



# 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](mailto:siting.council@po.state.ct.us)

Web Site: [www.state.ct.us/csc/index.htm](http://www.state.ct.us/csc/index.htm)

May 21, 2003

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

RE: **EM-T-MOBILE-051-030501** - Omnipoint Facilities Networks 2, LLC notice of intent to modify an existing telecommunications facility located at 281 Woodhouse Road, Fairfield, Connecticut.

Dear Mr. Parker:

At a public meeting held on May 20, 2003, 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 April 30, 2003. 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,

Pamela B. Katz, P.E.  
Chairman

PBK/laf

- c: Honorable Kenneth A. Flatto, First Selectman, Town of Fairfield  
Joseph E. Devonshuk, Town Planner Town of Fairfield  
Robert Stanford, Crown Atlantic Company  
Sandy M. Carter, Verizon Wireless  
Christopher B. Fisher, Esq., Cuddy & Feder & Worby LLP  
Michele Briggs, Southwestern Bell Mobile Systems  
Robert Ritchey, XM Satellite Radio Inc.  
Sam J. D'Agostino, Zoning Specialist, PageNet Inc.

RCR Development, LLC

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

April 30, 2003

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

**RECEIVED**

MAY - 1 2003

CONNECTICUT  
SITING COUNCIL

RE: T-Mobile notice of intent to modify an existing telecommunications facility located at 281 Woodhouse Road, Fairfield, CT.

Dear Mr. Phelps:

Please be advised that Richard Connor Riley & Associates, L.L.C. is acting as agent for Omnipoint Facilities Networks 2, LLC, a subsidiary of T-Mobile International AG ("T-Mobile") in the above-referenced matter.

I have attached one (1) original and twenty (20) copies of a notice of intent to modify an existing telecommunication facility identified above. Also enclosed is a check in the amount of \$500.00. Please review and set the matter to be heard at your earliest convenience

Thank you.

Respectfully submitted,  
RICHARD CONNOR RILEY & ASSOCIATES AS AGENT FOR Omnipoint Facilities Networks 2, LLC.



William Parker

Attachments

RCR Develc

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

April 30, 2003

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

**RECEIVED**

MAY - 1 2003

**CONNECTICUT  
SITING COUNCIL**

RE: T-Mobile notice of intent to modify an existing telecommunications facility located at 281 Woodhouse Road, Fairfield, CT.

Dear Mr. Phelps:

Please be advised that Richard Connor Riley & Associates, L.L.C. is acting as agent for Omnipoint Facilities Networks 2, LLC, a subsidiary of T-Mobile International AG ("T-Mobile") in the above-referenced matter. 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 281 Woodhouse Road, Fairfield, CT. T-Mobile proposes to replace three existing antennas (one per sector) with twelve new antennas (four per sector) at the same elevation on the existing tower. Two new Nortel S12000 BTS cabinets will be added adjacent to the existing equipment on the ground as shown on page C4 as part of Exhibit A attached hereto. 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 Honorable Kenneth A. Flatto, First Selectman of the Town of Fairfield.

**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 facility at 281 Woodhouse Road is a 171 foot tower owned and operated by Crown Atlantic, LLC. The coordinates for the site are 41°-11'-45" N and 73°-16'-55" W. T-Mobile and the tower owner have agreed to mutually acceptable terms and conditions for the proposed shared use of this tower. Crown Atlantic, LLC 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 on page C3 as part of Exhibit A. Currently, the tower holds other communication antennas operated by AT&T Wireless, Cingular, Verizon, XM Radio and



Pagenet, Inc. Existing antennas are generally shown on the elevation drawing on page C5 as part of Exhibit A and specifically listed in the structural analysis on page 2 as part of Exhibit C. T-Mobile proposes to remove its current antennas with a RAD center elevation of approximately one hundred thirty five (135) feet above ground level. T-Mobile proposes to replace the three existing panel antennas with twelve new antennas mounted on existing mounts. The new antennas will be comprised of an antenna array of three sectors, with four antennas per sector at the same RAD center elevation of one hundred thirty five (135) feet above ground level. The model number for each new antenna is EMS RR90-17-02 DP. The radio transmission equipment associated with these antennas will also be updated as stated above. Two new Nortel S12000 BTS cabinets will be mounted on an extension of the existing concrete pad as shown on page C4 as part of Exhibit A. Location Based E-911 Equipment will also be installed. The actual location of that equipment is to be determined (see note 22 on page C1 as part of 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.

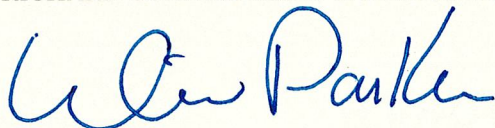
The planned modifications to this facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

1. The proposed modification will not increase the height of the tower. T-Mobile's new antennas will be installed with a RAD elevation of approximately one hundred thirty five (135) feet above ground level, the same height of its existing antennas. Also, there is no increase in the vertical dimensions of the new antennas. The tower drawing attached and marked as page C5 as part of Exhibit A 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 site plan attached and marked as page C4 of Exhibit A, will not require an extension of the site boundaries. T-Mobile's proposed equipment cabinets will be in addition to existing equipment 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 this 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 Omnipoint Facilities Networks 2, LLC.



William Parker

Attachments

cc: Honorable Kenneth A. Flatto, First Selectman of the Town of Fairfield

# Exhibit A

## Compound Layout



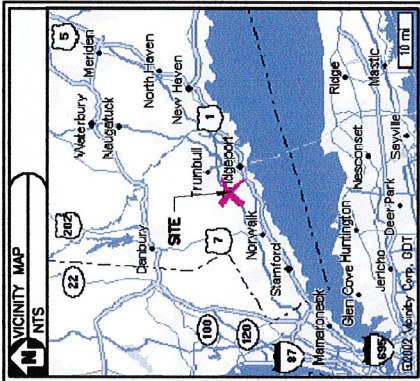
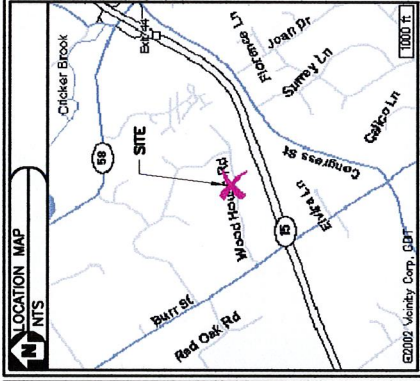


# FAIRFIELD MPx43-BIRR ST.

## CONSTRUCTION DRAWINGS

### SITE #: CT-11-078B

TABLE OF CONTENTS		
DRAWING TITLE	REV #	REV DATE
T1	A	12/16/02
C1	A	12/16/02
C2	A	12/16/02
C3	A	12/16/02
C4	A	12/16/02
C5	A	12/16/02
C6	A	12/16/02
C7	A	12/16/02
S1	A	12/16/02
S2	A	12/16/02
E1	A	12/16/02
E2	A	12/16/02
E3	A	12/16/02
E4	A	12/16/02
E5	A	12/16/02
E6	A	12/16/02
E7	A	12/16/02
E8	A	12/16/02
E9	A	12/16/02



**SITE INFORMATION**

**TOWER OWNER:** CROWN ATLANTIC COMPANY, LLC  
**CONTACT:** N/A  
**PHONE:** N/A

**SITE ADDRESS:** 281 WOOD HOUSE ROAD  
 FAIRFIELD, CT 06430

**DEVELOPER:** OMNIPONT

**CONTACT:** 4 STUYVEN WAY  
 PARSONS PARKWAY, NJ 07054  
 WILLIAM SWAN  
 (732) 322-2885

**DESIGNER:** AFL TELECOMMUNICATIONS  
 2000 REGENCY PARKWAY  
 SUITE 180  
 CARY, NC 27511  
 DANIEL F. SOUTHWICK  
 (919) 462-0981

**PERMITTING JURISDICTION:** N/A  
**CONTACT:** N/A

**ZONING INFORMATION**

**PROPERTY OWNER:** CROWN ATLANTIC COMPANY, LLC  
**TAX MAP#:** N/A  
**LOT#:** N/A  
**ZONING DISTRICT:** N/A

**SITE DIRECTIONS**

FROM OMNIPONT OFFICE TAKE US 202 NORTH TO INTERSTATE 80 EAST TO INTERSTATE 95 NORTH TO INTERSTATE 287 NORTH TO INTERSTATE 87 NORTH MERGE ONTO INTERSTATE 287/CROSS WESTCHESTER EXWY VIA EXIT NUMBER 8 TOWARD WHITE PLAINS TAKE EXIT NUMBER 95-N TOWARD HUTCHINSON PARKWAY/WHITESTONE BR/MERRIT PARKWAY TURN LEFT ONTO WESTCHESTER PARKWAY TAKE THE HUTCHINSON PARKWAY TOWARD MERRIT PARKWAY. HUTCHINSON PARKWAY N BECOMES CT-115N/MERRITT PARKWAY TAKE EXIT NUMBER 44 TOWARD CT-58/FAIRFIELD/REDDING TURN RIGHT ONTO CONGRESS ST. TURN RIGHT ONTO BURR ST. TURN RIGHT ONTO WOOD HOUSE ROAD.

APPLICANT/OWNER: **OMNIPONT COMMUNICATIONS INC.**

AS AGENT FOR: **OMNIPONT FACILITIES NETWORK 2, LLC**

PREPARED BY: **ALCDA**

AFL Telecommunications  
 2000 Regency Parkway, Suite 180  
 Cary, NC 27511-4998  
 (919) 462-0981  
 FAX: (919) 462-0985

REVISIONS

REV	DATE	DESCRIPTION	BY
A	12/16/02	FOR REVIEW	HNH
0			
1			
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3			
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7			
8			

APPROVALS

DATE	SIGNATURE
OMNIPONT	
OWNER/LANDLORD	
LEASING/PMC	
RF	
ZONING	
CONSTRUCTION	

PROJECT LOCATION: **BAM - FAIRFIELD MPx43 CT-11-078B**  
 281 WOOD HOUSE ROAD  
 FAIRFIELD, CT 06430

DRAWN BY: DCS  
 CHECKED BY: HNH  
 DATE: 12/16/02  
 JOB NO.: 1386-053  
 SITE NO.: CT-11-078B  
 DRAWING DESCRIPTION: **COVER SHEET**

DRAWING NUMBER: **T1**

**PRELIMINARY NOT FOR CONSTRUCTION**  
 DATE: 12/16/02

THIS DRAWING IS THE PROPERTY OF OMNIPONT COMMUNICATIONS INC. AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF OMNIPONT COMMUNICATIONS INC.









AFL Telecommunications  
 Wireless Services  
 2000 Highway 100, Suite 100  
 Oak Ridge, TN 37831-0000  
 Office: (615) 482-3085  
 Fax: (615) 482-3088

REV	DATE	DESCRIPTION	BY
A	12/16/02	ISSUED FOR PERMIT	HNU
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3			
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7			
8			

APPROVALS	SIGNATURE	DATE
OWNER/POINT		
OWNER/LANDLORD		
LOCAL/STATE		
RF		
ZONING		
CONSTRUCTION		

PROJECT LOCATION:  
**BAM-FAIRFIELD  
 MPx43  
 CT-11-0788  
 291 WOOD HOUSE ROAD  
 FAIRFIELD, CT 06430**

DRAWN BY: CHS  
 CHECKED BY: HNU  
 DATE: 12/16/02  
 JOB NO.: 1306-003  
 SITE NO.: CT-11-0788  
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**SITE PLAN**

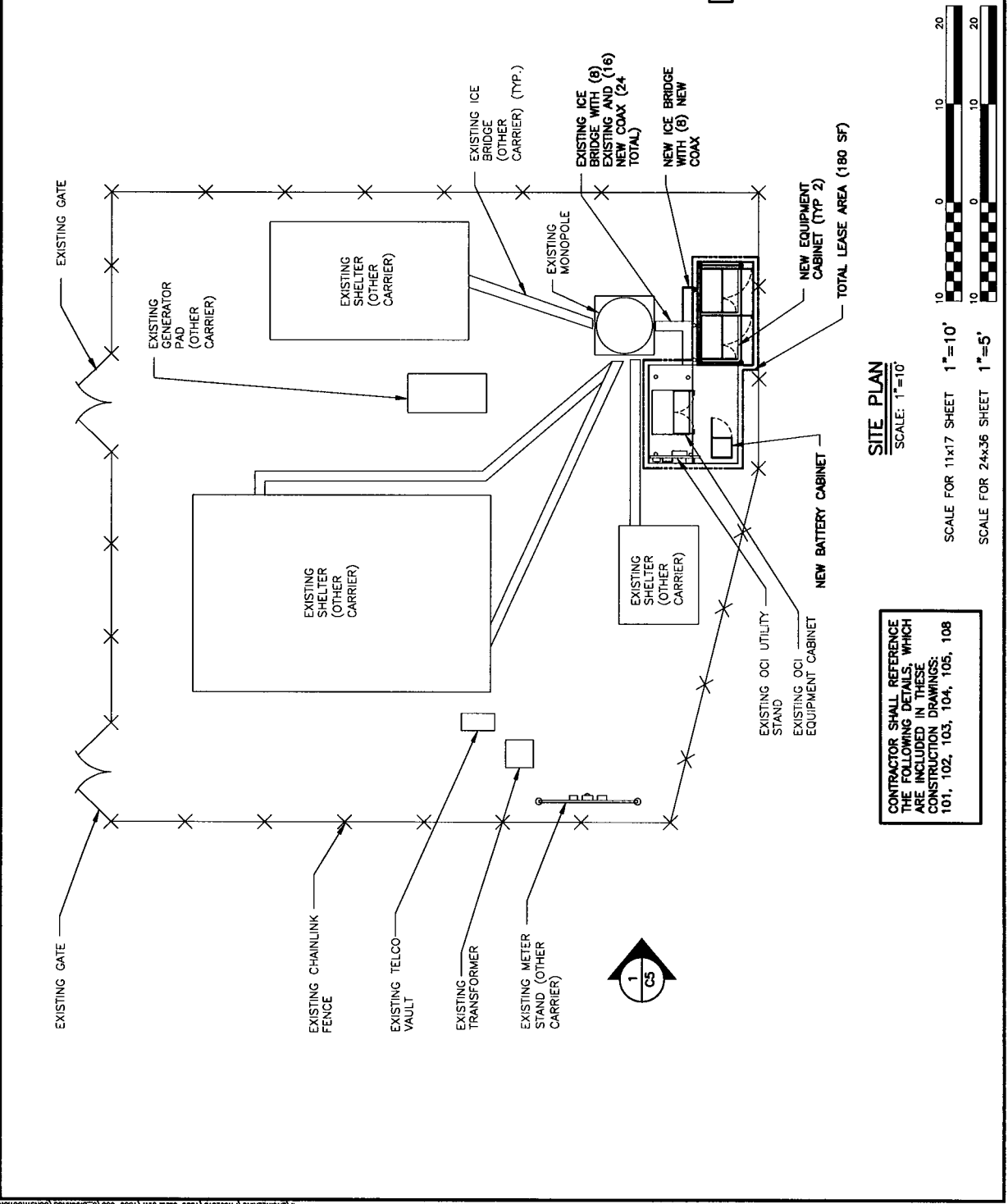
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**C3**

**TOTAL LEASE AREA: 180 SF**

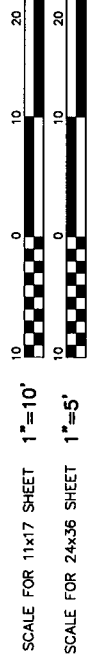
THIS DOCUMENT IS THE CREATOR'S SOLE PROPERTY AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF THE CREATOR.

**PRELIMINARY NOT FOR CONSTRUCTION**  
 DATE: 12/16/02

IT IS A VIOLATION OF LAW FOR ANY PERSON OTHER THAN THE ACTING LICENSEE OR THE DIRECTOR OF LICENSED PROFESSIONAL ENGINEERING TO SEAL, SIGN, OR ISSUE ANY ENGINEERING DRAWING OR CONTRACT DOCUMENTS FOR THE MANUFACTURE OF THE CONTRACT WORK.



