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

March 26, 2002

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

RE: **EM-VOICESTREAM-011-020304** - VoiceStream Wireless Corporation notice of intent to modify an existing telecommunications facility located at 28 Brewer Street, Bloomfield, Connecticut.

Dear Attorney Humes:

At a public meeting held on March 21, 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 dated March 4, 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/RKE/laf

c: Honorable Faith McMahon, Mayor, Town of Bloomfield
Thomas B. Hooper, Director of Planning, Town of Bloomfield
Louie Chapman, Jr., Town Manager, Town of Bloomfield
Julie M. Donaldson, Esq., Hurwitz & Sagarin LLC
Michele Briggs, SNET Mobility, Inc.

I:\siting\em\voicestream\bloomfield\dc032102.doc

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

A LIMITED LIABILITY PARTNERSHIP INCLUDING PROFESSIONAL CORPORATIONS

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225 ASYLUM STREET
HARTFORD, CT 06103
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WRITER'S DIRECT DIAL:
(860) 293-3744

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March 4, 2002

Mortimer A. Gelston, Chairman
Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051

Re: Notice of Exempt Modification
28 Brewer Street, Bloomfield, Connecticut

Dear Chairman Gelston and Members of the Council:

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 three (3) existing antennas at the above-referenced site. VoiceStream proposes to replace them with three (3) new panel antennas at the same location and same elevation on the existing structure at the existing facility in Bloomfield. 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 Bloomfield Mayor, Faith McMahon and the Bloomfield Town Manager Louie Chapman, Jr.

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 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.

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[1]The corporate structure of VoiceStream is as follows: Omnipoint Communications, Inc. ("Omnipoint") is a 95.4% subsidiary of Omnipoint PCS, Inc. (hereinafter" OPCS"). OPCS is a wholly owned 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 VoiceStream 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.

Discussion

The existing facility consists of a one hundred twenty foot (120'-0") monopole (see design drawing LE-3 attached as Exhibit B). The coordinates for the site are **41°-50'-04" N** and **72°-44'-30" W**. The tower is approximately one thousand feet west of Tunxis Avenue (CT Route 189) and twelve hundred feet north of Mountain Avenue (CT Route 178) in Bloomfield.

Currently, the tower holds the equipment of three carriers, VoiceStream at the one hundred seven foot six inch (107'-6") centerline above ground level ("AGL"), Sprint at the one hundred eighteen foot (118'-0") centerline AGL, and SNET at the ninety-seven foot six inch (97'-6") centerline AGL. Sprint has a GPS antenna with the base at forty-nine feet (49'-0") AGL and the Town of Bloomfield has a whip antenna with the base at fifty-nine feet (59'-0") AGL. Photographs of the current tower configuration are located at the back of the structural analysis, attached as Exhibit D. VoiceStream's proposal calls for the removal of its existing three (3) panel antenna array. This configuration would be replaced by three (3) new panel antennas in the same location. The new configuration would allow for the future expansion to four (4) antennas per sector at a later date for a total of twelve (12) antennas, all at the same elevation. A tower elevation is shown in drawing LE-3, attached as part of Exhibit B. The model number for each new antenna is EMS-DR65-18-02DPL2Q. A structural analysis of the tower has been completed and is attached as Exhibit D. As stated in the structural analysis, the existing tower structure is capable of supporting the proposed VoiceStream installation. Two new Nortel S8000 equipment cabinets will be installed adjacent to the existing cabinet on a new irregular shaped concrete pad (see pad detail on drawing LE-2, attached as part of Exhibit B). The existing twelve foot (12'-0") gate will be replaced by a five foot (5'-0") single man gate positioned slightly northeast along the existing chain link fence line. The existing chain link fence line would remain the same (see fence line detail on drawing LE-2, attached as part of Exhibit B). The fenced compound area currently contains equipment buildings for SNET, Sprint and The Town of Bloomfield.

The planned modifications to the Bloomfield 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. The fence surrounding the existing compound will not be altered in any way.

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 E.

For the foregoing reasons, VoiceStream respectfully submits that the proposed addition of antennas and equipment at the Bloomfield 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: Bloomfield Mayor, Faith McMahon
Bloomfield Town Manager, Louie Chapman, Jr.

