TS-AT&T-024-030114

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January 10, 2003

VIA FEDERAL EXPRESS
Hon. Mortimer Gelston, Chairman and Members
of the Siting Council
Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051

Re: Tower Sharing Request by AT&T Wireless
Municipal Tower Facility at
106 Phoenixville Road, Chaplin, Connecticut

Hon. Mortimer Gelston, Chairman and Members of the Siting Council:

Pursuant to Connecticut General Statutes (C.G.S.) § 16-50aa, AT&T Wireless PCS LLC, by and through its agent AT&T Wireless Services, Inc., ("AT&T") hereby requests an order from the Connecticut Siting Council (the "Council") to approve the proposed shared use of an approved municipal communications tower to be located at the Chaplin Volunteer Fire Department, 106 Phoenixville Road in the Town of Chaplin (the "Chaplin Fire Department Tower Facility"), on property owned by the Town of Chaplin. See Planning and Zoning Commission site plan approval annexed hereto as Exhibit A.

The Chaplin Fire Department Tower Facility

The Chaplin Fire Department Tower Facility will consist of an approximately one hundred forty five (145) foot "stealth" flagpole (the "Tower") and associated equipment, which currently has been approved by the municipality and will be used by the Chaplin Volunteer Fire Department, an entity funded by the Town of Chaplin, for emergency communications. The Tower is being incorporated into a new fire department complex to be built on the property

which was recently acquired by the Town of Chaplin and approved for that purpose. The Fire Department's antenna is being raised over 100' from its current height to the top of this new Tower and is essential to emergency communications in major portions of the Town where communications are currently interrupted. See January 9, 2003 letter from Chaplin's Fire Chief annexed in Exhibit A. The Tower was considered and approved by the Town's Board of Finance, Board of Selectman, Planning and Zoning Commission, Inland Wetlands Commission and was the subject of a Town Meeting at which voters approved the project.

AT&T Wireless' Facility

As shown on the enclosed plans prepared by Tectonic/Keyes Associates, including a site plan and tower elevation of the Chaplin Fire Department Tower Facility, AT&T Wireless proposes shared use of the Facility to provide FCC licensed services. AT&T Wireless will conceal panel antennas within the flagpole, at approximately the 130' and 120' level of the Tower and associated equipment cabinets (2 proposed, 2 future, each 76"H x 30" W x 30" D) located within a fenced compound. AT&T will also own, operate and maintain the Facility pursuant to an agreement with the Town of Chaplin which does not have the resources necessary to own, operate, and maintain the Tower.

Connecticut General Statutes § 16-50aa provides that, upon written request for shared use approval of a facility not subject to a Council Certificate, 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. It should be noted though that as part of the project's approvals in this case, local wetlands and zoning approvals were issued to AT&T as well as the Town for the Tower and associated improvements.

Shared use of the Chaplin Fire Department Tower Facility satisfies the approval criteria set forth in C.G.S. § 16-50aa as follows:

A. Technical Feasibility As evidenced in the letter of structural integrity prepared by Tectonic/Keyes Associates, annexed hereto as Exhibit B, AT&T has confirmed that the tower will be designed to structurally support the Chaplin Fire Department's, AT&T's and other carriers' antennas internal to the "stealth" flagpole Tower. The proposed shared use of this Tower is therefore technically feasible.

B. Legal Feasibility Pursuant to C.G.S. § 16-50aa, the Council has been authorized to issue an order approving shared use of the Chaplin Fire Department Tower 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 AT&T to obtain a building permit for its proposed installation on the Tower.

C. Environmental Feasibility 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 approved facility;

2. The proposed installation by AT&T Wireless would not increase the height of the Tower nor extend the site boundaries;

3. The proposed installation would not increase the noise levels at the existing facility boundaries by six decibels or more;

4. Operation of AT&T Wireless' 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 the Fire Department and AT&T would be approximately 4.66% of the standard. See Cumulative Emissions Compliance Report dated January 6, 2003, prepared By Satish Bhandare, RF Engineer, annexed hereto as Exhibit C;

5. The proposed shared use of the Chaplin Fire Department Tower Facility would not require any water or sanitary facilities, or generate air emissions or discharges to water bodies. Further, the installation will not generate any traffic other than for periodic maintenance visits.

D. Economic Feasibility AT&T and the Town of Chaplin have entered into a mutual agreement for the construction, operation, maintenance and long term viability of the Tower for municipal and wireless communications purposes. 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 AT&T Wireless' 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 AT&T Wireless' telecommunications service in the Chaplin area 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 of Chaplin. Indeed, AT&T's involvement in the project is the only effective means for the Town to meet the Volunteer Fire Department's need for a new communications tower for its own emergency communications purposes in serving the residents of the Town of Chaplin.

