CONSTRUCTION SERVICES

of Branford, LLC

EM-POCKET-062-090512

ORIGINAL

May 11, 2009

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

RE: **Notice of Exempt Modification to an existing 195' lattice tower located at 1055 Wintergreen Avenue, Hamden, Connecticut**

Latitude:41 20 58.80/ Longitude:72 58 20.98

Dear Mr. Phelps:

Youghiogheny Communications-Northeast, LLC doing business as Pocket Communications ("Pocket") intends to install antennas and associated ground equipment at the existing one hundred ninety five foot lattice tower facility owned by Westrock, LLC and located at 1055 Wintergreen Avenue, Hamden, Connecticut ("Facility"). Pocket provides prepaid, flat rate wireless voice and data services to more than a quarter of a million subscribers. Pocket is licensed by the Federal Communications Commission ("FCC") to provide PCS wireless telecommunications services in the State of Connecticut including the area to be served by the proposed installation. This proposed installation constitutes an exempt modification pursuant to the Public Utility Environmental Standards Act, Connecticut General Statutes Section 16-50g et seq. and Connecticut Agencies Regs § 16-50j-72(b)(2). Pursuant to R.C.S.A. 16-50j-73, Pocket is providing notice to Craig Henrici, Mayor of the Town of Hamden.

Under the Council's regulations (Conn. Agencies Regs. Sec 16-50j-72(b)), Pocket's plans do not constitute a modification subject to the Council's review because Pocket will not change the height of the Tower, will not extend the boundaries of the compound, will not increase the noise levels at the site, and will not increase the total radio frequency electromagnetic radiation power density at the site to levels above applicable standards.

Tower

The Facility consists of a one hundred ninety five foot (195') foot high lattice tower located at 1055 Wintergreen Avenue, Hamden, Connecticut (See Location Map attached as Exhibit A). The Tower is owned by Westrock, LLC. The tower currently supports Marcus antennas at the one hundred ninety five foot (195') centerline AGL, a miscellaneous antenna at the one hundred seventy five foot (175') centerline AGL, Nextel antennas at the one hundred fifty foot (150') centerline AGL, an ACES antenna at the one hundred ten foot (110') centerline AGL, Verizon antennas at the eighty five foot (85') centerline AGL, eighty foot (80') centerline AGL and seventy foot (70') centerline

(203) 488-0712 • FAX (203) 481-1135 • 1-800-870-0106 63-3 North Branford Rd. Branford, CT 06405-2848
www.csofb.com

AGL respectively, and a Skytel antenna at the sixty five foot (65') centerline AGL. The antenna locations are set forth on Drawing C-1 of the attached drawings in Exhibit A.

Pocket proposes to install three (3) RFS APXV18-206517S-C flush mount antennas on the tower at the one hundred sixty foot (160') centerline AGL, and a Nortel CDMA Micro BTS 3231 cabinet which will be mounted on a frame and contained in a six foot by six foot (6'x 6') lease area. A small GPS antenna will be mounted on an ice bridge which will run from the lease area to the tower. Utilities will be run via a proposed underground conduit from an existing utility backboard within the compound (See Drawings C-1 through E-2 of Exhibit A attached hereto and Equipment Specifications attached as Exhibit B). To accommodate Pocket's equipment on a temporary basis, a mobile, EPA approved generator and small microwave dish antenna (approximately 14" x 14") will be used at the site to provide electricity until permanent power can be established by the utility provider. Pocket anticipates that the temporary generator will be in use for a maximum of eight weeks from the time of approval. The specifications for this proposed equipment are also included in Exhibit B. Due to the temporary use and low emissions from the generator, no permit is required from the Department of Environmental Protection. Pocket would propose to refuel the generator every 48 hours.

Structural Analysis

A structural analysis of the Tower was prepared by Natcomm, LLC. The report is 68 pages long and the summary and conclusions are attached hereto as Exhibit C. The calculations and analysis are available upon request. The report indicates that the Tower, at present, is adequate to support the proposed modifications.

Need for the Facility

Pocket's antennas will be used to fill existing gaps in coverage in parts of New Haven and Hamden. Pocket has a need for the facility and the proposed antennas installed at a centerline height of one hundred sixty feet (160') feet will satisfy the need for coverage in this area.

The addition of the proposed antennas will not adversely impact the health and safety of the surrounding community or the people working on the Tower. The total radio frequency exposure measured around the tower will be well below the National Council on Radiation Protection and Measurements' ("NCRP") standard adopted by the Federal Communications Commission ("FCC"). The "worst case" exposure calculated for the operation of this facility for the proposed antennas would be approximately 2.87% of the NCRP's standard for maximum permissible exposure. A cumulative power density analysis indicates that together, all of the antennas on the tower will emit only 65.35% of the NCRP's standard for maximum possible exposure (See Exhibit D attached hereto). Therefore, the power density levels will be well below the FCC mandated radio frequency exposure limits in all locations around the Tower, even with extremely conservative assumptions.

Conclusion

Pocket respectfully submits that the project presents the opportunity to install antennas on the existing Tower, thereby avoiding the unnecessary proliferation of new towers in the area. Pocket's proposal does not constitute a modification subject to the Council's jurisdiction because:

Pocket will not increase the height of the Tower;

Will not extend the boundaries of the site;

Will not increase the noise levels at the existing facility by six decibels or more; and

The total radio frequency electromagnetic radiation power density will stay within all applicable standards.