**SITE PLAN**  
 SCALE: 1"=10'



CONTRACTOR SHALL REFERENCE THE FOLLOWING DETAILS, WHICH ARE INCLUDED IN THESE CONSTRUCTION DRAWINGS:  
 101, 102, 103, 104, 105, 108

APPLICANT/OWNER:  
**OMNIPONT COMMUNICATIONS INC.**  
 AS AGENT FOR:  
**OMNIPONT FACILITIES NETWORK 3, LLC**  
 PREPARED BY:



AFL Telecommunications  
 Wireless Services  
 2000 North 17th Ave, Suite 100  
 Cary, NC 27511-8008  
 Office: (919) 482-4891  
 Fax: (919) 482-0888

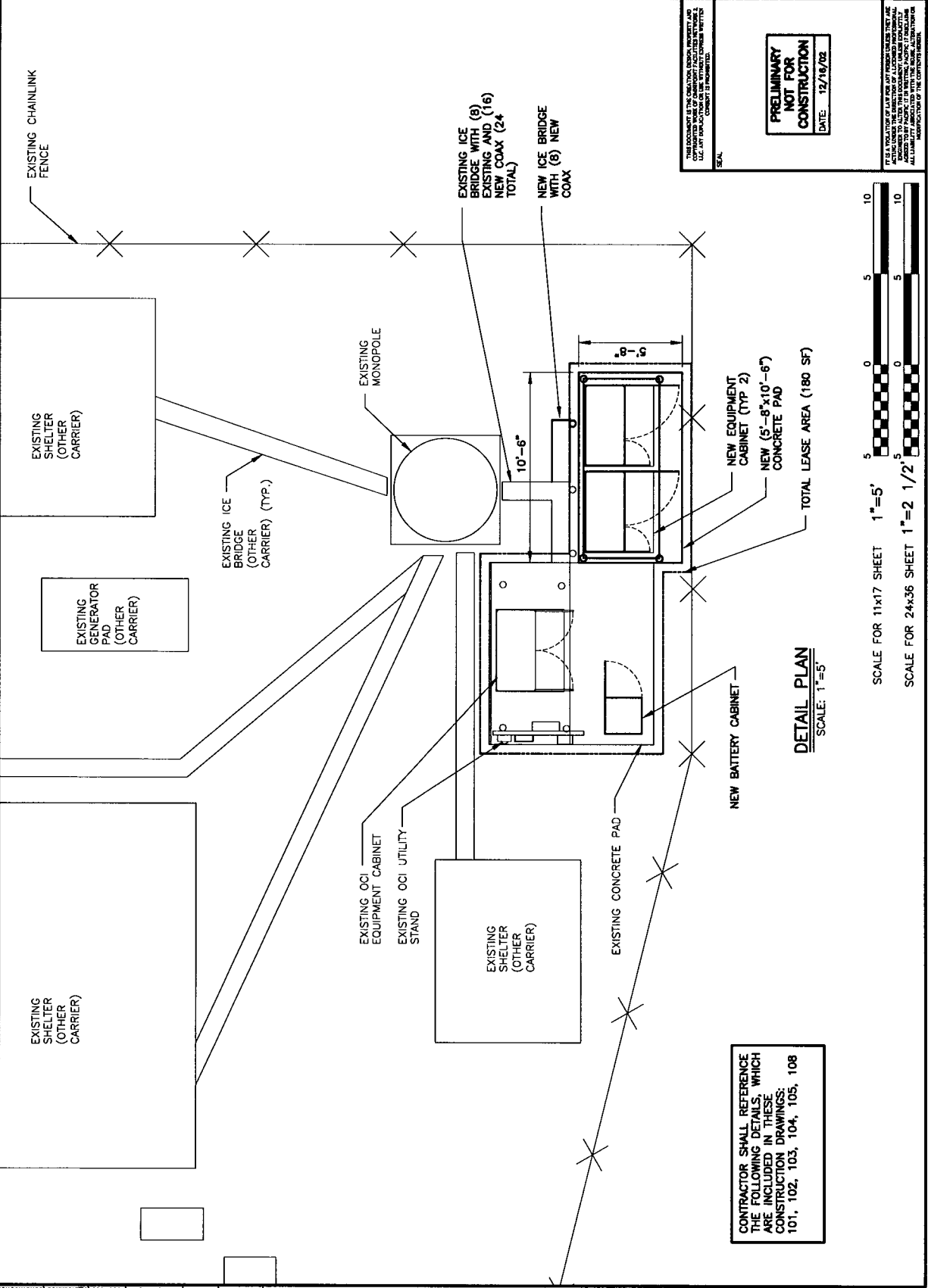
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APPROVALS	SIGNATURE	DATE
OMNIPONT		
OWNER/LANDLORD		
LEASING/SAC		
RF		
ZONING		
CONSTRUCTION		

PROJECT LOCATION:  
**BAM-FAIRFIELD**  
**MPx43**  
**CT-11-0788**  
 281 WOOD HOUSE ROAD  
 FAIRFIELD, CT 06430

DRAWN BY: CHS  
 CHECKED BY: MM  
 DATE: 12/18/02  
 JOB NO.: 1306-058  
 SITE NO.: CT-11-0788  
 DRAWING DESCRIPTION:

DRAWING NUMBER:  
**DETAIL PLAN**  
**C4**

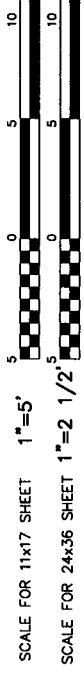


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**PRELIMINARY NOT FOR CONSTRUCTION**  
 DATE: 12/18/02

IT IS A POLICY OF AFL NOT TO PERFORM WORK UNLESS ALL APPLICABLE REGULATORY AND LOCAL ORDINANCES ARE FULLY COMPLIED WITH. ALL WORK SHALL BE SUBJECT TO THE SUPERVISION AND CONTROL OF THE CONTRACTOR'S SUPERVISOR.

**DETAIL PLAN**  
 SCALE: 1"=5'



CONTRACTOR SHALL REFERENCE THE FOLLOWING DETAILS, WHICH ARE INCLUDED IN THESE CONSTRUCTION DRAWINGS: 101, 102, 103, 104, 105, 108



AFL Telecommunications  
 Wireless Services  
 Pacific 7, Inc. S.A. 100  
 2000 ...  
 City: ...  
 Office: (619) 482-2081  
 Fax: (619) 482-2088

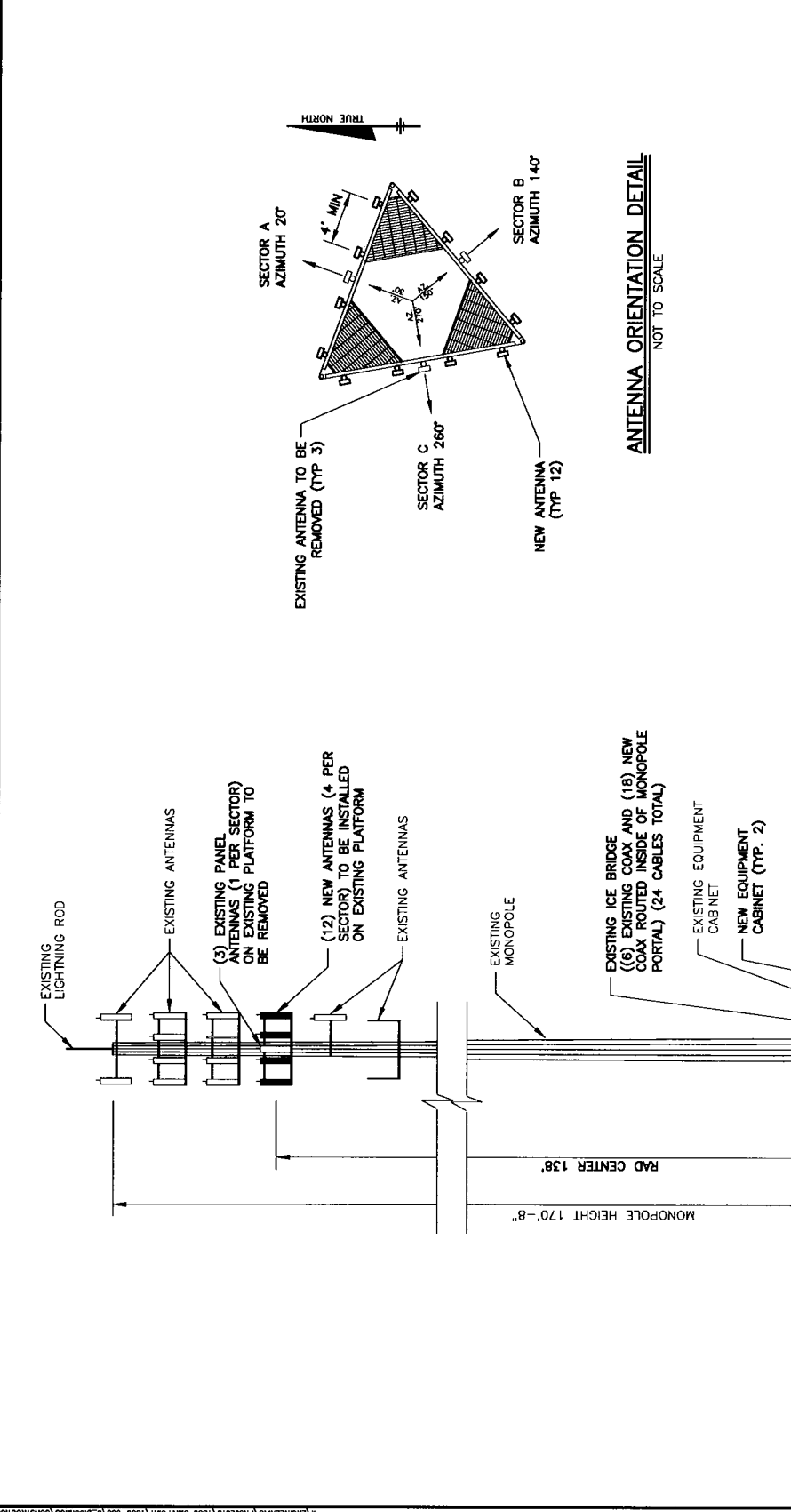
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OWNER/LANDLORD		
LOCAL/STATE		
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CONSTRUCTION		

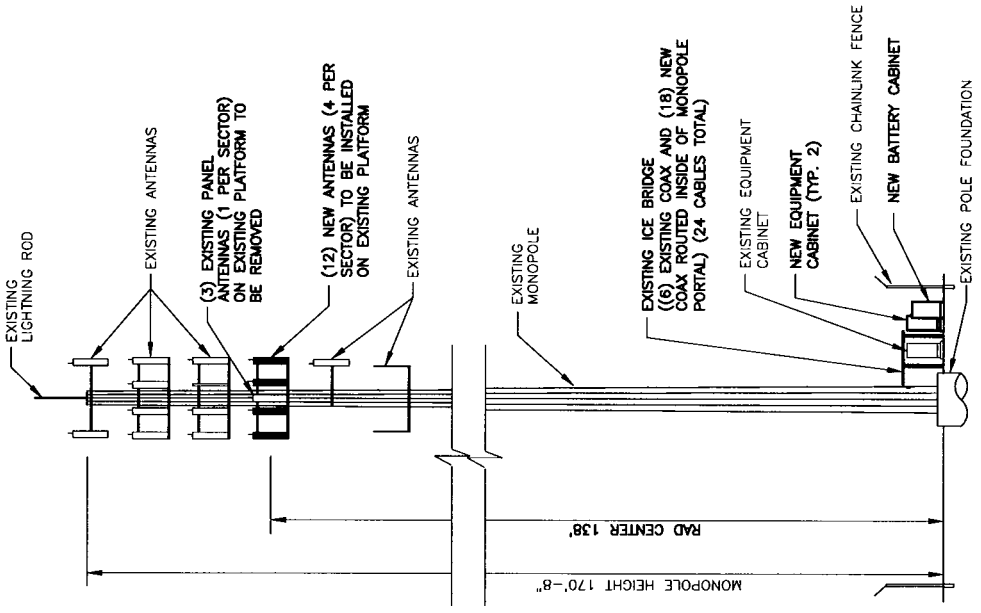
PROJECT LOCATION  
**BAM-FAIRFIELD MPx43**  
**CT-11-0788**  
 281 WOOD HOUSE ROAD  
 FAIRFIELD, CT 06430

DRAWN BY:	DMS
CHECKED BY:	HMJ
DATE:	12/18/02
JOB NO.:	1306-003
SITE NO.:	CT-11-0788
DRAWING DESCRIPTION:	ELEVATION

DRAWING NUMBER:  
**C5**



**ANTENNA ORIENTATION DETAIL**  
 NOT TO SCALE



**ELEVATION 1**  
 NOT TO SCALE C3

THIS DOCUMENT IS THE EXCLUSIVE DESIGN PROPERTY AND TRADE SECRET OF THE DESIGNER. IT IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREIN. NO PART OF THIS DOCUMENT IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF THE DESIGNER.

SEAL

IT IS A VIOLATION OF LAW FOR ANY PERSON WHOSE NAME APPEARS ON THIS DOCUMENT TO SIGN OR SEAL ANY OTHER PROJECT OR TO SIGN OR SEAL ANY OTHER PROJECT WITHOUT THE WRITTEN PERMISSION OF THE DESIGNER.





AFL Telecommunications  
 Towering Solutions  
 2000 Academy Parkway, Suite 100  
 Cary, NC 27511-4086  
 Office: (919) 442-0881  
 Fax: (919) 442-0880

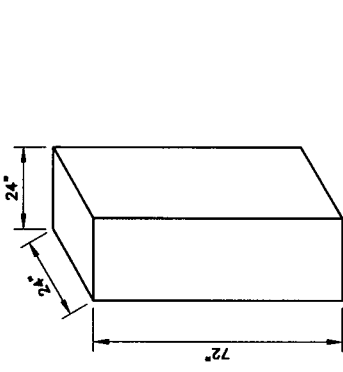
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APPROVALS	SIGNATURE	DATE
OMNIPPOINT		
OWNER/LANDLORD		
ENGINEER/PAE		
RF		
ZONING		
CONSTRUCTION		

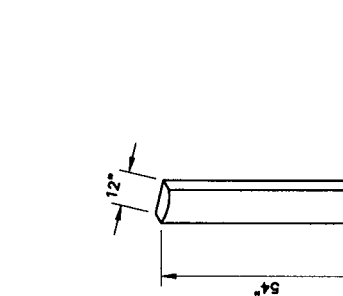
PROJECT LOCATION:  
**BAM-FAIRFIELD MPx43**  
**CT-11-0788**  
 291 WOOD HOUSE ROAD  
 FAIRFIELD, CT 06430

DRAWN BY:	CHS
CHECKED BY:	PMU
DATE:	12/16/02
JOB NO.:	1308-003
SITE NO.:	CT-11-0788
DRAWING DESCRIPTION:	ANTENNA SCHEDULE

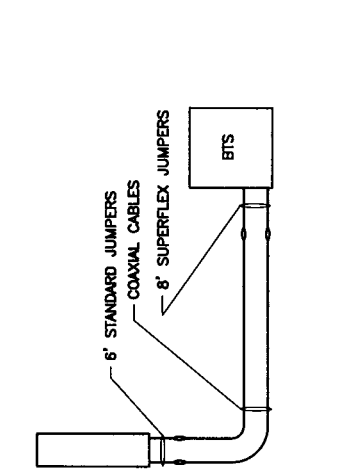
DRAWING NUMBER: **C6**



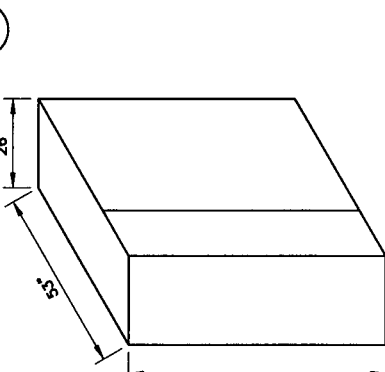
**TYPICAL BATTERY CABINET**  
 NOT TO SCALE



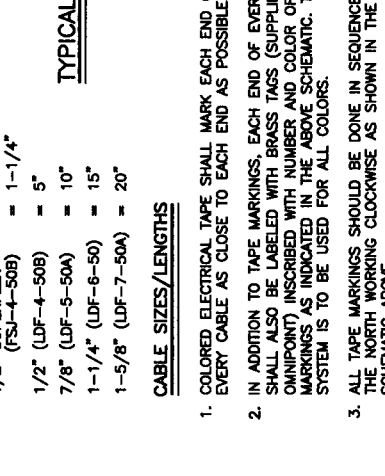
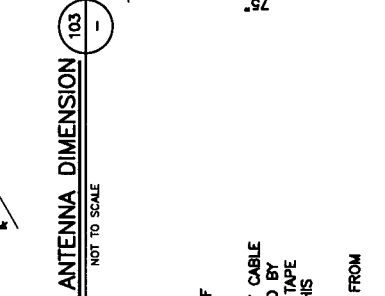
**TYPICAL ANTENNA DIMENSION**  
 NOT TO SCALE



**TYPICAL SECTOR CABLE ROUTING**  
 NOT TO SCALE



**TYPICAL EQUIPMENT CABINET**  
 NOT TO SCALE



**MINIMUM CABLE BENDING RADIUS:**

- 1/2" SUPERFLEX (FSJ-4-50B) = 1-1/4"
- 1/2" (LDF-4-50B) = 5"
- 7/8" (LDF-5-50A) = 10"
- 1-1/4" (LDF-6-50A) = 15"
- 1-5/8" (LDF-7-50A) = 20"

**CABLE SIZES/LENGTHS**

1. COLORED ELECTRICAL TAPE SHALL MARK EACH END OF EVERY CABLE AS CLOSE TO EACH END AS POSSIBLE.
2. IN ADDITION TO TAPE MARKINGS, EACH END OF EVERY CABLE SHALL ALSO BE LABELED WITH BRASS TAGS (SUPPLIED BY OMNIPPOINT) INSCRIBED WITH NUMBER AND COLOR OF TAPE MARKINGS AS INDICATED IN THE ABOVE SCHEMATIC. THIS SYSTEM IS TO BE USED FOR ALL COLORS.
3. ALL TAPE MARKINGS SHOULD BE DONE IN SEQUENCE FROM THE NORTH WORKING CLOCKWISE AS SHOWN IN THE SCHEMATIC ABOVE.
4. THE CONTRACTOR SHALL INSTALL ANTENNA AND JUMPER CABLES WITH DRIP LOOPS TO PREVENT UNDESIRABLE WATER RUN-OFF.
5. THE CONTRACTOR SHALL INSTALL ADDITIONAL CABLE SUPPORTS AS NEEDED TO MAINTAIN A MAXIMUM SPACING OF 3'-0" ON CENTER.
6. ALL LENGTHS ARE ESTIMATED. CONTRACTOR MUST VERIFY LENGTHS AND ORIENTATION IN FIELD PRIOR TO ACCEPTING BID.

