

# 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](mailto:siting.council@po.state.ct.us)

Web Site: [www.state.ct.us/csc/index.htm](http://www.state.ct.us/csc/index.htm)

August 16, 2002

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

RE: **EM-AT&T-126-020801** - AT&T Wireless PCS, LLC d/b/a AT&T Wireless notice of intent to modify an existing telecommunications facility located at 309 River Road, Shelton, Connecticut.

Dear Attorney Fisher:

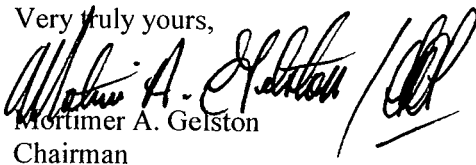
At a public meeting held on August 15, 2002, the Connecticut Siting Council (Council) acknowledged your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies.

The proposed modifications are to be implemented as specified here and in your notice received in our office on August 1, 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/laf

c: Honorable Mark A. Lauretti, Mayor, City of Shelton  
Richard Schultz, Planning Administrator, City of Shelton  
Stephen J. Humes, Esq., LeBoeuf, Lamb, Greene & MacRae  
Sandy M. Carter, Verizon Wireless

**NOTICE OF INTENT TO MODIFY AN  
EXISTING TELECOMMUNICATIONS FACILITY AT  
309 RIVER ROAD, SHELTON, CONNECTICUT**

Pursuant to the Public Utility Environmental Standards Act, Connecticut General Statutes § 16-50g et. seq. (“PUESA”), and Sections 16-50j-72(b)(2,3) 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 Riverside Cemetery, 309 River Road, Shelton, Connecticut (the “River Road Facility”), owned by VoiceStream Wireless (“VoiceStream”). AT&T Wireless and VoiceStream have agreed to share the use of the River Road Facility, as detailed below.

**The River Road Facility**

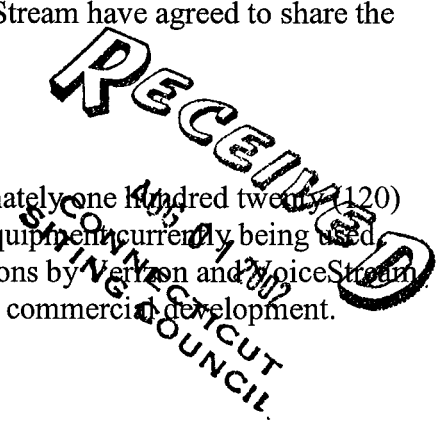
The River Road Facility consists of an approximately one hundred twenty (120) foot flagpole/monopole (the “Tower”) and associated equipment currently being used and/or reserved for future use for wireless communications by Verizon and VoiceStream. Current surrounding land uses include the cemetery and commercial development.

**AT&T Wireless’ Facility**

As shown on the enclosed plans prepared by URS Corporation, including a site plan, equipment shelter layout and tower elevation, AT&T Wireless proposes replacing an existing 120’ flagpole/monopole “in kind” to an overall elevation of 120’ AGL. The existing Tower, which is currently at structural capacity, will be replaced with another flagpole/monopole and will not exceed the height of the existing Tower which was approved by the City of Shelton. Indeed, the replacement Tower will utilize the existing Tower’s foundation and accommodate the existing antennas of VoiceStream, the proposed antennas of Verizon as approved by the Siting Council, and antennas proposed by AT&T. AT&T Wireless will install 6 panel antennas within the flagpole, 3 at approximately the 93’-6” and 3 at the 85’-6” 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 within the existing fenced compound surrounding the Tower facility. As evidenced in the letter of structural integrity prepared by URS Corporation, annexed hereto as Exhibit A, AT&T has confirmed that the replacement Tower is structurally capable of supporting existing carriers’ and AT&T Wireless’ antennas.