Respectfully submitted,
Youghiogheny Communications-
Northeast, LLC
DBA Pocket Communications

By_____
Raymond J. Lemley, consultant
Ray@iwsllc.net
203-499-8631

cc: Hamden Mayor, Honorable Craig Henrici
Hamden Building Official, Mr. Robert Labulis

EXHIBIT A
SITE DRAWINGS

pocket COMMUNICATIONS

WIRELESS COMMUNICATIONS FACILITY

NHCT0437A
1055 WINTERGREEN AVENUE
HAMDEN, CT

GENERAL NOTES

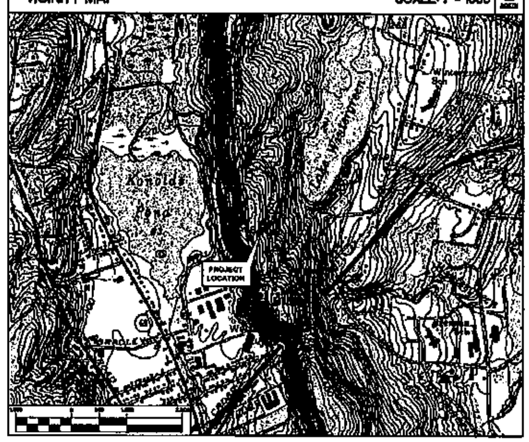
1. ALL WORK SHALL BE IN ACCORDANCE WITH THE 2003 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE 2005 CONNECTICUT SUPPLEMENT, INCLUDING THE TIA/EIA-222 REVISION "F" "STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND SUPPORTING STRUCTURES", NFPA 101 WITH 2005 CONNECTICUT FIRE SAFETY CODE. NATIONAL ELECTRICAL CODE AND LOCAL CODES.
2. CONTRACTOR SHALL REVIEW ALL DRAWINGS AND SPECIFICATIONS IN THE CONTRACT DOCUMENT SET. CONTRACTOR SHALL COORDINATE ALL WORK SHOWN IN THE SET OF DRAWINGS. THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF DRAWINGS TO ALL SUBCONTRACTORS AND ALL RELATED PARTIES. THE SUBCONTRACTORS SHALL EXAMINE ALL THE DRAWINGS AND SPECIFICATIONS FOR THE INFORMATION THAT AFFECTS THEIR WORK.
3. CONTRACTOR SHALL PROVIDE A COMPLETE BUILD-OUT WITH ALL FINISHES, STRUCTURAL, MECHANICAL, AND ELECTRICAL COMPONENTS AND PROVIDE ALL ITEMS AS SHOWN OR INDICATED ON THE DRAWINGS OR IN THE WRITTEN SPECIFICATIONS.
4. CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR AND EQUIPMENT TO COMPLETE THE WORK AND FURNISH A COMPLETED JOB ALL IN ACCORDANCE WITH LOCAL AND STATE GOVERNING AUTHORITIES AND OTHER AUTHORITIES HAVING LAWFUL JURISDICTION OVER THE WORK.
5. CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS AND ALL INSPECTIONS REQUIRED AND SHALL ALSO PAY FEES REQUIRED FOR THE GENERAL CONSTRUCTION, PLUMBING, ELECTRICAL AND HVAC. PERMITS SHALL BE PAID FOR BY THE RESPECTIVE SUBCONTRACTORS.
6. CONTRACTOR SHALL MAINTAIN A CURRENT SET OF DRAWINGS AND SPECIFICATIONS ON SITE AT ALL TIMES AND INSURE DISTRIBUTION OF NEW DRAWINGS TO SUBCONTRACTORS AND OTHER RELEVANT PARTIES AS SOON AS THEY ARE MADE AVAILABLE. ALL OLD DRAWINGS SHALL BE MARKED VOID AND REMOVED FROM THE CONTRACT AREA. THE CONTRACTOR SHALL FURNISH AN 'AS-BUILT' SET OF DRAWINGS TO OWNER UPON COMPLETION OF PROJECT.
7. LOCATION OF EQUIPMENT, AND WORK SUPPLIED BY OTHERS THAT IS DIAGRAMMATICALLY INDICATED ON THE DRAWINGS SHALL BE DETERMINED BY THE CONTRACTOR. THE CONTRACTOR SHALL DETERMINE LOCATIONS AND DIMENSIONS SUBJECT TO STRUCTURAL CONDITIONS AND WORK OF THE SUBCONTRACTORS.
8. THE CONTRACTOR IS SOLELY RESPONSIBLE TO DETERMINE CONSTRUCTION PROCEDURE AND SEQUENCE, AND TO ENSURE THE SAFETY OF THE EXISTING STRUCTURES AND ITS COMPONENT PARTS DURING CONSTRUCTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, BRACING, UNDERPINNING, ETC. THAT MAY BE NECESSARY. MAINTAIN EXISTING BUILDING'S OPERATIONS, COORDINATE WORK WITH BDG. OWNER.
9. DRAWINGS INDICATE THE MINIMUM STANDARDS, BUT IF ANY WORK SHOULD BE INDICATED TO BE SUBSTANDARD TO ANY ORDINANCES, LAWS, CODES, RULES, OR REGULATIONS BEARING ON THE WORK, THE CONTRACTOR SHALL INCLUDE IN HIS WORK AND SHALL EXECUTE THE WORK CORRECTLY IN ACCORDANCE WITH SUCH ORDINANCES, LAWS, CODES, RULES OR REGULATIONS WITH NO INCREASE IN COSTS.
10. ALL UTILITY WORK SHALL BE IN ACCORDANCE WITH LOCAL UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS.
11. ALL EQUIPMENT AND PRODUCTS PURCHASED ARE TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUBCONTRACTORS FOR ANY CONDITION PER MFR.'S RECOMMENDATIONS. CONTRACTOR TO SUPPLY THESE ITEMS AT NO COST TO OWNER OR CONSTRUCTION MANAGER.
12. ANY AND ALL ERRORS, DISCREPANCIES, AND "MISSED" ITEMS ARE TO BE BROUGHT TO THE ATTENTION OF THE CLIENT DURING THE BIDDING PROCESS BY THE CONTRACTOR. ALL THESE ITEMS ARE TO INCLUDED IN THE BID. NO 'EXTRA' WILL BE ALLOWED FOR MISSED ITEMS.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON-SITE SAFETY FROM THE TIME THE JOB IS AWARDED UNTIL ALL WORK IS COMPLETE AND ACCEPTED BY THE OWNER.
14. CONTRACTOR TO REVIEW ALL SHOP DRAWINGS AND SUBMIT COPY TO ENGINEER FOR APPROVAL. DRAWINGS MUST BEAR THE CHECKER'S INITIALS BEFORE SUBMITTING TO THE CONSTRUCTION MANAGER FOR REVIEW.
15. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, ANGLES, AND EXISTING CONDITIONS AT THE SITE, PRIOR TO FABRICATION AND/OR INSTALLATION OF ANY WORK IN THE CONTRACT AREA.
16. COORDINATION, LAYOUT, FURNISHING AND INSTALLATION OF CONDUIT AND ALL APPURTENANCES REQUIRED FOR PROPER INSTALLATION OF ELECTRICAL AND TELECOMMUNICATION SERVICE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
17. THE BUILDING WILL BE OCCUPIED DURING THE COURSE OF THIS PROJECT. THE CONTRACTOR SHALL NOTIFY THE MANAGEMENT OF ANY AND ALL ACTIVITIES THAT MAY DISRUPT DAILY BUILDING OPERATIONS IN WRITING A MINIMUM OF THREE (3) DAYS IN ADVANCE. WORK SHALL BE ARRANGED FOR CONTINUOUS PERFORMANCE WHENEVER POSSIBLE. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY LABOR, INCLUDING OVERTIME, IF REQUIRED, TO ASSURE THAT EXISTING OPERATING SERVICES WILL BE SHUT DOWN ONLY DURING THE TIME ACTUALLY REQUIRED TO MAKE NECESSARY CONNECTIONS.
18. ALL CORE DRILLING REQUIRED SHALL BE DONE BY GENERAL CONTRACTOR. ALL ROOF PENETRATIONS, FLASHING AND WATER PROOFING SHALL BE DONE BY GENERAL CONTRACTOR. WORK SHALL BE PERFORMED BY AN APPLICATOR CERTIFIED BY THE EXISTING ROOF SYSTEM MANUFACTURER, AND APPROVED BY THE BUILDING OWNER.
19. ALL EQUIPMENT AND PRODUCTS PURCHASED ARE TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUB-CONTRACTORS FOR ANY CONDITION PER THE MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR TO SUPPLY THESE ITEMS AT NO COST TO OWNER OR CONSTRUCTION MANAGER.
20. ANY DAMAGE CAUSED TO ANY EXISTING STRUCTURE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE HELD LIABLE FOR ANY REPAIRS REQUIRED FOR EXISTING STRUCTURES IF DAMAGED DURING CONSTRUCTION ACTIVITIES.
21. TWO (2) MEANS OF EGRESS SHALL BE MAINTAINED FROM BUILDING CORRIDORS AND STAIRS AT ALL TIMES.
22. THE CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" AT LEAST 48 HOURS PRIOR TO ANY EXCAVATIONS AT 1-800-922-4455.
23. CONTRACTOR SHALL COMPLY WITH OWNERS ENVIRONMENTAL ENGINEER ON ALL METHODS AND PROVISIONS FOR ALL EXCAVATION ACTIVITIES INCLUDING SOIL DISPOSAL. ALL BACKFILL MATERIALS TO BE PROVIDED BY THE CONTRACTOR.
24. COORDINATE ALL CIVIL, MECHANICAL AND ELECTRICAL DRAWINGS FOR THE LOCATION OF ALL OPENINGS, RECESSES, BUILT-IN-WORK, ETC.