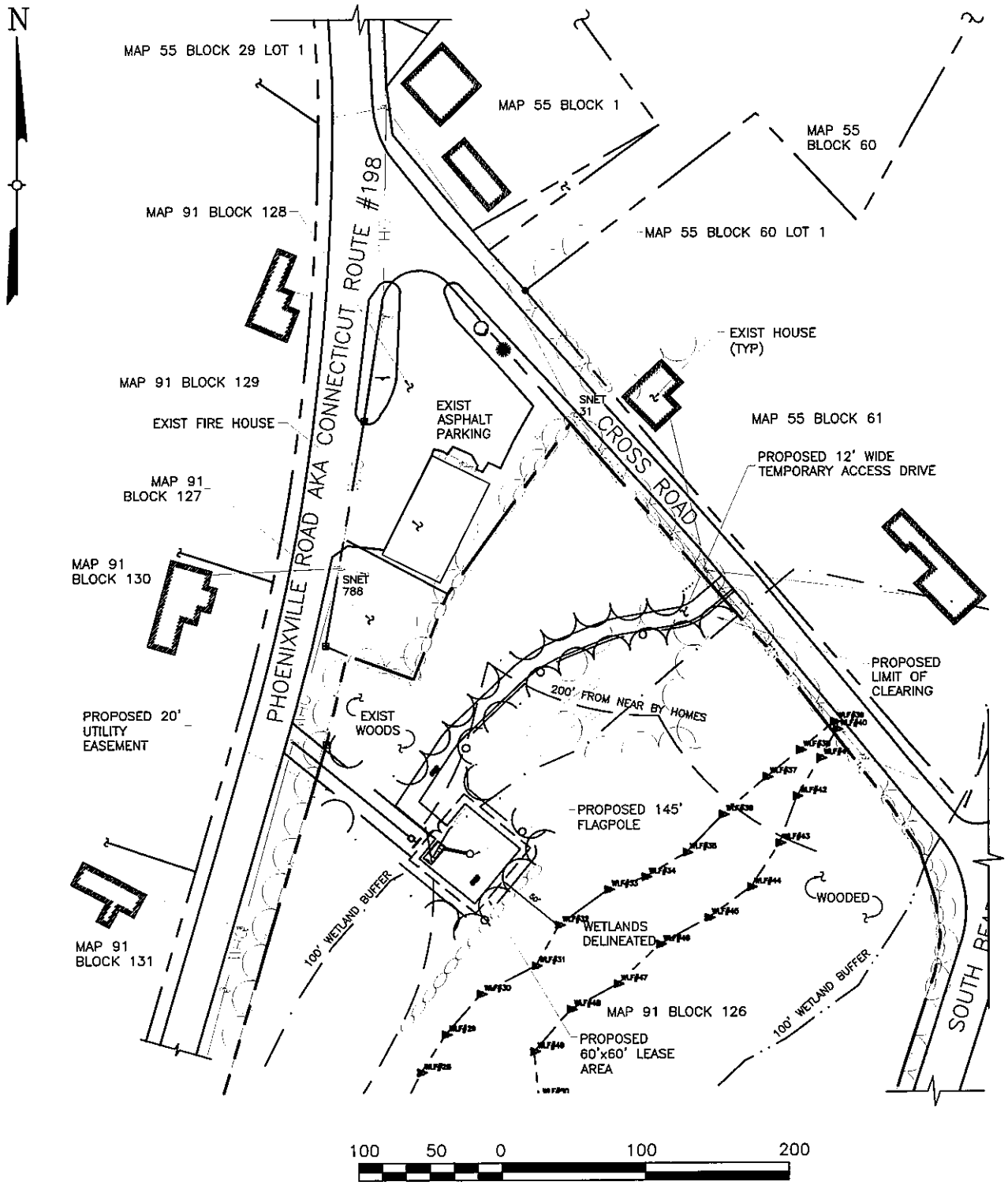
Conclusion

As delineated above, the proposed shared use of the Chaplin Fire Department Tower 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 towers in the State of Connecticut. AT&T Wireless therefore requests the Siting Council issue an order approving shared use of the proposed Facility.

