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

October 7, 2011

Jennifer A. Herz, Esq.
Brown Rudnick LLP
CityPlace I, 185 Asylum Street
Hartford, CT 06103

RE: **EM-T-MOBILE-057-110919** - Omnipoint Communications, as subsidiary of T-Mobile USA, Inc., notice of intent to modify an existing telecommunications facility located at 363 Riversville Road, Greenwich, Connecticut.

Dear Attorney Herz:

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:

- 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 September 19, 2011. 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 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

Linda Roberts
Executive Director

LR/CDM/laf

c: The Honorable Peter J. Tesei, First Selectman, Town of Greenwich
Diane Fox, Planning & Zoning Director, Town of Greenwich
Christopher B. Fisher, Esq., Cuddy & Feder LLP

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

September 20, 2011

The Honorable Peter J. Tesei
First Selectman
Town of Greenwich
Town Hall
101 Field Point Road
P. O. Box 2540
Greenwich, CT 06836-2540

RE: **EM-T-MOBILE-057-110919** - Omnipoint Communications, as subsidiary of T-Mobile USA, Inc., notice of intent to modify an existing telecommunications facility located at 363 Riversville Road, Greenwich, Connecticut.

Dear First Selectman Tesei:

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 October 4, 2011.

Thank you for your cooperation and consideration.

Very truly yours,

Linda Roberts
Executive Director

LR/jbw

Enclosure: Notice of Intent

c: Diane Fox, Planning & Zoning Director, Town of Greenwich

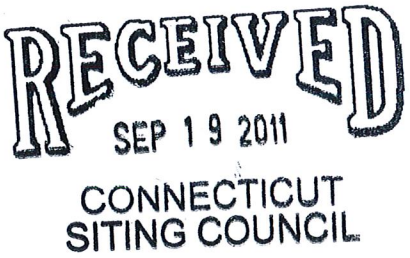
EM-T-MOBILE-057-110919

JENNIFER A. HERZ
Direct Dial: (860) 509-6527
jherz@brownrudnick.com

BROWNRUDNICK
CityPlace I
185 Asylum
Street
Hartford
Connecticut
06103
tel 860.509.6500
fax 860.509.6501

Via Hand Delivery

September 19, 2011



Robert Stein, Chairman
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

RE: **Notice of Exempt Modifications / Greenwich @ 363 Riversville Road**

Dear Chairman Stein:

On behalf of T-Mobile Northeast, LLC ("T-Mobile"), enclosed for filing is an original and 5 copies of T-Mobile's Notice of Exempt Modification for the Facility located 363 Riversville Road in Greenwich.

I also enclose herewith a check in the amount of $625.00 representing the filing fee.

I would appreciate it if you would date-stamp the enclosed copy of this transmittal letter and return it to the courier delivering this package.

If you have any questions, please feel free to contact me.

Very truly yours,

BROWN RUDNICK LLP

Jennifer A. Herz

JH/bh
Enclosures

cc/encl: First Selectman Peter Tesei

40286558 v1 - HERZJA - 029431/0001

CONNECTICUT SITING COUNCIL

In re:		
T-Mobile Northeast, LLC's Notice to Make an Exempt Modification to an Existing Facility at 363 Riversville Road, Greenwich, Connecticut.	:	**EXEMPT MODIFICATION NO. _____**
	:	
	:	September 19, 2011

NOTICE OF EXEMPT MODIFICATION

Pursuant to Conn. Agencies Regs. §§ 16-50j-73 and 16-50j-72(b), T-Mobile Northeast, LLC ("T-Mobile") hereby gives notice to the Connecticut Siting Council ("Council") and the Town of Greenwich of T-Mobile's intent to make an exempt modification to the existing monopole tower (the "Tower") located at 363 Riversville Road in Greenwich, Connecticut. Specifically, T-Mobile plans to upgrade its wireless system in Connecticut by implementing its Universal Mobile Telecommunications System ("UMTS"). UMTS is a third-generation ("3G") technology that utilizes a code division multiple access ("CDMA") base to allow for fast and large data transfers. To accomplish this upgrade, T-Mobile must modify its antenna and equipment configurations at many of its existing sites.

Once the UMTS upgrade is complete, T-Mobile will operate on a more unified communication system, allowing international wireless telephones to function world-wide. Furthermore, UMTS will enhance global positioning system ("GPS") navigation capabilities and provide emergency responders with more advanced tracking capabilities. The proposed UMTS technology is compatible with the existing second-generation ("2G") Global System for Mobile Communication ("GSM") currently on the Tower and the proposed upgrade is expected to enhance the existing 2G system. In order to accomplish the upgrade at this site, T-Mobile plans to add UMTS technology and install associated equipment at the base of the Tower.

BROWN RUDNICK LLP
CITYPLACE I
185 ASYLUM STREET
HARTFORD, CT 06103
(860) 509-6500

Under the Council's regulations (Conn. Agencies Regs. § 16-50j-72(b)), T-Mobile's plans do not constitute a modification subject to the Council's review because T-Mobile will not change the height of the Tower, will not extend the boundaries of the site, will not increase the noise levels at the site, and will not increase the total radio frequency electromagnetic radiation power density at the site to levels above applicable standards.

The Tower is a 160-foot monopole tower located at 363 Riversville Road in Greenwich, Connecticut (latitude N 41° 03' 59.572", longitude W -73° 40' 17.097"). The Tower is owned by AT&T. Currently, T-Mobile has 9 panel antennas, 3 Tower Mounted Amplifiers ("TMA") and 6 ddTMA with a centerline of 163 feet mounted on the Tower. A site plan with Tower specifications is attached.

T-Mobile plans to remove and replace 1 of its existing GSM antennas with 1 UMTS antenna (Model No. APXV18). T-Mobile also plans to remove 1 of its existing ddTMA and install 1 Twin PCS TMA. The centerline of the new antenna and TMA will remain at 163 feet. T-Mobile will continue to utilize its existing coaxial cables.

To confirm the Tower can support these changes, T-Mobile commissioned GPD Group to perform a structural assessment of the Tower (attached). According to the structural assessment, dated August 30, 2011, "...the **tower and its foundation are sufficient**..." (Structural Assessment, page 1)(emphasis in original).

Within the existing compound T-Mobile proposes to remove and replace its existing 3106 BTS equipment cabinet with its 6102 BTS equipment cabinet. The proposed cabinet will be located on the existing 10-foot by 20-foot (approximately) concrete pad. Therefore, no increase in the boundaries of the site will be necessary.

BROWN RUDNICK LLP
CITYPLACE I
185 ASYLUM STREET
HARTFORD, CT 06103
(860) 509-6500

Excluding brief, minor, construction-related noise during the addition of the antenna and TMA, T-Mobile's changes to the Tower will not increase noise levels at the site.

The proposed antennas will not adversely impact the health and safety of the surrounding community or the people working on the Tower. The total radio frequency exposure measured around the Tower will be well below the National Council on Radiation Protection and Measurements' ("NCRP") standard adopted by the Federal Communications Commission ("FCC"). The worst-case power density analysis measured at the base of the Tower indicates that T-Mobile's antennas will emit 3.32% of the NCRP's standard for maximum permissible exposure. Collectively, the antennas on the Tower will emit 25.78% of the NCRP's standard for maximum permissible exposure. Therefore, the power density levels will be below the FCC mandated radio frequency exposure limits in all locations around the Tower, even with extremely conservative assumptions. The power density analysis is attached.

In conclusion, T-Mobile's proposed plan to remove and replace 1 antenna, 1 TMA and its equipment cabinet at this site does not constitute a modification subject to the Council's jurisdiction because T-Mobile will not increase the height of the Tower, will not extend the boundaries of the site, will not increase the noise levels at the site, and the total radio frequency electromagnetic radiation power density will stay within all applicable standards. *See* Conn. Agencies Regs. § 16-50j-72.

T-MOBILE NORTHEAST, LLC

By: _____

Jennifer A. Herz
Brown Rudnick LLP
185 Asylum Street
Hartford, CT 06103-3402
Email - jherz@brownrudnick.com
Phone - 860.509.6527 /Fax - 860.509.6501

BROWN RUDNICK LLP
CITYPLACE I
185 ASYLUM STREET
HARTFORD, CT 06103
(860) 509-6500

Certificate of Service

This is to certify that on this 19th day of September, 2011, the foregoing Notice of Exempt Modification was sent, via first class mail, to the following:

First Selectman Peter Tesei
Greenwich Town Hall
First Floor
101 Field Point Road
Greenwich, CT 06830

By: _____
Jennifer A. Herz

40286502 v1 - 029431/0001

BROWN RUDNICK LLP
CITYPLACE I
185 ASYLUM STREET
HARTFORD, CT 06103
(860) 509-6500

T-Mobile

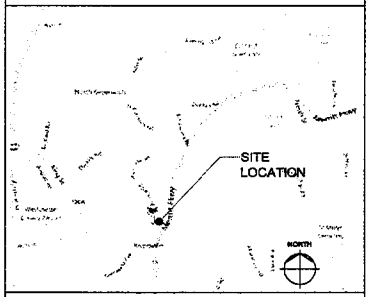
363 RIVERSVILLE ROAD
GREENWICH, CT 06831
SITE NUMBER: CT11069A
SITE NAME: BOY SCOUTS
SITE TYPE: CO-LOCATION ON MONOPOLE TOWER

GENERAL NOTES

1. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.
2. THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
3. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE PROJECT OWNER'S REPRESENTATIVE OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK. IN THE EVENT OF DISCREPANCIES THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.
4. THE SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.
5. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
6. THE CONTRACTOR SHALL OBTAIN AUTHORIZATION FROM THE PROJECT OWNER'S REPRESENTATIVE TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS / CONTRACT DOCUMENTS.
7. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S / VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
8. THE CONTRACTOR SHALL PROVIDE A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDUMS OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
9. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
10. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY CONSTRUCTION CONTROL SURVEYS, ESTABLISHING AND MAINTAINING ALL LINES AND GRADES REQUIRED TO CONSTRUCT ALL IMPROVEMENTS AS SHOWN HEREIN.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.
12. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
13. THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
14. THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.
15. THE CONTRACTOR SHALL NOTIFY THE PROJECT OWNER'S REPRESENTATIVE WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED BY THE LESSEE/LICENSEE REPRESENTATIVE.
16. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB.
17. ALL UNDERGROUND UTILITY INFORMATION WAS DETERMINED FROM SURFACE INVESTIGATIONS AND EXISTING PLANS OF RECORD. THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN THE FIELD PRIOR TO ANY SITE WORK. CALL THE FOLLOWING FOR ALL PRE-CONSTRUCTION NOTIFICATION 72-HOURS PRIOR TO ANY EXCAVATION ACTIVITY:
CALL BEFORE YOU DIG (CT): 1-800-922-4455
18. COORDINATE NEW ANTENNA, ANTENNA SUPPORT FRAME AND COAXIAL CABLE INSTALLATION WITH STRUCTURAL ANALYSIS REPORT. NO WORK SHALL BE PERFORMED ON THE TOWER UNTIL ANY AND ALL MODIFICATION REQUIREMENTS STIPULATED IN THE STRUCTURAL ANALYSIS REPORT HAVE BEEN MET.
19. NO CONCLUSIONS, EXPRESSED OR IMPLIED, SHALL INDICATE THAT ATLANTIS GROUP, INC. HAS MADE AN EVALUATION OF THE ORIGINAL DESIGN, MATERIALS, FABRICATIONS, OR POTENTIAL ERECTION DEFICIENCIES. ANY INFORMATION CONTRARY TO THAT ASSUMED FOR THE PURPOSE OF PREPARING THIS ANALYSIS COULD ALTER THE FINDINGS AND CONCLUSIONS AS STATED.

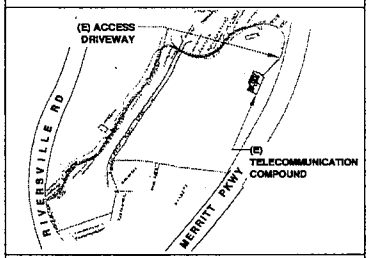
VICINITY MAP

SCALE:1"= 1000'



KEY MAP

N.T.S.



SITE DIRECTIONS

FROM BLOOMFIELD OFFICE:

DEPART GRIFFIN RD N TOWARD TARIFFVILLE RD. TURN RIGHT ONTO TARIFFVILLE RD. TAKE RAMP RIGHT FOR CT-167 SOUTH / CT-189 SOUTH. KEEP STRAIGHT ONTO CT-187 SOUTH / BLUE HILLS AVENUE EXT. KEEP LEFT ONTO DAY HILL RD. TAKE RAMP RIGHT FOR I-91 SOUTH / RICHARD P HORAN MEMORIAL HWY TOWARD HARTFORD. AT EXIT 17, TAKE RAMP RIGHT FOR CT-15 SOUTH / WILBUR CROSS PKWY TOWARD W. CROSS PKWY / E. MAIN ST. AT EXIT 28, TAKE RAMP RIGHT AND FOLLOW SIGNS FOR ROUND HILL ROAD. BEAR RIGHT ONTO ROUND HILL RD, AND THEN IMMEDIATELY TURN LEFT ONTO PORCHUCK RD. BEAR LEFT ONTO RIVERSVILLE RD.

