



December 16<sup>th</sup>, 2017

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

**Re: Notice of Exempt Modification – Antenna Swap and RRU Add**  
**Property Address: 347 East Street, Wolcott CT 06716**  
**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 nine (9) wireless telecommunication antennas at an antenna center line height of 160-feet on an existing 180-foot monopole, owned by Crown Castle at 12 Gill St. Suite 5800, Woburn, MA 01801. AT&T now intends to add (1) RRUS-32 B2 in position [2], all sectors, for a total of (3) new RRUS-32 B2s to be added. In addition, AT&T intends to relocate (1) RRUS-12 from position [4] to position [2] in all sectors, for a total of (3) RRUS-12s to be relocated. All of the changes will take place on the existing antenna mount.

Per the attached Decision and Order, the construction of the above mentioned tower was approved by the Connecticut Siting Council on April 14<sup>th</sup>, 1986 with the following conditions:

- The [tower] shall be constructed to meet Zone C wind loading with 1" of radial ice and shall not exceed 180' in height excluding antennas.
- The certificate holder shall submit a development and management plan pursuant to sections 16-50j-75 through 16-50j-77 of the RSA, except that irrelevant items in section 16-50j-76 need only be identified as such.
- The facility shall be constructed, operated, and maintained as specified in the Council's record and in the site development and management plan required by order 8.
- A fence not lower than 8' shall surround each tower and associated equipment.

In addition, 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 David Kalinowski, Zoning Official, Wolcott Town Hall, 10 Kenea Ave. Wolcott CT 06716 and Thomas G. Dunn, Mayor, Wolcott Town Hall, 10 Kenea Ave. Wolcott CT 06716. A copy of this letter is also being sent to the property owners Agostinho & Joanne Rodrigues, 347 East St. Wolcott CT 06716 and to the tower company, Crown Castle, 3 Corporate Park Drive, Suite 101, Clifton Park, NY 12065.

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

- **EM-AT&T-166-021001** - AT&T Wireless PCS, LLC d/b/a AT&T Wireless notice of intent to modify an existing telecommunications facility located at 347 East Street, **Wolcott**, Connecticut.
- **EM-CING-025-034-088-129-145-166-070612** - New Cingular Wireless PCS, LLC notice of intent to modify existing telecommunications facilities located at 1119 Summit Road, Cheshire; 48 Newtown Road, Danbury; 585



So. Main Street (a/k/a New Haven Road), Naugatuck; 126 Pioneer Heights Road, Somers; 23 Holland Road, Union; and 347 East Street, **Wolcott**, Connecticut.

- **EM-CING-057-107-130-130-166-070815** - New Cingular Wireless PCS, LLC notice of intent to modify existing telecommunications facilities located at 363 Riverville Drive, Greenwich; 525 Orange Center Road, Orange; 1432 Old Waterbury Road, Southbury; 133 Horse Fence Hill Road, Southbury; and 347 East Street, **Wolcott**, Connecticut.
- **EM-CING-166-120622** – New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 347 East Street, **Wolcott**, Connecticut.
- **EM-CING-166-130711** – New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 347 East Street, **Wolcott**, Connecticut.
- **EM-CING-166-140610** – New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 347 East Street, **Wolcott**, Connecticut.
- **EM-AT&T-166-160217** - AT&T notice of intent to modify an existing telecommunications facility located at 347 East Street, **Wolcott**, 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 160-foot level of the 180-foot monopole.
2. The proposed modifications will not involve any changes to ground-mounted equipment and, therefore, will not require and 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,

A handwritten signature in black ink that reads 'Romina Kirchmaier'.

Romina Kirchmaier

CC w/enclosures:  
David Kalinowski, Zoning Official, Town of Wolcott  
Thomas G. Dunn, Town of Wolcott  
Agostinho & Joanne Rodrigues, Land Owner  
Crown Castle, Tower Company



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**SmartLink, LLC on behalf of  
AT&T Mobility, LLC  
Site FA – 10035040  
Site ID – CT1060 –  
(MRCTB025123-MRCTB025176)  
USID – 61146  
Site Name – Wolcott\_East St  
Site Compliance Report**

**347 East Street  
Wolcott, CT 06716**

Latitude: N41-33-34.37  
Longitude: W72-56-49.10  
Structure Type: Self-Support

Report generated date: December 21, 2017  
Report by: Brandon Green  
Customer Contact: Romina Kirchmaier

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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
Access to Antennas Locked?	Yes
RF Sign(s) @ access point(s)	None
RF Sign(s) @ antennas	None
Barrier(s) @ sectors	None
Max cumulative simulated RFE level on the Ground	<1% General Public Limit
FCC & AT&T Compliant?	Will Be Compliant

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

RFDS: NEW-ENGLAND\_CONNECTICUT\_CTV1060\_2018-LTE-Next-Carrier\_LTE\_rx855w\_2051A0D0Q7\_10035040\_61146\_06-13-2017\_Preliminary-Approved\_v3.00

CD's: 10035040\_AE201\_171116\_CTL01060\_REV1

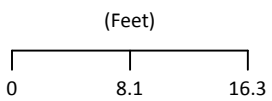
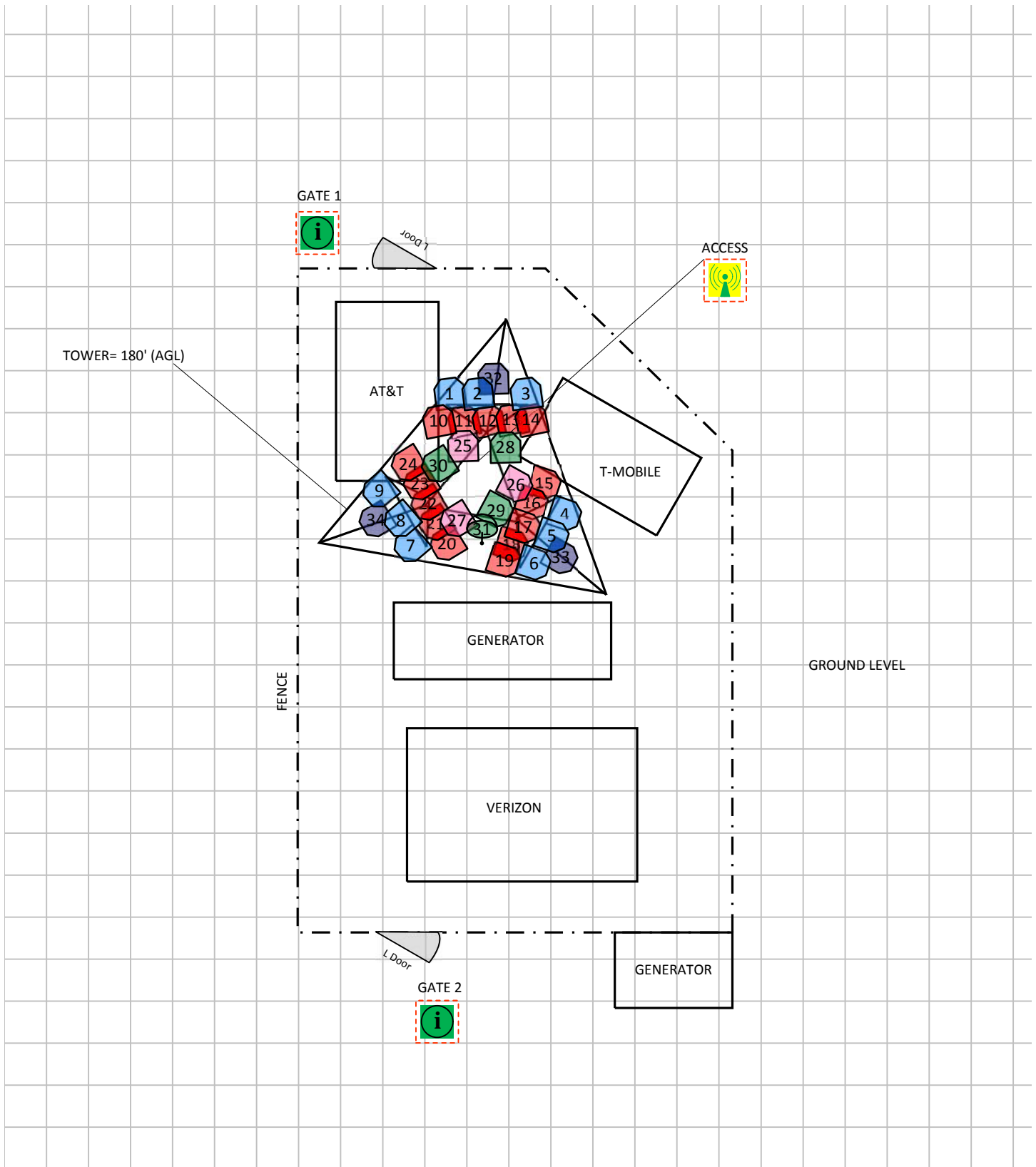
RF Powers Used: NEW-ENGLAND\_CONNECTICUT\_CTV1060\_2018-LTE-Next-Carrier\_LTE\_rx855w\_2051A0D0Q7\_10035040\_61146\_06-13-2017\_Preliminary-Approved\_v3.00

## 2 Scale Maps of Site

The following diagrams are included:

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

# Site Scale Map For: Wolcott\_East St



www.sitesafe.com  
 Site Name:Wolcott\_East St  
 12/21/2017 7:53:58 AM

Carrier Identification					
	AT&T MOBILITY LLC		VERIZON WIRELESS		T-MOBILE
	SPRINT		UNKNOWN CARRIER		
Sign Legend					
	Caution 1		Caution 2		Notice 2
	Notice 1		Warning		Info 1
	Info 2				
Barrier			Proposed Barriers/ Signs		

### 3 Antenna Inventory

The following antenna inventory on this and the following page, were obtained by the customer and were utilized to create the site model diagrams:

Ant ID	Operator	Antenna Make & Model	Type	TX Freq (MHz)	Az (Deg)	Hor BW (Deg)	Ant Len (ft)	Ant Gain (dBd)	2G GSM Radio(s)	3G UMTS Radio(s)	4G Radio(s)	Total ERP (Watts)	X	Y	Z (AGL)
1	AT&T MOBILITY LLC	Powerwave 7770	Panel	850	24	82	4.6	11.51	0	1	0	244.3	74.4'	167.1'	157.7'
1	AT&T MOBILITY LLC	Powerwave 7770	Panel	1900	24	86	4.6	13.41	0	1	0	194.6	74.4'	167.1'	157.7'
2	AT&T MOBILITY LLC	Quintel QS66512-2	Panel	2300	24	64	6	14.56	0	0	1	4842.1	77.7'	167.1'	157'
2	AT&T MOBILITY LLC (Proposed)	Quintel QS66512-2	Panel	850	24	63	6	10.96	0	0	1	1000	77.7'	167.1'	157'
2	AT&T MOBILITY LLC (Proposed)	Quintel QS66512-2	Panel	1900	24	68	6	14.16	0	0	1	1285.3	77.7'	167.1'	157'
3	AT&T MOBILITY LLC	KMW AM-X-CD-16-65-00T	Panel	737	24	65	6	13.36	0	0	1	1475.7	83.5'	167.1'	157'
4	AT&T MOBILITY LLC	Powerwave 7770	Panel	850	140	82	4.6	11.51	0	1	0	241	88.1'	152.7'	157.7'
5	AT&T MOBILITY LLC	CCI Antennas TPA-65R-LCUUUU-H8	Panel	2300	140	65	8	14.36	0	0	1	4842.1	86.6'	150.2'	156'
5	AT&T MOBILITY LLC (Proposed)	CCI Antennas TPA-65R-LCUUUU-H8	Panel	850	140	63	8	13.56	0	0	1	1000	86.6'	150.2'	156'
5	AT&T MOBILITY LLC (Proposed)	CCI Antennas TPA-65R-LCUUUU-H8	Panel	1900	140	68.2	8	13.86	0	0	1	1285.3	86.6'	150.2'	156'
6	AT&T MOBILITY LLC	Andrew SBNH-1D6565C	Panel	737	140	71	8	13.733	0	0	1	1475.7	84.4'	146.9'	156'
7	AT&T MOBILITY LLC	Powerwave 7770	Panel	850	261	82	4.6	11.51	0	1	0	246.6	69.7'	149'	157.7'
8	AT&T MOBILITY LLC	Quintel QS66512-2	Panel	2300	261	64	6	14.56	0	0	1	4842.1	68.6'	152'	157'
8	AT&T MOBILITY LLC (Proposed)	Quintel QS66512-2	Panel	850	261	63	6	10.96	0	0	1	1000	68.6'	152'	157'
8	AT&T MOBILITY LLC (Proposed)	Quintel QS66512-2	Panel	1900	261	68	6	14.16	0	0	1	1285.3	68.6'	152'	157'
9	AT&T MOBILITY LLC	KMW AM-X-CD-16-65-00T	Panel	737	261	65	6	13.36	0	0	1	1475.7	66'	155.5'	157'
10	VERIZON WIRELESS	Andrew DB846F65ZAXY	Panel	850	20	65	6	14.51	-	-	-	1130	73.1'	163.8'	174'
11	VERIZON WIRELESS	Antel BXA-185063-12CF	Panel	1900	20	63	6	18.51	-	-	-	4257.5	76'	163.8'	174'
12	VERIZON WIRELESS	Antel BXA-70040-6CF	Panel	751	20	42	5.9	15.51	-	-	-	2133.8	79'	163.9'	174'
13	VERIZON WIRELESS	Antel BXA-171063-8CF	Panel	2100	20	60	4	15.31	-	-	-	2037.8	81.7'	164'	175'
14	VERIZON WIRELESS	Andrew DB846F65ZAXY	Panel	850	20	65	6	14.51	-	-	-	1130	84.1'	164'	174'
15	VERIZON WIRELESS	Antel LPA-80063-6CF	Panel	850	140	63	5.9	14.51	-	-	-	1130	85.6'	156.4'	174'
16	VERIZON WIRELESS	Antel BXA-185063-12CF	Panel	1900	140	63	6	18.51	-	-	-	4257.5	84.1'	154'	174'
17	VERIZON WIRELESS	Antel BXA-70040-6CF	Panel	751	140	42	5.9	15.51	-	-	-	2133.8	83.1'	151.2'	174'
18	VERIZON WIRELESS	Antel BXA-171063-8CF	Panel	2100	140	60	4	15.31	-	-	-	2037.8	81.7'	149.1'	175'
19	VERIZON WIRELESS	Antel LPA-80063-6CF	Panel	850	140	63	5.9	14.51	-	-	-	1130	80.9'	147.2'	174'
20	VERIZON WIRELESS	Swedcom SC 6014	Panel	850	270	57	3.6	14.01	-	-	-	1007.1	74'	149.2'	175.2'



Ant ID	Operator	Antenna Make & Model	Type	TX Freq (MHz)	Az (Deg)	Hor BW (Deg)	Ant Len (ft)	Ant Gain (dBd)	2G GSM Radio(s)	3G UMTS Radio(s)	4G Radio(s)	Total ERP (Watts)	X	Y	Z (AGL)
21	VERIZON WIRELESS	Antel BXA-185063-12CF	Panel	1900	270	63	6	18.51	-	-	-	4257.5	72.7'	151.6'	174'
22	VERIZON WIRELESS	Antel BXA-70040-6CF	Panel	751	270	42	5.9	15.51	-	-	-	2133.8	71.8'	154'	174'
23	VERIZON WIRELESS	Antel BXA-171063-8CF	Panel	2100	270	60	4	15.31	-	-	-	2037.8	70.9'	156.4'	175'
24	VERIZON WIRELESS	Swedcom SC 6014	Panel	850	270	57	3.6	14.01	-	-	-	1007.1	69.4'	158.7'	175.2'
25	T-MOBILE	Ericsson AIR 21 B2A B4P	Panel	1900	30	65	4.7	15.37	-	-	-	2066.1	75.9'	160.9'	185.7'
25	T-MOBILE	Ericsson AIR 21 B2A B4P	Panel	2100	30	65	4.7	15.37	-	-	-	2066.1	75.9'	160.9'	185.7'
26	T-MOBILE	Ericsson AIR 21 B2A B4P	Panel	1900	150	65	4.7	15.37	-	-	-	2066.1	82.2'	156.2'	185.7'
26	T-MOBILE	Ericsson AIR 21 B2A B4P	Panel	2100	150	65	4.7	15.37	-	-	-	2066.1	82.2'	156.2'	185.7'
27	T-MOBILE	Ericsson AIR 21 B2A B4P	Panel	1900	270	65	4.7	15.37	-	-	-	2066.1	75.2'	152'	185.7'
27	T-MOBILE	Ericsson AIR 21 B2A B4P	Panel	2100	270	65	4.7	15.37	-	-	-	2066.1	75.2'	152'	185.7'
28	CLEARWIRE	Andrew LLPX310R	Panel	2500	30	65	3.5	15.15	-	-	-	355	81'	160.7'	166.2'
29	CLEARWIRE	Andrew LLPX310R	Panel	2500	150	65	3.5	15.15	-	-	-	355	79.9'	153.2'	166.2'
30	CLEARWIRE	Andrew LLPX310R	Panel	2500	270	65	3.5	15.15	-	-	-	355	73'	158.5'	166.2'
31	CLEARWIRE	Generic	Aperture	10735	213	2	2	31.16	-	-	-	59.1	78.2'	151'	168'
32	METROPCS (Decommissioned)	RFS APXV18-206517S-C-A20	Panel	1900	30	65.9	6	16.97	-	-	-	0	79.6'	168.9'	145'
33	METROPCS (Decommissioned)	RFS APXV18-206517S-C-A20	Panel	1900	150	65.9	6	16.97	-	-	-	0	87.6'	147.7'	145'
34	METROPCS (Decommissioned)	RFS APXV18-206517S-C-A20	Panel	1900	270	65.9	6	16.97	-	-	-	0	65.6'	152'	145'

NOTE: X, Y and Z indicate relative position of the bottom of the antenna to the origin location on the site, displayed in the model results diagram. Specifically, the Z reference indicates the bottom of the antenna height above the main site level unless otherwise indicated. The distance to the bottom of the antenna is calculated by subtracting half of the length of the antenna from the antenna centerline. 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.

