STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

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

December 5, 2001

Stephen J. Humes
LeBoeuf, Lamb, Greene & MacRae
Goodwin Square
225 Asylum Street
Hartford, CT 06103

RE: **EM-VOICESTREAM-155-011029** - VoiceStream Wireless Corporation notice of intent to modify an existing telecommunications facility located at 1030 New Britain Avenue, West Hartford, Connecticut.

Dear Attorney Humes:

At a public meeting held on November 29, 2001, 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 dated October 29, 2001. 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 Robert R. Bouvier, Mayor, Town of West Hartford
Barry M. Feldman, Town Manager, Town of West Hartford
Mila Limson, Senior Planner, Town of West Hartford
Donald Foster, Town Planner, Town of West Hartford
Ronald C. Clark, Nextel Communications

LeBoeuf, Lamb, Greene & MacRae
L.L.P.

A LIMITED LIABILITY PARTNERSHIP INCLUDING PROFESSIONAL CORPORATIONS

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GOODWIN SQUARE
225 ASYLUM STREET
HARTFORD, CT 06103
(860) 293-3500
FACSIMILE: (860) 293-3555

WRITER'S DIRECT DIAL:
(860) 293-3744

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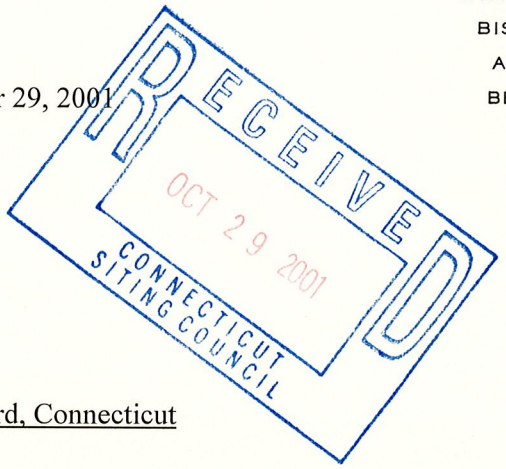
October 29, 2001



Joel Rinebold, Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051

Re: Notice of Exempt Modification
1030 New Britain Avenue, West Hartford, Connecticut

Dear Mr. Rinebold:

Please be advised that LeBoeuf, Lamb, Greene & MacRae, L.L.P. represents Omnipoint Communications, Inc. ("VoiceStream"), a subsidiary of VoiceStream Wireless Corporation in the above-referenced matter. VoiceStream intends to remove its existing antennas at the one hundred sixty-five foot (165'-0") centerline above ground level ("AGL") location and replace them with twelve (12) new panel antennas at the same one hundred sixty-five foot (165') centerline AGL location on the existing tower, creating a total of twelve (12) panel antennas and related equipment at the existing facility in West Hartford. Please accept this letter as notification, pursuant to R.C.S.A. § 16-50j-73, of construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to the West Hartford Town Council President and Mayor, Robert R. Bouvier and the West Hartford Town Manager, Barry M. Feldman.

Background

Effective as of the May 31, 2001 merger between Deutsche Telekom AG and VoiceStream Wireless Corp., the corporate structure of VoiceStream has changed.[1] VoiceStream holds the "A block" "Wideband PCS" license for the 2-GHz PCS frequencies for the greater New York City area, including the entire State of

[1]The corporate structure of VoiceStream is as follows: Omnipoint Communications, Inc. ("Omnipoint") is a 95.4% subsidiary of Omnipoint Finance, LLC (hereinafter, "OF"). OF is a wholly owned subsidiary of Omnipoint Finance Holding, LLC (hereinafter, "OFH"). OFH is a subsidiary of Omnipoint Wireless Corporation (hereinafter "VS"), which owns all of the outstanding common shares of OFH. VS is a wholly owned subsidiary of T-Mobile International AG (hereinafter "T-Mobile"). T-Mobile is a wholly owned subsidiary of Deutsche Telekom AG (American Depositary Receipts traded in U.S. on the NYSE: DT).

Connecticut. VoiceStream is licensed by the Federal Communications Commission (FCC) to provide PCS wireless telecommunications service in the State of Connecticut, which includes the area to be served by the proposed installation.

Discussion

The existing facility consists of a one hundred eighty-one foot (181'-0") self supporting steel triangular tapered lattice tower manufactured by Pirod Incorporated and related equipment located at 1030 New Britain Avenue in West Hartford. The coordinates for the site are **41°-43'-52" N** and **72°-43'-29" W**.

VoiceStream plans to update its existing antenna cluster with an updated cluster of three sectors with up to four antennas per sector, constituting a total of twelve (12) panel-type antennas on the existing tower. Currently, the tower holds three VoiceStream panel antennas at a centerline of one hundred sixty-five feet (165'-0") AGL. Nextel currently has equipment at the approximate one hundred fifty five foot (155'-0") elevation AGL on the tower and has an existing equipment shelter in the northern portion of the compound. There is currently an existing low profile frame at the top of the tower, approximately one hundred eighty foot (180'-0") AGL. VoiceStream's proposal calls for the removal of its existing three panel antenna array. This configuration would be replaced by twelve new panel antennas at the same centerline AGL. A tower elevation is shown in drawing LE-2, attached as part of Exhibit B. The model number for each new antenna is EMS-RR90-17-02DP. A structural analysis of the tower has been completed and is attached as Exhibit D. As stated in the structural analysis, the existing tower and its foundation have sufficient capacity to support the proposed VoiceStream installation. Two new Nortel S8000 equipment cabinets will be added to the existing cabinet. To accommodate the new cabinets a new six foot by twelve foot (6'-0" x 12'-0") concrete pad will be added adjacent to the existing single cabinet's concrete pad (see site plan, drawing LE-1, attached as part of Exhibit B). An existing foot chain link fence that currently surrounds the compound will not be altered, nor will the compound be expanded or changed in any way other than the changes described herein. The antennas will be fed by 1-5/8" coaxial cables routed up the tower, adjacent to the existing cables via the existing VoiceStream cable bridge.

