



July 8, 2014

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

Regarding: Notice of Exempt Modification – Addition of 3 radio heads previously approved
Property Address: 723 Farmington Avenue, New Britain, CT (the "Property")
Applicant: AT&T Mobility LLC ("AT&T")

Dear Ms. Bachman:

AT&T currently maintains a wireless telecommunications facility on an existing 120 foot monopole ("tower") location on the Property. AT&T's facility consists of nine (9) wireless telecommunications antenna at 98 feet. The tower is owned by SBA Towers LLC. The Council approved the previous application on August 10th 2012 reference number EM-AT&T-089-120727. This application (attached) granted AT&T the use of 6 radio heads at this location. The approval expired one year from the issue date. During that time AT&T made the changes to the site per the approval but only installed three (3) of the six (6) radio heads that they received approval. AT&T would now like to install the additional three (3) radio heads that were originally approved under EM-AT&T-089-120727.

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). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to the Mayor and the Director of License Permit and Inspection for the City of new Britain. A copy of this letter is also being sent to SBA Towers LLC., the owner of the structure that AT&T is located.

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 planned modifications will not result in an increase in the height of the existing structure. AT&T's additional; previously approved 3 radio heads will be installed at 98 foot level of the 120 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 modification will not increase the noise level at the facility by six decibel 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. An RF emissions calculation (attached) for AT&T's modified facility was provided in the application which led to the August 10th 2012 Decision.

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. (Please see attached Structural analysis completed by FDH Engineering Inc. dated may 16th 2012).

For the foregoing reasons AT&T respectfully requests that the proposed addition of 3 radio heads previously approved be allowed within the exempt modifications under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

A handwritten signature in cursive script that reads "David P. Cooper".

David P. Cooper
Director of Site Acquisition
Empire Telecom

CC Mayor and the Director of License Permit and Inspection for the City of new Britain
SBA Towers LLC



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: siting.council@ct.gov

www.ct.gov/csc

August 10, 2012

Theresa Ranciato-Viele
Nexlink Global Services
55 Lynn Road
Ivoryton, CT 06442

RE: **EM-AT&T-089-120727** – AT&T Mobility notice of intent to modify an existing telecommunications facility located at 723 Farmington Avenue, New Britain, Connecticut.

Dear Ms. Ranciato-Viele:

The Connecticut Siting Council (Council) hereby acknowledges your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies with the following conditions:

- The proposed coax and auxiliary equipment be installed in accordance with the recommendations made in the Structural Analysis Report prepared by FDH Engineering dated May 16, 2012 and stamped by Christopher Murphy; and
- Following the installation of the proposed equipment, AT&T shall provide documentation certifying that the installation complied with the engineer's recommendation.
- Any deviation from the proposed modification as specified in this notice and supporting materials with Council shall render this acknowledgement invalid;
- Any material changes to this modification as proposed shall require the filing of a new notice with the Council;
- Not less than 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;
- The validity of this action shall expire one year from the date of this letter; and
- The applicant may file a request for an extension of time beyond the one year deadline provided that such request is submitted to the Council not less than 60 days prior to the expiration;

The proposed modifications including the placement of all necessary equipment and shelters within the tower compound are to be implemented as specified here and in your notice dated July 5, 2012. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency emissions are

CT5254

conservatively below State and federal standards applicable to the frequencies now used on this tower.

This decision is under the exclusive jurisdiction of the Council. Please be advised that the validity of this action shall expire one year from the date of this letter. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Thank you for your attention and cooperation.

Very truly yours,



Linda Roberts
Executive Director

LR/CDM/cm

c: The Honorable Timothy E. O'Brien, Jr., Mayor, City of New Britain
Frank M. Wiatr, Director of License Permit & Inspection/ Chief Bldg. Official, City of New Britain



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

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July 30, 2012

The Honorable Timothy E. O'Brien, Jr.
Mayor
City of New Britain
City Hall
27 West Main Street
New Britain, CT 06051

RE: **EM-AT&T-089-120727** – AT&T Mobility notice of intent to modify an existing telecommunications facility located at 723 Farmington Avenue, New Britain, Connecticut.

Dear Mayor O'Brien:

The Connecticut Siting Council (Council) received this request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72.

If you have any questions or comments regarding this proposal, please call me or inform the Council by August 13, 2012.

Thank you for your cooperation and consideration.

Very truly yours,

Linda Roberts
Executive Director

LR/cm

Enclosure: Notice of Intent

c: Frank M. Wiatr, Director of License Permit & Inspection/ Chief Bldg. Official, City of New Britain



July 5, 2012

ORIGINAL

Ms. Linda Roberts, Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

RECEIVED
JUL 27 2012

Re: AT&T Mobility – Notice of Exempt Modification
723 Farmington Avenue
New Britain, CT 06053

COMMERCIAL
SITING DECISION

Dear Ms. Roberts:

This letter and attachments are submitted on behalf of AT&T Mobility (“AT&T”). AT&T is enhancing the capabilities of its wireless system in Connecticut by implementing LTE Technology. In order to do so, AT&T will modify antenna and equipment configurations at a number of existing sites. Please accept this letter and attachments as notification, pursuant to R.C.S.A. Section 16-50j-73 of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2). In compliance with R.C.S.A. Section 16-50j-73, a copy of this letter and attachment is being sent to the Mayor of New Britain.

AT&T plans to modify the existing facility at 723 Farmington Avenue owned by SBA Communications Corporation (coordinates 41° 41’ 53.97’’ N. -72°47’10.29’’W). Attached are drawings depicting the planned changes, and documentation of the structural sufficiency of the tower to accommodate the revised antenna configuration. Also, included are a power density calculation reflecting the modification to AT&T’s operations at the site.

The changes to the facility do not constitute a modification as defined in Connecticut General Statutes (C.G.S.) Section 16-50i(d) because the general physical characteristics of the facility will not be significantly changed. Rather, the planned changes to the facility fall squarely within those activities explicitly provided for in R.C.S.A. Section 16-50j-72(b)(c).

1. The height of the overall structure will be unaffected. Both AT&T’s existing and proposed antennas are located at 98’ AGL at center line on the approximately 119’ tower. The existing six (6) antennas will remain at the current height. The three (3) proposed antennas will be pipe mounted at the same height. AT&T will add six (6) new RRH’s, one (1) surge arrester, which will be pipe mounted to the existing tower, one (1) fiber cable and two (2) DC control cables. One (1) GPS LTE antenna will be mounted to the existing shelter.

2. The proposed changes will not extend the site boundaries. AT&T will install one additional cabinet in the existing shelter. Thus, there will be no effect on the site compound.

3. The proposed changes will not increase the noise level at the existing facility by six decibels or more. The incremental effect of the proposed changes will be negligible.

4. The changes to the facility will not increase the calculated "worst case" power density for the combined operations at the site to a level at or above the applicable standard for uncontrolled environments as calculated for a mixed frequency site. As indicated in the attached power density calculations, AT&T's operations at the site will result in a power density of 3.35% the combined site operations will result in a total power density of 60.79%.

Please feel free to call me with any questions or concerns regarding this matter. Thank you for your cooperation.

Respectfully submitted,
AT&T Mobility

By: 

Theresa Ranciato-Viele
tviele@hotmail.com
(203) 606-5127

cc: Honorable Tim O'Brien, Mayor, City of New Britain

Attachments



FDH Engineering, Inc., 6521 Meridien Drive Raleigh, NC 27616, Ph. 919.755.1012

**Structural Analysis for
SBA Network Services, Inc.**

119' Monopole Tower

**SBA Site Name: New Britain 3
SBA Site ID: CT08558-B
Cingular Site ID: CT1028
Cingular Site Name: New Britain/Farmington Ave**

FDH Project Number 12-04530E S2 (R1)

Analysis Results

Tower Components	82.7 %	Sufficient
Foundation	81.5 %	Sufficient

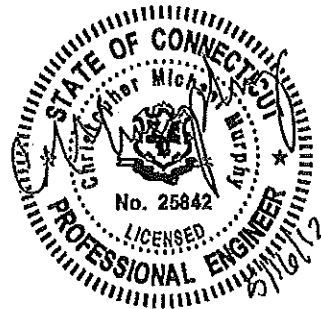
Prepared By:

Joe W Fulk, EI
Project Engineer

Reviewed By:

Christopher M Murphy, PE
President
CT PE License No. 25842

FDH Engineering, Inc.
6521 Meridien Drive
Raleigh, NC 27616
(919) 755-1012
info@fdh-inc.com



May 16, 2012

Prepared pursuant to TIA/EIA-222-F Structural Standards for Steel Antenna Towers and Antenna Supporting Structures and the 2005 Connecticut State Building Code.

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EXECUTIVE SUMMARY

At the request of SBA Network Services, Inc., FDH Engineering, Inc. performed a structural analysis of the monopole located in New Britain, CT to determine whether the tower is structurally adequate to support both the existing and proposed loads pursuant to the *Structural Standards for Steel Antenna Towers and Antenna Supporting Structures, TIA/EIA-222-F, and 2005 Connecticut State Building Code*. Information pertaining to the existing/proposed antenna loading, foundation dimensions, current tower geometry, soil parameters, and member sizes was obtained from:

- Sabre Communications Corporation (Job No. 06-08008) Structural Design Report dated August 1, 2005
- Sabre Communications Corporation (Job No. 06-08008 Revision A) Structural Analysis Report dated February 7, 2006
- Sabre Communications Corporation (Job No. 08-06031) 10.00 Extension Material dated June 7, 2007
- Dr. Clarence Welti, PE, PC (Sprint Site CT58XC920) Geotechnical Study dated July 7, 2005
- SBA Network Services, Inc.

The *basic design wind speed* per the *TIA/EIA-222-F* standards and *2005 Connecticut State Building Code* is 80 mph without ice and 38 mph with 1" radial ice. Ice is considered to increase in thickness with height.

Conclusions

With the existing and proposed antennas from Cingular in place at 98 ft, the tower meets the requirements of the *TIA/EIA-222-F* standards and *2005 Connecticut State Building Code* provided the **Recommendations** listed below are satisfied. Furthermore, provided the foundation was designed and constructed to support the original design reactions (see Sabre Job No. 06-08008), the foundation should have the necessary capacity to support the existing and proposed loading. For a more detailed description of the analysis of the tower, see the **Results** section of this report.

