BEHIND ANTENNAS AS CLOSE TO ANTENNA AS FEASIBLE IN A VERTICAL POSITION.

**TORQUE REQUIREMENTS**

- ALL RF CONNECTIONS SHALL BE TIGHTENED BY A TORQUE WRENCH.
- ALL RF CONNECTIONS, GROUNDING HARDWARE AND ANTENNA HARDWARE SHALL HAVE A TORQUE MARK INSTALLED IN A CONTINUOUS STRAIGHT LINE FROM BOTH SIDES OF THE CONNECTION.  
A. RF CONNECTION BOTH SIDES OF THE CONNECTOR.  
B. GROUNDING AND ANTENNA HARDWARE ON THE NUT SIDE STARTING FROM THE THREADS TO THE SOLID SURFACE. EXAMPLE OF SOLID SURFACE: GROUND BAR, ANTENNA BRACKET METAL.

**FIBER & POWER CABLE MOUNTING**

- THE FIBER OPTIC TRUNK CABLES SHALL BE INSTALLED INTO CONDUITS, CHANNEL CABLE TRAYS, OR CABLE TRAY. WHEN INSTALLING FIBER OPTIC TRUNK CABLES INTO A CABLE TRAY SYSTEM, THEY SHALL BE INSTALLED INTO AN INTER DUCT AND A PARTITION BARRIER SHALL BE INSTALLED BETWEEN THE 600 VOLT CABLES AND THE INTER DUCT IN ORDER TO SEGREGATE CABLE TYPES. OPTIC FIBER TRUNK CABLES SHALL HAVE APPROVED CABLE RESTRAINTS EVERY (60) SIXTY FEET AND SECURELY FASTENED TO THE CABLE TRAY SYSTEM. NFPA 70 (NEC) ARTICLE 770 RULES SHALL APPLY.
- THE TYPE TC-ER CABLES SHALL BE INSTALLED INTO CONDUITS, CHANNEL CABLE TRAYS, OR CABLE TRAY AND SHALL BE SECURED AT INTERVALS NOT EXCEEDING (6) SIX FEET. AN EXCEPTION; WHERE TYPE TC-ER CABLES ARE NOT SUBJECT TO PHYSICAL DAMAGE, CABLES SHALL BE PERMITTED TO MAKE A TRANSITION BETWEEN CONDUITS, CHANNEL CABLE TRAYS, OR CABLE TRAY WHICH ARE SERVING UTILIZATION EQUIPMENT OR DEVICES, A DISTANCE (6) SIX FEET SHALL NOT BE EXCEEDED WITHOUT CONTINUOUS SUPPORTING. NFPA 70 (NEC) ARTICLES 336 AND 392 RULES SHALL APPLY.
- WHEN INSTALLING OPTIC FIBER TRUNK CABLES OR TYPE TC-ER CABLES INTO CONDUITS, NFPA 70 (NEC) ARTICLE 300 RULES SHALL APPLY.

**COAXIAL CABLE NOTES**

- TYPES AND SIZES OF THE ANTENNA CABLE ARE BASED ON ESTIMATED LENGTHS. PRIOR TO ORDERING CABLE, CONTRACTOR SHALL VERIFY ACTUAL LENGTH BASED ON CONSTRUCTION LAYOUT AND NOTIFY THE PROJECT MANAGER IF ACTUAL LENGTHS EXCEED ESTIMATED LENGTHS.
- CONTRACTOR SHALL VERIFY THE DOWN-TILT OF EACH ANTENNA WITH A DIGITAL LEVEL.
- CONTRACTOR SHALL CONFIRM COAX COLOR CODING PRIOR TO CONSTRUCTION.
- ALL JUMPERS TO THE ANTENNAS FROM THE MAIN TRANSMISSION LINE SHALL BE 1/2" DIA. LDF AND SHALL NOT EXCEED 6'-0".

- ALL COAXIAL CABLE SHALL BE SECURED TO THE DESIGNED SUPPORT STRUCTURE, IN AN APPROVED MANNER, AT DISTANCES NOT TO EXCEED 4'-0" OC.
- CONTRACTOR SHALL FOLLOW ALL MANUFACTURER'S RECOMMENDATIONS REGARDING BOTH THE INSTALLATION AND GROUNDING OF ALL COAXIAL CABLES, CONNECTORS, ANTENNAS, AND ALL OTHER EQUIPMENT.
- CONTRACTOR SHALL GROUND ALL EQUIPMENT. INCLUDING ANTENNAS, RET MOTORS, TMA'S, COAX CABLES, AND RET CONTROL CABLES AS A COMPLETE SYSTEM. GROUNDING SHALL BE EXECUTED BY QUALIFIED WIREMEN IN COMPLIANCE WITH MANUFACTURER'S SPECIFICATION AND RECOMMENDATION.
- CONTRACTOR SHALL PROVIDE STRAIN-RELIEF AND CABLE SUPPORTS FOR ALL CABLE ASSEMBLIES, COAX CABLES, AND RET CONTROL CABLES. CABLE STRAIN-RELIEFS AND CABLE SUPPORTS SHALL BE APPROVED FOR THE PURPOSE. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
- CONTRACTOR TO VERIFY THAT EXISTING COAX HANGERS ARE STACKABLE SNAP IN HANGERS. IF EXISTING HANGERS ARE NOT STACKABLE SNAP IN HANGERS THE CONTRACTOR SHALL REPLACE EXISTING HANGERS WITH NEW SNAP IN HANGERS IF APPLICABLE.

**GENERAL CABLE AND EQUIPMENT NOTES**

- CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY ANTENNA, TMAS, DIPLEXERS, AND COAX CONFIGURATION, MAKE AND MODELS PRIOR TO INSTALLATION.
- ALL CONNECTIONS FOR HANGERS, SUPPORTS, BRACING, ETC. SHALL BE INSTALLED PER TOWER MANUFACTURER'S RECOMMENDATIONS.
- CONTRACTOR SHALL REFERENCE THE TOWER STRUCTURAL ANALYSIS/DESIGN DRAWINGS FOR DIRECTIONS ON CABLE DISTRIBUTION/ROUTING.
- ALL OUTDOOR RF CONNECTORS/CONNECTIONS SHALL BE WEATHERPROOFED, EXCEPT THE RET CONNECTORS, USING BUTYL TAPE AFTER INSTALLATION AND FINAL CONNECTIONS ARE MADE. BUTYL TAPE SHALL HAVE A MINIMUM OF ONE-HALF TAPE WIDTH OVERLAP ON EACH TURN AND EACH LAYER SHALL BE WRAPPED THREE TIMES. WEATHERPROOFING SHALL BE SMOOTH WITHOUT BUCKLING. BUTYL BLEEDING IS NOT ALLOWED.
- IF REQUIRED TO PAINT ANTENNAS AND/OR COAX:  
A. TEMPERATURE SHALL BE ABOVE 50° F.  
B. PAINT COLOR MUST BE APPROVED BY BUILDING OWNER/LANDLORD.  
C. FOR REGULATED TOWERS, FAA/FCC APPROVED PAINT IS REQUIRED.  
D. DO NOT PAINT OVER COLOR CODING OR ON EQUIPMENT MODEL NUMBERS
- ALL CABLES SHALL BE GROUNDED WITH COAXIAL CABLE GROUND KITS. FOLLOW THE MANUFACTURER'S RECOMMENDATIONS.  
A. GROUNDING AT THE ANTENNA LEVEL.  
B. GROUNDING AT MID LEVEL, TOWERS WHICH ARE OVER 200'-0", ADDITIONAL CABLE GROUNDING REQUIRED.  
C. GROUNDING AT BASE OF TOWER PRIOR TO TURNING HORIZONTAL.  
D. GROUNDING OUTSIDE THE EQUIPMENT SHELTER AT ENTRY PORT.  
E. GROUNDING INSIDE THE EQUIPMENT SHELTER AT THE ENTRY PORT.
- ALL PROPOSED GROUND BAR DOWNLEADS ARE TO BE TERMINATED TO THE EXISTING ADJACENT GROUND BAR DOWNLEADS A MINIMUM DISTANCE OF 4'-0" BELOW GROUND BAR. TERMINATIONS MAY BE EXOTHERMIC OR COMPRESSION.



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SUITE 550 13 AND 14  
FRAMINGHAM, MA 01701



1362 MELLON ROAD  
SUITE 140  
HANOVER, MD 21076



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SITE NAME  
**CANTON-FIRE DEPARTMENT**

SITE NUMBER:  
**CTL01022**

SITE ADDRESS  
**14 CANTON SPRINGS RD.  
CANTON, CT 06019**

SHEET NAME  
**NOTES AND SPECIFICATIONS**

SHEET NUMBER  
**SP1**

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**NOTICE**

**Beyond This Point** you are entering a controlled area where RF emissions *may exceed* the FCC General Population Exposure Limits.

Follow all posted signs and site guidelines for working in a RF environment.

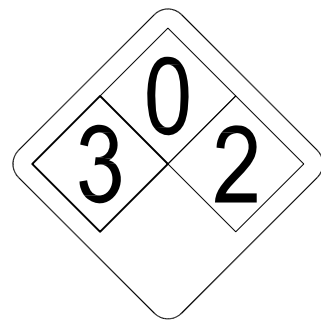
Ref: 47CFR 1.1307(b)

**CAUTION**

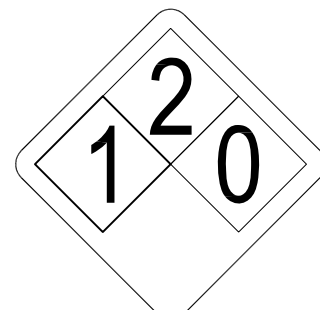
**Beyond This Point** you are entering a controlled area where RF emissions *may exceed* the FCC Occupational Exposure Limits.