SHEET INDEX

SHT. NO.	DESCRIPTION
01	TITLE SHEET
02	COMPOUND AND EQUIPMENT PLAN
03	ELEVATION AND ANTENNA PLAN
04	EQUIPMENT DETAILS
05	ANTENNA DETAILS
06	GROUNDING NOTES, RISERS AND DETAILS

PROJECT DESCRIPTION:

T-MOBILE IS PROPOSING TO INSTALL TELECOMMUNICATIONS EQUIPMENT AT THIS EXISTING SITE THAT CONSISTS OF:

CABINET (1):	(1) 6102 BTS CABINET TO REPLACE (E) 3106 BTS CABINET
DELTA ANTENNA (1):	(1) PROPOSED QUAD POLE APXV18-206516S-A20 UMTS PANEL ANTENNA TO REPLACE (1) (E) DUAL POLE RR90-17-02DP GSM ANTENNA
TMA (1):	(1) NEW TWIN PCS TMA TO BE ADDED

PROJECT SUMMARY

SITE NUMBER:	CT11069A
SITE NAME:	BOY SCOUTS
SITE ADDRESS:	363 RIVERSVILLE ROAD GREENWICH, CT 06831
SITE TYPE:	CO-LOCATION
APPLICANT, LESSEE/LICENSEE, PROJECT OWNER:	T-MOBILE NORTHEAST, LLC 35 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002 (860) 692-7100
A/E:	ATLANTIS GROUP INC. 1340 CENTRE ST, SUITE 203 NEWTON CENTER, MA 02459 (617) 965-0789
PROJECT MANAGER:	LISA LIN ALLEN NORTHEAST TOWERS, INC. 199 BRICKYARD RD FARMINGTON, CT 06032 (860) 677-1999
ZONING REPRESENTATIVE:	BROWN RUDNICK LLP THOMAS J REGAN CITYPLACE I, 36TH FLOOR 185 ASYLUM STREET HARTFORD, CT 06103-3402 (860) 509-6500
POWER PROVIDER:	CONNECTICUT LIGHT & POWER OR NORTHEAST UTILITIES (860) 947-2000
TELCO PROVIDER:	AT&T/SBC/SNET (203) 630-5906
CALL BEFORE YOU DIG:	(800) 922-4455

CODE REFERENCES

CONNECTICUT STATE BUILDING CODE
- 2003 INTERNATIONAL BUILDING CODE
- 2003 INTERNATIONAL PLUMBING CODE
- 2003 INTERNATIONAL MECHANICAL CODE
- 2003 INTERNATIONAL EXISTING BUILDING CODE
- 2005 CONNECTICUT SUPPLEMENT
- 2005 NATIONAL ELECTRICAL CODE
- 2009 AMENDMENT TO THE 2005 CONNECTICUT SUPPLEMENT

CONNECTICUT STATE FIRE SAFETY CODE
- 2003 INTERNATIONAL FIRE CODE

DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE PROJECT OWNER'S REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

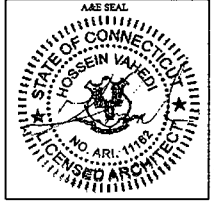
NORTHEAST TOWERS
199 BRICKYARD ROAD
FARMINGTON, CT 06032
OFFICE: (860) 677-1999

FOR

T-MOBILE NORTHEAST, LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
OFFICE: (860) 692-7100
FAX:(860) 692-7159

ATLANTIS GROUP
1340 Centre Street, Suite 203
Newton Center, MA 02459
Office: 617-965-0789
Fax: 617-213-5056

A&E SEAL



APPROVALS

LANDLORD _____
LEASING _____
R.F. _____
ZONING _____
CONSTRUCTION _____
A/E _____

DRAWN BY: MB

CHECKED BY: SM

SUBMITTALS

A	07/07/11	ISSUED FOR USE
0	07/11/11	ISSUED FINAL
1	09/07/11	REVISED PER COMMENTS

CT11069A
BOY SCOUTS

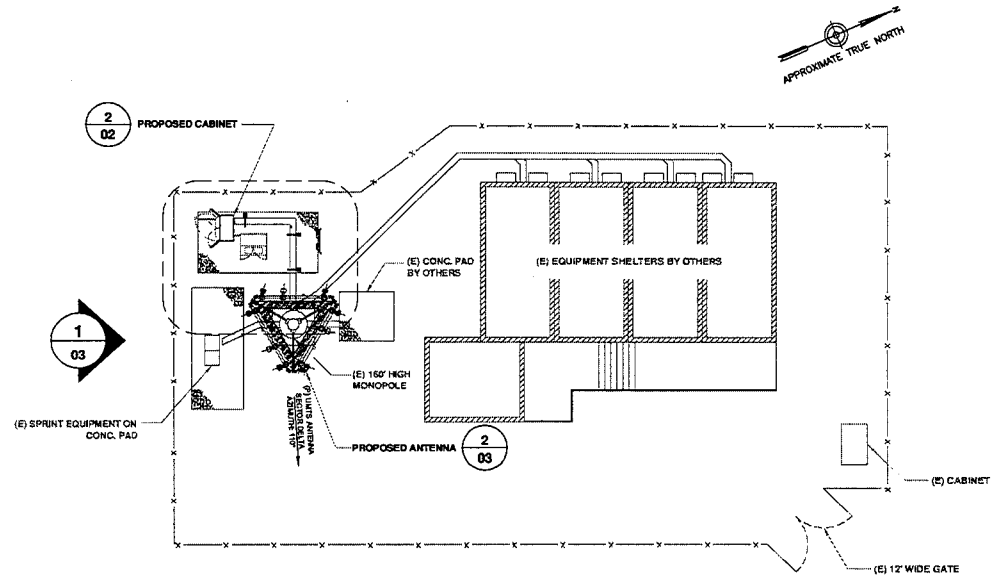
363 RIVERSVILLE ROAD
GREENWICH, CT 06831

SHEET TITLE:

TITLE SHEET

SHEET NUMBER:

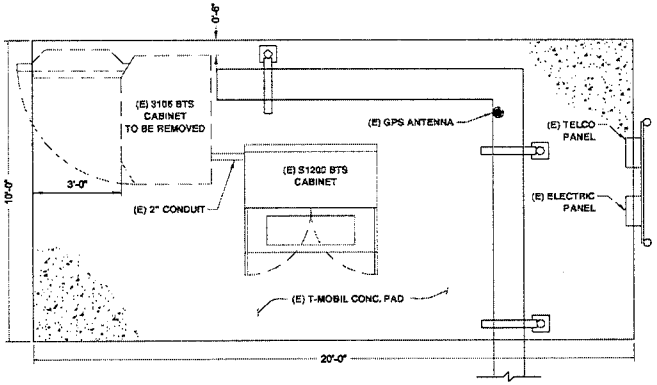
01



COMPOUND PLAN 1/02

SCALE: 1" = 20'-0" (11x17)
SCALE: 1" = 10'-0" (24x36)

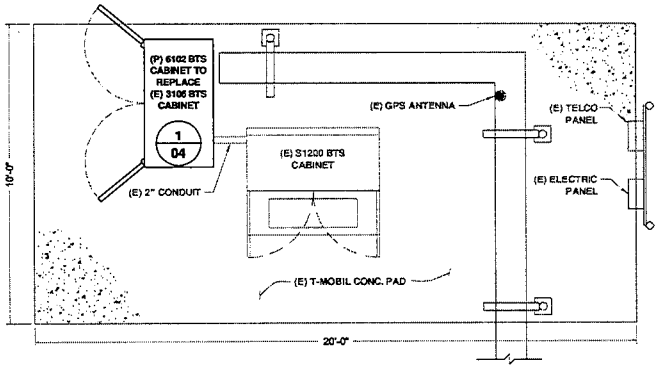
10 0 10 20 30



EQUIPMENT PLAN (BEFORE) 2/02

SCALE: 1/4" = 1'-0" (11x17)
SCALE: 1/2" = 1'-0" (24x36)

2 0 2 4 6



EQUIPMENT PLAN (AFTER) 3/02

SCALE: 1/4" = 1'-0" (11x17)
SCALE: 1/2" = 1'-0" (24x36)

2 0 2 4 6

ABREVIATIONS

ADL	ADJUSTABLE	WWF	WELDED WIRE FABRIC
AGL	ABOVE GROUND LEVEL	W	WITH
AMSL	ABOVE MEAN SEA LEVEL	NIC	NOT IN CONTRACT
APPROX	APPROXIMATE	EQUIP	EQUIPMENT EXTERIOR
CAB	CABINET	EXT	FINISHED FLOOR
CLG	CEILING	FF	GAUGE
CONC	CONCRETE	GA	GALVANIZED
CONT.	CONTINUOUS	GALV	GENERAL CONTRACTOR
CJ	CONCRETE JOINT	GC	GROUND
DIA	DIAMETER	GRND	LONG
DWG	DRAWING	LG	MAXIMUM
EGB	EQUIPMENT GROUND BAR	MAX	MECHANICAL
EA	EACH	MECH	MANUFACTURER
ELEC	ELECTRIC	MFR	MASTER
EL	ELEVATION	MGB	GROUND BAR
EQ	EQUAL	MH	MANHOLE
NTS	NOT TO SCALE	MIN	MINIMUM
OC	ON CENTER	MTL	METAL
OHW	OVERHEAD WIRE	NIC	NOT IN CONTRACT
OPP	OPPOSITE	BTS	BASE TRANSMISSION STATION
SF	SQUARE FOOT	PCS	PERSONAL COMMUNICATIONS SERVICE
SHT	SHEET		
SIM	SIMILAR	(P)	PROPOSED
SS	STAINLESS STEEL	(E)	EXISTING
STL	STEEL	A-1	ANTENNA MARK 1
TOC	TOP OF CONCRETE	℄	CENTERLINE
TOM	TOP OF MASONRY	P	PLATE
TYP	TYPICAL	@	AT
VIF	VERIFY IN FIELD	GPS	GLOBAL POSITIONING SYSTEM
UON	UNLESS OTHERWISE NOTED		

SYMBOLS AND MATERIALS

NEW ANTENNA
EXISTING ANTENNA
NEW ACCESS EASEMENT
CONCRETE
ELECTRIC BOX
LIGHT POLE
SPOT ELEVATION
SET POINT
REVISION
REVISION REFERENCE
ELEVATION

(E) BRICK
(E) MASONRY
CONCRETE
EARTH
GRAVEL
CENTER LINE
PROPERTY LINE
UNDERGROUND POWER LINE
UNDERGROUND TELCO LINE
OVERHEAD UTILITY LINE
GROUND WIRE
COAXIAL CABLE
CHAIN LINK FENCE

NOTES:

1. ALL DIMENSIONS SHOWN THUS ± ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS WHICH EFFECT THE CONTRACTOR'S WORK. CONTRACTOR TO VERIFY ALL DIMENSIONS WITH OWNER PRIOR TO CONSTRUCTION.
2. NORTH ARROW SHOWN ON PLANS REFERS TO TRUE NORTH. CONTRACTOR SHALL VERIFY TRUE NORTH AND INFORM CONSTRUCTION MANAGER OF ANY DISCREPANCIES BEFORE STARTING CONSTRUCTION.
3. THE CONTRACTOR AND OR HIS SUB CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.
4. ANTENNA INSTALLATION SHALL BE CONDUCTED BY FIELD CREWS EXPERIENCED IN THE ASSEMBLY AND ERECTION OF RADIO ANTENNAS, TRANSMISSION LINES AND SUPPORT STRUCTURES.
5. COAXIAL CABLES CONNECTORS AND TRANSMITTER EQUIPMENT SHALL BE PROVIDED BY THE OWNER AND IS NOT INCLUDED IN THESE CONSTRUCTION DOCUMENTS. A SCHEDULE OF OWNER SUPPLIED MATERIALS IS ATTACHED TO THE BID DOCUMENTS. ALL OTHER HARDWARE TO BE PROVIDED BY THE CONTRACTOR. CONNECTION HARDWARE SHALL BE STAINLESS STEEL.
6. COORDINATION, LAYOUT, AND FURNISHING OF CONDUIT, CABLE AND ALL APPURTENANCES REQUIRED FOR PROPER INSTALLATION OF ELECTRICAL AND TELECOMMUNICATION SERVICE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
7. ALL UTILITY WORK SHALL BE IN ACCORDANCE WITH LOCAL UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS.
8. PER FCC MANDATE, ENHANCED EMERGENCY (E911) SERVICE IS REQUIRED TO MEET NATIONWIDE STANDARDS FOR WIRELESS COMMUNICATIONS SYSTEMS. LESSEE/LICENSEE IMPLEMENTATION REQUIRES DEPLOYMENT OF EQUIPMENT AND ANTENNA GENERALLY DEPICTED ON THIS PLAN, ATTACHED TO OR MOUNTED IN CLOSE PROXIMITY TO THE BTS RADIO CABINETS. LESSEE/LICENSEE RESERVES THE RIGHT TO MAKE REASONABLE MODIFICATIONS TO E911 EQUIPMENT AND LOCATION AS TECHNOLOGY EVOLVES TO MEET REQUIRED SPECIFICATIONS.

