



STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

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

November 16, 2000

J. Brendan Sharkey, Esq.
VoiceStream Wireless Corporation
100 Filley Street
Bloomfield, CT 06002

RE: **TS-VOICESTREAM-143-001102** - VoiceStream Wireless Corporation request for an order to approve tower sharing at an existing telecommunications facility located at 1925-30 East Main Street, Torrington, Connecticut.

Dear Attorney Sharkey:

At a public meeting held November 14, 2000, the Connecticut Siting Council (Council) ruled that the shared use of this existing tower site is technically, legally, environmentally, and economically feasible and meets public safety concerns, and therefore, in compliance with General Statutes § 16-50aa, the Council has ordered the shared use of this facility to avoid the unnecessary proliferation of tower structures, with the condition that an acceptable hazardous waste management plan is filed with the City of Torrington, if so requested by the City. 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 may require an explicit request to this agency pursuant to General Statutes § 16-50aa or notice pursuant to Regulations of Connecticut State Agencies Section 16-50j-73, as applicable. Such request or notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point 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.

This decision applies only to this request for tower sharing and is not applicable to any other request or construction.

The proposed shared use is to be implemented as specified in your letter dated November 2, 2000.

Thank you for your attention and cooperation.

Very truly yours,



Mortimer A. Gelston
Chairman

MAG/RKE/laf

c: Honorable Mary Jane Gryniuk, Mayor, City of Torrington
Ester McNany, SBA, Inc.
Julie M. Cashin, Esq., Hurwitz & Sagarin LLC
Ronald C. Clark, Nextel Communications

City Of Torrington



PLANNING AND ZONING COMMISSION
140 Main Street • Room 311
Torrington, CT 06790

RECEIVED
NOV 13 2000

Tel.: (860) 489-2220
Fax: (860) 489-2550

Via fax and regular mail

November 9, 2000

Joel M. Reinbold, Executive Director
Connecticut Siting Council
Ten Franklin Street
New Britain, CT 06051

Re: Notification of TS-VoiceStream -143-001102, Share SBA, Inc & Sprint PCS
Tower 1925-30 East Main Street

Dear Ms. Reinbold:

I am in receipt of your letter dated November 7, 2000, regarding the proposed installation of VoiceStream's wireless equipment at the newly constructed tower site above. The Torrington Planning and Zoning Commission at their August 9, 2000, meeting approved the telecommunications facility and associated equipment area at 1925-30 East Main Street with conditions (see enclosed certification of special exception enclosed.) Torrington's regulations would have required VoiceStream to apply for Site Plan approval to share this tower (see Torrington's Zoning Regulations regarding Wireless Communications Facilities (enclosed.)

Since they have elected to circumvent our Zoning and apply to the Siting Council we would like you to review our Regulations and the Special Exception Permit granted and make your findings consistent with our Regulations. In particular, please make sure that within 90 days of beginning operations, SBA and Sprint PCS submit existing measurements of radio frequency radiation, (RFR) from the facility, signed and sealed by an RF Engineer, stating that the RFR measurements are accurate and below the maximum permissible exposure (MPE) limits established by the FCC Guidelines. The report needs to be submitted to the office of the Torrington City Planner. This information needs to be submitted on an annual basis thereafter. We also specifically request you require VoiceStream provide a plan for handling of any hazardous materials using best management practices. If any hazardous materials are to be used on site, there shall be provisions for full containment of such materials. An enclosed

containment area shall be provided with a sealed floor, designed to contain at least 110% of the volume of hazardous materials stored or used on the site.

If you have any questions, please call me at (860) 489-2220.

Sincerely yours,



Martin J. Connor, AICP
City Planner

Cc: Planning & Zoning Commission
Mayor Mary Jane Gryunik

**CITY OF TORRINGTON
CERTIFICATION OF SPECIAL EXCEPTION**

Aug 22 1 05 PM '00
Torrington, CT

- a. Applicant's Name: SBA, Inc. and Sprint PCS, Thomas Flynn, III
- b. Applicant's Address: 49 Leavenworth Street, Suite 200, Waterbury, CT 06702
- c. Address of the Property: 1925-1931 East Main Street, Torrington, CT
- d. Owner of Record: T.E.P., Inc.
- e. Owner's Address: 1925-1931 East Main Street, Torrington, CT
- f. Date of Special Exception: August 9, 2000
- g. Nature of Special Exception: Construct 155' telecommunication facility and associated equipment area.
- h. Section(s) of the Regulations which are applicable for the Special Exception: Addendum A, wireless communications facilities, A.1.0 et seq.
- i. Conditions attached to the approval:

The application is modified to allow for construction of a 155' expandable monopole wireless telecommunications tower and associated improvements. Structural work shall be performed on the tower to support vertical expansion to 163' should expansion be required in the future to accommodate co-location at this site. The tower is to be located 30 feet closer to the rear property line (northerly direction) and to be located in full compliance with fall zone setback requirements. The 155' height is to be adjusted downward for any increase in elevation gained by moving the tower toward the rear of the property. The recording mylar Site Plan will be modified to include these changes and the certified letter of approval containing all conditions of approval shall be reproduced and included on the recording mylar Site Plan. The lease area from the property owner T.E.P. Inc, must include the area of the proposed tower and full radius of the fall zone.

