



STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

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

December 23, 2002

William Parker
RCR Development, LLC
1 Kalisa Way, Suite 308
Paramus, NJ 07652

RE: **EM-T-MOBILE-126-021209** - Omnipoint Communications, Inc. (Omnipoint Facilities Network 2, LLC) d/b/a T-Mobile notice of intent to modify an existing telecommunications facility located at 219 Nells Rock Road, Shelton, Connecticut.

Dear Mr. Parker:

At a public meeting held on December 19, 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 December 9, 2002. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

This decision is under the exclusive jurisdiction of the Council. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

Thank you for your attention and cooperation.

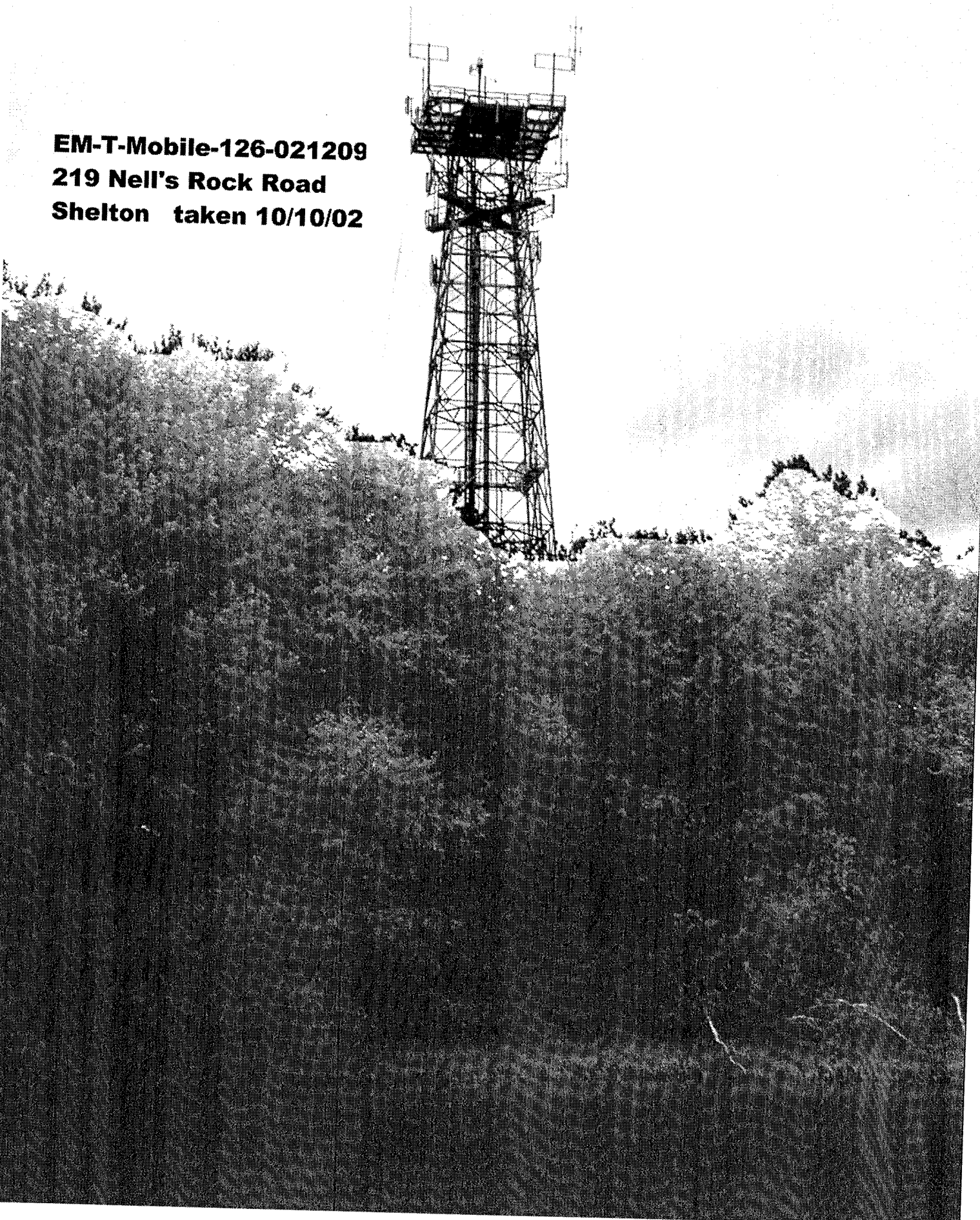
Very truly yours,

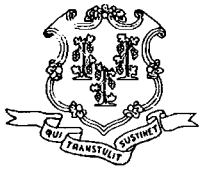
Mortimer A. Gelston
Chairman

MAG/laf

c: Honorable Mark A. Lauretti, Mayor, City of Shelton
Richard Schultz, Planning Administrator, City of Shelton
Dawn Holmes, SNET
Michele G. Briggs, Southwestern Bell Mobile Systems
Christopher B. Fisher, Esq., Cuddy & Feder & Worby

EM-T-Mobile-126-021209
219 Nell's Rock Road
Shelton taken 10/10/02





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

December 10, 2002

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

RE: **EM-T-MOBILE-126-021209** - Omnipoint Communications, Inc. d/b/a T-Mobile notice of intent to modify an existing telecommunications facility located at 219 Nells Rock Road, Shelton, Connecticut.

Dear Mayor Laretti:

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

The Council will consider this item at the next meeting tentatively scheduled for Thursday, December 19, 2002, at 1:30 p.m., in Hearing Room One, Ten Franklin Square, New Britain, Connecticut.

Please call me or inform the Council if you have any questions or comments regarding this proposal.

Thank you for your cooperation and consideration.

Very truly yours,

S. Derek Phelps
Executive Director

SDP/slm

Enclosure: Notice of Intent

c: Richard Schultz, Planning Administrator, City of Shelton

RCR Development, LLC

1 Kalisa Way, Suite 308
Paramus, New Jersey 07652
O (201) 262-2229 F (201) 262-2126

RECEIVED

DEC 09 2002

CONNECTICUT
SITING COUNCIL

December 9, 2002

S. Derek Phelps
Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

RE: T-Mobile notice of intent to modify an existing telecommunications facility located at 219 Nells Rock Road, Shelton, CT.

Dear Mr. Phelps:

I have enclosed one original plus 20 copies of the attached Notice of Modification. Also enclosed is the filing fee of one check in the amount of \$500.00. Please stamp one copy as received and return in the self-addressed envelope provided.

Thank you.

Respectfully submitted,
RICHARD CONNOR RILEY & ASSOCIATES AS AGENT FOR T-MOBILE .