DIRECTIONS FROM: HARTFORD, CT TO: 1055 WINTERGREEN AVENUE HAMDEN, CT

1. Depart Main St	0.1 Mi.
2. Turn left onto Sheldon St	0.1 Mi.
3. Take ramp left and follow signs for Whitehead Hwy	0.3 Mi.
4. Take ramp right for I-91 South toward New Haven / N. Y. City	18.2 Mi.
5. At exit 17, take ramp right for SR-15 / Wilbur Cross Pkwy South toward E. Main St	14.7 Mi.
6. At exit 60, take ramp right for CL-10 toward Hamden / New Haven	0.2 Mi.
7. Turn right onto SR-10 / Dixwell Ave	2.1 Mi.
8. Turn right to stay on SR-10 / Arch St	0.3 Mi.
9. Keep left to stay on SR-10 / Fitch St	0.8 Mi.
10. Turn right onto Wintergreen Ave	1.0 Mi.
11. Turn left to stay on Wintergreen Ave	0.3 Mi.
12. Arrive at site access off Wintergreen Ave, New Haven, Connecticut	

VICINITY MAP

SCALE: 1" = 1000'



PROJECT SUMMARY

SITE NUMBER: NHCT0437A

SITE ADDRESS: 1055 WINTERGREEN AVENUE HAMDEN, CT

TOWER LOCATION: LATITUDE 41°-20'-58.80" LONGITUDE 72°-58'-20.88"

COORDINATES TAKEN FROM EXISTING 2C LETTER BY OTHERS.

