



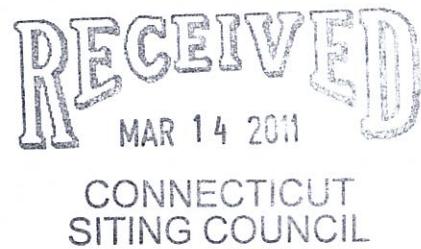
New Cingular Wireless PCS, LLC
500 Enterprise Drive
Rocky Hill, Connecticut 06067-3900
Phone: (860) 463-5511
Fax: (860) 513-7190

Douglas L. Culp
Real Estate Consultant

HAND DELIVERED

March 14, 2011

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



Re: New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 46 Meadow Road Clinton, CT (owner: SBA Netowrk Services, Inc.)

Dear Ms. Roberts:

In order to accommodate technological changes, implement Uniform Mobile Telecommunications System (“UMTS”) and/or Long Term Evolution (“LTE”) capabilities, and enhance system performance in the State of Connecticut, New Cingular Wireless PCS, LLC (“AT&T”) plans to modify the equipment configurations at many of its existing cell 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 attachments is being sent to the chief elected official of the municipality in which the affected cell site is located.

UMTS technology offers services to mobile computer and phone users anywhere in the world. Based on the Global System for Mobile (“GSM”) communication standard, UMTS is the planned worldwide standard for mobile users. UMTS, fully implemented, gives computer and phone user’s high-speed access to the Internet as they travel. They have the same capabilities even when they roam, through both terrestrial wireless and satellite transmissions.

LTE is a new high-performance air interface for cellular mobile communications, designed to increase the capacity and speed of mobile telephone networks.

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.

The changes to the facility do not constitute modifications 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 or altered. 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)(2).

1. The height of the overall structure will be unaffected.
2. The proposed changes will not extend the site boundaries. There will be no effect on the site compound other than some enlarged equipment pads as may be noted in the attachments.
3. The proposed changes will not increase the noise level at the existing facility by six decibels or more.
4. Radio frequency power density may increase due to use of one or more GSM channel for UMTS transmissions. Moreover, LTE will utilize additional radio frequencies newly-licensed by the FCC for cellular mobile communications. However, the changes 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.

For the foregoing reasons, AT&T respectfully submits that the proposed changes at the referenced site constitute exempt modifications under R.C.S.A. Section 16-50j-72(b)(2).

Please feel free to call me at (860) 463-5511 with questions concerning this matter. Thank you for your consideration.

Sincerely,



Douglas L. Culp
Real Estate Consultant

Attachments

NEW CINGULAR WIRELESS PCS, LLC
Equipment Modification

46 Meadows Road
Site Number 2230
Exempt Mod: 7/07

Tower Owner/Manager: SBA

Equipment configuration: Monopole

Current and/or approved: Three PowerWave 7770 antennas and
six CSS antennas @ 150 ft
Six TMA's and six diplexers @ 150 ft
Twelve runs 1 5/8" inch coax to 150 ft
Equipment Shelter

Planned Modifications: Retain existing coax
Remove existing Antennas, TMA's and Diplexers
Install nine KMW14-65 antennas or equivalent @ 150 ft
Install six Ericsson RRUS 11 remote radio heads @ 150 ft
Install six PowerWave Twin BP TMA's
Install one surge protector @ 150 ft
Install one fiber and two DC power cables to 150 ft

Power Density:

Worst-case calculations for existing wireless operations at the site, using standard parameters for other carriers, indicate a radio frequency electromagnetic radiation power density, measured at the tower base, of approximately 14.8 % of the standard adopted by the FCC. As depicted in the second table below, the total radio frequency electromagnetic radiation power density following proposed modifications would be approximately 16.2 % of the standard.

Existing

Company	Centerline Ht (feet)	Frequency (MHz)	Number of Channels	Power Per Channel (Watts)	Power Density (mW/cm ²)	Standard Limits (mW/cm ²)	Percent of Limit
Other Users							10.49
AT&T UMTS	150	880-894	1	500	0.0080	0.5867	1.36
AT&T GSM	150	1900 Band	2	427	0.0136	1.0000	1.36
AT&T GSM	150	880 - 894	2	296	0.0095	0.5867	1.61
Total							14.8%

* Data for other users are from Siting Council records.

Proposed

Company	Centerline Ht (feet)	Frequency (MHz)	Number of Channels	Power Per Channel (Watts)	Power Density (mW/cm ²)	Standard Limits (mW/cm ²)	Percent of Limit
Other Users							10.49
AT&T UMTS	150	880-894	1	500	0.0080	0.5867	1.36
AT&T GSM	150	1900 Band	2	427	0.0136	1.0000	1.36
AT&T GSM	150	880 - 894	2	296	0.0095	0.5867	1.61
AT&T LTE	150	740 -746	1	500	0.0080	0.4933	1.62
Total							16.4%

* Data for other users are from Siting Council records.

Structural information:

The attached structural analysis demonstrates that the tower and foundation have adequate structural capacity to accommodate the proposed modifications (Centek, Dated March 7, 2011).

PROJECT INFORMATION



SCOPE OF WORK: UNMANNED TELECOMMUNICATIONS FACILITY MODIFICATIONS
 SITE ADDRESS: 46 MEADOWS ROAD
 CLINTON, CT 06413
 LATITUDE: 41.275198° N
 LONGITUDE: -72.497707° W
 JURISDICTION: NATIONAL, STATE & LOCAL CODES OR ORDINANCES
 CURRENT USE: TELECOMMUNICATIONS FACILITY
 PROPOSED USE: TELECOMMUNICATIONS FACILITY
 NOC#:

SITE NUMBER: CT2230 SITE NAME: CLINTON

DRAWING INDEX

REV

T-1 TITLE SHEET

1

GN-1 GENERAL NOTES

1

A-1 COMPOUND & EQUIPMENT PLAN

1

A-2 ANTENNA LAYOUT AND ELEVATION

1

A-3 DETAILS

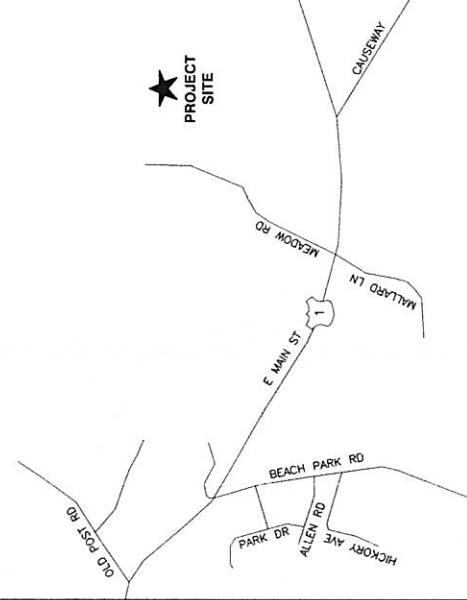
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G-1 PLUMBING DIAGRAM & DETAILS

1

VICINITY MAP

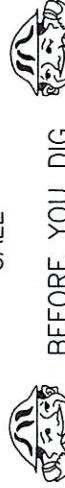
FROM ROCKY HILL, CT: START OUT, GOING NORTHEAST ON ENTERPRISE DR TOWARD CAPITOL BLVD. 0.4 MI TURN LEFT ONTO CAPITOL BLVD. 0.3 MI TURN LEFT ONTO NEW HAVEN, 1.4 MI MERGE ONTO CT-9 S VIA THE RAMP ON THE LEFT TOWARD MIDDLETON/OLD SALEM. 29.3 MI MERGE INTO I-95 S/GOVERNOR DAVIS COUGHTON PARKWAY TOWARD NEW HAVEN, CT. TURN LEFT ONTO B RT 156 SESSON RD. TURN LEFT ONTO 156 S. TURN LEFT ONTO WESTBROOK PL. TURN LEFT ONTO RT 156 SESSON RD. TURN LEFT ONTO US 1. TURN LEFT PAST WESTBROOK PL. TURN RIGHT ONTO MEADOW RD. 0.2 MI. 46 MEADOW RD IS ON THE RIGHT.