The planned modifications to the West Hartford facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

1. The proposed modification will not increase the height of the tower and will not extend the boundaries of the existing compound area. The enclosed tower drawings confirm that the planned changes will not increase the overall height of the tower or change the dimensions of the compound.

2. The installation of VoiceStream equipment, as reflected on the attached site plan, will not require an extension of the site boundaries. VoiceStream's proposed equipment cabinets will be added to those already existing and located entirely within the existing compound.

3. The proposed modification to the facility will not increase the noise levels at the existing facility by six decibels or more. VoiceStream's equipment is self-contained and requires no additional heating, ventilation or cooling equipment.

4. The operation of the additional antennas will not increase the total radio frequency (RF) power density, measured at the site boundary, to a level at or above the applicable standard. The "worst-case" RF power density calculations, for a point at the site boundary, are attached hereto as Exhibit D.

For the foregoing reasons, VoiceStream respectfully submits that the proposed addition of antennas and equipment at the West Hartford facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Thank you for your consideration of this matter.

Respectfully submitted,

VOICESTREAM WIRELESS CORPORATION

By: _____
Its Counsel
Stephen J. Humes
Diane W. Whitney

Attachments
cc: West Hartford Town Council President and Mayor, Robert R. Bouvier
West Hartford Town Manager, Barry M. Feldman

