



April 27th, 2018

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

Re: Notice of Exempt Modification – Antenna and RRU Add
Property Address: 613 Connecticut Avenue, Norwalk ,CT 06850
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 153-feet on an existing 150-foot monopole, owned by Crown Castle at 3 Corporate Park Drive, Suite 101, Clifton Park, NY 12065. AT&T now intends to add one (1) 4' Andrew SBNHH-1D65A to position [3] each sector, for a total of three (3) additional antennas. In addition, AT&T is looking to install one (1) RRUS-E2 and one (1) RRUs-12 in position [4], one (1) RRUs B144 4478 in position [3], and one (1) RRUs 32 B66 in position [2], each sector, for a total of twelve (12) new RRUs to be installed. Lastly, AT&T is proposing to add one (1) additional Raycap DC Surge Suppressor and two (2) DC Power Cables to their existing antenna array. All of the changes will take place on the existing antenna mount.

Per the attached Decision and Order Letter, the construction of the aforementioned monopole was approved by the Connecticut Siting Council on September 14th, 1984. Please see attached for conditions.

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

Please accept this letter pursuant to Regulation of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b) (2). In accordance with R.C.S.A., a copy of this letter is being sent to Steven Kleppin, Zoning and Planning – Director, City of Norwalk, CT, 125 East Ave. Room #223, Norwalk, CT 06856 and Harry W. Rilling, Mayor – City of Norwalk, CT, 125 East Ave. Norwalk, CT 06856. A copy of this letter is being sent to the property owner, Home Depot USA Inc. ATTN: Prop Tax Dept #6204, PO BOX 105842, Atlanta, GA 30348. A copy of this letter is also being sent to the tower company, Crown Castle at 3 Corporate Park Drive, Suite 101, Clifton Park, NY 12065.

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

- **EM-CING-051-103-135-035-050922** - New Cingular Wireless PCS, LLC. notice of intent to modify existing telecommunications facilities located at 281 Woodhouse Road, Fairfield; 3965 Congress Street, Fairfield; 600 Connecticut Ave., **Norwalk**; 1590 Newfield Ave, Stamford; and 126 Ledge Road, Darien, Connecticut.
- **EM-CING-103-111230** - New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 613 Connecticut Avenue, **Norwalk**, Connecticut.
- **EM-AT&T-103-160621** – AT&T notice of intent to modify an existing telecommunications facility located at 600 Connecticut Avenue, **Norwalk**, 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 153-foot level of the 150-foot monopole.
2. The proposed modifications will not involve any changes to ground-mounted equipment and, therefore, will not require an extension of the site boundary.
3. The proposed modifications will not increase the noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the modified facility will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. A cumulative worst-case RF emissions calculation for AT&T's modified facility is provided in the RF Emissions Compliance Report, included in [Tab 2](#).
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The tower and its foundation can support AT&T's proposed modifications. (See Structural Analysis Report included in [Tab 3](#)).

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

Sincerely,

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

Romina Kirchmaier

CC w/enclosures:
Steven Kleppin – Director of Planning and Zoning, City of Norwalk, CT
Harry W. Rilling – Mayor, City of Norwalk, CT
Home Depot USA Inc. – Land Owner
Crown Castle – Tower Company

DOCKET NO. 45

AN APPLICATION SUBMITTED BY THE SOUTHERN NEW ENGLAND TELEPHONE COMPANY FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED FOR THE CONSTRUCTION, MAINTENANCE, AND OPERATION OF FACILITIES TO PROVIDE CELLULAR SERVICE IN FAIRFIELD COUNTY. : CONNECTICUT SITING COUNCIL : September 14, 1984

DECISION AND ORDER

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, revisions of 1958, revised to 1983, as amended, be issued to the Southern New England Telephone Company for the construction, operation, and maintenance of a telecommunications tower and associated equipment to provide cellular service at each of the following sites:

Kaechele Place, Bridgeport, Connecticut;
Connecticut Avenue, Norwalk, Connecticut;
Nells Rock Road, Shelton, Connecticut;
Newfield Avenue, Stamford, Connecticut; and
Bayberry Lane, (former Nike site), Westport, Connecticut.

The facilities shall be constructed, operated, and maintained as specified in the Council's record on this matter, and subject to the following conditions:

1. The towers shall be no taller than necessary to provide the proposed service, and in no event shall exceed
 - a) 167' at the Bridgeport site,
 - b) 167' at the Norwalk site,
 - c) 189.5' at the Shelton site,
 - d) 167' at the Stamford site,
 - e) 117' at the Westport site;
2. A fence not lower than eight feet shall surround each tower and its associated equipment;
3. The applicant or its successor shall notify the Council if and when directional antennas or any other equipment is added to any of these facilities;

4. The applicant or its successor shall permit, in accordance with representations made by it during the proceeding, public or private entities to share space on the facilities, for due consideration received, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing;
5. Unless necessary to comply with condition number six, below, no lights shall be installed on any of these towers;
6. The facilities shall be constructed in accordance with all applicable federal, state, and municipal laws and regulations;
7. The applicant shall submit a development and management plan (D&M) for the Bridgeport, Stamford, and Westport sites pursuant to sections 16-50j-85 through 16-50j-87 of the regulations of state agencies, except that irrelevant items in section 16-50j-86 need only be identified as such. The D&M plans shall include appropriate evergreen screening of the sites, erosion control measures, reseeding plans, and tree removal plans. The applicant shall consult with the Stamford Environmental Protection Board in the preparation of a drainage and erosion control plan for the Stamford tower. The applicant shall comply with the reporting requirements of section 16-50j-87 for all sites;
8. Construction activities shall take place during daylight working hours;
9. This decision and order shall be void and the towers and associated equipment approved herein shall be dismantled and

removed, or reapplication for any new use shall be made to the Connecticut Siting Council before any such new use is made, if the towers do not provide or permanently cease to provide cellular service following completion of construction;

10. This decision and order shall be void if all construction authorized is not completed within three years of the issuance of this decision.

Pursuant to section 16-50p of the General Statutes, we hereby direct that a copy of the opinion and decision and order be served on each person listed below. A notice of the issuance shall be published in the Bridgeport Post, the Norwalk Hour, the Stamford Advocate, and the Shelton Suburban News, and the Westport News.

The parties to this proceeding are

The Southern New England Telephone Company (Applicant)
Room 314
227 Church Street
New Haven, Connecticut 06506

Attention: Mr. Peter J. Tyrrell (its attorney)
Senior Attorney

Rolnick Observatory represented by:
52 Sawyer Road
Fairfield, Connecticut
Frederick H. Bump
Director

Mr. Adam Norton
40 Highland Road
Westport, Connecticut 06880

Representative John Wayne Fox (service waived)
13 Apple Tree Drive
Stamford, Connecticut 06906

Mr. George C. Lenfest
4 Highland Road
Westport, Connecticut

Mr. William Seiden
First Selectman
Town of Westport
110 Myrtle Avenue
P.O. Box 549
Westport, Connecticut 06881

Mr. Arthur L. Schimel
174 Bayberry Lane
Westport, Connecticut

Mr. Seymour Bendremer
11 Apache Trail
Westport, Connecticut

Ms. Gladys Floch
32 Woody Lane
Westport, Connecticut

Ms. Helen S. Cohen
15 Highland Road
Westport, Connecticut (service waived)

Mr. Jack Braverman
226 Bayberry Lane
Westport, Connecticut

Mr. Kevin Gavin
191 Bayberry Lane
Westport, Connecticut (service waived)

Mr. A.B. Beiser
12 Highland Road
Westport, Connecticut

Mr. Edward V. Polusky
4 Hooper Road
Westport, Connecticut (service waived)

Ms. Lois Schine

represented by:

Mary D. Mix, Esquire
830 Post Road - East
Suite 100
Westport, Connecticut 06880

Mr. Allen Witt
3 Apache Trail
Westport, Connecticut

Ms. Gayle Shiller
5 Apache Trail
Westport, Connecticut (service waived)

Mrs. Ronnie Hammer
3 Hooper Road
Westport, Connecticut

Mr. Paul Rosenblatt
7 Apache Trail
Westport, Connecticut

(service waived)

Mr. Henry J. Wolfson
179 Bayberry Lane
Westport, Connecticut

(service waived)

Mr. Melvin H. Barr
Planning Director
Town of Westport
110 Myrtle Avenue
P.O. Box 549
Westport, Connecticut 06881

(service waived)

Mr. Mark Infeld
6 Apache Trail
Westport, Connecticut

(service waived)

Ms. Barbara Saipe
Representative Town
Meeting Member
District #8
Town Hall
P.O. Box 549
Westport, Connecticut 06881

(service waived)

Ms. Peggy Goldenberg
201 Bayberry Lane
Westport, Connecticut

(service waived)

Ms. Martha Hauhuth
Board of Selectman
Town Hall
P.O. Box 549
Westport, Connecticut 06881

(service waived)

Ms. Meg Coffee
32 Otter Trail
Westport, Connecticut

(service waived)

CERTIFICATION

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 September, 1984.

<u>Council Members</u>	<u>Vote Cast</u>
<u>Gloria Dibble Pond</u> Gloria Dibble Pond Chairperson	Yes
<u>Commissioner John Downey</u> Designee: Commissioner Peter G. Boucher	Absent
<u>Commissioner Stanley Pac</u>	Absent
<u>Owen L. Clark</u>	Yes
<u>Fred J. Doocy</u>	Yes
<u>Mortimer A. Gelston</u>	Yes
<u>James G. Horsfall</u>	Yes
<u>Janet Sitty</u>	Yes
<u>Colin C. Tait</u>	Absent

STATE OF CONNECTICUT

)

COUNTY OF HARTFORD


:

)

ss. New Britain, September 14, 1984

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



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

AT&T Existing Facility

Site ID: **CTL02108**

Norwalk West-CT Ave.
613 Connecticut Avenue
Norwalk, CT 06850

FA#: 10034974

USID: 60395

PTN Numbers: 2051A0D0Q3, 2051A0CZR8, 2051A0CZJM, 2051A0EDXG
PACE Job #'s MRCTB025283, MRCTB025338, MRCTB025304, MRCTB026716

April 17, 2018

EBI Project Number: 6218002900

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	3.32 %



April 17, 2018

AT&T Mobility – New England
Attn: John Benedetto, RF Manager
550 Cochituate Road
Suite 550 – 13&14
Framingham, MA 06040

Emissions Analysis for Site: **CTL02108 – Norwalk West-CT Ave.**

EBI Consulting was directed to analyze the proposed AT&T facility located at **613 Connecticut Avenue, Norwalk, CT**, for the purpose of determining whether the emissions from the Proposed AT&T Antenna Installation located on this property are within specified federal limits.

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

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

General population/uncontrolled exposure limits apply to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The general population exposure limits for the 700 and 850 MHz Bands are approximately $467 \mu\text{W}/\text{cm}^2$ and $567 \mu\text{W}/\text{cm}^2$ respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 2300 MHz (WCS) bands is $1000 \mu\text{W}/\text{cm}^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.



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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed AT&T Wireless antenna facility located at **613 Connecticut Avenue, Norwalk, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since AT&T is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

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

- 1) 2 UMTS channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 2) 4 LTE channels (700 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 3) 4 LTE channels (2100 MHz (AWS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 4) 4 LTE channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 5) 2 LTE channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 6) 2 LTE channels (700 MHz (Band 14)) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.