NORTHEAST TOWERS
199 BRICKYARD ROAD
FARMINGTON, CT 06032
OFFICE: (860) 677-1999

FOR

T-MOBILE NORTHEAST, LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
OFFICE: (860) 692-7100
FAX: (860) 692-7159

ATLANTIS GROUP
1340 Centre Street, Suite 203
Newton Center, MA 02459
Office: 617-965-0789
Fax: 617-213-5056

A&E SEAL

STATE OF CONNECTICUT
HOSSEIN VAHEDI
NO. ARI. 11167
LICENSED ARCHITECT

APPROVALS

LANDLORD _____
LEASING _____
R.F. _____
ZONING _____
CONSTRUCTION _____
A/E _____

DRAWN BY:	MB
CHECKED BY:	SM

SUBMITTALS

A	07/07/11	ISSUED FOR USE
0	07/11/11	ISSUED FINAL
1	09/07/11	REVISED PER COMMENTS

CT11069A
BOY SCOUTS

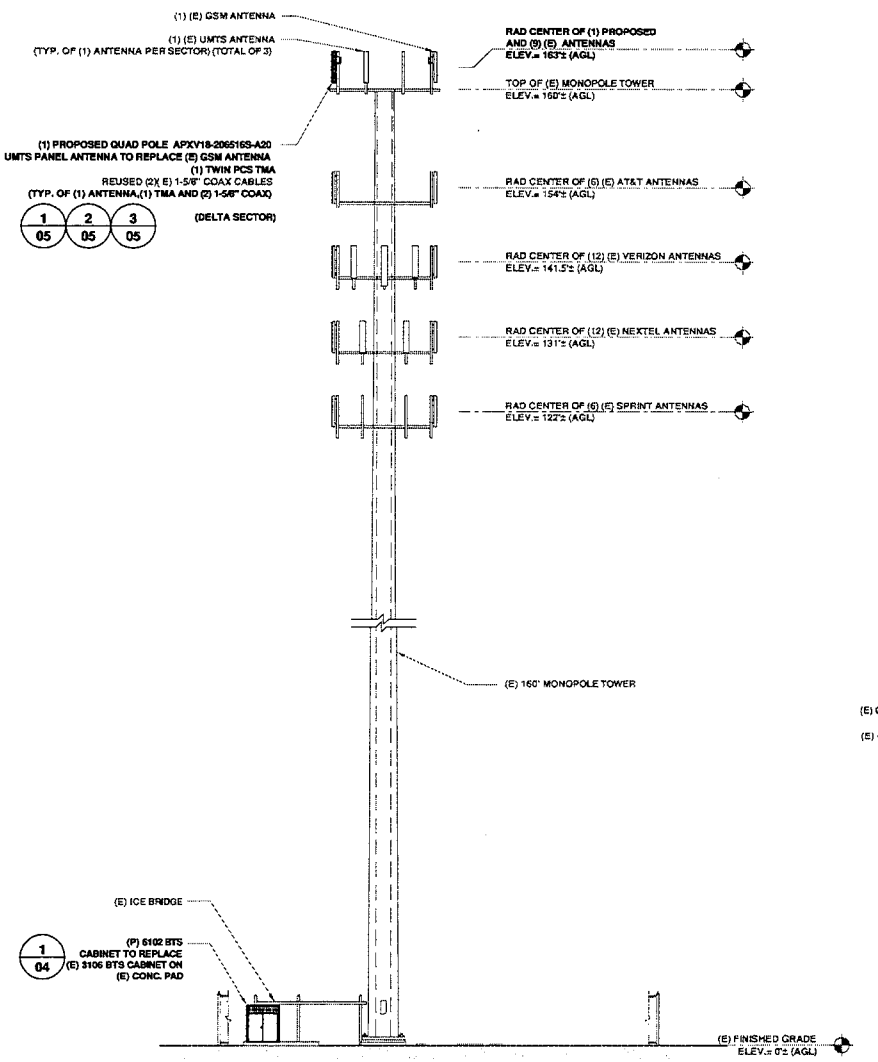
363 RIVERSVILLE ROAD
GREENWICH, CT 06831

SHEET TITLE:

COMPOUND & EQUIPMENT PLAN

SHEET NUMBER:

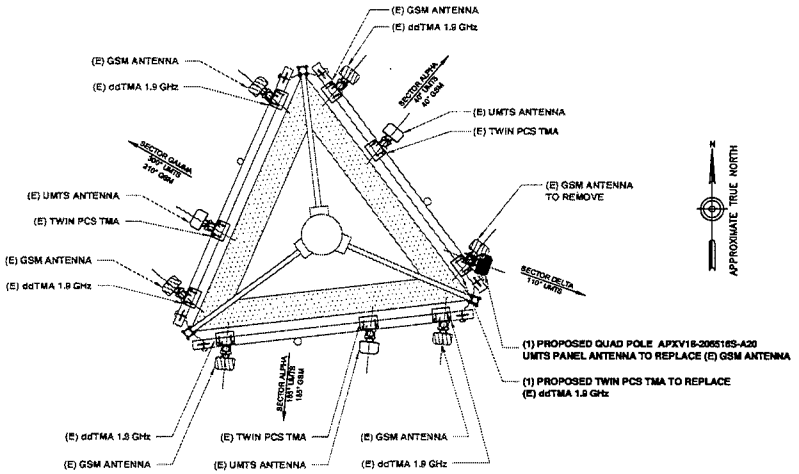
02



SOUTH ELEVATION 1/03

SCALE: 1/16" = 1'-0" (11x17)
SCALE: 1/8" = 1'-0" (24x36)

8 0 8 16 24



ANTENNA PLAN DETAIL 2/03

SCALE: N.T.S.

NO STRUCTURAL EVALUATION HAS BEEN CONDUCTED BY ATLANTIS GROUP, INC. STRUCTURAL EVALUATION OF THE EXISTING TOWER TO ACCOMMODATE THE NEW ANTENNAS IS NOT PART OF THIS SCOPE OF WORK AND SHOULD BE DONE SEPARATELY BY THE TOWER STRUCTURAL ENGINEER. NO ADDITIONS OR MODIFICATIONS TO THE EXISTING TOWER SHALL BE MADE WITHOUT APPROVAL OF THE TOWER STRUCTURAL ENGINEER.

NORTHEAST TOWERS
199 BRICKYARD ROAD
FARMINGTON, CT 06032
OFFICE: (860) 677-1999

FOR

T-MOBILE NORTHEAST, LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
OFFICE: (860) 692-7100
FAX:(860) 692-7159

ATLANTIS GROUP
1340 Centre Street, Suite 203
Newton Center, MA 02459
Office: 617-965-0789
Fax: 617-213-5056

A&E SEAL

APPROVALS

LANDLORD _____
LEASING _____
R.F. _____
ZONING _____
CONSTRUCTION _____
A/E _____

DRAWN BY:	MB
CHECKED BY:	SM

SUBMITTALS

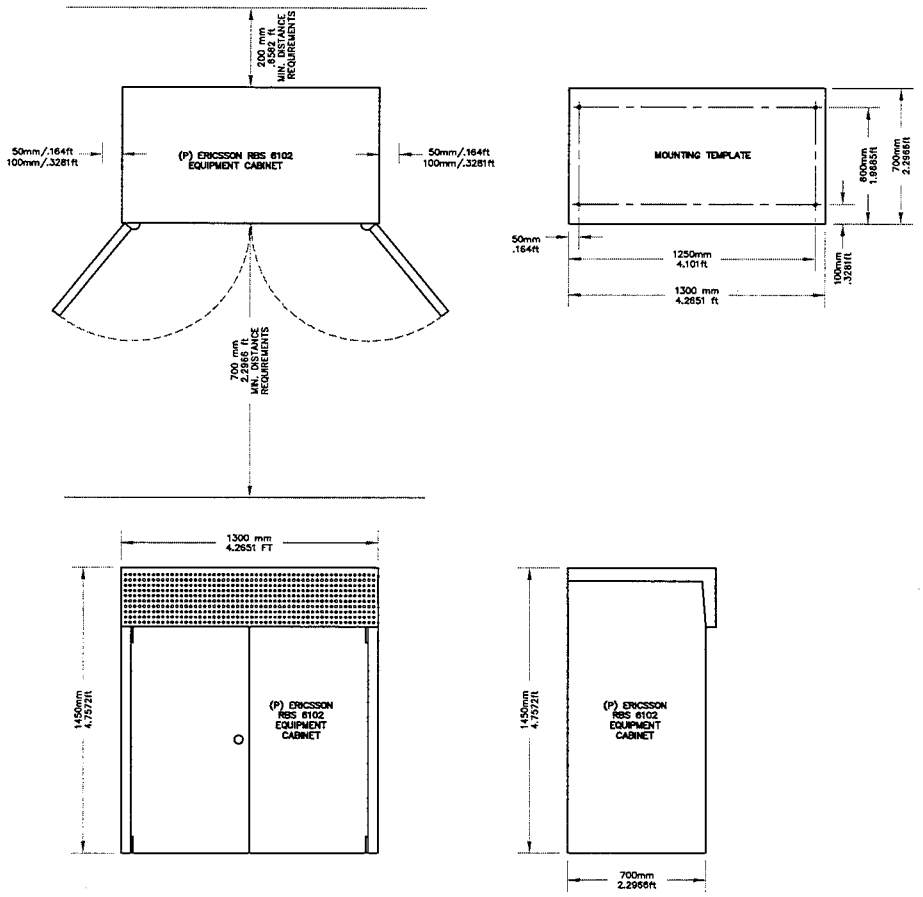
A	07/07/11	ISSUED FOR USE
0	07/11/11	ISSUED FINAL
1	09/07/11	REVISED PER COMMENTS

CT11069A
BOY SCOUTS

363 RIVERSVILLE ROAD
GREENWICH, CT 06831

SHEET TITLE:
ELEVATION AND ANTENNA PLAN DETAIL

SHEET NUMBER:
03



ERICSSON RBS 6102 EQUIPMENT CABINET

N.T.S.

1
04

STRUCTURAL NOTES

1. DESIGN REQUIREMENTS ARE PER STATE BUILDING CODE AND APPLICABLE SUPPLEMENTS, ANSI/ASCE7, EIA/TIA-222-F STRUCTURAL STANDARDS FOR STEEL ANTENNA SUPPORTING STRUCTURES.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE CONSTRUCTION MANAGER.
3. DESIGN AND CONSTRUCTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION. "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".
4. STRUCTURAL AND MISCELLANEOUS STEEL SHALL CONFORM TO ASTM A572 GRADE 50 STRUCTURAL STEEL UNLESS OTHERWISE INDICATED.
5. STEEL PIPE SHALL CONFORM TO ASTM A500 COLD-FORMED WELDED & SEAMLESS CARBON STEEL STRUCTURAL TUBING", GRADE A, OR ASTM A53 PIPE STEEL BLACK AND HOT-DIPPED ZINC-COATED WELDED AND SEAMLESS TYPE E OR S, GRADE B. PIPE SIZES INDICATED ARE NOMINAL ACTUAL OUTSIDE DIAMETER IS LARGER.
6. STRUCTURAL CONNECTION BOLTS SHALL BE HIGH STRENGTH BOLTS (BEARING TYPE) AND CONFORM TO ASTM A325 "HIGH STRENGTH BOLTS FOR STRUCTURAL JOINTS, INCLUDING SUITABLE NUTS AND PLAIN HARDENED WASHERS". ALL BOLTS SHALL 5/8" DIA UNLESS OTHERWISE NOTED.
7. ALL STEEL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC-(HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS". UNLESS OTHERWISE NOTED.
8. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE". UNLESS OTHERWISE NOTED.
9. FIELD WELDS, DRILL HOLES, SAW CUTS AND ALL DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED WITH AN ORGANIC ZINC REPAIR PAINT COMPLYING WITH THE REQUIREMENTS OF ASTM A780. GALVANIZING REPAIR PAINT SHALL HAVE 65 PERCENT ZINC BY WEIGHT, ZIRP BY DUCAN GALVANIZING, GALVA BRIGHT PREMIUM BY CROWN OR EQUAL THICKNESS OF APPLIED GALVANIZING REPAIR PAINT SHALL BE NOT LESS THAN 4 COATS (ALLOWED TIME TO DRY BETWEEN COATS) WITH A RESULTING COATING THICKNESS REQUIRED BY ASTM A123 OR A153 AS APPLICABLE.
10. CONTRACTOR SHALL COMPLY WITH AWS CODE FOR PROCEDURES, APPEARANCE AND QUALITY OF WELDS AND METHODS USED IN CORRECTING WELDING. ALL WELDERS AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS "STANDARD QUALIFICATION PROCEDURES". ALL WELDING SHALL BE DONE USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND DLL WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION" 9TH EDITION.
11. INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NOCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE CONSTRUCTION MANAGER PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE CONSTRUCTION MANAGER APPROVAL.
12. UNISTRUTS SHALL BE FORMED STEEL CHANNEL STRUT FRAMING AS MANUFACTURED BY UNISTRUT CORP, WAYNE, MI OR EQUAL. STRUT MEMBERS SHALL BE 1 5/8"x1 5/8"x12GA, UNLESS OTHERWISE NOTED, AND SHALL BE HOT-HIP GALVANIZED AFTER FABRICATION.
13. EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF 1/2" DIAMETER STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS, AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HILTI-HIT HY-20 AND OR HY-150 SYSTEMS (AS SPECIFIED ON DWG.) OR ENGINEERS APPROVED EQUAL WITH 4-1/4" MIN. EMBEDMENT DEPTH.
14. EXPANSION BOLTS SHALL CONFORM TO FEDERAL SPECIFICATION FF-S-325, GROUP II, TYPE 4, CLASS I, HILTI KWIK BOLTS II OR APPROVED EQUAL. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. MINIMUM EMBEDMENT SHALL BE THREE AND ONE HALF (3 1/2) INCHES.