Exhibit A

Site Map
1030 New Britain Avenue
West Hartford, Connecticut

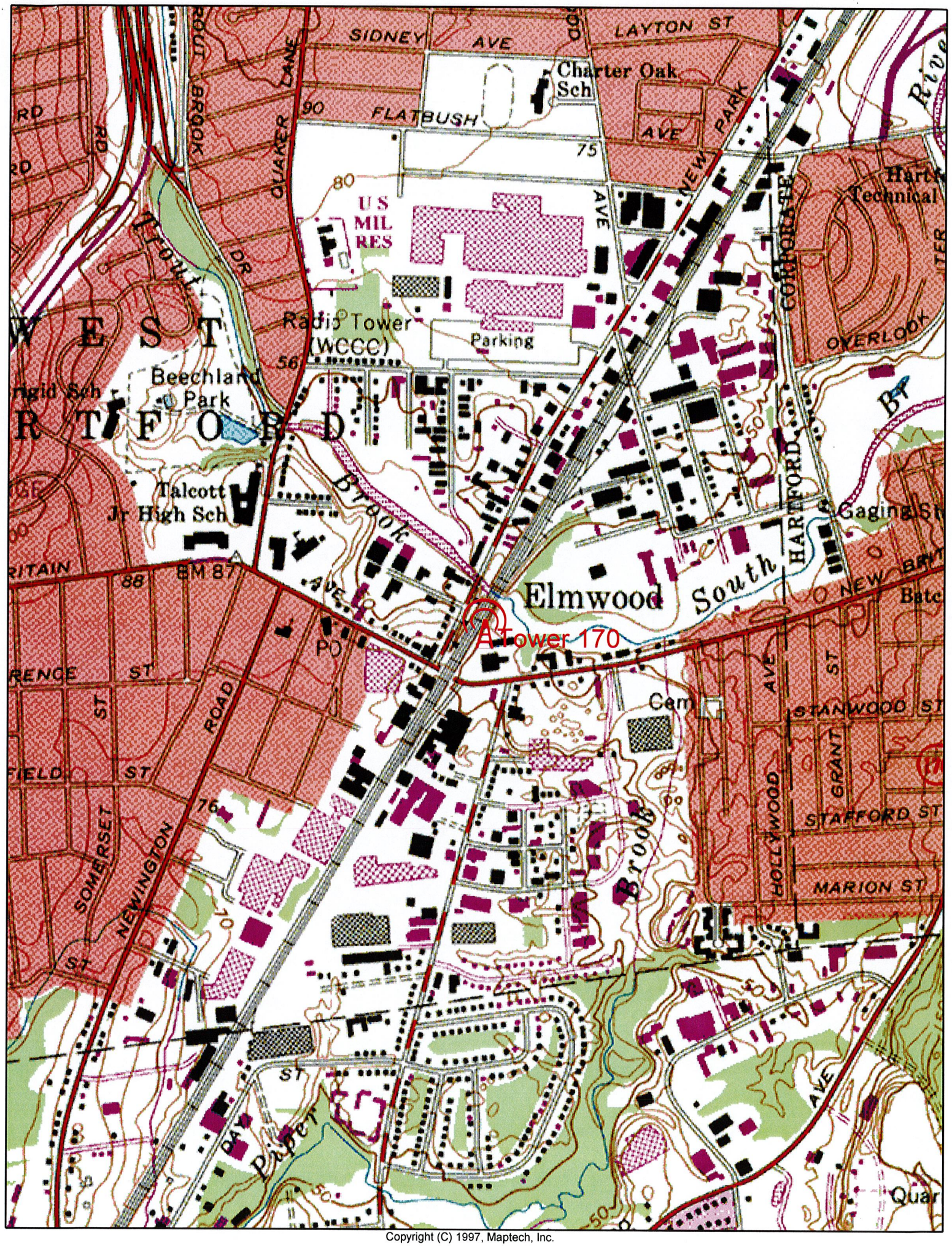
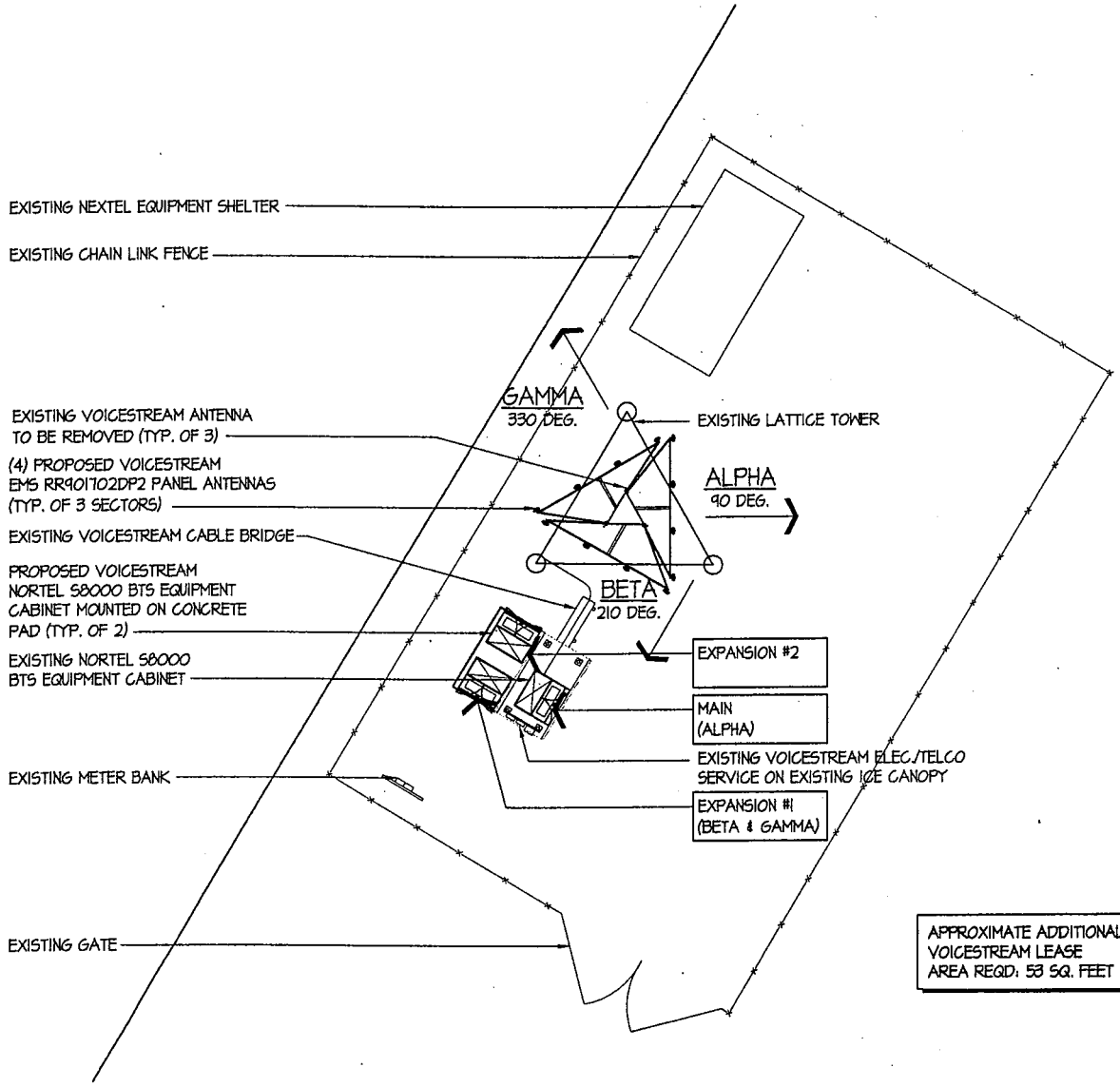


Exhibit B

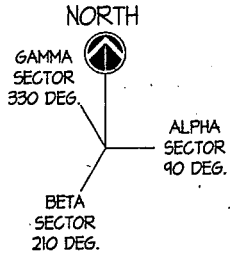
Design Drawings
1030 New Britain Avenue
West Hartford, Connecticut



1 / LE-1 COMPOUND PLAN

SCALE: 1" = 20'-0"

0 10 20 40



ANTENNA ORIENTATION KEY

SITE I.D. NO.: CT-11-1700

DESIGNED BY:

DRAWN BY: JES

CHECKED BY:

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

VoiceStream
100 FILLEY STREET, BLOOMFIELD, CT 06002

SITE ADDRESS: HARTFORD/NEW BRITAIN AVE_1
1030 NEW BRITAIN AVENUE
WEST HARTFORD, CONNECTICUT 06110

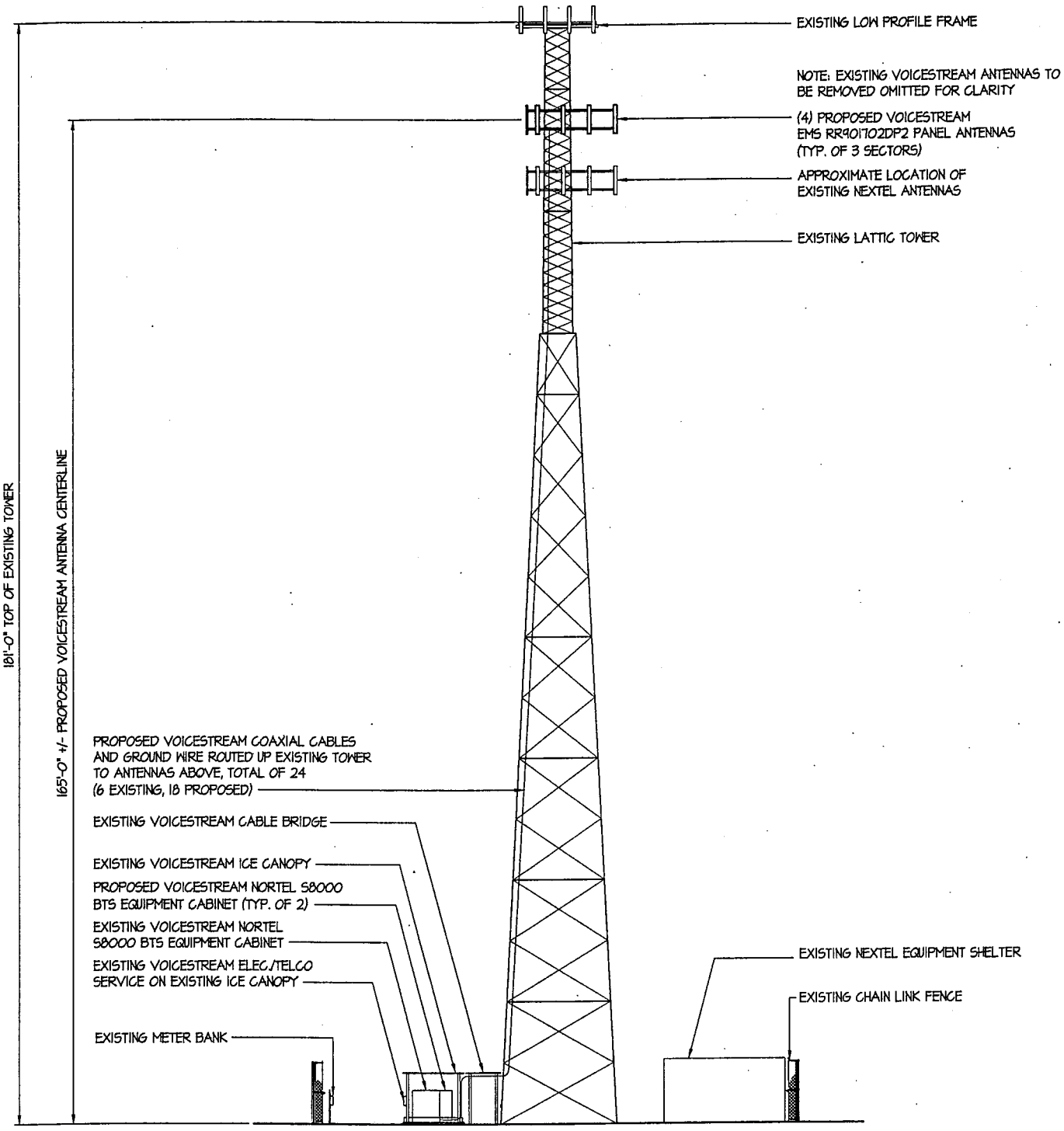
REV.	DATE:	DESCRIPTION

SCALE: AS SHOWN | DATE: 07/27/01

JOB NO. F30204333 | FILE NO. LE-1

DWG. NO. LE-1

DWG. 1 OF 2



1 / LE-2 ELEVATION

SCALE: 1" = 25'-0"

0 12.5 25 50

SITE I.D. NO.: CT-11-1700

DESIGNED BY:

DRAWN BY: JES

CHECKED BY:

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

VoiceStream WIRELESS
100 FILLEY STREET, BLOOMFIELD, CT 06002

SITE ADDRESS: HARTFORD/NEW BRITAIN AVE_1
1030 NEW BRITAIN AVENUE
WEST HARTFORD, CONNECTICUT 06110

REV.	DATE:	DESCRIPTION:

SCALE: AS SHOWN

DATE: 07/27/01

JOB NO. P302043.33

FILE NO. LE-2

DWG. NO. LE-2

DWG. 2 OF 2

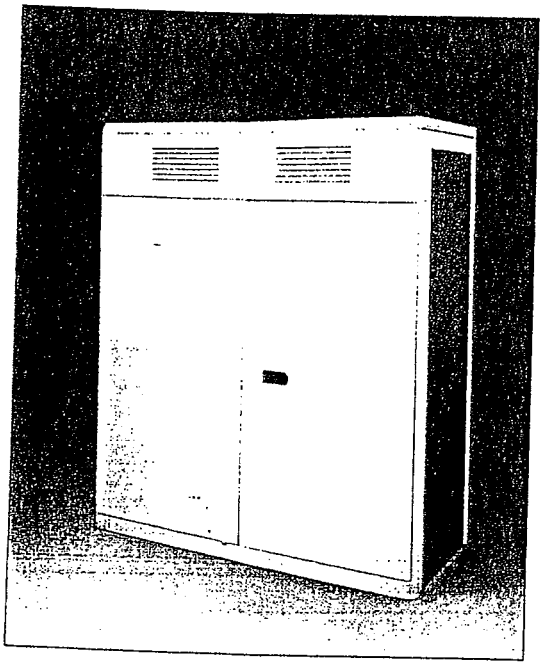
Exhibit C

Equipment Specifications
1030 New Britain Avenue
West Hartford, Connecticut

GSM 900 / DCS 1800 / PCS 1900

NORTEL
NORTHERN TELECOM

S8000 Outdoor Base Transceiver Station



Nortel's S8000 Outdoor Base Transceiver Station has been designed to meet the economic and performance requirements of network operators. Based on a highly integrated RF and digital design, the S8000 Outdoor Base Transceiver Station represents a major technology advancement and delivers all the benefits of a compact, modular, high quality and high performance product.

