# TO THE PARTY OF TH

# 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@po.state.ct.us Web Site: www.ct.gov/csc

March 9, 2004

Christine Farrell T-Mobile 100 Filley Street Bloomfield, CT 06002

RE:

TS-T-MOBILE-024-040226 – T-Mobile USA, Inc. request for an order to approve tower sharing for a proposed telecommunications facility to be constructed at Lot 54 Palmer Road, Chaplin, Connecticut.

Dear Mrs. Farrell:

At a public meeting held on March 4, 2004, 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. 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. Any additional change to this facility may require an explicit request to this agency pursuant to General Statutes § 16-50aa or notice pursuant to Regulations of Connecticut State Agencies Section 16-50j-73, as applicable. Such request or 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. 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.

The proposed shared use is to be implemented as specified in your letter dated February 27, 2004.

Thank you for your attention and cooperation.

Varia B

Pamela B. Katz, P.E.

truly yours,

Chairman

PBK/laf

c: Honorable Rusty Lanzit, First Selectman, Town of Chaplin Raymond Murphy, Zoning Enforcement Officer, Town of Chaplin Sandy M. Carter, Verizon Wireless Michele G. Briggs, Southwestern Bell Mobile Systems Thomas J. Regan, Esq., Brown Rudnick Berlack Israels, 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@po.state.ct.us Web Site: www.ct.gov/csc

February 27, 2004

Honorable Rusty Lanzit First Selectman Town of Chaplin P.O. Box 286 Chaplin, CT 06235-0286

RE:

**TS-T-MOBILE-024-040226** – T-Mobile USA, Inc. request for an order to approve tower sharing for a proposed telecommunications facility to be constructed at Lot 54 Palmer Road, Chaplin, Connecticut.

Dear Mr. Lanzit:

The Connecticut Siting Council (Council) received this request for tower sharing, pursuant to Connecticut General Statutes § 16-50aa.

The Council will consider this item at the next meeting scheduled for Thursday, March 4, 2004, at 1:30 p.m. in Hearing Room Two, Ten Franklin Square, New Britain, Connecticut.

Please call me or inform the Council if you have any questions or comments regarding this proposal.

Thank you for your cooperation and consideration.

S. Derek Phelps

**Executive Director** 

SDP/laf

Enclosure: Notice of Tower Sharing

c: Raymond Murphy, Zoning Enforcement Officer, Town of Chaplin



TS-T-MOBILE-024-040226



February 27, 2004

# Via Facsimile

Pamela B. Katz, Chairman and Members of the Siting Council Connecticut Siting Council Ten Franklin Square New Britain, CT 06051



RE: Tower Sharing Request by T-Mobile

Future Verizon Facility at Lot 54 Palmer Road, Chaplin

Doc. 211

Dear Ms. Katz and Members of the Siting Council:

At this time, T-Mobile would like to re-submit its Tower Share application for the Verizon Tower located at Palmer Road in Chaplin. T-Mobile is re-filing the application at the 117' height. Please apply check #1712106 to this amended application.

I am sorry for any inconvenience this may have caused.

Respectfully submitted,

Christine Farrell

T-Mobile

100 Filley St.

Bloomfield, CT 06002

(860) 6794-6427

TS-T-MOBILE-024-040226

FEB 26 2004
FEB 26 2004



February 27, 2004

# **BY HAND**

Pamela B. Katz, Chairman and Members of the Siting Council Connecticut Siting Council Ten Franklin Square New Britain, CT 06051

RE:

Tower Sharing Request by T-Mobile

Future Verizon Facility at Lot 54 Palmer Road, Chaplin

Doc. 211

Latitude: 41-47-04.3 / Longitude: 72-08-08.5

Dear Ms. Katz and Members of the Siting Council:

Pursuant to Connecticut General Statutes (C.G.S.) § 16-50aa, T-Mobile USA, Inc. acting through its wholly owned subsidiary Omnipoint Communications, Inc. ("T-Mobile") hereby requests an order from the Connecticut Siting Council ("Council") to approve the proposed shared use of a future communications tower, located at Lot 54 Palmer Road in the Town of Chaplin ("Verizon Facility"), owned by Cellco partnership d/b/a Verizon Wireless ("Verizon"). T-Mobile and Verizon have agreed to the shared use of the Verizon Facility, as detailed below. Verizon received approval to construct said Facility on November 4, 2003 and has already or will start construction shortly.