APPLICANT: YOUGHIOGHENY COMMUNICATIONS-NORTHEAST LLC 2818 NW LOOP 410 SAN ANTONIO, TX 78230

SHEET INDEX

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C-1	COMPOUND PLAN, ELEVATION AND DETAIL	00
C-2	SITE DETAILS AND NOTES	00
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GENERAL NOTES

1. THE PROPOSED SCOPE OF WORK GENERALLY ENTAILS THE INSTALLATION OF CLUSTER MOUNT TELECOMMUNICATIONS ANTENNAS, COAX, ICE BRIDGE AND RADIO CABINET INCLUDING THE NECESSARY UTILITIES.
2. A TOTAL OF THREE (3) DIRECTIONAL PANEL ANTENNAS ARE PROPOSED TO BE MOUNTED TO THE LEGS OF THE EXISTING 185' LATTICE TOWER AT A RAD CENTER ELEVATION OF 180' ABOVE THE EXISTING TOWER BASE.
3. ELECTRIC AND TELCO UTILITIES SHALL BE ROUTED UNDERGROUND TO THE PROPOSED EQUIPMENT FROM AN EXISTING UTILITY BACKBOARD LOCATED ADJACENT TO THE FENCED COMPOUND.

DESIGNED BY:	CFC
DRAWN BY:	DEB
CHK'D BY:	CFC

00	3/7/09	DEB	CFC	ISSUED FOR CONSTRUCTION
REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION

pocket COMMUNICATIONS

NATCOMM

POCKET COMMUNICATIONS

WIRELESS COMMUNICATIONS FACILITY

NHCT0437A

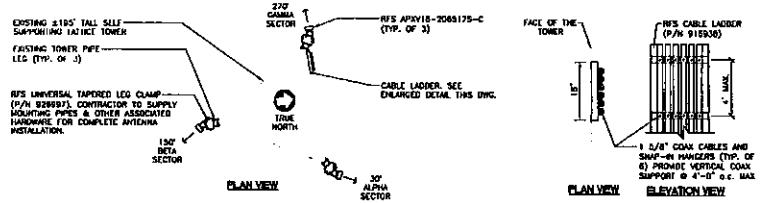
1055 WINTERGREEN AVENUE HAMDEN, CT

DATE:	3/7/09
SCALE:	AS NOTED
JOB NO.	09040.008

TITLE SHEET

T-1

Sheet No. 1 of 5



3 / C-1 ANTENNA MOUNTING CONFIGURATION
NOT TO SCALE

ANTENNA KEY

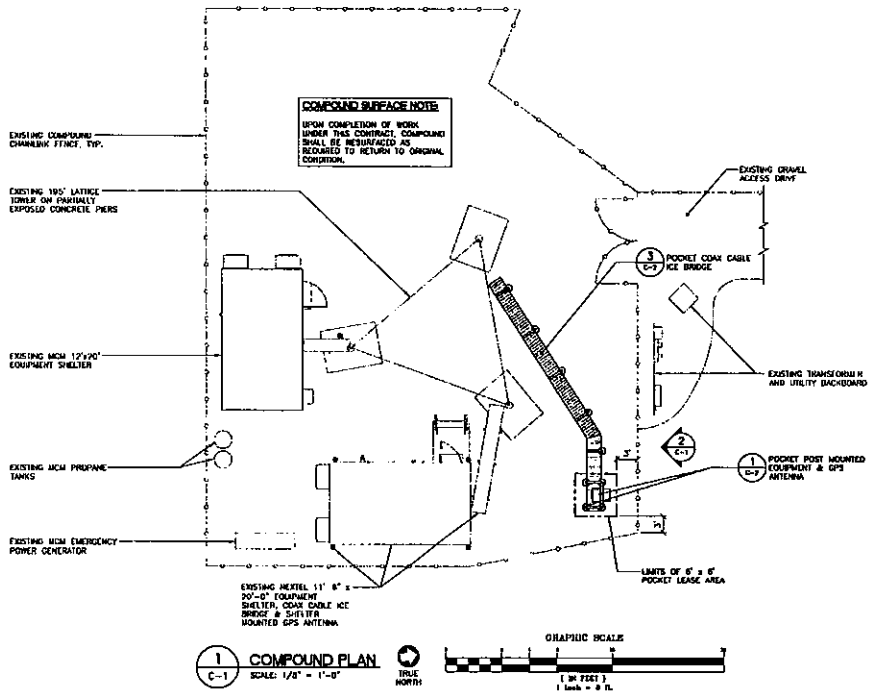
	# ANTENNAS PER SECTOR	ANTENNA NUMBER	COAX COLOR CODE	ANTENNA VENDOR	MODEL NUMBER	AZIMUTH	C/L HEIGHT	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	COAX SIZE	# COAX PER ANTENNA	COAX MANUFACTURER	COAX LENGTH
ALPHA FACE	1	A-1	(2)-RED BAND	RFS	APXV18-206517S-C	30°	160'-0"	0°	REFER TO RFDS ANTENNA SHEET FOR FINAL TILT AND AZIMUTHS	1 5/8"	2	RFS	±10'± PER RUN
BETA FACE	1	B-1	(2)-BLUE BAND	RFS	APXV18-206517S-C	150°	160'-0"	0°	REFER TO RFDS ANTENNA SHEET FOR FINAL TILT AND AZIMUTHS	1 5/8"	2	RFS	
GAMMA FACE	1	C-1	(2)-GREEN BAND	RFS	APXV18-206517S-C	270°	160'-0"	0°	REFER TO RFDS ANTENNA SHEET FOR FINAL TILT AND AZIMUTHS	1 5/8"	2	RFS	
GPS ANTENNA	-	-	YELLOW	PC TEL ANT.	GPS-TMG-25MAS	-	12'-6"±	-	-	1/2"	1	RFS	±10'