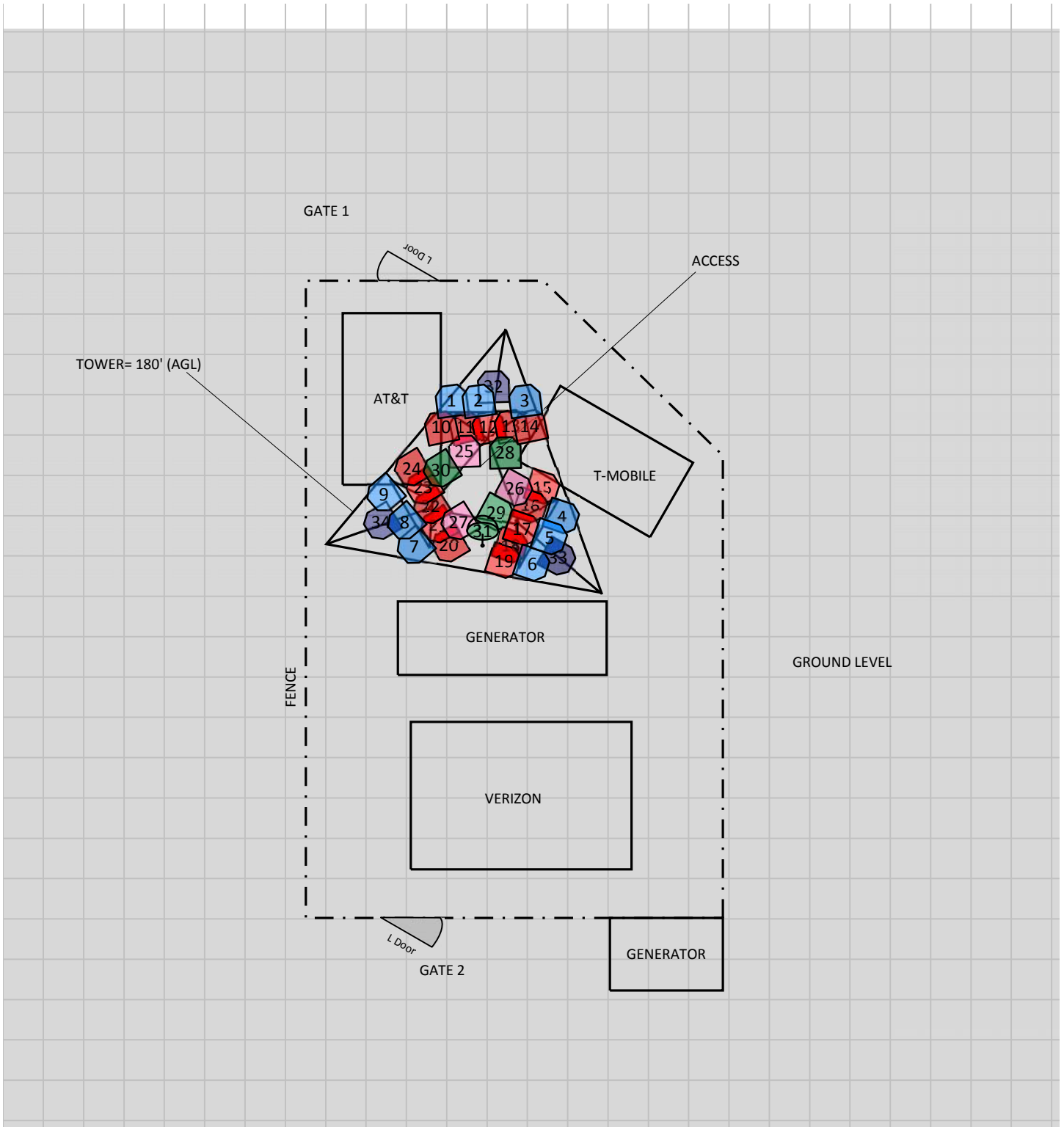
**Note:** The 850MHz and 1900MHz LTE technologies are being added to an existing antenna.

## 4 Emission Predictions

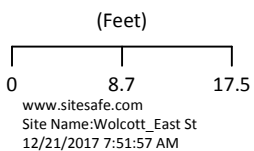
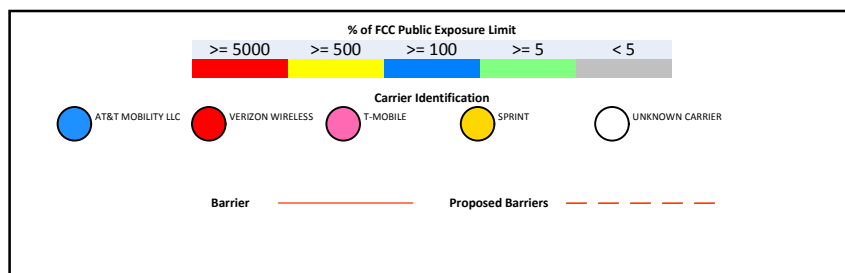
In the RF Exposure Simulations below all heights are reflected with respect to main site level. In most rooftop cases this is the height of the main rooftop and in other cases this can be ground level. Each different height area, rooftop, or platform level is labeled with its height relative to the main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

The Antenna Inventory heights are referenced to the same level.

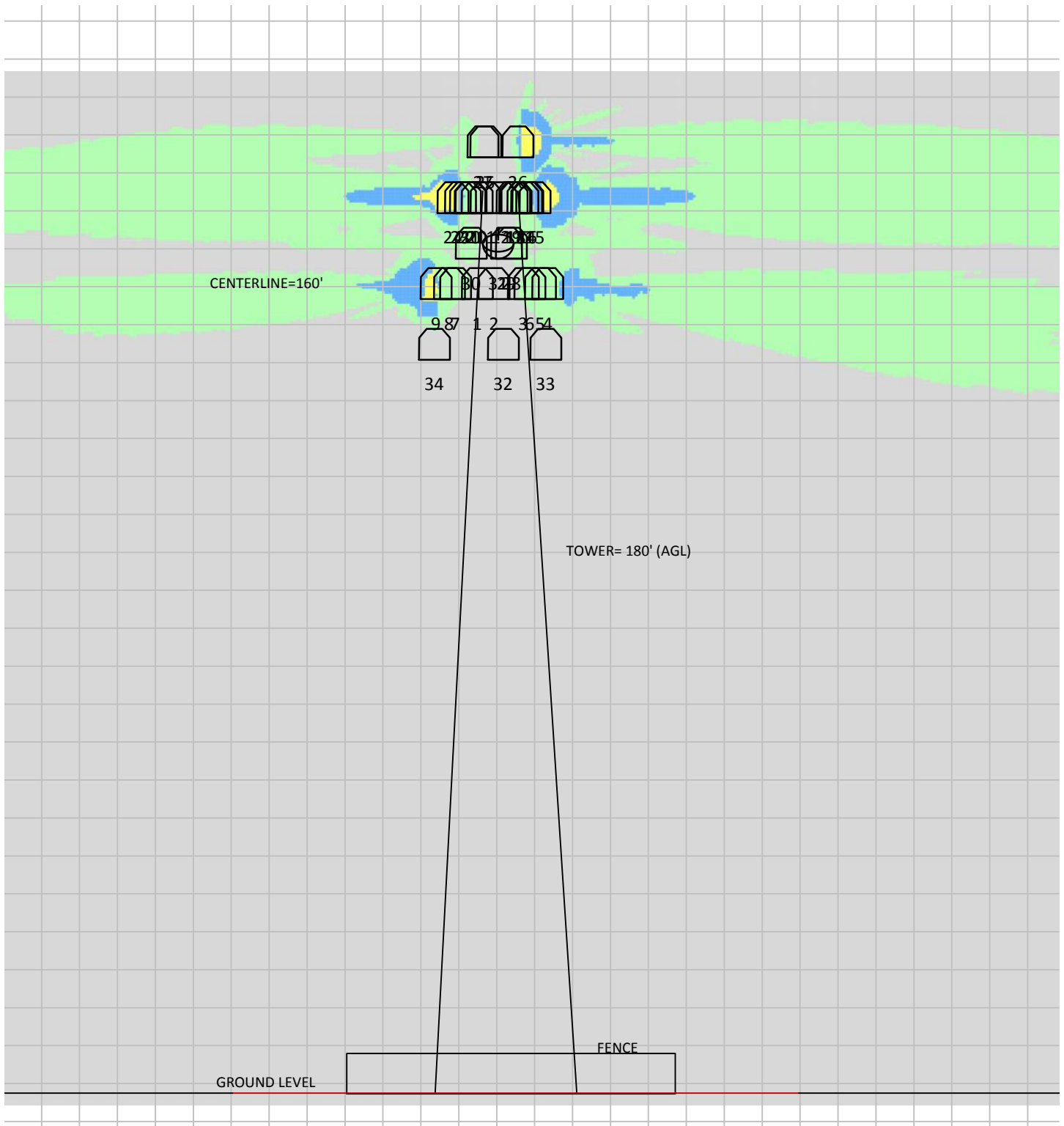
# RF Exposure Simulation For: Wolcott\_East St



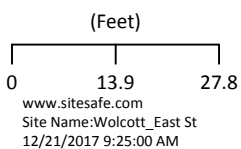
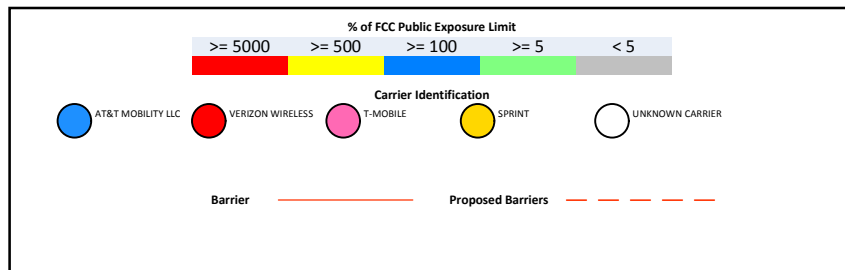
% of FCC Public Exposure Limit  
Spatial average 0' - 6'



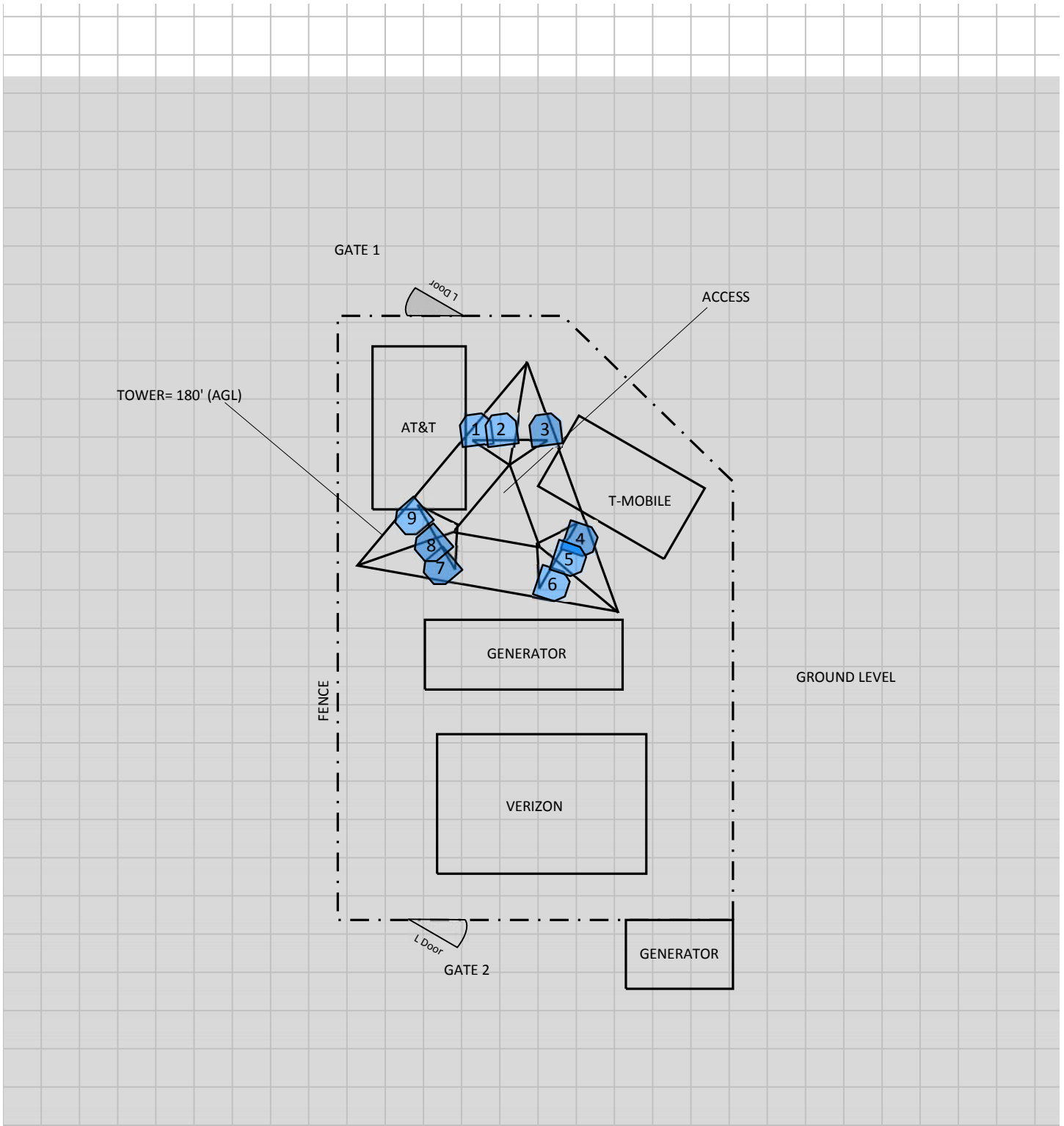
# RF Exposure Simulation For: Wolcott\_East St Elevation View



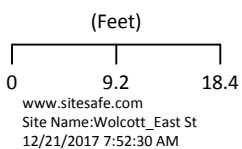
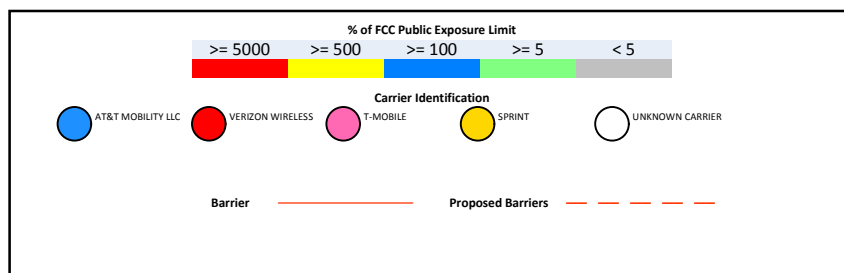
% of FCC Public Exposure Limit  
Spatial average 0' - 6'



# RF Exposure Simulation For: Wolcott\_East St AT&T Mobility, LLC Contribution



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



## 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

Yellow caution 2 sign required.