# VERIZON FACILITY

The Verizon Facility consists of a one hundred fifty (150) foot high monopole tower ("Tower") owned and operated by Verizon. T-Mobile will be at a mounting height of One Hundred Seventeen (117) feet. A chain link fence will surround the Verizon Facility. Verizon is approved to locate at the 147' level, Sprint is approved to locate at the 137' level and Cingular has been approved to locate at the 127' level. Sprint will be building the facility for Verizon, but Verizon will own the facility.

## **T-MOBILE FACILITY**

As shown on the enclosed plans prepared by All-Points Technology Corporation, P.C., including a site plan and tower elevation of the Verizon Facility, annexed hereto as Exhibit A, T-Mobile proposes a shared use of the Facility by placing antennas on the Tower and equipment needed to provide personal communications services ("PCS") within the existing fenced compound. T-Mobile will install up to nine (9) antennas at the One Hundred Seventeen (117) foot level of the Tower. Associated unmanned equipment cabinets will be located on a concrete pad near the base of the tower within the existing compound.

Connecticut General Statutes § 16-50aa provides that, upon written request for shared use approval, an order approving such use shall be issued, "if the council finds that the proposed shared use of the facility is technically, legally, environmentally and economically feasible and meets public safety concerns." (C.G.S. § 16-50aa(c)(1).) Further, upon approval of such shared use, it is exclusive and no local zoning or land use approvals are required C.G.S. §16-50x. Shared use of the Verizon Facility satisfies the approval criteria set forth in C.G.S. § 16-50aa as follows:

- A. <u>Technical Feasibility</u> The existing Tower and compound were designed to accommodate multiple carriers. A structural analysis of the Tower with multiply carriers has been performed and is attached as Exhibit B. The structural analysis concludes that the existing tower can safely accommodate the proposed T-Mobile antennas. The proposed shared use of this Tower is technically feasible. Further there is sufficient room in the fenced compound for our facility, thus the site plan will not have to be altered.
- B. <u>Legal Feasibility</u> Pursuant to C.G.S. § 16-50aa, the Council has been authorized to issue an order approving shared use of the future Verizon Facility. (C.G.S. § 16-50aa (C)(1)). Under the authority vested in the Council by C.G.S. § 16-50aa, an order by the Council approving the shared use of a tower would permit the Applicant to obtain a building permit for the proposed installation.
- C. <u>Environmental Feasibility</u> The proposed shared use would have a minimal environmental effect, for the following reasons:

- 1.) The proposed installation would have a de minimis visual impact, and would not cause any significant change or alteration in the physical or environmental characteristics of the existing facility;
- 2.) The proposed installation by T-Mobile would not increase the height of the tower or extend the boundaries of the Verizon Facility;
- 3.) The proposed installation would not increase the noise levels at the existing facility boundaries by six decibels or more;
- 4.) Operation of T-Mobile's antennas at this site would not exceed the total radio frequency electromagnetic radiation power density level adopted by the FCC and Connecticut Department of Health. The "worst case" exposure calculated for the operation of this facility for all carriers, would be approximately 19.98 % of the standard. See Cumulative Emissions Compliance Report dated February 26, 2004, prepared by Hassan Syed, T-Mobile Radio Frequency Engineer, annexed hereto as Exhibit C;
- 5.) The proposed shared use of the Verizon Facility would not require any water or sanitary facilities, or generate any air emissions or discharges to water bodies. Further, the installation will not generate any traffic other than for periodic maintenance visits.
- D. <u>Economic Feasibility</u> The Applicant and the tower owner have agreed to share use of the Verizon Facility on terms agreeable to both parties. The proposed tower sharing is therefore economically feasible.
- E. Public Safety As stated above and evidenced in the Cumulative Emissions Compliance Report annexed hereto as Exhibit C, the operation of T-Mobile's antennas at this site would not exceed the total radio frequency electromagnetic radiation power density level adopted by the FCC and Connecticut Department of Health. Further, the addition of T-Mobile's telecommunications service in the Chaplin area through shared use of the Verizon Facility is expected to enhance the safety and welfare of local residents and travelers through the area resulting in an improvement to public safety in this area.