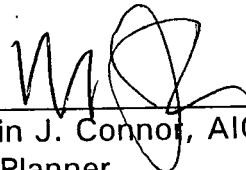
The 155' monopole wireless telecommunications tower and associated improvements are approved with the following conditions:

1. Per Section A 12.0 of the Regulations, the special exception shall be valid for 15 years. At the end of this time period, the tower shall be removed by Sprint Spectrum LP d/b/a Sprint PCS or SBA, Inc., a new special exception permit shall be required.
2. Per Section A 4.4.1 of the Regulations, the applicant must provide a plan for the handling of any hazardous materials using best management practices. If any hazardous materials

are to be used on site, there shall be provisions for full containment of such materials. An enclosed containment area shall be provided with a sealed floor, designed to contain at least 110% of the volume of hazardous materials stored or used on the site. A 110% containment area specifically designed for the Sprint back up batteries shall be installed.

3. Per Section A 9.0. of the Regulations, within 90 days of beginning operations, the applicant shall submit existing measurements of radio frequency radiation (RFR) from the facility, signed and sealed by an RF Engineer, stating that the RFR measurements are accurate and below the maximum permissible exposure (MPE) limits as established by the FCC guidelines. The report shall be submitted to the office of the City Planner. This information shall be provided on an annual basis thereafter.
4. As offered by the applicant during the public hearing process, space shall be made available, at no charge, for municipal services equipment.
5. Per Section A 10.3 of the Regulations. the applicant shall submit a bond in an amount sufficient to cover the costs of removal of the regulated facility in the event the City must remove the facility. The bond amount must be approved by the City Engineer in a form acceptable to the Torrington Corporation Counsel.
6. As recommended by Torrington Fire Chief the applicant shall install a secure Knox-brand lock box on the exterior of the fence near the main entrance to allow the Fire Department quick access. The driveway must be maintained in all weather conditions in order to allow emergency access.
7. The area within the existing parking lot which is part of the fall zone perimeter will be cordoned off using 6" concrete filled bollards 48" height 48" on center which will act as a barrier to vehicular traffic.
8. The Landscaping plan will be revised to include both a stockade fence and 3 white pines 6'-8' in height planted 6' OC to screen the dumpster area and to contain debris from the lands N/F Daniel & Gina Masciarelli.
9. The applicant shall submit a bond estimate to be reviewed and approved by the City Planner for the proposed landscaping. A bond in a form acceptable to the Corporation Counsel be shall posted prior to issuance of the Zoning Permit. 25% of the posted bond shall remain in place for one year after the landscaping plan has been fully implemented to ensure successful growth of the plantings.
10. The applicant shall apply for a grading permit prior to issuance of the Zoning Permit and post the required bond for erosion and sedimentation in an amount approved by the City Engineer and in a form acceptable to the Corporation Counsel.

THIS CERTIFICATION IS FILED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 8-3D OF THE CONNECTICUT GENERAL STATUTES



Martin J. Connor, AICP
City Planner

100 Filley Street, Bloomfield, CT 06002
(860) 692-7154 phone
(860) 692-7159 fax

2 November, 2000

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

RECEIVED
NOV - 2 2000
CONNECTICUT
SITING COUNCIL

**Re: Request by VoiceStream Wireless
for an Order to Approve the Shared Use of a Tower Facility
1925-30 East Main Street, Torrington, Connecticut**

Dear Chairman Gelston and Members of the Council:

Pursuant to Connecticut General Statutes §16-50aa, VoiceStream Wireless ("VoiceStream") hereby requests an order from the Connecticut Siting Council ("Council") to approve the proposed shared use of an existing tower located at 1925-30 East Main Street in Torrington, Connecticut. The tower is owned and operated by SBA Towers, Inc. ("SBA"). VoiceStream proposes to install antennas on the existing tower located within SBA's leased compound area, and to install related equipment near the base of the tower within the existing compound (see "Exhibit A"). VoiceStream requests that the Council find that the proposed shared use of the tower satisfies the criteria stated in §16-50aa and issue an order approving the proposed use.

Background

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.

The SBA tower at 1925-30 East Main Street in Torrington is a 153-foot monopole located on an existing compound. The coordinates for this location are 41-49-23 N and 73-04-37 W. Sprint Spectrum ("Sprint") was originally approved for an antenna installation on the tower with centerlines at 153 feet above ground level ("AGL"). In addition, Nextel Communications ("Nextel") has been approved for antennas with centerlines at 143 feet AGL. VoiceStream and SBA have agreed to mutually acceptable terms and conditions for the proposed shared use of this tower, and SBA has authorized VoiceStream to act on its behalf to apply for all necessary local, state and federal permits, approvals, and authorizations which may be required for the proposed shared use of this facility.

1925-30 East Main Street, Torrington

Page 2

As shown on the site plan drawings and tower elevations attached as Exhibit A, VoiceStream proposes to install a total of six (6) antennas on a platform with centerlines at 133 feet AGL. The antennas are EMS Dual-Pol Model RR90-17-02DP. The radio transmission equipment associated with these antennas, a Nortel S8000 cabinet, would be mounted on a concrete slab at the base of the monopole.