Exhibit A

Site Map
28 Brewer Street
Bloomfield, Connecticut

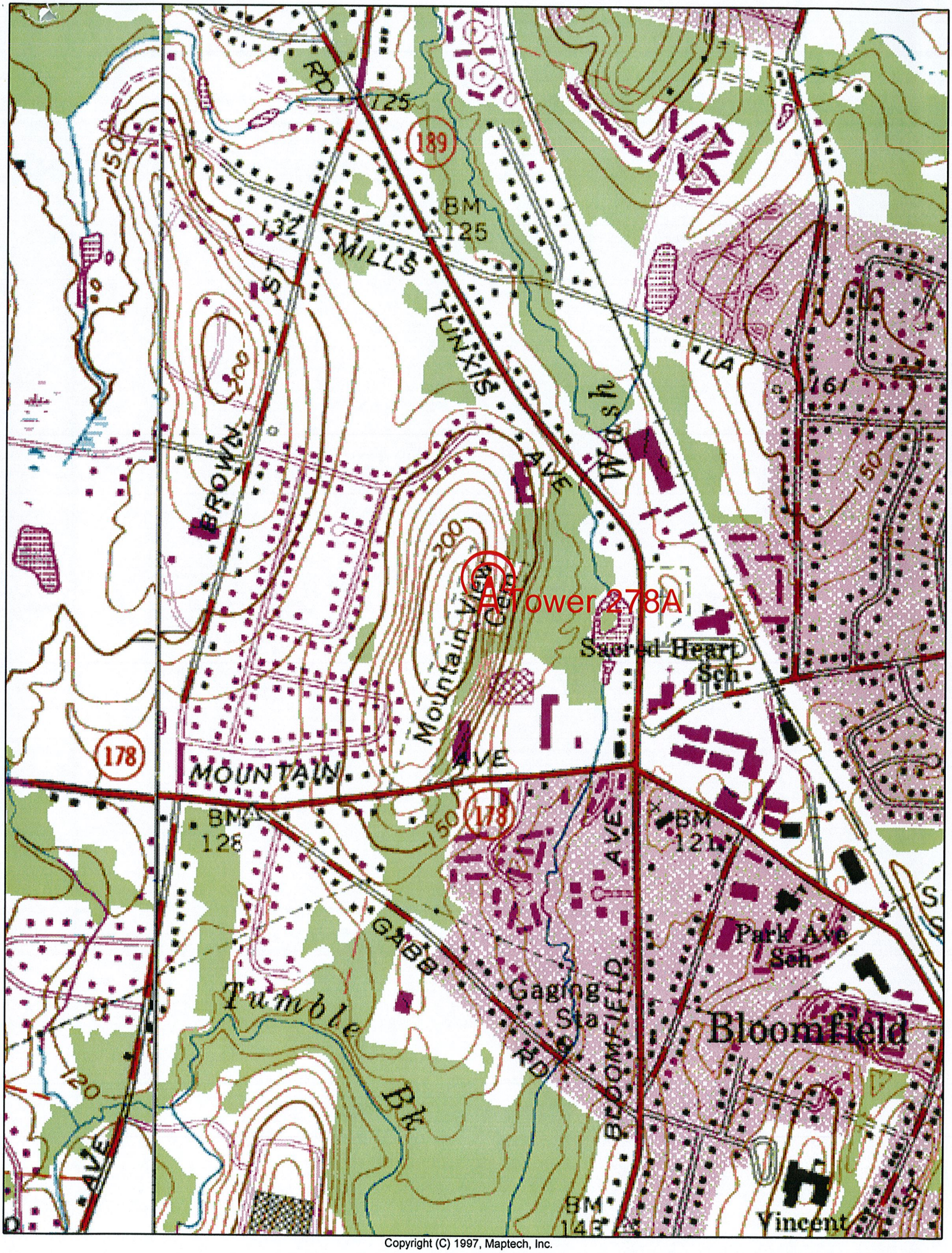
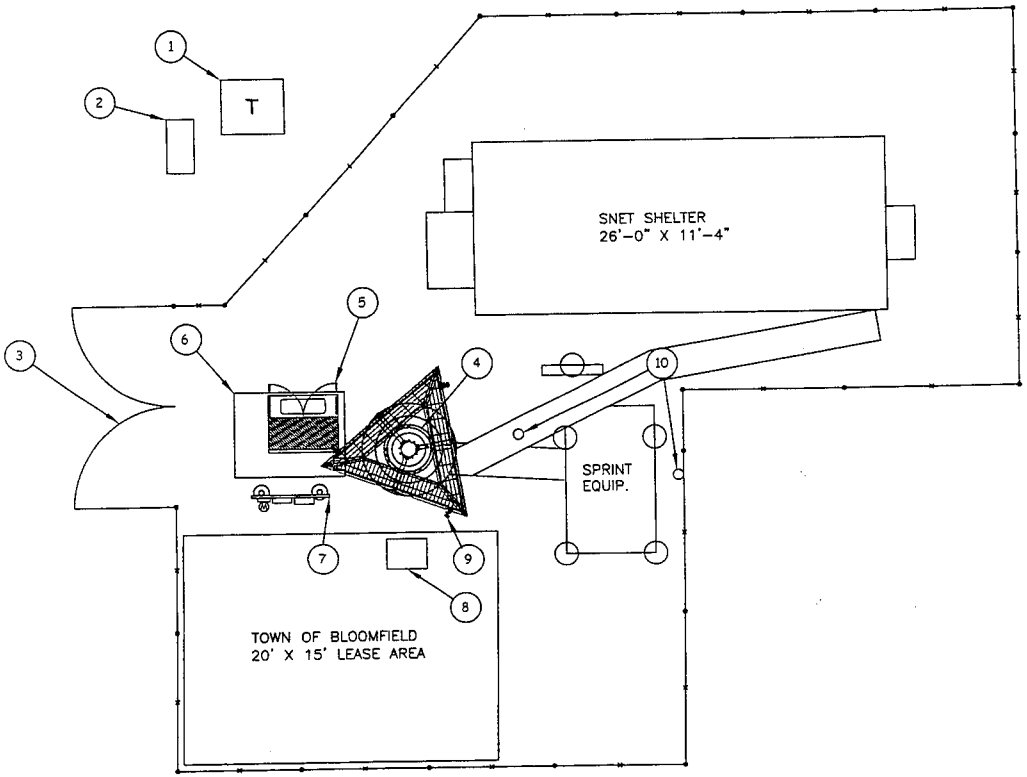


Exhibit B

Design Drawings
28 Brewer Street
Bloomfield, Connecticut



1 LE-1 EXISTING SITE LAYOUT
SCALE: 1/8" = 1'-0"

NOTES

1. EXISTING TRANSFORMER
2. TELCO HANDHOLE
3. EXISTING 12'-0" DOUBLE GATE
4. EXISTING 120' MONOPOLE
5. EXISTING VOICESTREAM RADIO CABINET TO BE ROTATED ON PAD (REFER TO LE-2)
6. EXISTING VOICESTREAM 7'-0" X 5'-6" CONCRETE PAD
7. EXISTING VOICESTREAM ELECTRIC/TELCO RACK TO REMAIN
8. TOWN OF BLOOMFIELD EQUIPMENT
9. EXISTING VOICESTREAM ANTENNA (TYP. OF 3) TO BE REPLACED WITH NEW
10. EXISTING GROUND TEST WELL