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. DUPLICATION 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 SEWER SERVICE. THE FACILITY IS NOT COVERED 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



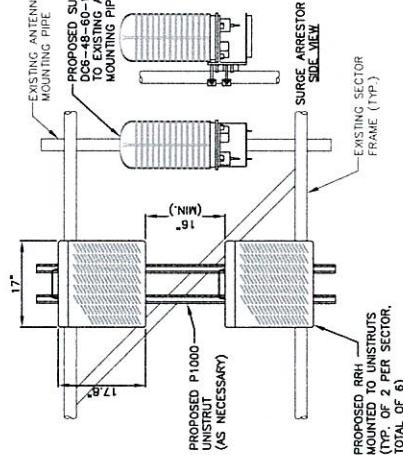
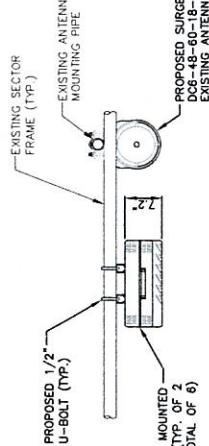
BEFORE YOU DIG
 CALL TOLL FREE 800-922-4455

UNDERGROUND SERVICE ALERT

Hudson Design Group		at&t		Title Sheet	
1000 GOODRICH ROUTE 20, SUITE 2100 N. ANDOVER, MA 01845	TEL: 978.557.5553 FAX: 978.535.5266	22 KEEWAYDIN DRIVE SALEM, NH 03079	500 ENTERPRISE DRIVE, SUITE 3A CLINTON, CT 06413 NEW LONDON COUNTY	NO. 2230.01	1
REVISIONS	BY DATE	DRAWN BY	SCALE	AS SHOWN	RENDERED BY DC
0	02/23/10	0	1:100		
NO. 2230.01	02/23/10	0	1:100		

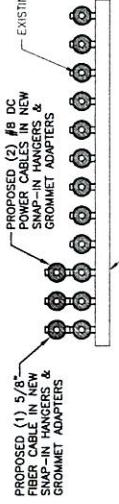
NOTE:
AN ANALYSIS FOR THE CAPACITY
OF THE EXISTING STRUCTURES
TO SUPPORT THE PROPOSED
EQUIPMENT SHALL BE DETERMINED
PRIOR TO CONSTRUCTION.

***NOTE:**
REFER TO THE FINAL RF DATA
SHEET FOR FINAL ANTENNA
CONFIGURATION



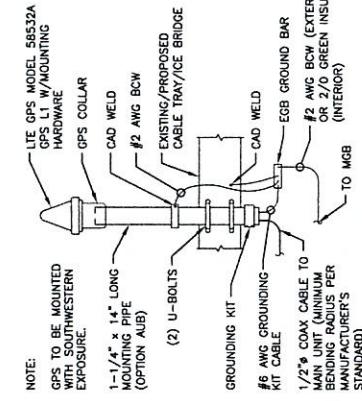
PROPOSED RRH & SURGE ARRESTOR MOUNTING DETAIL

SCALE: N.I.S.



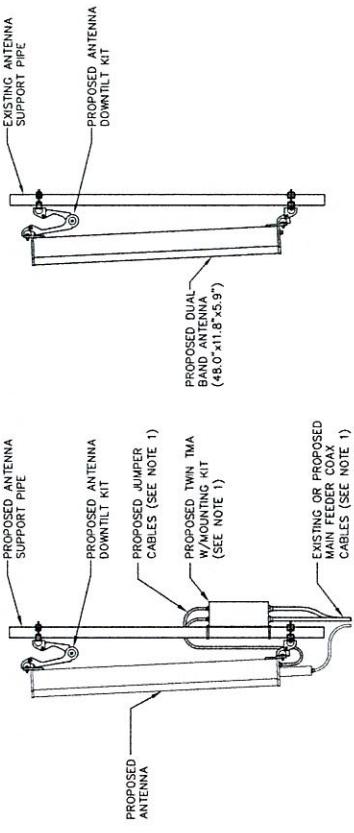
CABLE MOUNTING DETAIL

SCALE: N.I.S.



GPS MOUNTED TO CABLE TRAY/ICE BRIDGE

SCALE: N.I.S.



PROPOSED LTE ANTENNA DETAIL

SCALE: N.I.S.

NOTES:
1. REFER TO RF CONFIG & SECTOR SCHEMATIC FOR
MODEL, TYPE & QUANTITY REQUIRED PER SECTOR

PROPOSED UMTS/GSM ANTENNA DETAIL

SCALE: N.I.S.



PROPOSED ANTENNA
SUPPORT PIPE
DOWN-tilt KIT
PROPOSED TWIN TMA
W/MOUNTING KIT
(SEE NOTE 1)

CABLES (SEE NOTE 1)

PROPOSED DUAL
BAND ANTENNA
(48.0"x11.8x5.9")

EXISTING OR PROPOSED
MAIN FEEDER COAX
CABLES (SEE NOTE 1)



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

Hudson
Design Group:
(600 CHURCH STREET
SALEM, NH 03079
TEL: (603) 435-5333
FAX: (603) 435-5368

DETAILS (LTE)	at&t	AT&T
1/02/09/10 ISSUED FOR CONSTRUCTION	01/29/10 ISSUED FOR REVIEW	01/29/10 ISSUED FOR APPROVAL
NO. DATE	REVISIONS	REVISIONS
AS SHOWN	DESCRIBED BY: DC	DRAWN BY: DC
1/25/09		
REV: A-3		
1/25/09		