- 7) 4 LTE channels (2300 MHz (WCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 8) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
- 9) For the following calculations the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 10) The antennas used in this modeling are the **Powerwave 7770, Quintel QS66512-2 and the Commscope SBNHH-1D65A** for transmission in the 700 MHz, 850 MHz, 1900 MHz (PCS), 2100 MHz (AWS) and 2300 MHz (WCS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 11) The antenna mounting height centerlines of the proposed antennas are **153 feet** above ground level (AGL) for **Sector A**, **153 feet** above ground level (AGL) for **Sector B** and **153 feet** above ground level (AGL) for Sector C.
- 12) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

All calculations were done with respect to uncontrolled / general public threshold limits.



AT&T Site Inventory and Power Data by Antenna

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Powerwave 7770	Make / Model:	Powerwave 7770	Make / Model:	Powerwave 7770
Gain:	11.4 dBd	Gain:	11.4 dBd	Gain:	11.4 dBd
Height (AGL):	153 feet	Height (AGL):	153 feet	Height (AGL):	153 feet
Frequency Bands	850 MHz	Frequency Bands	850 MHz	Frequency Bands	850 MHz
Channel Count	2	Channel Count	2	Channel Count	2
Total TX Power(W):	60 Watts	Total TX Power(W):	60 Watts	Total TX Power(W):	60 Watts
ERP (W):	828.23	ERP (W):	828.23	ERP (W):	828.23
Antenna A1 MPE%	0.24 %	Antenna B1 MPE%	0.24 %	Antenna C1 MPE%	0.24 %
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	Quintel QS66512-2	Make / Model:	Quintel QS66512-2	Make / Model:	Quintel QS66512-2
Gain:	10.85 / 13.85 / 14.35 dBd	Gain:	10.85 / 13.85 / 14.35 dBd	Gain:	10.85 / 13.85 / 14.35 dBd
Height (AGL):	153 feet	Height (AGL):	153 feet	Height (AGL):	153 feet
Frequency Bands	700 MHz / 1900 MHz (PCS) / 2100 MHz (AWS)	Frequency Bands	700 MHz / 1900 MHz (PCS) / 2100 MHz (AWS)	Frequency Bands	700 MHz / 1900 MHz (PCS) / 2100 MHz (AWS)
Channel Count	10	Channel Count	10	Channel Count	10
Total TX Power(W):	360 Watts	Total TX Power(W):	360 Watts	Total TX Power(W):	360 Watts
ERP (W):	8,122.77	ERP (W):	8,122.77	ERP (W):	8,122.77
Antenna A2 MPE%	1.53 %	Antenna B2 MPE%	1.53 %	Antenna C2 MPE%	1.53 %
Antenna #:	3	Antenna #:	3	Antenna #:	3
Make / Model:	CommScope SBNHH-1D65A	Make / Model:	CommScope SBNHH-1D65A	Make / Model:	CommScope SBNHH-1D65A
Gain:	10.85 dBd	Gain:	10.85 dBd	Gain:	10.85 dBd
Height (AGL):	153 feet	Height (AGL):	153 feet	Height (AGL):	153 feet
Frequency Bands	700 MHz	Frequency Bands	700 MHz	Frequency Bands	700 MHz
Channel Count	2	Channel Count	2	Channel Count	2
Total TX Power(W):	80 Watts	Total TX Power(W):	80 Watts	Total TX Power(W):	80 Watts
ERP (W):	972.95	ERP (W):	972.95	ERP (W):	972.95
Antenna A3 MPE%	0.35 %	Antenna B3 MPE%	0.35 %	Antenna C3 MPE%	0.35 %
Antenna #:	4	Antenna #:	4	Antenna #:	4
Make / Model:	CommScope SBNHH-1D65A	Make / Model:	CommScope SBNHH-1D65A	Make / Model:	CommScope SBNHH-1D65A
Gain:	10.85 / 10.65 / 15.85 dBd	Gain:	10.85 / 10.65 / 15.85 dBd	Gain:	10.85 / 10.65 / 15.85 dBd
Height (AGL):	153 feet	Height (AGL):	153 feet	Height (AGL):	153 feet
Frequency Bands	700 MHz / 850 MHz / 2300 MHz (WCS)	Frequency Bands	700 MHz / 850 MHz / 2300 MHz (WCS)	Frequency Bands	700 MHz / 850 MHz / 2300 MHz (WCS)
Channel Count	7	Channel Count	7	Channel Count	7
Total TX Power(W):	250 Watts	Total TX Power(W):	250 Watts	Total TX Power(W):	250 Watts
ERP (W):	5,363.43	ERP (W):	5,363.43	ERP (W):	5,363.43
Antenna A3 MPE%	1.20 %	Antenna B3 MPE%	1.20 %	Antenna C3 MPE%	1.20 %

Site Composite MPE%	
Carrier	MPE%
AT&T – Max per sector	3.32 %
No Additional Carriers	NA
Site Total MPE %:	3.32 %

AT&T Sector A Total:	3.32 %
AT&T Sector B Total:	3.32 %
AT&T Sector C Total:	3.32 %
Site Total:	3.32 %



AT&T Max Values Per Sector:

AT&T _ Frequency Band / Technology Max Power Values (Per Sector)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
AT&T 850 MHz UMTS (Antenna 1)	2	414.12	153	1.38	850 MHz	567	0.24%
AT&T 700 MHz LTE (Antenna 2)	2	486.47	153	1.62	700 MHz	467	0.35%
AT&T 1900 MHz (PCS) LTE (Antenna 2)	4	970.64	153	6.46	1900 MHz (PCS)	1000	0.64%
AT&T 2100 MHz (AWS) LTE (Antenna 2)	4	816.81	153	5.44	2100 MHz (AWS)	1000	0.54%
AT&T 700 MHz LTE – Band 14 (Antenna 3)	2	486.47	153	1.62	700 MHz	467	0.35%
AT&T 700 MHz LTE (Antenna 4)	2	486.47	153	1.62	700 MHz	467	0.35%
AT&T 850 MHz LTE (Antenna 4)	2	464.58	153	1.55	850 MHz	567	0.27%
AT&T 2300 MHz (WCS) LTE (Antenna 4)	3	1,153.78	153	5.76	2300 MHz (WCS)	1000	0.58%
						Total:	3.32%



Summary

All calculations performed for this analysis yielded results that were **within** the allowable limits for general public exposure to RF Emissions.

The anticipated maximum composite contributions from the AT&T facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general public exposure to RF Emissions are shown here:

AT&T Sector	Power Density Value (%)
Sector A:	3.32 %
Sector B:	3.32 %
Sector C:	3.32 %
AT&T Maximum Total (per sector):	3.32 %
Site Total:	3.32 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **3.32 %** of the allowable FCC established general public limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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

600 CONNECTICUT AVE

Location 600 CONNECTICUT AVE

Mblu 5/ 69/ 61/ 0/

Acct# 22907

Owner HOME DEPOT USA INC

Assessment \$20,813,260

Appraisal \$29,733,220

PID 22907

Building Count 2

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2015	\$13,900,880	\$15,832,340	\$29,733,220

Assessment			
Valuation Year	Improvements	Land	Total
2015	\$9,730,620	\$11,082,640	\$20,813,260

Owner of Record

Owner HOME DEPOT USA INC

Sale Price \$17,750,000

Co-Owner

Certificate

Address ATTN PROP TAX DEPT #6204

Book & Page 3254/22

PO BOX 105842

Sale Date 09/06/1996

ATLANTA, GA 30348-5842

Instrument 25

Ownership History

Ownership History					
Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
HOME DEPOT USA INC	\$17,750,000		3254/22	25	09/06/1996
BTS NORWALK LIMITED PARTNER	\$17,750,000		3254/22		09/06/1996
HOBBS ENGINEERING COMPANY	\$0		2237/206		08/08/1988
HOBBS INTERNATIONAL INC	\$0		1357/237	07	06/24/1981
HOBBS EQUIPMENT COMPANY INC	\$0		0/0		

Building Information

Building 1 : Section 1

Year Built: 1996

Living Area: 115,146

Replacement Cost: \$11,976,710

Building Percent 92

Good:

Replacement Cost

Less Depreciation: \$7,817,830

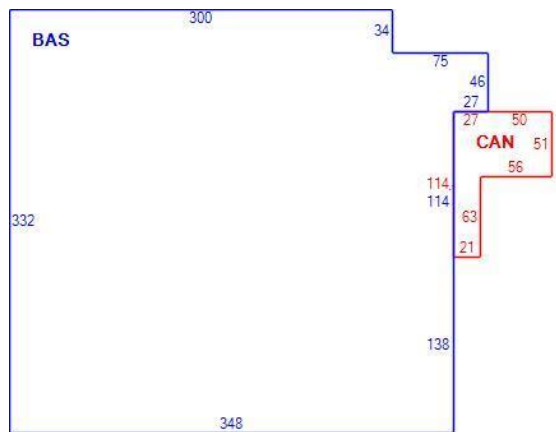
Building Attributes	
Field	Description
STYLE	Retail
MODEL	Commercial
Stories:	1.00
Occupancy	1.00
Exterior Wall 1	Precast Panel
Exterior Wall 2	
Roof Structure	Flat
Roof Cover	Rolled Compos
Interior Wall 1	Minimum
Interior Wall 2	
Interior Floor 1	Concrete
Interior Floor 2	
Heating Fuel	Gas
Heating Type	Forced Air
AC Percent	100
Heat Percent	100
Bldg Use	Commercial Improved
Total Rooms	0
Bedrooms	0
FBM Area	
Heat/AC	Heat/AC Pkg
Frame	Steel
Plumbing	Average
Foundation	Slab
Partitions	Light
Wall Height	26.00
% Sprinkler	100.00

Building Photo



(<http://images.vgsi.com/photos/NorwalkCTPhotos//00\00\67\32>).

Building Layout



(ParcelSketch.ashx?pid=22907&bid=22907)

Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	115,146	115,146
CAN	Canopy	5,250	0
		120,396	115,146

Building 2 : Section 1

Year Built: 1996

Living Area: 172,328

Replacement Cost: \$6,191,745

Building Percent 92

Good:

Replacement Cost

Less Depreciation: \$5,696,410

Building Attributes : Bldg 2 of 2

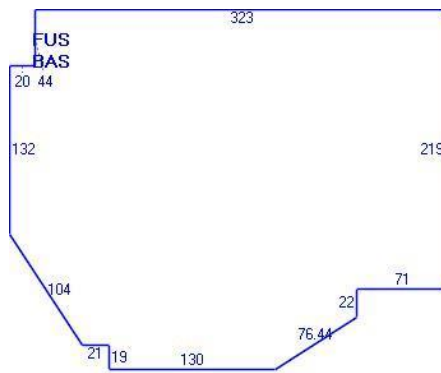
Field	Description
STYLE	Parking Garage
MODEL	Commercial
Stories:	1.00
Occupancy	1.00
Exterior Wall 1	Vinyl Siding
Exterior Wall 2	
Roof Structure	Flat
Roof Cover	Tar and Gravel
Interior Wall 1	Minimum
Interior Wall 2	
Interior Floor 1	Concrete
Interior Floor 2	
Heating Fuel	None
Heating Type	None
AC Percent	0
Heat Percent	100
Bldg Use	Commercial Improved
Total Rooms	0
Bedrooms	0
FBM Area	
Heat/AC	None
Frame	Masonry
Plumbing	Average
Foundation	Poured Conc
Partitions	Average
Wall Height	8.00
% Sprinkler	0.00

Building Photo



(<http://images.vgsi.com/photos/NorwalkCTPhotos//00\00\90\30>).