Our structural analysis has been performed assuming all information provided to FDH Engineering, Inc. is accurate (i.e., the steel data, tower layout, existing antenna loading, and proposed antenna loading) and that the tower has been properly erected and maintained per the original design drawings.

Recommendations

To ensure the requirements of the *TIA/EIA-222-F* standards and *2005 Connecticut State Building Code* are met with the existing and proposed loading in place, we have the following recommendations:

1. The proposed coax should be installed inside of the pole's shaft.
2. RRU/RRH Stipulation: The equipment may be installed in any configuration as determined by the client.
3. The proposed diplexers and TMAs should be installed behind the existing/proposed loading.

APPURTENANCE LISTING

The proposed and existing antennas with their corresponding cables/coax lines are shown in Table 1. *If the actual layout determined in the field deviates from the layout, FDH Engineering, Inc. should be contacted to perform a revised analysis.*

Table 1 - Appurtenance Loading

Existing Loading:

Antenna Elevation (ft)	Description	Coax and Lines	Carrier	Mount Elevation (ft)	Mount Type
118	(3) Antel BXA-70063/6CF (6) Antel LPA-80063/6CF (3) Antel BXA-171063/8BF	(18) 1 5/8"	Verizon	118	(3) T-Arms
108	(9) Decibel DB844H90E-XY w/Mount Pipe (3) Kathrein 840 10054 W/Mount Pipe (2) Andrew VHL P2.5 Dishes (2) Dragonwave Horizon ODU Radios	(12) 1 5/8" (6) 5/16" (3) 1/2"	Clearwire/ Sprint	108	(3) T-Arms
98	(6) Powerwave 7770 (12) Powerwave LGP21401 TMAs (6) Powerwave LGP13519 Diplexers	(12) 1 5/8"	Cingular	98	(3) T-Arms
88	(3) APX16PV-16VL-E (3) APX16DWV-16DWVS-E-A20 (6) PCS 1900 TMAs	(12) 1 5/8" (6) 7/8"	T-Mobile	88	(3) T-Arms
78	(3) RFS APXV18-206517S-C	(6) 1 5/8"	Pocket	78	(3) T-Arms

Proposed Loading:

Antenna Elevation (ft)	Description	Coax and Lines	Carrier	Mount Elevation (ft)	Mount Type
98	(6) Powerwave 7770 (6) Powerwave LGP21401 TMAs (6) Powerwave LGP13519 Diplexers (2) Powerwave P65-16-XLH-RR (1) KWM AM-X-CD-16-65-00T (3) CCI DTMABP7819VG12A TMAs (6) Ericsson RRU-11 (1) Raycap DC6-48-60-18-8F Surge Arrestor	(12) 1 5/8" (3) WR-VG122ST-BRDA/12 GAGE (1) Rosenberger 10mm Fiber	Cingular	98	(3) T-Arms

RESULTS

The following yield strength of steel for individual members was used for analysis:

Table 2 - Material Strength

Member Type	Yield Strength
Tower Shaft Sections	65 ksi
Flange Plate	60 ksi
Flange Bolts	Fu = 120 ksi
Base Plate	60 ksi
Anchor Bolts	75 ksi

Table 3 displays the summary of the ratio (as a percentage) of force in the member to their capacities. Values greater than 100% indicate locations where the maximum force in the member exceeds its capacity. Table 4 displays the maximum foundation reactions.

If the assumptions outlined in this report differ from actual field conditions, FDH Engineering, Inc. should be contacted to perform a revised analysis. Furthermore, as no information pertaining to the allowable twist and sway requirements for the existing or proposed appurtenances was provided, deflection and rotation were not taken into consideration when performing this analysis.

See the Appendix for detailed modeling information

Table 3 - Summary of Working Percentage of Structural Components

Section No.	Elevation ft	Component Type	Size	% Capacity	Pass Fail
L1	119 - 109	Pole	TP24.4x22.2x0.1875	11.9	Pass
-	109	Flange Bolts	(8) 1" ϕ w/ BC = 27.5"	19.9	Pass
-	109	Flange Plate	PL 31.75" ϕ x 0.75" Thk.	35.6	Pass
L2	109 - 98.5	Pole	TP26.71x24.4x0.1875	24.2	Pass
L3	98.5 - 48.5	Pole	TP37.34x25.565x0.25	79.3	Pass
L4	48.5 - 0	Pole	TP47.52x35.7946x0.3125	82.7	Pass
		Anchor Bolts	(12) 2.25" ϕ w/ BC = 54"	71.8	Pass
		Base Plate	PL 52" Square x 2.75" Thk.	60.8	Pass

*Capacities include a 1/3 allowable stress increase.

Table 4 - Maximum Base Reactions

Base Reactions	Current Analysis (TIA/EIA-222-F)	Original Design (TIA/EIA-222-F)
Axial	29 k	28 k
Shear	21 k	25 k
Moment	1,921 k-ft	2,356 k-ft

GENERAL COMMENTS

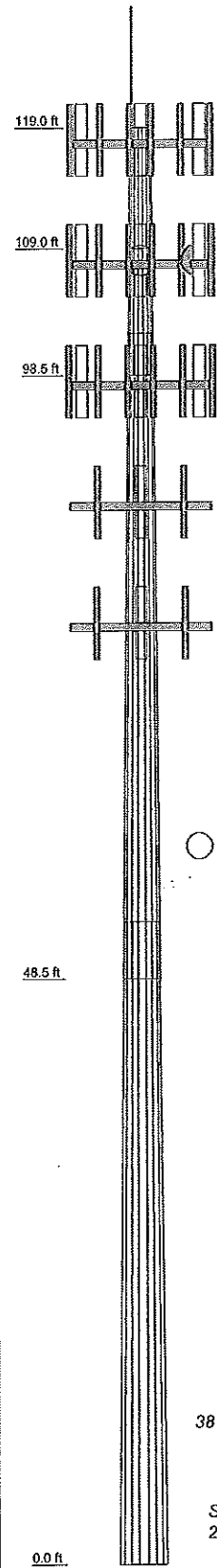
This engineering analysis is based upon the theoretical capacity of the structure. It is not a condition assessment of the tower and its foundation. It is the responsibility of SBA Network Services, Inc. to verify that the tower modeled and analyzed is the correct structure (with accurate antenna loading information) modeled. If there are substantial modifications to be made or the assumptions made in this analysis are not accurate, FDH Engineering, Inc. should be notified immediately to perform a revised analysis.

LIMITATIONS

All opinions and conclusions are considered accurate to a reasonable degree of engineering certainty based upon the evidence available at the time of this report. All opinions and conclusions are subject to revision based upon receipt of new or additional/updated information. All services are provided exercising a level of care and diligence equivalent to the standard and care of our profession. No other warranty or guarantee, expressed or implied, is offered. Our services are confidential in nature and we will not release this report to any other party without the client's consent. The use of this engineering work is limited to the express purpose for which it was commissioned and it may not be reused, copied, or distributed for any other purpose without the written consent of FDH Engineering, Inc.

APPENDIX

Section	1	2	3	4
Length (ft)	10.00	10.50	53.50	53.25
Number of Slides	18	18	18	18
Thickness (in)	0.1875	0.1875	0.2500	0.3125
Socket Length (ft)		3.50	4.75	
Top Dia (in)		24.4000	25.5650	35.7946
Bot Dia (in)		26.7100	37.3400	47.5200
Grade			A572-65	
Weight (K)	0.5	0.5	4.5	7.4



DESIGNED APPURTENANCE LOADING

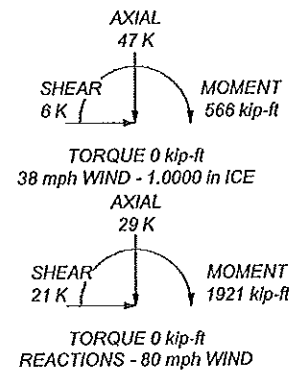
TYPE	ELEVATION	TYPE	ELEVATION
Lightning Rod	119	P65-16-XLH-RR w/Mount Pipe	98
(3) T-Arms	118	P65-16-XLH-RR w/Mount Pipe	98
BXA-70063/6CF w/ Mount Pipe	118	AMX-CD-16-65-00T w/ Mount Pipe	98
BXA-70063/6CF w/ Mount Pipe	118	CCI DTMABP7819VG12A	98
BXA-70063/6CF w/ Mount Pipe	118	CCI DTMABP7819VG12A	98
(2) LPA-80063/6CF w/ Mount Pipe	118	CCI DTMABP7819VG12A	98
(2) LPA-80063/6CF w/ Mount Pipe	118	(2) RRU-11	98
(2) LPA-80063/6CF w/ Mount Pipe	118	(2) RRU-11	98
BXA-171063/8BF w/ Mount Pipe	118	(2) RRU-11	98
BXA-171063/8BF w/ Mount Pipe	118	DCS-48-60-18-9F Surge Arrestor	98
BXA-171063/8BF w/ Mount Pipe	118	(2) 7770 w/Mount Pipe	98
(3) DB844H90E-XY w/Mount Pipe	108	(2) 7770 w/Mount Pipe	98
(3) DB844H90E-XY w/Mount Pipe	108	APX16PV-16VL-E w/Mount Pipe	88
(3) DB844H90E-XY w/Mount Pipe	108	APX16PV-16VL-E w/Mount Pipe	88
840 10054 W/Mount Pipe	108	APX16PV-16VL-E w/Mount Pipe	88
840 10054 W/Mount Pipe	108	APX16DWV-16DWVS-E-A20 w/Mount Pipe	88
840 10054 W/Mount Pipe	108	APX16DWV-16DWVS-E-A20 w/Mount Pipe	88
Horizon ODU Radio	108	APX16DWV-16DWVS-E-A20 w/Mount Pipe	88
Horizon ODU Radio	108	APX16DWV-16DWVS-E-A20 w/Mount Pipe	88
(3) T-Arms	108	APX16DWV-16DWVS-E-A20 w/Mount Pipe	88
VHLP2.5	108	(2) FCS 1900 TMA	88
VHLP2.5	108	(2) FCS 1900 TMA	88
(2) 7770 w/Mount Pipe	98	(2) FCS 1900 TMA	88
(2) LGP21401 TMA	98	(3) T-Arms	88
(2) LGP21401 TMA	98	APXV18-206517S-C w/Mount Pipe	78
(2) LGP21401 TMA	98	(3) T-Arms	78
(2) LGP13519 Diplexer	98	APXV18-206517S-C w/Mount Pipe	78
(2) LGP13519 Diplexer	98	APXV18-206517S-C w/Mount Pipe	78
(2) LGP13519 Diplexer	98		
(3) T-Arms	98		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower is located in Hartford County, Connecticut.
2. Tower designed for a 80 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 38 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 60 mph wind.
5. TOWER RATING: 82.7%



	FDH Engineering, Inc. 6521 Meridian Drive Raleigh, NC 27616 Phone: 919-755-1012 FAX: 919-755-1031	Job: New Britain 3, CT08558-B Project: 12-04530E S2 (R1) Client: SBA Network Services, Inc. Code: TIA/EIA-222-F Path:	Drawn by: Joe Fulk Date: 05/17/12 App'd: Scale: NTS Dwg No. E-1
	Tower Analysis		



C Squared Systems, LLC
65 Dartmouth Drive, Unit A3
Auburn, NH 03032
(603) 644-2800
support@csquaredsystems.com

Calculated Radio Frequency Emissions



CT1028

(New Britain Farmington Ave)

723 Farmington Ave, New Britain, CT 06053

June 26, 2012

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1. Introduction

The purpose of this report is to investigate compliance with applicable FCC regulations for the proposed modifications to the existing AT&T antenna arrays mounted on the monopole located at 723 Farmington Ave, New Britain, CT. The coordinates of the tower are 41-41-53.97 N, 72-47-10.29 W.