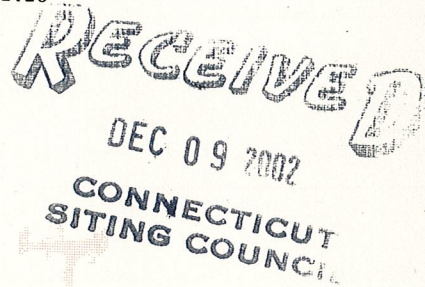
William Parker

RCR Development, LLC

1 Kalisa Way, Suite 308
Paramus, New Jersey 07652
O (201) 262-2229 F (201) 262-2126

December 9, 2002

S. Derek Phelps
Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051



RE: T-Mobile notice of intent to modify an existing telecommunications facility located at 219 Nells Rock Road, Shelton, CT.

Dear Mr. Phelps:

Please be advised that Richard Connor Riley & Associates, L.L.C. represents Omnipoint Communications, Inc. a.k.a. T-Mobile (formerly VoiceStream Wireless Corporation) in the above-referenced matter. Pursuant to Connecticut General Statutes §16-50aa, T-Mobile hereby requests an order from the Connecticut Siting Council ("Council") to approve the proposed upgrade of existing equipment, currently approved for shared use by the applicant of an existing tower located at 219 Nells Rock Road, Shelton, CT. T-Mobile proposes to replace its existing antennas with twelve new antennas at the same elevation on the existing tower and to add two new Nortel S12000 BTS cabinets located within the existing equipment room (see "Exhibit A"). 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 Rick Shultz, Zoning Enforcement Officer.

Background

Effective as of the May 31, 2001 merger between Deutsche Telekom AG and T-Mobile, the corporate structure of T-Mobile has changed. T-Mobile 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. T-Mobile 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 tower at 219 Nells Rock Road is a Southern New England Telephone Company 180 foot tower located on a Southern New England Telephone Company site. The coordinates for the site are 41°18'-15" N and 73°-07'-06" W. The tower and surrounding land are owned by Southern New England Telephone Company. T-Mobile and the tower owner have agreed to mutually acceptable terms and conditions for the proposed shared use of this tower, and the tower owner has authorized T-Mobile 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.

The compound layout of the tower site is shown in the attached Exhibit A. Existing antennas are listed on the structural analysis, attached as Exhibit C and also shown on the elevation drawing LE-3 as part of Exhibit A. T-Mobile proposes to remove its current antennas at the approximate one hundred forty foot (140') centerline above the tower base plate ("ATBP"). T-Mobile proposes to replace the six existing panel antennas with twelve new antennas mounted on the existing platform to the tower. The new antennas will be comprised of an antenna cluster of three sectors, with four antennas per sector at the same one hundred forty foot (140') centerline ATBP level (total of twelve). The model number for each sector is EMS RR90-17-02 DP. The radio transmission equipment associated with these antennas is being updated. As stated above, two new Nortel S12000 BTS cabinets mounted on the floor of the existing equipment room (see "Exhibit A"). No changes will be made to the compound fence, nor will the size of the compound be affected. Exhibit B contains specifications for the proposed antennas and equipment cabinets.

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

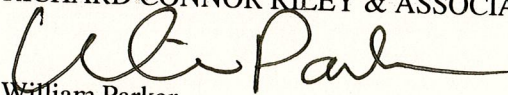
1. The proposed modification will not increase the height of the tower. T-Mobile's new antennas will be installed with a centerline of approximately one hundred forty foot (140') AGL, the same height of its existing antennas. The enclosed tower drawing confirms that the planned changes will not increase the overall height of the tower.
2. The installation of T-Mobile equipment, as reflected on the attached site plan, will not require an extension of the site boundaries. T-Mobile's proposed equipment cabinets will be replacing 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. T-Mobile's equipment is self-contained and requires no additional heating, ventilation or cooling equipment.
4. The operation of the additional antenna 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, T-Mobile respectfully submits that the proposed addition of antennas and equipment at the Shelton 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,

RICHARD CONNOR RILEY & ASSOCIATES AS AGENT FOR T-MOBILE .


William Parker

Attachments

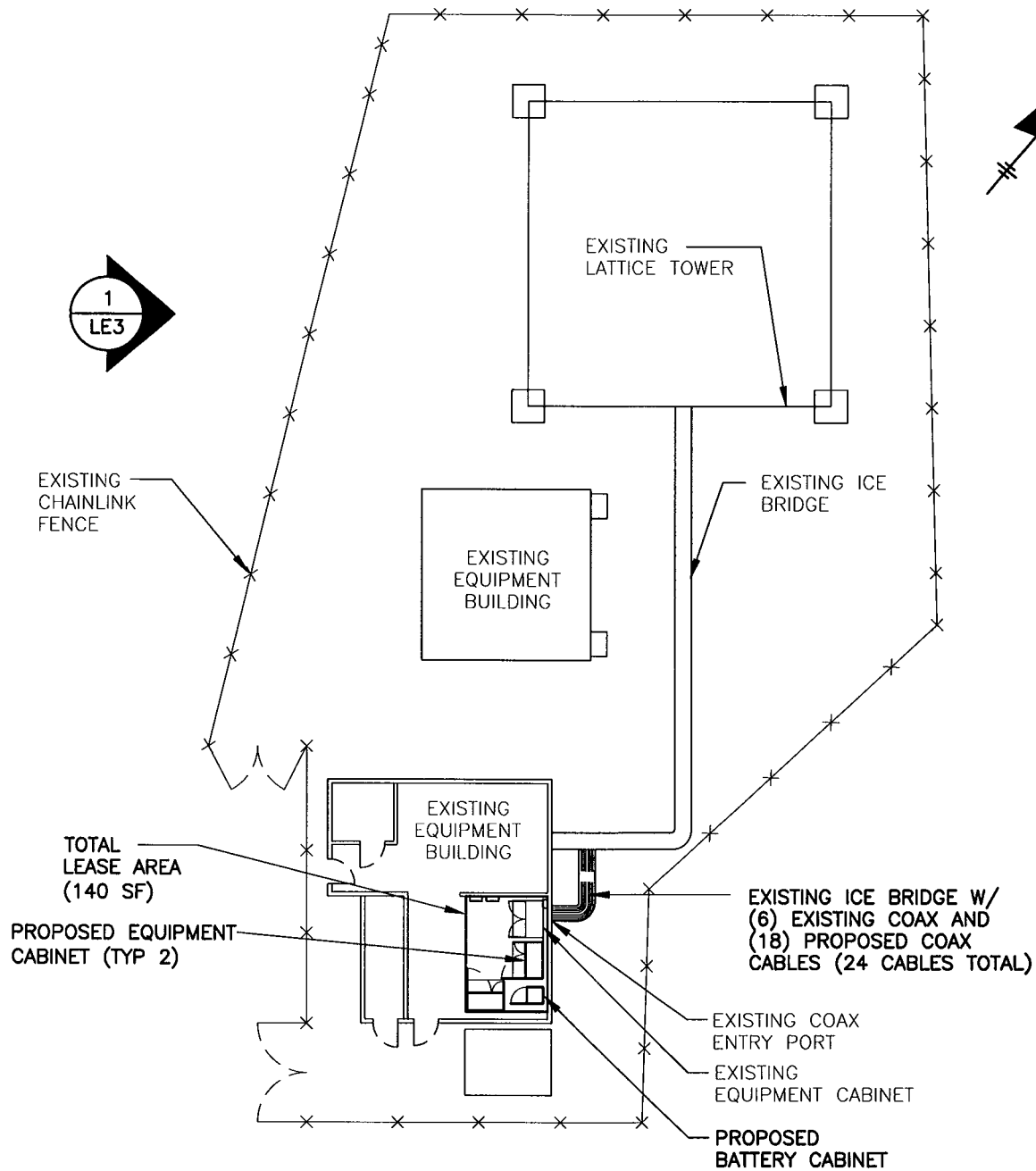
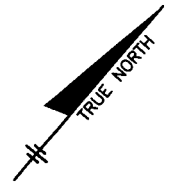
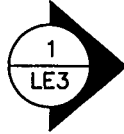
cc: Honorable Mark A. Lauretti, Mayor, City of Shelton
Rick Shultz, Zoning Enforcement Officer, City of Shelton