Building Layout



(ParcelSketch.ashx?pid=22907&bid=50840)

Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	86,164	86,164
FUS	Finished Upper Story	86,164	86,164
		172,328	172,328

Extra Features

Extra Features				Legend
Code	Description	Size	Value	Bldg #
ELV1	Pass Elevator	2.00 UNITS	\$82,800	1
SPR	Sprinklers	115146.00 S.F.	\$230,290	1

Lana**Land Use**

Use Code 201V
Description Commercial Improved
Zone B2
Neighborhood C320

Land Line Valuation

Size (Acres) 9.75
Frontage
Depth
Assessed Value \$11,082,640
Appraised Value \$15,832,340

Outbuildings

Outbuildings						Legend
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
LT1	Light 1			7.00 UNITS	\$3,500	1
PAV1	Paving Asph.			5000.00 S.F.	\$5,250	1
FUEL	Fuel Cell	Ext	Energy Cell	200.00 KW	\$64,800	1

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2015	\$13,817,660	\$15,832,340	\$29,650,000
2014	\$13,817,660	\$15,832,340	\$29,650,000
2013	\$17,018,400	\$15,832,340	\$29,650,000

Assessment			
Valuation Year	Improvements	Land	Total
2015	\$9,672,370	\$11,082,640	\$20,755,010
2014	\$9,672,370	\$11,082,640	\$20,755,010
2013	\$9,672,360	\$11,082,640	\$20,755,000

Date: **March 1, 2018**

Marianne Dunst
Crown Castle
3530 Toringdon Way, Suite 300
Charlotte, NC 28277

JACOBS[®]
Jacobs Engineering Group, Inc.
5449 Bells Ferry Road
Acworth, GA 30102
(770) 701-2500

Subject: **Structural Analysis Report**

Carrier Designation: **AT&T Mobility Co-Locate**
Carrier Site Number: CTL02108
Carrier Site Name: NORWALK WEST - CT Ave,

Crown Castle Designation: **Crown Castle BU Number:** 841287
Crown Castle Site Name: NORWALK WEST- CT AVE
Crown Castle JDE Job Number: 482696
Crown Castle Work Order Number: 1522401
Crown Castle Application Number: 424185 Rev. 2

Engineering Firm Designation: **Jacobs Engineering Group, Inc. Project Number:** 1522401

Site Data: **600 Connecticut Ave, NORWALK, Fairfield County, CT**
Latitude 41° 5' 49.45", Longitude -73° 26' 56.61"
150 Foot - Monopole Tower

Dear Marianne Dunst,

Jacobs Engineering Group, Inc. 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 1148854, in accordance with application 424185, revision 2.

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:

LC5: Existing + Proposed Equipment

Sufficient Capacity

Note: See Table I and Table II for the proposed and existing loading, respectively.

This analysis has been performed in accordance with the 2016 Connecticut State Building Code based upon an ultimate 3-second gust wind speed of 115 mph converted to a nominal 3-second gust wind speed of 89 mph per section 1609.3.1 and Appendix N as required for use in the TIA-222-G Standard per Exception #5 of Section 1609.1.1. Exposure Category B and Risk Category II were used in this analysis.

All modifications and 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 Jacobs Engineering Group, Inc. 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:



Narendra Malviya
Structural Engineer



Reviewed by:
2018-03-02
T10:12:06-05:00

Paul L. Mucci, P.E.
Senior Project Engineer

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1) INTRODUCTION

This tower is a 150 ft Monopole tower designed by AT&T in April of 1984. The originally design standard and wind speed are unknown. The tower has been modified as per reinforcement drawings prepared by GPD Group in December of 2011.

2) ANALYSIS CRITERIA

The structural analysis was performed for this tower in accordance with the requirements of TIA-222-G Structural Standard for Antenna Supporting Structures and Antennas using a 3-second gust wind speed of 89 mph with no ice, 50 mph with 0.75 inch ice thickness and 60 mph under service loads, exposure category B with topographic category 1.

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
152.0	152.0	3	andrew	SBNHH-1D65A w/ Mount Pipe	3	3/4	-
		3	ericsson	RRUS 32 B2			
		3	ericsson	RRUS 32 B66			
		3	ericsson	RRUS 4478 B14			
		6	powerwave technologies	7020.00			
		3	quintel technology	QS66512-2 w/ Mount Pipe			
		1	raycap	DC6-48-60-18-8F			

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
152.0	152.0	3	kmw communications	AM-X-CD-14-65-00T-RET w/ Mount Pipe	-	-	2
		3	ericsson	RRUS 11 B12	12 4 3	1-5/8 3/8 3/4	1
		3	ericsson	RRUS 11 B12			
		3	ericsson	RRUS 32			
		3	andrew	SBNHH-1D65A w/ Mount Pipe			
		3	powerwave technologies	7770.00 w/ Mount Pipe			
		6	powerwave technologies	LGP21401			
		2	raycap	DC6-48-60-18-8F			
		1	tower mounts (crown)	Platform Mount [LP 603-1]			
		1	tower mounts (crown)	Side Arm Mount [SO 202-3]			

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)
Unknown						

3) ANALYSIS PROCEDURE

Table 4 - Documents Provided

Document	Remarks	Reference	Source
4-GEOTECHNICAL REPORTS	FDH Engineering, Inc.	5344374	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	FDH Engineering, Inc. (Mapping)	4710140	CCISITES
4-TOWER MANUFACTURER DRAWINGS	AT&T Technologies	5968178	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	GPD Group	5344563	CCISITES
4-POST-MODIFICATION INSPECTION	GPD Group	6044141	CCISITES
4-POST-MODIFICATION INSPECTION	Centek Engineering	6007753	CCISITES

3.1) Analysis Method

tnxTower (version 7.0.8.5), 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) Steel reinforcement in the pad portion of the foundation was not given and minimum steel reinforcement was assumed.

This analysis may be affected if any assumptions are not valid or have been made in error. Jacobs Engineering Group, Inc. 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	% Capacity	Pass / Fail
L1	150 - 145	Pole	TP15.254x14.5x0.25	Pole	33.1%	Pass
L2	145 - 140	Pole	TP16.008x15.254x0.25	Pole	53.0%	Pass
L3	140 - 139.583	Pole	TP16.071x16.008x0.25	Pole	54.6%	Pass
L4	139.583 - 139.333	Pole + Reinf.	TP16.109x16.071x0.55	Pole	26.7%	Pass
L5	139.333 - 134.333	Pole + Reinf.	TP16.863x16.109x0.525	Pole	36.1%	Pass
L6	134.333 - 129.333	Pole + Reinf.	TP17.617x16.863x0.5125	Pole	44.9%	Pass
L7	129.333 - 124.333	Pole + Reinf.	TP18.371x17.617x0.5	Pole	53.3%	Pass
L8	124.333 - 119.333	Pole + Reinf.	TP19.125x18.371x0.4875	Pole	61.2%	Pass
L9	119.333 - 114.333	Pole + Reinf.	TP19.88x19.125x0.475	Pole	68.7%	Pass
L10	114.333 - 110	Pole + Reinf.	TP20.533x19.88x0.4625	Pole	74.9%	Pass
L11	110 - 109.75	Pole + Reinf.	TP20.571x20.533x0.5625	Reinf. 4 Tension Rupture	53.1%	Pass
L12	109.75 - 104.75	Pole + Reinf.	TP21.325x20.571x0.55	Reinf. 4 Tension Rupture	58.0%	Pass
L13	104.75 - 99.75	Pole + Reinf.	TP22.079x21.325x0.5375	Reinf. 4 Tension Rupture	62.7%	Pass
L14	99.75 - 94.75	Pole + Reinf.	TP22.833x22.079x0.525	Reinf. 4 Tension Rupture	67.3%	Pass
L15	94.75 - 89.75	Pole + Reinf.	TP23.587x22.833x0.5125	Reinf. 4 Tension Rupture	71.6%	Pass
L16	89.75 - 84.75	Pole + Reinf.	TP24.341x23.587x0.5	Reinf. 4 Tension Rupture	75.8%	Pass
L17	84.75 - 81.5	Pole + Reinf.	TP24.832x24.341x0.5	Reinf. 4 Tension Rupture	78.4%	Pass
L18	81.5 - 81.25	Pole + Reinf.	TP24.869x24.832x0.5	Reinf. 3 Tension Rupture	78.6%	Pass
L19	81.25 - 76.25	Pole + Reinf.	TP25.624x24.869x0.4875	Reinf. 3 Tension Rupture	82.4%	Pass
L20	76.25 - 71.25	Pole + Reinf.	TP26.378x25.624x0.475	Reinf. 3 Tension Rupture	86.1%	Pass
L21	71.25 - 66	Pole + Reinf.	TP27.17x26.378x0.475	Reinf. 3 Tension Rupture	87.1%	Pass
L22	66 - 65	Pole + Reinf.	TP26.82x26.066x0.537	Reinf. 3 Tension Rupture	82.5%	Pass
L23	65 - 60	Pole + Reinf.	TP27.574x26.82x0.5308	Reinf. 3 Tension Rupture	85.4%	Pass
L24	60 - 55	Pole + Reinf.	TP28.329x27.574x0.5245	Reinf. 3 Tension Rupture	88.2%	Pass
L25	55 - 51.25	Pole + Reinf.	TP28.894x28.329x0.5183	Reinf. 3 Tension Rupture	90.2%	Pass
L26	51.25 - 51	Pole + Reinf.	TP28.932x28.894x0.5995	Reinf. 2 Tension Rupture	76.4%	Pass
L27	51 - 46	Pole + Reinf.	TP29.686x28.932x0.5995	Reinf. 2 Tension Rupture	78.8%	Pass
L28	46 - 41	Pole + Reinf.	TP30.44x29.686x0.587	Reinf. 2 Tension Rupture	81.0%	Pass
L29	41 - 36	Pole + Reinf.	TP31.194x30.44x0.5745	Reinf. 2 Tension Rupture	83.1%	Pass
L30	36 - 31	Pole + Reinf.	TP31.948x31.194x0.5745	Reinf. 2 Tension Rupture	85.2%	Pass
L31	31 - 27	Pole + Reinf.	TP32.552x31.948x0.5745	Reinf. 2 Tension Rupture	85.6%	Pass
L32	27 - 26.25	Pole + Reinf.	TP32.041x31.475x0.6375	Reinf. 2 Tension Rupture	80.9%	Pass
L33	26.25 - 26	Pole + Reinf.	TP32.079x32.041x0.6375	Reinf. 1 Tension Rupture	81.0%	Pass
L34	26 - 21	Pole + Reinf.	TP32.833x32.079x0.625	Reinf. 1 Tension Rupture	82.5%	Pass
L35	21 - 16	Pole + Reinf.	TP33.587x32.833x0.625	Reinf. 1 Tension Rupture	84.0%	Pass
L36	16 - 11	Pole + Reinf.	TP34.341x33.587x0.6125	Reinf. 1 Tension Rupture	85.4%	Pass
L37	11 - 6	Pole + Reinf.	TP35.095x34.341x0.6125	Reinf. 1 Tension Rupture	86.6%	Pass
L38	6 - 1	Pole + Reinf.	TP35.849x35.095x0.6	Reinf. 1 Tension Rupture	87.8%	Pass
L39	1 - 0	Pole + Reinf.	TP36x35.849x0.6	Reinf. 1 Tension Rupture	88.1%	Pass
					Summary	
				Pole	74.8%	Pass
				Reinforcement	90.2%	Pass
				Overall	90.2%	Pass

Table 6 - Tower Component Stresses vs. Capacity – LC5

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	78.3	Pass
1	Base Plate	0	57.9	Pass
1	Base Foundation (Structural)	0	34.6	Pass
1	Base Foundation (Soil Interaction)	0	53.4	Pass
Structure Rating (max from all components) =				90.2%

Notes:

- 1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.

4.1) Recommendations

The tower and its foundation have sufficient capacity to carry the proposed load configuration. No modifications are required at this time.