VoiceStream
11 HIGH POINT DRIVE
WAYNE, NJ 07470
(973) 686 6500

ON AIR ENGINEERING
201 WALNUT STREET
TWP. OF WASHINGTON, NJ 07676
OFFICE: (201) 358-9541
FAX: (201) 358-9542

CONSULTANTS

LICENSURE

NO.:	DATE:	SUBMISSIONS
1	1-28-02	CLIENT REVIEW
2	2-11-02	REVISED PER SPRINTSITE# COMMENTS

APPROVALS:	
PROPERTY OWNER	DATE
ZONING	DATE
CONSTRUCTION	DATE
R.F. ENGINEER	DATE

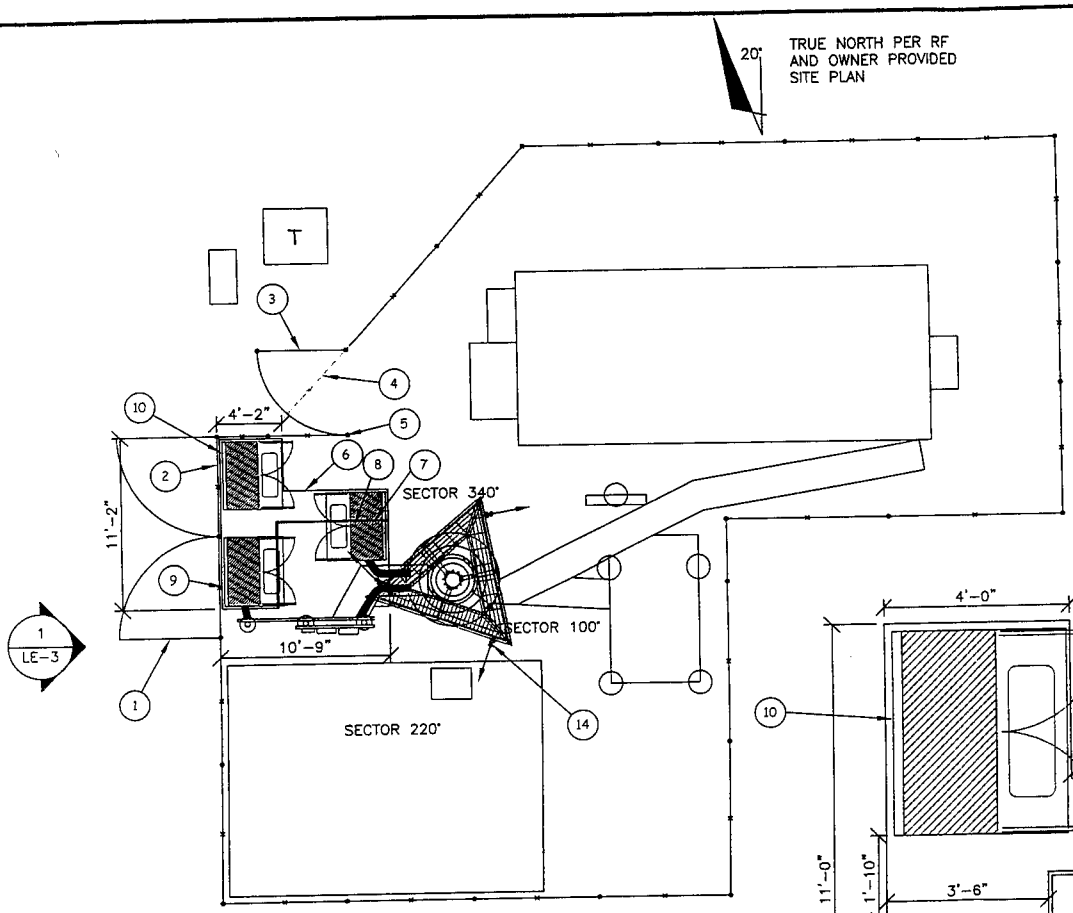
DRAWN BY:	CHECKED BY:
MJ	DW

SITE#
CT-11-278-A

PROJECT INFORMATION:
SPRINT POLE - MTN VIEW CEM.
26 BREWSTER DRIVE
BLOOMFIELD, CT

DRAWING TITLE:
EXISTING SITE LAYOUT

LE-1



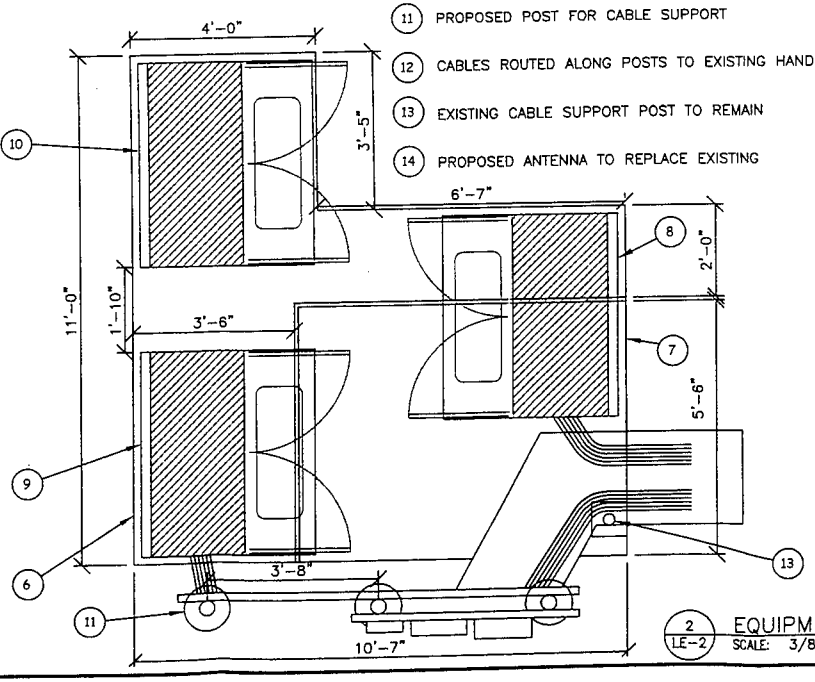
1 / LE-3

VOICESTREAM TOTAL LEASE AREA APPROX. 96.5 SQ. FT

1 / LE-2 PROPOSED SITE LAYOUT
SCALE: 1/8" = 1'-0"

NOTES

1. EXISTING 12 FT. DOUBLE GATE TO BE REMOVED
2. PROPOSED CHAIN LINK FENCE TO REPLACE EXISTING DOUBLE GATE
3. PROPOSED 5 FT. SINGLE MAN GATE
4. PROPOSED 8 FT. FENCE SECTION TO BE REMOVED
5. PROPOSED 5 FT. LONG CHAIN LINK FENCE, HEIGHT TO MATCH EXISTING
6. PROPOSED IRREGULAR SHAPED CONCRETE PAD
7. EXISTING 7'-0" X 5'-6" CONCRETE PAD
8. PROPOSED LOCATION AND ORIENTATION OF EXISTING RADIO CABINET
9. PROPOSED EXPANSION CABINET #1
10. PROPOSED EXPANSION CABINET #2
11. PROPOSED POST FOR CABLE SUPPORT
12. CABLES ROUTED ALONG POSTS TO EXISTING HANDHOLE
13. EXISTING CABLE SUPPORT POST TO REMAIN
14. PROPOSED ANTENNA TO REPLACE EXISTING



2 / LE-2 EQUIPMENT PLAN
SCALE: 3/8" = 1'-0"