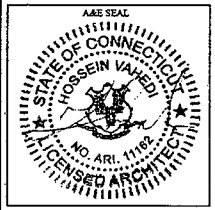
NORTHEAST TOWERS
199 BRICKYARD ROAD
FARMINGTON, CT 06032
OFFICE: (860) 677-1999

FOR

T-MOBILE NORTHEAST, LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
OFFICE: (860) 692-7100
FAX:(860) 692-7159

ATLANTIS GROUP
1340 Centre Street, Suite 203
Newton Center, MA 02459
Office: 617-965-0789
Fax: 617-213-5056

A&E SEAL



APPROVALS

LANDLORD _____
LEASING _____
R.F. _____
ZONING _____
CONSTRUCTION _____
A/E _____

DRAWN BY:	MB
CHECKED BY:	SM

SUBMITTALS

A	07/07/11	ISSUED FOR USE
0	07/11/11	ISSUED FINAL
1	09/07/11	REVISED PER COMMENTS

CT11069A
BOY SCOUTS

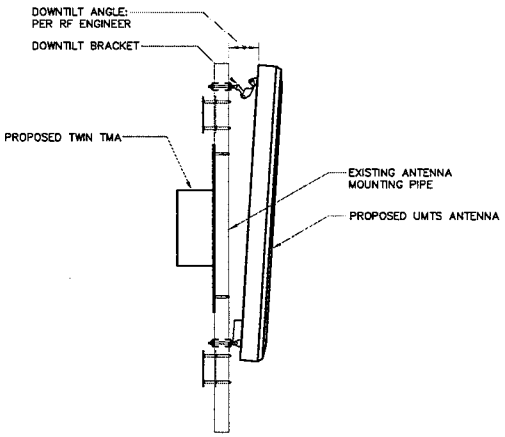
363 RIVERSVILLE ROAD
GREENWICH, CT 06831

SHEET TITLE:

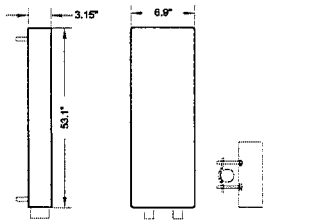
ICE BRIDGE DETAILS

SHEET NUMBER:

04

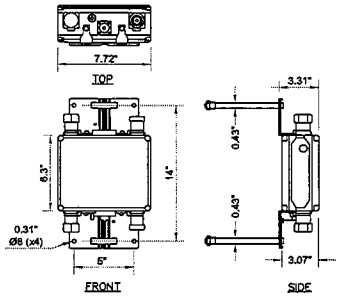


MOUNTING ASSEMBLY 1/05
N.T.S.



MANUFACTURE: RFS:
MODEL NO. APXV18-206516S-C-A20
DIMENSIONS – HxWxD, (IN) 53.1x6.9x3.15

DUAL POLE ANTENNA DETAIL 2/05
N.T.S.



TWIN TMA DETAIL 3/05
N.T.S.

NORTHEAST TOWERS
199 BRICKYARD ROAD
FARMINGTON, CT 06032
OFFICE: (860) 677-1999

FOR

T-MOBILE NORTHEAST, LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
OFFICE: (860) 692-7100
FAX: (860) 692-7159

ATLANTIS GROUP
1340 Centre Street, Suite 203
Newton Center, MA 02459
Office: 617-965-0789
Fax: 617-213-5056

A&E SEAL

APPROVALS

LANDLORD _____
LEASING _____
R.F. _____
ZONING _____
CONSTRUCTION _____
A/E _____

DRAWN BY:	MB
CHECKED BY:	SM

SUBMITTALS

A	07/07/11	ISSUED FOR USE
0	07/11/11	ISSUED FINAL
1	09/07/11	REVISED PER COMMENTS

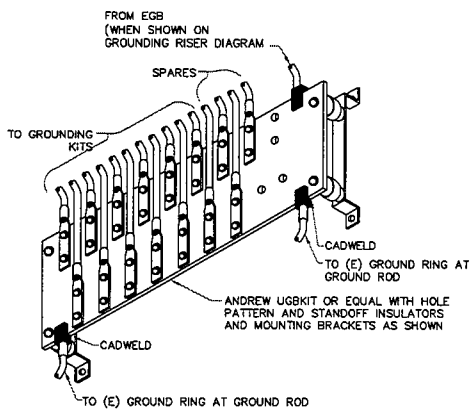
CT11069A
BOY SCOUTS

363 RIVERSVILLE ROAD
GREENWICH, CT 06831

SHEET TITLE:

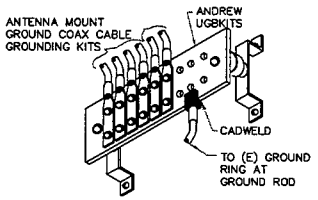
ANTENNA DETAILS

SHEET NUMBER:
05



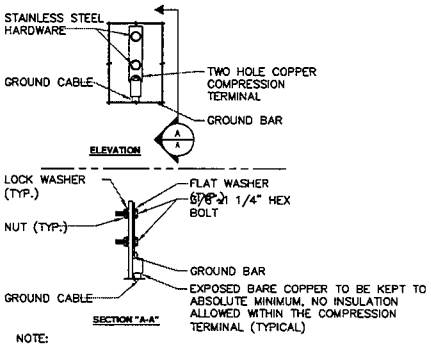
MASTER GROUND BAR (EGB) 1/06

SCALE: N.T.S.



EQUIPMENT GROUND BAR (EGB) 2/06

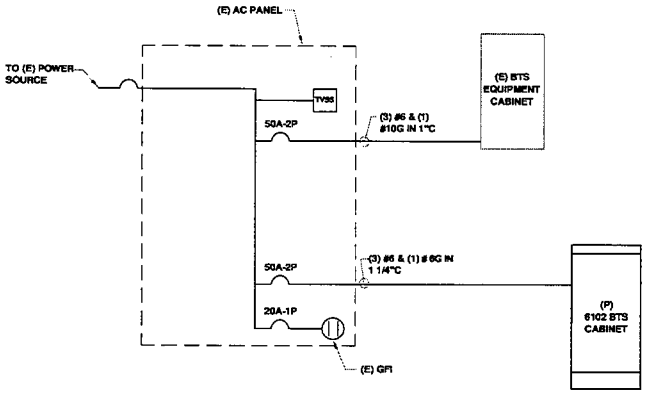
SCALE: N.T.S.



NOTE:
1. "DOUBLING UP" OR "STACKING" OF CONNECTION IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.
3. CADWELD DOWNLEADS FROM UPPER EGB, LOWER EGB AND MGB.

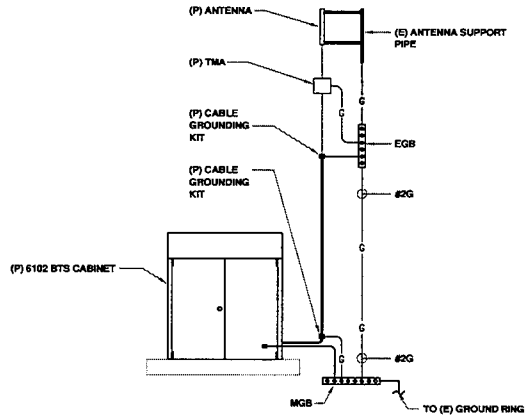
TYPICAL GROUND BAR CONNECTIONS DETAIL 3/06

SCALE: N.T.S.



ONE LINE DIAGRAM 4/06

SCALE: N.T.S.



GROUNDING RISER DIAGRAM 5/06

SCALE: N.T.S.

ELECTRICAL LEGEND

- NEW PANEL BOARD, SURFACE MOUNTED
- EXISTING PANEL BOARD, SURFACE MOUNTED
- DRY TYPE TRANSFORMER
- METER
- CIRCUIT BREAKER
- NON-FUSIBLE DISCONNECT SWITCH, MOUNTED 54" A.F.F.
- FUSIBLE DISCONNECT SWITCH, MOUNTED 54"A.F.F.
- TRANSIENT VOLTAGE SURGE SUPPRESSOR WITH BUILT-IN FUSES, SURFACE MOUNTED
- DUPLEX OUTLET, SURFACE MOUNTED, 20 AMPS, 125 VOLTS, SINGLE PHASE
- JUNCTION BOX, SURFACE MOUNTED 18" A.F.F.
- EXPOSED WIRING
- HOME RUNS, MINIMUM #12 + 1#12G IN 3/4" CONDUIT U.O.N.
- A.F.F. ABOVE FINISHED FLOOR
- U.O.N. UNLESS OTHERWISE NOTED
- WP WEATHERPROOF
- GFI GROUND FAULT INTERRUPTER
- A AMPERE
- V VOLT
- KWH KILOWATT - HOUR
- C CONDUIT
- G GROUND
- GROUND
- MGB MASTER GROUND * MECHANICAL CONNECTION, * CADWELD CONNECTION
- EGB EQUIPMENT GROUND BAR * MECHANICAL CONNECTION, * CADWELD CONNECTION
- #6 GROUND COPPER WIRE, SIZE AS NOTED
- EXPOSED WIRING
- COAXIAL CABLE
- 5/8"x8' COPPER CLAD STEEL GROUND ROD
- *EXOTHERMIC (CADWELD) OR MECHANICAL (COMPRESSION TYPE) CONNECTION
- PPC POWER PROTECTION CABINET

ELECTRICAL AND GROUNDING NOTES

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.
2. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.
3. THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATION INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.
4. GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.
5. ELECTRICAL AND TELCO WIRING OUTSIDE A BUILDING AND EXPOSED TO WEATHER SHALL BE IN WATER TIGHT GALVANIZED RIGID STEEL CONDUITS OR SCHEDULE 80 PVC (AS PERMITTED BY CODE) AND WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.
6. BURIED CONDUIT SHALL BE SCHEDULE 40 PVC.
7. ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THHN INSULATION.
8. RUN ELECTRICAL CONDUIT OR CABLE BETWEEN ELECTRICAL UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE PPC AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE. COORDINATE INSTALLATION WITH UTILITY COMPANY.
9. RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE TELCO CABINET AND BTS CABINET AS INDICATED ON THIS DRAWING PROVIDE FULL LENGTH PULL ROPE IN INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE AT EACH END.
10. WHERE CONDUIT BETWEEN BTS AND PROJECT OWNER CELL SITE PPC AND BETWEEN BTS AND PROJECT OWNER CELL SITE TELCO SERVICE CABINET ARE UNDERGROUND USE PVC, SCHEDULE 40 CONDUIT. ABOVE THE GROUND PORTION OF THESE CONDUITS SHALL BE PVC CONDUIT.
11. ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
12. PPC SUPPLIED BY PROJECT OWNER.
13. GROUNDING SHALL COMPLY WITH NEC ART. 250.
14. GROUND COAXIAL CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURER'S COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.
15. USE #6 COPPER STRANDED WIRE WITH GREEN COLOR INSULATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) AND #2 SOLID TINNED BARE COPPER WIRE FOR BELOW GRADE GROUNDING AS INDICATED ON THE DRAWING.
16. ALL GROUND CONNECTIONS TO BE BURNDY HYGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.
17. ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHALL NEVER BE BENT AT RIGHT ANGLE. ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #6 WIRE CAN BE BENT AT 8" RADIUS WHEN NECESSARY. BOND ANY METAL OBJECTS WITHIN 6 FEET OF PROJECT OWNER EQUIPMENT OR CABINET TO MASTER GROUND BAR OR GROUNDING RING.
18. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.
19. APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.
20. BOND ANTENNA MOUNTING BRACKETS, COAXIAL CABLE GROUND KITS, AND TMA TO EGB PLACED NEAR THE ANTENNA LOCATION.
21. BOND ANTENNA EGB'S AND MGB TO GROUND RING.
22. CONTRACTOR SHALL TEST COMPLETED GROUND SYSTEM AND RECORD RESULT FOR PROJECT CLOSE-OUT DOCUMENTATION. 5 OHMS MINIMUM RESISTANCE REQUIRED.
23. CONTRACTOR SHALL CONDUCT ANTENNA, COAX, AND TMA RETURN-LOSS AND DISTANCE-TO-FAULT MEASUREMENTS (SWEEP TESTS) AND RECORD RESULTS FOR PROJECT CLOSE OUT.
24. CONTRACTOR SHALL CHECK CAPACITY OF EXISTING SERVICE & PANEL ON SITE TO DETERMINE IF CAPACITY EXISTS TO ACCOMMODATE THE ADDED LOAD OF THIS PROJECT. ADVISE ENGINEER OF ANY DISCREPANCY.