PROJECT: LTE 4C/5C/6C/7C
SITE NUMBER: CTL02108
FA NUMBER: 10034974
PTN NUMBER: 2051A0D0Q3, 2051A0CZR8, 2051A0CZJM, 2051A0EDXG
PACE NUMBER: MRCTB025283, MRCTB025338, MRCTB025304, MRCTB026716
CROWN BU#: 841287
SITE NAME: NORWALK WEST-CT AVE.
SITE ADDRESS: 613 CONNECTICUT AVENUE
 NORWALK, CT 06850



PROJECT INFORMATION

SITE NAME: NORWALK WEST-CT AVE.
SITE NUMBER: CTL02108
SITE ADDRESS: 613 CONNECTICUT AVENUE NORWALK, CT 06850
FA NUMBER: 10034974
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PACE NUMBER: MRCTB025283, MRCTB025338, MRCTB025304, MRCTB026716
USID NUMBER: 60395
CROWN BU#: 841287
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: CITY OF NORWALK
COUNTY: FAIRFIELD
SITE COORDINATES FROM (RFDS):
LATITUDE: 41.097075°
LONGITUDE: -73.449055°
GROUND ELEV.: 152'
PROPOSED USE: TELECOMMUNICATIONS FACILITY
AT&T RF MANAGER: DEEPAK RATHORE
PHONE: (860) 965-3068
EMAIL: dr701e@att.com

SCOPE OF WORK

LTE 850/700/AWS/700 WILL BE 4C/5C/6C/7C AT THE SITE WITH BRONZE CONFIGURATION. PROPOSED 4C/5C/6C/7C PROJECT SCOPE HEREIN BASED ON RFDS ID # 1811293, VERSION 2.00 LAST UPDATED 11/06/17.

- (3) NEW ANTENNAS TO REPLACE (3) EXISTING ANTENNAS
- (3) NEW RRUS-32 B66
- (3) NEW RRUS-B14 4478
- (3) NEW RRUS-12
- (3) NEW RRUS-E2
- (1) NEW RAYCAP UNIT
- (2) DC POWER CABLES

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	11/13/17	90% REVIEW	EB
1	12/18/17	FOR PERMIT	KC
2	02/21/18	FOR CONSTRUCTION	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 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
A9	PLUMBING DIAGRAMS

PROJECT CONSULTANTS

PROJECT MANAGER: SMARTLINK
 85 RANGEWAY ROAD, SUITE 102 NORTH BILLERICA, MA 01862
CONTACT: EDWARD WEISSMAN (917) 528-1857
EMAIL: Edward.Weissman@smartlinkllc.com

SITE ACQUISITION: SMARTLINK
 85 RANGEWAY ROAD, SUITE 102 NORTH BILLERICA, MA 01862
CONTACT: SHARON KEEFE (978) 930-3918
EMAIL: Sharon.Keefe@smartlinkllc.com

ENGINEER/ARCHITECT: FULLERTON ENGINEERING
 1100 E. WOODFIELD ROAD, SUITE 500 SCHAUMBURG, IL 60173
CONTACT: MILEN DIMITROV (847) 908-8439
EMAIL: MDimitrov@FullertonEngineering.com

CONSTRUCTION: SMARTLINK
 85 RANGEWAY ROAD, SUITE 102 NORTH BILLERICA, MA 01862
CONTACT: MARK DONNELLY (617) 515-2080
EMAIL: mark.donnely@smartlinkllc.com

DIRECTIONS

SCAN QR CODE FOR LINK TO SITE LOCATION MAP



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

SITE NAME:
NORWALK WEST-CT AVE.

SITE NUMBER:
CTL02108

SITE ADDRESS:
613 CONNECTICUT AVENUE NORWALK, CT 06850

SHEET NAME:
TITLE SHEET

SHEET NUMBER:
T1

GENERAL CONSTRUCTION

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

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

ANTENNA MOUNTING

- DESIGN AND CONSTRUCTION OF ANTENNA SUPPORTS SHALL

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



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REV	DATE	DESCRIPTION	BY
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SITE NAME
**NORWALK
WEST-CT AVE.**

SITE NUMBER:
CTL02108

SITE ADDRESS
**613 CONNECTICUT AVENUE
NORWALK, CT 06850**

SHEET NAME
**NOTES AND
SPECIFICATIONS**

SHEET NUMBER
SP1

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NOTICE

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

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

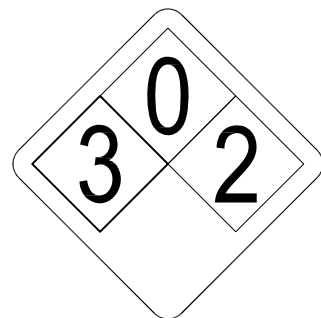
Ref: 47CFR 1.1307(b)

CAUTION

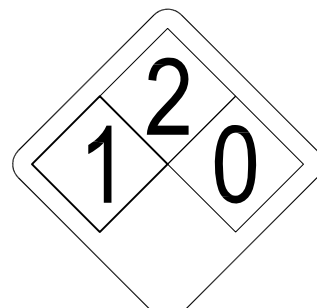
Beyond This Point you are entering a controlled area where RF emissions *may exceed* the FCC Occupational Exposure Limits.

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

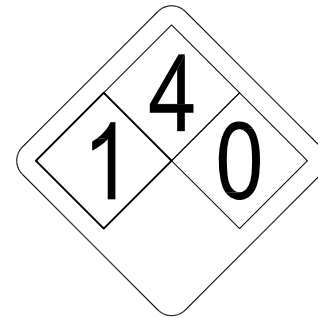
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ALERTING SIGN
(FOR CELL SITE BATTERIES)



ALERTING SIGN
(FOR DIESEL FUEL)



ALERTING SIGN
(FOR PROPANE)

550 COCHITUATE ROAD
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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
TOWERS							
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	
TOWERS							
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		
CHURCH STEEPLES	ACCESS TO STEEPLE	ADJACENT TO ANTENNAS IF ANTENNAS ARE CONCEALED	ON BACKSIDE OF ANTENNAS	ACCESS TO STEEPLE			CAUTION SIGN AT THE ANTENNAS
WATER STATIONS	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 # _____

REV	DATE	DESCRIPTION	BY
0	11/13/17	90% REVIEW	EB
1	12/18/17	FOR PERMIT	KC
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NORWALK WEST-CT AVE.

SITE NUMBER:

CTL02108

SITE ADDRESS

613 CONNECTICUT AVENUE NORWALK, CT 06850

SHEET NAME

NOTES AND SPECIFICATIONS

SHEET NUMBER

SP2

INFO SIGN #1

INFO SIGN #2

INFO SIGN #3

SIGNAGE GUIDELINES CHART

NOTES FOR ROOFTOP SITES:

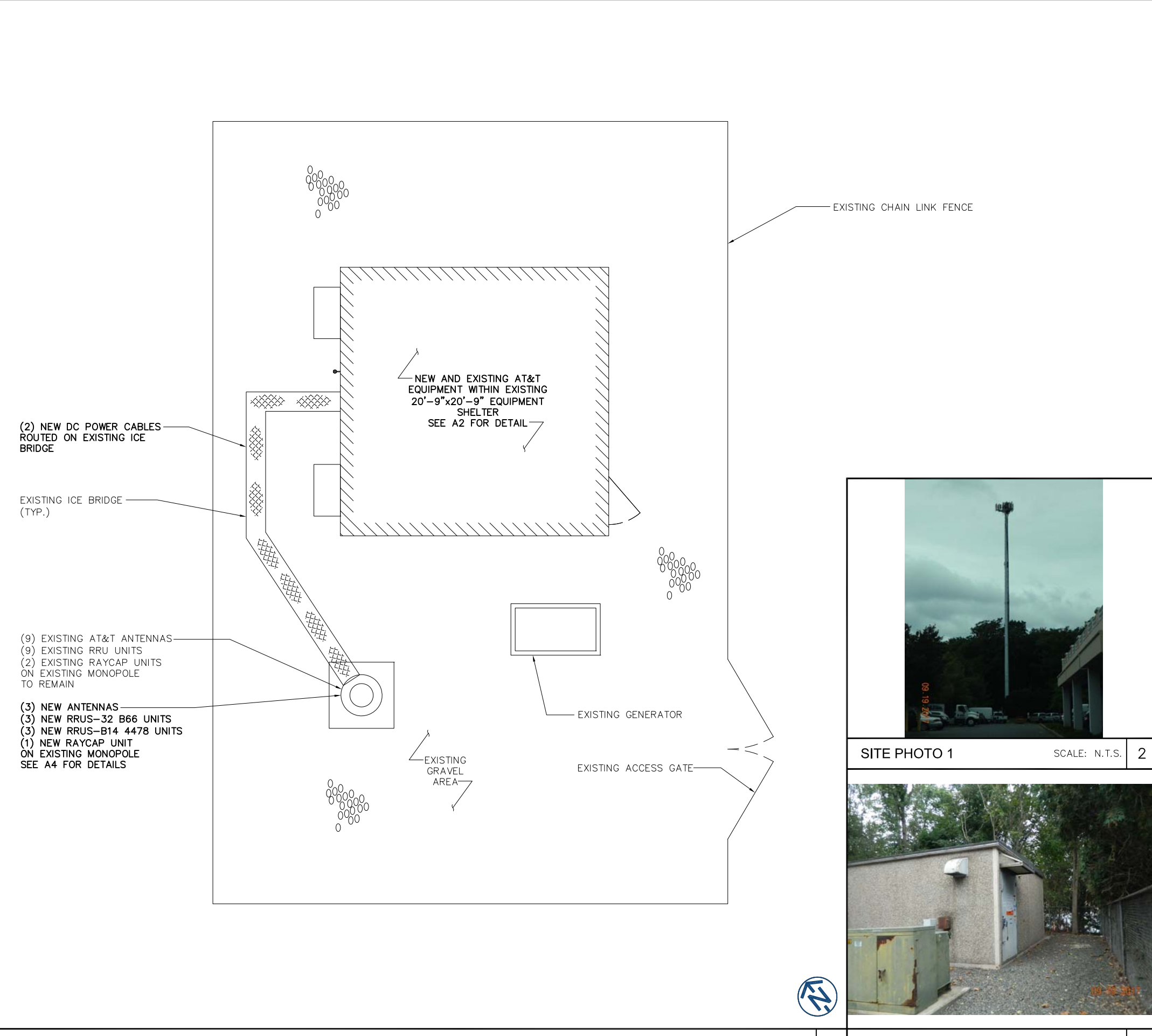
- EITHER NOTICE OR CAUTION SIGNS NEED TO BE POSTED AT EACH SECTOR AS CLOSE AS POSSIBLE TO: THE OUTER EDGE OF THE STRIPED OFF AREA OR THE OUTER ANTENNAS OF THE SECTOR
- IF ROOFVIEWS SHOWS: ONLY BLUE = NOTICE SIGN, BLUE AND YELLOW = CAUTION SIGN, ONLY YELLOW = CAUTION SIGN TO BE INSTALLED
- SHOULD THE 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



COMPOUND PLAN

SCALE: 1/8" = 1'-0"

1



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SHEET NAME

**COMPOUND
PLAN**

SHEET NUMBER

A1



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



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

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SUITE 140
HANOVER, MD 21076



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SCHAUMBURG, ILLINOIS 60173
TEL: 847-908-8400
COA# PEC.0001444
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0	11/13/17	90% REVIEW	EB
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2	02/21/18	FOR CONSTRUCTION	EB

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SITE NAME

**NORWALK
WEST-CT AVE.**

SITE NUMBER:

CTL02108

SITE ADDRESS

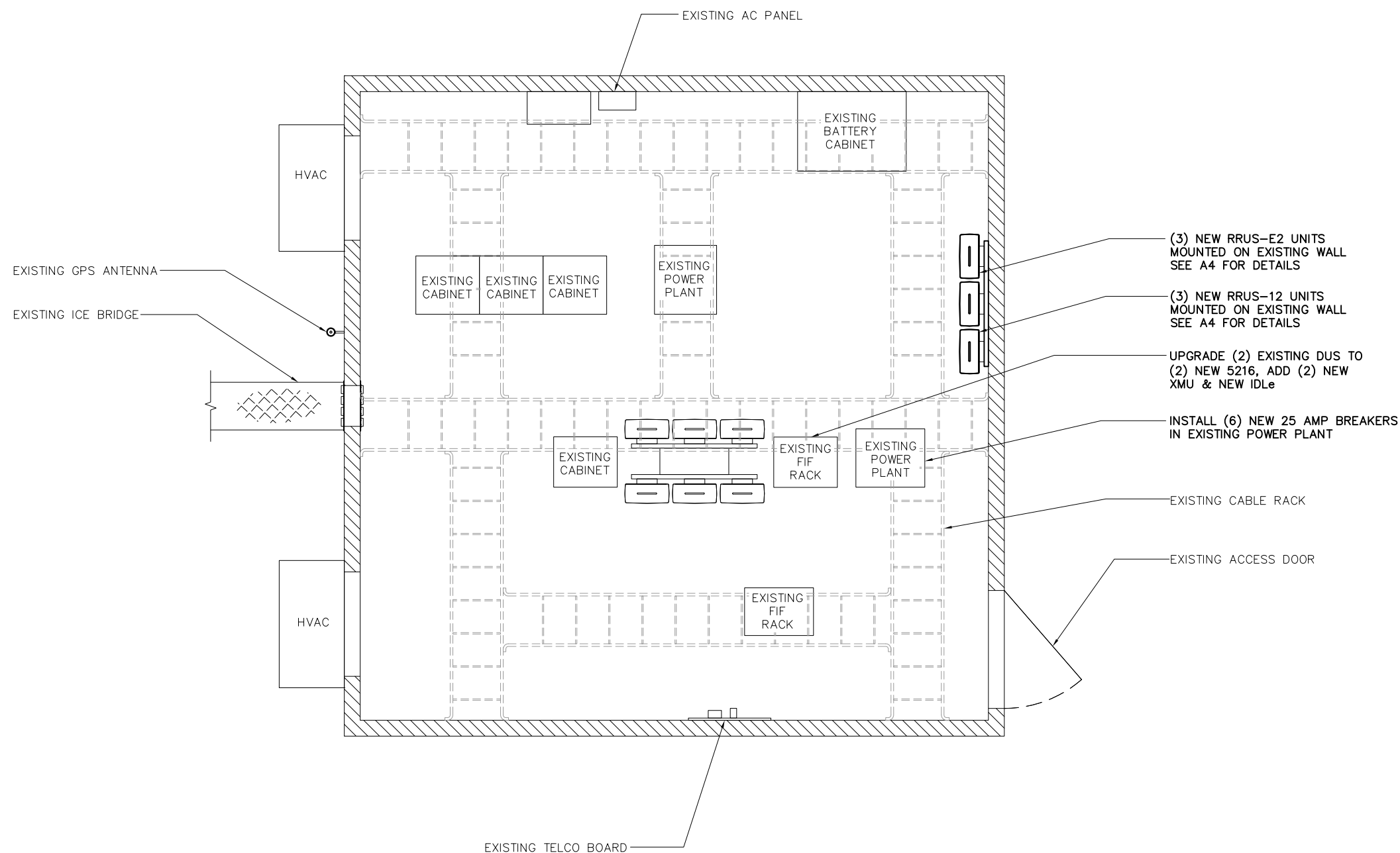
**613 CONNECTICUT AVENUE
NORWALK, CT 06850**

SHEET NAME

**EQUIPMENT
PLAN**

SHEET NUMBER

A2



NOTES:

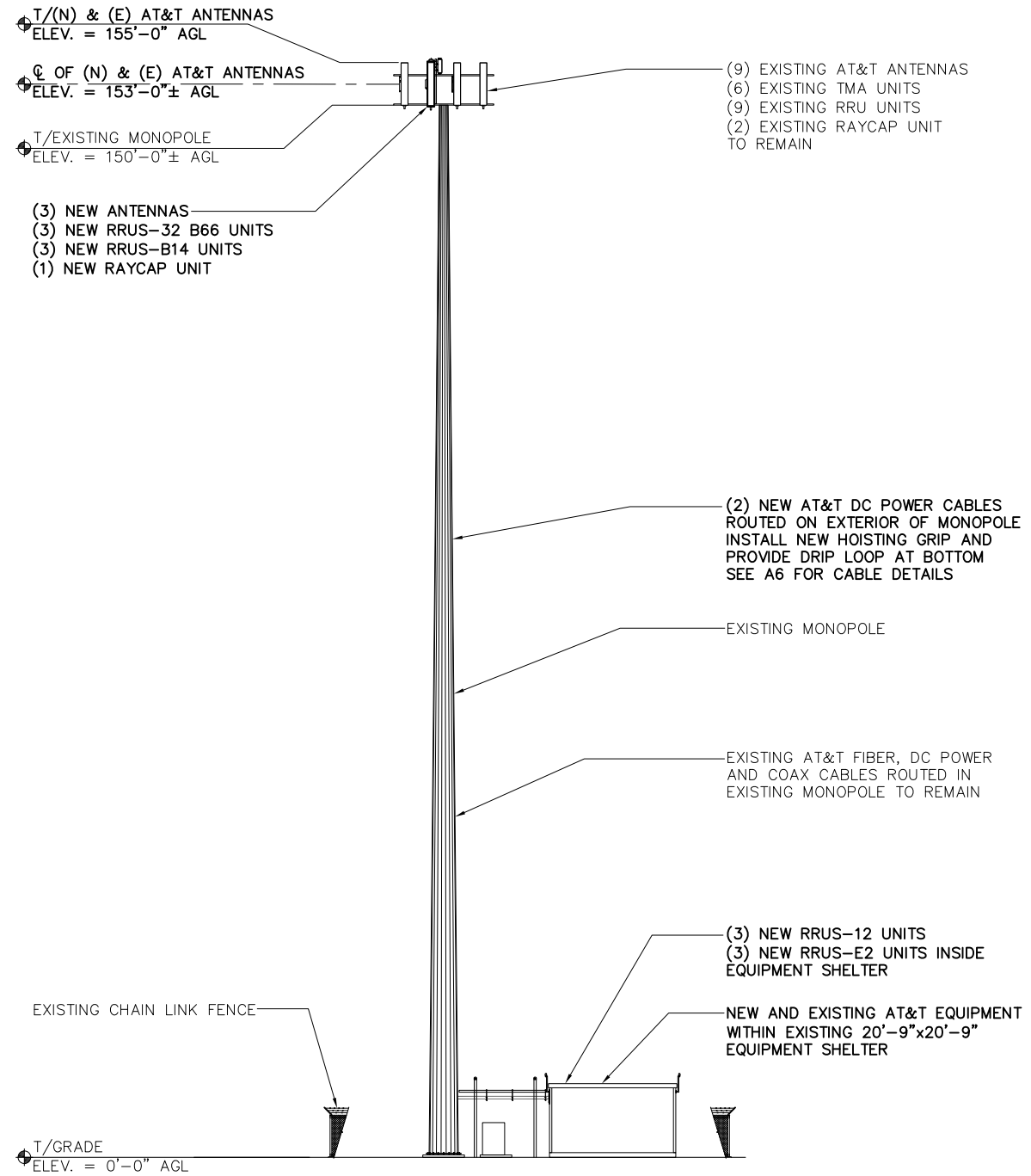
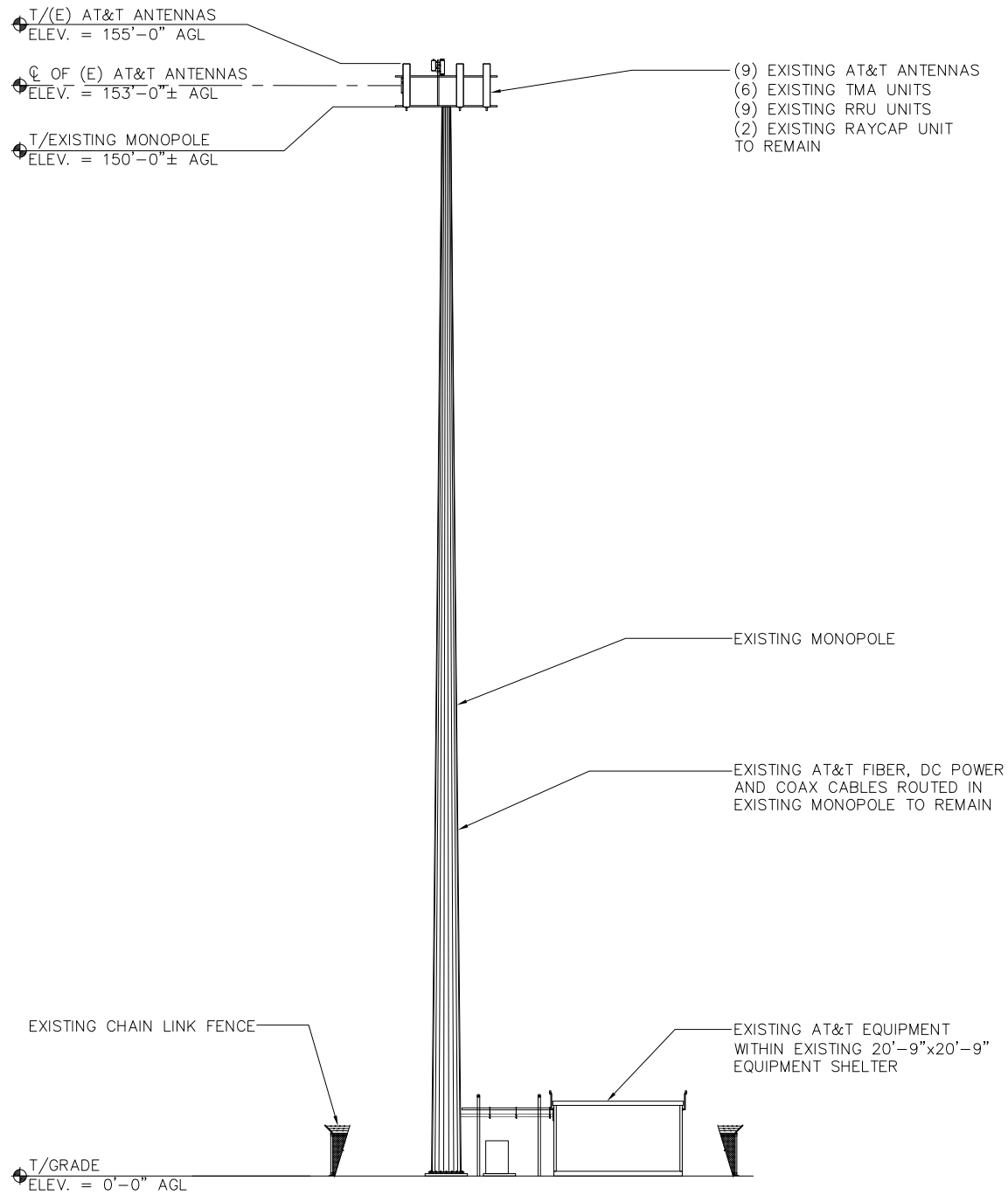
1. CALCULATIONS FOR THE STRUCTURE WERE PREPARED BY OTHERS AND THOSE CALCULATIONS CERTIFY THE CAPACITY OF THE STRUCTURE TO SUPPORT THE NEW EQUIPMENT
2. CALCULATIONS FOR THE ANTENNA MOUNTS WERE PREPARED BY FULLERTON AND THOSE CALCULATIONS CERTIFY THE CAPACITY OF THE STRUCTURE TO SUPPORT THE NEW EQUIPMENT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