**AT&T Wireless’ Facility Constitutes An Exempt Modification**

The proposed replacement “in kind” of the existing Tower constitutes an exempt “modification” of an existing facility as defined in Connecticut General Statutes Section 16-50i(d) and Council regulations promulgated pursuant thereto. See specifically 16-50j-72(b)(3). 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



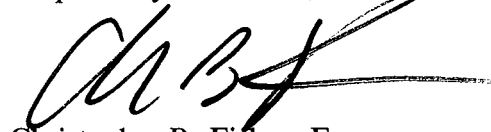
boundary. As set forth in an Emissions Report prepared by Frank Wentink, RF Engineer, annexed hereto as Exhibit B, the total radio frequency electromagnetic radiation power density at the Tower site's boundary will not be increased to or above the standard adopted by the Connecticut Department of Environmental Protection as set forth in Section 22a-162 of the Connecticut General Statutes and MPE limits established by the Federal Communications Commission.

The proposed replacement Tower is consistent with legislative findings outlined in Section 16-50g and 16-50aa of the General Statutes of Connecticut that seek to avoid the unnecessary proliferation of towers in the State. Moreover, AT&T will not need to construct a new telecommunications tower to provide coverage in this area of Shelton and Orange if the Connecticut Siting Council approves the replacement Facility. For all the foregoing reasons, the "in kind" replacement of an existing tower constitutes an exempt modification which will not have a substantially adverse environmental effect.

### Conclusion

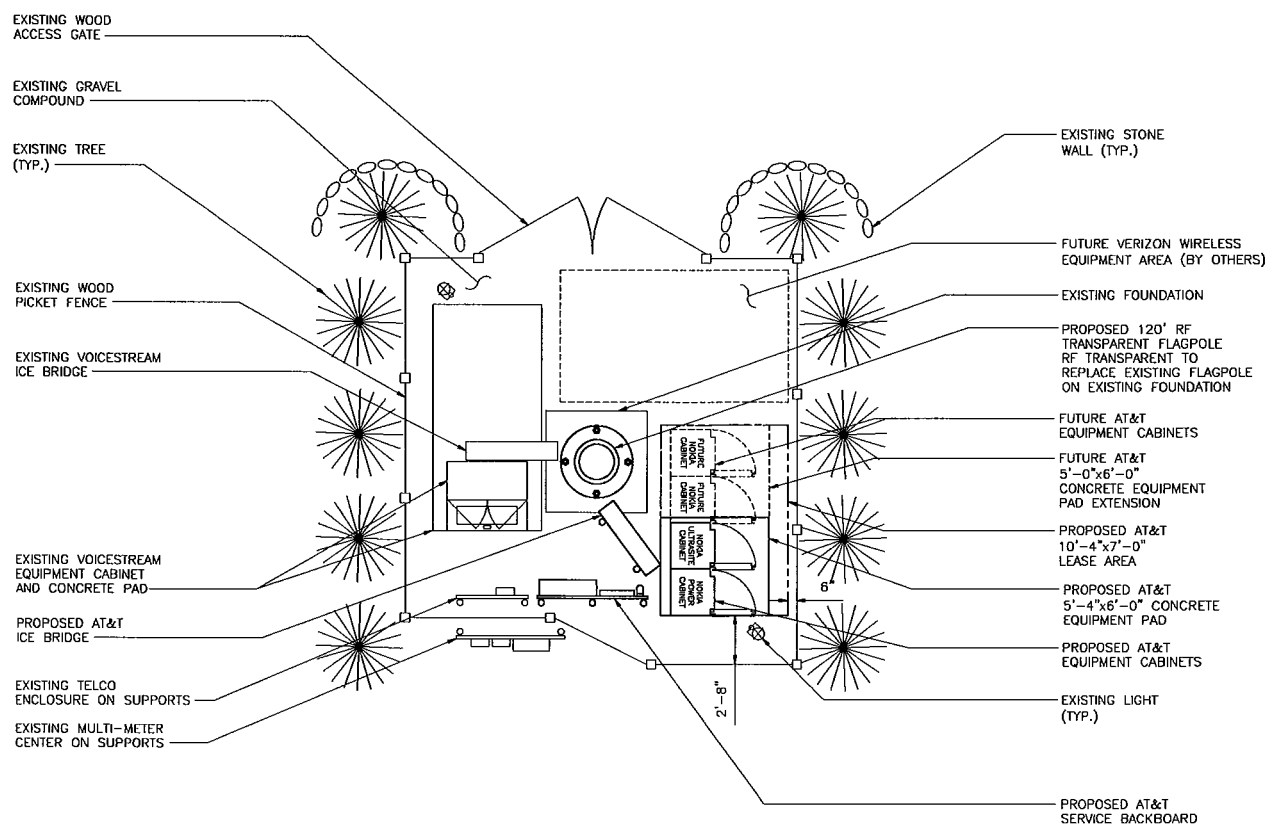
Accordingly, AT&T Wireless requests that the Connecticut Siting Council acknowledge that the proposed replacement Tower and AT&T's associated improvements to the River Road Facility meets the Council's exemption criteria.