C.G.S. §16-50aa (c) (1) provides that, upon written request for approval of a proposed shared use, "if the council finds that the proposed shared use of the facility is technically, legally, environmentally and economically feasible and meets public safety concerns, the council shall issue an order approving such shared use." The shared use of the tower satisfies those criteria as follows:

A. Technical Feasibility - The existing tower was designed to accommodate multiple carriers, and VoiceStream is the third carrier to propose co-location. As the structural analysis attached as Exhibit C indicates, the tower is structurally sound and capable of supporting the proposed antennas. The proposed shared use of this tower therefore is technically feasible.

B. Legal Feasibility - Under C.G.S. § 16-50aa, the Council has been authorized to issue orders approving the proposed shared use of an existing tower facility such as the facility on East Main Street in Torrington. (Public Acts 93-268, Section 2; and 94-242, Section 6 (c)). This authority complements the Council's prior-existing authority under C.G.S. § 16-50p to issue orders approving the construction of new towers that are subject to the Council's jurisdiction. C.G.S. § 16-50x (a) vests exclusive jurisdiction over these facilities in the Council, which shall "give such consideration to other state laws and municipal regulations as it shall deem appropriate" in ruling on requests for the shared use of existing towers facilities. Under this statutory authority vested in the Council, an order by the Council approving the shared use would permit the applicant to obtain a building permit for the proposed installations.

C. Environmental Feasibility - The proposed shared use would have a minimal environmental effect, for the following reasons:

1. The proposed installations would have an insignificant incremental visual impact, and would not cause any significant change or alteration in the physical or environmental characteristics of the existing site. In particular, the proposed installations would not increase the height of the existing tower, and would not extend the boundaries of the existing SBA compound area.
2. The proposed installations would not increase the noise levels at the existing facility by six decibels or more.
3. Operation of antennas at this site would not exceed the total radio frequency electromagnetic radiation power density level adopted by the American National Standards Institute ("ANSI"). The "worst-case" exposure calculated for operation

1925-30 East Main Street, Torrington

Page 3

of this facility (i.e., calculated at the base of the tower, which represents the closest publicly accessible point within the broadcast field of the antennas), with the Town, Verizon and VoiceStream antennas would be 11.0684% of the ANSI standard. These calculations are attached as Exhibit D.

4. The proposed installations would not require any water or sanitary facilities, or generate air emissions or discharges to water or sanitary facilities, or generate air emissions or discharges to water bodies. After construction is complete (approximately two weeks), the proposed installations would not generate any traffic other than for periodic maintenance visits.

The proposed use of this facility would therefore have a minimal environmental effect, and is environmentally feasible.

E. Economic Feasibility - As previously mentioned, VoiceStream has entered into an agreement with SBA to share the use of the existing tower on terms agreeable to the parties. The proposed tower sharing is therefore economically feasible.

F. Public Safety Concerns - As stated above, the existing tower is structurally capable of supporting the proposed VoiceStream antennas. The size and location of the tower have been approved by the Torrington Planning and Zoning Commission which considered public health and safety in its review. VoiceStream is not aware of any other public safety concerns relative to the proposed sharing of the existing tower. In fact, the provision of new or improved phone service through shared use of the existing tower is expected to enhance the safety and welfare of area residents and travelers.

Conclusion

For the reasons discussed above, the proposed shared use of the existing tower facility at 1925-30 East Main Street in Torrington, Connecticut satisfies the criteria stated in C.G.S. §16-50aa, and advances the General Assembly's and the Siting Council's goal of preventing the proliferation of towers in Connecticut. VoiceStream therefore request that the Siting Council issue an order approving the proposed shared use.

Thank you for your consideration of this matter.

Sincerely,



J. Brendan Sharkey, Esq.
for VoiceStream Wireless

Attachments

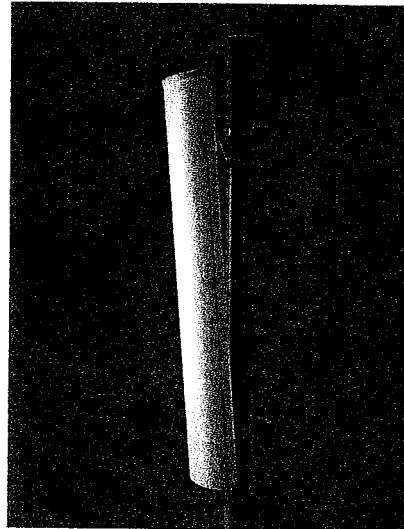
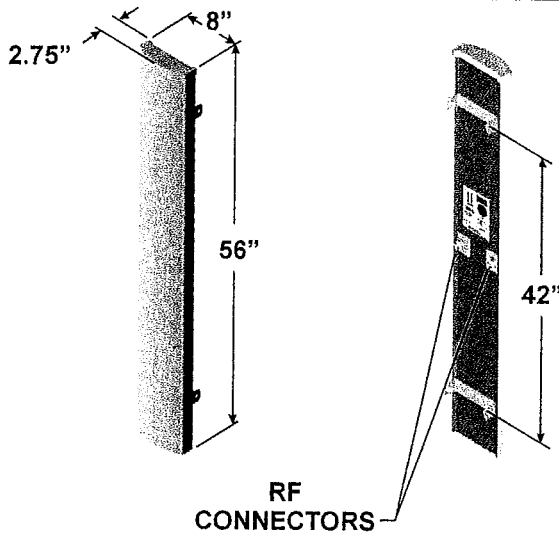
cc: Mary Jane Gryniuk, Mayor, City of Torrington

