

# 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](mailto:siting.council@ct.gov)

[www.ct.gov/csc](http://www.ct.gov/csc)

July 28, 2011

Jacqueline A. Slaga  
Tower Resource Management  
30 Lyman Street, Suite 12  
Westborough, MA 01581

RE: **TS-METROPCS-043-110713MA** - MetroPCS Massachusetts, LLC d/b/a MetroPCS request for an order to approve tower sharing at an existing telecommunications facility located at 148 Roberts Street, East Hartford, Connecticut.

Dear Ms. Slaga:

At a public meeting held July 28, 2011, the Connecticut Siting Council (Council) ruled that the shared use of this existing tower site is technically, legally, environmentally, and economically feasible and meets public safety concerns, and therefore, in compliance with General Statutes § 16-50aa, the Council has ordered the shared use of this facility to avoid the unnecessary proliferation of tower structures with the following conditions:

- Any deviation from the proposed installation as specified in the original tower share request and supporting materials with the Council shall render this decision invalid;
- Any material changes to the proposed installation as specified in the original tower share request and supporting materials filed with the Council shall require an explicit request for modification to the Council pursuant to Connecticut General Statutes § 16-50aa, including 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;
- Not less than 45 days after completion of the proposed installation, the Council shall be notified in writing that the installation 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.

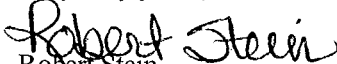

This decision is under the exclusive jurisdiction of the Council. This facility has been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

This decision applies only to this request for tower sharing and is not applicable to any other request or construction. Please be advised that the validity of this action shall expire one year from the date of this letter.

The proposed shared use is to be implemented as specified in your letter dated July 13, 2011, including the placement of all necessary equipment and shelters within the tower compound.

Thank you for your attention and cooperation.

Very truly yours,

  
Robert Stein  
Chairman 

LR/CDM/laf

c: The Honorable Marcia A. Leclerc, Mayor, Town of East Hartford  
Michael J. Dayton, Town Planner, Town of East Hartford  
GTP Towers I, LLC.

January 23, 2012

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

Re: MetroPCS Connecticut Siting Council ("CSC") Approved Sites Complete

Dear Mr. Stein:

The following is written confirmation as requested that certain MetroPCS Massachusetts, LLC ("MetroPCS") installations have been completed.

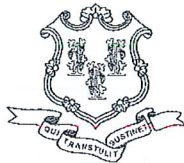
TS-METROPCS-033-110720MA-	160 West Street, Cromwell CT	(HFC0212A)
TS-METROPCS-078-110622-	1725 Strafford Road, Mansfield CT	(HFC1246A)
TS-METROPCS-003-110622-	33 Janowski Road, Ashford CT	(HFC1248A)
<b>TS-METROPCS-043-110713MA-</b>	148 Roberts Street, East Hartford CT	(HFC1287B)
TS-METROPCS-110-110713MA-	10 Sparks Street, Plainville, CT	(HFC1548A)
TS-METROPCS-049-110713MA-	4 Oliver Road, Enfield CT	(HFC1552A)
TS-METROPCS-131-110720MA-	1394 Rt 322, Southington CT	(NHC0027A)
TS-METROPCS-108-110720MA-	338 Oxford Road, Oxford CT	(NHC0246B)
EM-METROPCS-101-110801-	50 Devine Street, North Haven CT	(NHC0455B)

I have attached for your reference copies of the approvals.

Please feel free to contact me if you have any questions.

Thank you,

**Kate Rugman**  
**Zoning Manager**  
**metroPCS - Boston Market**  
285 Billerica Road  
Chelmsford, MA 01824  
phone: 978-244-7287  
cell: 617-899-0828  
fax: 978-244-7240



STATE OF CONNECTICUT  
CONNECTICUT SITING COUNCIL

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[www.ct.gov/csc](http://www.ct.gov/csc)

AFC 12 48A

July 14, 2011

William B. Abbott  
JLee Associates Inc.  
121 Overbrook Road  
Madison, CT 06443

RE: **TS-METROPCS-003-110622** - MetroPCS request for an order to approve tower sharing at an existing telecommunications facility located at 33 Janowski Road, Ashford, Connecticut.

Dear Mr. Abbott:

At a public meeting held July 14, 2011, the Connecticut Siting Council (Council) ruled that the shared use of this existing tower site is technically, legally, environmentally, and economically feasible and meets public safety concerns, and therefore, in compliance with General Statutes § 16-50aa, the Council has ordered the shared use of this facility to avoid the unnecessary proliferation of tower structures with the following conditions:

- Any deviation from the proposed installation as specified in the original tower share request and supporting materials with the Council shall render this decision invalid;
- Any material changes to the proposed installation as specified in the original tower share request and supporting materials filed with the Council shall require an explicit request for modification to the Council pursuant to Connecticut General Statutes § 16-50aa, including 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;
- Not less than 45 days after completion of the proposed installation, the Council shall be notified in writing that the installation 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.

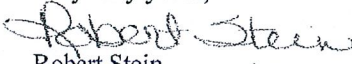
This decision is under the exclusive jurisdiction of the Council. This facility has been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

This decision applies only to this request for tower sharing and is not applicable to any other request or construction. Please be advised that the validity of this action shall expire one year from the date of this letter.

The proposed shared use is to be implemented as specified in your letter dated June 17, 2011, including the placement of all necessary equipment and shelters within the tower compound.

Thank you for your attention and cooperation.

Very truly yours,

  
Robert Stein  
Chairman

RS/CDM/laf

c: The Honorable Ralph H. Fletcher, First Selectman, Town of Ashford  
Richard Dziadus, Zoning Enforcement Officer, Town of Ashford  
Crown Castle USA, Inc.





*Jacqueline A. Slaga*  
*Tower Resource Management*  
*30 Lyman Street, Suite 12*  
*Westborough, MA01581*  
*401-855-0824*  
*jackieslaga@gmail.com*

July 13, 2011

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

ORIGINAL

RECEIVED  
JUL 13 2011

CONNECTICUT  
SITING COUNCIL

**Re: MetroPCS application to allow the shared use of an existing telecommunications facility located at 148 Roberts Street, East Hartford, CT.**

Dear Ms. Roberts:

On behalf of my client MetroPCS, I respectfully enclose an original and 24 copies of the above noted Applications, as well as a check, in the amount of 625.00, the filing fee.

Should you have any questions in this matter, please do not hesitate to contact me.

Very truly yours,

  
Jackie Slaga

*Jacqueline A. Slaga  
Tower Resource Management  
30 Lyman Street, Suite 12  
Westborough, MA01581  
401-855-0824  
jackieslaga@gmail.com*

July 13, 2011

Town of East Hartford  
740 Main Street  
East Hartford, CT 06108  
Attn: Mayor Marcia A. Leclerc

**Re: Proposed modification to existing telecommunications facility located at 148 Roberts Street.**

Dear Mayor Leclerc:

I represent MetroPCS. On July 13, 2011, MetroPCS filed an Application for Tower Sharing with the Connecticut Siting Council, seeking Council authorization of a proposed modification to the existing telecommunications tower at 148 Roberts Road. The proposed installation will include the attachment of six (6) antennas on the existing 130 foot Tower, at a centerline mounting height of 100 feet. Thirteen (13) cables will connect the antennas to the ground equipment. All cables will be mounted to the exterior of the tower.

Additionally, MetroPCS plans to locate its equipment within a 10'x16' leased area on a concrete pad within the existing fenced compound. There will be no increase in height of the tower and there will be no other changes made to the site

A copy of the Tower Share Application is attached for your review.

If you have any questions regarding this proposal, please contact me.

