



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.state.ct.us/csc/index.htm

April 30, 2002

Mr. Christopher B. Fisher, Esq.
Cuddy & Feder & Worby
90 Maple Avenue
White Plains, NY 10601-5196

RE: **EM-AT&T-028-020328** – AT&T Wireless notice of intent to modify an existing telecommunications facility located at 48 Westchester Road, Colchester, Connecticut.

Dear Atty. Fisher:

At a public meeting held on April 25, 2002, the Connecticut Siting Council (Council) acknowledged your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies.

The proposed modifications are to be implemented as specified here and in your notice[s] dated March 28, 2002. 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. 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. 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.

Thank you for your attention and cooperation.

Very truly yours,

Mortimer A. Gelston
Chairman

MAG/DM/laf

c: Honorable Jenny Contois, First Selectman, Town of Colchester
Mr. Mark Roberts, SBA, Inc.
Ms. Sandra Carter, Verizon

RECEIVED

MAR 28 2002

**NOTICE OF INTENT TO MODIFY AN
EXISTING TELECOMMUNICATIONS FACILITY
48 WESTCHESTER ROAD, COLCHESTER, CONNECTICUT**
CONNECTICUT SITING COUNCIL

Pursuant to the Public Utility Environmental Standards Act, Connecticut General Statutes § 16-50g et. seq. ("PUESA"), and Sections 16-50j-72(b) of the Regulations of Connecticut State Agencies adopted pursuant to the PUESA, AT&T Wireless PCS, LLC d/b/a AT&T Wireless ("AT&T Wireless") hereby notifies the Connecticut Siting Council of its intent to modify an existing facility located at 48 Westchester Road, Colchester, Connecticut (the "Westchester Road Facility"), owned by SBA Inc., ("SBA"). AT&T Wireless and SBA have agreed to share the use of the Westchester Road Facility, as detailed below.

The Westchester Road Facility

The Westchester Road Facility consists of an approximately one hundred eighty (180) foot monopole (the "Tower") and associated equipment currently being used and/or leased for wireless communications by Verizon and VoiceStream. A chain link fence surrounds the Tower compound. The Westchester Road Facility is surrounded by industrial land uses, Highway Route 2 and undeveloped property.

AT&T Wireless' Facility

As shown on the enclosed plans prepared by Natcomm, LLC, including a site plan and tower elevation of the Westchester Road Facility, AT&T Wireless proposes shared use of the Facility by placing antennas on the Tower and equipment cabinets within the existing fenced compound needed to provide personal communications services ("PCS"). AT&T Wireless will install 6 panel antennas at approximately the 159 foot level of the Tower and associated equipment cabinets (2 proposed, 2 future, each 76"H x 30" W x 30" D) located on a concrete pad. As evidenced in the structural report prepared by Natcomm, LLC, annexed hereto as Exhibit A, AT&T has confirmed that the tower is structurally capable of supporting the addition of AT&T Wireless' antennas.

AT&T Wireless' Facility Constitutes An Exempt Modification

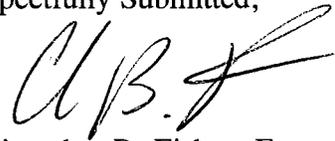
The proposed addition of AT&T Wireless' antennas and equipment to the Westchester Road Facility constitutes an exempt "modification" of an existing facility as defined in Connecticut General Statutes Section 16-50i(d) and Council regulations promulgated pursuant thereto. Addition of AT&T Wireless' antennas and equipment to the Tower will not result in an increase of the Tower's height nor extend the site boundaries. Further, there will be no increase in noise levels by six (6) decibels or more at the Tower site's boundary. As set forth in an Emissions Report prepared by Frank Wentink, Radio Frequency Engineer, annexed hereto as Exhibit B, the total radio frequency electromagnetic radiation power density at the Tower site's boundary will not

be increased to or above the standard adopted by the Connecticut Department of Environmental Protection as set forth in Section 22a-162 of the Connecticut General Statutes and MPE limits established by the Federal Communications Commission. For all the foregoing reasons, addition of AT&T Wireless' facility to the Tower constitutes an exempt modification which will not have a substantially adverse environmental effect.

Conclusion

Accordingly, AT&T Wireless requests that the Connecticut Siting Council acknowledge that its proposed modification to the Westchester Road Facility meets the Council's exemption criteria.