NORTHEAST TOWERS
199 BRICKYARD ROAD
FARMINGTON, CT 06032
OFFICE: (860) 677-1999

FOR

T-MOBILE NORTHEAST, LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
OFFICE: (860) 692-7100
FAX:(860) 692-7159

ATLANTIS GROUP
1340 Centre Street, Suite 203
Newton Center, MA 02459
Office: 617-965-0789
Fax: 617-213-5056

A&E SEAL

STATE OF CONNECTICUT · HOSSEIN VAHEDI · NO. ARI. 11162 · LICENSED ARCHITECT

APPROVALS

LANDLORD _____
LEASING _____
R.F. _____
ZONING _____
CONSTRUCTION _____
A/E _____

DRAWN BY:	MB
CHECKED BY:	SM

SUBMITTALS

A	07/07/11	ISSUED FOR USE
0	07/11/11	ISSUED FINAL
1	09/07/11	REVISED PER COMMENTS

CT11069A
BOY SCOUTS

363 RIVERSVILLE ROAD
GREENWICH, CT 06831

SHEET TITLE:
GROUNDING NOTES, RISERS AND DETAILS

SHEET NUMBER:
06

at&t
Tamiko Lowry
AT&T Mobility
5405 Windward Pkwy
Alpharetta, GA 30004
(770) 708-6122

GPD GROUP
Kevin Clements
12600 Deerfield Pkwy; Suite 2039
Alpharetta, GA 30004
(678) 762-3305
kclements@gpdgroup.com

GPD# 2011267.08
August 30, 2011

STRUCTURAL ANALYSIS REPORT

AT&T DESIGNATION:	Site USID:	26026
	Site FA:	10034880
	Site Name:	GREENWICH NORTH
	AT&T Project:	T-Mobile Modification 7-29-2011
T-MOBILE DESIGNATION:	**Site Name:**	**Greenwich/Boy Scouts 2**
	Site Number	**CT11069A**
ANALYSIS CRITERIA:		**TIA/EIA-222-F & 2003 IBC** **85-mph with 0" ice** **74-mph with 1/2" ice**
SITE DATA:		**363 Riversville Road, Greenwich, CT 06831, Fairfield County** **Latitude 41° 3' 59.572" N, Longitude 73° 40' 17.097" W** **160' EEI Monopole**

Ms. Lowry,

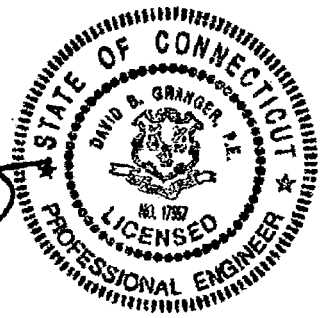
GPD is pleased to submit this Structural Analysis Report to determine the structural integrity of the aforementioned tower. The purpose of the analysis is to determine the suitability of the tower with the addition of the following proposed loading configuration:

Elev. 163' (1) RFS APXV18-206516SA20 Antenna on an existing 12' LP Platform w/ (18) existing 1-5/8" coax
(1) RFS ATMAA1412D-1A20 Tower Mounted Amplifier on the same mount

Based on our analysis we have determined the design of the **tower and its foundation are sufficient** for the proposed, existing, and reserved loadings as referenced in Appendix A.

We at GPD appreciate the opportunity of providing our continuing professional services to you and AT&T. If you have any questions please do not hesitate to call.

Respectfully submitted,



David B. Granger, P.E.
Connecticut #: 17557

SUMMARY & RESULTS

The purpose of this analysis was to verify whether the design for the existing structure is capable of carrying the proposed loading configuration as specified by T-Mobile to AT&T. This report was commissioned by Ms. Tamiko Lowry of AT&T.

TOWER SUMMARY AND RESULTS

Member	Capacity	Results
Monopole	68.5%	Pass
Base Plate	72.2%	Pass
Anchor Rods	57.1%	Pass
Flange Plate @ 152'	8.3%	Pass
Flange Bolts @ 152'	9.1%	Pass
Foundation	50.9%	Pass

ANALYSIS METHOD

RISA Tower (Version 5.4.2.0), a commercially available software program, was used to create a three-dimensional model of the tower and calculate primary member stresses for various dead, live, wind, and ice load cases. Selected output from the analysis is included in Appendix B. The following table details the information provided to complete this structural analysis. This analysis is solely based on this information and is being provided without the benefit of a recent site visit.

DOCUMENTS PROVIDED

Document	Remarks	Source
Preliminary Tower Summary	T-Mobile Co-location Document	Siterra
Site Lease Application	T-Mobile Application, dated 7/27/11	Siterra
Tower Mapping	GPD & MTSI Northeast, dated 2/18/09	Siterra
Previous Structural Analysis	GPD Group Project #: 2011007.28, 5/19/11	Siterra
Original Tower Drawings	EEI Project #: 5590, dated 4/10/03	Siterra
Geotechnical Report	WEI Project #: 2009-895, dated 9/4/09	Siterra
Foundation Investigation	WEI Project #: 2009-895, dated 9/4/09	Siterra

ASSUMPTIONS

This structural analysis is based on the theoretical capacity of the members and is not a condition assessment of the tower. This analysis is from information supplied, and therefore, its results are based on and are as accurate as that supplied data. GPD has made no independent determination, nor is it required to, of its accuracy. The following assumptions were made for this structural analysis.

1. The tower shaft sizes and shape are considered accurate as supplied. The material grade is as per data supplied and/or as assumed and as stated in the materials section.
2. The antenna configuration is as supplied and/or as modeled in the analysis. It is assumed to be complete and accurate. All antennas, mounts, coax and waveguides are assumed to be properly installed and supported as per manufacturer requirements
3. Some assumptions are made regarding antennas and mount sizes and their projected areas based on best interpretation of data supplied and of best knowledge of antenna type and industry practice.
4. All mounts, if applicable, are considered adequate to support the loading. No actual analysis of the mount(s) is performed. This analysis is limited to analyzing the tower only.
5. The soil parameters are as per data supplied or as assumed and stated in the calculations. If no data is available, the foundation system is not verified. In the case of absent foundation data, it is the tower owner's responsibility to insure that the foundation system is adequate to support the structure with its new reactions.
6. The tower and structures have been properly maintained in accordance with TIA Standards and/or with manufacturer's specifications.
7. All welds and connections are assumed to develop at least the member capacity, unless determined otherwise and explicitly stated in this report.
8. Tower Mounted Amplifiers are assumed to be installed behind antennas.
9. All existing loading was obtained from a previous analysis by GPD Group Project #: 2011007.28, 5/17/11, the provided Equipment Modification Form, tower photos, and a tower mapping done by GPD Group & MTSI Northeast dated, 2/18/09 and is assumed to be accurate.
10. The existing foundation is bearing on rock at 9.5' below grade per a discussion with the geotechnical engineer.
11. The future loading has been based on the final loading configuration within the MOD LTE 4-22-11 project on Siterra.
12. The existing AT&T elevation found in the previous analysis by GPD Project #: 2011007.28, dated 5/16/11, was found to vary from the loading and elevation listed within the provided Preliminary Tower Summary. The existing/reserved elevation has been modeled based on the previous analysis.
13. The RET cable has been assumed for the future AT&T Panels since they have internal RETs.

If any of these assumptions are not valid or have been made in error, this analysis may be affected, and GPD Group should be allowed to review any new information to determine its effect on the structural integrity of the tower.

DISCLAIMER OF WARRANTIES

GPD GROUP has not performed a site visit to the tower to verify the member sizes and/or antenna/coax loading. If the existing conditions are not as represented on the tower elevation contained in this report, we should be contacted immediately to evaluate the significance of the discrepancy. This is not a condition assessment of the tower or foundation. This report does not replace a full tower inspection. The tower and foundations are assumed to have been properly fabricated, erected, maintained, in good condition, twist free and plumb.

The engineering services rendered by GPD GROUP in connection with this Structural Analysis are limited to a computer analysis of the tower structure and theoretical capacity of its main structural members. All tower components have been assumed to only resist dead loads when no other loads are applied. No allowance was made for any damaged, bent, missing, loose, or rusted members (above and below ground). No allowance was made for loose bolts or cracked welds.

GPD GROUP does not analyze the fabrication of the structure (including welding). It is not possible to have all the very detailed information needed to perform a thorough analysis of every structural sub-component and connection of an existing tower. GPD GROUP provides a limited scope of service in that we cannot verify the adequacy of every weld, plate connection detail, etc. The purpose of this report is to assess the feasibility of adding appurtenances usually accompanied by transmission lines to the structure.

It is the owner's responsibility to determine the amount of ice, if any, that should be considered in the structural analysis.

The attached sketches are a schematic representation of the analyzed tower. If any material is fabricated from these sketches, the contractor shall be responsible for field verifying the existing conditions, proper fit, and clearance in the field. Any mentions of structural modifications are reasonable estimates and should not be used as a precise construction document. Precise modification drawings are obtainable from GPD GROUP, but are beyond the scope of this report.

Miscellaneous items such as antenna mounts, etc. have not been designed or detailed as a part of our work. We recommend that material of adequate size and strength be purchased from a reputable tower manufacturer.

GPD GROUP makes no warranties, expressed and/or implied in connection with this report and disclaims any liability arising from material, fabrication, and erection of this tower. GPD GROUP will not be responsible whatsoever for, or on account of, consequential or incidental damages sustained by any person, firm, or organization as a result of any data or conclusions contained in this report. The maximum liability of GPD GROUP pursuant to this report will be limited to the total fee received for preparation of this report.

APPENDIX A

Tower Analysis Summary Form

Tower Analysis Summary Form

General Info

Site Name	GREENWICH NORTH
Site Number	26225
FA Number	10033930
Date of Analysis	3/30/2011
Company Performing Analysis	GPD

The information contained in this summary report is not to be used independently from the PE stamped tower analysis.

Tower Info	Description	Date
Tower Type (G, SST, MP)	MP	
Tower Height (top of steel AGL)	160'	
Tower Manufacturer	EEI	
Tower Model	n/a	
Tower Design	EEI Project # 5590	4/10/2003
Foundation Design	n/a	
Geotech Report	WEI Project # 2009-695	9/4/2009
Tower Mapping	GPD Group & MTSI Northeast	2/18/2009
Previous Structual Analysis	GPD Project #: 2011007.28	5/19/2011
Foundation Mapping	WEI Project #: 2009-695	9/4/2009

Design Parameters

Design Code Used	TIA/EIA-222-F 2003 IBC
Location of Tower (County, State)	Fairfield, Connecticut
Basic Wind Speed (mph)	95 fastest
Ice Thickness (in)	0.5"
Structure Classification (I, II, III)	
Exposure Category (B, C, D)	
Topographic Category (1 to 5)	

Analysis Results (% Maximum Usage)

Existing/Reserved + Future + Proposed Condition	
Tower (%)	68.5%
Tower Base (%)	72.2%
Foundation (%)	58.9%
Foundation Adequate?	Yes

Steel Yield Strength (ksi)

Pole	65
Base Plate	60
Anchor Rods	75

Existing / Reserved Loading

Antenna								Mount			Transmission Line			
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Type	Manufacturer	Model	Azimuth	Quantity	Manufacturer	Type	Quantity	Model	Size	Internal / External
T-Mobile	160	163	6	Panel	EMS Wireless	RR90-17-02DP	10,165,310	1	Unknown	12' LP Platform	18	Unknown	1-5/8"	Internal
T-Mobile	160	163	6	TMA	Communication Components	DTMA-1919-DD-12	10,165,310			behind the antennas				
T-Mobile	160	163	3	Panel	RFS	APX16DWV-16DWVS-A20	10,165,310			on same mount				
T-Mobile	160	163	3	TMA	RFS	ATMAA1412D-1A20	10,165,310			behind the antennas				
AT&T Mobility	158	154	6	Panel	Powerwave	7770.00	62,133,302	1	Unknown	12' LP Platform	12	Unknown	1-5/8"	Internal
AT&T Mobility	158	155	12	TMA	Powerwave	LGP 21401	62,133,302			on same mount				
Verizon	141.5	141.5	6	Panel	Decibel	DB44HB0E-XY	40,155,275	1	Unknown	12' LP Platform	18	Unknown	1-5/8"	Internal
Verizon	141.5	141.5	3	Panel	Powerwave	P65-16XL-2	40,155,275			on same mount				
Verizon	141.5	141.5	3	Panel	Ryrnsa	MG-03-360T-0	40,155,275			on same mount				
Nextel	131	131	12	Panel	Decibel	DB4-9E	20,140,260	1	Unknown	12' LP Platform	12	Unknown	1-5/8"	Internal
Nextel	131	131									6	Unknown	1/2"	Internal
Sprint	122	122	6	Panel	Decibel	DD380F90E-M		1	Unknown	12' LP Platform	6	Unknown	1-5/8"	Internal
Sprint	72	73	1	GPS	Unknown		110	1	Unknown	3' Standoff	1	Unknown	1/2"	Internal

Note: Prior to installation of the proposed loading, [3] DTMA-1919-DD-12 TMA & [1] RR90-17-02DP antenna @ 163' shall be removed.