Respectfully Submitted,

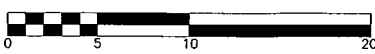


Christopher B. Fisher, Esq.  
On behalf of AT&T Wireless

cc: Mayor, City of Shelton  
RJ Wetzel, Bechtel



1 COMPOUND PLAN  
SC-1 SCALE: 1" = 10'-0"



SITING COUNCIL REVIEW

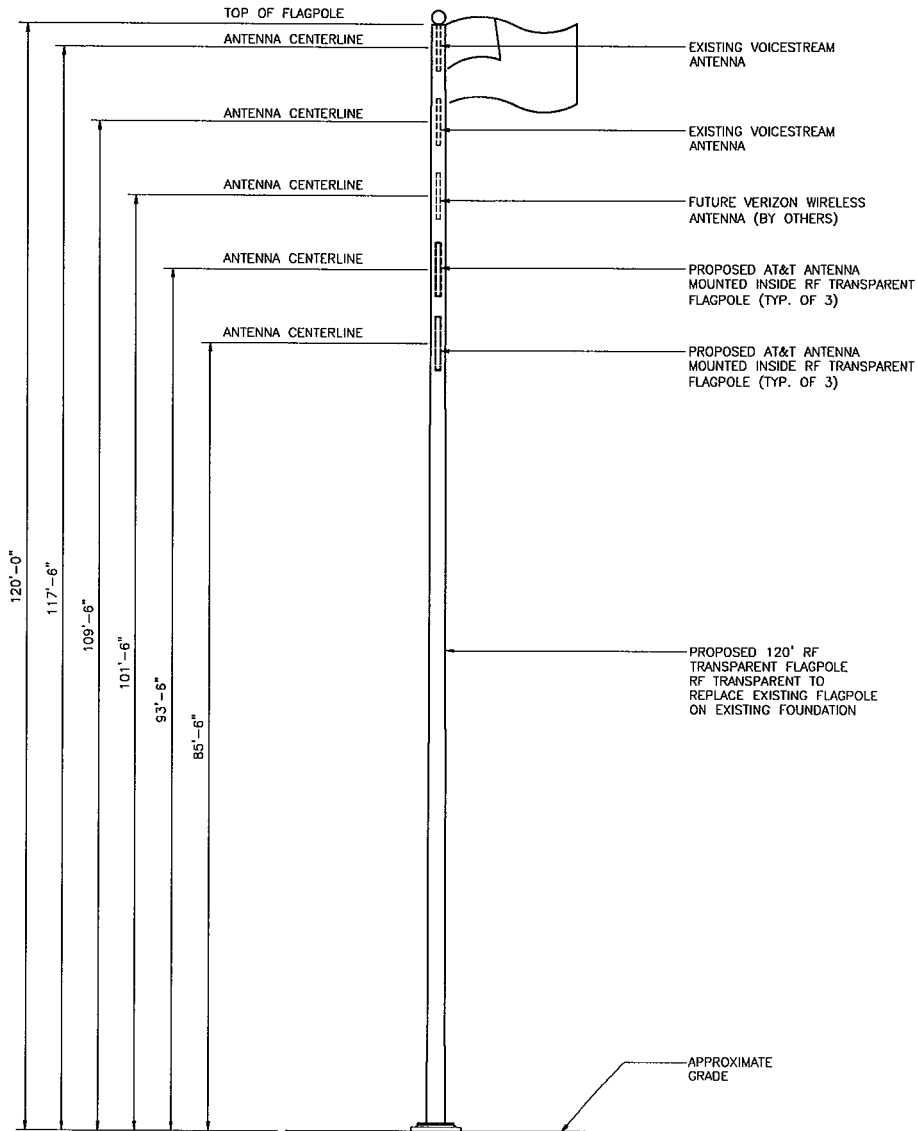
LATITUDE: 41.29611 (NAD 83)  
LONGITUDE: 73.07222 (NAD 83)