CT-11-199A

Chicago Detroit Denver San Diego Rochester New York
St. Louis San Francisco Boston Los Angeles Cincinnati

Exhibit A

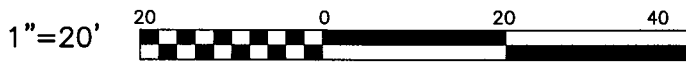
Compound Layout



OVERALL SITE PLAN

TOTAL LEASE AREA: 140 SF

SCALE: 1"=20'



1. THE OWNER AND OMNIPPOINT HEREBY AGREE TO THE GENERAL CONCEPTUAL DESIGN DEPICTED ON THIS LEASE EXHIBIT. THE EXACT LOCATIONS OF EQUIPMENT, CABLES, UTILITIES, AND ANTENNAS ARE SUBJECT TO FINAL ENGINEERING DESIGN AND MAY VARY TO COMPLY WITH ALL APPLICABLE CODES.
2. THE INFORMATION SHOWN IS TAKEN FROM A TAPE SURVEY PERFORMED BY "PACIFIC 17" DURING THE SITE VISIT.
3. 24/7 ACCESS IS REQUIRED FOR OMNIPPOINT SERVICE TECHNICIAN.
4. ELECTRIC AND TELEPHONE SERVICES SHALL BE CONFIRMED PRIOR TO CONSTRUCTION DOCUMENT PHASE.
5. FUTURE GOVERNMENT MANDATES - NOTWITHSTANDING ANYTHING TO THE CONTRARY IN THE AGREEMENT, LESSEE SHALL ALSO HAVE THE RIGHT, AT ITS SOLE EXPENSE, TO ERECT AND MAINTAIN ON THE PREMISES, ANY EQUIPMENT OR SYSTEM THAT, IN THE FUTURE, MAY BE MANDATED BY ANY FEDERAL, STATE, COUNTY, OR MUNICIPAL AGENCY/DEPARTMENT, INCLUDING A LOCATION-BASED SYSTEM, WHICH MAY CONSIST OF, WITHOUT LIMITATION, ANTENNA(S), COAXIAL CABLES, BASE UNITS AND OTHER ASSOCIATED EQUIPMENT.
6. TRUE NORTH SHOWN FOR REPRESENTATION ONLY. CONTRACTOR SHALL VERIFY TRUE NORTH AND ESTABLISH ANTENNA ORIENTATIONS ACCORDINGLY.
7. LOCATION BASED SYSTEM (E-911 EQUIPMENT) TO BE INSTALLED - NOT DEPICTED

LANDLORD:
THE SOUTHERN
NEW ENGLAND TELEPHONE

OWNER INITIALS:
DATE:
OCI INITIALS:
DATE:

APPLICANT/OWNER:
OMNIPPOINT COMMUNICATIONS INC.
AS AGENT FOR:
OMNIPPOINT FACILITIES NETWORK 2, LLC

LEASE EXHIBIT
SITE ADDRESS:
SHELTON BUDDINGTON SITE
219 NELLS ROCK ROAD
SHELTON, CT 06484

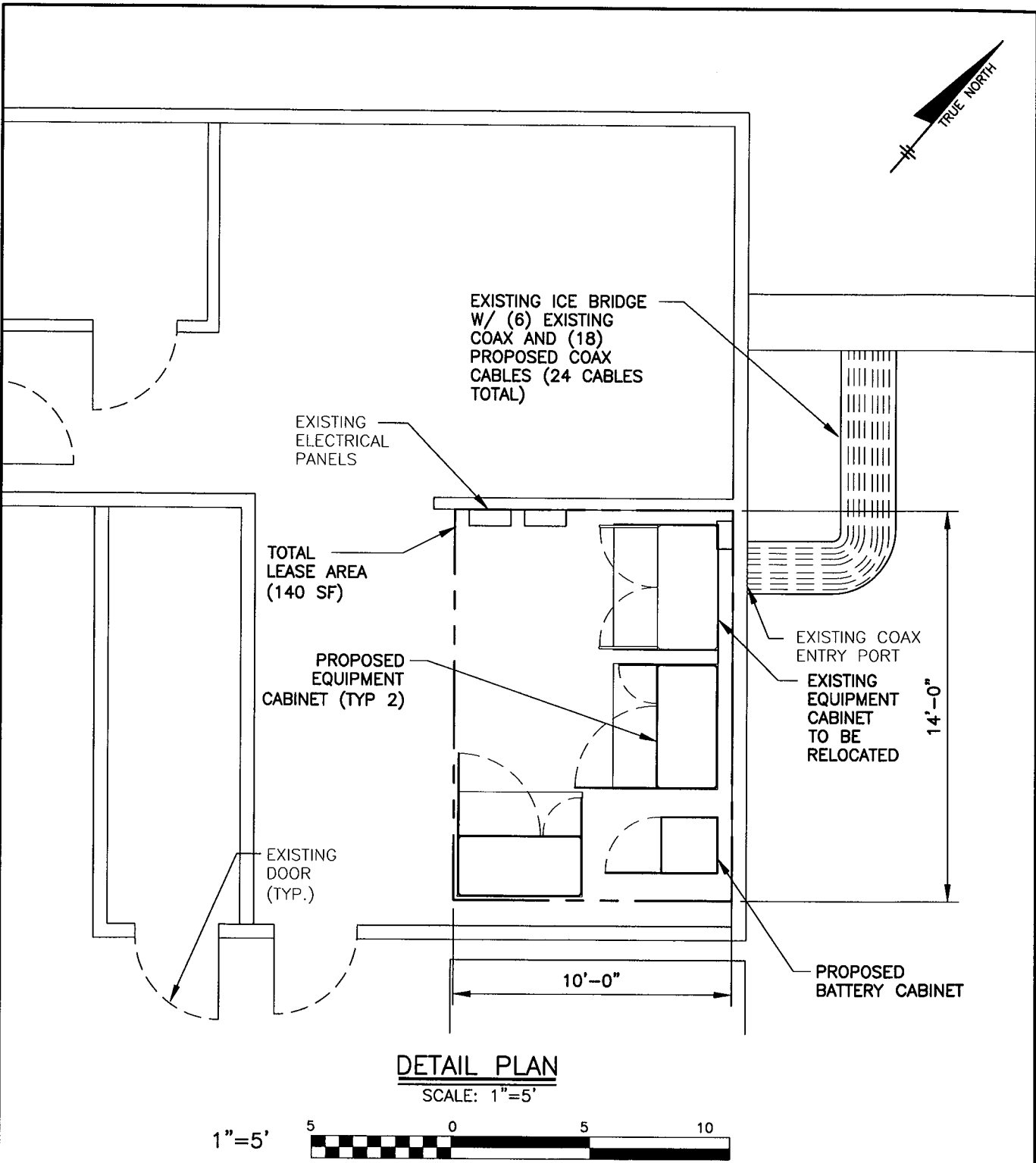
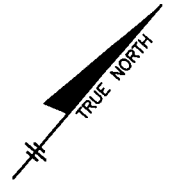
ALCOA
AFL Telecommunications
Wireless Services
Plant 17, Inc.
2000 Regency Parkway, Suite 100
Cary, NC 27511-8596
Office (919) 442-0981
Fax (919) 442-0980

2	11/7/02	RE-ISSUED FOR LEASE
1	10/29/02	RE-ISSUED FOR LEASE
0	10/9/02	ISSUED FOR LEASE
REV.	DATE	DESCRIPTION
Scale: AS NOTED		Date: 9/13/02
Job No. 1356-007		Dwn. By: CHS

Dwg. No.
LE-1

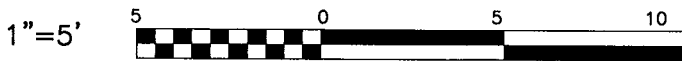
SITE ID NO.
CT-11-199A

Dwg. 1 OF 3



DETAIL PLAN

SCALE: 1"=5'



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LANDLORD:
THE SOUTHERN
NEW ENGLAND TELEPHONE

OWNER INITIALS:
DATE:

OCI INITIALS:
DATE:

APPLICANT/OWNER:

AS AGENT FOR:
OMNIPPOINT FACILITIES NETWORK 2, LLC

LEASE EXHIBIT

SITE ADDRESS:
**SHELTON
BUDDINGTON SITE**
219 NELLS ROCK ROAD
SHELTON, CT 06484

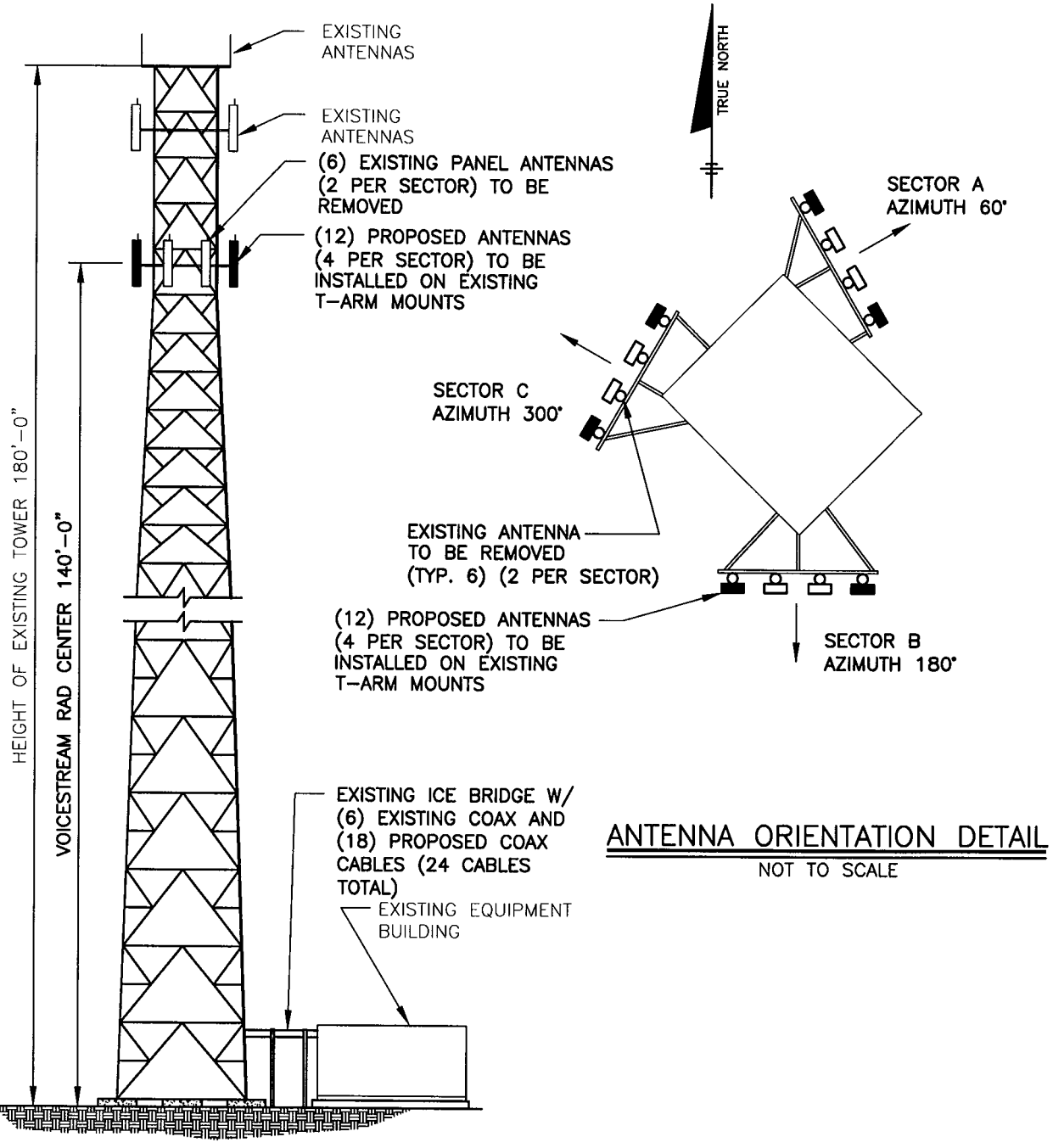
AFL Telecommunications
Wireless Services
Pacific 17, Inc.
2000 Agency Parkway, Suite 100
Cary, NC 27511-8306
Office (919) 482-0981
Fax (919) 482-0988