Obey all posted signs and site guidelines for working in a RF environment.

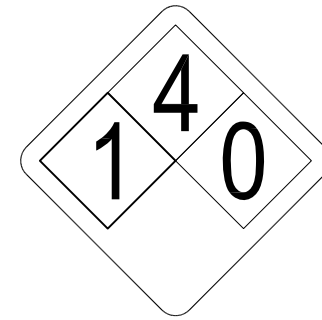
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ALERTING SIGN  
(FOR CELL SITE BATTERIES)



ALERTING SIGN  
(FOR DIESEL FUEL)



ALERTING SIGN  
(FOR PROPANE)

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ALERTING SIGNS

**WARNING!**

DANGER DO NOT TOUCH TOWER!

SERIOUS "RF" BURN HAZARD!

MAINTAIN AN ADEQUATE CLEARANCE BETWEEN TOWER SUPPORTS AND GUY WIRES

FAILURE TO OBEY ALL POSTED SIGNS AND SITE GUIDELINES FOR WORKING IN A RADIO FREQUENCY ENVIRONMENT COULD RESULT IN SERIOUS INJURY. CONTACT CURRENT MAY EXCEED LIMITS PRESCRIBED IN ANSI, IEEE C95.1-1992 FOR CONTROLLED ENVIRONMENTS.

PROPERTY OF AT&T

**AUTHORIZED PERSONNEL ONLY**

IN CASE OF EMERGENCY, OR PRIOR TO PERFORMING MAINTENANCE ON THIS SITE, CALL 800-638-2822 AND REFERENCE CELL SITE NUMBER \_\_\_\_\_

ALERTING SIGN

INFO SIGN #4

GENERAL SIGNAGE GUIDELINES

STRUCTURE TYPE	INFO SIGN #1	INFO SIGN #2	INFO SIGN #3	INFO SIGN #4	STRIPING	NOTICE SIGN	CAUTION SIGN
<b>TOWERS</b>							
MONOPOLE/MONOPINE/MONOPALM	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS	CLIMBING SIDE OF THE TOWER	ON BACKSIDE OF ANTENNAS	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS			AT THE HEIGHT OF THE FIRST CLIMBING STEP, MIN 9 FT ABOVE GROUND
SEC TOWERS/TOWERS WITH HIGH VOLTAGE	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS	CLIMBING SIDE OF THE TOWER	ON BACKSIDE OF ANTENNAS	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS			
LIGHT POLES/FLAG POLES	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS	ON THE POLE, NO LESS THAN 3FT BELOW THE ANTENNA AND LESS THAN 9FT ABOVE GROUND	ON BACKSIDE OF ANTENNAS	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS			
UTILITY WOOD POLES (JPA)	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS	ON THE POLE, NO LESS THAN 3FT BELOW THE ANTENNA AND LESS THAN 9FT ABOVE GROUND	ON BACKSIDE OF ANTENNAS	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS		IF GP MAX VALUE OF MPE AT ANTENNA LEVEL IS: 0-99%; NOTICE SIGN; OVER 99%; CAUTION SIGN AT NO LESS THAN 3FT BELOW ANTENNA AND 9FT ABOVE GROUND	
MICROCELLS MOUNTED ON NON-JPA POLES	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS	ON THE POLE, NO LESS THAN 3FT BELOW THE ANTENNA AND LESS THAN 9FT ABOVE GROUND	ON BACKSIDE OF ANTENNAS	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS		NOTICE OR CAUTION SIGN AT NO LESS THAN 9FT ABOVE GROUND; ONLY IF THE EXPOSURE EXCEEDS 90% OF THE GENERAL PUBLIC EXPOSURE AT EXPOSURE AT 6FT ABOVE GROUND OR AT OUTSIDE OF SURFACE OF ADJACENT BUILDING	
<b>TOWERS</b>							
AT ALL ACCESS POINTS TO THE ROOF	X			X			
ON ANTENNAS	X		X	X			
CONCEALED ANTENNAS	X	X		X			
ANTENNAS MOUNTED FACING OUTSIDE THE BUILDING	X	X		X			
ANTENNAS ON SUPPORT STRUCTURE	X	X		X			
ROOFVIEW GRAPH							
RADIATION AREA IS WITHIN 3FT FROM ANTENNA	X	ADJACENT TO EACH ANTENNA		X		EITHER NOTICE OR CAUTION SIGN (BASED ON ROOFVIEW RESULTS) AT ANTENNA /BARRIER	
RADIATION AREA IS BEYOND 3FT FROM ANTENNA	X	ADJACENT TO EACH ANTENNA		X	DIAGONAL, YELLOW STRIPING AS TO ROOFVIEW GRAPH		
<b>CHURCH STEEPLES</b>	ACCESS TO STEEPLE	ADJACENT TO ANTENNAS IF ANTENNAS ARE CONCEALED	ON BACKSIDE OF ANTENNAS	ACCESS TO STEEPLE			CAUTION SIGN AT THE ANTENNAS
<b>WATER STATIONS</b>	ACCESS TO LADDER	ADJACENT TO ANTENNAS IF ANTENNAS ARE CONCEALED	ON BACKSIDE OF ANTENNAS	ACCESS TO LADDER			CAUTION SIGN BESIDE INFO SIGN #1, MIN. 9FT ABOVE GROUND

STAY BACK 3 FEET FROM ANTENNA

**INFORMATION**

AT&T operates telecommunications antennas at this location. Remain at least 3 feet away from any antenna and obey all posted signs.

Contact the owner(s) of the antenna(s) before working closer than 3 feet from the antenna.

Contact AT&T at \_\_\_\_\_ prior to performing any maintenance or repairs near AT&T antennas. This is Site # \_\_\_\_\_

Contact the management office if this door/hatch/gate is found unlocked.

**INFORMACION**

En esta propiedad se ubican antenas de telecomunicaciones operadas por AT&T. Favor mantener una distancia de no menos de 3 pies y obedecer todos los avisos.

Comuníquese con el propietario o los propietarios de las antenas antes de trabajar o caminar a una distancia de menos de 3 pies de la antena.

Comuníquese con AT&T \_\_\_\_\_ antes de realizar cualquier mantenimiento o reparaciones cerca de la antena de AT&T.

Esta es la estación base maestra. \_\_\_\_\_

Favor comunicarse con la oficina de la administración del edificio si esta puerta o compuerta se encuentra sin candado.

**INFORMATION**

ACTIVE ANTENNAS ARE MOUNTED

ON THE OUTSIDE OF THIS BUILDING

BEHIND THIS PANEL

ON THIS STRUCTURE

**STAY BACK A MINIMUM OF 3 FEET FROM THESE ANTENNAS**

Contact AT&T at \_\_\_\_\_ and follow their instructions prior to performing any maintenance or repairs closer than 3 feet from the antennas.

This is AT&T site # \_\_\_\_\_

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**CANTON-FIRE DEPARTMENT**

SITE NUMBER:  
**CTL01022**

SITE ADDRESS  
**14 CANTON SPRINGS RD.  
CANTON, CT 06019**

SHEET NAME  
**NOTES AND SPECIFICATIONS**

SHEET NUMBER  
**SP2**

INFO SIGN #1

INFO SIGN #2

INFO SIGN #3

SIGNAGE GUIDELINES CHART

NOTES FOR ROOFTOP SITES:

- EITHER NOTICE OR CAUTION SIGNS NEED TO BE POSTED AT EACH SECTOR AS CLOSE AS POSSIBLE TO: THE OUTER EDGE OF THE STRIPED OFF AREA OR THE OUTER ANTENNAS OF THE SECTOR
- IF ROOFVIEWS SHOWS: ONLY BLUE = NOTICE SIGN, BLUE AND YELLOW = CAUTION SIGN, ONLY YELLOW = CAUTION SIGN TO BE INSTALLED
- SHOULD THE REQUIRED STRIPING AREAS INTERFERE WITH ANY STRUCTURE OR EQUIPMENT (A/C, VENTS, ROOF HATCH, DOORS, OTHER ANTENNAS, DISHES, ETC.). PLEASE NOTIFY AT&T TO MODIFY THE STRIPING AREA, PRIOR TO STARTING THE WORK.