VoiceStream
11 HIGH POINT DRIVE
WAYNE, NJ 07470
(973) 686 6500

ON AIR ENGINEERING
201 WALNUT STREET
TWP. OF WASHINGTON, NJ 07676
OFFICE: (201) 358-9541
FAX: (201) 358-9542

CONSULTANTS

LICENSURE

NO.:	DATE:	SUBMISSIONS
1	1-28-02	CLIENT REVIEW
2	2-11-02	REVISED PER SPRINTSITE® COMMENTS

APPROVALS:	
PROPERTY OWNER	DATE
ZONING	DATE
CONSTRUCTION	DATE
R.F. ENGINEER	DATE

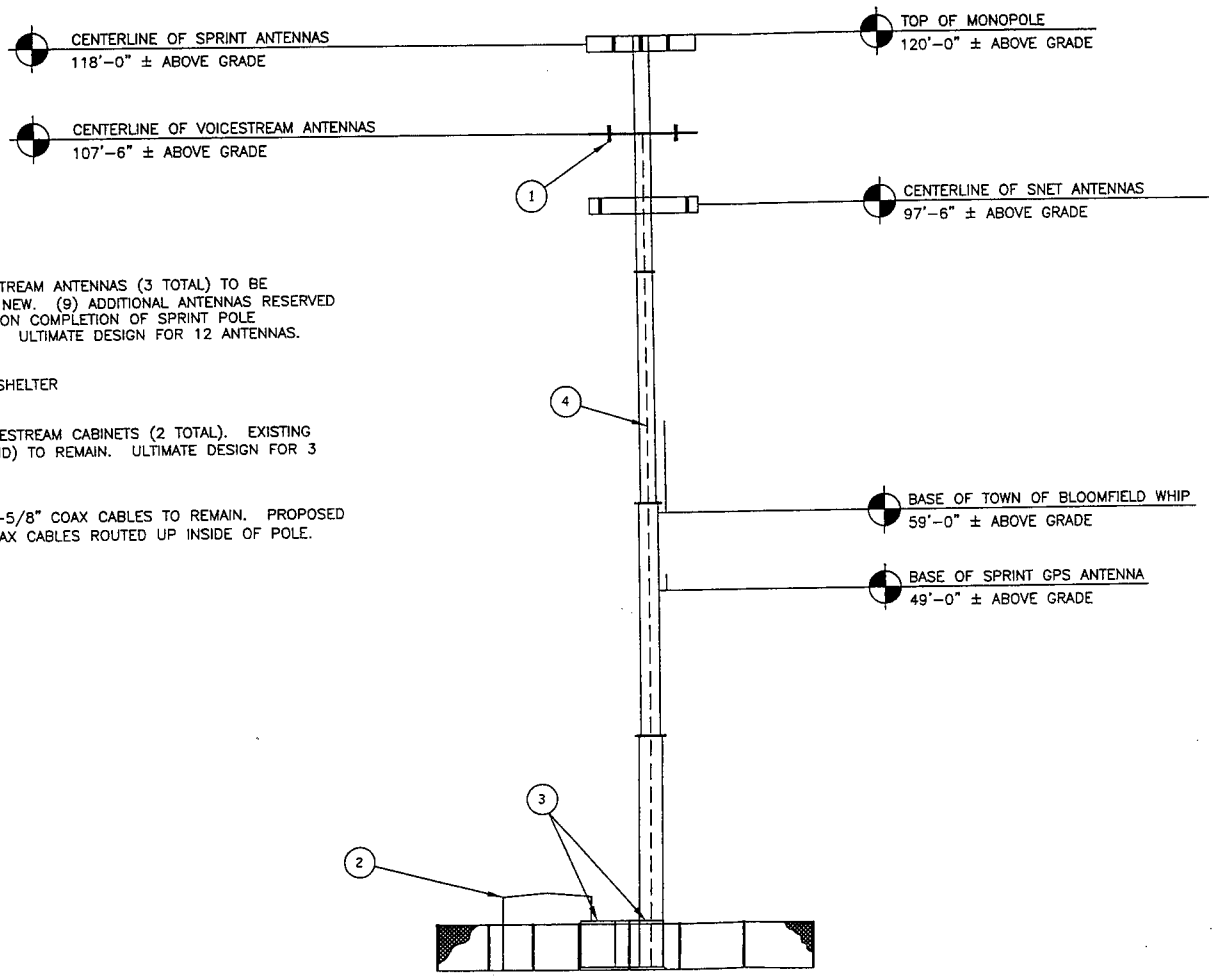
DRAWN BY:	CHECKED BY:
MJ	DW

SITE #
CT-11-278-A

PROJECT INFORMATION:
SPRINT POLE - MTN VIEW CEM.
26 BREWSTER DRIVE
BLOOMFIELD, CT

DRAWING TITLE:
PROPOSED SITE LAYOUT AND EQUIPMENT PLAN

LE-2



NOTES

1. EXISTING VOICESTREAM ANTENNAS (3 TOTAL) TO BE REPLACED WITH NEW. (9) ADDITIONAL ANTENNAS RESERVED FOR FUTURE UPON COMPLETION OF SPRINT POLE REINFORCEMENT. ULTIMATE DESIGN FOR 12 ANTENNAS.
2. EXISTING SNET SHELTER
3. PROPOSED VOICESTREAM CABINETS (2 TOTAL). EXISTING CABINET (BEYOND) TO REMAIN. ULTIMATE DESIGN FOR 3 CABINETS.
4. EXISTING (6) 1-5/8" COAX CABLES TO REMAIN. PROPOSED (6) 1-5/8" COAX CABLES ROUTED UP INSIDE OF POLE.

1 / LE-3 ELEVATION
SCALE: 1/16" = 1'-0"

VoiceStream
11 HIGH POINT DRIVE
WAYNE, NJ 07470
(973) 686 6500

ON AIR ENGINEERING
201 WALNUT STREET
TWP. OF WASHINGTON, NJ. 07876
OFFICE: (201) 358-9541
FAX: (201) 358-9542

CONSULTANTS

LICENSURE

NO.:	DATE:	SUBMISSIONS
1	1-28-02	CLIENT REVIEW
2	2-11-02	REVISED PER SPRINTSITE® COMMENTS

APPROVALS:	
PROPERTY OWNER	DATE
ZONING	DATE
CONSTRUCTION	DATE
R.F. ENGINEER	DATE

DRAWN BY:	CHECKED BY:
MJ	DW

SITE#
CT-11-278-A

PROJECT INFORMATION:
SPRINT POLE - MTN VIEW CEM.
26 BREWSTER DRIVE
BLOOMFIELD, CT

DRAWING TITLE:
WEST ELEVATION

LE-3

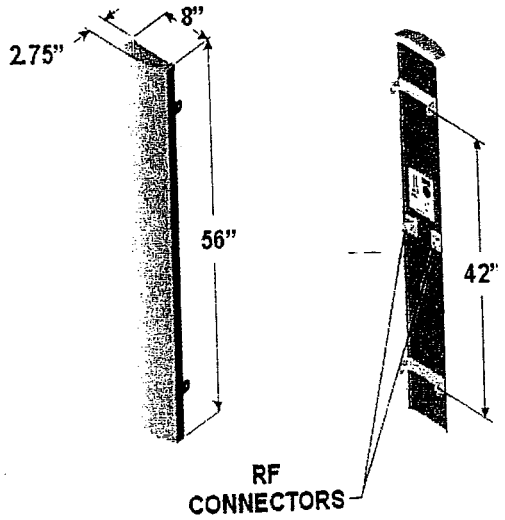
Exhibit C

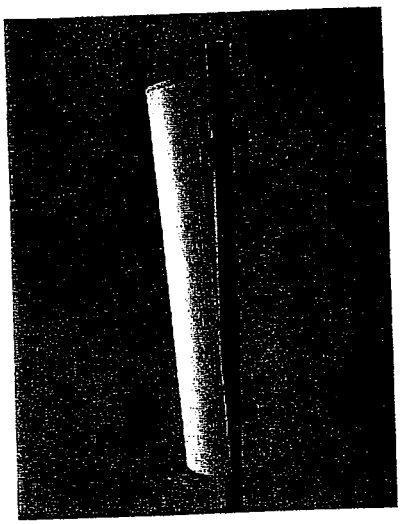
Equipment Specifications
28 Brewer Street
Bloomfield, Connecticut

EMS Wireless

RR65-18-XXDPL2

1850 MHz - 1990 MHz (P)





65° beamwidth

17.5 dBi gain

±45° DualPol®

56 inch

SPECIFICATIONS

Electrical

Gain	17.5 dBi (15.4 dBd)
Azimuth Beamwidth (-3 dB)	65°
Elevation Beamwidth (-3 dB)	6°
Elevation Sidelobes (Upper)	>18 dB
Front-to-Back Ratio	>25 dB (≥ 30dB Typ.)
Polarization	Slant, ±45
Port-to-Port Isolation	>30 dB
Electrical Downtilt Options	0°, 2°
VSWR	1.35:1 Max
Connectors	2; 7-16 DIN (female)
Power Handling	250 Watts CW
Passive Intermodulation	≤ -147 dBc [2x20W (+43 dBm)]
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)

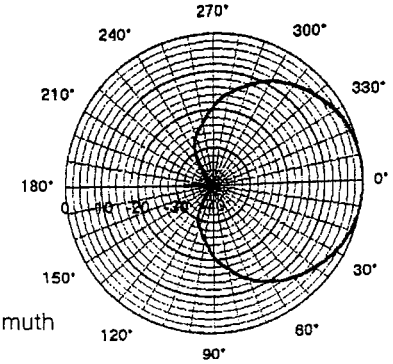
Note: Patent Pending and US Patent number 5, 757, 246.

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.