Respectfully Submitted,

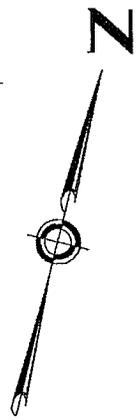
A handwritten signature in black ink, appearing to read 'C.B. Fisher', with a stylized flourish at the end.

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

cc: First Selectman, Town of Colchester
Harold Hewett, Bechtel
Ester McNanny, SBA

PROPOSED 7' X 16' AT&T (LEASE AREA) RADIO CABINETS AND CONCRETE PAD

PROPOSED AT&T UTILITY SUPPORT FRAME



PROPOSED AT&T ICE BRIDGE AND POSTS

EXISTING VERIZON SHELTER AND ICE BRIDGE

EXISTING VOICESTREAM EQUIPMENT MOUNTED ON TOWER FOUNDATION

EXISTING 180' MONOPOLE

EXISTING GROUND WELL (TYP)

FUTURE CARRIER SPACE

EXISTING UTILITY SUPPORT FRAME

EXISTING CHAINLINK FENCE WITH 3 STRANDS OF BARBED WIRE WITH A 12' WIDE GATE

EXISTING PAD MOUNTED TRANSFORMER

EXISTING TELCO HANDHOLE

PROPOSED AT&T UNDERGROUND ELECTRIC AND TELCO

EXISTING PARKING AND ACCESS DRIVE

NOTE:
 LATITUDE: 41° 35' 24.2"
 LONGITUDE: 72° 24' 5.2"

SITE PLAN

SCALE: 1" = 20'

"ISSUED FOR SITING COUNCIL"



Natcomm, LLC
 63-2 North Branford Road
 Branford, Connecticut 06405
 Tel. (203) 488-0580
 Fax (203) 488-6687
 Consulting Engineers - Project Management
 Civil - Structural - Mechanical - Electrical



AT&T

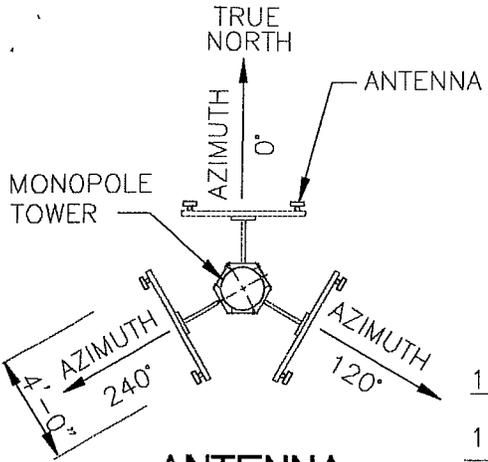
AT&T WIRELESS PCS LLC
 12 OMEGA DRIVE
 STAMFORD, CONNECTICUT 06907

