OMNIPOINT
COMMUNICATIONS INC.

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

16 August, 1999

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

Re: Request by Omnipoint Communications, Inc. for an Order to Approve the Shared Use of a Tower Facility 238 Meriden Road, Middlefield, Connecticut

Dear Chairman Gelston and Members of the Council:

Pursuant to Connecticut General Statutes §16-50aa, Omnipoint Communications, Inc. ("Omnipoint") hereby requests an order from the Connecticut Siting Council ("Council") to approve the proposed shared use by the Applicant of an existing tower located at 238 Meriden Road in Middlefield, Connecticut. The tower is owned and operated by Sprint Spectrum. L.P. ("Sprint"). Omnipoint proposes to install antennas on the existing tower located within Sprint's leased compound area, and the equipment associated with this facility would be located near the base of the tower within the existing compound (see "Exhibit A"). The Applicant 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

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

The Sprint tower at 238 Meriden Road in Middlefield is an approximately 120-foot monopole located on an approximately 25'x 30', or 750 sq. ft. compound. Omnipoint and Sprint have agreed to the proposed shared use of this tower pursuant to mutually acceptable terms and conditions. Sprint has also authorized Omnipoint 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.

Omnipoint proposes to install six (6) DAPA 59212 antennas with a centerline of 110 feet Above Grade Level ("AGL"). The radio transmission equipment associated with these antennas, a Nortel S8000 cabinet, would be located near the base of the tower on a 7' x 5.5' concrete pad. Exhibit B contains specifications for the proposed antennas and equipment cabinet.

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 is structurally sound and capable of supporting the proposed Omnipoint 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 Meriden Road in Middlefield. (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 Sprint 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 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 both the Sprint and Omnipoint antennas, would be 0.060298 mW/cm2 (6.03% of the ANSI standard). These calculations are attached as Exhibit C.

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 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, Sprint and Omnipoint have entered into a mutual agreement 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 Omnipoint antennas. The tower stands on a compound accessible from an existing driveway off Meriden Road. Omnipoint 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.

Conclusion

For the reasons discussed above, the proposed shared use of the existing tower facility at Meriden Road in Middlefield, 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. The Applicant therefore requests that the Siting Council issue an order approving the proposed shared use.

Thank you for your consideration of this matter.

Very truly yours,

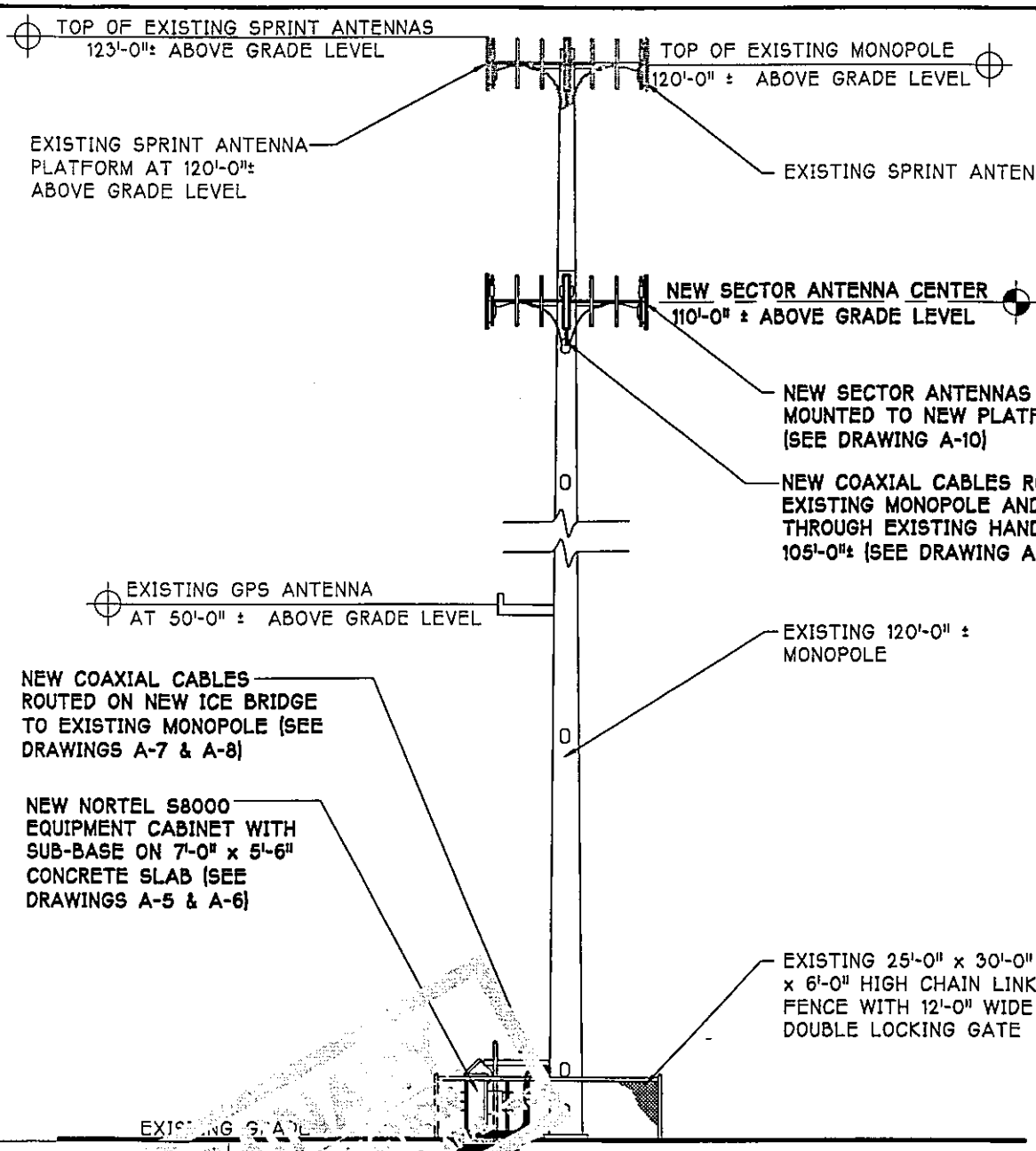
J. Brendan Sharkey
for Omnipoint Communications, Inc.