February 27, 2004 Page 4

# Conclusion

As delineated above, the proposed shared use of the Verizon Facility satisfies the criteria set forth in C.G.S. § 16-50aa, and advances the General Assembly's and the Siting Council's goal of preventing the proliferation of tower in the State of Connecticut. T-Mobile therefore requests the Siting Council issue an order approving the proposed shared use of the Verizon Facility.

Respectfully submitted,

Christine Farrell

T-Mobile

100 Filley St.

Bloomfield, CT 06002

(860) 794-6427

cc: Chaplin First Selectman Rusty Lanzit

# Exhibit A

# VERIZON CHAPLIN

**LOT 54 PALMER ROAD** CHAPLIN, CT 06235

STATE OF CONNECTION

William Elong

OJONAL ENGINE

APPROVALS

ALL-POINTS TECHNOLOGY CORPORATION, P.C.

SITE NUMBER: CT-11-508-F

CO-LOCATION

# GENERAL NOTES

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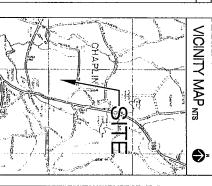
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ONSTRUCTION TYPE: SSESSORS PARCEL NO.: SECTION: 55, BLK: 1, LOT: 54 VOLUME: 60, PAGE: 633 OO-LOCATION

CHECKED BY: 8MC DRAWN BY: GWA PROJECT NO. CT-11-508-F

SUBMITTALS

CONSTRUCTION

CT-11-609-F VERIZON CHAPUN LOT 54 PALMER ROAD CHAPUN CT 06235

STRUCTURE OW POPERTY OWNER OELLOO PARTNERSHIP (JAMA VERIZON WIRELESS 99 EAST RIVE DRIVE EAST HARTFORD, CT 06108 DONALD A. & JANET L. BESSETTE 147 PALMER ROAD OHAPUN, OT 05235