AT&T is proposing the following modifications:

- 1) Install three 700 MHz LTE antennas (one per sector).

2. FCC Guidelines for Evaluating RF Radiation Exposure Limits

In 1985, the FCC established rules to regulate radio frequency (RF) exposure from FCC licensed antenna facilities. In 1996, the FCC updated these rules, which were further amended in August 1997 by OET Bulletin 65 Edition 97-01. These new rules include Maximum Permissible Exposure (MPE) limits for transmitters operating between 300 kHz and 100 GHz. The FCC MPE limits are based upon those recommended by the National Council on Radiation Protection and Measurements (NCRP), developed by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) and adopted by the American National Standards Institute (ANSI).

The FCC general population/uncontrolled limits set the maximum exposure to which most people may be subjected. General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

Public exposure to radio frequencies is regulated and enforced in units of milliwatts per square centimeter (mW/cm^2). The general population exposure limits for the various frequency ranges are defined in the attached "FCC Limits for Maximum Permissible Exposure (MPE)" in Attachment B of this report.

Higher exposure limits are permitted under the occupational/controlled exposure category, but only for persons who are exposed as a consequence of their employment and who have been made fully aware of the potential for exposure, and they must be able to exercise control over their exposure. General population/uncontrolled limits are five times more stringent than the levels that are acceptable for occupational, or radio frequency trained individuals. Attachment B contains excerpts from OET Bulletin 65 and defines the Maximum Exposure Limit.

Finally, it should be noted that the MPE limits adopted by the FCC for both general population/uncontrolled exposure and for occupational/controlled exposure incorporate a substantial margin of safety and have been established to be well below levels generally accepted as having the potential to cause adverse health effects.

3. RF Exposure Prediction Methods

The emission field calculation results displayed in the following figures were generated using the following formula as outlined in FCC bulletin OET 65:

$$\text{Power Density} = \left(\frac{1.6^2 \times \text{EIRP}}{4\pi \times R^2} \right) \times \text{Off Beam Loss}$$

Where:

EIRP = Effective Isotropic Radiated Power

R = Radial Distance = $\sqrt{H^2 + V^2}$

H = Horizontal Distance from antenna in meters

V = Vertical Distance from radiation center of antenna in meters

Ground reflection factor of 1.6

Off Beam Loss is determined by the selected antenna pattern

These calculations assume that the antennas are operating at 100 percent capacity and power, and that all channels are transmitting simultaneously. Obstructions (trees, buildings, etc.) that would normally attenuate the signal are not taken into account. The calculations assume even terrain in the area of study and do not take into account actual terrain elevations which could attenuate the signal. As a result, the predicted signal levels reported below are much higher than the actual signal levels will be from the finished modifications.

4. Calculation Results

Table 1 below outlines the power density information for the site. Because the proposed AT&T antennas are directional in nature, the majority of the RF power is focused out towards the horizon. As a result, there will be less RF power directed below the antennas relative to the horizon, and consequently lower power density levels around the base of the tower. Please refer to Attachment C for the vertical pattern of the proposed AT&T antennas. The calculated results for AT&T in Table 1 include a nominal 10 dB off-beam pattern loss to account for the lower relative gain below the antennas.

Carrier	Antenna Height (Feet)	Operating Frequency (MHz)	Number of Trans.	ERP Per Transmitter (Watts)	Power Density (mw/cm ²)	Limit	%MPE
Cingular	98	880	6	296	0.0665	0.5867	11.33%
Cingular	98	1900	3	427	0.0480	1.0000	4.80%
Sprint	108	1962.5	11	549	0.1862	1.0000	18.62%
Clearwire	108	2496	2	153	0.0094	1.0000	0.94%
Clearwire	112	11 GHz	1	211	0.0060	1.0000	0.60%
Pocket	78	2130	3	631	0.1119	1.0000	11.19%
T-Mobile GSM	88	1945	8	189	0.0702	1.0000	7.02%
T-Mobile UMTS	88	2100	2	791	0.0735	1.0000	7.35%
Verizon	118	875	9	200	0.0465	0.5833	7.97%
Verizon PCS	118	1970	3	485	0.0376	1.0000	3.76%
AT&T UMTS	98	880	2	565	0.0042	0.5867	0.72%
AT&T UMTS	98	1900	2	875	0.0066	1.0000	0.66%
AT&T LTE	98	734	1	1313	0.0049	0.4893	1.00%
AT&T GSM	98	880	1	283	0.0011	0.5867	0.18%
AT&T GSM	98	1900	4	525	0.0079	1.0000	0.79%
						Total	60.79%

Table 1: Carrier Information^{1 2 3}

¹ The existing CSC filing for Cingular and AT&T should be removed and replaced with the updated AT&T technologies and values provided in Table 1. The power density information for carriers other than AT&T was taken directly from the CSC database dated 3/29/2012. Please note that %MPE values listed are rounded to two decimal points. The total %MPE listed is a summation of each unrounded contribution. Therefore, summing each rounded value may not reflect the total value listed in the table.

² In the case where antenna models are not uniform across all 3 sectors for the same frequency band, the antenna model with the highest gain was used for the calculations to present a worse-case scenario.

³ Antenna height listed for AT&T is in reference to the FDH Engineering Structural Analysis dated May 16, 2012.

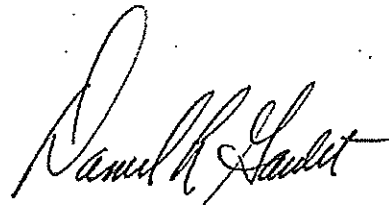
5. Conclusion

The above analysis verifies that emissions from the existing site will be below the maximum power density levels as outlined by the FCC in the OET Bulletin 65 Ed. 97-01. Even when using conservative methods, the cumulative power density from the proposed transmit antennas at the existing facility is well below the limits for the general public. The highest expected percent of Maximum Permissible Exposure at ground level is **60.79% of the FCC limit**.

As noted previously, obstructions (trees, buildings, etc.) that would normally attenuate the signal are not taken into account. As a result, the predicted signal levels are more conservative (higher) than the actual signal levels will be from the finished modifications.

6. Statement of Certification

I certify to the best of my knowledge that the statements in this report are true and accurate. The calculations follow guidelines set forth in ANSI/IEEE Std. C95.3, ANSI/IEEE Std. C95.1 and FCC OET Bulletin 65 Edition 97-01.



Daniel L. Goulet
C Squared Systems, LLC

June 26, 2012

Date

Attachment A: References

OET Bulletin 65 - Edition 97-01 - August 1997 Federal Communications Commission Office of Engineering & Technology

ANSI C95.1-1982, American National Standard Safety Levels With Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 300 kHz to 100 GHz, IEEE-SA Standards Board

IEEE Std C95.3-1991 (Reaff 1997), IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave, IEEE-SA Standards Board

Attachment B: FCC Limits for Maximum Permissible Exposure (MPE)

(A) Limits for Occupational/Controlled Exposure⁴

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

(B) Limits for General Population/Uncontrolled Exposure⁵

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (E) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f ²)*	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

Table 2: FCC Limits for Maximum Permissible Exposure (MPE)