Respectfully submitted,

Christopher B. Fisher, Esq.
On behalf of AT&T Wireless

cc: Eugene Boomer, First Selectman Town of Chaplin
Sue Silva, Bechtel



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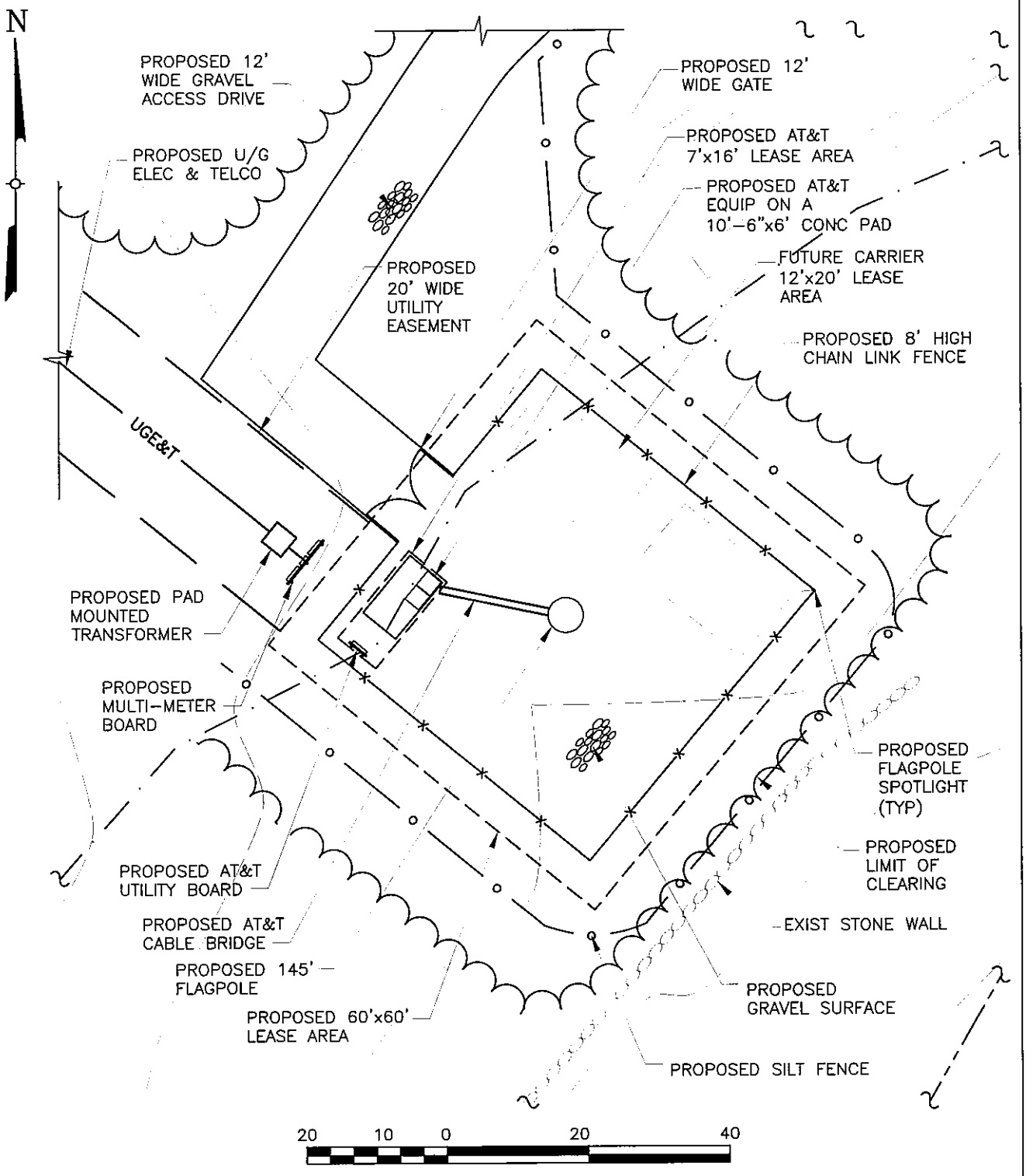
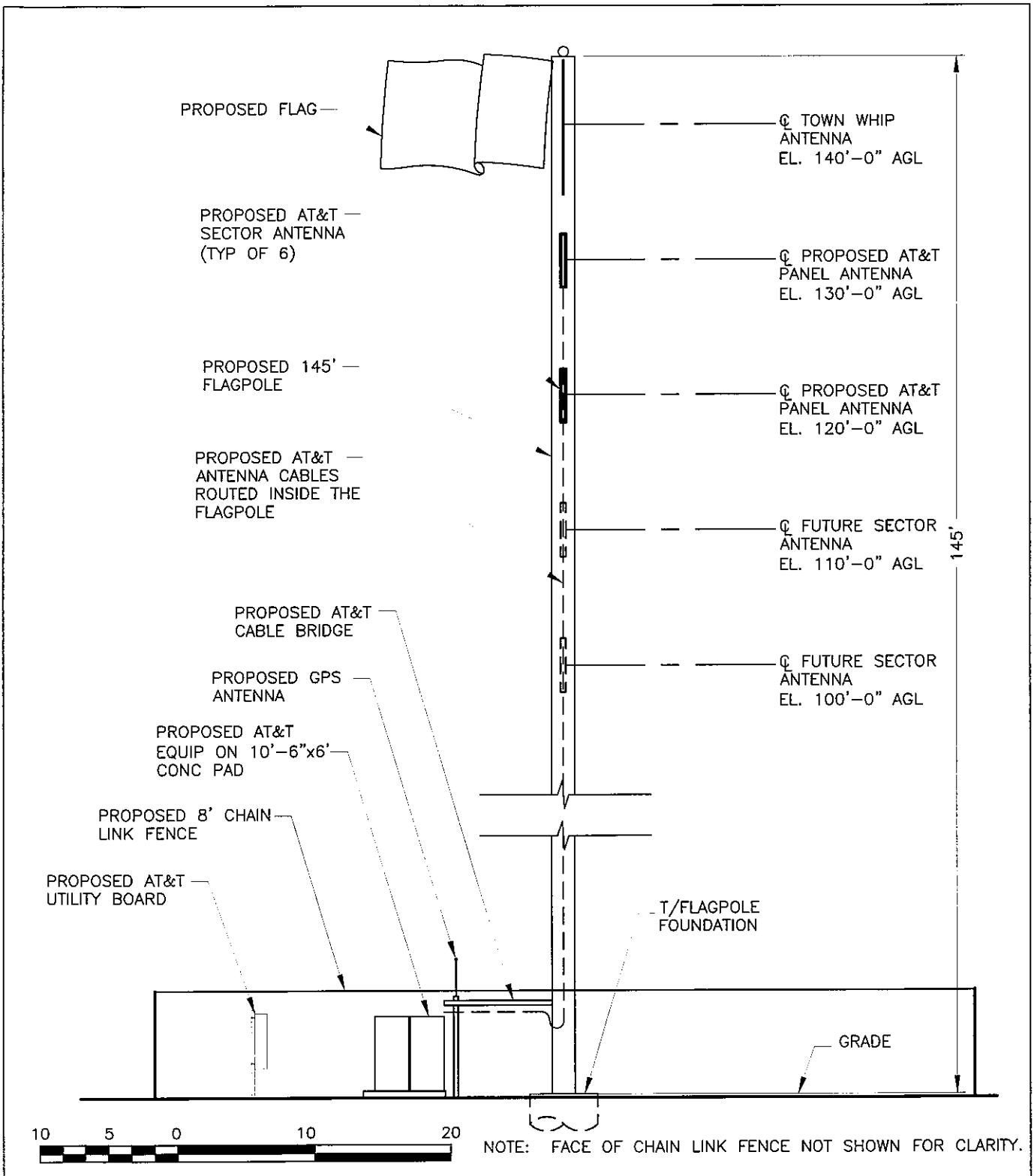
REVISION NO. A	DRAWN BY: RPM
DATE: 12/26/02	CHECKED BY: MC
SCALE: 1" = 100'	APPROVED BY: JDF
ISSUED FOR APPROVAL	SHEET NO. 1 of 3
WORK ORDER #: 2650.CT709	