Sincerely,



Jackie Slaga

Copy to:

Linda Roberts, Executive Director, Connecticut Siting Council  
Kate Rugman, MetroPCS

*Jacqueline A. Slaga  
Tower Resource Management  
30 Lyman Street, Suite 12  
Westborough, MA01581  
401-855-0824  
jackieslaga@gmail.com*

July 13, 2011

The Masters Club, LLC  
1331 Silas Deane Highway  
Wethersfield, CT 06109

**Re: Proposed modification to existing telecommunications facility located at 148 Roberts Street.**

Dear Sirs:

I represent MetroPCS. On July 13, 2011, MetroPCS filed an Application for Tower Sharing with the Connecticut Siting Council, seeking Council authorization of a proposed modification to the existing telecommunications tower at 148 Roberts Road. The proposed installation will include the attachment of six (6) antennas on the existing 130 foot Tower, at a centerline mounting height of 100 feet. Thirteen (13) cables will connect the antennas to the ground equipment. All cables will be mounted to the exterior of the tower.

Additionally, MetroPCS plans to locate its equipment within a 10'x16' leased area on a concrete pad within the existing fenced compound. There will be no increase in height of the tower and there will be no other changes made to the site

If you have any questions regarding this proposal, please contact me.

Sincerely,



Jackie Slaga

Copy to:

Linda Roberts, Executive Director, Connecticut Siting Council  
Kate Rugman, MetroPCS

CONNECTICUT SITING COUNCIL

**In re:**

**Request of MetroPCS for the Approval** :  
**Of the Shared Use of an Existing Facility** :  
**Located at 148 Roberts Street,** :  
**East Hartford, Connecticut** : **July 13, 2011**

**TOWER SHARING APPLICATION**

MetroPCS proposes herein to share an existing monopole (the "Tower") located at 148 Roberts Street in East Hartford, Connecticut (the "Facility"). Pursuant to Connecticut General Statutes Section 16-50aa (the "Statute"), MetroPCS requests a finding from the Connecticut Siting Council (the "Council") that the shared use of this Facility is technically, legally, environmentally, and economically feasible, will meet public safety concerns, will avoid unnecessary proliferation of towers and is in the public interest. MetroPCS further requests an order approving the shared use of this Facility.

The purpose of this request is to use an existing Facility to develop MetroPCS's wireless broadband network. MetroPCS is licensed by the Federal Communications Commission (FCC) to provide PCS Wireless telecommunications service in Connecticut, which includes the area to be served by the proposed installation. The shared use of this Facility avoids the construction of an additional tower in the area to be served.

**A. The Facility**

The Facility is located at 148 Roberts Street. The Tower is a 130 foot multi-carrier monopole. The Facility is already occupied by 4 carriers. MetroPCS has determined that sufficient space and structural capacity exists to allow for the proposed collocation.

**B. Proposed Project**

MetroPCS will install 6 HBX-6516DS-VTM antennas and 6 ATM200-A20 Remote Electric Tilt (RET) applicators will be attached to the back of each antenna on the Tower. MetroPCS plans to mount its installation at a centerline of 100 feet. 12 cables, 1 5/8" in diameter, will run to the 6 new antennas and 1 3/8" cable will run to the RET system. MetroPCS plans to locate its equipment within the existing

fenced compound. MetroPCS plans to locate its equipment within its 10'x16' leased area on a concrete pad. MetroPCS also proposes to install an ice bridge to run from its equipment to the Tower. No upgrades to the access road, utilities or parking area will be necessary and no modifications are required to the existing fenced compound.

### **C. Technical Feasibility**

Consistent with the requirements of the Statute, it is technically feasible for MetroPCS to collocate at this Facility. To analyze whether the Facility can support MetroPCS's proposed installation, MetroPCS commissioned Global Tower Services, LLC to perform a structural analysis of the Facility with MetroPCS's proposed installation. The structural analysis is attached. According to the Structural Analysis, June 24, 2011, the Facility is structurally acceptable to accommodate the proposed loading (Structural Analysis).

### **D. Legal Feasibility**

The Council has the authority, pursuant to the Statute, to issue an order approving the shared use of this Facility. By issuing an order approving MetroPCS's use of the Facility, MetroPCS will be able to proceed with obtaining a building permit for its proposed installation on the Facility. Therefore, consistent with the Statute, MetroPCS's proposal is legally feasible. See attached Letter of Authorization from the Facility owner, allowing MetroPCS to proceed with the design and permitting of the proposed facility.

### **E. Economic Feasibility**

MetroPCS is a wireless telecommunications provider licensed by the Federal Communications Commission to provide service in areas of Connecticut, including but not limited to Hartford County. MetroPCS will/has entered into an agreement with GTP Towers I, LLC for the purpose of locating its installation at the Facility so that it may provide wireless telecommunications service to this area of East Hartford. Therefore, the shared use of this Facility is economically feasible.

### **F. Environmental Feasibility**

Pursuant to the Statute, the proposal will be environmentally feasible for the following reasons:



- The overall impact on the Town of East Hartford will be decreased with the sharing of the single Facility versus the proliferation of new towers.
- The proposal will not increase the height of the Facility.
- There will be little or no increase in the visibility of the Facility with the addition of MetroPCS's communications facility
- There will be no impact on any wetlands or water resources as a result of MetroPCS's installation.
- There will be no increased impact on air quality because no air pollutants will be generated during the normal operation of the Facility.
- There will only be brief, slight increase in noise pollution while the antennas are attached and the equipment cabinets are installed.
- During construction, the proposed project will generate a small amount of traffic as workers arrive and depart and materials are delivered. Upon completion, traffic will be limited to an average of one monthly maintenance/inspection visit.

#### **G. Public Safety Concerns/Benefits**

There will be no adverse impact to the health and safety of the surrounding community or the workers at the Facility due to the addition of MetroPCS's installation at the Facility. MetroPCS has performed an analysis of the radio frequency fields emanating from its proposed installation to ensure compliance with the National Council on Radiation Protection and Measurements' ("NCRP") standard for maximum permissible exposure (MPE) adopted by the Federal Communications Commission ("FCC"). The analysis performed in June 2011, indicates that MetroPCS's antennas will emit 7.84% of the NCRP's standard for maximum permissible exposure. A cumulative power density analysis indicates that together, all of the antennas on the Facility will emit 45.54% of the NCRP's standard for maximum permissible exposure. The power density analysis is attached. Therefore, the analysis demonstrates that the maximum level of radio-frequency energy emitted from the Facility will be well below the FCC's mandated radio frequency exposure limits.

Moreover, MetroPCS expects to enhance safety in the East Hartford area by improving wireless communications for local residents, businesses and travelers. MetroPCS is currently developing its wireless network in the State of Connecticut. In order to provide reliable coverage to residents,

businesses and travelers in this area of East Hartford and fulfill their coverage goals to comply with their FCC license, this site is a necessary part of MetroPCS's network development.

Specifically, this proposal is designed to provide reliable wireless service along Burnside Avenue and I-84. The installation will also provide reliable service for surrounding commercial and residential areas.

### **Conclusion**

For the reasons stated above, the attachment of MetroPCS's antenna facility to the Facility would meet all the requirements set forth in the Statute. This proposal is technically, legally, environmentally and economically feasible and meets all public safety concerns. Therefore, MetroPCS respectfully requests that the Council approve this request for the shared use of the Facility located at 148 Roberts Street in East Hartford, Connecticut.