1/25/09

1/25/09

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1/25/09

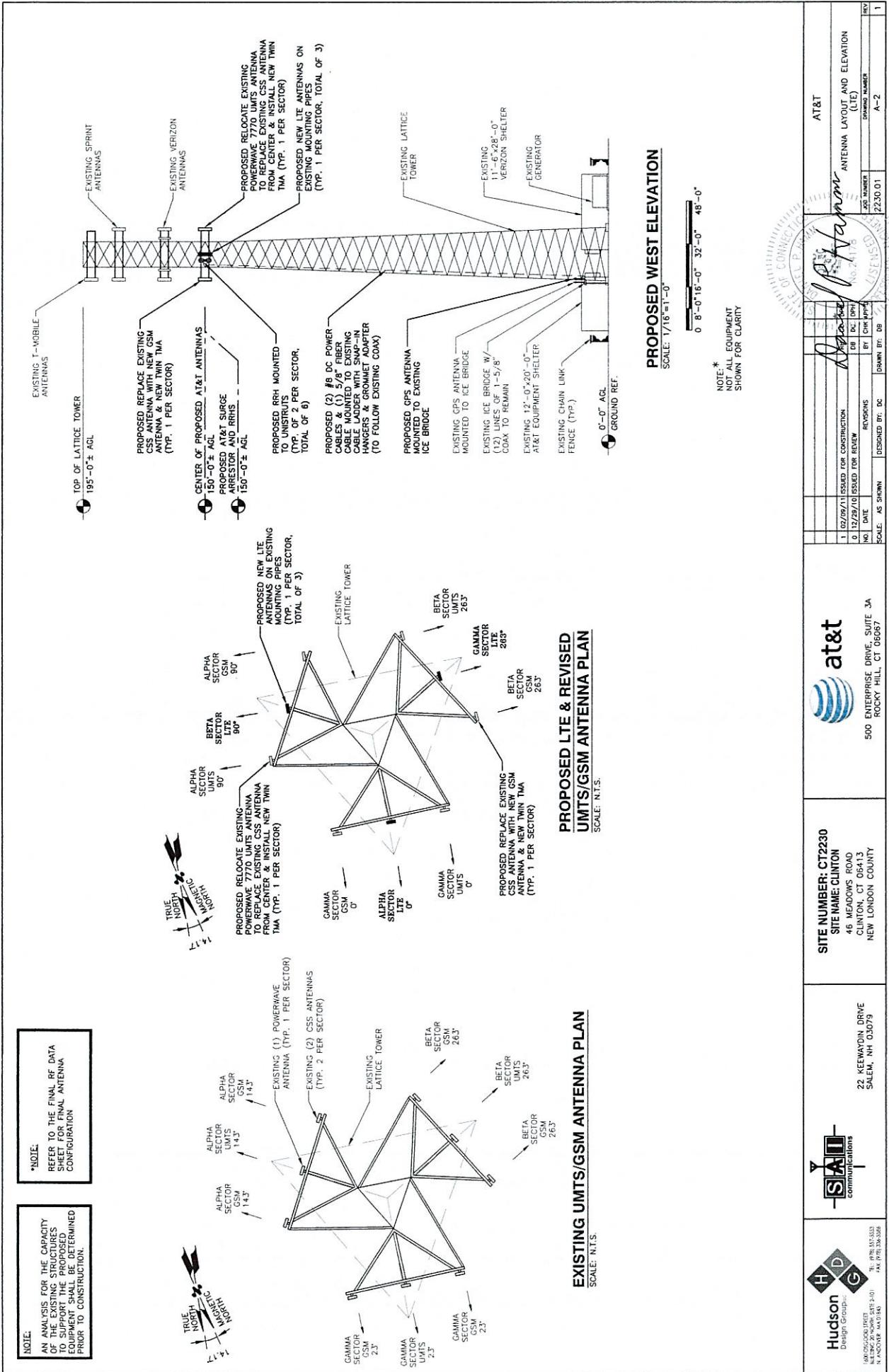
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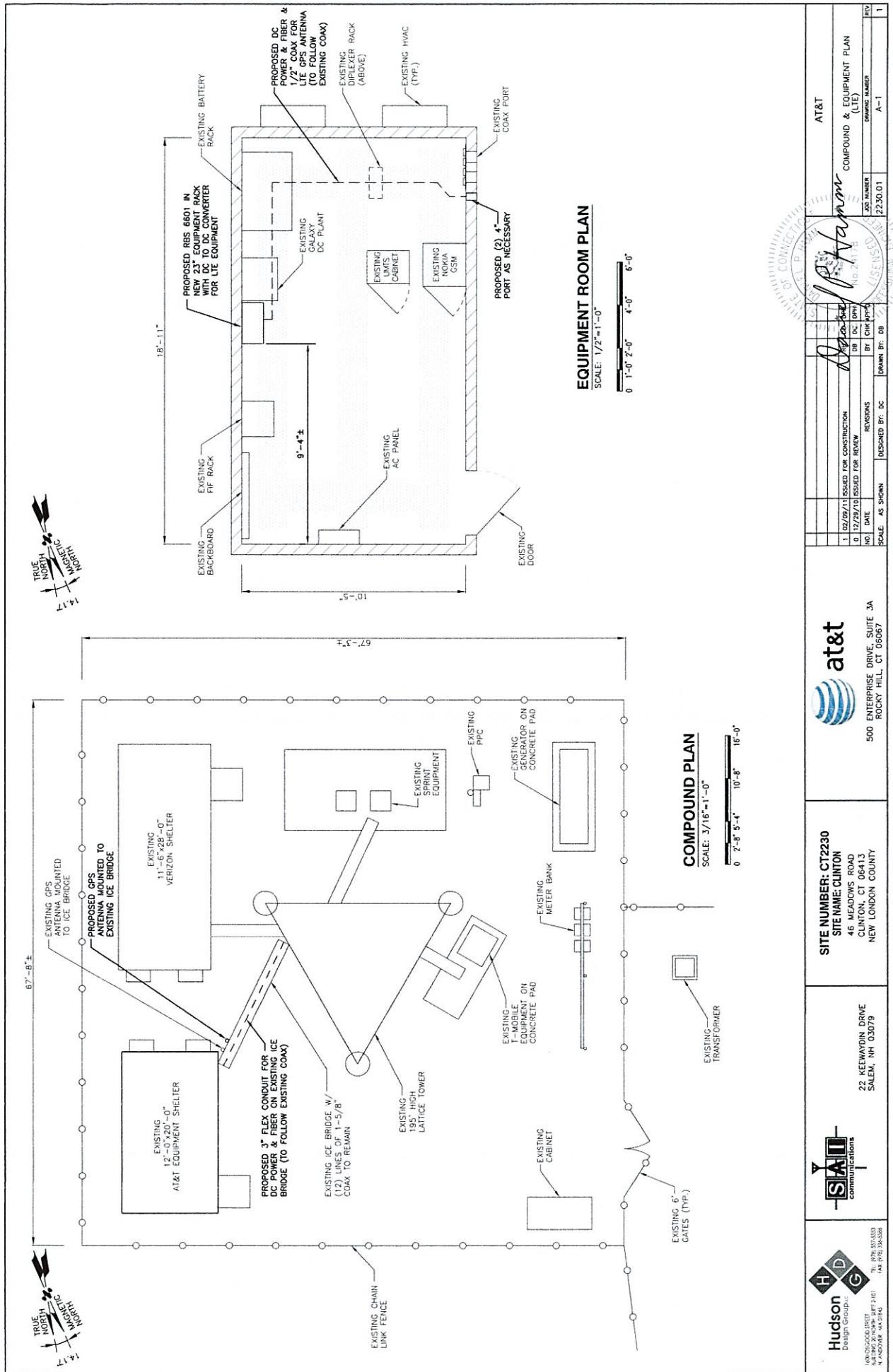
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GROUNDING NOTES

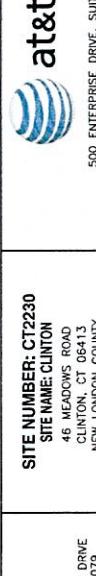
GENERAL NOTES

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, IPI, NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.
2. ALL GROUND ELECTRICAL SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GENS.) 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-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 1B) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
4. METAL RACEWAY SHALL NOT BE USED AS THE GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
5. EACH 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 BTS, 2 AWG STRANDED COPPER FOR OUTDOOR BTS.
6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUND CONNECTIONS BELOW GRADE.
7. APPROVED ANODIZANT COATINGS (i.e., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
8. ICE BRIDGE 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 ELECTRICAL 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.
13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 318.
14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE PLACED AND SHALL TAKE 400 PSI STRAIN AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.
15. 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 UMTS SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T MOBILITY SITES."
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.
18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISTURB THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW, USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
19. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE WORKERS TO DANGER. PERSONAL RF EXPLOSIVE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPLOSIVE LEVELS.
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. 2003 IBC, WITH 2005 CT SUPPLEMENT & 2009 CT AMENDMENTS.
21. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
22. 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.
23. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER 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.
24. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CUBES, LANDSCAPING, AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
25. 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.
26. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
27. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 318.
28. NO ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES, BEERFERS, OR ELECTRICAL DRAWINGS FOR SPECIFIC ELECTRICAL STANDARDS.
29. 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 A CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

ABBREVIATIONS

AGL	ABOVE GRADE LEVEL	G.C.	GENERAL CONTRACTOR	RF	RADIO FREQUENCY
AWG	AMERICAN WIRE GAUGE	MGB	MASTER GROUND BUS	TBD	TO BE DETERMINED
BCW	BARE COPPER WIRE	MIN	MINIMUM	TBR	TO BE REMOVED
BTS	BASE TRANSCEIVER STATION	PROPOSED	NEW	TBR	TO BE REMOVED AND REPLACED
EXISTING		N.T.S.	NOT TO SCALE	REF. ON DRAWINGS	Typical
EG	EQUIPMENT GROUND	REQUIRED	REF. ON DRAWINGS	REQ.	REQUIRED
EGR	EQUIPMENT GROUND RING				

AT&T
John Hoffman
General Notes
Date: 02/09/11
Issued for construction
0 12/29/10
No. 2230.01
Scale: As Shown
Designed by: DC
Drawn by: DB
Approved by: CN-1
Drawing number: 2230.01
Rev. 1
Page 1 of 1
Drawing date: 02/09/11
Issued for design
0 12/29/10
No. 2230.01
Scale: As Shown
Designed by: DC
Drawn by: DB
Approved by: CN-1
Drawing number: 2230.01
Rev. 1
Page 1 of 1