Attachments

OMNIPOINT
COMMUNICATIONS INC.

Exhibit A

Design Drawings
238 Meriden Road
Middlefield, CT



ROBERT P. JUENGERT

NOTE:
SPRINT BTS EQUIPMENT NOT SHOWN FOR CLARITY SEE A-1 FOR PLACEMENT

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

CT- 4208

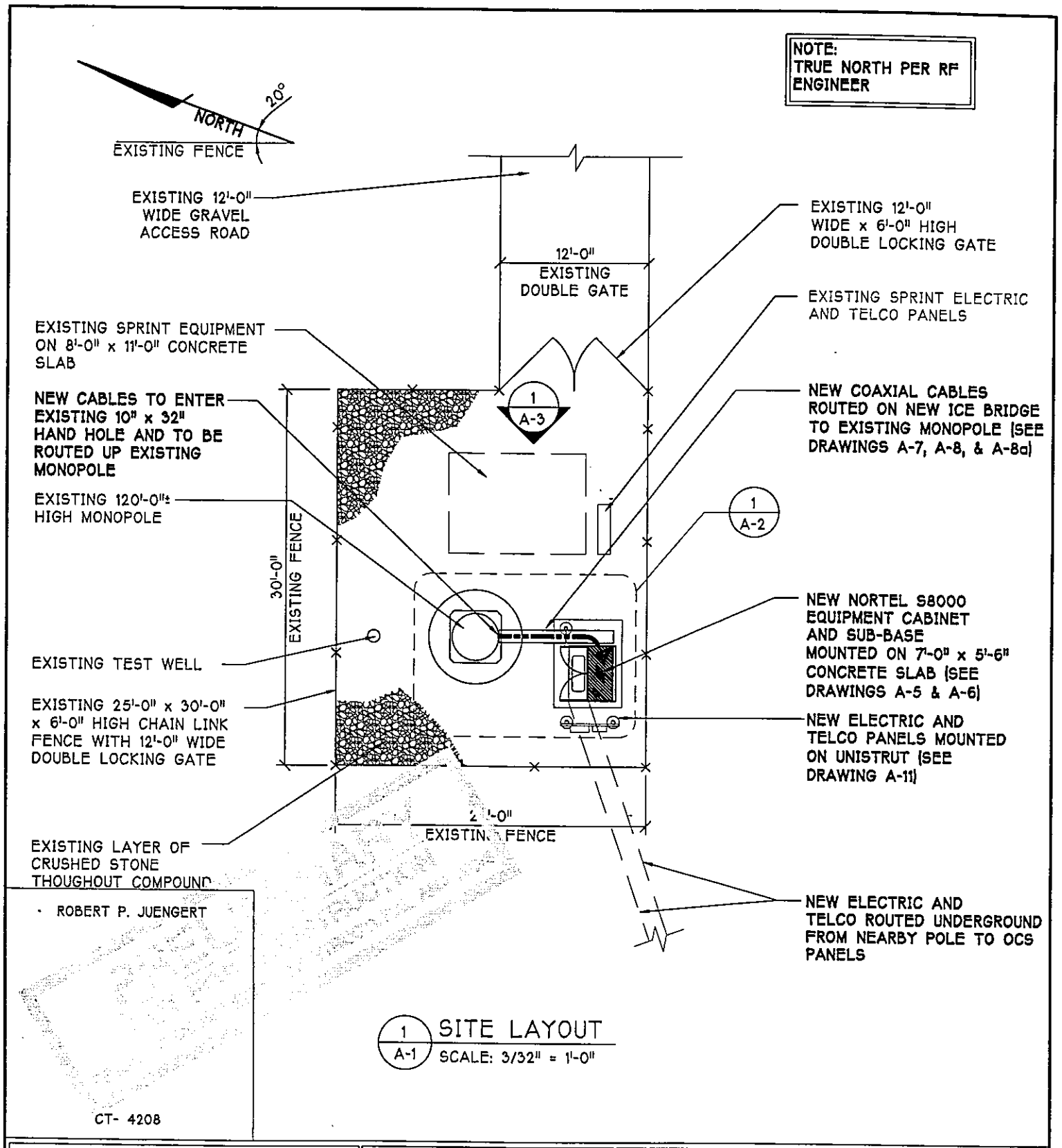
ARCNET ARCHITECTS, INC.
670 North Beers Street, Building 2, Holmdel, NJ 07733
Tel: 732.739.3200 Fax: 732.739.0440