MetroPCS

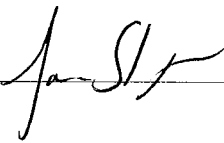
By:  \_\_\_\_\_  
Jackie Slaga  
Tower Resource Management  
30 Lyman Street, Suite 12  
Westborough, MA 01581  
Email: [jackieslaga@gmail.com](mailto:jackieslaga@gmail.com)  
Phone: (401) 855-0824  
As Agent for MetroPCS

CC: Linda Roberts, Executive Director, Connecticut Siting Council  
City of East Hartford, Attn: Mayor Leclerc  
Kate Rugman, MetroPCS  
The Masters Club, LLC  
1331 Silas Deane Highway  
Wethersfield, CT 06109

**Certificate of Service**

This is to certify that on this 13th day of July, 2011, the foregoing Tower Sharing Proposal was sent, via first class mail, to the following:

Town of East Hartford  
740 Main Street  
East Hartford, CT 06108  
Attn: Mayor Marcia A. Leclerc

By:  \_\_\_\_\_  
Jackie Slaga



**Federal Communications Commission**  
Wireless Telecommunications Bureau

**RADIO STATION AUTHORIZATION**

LICENSEE: METROPCS MASSACHUSETTS, LLC

ATTN: MARK A. STACHIW  
METROPCS MASSACHUSETTS, LLC  
2250 LAKESIDE BOULEVARD  
RICHARDSON, TX 75082

<b>Call Sign</b> WQKF358	<b>File Number</b> 0004421015
<b>Radio Service</b> AW - AWS, 1710-1755/2110-2155 MHz bands	

FCC Registration Number (FRN): 0017970328

<b>Grant Date</b> 01-10-2009	<b>Effective Date</b> 12-06-2010	<b>Expiration Date</b> 11-29-2021	<b>Print Date</b> 02-16-2011
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<b>Market Number</b> BEA010	<b>Channel Block</b> C	<b>Sub-Market Designator</b> 6
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<b>Market Name</b> New York-No. New Jer.-Long Isl
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<b>1st Build-Out Date</b>	<b>2nd Build-Out Date</b>	<b>3rd Build-Out Date</b>	<b>4th Build-Out Date</b>
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**Waivers/Conditions:**

This authorization is conditioned upon the licensee, prior to initiating operations from any base or fixed station, making reasonable efforts to coordinate frequency usage with known co-channel and adjacent channel incumbent federal users operating in the 1710-1755 MHz band whose facilities could be affected by the proposed operations. See, e.g., FCC and NTIA Coordination Procedures in the 1710-1755 MHz Band, Public Notice, FCC 06-50, WTB Docket No. 02-353, rel. April 20, 2006.

**Conditions:**

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at <http://wireless.fcc.gov/uls/index.htm?job=home> and select "License Search". Follow the instructions on how to search for license information.



**LETTER OF AUTHORIZATION**

TO WHOM IT MAY CONCERN:


RE: Application for Zoning/Use/Building Permit

I, Shawn Ruben as Secretary of GTP TOWERS I, LLC owner of the below described telecommunications tower, do hereby grant permission to **MetroPCS Massachusetts, LLC** to seek any application necessary to ensure their ability to use and/or construct improvements to the telecommunications tower. I understand that the application may be denied, modified or approved with conditions and that such conditions or modifications must be complied with by **MetroPCS Massachusetts, LLC** prior to issuance of building permits.

SITE NAME: GTP ID – CT-5037 East Hartford  
MetroPCS ID – HFC1287B

SITE ADDRESS: 148 Roberts St, East Hartford, CT

GTP TOWERS I, LLC

Signature:  \_\_\_\_\_

Print Name: \_\_\_\_\_ Shawn Ruben \_\_\_\_\_

Print Title: \_\_\_\_\_ Secretary \_\_\_\_\_

Date: \_\_\_\_\_ 01/22/11 \_\_\_\_\_



288 BILLERICA ROAD  
THIRD FLOOR  
CHELMSFORD, MA 01824  
TEL (978) 244-7200  
FAX (978) 244-7240



**CHAPPELL  
ENGINEERING  
ASSOCIATES, LLC**  
*Civil-Structural-Land Surveying*

R.K. EXECUTIVE CENTRE  
201 BOSTON POST ROAD WEST, SUITE 301  
MARLBOROUGH, MA 01752  
TEL (508) 481-7400  
FAX (508) 481-7406

NO.	DATE	CONK. STING COUNCIL PLAN	PLAN REV.	CNC	JMT
1	06/24/11	CONK. STING COUNCIL PLAN		CNC	JMT
0	06/14/11	CONK. STING COUNCIL PLAN		CNC	JMT
REVISIONS					
NO.	DATE			BY	CHK / APPD
NOT TO SCALE					
DESIGNED BY: JMT					
DRAWN BY: CNC					

APPROVALS

SITE OWNER	DATE
CONSTRUCTION MANAGER	DATE
RF ENGINEER	DATE
SITE ACQUISITION	DATE

THE ABOVE PARTIES HEREBY APPROVE AND ACCEPT THESE DOCUMENTS AND AUTHORIZE THE CONTRACTOR TO PROCEED WITH THE CONSTRUCTION DESCRIBED HEREIN. ALL CONSTRUCTION DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT AND ANY CHANGES OR MODIFICATIONS THEY MAY IMPOSE.