Design Group...
Hudson Communications
Hudson, NH 03049
Tel: (603) 527-5533
Fax: (603) 527-5533
E-Mail: info@hudsoncommunications.com

REV. 1
1/1/2011
1/1/2011

REV. 1
1/1/2011
1/1/2011



FDH Engineering, Inc., 2730 Rowland Rd. Raleigh, NC 27615, Ph. 919.755.1012, Fax 919.755.1031

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

195' Self Support Tower

**SBA Site Name: Clinton 4
SBA Site ID: CT01879-S**

FDH Project Number 11-03012E S1

Prepared By:

Krystyn Wagner, EI
Project Engineer

Reviewed By:

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

FDH Engineering, Inc.
2730 Rowland Rd.
Raleigh, NC 27615
(919) 755-1012
info@fdh-inc.com



March 11, 2011

Prepared pursuant to TIA/EIA-222-F June 1996 Structural Standards for Steel Antenna Towers and Antenna Supporting Structures

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EXECUTIVE SUMMARY

At the request of SBA Network Services, Inc., FDH Engineering, Inc. performed an analysis of the existing self supported tower located in Clinton, 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*. Information pertaining to the existing/proposed antenna loading, geotechnical data, current tower geometry, and the member sizes was obtained from Sabre Communications Corporation (Job No. 00-10101) Structural Design Report dated November 19, 1999, Jaworski Geotech, Inc. (Job No. 99500G) Field Soil Screening dated December 13, 1999, and SBA Network Services, Inc.

The *basic design wind speed* per *TIA/EIA-222-F* standards is 85 mph without ice and 61 mph with 1/2" radial ice.

Conclusions

With the existing and proposed loading from AT&T in place at 152 ft, the tower meets the requirements of the *TIA/EIA-222-F* standards 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. 00-10101), 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 are met with the existing and proposed loading in place, we have the following recommendations:

1. Coax lines must be installed as shown in **Figure 1**.
2. The proposed TMAs and RRHs should be installed directly behind the proposed antennas.

APPURTEINANCE 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 this layout, FDH Engineering, Inc. should be contacted to perform a revised analysis.

Table 1 – Appurtenance Loading

Existing Loading:

Antenna No.	Antenna Elevation (ft)	Description	Coax and Lines ¹	Carrier	Mount Elevation (ft)	Mount Type
1-12	192.5	(9) EMS RR90-17-02DP (3) RFS APX16DWV-16DWV-S (3) Twin PCS TMAs (3) Twin AWS TMAs	(12) 1-5/8"	T-Mobile	192	(3) T-Frames
13	192	(1) Celwave PD1151 Omni	(1) 7/8"	Town of Clinton	184	(1) Standoff ($C_{AA} = 2.72 \text{ ft}^2$)
14-25	182 ²	(12) Decibel DB980G90	(12) 1-5/8"	Sprint	182	(3) T-Frames
26-37	162	(6) Decibel DB844H80E-XY (6) Decibel DB948F85T2E-M	(12) 1-5/8"	Verizon	162	(3) T-Frames
38-49	152 ³	(9) CSS DUO1417-8686 (3) Powerwave 7770 (6) ADC Cleargain Dual Banc 800/1900 TMAs (3) CSS Dual Band Combiners (3) Powerwave LGP13519 Dplexers	(12) 1-5/8"	AT&T	152	(3) T-Frames
50-52	143.5	(3) Sinclair SD312HL Dipoles	(3) 7/8"	Town of Clinton	140	(3) Standoffs ($C_{AA} = 2.72 \text{ ft}^2$ each)
53	100	(1) Radiowaves RDH4518A Dish	(2) CAT 5e		100	(1) Pipe Mount

1. See Figure 1 for coax location.

2. Sprint currently has (6) antennas and (6) coax installed at 182 ft. According to information provided by SBA, Sprint may install up to (12) antennas and (12) coax. Analysis performed with total leased loading in place.

3. The loading for AT&T at 152 ft will be altered. See the proposed loading below.

Proposed Loading:

Antenna No.	Antenna Elevation (ft)	Description	Coax and Lines	Carrier	Mount Elevation (ft)	Mount Type
1-12	152 ¹	(9) KMW AM-X-CD-14-65-00T (3) Powerwave 7770 (3) Powerwave LGP13519 Dplexers (3) CSS DBC-750 Combiners (6) Powerwave TT190-08BP111-001 TMAs (6) Ericsson RRUS-11 RRHs (1) Raycap DC6-48-60-18-8F	(12) 1-5/8" (1) 3" Conduit	AT&T	152	(3) T-Frames

1. This represents the final loading for AT&T at 152 ft. According to information provided by SBA, AT&T will remove all existing antennas, TMAs, combiners, and Dplexers and install (9) KMW AM-X-CD-14-65-00T antennas, (6) Powerwave TT190-08BP111-001 TMAs, (6) Ericsson RRUS-11 RRHs, (1) Raycap DC6-48-60-18-8F, and (1) 3" Conduit with Fiber and DC Cables. AT&T may install an additional (3) Powerwave 7770 antennas, (3) Powerwave LGP13519 Dplexers, and (3) CSS DBC-750 Combiners at this elevation.

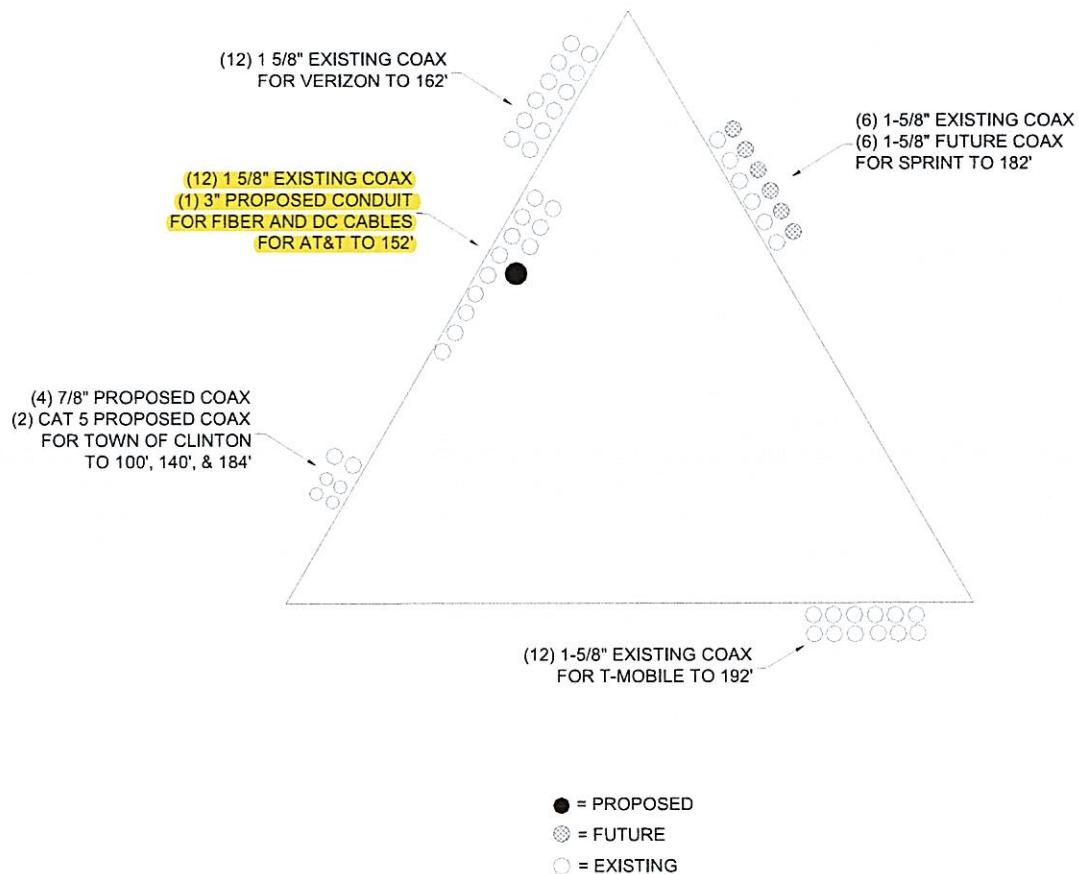


Figure 1 – Coax Layout

RESULTS

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

Table 2 - Material Strength

Member Type	Yield Strength
Legs	50 ksi
Diagonals	36 ksi
Horizontals	36 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 – Working Percentage of Structural Components