DRAWING TITLE:
 SITING COUNCIL

PROJECT INFORMATION:
 COLCHESTER NORTHWEST
 CT-344.1
 48 WESTCHESTER RD
 COLCHESTER, CT 06415

PROPERTY OWNER:
 MARCUS PROPERTIES, LLC
 48 WESTCHESTER RD.
 COLCHESTER, CT 06415

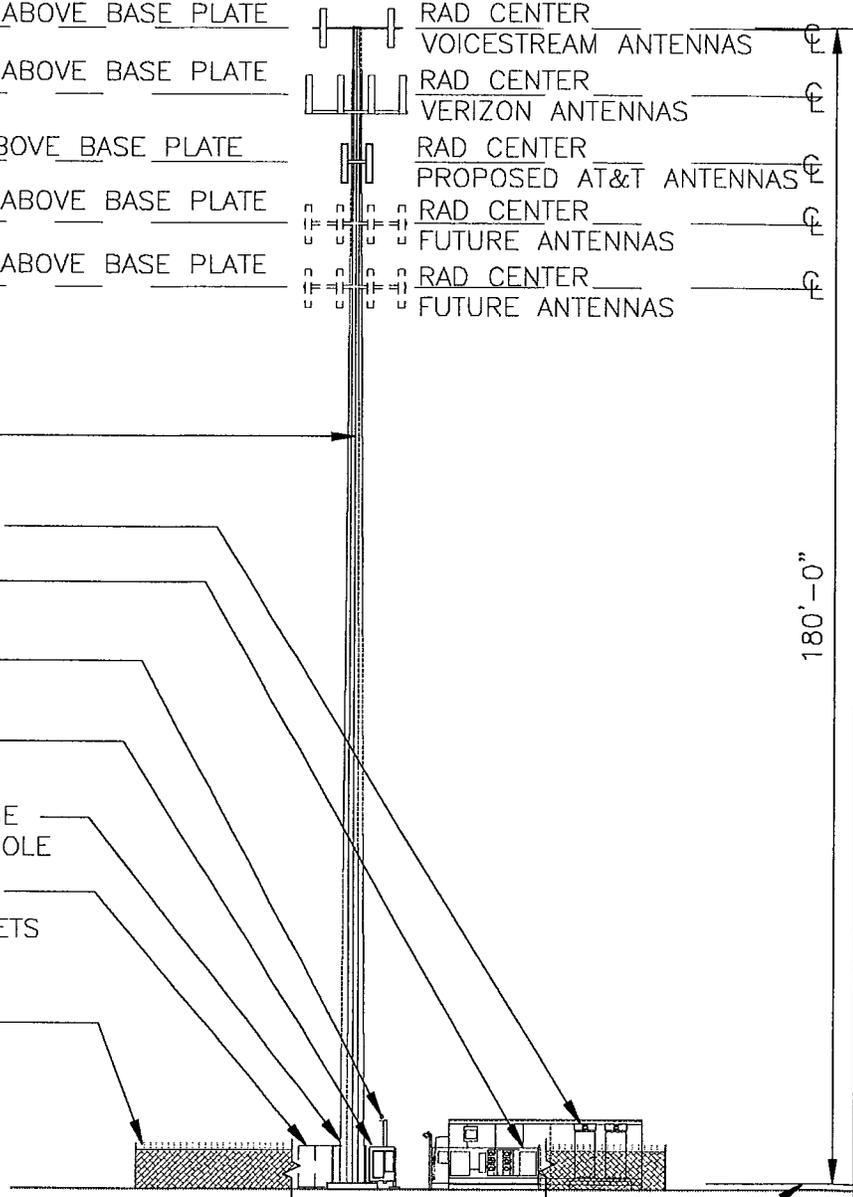
DRAWING NO.	
3CO-CT344.1-SC01-1	
REVISION NO. 1	DRAWN BY: P.A.M.
DATE ISSUED: 02/27/02	CHECKED BY: JJP
SCALE: AS NOTED	APPROVED BY: CFC
SHEET NO. 1 OF 2	
A/E PROJECT NO:	48BA



ANTENNA CONFIGURATION

179.7'± ABOVE BASE PLATE	RAD CENTER VOICESTREAM ANTENNAS
169.5'± ABOVE BASE PLATE	RAD CENTER VERIZON ANTENNAS
159'± ABOVE BASE PLATE	RAD CENTER PROPOSED AT&T ANTENNAS
149.5'± ABOVE BASE PLATE	RAD CENTER FUTURE ANTENNAS
139.5'± ABOVE BASE PLATE	RAD CENTER FUTURE ANTENNAS

- EXISTING 180' MONOPOLE (VALMONT)
- EXISTING VERIZON SHELTER
- EXISTING UTILITY SUPPORT FRAME
- PROPOSED AT&T GPS AND LMU ANTENNAS
- PROPOSED AT&T UTILITY SUPPORT FRAME
- PROPOSED AT&T ICE-BRIDGE AND POSTS BEHIND MONOPOLE
- PROPOSED AT&T 7' X 16' (LEASE AREA) RADIO CABINETS AND CONCRETE PAD
- EXISTING CHAINLINK FENCE



2

TOWER ELEVATION

SCALE: 1"=30'

TOP OF MONOPOLE BASE PLATE

"ISSUED FOR SITING COUNCIL"



Natcomm, LLC
 85-2 North Branford Road
 Branford, Connecticut 06405
 Tel: (203) 488-0580
 Fax: (203) 488-8687
 Consulting Engineers - Project Management
 Civil - Structural - Mechanical - Electrical