Drawing Title:	ELEVATION
Client:	OCS
Project:	SPRINT MIDDLEFIELD
Address:	238 MERIDEN ROAD MIDDLEFIELD, CT
Search Area:	MIDDLEFIELD
Site ID No.:	CT-11-309A
Approved By:	CLIENT: _____ DATE: _____

P.C.	P.C. Chkd.	Chkd.	ARCNET Project No.	Drawn	Date
JDi			A99.506-851A	CSt	7/6/99

Revision No.	Date:

Drawing No. **A-3**

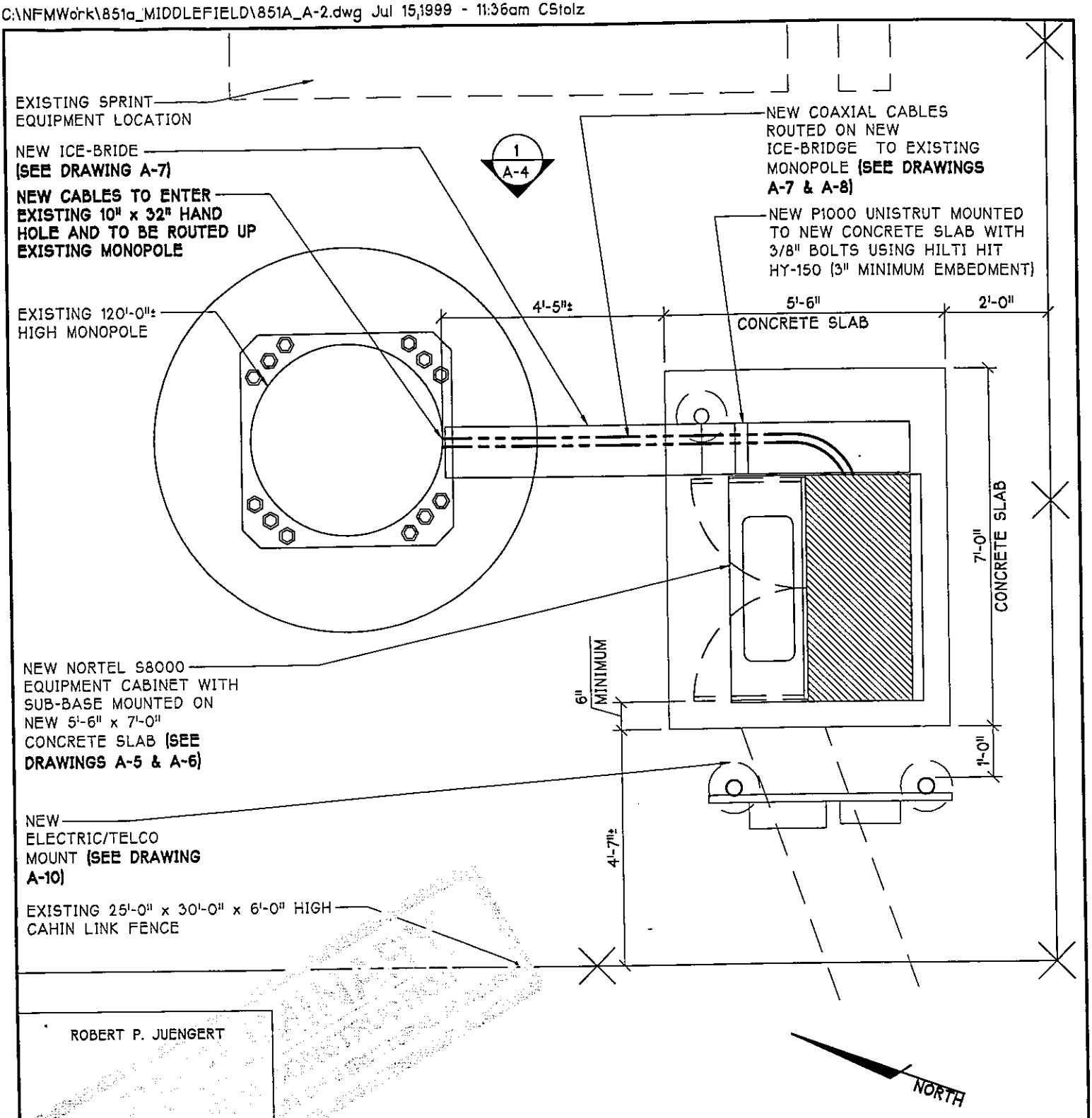


1 A-1 SITE LAYOUT
SCALE: 3/32" = 1'-0"

ARCNET ARCHITECTS, INC.
670 North Beers Street, Building 2, Holmdel, NJ 07733
Tel: 732.739.3200 Fax: 732.739.0440

Drawing Title: SITE LAYOUT
Client: OCS
Project: SPRINT MIDDLEFIELD
Address: 238 MERIDAN ROAD MIDDLEFIELD, CT
Search Area: MIDDLEFIELD
Site ID No.: CT-11-309A
Revision No. | Date:
P.C.: JDi | P.C. Chkd.: | Chkd. by:
ARCNET Project No.: A99.506-851A | Drawn: CSt | Date: 7/6/99
Approved By: CLIENT: _____ DATE: _____
Drawing No.: A-1