Section No.	Elevation ft	Component Type	Size	% Capacity	Pass Fail
T1	195 - 180	Leg	P2x.154	41.7	Pass
		Diagonal	L1 3/4x1 3/4x3/16	28.9 30.7 (b)	Pass
		Top Girt	L1 3/4x1 3/4x3/16	4.1	Pass
T2	180 - 160	Leg	P3x.216	54.9	Pass
		Diagonal	L1 3/4x1 3/4x3/16	52.7	Pass
		Top Girt	L1 3/4x1 3/4x3/16	7.4	Pass
T3	160 - 140	Leg	P3x.3	75.4	Pass
		Diagonal	L2x2x3/16	75.4	Pass
T4	140 - 120	Leg	P4x.337	74.5	Pass
		Diagonal	L2 1/2x2 1/2x3/16	68.9	Pass
T5	120 - 100	Leg	P5x.375	64.8	Pass
		Diagonal	L2 1/2x2 1/2x3/16	92.8	Pass
T6	100 - 80	Leg	P6x.28	82.7	Pass
		Diagonal	L3x3x3/16	73.0	Pass
T7	80 - 70	Leg	P6x.432	66.0	Pass
		Diagonal	L3x3x1/4	86.9	Pass
T8	70 - 60	Leg	P6x.432	71.4	Pass
		Diagonal	L3x3x1/4	96.7	Pass
T9	60 - 50	Leg	P8x.322	70.3	Pass
		Diagonal	L3x3 1/2x1/4	86.6	Pass
T10	50 - 40	Leg	P8x.322	75.1	Pass
		Diagonal	L3x3 1/2x1/4	98.1	Pass
T11	40 - 30	Leg	P8x.322	79.9	Pass
		Diagonal	L3 1/2x3 1/2x1/4	86.5	Pass
T12	30 - 20	Leg	P8x.322	84.5	Pass
		Diagonal	L3 1/2x3 1/2x1/4	93.9	Pass
T13	20 - 0	Leg	P8x.5	62.0	Pass
		Diagonal	L3 1/2x4x1/4	99.5	Pass

*Capacities include 1/3 allowable increase for wind.

Table 4 – Maximum Base Reactions

Load Type	Direction	Current Analysis (TIA/EIA-222-F)	Original Design (TIA/EIA-222-F)
Individual Foundation	Horizontal	29 k	29 k
	Uplift	237 k	258 k
	Compression	276 k	306 k
Overspinning Moment	--	5,202 k-ft	5,764 k-ft

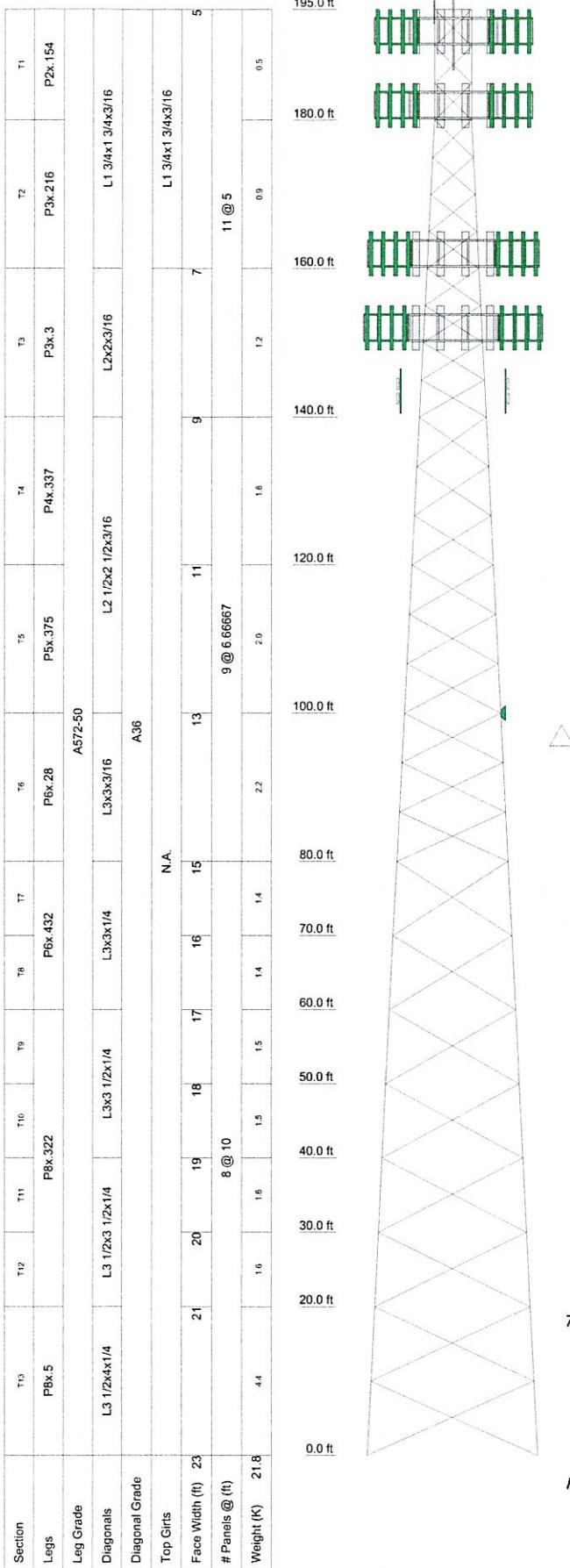
GENERAL COMMENTS

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



DESIGNED APPURTEINANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Lightning Rod	195	(2) DB844H80E-XY w/Mount Pipe (Verizon)	162
RFS APX16DWV-16DWV-S w/ Mount Pipe (T-Mobile)	192	(2) DB844H80E-XY w/Mount Pipe (Verizon)	162
(3) RR90-17-02DP w/Mount Pipe (T-Mobile)	192	Powerwave 7770 w/ Mount Pipe (ATT)	152
RFS APX16DWV-16DWV-S w/ Mount Pipe (T-Mobile)	192	Powerwave 7770 w/ Mount Pipe (ATT)	152
(3) RR90-17-02DP w/Mount Pipe (T-Mobile)	192	Powerwave 7770 w/ Mount Pipe (ATT)	152
RFS APX16DWV-16DWV-S w/ Mount Pipe (T-Mobile)	192	(2) TMA - Powerwave TT19-0BBP111-001 (ATT)	152
Twin PCS TMA (T-Mobile)	192	(2) TMA - Powerwave TT19-0BBP111-001 (ATT)	152
Twin AWS TMA (T-Mobile)	192	TMA - LGP13519 (ATT)	152
Twin PCS TMA (T-Mobile)	192	TMA - LGP13519 (ATT)	152
Twin AWS TMA (T-Mobile)	192	TMA - LGP13519 (ATT)	152
Twin AWS TMA (T-Mobile)	192	Combiner - CSS DBC-750 (ATT)	152
(3) T-Frames (T-Mobile)	192	Combiner - CSS DBC-750 (ATT)	152
(3) RR90-17-02DP w/Mount Pipe (T-Mobile)	192	Combiner - CSS DBC-750 (ATT)	152
(2) RRUS-11 (ATT)	184	(2) RRUS-11 (ATT)	152
Standoff (Town of Clinton)	184	(2) RRUS-11 (ATT)	152
(3) T-Frames (Sprint)	182	Raycap DC6-48-60-18-8F (ATT)	152
(4) DB980G90E-M w/Mount Pipe (Sprint)	182	(3) T-Frames (ATT)	152
(4) DB980G90E-M w/Mount Pipe (Sprint)	182	(3) KMW AM-X-CD-14-65-00T w/ Mount Pipe (ATT)	152
(4) DB980G90E-M w/Mount Pipe (Sprint)	182	(3) KMW AM-X-CD-14-65-00T w/ Mount Pipe (ATT)	152
(2) DB948F85T2E-M w/Mount Pipe (Verizon)	162	(3) KMW AM-X-CD-14-65-00T w/ Mount Pipe (ATT)	152
(2) DB948F85T2E-M w/Mount Pipe (Verizon)	162	Sinclair SD312HL (Town of Clinton)	140
(2) DB948F85T2E-M w/Mount Pipe (Verizon)	162	Standoff (Town of Clinton)	140
(3) T-Frames (Verizon)	162	Sinclair SD312HL (Town of Clinton)	140
(2) DB844H80E-XY w/Mount Pipe (Verizon)	162	Sinclair SD312HL (Town of Clinton)	140
		Pipe Mount (Town of Clinton)	100
		RDH4518A (Town of Clinton)	100