TECTONIC/KEYES ASSOCIATES	AT&T AT&T WIRELESS PCS, LLC. 12 Omega Drive, Second Floor Stamford, CT 06902	DRAWING TITLE: SITE DETAIL PLAN PROJECT INFORMATION: CHAPLIN SOUTH CT-709 106 PHOENIXVILLE ROAD CHAPLIN, CT PROPERTY OWNER: TOWN OF CHAPLIN PHOENIXVILLE ROAD CHAPLIN, CT	DRAWING NO. SC-2

REVISION NO. A	DRAWN BY: RPM
DATE: 12/26/02	CHECKED BY: MC
SCALE: 1" = 20'	APPROVED BY: JDF
ISSUED FOR APPROVAL	SHEET NO. 2 of 3
WORK ORDER #: 2650.CT709	



TECTONIC/KEYES ASSOCIATES	AT&T AT&T WIRELESS PCS, LLC. 12 Omega Drive, Second Floor Stamford, CT 06902	DRAWING TITLE: ELEVATION PROJECT INFORMATION: CHAPLIN SOUTH CT–709 106 PHOENIXVILLE ROAD CHAPLIN, CT PROPERTY OWNER: TOWN OF CHAPLIN PHOENIXVILLE ROAD CHAPLIN, CT	DRAWING NO. **SC-3** REVISION NO. A | DRAWN BY: RPM DATE: 12/26/02 | CHECKED BY: MC SCALE: 1" = 10' | APPROVED BY: JDF ISSUED FOR APPROVAL | SHEET NO. 3 of 3 WORK ORDER #: 2650.CT709

TOWN of CHAPLIN

CONNECTICUT 06235

INCORPORATED, 1822

PLANNING and ZONING COMMISSION

Thursday, December 12, 2002

Mr. Eugene Boomer, FirstSelectman
Chaplin Town Hall
PO Box 286
Chaplin, Connecticut 06235

Dear Mr. Boomer,

This letter is to inform you that the Chaplin Planning and Zoning Commission, at its regular meeting on November 14th 2002, voted to approve the site plan application submitted by the Town of Chaplin and AT&T Wireless PCS, LLC for a the municipal telecommunications tower located on Chaplin town property at Route 198 and Cross Road.