Exhibit A

Design Drawings

**1925-30 East Main Street
Torrington, CT**

1850 MHz - 1990 MHz (P)



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

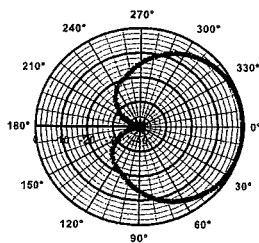
SPECIFICATIONS

Electrical		Mechanical	
Azimuth Beamwidth	90°	Dimensions (L x W x D)	56in x 8in x 2.75in (142 cm x 20.3 cm x 7.0 cm)
Elevation Beamwidth	6°	Rated Wind Velocity	150 mph (241 km/hr)
Gain	16.5 dBi (14.4 dBd)	Equivalent Flat Plate Area	3.1ft ² (.29 m ²)
Polarization	Slant, ±45°	Front Wind Load @ 100 mph (161 kph)	90 lbs (400 N)
Port-to-Port Isolation	≥ 30 dB	Side Wind Load @ 100 mph (161 kph)	31 lbs (139 N)
Front-to-Back Ratio	≥ 25 dB (≥ 30 dB Typ.)	Weight	18 lbs (8.2 kg)
Electrical Downtilt Options	0°, 2°, 4°, 6°	<p>Note: Patent Pending and US Patent number 5, 757, 246.</p> <p>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.</p>	
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		

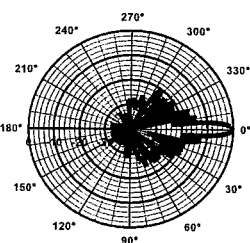
MOUNTING OPTIONS

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"

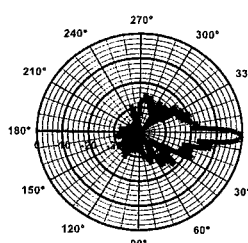
* Model number shown represents a series of products. See mounting options section for specific model number.



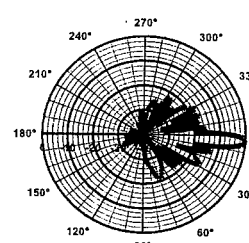
Azimuth



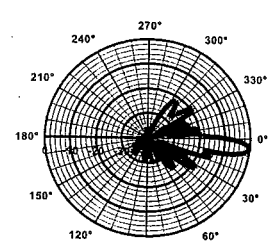
Elevation
0° Downtilt



Elevation
2° Downtilt



Elevation
4° Downtilt

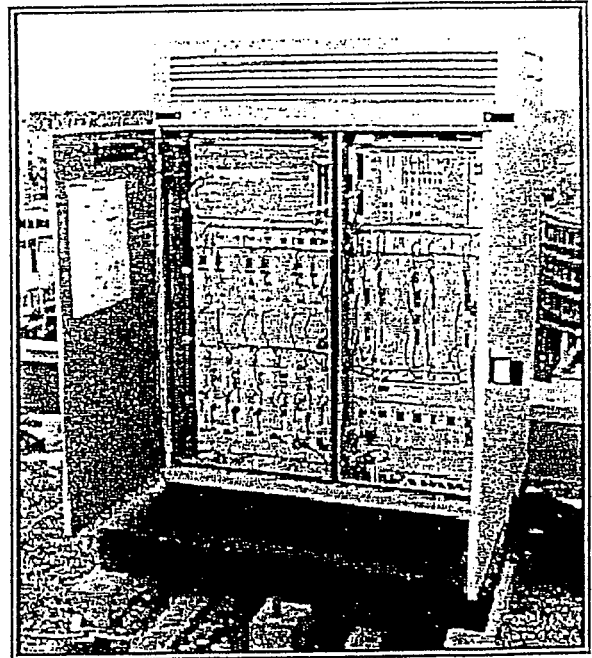
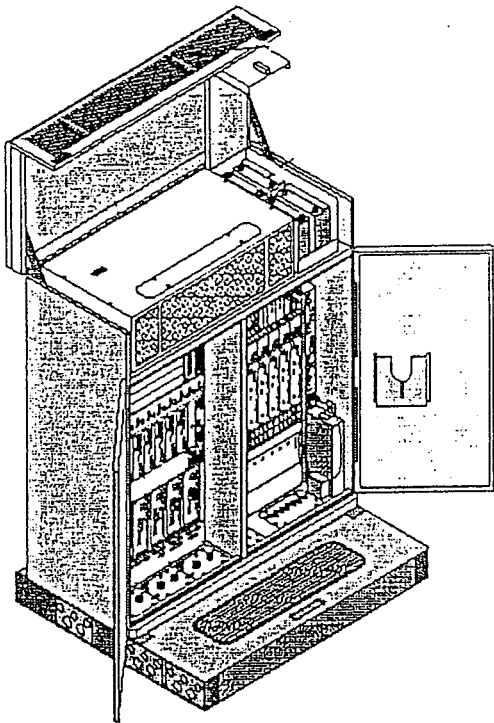