Nortel's S8000 Outdoor BTS: Radio Performance Leadership - Reduced Site Acquisition and Operating Costs

Installation

- The S8000 Outdoor Base Transceiver Station (BTS) offers compact packaging and requires minimal floor space, only .88 sq m (9.5 sq ft.). Front only access keeps total space required, including maintenance access, to only 1.8 sq m (19.4 sq ft) per cabinet.

Transmission

- Integrated drop and insert connection to the Base Station Controller (BSC) and signaling concentration on the A-bis interface provide significant transmission cost reduction.
- Optional integrated digital microwave radio.

Maintenance

- Highly reliable technology, redundant architecture and integrated battery backup ensure high availability service.
- Front access and interconnections, as well as powerful fault detection, help reduce lifetime maintenance costs.

Industry leading performance

- New RF technology and advanced digital processing techniques provide very high receive sensitivity (-108 dBm guaranteed) and improved diversity gain (up to 6 dB). This provides higher resistance to interference, as well as, improved speech quality and cell coverage.
- Nortel's proven experience in frequency hopping, 1*3 frequency reuse, sophisticated microcellular handover algorithms and support of half-rate vocoders enables the operator to maximize use of available spectrum and deploy fewer cell sites.

Fast network deployment

- The S8000 BTS can be shipped fully equipped and tested, which provides fast network roll out to meet operator time to market requirements.

Modular and flexible configuration

- The S8000 supports eight transceivers (TRX) per cabinet in Omni and sectored configurations. The typical one cabinet S222 configuration may be expanded up to S332 or S422 without an additional cabinet.

Technical Data

• Frequency range		900 MHz GSM
		900 MHz GSM extended
		1800 MHz DCS
		1900 MHz PCS
• Receive sensitivity (guaranteed)		-108 dBm
• Dimensions	Height	1600 mm / 5 ft. 3 in.
	Width	1350 mm / 4 ft. 5 in.
	Depth	650 mm / 2 ft. 1 in.
• Weight	Fully equipped	600 kg / 1300 lbs.
• Capacity		8 TRX per cabinet
		up to 3 cabinets
• Configuration	Trisectorial	up to S888
	Omnidirectional	up to O16
• Amplifier output power		30 W (± 1.5 dB)
• Power control	Static	6 steps of 2 dB
	Dynamic	15 steps of 2 dB
• Frequency hopping		RF synthesized
		baseband
• Supported vocoders		Full rate
		Enhanced full rate
		Half rate
• Encryption algorithms		A5/1 A5/2
• Power supply		230V AC 50/60 Hz
• Power back-up		Integrated battery back-up plus optional battery cabinet allows provisioning up to 8 hours back-up time.
• Operating temperature range		-40°C to +50°C
		-40°F to +122°F

For more information,
please contact your local Nortel account representative.

In the USA:
Northern Telecom
2221 Lakeside Boulevard
Richardson TX 75082
USA
Telephone: 1-800-4 NORTEL
1-800-466-7838 or (214) 684-5935
http://www.nortel.com/wireless

In Canada:
Northern Telecom
2920 Matheson Boulevard East
Mississauga ON L4W 4M7
Canada
Telephone: 1-800-4 NORTEL

In the Caribbean and Latin America:
Northern Telecom (CALA) Corporation
1500 Concord Terrace
Sunrise FL 33323
USA
Telephone: (305) 851-8400

In Asia:
Northern Telecom (Asia) Limited
151 Lorong Chuan
#02-01 New Tech Park
Singapore 1955
Telephone: (65) 287-2877

Nortel China Ltd.
34th Floor, Central Plaza
18 Harbour Road, Wanchai
Hong Kong
Telephone (852) 2585 2888

In Europe:
Nortel Limited
Stafferton Way
Maidenhead
Berkshire SL6 1AY
England
Telephone: (44) (1628) 812000

Nortel Matra Cellular
BP 50
1 place des Frères Montgolfier
78042 Guyancourt Cedex
France
Telephone (33) (1) 34 52 52 52

Nortel Europe
12-12bis rue Jean Jaurès
92807 Puteaux
France
Telephone (33) (1) 46 96 15 15

NORTEL
NORTHERN TELECOM

3 CABINET DESCRIPTION

3.1 PHYSICAL CHARACTERISTICS

3.1.1 S8000 Outdoor BTS

3.1.1.1 BTS cabinet

Dimensions

The BTS S8000 Outdoor has the following dimensions:

- height: 160 cm (63 in.)
- width: 135 cm (52.8 in.)
- depth: 65 cm (25.6 in.)

Weight

The weight of the cabinet when empty, that is, without its battery, fan units or boards, is 164 kg (361 lb). Depending on the configuration, a fully equipped cabinet weighs approximately 480 kg (1056 lb) with ACU unit or 440 kg (968 lb) with DACS unit.

These weights do not include the plinth.