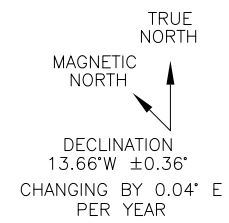


**ABBREVIATIONS**

AFF	ABOVE FINISHED FLOOR
AGL	ABOVE GRADE LEVEL
AMSL	ABOVE MEAN SEA LEVEL
APPROX	APPROXIMATE
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BLDG	BUILDING
BTS	BASE TRANSMISSION STATION
CL	CENTERLINE
CLR	CLEAR
COL	COLUMN
CONC	CONCRETE
CND	CONDUIT
DWG	DRAWING
FT	FOOT(FEET)
EGB	EQUIPMENT GROUND BAR
ELEC	ELECTRICAL
EMT	ELECTRICAL METALLIC TUBING
ELEV	ELEVATION
EQUIP	EQUIPMENT
(E)	EXISTING
EXT	EXTERIOR
FND	FOUNDATION
F	FIBER
FIF	FACILITY INTERFACE FRAME
GA	GAUGE
GALV	GALVANIZED
GPS	GLOBAL POSITIONING SYSTEM
GND	GROUND
GSM	GLOBAL SYSTEM FOR MOBILE COMMUNICATION
LTE	LONG TERM EVOLUTION
MAX	MAXIMUM
MCPA	MULTI-CARRIER POWER AMPLIFIER
MFR	MANUFACTURER
MGB	MASTER GROUND BAR
MIN	MINIMUM
MTS	MANUAL TRANSFER SWITCH
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
OE/OT	OVERHEAD ELECTRIC/TELCO
PPC	POWER PROTECTION CABINET
PL	PROPERTY LINE
RBS	RADIO BASED STATION
RET	REMOTE ELECTRIC TILT
RRU	REMOTE RADIO UNIT
RGS	RIGID GALVANIZED STEEL
IN	INCH(ES)
INT	INTERIOR
LB(S), #	POUND(S)
SF	SQUARE FOOT
STL	STEEL
TMA	TOWER MOUNTED AMPLIFIER
TYP	TYPICAL
UE/UT	UNDERGROUND ELECTRIC/TELCO
UNO	UNLESS NOTED OTHERWISE
UMTS	UNIVERSAL MOBILE TELE-COMMUNICATION SYSTEM
VIF	VERIFY IN FIELD
W/	WITH
XFMR	TRANSFORMER

**SYMBOLS**

	REVISION
	WORK POINT
	UTILITY POLE
	COMPRESSED STONE
	BRICK
	CONCRETE
	EARTH
	GRAVEL
	MASONRY
	STEEL
	CENTERLINE
	PROPERTY LINE
	LEASE LINE
	EASEMENT LINE
	CHAIN LINK FENCE
	WOOD FENCE
	BELOW GRADE ELECTRIC
	BELOW GRADE TELEPHONE
	OVERHEAD ELECTRIC/TELEPHONE
	SECTION REFERENCE



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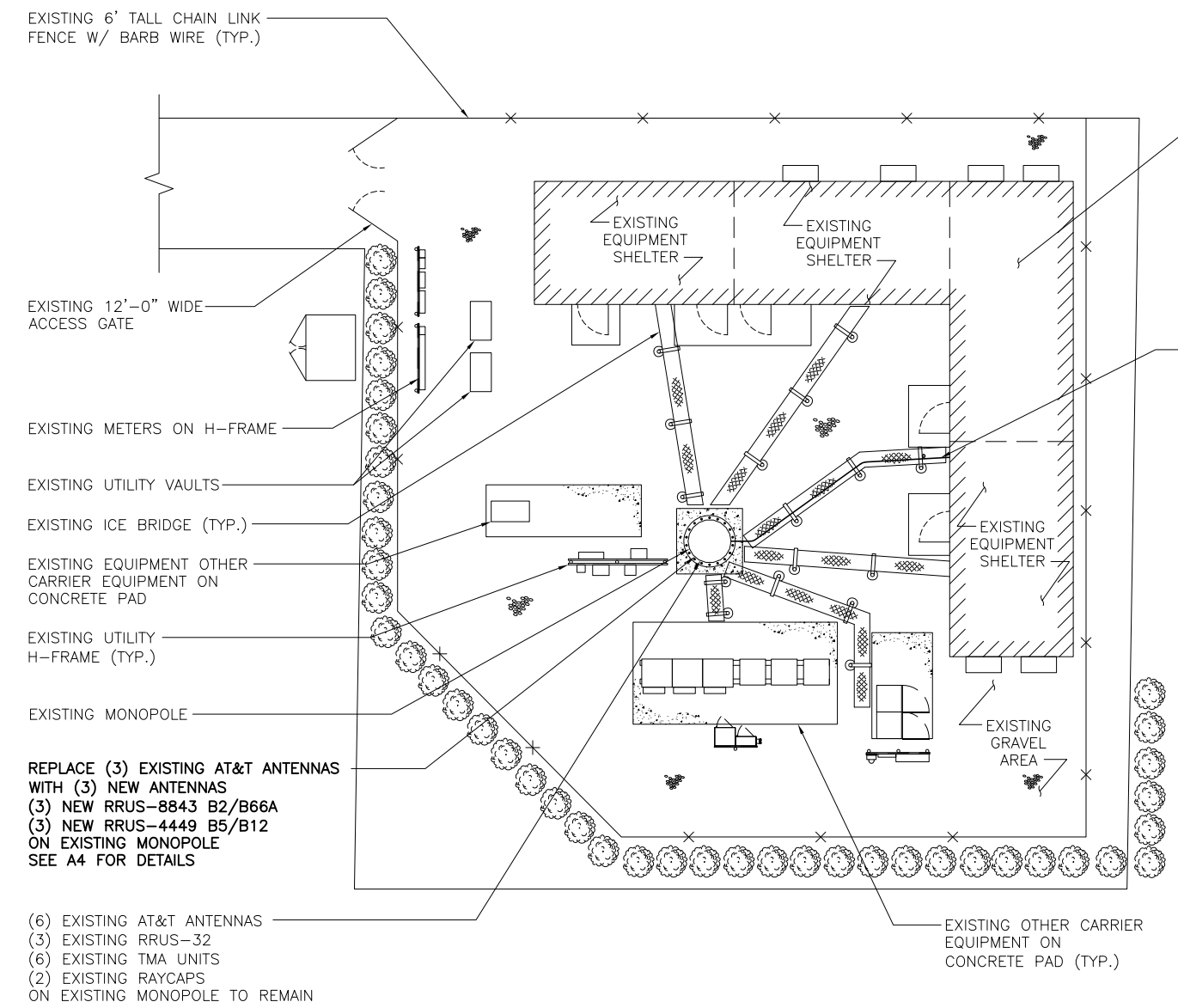
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SITE NUMBER:  
**CTL01022**

SITE ADDRESS  
**14 CANTON SPRINGS RD.  
CANTON, CT 06019**

SHEET NAME  
**COMPOUND PLAN**

SHEET NUMBER  
**A1**



NEW AND EXISTING AT&T EQUIPMENT WITHIN EXISTING 25'-3"x11'-0" EQUIPMENT SHELTER SEE A2 FOR DETAIL

(2) NEW DC POWER CABLES ROUTED ON EXISTING ICE BRIDGE

REPLACE (3) EXISTING AT&T ANTENNAS WITH (3) NEW ANTENNAS  
(3) NEW RRUS-8843 B2/B66A  
(3) NEW RRUS-4449 B5/B12 ON EXISTING MONOPOLE SEE A4 FOR DETAILS

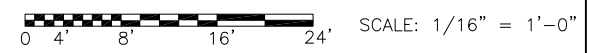
(6) EXISTING AT&T ANTENNAS  
(3) EXISTING RRUS-32  
(6) EXISTING TMA UNITS  
(2) EXISTING RAYCAPS ON EXISTING MONOPOLE TO REMAIN



SITE PHOTO 1 SCALE: N.T.S. 2



SITE PHOTO 2 SCALE: N.T.S. 3



**COMPOUND PLAN**

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TRUE NORTH  
MAGNETIC NORTH  
DECLINATION  
13.66°W ±0.36°  
CHANGING BY 0.04° E  
PER YEAR



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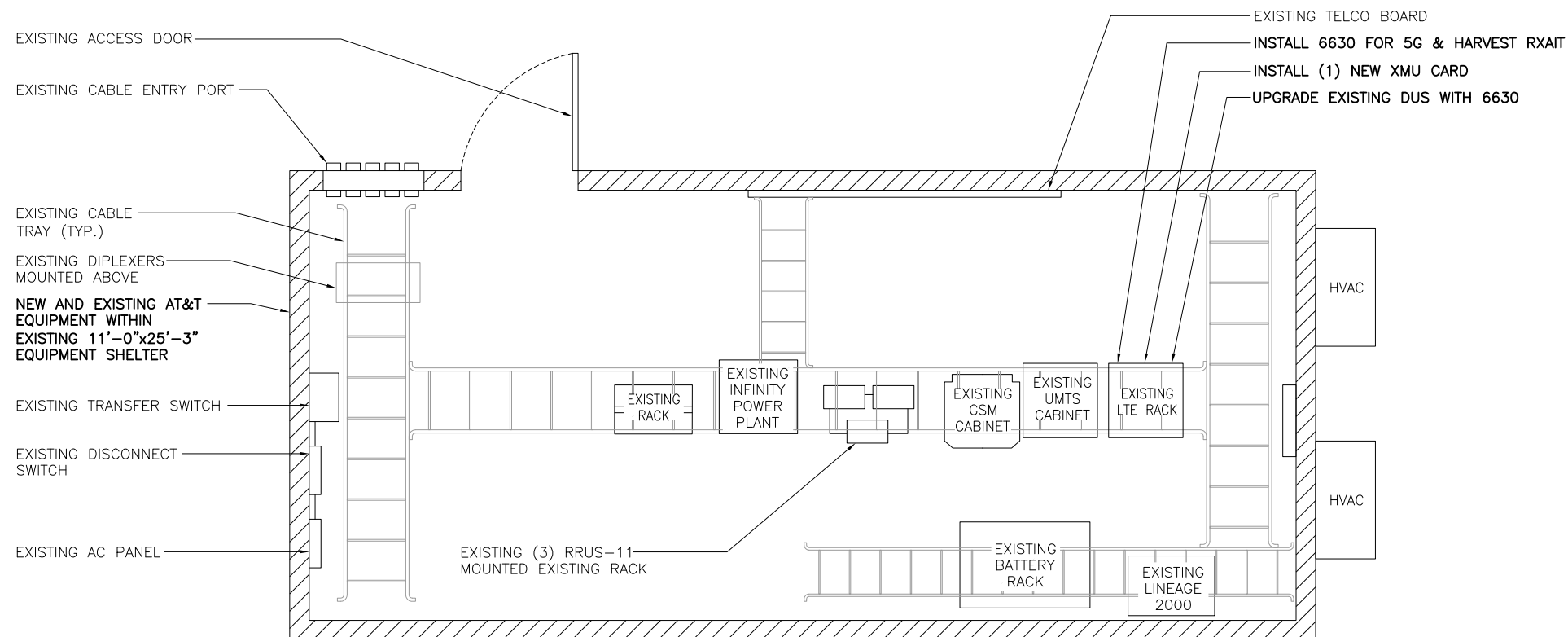
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SHEET NAME