**URS**  
URS CORPORATION-AES  
795 BROOK STREET, BLDG 5  
ROCKY HILL, CT. 06067  
1-(800)-529-8882  
1-(860)-529-5588 (FAX)

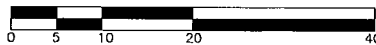
 **AT&T**  
AT&T WIRELESS PCS LLC  
12 OMEGA DRIVE  
STAMFORD, CONNECTICUT 06902

DRAWING TITLE: COMPOUND PLAN  
PROJECT INFORMATION:  
SHELTON - RIVER ROAD  
CT-160  
309 RIVER ROAD  
SHELTON, CT  
PROPERTY OWNER:  
RIVERSIDE CEMETERY ASSOCIATION  
HAWTHORNE AVENUE  
SHELTON, CT

DRAWING TITLE: <b>913-010-160A-SC1</b>	
REVISION NO. A	DRAWN BY: KJB
DATE ISSUED: 07/11/02	CHECKED BY: JCF
SCALE: AS NOTED	APPROVED BY:
	SHFFT NO. 1 OF 2
URS JOB NO.: F302224.62	



1 FLAGPOLE ELEVATION  
 SC-2 SCALE: 1" = 20'-0"



SITING COUNCIL REVIEW

LATITUDE:	41.29611 (NAD 83)
LONGITUDE:	73.07222 (NAD 83)

**URS**  
 URS CORPORATION-AES  
 795 BROOK STREET, BLDG 5  
 ROCKY HILL, CT. 06067  
 1-(860)-529-8882  
 1-(860)-529-5566 (FAX)

 **AT&T**  
 AT&T WIRELESS PCS LLC  
 12 OMEGA DRIVE  
 STAMFORD, CONNECTICUT 06902

**DRAWING TITLE:** FLAGPOLE ELEVATION  
**PROJECT INFORMATION:** SHELTON - RIVER ROAD  
 CT-160  
 309 RIVER ROAD  
 SHELTON, CT  
**PROPERTY OWNER:** RIVERSIDE CEMETERY ASSOCIATION  
 HAWTHORNE AVENUE  
 SHELTON, CT

<b>DRAWING TITLE:</b>	
913-010-160A-SC2	
REVISION NO. A	DRAWN BY: KJB
DATE ISSUED: 07/11/02	CHECK'D BY: JCF
SCALE: AS NOTED	APPROVED BY:
SHEET NO. 2 OF 2	
URS JOB NO.: F302224.62	



July 2, 2002

Mr. Donald Huntley, P.E.  
Sr. Engineer - Connecticut Market  
Bechtel Telecommunications  
210 Pomery Avenue  
Meiden, Connecticut

**Reference: Proposed Telecommunications Facility**  
**AT&T Site No.: CT-160**  
**309 River Road**  
**Shelton, Connecticut**  
**F300002224.62**

Dear Mr. Huntley:

In reference to the flagpole replacement at the above site, the proposed five-carrier flagpole will be designed to the same height as the existing flagpole and utilize the existing flagpole foundation. This design is based on the requirements of the TIA/EIA-222-F, June 1996, Structural Standards for Steel Antenna Towers and Antenna Supporting Structures.

If you should have any questions, please call.