⁴ Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure

⁵ General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure

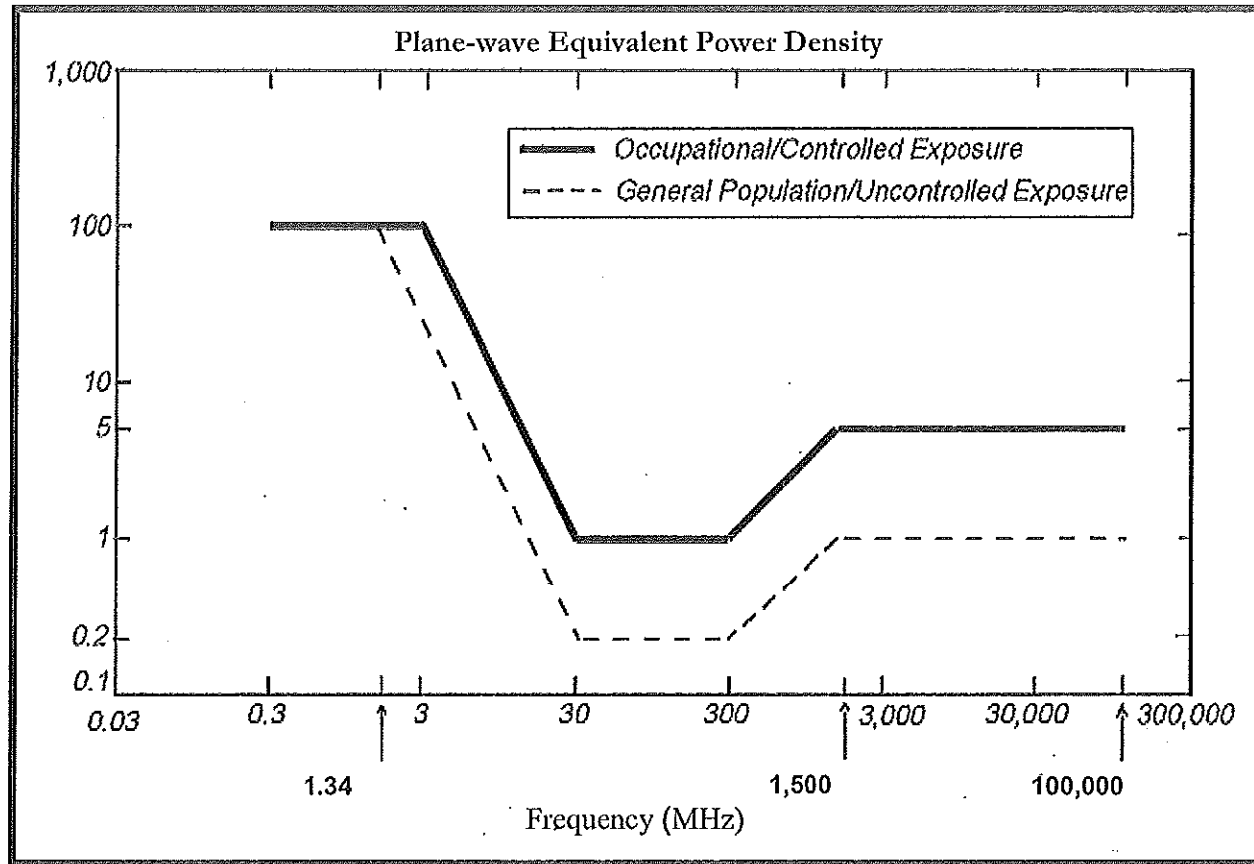
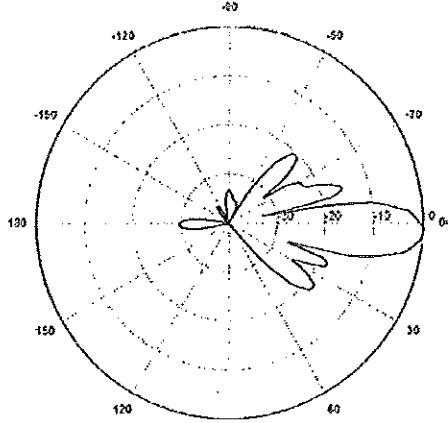
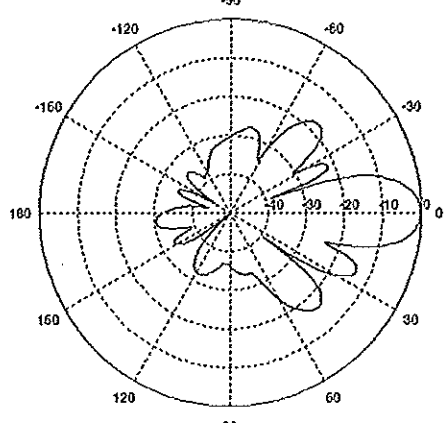
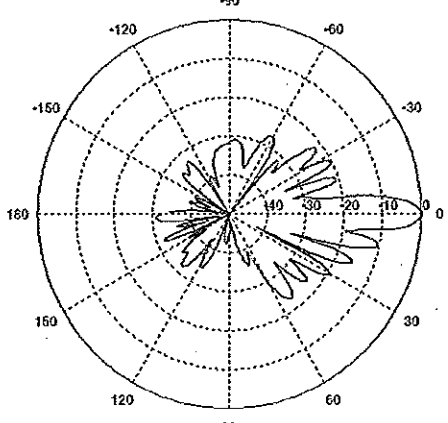


Figure 1: Graph of FCC Limits for Maximum Permissible Exposure (MPE)

Attachment C: AT&T Antenna Data Sheets and Electrical Patterns

<p>700 MHz</p> <p>Manufacturer: KMW Model #: AM-X-CD-16-65-00T Frequency Band: 698-806 MHz Gain: 13.4 dBd Vertical Beamwidth: 12.3° Horizontal Beamwidth: 65° Polarization: Dual Slant ± 45° Size L x W x D: 72.0" x 11.8" x 5.9"</p>	
<p>850 MHz</p> <p>Manufacturer: Powerwave Model #: 7770 Frequency Band: 824-896 MHz Gain: 11.4 dBd Vertical Beamwidth: 15° Horizontal Beamwidth: 85° Polarization: Dual Linear ±45° Size L x W x D: 55.4" x 11.0" x 5.0"</p>	
<p>1900 MHz</p> <p>Manufacturer: Powerwave Model #: 7770 Frequency Band: 1850-1990 MHz Gain: 13.4 dBd Vertical Beamwidth: 7° Horizontal Beamwidth: 90° Polarization: Dual Linear ±45° Size L x W x D: 55.4" x 12.0" x 5.0"</p>	

PROJECT INFORMATION

SCOPE OF WORK: UNMANNED TELECOMMUNICATIONS FACILITY MODIFICATIONS
 SITE ADDRESS: 723 FARMINGTON AVE
 NEW BRITAIN, CT 06053
 LATITUDE: 41.698325 N 41° 41' 53.97" N
 LONGITUDE: 72.786193 W 72° 47' 10.29" W
 JURISDICTION: NATIONAL, STATE & LOCAL CODES OR ORDINANCES
 CURRENT USE: TELECOMMUNICATIONS FACILITY
 PROPOSED USE: TELECOMMUNICATIONS FACILITY

SITE NUMBER: CT1028
SITE NAME: NEW BRITAIN FARMINGTON AVE

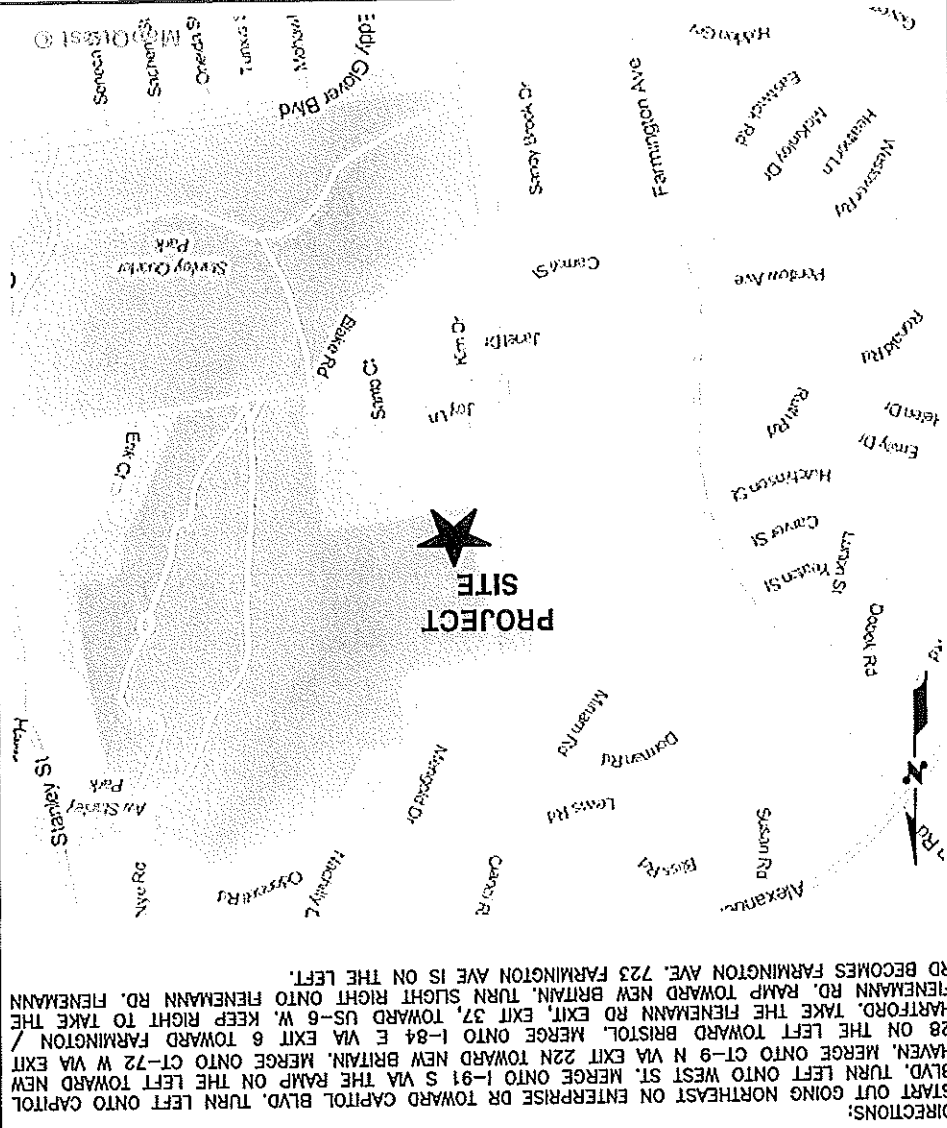


DRAWING INDEX

REV	DESCRIPTION
1	TITLE SHEET
1	GN-1 GENERAL NOTES
1	A-1 EQUIPMENT & COMPOUND PLAN
1	A-2 ELEVATION & ANTENNA LAYOUT
1	A-3 DETAILS
1	G-1 PLUMBING DIAGRAM & GROUNDING DETAILS

SBA SITE ID: CT08558-B
SITE NAME: NEW BRITAIN 3

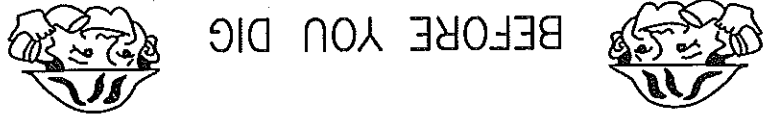
VICINITY MAP



DIRECTIONS:
 START OUT GOING NORTHEAST ON ENTERPRISE DR TOWARD CAPITOL BLVD. TURN LEFT ONTO NEW BLVD. TURN LEFT ONTO WEST ST. MERGE ONTO I-91 S VIA THE RAMP ON THE LEFT TOWARD NEW HAVEN. MERGE ONTO CT-9 N VIA EXIT 22N TOWARD NEW BRITAIN. MERGE ONTO CT-72 W VIA EXIT 28 ON THE LEFT TOWARD BRISTOL. MERGE ONTO I-84 E VIA EXIT 6 TOWARD FARMINGTON / HARTFORD. TAKE THE FLEMANN RD EXIT, EXIT 37, TOWARD US-6 W. KEEP RIGHT TO TAKE THE FLEMANN RD. RAMP TOWARD NEW BRITAIN. TURN SLIGHT RIGHT ONTO FLEMANN RD. FLEMANN RD BECOMES FARMINGTON AVE. 723 FARMINGTON AVE IS ON THE LEFT.