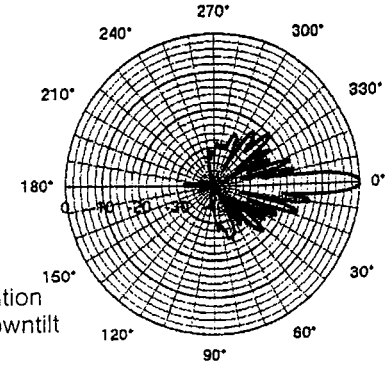
MOUNTING OPTIONS

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"

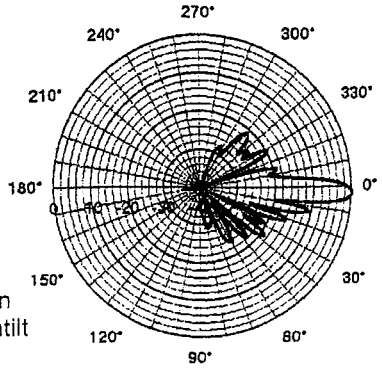
* Model number shown represents a series of products. See mounting options section for specific model number.



Azimuth



Elevation
0° Downtilt

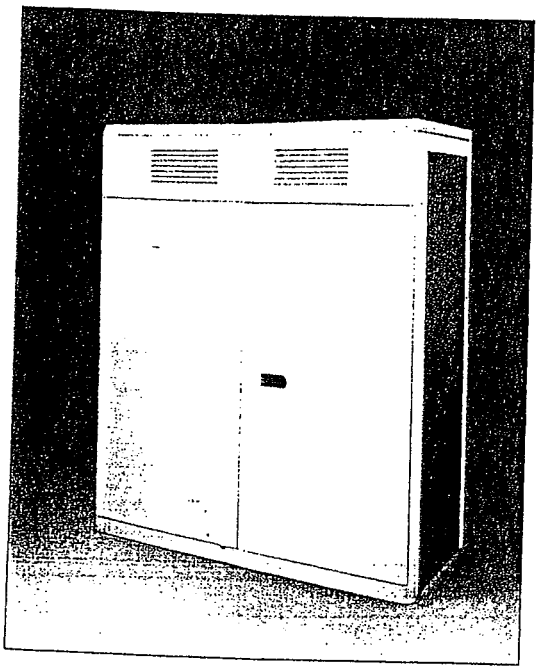


Elevation
2° Downtilt

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

NORTEL
NORTHERN TELECOM

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
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In Europe:
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Stafferton Way
Maidenhead
Berkshire SL6 1AY
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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

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
- 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

NON - PREMIUM BTS ONLY

Exhibit D

Structural Analysis
28 Brewer Street
Bloomfield, Connecticut

ALL-POINTS TECHNOLOGY CORPORATION, P.C.

STRUCTURAL ANALYSIS REPORT
120' MONOPOLE TOWER
BLOOMFIELD, CONNECTICUT

Prepared for
On Air Engineering

VoiceStream Site #CT-11-278-A

January 14, 2002

APT Project #CT132110

711 NORTH MOUNTAIN ROAD • NEWINGTON, CONNECTICUT 06111 • PHONE: 860-953-4444 • FAX: 860-953-1181
150 OLD WESTSIDE ROAD • NORTH CONWAY, NEW HAMPSHIRE 03860 • PHONE/FAX: 603-356-5214

STRUCTURAL ANALYSIS REPORT
of
120' MONOPOLE TOWER
BLOOMFIELD, CONNECTICUT
prepared for
On Air Engineering

EXECUTIVE SUMMARY:

All-Points Technology Corp., P.C. (APT) performed a structural analysis of this 120-foot ROHN monopole tower located in Bloomfield, Connecticut. The analysis was performed for VoiceStream Wireless' removal and replacement of three existing panel antennas with three DR65-18-XXDPL2Q panel antennas on the existing low-profile platform at 107.5'. Waveguide cables are to be twelve 1-5/8" cables installed on the inside of the pole.

Our analysis indicates the tower and foundation are capable of supporting the proposed antennas.

INTRODUCTION:

A structural analysis of this communications tower was performed by All-Points Technology Corp., P.C. (APT) for On Air Engineering. The tower is located at the Brewer Street Cemetery in Bloomfield, Connecticut. APT did not visit the tower site. This analysis relied on information provided by On Air Engineering, which included existing antenna inventory, antenna changes proposed by VoiceStream Wireless, a structural analysis by H. E. Bergeron Engineers, P.A. dated July 30, 1999, and ROHN design drawings.

The structure is a 120-foot, galvanized steel monopole tower manufactured by ROHN Industries. The analysis was conducted using the following antenna inventory (antenna attachment elevations listed):

Carrier	Antenna	Elev.	Mount	Coax.
Sprint PCS	(9) DB980H90	118'	14' full platform	(9) 1-5/8"
VoiceStream	(3) DR65-18-DPL2Q	107.5'	14' low-profile platform	(12) 1-5/8"
SNET	(12) ALP7120.20	97.5'	14' full platform	(12) 7/8"
Municipal	12' whip	59'	4' sidearm	7/8"
Sprint PCS	GPS	49'	3' sidearm	1/2"

STRUCTURAL ANALYSIS:

Methodology:

The structural analysis was done in accordance with TIA/EIA-222-F (EIA), Structural Standards for Steel Antenna Towers and Antenna Supporting Structures; and the American Institute of Steel Construction (AISC), Manual of Steel Construction, Allowable Stress Design, Ninth Edition.

The analysis was conducted using a wind speed of 80 miles per hour and one-half inch of radial ice over the entire structure and all appurtenances. The TIA/EIA Standard requires an 80-mph minimum wind speed for Hartford County, Connecticut.

Two analytical methods were used to evaluate the structure: a two-dimensional linear computer model developed by APT, and a P-delta analysis using finite element software distributed by Eagle Point Software. The 2-D model was used to generate dead loads of the tower and all of its appurtenances, radial ice loads and the resultant wind loading. The maximum bending moments and axial loads were used to calculate combined axial and bending stresses on the monopole, which were compared to allowable stresses according to AISC and TIA/EIA.

Loads generated in the 2-D model were input into the finite element program to evaluate secondary bending moments induced during deflection of the structure under load and to independently evaluate stresses. Evaluation of secondary bending moments is required by EIA paragraph 3.1.15. Our analysis indicates that the secondary moments exceed those of the linear analysis, and therefore govern in determining the capacity of the structure.

EIA requires two loading conditions to be evaluated to determine the tower's capacity. The higher stresses resulting from the two cases is used to calculate the tower capacity:

- Case 1 = Wind Load (without ice) + Tower Dead Load (controls)
- Case 2 = **0.75** Wind Load (with ice) + Ice Load + Tower Dead Load

EIA permits a one-third increase in allowable stresses for towers less than 700-feet tall. Allowable stresses of pole members were increased by one-third in computing the load capacity values indicated herein.

ANALYSIS RESULTS:

Our analysis determined the tower will support the proposed antenna array. The following table summarizes the capacity of the tower based on combined axial and bending stresses:

Tower Capacity

Elevation	Capacity
0'-30'	**100%**
30'-60'	**96%**
60'-90'	**84%**
90'-120'	**41%**

The capability of the existing foundation to support the proposed load was evaluated by comparing design reactions with those imposed by the proposed loading. We calculated compression and overturning moment reactions under the proposed loading to be less than design reactions, thus the existing foundation is adequate to support the proposed loads, provided it was designed and constructed to support original reactions.

Base reactions imposed with the proposed antennas were calculated to be as follows:

Compression:	19.4 kips
Shear:	12.0 kips
Overturning Moment:	1017.4 ft-kips

CONCLUSIONS AND SUGGESTIONS:

As detailed above, our analysis indicates that the existing 120' ROHN monopole tower and foundation are capable of supporting VoiceStream Wireless' proposed antenna changes.