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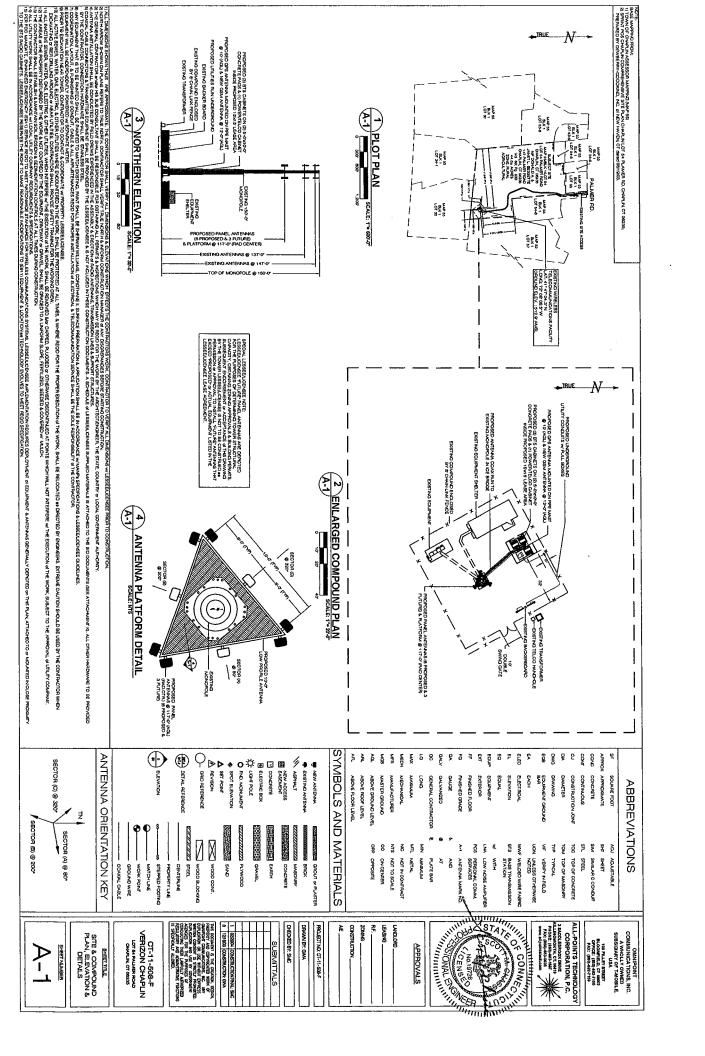
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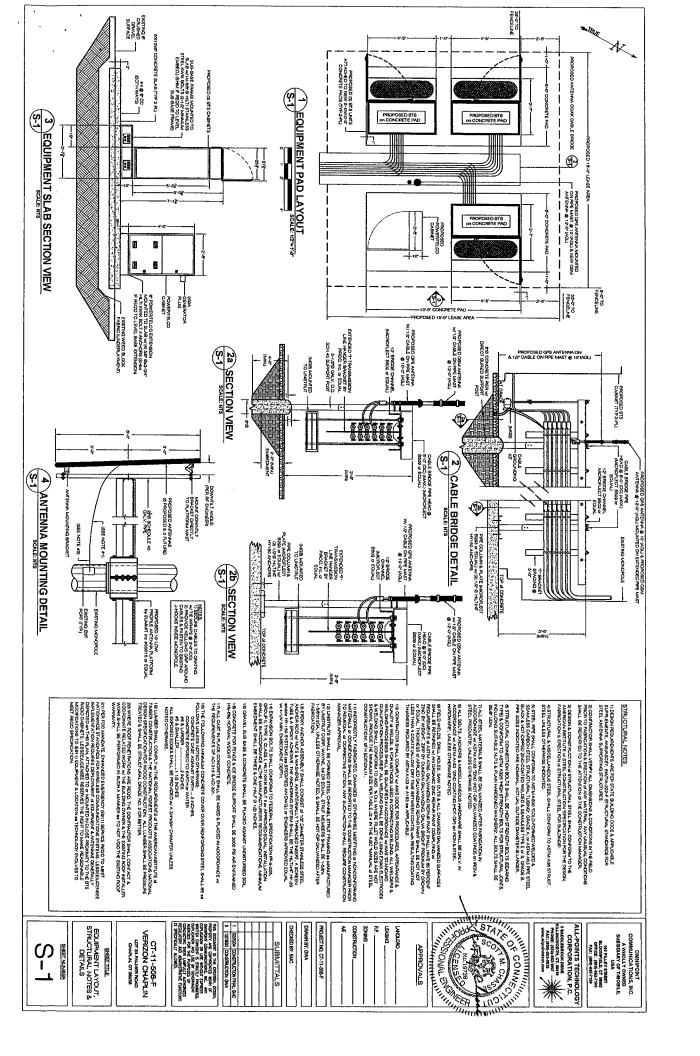
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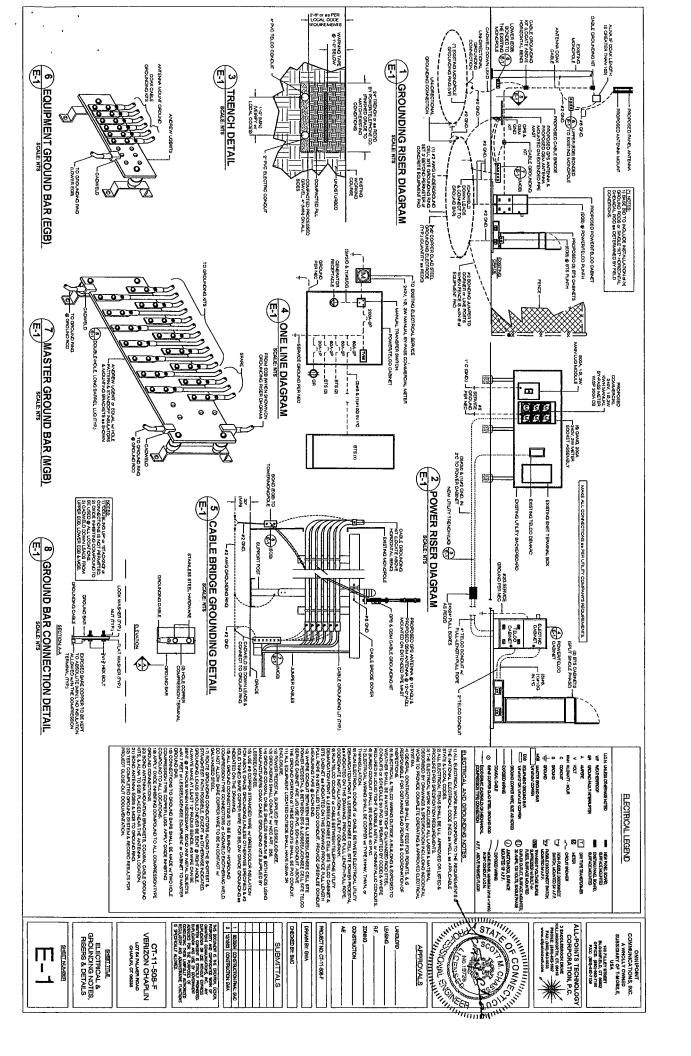
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# Exhibit B