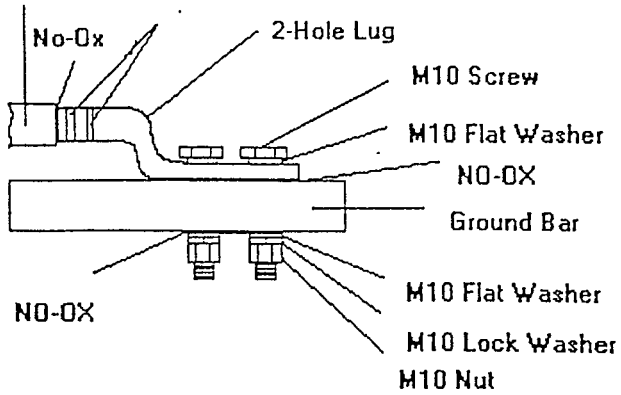
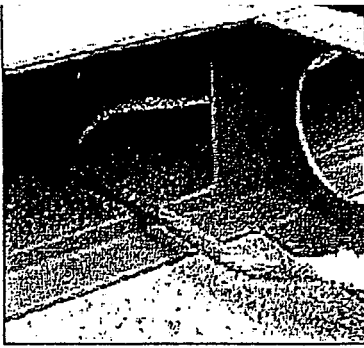
Elevation
6° Downtilt



S8000 BTS

Site Specifications





Apply a light coating of No Oxidation (NO-OX) to the ground bar area.

Dimensions, Weights & Clearances

BTS

Weight: 915 pounds
 Dimensions: 53.2"W x 26"D x 63"H

Clearances while transporting in building:

Door Access:

Height: 6.6 feet
 Width 3 feet

Corridor Access:

Height: 6.6 feet
 Width: 3.6 feet (straight), 6.6 feet (right angle)

Clearances when installed:

Above: 28 inches for opening of hood
 Rear: 8 inches for installation of outer skin
 Sides: 8 inches for adjustment of door hinges
 Front: 54 inches to open door and technician access

Plinth

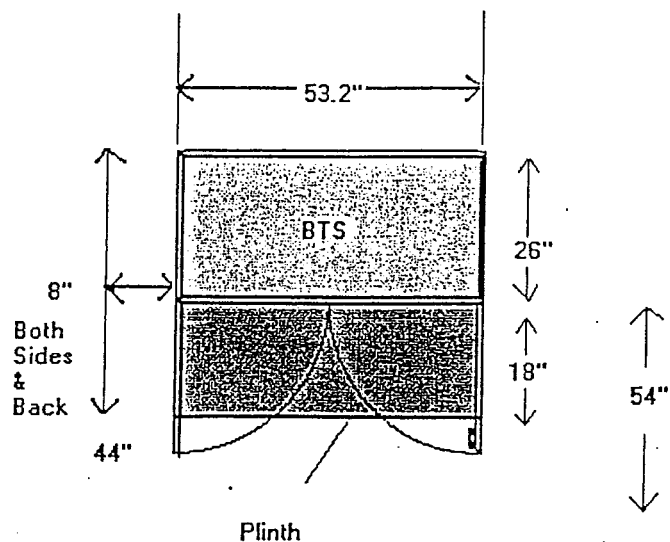
Weight:
 87 pounds

Dimensions:
 53.2"W x 44"D x 10.2"H

Floor Characteristics

Minimum Floor Resistance:
 123 pounds/foot²

Flatness:
 ¼ inch over 78 inches



Electrical Specifications

Split Single-Phase

3 wires plus ground

L1: Black 6 gauge

L2: Red 6 gauge

Neutral: White 6 gauge

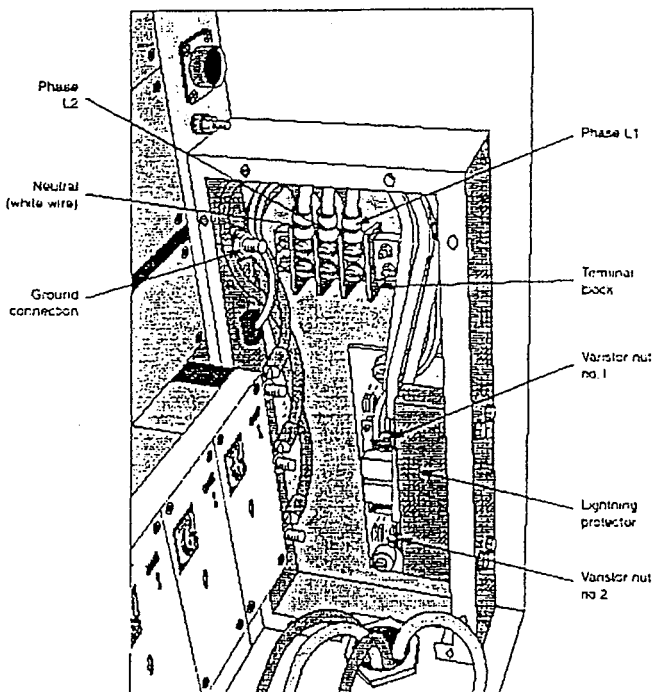
Ground: Yellow/Green 6 gauge

Maximum distance between AC box and BTS: 105 feet

187 ~ 254 VAC between L1 and L2

99 ~ 127 VAC between Neutral and L1 or L2

45 ~ 65 Hertz



AC connection to BTS located at the front, lower, right-hand side of BTS

Circuit Breaker in AC Box

Up to 4 transmitters

30 A, bipolar, C curve

5 or more transmitters

40A, bipolar, C curve

BTS to Ground connection

Minimum 2 AWG, run in most direct route as possible towards true earth, minimizing bends. No bend shall be less than 90 degrees.