Sincerely,

*Ignacio C. Artaiz*  
**URS Corporation AES**

Ignacio C. Artaiz, AIA  
Group Manager Telecommunications

ICA/mks

cc: Douglas J. Roberts, AIA - URS  
Alitz Abadjian, PM - URS  
CF/Book

URS Corporation  
500 Enterprise Drive, Suite 3B  
Rocky Hill, CT 06067  
Tel: 860.529.8882  
Fax: 860.529.3991



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

SITE ID: 913-010-160

June 28, 2002

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

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## 1. Introduction

This report constitutes an RF exposure analysis for the proposed AT&T Wireless antenna facility to be located at 309 River Road; Shelton, CT 06484. 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>Shelton East</i>	
Number of simultaneously operating channels	16
Type of antenna	PCSX065-18-02
Power per channel (Watts ERP)	250.0 Watts
Height of antenna (feet AGL)	92.75 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<sup>1</sup>:

$$PowerDensity = \frac{0.64 * 1.64 * N * ERP(\theta)}{\pi * R^2} (mW/cm^2) \quad Eq. 1-Far-field$$

Where,  $N$ = Number of channels,  $R$ = distance in cm from the RC (Radiation Center) of antenna, and  $ERP(\theta)$  =The power of a half wave dipole expressed in milliwatts in the direction of prediction point. This is the correct equation for antennas which have their gain expressed in dBd.

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

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

<sup>1</sup> RF exposure is measured and predicted in terms of power density in units of milliwatts (mW), a thousandth of a watt, or microwatts ( $\mu$ 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 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.<sup>2</sup> 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 0.058916 mW/cm<sup>2</sup> which occurs at 1 feet from the antenna facility. The chart in exhibit A also shows that the power density is only 0.058848 mW/cm<sup>2</sup> 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 mW/cm <sup>2</sup>	2.9 mW/cm <sup>2</sup>	0.058916 mW/cm <sup>2</sup>
PCS	1 mW/cm <sup>2</sup>	5 mW/cm <sup>2</sup>	

The maximum power density at the proposed facility represents only 5.89% of the public MPE limit for PCS frequencies.