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0	10/9/02	ISSUED FOR LEASE
REV.	DATE	DESCRIPTION
Scale: AS NOTED		Date: 9/13/02
Job No. 1356-007		Dwn. By: CHS

Dwg. No.
LE-2

SITE ID NO.
CT-11-199A

Dwg. 2 OF 3



ELEVATION 1
NOT TO SCALE LE3

ANTENNA ORIENTATION DETAIL
NOT TO SCALE

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LANDLORD:
**THE SOUTHERN
NEW ENGLAND TELEPHONE**

OWNER INITIALS:
DATE:
OCI INITIALS:
DATE:

APPLICANT/OWNER:
OMNIPPOINT
COMMUNICATIONS INC.

AS AGENT FOR:
OMNIPPOINT FACILITIES NETWORK 2, LLC

LEASE EXHIBIT

SITE ADDRESS:
**SHELTON
BUDDINGTON SITE**
219 NELLS ROCK ROAD
SHELTON, CT 06484

ALCOA

AFL Telecommunications
Wireless Services
Pacific 17, Inc.
2000 Rooney Parkway, Suite 190
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Office (919) 462-0961
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REV.	DATE	DESCRIPTION
Scale: AS NOTED		Date: 9/13/02
Job No. 1356-007		Dwn. By: CHS

Dwg. No.
LE-3

SITE ID NO.
CT-11-99A

Dwg. 3 OF 3

Exhibit B

Equipment Specifications

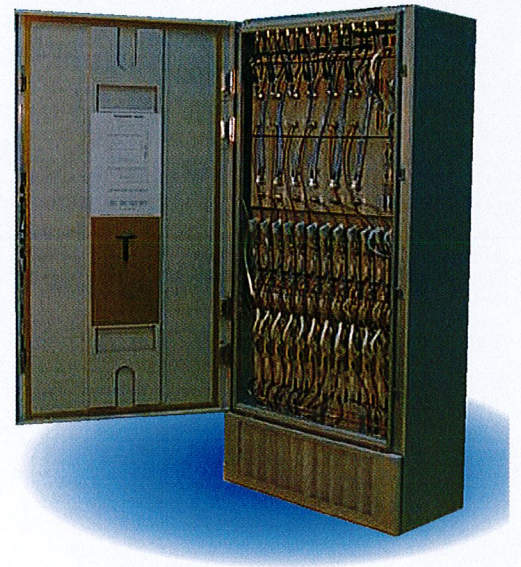
Nortel Networks

BTS S12000

As the mature GSM industry moves into the world of data, pressure has increased on capacity and so network enhancement and development costs are rising. The S12000 BTS is a product that should meet the needs of a mature GSM market by increasing site capacity and at the same time lowering the risks and the costs of introduction for existing S8000 customers. The S12000 BTS is aimed at offering high capacity in a cost effective unit, giving the right balance between product advancement, increased capacity and reduced costs.

The S12000 is built on an existing stable platform, the S8000, which is known for its quality and robustness. The reuse of a considerable amount of technology should help lower the risk and cost for the operators when introducing this new product into a mature network.

In the GSM voice and packet data environment, Nortel Networks offers an industry winning mix of quality, support and know-how only available from a company with a pedigree in carrier grade products covering voice and data.



The high capacity cell site

Pressure is building on GSM network capacity and spectrum efficiency. To address the growing needs of GSM capacity, Nortel Networks is introducing the S12000 BTS, which is an innovative development of the S8000 BTS. This innovative approach to network expansion and development is aimed at providing high capacity sites installed with low risk, reduced network impact and a lower cost of ownership.

The approach should bring protection for past investments and operational efficiency. New high capacity sites can now be added to the network or existing S8000 sites can be extended with the S12000 providing a single integrated high capacity BTS. A granularity of one carrier per TRX module adds to the flexibility of the S12000.

The S12000 could become a key component to the delivery of more capacity within a GSM/GPRS network and to drive down network costs. The S12000 offers nearly double the capacity of the S8000, thereby offering a more compact site and improved operational efficiency.

Lowering the cost of ownership and network introduction

It is not just the introduction of this evolution of a field proven and reliable technology that should reduce the cost of ownership but also the reduced spares holding and training requirements. By the design of the S12000, Nortel Networks has aimed to reduce the cost of introducing the S12000 into a mature GSM network. The S12000 should offer

the operator considerable savings in CAPEX and OPEX since all modules and skills are usable within the S8000 and S12000 BTS. The operator does not have to change the network Engineering and Operational procedures on the existing S8000 network.

Low introduction costs are invaluable when facing the financial pressures of network enhancements such as GPRS or new services such as UMTS. The use of the S12000 should put the operator in a position to make efficient use of all resources and reduce network complexity relieving pressure on investment and cash flow.

NORTEL
NETWORKS™



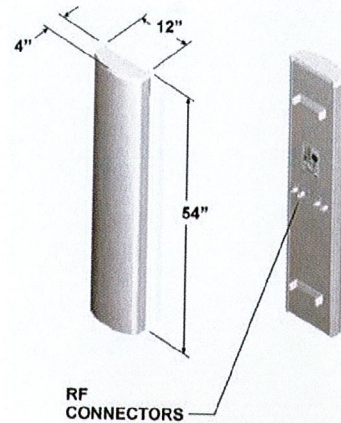
DR85-17-XXDPL2Q

Dual DualPol® Polarization
1850 MHz - 1990 MHz

OptiRange™
Suppressor™

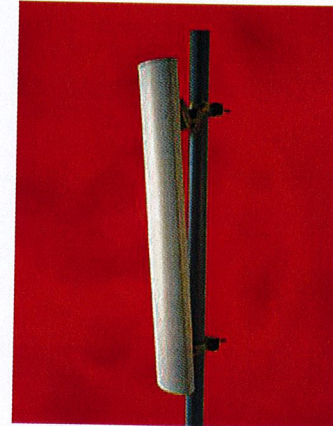
Electrical Specifications

Azimuth Beamwidth (-3 dB)	88°
Elevation Beamwidth (-3 dB)	6.4°
Elevation Sidelobes (Upper)	≥ 14.5 dB
Gain	16.2 dBi (14.1 dBd)
Polarization	Quad Linear, Slant (± 45°)
Port-to-Port Isolation	≥ 30 dB
Front-to-Back Ratio	≥ 33 dB
Electrical Downtilt Options	2°, 4°, 6°
VSWR	1.35:1 Max
Connectors	4; 7-16 DIN (female)
Power Handling	250 Watts CW
Passive Intermodulation	≤ -150 dBc
Lightning Protection	[2 x 20W (+ 43 dBm)] Chassis Ground