Sincerely,

Bruce Raymond
Secretary, Chaplin PZC

TOWN OF CHAPLIN

CONNECTICUT 06235
INCORPORATED 1822

CUDDY & FEDER &WORBY LLP
90 Maple Avenue
White Plains, New York 10601-5196

RE: Municipal Tower
January 9, 2003

Dear Christopher Fisher,

The Chaplin Volunteer Fire Department is in dire need of enhancing its level of communication in town. Chaplin's land area is 19.4 square miles, 39 miles of town road and 9 miles of state road. Chaplin has a population of 2250 residents with a business district. The Hampton-Chaplin Ambulance Corp provides ambulance service for Chaplin and is housed in the neighboring town of Hampton 4.5 miles away.

The Emergency Dispatch Center for Chaplin is located in our neighboring town of Willimantic. There have been numerous occasions when communication between Willimantic dispatch and our fire departments emergency vehicles have been difficult and in some cases non-existent due to Chaplin's topography

Chaplin has constructed an Emergency Helicopter landing pad for the sole purpose of Life-star. Communication between Life-star and the local EMT's is crucial.

The completion and construction of this municipal tower is imperative. Small towns, such as Chaplin rely on mutual aid from abutting towns and again communication is of the utmost importance.

The entire Fire Department is in Unanimous support of the municipal tower as we feel it will immensely benefit our community.

Sincerely,

Steven Guay
Chaplin Fire Chief

TECTONIC / KEYES ASSOCIATES
Division of TECTONIC Engineering Consultants P.C.

CORPORATE OFFICE:
Mountainville, NY (800)-829-6531

1344 Silas Deane Highway, Suite 500
Rocky Hill, Connecticut 06067

(860) 563-2341 Fax: (860) 257-4882
www.tectonicengineering.com

Mr. Donald Huntley
Bechtel Telecommunications
210 Pomeroy Avenue
Meriden, CT 06450

November 20, 2002

RE: W.O. 2650. CT709
AT&T WIRELESS SITE CT-709, CHAPLIN
PROPOSED 145' FLAGPOLE TOWER
106 PHOENIXVILLE ROAD, CHAPLIN, CT
STRUCTURAL CAPACITY

Dear Mr. Huntley:

AT&T Wireless PCS, with the Town of Chaplin, proposes to install a 145' flagpole tower at the above referenced site. The new flagpole will be designed as a "stealth" tower to accommodate AT&T's antennas, a Town of Chaplin whip antenna, and two additional wireless carriers. AT&T's antennas will be mounted inside the flagpole at elevations 130' and 120'.

The tower will be designed in accordance with established guidelines and loading criteria with all applicable codes. The governing codes include the 1999 Connecticut supplement to the BOCA National Building Code and the national standard ANSI/TIA/EIA-222-F-1996 "Structural Standards for Steel Antenna Towers and Antenna Supporting Structures".

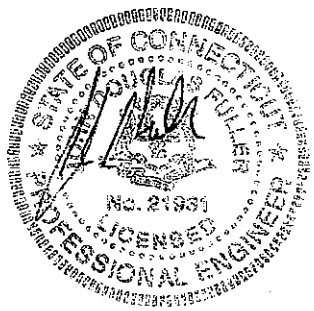
The design and details of the tower and foundation will be provided by a leading tower manufacturer prior to construction. The location and elevation of the proposed tower is shown on Tectonic's site plan and elevation.

Should you require any additional information regarding the structural design of this proposed tower, please feel free to contact me.

Sincerely,
TECTONIC ENGINEERING CONSULTANTS, P.C.

John D. Fuller, P.E.
Telecommunications Manager

Cc: File



RF Exposure Analysis for Proposed AT&T Wireless Antenna Facility

SITE ID: 907-009-709

January 06, 2003

Prepared by AT&T Wireless Services, Inc.
Satish Bhandare, **RF Engineer**

Table of Contents

1. Introduction

This report constitutes an RF exposure analysis for the proposed AT&T Wireless antenna facility to be located at *557 Route 82, Montville, CT 06370.* This analysis uses site-specific engineering data to determine the predicted levels of radio frequency (RF) electromagnetic energy in the vicinity of the proposed facility and compares those levels with the Maximum Permissible Exposure (MPE) limits established by the Federal Communications Commission.

2. Site Data

Site Name: *Chaplin South*	
Number of simultaneously operating channels	12
Type of antenna	Allgon 7250.03
Power per channel (Watts ERP)	250.0 Watts
Height of antenna (feet AGL)	120 and 130 feet
Antenna Aperture Length	5 feet

3. RF Exposure Prediction

The following equations established by the FCC, in conjunction with the site data, were used to determine the levels of RF electromagnetic energy present in the vicinity of the proposed facility[1]:

$$PowerDensity = \frac{0.64 * N * EIRP(\theta)}{\pi * R^2} \ (mW/cm^2) \qquad \textit{Eq. 1-Far-field}$$

Where, ***N***= Number of channels, ***R***= distance in cm from the antenna centerline, and ***EIRP(θ)*** = The isotropic power expressed in milliwatts in the direction of prediction point. This is the correct equation for antennas which have their gain expressed in dBi, which is the usual case for the PCS bands.

$$PowerDensity = \frac{P_{in} / ch * N * 10^3}{2 * \pi * R * h * \alpha / 360} \ (mW/cm^2) \qquad \textit{Eq. 2-Near-field}$$

Where P_{in}/ch = Input power to antenna terminals in watts/ch, R = distance to antenna centerline, h = aperture height in meters, α = 3 dB beam-width of horizontal pattern.