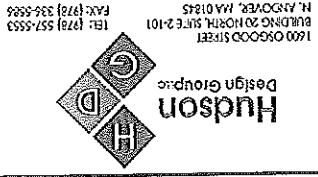
GENERAL NOTES

1. THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF AT&T. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.
2. THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
3. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE AT&T REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.



CALL TOLL FREE 800-922-4455

UNDERGROUND SERVICE ALERT



a Unitel GLOBAL SERVICES company
 800 MARSHALL PHELPS ROAD UNIT#: 2A
 WINDSOR, CT 06095

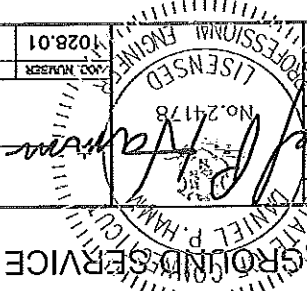
SITE NUMBER: CT1028
SITE NAME:
 NEW BRITAIN FARMINGTON AVE
 723 FARMINGTON AVE
 NEW BRITAIN, CT 06053
 HARTFORD COUNTY



500 ENTERPRISE DRIVE, SUITE 3A
 ROCKY HILL, CT 06067

NO.	DATE	ISSUED FOR
1	04/18/12	ISSUED FOR CONSTRUCTION
0	03/21/12	ISSUED FOR REVIEW

SCALE: AS SHOWN
 DESIGNED BY: RP
 DRAWN BY: RP



AT&T

TITLE SHEET (LTC)

DRAWING NUMBER

1-1

REV

1

1609 GODOO STREET
BLOOMING 20 NORTH, SUITE 2-101
N. AVONER, MA 01845
TEL: (978) 527-5553
FAX: (978) 324-5555

a Unitel Global Services Company
800 MARSHALL PHELPS ROAD UNIT# 2A
WINDSOR, CT 06095

SITE NUMBER: CT1028
SITE NAME:
 NEW BRITAIN FARMINGTON AVE
 723 FARMINGTON AVE
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 HARTFORD COUNTY

500 ENTERPRISE DRIVE, SUITE 3A
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0	03/21/12			
1	04/18/12			

NO.	DATE	ISSUED FOR CONSTRUCTION	ISSUED FOR REVIEW
0	03/21/12		
1	04/18/12		

NO.	DATE	BY	CHK	NO.
RP	DC	DPH		
RP	DC	DPH		

DESIGNED BY: RP
 DRAWN BY: RP
 DWT: 1028.01
 GN-1
 1

GROUNDING NOTES

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LP1, OR NFPA) LIGHTNING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELECOM AND IA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.
2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GCS'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OFF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BITS EQUIPMENT.
5. EACH BITS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BITS 2 AWG STRANDED COPPER FOR OUTDOOR BITS.
6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
7. APPROVED ANTI-OXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. MISCELLANEOUS FRAMES AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
11. METAL CONDUIT SHALL BE MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH 6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
12. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/2 IN. OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY.
 CONTRACTOR - NEXLINK
 SUBCONTRACTOR - GENERAL CONTRACTOR (CONSTRUCTION) OWNER - AT&T MOBILITY
2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND ULTIMATELY APPLICABLE REGULATIONS.
4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.
7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.
10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.
14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.

ABBREVIATIONS

ABBREVIATION	DESCRIPTION
AGL	ABOVE GRADE LEVEL
G.C.	GENERAL CONTRACTOR
RF	RADIO FREQUENCY
AWG	AMERICAN WIRE GAUGE
MGB	MASTER GROUND BUS
BCW	BARE COPPER WIRE
MIN	MINIMUM
TBD	TO BE DETERMINED
TBR	TO BE REMOVED
TBRR	TO BE REMOVED AND REPLACED
TYP	TYPICAL

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

AMERICAN CONCRETE INSTITUTE (ACI) 318: BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE;
 AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION, ASD, NINTH EDITION;
 STRUCTURAL STANDARDS FOR STEEL TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-F, ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES; REFER TO ELECTRICAL DRAWINGS FOR SPECIFIC ELECTRICAL STANDARDS.

FOR SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:
 AMENDMENTS
 BUILDING CODE: 2003 IBC WITH 2005 CT SUPPLEMENT & 2009 CT SHALL GOVERN THE DESIGN.
 SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

20. APPLICABLE BUILDING CODES:
 SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

19. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUT DOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AFTER MIDNIGHT.

17. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.

16. CONSTRUCTION SHALL COMPLY WITH UNITS SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T MOBILITY SITES."
 COMPATIBLE ZINC RICH PAINT.
 AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERIGED USING A TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCHUP ALL SCRATCHES STEEL SHALL BE ASTM A36 (fy = 36 ksi). ALL STEEL EXPOSED PIPES SHALL BE ASTM A53 TYPE E (fy = 36 ksi).
 STEEL SHALL BE ASTM A36 (fy = 36 ksi) UNLESS OTHERWISE NOTED. ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL

Hudson Design Group, Inc.
 1600 GOOD STREET
 BUILDING 20 NORTH, SUITE 2-101
 N. ANDOVER, MA 01815
 TEL: (978) 927-5553
 FAX: (978) 924-5555



a Unitel Global Services company
 800 MARSHALL PHELPS ROAD UNIT#: 2A
 WINDSOR, CT 06095

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SITE NAME:
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 723 FARMINGTON AVE
 NEW BRITAIN, CT 06053
 HARTFORD COUNTY

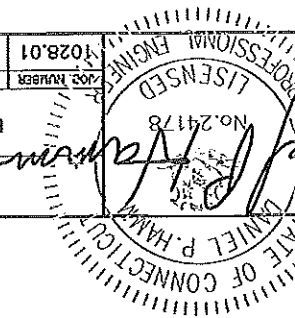
500 ENTERPRISE DRIVE, SUITE 3A
 ROCKY HILL, CT 06067



SCALE: AS SHOWN

NO.	DATE	REVISIONS
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0	03/21/12	ISSUED FOR REVIEW

DESIGNED BY: RP
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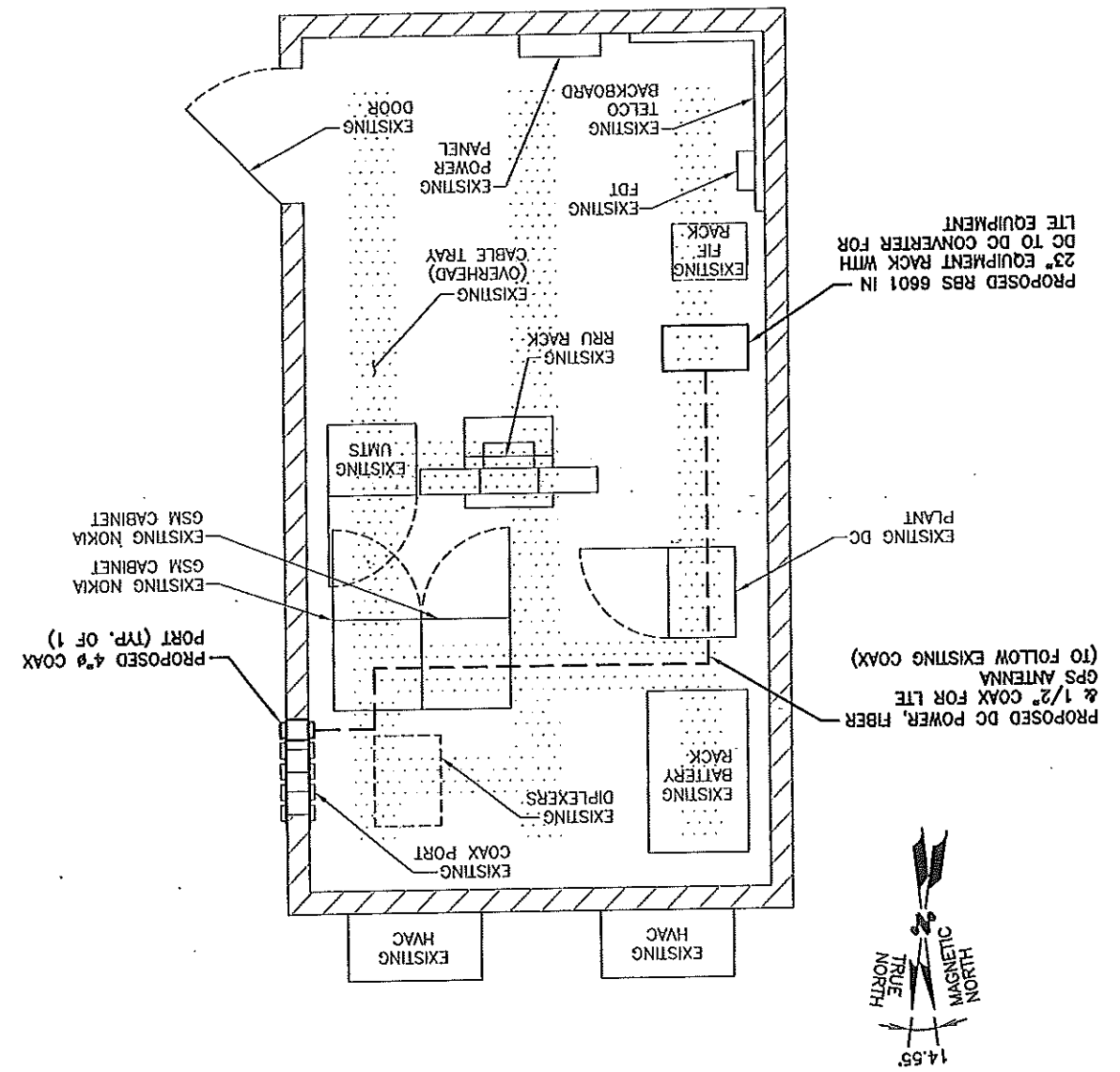
AT&T

EQUIPMENT & COMPOUND PLAN (LTE)