MATERIAL STRENGTH

GRADE	F _y	F _u	GRADE	F _y	F _u
A572-50	50 ksi	65 ksi	A36	36 ksi	58 ksi

TOWER DESIGN NOTES

1. Tower is located in Middlesex County, Connecticut.
2. Tower designed for a 85 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 74 mph basic wind with 0.50 in ice.
4. Deflections are based upon a 50 mph wind.
5. TOWER RATING: 99.5%

MAX. CORNER REACTIONS AT BASE:

DOWN: 276 K

UPLIFT: -237 K

SHEAR: 29 K

AXIAL
70 K

SHEAR
44 K MOMENT
4991 kip-ft

TORQUE 25 kip-ft
74 mph WIND - 0.5000 in ICE

AXIAL
44 K

SHEAR
46 K MOMENT
5202 kip-ft

TORQUE 24 kip-ft
REACTIONS - 85 mph WIND



FDH Engineering, Inc.
2730 Rowland Road
Raleigh, North Carolina
Phone: (919) 755-1012
FAX: (919) 755-1031

Job: **Clinton 4, CT01879-S**

Project: **11-03012E S1**

Client: **SBA** Drawn by: **Krystyn Wagner** App'd:
Code: **TIA/EIA-222-F** Date: **03/11/11** Scale: **NTS**
Path: **11-03012E S1 Project 11-03012E Clinton 4, CT01879-S1 ATT Analysis Clinton 4, CT01879-S1.dwg**

POWER

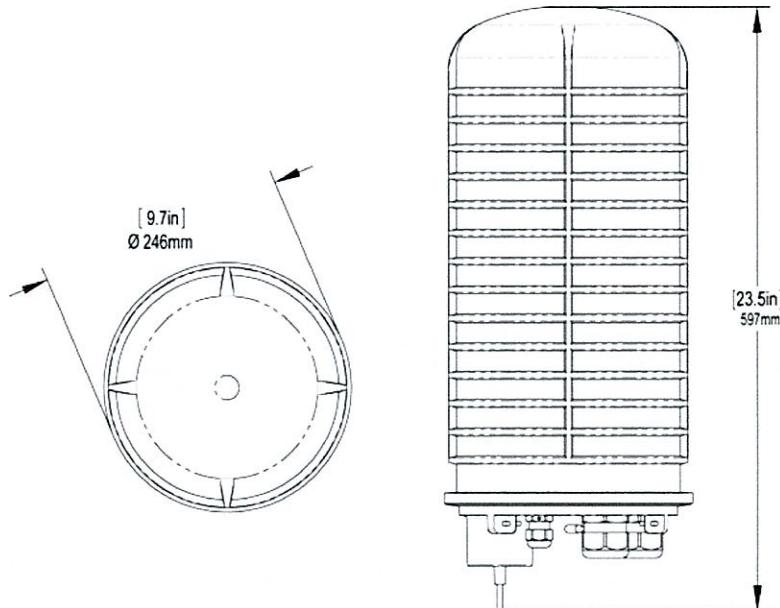
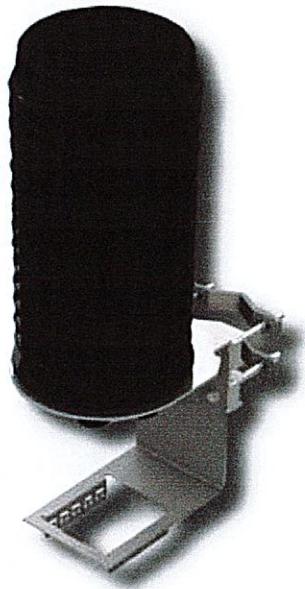
DC6-48-60-18-8F

DC Surge Suppression Solution

The DC6-48-60-18 is a dual chambered, DC surge suppression system for use in multi-circuit, Distributed Antenna Systems. The system will protect up to 6 Remote Radio Heads from voltage surges and lightning, and connect up to 18 fiber pairs. The system is enclosed in a NEMA 4 rated, waterproof enclosure.

FEATURES

- Protects up to 6 Remote Radio Heads, each with its own protection circuit.
- Flexible design allows for installation at the top of a tower for Remote Radio Head protection.
- Includes fiber connections for up to 18 pairs of fiber.
- LED indicators on individual circuits provide visual indication of suppressor status.
- Form 'C' relays allow for remote monitoring of the suppressor status.
- Patented Strikesorb technology provides over 60 kA of surge current capacity per circuit.
- Strikesorb suppression modules are fully recognized to UL 1449-3rd Edition Safety Standard, meeting all intermediate and high current fault requirements to facilitate use in OEM applications.
- Raycap recommends that DC protection system be installed within 2 meters or 6 feet of the radio.
- Dome design is lightweight and aerodynamic providing maximum flexibility for installation on top of towers.



Raycap

DC6-48-60-18-8F

DC Power Surge Protection

Electrical Specifications	
Model Number	DC6-48-60-18-8F
Nominal Operating Voltage	48 VDC
Nominal Discharge Current (I_n)	20 kA 8/20 μ s
Maximum Discharge Current (I_{max}) per NEMA LS-1	60 kA 8/20 μ s
Maximum Continuous Operating Voltage (U_c)	75 VDC
Voltage Protection Rating	400 V

Mechanical Specifications	
Suppression Connection Method	Compression lug, #2-#14 AWG Copper, #2-#12 Aluminum
Fiber Connection Method	LC-LC Single mode duplex
Environmental Rating	IP 68, 7m 72hrs
Operating Temperature	-40° C to + 80° C
Storage Temperature	-70° C to + 80° C
Cold Temperature Cycling	IEC 61300-2-22e -30° C to + 60° C 200 hrs @ 5 psi
Resistance to Aggressive Materials	CEI IEC 61073-2 including acids and bases
UV Protection	ISO 4892-2 Method A Xenon-Arc 2160 hrs
Weight	20 lbs without Mounting Bracket

STANDARDS

Strikesorb modules are compliant to the following Surge Protection Device (SPD) Standards:

- ANSI/UL 1449 – 3rd Edition
- IEEE C62.41
- NEMA LS-1, IEC 61643-1:2005 2nd Edition:2005
- IEC 61643-12
- EN 61643-11:2002 (including A11:2007)



Raycap

G02-00-068 REV 050610



GS-07F-0435V



Certified to
ISO 9001:2000



Raycap, Inc. 806 W. Clearwater Loop • Post Falls • Idaho • 83854 • USA
Phone 208.777.1166 • Toll Free 800.890.2569 • Fax 208.777.4466 • www.raycapsurgeprotection.com

TT19-08BP111-001

TMA Twin 1900 with 850 Bypass 12 dB AISG 1.1

ELECTRICAL SPECIFICATIONS

UL Frequency Range (MHz)	1850-1910 with 824-894 bypass
UL Rejection	>77 dB
UL Gain(dB)	12
UL Return Loss	>18
UL Noise Figure	<1.7 dB, Typical
UL Output 3rd Order Intercept Point(dBm)	>+23
UL Bypass Loss(dB)	2.5, Typical
UL Max Input Power (dBm)	+14 dBm
DL Frequency Range (MHz)	1930-1990 with 824-894 bypass
DL Return Loss	>18
DL Insertion Loss (dB)	850 MHz, <0.3; 1900 MHz, <0.5
Intermodulation	@ 2 x +43 dBm TX carriers, in receive band, <160 dBc, referred to antenna port
Input Voltage (V)	AISG Mode: 10-30; Current alarm mode: 8 -17
Alarm Functionality	AISG compatible or in case of no AISG command received, current alarm mode 170-190 mA
Power Consumption	<1.1W @12V
Power Handling, RMS	850: >57 dBm; 1900: >55 dBm
AISG Compatibility	AISG 1.1 fully upgradable to AISG 2.0 (AISG version only dependent on loaded SW version) TT19-08BP112-001 has AISG 2.0 loaded from factory