C:\NFMWork\851a_MIDDLEFIELD\851A_A-2.dwg Jul 15,1999 - 11:36am CStolz



ROBERT P. JUENGERT

CT- 4208

1 / A-2 EQUIPMENT LAYOUT

SCALE: 3/8" = 1'-0"

NOTE:
TRUE NORTH PER RF ENGINEER

ARCNET ARCHITECTS, INC.
670 North Beers Street, Building 2, Holmdel, NJ 07733
Tel: 732.739.3200 Fax: 732.739.0440

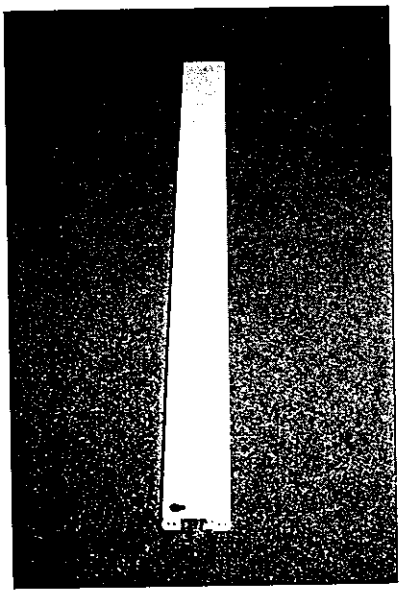
Drawing Title:	EQUIPMENT LAYOUT
Client:	OCS
Project:	SPRINT MIDDLEFIELD
Address:	238 MERIDEN ROAD MIDDLEFIELD, CT
Search Area:	MIDDLEFIELD
Site ID No.:	CT-11-309A
P.C.:	JDi
P.C. Chkd:	
Chkd. by:	
ARCNET Project No.	A99.506-851A
Drawn:	CSt
Date:	7/8/99
Approved By:	CLIENT: _____ DATE: _____
Revision No. / Date:	
Drawing No.	A-2

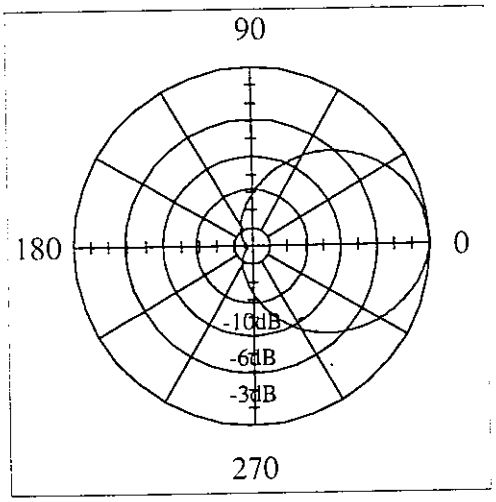
OMNIPOINT
COMMUNICATIONS INC.

Exhibit B

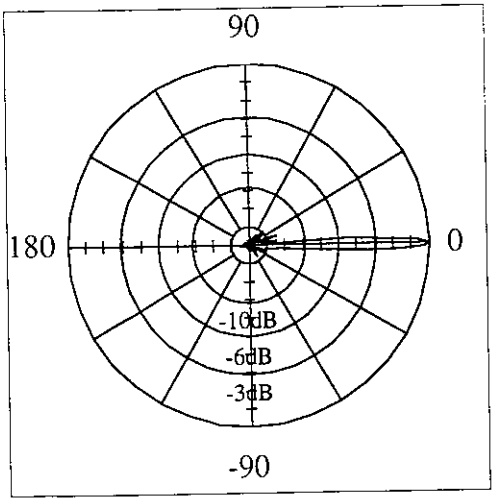
Equipment Specifications
238 Meriden Road
Middlefield, CT