ANTENNA SCHEDULE SECTOR	RX/TX	CABLE LENGTH	DIA.	LABEL
A 20' 0" MDT	RX/TX	155'	1-5/8"	1 RED
	TX	155'	1-5/8"	2 RED
	TX	155'	1-5/8"	3 RED
A 20' 0" MDT	TX	155'	1-5/8"	4 RED
	TX	155'	1-5/8"	5 RED
	TX	155'	1-5/8"	6 RED
	TX	155'	1-5/8"	7 RED
	TX	155'	1-5/8"	8 RED
B 140' 0" MDT	RX/TX	155'	1-5/8"	1 WHITE
	TX	155'	1-5/8"	2 WHITE
	TX	155'	1-5/8"	3 WHITE
	TX	155'	1-5/8"	4 WHITE
	TX	155'	1-5/8"	5 WHITE
	TX	155'	1-5/8"	6 WHITE
	TX	155'	1-5/8"	7 WHITE
	TX	155'	1-5/8"	8 WHITE
C 260' 0" MDT	RX/TX	155'	1-5/8"	1 BLUE
	TX	155'	1-5/8"	2 BLUE
	TX	155'	1-5/8"	3 BLUE
C 260' 0" MDT	TX	155'	1-5/8"	4 BLUE
	TX	155'	1-5/8"	5 BLUE
	TX	155'	1-5/8"	6 BLUE
	TX	155'	1-5/8"	7 BLUE
	TX	155'	1-5/8"	8 BLUE

**CABLE SIZES/LENGTHS**

- A. 0'-100'-0" USE 7/8" CABLE MANUFACTURED BY CABLEWAVE.
- B. 100'-0" AND ABOVE USE 1-5/8" CABLE MANUFACTURED BY CABLEWAVE.
- C. CONTRACTOR TO INSTALL 1/2" JUMPER CABLE TO ANTENNA IN 3' AND/OR 6' LENGTHS MANUFACTURED BY CABLEWAVE SUPERFLEX #FSJ-4-50B TO BTS (SEE MATERIAL LIST FOR LENGTH)

**ANTENNA SCHEDULE**

NOT TO SCALE

101

**TYPICAL SECTOR CABLE ROUTING**

NOT TO SCALE

102

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 DATE: 12/16/02

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**GENERAL CONCRETE NOTES:**

1. SOIL HAS AN ASSUMED BEARING CAPACITY OF 2500 POUNDS PER SQUARE FOOT.
2. ALL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI IN 28 DAYS.
3. ALL REINFORCING STEEL SHALL BE NEW BILLET STEEL, CONFORMING TO ASTM A-615, GRADE 60, DEFORMED.
4. CONCRETE HAS BEEN DESIGNED AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH REQUIREMENTS OF THE AMERICAN CONCRETE INSTITUTE (ACI) BUILDING CODE FOR REINFORCED CONCRETE, LATEST AMENDMENTS.
5. THE MATERIAL SHALL CONFORM TO THE FOLLOWING STANDARDS AND REQUIREMENTS (LATEST EDITION):
  - PORTLAND CEMENT      ASTM C150
  - READY MIX CONCRETE    ASTM C94 & ACI-301
  - CONCRETE AGGREGATE    ASTM C33
  - DEFORMED BILLET STEEL BAR    ASTM A615
  - WELDED WIRE FABRIC    ASTM A185
6. PORTLAND CEMENT SHALL BE TYPE IA.
7. CONCRETE SHALL DEVELOP A COMPRESSIVE STRENGTH (FC) OF 4000 PSI AFTER 28 DAYS AND HAVE A MINIMUM SLUMP OF 3 INCHES, AND A MAXIMUM OF 5 INCHES.
8. PROVIDE 5-7% AIR ENTRAINMENT IN CONCRETE.
9. ALL DETAILING, FABRICATION AND PLACING OF REINFORCING STEEL SHALL CONFORM TO THE MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES. (ACI 315)
10. ALL BAR SPLICES SHALL BE CLASS "B" TENSION SPLICES.
11. CHAMFER ALL EXPOSED EXTERNAL CORNERS OF CONCRETE WITH 3/4" X 45 DEGREES CHAMFER, UNLESS OTHERWISE NOTED.
12. CONTRACTOR SHALL REFER TO DRAWINGS OF OTHER TRADES AND VENDOR DRAWINGS FOR EMBEDDED ITEMS AND RECESSES NOT SHOWN ON THESE DRAWINGS.
13. WHEREVER CONCRETE SURFACES ABUT OR ARE VENEERED WITH MASONRY, PROVIDE VERTICAL DOVETAIL INSERTS FOR MASONRY ANCHORS SPACED AT 2'-0" O.C. MAXIMUM.
14. THE CONTRACTOR SHALL APPLY A NON-SLIP BROOM FINISH IMMEDIATELY AFTER THE TROWEL FINISHING PHASE.
15. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS IN ORDER TO PROTECT THE CONCRETE FROM PREMATURE CURING AS SOON AS THE FORMS ARE REMOVED, ESPECIALLY DURING THE FIRST 24 HOURS.
16. CONTRACTOR SHALL VERIFY ALL SIZES AND LOCATIONS OF ALL ELECTRICAL OPENINGS AND EQUIPMENT PADS WITH THE ELECTRICAL EQUIPMENT DETAILS AND SHOP DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL OPENINGS AND SLEEVES FOR PROPER DISTRIBUTION FOR ALL UTILITIES.
17. ALL FILL UNDER CONCRETE SLABS TO BE 95% COMPACTED EARTH, WELL TAMPED AND 4" COMPACTED CRUSHED GRAVEL. ALL BACK FILL MATERIAL SHALL BE FREE OF ANY ORGANIC MATTER.

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APPLICANT/OWNER  
**OMNIPONT COMMUNICATIONS INC.**

AS AGENT FOR  
**CHAMPONE FACILITIES NETWORK 2, LLC**

PREPARED BY:



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**APPROVALS**

DESIGNER	SIGNATURE	DATE
OMNIPONT		
OWNER/ARCHITECT		
ENGINEER/PAE		
BY		
ZONING		
CONSTRUCTION		

PROJECT LOCATION  
**BAM-FAIRFIELD  
MPx43  
CT-11-0788  
281 WOOD HOUSE ROAD  
FAIRFIELD, CT 06430**

DRAWN BY: DHS  
CHECKED BY: ML  
DATE: 12/19/02  
JOB NO.: 1356-003  
SITE NO.: CT-11-0788  
DRAWING DESCRIPTION:  
**STRUCTURAL NOTES**

DRAWING NUMBER  
**S1**



APPLICANT/OWNER



AS AGENT FOR:  
OMNIPPOINT FACILITIES NETWORK 2, LLC

PREPARED BY:



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Wireless Services  
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Newington, CT 06111  
Phone: (810) 482-3881  
Fax: (810) 482-3882

REV	DATE	DESCRIPTION	BY
A	12/19/02	ISSUED FOR REVIEW	HMJ
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CONSTRUCTION		

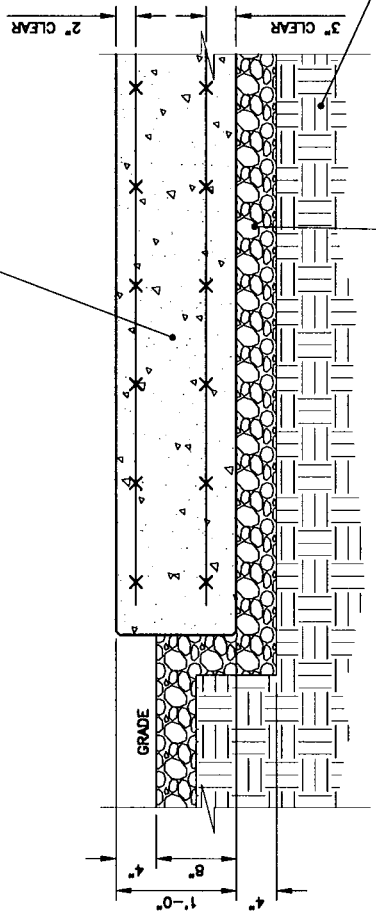
PROJECT LOCATION  
**BAM - FAIRFIELD**  
**MPX43**  
**CT-11-0788**  
281 WOOD HOUSE ROAD  
FAIRFIELD, CT 06430

DRAWN BY:	CRS
CHECKED BY:	HMJ
DATE:	12/19/02
JOB NO.:	1354-003
SITE NO.:	CT-11-0788

DRAWING DESCRIPTION  
**STRUCTURAL**  
**DETAILS**

DRAWING NUMBER  
**S2**

NEW 12" THICK 4000 PSI CONCRETE PAD WITH 2 LAYERS 6x6/W2.9 x W2.9 WELDED WIRE FABRIC. SEE PLANS FOR PAD SIZE.



EXISTING UNDISTURBED SOIL

4" THICK LAYER OF 3/4" DIA. CRUSHED STONE BASE

**CONCRETE PAD SECTION**  
NOT TO SCALE

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RF		
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CONSTRUCTION		

PROJECT LOCATION  
**BAM-FAIRFIELD**  
**MPX43**  
**CT-11-0788**  
 281 WOOD HOUSE ROAD  
 FAIRFIELD, CT 06430

DRAWN BY:	OKS
CHECKED BY:	HNU
DATE:	12/16/02
JOB NO.:	1324-003
SITE NO.:	CT-11-0788
DRAWING DESCRIPTION:	<b>GROUNDING NOTES</b>

DRAWING NUMBER  
**E2**

**GROUNDING GENERAL NOTES:**

- ALL DETAILS ARE SHOWN DIAGRAMMATICALLY, ACTUAL GROUNDING INSTALLATION AND CONSTRUCTION MAY VARY DUE TO SITE SPECIFIC CONDITIONS.
- NOTIFY CONSTRUCTION MANAGER IF THERE ARE ANY DIFFICULTIES INSTALLING THE GROUND SYSTEM DUE TO SITE/SOIL CONDITIONS.
- ALL UNDERGROUND CONNECTORS ARE TO BE CAD WELD. ALL ABOVE GRADE GROUNDING SHALL BE CAD WELD OR MECHANICAL AS SPECIFIED ON THE DRAWING.
- GROUNDS ARE TO BE INSTALLED A MINIMUM OF 2'-0" FROM SHELTER SLABS OR TOWER FOUNDATIONS UNLESS OTHERWISE NOTED.
- ALL GROUNDING CONDUCTORS SHALL BE #2 AWG SOLID TINNED COPPER. ELECTRICAL SERVICE GROUND ELECTRODE CONDUCTOR SHALL BE SIZED IN ACCORDANCE WITH APPLICABLE CODE.
- ALL EXTERIOR GROUNDING AND TOP OF GROUNDING RODS SHALL BE BURIED TO A MINIMUM DEPTH OF 30" MINIMUM BELOW FINISHED GRADE. ELECTRIC METER GROUND ROD EXCEPTED.
- GROUNDING RODS SHALL BE COPPER CLAD STEEL 3/4" DIAMETER X 10' LONG WITH TOP OF THE ROD BURIED 30" MINIMUM BELOW FINISHED GRADE. GROUND RODS SHALL BE EXOTHERMICALLY WELDED TO UNDERGROUND GROUNDING LOOP.
- WHERE GROUND CONNECTIONS ARE MADE THE CONTACT POINTS SHALL BE THOROUGHLY CLEANED AND MADE FREE OF FOREIGN MATERIAL SUCH AS PAINT AND CORROSION, TO ENSURE ADEQUATE BOND.
- FOR CONNECTION TO ALUMINUM FACIA AND ALUMINUM GRAVEL GUARD, ALUMINUM CONNECTORS SHALL BE USED WITH APPROVED METALLIC CONNECTORS BETWEEN ALUMINUM AND COPPER AN ANTI-OXIDATION COMPOUND SHALL BE USED.
- ALL GROUNDING CONNECTIONS TO THE GROUND BAR OR GROUND PLATE, INTAKE AND CABLE TRAY BRIDGE SHALL BE MADE WITH DOUBLE HOLE HYDRAULICALLY INDENTED STAINLESS STEEL LUGS.
- GROUND CONNECTIONS TO ANTENNA MAST SHALL BE CAD WELD TYPE "VA" AS MANUFACTURED BY HARGER OR APPROVED EQUAL
- CABLE TRAY BRIDGE SHALL BE GROUND WITH #2 AWG SOLID TINNED COPPER CONDUCTOR AND FASTEN TO SUPPORT STATION VIA CAD WELD TYPE "VA" AS MANUFACTURED BY HARGER OR APPROVED EQUAL
- WHEN SPECIFIED ALL METAL CONDUITS FOR GROUNDING DOWN CONDUCTORS SHALL BE BONDED TO THE GROUND SYSTEM AT BOTH ENDS.
- KOPR-SHIELD ANTI-OXIDATION COMPOUND SHALL BE USED ON ALL GROUNDING CONNECTIONS.
- ALL CAD WELDS SHALL BE INSTALLED USING THE PROPER CONNECTION/MOLD AND MATERIALS FOR THE PARTICULAR CONNECTION AND/OR APPLICATION.
- WHEN ALTERNATIVE METHODS ARE SPECIFIED BY STANDARDS ENGINEERING, ALL CHEMICAL GROUND RODS ARE TO BE MANUFACTURED BY XIT OR APPROVED EQUAL.
- ALL BOLTED GROUNDING CONNECTIONS SHALL BE INSTALLED WITH A LOCK WASHER UNDER THE NUT. HARDWARE FOR BOLTED CONNECTIONS SHALL BE MINIMUM OF 3/8" DIAMETER AND SHALL BE STAINLESS STEEL.
- GROUNDING WIRES SHALL NOT BE INSTALLED OR ROUTED THROUGH HOLES IN ANY METAL OBJECTS OR SUPPORTS TO PRECLUDE ESTABLISHING A "CHOKE" POINT.
- FERROUS METAL CLIPS WHICH COMPLETELY SURROUND THE GROUNDING CONDUCTOR SHALL NOT BE USED.
- STANDARD GROUND BARS AS MANUFACTURED BY HARGER OR APPROVED EQUAL SHALL BE FURNISHED AND INSTALLED. THEY SHALL NOT BE FABRICATED OR MODIFIED IN THE FIELD.
- ALL GROUNDING WIRES SHALL BE INSTALLED WITHOUT LOOPS (PIGTAILS) AND SHARP BEND RADIUS. CONTRACTOR SHALL MAKE ALL EFFORTS POSSIBLE TO MAINTAIN A 12" MINIMUM BENDING RADIUS ON ALL GROUND CONDUCTORS.
- ALL COMPRESSION CONNECTIONS SHALL BE HYDRAULICALLY COMPRESSED BY A MINIMUM OF 12 TONS OF FORCE.
- ANY GROUND WIRES, SOLID OR STRANDED, THAT PASS THROUGH CONDUIT, METALLIC SLEEVE, OR CABLE COVER, SHALL BE BONDED AT BOTH ENDS.
- WHERE COAX CABLE TRAY IS USED BOND ADJACENT TRAY WITH A #6 AWG STRANDED JUMPER VIA 2-HOLE LUGS. BOND BOTH ENDS TO THE #2 AWG SOLID TINNED WIRE.


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APPLICANT/OWNER  
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 AS AGENT FOR  
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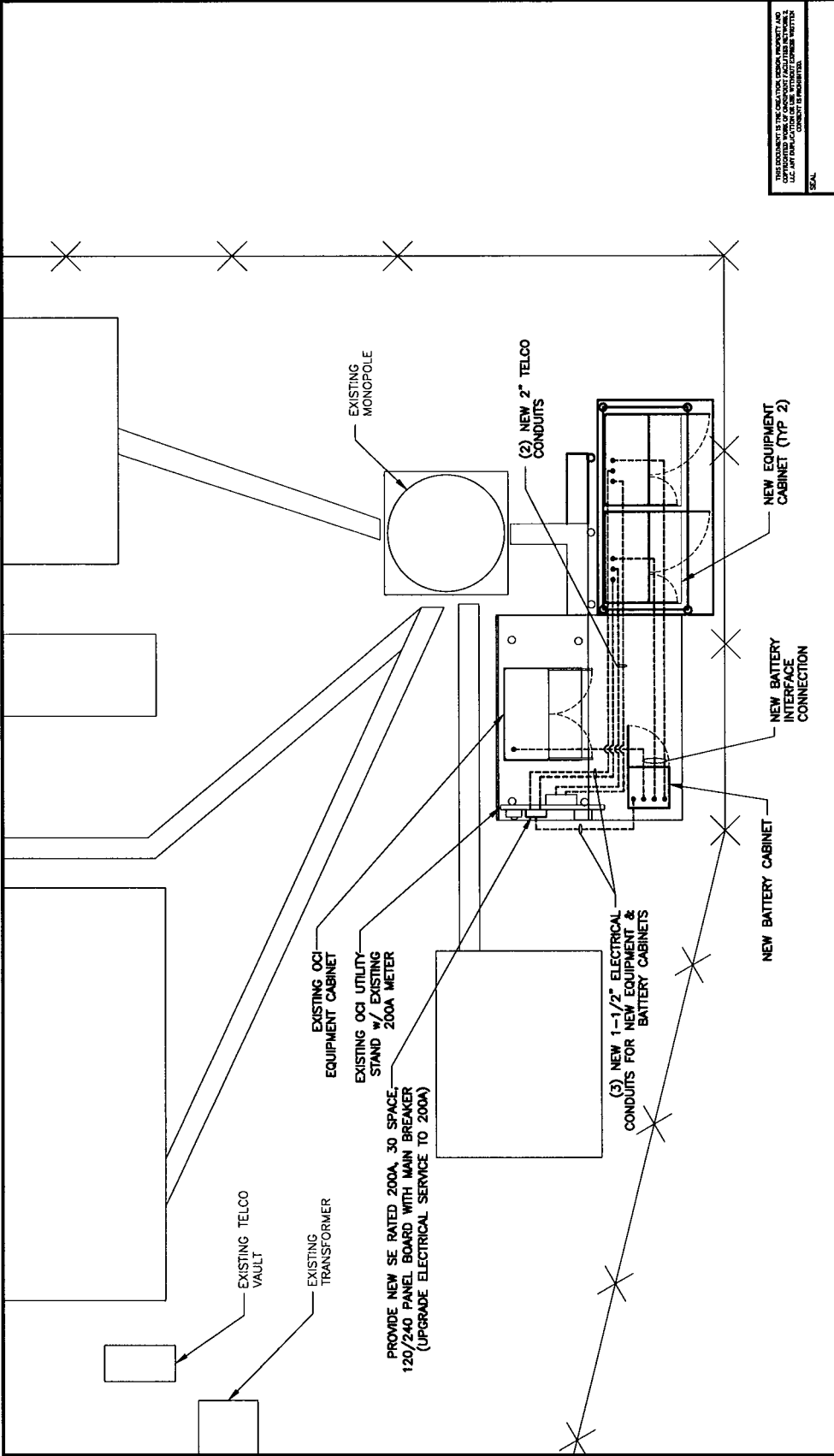
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CONSTRUCTION		

PROJECT LOCATION  
**BAM-FAIRFIELD  
 MPx43  
 CT-11-0788  
 281 WOOD HOUSE ROAD  
 FAIRFIELD, CT 06430**

DRAWN BY: CHS  
 CHECKED BY: HNU  
 DATE: 12/16/02  
 JOB NO.: 1356-03  
 SITE NO.: CT-11-0788  
 DRAWING DESCRIPTION:  
**ELECTRICAL PLAN**

DRAWING NUMBER:  
**E3**



CONTRACTOR SHALL REFERENCE THE FOLLOWING DETAILS, WHICH ARE INCLUDED IN THESE CONSTRUCTION DRAWINGS:  
 201

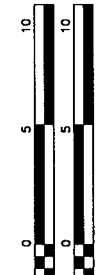
**ELECTRICAL PLAN**  
 SCALE: 1"=5'

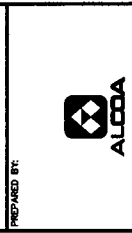
SCALE FOR 11x17 SHEET 1"=5'  
 SCALE FOR 24x36 SHEET 1"=2 1/2'

SCALE  
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DESIGNER	
CHECKED BY	
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PROJECT LOCATION	
CONTRACTOR	
ZONING	
SIGNATURE	

**BAM-FAIRFIELD**  
**MPx43**  
**CT-11-0788**  
 291 WOOD HOUSE ROAD  
 FAIRFIELD, CT 06430

DRAWN BY:	CHS
CHECKED BY:	HMU
DATE:	12/16/02
JOB NO.:	1334-003
SITE NO.:	CT-11-0788
DRAWING DESCRIPTION:	

**GROUNDING PLAN**  
 DRAWING NUMBER:  
**E4**

**PLAN NOTES:**  
 ① CONTRACTOR SHALL FIELD LOCATE ALL BTS, SECTOR GROUND BARS AND MASTER GROUND BAR TO SIDES OR BACK OF EXISTING OR NEW CABINETS.