LIMITATIONS:

This report is based on the following:

1. Tower is properly installed and maintained.
2. All members are in new condition.

3. All required members are in place.
4. All bolts are in place and are properly tightened.
5. Tower is in plumb condition.
6. All members are galvanized.
7. All tower members were properly designed, detailed, fabricated, and installed and have been properly maintained since erection.
8. Record drawings accurately reflect tower dimensions and height.

All-Points Technology Corp., P.C. (APT) is not responsible for any modifications completed prior to or hereafter which APT is not or was not directly involved. Modifications include but are not limited to:

1. Adding or relocating antennas.
2. Installing antenna mounting gates or side arms.
3. Extending tower.

APT hereby states that this document represents the entire report and that it assumes no liability for any factual changes that may occur after the date of this report. All representations, recommendations, and conclusions are based upon the information contained and set forth herein. If you are aware of any information which conflicts with that which is contained herein, or you are aware of any defects arising from original design, material, fabrication, or erection deficiencies, you should disregard this report and immediately contact APT. APT disclaims all liability for any representation, recommendation, or conclusion not expressly stated herein.

Appendix A

Tower Drawing

DESIGN LOADING

DESIGN WIND LOAD PER ANSI/EIA-222-E 1991, 85 MPH BASIC WIND SPEED (1/2" RADIAL ICE LOAD)

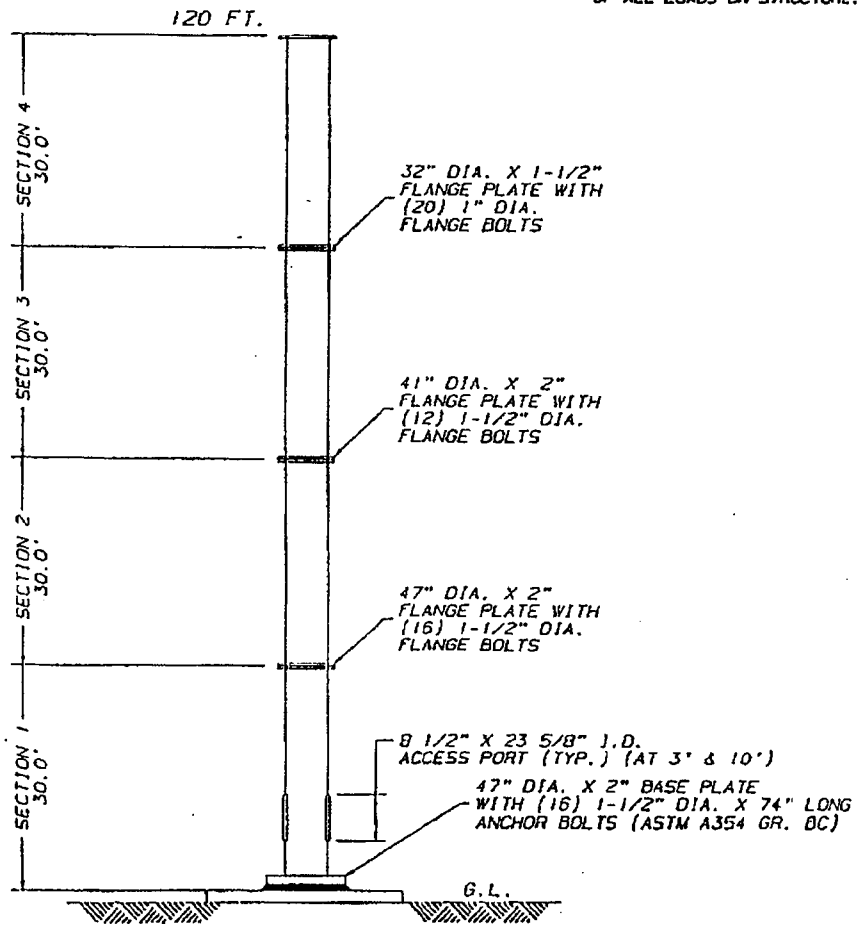
THIS STRUCTURE IS DESIGNED TO SUPPORT THE FOLLOWING LOADS:

ELEVATION (FT.)	ANTENNA TYPE	E.P.A. (SF) NO ICE	E.P.A. (SF) W/ICE	LINE SIZE (NOM)
TOP	(12)ALP9212 ANTENNAS W/ CELLULAR PLATFORM	60.0 (TOTAL)	70.0 (TOTAL)	(12)1-5/8" (TOTAL)
100	(12)ALP9212 ANTENNAS W/ CELLULAR PLATFORM	60.0 (TOTAL)	70.0 (TOTAL)	(12)1-5/8" (TOTAL)

SEE STRESS ANALYSIS FOR A COMPLETE LISTING OF ALL LOADS ON STRUCTURE.

SECTION SCHEDULE

SECTION	SIZE O.D (IN)	SIZE WALL (IN)	SIZE Fy (KSI)
4	24	0.250	42
3	24	0.375	42
2	30	0.375	42
1	36	0.375	42



ELEVATION VIEW

MAXIMUM REACTIONS

DOWNLOAD	=	25.3 KIPS
SHEAR	=	11.7 KIPS
O.T.M.	=	1074.0 FT-KIPS

GENERAL NOTES

1. ROHN COMMUNICATION POLE DESIGNS CONFORM TO E.I.A.-222-E UNLESS OTHERWISE SPECIFIED UNDER POLE DESIGN LOADING.
2. THE DESIGN LOADING CRITERIA INDICATED HAS BEEN PROVIDED TO ROHN. THE DESIGN LOADING CRITERIA HAS BEEN ASSUMED TO BE BASED ON SITE-SPECIFIC DATA IN ACCORDANCE WITH ANSI/EIA-222-E AND MUST BE VERIFIED BY OTHERS PRIOR TO INSTALLATION.
3. ANTENNAS AND LINES LISTED IN POLE DESIGN LOADING TABLE ARE PROVIDED BY OTHERS UNLESS OTHERWISE SPECIFIED.
4. POLE MEMBER DESIGN DOES NOT INCLUDE STRESSES DUE TO ERECTION SINCE ERECTION EQUIPMENT AND CONDITIONS ARE UNKNOWN. DESIGN ASSUMES COMPETENT AND QUALIFIED PERSONNEL WILL ERECT THE POLE.
5. WORK SHALL BE IN ACCORDANCE WITH E.I.A -222-E. "STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES."
6. THE MINIMUM YIELD STRENGTH OF FLANGE PLATES SHALL BE 36 KSI.
7. FIELD CONNECTIONS SHALL BE BOLTED. NO FIELD WELDS SHALL BE ALLOWED.
8. STRUCTURAL BOLTS SHALL CONFORM TO ASTM A-325, EXCEPT WHERE NOTED.
9. PAL NUTS SHALL BE PROVIDED FOR ALL BOLTS, EXCEPT 1-1/2" DIA. BOLTS. LOCK WASHERS SHALL BE PROVIDED FOR 1-1/2" DIA. BOLTS.
10. ALL HIGH STRENGTH BOLTS ARE TO BE TIGHTENED TO A "SNUGTIGHT" CONDITION AS DEFINED IN THE NOVEMBER 13, 1985, AISC "SPECIFICATION FOR STRUCTURAL JOINTS USING A325 OR A490 BOLTS".
11. STRUCTURAL STEEL AND CONNECTION BOLTS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION, IN ACCORDANCE WITH ANSI/EIA-222-E.
12. PURCHASER SHALL VERIFY THE INSTALLATION IS IN CONFORMANCE WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS FOR OBSTRUCTION MARKING AND LIGHTING.
13. TOLERANCE ON POLE STEEL HEIGHT IS EQUAL TO PLUS 1% OR MINUS 1/2%.
14. DESIGN ASSUMES THAT, AS A MINIMUM, MAINTENANCE AND INSPECTION WILL BE PERFORMED OVER THE LIFE OF THE STRUCTURE IN ACCORDANCE WITH ANSI/EIA-222-E.
15. DESIGN ASSUMES LEVEL GRADE AT POLE SITE.
16. POLE ORIENTATION TO BE DETERMINED BY OTHERS.
17. DESIGN ASSUMES THAT ALL ANTENNA TRANSMISSION LINES ARE ROUTED INTERNALLY.
18. DESIGN ASSUMES ALL ANTENNAS ARE MOUNTED SYMMETRICALLY TO MINIMIZE TORQUE.
19. ROHN-LOC SAFETY DEVICE SHALL BE PROVIDED FOR CLIMBING THE ENTIRE HEIGHT OF THE POLE.
20. FOR FOUNDATION DETAILS, SEE DRAWING NUMBER A963207.1-3.