AT&T
 AT&T WIRELESS PCS LLC
 12 OMEGA DRIVE
 STAMFORD, CONNECTICUT 06907

DRAWING TITLE: SITING COUNCIL
PROJECT INFORMATION: COLCHESTER NORTHWEST CT-344.1 48 WESTCHESTER RD COLCHESTER, CT 06415
PROPERTY OWNER: MARGUS PROPERTIES, LLC 48 WESTCHESTER RD. COLCHESTER, CT 06415

DRAWING NO.	
3CO-CT344.1-SC02-1	
REVISION NO. 1	DRAWN BY: P.A.M.
DATE ISSUED: 02/27/02	CHECKED BY: JJP
SCALE: AS NOTED	APPROVED BY: CFC
SHEET NO. 2 OF 2	
A/E PROJECT NO:	488A

489ASC02.dwg 2-12-02 9:30:12 am EST



February 11, 2002

Mr. Don Huntley
Bechtel Telecommunications
210 Pomeroy Avenue, Suite 201
Meriden, CT 06450

Re: *AT&T CT-344 (Colchester NorthWest)*
48 Westchester Road
Colchester, CT 06415

Natcomm Project No. 489C

We have reviewed the proposed AT&T antenna installation at the above referenced site. The purpose of the review is to determine the adequacy of an existing 180 ft. monopole to support the proposed antennas. The review considered the effects of wind load, dead load, ice load and seismic forces in accordance with TIA/EIA-222-F and Connecticut State Building Code. Structural design documents prepared by Valmont Microflex job/quote #19487-99 dated November 1, 1999, tower inspection report SBA (Site ID # CT02218-S) prepared by Spectrum Management, LLC and dated 7/20/01, and antenna height verification provided by SBA at the design visit of 11/15/01 were used as reference material along with tower loading information furnished by SBA.

The existing antenna configuration is as follows:

- Voicestream: Two (2) RR901702DP (EMS) - One (1) RR651802DP (EMS) mounted on a 10'-7" ft. low profile platform at an elevation of 179.7 ft.
- Verizon: Four (4) 7125.18.33.00 (Allgon) - Eight (8) 7129.16.33.00 (Allgon) mounted on a 13' platform with handrails at an elevation of 169.5 ft.

(For the purpose of this report we are considering Twelve (12) DB896 (Decibel) mounted on a 14 ft. low profile platform at each of the above levels per the Valmont design.)

The proposed additional antenna loading is as follows:

- AT&T: Six (6) 7250.03 (Allgon) mounted on universal T-ARM mounts at an elevation of 159 ft.

The future antenna loading is as follows:

- Future carrier: Twelve (12) DB896 (Decibel) mounted on a 14 ft. low profile platform at an elevation of 149.5 ft.
- Future carrier: Twelve (12) DB896 (Decibel) mounted on a 14 ft. low profile platform at an elevation of 139.5 ft

Based on the information provided, the existing structure meets all the requirements of the TIA/EIA-222-F standards for a basic wind speed of 85mph with ½ inch radial ice.

In conclusion, the existing 180 ft. monopole is adequate to support the proposed AT&T antennas.

If there are any questions regarding this matter, please feel free to call.

Regards,


Carlo F. Centore, P.E.
Senior Project Manger





**RF Exposure Analysis for Proposed
AT&T Wireless Antenna Facility**

907-009-344

02/19/02

**Prepared by AT&T Wireless Services, Inc.
Frank Wentink RF Engineer**

Table of Contents

1. INTRODUCTION	3
2. SITE DATA	3
3. RF EXPOSURE PREDICTION	3
4. FCC GUIDELINES FOR EVALUATING THE ENVIRONMENTAL EFFECTS OF RF RADIATION 4	
5. COMPARISON WITH STANDARDS.....	4
6. CONCLUSION	4
7. FCC LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE	5
8. EXHIBIT A.....	6
9. FOR FURTHER INFORMATION.....	7
10. REFERENCES.....	7

1. Introduction

This report constitutes an RF exposure analysis for the proposed AT&T Wireless antenna facility to be located at 48 Westchester Rd; Colchester, CT 06415. 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: <i>Colchester NW</i>	
Number of simultaneously operating channels	16
Type of antenna	Allgon 7250.02
Power per channel (Watts ERP)	250.0 Watts
Height of antenna (feet AGL)	159 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 facility¹:

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

Where, N = Number of channels, R = distance in cm from the RC (Radiation Center) of antenna, and $EIRP(\theta)$ = The isotropic power expressed in milliwatts in the direction of prediction point.

$$PowerDensity = \frac{P_m / ch * N * 10^3}{2 * \pi * R * h * \alpha / 360} (mw/cm^2) \quad Eq. 2-Near-field$$

Where P_m/ch = Input power to antenna terminals in watts/ch, R = distance to center of radiation, h = aperture height in meters, α = 3 dB band-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 (cm²). 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 Radiation

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 0.76 μ W/cm² which occurs at 180 feet from the antenna facility. The chart in exhibit A also shows that the power density is only 0.03 μ W/cm² 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 radiation

<i>Frequency</i>	<i>Public/Uncontrolled</i>	<i>Occupational/controlled</i>	<i>Maximum power density at Accessible location</i>
Cellular	580 μ W/cm ²	2,900 μ W/cm ²	0.76 μ W/cm ²
PCS	1000 μ W/cm ²	5,000 μ W/cm ²	

The maximum power density at the proposed facility represents only 0.08% of the public MPE limit.

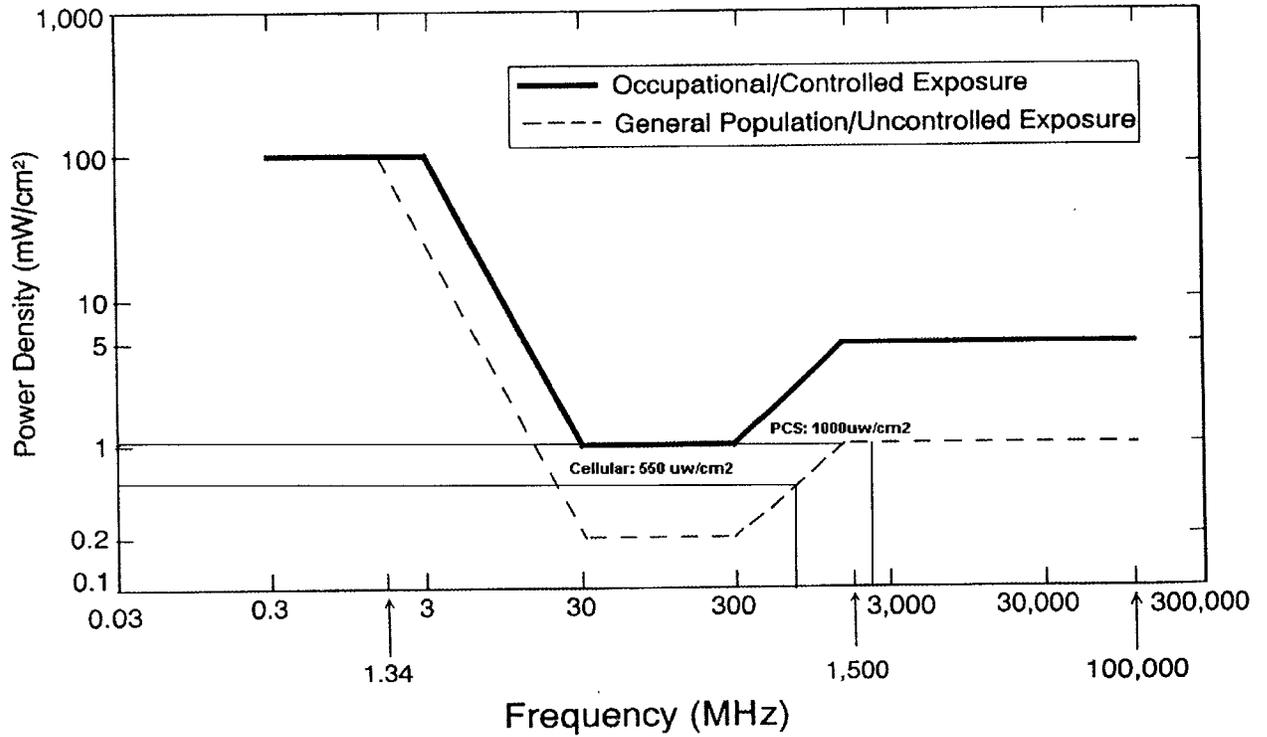
6. Conclusion

This analysis show that the maximum power density in accessible areas at this location is 0.76 μ W/cm², 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.”