**EQUIPMENT PLAN**

SHEET NUMBER

**A2**



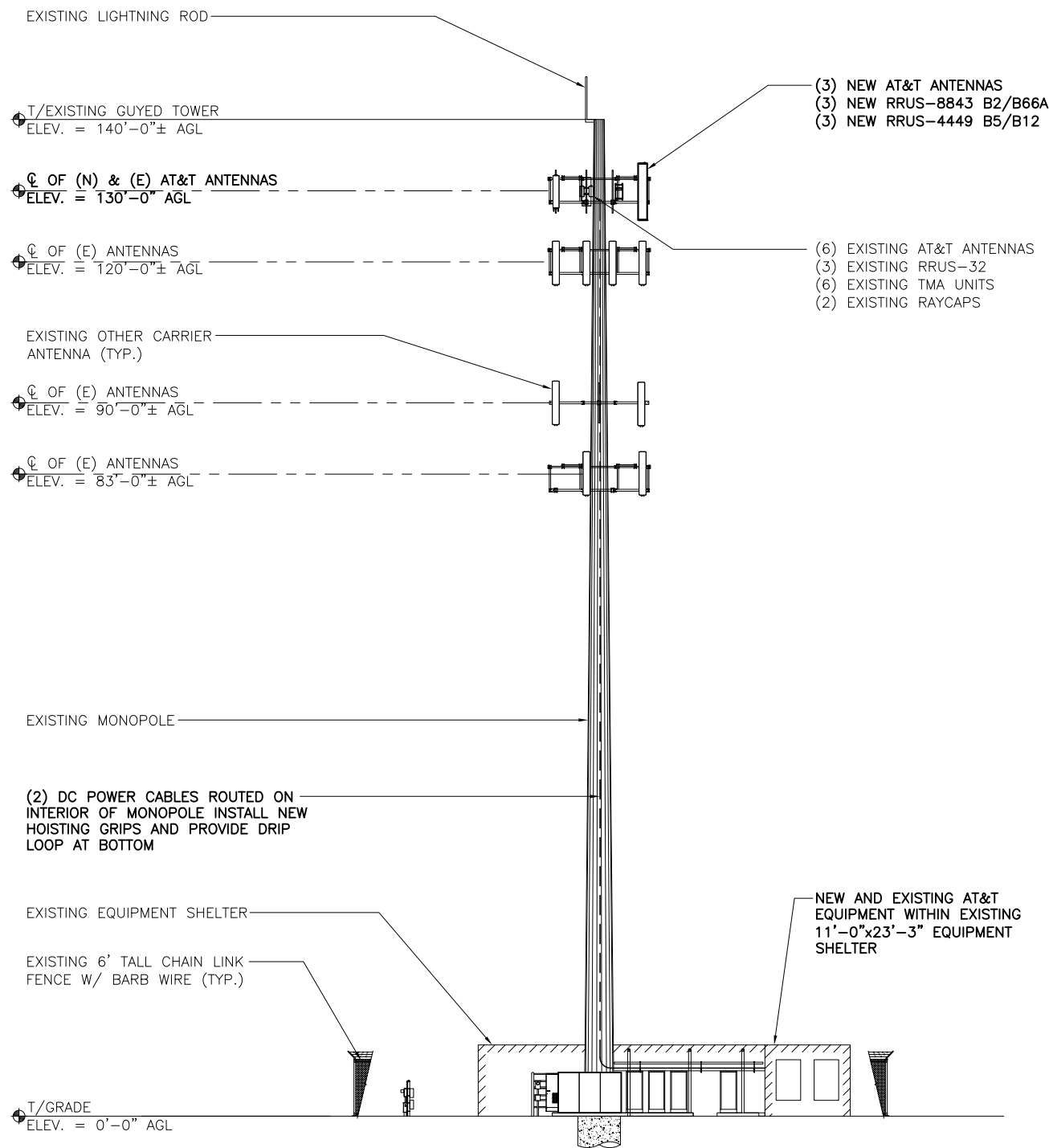
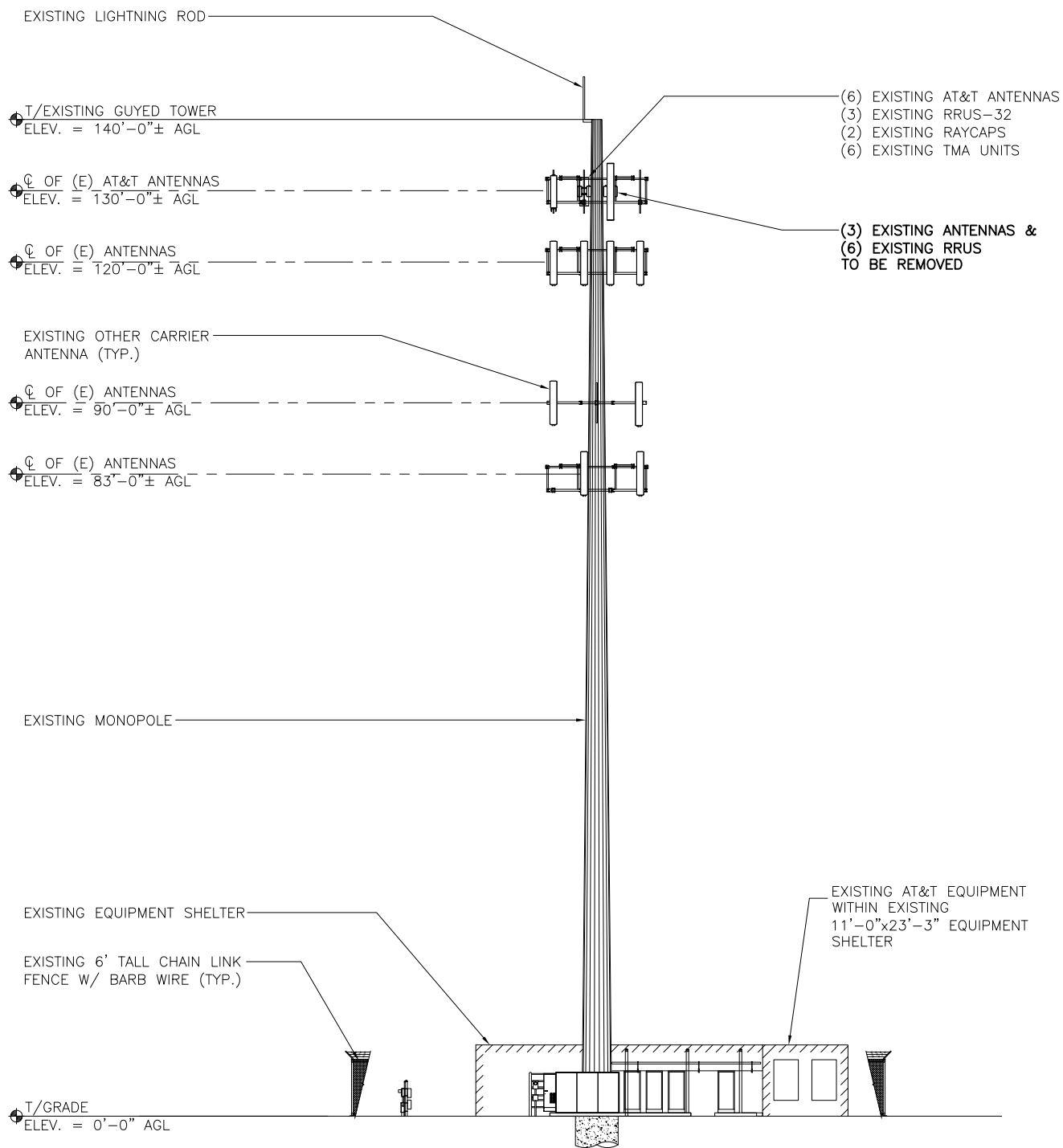
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**NOTES:**