NOTES:

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

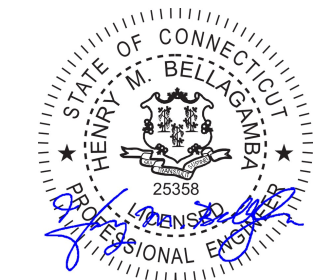
NOTES:

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



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SITE ADDRESS
613 CONNECTICUT AVENUE NORWALK, CT 06850

SHEET NAME
ELEVATIONS

SHEET NUMBER
A3

EXISTING ELEVATION

SCALE: 1/32" = 1'-0" 1

NEW ELEVATION

SCALE: 1/32" = 1'-0" 2



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SITE NUMBER:

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SITE ADDRESS

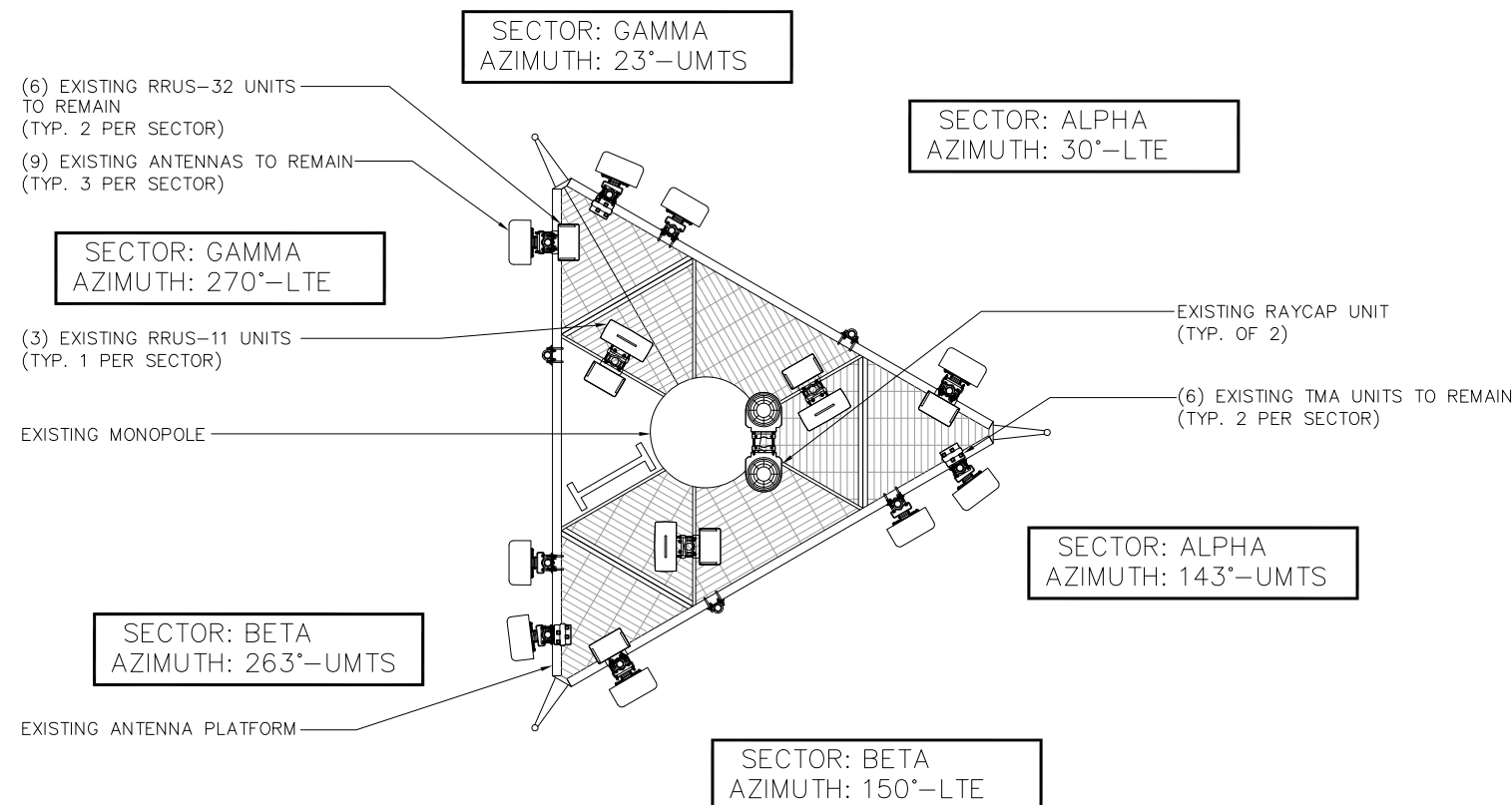
**613 CONNECTICUT AVENUE
NORWALK, CT 06850**

SHEET NAME

**ANTENNA
PLANS**

SHEET NUMBER

A4

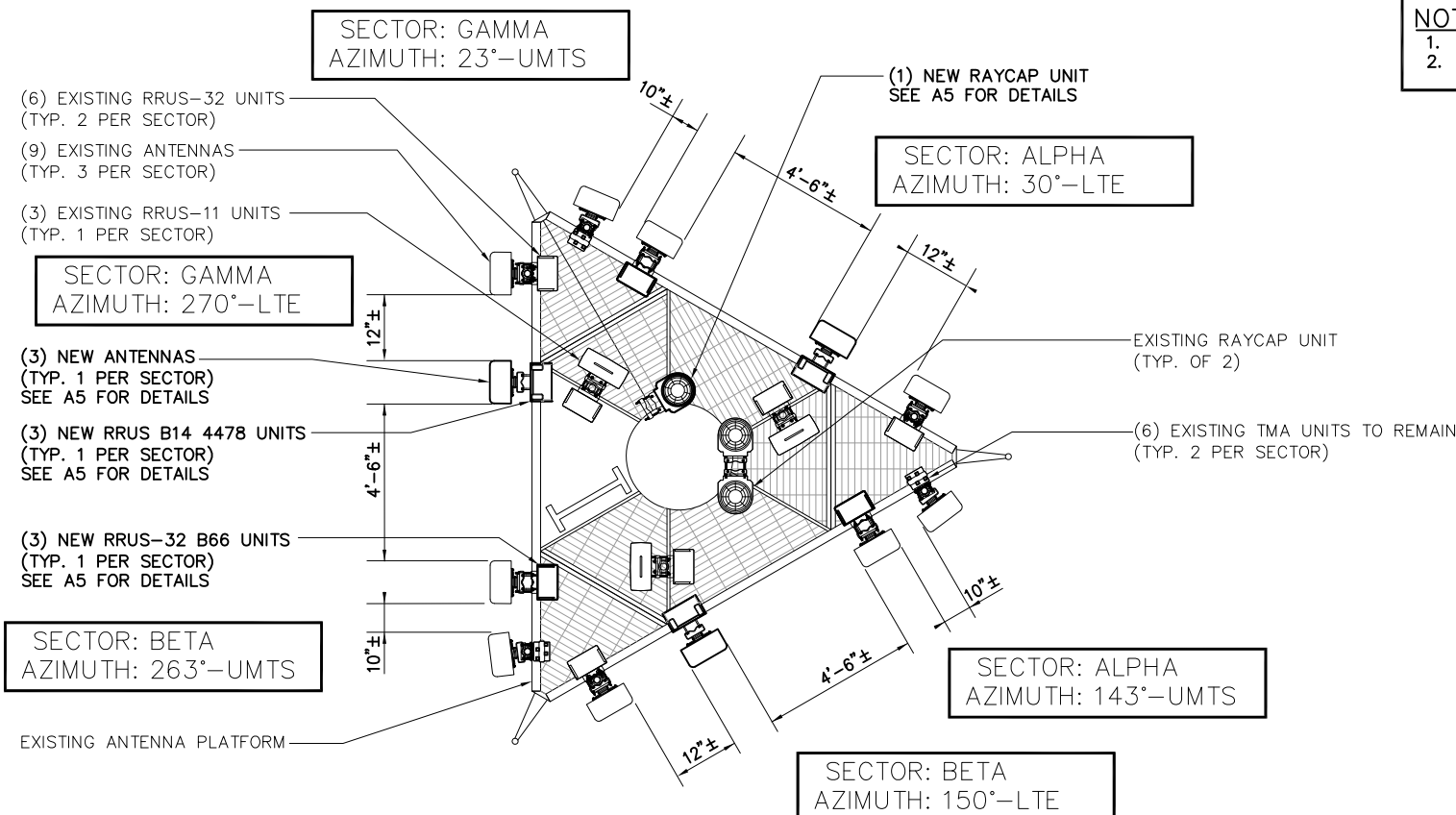


EXISTING ANTENNA PLAN

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.)



NOTES:

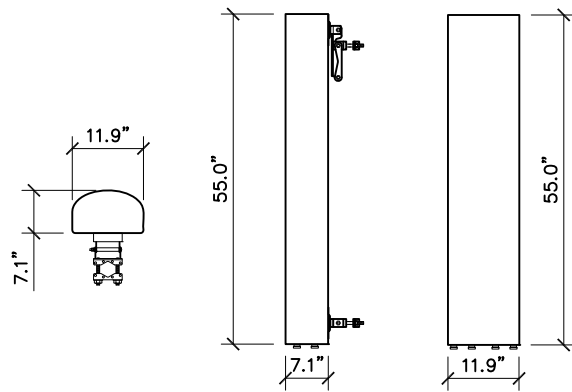
- 3 FEET MINIMUM SEPARATION BETWEEN LTE ANTENNAS
- 6 FEET MINIMUM SEPARATION BETWEEN 700DE & 700BC

FINAL ANTENNA PLAN

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



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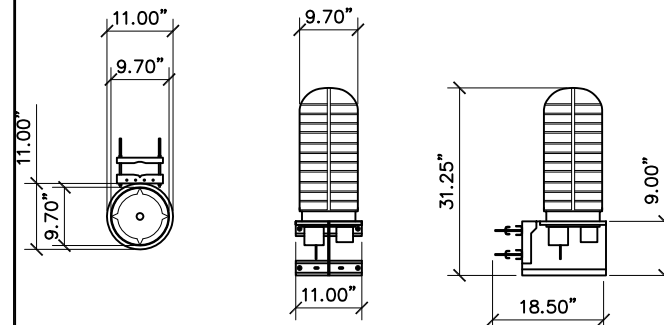


PLAN VIEW SIDE VIEW FRONT VIEW

COMMSCOPE – SBNHH-1D65A
ANDREW® TRI-BAND ANTENNA

FREQUENCY RANGE 698–806 MHz
806–896 MHz
1710–1880 MHz
1850–1990 MHz
1920–2180 MHz
2300–2360 MHz
ANTENNA WEIGHT 33.5 Lbs
BRACKET WEIGHT 12.3 Lbs
TOTAL WEIGHT 45.8 Lbs

NOMINAL OPERATING VOLTAGE: 48 VDC
NOMINAL DISCHARGE CURRENT: 20 kA 8/20ms
MAXIMUM DISCHARGE CURRENT: 60 kA 8/20ms
MAXIMUM CONTINUOUS OPERATING VOLTAGE: 75 VDC
VOLTAGE PROTECTION RATING: 400 V
WIND LOADING: 150 MPH SUSTAINED (105.7 lbs)
195 MPH GUST (213.6 lbs)