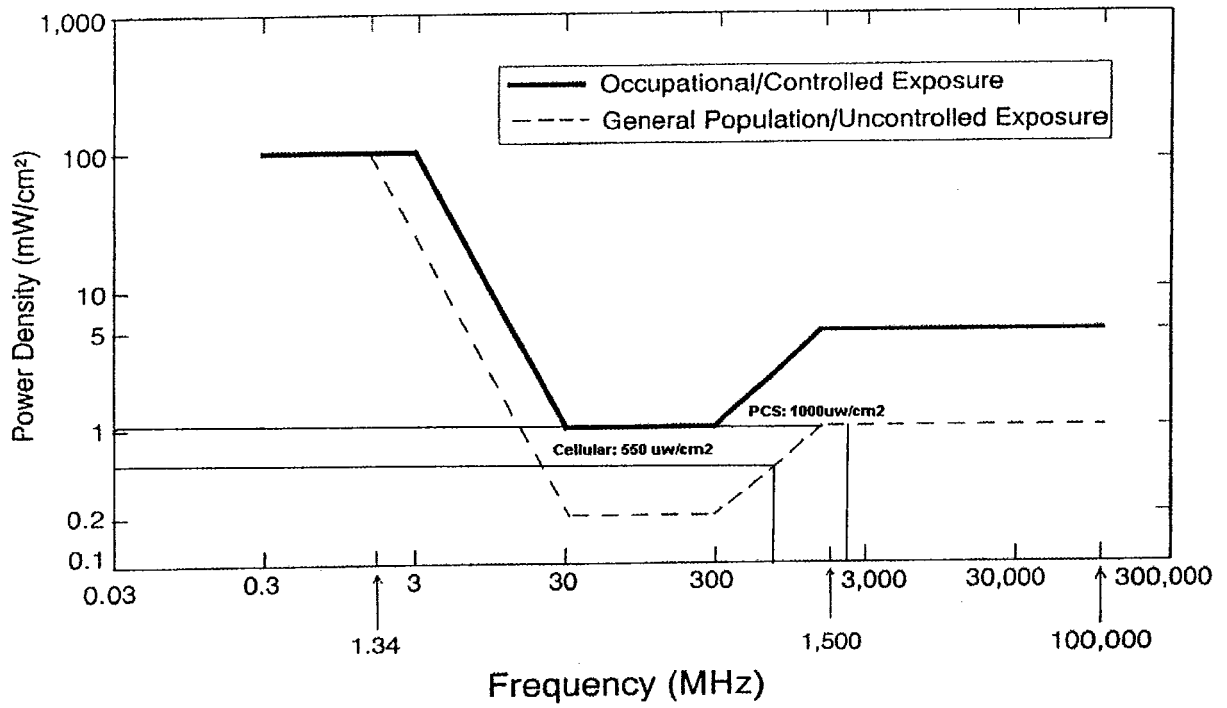
#### 6. Conclusion

This analysis show that the maximum power density in accessible areas at this location is 0.058916 mW/cm<sup>2</sup>, a level of RF energy that is well below the Maximum Permissible Exposure limit established by the FCC.

<sup>2</sup> 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*



*AT&T Wireless Services, Inc.*

**8. Exhibit A**

## 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](http://www.fcc.gov/oet/rfsafety)

## 10. References

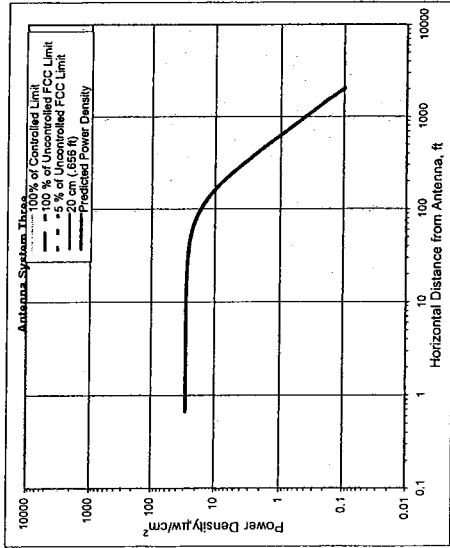
[1] The Communications Act of 1934, as amended by the Telecommunications Act of 1996, 47 U.S.C. Section 332 (c)(7)(B)(iv).

[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.

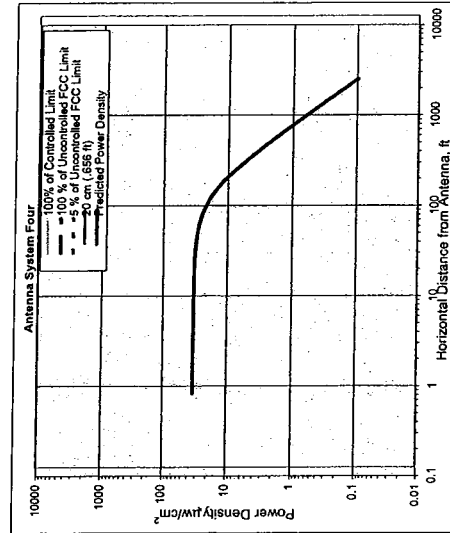
[5] *Evaluating Compliance with FCC Guidelines for Human Exposure to Radio frequency Electromagnetic Fields*, OET Bulletin 65, August, 1997.



Antenna System Three

Parameter	Value
Frequency	1865.00
# of Channels	6
Max ERP/Ch	175.00
Max Pwr/Ch Into Ant.	6.35
Max Pwr/Ch (Center of Radiator)	117.50
Calculation Point (above ground or roof surface)	0.00
Antenna Model No.	RR-90-17-00
Max Ant Gain	14.40
Down tilt	0.00
Miscellaneous Att.	0.00
Height of aperture	4.66
Ant. HBW	90.00
Distance to Ant. base	115.17
WOS?	Y/N?
	Y