NEW #2 BARE SOLID TINNED GROUND RING BURIED 24" DEEP (MIN.) BONDED TO EXIST. EQUIPMENT GROUND RING WITH CADWELD

SECTOR GROUND BAR MOUNTED AT EACH BTS (TYP. x3)

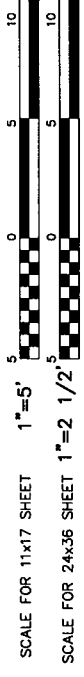
NEW GROUND ROD (TYP)

NEW EQUIPMENT CABINET (TYP 2)

CONTRACTOR SHALL REFERENCE THE FOLLOWING DETAILS, WHICH ARE INCLUDED IN THESE CONSTRUCTION DRAWINGS:  
 302, 303, 307, 308, 310, 311, 312, 313

BOND NEW MASTER GROUND BAR CONNECT TO GROUND RING WITH 2-#2 BARE SOLID TINNED LEADS

**GROUNDING PLAN**  
 SCALE: 1"=5'



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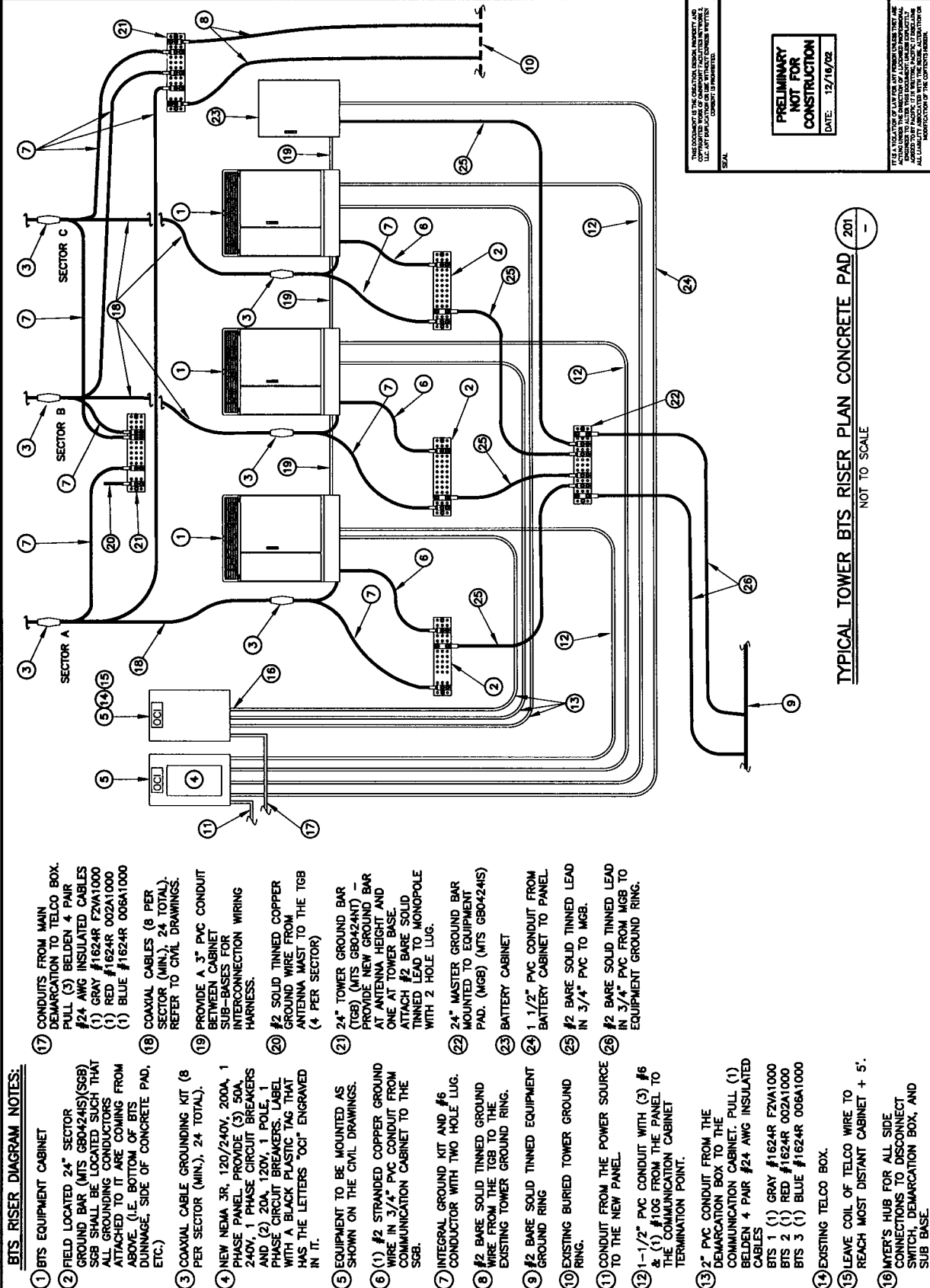
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LEASING/PMC	
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CONSTRUCTION	

PROJECT LOCATION  
**BAM-FAIRFIELD**  
**MPx43**  
**CT-11-0788**  
 291 WOOD HOUSE ROAD  
 FAIRFIELD, CT 06430

DRAWN BY: CHS  
 CHECKED BY: MMU  
 DATE: 12/16/02  
 JOB NO.: 1304-03  
 SITE NO.: CT-11-0788

DRAWING DESCRIPTION:  
**ELECTRICAL**  
**DETAILS**  
 DRAWING NUMBER:  
**E5**



**BTS RISER DIAGRAM NOTES:**

- 1 BTS EQUIPMENT CABINET
- 2 FIELD LOCATED 24" SECTOR GROUND BAR (MTS G80424S)(SGB) SGB SHALL BE LOCATED SUCH THAT ALL GROUNDING CONDUCTORS ATTACHED TO IT ARE COMING FROM ABOVE. (I.E. BOTTOM OF BTS DUNNAGE, SIDE OF CONCRETE PAD, ETC.)
- 3 COAXIAL CABLE GROUNDING KIT (8 PER SECTOR (MIN.), 24 TOTAL).
- 4 NEW NEMA 3R, 120/240V, 200A, 1 PHASE PANEL PROVIDE (3) 50A AND (2) 20A, 120V, 1 POLE, 1 PHASE CIRCUIT BREAKERS. LABEL WITH A BLACK PLASTIC TAG THAT HAS THE LETTERS "OCI" ENGRAVED IN IT.
- 5 EQUIPMENT TO BE MOUNTED AS SHOWN ON THE CIVIL DRAWINGS.
- 6 (1) #2 STRANDED COPPER GROUND WIRE IN 3/4" PVC CONDUIT FROM COMMUNICATION CABINET TO THE SGB.
- 7 INTEGRAL GROUND KIT AND #6 CONDUCTOR WITH TWO HOLE LUG.
- 8 #2 BARE SOLID TINNED GROUND WIRE FROM THE TGB TO THE EXISTING TOWER GROUND RING.
- 9 #2 BARE SOLID TINNED EQUIPMENT GROUND RING
- 10 EXISTING BURIED TOWER GROUND RING.
- 11 CONDUIT FROM THE POWER SOURCE TO THE NEW PANEL
- 12 1-1/2" PVC CONDUIT WITH (3) #6 & (1) #10G FROM THE PANEL TO THE COMMUNICATION CABINET TERMINATION POINT.
- 13 2" PVC CONDUIT FROM THE DEMARCATION BOX TO THE COMMUNICATION CABINET. PULL (1) BELDEN 4 PAIR #24 AWG INSULATED CABLES  
 BTS 1 (1) GRAY #1624R FZVA1000  
 BTS 2 (1) RED #1624R O02A1000  
 BTS 3 (1) BLUE #1624R O06A1000
- 14 EXISTING TELCO BOX.
- 15 LEAVE COIL OF TELCO WIRE TO REACH MOST DISTANT CABINET + 5'.
- 16 MYER'S HUB FOR ALL SIDE CONNECTIONS TO DISCONNECT SWITCH, DEMARCATION BOX, AND SUB BASE.
- 17 CONDUITS FROM MAIN DEMARCATION TO TELCO BOX. PULL (3) BELDEN 4 PAIR #24 AWG INSULATED CABLES  
 (1) GRAY #1624R FZVA1000  
 (1) RED #1624R O02A1000  
 (1) BLUE #1624R O06A1000
- 18 COAXIAL CABLES (8 PER SECTOR (MIN.), 24 TOTAL). REFER TO CIVIL DRAWINGS.
- 19 PROVIDE A 3" PVC CONDUIT BETWEEN CABINET SUB-BASES FOR INTERCONNECTION WIRING HARNESS.
- 20 #2 SOLID TINNED COPPER GROUND WIRE FROM ANTENNA MAST TO THE TGB (4 PER SECTOR)
- 21 24" TOWER GROUND BAR (TGB) (MTS G80424HT) - PROVIDE NEW GROUND BAR AT ANTENNA HEIGHT AND ONE AT TOWER BASE. ATTACH #2 BARE SOLID TINNED LEAD TO MONOPOLE WITH 2 HOLE LUG.
- 22 24" MASTER GROUND BAR MOUNTED TO EQUIPMENT PAD. (MGB) (MTS G80424IS) BATTERY CABINET
- 23 BATTERY CABINET
- 24 1 1/2" PVC CONDUIT FROM BATTERY CABINET TO PANEL
- 25 #2 BARE SOLID TINNED LEAD IN 3/4" PVC TO MGB.
- 26 #2 BARE SOLID TINNED LEAD IN 3/4" PVC FROM MGB TO EQUIPMENT GROUND RING.

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SEAL

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**TYPICAL TOWER BTS RISER PLAN CONCRETE PAD** 201  
 NOT TO SCALE



APPLICANT/TOWNER

**OMNIPPOINT COMMUNICATIONS INC.**  
 AS AGENT FOR:  
**OMNIPPOINT FACILITIES NETWORK 2, LLC**



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 2000 Regency Parkway, Suite 110  
 City, NC 27611-0088  
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APPROVALS	SIGNATURE	DATE
OWNER/LEASOR		
LEASING/SAC		
RF		
ZONING		
CONSTRUCTION		

PROJECT LOCATION  
**BAM-FAIRFIELD**  
**MPX43**  
**CT-11-078B**  
 281 WOOD HOUSE ROAD  
 FAIRFIELD, CT 06430

DRAWN BY:	CSK
CHECKED BY:	HRU
DATE:	12/16/02
JOB NO.:	1358-053
SITE NO.:	CT-11-078B
DRAWING DESCRIPTION:	ELECTRICAL DETAILS

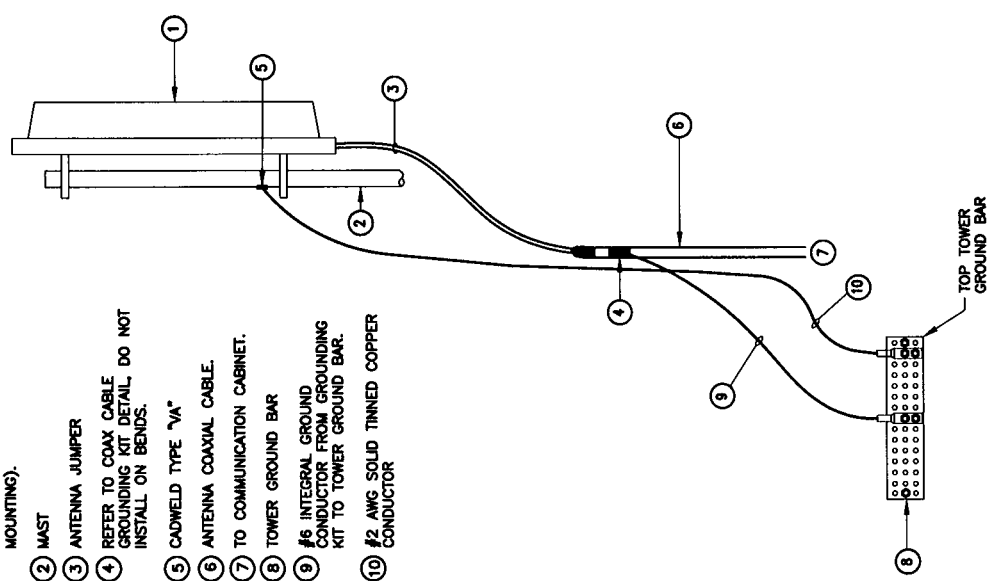
DRAWING NUMBER:  
**E6**

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**PRELIMINARY NOT FOR CONSTRUCTION**  
 DATE: 12/16/02

**ANTENNA GROUNDING NOTES:**

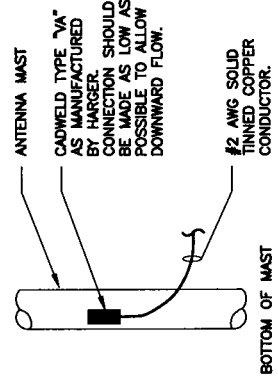
- 1 ANTENNA (SCHEMATIC REPRESENTATION, SEE ANTENNA MOUNTING DETAIL FOR MOUNTING).
- 2 MAST
- 3 ANTENNA JUMPER
- 4 REFER TO COAX CABLE GROUNDING KIT DETAIL, DO NOT INSTALL ON BENDS.
- 5 CADWELD TYPE "VA"
- 6 ANTENNA COAXIAL CABLE
- 7 TO COMMUNICATION CABINET.
- 8 TOWER GROUND BAR
- 9 #6 INTEGRAL GROUND CONDUCTOR FROM GROUNDING KIT TO TOWER GROUND BAR.
- 10 #2 AWG SOLID TINNED COPPER CONDUCTOR



**TOWER ANTENNA GROUNDING DETAIL**

302

NOT TO SCALE



**ANTENNA MAST GROUNDING DETAIL**

303


NOT TO SCALE

APPLICANT/TOWNSHIP

**OMNIPPOINT COMMUNICATIONS, INC.**

AS AGENT FOR:  
**COMCAST BUSINESS NETWORK 2, LLC**

PREPARED BY:



AFL Telecommunications  
1000  
P.O. Box 17  
2000 Highway Parkway, Suite 100  
Croy, NC 27511-8088  
Phone: (919) 862-3081  
Fax: (919) 862-3082

REV	DATE	DESCRIPTION	BY
A	12/18/02	ISSUED FOR REVIEW	HMU
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APPROVALS	SIGNATURE	DATE
OWNER/LANDLORD		
ENGINEER/ARCH		
RF		
ZONING		
CONSTRUCTION		

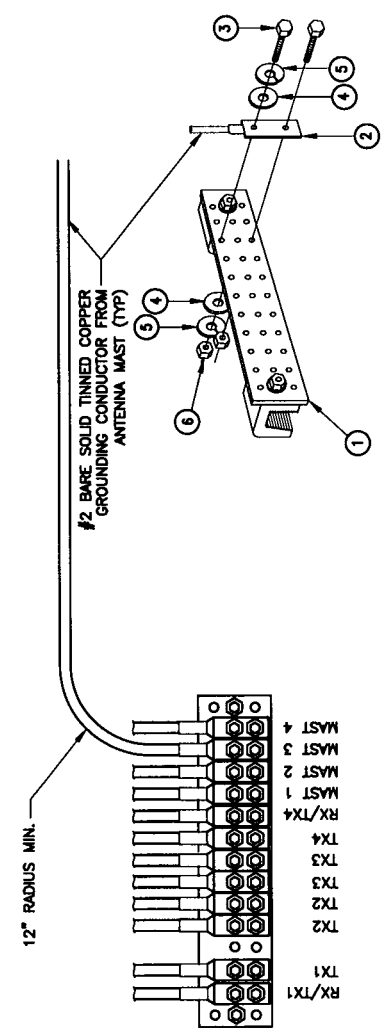
PROJECT LOCATION:  
**BAM-FAIRFIELD MPX43**  
**CT-11-0788**  
281 WOOD HOUSE ROAD  
FAIRFIELD, CT 06430

DRAWN BY:	GSC
CHECKED BY:	HMU
DATE:	12/18/02
JOB NO.:	1358-003
SITE NO.:	CT-11-0788
DRAWING DESCRIPTION:	<b>ELECTRICAL DETAILS</b>

DRAWING NUMBER:  
**E7**

**ANTENNA GROUND BAR NOTES:**

- 1 MTS GROUND BAR (680424NT) (24"x4"x1/4").
- 2 HYDRAULICALLY COMPRESSED LONG BARREL 2-HOLE GROUNDING LUG. THOMAS & BETTS #54811BE OR EQUAL.
- 3 3/8" STAINLESS STEEL BOLTS TO CONNECT GROUNDING LUG TO THE GROUND BAR (TYP).
- 4 3/8" STAINLESS STEEL FLAT WASHER (TYP).
- 5 3/8" STAINLESS STEEL LOCK WASHER (TYP).
- 6 3/8" STAINLESS STEEL HEX HEAD NUT (TYP).