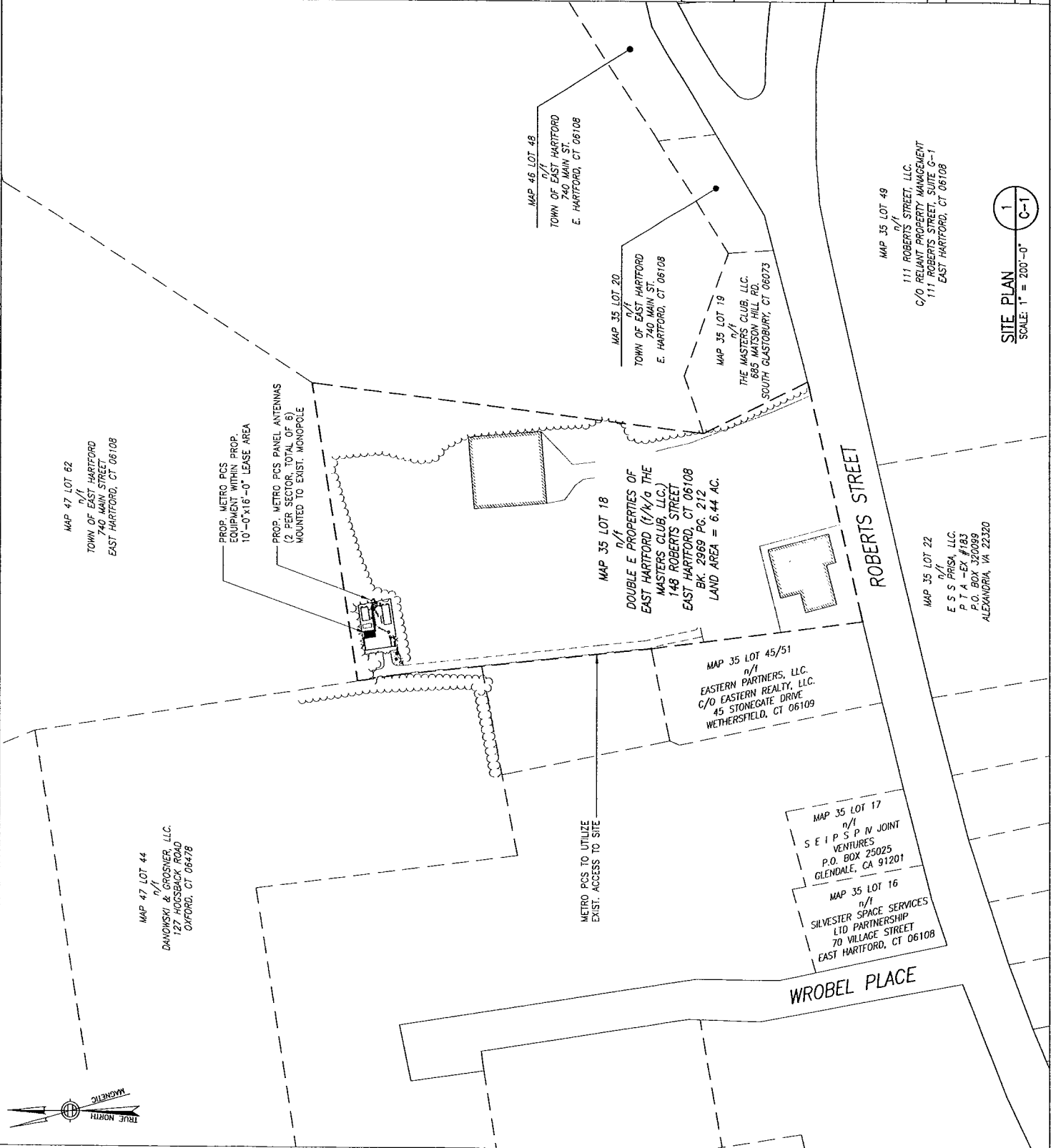
SITE ID  
**HFC1287B**

SITE NAME  
**GTP ROBERTS STREET  
EAST HARTFORD**

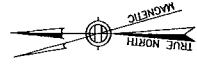
SITE ADDRESS  
**148 ROBERTS STREET  
EAST HARTFORD, CT  
06108**

METRO PCS LEASE AREA  
EQUIPMENT: 10'-0"x16'-0"=160.0 SF.

PROJECT NO.	DRAWING NAME	DATE	SHEET NO.
736.397	C-1	06/24/11	1 OF 4
TOTAL = 160.0 SF.			1



**SITE PLAN**  
SCALE: 1" = 200'-0"  
1  
C-1



285 BILLERICA ROAD  
THIRD FLOOR  
CHELSEA, MA 01824  
TEL (978) 244-7200  
FAX (978) 244-7240



**CHAPPELL  
ENGINEERING  
ASSOCIATES, LLC**  
*Civil-Structural-Land Surveying*

201 BOSTON POST ROAD WEST SUITE 301  
MARLBOROUGH, MA 01752  
TEL (508) 481-7400  
FAX (508) 481-7406

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	06/24/11	CONK. SITING COUNCIL PLAN REV.	CJC	JMT	JMT
0	06/14/11	CONK. SITING COUNCIL PLAN	CJC	JMT	JMT

NOT TO SCALE DESIGNED BY: JMT DRAWN BY: CJC

APPROVALS

SITE OWNER	DATE

CONSTRUCTION MANAGER	DATE

RF ENGINEER	DATE

SITE ACQUISITION	DATE

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SITE ID  
**HFC1287B**

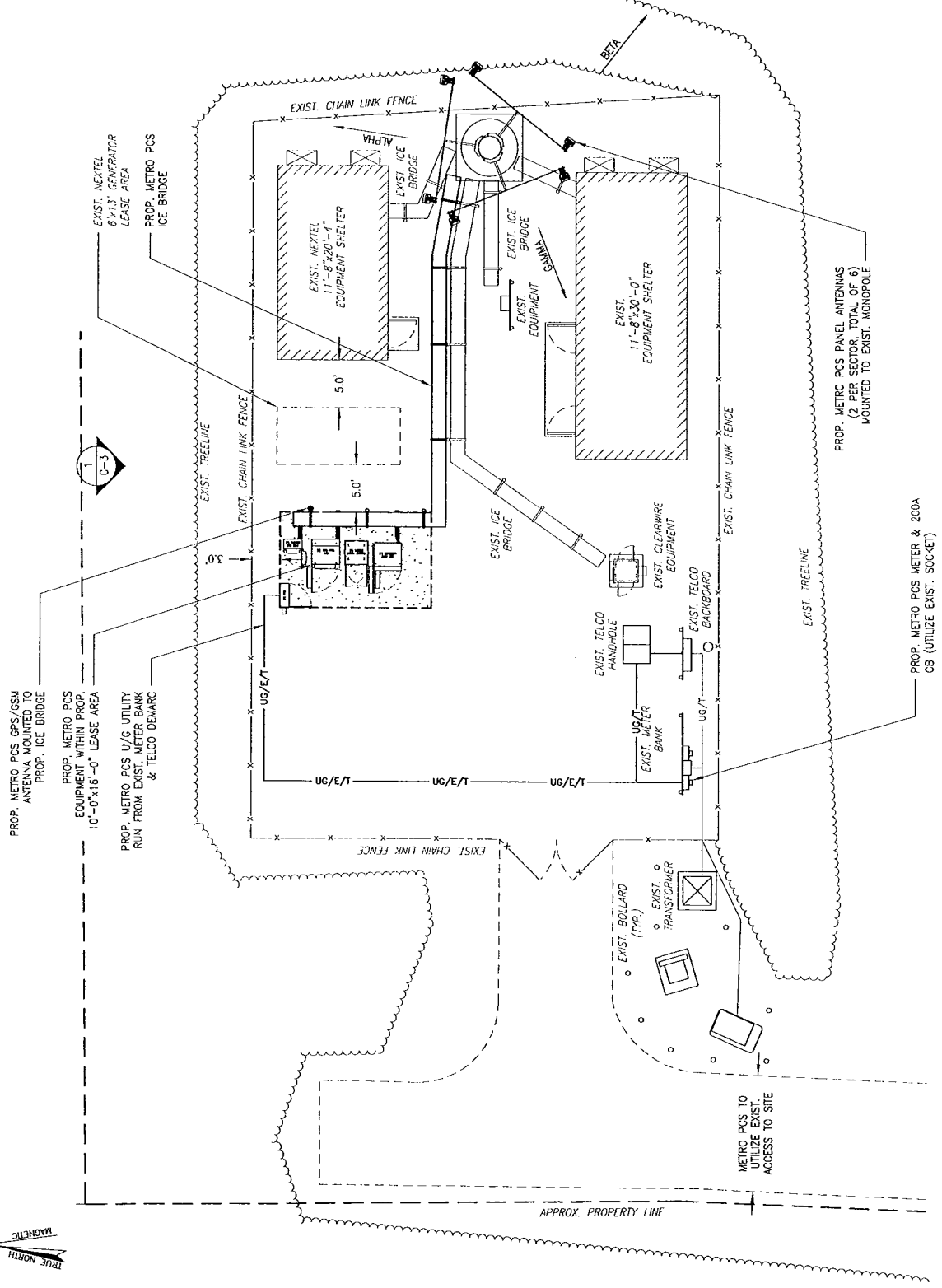
SITE NAME  
**GTP ROBERTS STREET  
EAST HARTFORD**

SITE ADDRESS  
**148 ROBERTS STREET  
EAST HARTFORD, CT  
06108**

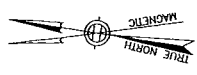
METRO PCS LEASE AREA  
EQUIPMENT: 10'-0" x 16'-0" = 160.0 S.F.

PROJECT NO.	DRAWING NAME	DATE	SHEET NO.	REV
736.387	C-2	06/24/11	2 OF 4	1

TOTAL: = 160.0 S.F.