Operating temperature

To operate correctly, the BTS requires a temperature greater than –40°C (–40°F) and less than +50°C (+122°F).

Consumption

BTS input voltage:

- GSM 900/1800
  - nominal voltage contained between 220V AC and 240V AC
  - minimum voltage: 220 – 10% = 198V AC
  - maximum voltage: 240 + 6% = 254V AC
- GSM 1900 (with DACS)
  - nominal voltage: 208V AC to 240V AC
  - minimum voltage: 208 – 10% = 187V AC
  - maximum voltage: 240 + 6% = 254V AC

NON - PREMIUM BTS ONLY

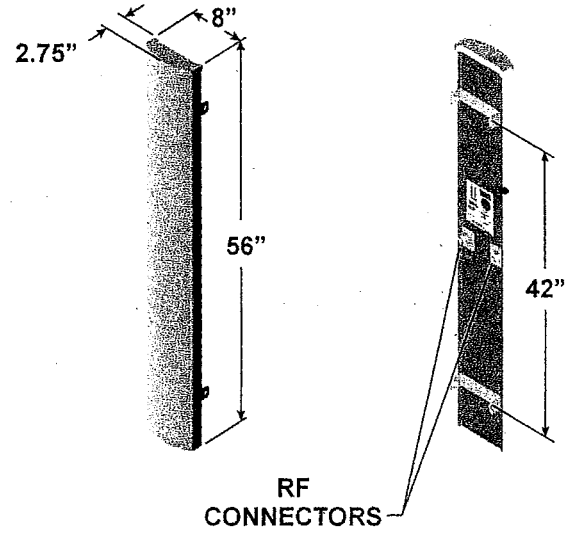
- GSM 1900 (with ACU and/or the power system six–rectifier type)
  - nominal voltage: 240V AC
  - minimum voltage: 240 – 10% = 187V AC
  - maximum voltage: 240 + 6% = 254V AC

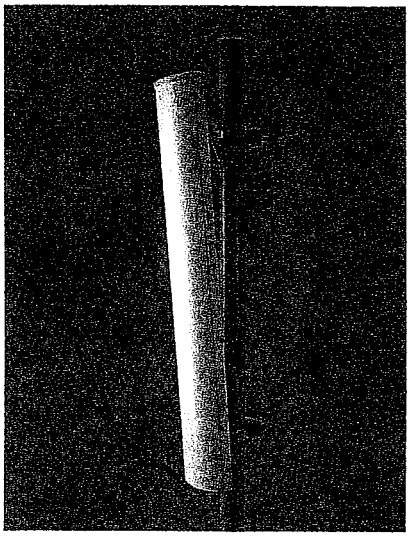
EMS WIRELESS

OptiRange™

RR90-17-XXXP

1850 MHz - 1990 MHz (P)





- 90° beamwidth
- 16.5 dBi gain
- ±45° DualPol™
- 56 inch

SPECIFICATIONS

Electrical

Azimuth Beamwidth	90°
Elevation Beamwidth	6°
Gain	16.5 dBi (14.4 dBd)
Polarization	Slant, ±45°
Port-to-Port Isolation	≥ 30 dB
Front-to-Back Ratio	≥ 25 dB (≥ 30 dB Typ.)
Electrical Downtilt Options	0°, 2°, 4°, 6°
VSWR	1.35:1 Max
Connectors	2;Type N or 7-16 DIN (female)
Power Handling	250 Watts CW
Passive Intermodulation	<-147 dBc (2 tone @ +43 dBm {20W} ea.)
Lightning Protection	Chassis Ground

Mechanical

Dimensions (L x W x D)	56in x 8in x 2.75in (142 cm x 20.3 cm x 7.0 cm)
Rated Wind Velocity	150 mph (241 km/hr)
Equivalent Flat Plate Area	3.1ft² (.29 m²)
Front Wind Load @ 100 mph (161 kph)	90 lbs (400 N)
Side Wind Load @ 100 mph (161 kph)	31 lbs (139 N)
Weight	18 lbs (8.2 kg)

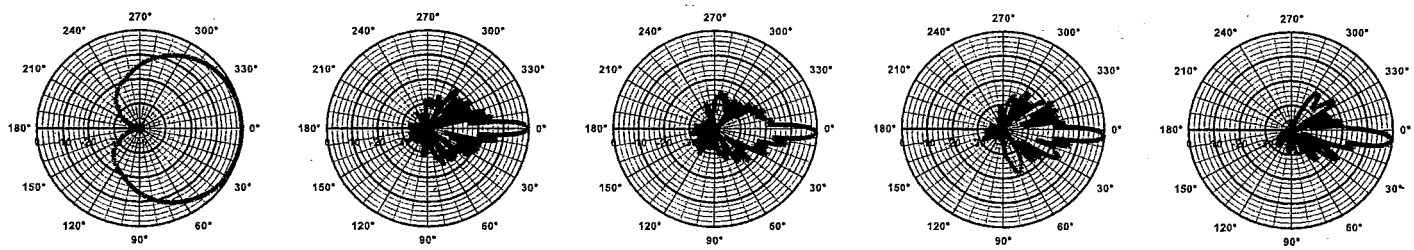
Note: Patent Pending and US Patent number 5, 757, 246.

Values and patterns are representative and variations may occur. Specifications may change without notice due to continuous product enhancements. Digitized pattern data is available from the factory or via the web site www.emswireless.com and reflect all updates.