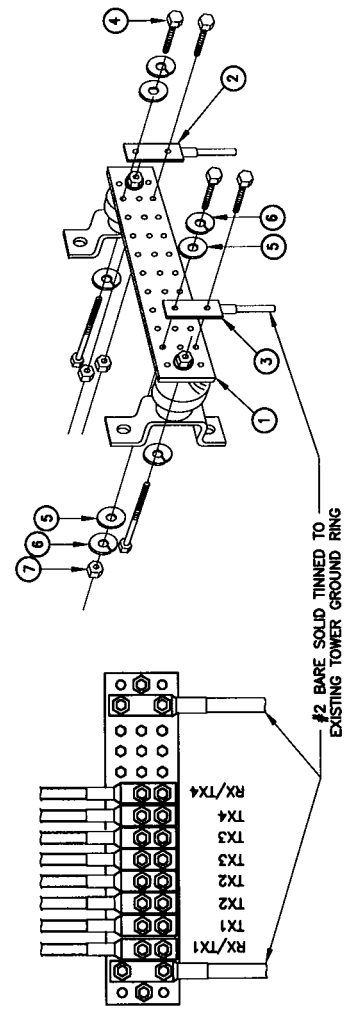
**TOP TOWER (MONOPOLE) GROUND BAR TERMINATION DETAIL**

307

NOT TO SCALE

**SECTOR GROUND BAR NOTES:**

- 1 MTS GROUND BAR (680424HS) (24"x4"x1/4").
- 2 HYDRAULICALLY COMPRESSED LONG BARREL 2-HOLE GROUNDING LUG. THOMAS & BETTS #54811BE OR EQUAL.
- 3 THE GROUND RUN SHALL FOLLOW A DOWNWARD PATH FROM THE SECTOR GROUND BAR TO THE MASTER GROUND BAR.
- 4 3/8" STAINLESS STEEL BOLTS TO CONNECT GROUNDING LUG TO THE GROUND BAR (TYP).
- 5 3/8" STAINLESS STEEL FLAT WASHER (TYP).
- 6 3/8" STAINLESS STEEL LOCK WASHER (TYP).
- 7 3/8" STAINLESS STEEL HEX HEAD NUT (TYP).



**BOTTOM TOWER GROUND BAR TERMINATION DETAIL**

308

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DATE: 12/18/02

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AFL Telecommunications  
 1000  
 Pacific 17, Inc.  
 2000 Regency Parkway, Suite 100  
 Cary, NC 27511-4098  
 Fax: (919) 462-2000  
 E-mail: afl@afli.com

REV	DATE	DESCRIPTION	BY
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APPROVALS	SIGNATURE	DATE
OWNER		
OWNER/ARCHITECT		
LEASING/SAC		
RF		
TELECOM		
CONSTRUCTION		

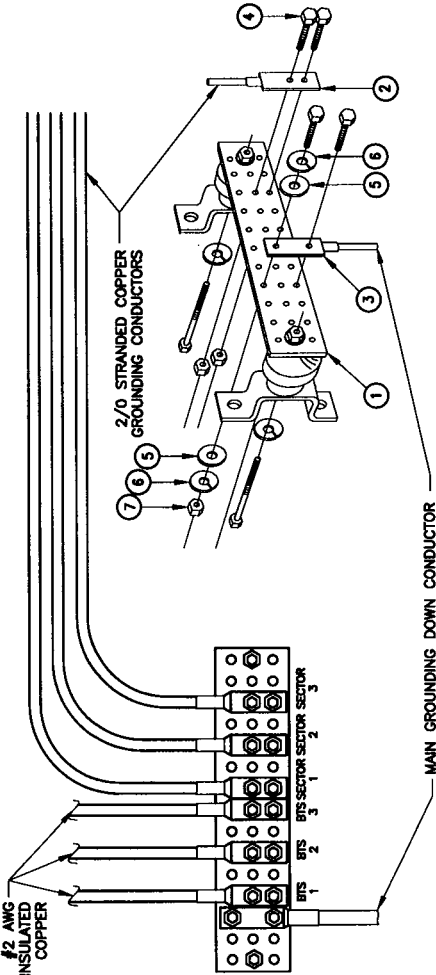
PROJECT LOCATION:  
**BAM-FAIRFIELD**  
**MP-x43**  
**CT-11-0788**  
 281 WOOD HOUSE ROAD  
 FAIRFIELD, CT 06430

DRAWN BY:	DHS
CHECKED BY:	HMJ
DATE:	12/16/02
JOB NO.:	1358-053
SHEET NO.:	07-11-0788
DRAWING DESCRIPTION:	ELECTRICAL DETAILS

DRAWING NUMBER:  
**E8**

**MASTER GROUND BAR NOTES:**

- 1 MTS GROUND BAR (880424HS) (24"x4"x1/4").
- 2 HYDRAULICALLY COMPRESSED LONG BARREL 2-HOLE GROUNDING LUG FOR GROUNDING CONDUCTORS BETWEEN SECTOR GROUND BAR AND THE MASTER GROUND BAR TERMINAL. THOMAS & BETTS #54811BE OR EQUAL.
- 3 HYDRAULICALLY COMPRESSED LONG BARREL 2-HOLE GROUNDING LUG FOR THE MAIN GROUNDING DOWN CONDUCTOR BETWEEN THE MASTER GROUND BAR TERMINAL AND THE MAIN GROUNDING ELECTRODE. THOMAS & BETTS #54862BE OR EQUAL.
- 4 3/8" STAINLESS STEEL BOLTS TO CONNECT GROUNDING LUG TO THE GROUND BAR (TYP).
- 5 3/8" STAINLESS STEEL FLAT WASHER (TYP).
- 6 3/8" STAINLESS STEEL LOCK WASHER (TYP).
- 7 3/8" STAINLESS STEEL HEX HEAD NUT (TYP).



**MASTER GROUND BAR TERMINATION DETAIL** 310  
 NOT TO SCALE

**TERMINATION TYPES:**

- A 2 HOLE MECHANICAL LUG WITH HYDRAULICALLY COMPRESSED LONG BARREL
- B DOUBLE BARREL COPPER HYDRAULICALLY COMPRESSED CONNECTOR.
- C CADWELD
- D BEAM CLAMP

	SOLID #2 TINNED COPPER	GROUND KIT	#2/0 STRANDED (MAIN DOWN CONDUCTOR)	MASTER GROUND BAR	SECTOR GROUND BAR	STRUCTURAL OR TOWER STEEL	MAIN GROUNDING ELECTRODE	GROUND ROD
SOLID #2 TINNED COPPER	B or C	B or C	A or C	A or C	A or C	A or C	A or C	C
GROUND KIT	B or C	B or C	A	A	A	A or C	A or C	C
#2/0 STRANDED (MAIN DOWN CONDUCTOR)	A or C	A	A or C	A or C	A or C	A or C	A or C	C
MASTER GROUND BAR	A or C	A	A or C	A or C	A or C	A or C	A or C	C
SECTOR GROUND BAR	A or C	A	A or C	A or C	A or C	A or C	A or C	C
STRUCTURAL OR TOWER STEEL	A or C	A	A or C	A or C	A or C	A or C	A or C	C
GROUND ROD	C	C	C	C	C	C	C	C

**GROUNDING MATRIX** 311  
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 DATE: 12/16/02

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APPLICANT/OWNER:

**OMNIPONT COMMUNICATIONS INC.**  
 AS AGENT FOR:  
**OMNIPONT FACILITIES NETWORK 2, LLC**

PREPARED BY:  
  
**ALCOA**  
 AFL Telecommunications  
 1000 Main Street  
 2000 Regulatory Parkway, Suite 110  
 Cary, NC 27511-8888  
 Phone: (919) 462-0881  
 Fax: (919) 462-0882

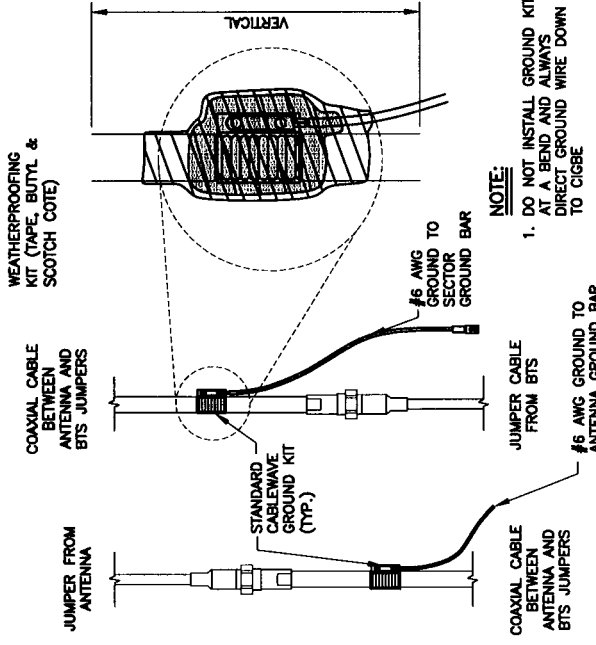
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APPROVALS	SIGNATURE	DATE
OMNIPONT		
OWNER/LANDLORD		
LEASING/LOC		
RF		
ZONING		
CONSTRUCTION		

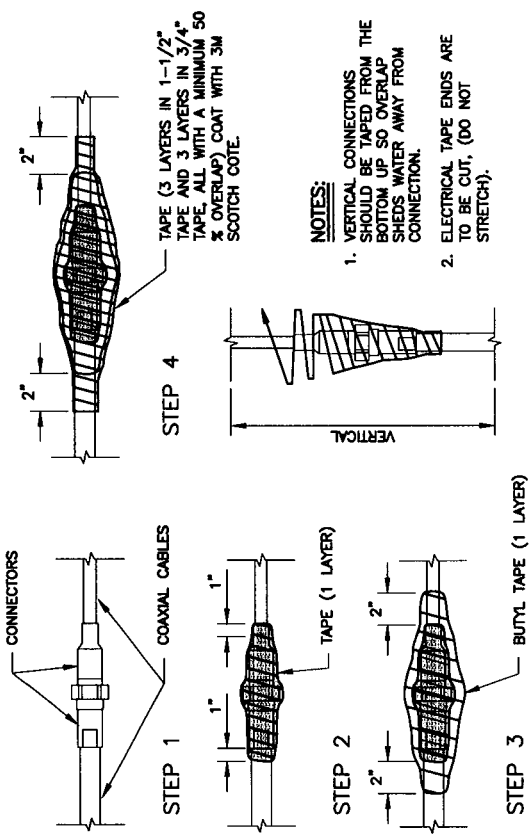
PROJECT LOCATION:  
**BAM-FAIRFIELD  
 MPx43  
 CT-11-078B**  
 281 WOOD HOUSE ROAD  
 FAIRFIELD, CT 06430

DRAWN BY: OCS  
 CHECKED BY: HNU  
 DATE: 12/16/02  
 JOB NO.: 1358-003  
 SITE NO.: CT-11-078B  
 DRAWING DESCRIPTION:  
**ELECTRICAL  
 DETAILS**

DRAWING NUMBER:  
**E9**



**COAXIAL CABLE GROUND KIT CONNECTION DETAILS** 313  
 NOT TO SCALE



**COAXIAL CABLE WEATHERPROOFING DETAILS** 312  
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# Exhibit B

## Equipment Specifications



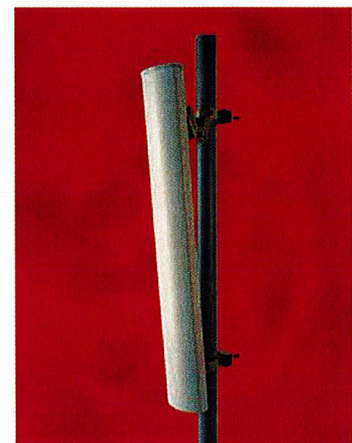
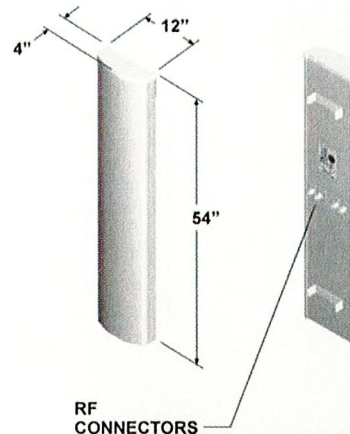
## DR85-17-XXDPL2Q

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 [2 x 20W (+ 43 dBm)]
Lightning Protection	Chassis Ground



### Mechanical Specifications

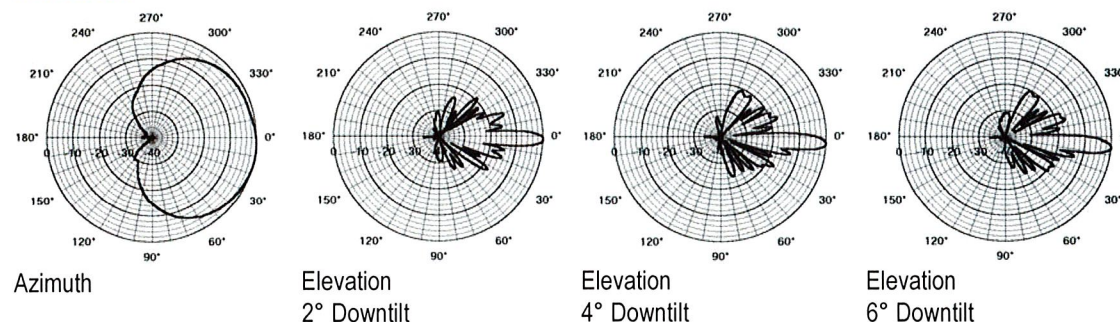
Dimensions (L x W x D)	54 in x 12 in x 4 in (137.2 cm x 30.5 cm x 10.2 cm)
Rated Wind Velocity	130 mph (209 km/hr)
Equivalent Flat Plate Area	4.5ft² (.42 m²)
Front Wind Load @ 100 mph (161 kph)	130 lbs (576 N)
Side Wind Load @ 100 mph (161 kph)	43 lbs (192 N)
Weight	24 lbs (11 kg)

### 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



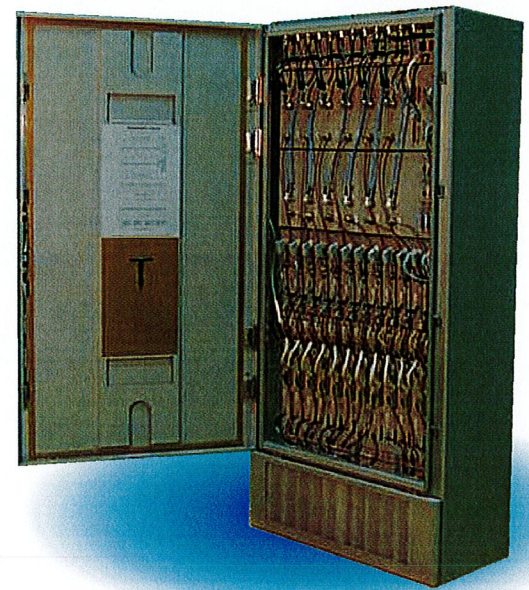
# Nortel Networks

## 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™



## 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 with diversity	-110 dBm guaranteed (w/o TMA) -115 dBm guaranteed (w/o TMA)
Dimensions	Height Width Depth	1950 mm 910 mm 450 mm
Weight	Empty cabinet Fully equipped	125 kg 345 kg
Capacity	Standard Optional	12 TRX per radio cabinet Up to 3 radio cabinets Up to 4 radio cabinets
Configuration	Monoband Trisectorial Dual Band Trisectorial Cell Splitting	Up to S16-16-16 (4 radio cabinets) S222_222 (1 radio cabinet) Mono-BCCCH dual band cells Cell splitting across radio cabinets
Amplifier output power	Standard Optional	30W (+/- 0.5 dB) 60W (+/- 0.5 dB)
Transmission coupling		All coupling configurations From Duplexers to 4 Ways Hybrid Coupling (H4D)
Power control	Static Dynamic	6 steps of 2 dB 15 steps of 2 dB
Frequency Hopping		RF Synthetised
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 Optional	6 E1 / T1 links 8 E1 / T1 links

In North America,  
the Caribbean,  
and Latin America :  
Tel : 1-800-4-Nortel  
or 1-506-674-5470

In Europe,  
Middle East,  
and Africa :  
Tel : 00-800-8008-9009\*  
or +44 (0)20 8920 4618

In Asia :  
Tel : 65-287-2877

for more information contact your Nortel  
Networks account representative, or visit :  
[www.nortelnetworks.com/contact](http://www.nortelnetworks.com/contact)

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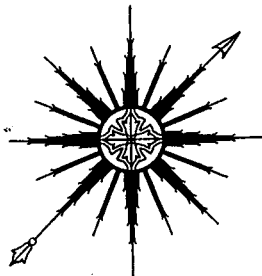
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**NETWORKS™**

# Exhibit C

## Structural Analysis



By (initials) BJB Date 11.19.02 EUN 806355  
COD update \_\_\_\_\_ Lease/License # T-Mobile Site ID Fairfield, CT Doc Type AS



ALL-POINTS TECHNOLOGY CORPORATION, P.C.

**STRUCTURAL ANALYSIS REPORT  
171' MONOPOLE TOWER  
FAIRFIELD, CONNECTICUT**

Prepared for  
Crown Castle Atlantic

**Crown BU #806355**

November 18, 2002



APT Project #CT105481

**STRUCTURAL ANALYSIS REPORT  
171' MONOPOLE TOWER  
FAIRFIELD, CONNECTICUT  
prepared for  
Crown Castle Atlantic**

**EXECUTIVE SUMMARY:**

All-Points Technology Corporation, P.C. (APT) performed a structural analysis of this 171-foot monopole tower located in Fairfield, Connecticut. The analysis was performed for T-Mobile's removal of existing antennas and replacement with twelve EMS Wireless RR90-17-02 panel antennas on the existing platform at 138'. Waveguide cables are to be twenty-four 1-5/8" cables.

Our analysis indicates the tower and foundation are capable of supporting the proposed antennas. Waveguide cables may be installed inside or outside the pole.

**INTRODUCTION:**

A structural analysis of this communications tower was performed by All-Points Technology Corp., P.C. for Crown Castle Atlantic. The tower is located at 281 Woodhouse Road in Fairfield, Connecticut. APT did not visit the tower site. This analysis relied on information provided by Crown Castle, which included the existing antenna inventory, proposed antennas, EEI design drawings and calculations, and photographs.