[1] RF exposure is measured and predicted in terms of power density in units of milliwatts (mW), a thousandth of a watt, or microwatts (μ W), a millionth of a watt, per square centimeter (cm^2). Data comparing predictive analysis with on site measurements has demonstrated that power density can be effectively predicted at given locations in the vicinity of a wireless antenna facility.

4. FCC Guidelines for Evaluating the Environmental Effects of RF Emissions

In 1985, the FCC established rules to regulate radio frequency (RF) exposure from FCC licensed antenna facilities. In 1996, the FCC updated these rules, which were further amended in August 1997 by a Second Memorandum Opinion and Order. These new rules represent a consensus of the federal agencies responsible for the protection of public health and the environment, including the Environmental Protection Agency (EPA), the Food and Drug Administration (FDA), the National Institute for Occupational Health and Safety (NIOSH), and the Occupational Safety and Health Administration (OSHA).

Under the laws that govern the delivery of wireless communications services in the United States, as amended by the Telecommunications Act of 1996, the FCC has exclusive jurisdiction over RF emissions from personal wireless antenna facilities, which include cellular, PCS, messaging and aviation sites.[2] Pursuant to its authority under federal law, the FCC has established rules to regulate the safety of emissions from these facilities.

5. Comparison with Standards

Exhibit A shows the levels of RF electromagnetic energy as one moves away from the antenna facility. As shown in Exhibit A, the maximum power density is 0.009410 mW/cm^2 which occurs at 130 feet from the antenna facility. The chart in exhibit A also shows that the power density is only 0.000570 mW/cm^2 at a distance of 4 feet. Table 1 below shows the Maximum Permissible Exposure (MPE) limits established by the FCC. There are different MPE limits for public/uncontrolled and occupational/controlled environments.

Table 1: Maximum Permissible Exposure limits for RF Emissions

Frequency	*Public/Uncontrolled*	*Occupational/controlled*	*Maximum power density at Accessible location*
Cellular	.580 mW/cm^2	2.9 mW/cm^2	0.009410 mW/cm^2
PCS	1 mW/cm^2	5 mW/cm^2	

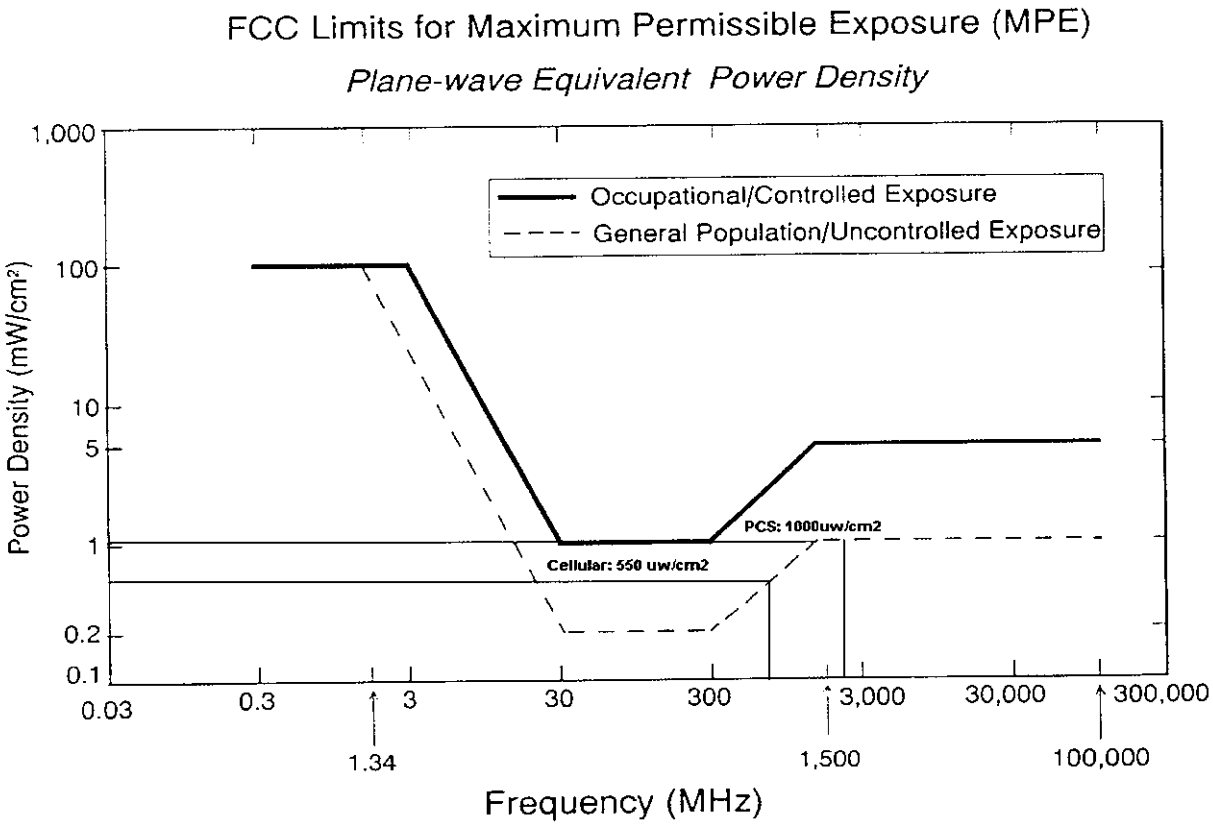
The maximum power density at the proposed facility represents only 4.66% of the public MPE limit for all frequencies in use.