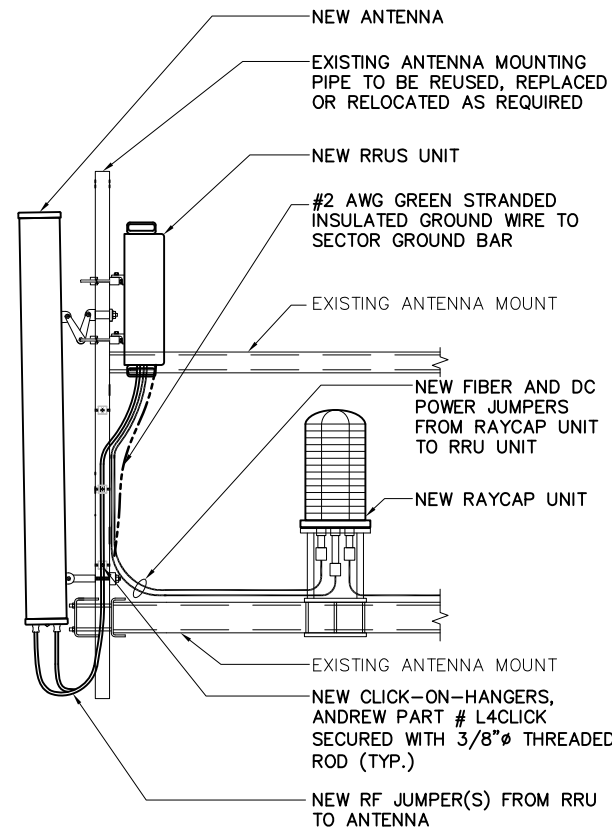


PLAN VIEW FRONT VIEW SIDE VIEW

RAYCAP – DC6-48-60-0-8F
TOWER DC OVER VOLTAGE PROTECTION POWER CONNECTION SOLUTION

UNIT WEIGHT 32.8 Lbs

CONTRACTOR TO USE "THREAD LUBRICANT" ON MOUNTING BOLTS DURING INSTALLATION ON EXISTING STRUCTURAL MEMBER

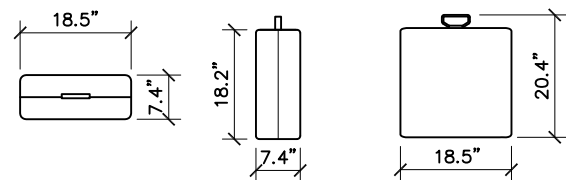


ANTENNA SPEC SCALE: N.T.S. 1

RAYCAP SPEC SCALE: N.T.S. 2

ANTENNA SCHEMATIC SCALE: N.T.S. 3

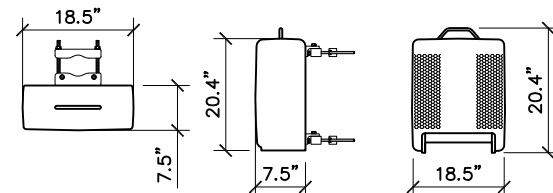
NOT USED SCALE: N.T.S. 4



PLAN VIEW SIDE VIEW FRONT VIEW

ERICSSON – RRU 12
WITH SOLAR SHIELD

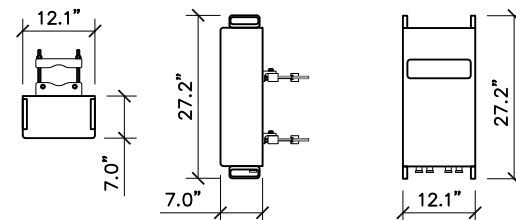
UNIT WEIGHT 52.2 Lbs



PLAN VIEW SIDE VIEW FRONT VIEW

ERICSSON – RRU E2
WITH SOLAR SHIELD

UNIT WEIGHT 52.9 Lbs



PLAN VIEW SIDE VIEW FRONT VIEW

ERICSSON – RRU 32 B66
UNIT WEIGHT 60 Lbs

RRU SPEC SCALE: N.T.S. 5

RRU SPEC SCALE: N.T.S. 6

RRU SPEC SCALE: N.T.S. 7

RRU SPEC



ERICSSON – RRU 4478 B14

FREQUENCY RANGE TX 758–768 MHz
RX 788–798 MHz
TOTAL WEIGHT 59.9 Lbs



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SHEET NAME
EQUIPMENT DETAILS

SHEET NUMBER
A5

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SHEET NAME

**ANTENNA &
CABLE
CONFIGURATION**

SHEET NUMBER

A6

FINAL ANTENNA CONFIGURATION AND CABLE SCHEDULE SUPPLIED BY AT&T WIRELESS, FROM RF CONFIG. DATED (11/06/17)												
SECTOR	ANTENNA NUMBER	ANTENNA STATUS & TYPE	ANTENNA MODEL NUMBER	ANTENNA VENDOR	TMA/RRU UNIT (BY ANTENNAS)	TMA/RRU UNIT (BY EQUIPMENT)	AZIMUTH	ANTENNA CL FROM GROUND	CABLE FEEDER		RAYCAP UNIT	
									TYPE	LENGTH		
ALPHA	A-1	(E) UMTS ANTENNA	7770	POWERWAVE	(2) EXISTING TMA UNITS	(2) EXISTING RRUW UNITS	143°	153'-0"	1-5/8"φ LDF7-50A	230'-0"	(2) (E) DC6-48-60-18-8F UNIT (1) (N) DC6-48-60-0-8F UNIT	
	A-2	(E) LTE 1C/2C/6C ANTENNA	QS66512-2	QUINTEL	(1) EXISTING RRU-11 UNIT (1) EXISTING RRU-32 B2 UNIT (1) NEW RRU-32 B66 UNIT	-	30°	153'-0"	(1) EXISTING FIBER CABLE (2) EXISTING DC POWER CABLES	230'-0"		
	A-3	(N) LTE7C ANTENNA	SBNHH-1D65A	COMMSCOPE	(1) NEW RRU-B14 4478 UNIT	-	30°	153'-0"	SEE ANTENNA A-4 FOR FIBER CABLE (2) NEW DC POWER CABLES			230'-0"
	A-4	(E) LTE 3C/4C/5C ANTENNA	SBNHH-1D65A	COMMSCOPE	(1) EXISTING RRU-32 UNIT	(1) NEW RRU-E2 UNIT (1) NEW RRU-12 UNIT	30°	153'-0"	(2) 1-5/8"φ LDF7-50A (1) EXISTING FIBER CABLE & EXISTING DC POWER CABLES	230'-0"		
BETA	B-1	(E) UMTS ANTENNA	7770	POWERWAVE	(2) EXISTING TMA UNITS	(2) EXISTING RRUW UNITS	263°	153'-0"	1-5/8"φ LDF7-50A 1-5/8"φ LDF7-50A	230'-0"		
	B-2	(E) LTE 1C/2C/6C ANTENNA	QS66512-2	QUINTEL	(1) EXISTING RRU-11 UNIT (1) EXISTING RRU-32 B2 UNIT (1) NEW RRU-32 B66 UNIT	-	150°	153'-0"	SEE ANTENNA A-2 FOR CABLE TYPE AND LENGTH			
	B-3	(N) LTE7C ANTENNA	SBNHH-1D65A	COMMSCOPE	(1) NEW RRU-B14 4478 UNIT	-	150°	153'-0"	SEE ANTENNA A-4 FOR FIBER CABLE SEE ANTENNA A-3 FOR DC POWER CABLE			
	B-4	(E) LTE 3C/4C/5C ANTENNA	SBNHH-1D65A	COMMSCOPE	(1) EXISTING RRU-32 UNIT	(1) NEW RRU-E2 UNIT (1) NEW RRU-12 UNIT	150°	153'-0"	(2) 1-5/8"φ LDF7-50A SEE ANTENNA A-4 FOR CABLE TYPE AND LENGTH	230'-0"		
GAMMA	C-1	(E) UMTS ANTENNA	7770	POWERWAVE	(2) EXISTING TMA UNITS	(2) EXISTING RRUW UNITS	23°	153'-0"	1-5/8"φ LDF7-50A 1-5/8"φ LDF7-50A	230'-0"		
	C-2	(E) LTE 1C/2C/6C ANTENNA	QS66512-2	QUINTEL	(1) EXISTING RRU-11 UNIT (1) EXISTING RRU-32 B2 UNIT (1) NEW RRU-32 B66 UNIT	-	270°	153'-0"	SEE ANTENNA A-2 FOR CABLE TYPE AND LENGTH			
	C-3	(N) LTE7C ANTENNA	SBNHH-1D65A	COMMSCOPE	(1) NEW RRU-B14 4478 UNIT	-	270°	153'-0"	SEE ANTENNA A-4 FOR FIBER CABLE SEE ANTENNA A-3 FOR DC POWER CABLE			
	C-4	(E) LTE 3C/4C/5C ANTENNA	SBNHH-1D65A	COMMSCOPE	(1) EXISTING RRU-32 UNIT	(1) NEW RRU-E2 UNIT (1) NEW RRU-12 UNIT	270°	153'-0"	(2) 1-5/8"φ LDF7-50A SEE ANTENNA A-4 FOR CABLE TYPE AND LENGTH	230'-0"		