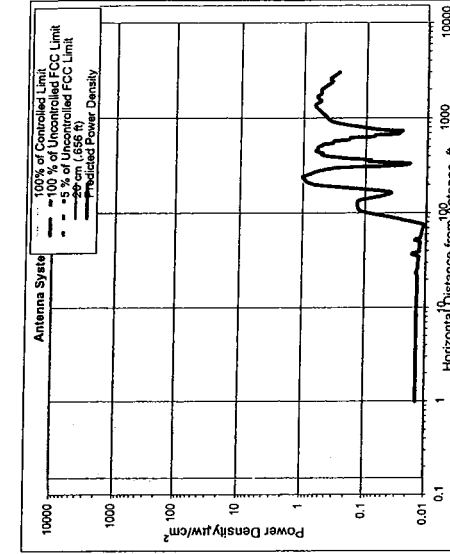
Ant System Three Owner: Voicestream  
Sector: 3  
Azimuth: 0/120/240



Antenna System Four

Parameter	Value
Frequency	1865.00
# of Channels	6
Max ERP/Ch	175.00
Max Pwr/Ch Into Ant.	6.35
Max Pwr/Ch (Center of Radiator)	109.50
Calculation Point (above ground or roof surface)	0.00
Antenna Model No.	RR-90-17-00
Max Ant Gain	14.40
Down tilt	0.00
Miscellaneous Att.	0.00
Height of aperture	4.66
Ant. HBW	90.00
Distance to Ant. base	107.17
WOS?	Y/N?
	Y

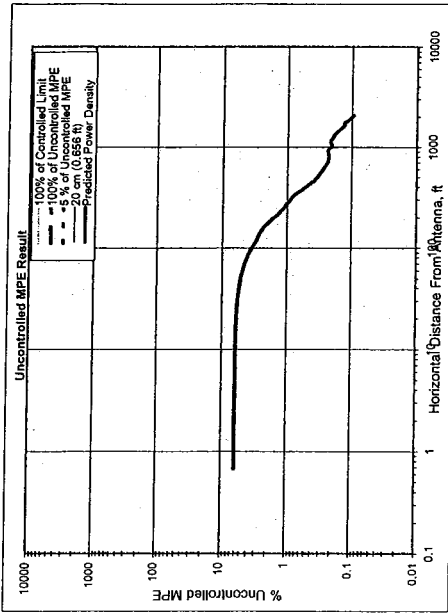
Ant System Four Owner: Voicestream (expansion)  
Sector: 3  
Azimuth: 0/120/240



Antenna System Five

Parameter	Value
Frequency	880.00
# of Channels	15
Max ERP/Ch	250.00
Max Pwr/Ch Into Ant.	15.77
Max Pwr/Ch (Center of Radiator)	99.75
Calculation Point (above ground or roof surface)	0.00
Antenna Model No.	FR90-12-00-AL2
Max Ant Gain	12.00
Down tilt	0.00
Miscellaneous Att.	0.00
Height of aperture	6.00
Ant. HBW	90.00
Distance to Ant. base	96.75
WOS?	Y/N?
	n

Ant System Five Owner: Ventzon  
Sector: 3  
Azimuth: 0/120/240



Number of Antenna Systems: 5  
Meets FCC Controlled Limits for The Antennas Systems.

Meets FCC Uncontrolled Limits for The Antennas Systems.

Meets 5% of the FCC Uncontrolled Limits beyond 43 feet from the Antenna Systems.

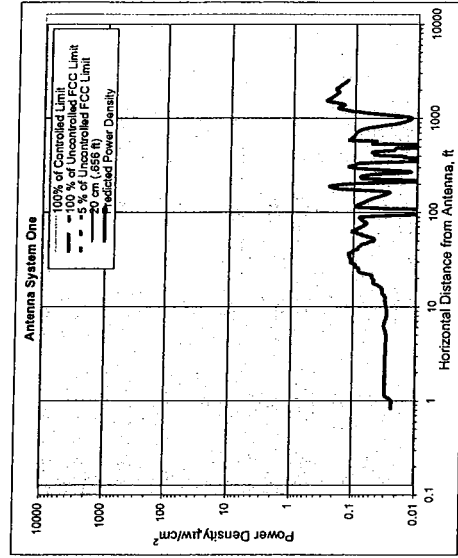
No Further Analysis Required.