Exhibit B

Equipment Specifications

1925-30 East Main Street

Torrington, CT

Voicestream
WIRELESS

100 RILEY STREET
BLOOMFIELD, CT 06002
OFFICE: (860) 442-7100
FAX: (860) 442-7100

PROJECT INFORMATION:

TORRINGTON
CT-11-536A
SBA
1455 EAST MAIN STREET
TORRINGTON, CT
LITCHFIELD COUNTY

CURRENT ISSUE DATE:

10/24/00

ISSUED FOR:

LEASE EXHIBIT

REV. DATE DESCRIPTION BY

REV.	DATE	DESCRIPTION	BY
1	10/24/00	ISSUED FOR LEASE EXHIBIT	TK

PLANS PREPARED BY:

SCIENTECH.

44 SHELTER ROCK RD.
ANDOVER, CT 06810
TEL: 203-741-8810
FAX: 203-741-8810

APPROVALS:

PROPERTY OWNER
ZONING
CONSTRUCTION
OPERATIONS
RF
NETWORK
CONTRACTOR

DRAWN BY: CRK. APV.

TK RC SC

LICENSE:

SHEET TITLE:

ELEVATION

SHEET NUMBER: REVISION:

L2

A

☉ OF FUTURE CARRIER

EL = 153'-0"

T/ MONOPOLE

EL = 153'-0"

☉ OF FUTURE CARRIER

EL = 143'-0"

☉ OF VS ANTENNAS

EL = 133'-0"

NOTES

1. DIAMETER OF POLE
AT ANTENNA APPROX.
2'-6"

SBA, INC

By [Signature]
(Authorized Signature)