Mechanical Specifications

Dimensions (L x W x D)	54 in x 12 in x 4 in (137.2 cm x 30.5 cm x 10.2 cm)
Rated Wind Velocity	130 mph (209 km/hr)
Equivalent Flat Plate Area	4.5ft ² (.42 m ²)
Front Wind Load @ 100 mph (161 kph)	130 lbs (576 N)
Side Wind Load @ 100 mph (161 kph)	43 lbs (192 N)
Weight	24 lbs (11 kg)

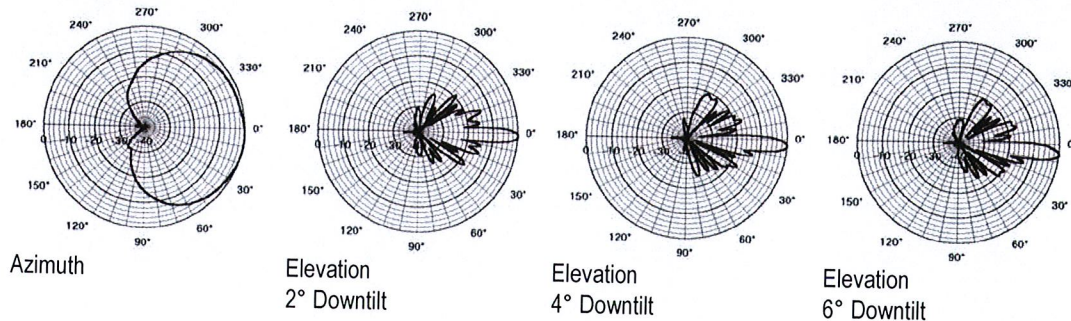


Mounting Options

MTG-P00-10, MTG-S02-10, MTG-DXX-20*, MTG-CXX-10*, MTG-C02-10, MTG-TXX-10*

Note: *Model number shown represents a series of products. See Mounting Options section for specific model number.

Patterns



Revised 05/14/02

Modular and flexible

The S12000 supports twelve TRX per cabinet and offers cost effective configurations from 2 to 16 TRX per cell in a tri-sector configuration. A dual band configuration of 6 + 6 TRX can be supported in a single cabinet for all coupling configurations. The integrated extension of existing S8000 sites gives increasable flexibility and investment protection.

High Performance

The Nortel Networks family of BTS holds a high market position for reliability, operability and service quality. The BTS provides high quality voice and data services, high coverage and building penetration and smooth call handovers.

It possesses many advanced RF feature to improve spectral usage and optimisation and so increase available capacity. The planned introduction of AMR and EDGE capabilities in the near future should further enhance spectrum efficiency. These high performance qualities are extremely important with the introduction of GPRS services.

The high performance radio and advanced digital processing of the S12000 provide one of the highest receive sensitivity in the market today, offering -115 dBm guaranteed and without the need for masthead amplifiers (-117dBm typical). The high performance radio enhances the resistance to interference, improving voice quality, data throughput, cell

coverage and service availability. Nortel Networks experience in frequency hopping, fractional re-use, cell tiering and multi-layer management algorithms provide high spectrum efficiency which releases more capacity from a fixed allocation of spectrum.

Growing the business and ensuring success

The S12000 is future ready. The high capacity and flexibility, the introduction of AMR and EDGE, puts the operator in a position to meet the challenges and opportunities of GSM/GPRS. These advantages should enable the operator to capture new revenue, improve profitability and gain a better return on investment as the network develops and moves forward.

Technical Specifications

Frequency range		900 MHz GSM / 900 MHz Extended GSM 1800 MHz GSM and Dual Band GSM 900 / 1800 850 MHz GSM 1900 MHz GSM and Dual Band GSM 850 / 1900
Receive sensitivity	w/o diversity	-110 dBm guaranteed (w/o TMA)
	with diversity	-115 dBm guaranteed (w/o TMA)
Dimensions	Height	1950 mm
	Width	910 mm
	Depth	450 mm
Weight	Empty cabinet	125 kg
	Fully equipped	345 kg
Capacity	Standard	12 TRX per radio cabinet Up to 3 radio cabinets
	Optional	Up to 4 radio cabinets
Configuration	Monoband Trisectorial	Up to S16-16-16 (4 radio cabinets)
	Dual Band Trisectorial	S222_222 (1 radio cabinet) Mono-BCCCH dual band cells
	Cell Splitting	Cell splitting across radio cabinets
Amplifier output power	Standard	30W (+/- 0.5 dB)
	Optional	60W (+/- 0.5 dB)
Transmission coupling		All coupling configurations From Duplexers to 4 Ways Hybrid Coupling (H4D)
Power control	Static	6 steps of 2 dB
	Dynamic	15 steps of 2 dB
Frequency Hopping		RF Synthesised
Supported vocoders		Full Rate (FR)
		Enhanced Full Rate (EFR)
		Adaptive Multi-Rate - Full Rate (AMR FR)
		Adaptive Multi-Rate - Half Rate (AMR HR)
Encryption algorithms		A5/1 & A5/2
Power supply	Nominal	DC -48 V
Operational temperature range		-5°C to +45°C
Max acoustic noise		65 dB(A)
Backhaul	Standard	6 E1 / T1 links
	Optional	8 E1 / T1 links

In North America,
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Tel : 1-800-4-Nortel
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66185.13/02-02

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NETWORKS™

Exhibit C

Structural Analysis



BAYAR ENGINEERING, P.C.
Structural Engineers

P.O. Box 1287, Port Chester, N.Y. 10573-8287
TEL: (914) 681-8749 FAX: (914) 421-0416

Demirtas C. Bayar, P.E.

November 20, 2002

Mr. Bill Parker
Richard Connor Riley & Associates, L.L.C.
15 Prospect Street
Paramus, NJ 07652

Re: Shelton, CT tower
Your Project # 1230, Location: CT-11-199
BE Job No. 0220

Dear Bill,

We analyzed the existing 162'-6" type A tower at Shelton, CT for a condition of installing twelve new DR85-17-XXDPL20 cellular antennas at the 140' level of the tower. These antennas will be in addition to the existing antennas as well as the recently proposed six Allgon (AT&T) antennas on T arm mounts.