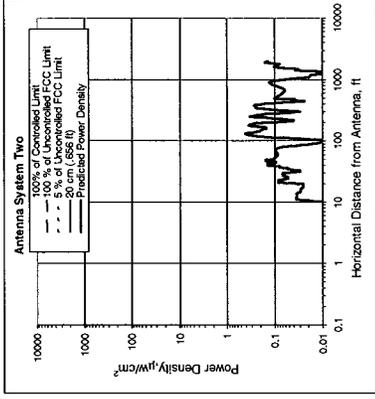
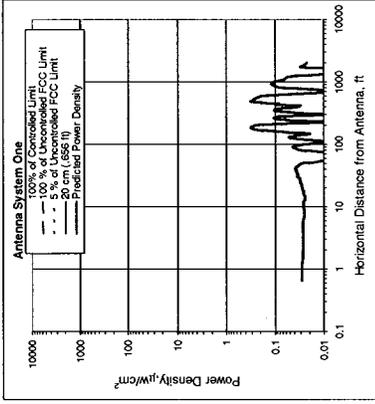
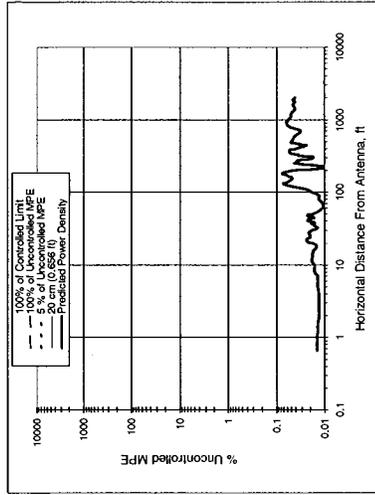
7. FCC Limits for Maximum Permissible Exposure

FCC Limits for Maximum Permissible Exposure (MPE)
Plane-wave Equivalent Power Density



8. Exhibit A

Heading



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 Maximum Permissible Exposure (MPE) Analysis Required.

Power Density µW/cm²	@Horiz. Dist. feet
Maximum Power Density = 0.76	% of limit 0.08
1,324.29 times lower than the MPE limit for uncontrolled environment	180.00
Composite Power (ERP) = 12,000.00 Watts	

Site ID: 907-009-344
Site Name: Colchester NW
Site Location: 48 Westchester Rd., Colchester, CT 06415

Performed By: Zark Westlink
Sector: 1
Azimuth: 0

Date: 2/19/02

Antenna System One

Frequency	units	Value
1945	MHz	1945
# of Channels	#	16
Max ERP/Ch	Watts	250
Max Pwr/Ch Into Ant.	Watts	5.59660285
(Center of	feet	159.5
Calculation Point:	feet	0
or:		
ground or		
surface)		
Model No.		Aligon 7250.02
Max Ant Gain	dBd	16.5
Down tilt	degrees	0
Miscellaneous Att.	dB	0
Height of aperture	feet	5.11
Ant. HBW	degrees	65
Distance to Antenna	feet	156.945
WGS82	Y/N?	n

Ant System ONE Owner: AT&T
Sector: 1
Azimuth: 0

Antenna System Two

Frequency	units	Value
1945	MHz	1945
# of Channels	#	16
Max ERP/Ch	Watts	250
Max Pwr/Ch Into Ant.	Watts	9.076951369
(Center of	feet	179.7
Calculation Point:	feet	0
or:		
ground or		
surface)		
Model No.		RR901702
Max Ant Gain	dBd	14.4
Down tilt	degrees	0
Miscellaneous Att.	dB	0
Height of aperture	feet	4.66
Ant. HBW	degrees	90
Distance to Antenna	feet	177.37
WGS82	Y/N?	n

Ant System TWO Owner: Omnipoint
Sector: 1
Azimuth: 0

Antenna System Three

Frequency	units	Value
835	MHz	835
# of Channels	#	15
Max ERP/Ch	Watts	250
Max Pwr/Ch Into Ant.	Watts	18.96449388
(Center of	feet	169.5
Calculation Point:	feet	0
or:		
ground or		
surface)		
Model No.		FR90-11-00A2
Max Ant Gain	dBd	11.2
Down tilt	degrees	0
Miscellaneous Att.	dB	0
Height of aperture	feet	4
Ant. HBW	degrees	90
Distance to Antenna	feet	167.5
WGS82	Y/N?	n

Ant System Three Owner: Verizon Wireless
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).