TOWER NOTES:

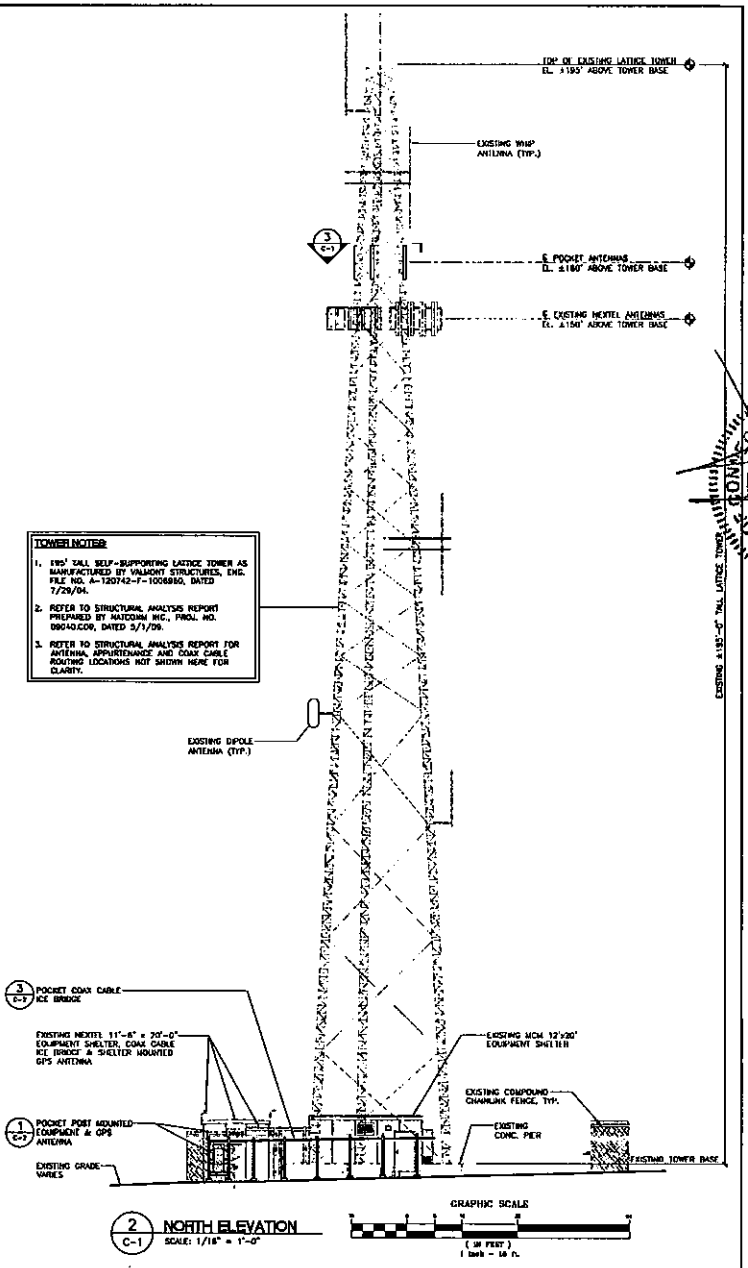
1. ANTENNA CONFIGURATION IS SUBJECT TO CHANGE. VERIFY ANTENNA HEIGHT, DOWN-TILT, AND AZIMUTH WITH PROJECT MANAGER PRIOR TO CONSTRUCTION.
2. THE TOWER STRUCTURAL SHALL BE REVISED TO REFLECT ANY REVISION IN ANTENNA OR COAX CONFIGURATION.

ANTENNA NOTES:

1. ALL COAX SHALL BE COLOR CODED AT (2) PLACES EACH: AT ANTENNA AND AT CABINET.
2. (2) COLOR BANDS DENOTES TRANSMIT. TRANSMITS TO BE CONNECTED TO THE +45 PORTS OF THE ANTENNAS.
3. PRIOR TO ORDERING ANY ANTENNAS OR COAX, CONTRACTOR SHALL CONTACT POCKET COMMUNICATIONS CONSTRUCTION MANAGER AND OBTAIN APPROVAL FOR MATERIALS LISTED. CONTRACTOR IS SOLELY RESPONSIBLE FOR THIS COORDINATION.