MECHANICAL SPECIFICATIONS

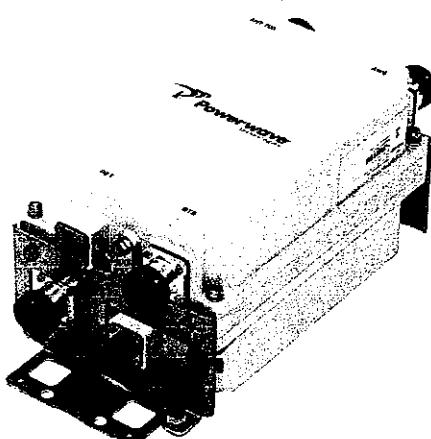
Dimension HxWxD mm(ft)	250x169x137 mm (9.9"x6.7"x5.4")
Weight(lbs)	<16
Colors	Off white (NCS 1502-R)
RF Connectors	DIN 7/16 female, long neck
Mounting Kit	Mounting kit for pole and wall is included

ENVIRONMENTAL SPECIFICATIONS

Temperature Range	-40° C to +65° C (-40° F to +149° F)
Operational	ETSI 300 019-1-4
Transportation	ETSI 300 019-1-2
Storage	ETSI 300 019-1-1
Lightning Protection	3 kA 10/350 µs; 20 kA (Shield)
Housing	Aluminum
MTBF	>1 million hours per TMA
Ingress Protection	IP65 and IP68

APPROVAL AND TESTS

Safety	EN60950
EMC	3GPP: TS 25.113



*All specifications subject to change without notice. Contact your Powerwave representative for complete performance data.

AM-X-CD-14-65-00T-RET (4' 65° Dual Broadband Antenna)

Dual Band Electrical DownTilt Antenna

698 ~ 894MHz, X-pol., H65° / V17.0°

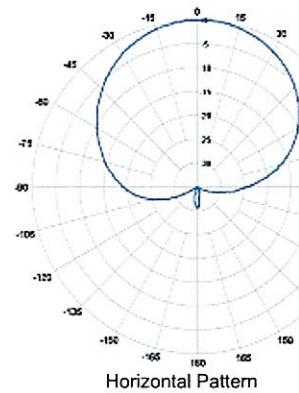
1710 ~ 2170MHz, X-pol., H65° / V8.5°

Electrical Specification

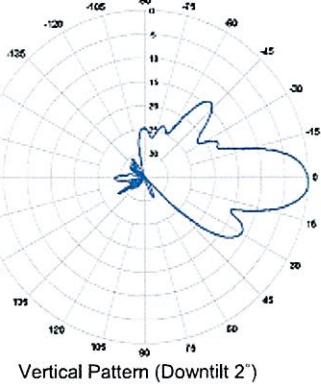
Frequency Range	698~894MHz	1710~2170MHz
Impedance	50Ω	
Polarization	Dual, Slant ±45°	
Gain	14.0dBi / 11.85dBd @ 698-806MHz 14.8dBi / 12.65dBd @ 824-894MHz	16.1dBi / 13.95dBd @1710-1755MHz 16.3dBi / 14.15dBd @1850-1900MHz 16.0dBi / 13.85dBd @2110-2155MHz
Beamwidth	Horizontal 67° @ 698-806MHz 65° @ 824-894MHz	60° @ 1710-1755MHz 61° @ 1850-1900MHz 64° @ 2110-2155MHz
	Vertical 17.5 @ 698-806MHz 16.5° @ 824-894MHz	8.8° @ 1710-1755MHz 8.5° @ 1850-1900MHz 8.0° @ 2110-2155MHz
VSWR	≤1.5:1	
Front-to-Back Ratio	≥28 dB	
Electrical Downtilt Range	2° ~ 16°	0° ~ 10°
Isolation Between Ports	≥30 dB	
Isolation Between Ports of Different Frequency Elements	≥35 dB	
Cross Pole Discrimination	10.0 dB @ ±60° 15.0 dBi @ 0°	
First Upper Side Lobe Suppression	16dB	
Side Lobe Suppression	> 16dB @ 0-6° Tilt > 18dB @ 7-12° Tilt (Up to 15° from Boresight)	> 16dB @ 0-6° Tilt > 18dB @ 7-10° Tilt (Up to 15° from Boresight)
Passive Intermodulation	≤ -150 dBc @ 2x20w	
Input Maximum CW Power	500 W	300 W
Environmental Compliance	IP65 for Radome IP67 for Connectors	
RET Motor Configuration	Field Replaceable RET Electronic Control Module / RET Motor is internal to antenna & not field replaceable	
Compliant with AISG 1.1 and 2.0	AISG 1.1 and 2.0	

Mechanical Specification

Dimension (WxDxH)	11.8×5.9×48 inches (300×150×1219mm)
Weight (Without clamp)	16.5 kg (36.4 lbs)
Connector	4 x 7/16 DIN(F), Long Neck
Max Wind Speed	150mph
Wind Load (@150 mph)	1260 N

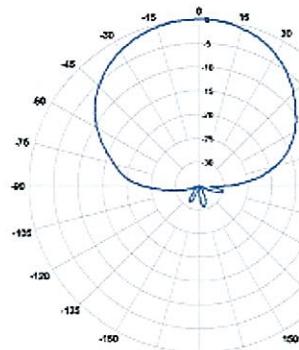


Horizontal Pattern

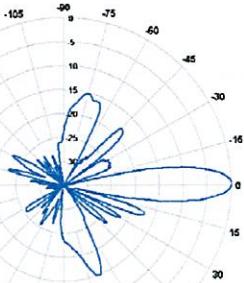


Vertical Pattern (Downtilt 2°)

700MHz band Pattern

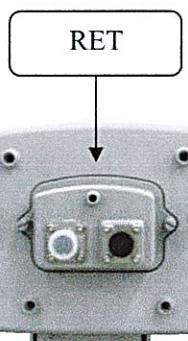


Horizontal Pattern



Vertical Pattern (Downtilt 0°)

AWS band Pattern



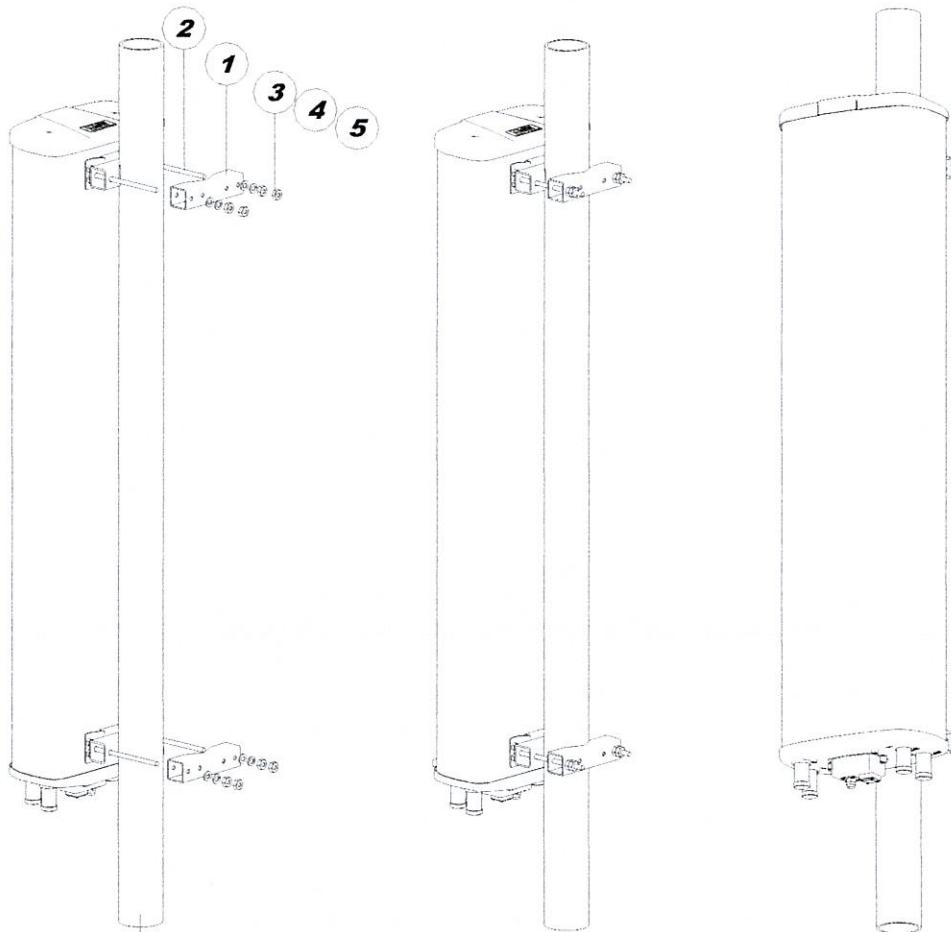
AM-X-CD-14-65-00T-RET (4' 65° Dual Broadband Antenna)