POLE SITE: MTN VIEW CEMETERY (CT03XC076), CT

No.	Revision Description	Date	Drwn By	Chkd By	Appd By

ROHN

	By	Date
Scale: NONE		
Drawn	DLB	10/17/96
Checked	MA	10/17/96
App. Engr.	TS	10/17/96
App. Sales	SW	10-22-96

Title: 120' STEEL POLE DESIGN FOR SPRINT SPECTRUM

ENG. FILE: 3473DSW | DRAWING NO.: A963248

Appendix B

Photographs

ON AIR ENGINEERING
120' MONOPOLE TOWER
BLOOMFIELD, CONNECTICUT

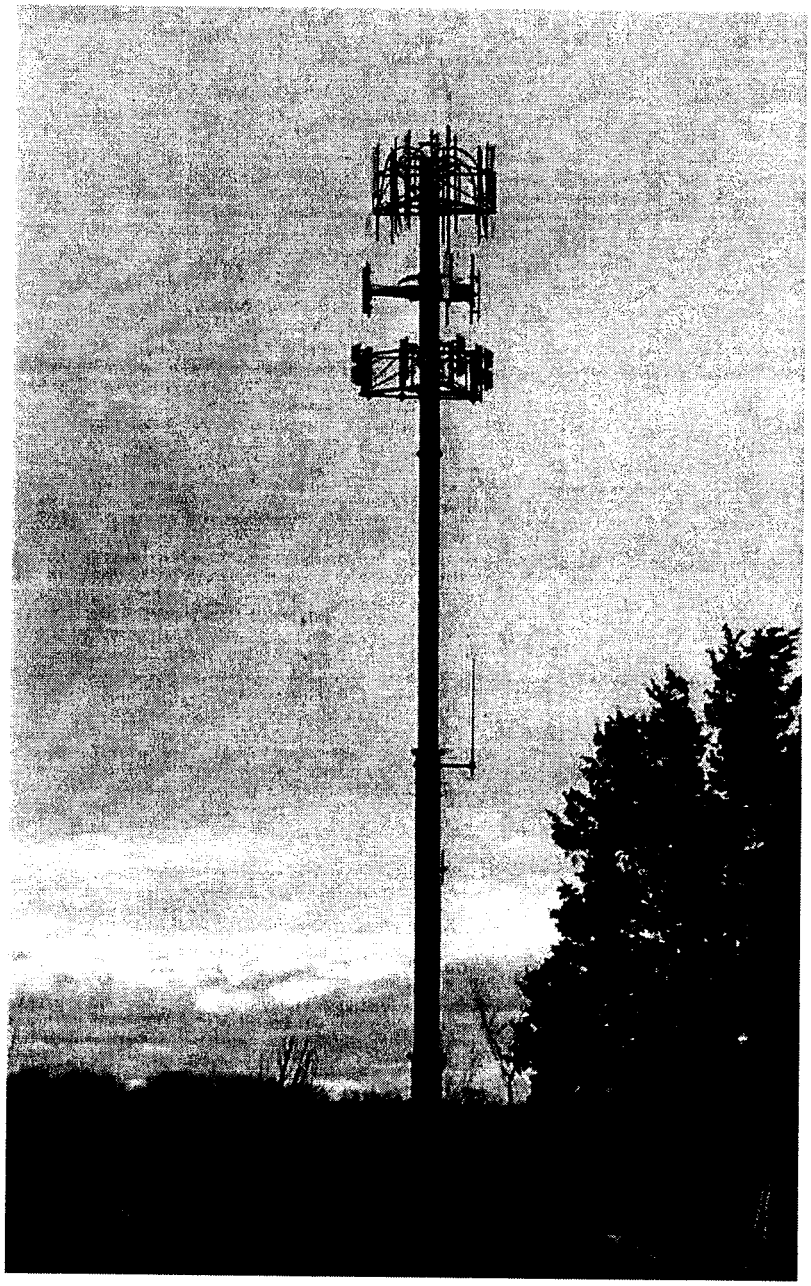
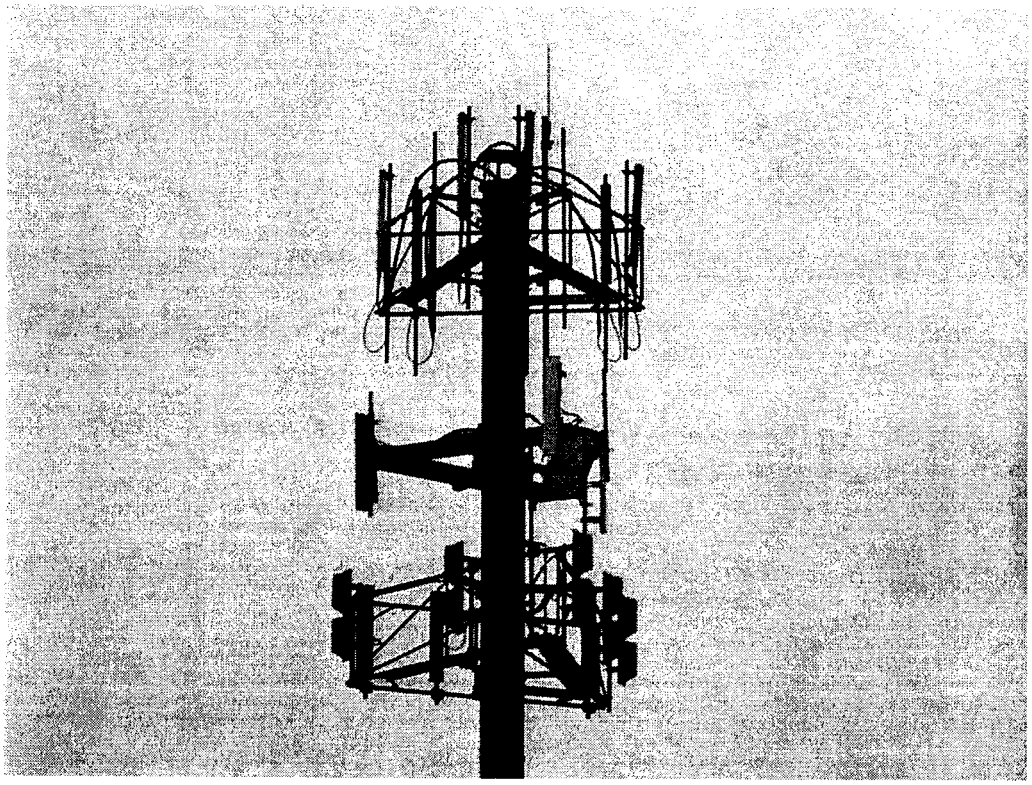


Photo showing overview of 120' ROHN monopole tower.