The structure is a 156-foot galvanized steel monopole with a 14'-8" extension pole designed and manufactured by Engineered Endeavors, Incorporated. The analysis was conducted with the following antenna inventory (proposed changes depicted in **bold text**):

Antenna	Elev.	Mount	Coax.
(3) EMS DR90-17-02 panels	170'	Pole mount	(12) 1-5/8"
(12) ALP9011, (6) DB948F85 panels	158'	Standard platform	(18) 1-5/8"
(9) ALP11011 panels	148'	Standard platform	(9) 1-1/4"
<b>(12) EMS RR90-17-02 &amp; (6) TMA's</b>	138'	Standard platform	<b>(24) 1-5/8"</b>
Til-Tek TA-2335-LCC-H panel	128'	4' stand-off	1-5/8"
(3) Andrew whips, (2) Antel 87066D, Sinclair SRL420NHD	118'	(3) 4' stand-offs	(6) 7/8"

**All-Points Technology Corporation**

150 Old Westside Road  
North Conway, NH 03860  
(603) 356-5214

711 North Mountain Road  
Newington, CT 06111  
(860) 953-4444

## 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 85 miles per hour and one-half inch of radial ice over the entire structure and all appurtenances. EIA requires a minimum of 85-mph wind load for Fairfield 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 Digital Canal. 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 at intervals on the monopole, which were compared to allowable stresses according to AISC and 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 tower 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 changes. The following table summarizes tower capacity based on combined axial and bending stresses:

Elevation	Capacity
0'-49'	69%
49'-92'	74%
92'-137'	72%
137'-156'	53%

**Base Foundation:** The existing foundation was evaluated by comparing reactions imposed with the proposed loads with original design reactions. Our calculations indicate the existing foundation is adequate to support the proposed antennas, provided it was designed and constructed to support original design reactions.

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

Compression: 43.4 kips  
Shear: 26.6 kips  
Overturning Moment: 3162 ft-kips

#### **CONCLUSIONS AND SUGGESTIONS:**

As detailed above, our analysis indicates that the existing 171' Valmont monopole tower and foundation in Fairfield, Connecticut are capable of supporting the 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 Corporation**

150 Old Westside Road  
North Conway, NH 03860  
(603) 356-5214

711 North Mountain Road  
Newington, CT 06111  
(860) 953-4444

All-Points Technology Corporation, 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.

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**All-Points Technology Corporation**

150 Old Westside Road  
North Conway, NH 03860  
(603) 356-5214

711 North Mountain Road  
Newington, CT 06111  
(860) 953-4444



# *Appendix A*

*Calculations*

# All-Points Technology Corp., P.C.

150 Old Westside Road  
 North Conway, NH 03860  
 (603) 356-5214

Client: **Crown Castle**  
 Job: **Fairfield, CT**  
 Calculated By: **R. Adair**

Job No.: **CT105481**  
 Date: **15-Nov-02**

## General Information

Tower Manufacturer: **EI**  
 Tower Type: **Monopole**  
 Total Height of Tower: **160 ft.**  
 Wind Speed: **EIA Fairfield County 85 mph.**  
 Radial Ice: **0.5 in.**  
 75% Reduction for ice: **yes (yes or no)**  
 1/3 increase for allowable loads: **yes (yes or no)**  
 Number of faces: **18 faces**

Calculations based on EIA/TIA-222-F, using the following formulas:

Force on discrete appurtenance:  $F=Qz*Gh*Ca*A$

Force on microwave antennae:  $F=Cr*A*Gh*Kz*V^2$ , where  $Cr=((Ca^2)+(Cs^2))^{(1/2)}$

Gh=1.69 for monopoles Gh= 1.69

V as specified EIA-222-F

E (Modulus of Elasticity) **29000 ksi**  
 Fb **0.6**  
 K **1**  
 Min. Width = **19.50 in**  
 Max. Width = **52.50 in**  
 Slope of Tower = **0.0172 in/in**

## Tower Information

Section	Length (ft.)	Midpt Elev.	Base Width (in.)	Top Width (in.)	Area (sf) w/o Ice	Area (sf) w/ Ice	Wall Thknss	Wt. (lbs) Tower	Wt. (lbs) Ice
15	9.00	151.50	22.18	19.50	15.63	16.38	0.188	484.35	117.33
14	10.00	142.00	24.24	22.18	19.34	20.18	0.188	599.97	144.85
13	11.00	131.50	26.51	24.24	23.26	24.18	0.375	1433.33	173.89
12	11.00	120.50	28.78	26.51	25.34	26.26	0.375	1563.39	189.13
11	11.00	109.50	31.05	28.78	27.42	28.34	0.375	1693.45	204.38
10	12.00	98.00	33.53	31.05	32.29	33.29	0.375	1995.73	240.35
9	10.00	87.00	35.59	33.53	28.80	29.63	0.438	2074.43	214.15
8	11.00	76.50	37.86	35.59	33.66	34.58	0.438	2146.71	250.11
7	11.00	65.50	40.13	37.86	35.74	36.66	0.438	2280.93	265.36
6	11.00	54.50	42.39	40.13	37.82	38.74	0.438	2415.16	280.60
5	9.00	44.50	44.25	42.39	32.49	33.24	0.500	2368.98	240.92
4	10.00	35.00	46.31	44.25	37.73	38.57	0.500	2752.63	279.66
3	10.00	25.00	48.38	46.31	39.45	40.29	0.500	2879.41	292.26
2	10.00	15.00	50.44	48.38	41.17	42.01	0.500	3006.19	304.86
1	10.00	5.00	52.50	50.44	42.89	43.72	0.500	3132.97	317.46
<b>Total</b>								<b>30828</b>	<b>3515</b>

**All-Points Technology Corp., P.C.**

150 Old Westside Road  
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 Job: **Fairfield, CT**  
 Calculated By: **R. Adair**

Job No.: **CT105481**  
 Date: **15-Nov-02**

***Monopole Properties***

Section	I in <sup>4</sup>	Area in <sup>2</sup>	Area mid	I mid	J mid	r in	S in <sup>3</sup>	L / side in
15	799.67	13.09	12.3	671	1341	7.82	72.10	3.91
14	1046.39	14.32	13.7	923	1846	8.55	86.32	4.27
13	2684.68	31.11	22.7	1866	3731	9.29	202.52	4.67
12	3446.11	33.81	32.5	3065	6131	10.10	239.47	5.07
11	4339.40	36.51	35.2	3893	7786	10.90	279.51	5.47
10	5476.68	39.46	38.0	4908	9816	11.78	326.72	5.91
9	7617.31	48.81	44.1	6547	13094	12.49	428.09	6.28
8	9189.36	51.96	50.4	8403	16807	13.30	485.49	6.68
7	10964.08	55.11	53.5	10077	20153	14.11	546.50	7.08
6	12953.75	58.26	56.7	11959	23918	14.91	611.12	7.48
5	16785.76	69.43	63.8	14870	29740	15.55	758.68	7.80
4	19273.20	72.70	71.1	18029	36059	16.28	832.31	8.17
3	21994.99	75.98	74.3	20634	41268	17.01	909.35	8.53
2	24961.69	79.25	77.6	23478	46957	17.75	989.81	8.89
1	28183.85	82.52	80.9	26573	53146	18.48	1073.67	9.26

***Tower Dead Load Summary***

Elevation at base of section	Dead load Tower (lbs)	Dead load Ice (lbs)
147.0	484	117
137.0	1084	262
126.0	2518	436
115.0	4081	625
104.0	5774	830
92.0	7770	1070
82.0	9845	1284
71.0	11991	1534
60.0	14272	1800
49.0	16687	2080
40.0	19056	2321
30.0	21809	2601
20.0	24688	2893
10.0	27695	3198
0.0	30828	3515

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 Job: **Fairfield, CT**  
 Calculated By: **R. Adair**

Job No.: **CT105481**  
 Date: **15-Nov-02**

Wind Velocity = 85 mph  
 Height of Tower = 160 feet

$K_z = \text{Exposure coefficient} = (z/33)^{2.7}; 1.00 \leq K_z \leq 2.58$   
 $Q_z = \text{Velocity pressure} = .00256 * K_z * V^2$   
 $G_h = \text{Gust response factor} = 1.69$   
 $C_f = \text{Structure force coefficient from Table 1 of TIA/EIA}$   
 $\text{Force} = Q_z * G_h * (C_f * A_e + C_a * A_a)$

**Wind Load Without Ice**

Section	Midpoint Height	Areas		Kz	Qz	Gh	Cf	Wind Load	Wind Load
		Ae	Aa						
15	151.50	15.6	0.28	1.55	28.59	1.69	0.66	511 lbs.	57 plf.
14	142.00	19.3	0.31	1.52	28.06	1.69	0.66	619 lbs.	62 plf.
13	131.50	23.3	0.34	1.48	27.46	1.69	0.66	726 lbs.	66 plf.
12	120.50	25.3	0.34	1.45	26.78	1.69	0.66	770 lbs.	70 plf.
11	109.50	27.4	0.34	1.41	26.06	1.69	0.66	809 lbs.	74 plf.
10	98.00	32.3	0.38	1.36	25.24	1.69	0.66	921 lbs.	77 plf.
9	87.00	28.8	0.31	1.32	24.40	1.69	0.66	793 lbs.	79 plf.
8	76.50	33.7	0.34	1.27	23.52	1.69	0.66	893 lbs.	81 plf.
7	65.50	35.7	0.34	1.22	22.50	1.69	0.66	906 lbs.	82 plf.
6	54.50	37.8	0.34	1.15	21.35	1.69	0.66	909 lbs.	83 plf.
5	44.50	32.5	0.28	1.09	20.15	1.69	0.66	736 lbs.	82 plf.
4	35.00	37.7	0.31	1.02	18.81	1.69	0.66	798 lbs.	80 plf.
3	25.00	39.5	0.31	1.00	18.50	1.69	0.66	819 lbs.	82 plf.
2	15.00	41.2	0.31	1.00	18.50	1.69	0.66	855 lbs.	85 plf.
1	5.00	42.9	0.31	1.00	18.50	1.69	0.66	890 lbs.	89 plf.

**All-Points Technology Corp., P.C.**

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 Calculated By: **R. Adair**

Job No.: **CT105481**  
 Date: **15-Nov-02**

**Wind Load With Ice**

Section	Midpoint Height	Areas		Kz	Qz	Gh	Cf	Wind Load	75% Wind Load
		Ae	Ai						
15	151.50	16.4	1.03	1.55	28.59	1.69	0.66	578 lbs.	48 plf.
14	142.00	20.2	1.15	1.52	28.06	1.69	0.66	692 lbs.	52 plf.
13	131.50	24.2	1.26	1.48	27.46	1.69	0.66	805 lbs.	55 plf.
12	120.50	26.3	1.26	1.45	26.78	1.69	0.66	847 lbs.	58 plf.
11	109.50	28.3	1.26	1.41	26.06	1.69	0.66	884 lbs.	60 plf.
10	98.00	33.3	1.38	1.36	25.24	1.69	0.66	1001 lbs.	63 plf.
9	87.00	29.6	1.15	1.32	24.40	1.69	0.66	857 lbs.	64 plf.
8	76.50	34.6	1.26	1.27	23.52	1.69	0.66	960 lbs.	65 plf.
7	65.50	36.7	1.26	1.22	22.50	1.69	0.66	970 lbs.	66 plf.
6	54.50	38.7	1.26	1.15	21.35	1.69	0.66	970 lbs.	66 plf.
5	44.50	33.2	1.03	1.09	20.15	1.69	0.66	783 lbs.	65 plf.
4	35.00	38.6	1.15	1.02	18.81	1.69	0.66	847 lbs.	64 plf.
3	25.00	40.3	1.15	1.00	18.50	1.69	0.66	868 lbs.	65 plf.
2	15.00	42.0	1.15	1.00	18.50	1.69	0.66	903 lbs.	68 plf.
1	5.00	43.7	1.15	1.00	18.50	1.69	0.66	938 lbs.	70 plf.

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Client: **Crown Castle**  
 Job: **Fairfield, CT**  
 Calculated By: **R. Adair**  
 Job No.: **CT105481**  
 Date: **15-Nov-02**

**Antenna Information**

Wind Velocity= 85 mph  
 Tower Hgt= 160 ft.

**ANTENNAS**

Type	Elev. (z)	Coeff. (C)	Kz	Qz	Area (no ice)	Area (ice)	Force (no ice)	Weight	EI/Dist
(3) EMS DR90-17 on pipe ext.	170	1.4	1.60	29.55	27.6	55.7	1931	510	N16
(12) ALP9011 & (6) DB948	158	1.4	1.56	28.93	42.6	15.5	2917	450	N16
on standard platform	158	2.0	1.56	28.93	12.5	24.3	1218	2000	N16
(9) ALP11011	148	1.4	1.54	28.40	33.3	12.9	2237	225	15-1
on standard platform	148	2.0	1.54	28.40	12.5	49.7	1196	2000	15-1
(12) EMS RR90-17 on	138	1.4	1.50	27.84	40.1	21.9	2640	360	14-1
on standard platform	138	2.0	1.50	27.84	12.5	25.5	1172	2000	14-1
TIL-TEK TA-2335-LCC-H; 4' s.o.	128	1.2	1.47	27.24	7.2	19.6	398	150	13-2
(6) whips on 4' s.o.s	118	1.2	1.44	26.62	17.7	8.4	956	275	12-3
			1.00	18.50			0		

**DISHES**

Coeff. (C)	Kz	Qz	Force (no ice)	Weight	EI/Dist
0.00000	1.00	18.50	0		<u>Orient</u>
0.00000	1.00	18.50	0		
0.00000	1.00	18.50	0		
0.00000	1.00	18.50	0		
0.00000	1.00	18.50	0		

7970

**LINEAR APPURTENANCES**

Section	Area w/o Ice	Area w/ Ice	Weight w/o Ice	Weight w/ Ice
15	0.28	1.03	117	126
14	0.31	1.15	310	330
13	0.34	1.26	638	660
12	0.34	1.26	704	726
11	0.34	1.26	715	737
10	0.38	1.38	852	876
9	0.31	1.15	710	730
8	0.34	1.26	781	803
7	0.34	1.26	781	803
6	0.34	1.26	781	803
5	0.28	1.03	639	657
4	0.31	1.15	710	730
3	0.31	1.15	710	730
2	0.31	1.15	710	730
1	0.31	1.15	710	730

# Frame Static Analysis Report

Project: CT105481 Fairfield (C:\Program Files\Projects\CT105480 Fairfield)  
 Description: 171' EE1 Monopole  
 Date: 11/15/2002 09:11 AM

Company: All-Points Technology Corporation  
 User: Robert Adair, P.E.  
 Software: Digital Canal Frame Analysis & Design

NODAL COORDINATES				BOUNDARY CONDITIONS (F=FIX, S=SUP, M=MASTER/SLAVE)							
NODE NO	REBAND NO	X	Y	Z	NODE TEMP	ALPHA	BETA	GAMMA	DIR	DDDDOO XYZXYZ	STIFFNESS
Units:		Ft	Ft	Ft	F	Deg	Deg	Deg			K /In /Deg
1	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00		FFFFFF	
2	2	0.00	10.00	0.00	0.00	0.00	0.00	0.00			
3	3	0.00	20.00	0.00	0.00	0.00	0.00	0.00			
4	4	0.00	30.00	0.00	0.00	0.00	0.00	0.00			
5	5	0.00	40.00	0.00	0.00	0.00	0.00	0.00			
6	6	0.00	49.00	0.00	0.00	0.00	0.00	0.00			
7	7	0.00	60.00	0.00	0.00	0.00	0.00	0.00			
8	8	0.00	71.00	0.00	0.00	0.00	0.00	0.00			
9	9	0.00	82.00	0.00	0.00	0.00	0.00	0.00			
10	10	0.00	92.00	0.00	0.00	0.00	0.00	0.00			
11	11	0.00	104.00	0.00	0.00	0.00	0.00	0.00			
12	12	0.00	115.00	0.00	0.00	0.00	0.00	0.00			
13	13	0.00	126.00	0.00	0.00	0.00	0.00	0.00			
14	14	0.00	137.00	0.00	0.00	0.00	0.00	0.00			
15	15	0.00	147.00	0.00	0.00	0.00	0.00	0.00			
16	16	0.00	156.00	0.00	0.00	0.00	0.00	0.00			

2 NODE PRISMATIC BEAM ELEMENT															
ELEM NO	NE NO	PE NO	ALPHA	BETA	GAMMA	LENGTH	MAT TYPE	PROP TYPE	RELEASE NE	PE	REF TEMP	DIR	OFFSET NE	PE	STIFFNESS NE PE
Units:			Deg	Deg	Deg	Ft					F		Ft	Ft	K /In /Deg K /In /Deg
1	1	2	90.00	-90.00	0.00	10.00	1	1							
2	2	3	90.00	-90.00	0.00	10.00	1	2							
3	3	4	90.00	-90.00	0.00	10.00	1	3							
4	4	5	90.00	-90.00	0.00	10.00	1	4							
5	5	6	90.00	-90.00	0.00	9.00	1	5							
6	6	7	90.00	-90.00	0.00	11.00	1	6							
7	7	8	90.00	-90.00	0.00	11.00	1	7							
8	8	9	90.00	-90.00	0.00	11.00	1	8							
9	9	10	90.00	-90.00	0.00	10.00	1	9							
10	10	11	90.00	-90.00	0.00	12.00	1	10							
11	11	12	90.00	-90.00	0.00	11.00	1	11							
12	12	13	90.00	-90.00	0.00	11.00	1	12							
13	13	14	90.00	-90.00	0.00	11.00	1	13							
14	14	15	90.00	-90.00	0.00	10.00	1	14							
15	15	16	90.00	-90.00	0.00	9.00	1	15							

MATERIAL PROPERTIES						
MATL NO	DESIGNATION	YOUNG'S MODULUS	POISSON'S RATIO	THERMAL COEFF	MASS DENSITY	WEIGHT DENSITY
Units:		K /In ^2		F	Slug/Ft^3	Lb/Ft ^3
1	Steel	2.9e+004	0.295	6.5e-006	15.2	490
2	Cable	9e+004	0.151	6.5e-006	11.9	382