MOUNTING OPTIONS

Model Number	Description	Comments
MTG-P00-10	Standard Mount (Supplied with antenna)	Mounts to Wall or 1.5 inch to 5.0 inch O.D. Pole (3.8 cm to 12.7 cm)
MTG-S02-10	Swivel Mount	Mounting kit providing azimuth adjustment.
MTG-DXX-20*	Mechanical Downtilt Kits	0° - 10° or 0° - 15° Mechanical Downtilt
MTG-CXX-10*	Cluster Mount Kits	3 antennas 120° apart or 2 antennas 180° apart
MTG-C02-10	U-Bolt Cluster Mount Kit	3 antennas 120° apart , 4.5" O.D. pole.
MTG-TXX-10*	Steel Band Mount	Pole diameters 7.5" - 45"

* Model number shown represents a series of products. See mounting options section for specific model number.



Azimuth | Elevation 0° Downtilt | Elevation 2° Downtilt | Elevation 4° Downtilt | Elevation 6° Downtilt

Exhibit D

Structural Analysis
1030 New Britain Avenue
West Hartford, Connecticut

DETAILED STRUCTURAL STUDY and EVALUATION of 180' SELF-SUPPORTING LATTICE TOWER

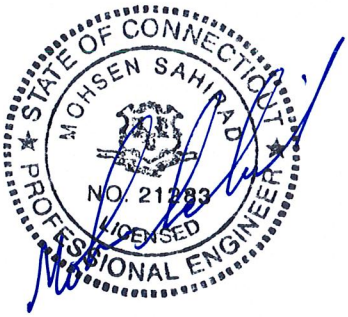
1030 New Britain Avenue

West Hartford, Connecticut
VoiceStream Site No.: CT-11-170C

prepared for

VoiceStream WIRELESS

VOICESTREAM WIRELESS
100 FILLEY STREET
BLOOMFIELD, CT 06002
TEL. 860-692-7127



URS

prepared by

URS CORPORATION AES
795 BROOK STREET, BLDG 5
ROCKY HILL, CT 06067
TEL 860-529-8882

F300002043.33 / F12
Revised: October 09, 2001

TABLE OF CONTENTS

1. EXECUTIVE SUMMARY

This report summarizes the structural analysis of the 180' lattice tower located on 1030 New Britain Avenue in West Hartford, Connecticut. The analysis was conducted in accordance with the TIA/EIA-222-F standard for wind velocity of 80 mph bare and concurrent with ½" ice design wind loads (with 75% reduction). The antenna loading considered in the analysis consists of all existing and proposed antennas, transmission lines, and ancillary items as outlined in the Analysis Methodology and Loading Condition Section of this report.

The results of the analysis indicate the structure to be in compliance with the loading conditions and the materials and member sizes for the tower and foundation. The tower is considered feasible with the TIA/EIA-222-F wind load classification specified above and all the existing and proposed antenna loading.

This analysis is based on:

1) Tower and Foundation report prepared by Pirod, Inc. Engineering File A-114804 approved July 21, 1998.

2) Soils report prepared by Dr. Clarence Welti, P.E., P.C. dated February 1998.

3) Antenna inventory as specified in section 7 of this report.

4) Coax cable location as specified on drawing SK-1 of this report.

This report is only valid as per the assumptions and data utilized in this report for antenna inventory, mounts and coax cables. URS performed a visual field observation at ground level in August 2001.

2. INTRODUCTION

The subject tower is located on 1030 New Britain Avenue in West Hartford, Connecticut. The structure is a self supporting 180' steel triangular tapered lattice tower manufactured by Pirod Incorporated.

The tower is constructed of truss legs, diagonal angle braces, and horizontal angle braces. The tower sections are all bolted together. The width of the face is 4'-0" at the top and 18'-0" at the bottom. The tower geometry and structural member sizes were taken from Pirod, Inc. Project File A-114804 approved July 21, 1998.

The existing structure supports several communication antennas.

This structural analysis of the communications tower was performed by URS Corporation, AES (URS) for Voicestream Wireless. The purpose of this analysis was to investigate the structural integrity of the existing tower with its existing and proposed antenna loads. This analysis was conducted to evaluate twist (rotation), sway (deflection) and stress on the tower, and the effect of forces to the foundation of the tower resulting from existing and proposed antenna arrangements.

3. ANALYSIS METHODOLOGY AND LOADING CONDITIONS

Methodology:

The tower analysis was done in accordance with TIA/EIA-222-F June 1996, Structural Standard for Steel Antenna Towers and Antenna Supporting Structure; The American Institute of Steel Construction (AISC), Manual of Steel Construction; Allowable Stress Design (ASD).

The analysis was conducted by placing one-half inch of radial ice over the entire structure and all appurtenances, then applying a simultaneous wind load at 80 mph bare and concurrent with ½" radial ice (with reduction factor).

Condition 1 = Wind Load 80 mph + Tower Dead Load

Condition 2 = Wind Load 80 mph (with ½" radial ice and 75% reduction) + Tower Dead Load

The TIA/EIA standard permits one-third increase in allowable stresses for towers and monopoles less than 700 feet tall. For purposes of this analysis, allowable stresses of tower members were increased by one-third in computing the load capacity; in addition, the appropriate "k" factors were assigned to each member.

4. FINDINGS AND EVALUATION

The combined axial and bending stresses on the tower structure were evaluated to compare with the allowable stress in accordance with AISC. The analysis indicates that the tower legs, diagonals and horizontal members have sufficient capacity to carry the loads applied.

No further analysis was conducted on the foundation since the forces calculated with the proposed antenna arrangements were below the original design.