Model 59000 / 59010 92°, 16.4 dBd Panel





H-plane



E-plane

GENERAL CHARACTERISTICS

Frequency Range	1710 - 1990 MHz
Impedance	50 Ω
VSWR	< 1.4:1
Polarization	Vertical
Rated Power	500 W

ELECTRICAL CHARACTERISTICS

Beamwidth:	H-plane	92° ± 3° (at -3 dB)
	E-plane	5.5° ± 1° (at -3 dB)
Maximum / Minimum Gain		16.4 dBd / 15.4 dBd
Electrical Downtilt		0° (available -1° to -15°)
Side Lobes		< -15 dB
Front-to-Back Ratio		< -25 dB

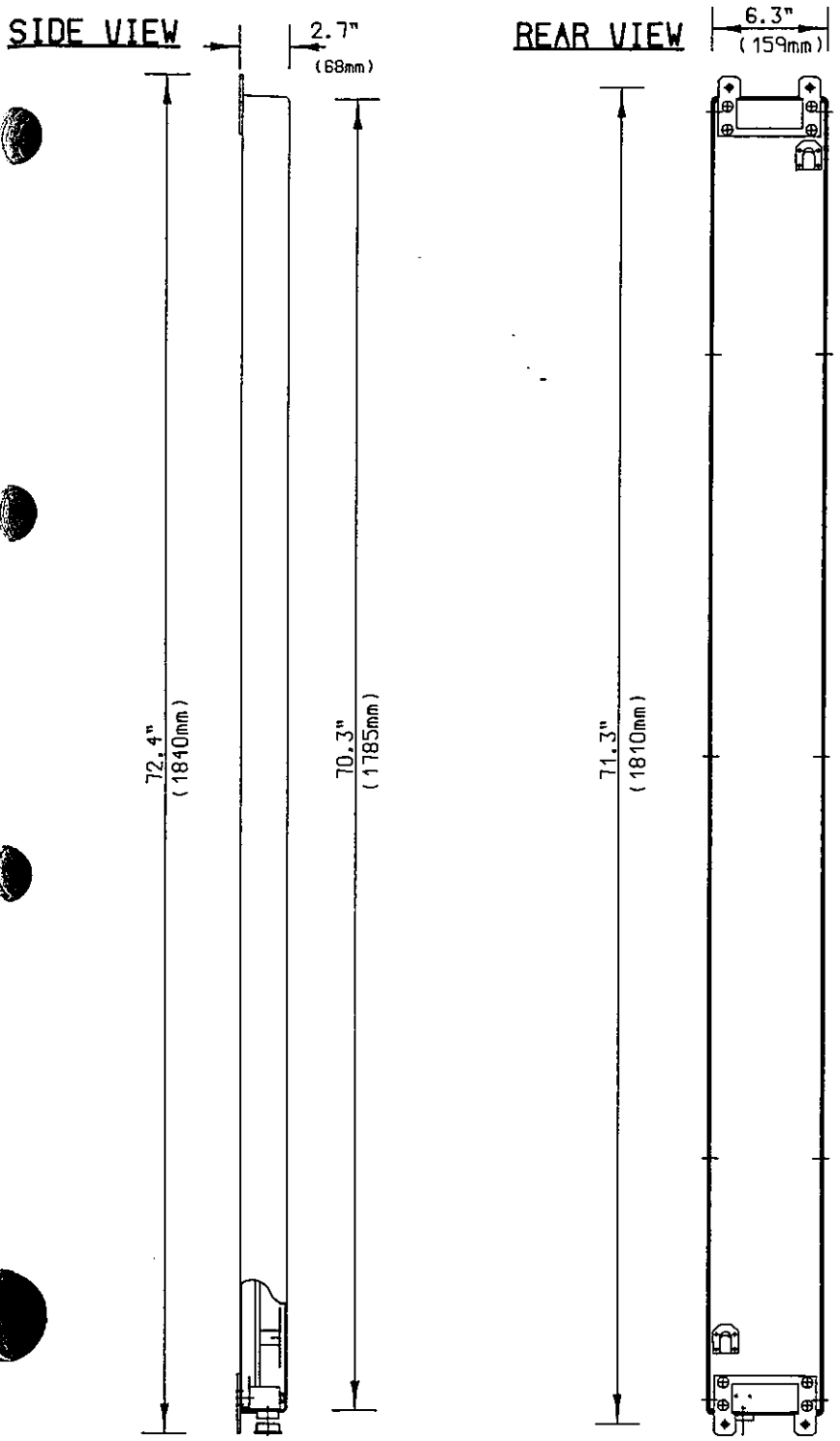
MECHANICAL CHARACTERISTICS

Height x Width x Depth	70.3" x 6.3" x 2.7" (1785 x 159 x 68 mm)
Weight	14.6 lbs (6.6 kg)
Wind Survival Rating	125 mph (200 km/h)
Wind Load (at 100 mph)	510 N (frontal F_1) 217 N (lateral F_2)
Flat Plate Equivalent Area	3.05 ft^2 (0.28 m^2)
Connector Types (Female)	Type N, or 7/16 DIN
Materials: Antenna / Radome	Aluminum / ABS