Name: Edward G. Dupont
Title: Construction Coordinator

Date: 10/30/00

PROPOSED (6)
EMS RR90-17-02DP
ANTENNAS ON
FRED A. NUDD CORP.
LOPRO PLATFORM

(E) NUDD MONOPOLE

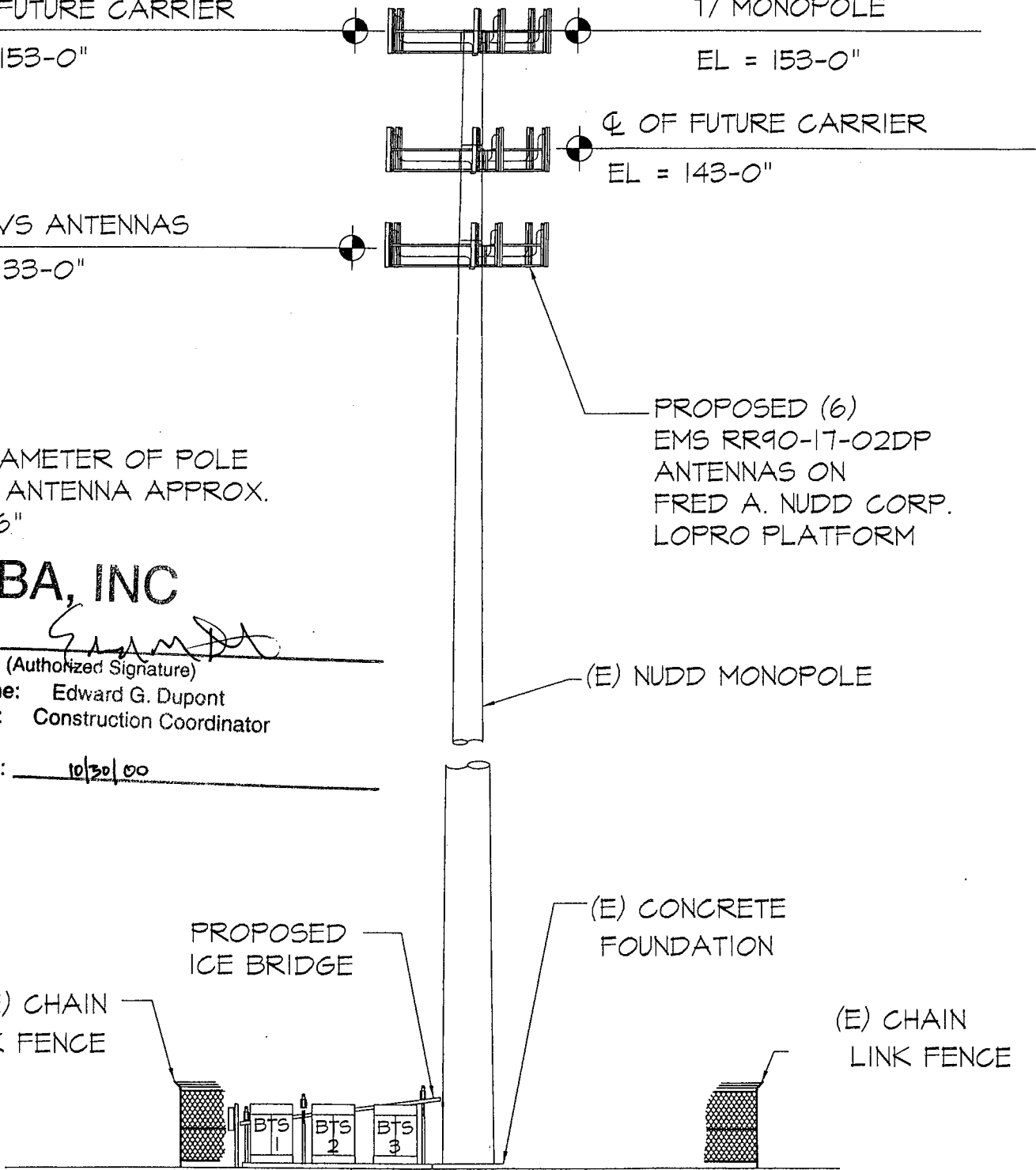
(E) CONCRETE
FOUNDATION

(E) CHAIN
LINK FENCE

PROPOSED
ICE BRIDGE

(E) CHAIN
LINK FENCE

PROPOSED LOCATION
OF VOICESTREAM
EQUIPMENT ON 10'x20'
CONCRETE SLAB





150 HILLY STREET
BLOOMFIELD, CT 06002
OFFICE: (860) 843-7800
FAX: (860) 843-7818

PROJECT INFORMATION:

TORRINGTON
CT-11-536A
SBA
1125 WEST MAIN STREET
TORRINGTON, CT
LITCHFIELD COUNTY

CURRENT ISSUE DATE:
10/24/00

ISSUED FOR:

LEASE EXHIBIT

REV./DATE DESCRIPTION BY

REV./DATE	DESCRIPTION	BY
10/24/00	ISSUED FOR LEASE EXHIBIT	TK

PLANS PREPARED BY:



44 SHELTER ROCK RD.
DANBURY, CT 06810
TEL: 203-746-5300
FAX: 203-746-5272

APPROVALS:

PROPERTY OWNER _____
ZONING _____
CONSTRUCTION _____
OPERATIONS _____
RF _____
NETWORK _____
CONTRACTOR _____

DRAWN BY: CHK. APV.

TK RC SG

LICENSURE:

SHEET TITLE:

SITE PLAN

SHEET NUMBER: REVISION:

L1 A

PROPOSED VSW
EQUIPMENT SET ON 10'X20'
CONCRETE SLAB

PROPOSED UNDERGROUND ELEC AND TELCO
FROM DEMARC TO LOAD CENTER AND 2'X3'
HOFFMAN BOX

(E) ELECTRICAL AND TELCO
DEMARC LOCATION

SBA, INC

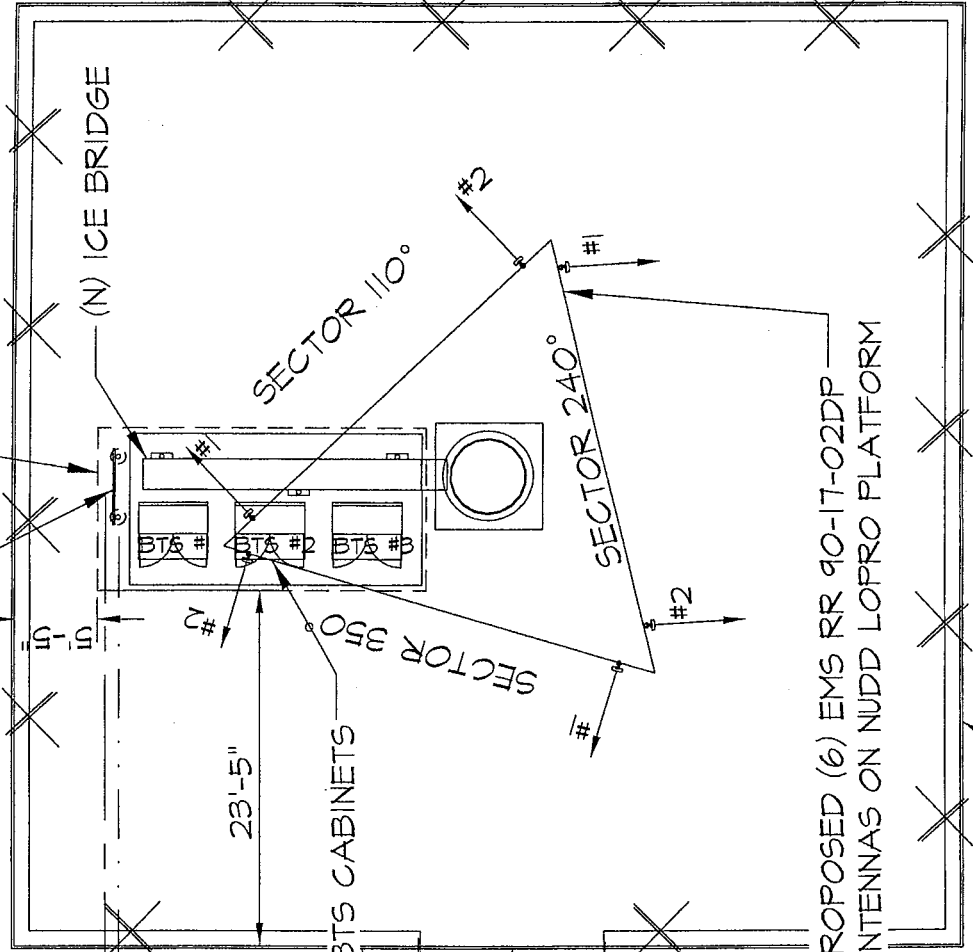
By [Signature]
(Authorized Signature)

Name: Edward G. Dupont

Title: Construction Coordinator

Date: 10/3/00

(3)(N) NORTEL S8000 BTS CABINETS



(E) GRAVEL PARKING
AND ACCESS DRIVE
PROPOSED (6) EMS RR 90-17-02DP
ANTENNAS ON NUDD LOPRO PLATFORM

(E) 60x60 COMPOUND AREA

30 44 2300

Exhibit C

Structural Analysis
1925-30 East Main Street
Torrington, CT



AMB ENGINEERING, INC.