DRAWING NUMBER: A-1

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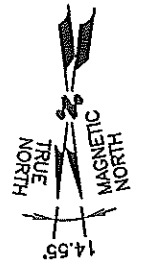
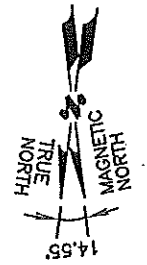
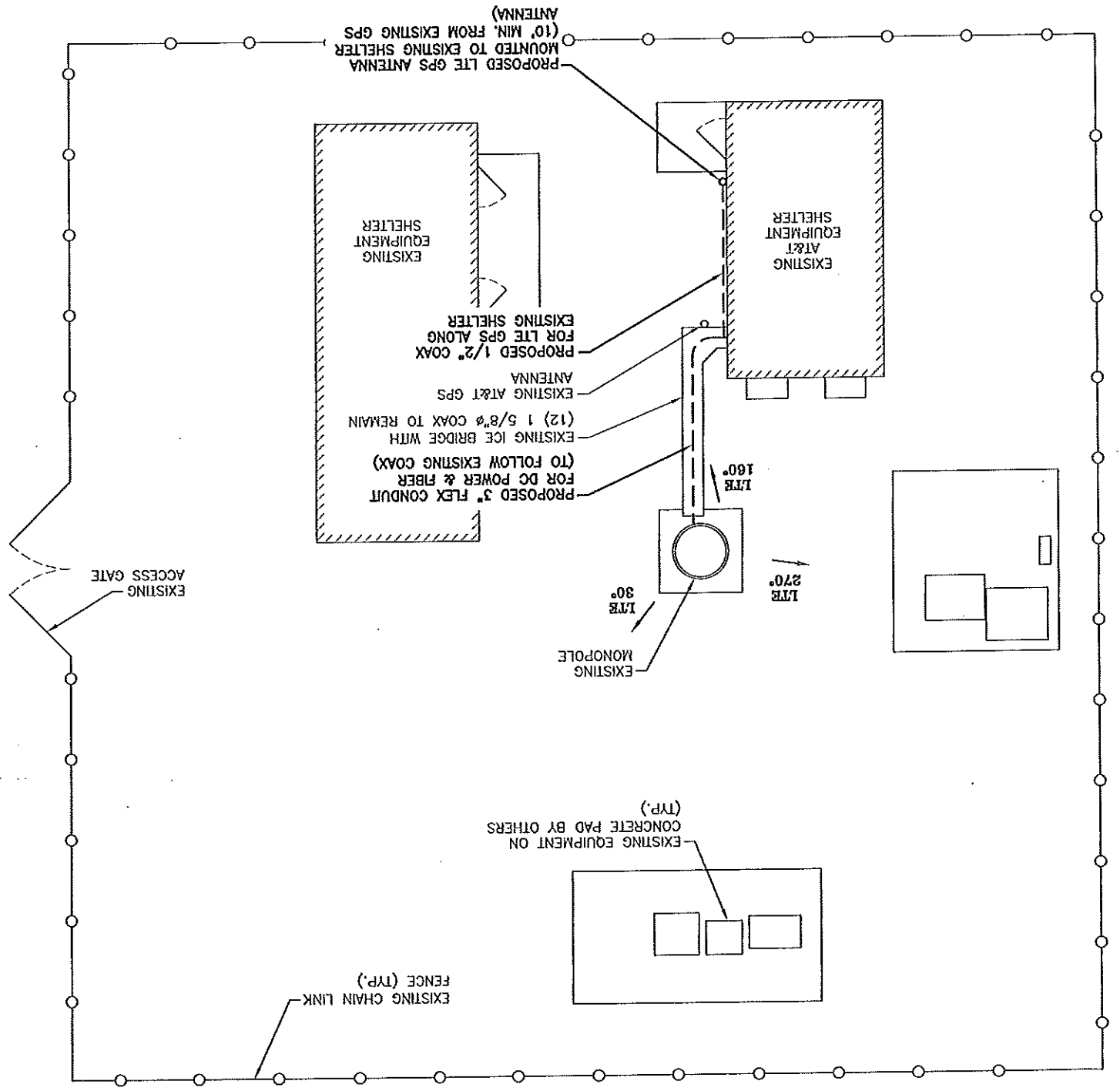
EQUIPMENT PLAN
 SCALE: 1/2"=1'-0"



NOTE:
 REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:
 AN ANALYSIS FOR THE CAPACITY TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.

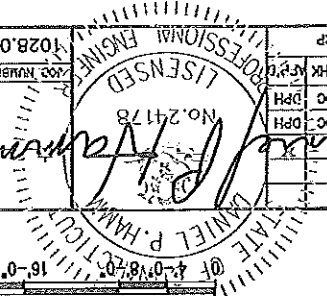
COMPOUND PLAN
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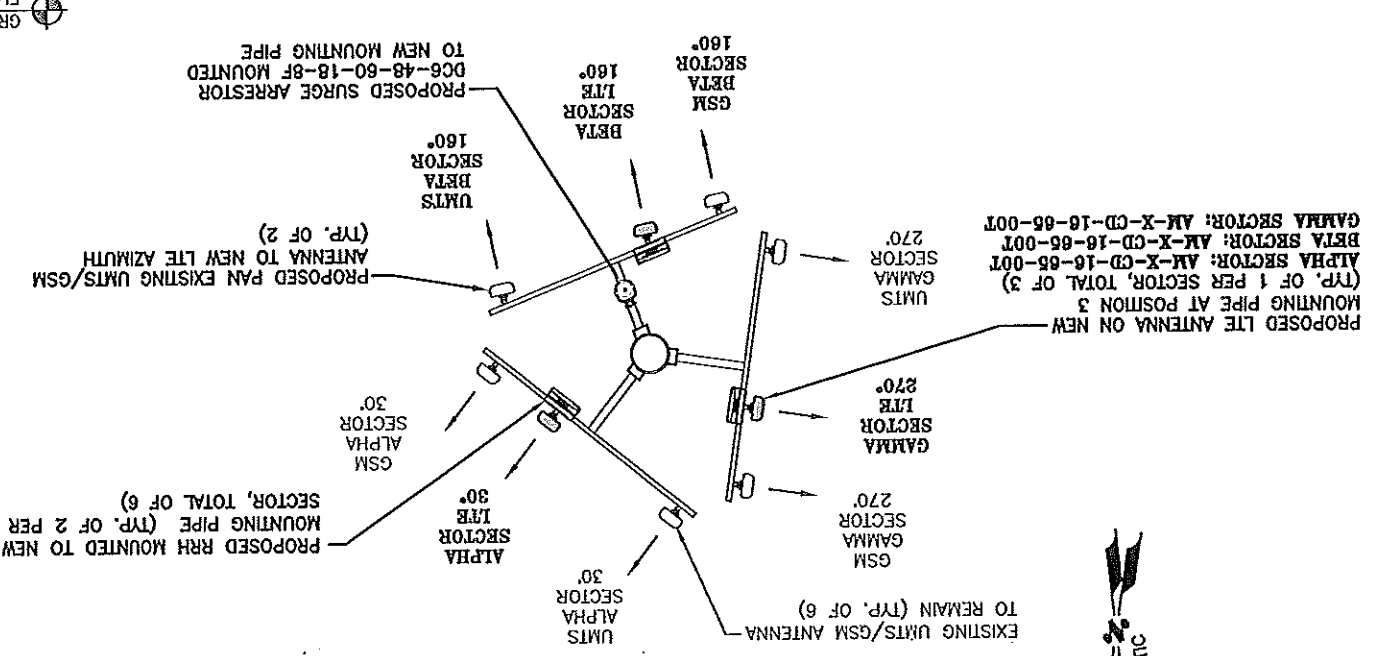


NO.	DATE	REVISIONS	DESIGNED BY	DRAWN BY	SCALE: AS SHOWN
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0	03/21/12	ISSUED FOR REVIEW	RP	DCP	

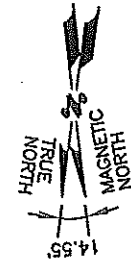
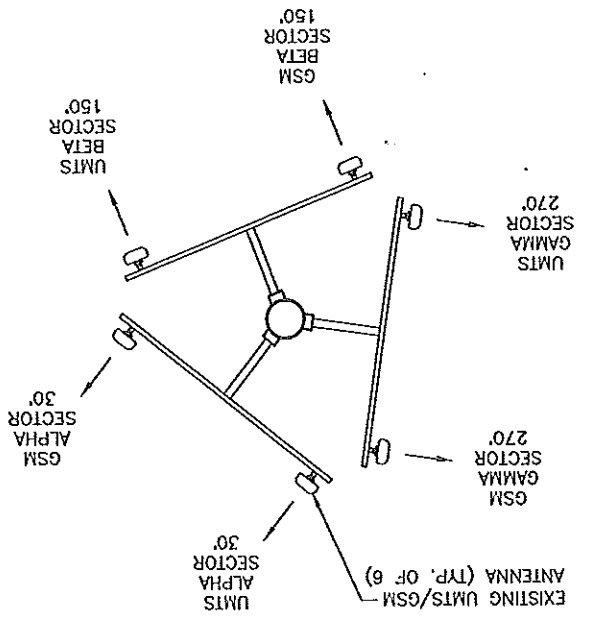
REV	DRAWING NUMBER	DESCRIPTION
1	A-2	ELEVATION & ANTENNA LAYOUT (LTE)