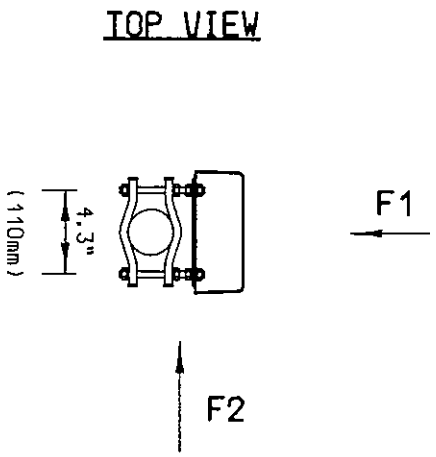
DAPA • Allegany, NY USA • Tel 1 800 325 3272 • Int'l Tel +1 716 373 7228 • Int'l Fax +1 716 373 5758

Model 59000 / 59010 92°, 16.4 dBd Panel

MOUNTING HARDWARE (INFORMATION AND DRAWINGS)	
Pipe Mount Brackets	Fix 903 (1.25" - 3.5" OD pipe)
Mechanical Tilt Bracket (optional)	Model TB-9

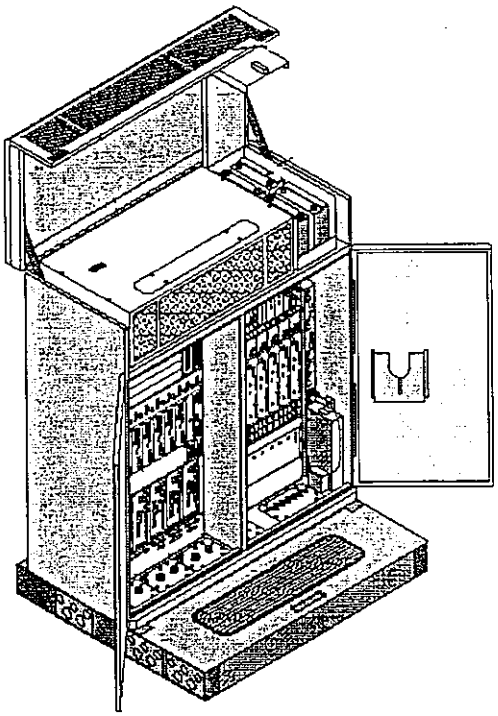


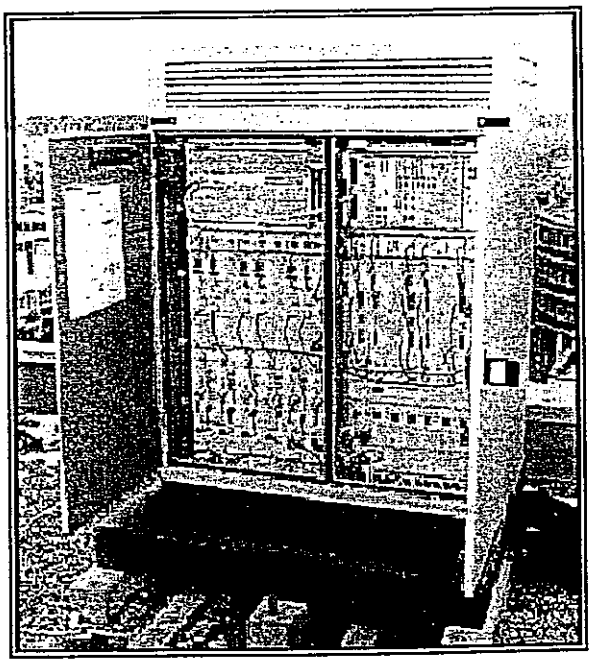
NOTE: Mechanical specifications on these pages would apply to all other electrical tilt and/or connector location options.