It is imperative that the proposed coax cable configuration for the existing tower is installed as per drawing SK-1 of this report.

5. Percent Usage of Allowable Capacity

Tower Members Percent Usage of Allowable Capacity		
	Condition 1	Condition 2
Percent Usage of Allowable Capacity	65.8%	74.6%

Condition 1: includes all antennas listed below @ 80mph with no wind reduction
Condition 2: includes all antennas listed below @ 80mph with wind reduction when concurrent with ice

Twist and Sway	
Condition 1	Condition 2
0.883	0.973

Antenna and Mount Inventory					
Antenna Type	Carrier	Elevation	Amount	Cable Type	Condition
15' Low profile platform	- - -	180.00	- - -	- - -	1,2
EMS RR901702DP	Voicestream	165.00	12.00	(24) - 1 5/8"	1,2
15' Universal T-Frame Sector Mount	Voicestream	165.00	3.00	- - -	1,2
ALP 9212	Nextel	155.00	12.00	(12) - 1 5/8"	1,2
15' Universal T-Frame Sector Mount	Nextel	155.00	3.00	- - -	1,2

6. CONCLUSIONS AND RECOMMENDATIONS

The results of the analysis indicate the structure to be in compliance with the loading conditions and the materials and member sizes for the tower and foundation. The tower is considered feasible with the TIA/EIA-222-F wind load classification specified above and all the existing and proposed antenna loading.

Limitations/Assumptions:

This report is based on the following:

A. Tower is properly installed and maintained.

B. All members were as specified in the original Construction Documents and are in good condition.

C. All required members are in place.

D. All bolts are in place and are properly tightened.

E. Tower is in plumb condition.

F. All members are galvanized.

G. All tower members were properly designed, detailed, fabricated, installed, and have been properly maintained since erection.

H. Foundations were properly constructed to support original design loads as specified in the original Construction Document.

URS is not responsible for any modifications completed prior to or hereafter in which URS is not or was not directly involved. Modifications include but are not limited to:

A. Adding antennas.
B. Installing antenna mounting
C. Replacement of existing antenna and associated cable

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Exhibit E

Power Density Calculations
1030 New Britain Avenue
West Hartford, Connecticut

VOICESTREAM WIRELESS CORPORATION
100 Filley St, Bloomfield, CT 06002-1853
Phone: (860) 692-7100
Fax: (860) 692-7159

Technical Memo

To: Karina Hansen
From: Giri Lakshmanan Radio Engineering Consultant
cc: Mike Fulton
Subject: Power Density Report for CT-11-170C
Date: 15-Oct-01

1. Introduction:

This report is the result of an Electromagnetic Field Intensities (EMF - Power Densities) study for the Voicestream Wireless Corporation PCS antenna installation on an Existing Lattice Tower at 1030 New Britain Avenue , West Hartford, CT. This study incorporates the most conservative consideration for determining the practical combined worst case power density levels that would be theoretically encountered from several locations surrounding the transmitting location.

2. Discussion:

The following assumptions were used in the calculations:

1) The emissions from Voicestream Wireless transmitters are in the 1930-1950 MHz frequency band.
2) The antenna cluster consists of three sectors, with 4 antennas per sector. The model number for each antenna is EMS EMS-RR90-17-02DP.
3) The antenna height is 165 ft.
4) The maximum transmit power from each sector is 2385.18 Watts Effective Radiated Power (EiRP). assuming 8 channels per sector.
5) All the antennas are simultaneously transmitting and receiving, 24 hours a day.
6) 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.
7) The average ground level of the studied area does not significantly change 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 worse case assumptions, the power density calculations from the VoiceStream Wireless Corporation PCS antenna installation on an Existing Lattice Tower at 1030 New Britain Avenue, West Hartford, CT, is 0.019221 mw/cm^2 or 1.9221% of the standard. Nextel's operations will add 0.013463 mw/cm^2, which represents 2.3731% of the standard. Thus, the "Worst case" power density for the combined operations at the site is 4.2954% of the Maximum Permissible Emission (MPE)standard of 1000 microwatts per square centimeter(uw/cm^2) set forth in the FCC/ANSI/IEEE C95. 1-1991. Furthermore, the proposed antenna location for VoiceStream wireless will not interefere with existing public safety telecommunications, AM band and FM band radio broadcast, TV, Police Communication, HAM Radio communications and other signals in the area.

Worst Case Power Density

Region 11 - Connecticut
Power Density Calculation

Site: CT-11-170C
Site Address: 1030 New Britain Avenue
Town: West Hartford
Pole Height: 180FT
Tower Style: an Existing Lattice Tower

Base Station TX output	20	W
Number of channels	8	
Antenna Model	EMS-RR90-17-02DP	
Cable Size	1 5/8	"
Cable Length	185.00	ft
Antenna Height	165.00	ft
Ground Reflection	1.6	
Frequency	1930.00	MHz
Jumper & Connector loss	2.62	dB
Antenna Gain	16.5	dBi
Cable Loss per foot	0.0116	Loss per/ft
Total Cable Loss	2.146	dB
Total Attenuation	4.766	dB
Total EIRP per channel	54.74	dB
(In Watts)	298.15	W
Total EIRP per sector	63.78	dB
(In Watts)	2385.17	W
nsg	11.734	
Power Density (S) =	**0.019221**	**mW / cm^2**
% MPE =	**1.9221%**	

Equation Used :

$$S = \frac{(1000)(grf)^2 (Power) * 10^{(nsg/10)}}{4\pi (R)^2}$$

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