We assumed that the twelve new antennas you propose to install will be mounted on three frames similar to those that exist at the 150' level. Should you use a different mounting frame with an exposed wind surface area larger than those we will need to reanalyze the tower.

We also assumed that a new cable ladder with 24 cables will be installed from the 135' level to the base of the tower. There are three existing cable ladders on the tower. The antenna lay-out we used in our analysis is shown on Sketch 0220.

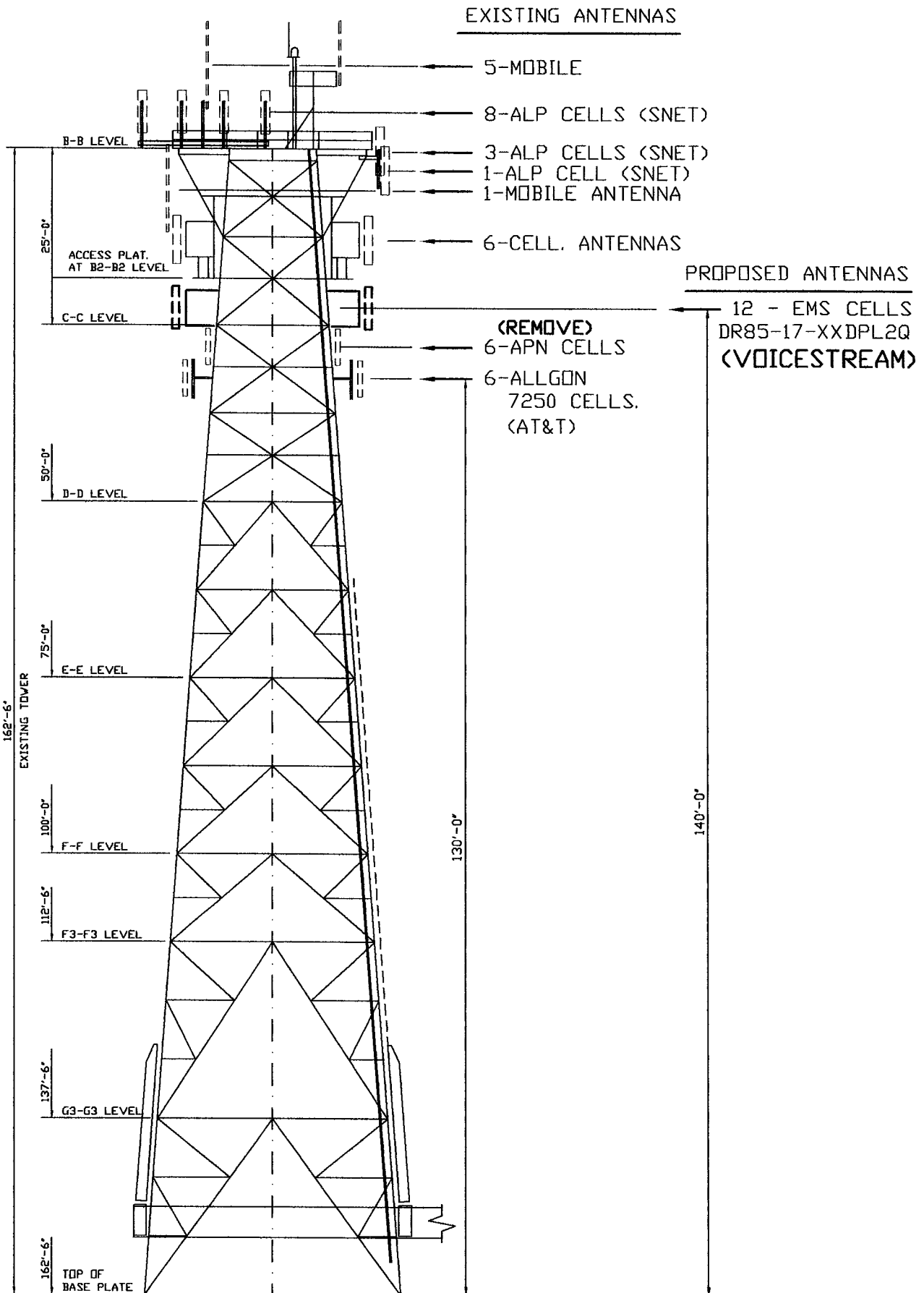
Our analysis indicated that the most critical member of the tower will be stressed to 91% of its capacity; therefore the tower will be adequate to support the loads imposed on it from the existing and proposed antennas.

We would appreciate reviewing the design drawings for the proposed new work.

Yours truly,

Demirtas Bayar, P.E.
President

XC: Derek Alleyn



TOWER ELEVATION

Exhibit D

Power Density Calculations

An Analysis of the Radio Frequency
Environment in the Vicinity of a
Proposed Omnipoint Communications
Expansion Installation

CT-11-199A
219 Nells Rock Road
Shelton, CT

Prepared for
Omnipoint Communications

Prepared by
PierCon Solutions, LLC
December 4, 2002

CONTENTS

1.0 INTRODUCTION.....3

2.0 TECHNICAL DATA4

3.0 MATHEMATICAL ANALYSIS5

4.0 CONCLUSION.....6

5.0 TABLE OF MPE EXPOSURE LIMITS.....7

6.0 REFERENCES8

1.0 INTRODUCTION

This report is an analysis of the radio frequency (RF) environment surrounding an existing lattice tower at 219 Nells Rock Road, Shelton, CT. The analysis includes contributions from the existing wireless carriers and the proposed expansion of Omnipoint's communications facility. Calculations taken from the latest FCC compliance statement for the 219 Nells Rock Road site, Engineering data collected by PierCon Solutions and analytical techniques defined by the Federal Communication Commission's Office of Engineering and Technology Bulletin 65 (OET65) were utilized in calculating the RF fields associated with the proposed expansion. Worst-case assumptions were used in the Omnipoint calculations and actual levels will be significantly lower than the corresponding analytical values.

The results of this analysis indicate that the cumulative level of RF energy that the public may be exposed to is below the Federal Communications Commission (FCC) standards for continuous exposure in all normally accessible areas. Specifically, the worst-case power density from the wireless facility at 6 feet above ground level (AGL) is 15.3332% of the maximum permissible exposure limit for the general public. Therefore, the resulting calculations at street level are more than 6.5 times below the FCC limit for continuous exposure to the general public.