1 / C-1 COMPOUND PLAN
SCALE: 1/8" = 1'-0"



2 / C-1 NORTH ELEVATION
SCALE: 1/16" = 1'-0"

DESIGNED BY: CTC
DRAWN BY: BCB
CHK'D BY: CTC

DESCRIPTION	CHK'D BY	DRAWN BY	DATE
ISSUED FOR CONSTRUCTION	CTC	BCB	5/7/09

pocket COMMUNICATIONS

NATEDMM!

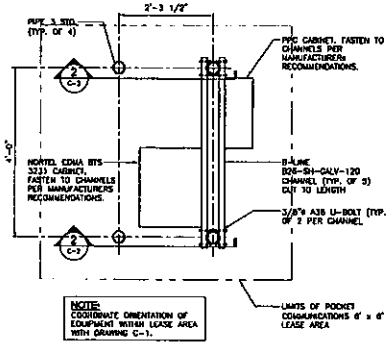
POCKET COMMUNICATIONS
WIRELESS COMMUNICATIONS FACILITY
NHCT0437A
1855 WATERBURY AVENUE
WALLINGFORD, CT

DATE: 5/7/09
SCALE: AS NOTED
JOB NO. 09040.C09

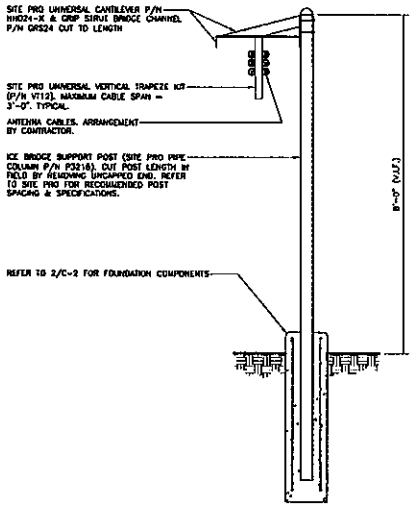
COMPOUND PLAN ELEVATION AND DETAIL

C-1

Sheet No. 2 of 3



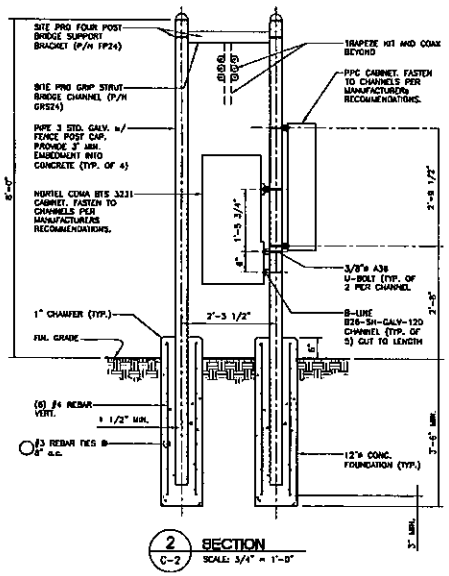
1 C-2 **EQUIP. CABINET SUPPORT FRAME PLAN**
SCALE: 3/4" = 1'-0"



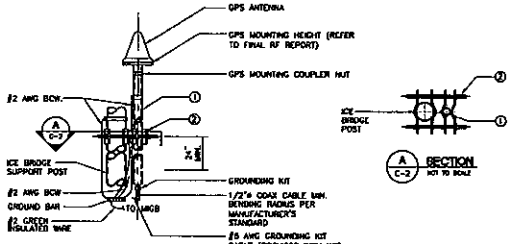
3 C-2 **ICE BRIDGE DETAIL**
SCALE: 3/4" = 1'-0"

GENERAL NOTES:

1. THE CONTRACTOR SHALL CALL UTILITIES PRIOR TO THE START OF CONSTRUCTION.
2. ACTIVE EXISTING UTILITIES, WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY, PRIOR TO PROCEEDING, SHOULD ANY UNCOVERED EXISTING UTILITY PRECLUDE COMPLETION OF THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
3. ALL RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED OFF SITE AND BE LEGALLY DISPOSED, AT NO ADDITIONAL COST.
4. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE EQUIPMENT AND TOWER AREAS.
5. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
6. THE AREAS OF THE COMPOUND DISTURBED BY THE WORK SHALL BE RETURNED TO THEIR ORIGINAL CONDITION.
7. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
8. IF ANY FIELD CONDITIONS EXIST WHICH PRECLUDE COMPLIANCE WITH THE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND SHALL PROCEED WITH AFFECTED WORK AFTER CONFLICT IS SATISFACTORILY RESOLVED.
9. DIMENSIONS AND DETAILS SHALL BE CHECKED AGAINST THE PRE MANUFACTURED EQUIPMENT SHOP DRAWINGS.
10. THE CONTRACTOR SHALL VERIFY AND COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS, SLEEVES AND ANCHOR BOLTS AS REQUIRED BY ALL TRADES.
11. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318.
12. ALL CONCRETE SHALL BE NORMAL WEIGHT, 6% AIR ENTRAINED WITH A MAXIMUM SLUMP OF 4", AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE ON THE DRAWINGS.
13. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60, DEFORMED BARS.
14. PROVIDE 1 1/2 IN. MINIMUM COVER FOR REINFORCING STEEL UNLESS OTHERWISE NOTED ON THE DRAWINGS.
15. ALL STRUCTURAL STEEL IS DESIGNED BY ALLOWABLE STRESS DESIGN (ASD) AND SHALL CONFORM TO ASTM A36, (FY = 36 KSI).
16. ALL STEEL PIPE SHALL CONFORM TO ASTM A53, (FY = 35 KSI).
17. ALL STEEL MATERIAL (EXPOSED TO WEATHER) SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT DIPPED GALVANIZED) COATINGS" ON IRONS AND STEEL PRODUCTS.
18. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC COATING (HOT-DIP) ON IRON AND STEEL HARDWARE".