1. CALCULATIONS FOR THE STRUCTURE WERE PREPARED BY OTHERS AND THOSE CALCULATIONS CERTIFY THE CAPACITY OF THE STRUCTURE TO SUPPORT THE NEW EQUIPMENT
2. CALCULATIONS FOR THE ANTENNA MOUNTS WERE PREPARED BY FULLERTON AND THOSE CALCULATIONS CERTIFY THE CAPACITY OF THE STRUCTURE TO SUPPORT THE NEW EQUIPMENT
3. CABLES NOT SHOWN FOR CLARITY

**NOTES:**

1. 3 FEET MINIMUM SEPARATION BETWEEN LTE ANTENNAS
2. 6 FEET MINIMUM SEPARATION BETWEEN 700DE & 700BC



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SHEET NAME

**ELEVATIONS**

SHEET NUMBER

**A3**

EXISTING ELEVATION

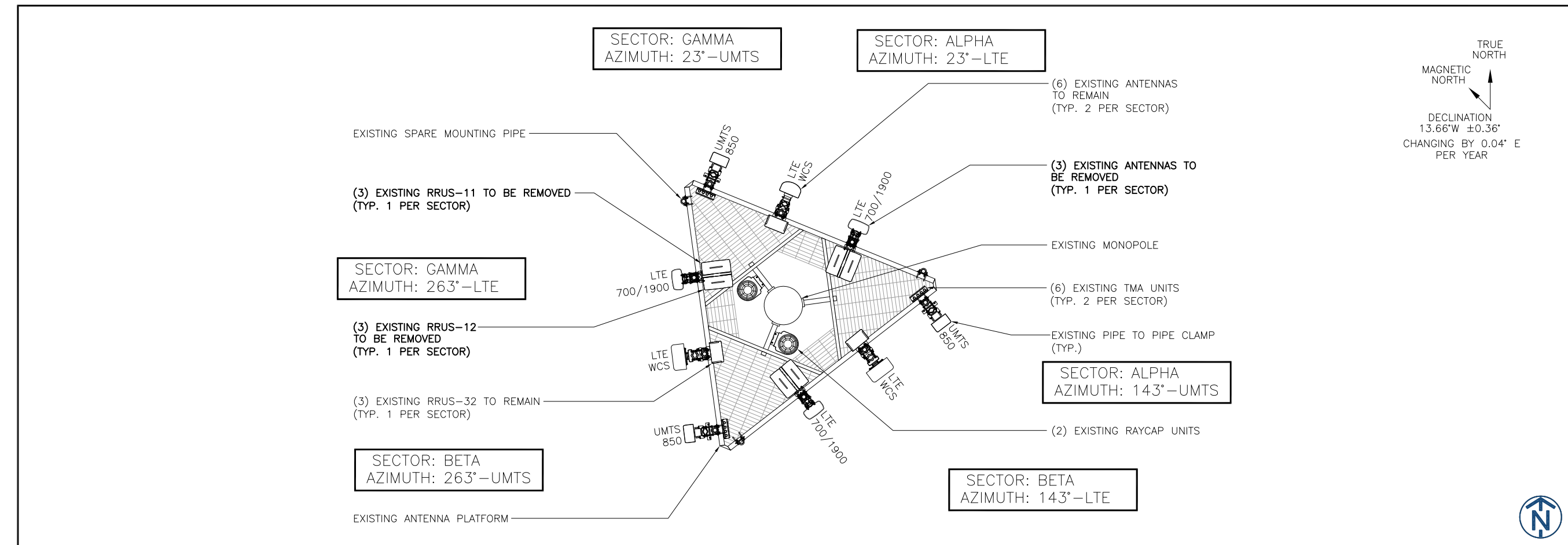
SCALE: N.T.S.

1

NEW ELEVATION

SCALE: N.T.S.

2



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**smartlink**  
 1362 MELLON ROAD  
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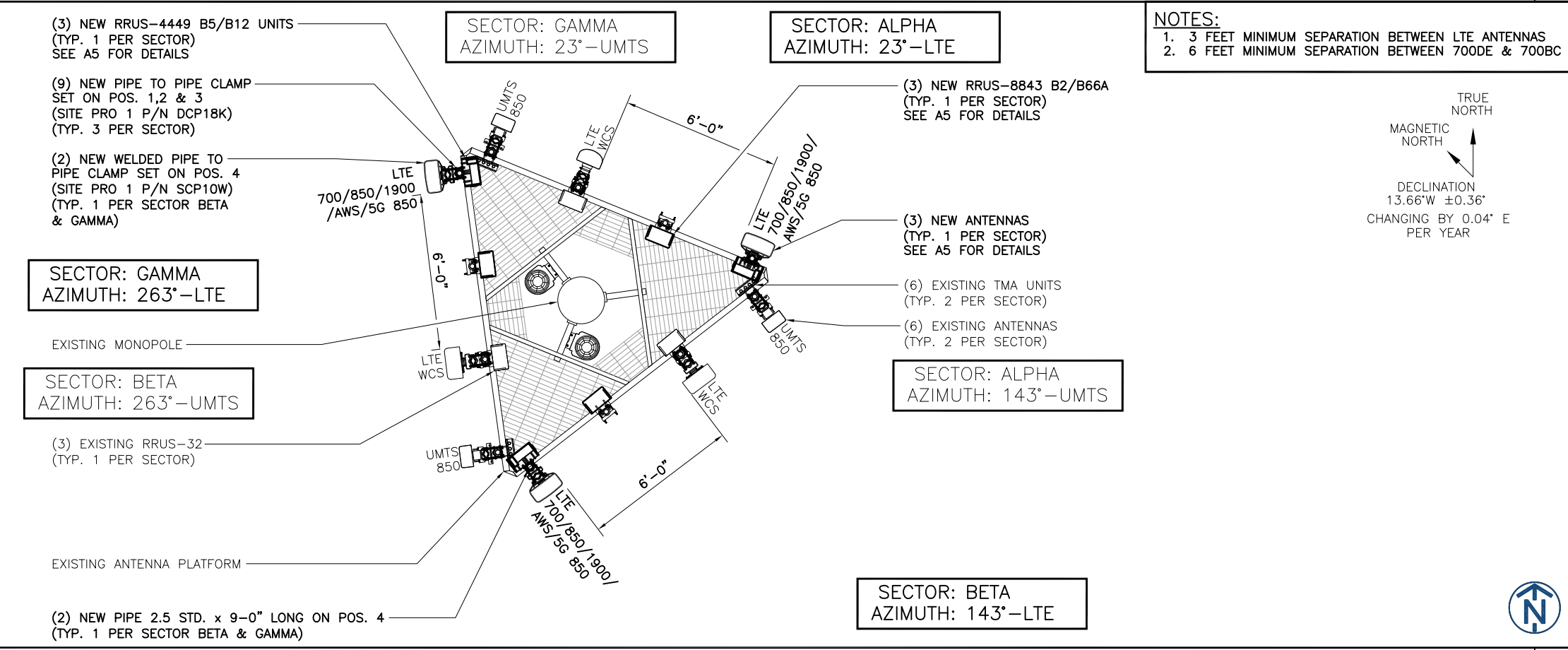
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TRUE NORTH  
 MAGNETIC NORTH  
 DECLINATION  
 13.66°W ±0.36°  
 CHANGING BY 0.04° E  
 PER YEAR

SCALE: 3/16" = 1'-0" | 1

EXISTING ANTENNA PLAN

**NOTES:**  
 1. EXISTING ANTENNA MOUNTING PIPE TO BE REUSED, RELOCATED OR REPLACED AS REQUIRED  
 2. IF REQUIRED INSTALL NEW GALV. MOUNTING PIPE(S) 2.5 STD. (2-7/8" O.D.)



**NOTES:**  
 1. 3 FEET MINIMUM SEPARATION BETWEEN LTE ANTENNAS  
 2. 6 FEET MINIMUM SEPARATION BETWEEN 700DE & 700BC

TRUE NORTH  
 MAGNETIC NORTH  
 DECLINATION  
 13.66°W ±0.36°  
 CHANGING BY 0.04° E  
 PER YEAR

SCALE: 3/16" = 1'-0" | 2

FINAL ANTENNA PLAN



SITE NAME

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SITE NUMBER:

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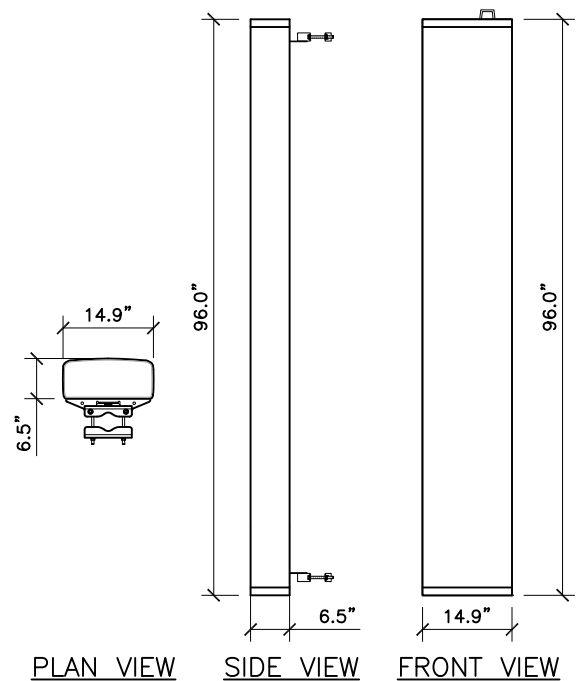
SHEET NAME