OMNIPPOINT COMMUNICATIONS

2.0 TECHNICAL DATA

The proposed existing Omnipoint communications facility will be expanded to 12 antennas, 4 per sector, with a total of 12 channels per sector. The technical parameters utilized in the analytical study are identified in the tables to follow:

Omnipoint Radio Parameters (Expansion)	
Frequency	1930 MHz
Antenna Centerline Height (AGL)	140 feet
Antenna Type	Directional
Antenna Manufacturer	EMS
Antenna Model	DR85-17-00DPL2Q
Antenna Length	54 inches
Antenna Gain	16.2 dBi
Antenna Tilt	0°
Transmit Power / Channel	20 Watts
Total RF Channels After Expansion	12
Total Loss	5.28 dB
Ground Reflection Factor	.64

Calculations from Latest FCC Compliance Statement:	
Total % MPE of Existing Installations excluding present Omnipoint installation	
Total % of FCC Standard	9.118%

3.0 MATHEMATICAL ANALYSIS

The FCC's Office of Engineering and Technology Bulletin 65 (OET65) defines the appropriate formulas for calculating power density exposure levels. The area of interest in relation to the subject site occurs at ground or street level. This area occurs in the far field of the antenna. Therefore, the far-field formula is utilized for the calculations.

The following FCC-defined far-field formula was utilized in calculating the power density levels:

$$S = (1.64) (GRF) (\text{Number of Channels}) (\text{power W/Channel}) / \pi R^2$$

Where: S = power density in mW/cm²
 GRF = ground reflection factor (0.64)
 R = distance from antenna to street or ground level

The FCC mandates that the calculations make conservative assumptions to insure that the calculations result in worst-case results. Transmitters are assumed to operate continuously and at maximum power whereas in reality transmitters operate intermittently. Additionally, these calculations assume that the point of interest is in the main beam of the antenna, where the gain of the antenna is at a maximum. In reality, the point of interest is rarely in the main beam of the antenna.

The table below indicates the maximum power density levels and maximum % MPE for the general population from the expanded Omnipoint facility calculated at 6' above ground level (AGL), along with the calculations from the existing installations.

Calculations	Maximum Power Density at 6' Above Ground Level (mW/cm ²)	Maximum Permissible Exposure Level at 6' Above Ground
Omnipoint Expanded Facility	0.062152	6.2152%
Existing Installations excluding present Omnipoint installation		9.118%
Total of FCC limit for maximum exposure		15.3332%

4.0 CONCLUSION

This report represents PierCon Solutions' analysis of the RF environment in the vicinity of an Omnipoint Communications expansion facility on an existing lattice tower at 219 Nells Rock Road, Shelton, CT. The analysis includes calculated data for the expanded Omnipoint facility along with calculations from the existing installations. Worst-case assumptions were utilized to assure safe side estimates. The calculated data was referenced against the applicable standard depending upon location and access.

The results of the analysis indicate that the maximum level to which the public may be exposed to is below all applicable health and safety limits. Specifically, in all normally accessible areas, the maximum level will be 15.3332% or more than 6.5 times below the safety criteria for continuous exposure of the general public as defined by the FCC.

Based upon the measurements and calculations provided herein, it is the opinion of PierCon Solutions that the subject site will be in full compliance with the FCC regulations as well as the Connecticut Siting Council, ANSI, IEEE and the NCRP.

5.0 TABLE OF MPE EXPOSURE LIMITS

Table 1. LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

(A) Limits for Occupational/Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f ²)*	6
30-300	61.4	0.163	1.0	6
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6

(B) Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f ²)*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

f = frequency in MHz *Plane-wave equivalent power density

NOTE 1: *Occupational/controlled* limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

NOTE 2: *General population/uncontrolled* exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

6.0 REFERENCES

- [1] FCC OET Bulletin 65, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields", Edition 97-01, August 1997.
- [2] FCC 47 CFR 1.1307 Parts 1, 2, 15, 24 and 97.
- [3] FCC OET Bulletin 56, "Questions and Answers about Biological Effects and Potential Hazards of Radiofrequency Electromagnetic Fields", Fourth Edition, August 1999.
- [4] FCC 47 CFR 1.1310 "Practice and procedure, Radiofrequency radiation exposure limits"
- [5] NARDA "Non-Ionizing Radiation Handbook"
- [6] Rutgers University, "Management of Electromagnetic Energy Hazards", October 1993.
- [7] Telecommunications Act of 1996
- [8] *Report and Order*, ET Docket 93-62, FCC 96-326, adopted August 1, 1996, 61 Federal Register 41,006 (1996), 11 FCC Record 15,123 (1997).
- [9] "Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields," NCRP Report No. 86 (1986), National Council on Radiation Protection and Measurements (NCRP), Bethesda, MD.
- [10] ANSI/IEEE C95.1-1992, "Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz." Copyright 1992, The Institute of Electrical and Electronics Engineers, Inc., New York, NY.

Connecticut Siting Council



Approved by Council _____

Date Complete: _____

Site visit required? _____

File I.D. EM-T-Mobile-126-021209

Address 219 Nell's Rock Road
Shelton

Antenna Replace

Checklist for Exempt Modifications and Tower Sharing

1. Tower Owner SNET Tower Height 180' Type SS1 Total Height _____

2. Proposed Carrier T-Mobile
Number of antennas 12 BCB Type panel ^{EMSR R10-17-02 AP} Height 140' Extension _____

Other proposed equipment on tower: _____

Proposed size/location of equipment building/cabinets: add 2 portel 512000 BTS cabs in exist eqpt room

Proposed site clearing/grading: _____

Fence line modification: N/A

Other proposed items: _____

Current carriers:	Height:	Power density %:
<u>AT&T</u>	<u>130</u>	<u>1.60</u>
<u>Sprint</u>	<u>155</u>	<u>2.01</u>
<u>SNET</u>	<u>167</u>	<u>2.03</u>
<u>Page Net</u>	<u>181</u>	<u>2.74</u>
<u>Arrow Bus</u>	<u>160</u>	<u>1.80</u>
<u>Metricom</u>	<u>175</u>	<u>.02</u>

4. Power density calculation: Proposed carrier percentage: 6.21 Cumulative percentage: 17.04

5. Town approval date (if necessary): _____ Town application date (if necessary): _____

6. Structural analysis: no mods neccs

7. Coordinates Latitude: 41-18-15 Longitude: 73-07-06 Elevation: _____

8. Town(s) CEO notified of application to Siting Council? cc to town

Site Visit Information

Date of visit: _____

9. Description of site features, surrounding land uses, and sight lines:

Issues:

Filing Documentation for Meeting

- 1.
- 2.
- 3.
- 4.

EM-T-Mobile-126-021209
219 Nell's Rock Road
Shelton taken 10/10/02