Proposed Loading

Antenna								Mount			Transmission Line			
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Type	Manufacturer	Model	Azimuth	Quantity	Manufacturer	Type	Quantity	Model	Size	Internal / External
T-Mobile	160	163	1	Panel	RFS	APXV18-206516SA20	30			on existing mount				
T-Mobile	160	163	1	TMA	RFS	ATMAA1412D-1A20	30			on the same mount				

Note: The proposed loading is in addition to the existing/reserved at that elevation.

Future Loading

Antenna								Mount			Transmission Line			
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Type	Manufacturer	Model	Azimuth	Quantity	Manufacturer	Type	Quantity	Model	Size	Internal / External
AT&T Mobility	148	150	3	Panel	Powerwave	P65-16-XLH-RR	62,133,302			on existing mount	2	DC Power	7/8"	Internal
AT&T Mobility	148	148	6	RRH	Ericsson	RRU-11				on the same mount	3	Fiber	1/2"	Internal
AT&T Mobility	148	148	1	DC Unit	Raycap	DC6-48-60-18-8F				on the same mount	1	Unknown	RET Cable	Internal

Note: The future loading is in addition to the existing loading at the same elevation

APPENDIX B

RISA Tower Output File

Tower Input Data

There is a pole section.
This tower is designed using the TIA/EIA-222-F standard.
The following design criteria apply:

Tower is located in Fairfield County, Connecticut.
Basic wind speed of 85 mph.
Nominal ice thickness of 0.5000 in.
Ice density of 56 pcf.
A wind speed of 74 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 50 mph.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in pole design is 1.333.
Local bending stresses due to climbing loads, feedline supports, and appurtenance mounts are not considered.

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
Climbing Pegs	C	Surface Ar (CaAa)	160.00 - 0.00	1	1	0.000 0.000	0.1500		0.31
Safety Line 3/8	C	Surface Ar (CaAa)	160.00 - 0.00	1	1	0.000 0.000	0.3750		0.22

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
LDF7-50A (1-5/8 FOAM)	A	No	Inside Pole	160.00 - 4.00	18	No Ice	0.00	0.82
						1/2" Ice	0.00	0.82
LDF7-50A (1-5/8 FOAM)	A	No	Inside Pole	154.00 - 8.00	12	No Ice	0.00	0.82
						1/2" Ice	0.00	0.82
1/2" Fiber Cable	C	No	Inside Pole	150.00 - 8.00	1	No Ice	0.00	0.15
						1/2" Ice	0.00	0.15
LDF5-50A (7/8 FOAM)	C	No	Inside Pole	150.00 - 8.00	2	No Ice	0.00	0.33
						1/2" Ice	0.00	0.33
LDF7-50A (1-5/8 FOAM)	B	No	Inside Pole	141.50 - 4.00	18	No Ice	0.00	0.82
						1/2" Ice	0.00	0.82
LDF6-50A (1-1/4 FOAM)	A	No	Inside Pole	131.00 - 12.00	12	No Ice	0.00	0.66
						1/2" Ice	0.00	0.66
LDF4P-50A (1/2 FOAM)	A	No	Inside Pole	131.00 - 12.00	3	No Ice	0.00	0.15
						1/2" Ice	0.00	0.15
LDF7-50A (1-5/8 FOAM)	C	No	Inside Pole	122.00 - 4.00	6	No Ice	0.00	0.82
						1/2" Ice	0.00	0.82
LDF4P-50A (1/2 FOAM)	C	No	Inside Pole	72.00 - 4.00	1	No Ice	0.00	0.15
						1/2" Ice	0.00	0.15

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
RET Cable	C	No	Inside Pole	150.00 - 8.00	1	No Ice	0.00	0.08
						1/2" Ice	0.00	0.08

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
12' LP Platform	C	None		0.0000	160.00	No Ice	24.53	24.53	1335.00
						1/2" Ice	29.94	29.94	1646.00
(2) RR90-17-02DP w/ Mount Pipe	A	From Centroid-Face	4.00 0.00 3.00	10.0000	160.00	No Ice 1/2" Ice	4.59 5.09	3.32 4.09	34.18 69.33
RR90-17-02DP w/ Mount Pipe	B	From Centroid-Face	4.00 0.00 3.00	-20.0000	160.00	No Ice 1/2" Ice	4.59 5.09	3.32 4.09	34.18 69.33
(2) RR90-17-02DP w/ Mount Pipe	C	From Centroid-Face	4.00 0.00 3.00	5.0000	160.00	No Ice 1/2" Ice	4.59 5.09	3.32 4.09	34.18 69.33
(2) DTMA-1819-DD-12	A	From Centroid-Face	4.00 0.00 3.00	10.0000	160.00	No Ice 1/2" Ice	0.00 0.00	0.41 0.52	10.00 19.33
DTMA-1819-DD-12	B	From Centroid-Face	4.00 0.00 3.00	-20.0000	160.00	No Ice 1/2" Ice	0.00 0.00	0.41 0.52	10.00 19.33
(2) DTMA-1819-DD-12	C	From Centroid-Face	4.00 0.00 3.00	5.0000	160.00	No Ice 1/2" Ice	0.00 0.00	0.41 0.52	10.00 19.33
APX16DWV-16DWVS-E-A 20w/ Mount Pipe	A	From Centroid-Face	4.00 0.00 3.00	10.0000	160.00	No Ice 1/2" Ice	7.30 7.83	3.50 4.27	67.68 113.36
APX16DWV-16DWVS-E-A 20w/ Mount Pipe	B	From Centroid-Face	4.00 0.00 3.00	-20.0000	160.00	No Ice 1/2" Ice	7.30 7.83	3.50 4.27	67.68 113.36
APXV18-206516SA20 w/ Mount Pipe	B	From Centroid-Face	4.00 0.00 3.00	-20.0000	160.00	No Ice 1/2" Ice	3.51 3.85	3.00 3.59	34.82 64.37
APX16DWV-16DWVS-E-A 20w/ Mount Pipe	C	From Centroid-Face	4.00 0.00 3.00	5.0000	160.00	No Ice 1/2" Ice	7.30 7.83	3.50 4.27	67.68 113.36
ATMAA1412D-1A20	A	From Centroid-Face	4.00 0.00 3.00	10.0000	160.00	No Ice 1/2" Ice	0.00 0.00	0.47 0.57	10.00 20.62
(2) ATMAA1412D-1A20	B	From Centroid-Face	4.00 0.00 3.00	-20.0000	160.00	No Ice 1/2" Ice	0.00 0.00	0.47 0.57	10.00 20.62
ATMAA1412D-1A20	C	From Centroid-Face	4.00 0.00 3.00	5.0000	160.00	No Ice 1/2" Ice	0.00 0.00	0.47 0.57	10.00 20.62
2" x 4' Mount Pipe	A	From Centroid-Face	4.00 0.00 3.00	10.0000	160.00	No Ice 1/2" Ice	0.79 1.03	0.79 1.03	20.00 26.34
2" x 4' Mount Pipe	B	From Centroid-Face	4.00 0.00	-20.0000	160.00	No Ice 1/2" Ice	0.79 1.03	0.79 1.03	20.00 26.34

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
		ce	3.00						
2" x 4' Mount Pipe	C	From	4.00	5.0000	160.00	No Ice	0.79	0.79	20.00
		Centroid-Fa	0.00			1/2" Ice	1.03	1.03	26.34
		ce	3.00						
12' LP Platform	C	None		0.0000	148.00	No Ice	24.53	24.53	1335.00
						1/2" Ice	29.94	29.94	1646.00
(2) 7770.00 w/Mount Pipe	A	From	3.46	-58.0000	148.00	No Ice	5.88	4.10	61.54
		Centroid-Le	2.00			1/2" Ice	6.31	4.73	107.08
		g	6.00						
(2) 7770.00 w/Mount Pipe	B	From	3.46	-58.0000	148.00	No Ice	5.88	4.10	61.54
		Centroid-Le	2.00			1/2" Ice	6.31	4.73	107.08
		g	6.00						
(2) 7770.00 w/Mount Pipe	C	From	3.46	-57.0000	148.00	No Ice	5.88	4.10	61.54
		Centroid-Le	2.00			1/2" Ice	6.31	4.73	107.08
		g	6.00						
(4) LGP21401	A	From	3.46	-58.0000	148.00	No Ice	1.29	0.23	14.10
		Centroid-Le	2.00			1/2" Ice	1.45	0.31	21.26
		g	6.00						
(4) LGP21401	B	From	3.46	-58.0000	148.00	No Ice	1.29	0.23	14.10
		Centroid-Le	2.00			1/2" Ice	1.45	0.31	21.26
		g	6.00						
(4) LGP21401	C	From	3.46	-57.0000	148.00	No Ice	1.29	0.23	14.10
		Centroid-Le	2.00			1/2" Ice	1.45	0.31	21.26
		g	6.00						
P65-16-XLH-RR w/ Mount Pipe	A	From	3.46	-58.0000	148.00	No Ice	8.64	6.36	89.55
		Centroid-Le	2.00			1/2" Ice	9.29	7.54	152.50
		g	2.00						
P65-16-XLH-RR w/ Mount Pipe	B	From	3.46	-58.0000	148.00	No Ice	8.64	6.36	89.55
		Centroid-Le	2.00			1/2" Ice	9.29	7.54	152.50
		g	2.00						
P65-16-XLH-RR w/ Mount Pipe	C	From	3.46	-57.0000	148.00	No Ice	8.64	6.36	89.55
		Centroid-Le	2.00			1/2" Ice	9.29	7.54	152.50
		g	2.00						
(2) RRU-11	A	From	3.46	-58.0000	148.00	No Ice	2.90	1.96	51.00
		Centroid-Le	2.00			1/2" Ice	3.14	2.17	72.16
		g	0.00						
(2) RRU-11	B	From	3.46	-58.0000	148.00	No Ice	2.90	1.96	51.00
		Centroid-Le	2.00			1/2" Ice	3.14	2.17	72.16
		g	0.00						
(2) RRU-11	C	From	3.46	-57.0000	148.00	No Ice	2.90	1.96	51.00
		Centroid-Le	2.00			1/2" Ice	3.14	2.17	72.16
		g	0.00						
DC6-48-60-18-8F	A	From	3.46	-58.0000	148.00	No Ice	2.22	2.22	20.00
		Centroid-Le	2.00			1/2" Ice	2.44	2.44	39.25
		g	0.00						
12' LP Platform	C	None		0.0000	141.50	No Ice	24.53	24.53	1335.00
						1/2" Ice	29.94	29.94	1646.00
(2) DB844H80E-XY w/Mount Pipe	A	From	3.28	40.0000	141.50	No Ice	3.58	5.63	35.55
		Centroid-Le	2.29			1/2" Ice	4.20	6.73	77.48
		g	0.00						
(2) DB844H80E-XY w/Mount Pipe	B	From	3.28	35.0000	141.50	No Ice	3.58	5.63	35.55
		Centroid-Le	2.29			1/2" Ice	4.20	6.73	77.48
		g	0.00						
(2) DB844H80E-XY w/Mount Pipe	C	From	3.28	35.0000	141.50	No Ice	3.58	5.63	35.55
		Centroid-Le	2.29			1/2" Ice	4.20	6.73	77.48
		g	0.00						
P6516XL-2 w/ Mount Pipe	A	From	3.28	40.0000	141.50	No Ice	8.74	6.52	86.06