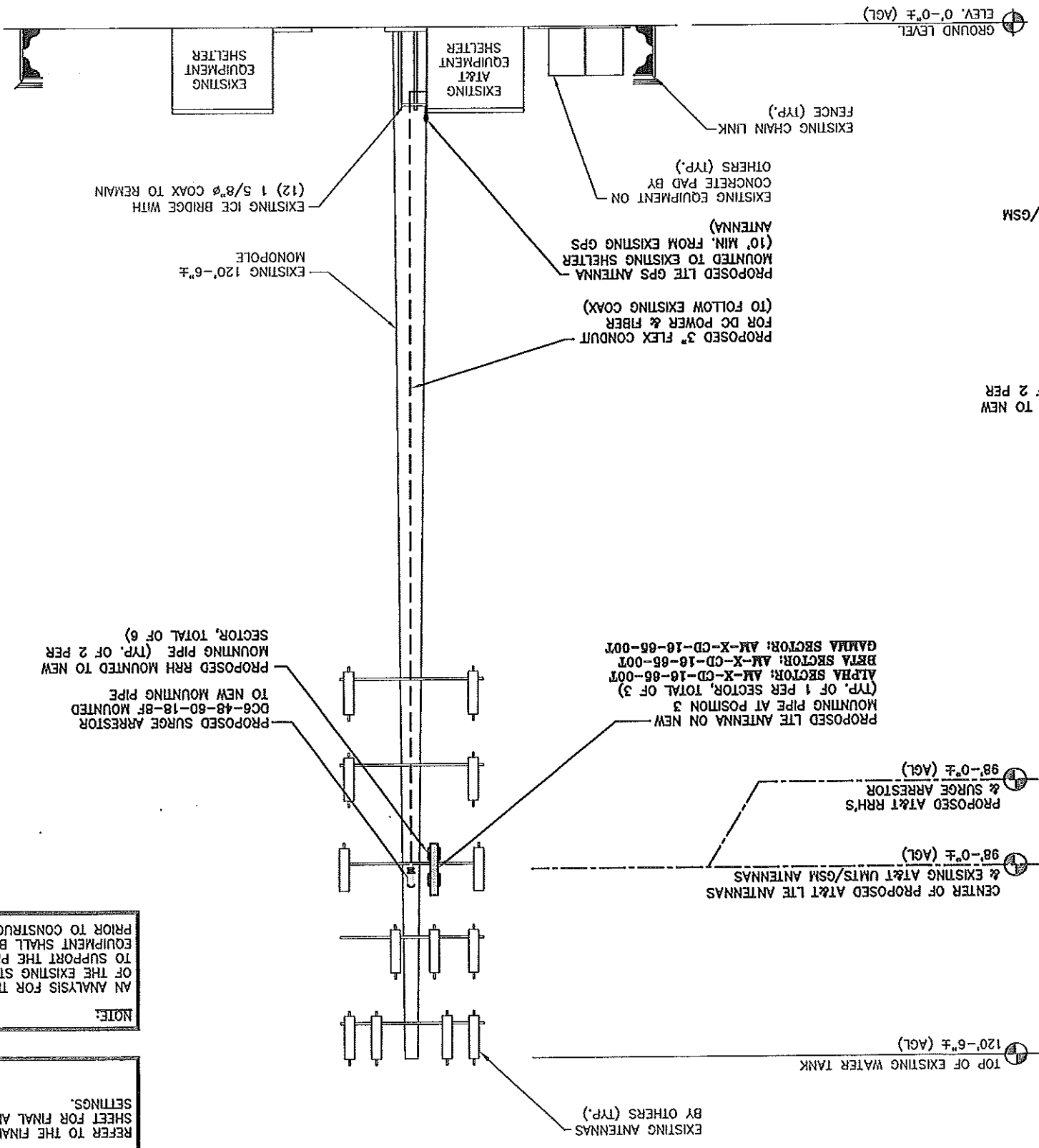
PROPOSED LTE ANTENNA PLAN
 SCALE: N.T.S.



EXISTING GSM/UMTS ANTENNA PLAN
 SCALE: N.T.S.



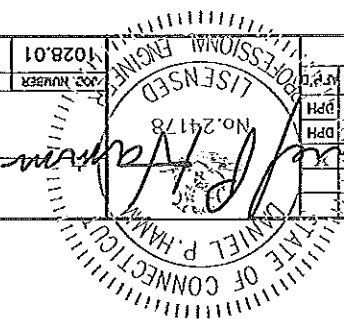
SOUTH ELEVATION
 SCALE: 1/8"=1'-0"



NOTE:
 AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.

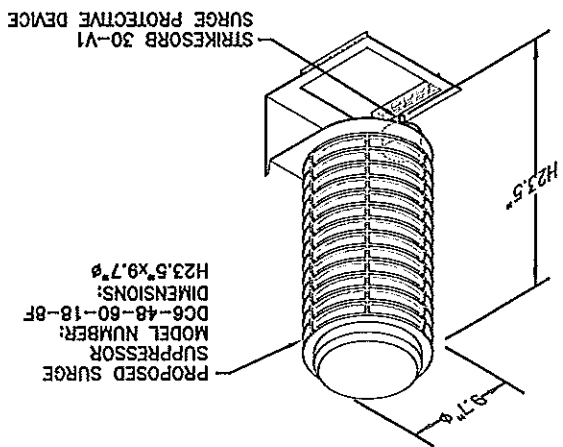
NOTE:
 REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NO.	DATE	REVISIONS	BY	CHK	APP
1	04/18/12	ISSUED FOR CONSTRUCTION	RP	DC	DPH
0	03/21/12	ISSUED FOR REVIEW	RP	DC	DPH
SCALE: AS SHOWN					
DESIGNED BY: RP					
DRAWN BY: RP					
PROJECT NUMBER: 1028.01					
DRAWING NUMBER: A-3					
DETAILS (LTE)					
AT&T					



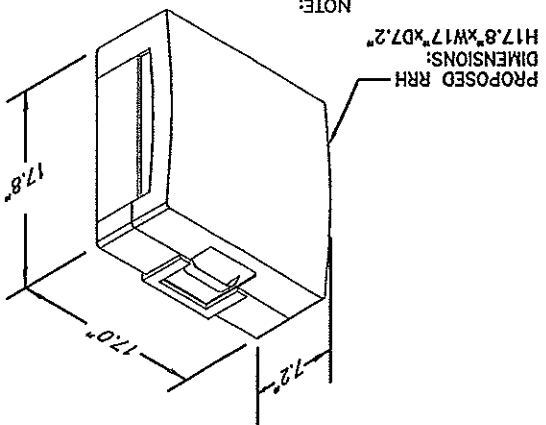
DC SURGE SUPPRESSOR DETAIL
 SCALE: N.T.S.

NOTE:
 MOUNT PER MANUFACTURER'S SPECIFICATIONS.

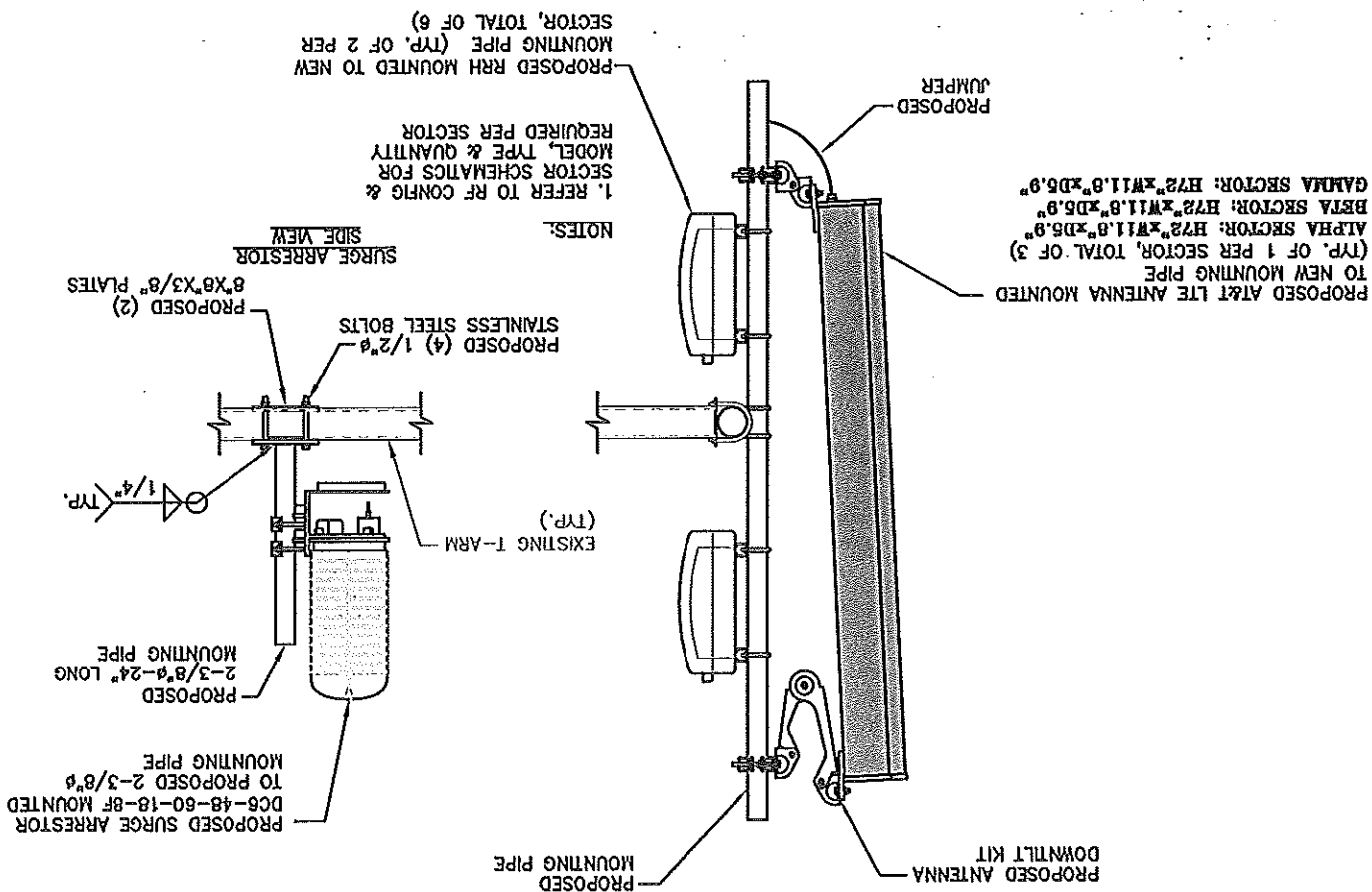


RRH DETAIL
 SCALE: N.T.S.

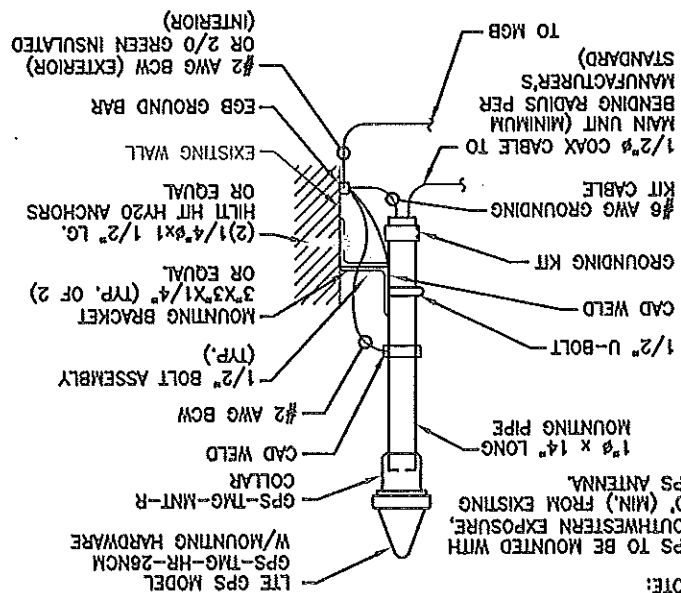
NOTE:
 MOUNT PER MANUFACTURER'S SPECIFICATIONS.