Antenna Drawings and Installation Diagram

KMW Communications

Base Station Antennas

For Mobile Communications



MOUNT POLE
Ø1.97 ~ 3.15inch OD.
(50 ~ 80mm OD.)

STANDARD MOUNTING KITS

No.	PART NAME	Q'TY	Recommending Torque
1	FIXED CLAMP	4	
2	Hex. Cap Bolt, M10	4	17mm Spanner
3	Plain Washer, M10	4	208lbf.inch
4	Spring Washer, M10	4	240kgf.cm
5	Hex. Nut, M10	8	

RRUS 11 – Dual PA RRU.

Technical Data

- > Multi standard
- > RF: 2x30 Watts
- > Carrier BW: 1.4 – 20 MHz
- > Alarms: 2
- > Dimensions (with sunshield):
 - Width: 17.0 in
 - Height: 17.8 in
 - Depth: 7.2 in
- > Weight:
 - 55 lbs (Band 12)
 - 50 lbs (Band 4)
- > Temperature: -40 to +131 F
- > Cooling: Self convection
- > Power: -48 VDC
- > Rec. fuse size 20 Amp
 - Rec. DC cable:
 - > 6 mm² up to 60 meters
 - > 10 mm² over 60 meters
- > Shielded
- > Power Cons: 200 Watts typ.

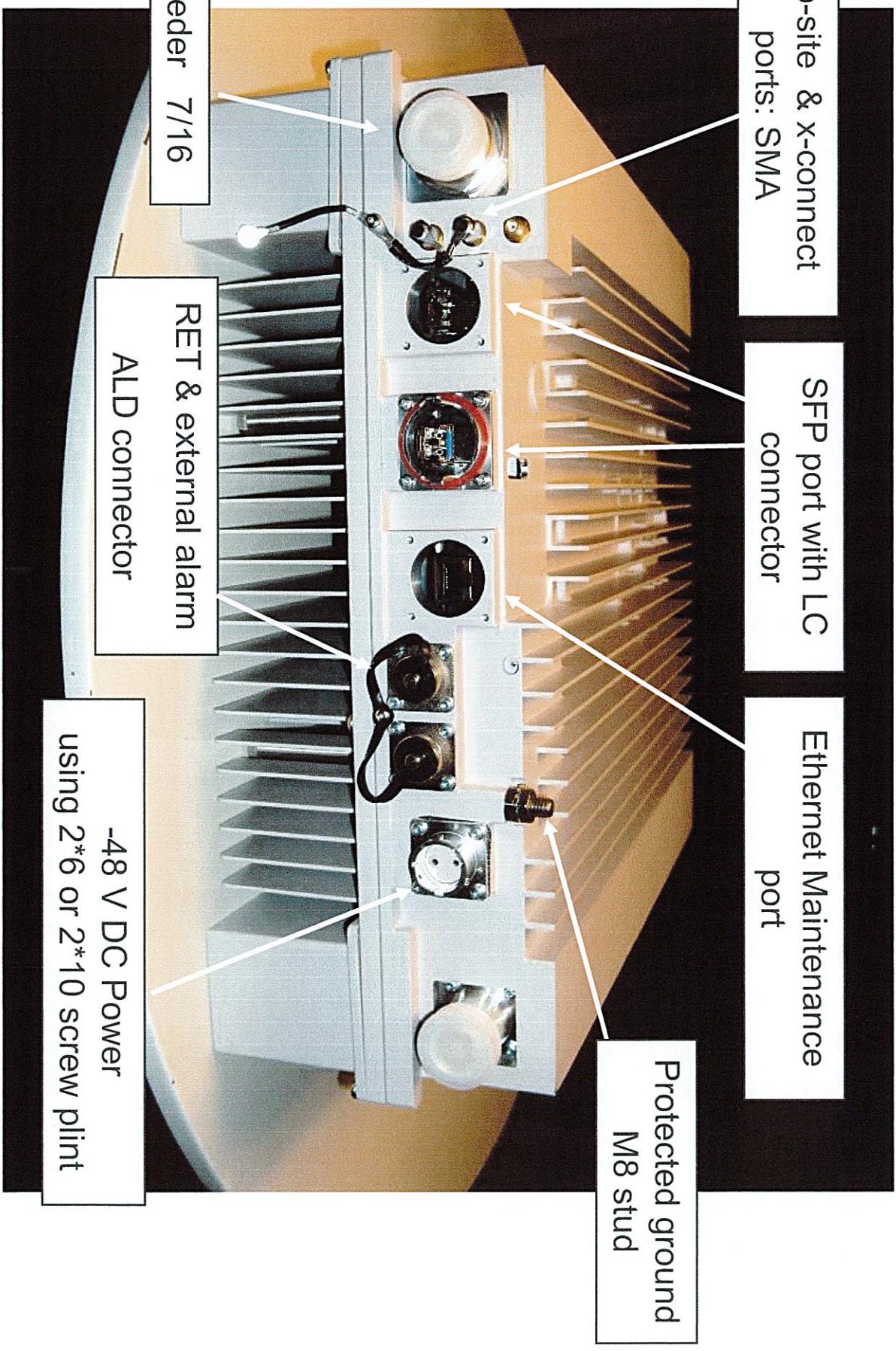


RBS6000



RRUS-11 I/F

RBS6000





at&t
Your world. Delivered.

cingular
raising the bar

New Cingular Wireless PCS, LLC
500 Enterprise Drive
Rocky Hill, Connecticut 06067-3900
Phone: (860) 463-5511
Fax: (860) 513-7190

Douglas L. Culp
Real Estate Consultant

March 14, 2011

Honorable William W. Fritz
1st Selectman, Town of Clinton
Town Hall
54 East Main Street
Clinton, CT 06413

Re: Telecommunications Facility – 46 Meadow Road Clinton, CT

Mr. William W. Fritz:

In order to accommodate technological changes, implement Uniform Mobile Telecommunications System (“UMTS”) and Long Term Evolution (“LTE”) capabilities, and enhance system performance in the State of Connecticut, New Cingular Wireless PCS, LLC (“AT&T”) will be changing its equipment configuration at certain cell sites.

As required by Regulations of Connecticut State Agencies (“R.C.S.A.”) Section 16-50j-73, the Connecticut Siting Council has been notified of the changes and will review AT&T’s proposal. Please accept this letter as notification under Section 16-50j-73 of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2).

The accompanying letter to the Siting Council fully describes Cingular’s proposal for the referenced cell site. However, if you have any questions or require any further information on our plans or the Siting Council’s procedures; please call me at (860) 463-5511 or Ms. Linda Roberts, Executive Director, Connecticut Siting Council at (860) 827-2935.

Sincerely,

Douglas L. Culp
Real Estate Consultant

Enclosure