Power Density	Power Density	@Horz. Dist.
mw/cm <sup>2</sup>	% of limit	feet
0.058916	5.89	0.90
16.97 times lower than the MPE limit for uncontrolled environment		
Composite Power (ERP) = 8,850.00 Watts		

Site ID: 913-010-160  
Site Name: Shelton East  
Site Location: 309 River Road  
Shelton, CT 06484

Performed By: Frank C. Wentink

Date: 6/28/02



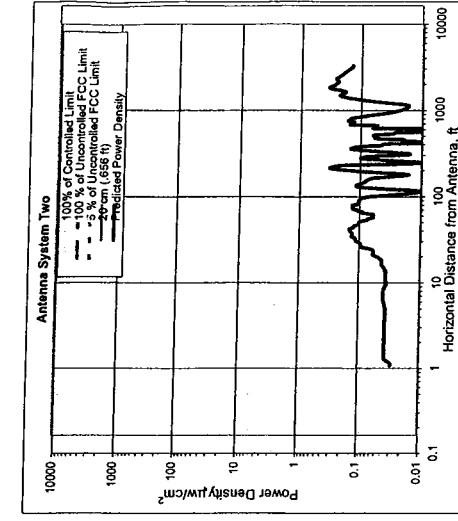
Antenna System One

units	Value
Frequency	1945.00
MHz	
# of Channels	6
Max ERP/Ch	250.00
Watts	
Max Pwr/Ch Into Ant.	5.73
(Center of Radiator)	
feet	92.75
Calculation Point	
(above ground or	0.00
roof surface)	
Antenna Model No.	0.00
Max Ant Gain	PCSX065-18-2
dBd	16.40
Down tilt	
degrees	0.00
Miscellaneous Att.	
dB	0.00
Height of aperture	
feet	5.75
Ant HBW	
degrees	65.00
Distance to Ant <sub>base</sub>	
feet	89.88
WCS?	
Y/N?	n

Ant System ONE Owner: AT&T

Sector: 3

Azimuth: 0120/240



Antenna System Two

units	Value
Frequency	1945.00
MHz	
# of Channels	6
Max ERP/Ch	250.00
Watts	
Max Pwr/Ch Into Ant.	5.73
(Center of Radiator)	
feet	83.75
Calculation Point	
(above ground or	0.00
roof surface)	
Antenna Model No.	0.00
Max Ant Gain	PCSX065-18-2
dBd	16.40
Down tilt	
degrees	0.00
Miscellaneous Att.	
dB	0.00
Height of aperture	
feet	5.75
Ant HBW	
degrees	65.00
Distance to Ant <sub>base</sub>	
feet	80.88
WCS?	
Y/N?	n

Ant System TWO Owner: AT&T (expansion)

Sector: 3

Azimuth: 0/120/240



STATE OF CONNECTICUT  
CONNECTICUT SITING COUNCIL

Ten Franklin Square  
New Britain, Connecticut 06051  
Phone: (860) 827-2935  
Fax: (860) 827-2950

August 9, 2002

Honorable Mark A. Laretti  
Mayor  
City of Shelton  
54 Hill Street  
P. O. Box 364  
Shelton, CT 06484

RE: **EM-AT&T-126-020801** - AT&T Wireless PCS, LLC d/b/a AT&T Wireless notice of intent to modify an existing telecommunications facility located at 309 River Road, Shelton, Connecticut.

Dear Mayor Laretti:

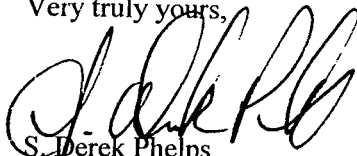
The Connecticut Siting Council (Council) received this request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72.

The Council will consider this item at the next meeting scheduled for August 15, 2002, at 1:30 p.m. in Hearing Room One, 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.

Very truly yours,

  
S. Derek Phelps  
Executive Director

SDP/laf

Enclosure: Notice of Intent

c: Richard Schultz, Planning Administrator, City of Shelton

*Mark -  
I'll discuss this w/ you  
when I see you on Monday.  
D.*