PROPOSED LTE ANTENNA, RRH & SURGE ARRESTOR MOUNTING DETAIL
 SCALE: N.T.S.



GPS MOUNTING DETAIL
 SCALE: N.T.S.



NOTE:
 AN ANALYSIS FOR THE CAPACITY TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.

NOTE:
 REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.



1600 OGDON STREET
SUITE 20 NORTH, SUITE 2-101
N. AVONER, MA 01845
TEL: (727) 557-5553
FAX: (727) 336-5555



a unitel GLOBAL SERVICES company
800 MARSHALL PHELPS ROAD UNIT# 2A
WINDSOR, CT 06095

SITE NUMBER: CT1028
SITE NAME:
NEW BRITAIN FARMINGTON AVE
723 FARMINGTON AVE
NEW BRITAIN, CT 06053
HARTFORD COUNTY



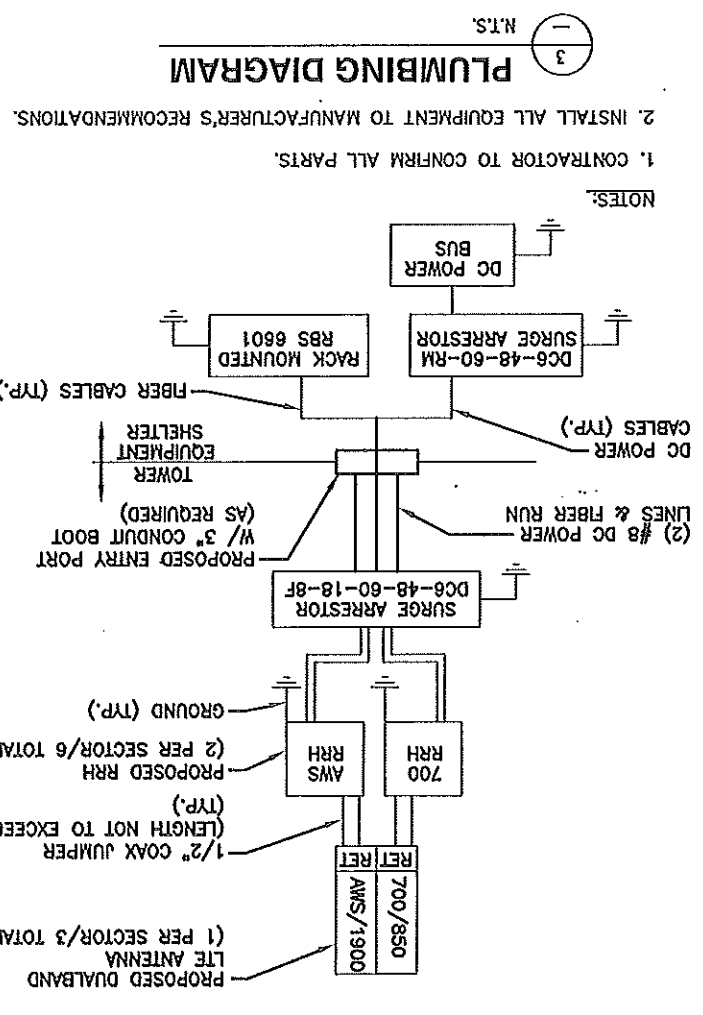
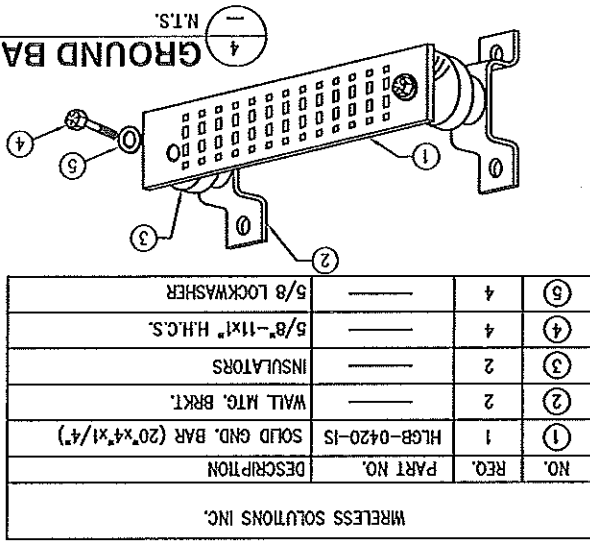
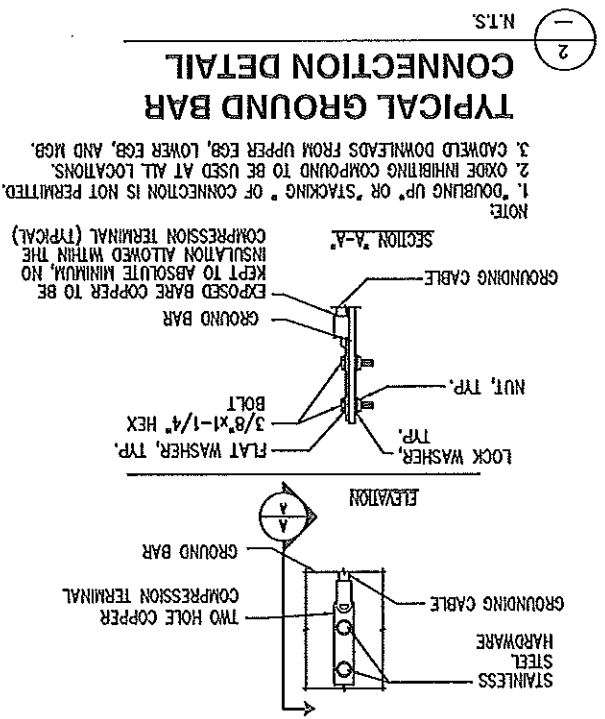
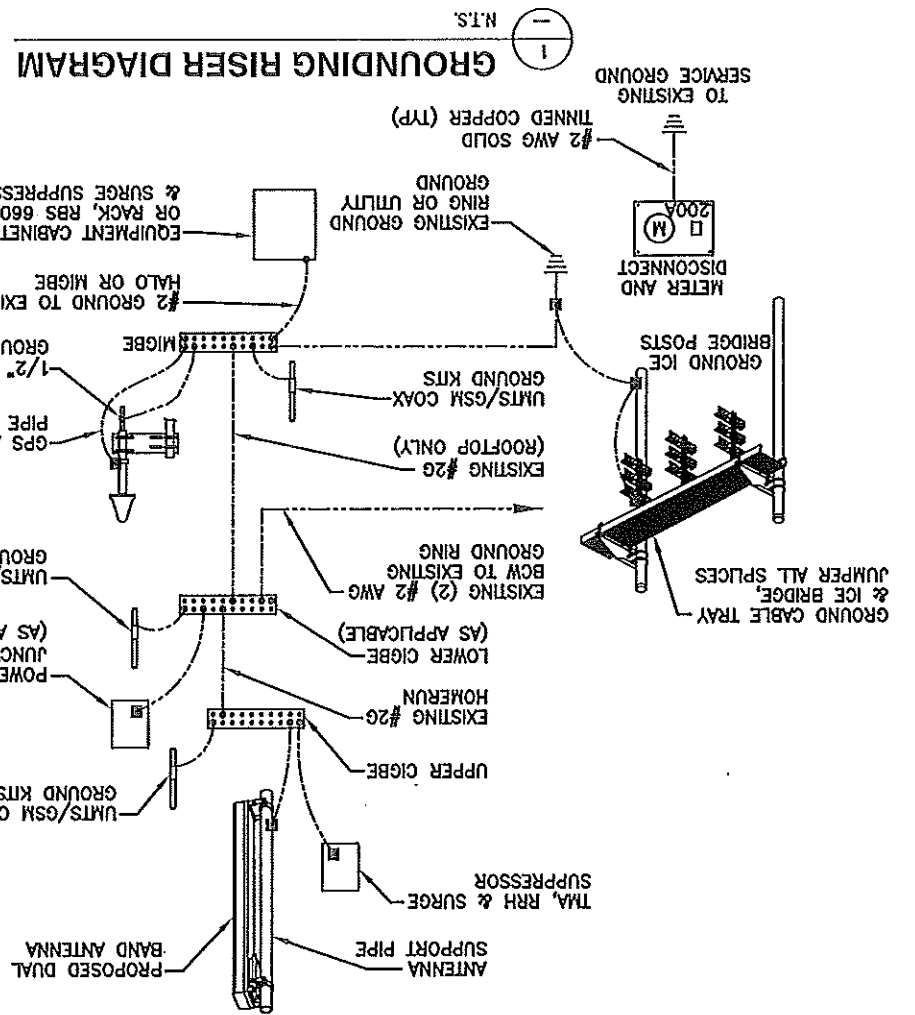
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP'D.
1	04/18/12	ISSUED FOR CONSTRUCTION	RP	DC	DPH
0	03/21/12	ISSUED FOR REVIEW	RP	DC	DPH

SCALE: AS SHOWN
DESIGNED BY: RP
DRAWN BY: RP

PROFESSIONAL ENGINEER
DANIEL P. HANCOCK
STATE OF CONNECTICUT
NO. 24178

AT&T
PLUMBING DIAGRAM & GROUNDING DETAILS (LTE)
DRAWING NUMBER
G-1
1028.01



SECTION "P" - SURGE PRODUCERS
CABLE ENTRY PORTS (HATCH PLATES) (#2)
GENERATOR FRAMEWORK (IF AVAILABLE) (#2)
TELCO GROUND BAR
COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2)
+24V POWER SUPPLY RETURN BAR (#2)
-48V POWER SUPPLY RETURN BAR (#2)
RECTIFIER FRAMES.
SECTION "A" - SURGE ABSORBERS
INTERIOR GROUND RING (#2)
EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2)
METALLIC COLD WATER PIPE (IF AVAILABLE) (#2)
BUILDING STEEL (IF AVAILABLE) (#2)

EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.