2 NODE PRISMATIC BEAM ELEMENT PROPERTIES									
DESIGNATION	A	IXX	IYY	J	IXY	SFY	SFX	CW	
Units:	In <sup>2</sup>	In <sup>4</sup>	In <sup>4</sup>	In <sup>4</sup>	In <sup>4</sup>			In <sup>6</sup>	
1 SECTION1A	80.9	2.66e+004	2.66e+004	5.31e+004	0	1.000	1.000	0	
2 SECTION1B	77.6	2.35e+004	2.35e+004	4.7e+004	0	1.000	1.000	0	
3 SECTION1C	74.3	2.06e+004	2.06e+004	4.13e+004	0	1.000	1.000	0	
4 SECTION1D	71.1	1.8e+004	1.8e+004	3.61e+004	0	1.000	1.000	0	
5 SECTION1E	63.8	1.49e+004	1.49e+004	2.97e+004	0	1.000	1.000	0	
6 SECTION2A	56.7	1.2e+004	1.2e+004	2.39e+004	0	1.000	1.000	0	
7 SECTION2B	53.5	1.01e+004	1.01e+004	2.02e+004	0	1.000	1.000	0	
8 SECTION2C	50.4	8.4e+003	8.4e+003	1.68e+004	0	1.000	1.000	0	
9 SECTION2D	44.1	6.55e+003	6.55e+003	1.31e+004	0	1.000	1.000	0	
10 SECTION3A	38	4.91e+003	4.91e+003	9.82e+003	0	1.000	1.000	0	
11 SECTION3B	35.2	3.89e+003	3.89e+003	7.79e+003	0	1.000	1.000	0	
12 SECTION3C	32.5	3.07e+003	3.07e+003	6.13e+003	0	1.000	1.000	0	
13 SECTION3D	22.7	1.87e+003	1.87e+003	3.73e+003	0	1.000	1.000	0	
14 SECTION4A	13.7	923	923	1.85e+003	0	1.000	1.000	0	
15 SECTION4B	12.3	671	671	1.34e+003	0	1.000	1.000	0	

2 NODE PRISMATIC BEAM ELEMENT LOAD INFORMATION										
REC NO	LOAD TYPE	LOAD SYS	LOAD DIST SPEC	DIST	PX	PY	PZ	MX	MY	MZ
Units:				Ft	K	K	K	Ft-K	Ft-K	Ft-K
DESCRIPTION : Wind on 1										
LOAD CASES : 1										
ELEMENT LIST : 1										
1	LINR	GLO	FRAC	B	0.000	0.089	0.000	0.000	0.000	0.000
				E	1.000	0.089	0.000	0.000	0.000	0.000
DESCRIPTION : Wind on 2										
LOAD CASES : 1										
ELEMENT LIST : 2										
2	LINR	GLO	FRAC	B	0.000	0.085	0.000	0.000	0.000	0.000
				E	1.000	0.085	0.000	0.000	0.000	0.000
DESCRIPTION : Wind										
LOAD CASES : 1										
ELEMENT LIST : 3										
3	LINR	GLO	FRAC	B	0.000	0.082	0.000	0.000	0.000	0.000
				E	1.000	0.082	0.000	0.000	0.000	0.000
DESCRIPTION : Wind										
LOAD CASES : 1										
ELEMENT LIST : 4										
4	LINR	GLO	FRAC	B	0.000	0.080	0.000	0.000	0.000	0.000
				E	1.000	0.080	0.000	0.000	0.000	0.000
DESCRIPTION : Wind										
LOAD CASES : 1										
ELEMENT LIST : 5										
5	LINR	GLO	FRAC	B	0.000	0.082	0.000	0.000	0.000	0.000
				E	1.000	0.082	0.000	0.000	0.000	0.000

DESCRIPTION : Wind  
 LOAD CASES : 1  
 ELEMENT LIST : 6

6	LINR	GLO	FRAC	B	0.000	0.083	0.000	0.000	0.000	0.000	0.000
				E	1.000	0.083	0.000	0.000	0.000	0.000	0.000

DESCRIPTION : Wind  
 LOAD CASES : 1  
 ELEMENT LIST : 7

7	LINR	GLO	FRAC	B	0.000	0.082	0.000	0.000	0.000	0.000	0.000
				E	1.000	0.082	0.000	0.000	0.000	0.000	0.000

DESCRIPTION : Wind  
 LOAD CASES : 1  
 ELEMENT LIST : 8

8	LINR	GLO	FRAC	B	0.000	0.081	0.000	0.000	0.000	0.000	0.000
				E	1.000	0.081	0.000	0.000	0.000	0.000	0.000

DESCRIPTION : Wind  
 LOAD CASES : 1  
 ELEMENT LIST : 9

9	LINR	GLO	FRAC	B	0.000	0.079	0.000	0.000	0.000	0.000	0.000
				E	1.000	0.079	0.000	0.000	0.000	0.000	0.000

DESCRIPTION : Wind  
 LOAD CASES : 1  
 ELEMENT LIST : 10

10	LINR	GLO	FRAC	B	0.000	0.077	0.000	0.000	0.000	0.000	0.000
				E	1.000	0.077	0.000	0.000	0.000	0.000	0.000

DESCRIPTION : Wind  
 LOAD CASES : 1  
 ELEMENT LIST : 11

11	LINR	GLO	FRAC	B	0.000	0.074	0.000	0.000	0.000	0.000	0.000
				E	1.000	0.074	0.000	0.000	0.000	0.000	0.000

DESCRIPTION : Wind  
 LOAD CASES : 1  
 ELEMENT LIST : 12

12	LINR	GLO	FRAC	B	0.000	0.070	0.000	0.000	0.000	0.000	0.000
				E	1.000	0.070	0.000	0.000	0.000	0.000	0.000

DESCRIPTION : (6) whips @ 118'  
 LOAD CASES : 2  
 ELEMENT LIST : 12  
 DISTANCES : 3

13	CONC	GLO	DIST			0.956	-0.275	0.000	0.000	0.000	0.000
----	------	-----	------	--	--	-------	--------	-------	-------	-------	-------

DESCRIPTION : Wind  
 LOAD CASES : 1  
 ELEMENT LIST : 13

14	LINR	GLO	FRAC	B	0.000	0.066	0.000	0.000	0.000	0.000	0.000
				E	1.000	0.066	0.000	0.000	0.000	0.000	0.000

DESCRIPTION : TA-235-LCC @ 128'  
 LOAD CASES : 2  
 ELEMENT LIST : 13  
 DISTANCES : 2

15	CONC	GLO	DIST			0.398	-0.150	0.000	0.000	0.000	0.000
----	------	-----	------	--	--	-------	--------	-------	-------	-------	-------

DESCRIPTION : Wind  
 LOAD CASES : 1  
 ELEMENT LIST : 14

6	LINR	GLO	FRAC	B	0.000	0.062	0.000	0.000	0.000	0.000	0.000
				E	1.000	0.062	0.000	0.000	0.000	0.000	0.000

DESCRIPTION : (12) RR90-17-02DP @ 138'  
 LOAD CASES : 2  
 ELEMENT LIST : 14  
 DISTANCES : 1

17	CONC	GLO	DIST			3.812	-2.360	0.000	0.000	0.000	0.000
----	------	-----	------	--	--	-------	--------	-------	-------	-------	-------

DESCRIPTION : Wind  
 LOAD CASES : 1  
 ELEMENT LIST : 15

18	LINR	GLO	FRAC	B	0.000	0.057	0.000	0.000	0.000	0.000	0.000
				E	1.000	0.057	0.000	0.000	0.000	0.000	0.000

DESCRIPTION : (9) ALP11011 @ 148'  
 LOAD CASES : 2  
 ELEMENT LIST : 15  
 DISTANCES : 1

19	CONC	GLO	DIST			3.433	-2.225	0.000	0.000	0.000	0.000
----	------	-----	------	--	--	-------	--------	-------	-------	-------	-------

GRAVITY LOAD MULTIPLIERS

REC  
NO

PX

PY

PZ

DESCRIPTION : Self Weight  
 LOAD CASES : 1  
 ELEMENT LIST : 1

1		0.000	-1.000	0.000
---	--	-------	--------	-------

DESCRIPTION : Self Weight  
 LOAD CASES : 1  
 ELEMENT LIST : 2

2		0.000	-1.000	0.000
---	--	-------	--------	-------

DESCRIPTION : Self Weight  
 LOAD CASES : 1  
 ELEMENT LIST : 3

3		0.000	-1.000	0.000
---	--	-------	--------	-------

DESCRIPTION : Self Weight  
 LOAD CASES : 1  
 ELEMENT LIST : 4

4		0.000	-1.000	0.000
---	--	-------	--------	-------

DESCRIPTION : Self Weight  
 LOAD CASES : 1  
 ELEMENT LIST : 5

5		0.000	-1.000	0.000
---	--	-------	--------	-------

DESCRIPTION : Self Weight  
 LOAD CASES : 1  
 ELEMENT LIST : 6

6		0.000	-1.000	0.000
---	--	-------	--------	-------

DESCRIPTION : Self Weight  
 LOAD CASES : 1  
 ELEMENT LIST : 7

7	0.000	-1.000	0.000
---	-------	--------	-------

DESCRIPTION : Self Weight  
 LOAD CASES : 1  
 ELEMENT LIST : 8

8	0.000	-1.000	0.000
---	-------	--------	-------

DESCRIPTION : Self Weight  
 LOAD CASES : 1  
 ELEMENT LIST : 9

9	0.000	-1.000	0.000
---	-------	--------	-------

DESCRIPTION : Self Weight  
 LOAD CASES : 1  
 ELEMENT LIST : 10

10	0.000	-1.000	0.000
----	-------	--------	-------

DESCRIPTION : Self Weight  
 LOAD CASES : 1  
 ELEMENT LIST : 11

11	0.000	-1.000	0.000
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DESCRIPTION : Self Weight  
 LOAD CASES : 1  
 ELEMENT LIST : 12

12	0.000	-1.000	0.000
----	-------	--------	-------

DESCRIPTION : Self Weight  
 LOAD CASES : 1  
 ELEMENT LIST : 13

13	0.000	-1.000	0.000
----	-------	--------	-------

DESCRIPTION : Self Weight  
 LOAD CASES : 1  
 ELEMENT LIST : 14

14	0.000	-1.000	0.000
----	-------	--------	-------

DESCRIPTION : Self Weight  
 LOAD CASES : 1  
 ELEMENT LIST : 15

15	0.000	-1.000	0.000
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REC NO	N O D A L L O A D S									
	ALPHA	BETA	GAMMA	PX	PY	PZ	MX	MY	MZ	
Units:	Deg	Deg	Deg	K	K	K	Ft-K	Ft-K	Ft-K	
DESCRIPTION : Waveguide										
LOAD CASES : 1										
NODE LIST : 2										
1	0.00	0.00	0.00	0.000	-0.710	0.000	0.000	0.000	0.000	
DESCRIPTION : Waveguide										
LOAD CASES : 1										
NODE LIST : 3										
2	0.00	0.00	0.00	0.000	-0.710	0.000	0.000	0.000	0.000	
DESCRIPTION : Waveguide										
LOAD CASES : 1										
NODE LIST : 4										
3	0.00	0.00	0.00	0.000	-0.710	0.000	0.000	0.000	0.000	
DESCRIPTION : Waveguide										
LOAD CASES : 1										
NODE LIST : 5										
4	0.00	0.00	0.00	0.000	-0.710	0.000	0.000	0.000	0.000	
DESCRIPTION : Waveguide										
LOAD CASES : 1										
NODE LIST : 6										
5	0.00	0.00	0.00	0.000	-0.639	0.000	0.000	0.000	0.000	
DESCRIPTION : Waveguide										
LOAD CASES : 1										
NODE LIST : 7										
6	0.00	0.00	0.00	0.000	-0.781	0.000	0.000	0.000	0.000	
DESCRIPTION : Waveguide										
LOAD CASES : 1										
NODE LIST : 8										
7	0.00	0.00	0.00	0.000	-0.781	0.000	0.000	0.000	0.000	
DESCRIPTION : Waveguide										
LOAD CASES : 1										
NODE LIST : 9										
8	0.00	0.00	0.00	0.000	-0.781	0.000	0.000	0.000	0.000	
DESCRIPTION : Waveguide										
LOAD CASES : 1										
NODE LIST : 10										
9	0.00	0.00	0.00	0.000	-0.710	0.000	0.000	0.000	0.000	
DESCRIPTION : Waveguide										
LOAD CASES : 1										
NODE LIST : 11										
10	0.00	0.00	0.00	0.000	-0.852	0.000	0.000	0.000	0.000	
DESCRIPTION : Waveguide										
LOAD CASES : 1										
NODE LIST : 12										
11	0.00	0.00	0.00	0.000	-0.715	0.000	0.000	0.000	0.000	

DESCRIPTION : Waveguide  
 LOAD CASES : 1  
 NODE LIST : 13

12	0.00	0.00	0.00	0.000	-0.704	0.000	0.000	0.000	0.000
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DESCRIPTION : Waveguide  
 LOAD CASES : 1  
 NODE LIST : 14

13	0.00	0.00	0.00	0.000	-0.638	0.000	0.000	0.000	0.000
----	------	------	------	-------	--------	-------	-------	-------	-------

DESCRIPTION : Waveguide  
 LOAD CASES : 1  
 NODE LIST : 15

14	0.00	0.00	0.00	0.000	-0.310	0.000	0.000	0.000	0.000
----	------	------	------	-------	--------	-------	-------	-------	-------

DESCRIPTION : 18 panels on platform @ top  
 LOAD CASES : 2  
 NODE LIST : 16

15	0.00	0.00	0.00	4.135	-2.450	0.000	0.000	0.000	0.000
----	------	------	------	-------	--------	-------	-------	-------	-------

DESCRIPTION : (3) DR90-17 on pipe ext.  
 LOAD CASES : 2  
 NODE LIST : 16

16	0.00	0.00	0.00	1.931	-0.510	0.000	0.000	0.000	0.000
----	------	------	------	-------	--------	-------	-------	-------	-------

DESCRIPTION : (3) DR90-17 on pipe ext. @ top  
 LOAD CASES : 2  
 NODE LIST : 16

17	0.00	0.00	0.00	0.000	0.000	0.000	0.000	0.000	-19.310
----	------	------	------	-------	-------	-------	-------	-------	---------

DESCRIPTION : Waveguide  
 LOAD CASES : 1  
 NODE LIST : 16

18	0.00	0.00	0.00	0.000	-0.117	0.000	0.000	0.000	0.000
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STRUCTURE LOAD COMBINATIONS

COMB LIST OF FACTORS \* CASES

DESCRIPTION : Comb1  
 1 1.000\*1,1.000\*2

LINEAR ANALYSIS RESULTS

NODE NO	LOAD COMB	NODAL DISPLACEMENTS					
		DX	DY	DZ	OX	OY	OZ
		(* Indicates Displacements Occur in Nodal Local System)					
Units:		In	In	In	Deg	Deg	Deg
2	1	0.3346	-0.0022	0.0000	0.0000	0.0000	-0.3115
3	1	1.3325	-0.0042	0.0000	0.0000	0.0000	-0.6330
4	1	3.0146	-0.0062	0.0000	0.0000	0.0000	-0.9643
5	1	5.4018	-0.0081	0.0000	0.0000	0.0000	-1.3056
6	1	8.1870	-0.0098	0.0000	0.0000	0.0000	-1.6400
7	1	12.4996	-0.0119	0.0000	0.0000	0.0000	-2.0892
8	1	17.8605	-0.0139	0.0000	0.0000	0.0000	-2.5486
9	1	24.2894	-0.0158	0.0000	0.0000	0.0000	-3.0145
10	1	31.0970	-0.0176	0.0000	0.0000	0.0000	-3.4677
11	1	40.5799	-0.0197	0.0000	0.0000	0.0000	-4.0477
12	1	50.5203	-0.0215	0.0000	0.0000	0.0000	-4.5504
13	1	61.5593	-0.0232	0.0000	0.0000	0.0000	-4.9974
14	1	73.6496	-0.0251	0.0000	0.0000	0.0000	-5.4461
15	1	85.5430	-0.0271	0.0000	0.0000	0.0000	-5.8497
16	1	96.7804	-0.0282	0.0000	0.0000	0.0000	-6.0312

2 NODE PRISMATIC BEAM ELEMENT -- ELEMENT REPORTS												
SIGN CONVENTION : BEAM DESIGNERS												
ELEM NO	LOAD COMB	NODE NO	AXIAL	TORSION	SHEAR X	MOMENT Y	MAX MOM/DEFL	DIST	SHEAR Y	MOMENT X	MAX MOM/DEFL	DIST
Units:			K	K -Ft	K	K -Ft	K -Ft / In	Ft	K	K -Ft	K -Ft / In	Ft
1	1	1	-43.4232	0.0000	0.0000	0.0000			26.6260	-3041.4685		
		2	-40.6703	0.0000	0.0000	0.0000			25.7360	-2779.6585	0.0815	4.96
2	1	2	-39.9603	0.0000	0.0000	0.0000			25.7360	-2779.6585		
		3	-37.3198	0.0000	0.0000	0.0000			24.8860	-2526.5485	0.0841	4.96
3	1	3	-36.6098	0.0000	0.0000	0.0000			24.8860	-2526.5485		
		4	-34.0815	0.0000	0.0000	0.0000			24.0660	-2281.7885	0.0867	4.96
4	1	4	-33.3715	0.0000	0.0000	0.0000			24.0660	-2281.7885		
		5	-30.9521	0.0000	0.0000	0.0000			23.2660	-2045.1285	0.0893	4.95
5	1	5	-30.2421	0.0000	0.0000	0.0000			23.2660	-2045.1285		
		6	-28.2882	0.0000	0.0000	0.0000			22.5280	-1839.0555	0.0788	4.46
5	1	6	-27.6492	0.0000	0.0000	0.0000			22.5280	-1839.0555		
		7	-25.5269	0.0000	0.0000	0.0000			21.6150	-1596.2690	0.1294	5.44
7	1	7	-24.7459	0.0000	0.0000	0.0000			21.6150	-1596.2690		
		8	-22.7434	0.0000	0.0000	0.0000			20.7130	-1363.4650	0.1323	5.43