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

ANTENNA AND CABLING NOTES

SCALE: N.T.S. 1

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

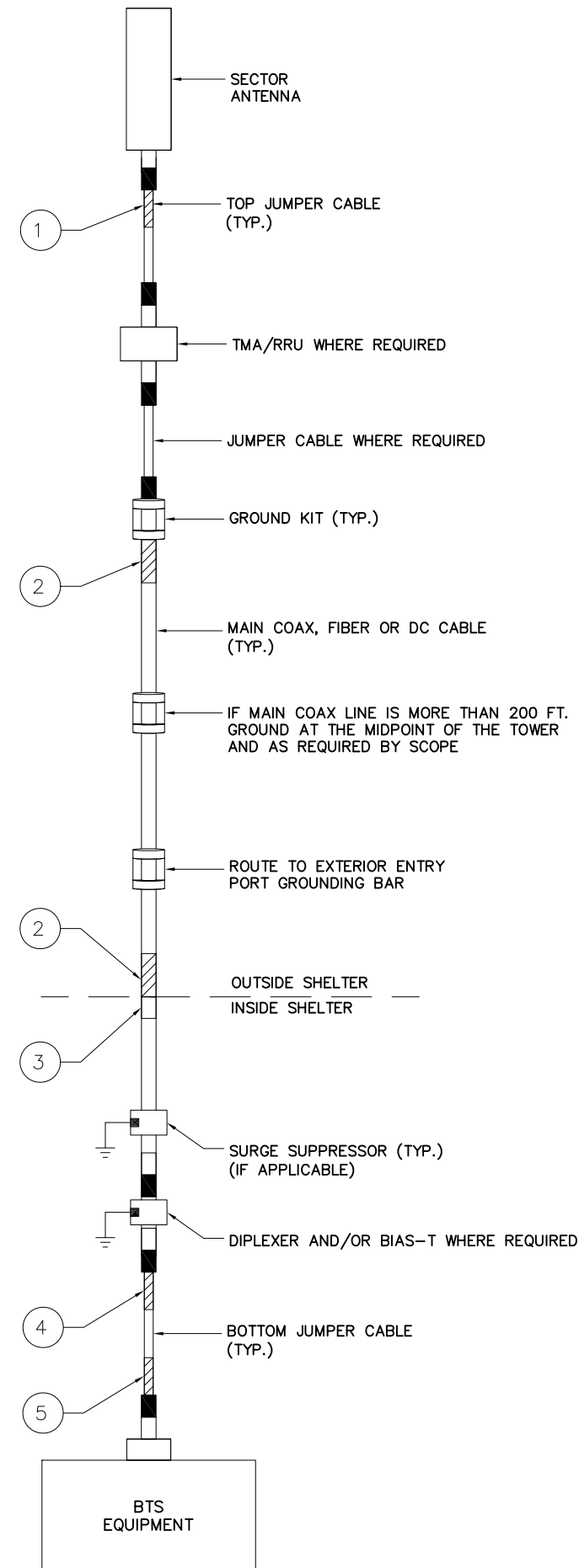
CABLE MARKING DIAGRAM

SCALE: N.T.S. 2

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

CABLE MARKING NOTES

SCALE: N.T.S. 3



CABLE COLOR CODING DIAGRAM

SCALE: N.T.S. 4



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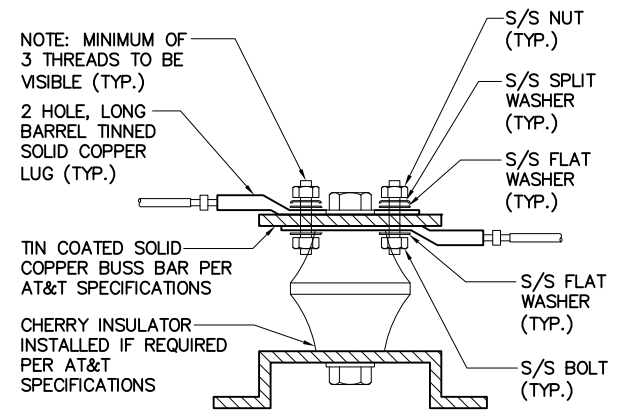
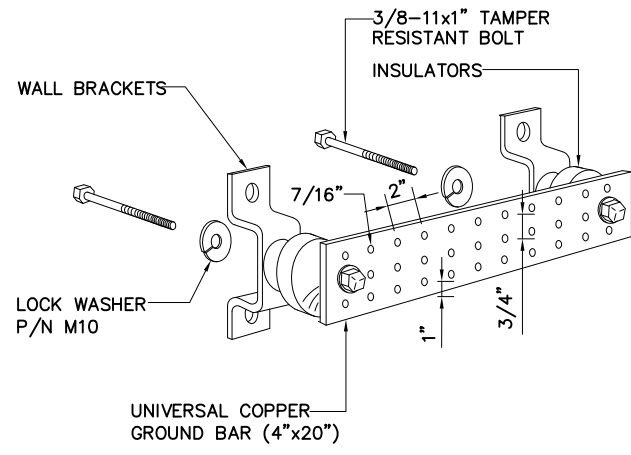
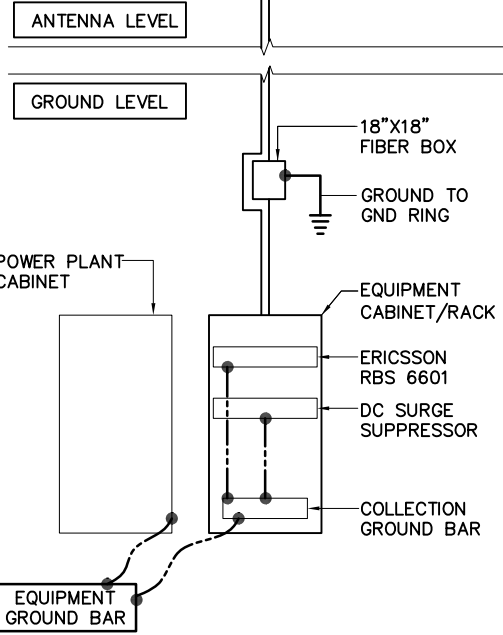
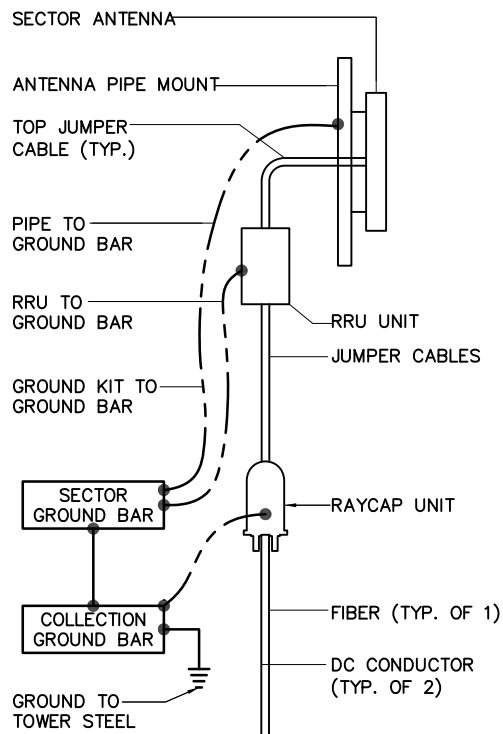
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SHEET NAME
CABLE NOTES AND COLOR CODING

SHEET NUMBER
A7

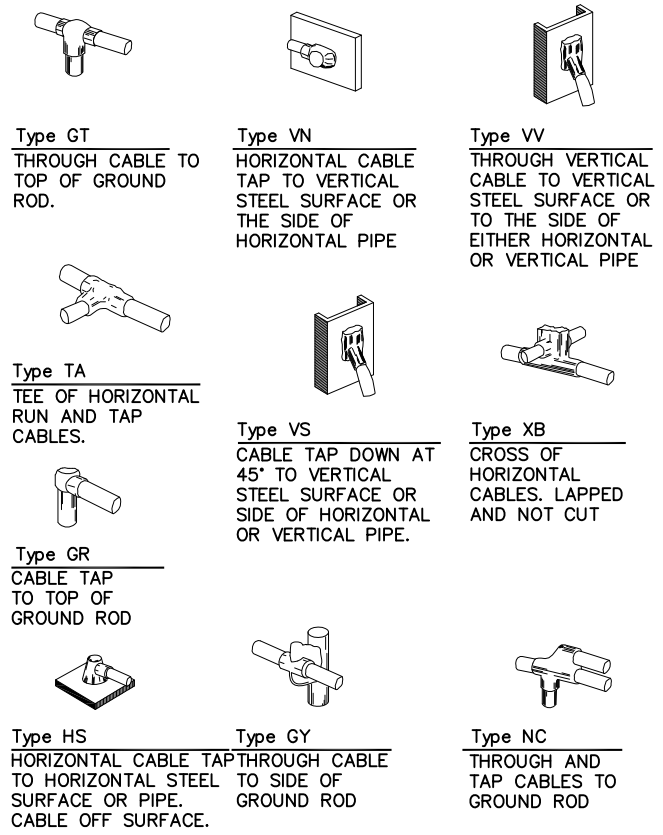
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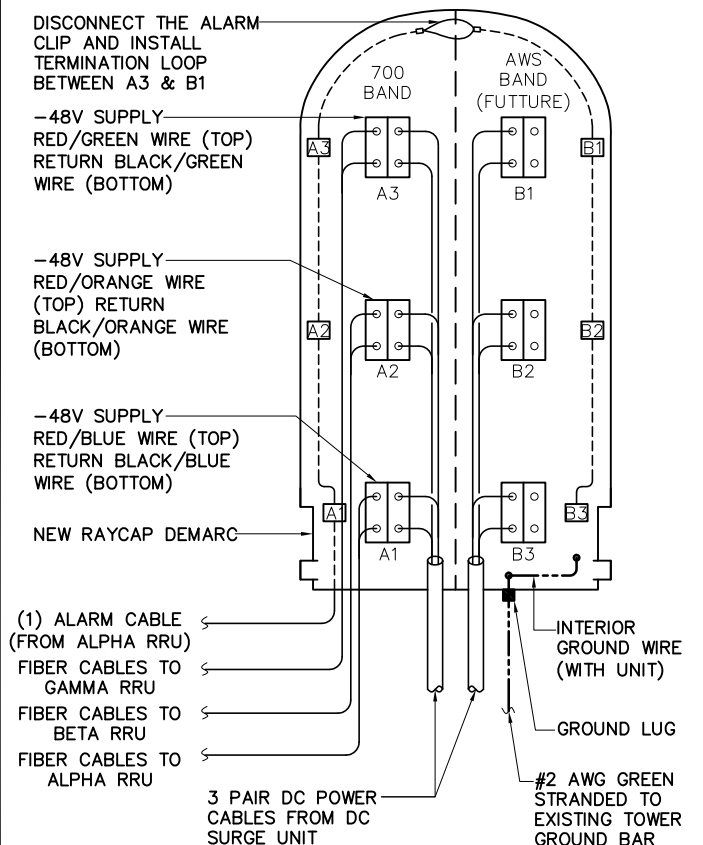
- NOTES:
1. ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING SPLIT WASHERS.
 2. COAT WIRE END WITH ANTI-OXIDATION COMPOUND PRIOR TO INSERTION INTO LUG BARREL AND CRIMPING.
 3. APPLY ANTI-OXIDATION COMPOUND BETWEEN ALL LUGS AND BUSS BARS PRIOR TO MATING AND BOLTING.

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

LUG DETAIL SCALE: N.T.S. 3



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



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

NOT USED SCALE: N.T.S. 6



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SHEET NAME

GROUNDING
DETAILS

SHEET NUMBER

A8

GROUNDING SCHEMATIC SCALE: N.T.S. 1

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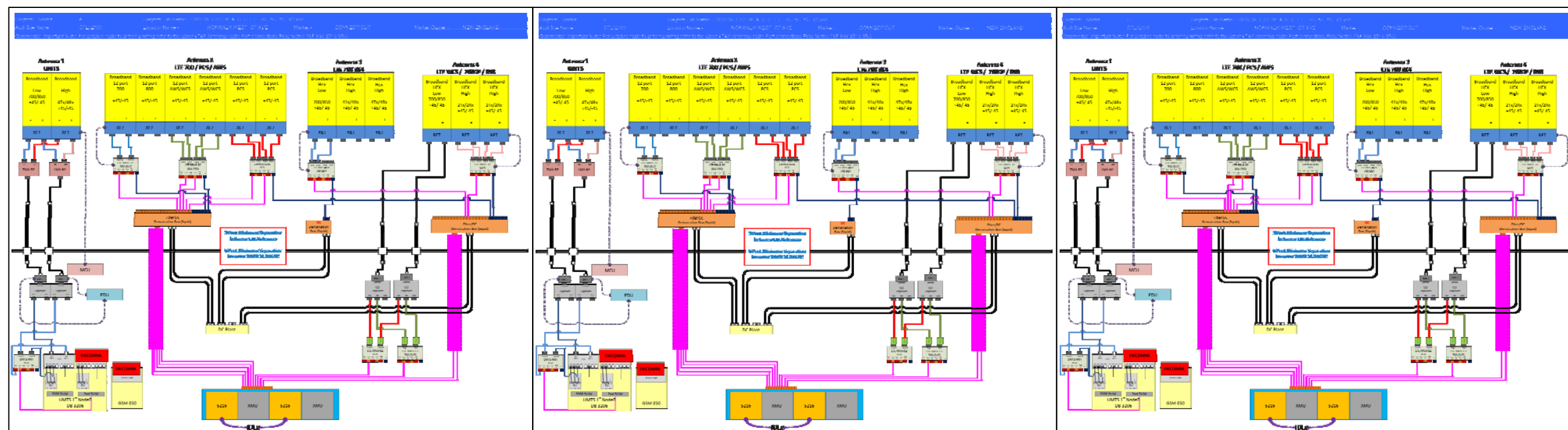
**613 CONNECTICUT AVENUE
NORWALK, CT 06850**

SHEET NAME

PLUMBING DIAGRAMS

SHEET NUMBER

A9



*BASED ON RFDS V2.0, DATED (11/06/17)