**COMPOUND PLAN**  
SCALE: 1" = 16'-0"



285 BILLERICA ROAD  
THIRD FLOOR  
CHELSEA, MA 01824  
TEL (978) 244-7200  
FAX (978) 244-7240



**CHAPPELL ENGINEERING ASSOCIATES, LLC**

*Civil, Structural, Land Surveying*  
R.K. EXECUTIVE CENTRE  
201 BOSTON POST ROAD WEST, SUITE 301  
MARLBOROUGH, MA 01752  
TEL (508) 481-7400  
FAX (508) 481-7406

NO.	DATE	REVISIONS	BY	CHK	APPD
1	06/24/11	CONN. STRING COUNCIL PLAN REV.	JMT	JMT	JMT
0	06/14/11	CONN. STRING COUNCIL PLAN	CAC	JMT	JMT

NOT TO SCALE  
DESIGNED BY: JMT  
DRAWN BY: CAC

APPROVALS

SITE OWNER	DATE
CONSTRUCTION MANAGER	DATE
RF ENGINEER	DATE
SITE ACQUISITION	DATE

THE ABOVE PARTIES HEREBY APPROVE AND ACCEPT THESE DOCUMENTS AND AUTHORIZE THE CONTRACTOR TO PROCEED WITH THE CONSTRUCTION DESCRIBED HEREIN. ALL CONSTRUCTION DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT AND ANY CHANGES OR MODIFICATIONS THEY MAY IMPOSE.

SITE ID  
**HFC1287B**

SITE NAME  
**GTP ROBERTS STREET EAST HARTFORD**

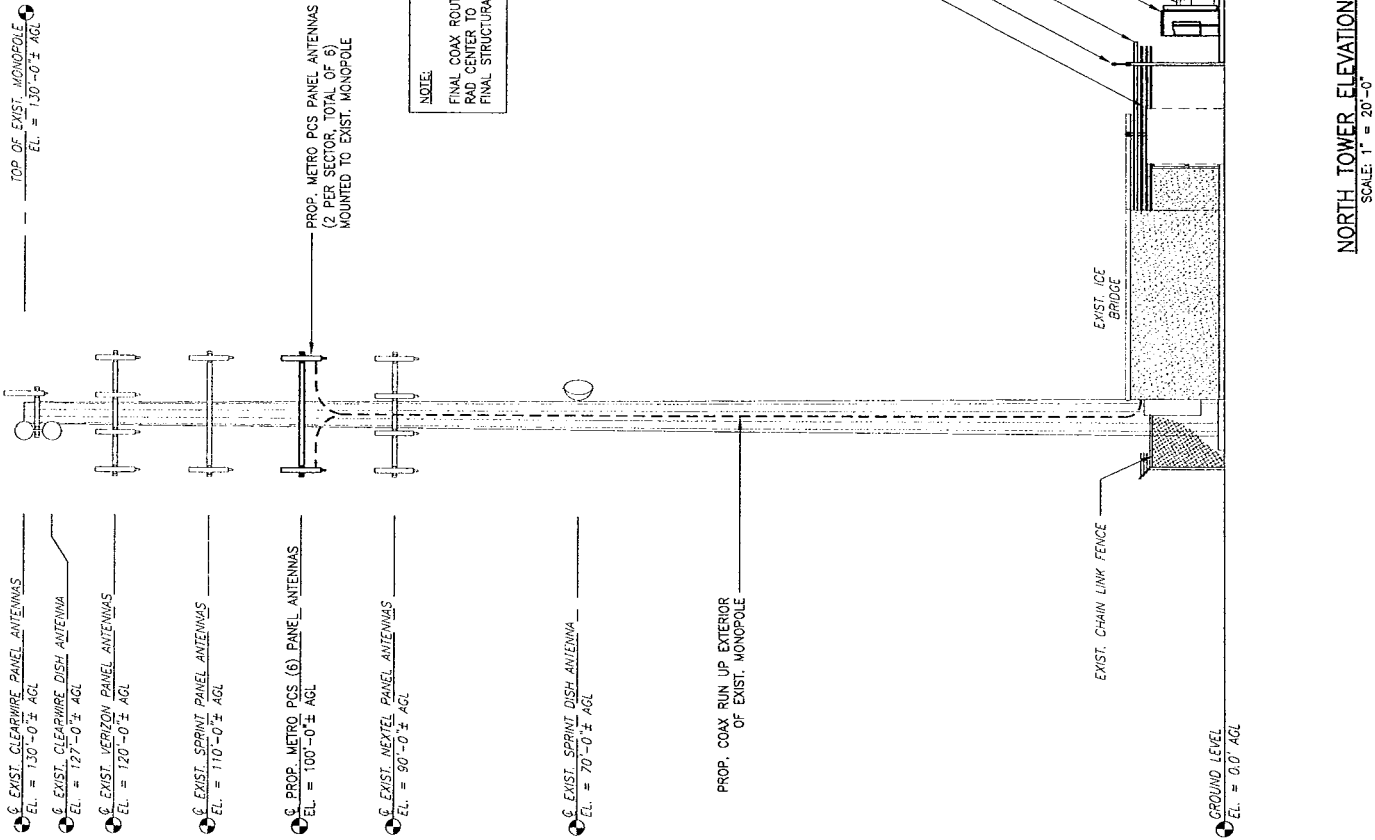
SITE ADDRESS  
**148 ROBERTS STREET EAST HARTFORD, CT 06108**

METRO PCS LEASE AREA

EQUIPMENT: 10'-0"x16'-0"=180.0 S.F.

PROJECT NO.	DRAWING NAME	DATE	SHEET NO.	REV
735.387	C-3	06/24/11	3	OF 4

TOTAL: = 180.0 S.F.



**NORTH TOWER ELEVATION**  
SCALE: 1" = 20'-0"  
1  
C-3

285 BELLERCA ROAD  
 WILMINGTON, MA 01824  
 TEL: (978) 244-7800  
 FAX: (978) 244-7240



**CHAPPELL  
 ENGINEERING  
 ASSOCIATES, LLC**  
*Civil · Structural · Land Surveying*

R.K. EXECUTIVE CENTRE  
 201 BOSTON POST ROAD WEST, SUITE 301  
 WILBOROUGH, MA 01752  
 TEL: (508) 481-7400  
 FAX: (508) 481-7405

NO.	DATE	REVISIONS	DESIGNED BY: JMT	DRAWN BY: CMC
1	05/24/11	CONV. STING COUNCIL PLAN REV.	CMC, JMT	JMT
0	05/19/11	CONV. STING COUNCIL PLAN	CMC, JMT	JMT
NO.	DATE	REVISIONS	BT /CHK/ APPD	

NOT TO SCALE

APPROVALS

SITE OWNER	DATE
CONSTRUCTION MANAGER	DATE
RF ENGINEER	DATE
SITE ACQUISITION	DATE

THE ABOVE PARTIES HEREBY APPROVE AND ACCEPT THESE DOCUMENTS AND AUTHORIZE THE CONTRACTOR TO PROCEED WITH THE CONSTRUCTION DESCRIBED HEREIN. ALL CONSTRUCTION DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT AND ANY CHANGES OR MODIFICATIONS THEY MAY IMPOSE.