NORTEL NETWORKS™

S8000 BTS
Site Specifications





Electrical Specifications

Split Single-Phase

3 wires plus ground

L1: Black 6 gauge

L2: Red 6 gauge

Neutral: White 6 gauge

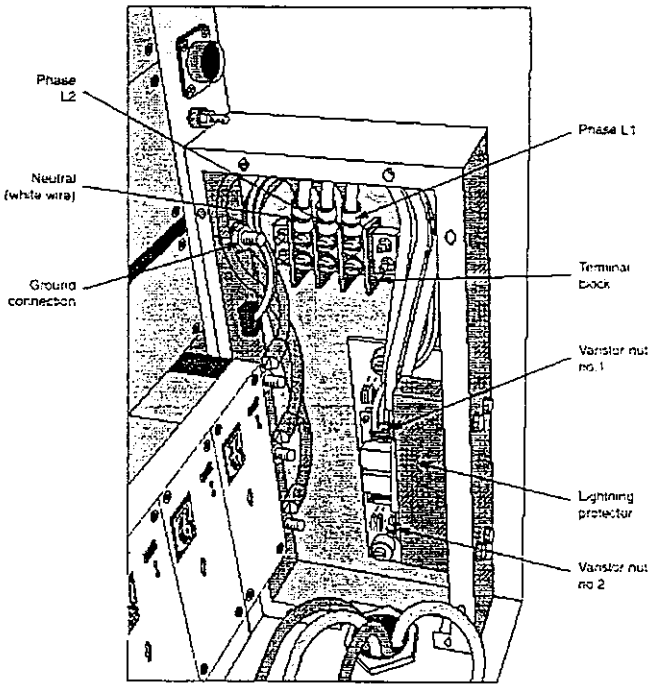
Ground: Yellow/Green 6 gauge

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

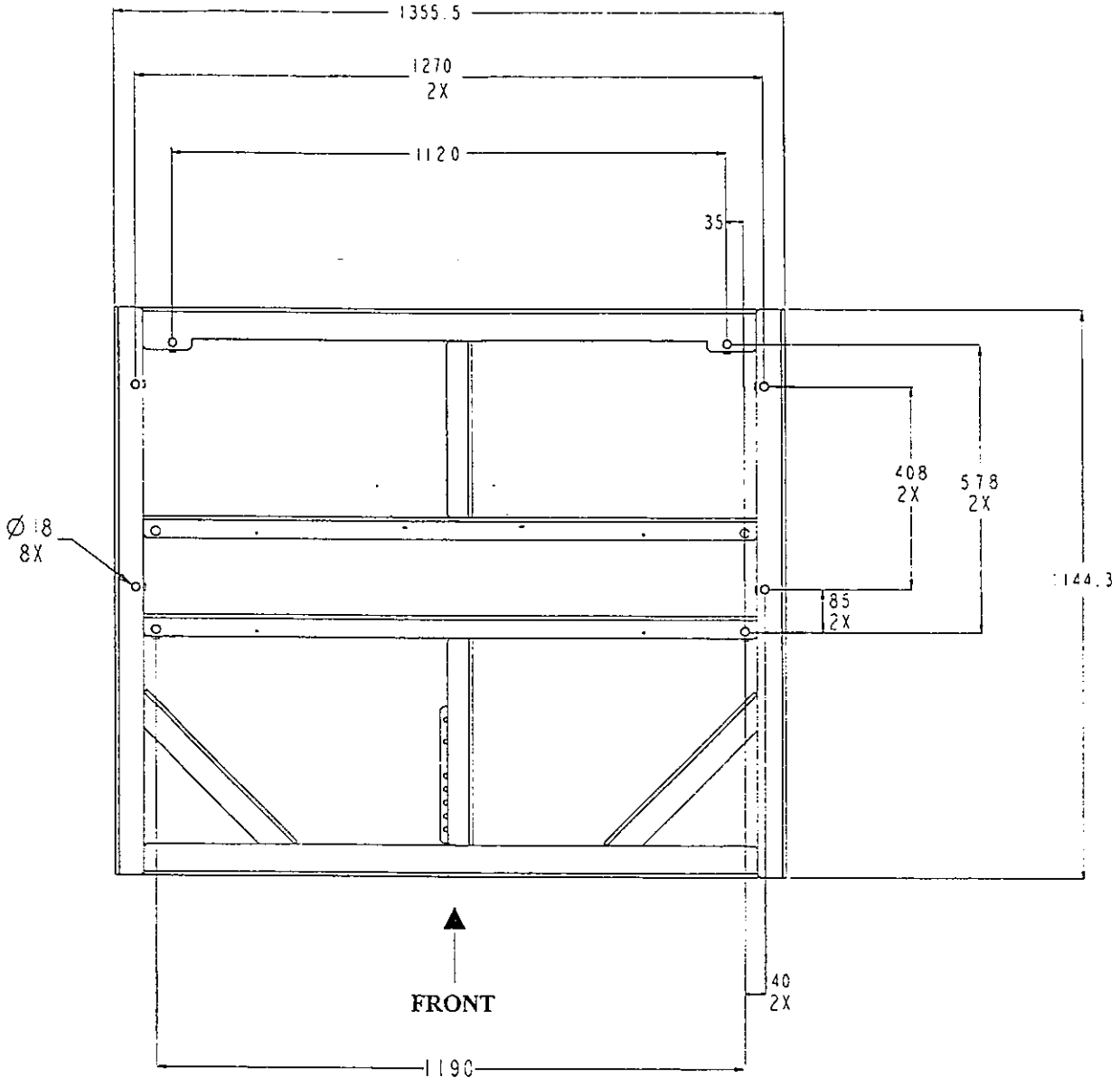
5 or more transmitters

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.