2 C-2 **SECTION**
SCALE: 3/4" = 1'-0"



GPS ANTENNA MOUNTING BRACKET

BILL OF MATERIALS		
ITEM	DESCRIPTION	QUANTITY
1	1"ø O.D. x 3'-0" LG. ALUMINUM MOUNTING PIPE	1
2	UNIVERSAL CLAMP SET.	1

NOTES:

1. THE ELEVATION AND LOCATION OF THE GPS ANTENNA SHALL BE IN ACCORDANCE WITH THE FINAL RF REPORT.
2. GPS ANTENNA LOCATION MUST BE ABLE TO RECEIVE CLEAR SIGNALS FROM A MINIMUM OF FOUR (4) SATELLITES. CONFIRM WITH HANDHELD GPS PRIOR TO ESTABLISHING FINAL LOCATION OF GPS ANTENNAS.
3. THE GPS ANTENNA MOUNT IS DESIGNED TO FASTEN TO A 1" OUTSIDE DIAMETER ALUMINUM PIPE. THE PIPE MUST NOT BE THREADED AT THE ANTENNA MOUNT END. THE PIPE SHALL BE CUT TO THE REQUIRED LENGTH (MINIMUM OF 24 INCHES) USING A HAND OR ROTARY PIPE CUTTER TO ASSURE A SMOOTH AND PERPENDICULAR CUT. A HACK SAW SHALL NOT BE USED. THE CUT PIPE END SHALL BE DEBURRED AND SMOOTH IN ORDER TO SEAL AGAINST THE NEOPRENE GASKET ATTACHED TO THE ANTENNA MOUNT.

4 C-2 **GPS GROUNDING/MOUNTING BRACKET DETAIL**
NOT TO SCALE

DESIGNED BY: CFC
DRAWN BY: DEB
CHK'D BY: CFC

BY	DESCRIPTION	DATE
DEB	ISSUED FOR CONSTRUCTION	5/7/09

pocket COMMUNICATIONS

NATCOMM

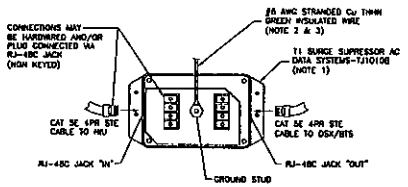
POCKET COMMUNICATIONS
WIRELESS TELECOMMUNICATIONS FACILITY
NHCT0437A
1205 WHITNEYVILLE AVENUE
HAMDEN, CT

DATE: 5/7/09
SCALE: AS NOTED
JOB NO. 08040.C09

SITE DETAILS AND NOTES

C-2

Sheet No. 2 of 3



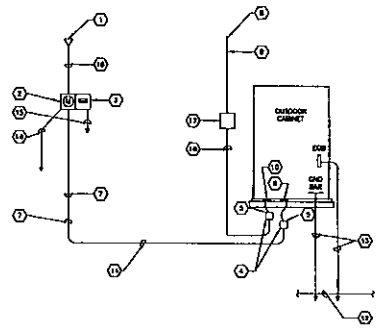
1 E-1 **T1 SURGE SUPPRESSOR**
NOT TO SCALE

NOTES:

1. MOUNT T1-TVSS UNIT ON EQUIPMENT FRAME. USE APPROPRIATE STAINLESS STEEL BOLTS WITH FLAT WASHERS AND A LOCK WASHER ON THE NUT SIDE. THE TVSS MAY BE LOCATED ON THE TELCO BACKBOARD. REFER TO MANUFACTURERS INSTRUCTIONS.
2. ATTACH RING TERMINAL FROM SUPPLIED GROUND CONDUCTOR TO TVSS GROUND STUD. SECURELY FASTEN WITH SUPPLIED WASHER AND NUT. REFER TO MANUFACTURERS INSTRUCTIONS. FOR PROPER PERFORMANCE, THE GROUND CONDUCTOR LENGTH SHOULD BE LIMITED WITH NO SHARP BENDS OR COILS.
3. WHEN TVSS IS MOUNTED ON EQUIPMENT FRAME, BOND THE GROUND CONDUCTOR TO THE EQUIPMENT FRAME GROUND. ENSURE PROPER GROUNDING SURFACES. WHEN TVSS IS MOUNTED ON THE TELCO BACKBOARD, BOND THE GROUND CONDUCTOR TO THE TELCO BOARD GROUND BAR OR NEAREST GROUND BAR.