SITE ID  
**HFC1287B**

SITE NAME

**GTP ROBERTS STREET  
 EAST HARTFORD**

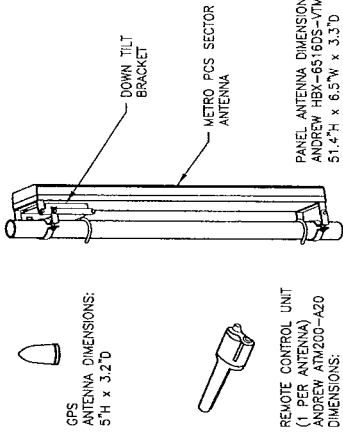
SITE ADDRESS

**148 ROBERTS STREET  
 EAST HARTFORD, CT  
 06108**

METRO PCS LEASE AREA

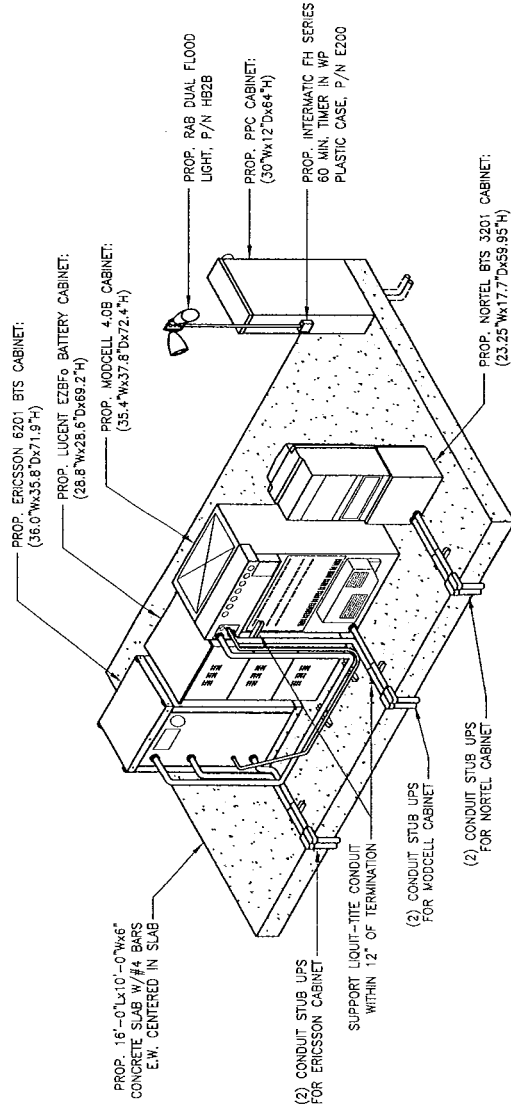
EQUIPMENT: 10'-0" x 16'-0" = 160.0 S.F.

TOTAL: = 160.0 S.F.	
PROJECT NO.	DRAWING NAME
736-387	C-4
DATE	SHEET NO.
06/24/11	4 OF 4
REV	1



PANEL ANTENNA DIMENSIONS (TYP. OF 6):  
 ANDREW HBX-6516DS-VTM:  
 51.4"H x 6.5'W x 3.3'D

**GPS & PANEL ANTENNA DETAIL**  
 SCALE: NOT TO SCALE



**EQUIPMENT DETAIL**  
 SCALE: NOT TO SCALE



## **Structural Analysis Report**

### **130 ft. Tapered Monopole**

Global Tower Services

750 Park of Commerce Boulevard  
Suite 300  
Boca Raton, FL 33487-3612

P: 605.422.1548  
F: 605.422.1550

**148 Roberts Street, East Hartford, CT 06108**  
**Hartford County**  
**(CT-5037, East Hartford)**

**MetroPCS Massachusetts, LLC**  
**MetroPCS Site Number: HFC1287B**  
**MetroPCS Site Name: GTP Roberts Street E. Hartford**

**Prepared by:**  
**Global Tower Services, LLC**  
**Michael T. De Boer, P.E.**  
**Director of Engineering**

**June 24, 2011**



**Global Tower Services, LLC  
June 24, 2011  
East Hartford  
CT-5037**

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**Appendix A - Monopole Profile.....Attached**

**Appendix B - Calculations.....Attached**

**Appendix C – Collocation Application.....Attached**

**Global Tower Services, LLC**  
June 24, 2011  
East Hartford  
CT-5037

## **INTRODUCTION**

We have completed the structural analysis for the existing 130 ft. tapered monopole located in Hartford County (148 Roberts Street, East Hartford), CT. The objective of the analysis is to determine if the existing tapered monopole design is in conformance / compliance with the current codes and standards for the proposed equipment installation.

TSTower written by TowerSoft was utilized in performing the analysis. This program is a commercially available software program which was used to create a non-linear three-dimensional beam model and calculate member stresses for various loading conditions.

## **DESCRIPTION OF STRUCTURE**

The existing structure is a 130 ft. tapered monopole. The original monopole manufacturer is Glen Martin Engineering, Inc., Boonville, MO. The existing structure consists of three (3) sections with slip connections and one (1) section with a flange connection.

Original monopole drawings provided by Glen Martin Engineering were used to model the monopole steel. (Glen Martin Drawing No.: MP1400800-0001, August 20, 2003) The monopole shaft is manufactured from 65 ksi steel, the base plate is 55 ksi steel and the anchor bolts are A-572 Grade 55 steel.

The monopole, for the purpose of analysis, is considered to be in good condition with no defects.

## **DESIGN PARAMETERS**

- Standard:	ANSI/TIA-222-F-1996
- Basic Wind Speed:	80 mph (fastest mile) 100 mph (3-sec gust)
- Serviceability Wind Speed:	50 mph (fastest mile)
- Basic Wind Speed with Ice:	69.60 mph (fastest mile)
- Design Ice Thickness:	0.50 (inch)
- Allowable Stress Increase:	1/3 for wind loading conditions

## Global Tower Services, LLC

June 24, 2011

East Hartford

CT-5037

### ANTENNA LOADING INFORMATION

#### Existing and Reserved Loading Information

Antenna Description/Mount	Qty	Elev. (ft.)	TX Lines	Qty	Customer
Argus LLPX310R / Side Arms	3	130	5/8" 1/4"	3 3	Clearwire
Samsung WiMax Dap Head / Side Arms	3	130			Clearwire
Dragonwave A-ANT-18G-2-C / Side Arms	3	127	1/2"	3	Clearwire
Dragonwave Horizon Compact / Side Arms	3	127			Clearwire
Antel BXA-70063-6CF / LP Platform	3	120	1 5/8"	6	Verizon
Antel BXA-180563-8CF / LP Platform	3	120	1 5/8"	6	Verizon
DB844G65ZAXY / LP Platform	6	120	1 5/8" (Exterior)	6	Verizon
4' X 1' PCS Antennas / LP Platform	9	110	1 5/8"	9	Sprint
DB844H90E-XY / LP Platform	12	90	1 5/8"	12	Nextel
2' MW Dish / Pipe Mount	1	70	1 5/8"	1	Sprint

**Note: Existing lines considered inside the monopole shaft unless otherwise noted.**

#### Proposed Loading Information

Antenna Description/Mount	Qty	Elev. (ft.)	TX Lines	Qty	Customer
Andrew HBX-6516DS-VTM / LP Platform	6	100	1 5/8" (Exterior)	12	MetroPCS
Andrew ATM200-A20 RETs / LP Platform	6	100	3/8" (Exterior)	1	MetroPCS

**Note: Final configuration for MetroPCS: Six (6) antennas, six (6) RETs with one (1) 3/8" cable, and twelve (12) 1 5/8" lines. Proposed lines considered outside the monopole shaft. Proposed lines should be stacked six (6) lines on six (6) lines and banded tightly to monopole shaft for shielding.**

### ANALYSIS RESULTS

#### Structure

The existing 130 ft. tapered monopole is **structurally capable** of supporting the proposed equipment. (See table below)

Global Tower Services, LLC  
June 24, 2011  
East Hartford  
CT-5037

**ANALYSIS RESULTS continued**

Monopole Member	% Capacity	Results
Monopole Shaft	72	Pass
Monopole Base Plate	55	Pass
Anchor Bolts	62	Pass

(105 percent is considered acceptable.)