#### Gate 1

Information 1 sign required.

#### Gate 2

Information 1 sign required.

## 6 Reviewer Certification

The reviewer whose signature appears below hereby certifies and affirms:

That I am an employee of Sitesafe, Inc., in Arlington, 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 Radiation; 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 Brandon Green.

December 21, 2017

## 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.

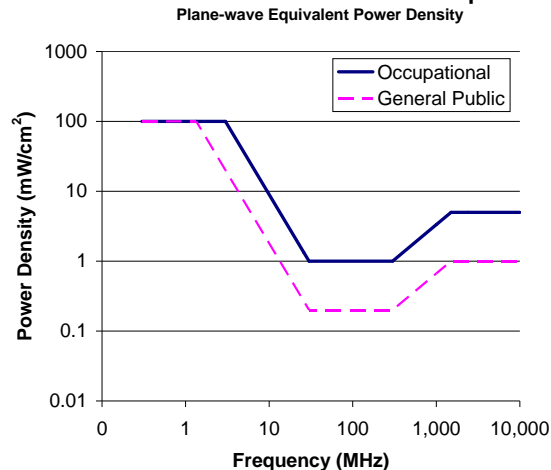
Occupational or Controlled limits apply in situations in which persons are exposed as a consequence of their employment and where those persons exposed have been made fully aware of the potential for exposure and can exercise control over their exposure.

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:

**FCC Limits for Maximum Permissible Exposure (MPE)**



### 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 Lock Out Tag Out procedure aimed to control the unexpected energization or start up 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 workers 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:

- 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.**
- Green represents areas are predicted to be between 5% and 100% of the MPE limits. **Green areas are accessible to anyone.**
- 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.**
- 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.**
- 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.

## 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.

## 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 taking corrective actions to bring the site into compliance.

**Compliance** – The determination of whether a site is safe or not with regards to Human Exposure to Radio Frequency Radiation 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)** – In a given direction, the relative gain of a transmitting antenna with respect to the maximum directivity of a half wave dipole multiplied by the net power accepted by the antenna from the connecting transmitter.

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

**General Population/Uncontrolled Environment** – Defined by the FCC, as an area where exposure to RF energy may occur to persons who are **unaware** of the potential for exposure and who have no control of 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 our 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 maximum levels of RF exposure a person may be exposed to without harmful effect and with acceptable safety factor.

**Occupational/Controlled Environment** – Defined by the FCC, as an area where Radio Frequency Radiation (RFR) 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 Radio Frequency radiation 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 (RF)** – The frequencies of electromagnetic waves which are used for radio communications. Approximately 3 kHz to 300 GHz.

**Radio Frequency Exposure (RFE)** – The amount of RF power density that a person is or might be exposed to.

**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 power density an average sized human will be exposed to at a location.

**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 F – References

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

Sitesafe, Inc.

<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-ionising 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>



StartAntennaData It is advisable to provide an ID (ant 1) for all antennas

ID	Name	Freq (MHz)	Trans Power	Trans Count	Coax Len	Coax Type	Other Losses	Input Power	Calc Power	Mfg	Model	X (ft)	Y (ft)	Z (ft)	Type	Aper (ft)	dBd Gain	BWdth Pt Dir	Uptime Profile	ON flag
1	AT&T MOB	850	17.25816	1	0			17.25816		Powerwave	7770	74.37	167.11	157.7085	Panel	4.583	11.51 82;24	100%	ON•	
2	AT&T MOB	850	80.16781	1	0			80.16781		Quintel	QS66512-2	77.7	167.11	157	Panel	6	10.96 63;24	100%	ON•	
2	AT&T MOB	1900	49.31751	1	0			49.31751		Quintel	QS66512-2	77.7	167.11	157	Panel	6	14.16 68;24	100%	ON•	
2	AT&T MOB	2300	169.4455	1	0			169.4455		Quintel	QS66512-2	77.7	167.11	157	Panel	6	14.56 64;24	100%	ON•	
3	AT&T MOB	737	68.0771	1	0			68.0771		KMW	AM-X-CD-1	83.46	167.11	157	Panel	6	13.36 65;24	100%	ON•	
4	AT&T MOB	850	17.02155	1	0			17.02155		Powerwave	7770	88.06	152.73	157.7085	Panel	4.583	11.51 82;140	100%	ON•	
5	AT&T MOB	850	44.05549	1	0			44.05549		CCI Antenn	TPA-65R-LC	86.56	150.16	156	Panel	8	13.56 63;140	100%	ON•	
5	AT&T MOB	1900	52.84466	1	0			52.84466		CCI Antenn	TPA-65R-LC	86.56	150.16	156	Panel	8	13.86 68.2;140	100%	ON•	
5	AT&T MOB	2300	177.4313	1	0			177.4313		CCI Antenn	TPA-65R-LC	86.56	150.16	156	Panel	8	14.36 65;140	100%	ON•	
6	AT&T MOB	737	62.47425	1	0			62.47425		Andrew	SBNH-1D6	84.39	146.89	155.9835	Panel	8.033	13.733 71;140	100%	ON•	
7	AT&T MOB	850	17.41779	1	0			17.41779		Powerwave	7770	69.74	149.02	157.7085	Panel	4.583	11.51 82;261	100%	ON•	
8	AT&T MOB	850	80.16781	1	0			80.16781		Quintel	QS66512-2	68.58	152.02	157	Panel	6	10.96 63;261	100%	ON•	
8	AT&T MOB	1900	49.31751	1	0			49.31751		Quintel	QS66512-2	68.58	152.02	157	Panel	6	14.16 68;261	100%	ON•	
8	AT&T MOB	2300	169.4455	1	0			169.4455		Quintel	QS66512-2	68.58	152.02	157	Panel	6	14.56 64;261	100%	ON•	
9	AT&T MOB	737	68.0771	1	0			68.0771		KMW	AM-X-CD-1	66.01	155.52	157	Panel	6	13.36 65;261	100%	ON•	
10	VERIZON W	850	40	1	0			40		Andrew	DB846F652	73.06	163.82	174	Panel	6	14.51 65;20	100%	ON•	
11	VERIZON W	1900	60	1	0			60		Antel	BXA-18506	76.04	163.82	174	Panel	6	18.51 63;20	100%	ON•	
12	VERIZON W	751	60	1	0			60		Antel	BXA-70040	78.95	163.85	174.0375	Panel	5.925	15.51 42;20	100%	ON•	
13	VERIZON W	2100	60	1	0			60		Antel	BXA-17106	81.73	163.99	174.9915	Panel	4.017	15.31 60;20	100%	ON•	
14	VERIZON W	850	40	1	0			40		Andrew	DB846F652	84.06	163.99	174	Panel	6	14.51 65;20	100%	ON•	
15	VERIZON W	850	40	1	0			40		Antel	LPA-80063	85.61	156.36	174.0375	Panel	5.925	14.51 63;140	100%	ON•	
16	VERIZON W	1900	60	1	0			60		Antel	BXA-18506	84.11	154.02	174	Panel	6	18.51 63;140	100%	ON•	
17	VERIZON W	751	60	1	0			60		Antel	BXA-70040	83.11	151.24	174.0375	Panel	5.925	15.51 42;140	100%	ON•	
18	VERIZON W	2100	60	1	0			60		Antel	BXA-17106	81.73	149.08	174.9915	Panel	4.017	15.31 60;140	100%	ON•	
19	VERIZON W	850	40	1	0			40		Antel	LPA-80063	80.89	147.24	174.0375	Panel	5.925	14.51 63;140	100%	ON•	
20	VERIZON W	850	40	1	0			40		Swedcom	SC 6014	74.02	149.23	175.2085	Panel	3.583	14.01 57;270	100%	ON•	
21	VERIZON W	1900	60	1	0			60		Antel	BXA-18506	72.69	151.59	174	Panel	6	18.51 63;270	100%	ON•	
22	VERIZON W	751	60	1	0			60		Antel	BXA-70040	71.77	153.98	174.0375	Panel	5.925	15.51 42;270	100%	ON•	
23	VERIZON W	2100	60	1	0			60		Antel	BXA-17106	70.85	156.39	174.9915	Panel	4.017	15.31 60;270	100%	ON•	
24	VERIZON W	850	40	1	0			40		Swedcom	SC 6014	69.43	158.67	175.2085	Panel	3.583	14.01 57;270	100%	ON•	
25	T-MOBILE	1900	60	1	0			60		Ericsson	AIR 21 B2A	75.93	160.85	185.6665	Panel	4.667	15.37 65;30	100%	ON•	
25	T-MOBILE	2100	60	1	0			60		Ericsson	AIR 21 B2A	75.93	160.85	185.6665	Panel	4.667	15.37 65;30	100%	ON•	
26	T-MOBILE	1900	60	1	0			60		Ericsson	AIR 21 B2A	82.22	156.18	185.6665	Panel	4.667	15.37 65;150	100%	ON•	
26	T-MOBILE	2100	60	1	0			60		Ericsson	AIR 21 B2A	82.22	156.18	185.6665	Panel	4.667	15.37 65;150	100%	ON•	
27	T-MOBILE	1900	60	1	0			60		Ericsson	AIR 21 B2A	75.24	152.01	185.6665	Panel	4.667	15.37 65;270	100%	ON•	
27	T-MOBILE	2100	60	1	0			60		Ericsson	AIR 21 B2A	75.24	152.01	185.6665	Panel	4.667	15.37 65;270	100%	ON•	
28	CLEARWIRI	2500	10.84497	1	0			10.84497		Andrew	LLPX310R	81	160.68	166.2335	Panel	3.533	15.15 65;30	100%	ON•	
29	CLEARWIRI	2500	10.84497	1	0			10.84497		Andrew	LLPX310R	79.91	153.18	166.2335	Panel	3.533	15.15 65;150	100%	ON•	
30	CLEARWIRI	2500	10.84497	1	0			10.84497		Andrew	LLPX310R	73.02	158.53	166.2335	Panel	3.533	15.15 65;270	100%	ON•	
31	CLEARWIRI	10735	0.045709	1	0			0.045709		Generic	10 GHz/11	78.22	150.96	168	Aperture	0	31.16 0;213	100%	ON•	
32	METROPICS	1900	0	1	0			0		RFS	APXV18-20	79.55	168.85	145	Panel	6	16.97 65.9;30	100%	ON•	
33	METROPICS	1900	0	1	0			0		RFS	APXV18-20	87.57	147.66	145	Panel	6	16.97 65.9;150	100%	ON•	
34	METROPICS	1900	0	1	0			0		RFS	APXV18-20	65.62	152.02	145	Panel	6	16.97 65.9;270	100%	ON•	

StartSymbolData

AN APPLICATION OF METRO MOBILE CTS OF NEW HAVEN, INC., FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED FOR THE CONSTRUCTION, MAINTENANCE, AND OPERATION OF FACILITIES TO PROVIDE CELLULAR SERVICE IN NEW HAVEN COUNTY. : CONNECTICUT SITING  
: COUNCIL  
: April 14, 1986

D E C I S I O N A N D O R D E R

Pursuant to the foregoing opinion, the Council hereby directs that a certificate of environmental compatibility and public need as required by section 16-50k of the General Statutes of Connecticut (CGS) be issued to Metro Mobile CTS of New Haven, Inc., for the construction, maintenance, and operation of cellular mobile phone telecommunication towers and associated equipment in the towns of Wolcott, Naugatuck, West Haven (existing tower), Milford, Hamden (existing tower), Guilford, and North Branford subject to the conditions below.

1. The proposed and alternate Beacon Falls sites are rejected without prejudice.
2. The Wolcott tower shall be constructed to meet Zone C wind loading with 1" of radial ice and shall not exceed 180' in height excluding antennas.
3. The Naugatuck tower shall not exceed 160' in height, excluding antennas. The certificate holder shall offer to remove the existing privately owned, unused tower now on the site.
4. Any future actions requiring the removal of the existing West Haven or Hamden towers to be shared by the certificate holder shall also apply to the equipment mounted on those towers by the certificate holder, regardless of that equipment's status under Chapter 277a of the CGS.

5. The Milford tower shall be a monopole structure not to exceed 100' in height, excluding antennas.
6. The Guilford tower shall be a monopole structure not to exceed 150' in height, excluding antennas.
7. The North Branford Route 17 site is rejected. The North Branford East Reeds Gap Road tower shall not exceed 160' in height, excluding antennas.
8. The certificate holder shall submit a development and management plan for the Wolcott, Naugatuck, Milford, Hamden, Guilford, and North Branford sites pursuant to sections 16-50j-75 through 16-50j-77 of the RSA, except that irrelevant items in section 16-50j-76 need only be identified as such. In addition to the requirements of section 16-50j-76, the D&M plan shall provide plans for evergreen screening around the fenced perimeter at the Wolcott, Milford, Hamden, Guilford, and North Branford sites. The D&M plan shall include a proposal for painting the approved monopole structures to blend with the sky. Any changes to specifications in the D&M plan must be approved by the Council prior to facility operation.
9. All certified facilities shall be constructed, operated, and maintained as specified in the Council's record and in the site development and management plan required by order 8.
10. The certificate holder shall permit public or private entities to share space on the towers approved herein, for due consideration received, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing. In addition to complying with 16-50j-73, the

certificate holder shall notify the Council of the addition of any equipment to any approved tower.

11. A fence not lower than 8' shall surround each tower and associated equipment.
12. Unless necessary to comply with order 13, below, no lights shall be installed on any of these towers.
13. The facilities' construction and any future tower sharing shall be in accordance with all applicable federal, state, and municipal laws and regulations. Shared uses by entities not subject to jurisdiction pursuant to sections 16-50i and 16-50k of the CGS shall be subject to all applicable federal, state, and municipal laws and regulations.
14. Construction activities shall take place during daylight working hours.
15. This decision and order shall be void and the towers and associated equipment shall be dismantled and removed, or reapplication for any new use shall be made to the CSC before any such new use is made, if the towers do not provide or permanently cease to provide cellular service following completion of construction.
16. This decision and order shall be void if all construction authorized herein is not completed within three years of the issuance of this decision, or within three years of the completion of any appeal if appeal of this decision is taken, unless otherwise approved by the Council.

Pursuant to CGS section 16-50p, we hereby direct that a copy of the decision and order shall be served on each person listed below. A notice

of the issuance shall be published in The Record-Journal, The New Haven Register, The Branford Review, The Evening Sentinel, The Waterbury American, and The Waterbury Republican.