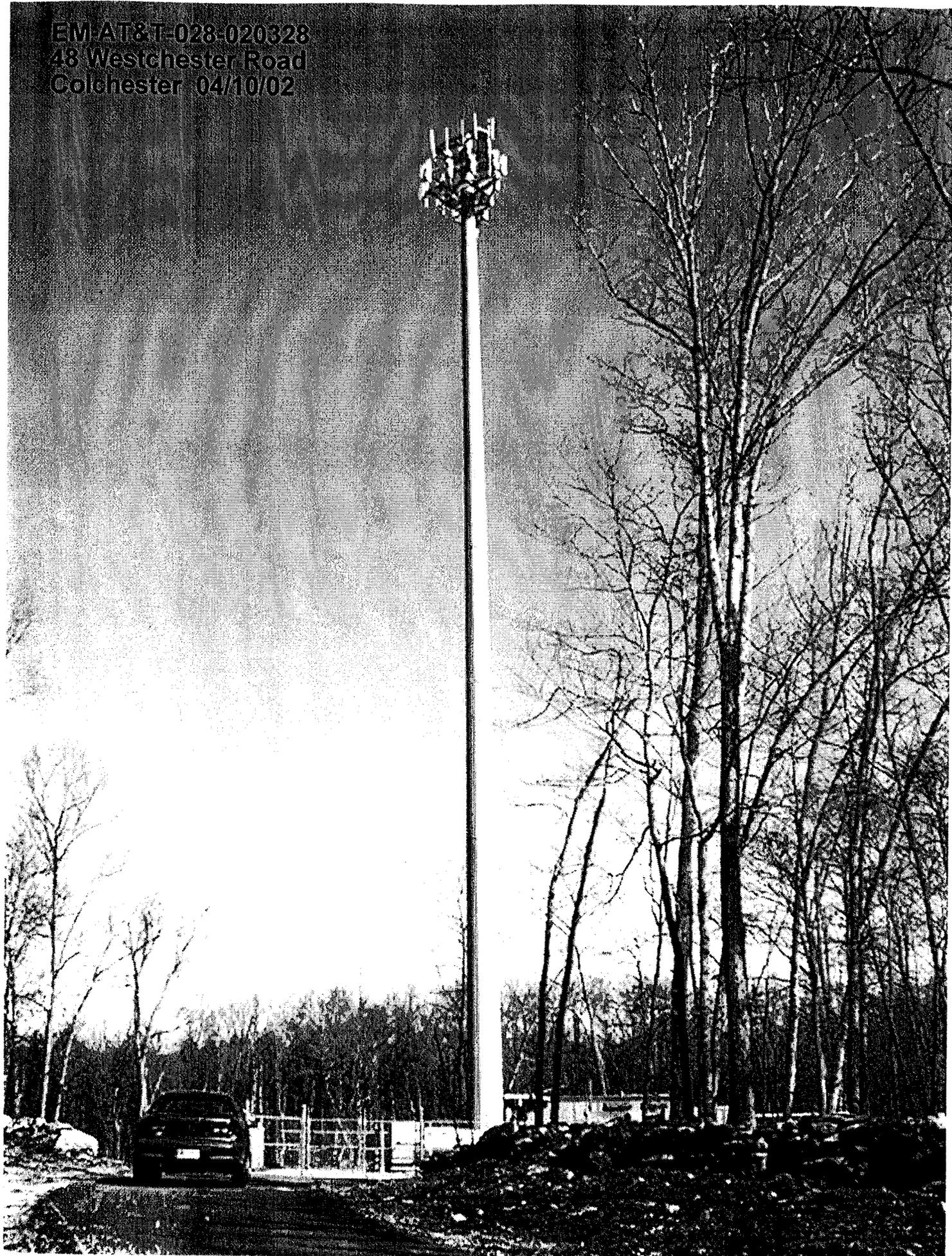
[2] *Guidelines for Evaluating the Environmental Effects of Radio frequency Radiation*, Notice of Proposed Rulemaking, ET Docket 93-62, 8 FCC Rcd 2849 (1993).