**ANTENNA PLANS**

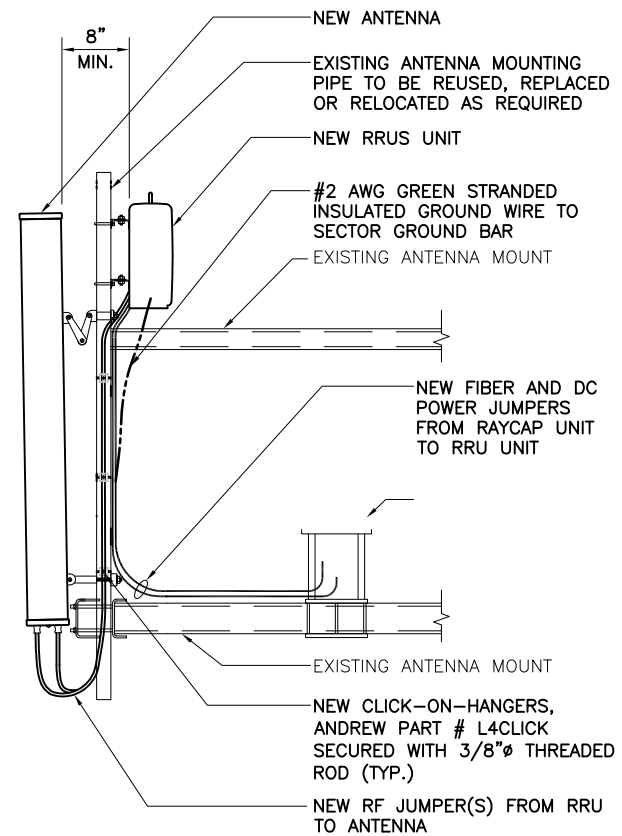
SHEET NUMBER

**A4**

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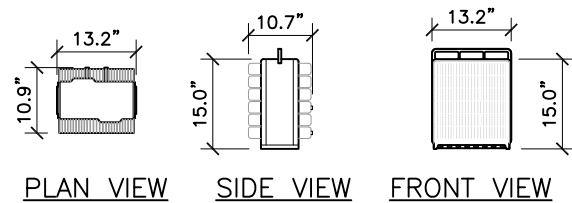
**KATHREIN – 840370799**  
 12-PORT ANTENNA, 2LB/4HB 8FT 65"  
 FREQUENCY RANGE      698-824 MHz  
                                      824-894 MHz  
 ANTENNA                      93 Lbs  
 BRACKET                     11 Lbs  
 TOTAL WEIGHT             104 Lbs



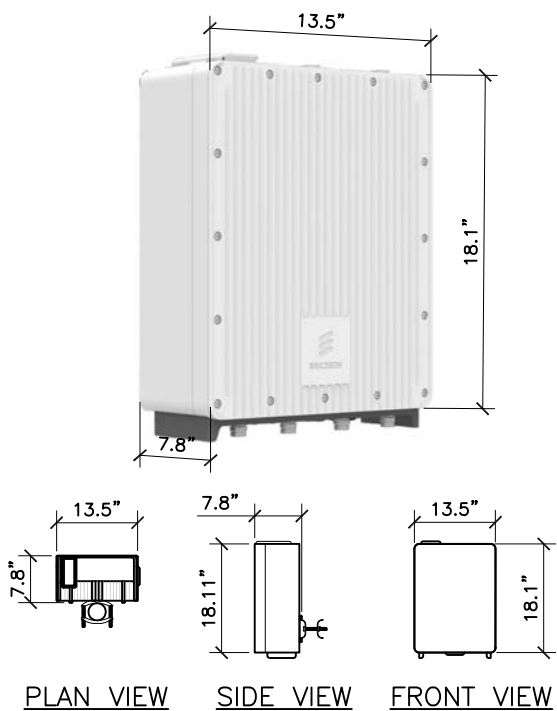
ANTENNA SCHEMATIC      SCALE: N.T.S.      2

NOT USED      SCALE: N.T.S.      3

NOT USED      SCALE: N.T.S.      4



**ERICSSON – RADIO 8843 B2 & B66**  
 DUAL BAND REMOTE RADIO  
 FREQUENCY B2      UPLINK 1850-1910 MHz  
                                      DOWNLINK 1930-1990 MHz  
 FREQUENCY B66      UPLINK 1710-1780 MHz  
                                      DOWN LINK 2110-2180 MHz  
 TOTAL WEIGHT             71.9 Lbs



**Ericsson – RRUS 4478 B5/B12**  
 FREQUENCY RANGE      TX = 869-894 MHz  
                                      RX = 824-849 MHz  
 TOTAL WEIGHT             56.1 Lbs

RRU SPEC      SCALE: N.T.S.      6

NOT USED      SCALE: N.T.S.      7

NOT USED      SCALE: N.T.S.      8



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SITE NUMBER:  
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SHEET NAME  
**EQUIPMENT DETAILS**

SHEET NUMBER  
**A5**

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SITE NUMBER:

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SITE ADDRESS

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CANTON, CT 06019

SHEET NAME

**ANTENNA & CABLE CONFIGURATION**

SHEET NUMBER

**A6**

**FINAL ANTENNA CONFIGURATION AND CABLE SCHEDULE  
SUPPLIED BY AT&T WIRELESS, FROM RF CONFIG. DATED (01/23/19)**

SECTOR	ANTENNA NUMBER	ANTENNA STATUS & TYPE	ANTENNA MODEL NUMBER	ANTENNA VENDOR	TMA/RRU UNIT	AZIMUTH	ANTENNA CL FROM GROUND	CABLE FEEDER		RAYCAP UNIT
								TYPE	LENGTH	
ALPHA	A-1	(E) UMTS ANTENNA	800-10121	KATHREIN	(1) EXISTING TMA UNIT	143°	130'-0"	(1) 1-5/8"ø LDF7-50A	190'-0"	(2) (E) DC6-48-60-18-8F UNIT
								(1) 1-5/8"ø LDF7-50A	190'-0"	
	A-2	(E) LTE3C ANTENNA	SBNH-1D65A	ANDREW	(1) EXISTING TMA UNIT (1) EXISTING RRUS-32	23°	130'-0"	(2) 1-5/8"ø LDF7-50A	190'-0"	
								(1) EXISTING DC CABLE	190'-0"	
	A-3									
	A-4	(N) LTE 3C/4C/5C ANTENNA	840-370799	KATHREIN	(1) NEW RRUS-8843 B2/B66A (1) NEW RRUS-4449 B5/B12	23°	130'-0"	(1) EXISTING FIBER & (2) EXISTING DC CABLES	190'-0"	
BETA	B-1	(E) UMTS ANTENNA	800-10121	KATHREIN	(1) EXISTING TMA UNIT	263°	130'-0"	(1) 1-5/8"ø LDF7-50A	190'-0"	
								(1) 1-5/8"ø LDF7-50A	190'-0"	
	B-2	(E) LTE3C ANTENNA	HPA-65R-BUU-H8	CCI	(1) EXISTING TMA UNIT (1) EXISTING RRUS-32	143°	130'-0"	(2) 1-5/8"ø LDF7-50A	190'-0"	
								SEE ANTENNA A-2 FOR CABLE TYPE AND LENGTH		
	B-3									
	B-4	(N) LTE 3C/4C/5C ANTENNA	800-10966	KATHREIN	(1) NEW RRUS-8843 B2/B66A (1) NEW RRUS-4449 B5/B12	143°	130'-0"	SEE ANTENNA A-4 FOR CABLE TYPE AND LENGTH		
GAMMA	C-1	(E) UMTS ANTENNA	800-10121	KATHREIN	(1) EXISTING TMA UNIT	23°	130'-0"	(1) 1-5/8"ø LDF7-50A	190'-0"	
								(1) 1-5/8"ø LDF7-50A	190'-0"	
	C-2	(E) LTE3C ANTENNA	HPA-65R-BUU-H8	CCI	(1) EXISTING TMA UNIT (1) EXISTING RRUS-32	263°	130'-0"	(2) 1-5/8"ø LDF7-50A	190'-0"	
								SEE ANTENNA A-2 FOR CABLE TYPE AND LENGTH		
	C-3									
	C-4	(N) LTE 3C/4C/5C ANTENNA	800-10966	KATHREIN	(1) NEW RRUS-8843 B2/B66A (1) NEW RRUS-4449 B5/B12	263°	130'-0"	SEE ANTENNA A-4 FOR CABLE TYPE AND LENGTH		



1. CONTRACTOR IS TO REFER TO AT&T'S MOST CURRENT RADIO FREQUENCY DATA SHEET (RFDS) PRIOR TO CONSTRUCTION.
2. THE SIZE, HEIGHT, AND DIRECTION OF THE ANTENNAS SHALL BE ADJUSTED TO ACHIEVE THE AZIMUTHS SPECIFIED AND LIMIT SHADOWING AND TO MEET THE SYSTEM REQUIREMENTS.
3. CONTRACTOR SHALL VERIFY THE HEIGHT OF THE ANTENNA WITH THE AT&T WIRELESS PROJECT MANAGER.
4. VERIFY TYPE AND SIZE OF TOWER LEG PRIOR TO ORDERING ANY ANTENNA MOUNT.
5. UNLESS NOTED OTHERWISE THE CONTRACTOR MUST PROVIDE ALL MATERIAL NECESSARY.
6. ANTENNA AZIMUTHS ARE DEGREES OFF OF TRUE NORTH, BEARING CLOCKWISE, IN WHICH ANTENNA FACE IS DIRECTED. ALL ANTENNAS (AND SUPPORTING STRUCTURES AS PRACTICAL) SHALL BE ACCURATELY ORIENTED IN THE SPECIFIED DIRECTION.
7. CONTRACTOR SHALL VERIFY ALL RF INFORMATION PRIOR TO CONSTRUCTION.
8. SWEEP TEST SHALL BE PERFORMED BY GENERAL CONTRACTOR AND SUBMITTED TO AT&T WIRELESS CONSTRUCTION SPECIALIST. TEST SHALL BE PERFORMED PER AT&T WIRELESS STANDARDS.
9. CABLE LENGTHS WERE DETERMINED BASED ON THE DESIGN DRAWING. CONTRACTOR TO VERIFY ACTUAL LENGTH DURING PRE-CONSTRUCTION WALK.
10. CONTRACTOR TO USE ROSENBERGER FIBER LINE HANGER COMPONENTS (OR ENGINEER APPROVED EQUAL).