February 12, 2004

Robert Bodiiak

Engineered Endeavors, Inc. 7610 Jenther Drive Mentor, OH 44060 USA

T (440) 918 1101 T (888) 270 3855 F (440) 918 1108

T-Mobile 100 Filley Street Bloomfield, CT 06002

Reference:

Structural review of the existing 147-ft monopole located in Chaplin, CT.

T-Mobile site name CT11-508F.

EEI Project No. 12120. (Sprint site CT33XC583).

Engineered Endeavors Incorporated (EEI) has evaluated the existing 147-ft monopole located in Chaplin, CT for the colocation presented by T-Mobile Corporation (see attached). The monopole was originally designed for a maximum of six (6) carriers with (12) DAPA48000 antennas on low profile platforms as depicted in the attached drawing. At this time T-mobile is the second carrier on the monopole and the co-location of T-Mobile antennas with the (9) EMS DR65-19-DPQ antennas with TMA's @117' elevation will not affect the structural capacity of the tower. The monopole has (3) 6"x12" handholes @114' elevation above base plate to use for the cables. If any additional ports are required, they can be field installed by following and EEI approved procedure.

EEI recommends the monopole be reviewed every time another carrier coallocating on the pole if a new loading differs

from the original design (see attached).

Yours truly,

Engineered Endeavors, Inc.

Boris S. Fayman, P.E. Project Engineer

Enclosure

Michael R. Morel. P.E.

Vice-President

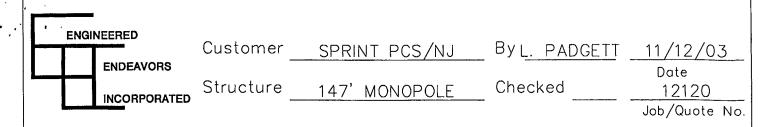
# STRUCTURAL RE-ANALYSIS EQUIPMENT LOADING CHECKLIST

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,	Tower Make/Mod	del:	EEI Mo	nopole									
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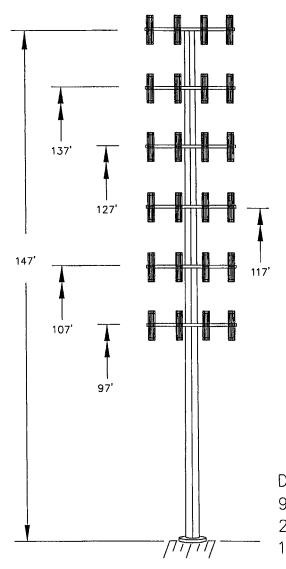
Requires RF Engineer approval (normally used for rural coverage, low traffic, "C-rating")

Mount TMA'S on antenna pipe mast shielded behind antenna panels.

In cases where tower is over stressed, perform structural re-analysis with multiple antenna/coax Options conducted in succession until stress levels are acceptable.



SITE LOCATION — WINDHAM COUNTY, CT SITE NAME — CHAPLIN. CT33XC583



# ANTENNA LOADING:

- (12) DAPA 48000 DIRECTIONAL ANTENNAS LOW PROFILE PLATFORM @ 147' (SPRINT)
- (12) DAPA 48000 DIRECTIONAL ANTENNAS LOW PROFILE PLATFORM @ 137' (VERIZON)
- (12) DAPA 48000 DIRECTIONAL ANTENNAS LOW PROFILE PLATFORM @ 127' (FUTURE)
- (12) DAPA 48000 DIRECTIONAL ANTENNAS LOW PROFILE PLATFORM @ 117' (FUTURE)
- (12) DAPA 48000 DIRECTIONAL ANTENNAS LOW PROFILE PLATFORM @ 107' (FUTURE)
- (12) DAPA 48000 DIRECTIONAL ANTENNAS LOW PROFILE PLATFORM @ 97' (FUTURE)

# **DESIGN NOTES:**

DESIGNED IN ACCORDANCE WITH TIA/EIA 222 F 90 MPH FASTEST MILE WIND SPEED AND 2000 IBC 110 MPH 3-SECOND GUST WIND. 1/2" RADIAL ICE.