The parties to this proceeding are:

Metro Mobile CTS of New Haven, Inc. (Applicant)  
5 Eversley Avenue  
Norwalk, Connecticut 06855

ATTN: Armand Mascioli  
General Manager

Mr. Kevin B. Sullivan, Esq. (its attorneys)  
Byrne, Slater, Sandler, Shulman & Rouse, P.C.  
111 Pearl Street  
P.O. Box 3216  
Hartford, Connecticut 06103

Mr. Richard Rubin, Esq.  
Fleischman and Walsh, P.C.  
1725 N Street, N.W.  
Washington, D.C. 20036

Guilford Conservation Commission

represented by:

Mr. David B. Damer  
Chairman  
Guilford Conservation Commission  
440 Great Hill Road  
Guilford, Connecticut 06437

Mr. Robert W. Griswold, Jr.  
100 Rimmon Hill Road  
Beacon Falls, Connecticut 06403

Town of Hamden  
Memorial Town Hall  
2372 Whitney Avenue  
Hamden, Connecticut 06518

ATTN: Shirley Gonzales  
Town Planner

Guilford Planning and Zoning Commission

represented by:

Mr. David W. Fisher  
Chairman  
Town Hall  
31 Park Street  
Guilford, Connecticut 06437

Town of Hamden

represented by:

John DeNicola, Jr.  
Mayor  
Town of Hamden  
Memorial Town Hall  
2372 Whitney Avenue  
New Haven, Connecticut 06518

Citizens Park Council of New Haven

represented by:

Mr. John J. Ciarleglio  
President  
Citizens Park Council  
of New Haven  
36 Elmwood Road  
New Haven, Connecticut 06515

Mr. Thomas V. Keating  
343 Rimmon Hill Road  
Beacon Falls, Connecticut 06403

Ms. Evelyn M. Sirowich  
245 Rimmon Hill Road  
Beacon Falls, Connecticut 06403

Mr. Jack B. Levine  
11 White Birch Lane  
Beacon Falls, Connecticut 06403

Southern New England Telephone Company

represented by:

Mr. Peter J. Tyrrell, Esq.  
227 Church Street  
New Haven, Connecticut 06506

Mr. Dennis Bialecki  
96 West Road  
Beacon Falls, Connecticut 06403

Brittany Woods Homeowner's Association

represented by:

Mr. Stephen P. DeI Sole, Esq.  
DeI Sole & DeI Sole  
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P.O. Box 405  
New Haven, Connecticut 06502-0405

Ms. Barbara G. Schlein  
Box 2993 Westville Station  
New Haven, Connecticut 06515

Mr. & Mrs. Joseph T. Farrell, Jr.  
334 Rimmon Hill Road  
Beacon Falls, Connecticut 06403

Town of Beacon Falls

represented by:

The Honorable Leonard F. D'Amico  
First Selectman  
10 Maple Avenue  
Beacon Falls, Connecticut 06403

West Rock Ridge Park Association

represented by:

Mr. William L. Doheny Jr., D.D.S.  
President  
220 Mountain Road  
Hamden, Connecticut 06514

Department of Parks,  
Recreation & Trees

represented by:

Mr. Robert G. Sheeley  
Director  
Parks, Recreation & Trees  
P.O. Box 1416  
New Haven, Connecticut 06506

Town of Wallingford

represented by:

William W. Dickinson, Jr.  
Mayor  
Municipal Building  
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New Haven Sierra Club

represented by:

Ms. Laurie Klein  
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New Haven, Connecticut 06511

Peter M. Lerner  
State Representative  
8 Merritt Avenue  
Woodbridge, Connecticut 06525

Carleton J. Benson  
State Representative  
161 Scott Road  
Prospect, Connecticut 06712

Dr. Stephen Collins (service waived)  
Vice Chairman  
West Rock State Park  
Advisory Council  
Bethany, Connecticut

Mr. Louis Melillo (service waived)  
985 Wintergreen Avenue  
Hamden, Connecticut

Mr. John McGeever (service waived)  
339 Rimmon Hill  
Beacon Falls, Connecticut 06403

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Bethany, Connecticut 06525

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Orange, Connecticut

Mr. Steve Molnar (service waived)  
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Beacon Falls, Connecticut

Mr. James W. Grandy (service waived)  
President  
Hamden Land Conservation Trust  
Hamden, Connecticut

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(service waived)

City of Milford

represented by:

Mayor Alberta Jagoe  
Alderman Maurice Condon  
Alderman Frederick Lisman  
City Hall  
River Street  
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Thomas Scelfo  
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North Branford, Connecticut 06471

(service waived)

Senator Thomas Scott  
22 Meyers Court  
Milford, Connecticut 06460

(service waived)

Helen Moore  
385 Oronoque Road  
Milford, Connecticut 06460

(service waived)

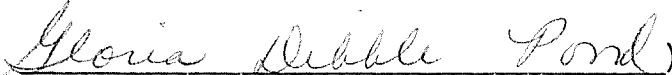

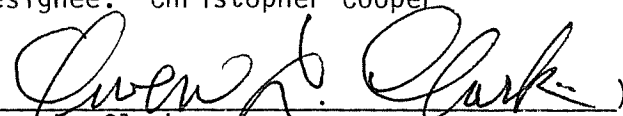

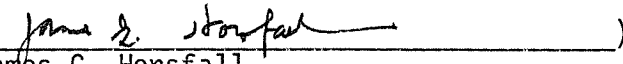
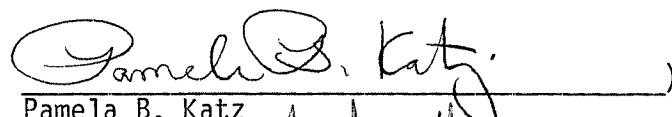
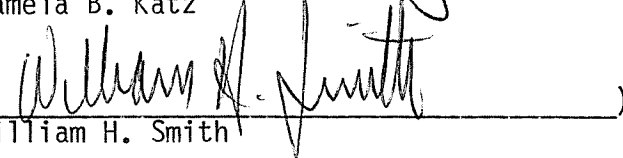

William Barberi  
298 Oronoque Road  
Milford, Connecticut 06460

(service waived)

C E R T I F I C A T I O N

The undersigned members of the Connecticut Siting Council hereby certify that they have heard this case or read the record thereof, and that we voted as follows:

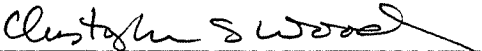
Dated at New Britain, Connecticut, this 14th day of April, 1986.

<u>Council Members</u>	<u>Vote Cast</u>
 Gloria Dibble Pond Chairperson	Yes
_____) Commissioner John Downey Designee: Commissioner Peter G. Boucher	Absent
 Commissioner Stanley Pad Designee: Christopher Cooper	No
 Owen L. Clark	Yes
 Mortimer A. Gelston	Yes
 James G. Horsfall	Yes
 Pamela B. Katz	Yes
 William H. Smith	No
 Colin C. Tait	No

STATE OF CONNECTICUT            )  
  :  
COUNTY OF HARTFORD            )        ss.        New Britain, April 14, 1986

I hereby certify that the foregoing is a true and correct copy of the decision and order issued by the Connecticut Siting Council, State of Connecticut.

ATTEST:

  
\_\_\_\_\_  
Christopher S. Wood, Executive Director  
Connecticut Siting Council

# 347 EAST ST

**Location** 347 EAST ST

**Mblu** 131/ 1/ 19/ /

**Acct#** R0478100

**Owner** RODRIGUES AGOSTINHO V &

**Assessment** \$453,670

**Appraisal** \$648,090

**PID** 5352

**Building Count** 3

## Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2016	\$401,720	\$246,370	\$648,090

Assessment			
Valuation Year	Improvements	Land	Total
2016	\$281,210	\$172,460	\$453,670

## Owner of Record

**Owner** RODRIGUES AGOSTINHO V &  
**Co-Owner** JOANNE  
**Address** 347 EAST ST  
WOLCOTT, CT 06716

**Sale Price** \$0  
**Certificate**  
**Book & Page** 131/ 23  
**Sale Date** 06/27/1980  
**Instrument** 25

## Ownership History

Ownership History					
Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
RODRIGUES AGOSTINHO V &	\$0		131/ 23	25	06/27/1980

## Building Information

### Building 1 : Section 1

**Year Built:** 1930  
**Living Area:** 3,139  
**Replacement Cost:** \$339,418  
**Building Percent** 62  
**Good:**  
**Replacement Cost**  
**Less Depreciation:** \$210,440

Building Attributes	
Field	Description

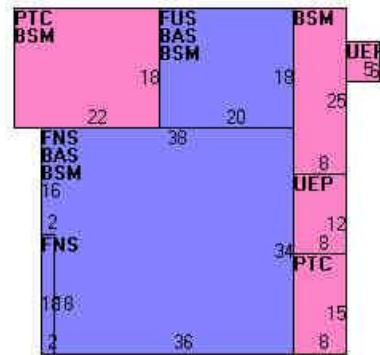
Style	Colonial
Model	Residential
Grade:	B
Stories	1.9
Occupancy	1
Exterior Wall 1	Vinyl Siding
Exterior Wall 2	
Roof Structure	Gambrel
Roof Cover	Arch Shingles
Interior Wall 1	Drywall
Interior Wall 2	
Interior Flr 1	Carpet
Interior Flr 2	
Heat Fuel	Oil
Heat Type:	Hot Water
AC Percent	35% CAC
Total Bedrooms:	5 Bedrooms
Full Bthrms:	3
Half Baths:	0
Extra Fixtures	0
Total Rooms:	9
Bath Style:	Average
Kitchen Style:	Average
Num Kitchens	1
Fireplace(s)	0
% Attic Fin	0
LF Dormer	12
Foundation	Poured Conc
Bsmt Gar(s)	0
Bsmt %	100
SF FBM	0
Fin Bsmt Qual	LQ
Bsmt Access	Int & Ext

## Building Photo



(<http://images.vgsi.com/photos/WolcottCTPhotos//\00\01\17\56>)

## Building Layout



Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	1,616	1,616
FNS	Finished 90% Story	1,292	1,163
FUS	Finished Upper Story	360	360
BSM	Basement	2,212	0
PTC	Concrete Patio	516	0
UEP	Unfin. Enclosed Porch	126	0
		6,122	3,139

## Building 2 : Section 1

**Year Built:** 1910  
**Living Area:** 1,308  
**Replacement Cost:** \$134,245  
**Building Percent Good:** 60  
**Replacement Cost Less Depreciation:** \$80,550

Building Attributes : Bldg 2 of 3

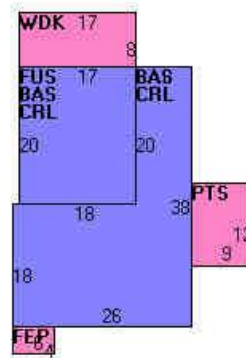
Field	Description
Style	Conventional
Model	Residential
Grade:	D
Stories	1
Occupancy	1
Exterior Wall 1	Vinyl Siding
Exterior Wall 2	
Roof Structure	Gable
Roof Cover	Arch Shingles
Interior Wall 1	Plaster
Interior Wall 2	
Interior Flr 1	Carpet
Interior Flr 2	
Heat Fuel	Oil
Heat Type:	Hot Water
AC Percent	None
Total Bedrooms:	2 Bedrooms
Full Bthrms:	1
Half Baths:	0
Extra Fixtures	0
Total Rooms:	5
Bath Style:	Average
Kitchen Style:	Average
Num Kitchens	1
Fireplace(s)	0
% Attic Fin	0
LF Dormer	0
Foundation	Poured Conc
Bsmt Gar(s)	0
Bsmt %	0
SF FBM	0
Fin Bsmt Qual	
Bsmt Access	None

## Building Photo



(<http://images.vgsi.com/photos/WolcottCTPhotos//\00\01\17\57>).

## Building Layout



Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	968	968
FUS	Finished Upper Story	340	340
CRL	Crawl Space	968	0
FEP	Finished Enclosed Porch	24	0
PTS	Stone Patio	108	0
WDK	Deck	136	0
		2,544	1,308

## Building 3 : Section 1

<b>Year Built:</b>	1912
<b>Living Area:</b>	1,481
<b>Replacement Cost:</b>	\$160,287
<b>Building Percent Good:</b>	60

## Replacement Cost

Less Depreciation: \$96,170

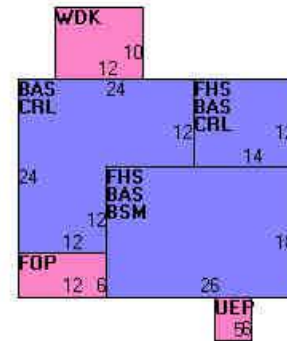
Building Attributes : Bldg 3 of 3	
Field	Description
Style	Conventional
Model	Residential
Grade:	D
Stories	1.65
Occupancy	2
Exterior Wall 1	Vinyl Siding
Exterior Wall 2	
Roof Structure	Gable
Roof Cover	Arch Shingles
Interior Wall 1	Plaster
Interior Wall 2	
Interior Flr 1	Hardwood
Interior Flr 2	Carpet
Heat Fuel	Oil
Heat Type:	Hot Water
AC Percent	None
Total Bedrooms:	3 Bedrooms
Full Bthrms:	2
Half Baths:	0
Extra Fixtures	0
Total Rooms:	7
Bath Style:	Average
Kitchen Style:	Average
Num Kitchens	2
Fireplace(s)	0
% Attic Fin	0
LF Dormer	0
Foundation	Poured Conc
Bsmt Gar(s)	0
Bsmt %	100
SF FBM	0
Fin Bsmt Qual	
Bsmt Access	Int & Ext

## Building Photo



(<http://images.vgsi.com/photos/WolcottCTPhotos//\00\01\17\58>).

## Building Layout



Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	1,068	1,068
FHS	Finished Half Story	636	413
BSM	Basement	468	0
CRL	Crawl Space	600	0
FOP	Open Porch	72	0
UEP	Unfin. Enclosed Porch	30	0
WDK	Deck	120	0
		2,994	1,481

## Extra Features

Extra Features

Legend



Code	Description	Size	Value	Bldg #
SOL	Solar Array	39 UNITS	\$0	1

## Land

### Land Use

**Use Code** 112  
**Description** Multiple Houses  
**Zone** R-30  
**Neighborhood** 6C  
**Alt Land Appr Category** No

### Land Line Valuation

**Size (Acres)** 2.20  
**Frontage**  
**Depth**  
**Assessed Value** \$172,460  
**Appraised Value** \$246,370

## Outbuildings

Outbuildings						Legend
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
FGR1	Garage	FR	Frame	672 S.F.	\$5,880	1
FGR1	Garage	FR	Frame	560 S.F.	\$4,900	1
FOP	Porch			480 S.F.	\$2,760	1
PTO	Patio	CN	Concrete	408 S.F.	\$1,020	1

## Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2015	\$496,350	\$249,680	\$746,030
2014	\$496,350	\$249,680	\$746,030
2013	\$496,350	\$249,680	\$746,030

Assessment			
Valuation Year	Improvements	Land	Total
2015	\$347,430	\$174,780	\$522,210
2014	\$347,430	\$174,780	\$522,210
2013	\$347,430	\$174,780	\$522,210



B+T Group  
 1717 S. Boulder, Suite 300  
 Tulsa, OK 74119  
 (918) 587-4630  
 btwo@btgrp.com

November 29, 2017

Timothy Howell  
 Crown Castle  
 3530 Toringdon Way Suite 300  
 Charlotte, NC 28277  
 (980) 209-8242

**Subject:** **Structural Analysis Report**

**Carrier Designation:** **AT&T Mobility Co-Locate**  
**Carrier Site Number:** CTL01060  
**Carrier Site Name:** Wolcott - East St.

**Crown Castle Designation:** **Crown Castle BU Number:** 806362  
**Crown Castle Site Name:** NHV 108 943133  
**Crown Castle JDE Job Number:** 469998  
**Crown Castle Work Order Number:** 1495379  
**Crown Castle Application Number:** 414568 Rev. 1

**Engineering Firm Designation:** **B+T Group Project Number:** 104053.003.01

**Site Data:** **Intersection Of Rte 322/Meridian Rdwolcott Site, Wolcott,  
 New Haven County, CT  
 Latitude 41° 33' 34.41", Longitude -72° 56' 49.1"  
 180 Foot - Self Support Tower**

Dear Timothy Howell,

B+T Group is pleased to submit this “**Structural Analysis Report**” to determine the structural integrity of the above-mentioned tower. This analysis has been performed in accordance with the Crown Castle Structural ‘Statement of Work’ and the terms of Crown Castle Purchase Order Number 1112335, in accordance with application 414568, revision 1.

The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC6.5: Existing Equipment + Maintenance Configuration Change **Sufficient Capacity**  
 Note: See Table 1 and Table 2 for the proposed and existing loading, respectively.

This analysis has been performed in accordance with the TIA/EIA-222-F standard and 2005 CT State Building Code with 2009 amendment based upon a wind speed of 85 mph fastest mile.

All equipment proposed in this report shall be installed in accordance with the attached drawings for the determined available structural capacity to be effective.

We at B+T Group appreciate the opportunity of providing our continuing professional services to you and Crown Castle. If you have any questions or need further assistance on this or any other projects please give us a call.

Structural analysis prepared by: Jacob Johnson, E.I.T.