Appendix 3 BTS plinth type 1 floor print

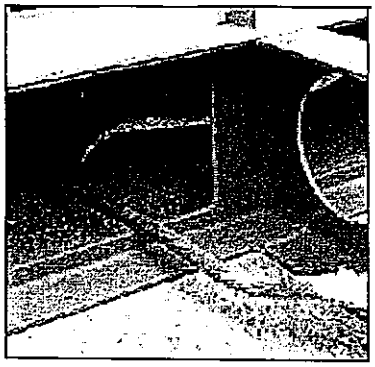


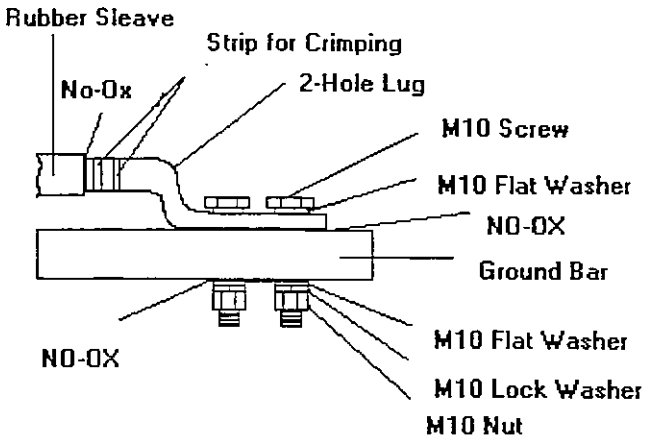
BTS Plinth type 1 Top View

The BTS plinth type1 floor print can be directly deducted from the dimensions given above for the top view.

All dimensions are expressed in mm.

Mention '2X' or '8X' means that the same dimension applies to another part of the print (symmetrical part).





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

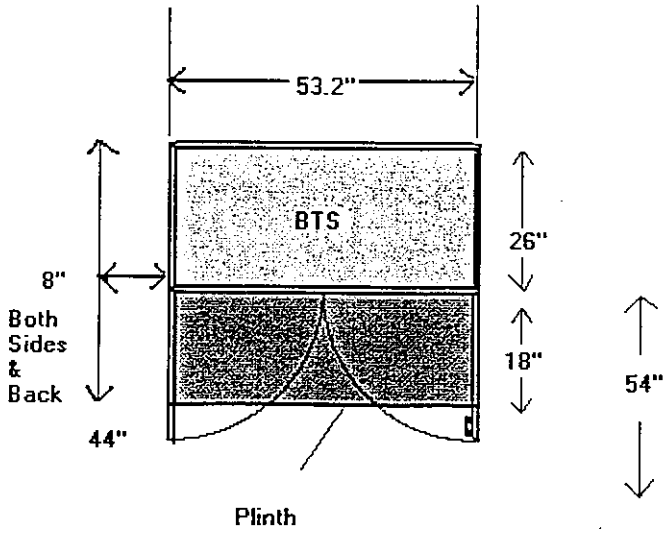
Clearances while transporting in building:
- Door Access:
  - Height: 6.6 feet
  - Width 3 feet
- Corridor Access:
  - Height: 6.6 feet
  - Width: 3.6 feet (straight), 6.6 feet (right angle)

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/foot^2

Flatness:
¼ inch over 78 inches

OMNIPOINT
COMMUNICATIONS INC

Exhibit C

Power Density Calculations
238 Meriden Road
Middlefield, CT

Worst Case Power Density for installation on Sprint Monopole @ 238 Meriden Road, Middlefield, CT

Region 11 - Connecticut Power Density Calculation - Worst Case			
Base Station TX output	20 W	43.01	
Number of channels	2		
Antenna Model	DAPA: 59210		
Antanna Gain	18.5 dBi		
Cable Size	1 1/4"		
Cable Length	125 ft		
Jumper & Connector loss	1 dB		
Cable Loss per foot	0.0154		
Total Cable Loss	1.925 dB		
Total Attenuation	2.925 dB		
Total EIRP per channel	58.59 dB	721.99	W
Total EIRP per sector	61.60 dB	1443.98	W
Ground Reflection	1.6		
Frequency	1930 MHz		
Antenna Height	110 ft	3352.8	cm
nsg	15.575		
Power Density (S) =	**0.026182 mW / cm^2**		
% MPE =	**2.6182%**		

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

The combined worst case power density levels for Omnipoint Communications and Sprint* will be:
Power Density (S) = 0.060298
% Maximum Permissible Exposure (MPE) = 6.0298 %
These figures indicate that, even in the worst possible case, the exposure levels are well below the FCC guidelines.
* Sprint power density numbers provided by Sprint