ANTENNA AND CABLING NOTES

SCALE: N.T.S. 1

RF, DC, & COAX CABLE MARKING LOCATIONS TABLE	
NO	LOCATIONS
1	EACH TOP-JUMPER SHALL BE COLOR CODED WITH (1) SET OF 3" WIDE BANDS.
2	EACH MAIN COAX SHALL BE COLOR CODED WITH (1) SET OF 3" WIDE BANDS NEAR THE TOP-JUMPER CONNECTION AND WITH (1) SET OF 3/4" WIDE COLOR BANDS JUST PRIOR TO ENTERING THE BTS OR TRANSMITTER BUILDING.
3	CABLE ENTRY PORT ON THE INTERIOR OF THE SHELTER.
4	ALL BOTTOM JUMPERS SHALL BE COLOR CODED WITH (1) SET OF 3/4" WIDE BANDS ON EACH END OF THE BOTTOM JUMPER.
5	ALL BOTTOM JUMPERS SHALL BE COLOR CODED WITH (1) SET OF 3/4" WIDE BANDS ON EACH END OF THE BOTTOM JUMPER.

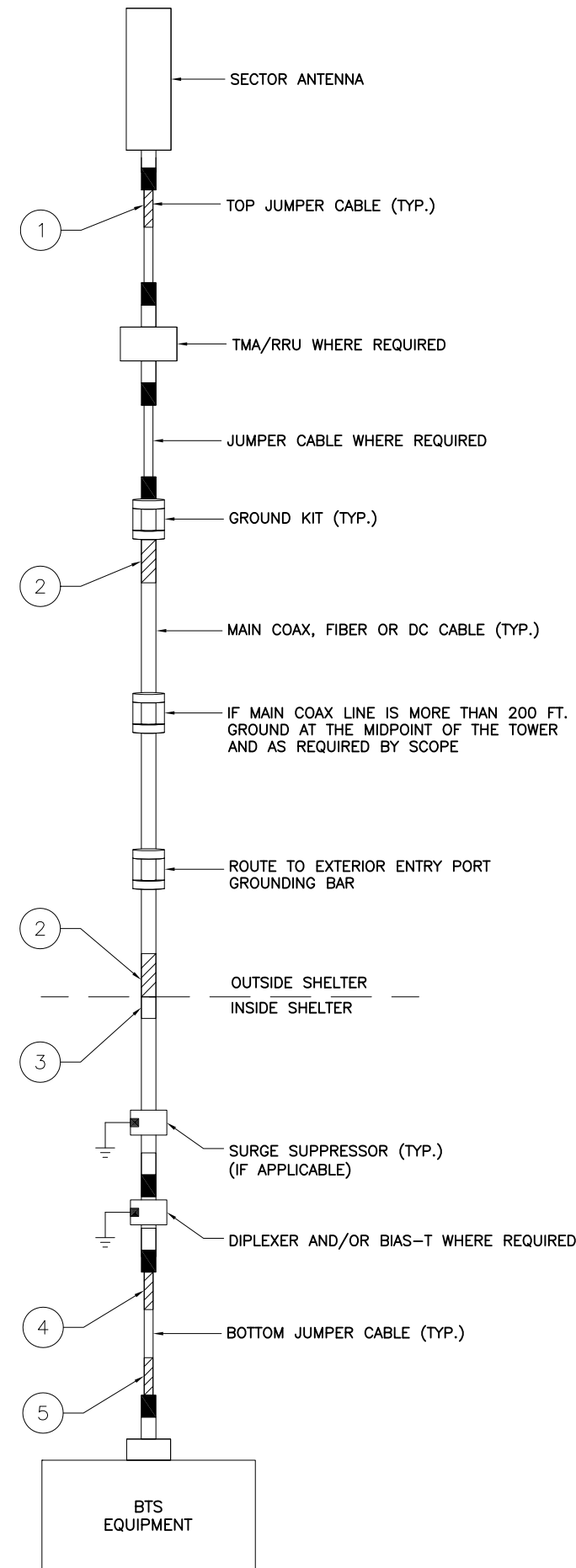
CABLE MARKING DIAGRAM

SCALE: N.T.S. 2

1. THE ANTENNA SYSTEM COAX SHALL BE LABELED WITH VINYL TAPE.
2. THE STANDARD IS BASED ON EIGHT COLORED TAPES-RED, BLUE, GREEN, YELLOW, ORANGE, BROWN, WHITE, AND VIOLET. THESE TAPES MUST BE 3/4" WIDE & UV RESISTANT SUCH AS SCOTCH 35 VINYL ELECTRICAL COLOR CODING TAPE AND SHOULD BE READILY AVAILABLE TO THE ELECTRICIAN OR CONTRACTOR ON SITE.
3. USING COLOR BANDS ON THE CABLES, MARK ALL RF CABLE BY SECTOR AND CABLE NUMBER AS SHOWN ON "CABLE COLOR CHART".
4. WHEN AN EXISTING COAXIAL LINE THAT IS INTENDED TO BE A SHARED LINE BETWEEN TECHNOLOGIES IS ENCOUNTERED, THE CONTRACTOR SHALL REMOVE THE EXISTING COLOR CODING SCHEME AND REPLACE IT WITH THE COLOR CODING STANDARD. IN THE ABSENCE OF AN EXISTING COLOR CODING AND TAGGING SCHEME, OR WHEN INSTALLING PROPOSED COAXIAL CABLES, THIS GUIDELINE SHALL BE IMPLEMENTED AT THAT SITE REGARDLESS OF TECHNOLOGY.
5. ALL COLOR CODE TAPE SHALL BE 3M-35 AND SHALL BE INSTALLED USING A MINIMUM OF (3) THREE WRAPS OF TAPE AND SHALL BE NEATLY TRIMMED AND SMOOTHED OUT SO AS TO AVOID UNRAVELING.
6. ALL COLOR BANDS INSTALLED AT THE TOP OF THE TOWER SHALL BE A MINIMUM OF 3" WIDE, AND SHALL HAVE A MINIMUM OF 3/4" OF SPACE BETWEEN EACH COLOR.
7. ALL COLOR CODES SHALL BE INSTALLED SO AS TO ALIGN NEATLY WITH ONE ANOTHER FROM SIDE-TO-SIDE.
8. IF EXISTING CABLES AT THE SITE ALREADY HAVE A COLOR CODING SCHEME AND THEY ARE NOT INTENDED TO BE REUSED OR SHARED WITH THE NEW TECHNOLOGY, THE EXISTING COLOR CODING SCHEME SHALL REMAIN UNTOUCHED.