8	1	8	-21.9624	0.0000	0.0000	0.0000	20.7130	-1363.4650	0.1342	5.42
		9	-20.0759	0.0000	0.0000	0.0000	19.8220	-1140.5225		
9	1	9	-19.2949	0.0000	0.0000	0.0000	19.8220	-1140.5225	0.1186	4.92
		10	-17.7943	0.0000	0.0000	0.0000	19.0320	-946.2525		
10	1	10	-17.0843	0.0000	0.0000	0.0000	19.0320	-946.2525	0.1822	5.87
		11	-15.5326	0.0000	0.0000	0.0000	18.1080	-723.4125		
11	1	11	-14.6806	0.0000	0.0000	0.0000	18.1080	-723.4125	0.1448	5.36
		12	-13.3630	0.0000	0.0000	0.0000	17.2940	-528.7015		
12	1	12	-12.6480	0.0000	0.0000	0.0000	17.2940	-528.7015	0.1287	5.32
		13	-11.1565	0.0000	0.0000	0.0000	15.5680	-350.3505		
13	1	13	-10.4525	0.0000	0.0000	0.0000	15.5680	-350.3505	0.1294	5.22
		14	-9.4529	0.0000	0.0000	0.0000	14.4440	-186.6775		
14	1	14	-8.8149	0.0000	0.0000	0.0000	14.4440	-186.6775	0.1057	4.67
		15	-5.9887	0.0000	0.0000	0.0000	10.0120	-79.6455		
15	1	15	-5.6787	0.0000	0.0000	0.0000	10.0120	-79.6455	0.0427	4.06
		16	-3.0770	0.0000	0.0000	0.0000	6.0660	-19.3100		

R E A C T I O N S

(\* Indicates Reactions Occur in Nodal Local System)

NODE NO	LOAD COMB	PX	PY	PZ	MX	MY	MZ
Units:							
		K	K	K	K -Ft	K -Ft	K -Ft
1	1	-26.6260	43.4232	0.0000	0.0000	0.0000	3041.4685

P-D E L T A   A N A L Y S I S   R E S U L T S

NODE NO	LOAD COMB	NODAL DISPLACEMENTS (* Indicates Displacements Occur in Nodal Local System)					
		DX	DY	DZ	OX	OY	OZ
Units:		In	In	In	Deg	Deg	Deg
2	1	0.3481	-0.0027	0.0000	0.0000	0.0000	-0.3244
3	1	1.3881	-0.0092	0.0000	0.0000	0.0000	-0.6601
4	1	3.1437	-0.0240	0.0000	0.0000	0.0000	-1.0072
5	1	5.6386	-0.0518	0.0000	0.0000	0.0000	-1.3655
6	1	8.5530	-0.0928	0.0000	0.0000	0.0000	-1.7172
7	1	13.0712	-0.1722	0.0000	0.0000	0.0000	-2.1907
8	1	18.6944	-0.2940	0.0000	0.0000	0.0000	-2.6756
9	1	25.4444	-0.4685	0.0000	0.0000	0.0000	-3.1680
10	1	32.5973	-0.6835	0.0000	0.0000	0.0000	-3.6471
11	1	42.5671	-1.0310	0.0000	0.0000	0.0000	-4.2605
12	1	53.0215	-1.4473	0.0000	0.0000	0.0000	-4.7917
13	1	64.6323	-1.9604	0.0000	0.0000	0.0000	-5.2635
14	1	77.3467	-2.5758	0.0000	0.0000	0.0000	-5.7358
15	1	89.8472	-3.2303	0.0000	0.0000	0.0000	-6.1581
16	1	101.6495	-3.8780	0.0000	0.0000	0.0000	-6.3450

2 NODE PRISMATIC BEAM ELEMENT -- ELEMENT REPORTS												
ELEM NO	LOAD COMB	NODE NO	SIGN CONVENTION : BEAM DESIGNERS									
			AXIAL	TORSION	SHEAR X	MOMENT Y	MAX MOM/DEFL	DIST	SHEAR Y	MOMENT X	MAX MOM/DEFL	DIST
Units:			K	K -Ft	K	K -Ft	K -Ft / In	Ft	K	K -Ft	K -Ft / In	Ft
1	1	1	-43.3457	0.0000	0.0000	0.0000			26.7518	-3162.2197		
		2	-40.5955	0.0000	0.0000	0.0000			25.8538	-2899.1918	0.0849	4.96
2	1	2	-39.7358	0.0000	0.0000	0.0000			26.0815	-2899.1915		
		3	-37.1027	0.0000	0.0000	0.0000			25.2086	-2642.7410	0.0879	4.96
3	1	3	-36.2418	0.0000	0.0000	0.0000			25.4188	-2642.7407		
		4	-33.7258	0.0000	0.0000	0.0000			24.5619	-2392.8376	0.0908	4.96
4	1	4	-32.8639	0.0000	0.0000	0.0000			24.7546	-2392.8348		
		5	-30.4617	0.0000	0.0000	0.0000			23.9044	-2149.5398	0.0938	4.96
5	1	5	-29.6032	0.0000	0.0000	0.0000			24.0743	-2149.5419		
		6	-27.6699	0.0000	0.0000	0.0000			23.2838	-1936.4303	0.0829	4.46
6	1	6	-26.8619	0.0000	0.0000	0.0000			23.4606	-1936.4243		
		7	-24.7721	0.0000	0.0000	0.0000			22.4755	-1683.7762	0.1363	5.44
7	1	7	-23.8026	0.0000	0.0000	0.0000			22.6497	-1683.7673		
		8	-21.8403	0.0000	0.0000	0.0000			21.6632	-1440.0464	0.1396	5.43

8	1	8	-20.8740	0.0000	0.0000	0.0000	21.8093	-1440.0405	0.1418	5.42
		9	-19.0356	0.0000	0.0000	0.0000	20.8230	-1205.5632		
9	1	9	-18.0811	0.0000	0.0000	0.0000	20.9335	-1205.5435	0.1254	4.92
		10	-16.6303	0.0000	0.0000	0.0000	20.0554	-1000.5989		
10	1	10	-15.7255	0.0000	0.0000	0.0000	20.1691	-1000.5533	0.1927	5.87
		11	-14.2415	0.0000	0.0000	0.0000	19.1399	-764.6994		
11	1	11	-13.2012	0.0000	0.0000	0.0000	19.2128	-764.6877	0.1530	5.36
		12	-11.9522	0.0000	0.0000	0.0000	18.2970	-558.3838		
12	1	12	-11.0762	0.0000	0.0000	0.0000	18.3398	-558.3735	0.1358	5.32
		13	-9.7423	0.0000	0.0000	0.0000	16.4893	-369.2543		
13	1	13	-8.9025	0.0000	0.0000	0.0000	16.5027	-369.2637	0.1361	5.22
		14	-8.0158	0.0000	0.0000	0.0000	15.2877	-195.8536		
14	1	14	-7.2636	0.0000	0.0000	0.0000	15.2822	-195.8715	0.1106	4.68
		15	-4.9145	0.0000	0.0000	0.0000	10.5799	-82.7096		
15	1	15	-4.5496	0.0000	0.0000	0.0000	10.5728	-82.7248	0.0441	4.07
		16	-2.3947	0.0000	0.0000	0.0000	6.3661	-19.2942		

R E A C T I O N S  
 (\* Indicates Reactions Occur in Nodal Local System)

NODE NO	LOAD COMB	PX	PY	PZ	MX	MY	MZ
Units:		K	K	K	K -Ft	K -Ft	K -Ft
1	1	-26.6259	43.4232	0.0000	0.0000	0.0000	3162.2197

**All-Points Technology Corp., P.C.**  
 150 Old Westside Road  
 North Conway, NH 03860  
 (603) 356-5214

Client: **Crown Castle**  
 Job: **Fairfield, CT**  
 Calculated By: **R. Adair**

Job No.: **CT105481**  
 Date: **15-Nov-02**

Elevation	<i>Total Moment (ft-kips)</i>				<i>Axial Loads (kips)</i>			<i>Shear (kips)</i>			
	Mom. w/o Ice	75% Mom w/ Ice	100% Mom w/ Ice	Secondary	D+A Force	D+A+I Force	Secondary	Tower (lbs.)	Antenna (lbs)	Total (kips)	Secondary
0	3056.8	2647.4	3529.8	3162	39.5	43.0	43.3	12903	14666	27.57	26.8
10	2794.9	2426.0	3234.6	2899	36.4	39.6	39.7	11965	14666	26.63	26.1
20	2541.8	2211.5	2948.6	2643	33.4	36.3	36.2	11062	14666	25.73	25.4
30	2297.2	2003.6	2671.5	2393	30.5	33.1	32.9	10194	14666	24.86	24.8
40	2060.8	1802.2	2402.9	2150	27.7	30.0	29.6	9348	14666	24.01	24.1
49	1854.6	1626.4	2168.5	1936	25.4	27.5	26.9	8564	14666	23.23	23.5
60	1611.8	1418.8	1891.7	1684	23.0	24.8	23.8	7594	14666	22.26	22.6
71	1379.1	1219.1	1625.5	1440	20.7	22.3	20.9	6624	14666	21.29	21.8
82	1156.2	1027.5	1370.0	1206	18.5	19.8	18.1	5664	14666	20.33	20.9
92	962.0	860.1	1146.8	1001	16.6	17.7	15.7	4807	14666	19.47	20.2
104	739.3	667.5	890.1	765	14.5	15.3	13.2	3806	14666	18.47	19.2
115	544.6	498.8	665.1	558	12.8	13.4	11.1	2922	14666	17.59	18.3
126	366.3	340.5	454.0	369	10.9	11.3	8.9	2075	13710	15.79	16.5
137	202.6	199.2	265.6	196	8.9	9.2	7.3	1270	13312	14.58	15.3
147	95.6	100.8	134.4	83	5.8	5.9	4.5	578	9500	10.08	10.6
156	35.3	46.0	61.3		3.0	3.0		0	6066	0.00	
156	35.3	46.0	61.3		3.0	3.0		0	6066	0.00	
156	35.3	46.0	61.3		3.0	3.0		0	6066	0.00	
156	35.3	46.0	61.3		3.0	3.0		0	6066	0.00	
156	35.3	46.0	61.3		3.0	3.0		0	6066	0.00	

**All-Points Technology Corp., P.C.**

150 Old Westside Road  
 North Conway, NH 03860  
 (603) 356-5214

Client: **Crown Castle**  
 Job: **Fairfield, CT**  
 Calculated By: **R. Adair**

Job No.: **CT105481**  
 Date: **15-Nov-02**

**Axial Stresses**

Elev.	w/o ice	Area	Fy	Stress Ratio	
					w/o ice
0	43.3	82.52	65		0.52
10	39.7	79.25	65		0.50
20	36.2	75.98	65		0.48
30	32.9	72.70	65		0.45
40	29.6	69.43	65		0.43
49	26.9	58.26	65		0.46
60	23.8	55.11	65		0.43
71	20.9	51.96	65		0.40
82	18.1	48.81	65		0.37
92	15.7	39.46	65		0.40
104	13.2	36.51	65		0.36
115	11.1	33.81	65		0.33
126	8.9	31.11	65		0.29
137	7.3	14.32	65		0.51
147	4.5	13.09	65		0.34

**Bending Stresses**

Elev.	fb= Moment/Section Modulus			Allowable		Actual
	w/o ice	S	(Fy)^.5 w/t	F <sub>b</sub>	1.33 F <sub>b</sub>	w/o ice
0	3162.0	1073.67	215.0	39.07	51.96	35.34
10	2899.0	989.81	215.0	39.07	51.96	35.15
20	2643.0	909.35	215.0	39.07	51.96	34.88
30	2393.0	832.31	215.0	39.07	51.96	34.50
40	2150.0	758.68	215.0	39.07	51.96	34.01
49	1936.0	611.12	215.0	39.07	51.96	38.02
60	1684.0	546.50	215.0	39.07	51.96	36.98
71	1440.0	485.49	215.0	39.07	51.96	35.59
82	1206.0	428.09	215.0	39.07	51.96	33.81
92	1001.0	326.72	215.0	39.07	51.96	36.77
104	765.0	279.51	215.0	39.07	51.96	32.84
115	558.0	239.47	215.0	39.07	51.96	27.96
126	369.0	202.52	215.0	39.07	51.96	21.86
137	196.0	86.32	215.0	39.07	51.96	27.25
147	83.0	72.10	215.0	39.07	51.96	13.81

**All-Points Technology Corp., P.C.**  
150 Old Westside Road  
North Conway, NH 03860  
(603) 356-5214

---

Client: **Crown Castle**  
Job: **Fairfield, CT**  
Calculated By: **R. Adair**

Job No.: **CT105481**  
Date: **15-Nov-02**

***Tower Capacity***

<b>Elev.</b>	<b>Comb. Str. Ratio</b>	<b>Capacity</b>
0	0.690	69%
10	0.686	69%
20	0.680	68%
30	0.673	67%
40	0.663	66%
49	0.741	74%
60	0.720	72%
71	0.693	69%
82	0.658	66%
92	0.715	72%
104	0.639	64%
115	0.544	54%
126	0.426	43%
137	0.534	53%
147	0.272	27%

# Exhibit D

## Power Density Calculations

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

CT-11-078B  
281 Woodhouse Road  
Fairfield, CT

*Prepared for*  
Omnipoint Communications

*Prepared by*  
PierCon Solutions, LLC  
April 23, 2003



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1.0 INTRODUCTION

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This report is an analysis of the radio frequency (RF) environment surrounding an existing monopole at 281 Woodhouse Road, Fairfield, CT. The analysis includes contributions from the existing wireless carriers and the proposed expansion of the existing Omnipoint communications facility. Measurements taken from the latest FCC compliance statement for the subject 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 11.4951% of the maximum permissible exposure limit for the general public. Therefore, the resulting calculations at street level are more than 8.5 times below the FCC limit for continuous exposure to the general public.

**OMNIPOINT COMMUNICATIONS**

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**2.0 TECHNICAL DATA**

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The existing Omnipoint communications facility will be expanded to 12 antennas, 4 per sector, with a total of 12 channels per sector. The site is presently configured with 3 antennas, 1 per sector, with a total of 2 channels per sector. The technical parameters utilized in the analytical study are identified in the tables to follow:

<b>Omnipoint Radio Parameters (Expansion)</b>	
Frequency	1930 MHz
Antenna Centerline Height (AGL)	135 feet
Antenna Type	Directional
Antenna Manufacturer	EMS
Antenna Model	DR65-18-02DPL2Q
Antenna Length	54 inches
Antenna Gain	17.3 dBi
Antenna Tilt	2° electrical
Transmit Power / Channel	30 Watts
Total RF Channels Before Expansion	2
Total RF Channels After Expansion	12
Total Loss	4.3156 dB
Ground Reflection Factor	.64
ERP/Channel	367 Watts

<b>Measurements from Latest FCC Compliance Statement:</b>	
Total % MPE of Existing Installations including present Omnipoint installation	
Total % of FCC Standard	3.55%

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:

$$S = (1.64) (GRF) ERP / \pi R^2$$

Where: S = power density in mW/cm<sup>2</sup>  
GRF = ground reflection factor (0.64)  
ERP = effective radiated power  
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. The power density levels considered the additional 10 channels added to the present configuration of 2 channels. These levels were calculated at 6' above ground level (AGL), and added to the measurements obtained from the existing installations.

Calculations	Maximum Power Density at 6' Above Ground Level (mW/cm <sup>2</sup> )	Maximum Permissible Exposure Level at 6' Above Ground
Omnipoint expanded facility with 10 additional channels	00.079451	7.9451%
Measurement of existing installations including present Omnipoint installation		3.55%
Total of FCC limit for maximum exposure		<b>11.4951%</b>

---

**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 monopole at 281 Woodhouse Road, Fairfield, CT. The analysis includes calculated data for the expanded Omnipoint facility along with measurements 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 11.4951% or more than 8.5 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 <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f <sup>2</sup> )*	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 <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f <sup>2</sup> )*	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

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- [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.

FAX

TO: DAVID MARTIN

860-827-2950

FROM: DAVE MALKO

DATE: 9/27/05

2 pages inc. cover

SUBJ: CINGULAR PD DETAIL

Attached is the detail of the power density for the 5 reconfigured Cingular sites when fully implemented. Call me at 802-875-4514 (home/office) or 860-301-6378 (cell) if you have any questions.

RECEIVED  
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Cingular SiteID	Site	Carrier	#Channels	ERP/Ch	Ant.Ht	Density (mV)	MHz	S	%MPE	Cing Total
2104	Darien - 55 Ledge Road	SNET/Cingular	11	40	86	0.0214	850	0.5667	3.77%	17.16%
2104		CINGULAR GSM	5	296	89	0.0672	880	0.5867	11.45%	
2104		CINGULAR GSM	1	427	89	0.0194	1930	1.0000	1.94%	
2105	Fairfield - 281 Woodhouse Rd	Cingular	11	40	144	0.0076	850	0.5667	1.35%	5.15%
2105		CINGULAR GSM	4	296	152	0.0184	880	0.5867	3.14%	
2105		CINGULAR GSM	1	427	152	0.0066	1930	1.0000	0.66%	
2128	Fairfield - 395 Congress Street	Cingular	13	40	125	0.0120	850	0.5667	2.11%	8.37%
2128		CINGULAR GSM	3	296	128	0.0195	880	0.5867	3.32%	
2128		CINGULAR GSM	1	427	128	0.0094	1930	1.0000	0.94%	
2108	Norwalk - 613 Connecticut Avenue	CINGULAR GSM	4	296	153	0.0182	880	0.5867	3.10%	5.65%
2108		CINGULAR GSM	2	427	153	0.0131	1930	1.0000	1.31%	
2108		SNET/Cingular	11	40	150	0.0070	850	0.5667	1.24%	
2109	Stamford - 1590 Newfield Street	Cingular	9	100	152	0.0140	880	0.5867	2.39%	6.30%
2109		Cingular GSM	4	296	150	0.0189	880	0.5867	3.23%	
2109		Cingular GSM	1	427	150	0.0068	1930	1.0000	0.68%	

PUBLIC NOTICE  
 SEP 27 2005  
 CONNECTICUT  
 CINGULAR COUNCIL