6. Conclusion

This analysis show that the maximum power density in accessible areas at this location is 0.009410 mW/cm^2, a level of RF energy that is well below the Maximum Permissible Exposure limit established by the FCC.

[2] 47 U.S. C. Section 332 (c) (7)(B)(iv) states that "[n]o State or local government or instrumentality thereof may regulate the placement, construction, and modification of personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the Commission's regulations concerning such emissions."

7. FCC Limits for Maximum Permissible Exposure



8. Exhibit A

MPE CALCULATION DATA

SITE ID : CT-709

SITE NAME : CHAPLIN SOUTH

SITE ADDRESS : 106 PHOENIXVILLE RD, CHAPLIN, CT 06235.

TYPE OF CONSTRUCTION : FLAGPOLE

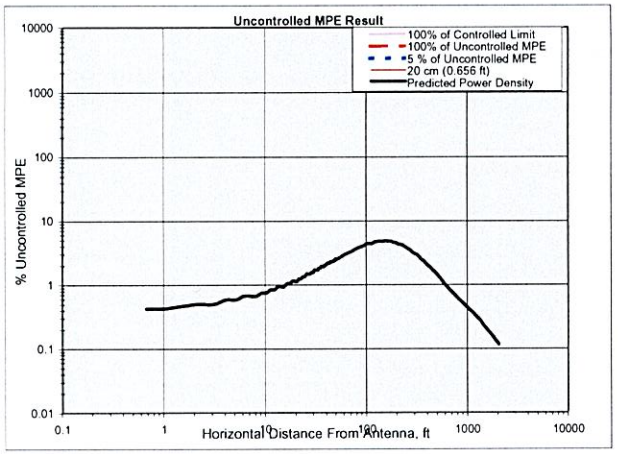
EMISSION CENTER LINES :

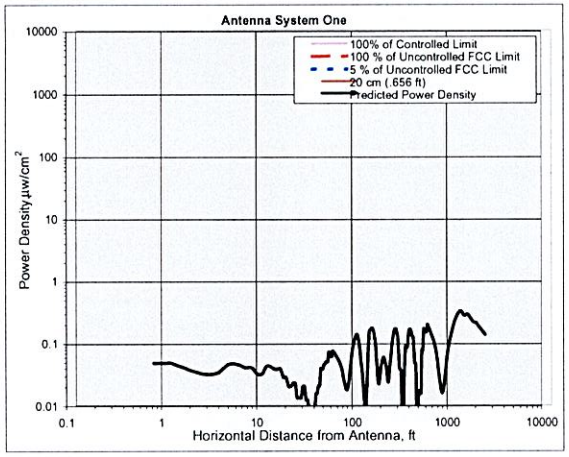
AT&T WIRELESS: 6 CHANNELS @ 250 WATT MAX ERP AT 130 FEET AGL.

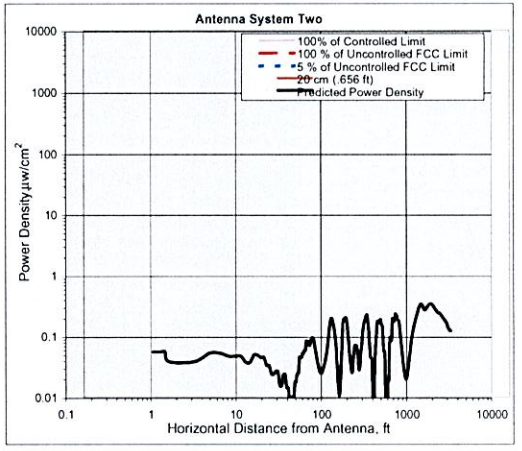
6 CHANNELS @ 250 WATT MAX ERP AT 120 FEET AGL.

TOWN FIRE DEPARTMENT :

4 CHANNELS @ 500 WATT MAX ERP AT 140 FEET AGL.







Number of Antenna Systems: 3

Meets FCC Controlled Limits for The Antennas Systems.

Meets FCC Uncontrolled Limits for The Antenna Systems.

Meets 5% of FCC Uncontrolled Limits for The Antenna Systems.