CABLE MARKING NOTES

SCALE: N.T.S. 3



CABLE COLOR CODING DIAGRAM

SCALE: N.T.S. 4



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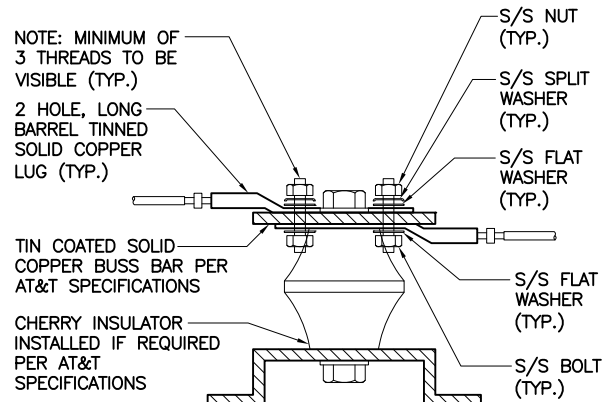
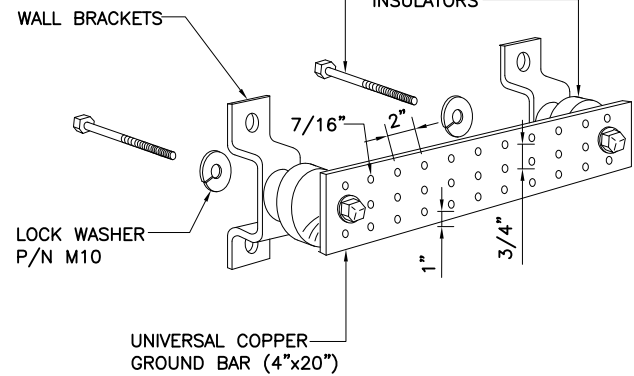
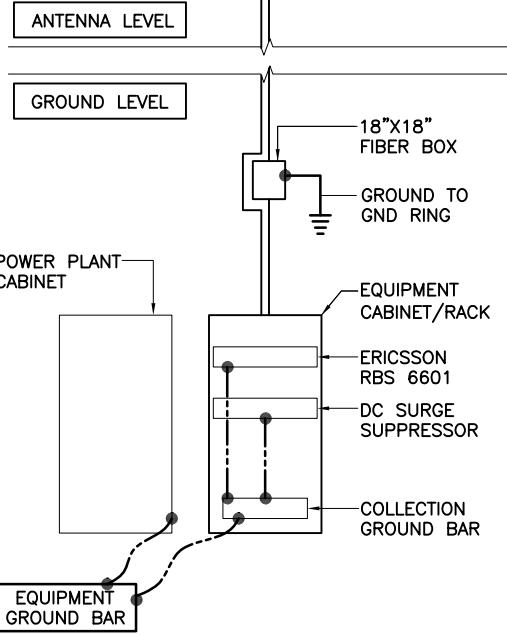
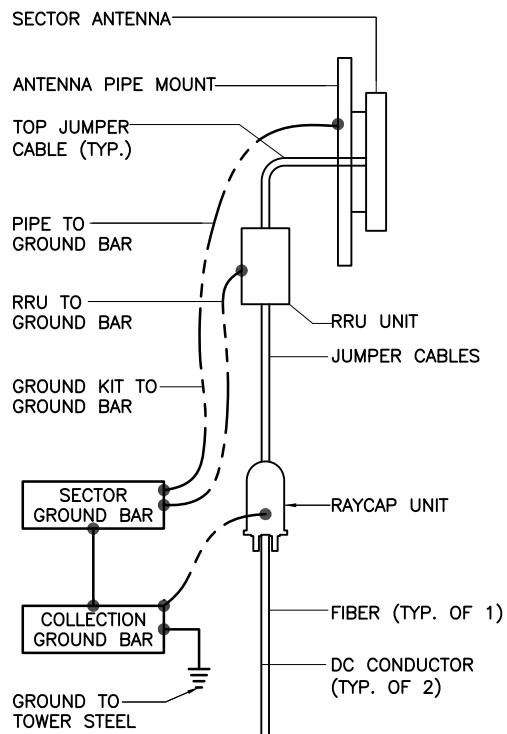
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SHEET NAME  
**CABLE NOTES AND COLOR CODING**

SHEET NUMBER  
**A7**

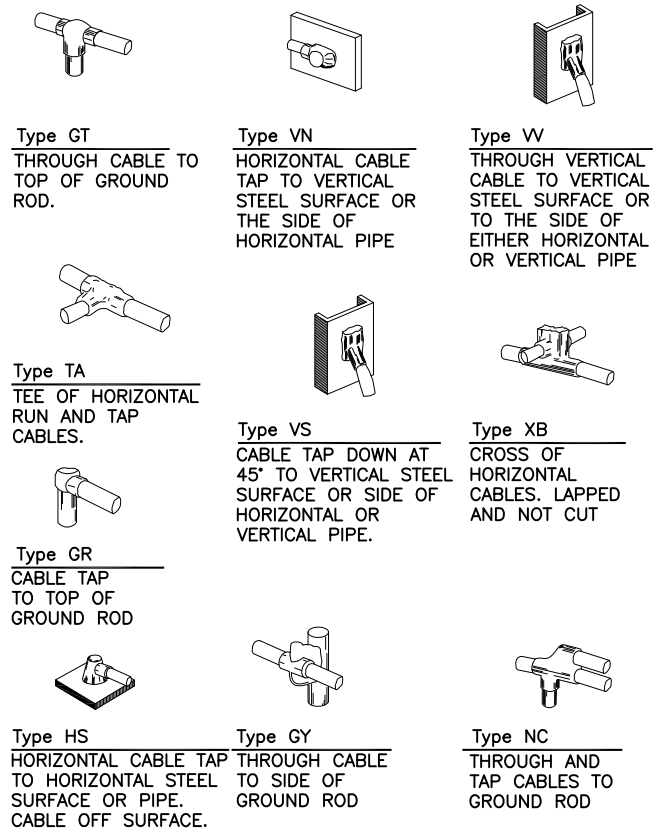
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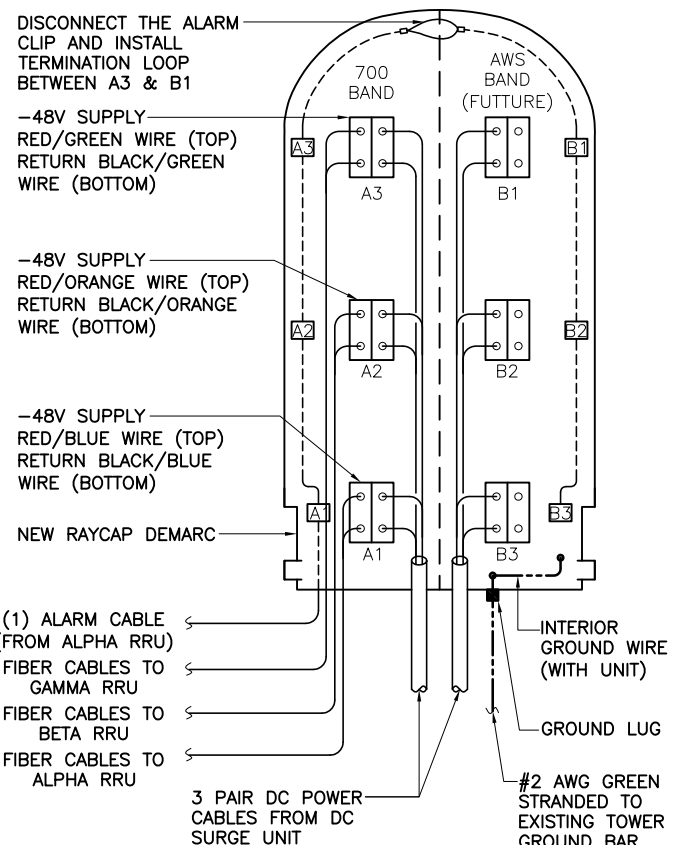
- NOTES:**
1. ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING SPLIT WASHERS.
  2. COAT WIRE END WITH ANTI-OXIDATION COMPOUND PRIOR TO INSERTION INTO LUG BARREL AND CRIMPING.
  3. APPLY ANTI-OXIDATION COMPOUND BETWEEN ALL LUGS AND BUSS BARS PRIOR TO MATING AND BOLTING.

GROUND BAR DETAIL SCALE: N.T.S. 2

LUG DETAIL SCALE: N.T.S. 3



EXOTHERMIC WELD DETAILS SCALE: N.T.S. 4



RAYCAP DC POWER AND ALARM DET. SCALE: N.T.S. 5

NOT USED SCALE: N.T.S. 6

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SHEET NAME  
**GROUNDING DETAILS**

SHEET NUMBER  
**A8**

GROUNDING SCHEMATIC SCALE: N.T.S. 1

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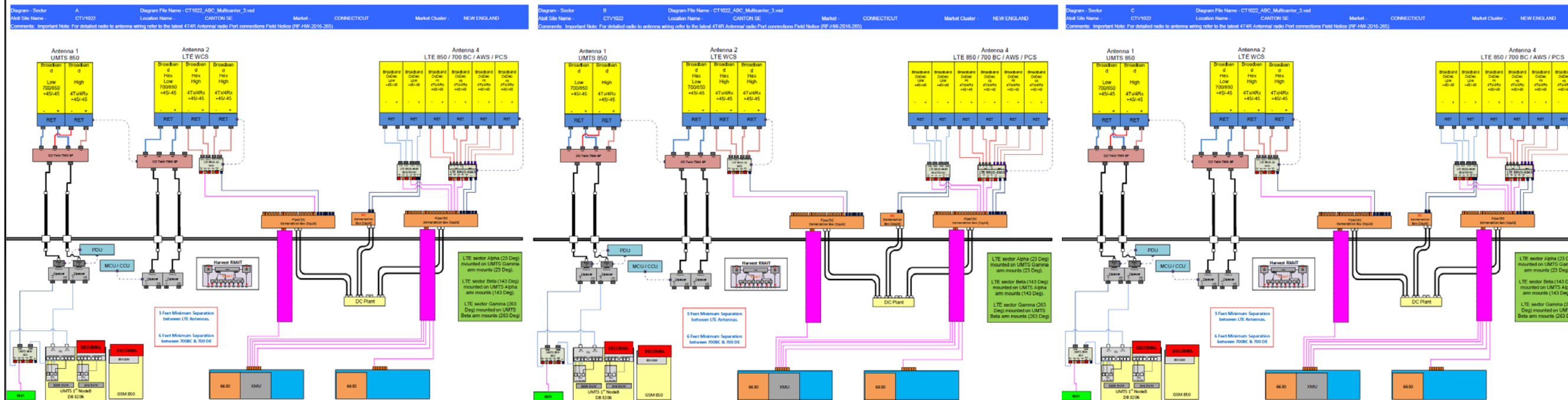
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SHEET NAME  
**PLUMBING DIAGRAMS**

SHEET NUMBER  
**A9**

\*BASED ON RFDS V5.0, DATED (05/29/19)

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