**Foundation**

The existing foundation has also been evaluated. The existing foundation was found to be **acceptable** with the proposed equipment installed. (See table below)

Foundation Component	Design Reactions	Original Reactions	% Capacity	Results
Overturing Moment	2049.61 Ft-Kips	2740.19 Ft-Kips	75	Pass
Shear	23.71 Kips	28.46 Kips	83	Pass

**Monopole Rating: 83%**

**SUMMARY AND CONCLUSIONS**

The existing 130 ft. tapered monopole located in Hartford County (148 Roberts Street, East Hartford), CT is **structurally acceptable** based upon the EIA-222-F 1996 Standard and the local building code with the proposed equipment installed.

If any other changes are proposed, another structural analysis should be performed to assure the tower is in compliance / conformance with the applicable codes and standards.

Should any further questions arise, please contact the Global Tower Services, LLC Engineering Department at 941-400-2206.

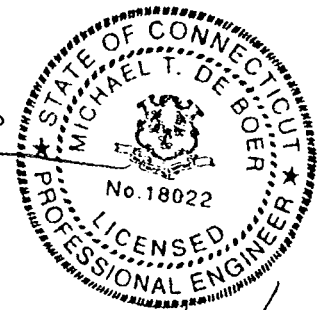
**Global Tower Services, LLC**

Phillip Nejman, E.I.T.  
GTS Engineering

Reviewed by:



Michael T. De Boer, P.E.  
Director of Engineering



6/24/11

Power Density Calculations

<u>Control Number</u>	<u>Site</u>	<u>Carrier</u>	<u>#Channels</u>	<u>ERP/Ch</u>
Docket 228	East Hartford - 128 Roberts Street	Nextel	9	100
<b>EM-VER-043-100507</b>	<b>East Hartford - 148 Roberts Street</b>	<b>Verizon</b>	<b>9</b>	<b>314</b>
<b>EM-VER-043-100507</b>	<b>East Hartford - 148 Roberts Street</b>	<b>Verizon</b>	<b>3</b>	<b>426</b>
<b>EM-VER-043-100507</b>	<b>East Hartford - 148 Roberts Street</b>	<b>Verizon</b>	<b>1</b>	<b>821</b>
Petition 941	East Hartford - 148 Roberts Street	Clearwire	2	153
Petition 941	East Hartford - 148 Roberts Street	Clearwire	1	211
<b>EM-Sprint-043-040601</b>	<b>East Hartford - 128 Roberts Street</b>	<b>Sprint</b>	<b>11</b>	<b>308.51</b>
	East Hartford - 148 Roberts Street	metroPCS	3	727



<u>Ant Ht</u>	<u>Power Density</u> <u>(mW/cm2)</u>	<u>MHz</u>	<u>S</u>	<u>%MPE</u>	<u>Site Total</u>
90	0.0400	851	0.5673	7.04%	
120	0.0706	869	0.5793	12.18%	
120	0.0319	1970	1.0000	3.19%	
120	0.0205	757	0.5047	4.06%	
128	0.0067	2496	1.0000	0.67%	
128	0.0046	11 GHZ	1.0000	0.46%	
110	0.1008	1962.5	1.0000	10.08%	37.69%
100	0.0784	2140	1.0000	7.84%	45.54%