NOTE: DESIGN IS IN COMPLIANCE WITH SPRINT SPECIFICATION SSEO 3.001.06.001, Rev 2

NOTE: IT IS THE RESPONSIBILITY
OF THE PURCHASER TO VERIFY
THAT THE WIND LOADS AND DESIGN
CRITERIA SPECIFIED MEET THE REQUIREMENTS
OF ALL LOCAL BUILDING CODES

# **Exhibit C**



T-Mobile USA Inc.

100 Filley St, Bloomfield, CT 06002-1853

Phone: (860) 692-7100 Fax: (860) 692-7159

# **Technical Memo**

To: Farrell, Christine

From: Hassan Syed - Radio Frequency Engineer

cc: Overbey Jason

Subject: Power Density Report for CT11508F

Date: February 26, 2004

#### 1. Introduction:

This report is the result of an Electromagnetic Field Intensities (EMF - Power Densities) study for the T-Mobile PCS antenna installation on a New Monopole at 54 Paimer Road, Chaplin, 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 1935-1945 MHz frequency band.
- 2) The antenna array consists of three sectors, with 3 antennas per sector.
- 3) The model number for each antenna is EMS RR90-17-02DP.
- 4) The antenna center line height is 117 ft.
- 5) The maximum transmit power from any sector is 1791.93 Watts Effective Radiated Power (EiRP) assuming 8 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 PCS antenna installation on a New Monopole at 54 Paimer Road, Chaplin, CT, is 0.03191 mW/cm^2. This value represents 3.191% of the Maximum Permissible Emission (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 16.79%. The combined Power Density for the site is 19.981% of the M.P.E. standard.

New England Market	
Connecticut	<b>F</b> • Mobile •
Worst Case Power Density	
Site:	CT11508F
Site Address:	54 Paimer Road
Town:	Chaplin
Tower Height:	150 ft.
Tower Style:	New Monopole
Base Station TX output	20 W
Number of channels	8
Antenna Model	EMS RR90-17-02DP
Cable Size	1 5/8 in.
Cable Length	130 ft.
Antenna Height	117.0 ft.
Ground Reflection	1.6
Frequency	1935.0 MHz
Jumper & Connector loss	4.50 dB
Antenna Gain	16.5 dBi
Cable Loss per foot	0.0116 dB
Total Cable Loss	1.5080 dB
Total Attenuation	6.0080 dB
Total EIRP per Channel	53.50 dBm
(In Watts)	223.99 W
Total EIRP per Sector	62.53 dBm
(In Watts)	1791.93 W
nsg	10.4920
Power Density (S) =	0.031908 mW/cm^2
T-Mobile Worst Case % MPE =	3.1908%
Equation Used: $S = \frac{(1000)(grf)^2(Power)*10^{(nsg10)}}{4 \pi (R)^2}$	
Office of Engineering and Technology (OE	T) Bulletin 65, Edition 97-01, August 1997

Co-Locatio	on Total	
Carrier	% of Standard	
Verizon	5.4200 %	
Cingular	4.1500 %	
Sprint PCS	7.2200 %	
AT&T Wireless		
Nextel		
Total Excluding T-Mobile	16.7900 %	
T-Mobile	3.1908	
Total % MPE for Site	19.9808%	

# Miscellaneous



100 Filley Street, Bloomfield, CT 06002 860-794-6427 fax 860-692-7159

February 27, 2004

First Selectman Rusty Lanzit Town of Chaplin 495 Phoenixville Road Chaplin, CT 06235

RE: Tower Share—Existing Wireless Telecommunications Facility
Lot 54 Palmer Road, Chaplin, Connecticut

L'Etall

Dear First Selectman Rusty Lanzit:

Omnipoint Communications, Inc. a.k.a. T-Mobile (formerly Voicestream Wireless Corp.) intends to co-locate antennas on the existing monopole located at Lot 54 Palmer Road, Chaplin. Attached, please find a copy of our application to the CT Siting Council.

If you have any questions or concerns, please feel free to call me at 860-794-6427, or the CT Siting Council.

Very Truly Yours

Christine Farrell

T-Mobile Real Estate and Zoning

Attachments-Application

Cc: CSC