Photos provided by On Air Engineering

ON AIR ENGINEERING
120' MONOPOLE TOWER
BLOOMFIELD, CONNECTICUT



Telephoto view of existing antenna arrays.

Photos provided by On Air Engineering

Exhibit E

Power Density Calculations
28 Brewer Street
Bloomfield, 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-11-278A
Date: 26-Feb-02

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 a Monopole at 28 Brewer Street, Bloomfield, 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 1 antennas per sector. The model number for each antenna is EMS DR65-18-02DPL2Q.
3) The antenna height is 107.5 feet Center Line.
4) The maximum transmit power from each sector is 1671.83 Watts Effective Radiated Power (EiRP). assuming 4 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 a Monopole at 28 Brewer Street, Bloomfield, CT, is 0.031739 mw/cm^2. This represent only 3.174% of the standard and other carriers such as SNET CELLULAR,SPRINT PCS and TOWN OF BLOOMFIELD total represents 29.69% of the standard.Thus, the "Worst case" power density for the combined operations at the site is 32.864% 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 interfere 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

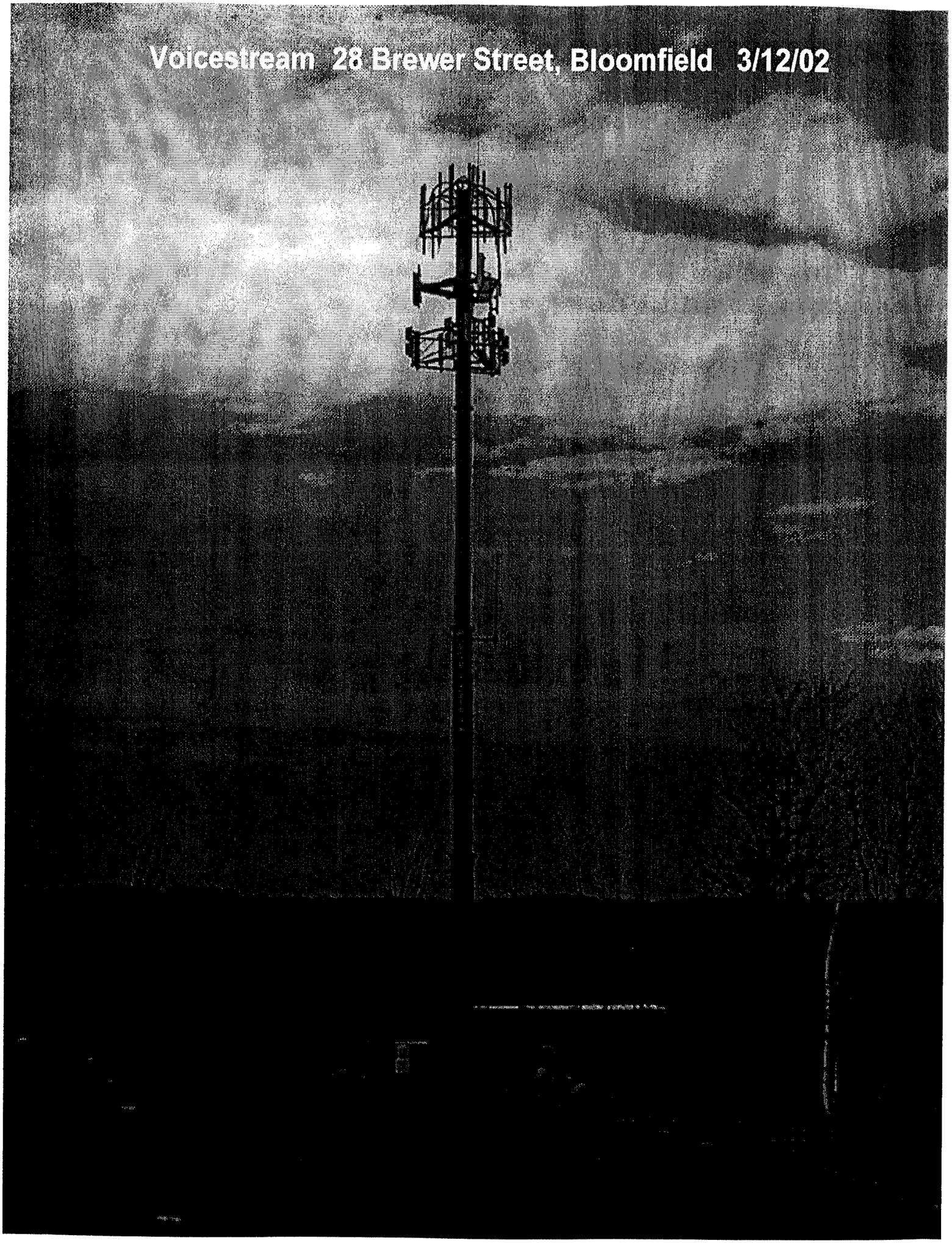
Site: CT-11-278A
Site Address: 28 Brewer Street
Town: Bloomfield
Pole Height: 120FT
Tower Style: a Monopole

Base Station TX output	20	W
Number of channels	4	
Antenna Model	DR65-18-02DPL2Q	
Cable Size	1 5/8	"
Cable Length	127.50	ft
Antenna Height	107.50	ft
Ground Reflection	1.6	
Frequency	1930.00	MHz
Jumper & Connector loss	2.62	dB
Antenna Gain	17.3	dBi
Cable Loss per foot	0.0116	Loss per/ft
Total Cable Loss	1.479	dB
Total Attenuation	4.099	dB
Total EIRP per channel	56.21	dB
(In Watts)	417.96	W
Total EIRP per sector	62.23	dB
(In Watts)	1671.82	W
nsg	13.201	
Power Density (S) =	**0.031739**	**mW / cm²**
% MPE =	**3.1739%**	

Equation Used :

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

Office of Engineering and Technology (OET) Bulletin 65, Edition 97-01, August 1997


Voicestream 28 Brewer Street, Bloomfield 3/12/02

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

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

March 6, 2002

Honorable Faith McMahon
Mayor
Town of Bloomfield
Town Hall
800 Bloomfield Avenue
P. O. Box 337
Bloomfield, CT 06002-0337

RE: **EM-VOICESTREAM-011-020304** - VoiceStream Wireless Corporation notice of intent to modify an existing telecommunications facility located at 28 Brewer Street, Bloomfield, Connecticut.

Dear Mayor McMahon:

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 March 20, 2002, at 10:30 a.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: Thomas B. Hooper, Director of Planning, Town of Bloomfield
Louie Chapman, Jr., Town Manager, Town of Bloomfield

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