Respectfully submitted by: B+T Engineering, Inc.  
 COA: PEC.0001564 Expires: 2/10/2018

Scott S. Vance, P.E.

tnxTower Report - version 7.0.5.1



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## 1) INTRODUCTION

This tower is a 180 ft. Self-Support tower designed by Rohn in September of 1986. The tower was originally Designed for EIA Zone C with 1" radial ice. This tower has been modified by All Points Technology Corp in 2002 and those modifications incorporated in this analysis.

## 2) ANALYSIS CRITERIA

The structural analysis was performed for this tower in accordance with the requirements of TIA/EIA-222-F Structural Standards for Steel Antenna Towers and Antenna Supporting Structures using a fastest mile wind speed of 85 mph with no ice, 37.6 mph with 0.75-inch ice thickness and 50 mph under service loads.

**Table 1 - Proposed Antenna and Cable Information**

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
158.0	160.0	3	Ericsson	RRUS 32 B2	--	--	--
		6	Kaelus	DBC0061F1V51-2			
		2	Quintel Tech.	QS66512-2			

**Table 2 - Existing Antenna and Cable Information**

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
180.0	186.0	3	Commscope	ATBT-BOTTOM-24V	18	1-5/8	1
		3	Commscope	SBNHH-1D65A			
		3	Rfs Celwave	ATMAA1412D-1A20			
	182.0	3	Rfs Celwave	ATMAA1412D-1A20			
177.0	177.0	3	Alcatel Lucent	RRH2X60-AWS	13	1-5/8	1
		3	Alcatel Lucent	RRH2X60-PCS			
		3	Alcatel Lucent	RRH2x60-700			
		2	Andrew	DB846F65ZAXY			
		2	Antel	LPA-80063/6CFx5			
		6	Commscope	SBNHH-1D45B			
		3	Commscope	SBNHH-1D65B			
		2	Rfs Celwave	DB-T1-6Z-8AB-0Z			
		2	Swedcom	SC-E 6014 rev2			
1	--	Sector Mount [SM 504-3]					
168.0	168.0	1	Andrew	VHLP2-18	4 1	5/16 7983A	1
		3	Argus Tech.	LLPX310R			
		1	Dragonwave	A-ANT-18G-2-C			
		4	Samsung Telecom.	FDD_R6_RRH			
		1	--	Pipe Mount [PM 602-3]			
158.0	160.0	6	<b>Cci Antennas</b>	<b>TPX-070821</b>	--	--	2
		3	<b>Ericsson</b>	<b>RRU-12</b>			
		2	<b>Quintel Tech.</b>	<b>QS66512-3</b>			

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note		
158.0	160.0	1	Andrew	SBNH-1D6565C	12	1-1/4	1		
		1	Cci Antennas	TPA-65R-LCUUUU-H8					
		3	Ericsson	RRUS 32					
		2	Kmw Com.	AM-X-CD-16-65-00T-RET					
		3	Powerwave Tech.	7770.00					
	1	Raycap	DC6-48-60-18-8F						
	158.0	3	Comm Comp Inc.	DTMABP7819VG12A				4	3/4
		3	Ericsson	RRUS-11				2	3/8
		3	Powerwave Tech.	7020.00					
		1	Raycap	DC6-48-60-18-8F					
1		--	Sector Mount [SM 504-3]						
58.0	58.0	1	Gps	GPS_A	1	1/2	1		
		1	--	Side Arm Mount [SO 306-1]					

- Notes:  
 1) Existing Equipment  
 2) Equipment To Be Removed; Not Considered in This Analysis

**Table 3 - Design Antenna and Cable Information**

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
180	180	3	Generic	3' Side Arms	--	--
		4	Rfs Celwave	PD10017		
170	170	3	Generic	6' Side Arms	--	--
		3	Rfs Celwave	PD1132D		
160	160	2	Generic	6' STD Dish	--	--

### 3) ANALYSIS PROCEDURE

**Table 4 - Documents Provided**

Document	Remarks	Reference	Source
Online Application	AT&T Mobility Co-Locate, Rev# 1	414568	CCI Sites
Tower Manufacturer Drawing	ROHN, File No. 21817JC	529684	CCI Sites
Tower Modification Drawing	APT, Job# CT105680	903539	CCI Sites
Exposure Category Determination	Crown Castle, Date:11/06/2017	5965877	CCI Sites
Foundation Drawing	ROHN, File No. 21817JC	217670	CCI Sites
Geotech Report	FDH, Project No. 08-01300G	2303630	CCI Sites
Antenna Configuration	Crown CAD Package	Date: 11/10/2017	CCI Sites

#### 3.1) Analysis Method

tnxTower (version 7.0.5.1), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.

### 3.2) Assumptions

- 1) Tower and structures were built in accordance with the manufacturer's specifications.
- 2) The tower and structures have been maintained in accordance with the manufacturer's specification.
- 3) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.
- 4) Mount areas and weights are assumed based on photographs provided.
- 5) The existing base plate grout was considered in this analysis. Grout must be maintained and inspected periodically, and must be replaced if damaged or cracked. Refer to crown document ENG-BUL-10122, Tower Base Plate Grout Inspection and Classification.

This analysis may be affected if any assumptions are not valid or have been made in error. B+T Group should be notified to determine the effect on the structural integrity of the tower.

### 4) ANALYSIS RESULTS

**Table 5 - Section Capacity (Summary)**

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
T1	180 - 160	Leg	ROHN 2.5 STD	1	-14.466	41.137	35.2	Pass
T2	160 - 140	Leg	ROHN 3 X-STR	40	-47.316	83.780	56.5	Pass
T3	140 - 120	Leg	ROHN 4 X-STR	79	-77.771	139.068	55.9	Pass
T4	120 - 100	Leg	ROHN 5 X-STR	118	-100.714	177.417	56.8	Pass
T5	100 - 80	Leg	ROHN 5 X-STR	146	-125.212	177.354	70.6	Pass
T6	80 - 60	Leg	ROHN 6 EHS	173	-147.874	212.128	69.7	Pass
T7	60 - 40	Leg	ROHN 6 X-STR	200	-170.555	264.217	64.6	Pass
T8	40 - 20	Leg	ROHN 6 X-STR	227	-192.236	264.187	72.8	Pass
T9	20 - 0	Leg	ROHN 8 EHS	254	-201.791	240.926	83.8	Pass
T1	180 - 160	Diagonal	ROHN 2 STD	8	-6.275	15.541	40.4	Pass
T2	160 - 140	Diagonal	ROHN 2 STD	60	-8.089	14.093	57.4	Pass
T3	140 - 120	Diagonal	ROHN 2 STD	87	-7.596	11.514	66.0	Pass
T4	120 - 100	Diagonal	ROHN 2.5 STD	126	-9.324	14.430	64.6	Pass
T5	100 - 80	Diagonal	ROHN 2.5 STD	153	-8.576	12.598	68.1	Pass
T6	80 - 60	Diagonal	ROHN 2.5 STD	179	-9.094	11.148	81.6	Pass
T7	60 - 40	Diagonal	ROHN 2.5 X-STR	206	-9.489	12.305	77.1	Pass
T8	40 - 20	Diagonal	ROHN 3 STD	233	-9.367	16.858	55.6	Pass
T9	20 - 0	Diagonal	ROHN 3 STD	264	-14.805	28.346	52.2	Pass
T1	180 - 160	Horizontal	ROHN 1.5 STD	7	-3.330	20.288	16.4 19.7 (b)	Pass
T2	160 - 140	Horizontal	ROHN 1.5 STD	46	-4.739	17.381	27.3 28.0 (b)	Pass
T3	140 - 120	Horizontal	ROHN 2 STD	85	-5.177	24.654	21.0 30.3 (b)	Pass
T4	120 - 100	Horizontal	ROHN 2 STD	124	-5.508	20.426	27.0 32.2 (b)	Pass
T5	100 - 80	Horizontal	ROHN 2 STD	151	-5.547	14.771	37.6	Pass
T6	80 - 60	Horizontal	ROHN 2.5 STD	178	-6.265	25.422	24.6 37.0 (b)	Pass
T7	60 - 40	Horizontal	ROHN 2.5 STD	205	-6.822	19.663	34.7 40.8 (b)	Pass
T8	40 - 20	Horizontal	ROHN 2.5 STD	232	-6.973	15.569	44.8	Pass
T9	20 - 0	Horizontal	ROHN 3 STD	263	-7.841	27.512	28.5 32.3 (b)	Pass
T1	180 - 160	Top Girt	ROHN 1.5 STD	4	-1.551	20.345	7.6	Pass
T9	20 - 0	Redund Horz 1 Bracing	ROHN 1.5 x 11GA	277	-0.754	4.897	15.4	Pass
T9	20 - 0	Redund Diag 1 Bracing	ROHN 1.5 STD	266	-0.751	3.600	20.9	Pass
T9	20 - 0	Redund Hip 1 Bracing	ROHN 1.5 x 11GA	270	-0.023	4.354	0.5	Pass
T9	20 - 0	Red Hip Diag 1 Bracing	ROHN 2.5 STD	271	-0.051	7.007	0.7	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
T1	180 - 160	Inner Bracing	L2x2x1/8	16	-0.003	5.820	0.3	Pass
T2	160 - 140	Inner Bracing	L2x2x1/8	52	-0.004	4.292	0.3	Pass
T3	140 - 120	Inner Bracing	L2x2x1/8	93	-0.005	2.933	0.4	Pass
T4	120 - 100	Inner Bracing	L2x2x1/8	130	-0.004	1.659	0.5	Pass
T5	100 - 80	Inner Bracing	L2 1/2x2 1/2x3/16	157	-0.006	3.472	0.5	Pass
T6	80 - 60	Inner Bracing	L3x3x3/16	185	-0.007	4.548	0.5	Pass
T7	60 - 40	Inner Bracing	L3 1/2x3 1/2x1/4	212	-0.009	7.448	0.3	Pass
T8	40 - 20	Inner Bracing	L3 1/2x3 1/2x1/4	238	-0.010	5.931	0.4	Pass
T9	20 - 0	Inner Bracing	ROHN 3 STD	284	-0.011	19.744	0.4	Pass
							Summary	
							Leg (T9)	83.8 Pass
							Diagonal (T6)	81.6 Pass
							Horizontal (T8)	44.8 Pass
							Top Girt (T1)	7.6 Pass
							Redund Horz 1 Bracing (T9)	15.4 Pass
							Redund Diag 1 Bracing (T9)	20.9 Pass
							Redund Hip 1 Bracing (T9)	0.5 Pass
							Redund Hip Diagonal 1 Bracing (T9)	0.7 Pass
							Inner Bracing (T4)	0.5 Pass
							Bolt Checks	56.8 Pass
							RATING =	83.8 Pass

**Table 6 - Tower Component Stresses vs. Capacity – LC6.5**

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	Base	56.8	Pass
1	Base Foundation (Structure)	Base	43.8	Pass
1	Base Foundation (Soil Interaction)	Base	63.8	Pass

<b>Structure Rating (max from all components) =</b>	<b>83.8%</b>
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Notes:

- 1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.
- 2) Capacities up to 100% are considered acceptable based on analysis methods used.

**4.1) Recommendations**

The tower and its foundation have sufficient capacity to carry the existing, reserved and proposed loads. No modifications are required at this time.



**PROJECT:** LTE 4C / RETRO  
**SITE NUMBER:** CTL01060  
**FA NUMBER:** 10035040  
**PTN NUMBER:** 2051AD0D0Q7/2051A0D1LS  
**PACE NUMBER:** MRCTB025176/MRCTB025123  
**CROWN BU#:** 806362  
**SITE NAME:** WOLCOTT-EAST STREET  
**SITE ADDRESS:** 347 EAST STREET  
 WOLCOTT, CT 06716

550 COCHITUATE ROAD  
 SUITE 550 13 AND 14  
 FRAMINGHAM, MA 01701

1362 MELLON ROAD  
 SUITE 140  
 HANOVER, MD 21076

1100 E. WOODFIELD ROAD, SUITE 500  
 SCHAUMBURG, ILLINOIS 60173  
 TEL: 847-908-8400  
 COA# PEC.0001444  
 www.FullertonEngineering.com

**PROJECT INFORMATION**

**SITE NAME:** WOLCOTT-EAST STREET  
**SITE NUMBER:** CTL01060  
**SITE ADDRESS:** 347 EAST STREET  
 WOLCOTT, CT 06716  
**FA NUMBER:** 10035040  
**PTN NUMBER:** 2051AD0D0Q7/2051A0D1LS  
**PACE NUMBER:** MRCTB025176/MRCTB025123  
**USID NUMBER:** 61146  
**CROWN BU#:** 806362  
**APPLICANT:** AT&T WIRELESS  
 550 COCHITUATE ROAD SUITE 550 13 AND 14  
 FRAMINGHAM, MA 01701  
**TOWER OWNER:** CROWN CASTLE INTERNATIONAL  
 12 GILL STREET, SUITE 5800  
 WOBURN, MA 01801  
**JURISDICTION:** NEW HAVEN COUNTY  
**COUNTY:** NEW HAVEN  
**SITE COORDINATES FROM (RFDS):**  
**LATITUDE:** 41.5595481°  
**LONGITUDE:** -72.9469711°  
**GROUND ELEV.:** 743'  
**PROPOSED USE:** TELECOMMUNICATIONS FACILITY  
**AT&T RF MANAGER:** DEEPAK RATHORE  
**PHONE:** (860) 965-3068  
**EMAIL:** dr701e@att.com

**SCOPE OF WORK**

LTE 850 WILL BE 4C AT THE SITE WITH BRONZE CONFIGURATION.  
 PROPOSED 4C PROJECT SCOPE HEREIN BASED ON RFDS ID # 1811296, VERSION 3.00  
 LAST UPDATED 10/10/17.

- (3) NEW RRUS-32 B2
- (3) RELOCATED RRUS-12
- (3) NEW 25A BREAKERS, (2) NEW XMU AND (1) NEW IDL2
- REPLACE (6) EXISTING TRIPLEXERS W/ (6) NEW LOW BAND COMBINERS

- 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:** 2012 INTERNATIONAL BUILDING CODE  
 2016 CONNECTICUT STATE BUILDING CODE SUPPLEMENT

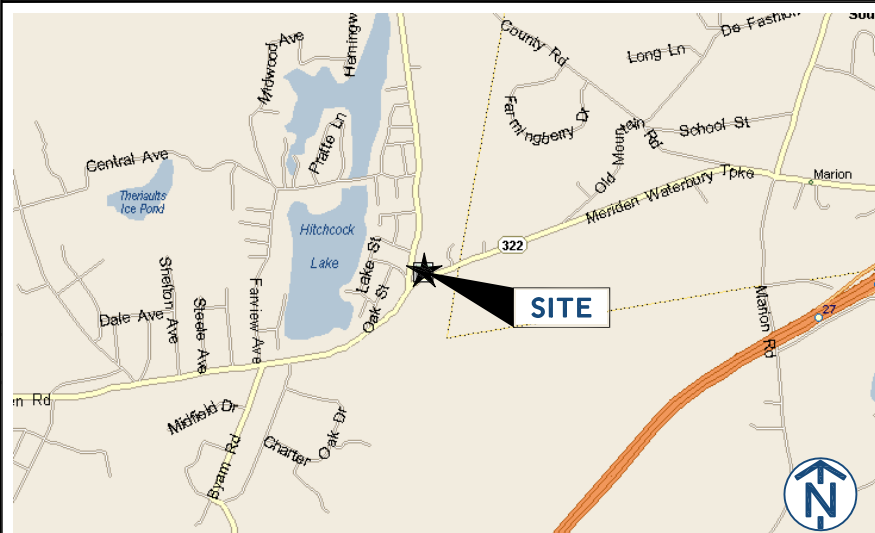
**ELECTRICAL CODE:** 2014 NATIONAL ELECTRIC CODE

- 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	10/28/17	90% REVIEW	AS
1	11/16/17	FOR PERMIT	EB

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**



**DRAWING INDEX**

TITLE	DESCRIPTION
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**

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 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:**  
**WOLCOTT-EAST STREET**  
**SITE NUMBER:**  
**CTL01060**  
**SITE ADDRESS:**  
**347 EAST STREET**  
**WOLCOTT, CT 06716**  
**SHEET NAME:**  
**TITLE SHEET**  
**SHEET NUMBER:**  
**T1**

THESE DRAWINGS ARE THE PROPERTY OF FULLERTON ENGINEERING CONSULTANTS, INC. IT IS FOR THE EXCLUSIVE USE OF THIS PROJECT. ANY RE-USE OF THIS DRAWING WITHOUT THE EXPRESSED WRITTEN CONSENT OF FULLERTON ENGINEERING CONSULTANTS, INC. IS PROHIBITED.