# metroPCS

## East Hartford, CT Coverage from Proposed Site HFCT1287B Only

### Signal Strength

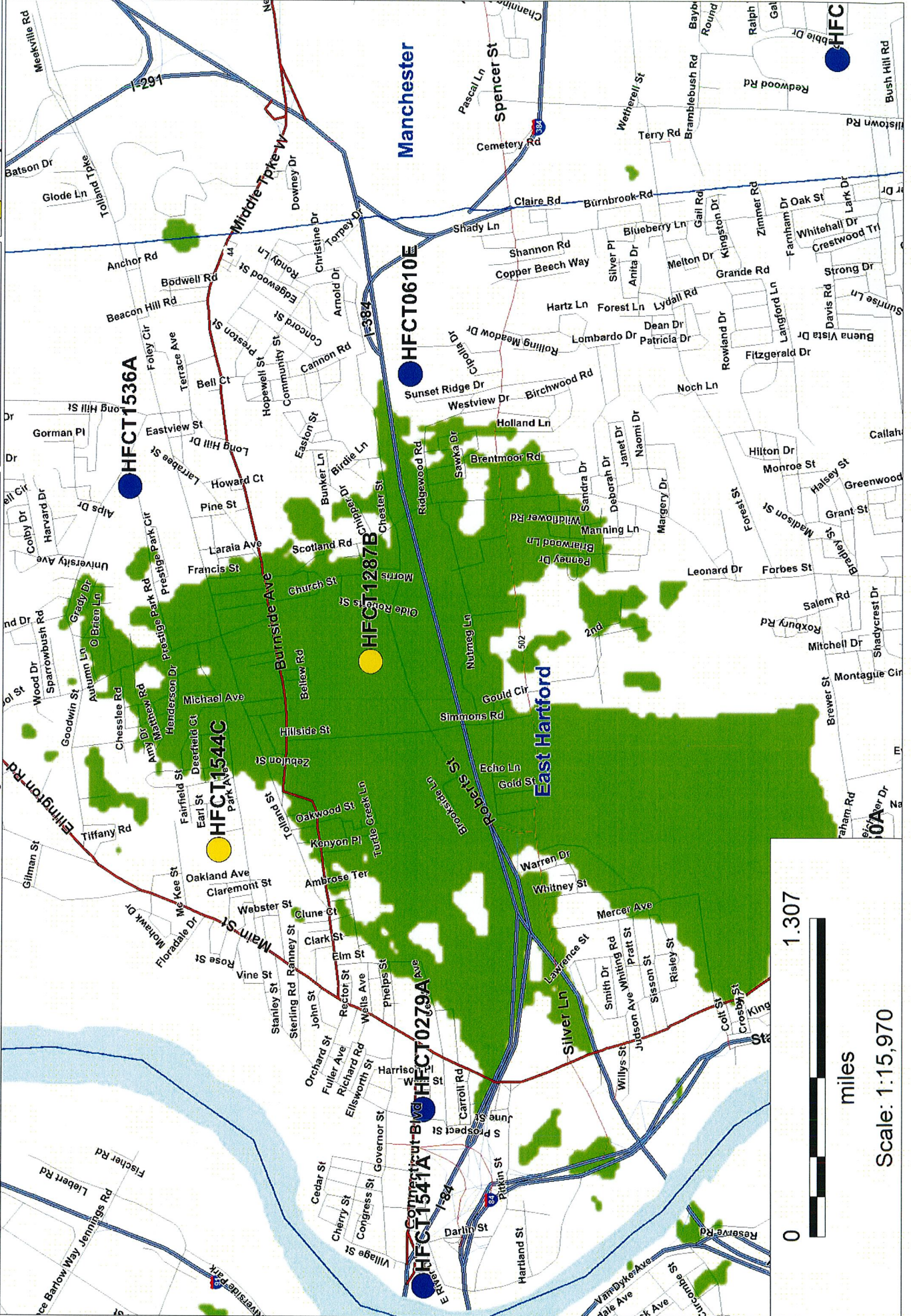


-88 dbm

### metroPCS Site Status

Existing On Air

Proposed





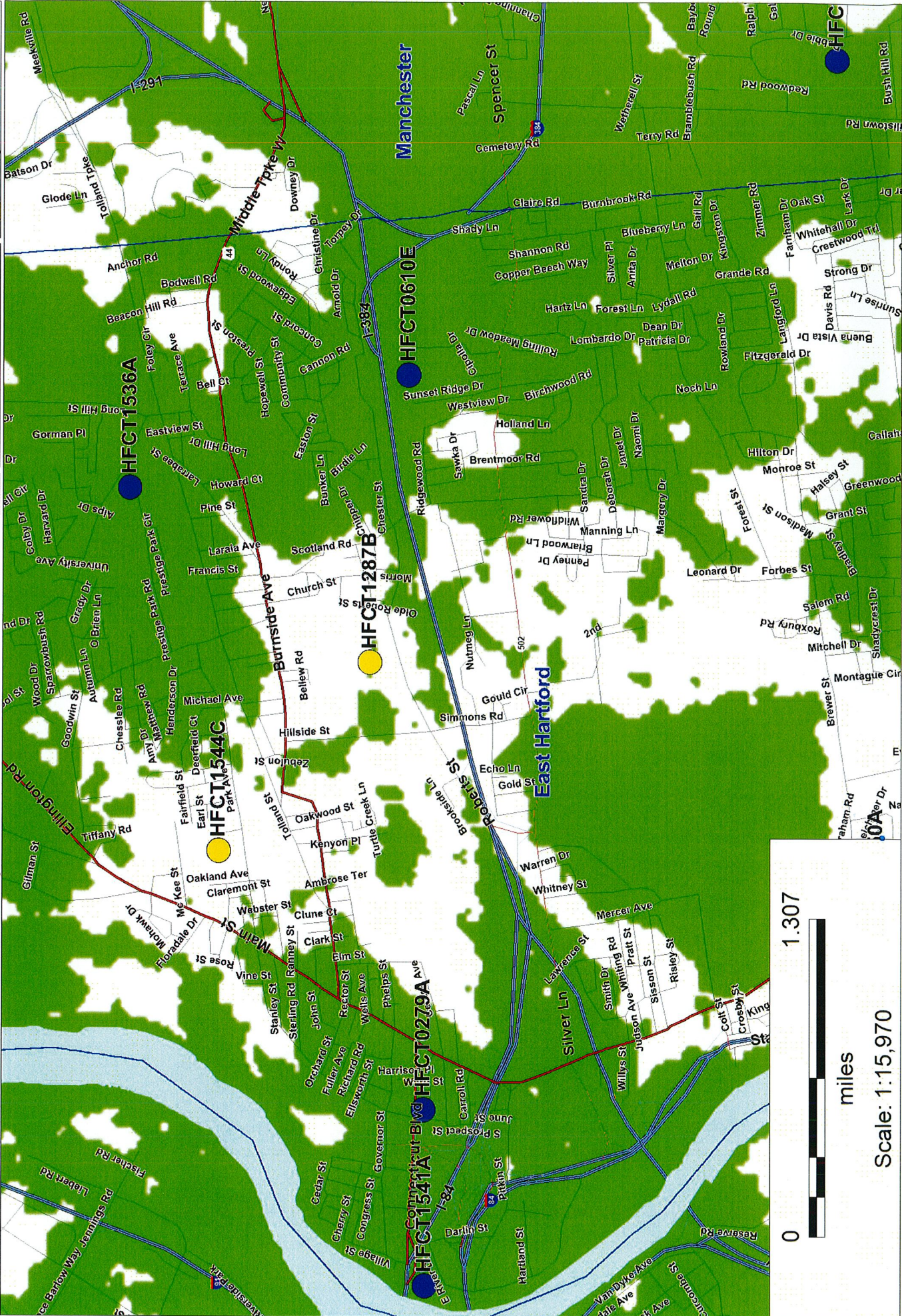
# metroPCS

## East Hartford, CT Coverage from Existing On-Air Sites Only

### Signal Strength



### metroPCS Site Status



1.307



miles

Scale: 1:15,970



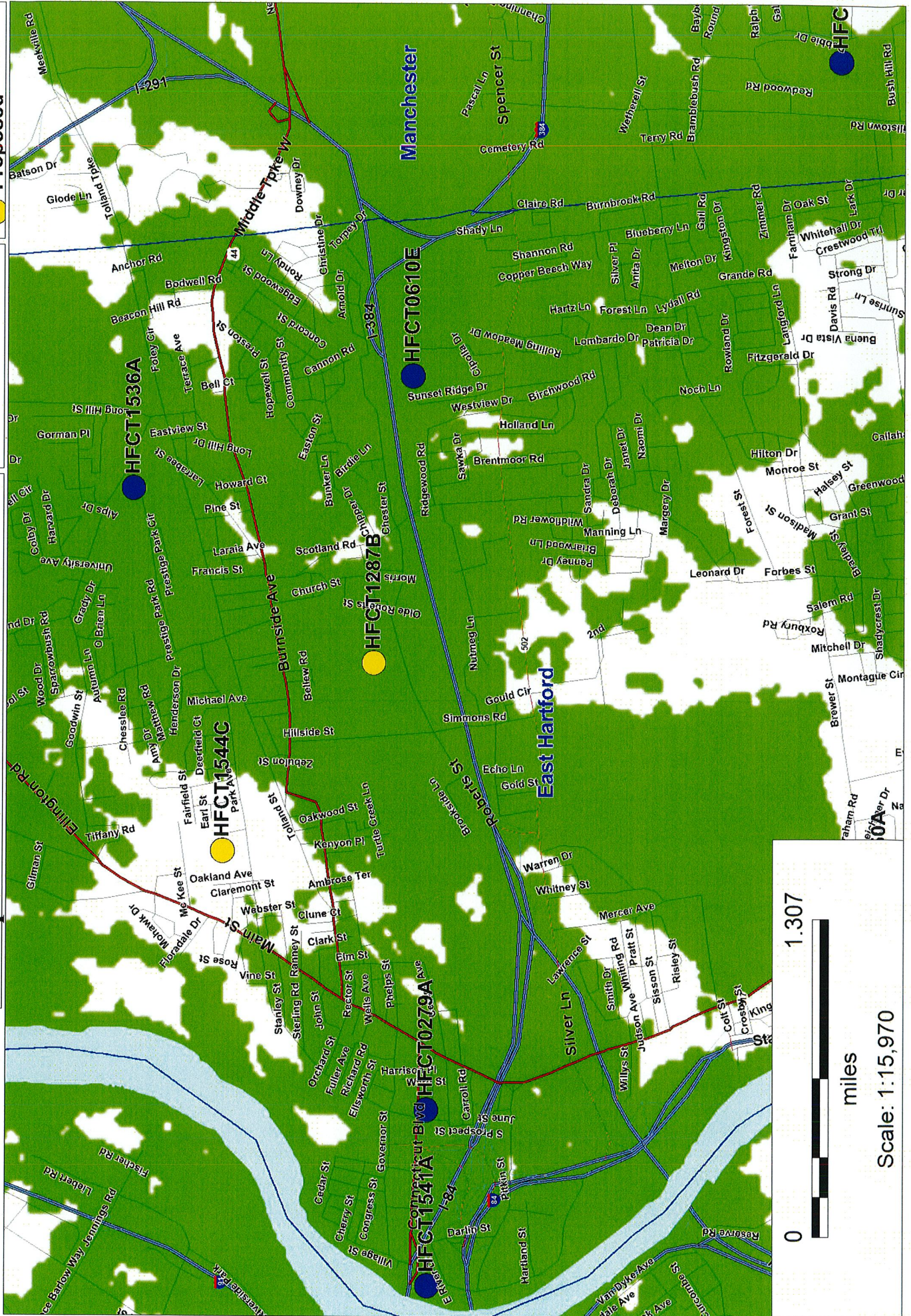
# metroPCS

## East Hartford, CT Coverage from Existing On-Air + Proposed Sites HFCT1287B

### Signal Strength



### metroPCS Site Status



1.307



miles

Scale: 1:15,970