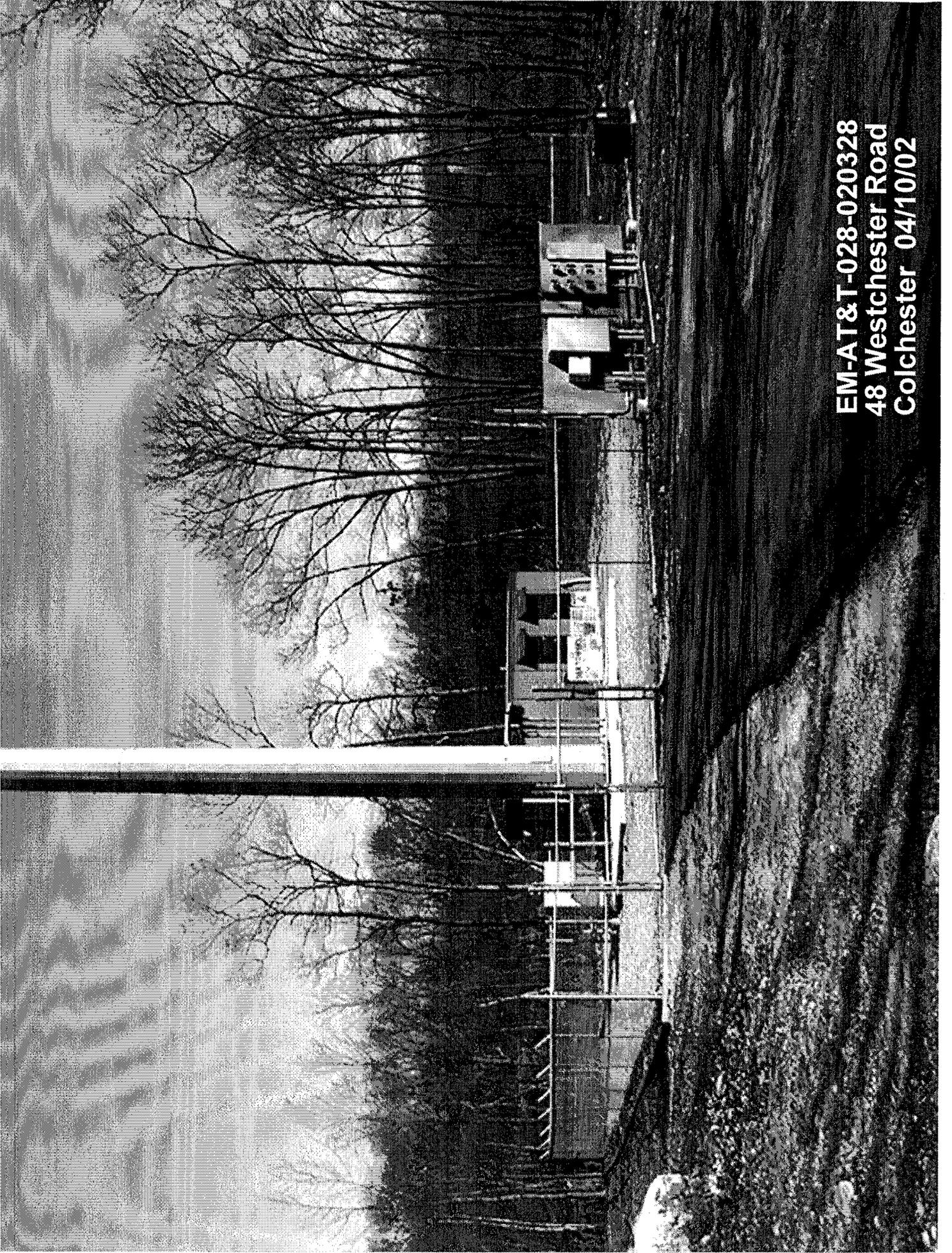
[3] *Guidelines for Evaluating the Environmental Effects of Radio frequency Radiation*, Report and Order, ET Docket 93-62, FCC 96-326, adopted August 1, 1996. 61 Federal Register 41006 (1996).

[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.

EM/AT&T-028-020328
48 Westchester Road
Colchester 04/10/02





EM-AT&T-028-020328
48 Westchester Road
Colchester 04/10/02