**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 ANSI/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, TMA'S, 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  
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SITE NAME  
**WOLCOTT-EAST STREET**

SITE NUMBER:  
**CTL01060**

SITE ADDRESS  
**347 EAST STREET  
WOLCOTT, CT 06716**

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.

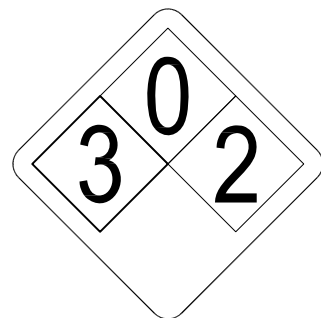
Ref: 47CFR 1.1307(b)

**CAUTION**

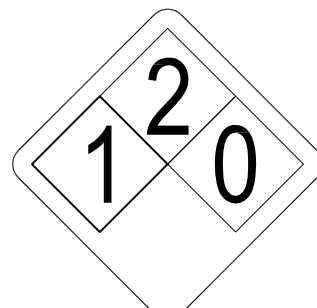
**Beyond This Point** you are entering a controlled area where RF emissions *may exceed* the FCC Occupational Exposure Limits.

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

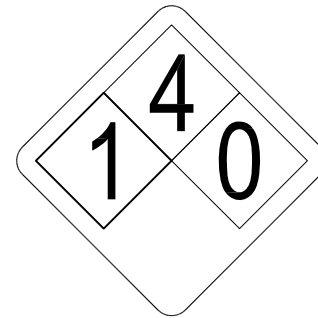
Ref: 47CFR 1.1307(b)



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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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.

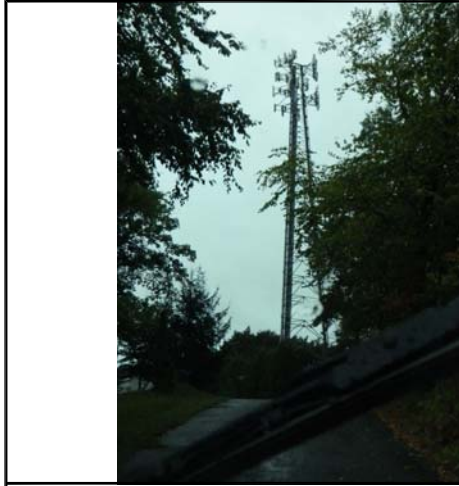
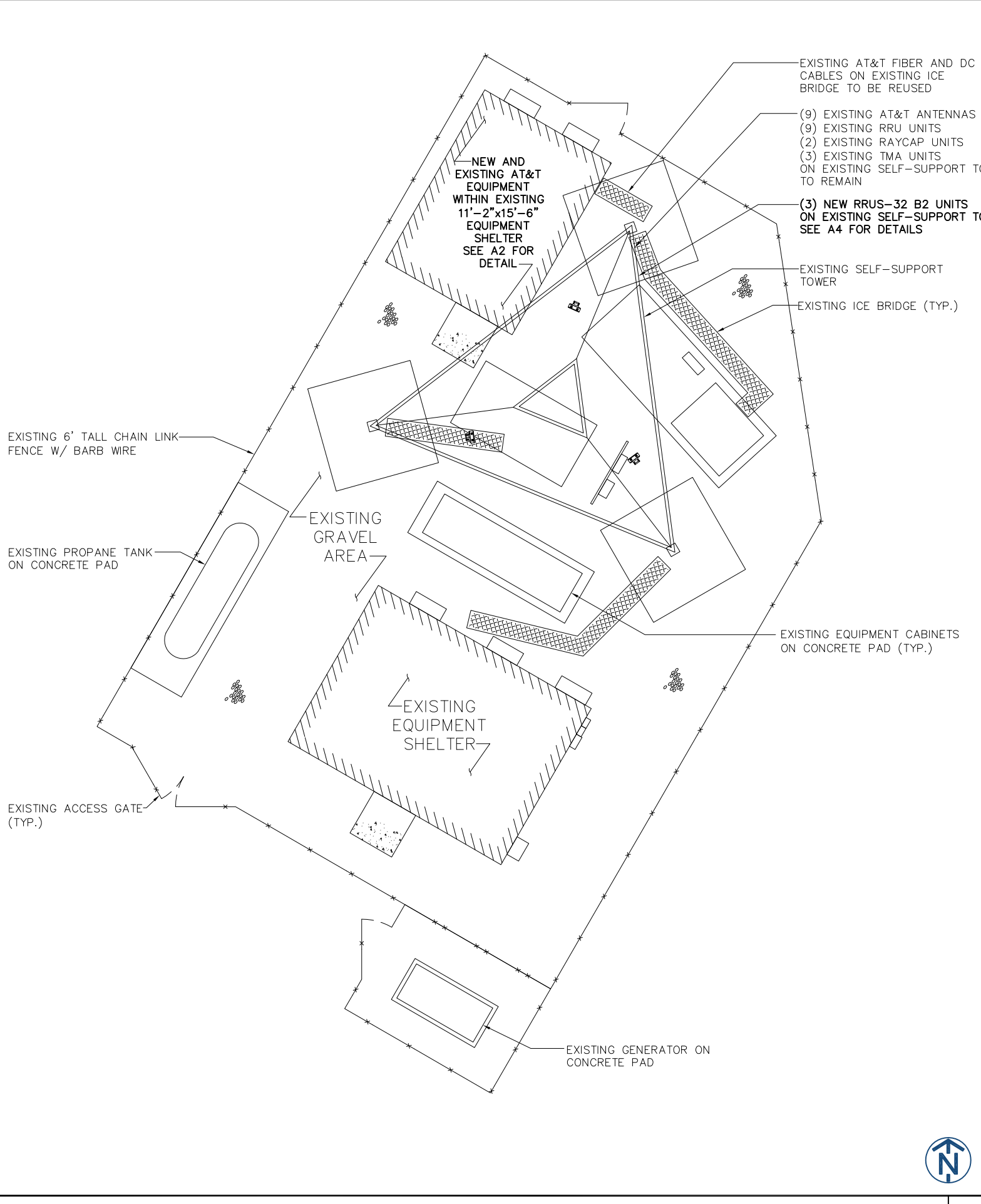


**ABBREVIATIONS**

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



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



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

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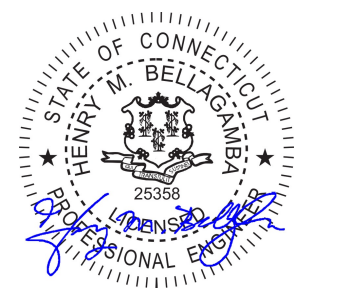
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SITE NUMBER:  
**CTL01060**

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WOLCOTT, CT 06716**

SHEET NAME  
**COMPOUND PLAN**

SHEET NUMBER  
**A1**

COMPOUND PLAN

SCALE 1" = 10'-0" 1

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**WOLCOTT-EAST STREET**

SITE NUMBER:

**CTL01060**

SITE ADDRESS

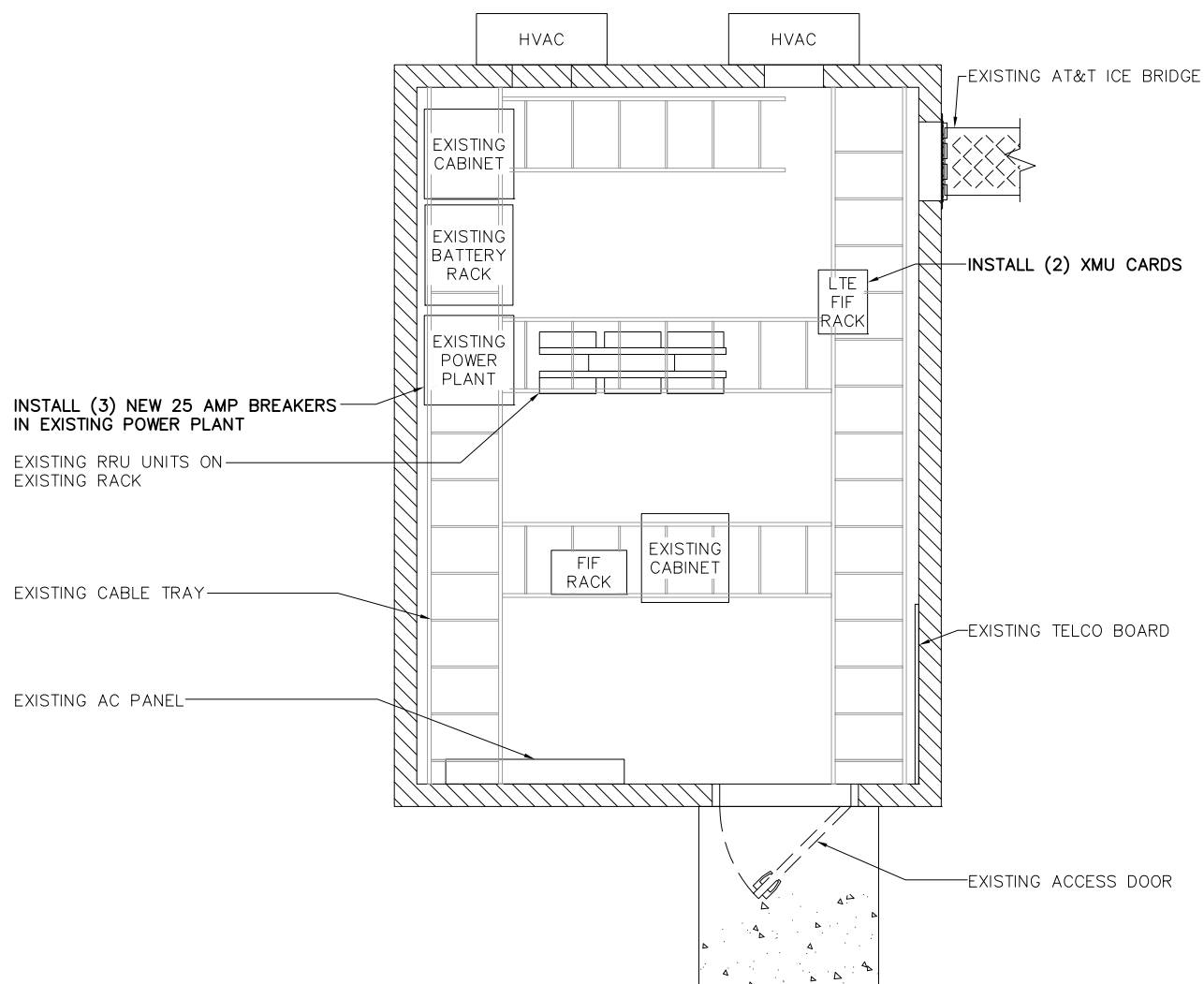
**347 EAST STREET  
WOLCOTT, CT 06716**

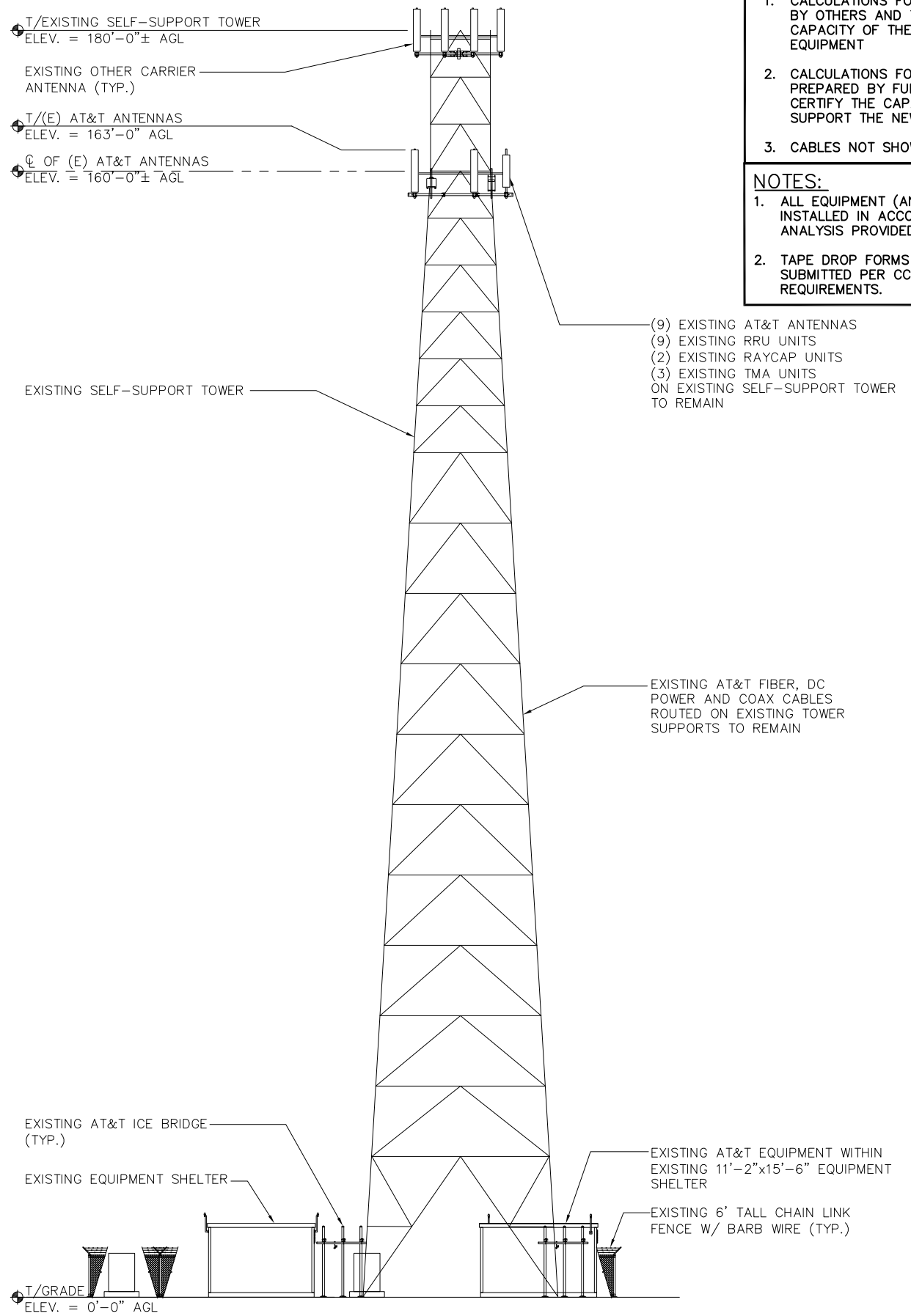
SHEET NAME

**EQUIPMENT PLAN**

SHEET NUMBER

**A2**



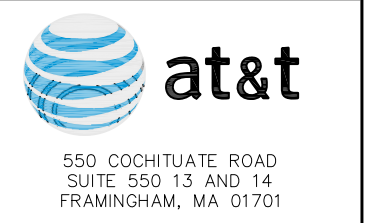
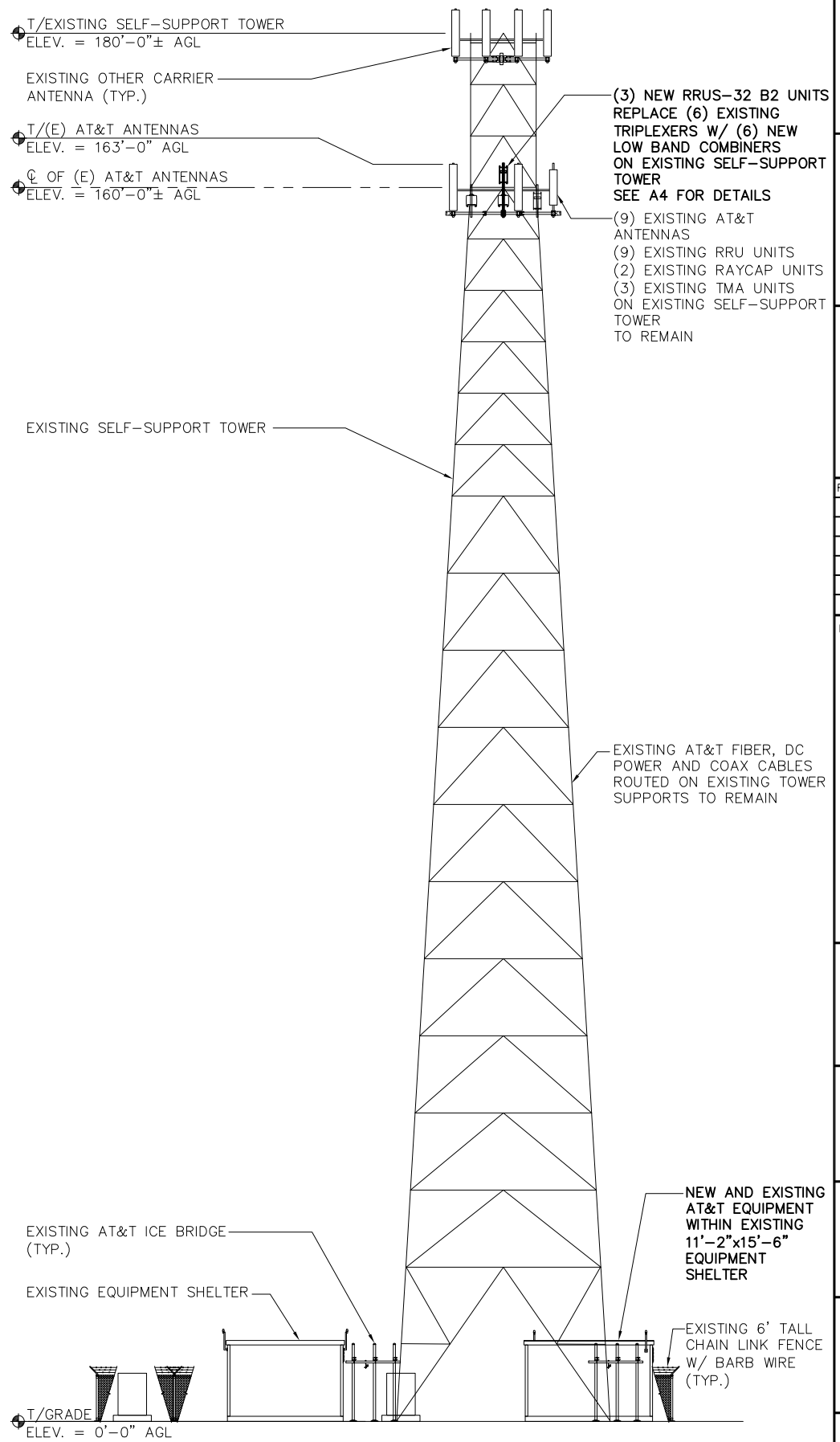


**NOTES:**

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

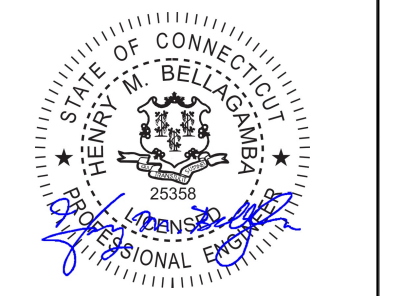
**NOTES:**

- ALL EQUIPMENT (ANTENNAS, LINES, ETC.) TO BE INSTALLED IN ACCORDANCE WITH PASSING STRUCTURAL ANALYSIS PROVIDED BY CROWN CASTLE.
- TAPE DROP FORMS AND PHOTOGRAPHS TO BE SUBMITTED PER CCI AND AT&T CLOSEOUT REQUIREMENTS.



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SHEET NAME  
**ELEVATIONS**

SHEET NUMBER  
**A3**

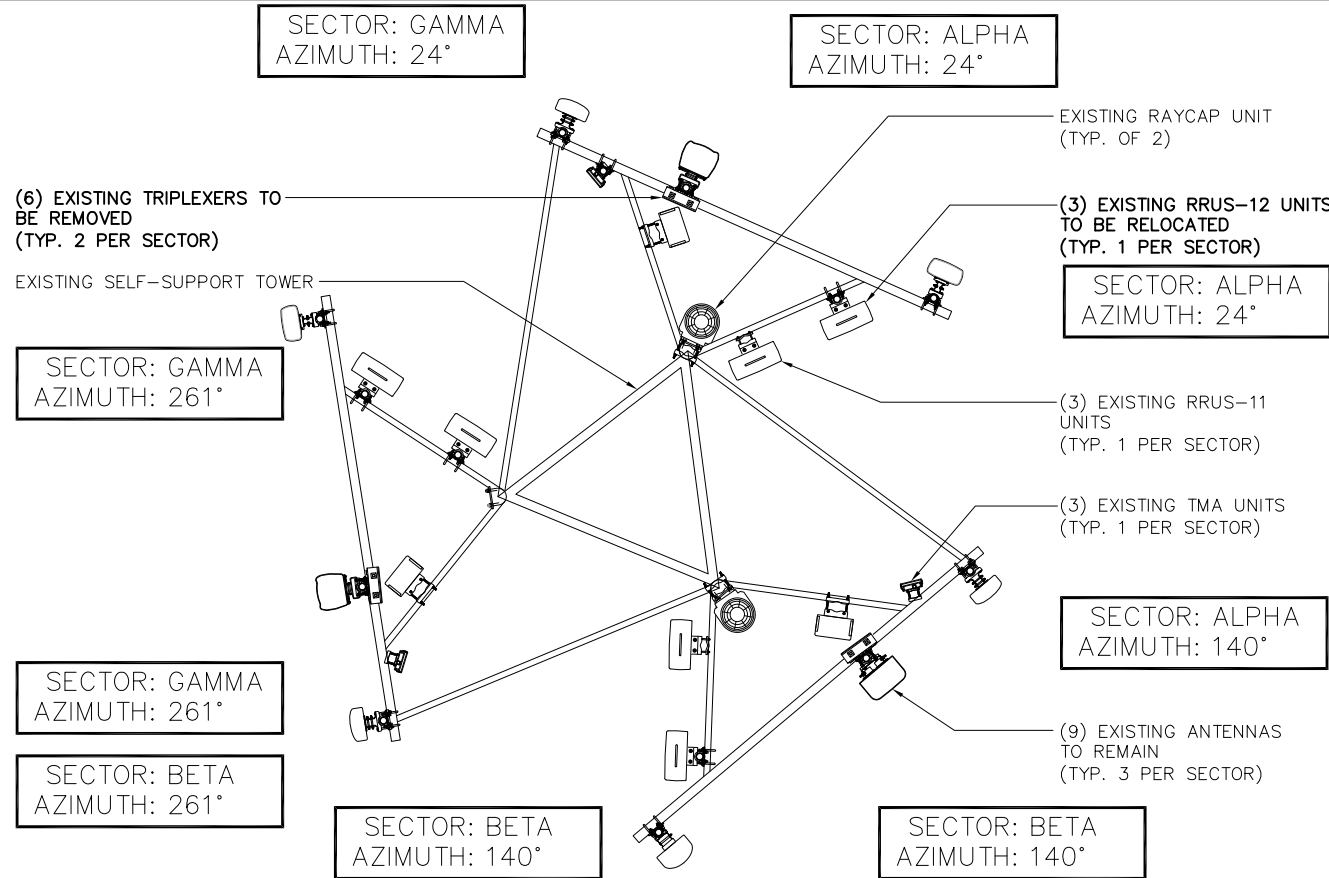
EXISTING ELEVATION

SCALE: 1" = 20'-0" 1

NEW ELEVATION

SCALE: 1" = 20'-0" 2

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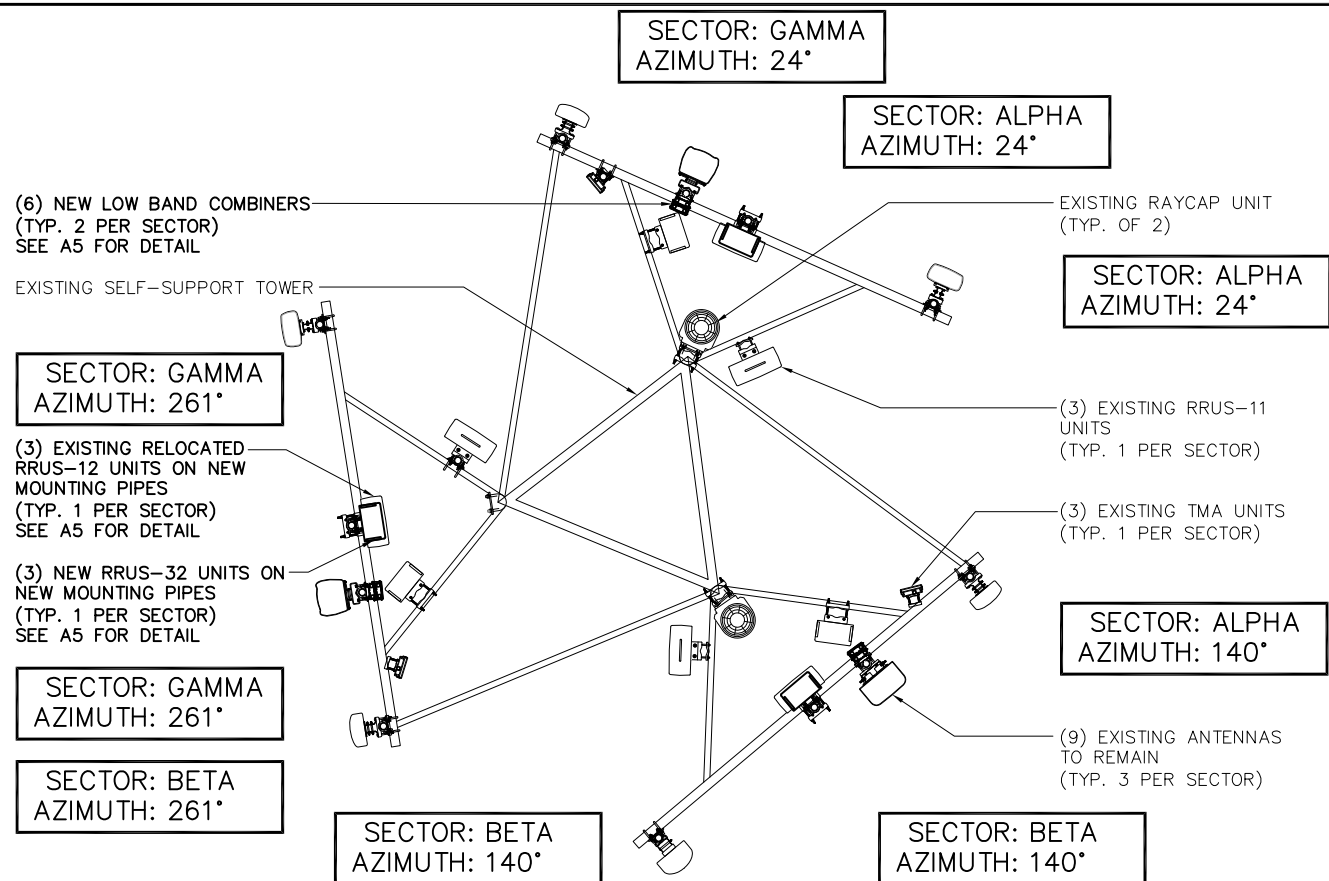
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**EXISTING ANTENNA PLAN**

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

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



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SHEET NAME  
**ANTENNA PLANS**

SHEET NUMBER  
**A4**

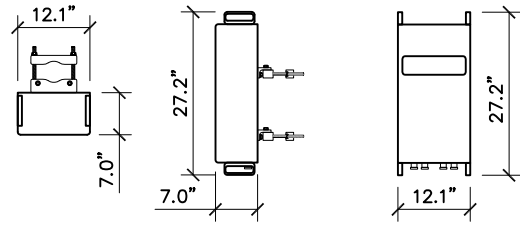
**FINAL ANTENNA PLAN**

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



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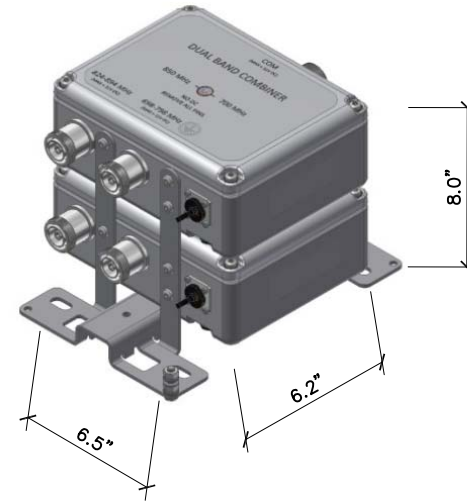
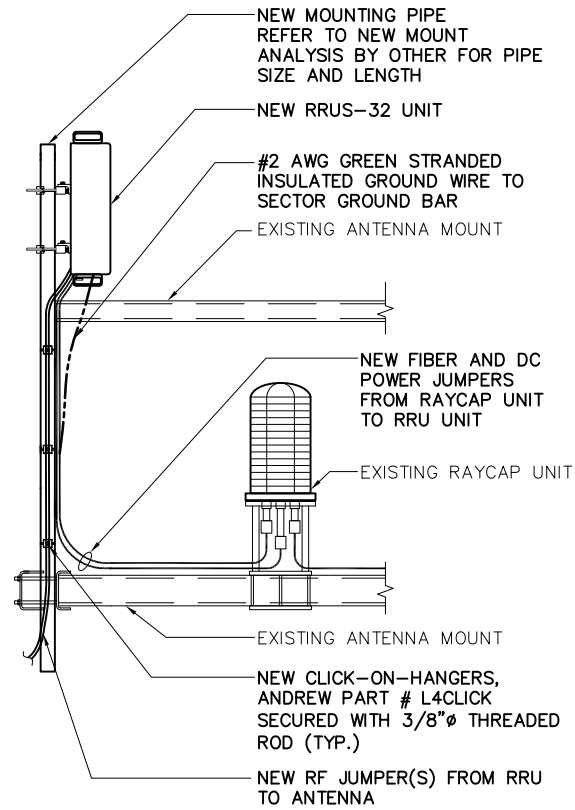




PLAN VIEW SIDE VIEW FRONT VIEW

ERICSSON – RRU 32 B30

UNIT WEIGHT 60 Lbs



KAELUS – DBC0061F1V51-2

FREQUENCY RANGE  
 700 BAND- PASSBAND 698-798 MHZ  
 850 BAND- PASSBAND 824-894 MHZ  
 TOTAL WEIGHT 25.4 Lbs



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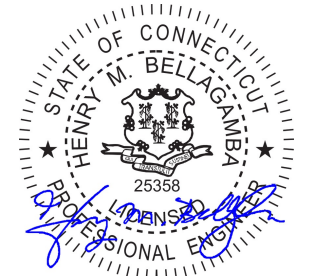
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SHEET NAME  
**EQUIPMENT DETAILS**

SHEET NUMBER  
**A5**

RRU SPEC	SCALE: N.T.S.	1	RRU SCHEMATIC	SCALE: N.T.S.	2	COMBINER SPEC	SCALE: N.T.S.	3	NOT USED	SCALE: N.T.S.	4
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NOT USED	SCALE: N.T.S.	5	NOT USED	SCALE: N.T.S.	6	NOT USED	SCALE: N.T.S.	7	NOT USED	SCALE: N.T.S.	8
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SITE NAME

**WOLCOTT-EAST STREET**

SITE NUMBER:

**CTL01060**

SITE ADDRESS

**347 EAST STREET  
WOLCOTT, CT 06716**

SHEET NAME

**ANTENNA &  
CABLE  
CONFIGURATION**

SHEET NUMBER

**A6**

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

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	7770	POWERWAVE	(1) EXISTING TMA UNIT(S)	140°	160'-0"	1-1/4"∅ LDF6-50A	210'-0"	(2) (E) DC6-48-60-18-8F UNITS
	A-2	(E) LTE 2C/3C/4C ANTENNA	QS66512-2	QUINTEL	(1) EXISTING RRUS-32 UNIT(S) (1) RELOCATED RRUS-12 UNIT(S) (1) NEW RRUS-32 UNIT(S) (2) NEW DBC0061F1V51-2	24°	160'-0"	(1) EXISTING FIBER CABLE (2) EXISTING DC POWER CABLES	216'-0" 216'-0"	
	A-3	-	-	-	-	-	-	-	-	
	A-4	(E) LTE1C ANTENNA	AM-X-CD-16-65-00T-RET	KMW	(1) EXISTING RRUS-11 UNIT(S)	24°	160'-0"	(1) EXISTING FIBER CABLE (2) EXISTING DC POWER CABLES	216'-0" 216'-0"	
BETA	B-1	(E) UMTS ANTENNA	7770	POWERWAVE	(1) EXISTING TMA UNIT(S)	261°	160'-0"	1-1/4"∅ LDF6-50A 1-1/4"∅ LDF6-50A	210'-0" 210'-0"	
	B-2	(E) LTE 2C/3C/4C ANTENNA	TPA-65R-LCUUUU-H8	COMMSCOPE	(1) EXISTING RRUS-32 UNIT(S) (1) RELOCATED RRUS-12 UNIT(S) (1) NEW RRUS-32 UNIT(S) (2) NEW DBC0061F1V51-2	140°	160'-0"	SEE ANTENNA A-2 FOR FIBER CABLE SEE ANTENNA A-2 FOR DC POWER CABLE		
	B-3	-	-	-	-	-	-	-	-	
	B-4	(E) LTE1C ANTENNA	SBNH-1D6565C	COMMSCOPE	(1) EXISTING RRUS-11 UNIT(S)	140°	160'-0"	SEE ANTENNA A-4 FOR FIBER CABLE SEE ANTENNA A-4 FOR DC POWER CABLE		
GAMMA	C-1	(E) UMTS ANTENNA	7770	POWERWAVE	(1) EXISTING TMA UNIT(S)	24°	160'-0"	1-1/4"∅ LDF6-50A 1-1/4"∅ LDF6-50A	210'-0" 210'-0"	
	C-2	(E) LTE 2C/3C/4C ANTENNA	QS66512-2	QUINTEL	(1) EXISTING RRUS-32 UNIT(S) (1) RELOCATED RRUS-12 UNIT(S) (1) NEW RRUS-32 UNIT(S) (2) NEW DBC0061F1V51-2	261°	160'-0"	SEE ANTENNA A-2 FOR FIBER CABLE SEE ANTENNA A-2 FOR DC POWER CABLE		
	C-3	-	-	-	-	-	-	-	-	
	C-4	(E) LTE1C ANTENNA	AM-X-CD-16-65-00T-RET	KMW	(1) EXISTING RRUS-11 UNIT(S)	261°	160'-0"	SEE ANTENNA A-4 FOR FIBER CABLE SEE ANTENNA A-4 FOR DC POWER CABLE		

**LEGEND**

- (N) - NEW
- (E) - EXISTING



- CONTRACTOR IS TO REFER TO AT&T'S MOST CURRENT RADIO FREQUENCY DATA SHEET (RFDS) PRIOR TO CONSTRUCTION.
- 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.
- CONTRACTOR SHALL VERIFY THE HEIGHT OF THE ANTENNA WITH THE AT&T WIRELESS PROJECT MANAGER.
- VERIFY TYPE AND SIZE OF TOWER LEG PRIOR TO ORDERING ANY ANTENNA MOUNT.
- UNLESS NOTED OTHERWISE THE CONTRACTOR MUST PROVIDE ALL MATERIAL NECESSARY.
- 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.
- CONTRACTOR SHALL VERIFY ALL RF INFORMATION PRIOR TO CONSTRUCTION.
- 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.
- CABLE LENGTHS WERE DETERMINED BASED ON THE DESIGN DRAWING. CONTRACTOR TO VERIFY ACTUAL LENGTH DURING PRE-CONSTRUCTION WALK.
- 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.

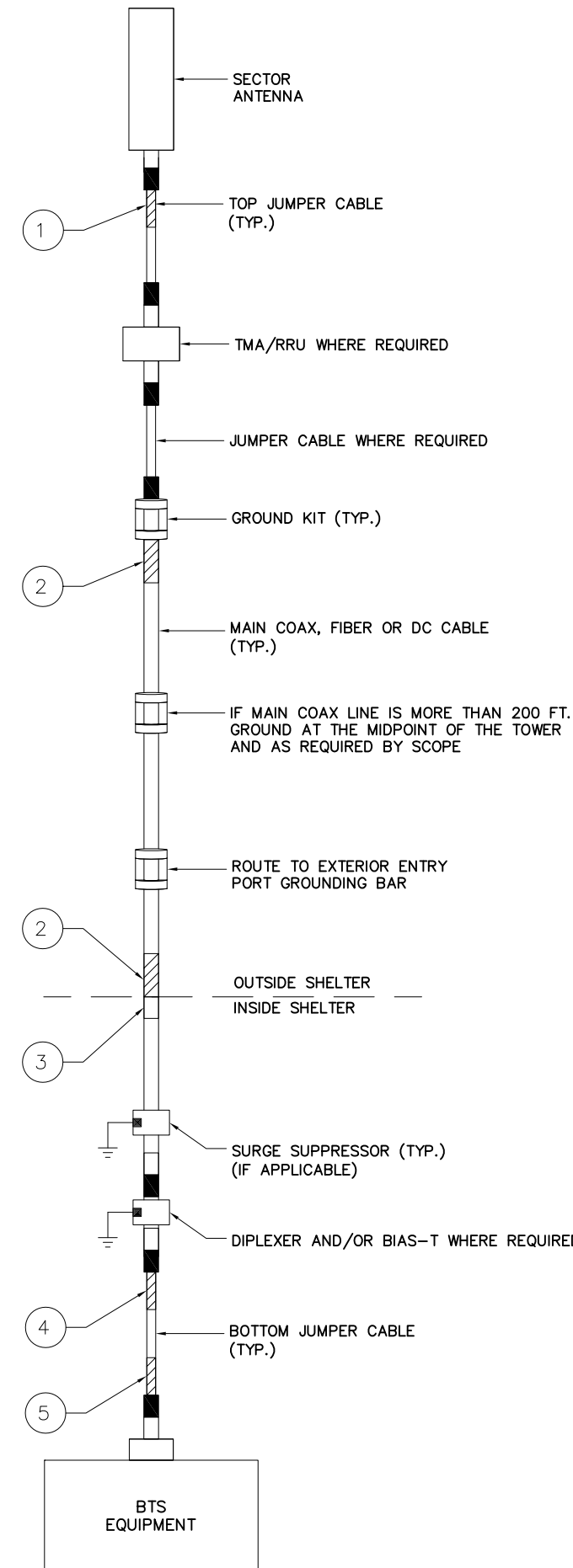
CABLE MARKING DIAGRAM

SCALE: N.T.S. 2

- THE ANTENNA SYSTEM COAX SHALL BE LABELED WITH VINYL TAPE.
- 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.
- USING COLOR BANDS ON THE CABLES, MARK ALL RF CABLE BY SECTOR AND CABLE NUMBER AS SHOWN ON "CABLE COLOR CHART".
- 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.
- 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.
- 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.
- ALL COLOR CODES SHALL BE INSTALLED SO AS TO ALIGN NEATLY WITH ONE ANOTHER FROM SIDE-TO-SIDE.
- 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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SITE NAME  
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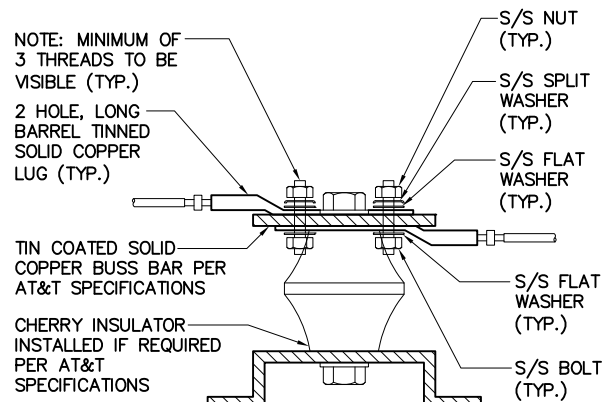
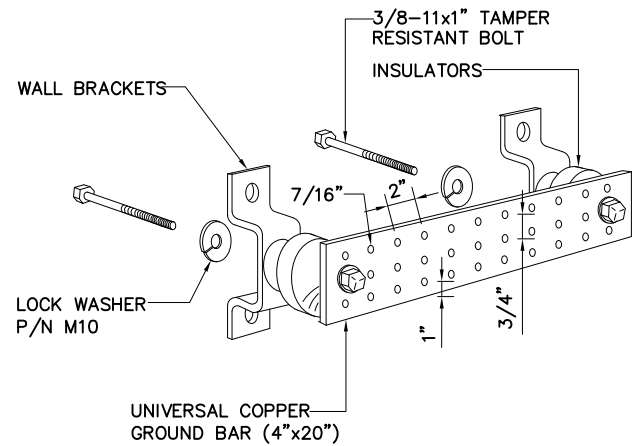
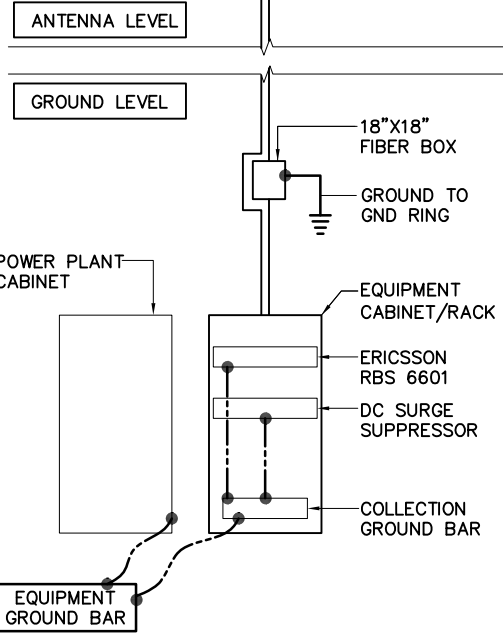
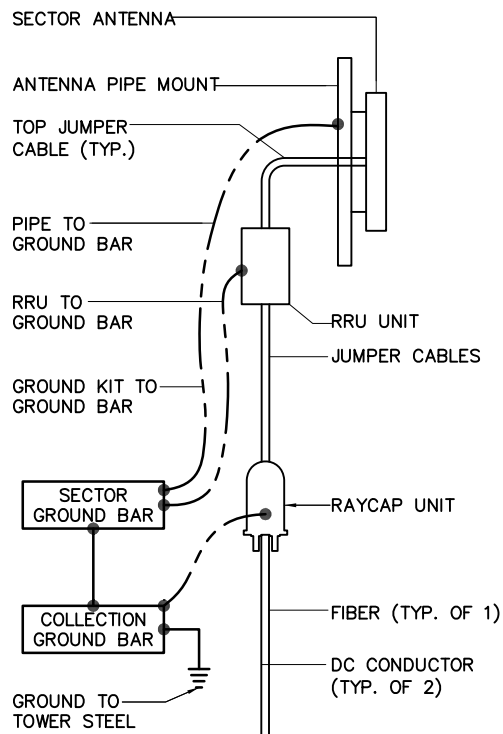
SITE NUMBER:  
**CTL01060**

SITE ADDRESS  
**347 EAST STREET  
WOLCOTT, CT 06716**

SHEET NAME  
**CABLE NOTES  
AND COLOR  
CODING**

SHEET NUMBER  
**A7**

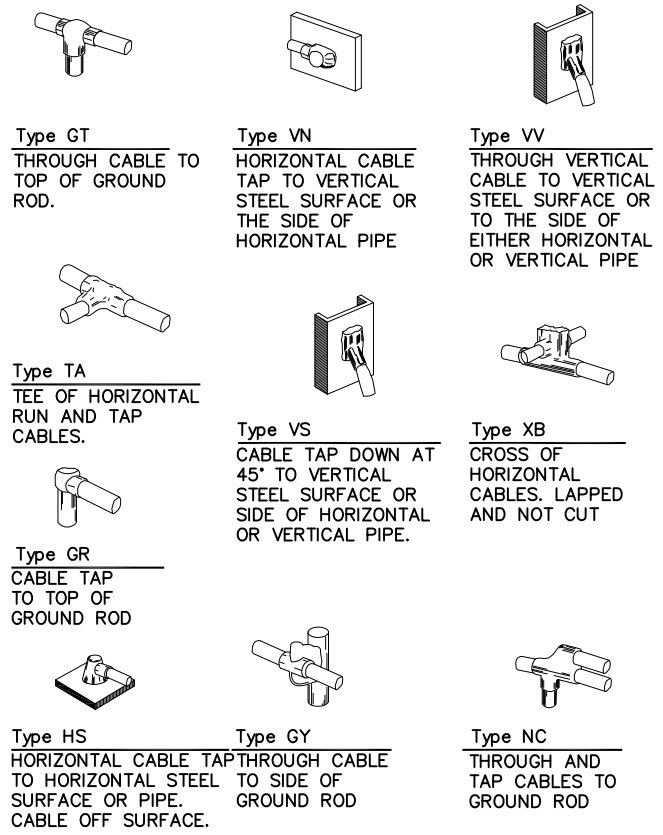
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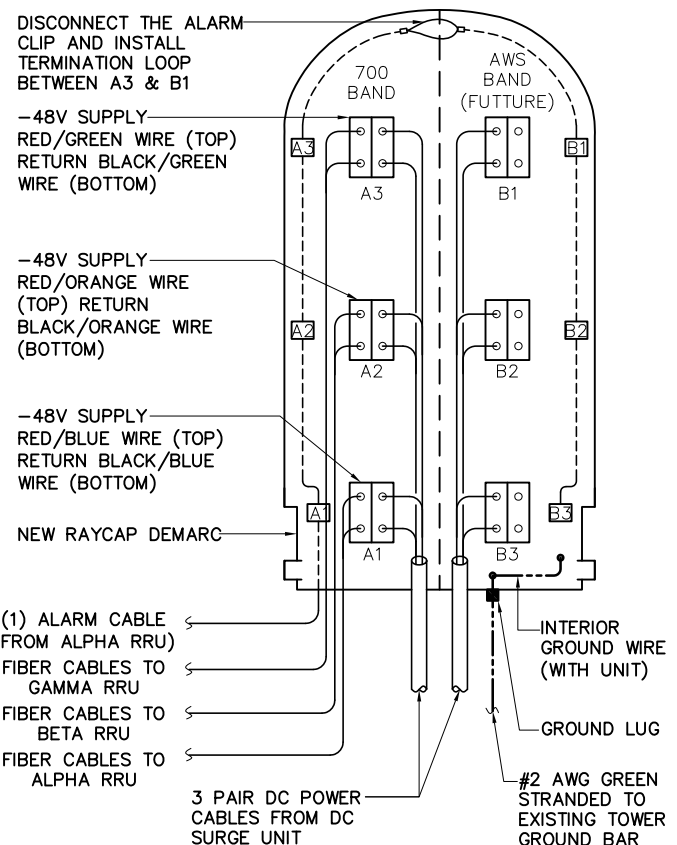
- NOTES:**
1. ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING SPLIT WASHERS.
  2. COAT WIRE END WITH ANTI-OXIDATION COMPOUND PRIOR TO INSERTION INTO LUG BARREL AND CRIMPING.
  3. APPLY ANTI-OXIDATION COMPOUND BETWEEN ALL LUGS AND BUSS BARS PRIOR TO MATING AND BOLTING.

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



550 COCHITUATE ROAD  
SUITE 550 13 AND 14  
FRAMINGHAM, MA 01701



1362 MELLON ROAD  
SUITE 140  
HANOVER, MD 21076



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SITE NAME

WOLCOTT-EAST STREET

SITE NUMBER:

CTL01060

SITE ADDRESS

347 EAST STREET  
WOLCOTT, CT 06716

SHEET NAME

GROUNDING DETAILS

SHEET NUMBER

A8

GROUNDING SCHEMATIC SCALE: N.T.S. 1

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