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
		Centroid-Le g	2.29 0.00			1/2" Ice	9.35	7.39	157.31
MG D3-800TO w/ Mount Pipe	A	From Centroid-Le g	3.28 2.29 0.00	35.0000	141.50	No Ice 1/2" Ice	3.59 3.98	3.74 4.38	58.03 97.75
P6516XL-2 w/ Mount Pipe	B	From Centroid-Le g	3.28 2.29 0.00	35.0000	141.50	No Ice 1/2" Ice	8.74 9.35	6.52 7.39	86.06 157.31
MG D3-800TO w/ Mount Pipe	B	From Centroid-Le g	3.28 2.29 0.00	40.0000	141.50	No Ice 1/2" Ice	3.59 3.98	3.74 4.38	58.03 97.75
P6516XL-2 w/ Mount Pipe	C	From Centroid-Le g	3.28 2.29 0.00	35.0000	141.50	No Ice 1/2" Ice	8.74 9.35	6.52 7.39	86.06 157.31
MG D3-800TO w/ Mount Pipe	C	From Centroid-Le g	3.28 2.29 0.00	35.0000	141.50	No Ice 1/2" Ice	3.59 3.98	3.74 4.38	58.03 97.75
12' LP Platform	C	None		0.0000	131.00	No Ice 1/2" Ice	24.53 29.94	24.53 29.94	1335.00 1646.00
(4) DB4H9E w/ Mount Pipe	A	From Centroid-Le g	3.76 1.37 0.00	20.0000	131.00	No Ice 1/2" Ice	2.87 3.18	1.53 2.24	30.00 54.55
(4) DB4H9E w/ Mount Pipe	B	From Centroid-Le g	3.76 1.37 0.00	20.0000	131.00	No Ice 1/2" Ice	2.87 3.18	1.53 2.24	30.00 54.55
(4) DB4H9E w/ Mount Pipe	C	From Centroid-Le g	3.76 1.37 0.00	20.0000	131.00	No Ice 1/2" Ice	2.87 3.18	1.53 2.24	30.00 54.55
12' LP Platform	C	None		0.0000	122.00	No Ice 1/2" Ice	24.53 29.94	24.53 29.94	1335.00 1646.00
(2) DB980F90E-M w/Mount Pipe	A	From Centroid-Le g	4.00 0.00 0.00	0.0000	122.00	No Ice 1/2" Ice	4.37 4.96	3.95 5.04	34.05 70.69
(2) DB980F90E-M w/Mount Pipe	B	From Centroid-Le g	4.00 0.00 0.00	0.0000	122.00	No Ice 1/2" Ice	4.37 4.96	3.95 5.04	34.05 70.69
(2) DB980F90E-M w/Mount Pipe	C	From Centroid-Le g	4.00 0.00 0.00	0.0000	122.00	No Ice 1/2" Ice	4.37 4.96	3.95 5.04	34.05 70.69
(2) 2" x 6' Mount Pipe	A	From Centroid-Le g	4.00 0.00 0.00	0.0000	122.00	No Ice 1/2" Ice	1.20 1.80	1.20 1.80	30.00 39.39
(2) 2" x 6' Mount Pipe	B	From Centroid-Le g	4.00 0.00 0.00	0.0000	122.00	No Ice 1/2" Ice	1.20 1.80	1.20 1.80	30.00 39.39
(2) 2" x 6' Mount Pipe	C	From Centroid-Le g	4.00 0.00 0.00	0.0000	122.00	No Ice 1/2" Ice	1.20 1.80	1.20 1.80	30.00 39.39
4' Standoff	B	From Face	1.29 1.53 0.00	50.0000	72.00	No Ice 1/2" Ice	3.41 4.47	3.41 4.47	80.00 104.00
GPS	B	From Face	2.57 3.06 1.00	50.0000	72.00	No Ice 1/2" Ice	0.17 0.24	0.17 0.24	0.87 3.85

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
160.00	12' LP Platform	27	25.034	1.3410	0.0010	54274
148.00	12' LP Platform	27	21.679	1.3227	0.0009	21956
141.50	12' LP Platform	27	19.890	1.2983	0.0008	13948
131.00	12' LP Platform	33	17.083	1.2380	0.0007	8776
122.00	12' LP Platform	33	14.795	1.1684	0.0006	6660
72.00	4' Standoff	33	5.016	0.6504	0.0003	5487

Section Capacity Table

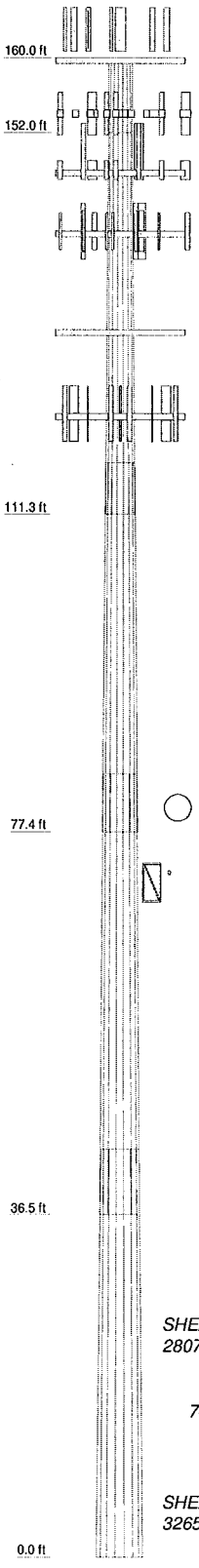
Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	$SF*P_{allow}$ lb	% Capacity	Pass Fail
L1	160 - 152	Pole	TP30.62x29x0.1875	1	-2235.21	908478.12	7.0	Pass
L2	152 - 111.29	Pole	TP38.86x30.62x0.25	2	-13874.60	1547466.31	49.0	Pass
L3	111.29 - 77.42	Pole	TP45.09x37.263x0.3125	3	-20915.50	2245558.38	68.5	Pass
L4	77.42 - 36.46	Pole	TP52.62x43.2359x0.4375	4	-33343.50	3665309.96	65.1	Pass
L5	36.46 - 0	Pole	TP59x50.3353x0.5	5	-50395.40	4826446.22	66.6	Pass
							Summary	
						Pole (L3)	68.5	Pass
						RATING =	**68.5**	**Pass**

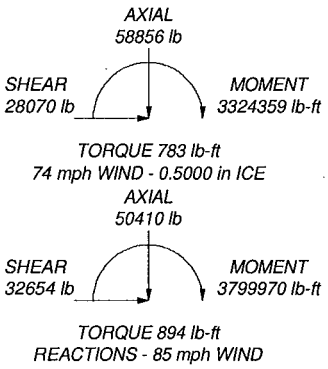
APPENDIX C

Tower Elevation Drawing

Section	1	2	3	4	5
Length (ft)	8.00	40.71	39.29	47.13	43.54
Number of Sides	18	18	18	18	18
Thickness (in)	0.1875	0.2500	0.3125	0.4375	0.5000
Socket Length (ft)		5.42	6.17	7.08	
Top Dia (in)	29.0000	30.6200	37.2630	43.2359	50.3353
Bot Dia (in)	30.6200	38.8600	45.0900	52.6200	59.0000
Grade	A572-65				
Weight (lb)	479.9	3791.2	5418.9	10576.1	12736.2

Total Weight (lb): 33002.3





DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
12' LP Platform	160	P65-16-XLH-RR w/ Mount Pipe	148
(2) RR90-17-02DP w/ Mount Pipe	160	(2) RRU-11	148
RR90-17-02DP w/ Mount Pipe	160	(2) RRU-11	148
(2) RR90-17-02DP w/ Mount Pipe	160	(2) RRU-11	148
(2) DTMA-1819-DD-12	160	DC6-48-60-18-8F	148
DTMA-1819-DD-12	160	12' LP Platform	141.5
(2) DTMA-1819-DD-12	160	(2) DB844H80E-XY w/Mount Pipe	141.5
APX16DWV-16DWVS-E-A20w/ Mount Pipe	160	(2) DB844H80E-XY w/Mount Pipe	141.5
		(2) DB844H80E-XY w/Mount Pipe	141.5
APX16DWV-16DWVS-E-A20w/ Mount Pipe	160	P6516XL-2 w/ Mount Pipe	141.5
		MG D3-800TO w/ Mount Pipe	141.5
APXV18-206516SA20 w/ Mount Pipe	160	P6516XL-2 w/ Mount Pipe	141.5
APX16DWV-16DWVS-E-A20w/ Mount Pipe	160	MG D3-800TO w/ Mount Pipe	141.5
		P6516XL-2 w/ Mount Pipe	141.5
ATMAA1412D-1A20	160	MG D3-800TO w/ Mount Pipe	141.5
(2) ATMAA1412D-1A20	160	12' LP Platform	131
ATMAA1412D-1A20	160	(4) DB4H9E w/ Mount Pipe	131
2" x 4' Mount Pipe	160	(4) DB4H9E w/ Mount Pipe	131
2" x 4' Mount Pipe	160	(4) DB4H9E w/ Mount Pipe	131
2" x 4' Mount Pipe	160	12' LP Platform	122
12' LP Platform	148	(2) DB980F90E-M w/Mount Pipe	122
(2) 7770.00 w/Mount Pipe	148	(2) DB980F90E-M w/Mount Pipe	122
(2) 7770.00 w/Mount Pipe	148	(2) DB980F90E-M w/Mount Pipe	122
(2) 7770.00 w/Mount Pipe	148	(2) 2" x 6' Mount Pipe	122
(4) LGP21401	148	(2) 2" x 6' Mount Pipe	122
(4) LGP21401	148	(2) 2" x 6' Mount Pipe	122
(4) LGP21401	148	4' Standoff	72
P65-16-XLH-RR w/ Mount Pipe	148	GPS	72
P65-16-XLH-RR w/ Mount Pipe	148		

MATERIAL STRENGTH

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

TOWER DESIGN NOTES

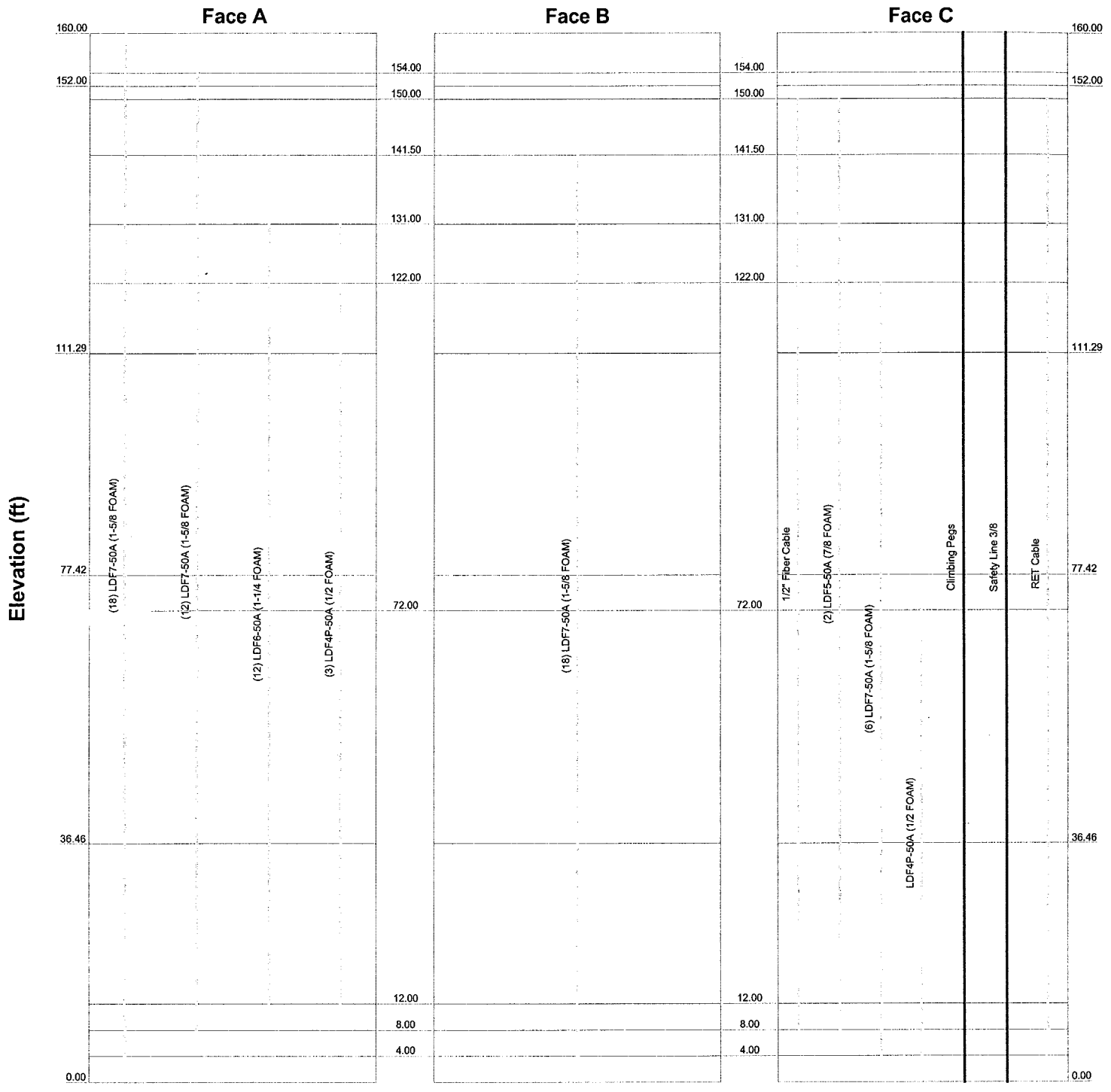
1. Tower is located in Fairfield County, Connecticut.
2. Tower designed for a 85 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 74 mph basic wind with 0.50 in ice.
4. Deflections are based upon a 50 mph wind.
5. TOWER RATING: 68.5%

GPD GROUP
Consulting Engineers
GPD GROUP
520 South Main Street,Suite 2531
Akron, OH
Phone: (330)572.2100
FAX: (330)572.2101

Job: 26225 GREENWICH NORTH			
Project: 2011267.08			
Client: AT&T Mobility	Drawn by: mmoeller	App'd:	
Code: TIA/EIA-222-F	Date: 08/29/11	Scale: NTS	
Path: N:\2011\2011267\08\RISA\26225 Greenwich North.eri		Dwg No. E-1	