No Further Analysis Required.

	Power Density		@Horiz. Dist.
	mW/cm^2	% of limit	feet
Maximum Power Density =	0.009410	4.66	130.00
21.46 times lower than the MPE limit for uncontrolled environment			
Composite Power (ERP) =	5,000.00	Watts	

Site ID: 907-009-709
Site Name: Chaplin South
Site Location: 106 Phoenixville Rd
Chaplin, CT 06235

Performed By: Satish Bhandare

Date: 1/6/03

Antenna System One

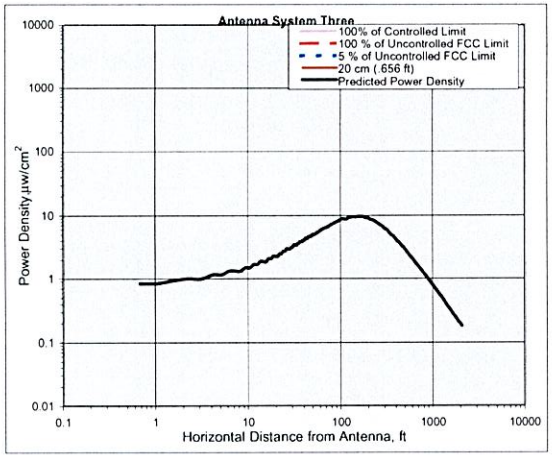
	units	Value
Frequency	MHz	1945.00
# of Channels	#	6
Max ERP/Ch	Watts	250.00
Max Pwr/Ch Into Ant.	Watts	5.86
(Center of Emission)	feet	130.00
Calculation Point	feet	5.50
(above ground or		0.00
roof surface)		0.00
Antenna Model No.		Allgon 7250.03
Max Ant Gain	dBd	16.30
Down tilt	degrees	2.00
Miscellaneous Att.	dB	0.00
Height of aperture	feet	5.11
Ant HBW	degrees	65.00
Distance to Ant_{bottom}	feet	121.95
WOS?	Y/N?	n

Ant System ONE Owner: AT&T
Sector: 3
Azimuth: 0/120/240

Antenna System Two

	units	Value
Frequency	MHz	1945.00
# of Channels	#	6
Max ERP/Ch	Watts	250.00
Max Pwr/Ch Into Ant.	Watts	5.86
(Center of Emission)	feet	120.00
Calculation Point	feet	5.50
(above ground or		0.00
roof surface)		0.00
Antenna Model No.		Allgon 7250.03
Max Ant Gain	dBd	16.30
Down tilt	degrees	2.00
Miscellaneous Att.	dB	0.00
Height of aperture	feet	5.11
Ant HBW	degrees	65.00
Distance to Ant_{bottom}	feet	111.95
WOS?	Y/N?	n

Ant System TWO Owner: AT&T
Sector: 3
Azimuth 0/120/240



Antenna System Three

	units	Value
Frequency	MHz	33.00
# of Channels	#	4
Max ERP/Ch	Watts	500.00
Max Pwr/Ch Into Ant.	Watts	362.22
(Center of Radiator)	feet	140.00
Calculation Point	feet	5.50
(above ground or		0.00
roof surface)		0.00
Antenna Model No.		1142-2A
Max Ant Gain	dBd	1.40
Down tilt	degrees	0.00
Miscellaneous Att.	dB	0.00
Height of aperture	feet	16.00
Ant HBW	degrees	360.00
Distance to Ant_{bottom}	feet	126.50
WOS?	Y/N?	n

Ant System Three Owner: Town Antennas
Sector: 1
Azimuth 0

9. For Further Information

Additional information about the environmental impact of RF energy from personal wireless antenna facilities can be obtained from the Federal Communications Commission:

Dr. Robert Cleveland
Federal Communications Commission
Office of Engineering and Technology
Washington, DC 20554

RF Safety Program: 202-418-2464
Internet address: rfsafety@fcc.gov
RF Safety Web Site: www.fcc.gov/oet/rfsafety

10. References

[1] The Communications Act of 1934, as amended by the Telecommunications Act of 1996, 47 U.S.C. Section 332 (c)(7)(B)(iv).

[2] *Guidelines for Evaluating the Environmental Effects of Radio frequency Radiation*, Notice of Proposed Rulemaking, ET Docket 93-62, 8 FCC Rcd 2849 (1993).

[3] *Guidelines for Evaluating the Environmental Effects of Radio frequency Radiation*, Report and Order, ET Docket 93-62, FCC 96-326, adopted August 1, 1996. 61 Federal Register 41006 (1996).

[4] *Guidelines for Evaluating the Environmental Effects of Radio frequency Radiation*, Second Memorandum Opinion and Order, ET Docket 93-62, adopted August 25, 1997.

[5] *Evaluating Compliance with FCC Guidelines for Human Exposure to Radio frequency Electromagnetic Fields*, OET Bulletin 65, August, 1997.