Ara M. Baltayan, P.E.

President

536

*P.O. Drawer AMB
Amity Station
New Haven, CT 06525-0135*

*(203) 397-2713
Fax: (203) 389-4069*

October 26, 2000

Scientech Inc.
44 Shelter Rock Road
Danbury, CT 06810

Attention: Ms Susan Cook, Project Manager

Re: review/Evaluation and certification of 12 VoiceStream Antennas mounted at 131' elevation on a pole located at 1925-1931 East Main St. Torrington, CT. Scientech Project 17193-0026. CT-11-536

Dear Susan:

Per your request I reviewed the specifications and drawings provided by Scientech Inc. for the above referenced installation of VoiceStream antennas on an existing 165' Model MJ-160 monopole tower manufactured by Fred A. Nudd Corporation. The pole has been installed a few months ago.

Drawings T-1, C-1, C-2, C-3, C-4, A-1, E-1, E-2, E-3, LA-1 prepared by Erdman Anthony Consulting Engineers of NY signed and sealed by Wayne E. Bonesteel a Licensed Professional Engineer in Connecticut show the details of the installation of the pole and the site. A structural design analysis by the pole manufacturer shows that the pole has been designed to withstand 80MPH wind speed with 1/2" radial ice and the wind/ice reduction per ANSI/EIA/TIA-222-F recommended standards and for the following antenna attachments.

12 DB896 antennas mounted on 14' low profile platforms located at the following elevations: 165', 155', 145', 135' and 125' respectively.

Presently the pole has no antennas attached and Scientech proposes to mount an array of 12 VoiceScreen antennas with the platform centerline at 131' elevation which roughly corresponds to the 135' elevation used in the original structural analysis.


With only one set of antennas proposed at this time at an elevation allocated for such installation in the design stage of the pole and considering that the foundation of the pole is in agreement also with the design, a re-evaluation of the structural integrity of the pole is not necessary.

Scientech Inc.

Therefore it is my professional opinion that the proposal of Scientech Inc. to install the antenna array at elevation 131' is totally safe and does not degrade the structural integrity of the monopole.

Future loading of the pole with equipment shall be subject to re-evaluation.

Sincerely,
AMB ENGINEERING INC.


Ara M. Baltayan, PE
President

Attach.

AMB.ab.

Exhibit D

Power Density Calculations

1925-30 East Main Street

Torrington, CT



100 Filley St., Bloomfield, CT 06002
Phone: (860) 692 - 7129
Fax: (860) 692 - 7159

Technical Memo

To: Brendan Sharkey
From: Haider Syed (Radio Engineering Consultant)
cc: Mike Fulton
Subject: Power Density Report for CT11536
Date: 11/1/00

1. Introduction:

This report is the result of an Electromagnetic Field Intensities (EMF - Power Densities) study for the proposed VoiceStream Wireless PCS antenna installation on SBA Tower at 1925-30 Main St, Torrington CT. This study incorporates the most conservative considerations 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 the Voicestream transmitters are in the 1930-1945 MHz frequency band.
- 2) The antenna cluster consists of three sectors, with two antennas per sector. The model number for each antenna is EMS RR90 17 02 DP
- 3) The antenna height is 133 feet centerline.
- 4) The maximum transmit power from each sector is 1927.04 Watts Effective Isotropic Radiated Power (EiRP) assuming four channel capacity.
- 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 proposed VoiceStream Wireless, PCS antenna installation on SBA Tower at 1925-30 Main St, Torrington CT is 0.023901 mw/cm². This value represents only 2.3901% of the Maximum Permissible Emission (MPE) standard of 1000 microwatts per square centimeter ($\mu\text{w}/\text{cm}^2$) set forth in the FCC/ANSI/IEEE C95.1-1991. The combined Power Density with other carriers will be 11.0684 % of the standard. Details are shown in the attachment. 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 for Antenna installation on SBA Tower at 1925-30 Main St, Torrington CT

Region 11 - Connecticut	
Power Density Calculation - Worst Case	
Base Station TX output	20 W
Number of channels	4
Antenna Model	EMS: RR-90-17/ RV-90-17
Antenna Gain	16.5 dBi
Cable Size	1 5/8"
Cable Length	145 ft
Jumper & Connector loss	1 dB
Cable Loss per foot	0.0116
Total Cable Loss	1.682 dB
Total Attenuation	2.682 dB
Total EIRP per channel	56.83 dB
Total EIRP per sector	62.85 dB
Ground Reflection	1.6
Frequency	1930 MHz
Antenna Height	133 ft
nsg	13.818
Power Density (S) =	0.023901 mW / cm ²
% MPE =	2.3901%

% MPE for Nextel = 2.788 %
 % MPE for Sprint = 5.8903 %
 * Additional % MPE contribution Omnipoint = 2.39 %
 Total % MPE with carriers = 11.0684 %

Equation Used :

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

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

* 0.46 % submitted previously