Feedline Distribution Chart
0' - 160'

_____ Round _____ Flat _____ App In Face App Out Face Truss Leg



GPD GROUP
Consulting Engineers

GPD GROUP
520 South Main Street,Suite 2531
Akron, OH
Phone: (330)572.2100
FAX: (330)572.2101

Job: ***26225 GREENWICH NORTH***			
Project: ***2011267.08***			
Client: AT&T Mobility	Drawn by: mmoeller	App'd:	
Code: TIA/EIA-222-F	Date: 08/30/11	Scale: NTS	
Path: N:\2011\2011267\08\RISA\26225 Greenwich North.eri		Dwg No. E-7	

Feedline Plan
36'5-17/32"

Round _____ Flat _____ App In Face App Out Face

Section @ 36'5-17/32"

GPD GROUP Consulting Engineers	*GPD GROUP* 520 South Main Street,Suite 2531 Akron, OH Phone: (330)572.2100 FAX: (330)572.2101	Job: *26225 GREENWICH NORTH*		
		Project: *2011267.08*		
		Client: AT&T Mobility	Drawn by: mmoeller	App'd:
		Code: TIA/EIA-222-F	Date: 08/30/11	Scale: NTS
		Path: N:\2011\2011267\08\RISA\26225 Greenwich North.eri		Dwg No. E-7

APPENDIX D

Base Plate & Anchor Rod Analysis

GPD GROUP

Anchor Rod and Base Plate Stresses
26225 GREENWICH NORTH
GPD Project Number: 2011267.08

Overturning Moment =	3799.97	k*ft
Axial Force =	50.41	k
Shear Force =	32.65	k

Acceptable Stress Ratio =	100.0%

Anchor Rods		
Number of Rods =	24	
Type =	Upset Rod	
Rod Yield Strength (Fy) =	75	ksi
ASIF =	1.333	
Rod Circle =	67	in
Rod Diameter =	2.25	in
Net Tensile Area =	3.25	in^2
Max Tension on Rod =	111.27	kips
Max Compression on Rod =	115.47	kips
Allow. Rod Force =	195.00	kips
Anchor Rod Capacity =	**57.1%**	**OK**

Base Plate		
Location =	External	
Plate Strength (F_y) =	60	ksi
Outside Diameter =	73	in
Plate Thickness =	2.25	in
wcalc =	31.75	in
wmax =	48.14	in
w =	31.75	in
S =	26.79	in^3
fb =	43.31	ksi
Fb =	60	ksi
BP Capacity =	**72.2%**	**OK**

Stiffeners		
Configuration =	None	

Pole		
Pole Diameter =	59	in
Number of Sides =	18	
Thickness =	0.5	in
Pole Yield Strength =	65	ksi

APPENDIX E

Flange Analysis

GPD GROUP

Existing Flange Connection @ 152'
26225 GREENWICH NORTH
GPD Project Number: 2011267.08

O.T. Moment =	38.27	k*ft
Axial =	2.23	kips
Shear =	4.28	kips

Acceptable Stress Ratio =	100.0%

Flange Bolts		
# Bolts =	12	
Bolt Type =	A325	
F_t =	44	ksi
ASIF =	1.333	
Bolt Circle =	35	in
Bolt Diameter =	1	in
Tension & Shear (ASD, Section J3.5)		
F_v =	21	ksi
Nominal Area =	0.79	in^2
f_v =	0.45	ksi
Applied Shear =	0.36	kips
Allowable Shear =	21.99	kips
Ft^2 - 4.39(fv^2))^1/2 =	43.99	ksi
Allowable Bolt Stress =	58.65295	ksi
B =	46.07	kips
Prying Action Check		
N/A, top flange thickness > tc		
Max Comp. on Bolt =	4.56	kips
Max Tension on Bolt =	4.19	kips
Shear Capacity =	1.6%	
Tensile Capacity =	9.1%	
Bolt Capacity =	**9.1% OK**	

Pole Information		
Shaft Diam. (Upper) =	30.62	in
Thickness (Upper)=	0.1875	in
# of Sides (Upper) =	18	
F_y (Upper) =	65	ksi
Shaft Diam. (Lower) =	30.62	in
Thickness (Lower)=	0.25	in
# of Sides (Lower) =	18	
F_y (Lower) =	65	ksi

Upper Flange Plate		
Location =	External	
Plate Strength (F_y) =	60	ksi
Plate Thickness =	1	in
Outer Diameter =	38	in
wcalc =	16.95	in
wmax =	19.06	in
w =	16.95	in
S =	2.83	in^3
f_b =	4.97	ksi
F_b =	60	ksi
UP Capacity =	**8.3% OK**	

Lower Flange Plate		
Location =	External	
Plate Strength (F_y) =	60	ksi
Plate Thickness =	1	in
Outer Diameter =	38	in
wcalc =	16.95	in
wmax =	19.06	in
w =	16.95	in
S =	2.83	in^3
f_b =	4.97	ksi
F_b =	60	ksi
LP Capacity =	**8.3% OK**	

UpperStiffeners	
Configuration =	None

Lower Stiffeners	
Configuration =	None

APPENDIX F

Foundation Calculations

GPD GROUP

Mat Foundation Analysis
26225 GREENWICH NORTH
GPD Project Number: 2011267.08

General Info	
Code	TIA/EIA-222-F (ASD)
Bearing On	Rock
Foundation Type	Mono Pad
Pier Type	Square
Reinforcing Known	No
Max Capacity	1

Tower Reactions	
Moment, M	3799.97 k-ft
Axial, P	50.41 k
Shear, V	32.654 k

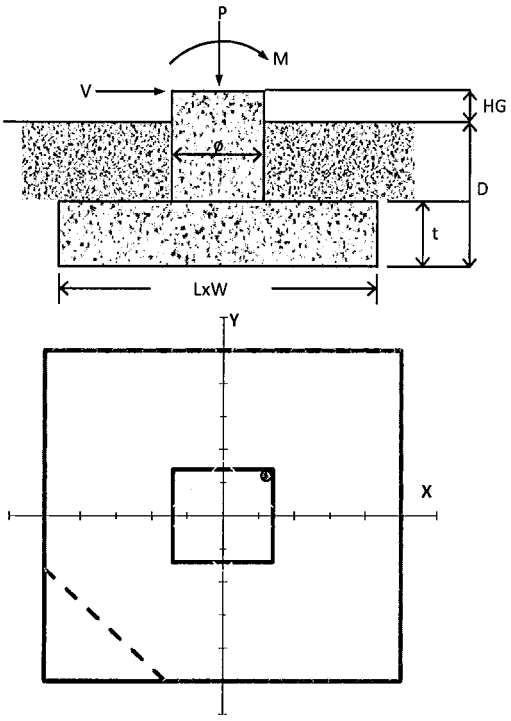
Pad & Pier Geometry		
Pier Width, ø	7	ft
Pad Length, L	25	ft
Pad Width, W	25	ft
Pad Thickness, t	4.5	ft
Depth, D	9.5	ft
Height Above Grade, HG	0.5	ft

Pad & Pier Reinforcing	
Rebar Fy	ksi
Concrete Fc'	ksi
Clear Cover	in
Reinforced Top & Bottom?	
Pad Reinforcing Size	
Pad Quantity Per Layer	
Pier Rebar Size	
Pier Quantity of Rebar	

Soil Properties	
Soil Type	Granular
Soil Unit Weight	120 pcf
Angle of Friction, ø	34 °
Bearing Type	Net
Ultimate Bearing	30 ksf
Water Table Depth	10 ft
Frost Depth	3.33 ft

Bearing Summary			Load Case
Qxmax	2.77	ksf	1D+1W
Qymax	2.77	ksf	1D+1W
Qmax @ 45°	3.42	ksf	1D+1W
$Q_{(all)\ Gross}$	15.57	ksf	
Controlling Capacity	**22.0%**	**Pass**	

Overturning Summary (Required FS=1.5)			Load Case
FS(ot)x	2.95	≥1.5	1D+1W
FS(ot)y	2.95	≥1.5	1D+1W
Controlling Capacity	**50.9%**	**Pass**	



T-Mobile

T-Mobile USA Inc.
35 Griffin Rd South, Bloomfield, CT 06002-1853
Phone: (860) 692-7100
Fax: (860) 692-7159

Technical Memo

To: Northeast Tower Inc
From: Amir Uzzaman - Radio Frequency Engineer
cc: Jason Overbey
Subject: Power Density Report for CT11069A
Date: September 12, 2011

1. Introduction:

This report is the result of an Electromagnetic Field Intensities (EMF - Power Densities) study for the T-Mobile antenna installation on a Monopole at 363 Riversville Rd. Boy Scouts of America, Greenwich, CT. This study incorporates the most conservative consideration for determining the practical combined worst case power density levels that would be theoretically encountered from locations surrounding the transmitting location.

2. Discussion:

The following assumptions were used in the calculations:

1) The emissions from T-Mobile transmitters are in the (1940-1949.8), (2140-2145), (2110-2120)MHz frequency Band.
2) The antenna array consists of three sectors, with 3 antennas per sector.
3) The model number for GSM antenna is RR90-17-02DP.
3) The model number for UMTS antenna is APX16DWV-16DWV.
4) GSM antenna center line height is 163 ft.
4) UMTS antenna center line height is 163 ft.
5) The maximum transmit power from any GSM sector is 1547.11 Watts Effective Radiated Power (EiRP) assuming 8 channels per sector.
5) The maximum transmit power from any UMTS sector is 2180.17 Watts Effective Radiated Power (EiRP) assuming 2 channels per sector.
6) All the antennas are simultaneously transmitting and receiving, 24 hours a day.
7) Power levels emitting from the antennas are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
8) The average ground level of the studied area does not change significantly with respect to the transmitting location.

Equations given in "FCC OET Bulletin 65, Edition 97-01" were then used with the above information to perform the calculations.

3. Conclusion:

Based on the above worst case assumptions, the power density calculation from the T-Mobile antenna installation on a Monopole at 363 Riversville Rd. Boy Scouts of America, Greenwich, CT, is 0.03318 mW/cm^2. This value represents 3.318% of the Maximum Permissible Exposure (MPE) standard of 1 milliwatt per square centimeter (mW/cm^2) set forth in the FCC/ANSI/IEEE C95.1-1991. Furthermore, the proposed antenna location for T-Mobile will not interfere with existing public safety communications, AM or FM radio broadcasts, TV, Police Communications, HAM Radio communications or any other signals in the area.
The combined Power Density from other carriers is 22.46546%. The combined Power Density for the site is 25.783% of the M.P.E. standard.

Connecticut Market

T-Mobile

Worst Case Power Density

Site:	**CT11069A**	
Site Address:	**363 Riversville Rd.**	**Boy Scouts of America**
Town:	**Greenwich**	
Tower Height:	**160 ft.**	
Tower Style:	**Monopole**	

GSM Data		**UMTS Data**	
Base Station TX output	20 W	**Base Station TX output**	40 W
Number of channels	8	**Number of channels**	2
Antenna Model	RR90-17-02DP	**Antenna Model**	APX16DWV-16DWV
Cable Size	1 5/8 in.	**Cable Size**	1 5/8 in.
Cable Length	185 ft.	**Cable Length**	185 ft.
Antenna Height	163.0 ft.	**Antenna Height**	163.0 ft.
Ground Reflection	1.6	**Ground Reflection**	1.6
Frequency	1945.0 MHz	**Frequency**	2.1 GHz
Jumper & Connector loss	4.50 dB	**Jumper & Connector loss**	1.50 dB
Antenna Gain	16.5 dBi	**Antenna Gain**	18.0 dBi
Cable Loss per foot	0.0116 dB	**Cable Loss per foot**	0.0116 dB
Total Cable Loss	2.1460 dB	**Total Cable Loss**	2.1460 dB
Total Attenuation	6.6460 dB	**Total Attenuation**	3.6460 dB
Total EIRP per Channel	52.86 dBm	**Total EIRP per Channel**	60.37 dBm
(In Watts)	193.39 W	**(In Watts)**	1090.08 W
Total EIRP per Sector	61.90 dBm	**Total EIRP per Sector**	63.38 dBm
(In Watts)	1547.11 W	**(In Watts)**	2180.17 W
nsg	9.8540	**nsg**	14.3540
Power Density (S) =	**0.013770 mW/cm^2**	**Power Density (S) =**	**0.019405 mW/cm^2**

T-Mobile Worst Case % MPE = **3.3175%**

Equation Used :

$$S = \frac{(ERP)(nsg)}{4\pi R^2}$$

Office of Engineering and Technology (OET) Bulletin 65, Edition 97-01, August 1997

Co-Location Total

Carrier	**% of Standard**
SNET/Cingular	1.6921 %
Cingular GSM	2.2364 %
Cingular GSM	0.6309 %
Verizon	7.0109 %
Verizon	1.7226 %
Verizon	2.4464 %
Nextel	3.3752 %
Sprint	3.3510 %
Other Antenna Systems	
Total Excluding T-Mobile	**22.4655 %**
T-Mobile	3.3175
Total % MPE for Site	**25.7830%**