ELECTRICAL NOTES:

1. ALL ELECTRICAL AND GROUNDING WORK TO BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC, AND ALL APPLICABLE LOCAL CODES.
2. CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL VERIFY ROUTING AND LENGTHS PRIOR TO CONSTRUCTION.
3. WIRING, RACEWAY, AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.
4. THE CONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
5. THE CONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.
6. CONTRACTOR SHALL PROVIDE 100 AMP, SINGLE PHASE, 120/240 VAC, 60 HZ SERVICE FOR SITE.
7. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY BEFORE THE START OF CONSTRUCTION. POWER AND TELCO CONDUIT SHALL BE PROVIDED AND INSTALLED PER UTILITY REQUIREMENTS.
8. FOR COMPLETE INTERNAL WIRING AND ARRANGEMENT REFER TO DRAWINGS PROVIDED BY AC OR TELCO PANEL MANUFACTURER.
9. ALL SERVICE EQUIPMENT AND INSTALLATIONS SHALL COMPLY WITH THE NEC, UTILITY COMPANY AND LOCAL CODE REQUIREMENTS.
10. CONTRACTOR SHALL INSTALL SUFFICIENT LENGTHS OF 1/2"C INCLUDING ALL CONDUIT FITTINGS (NUTS, REDUCING BUSHINGS, ELBOWS, COUPLINGS, ETC.) NECESSARY FOR CONNECTION FROM BIC CONDUIT TO THE POWER CABINET.
11. CONTRACTOR SHALL PROVIDE ELECTRICAL SERVICE EQUIPMENT WITH FAULT CURRENT RATINGS GREATER THAN THE AVAILABLE FAULT CURRENT FROM THE POWER UTILITY.
12. CONTRACTOR SHALL VERIFY THAT THE MAIN BONDING JUMPER AND GROUNDING ELECTRODE CONDUCTOR IS INSTALLED PROPERLY IN MAIN DISCONNECT SWITCH.



NOTE:
ELECTRICAL CONTRACTOR SHALL VERIFY AVAILABLE CAPACITY PRIOR TO INSTALLATION.

2 E-1 **POWER, TELCO, + GROUND SINGLE LINE DIAGRAM**
NOT TO SCALE

SINGLE LINE DIAGRAM NOTES:

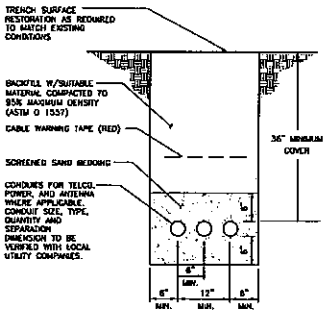
1. ELECTRICAL DEMARCATION POINT. 120/208V OR 240V, 1Φ, 3W, ELECTRICAL CONTRACTOR TO COORDINATE WITH LOCAL POWER COMPANY FOR SERVICE TO METER.
2. CONTRACTOR TO SUPPLY AND INSTALL A 100A, 120/208/240V 1Φ, 3W METER BASE. METER BASE TO BE NEMA 3R RATED AND ACCEPTABLE TO LOCAL UTILITY. PROVIDE WITH MECHANICALLY ATTACHED ENGRAVED IDENTIFICATION LABEL INDICATING "POCKET COMMUNICATIONS METER".
3. MAIN DISCONNECT SWITCH. CONTRACTOR TO SUPPLY AND INSTALL NEMA 3R 100A, 2POLE CIRCUIT BREAKER WITH LOCKABLE HANDLE AND AIC RATING PER LOCAL UTILITY REQUIREMENTS. PROVIDE WITH MECHANICALLY ATTACHED ENGRAVED IDENTIFICATION LABEL INDICATING "POCKET COMMUNICATIONS SERVICE DISCONNECT".
4. WEATHER TIGHT JUNCTION BOX (IF REQUIRED). SIZE TO NEC CODE FOR APPLICATION.
5. LIQUID TIGHT FLEXIBLE METALLIC CONDUIT W/W WEATHER TIGHT FITTINGS AND SUPPORTS. SIZE AND CONTENTS TO MATCH ASSOCIATED WIRE (POWER OR TELCO).
6. UTILITY POWER ENTRY INTO CABINET. COORDINATE TERMINATION WITH CABINET MANUFACTURER.
7. CONTRACTOR TO SUPPLY AND INSTALL 1 1/2" GRC, AYE AND PVC 36" BFG C/W (3) #1 AWG THWN & (1) #6 GRND FOR UTILITY SERVICE. (INSTALL EXPANSION COUPLINGS AT EACH END OF RUN ABOVE GRADE).
8. TELCO DEMARCATION POINT. ELECTRICAL CONTRACTOR TO COORDINATE WITH LOCAL TELCO FOR SERVICE TO TELCOBOX OR CABINET.
9. CONTRACTOR TO SUPPLY AND INSTALL (4) 2" GRC AYE AND PVC 36" BFG C/W PULL CORDS AND T1 CABLE FOR T1/25 SERVICE TO CABINET TERMINATION POINT. VERIFY WITH TELCO REQUIREMENTS (INSTALL EXPANSION COUPLINGS AT EACH END OF RUN ABOVE GRADE).
10. TELCO SERVICE ENTRY INTO CABINET. COORDINATE TERMINATION IN WITH CABINET MANUFACTURER.
11. CONTRACTOR TO ARRANGE AND PAY FOR UNDERGROUND UTILITY LOCATION SURVEYS FOR ALL TRENCHING. RELEASE NATIVE BACKFILL AND RETURN TO ORIGINAL CONDITION. INSTALL 6" WIDE METALLIC LINED RED PLASTIC WARNER TAPE 8" ABOVE ALL BURIED CONDUIT.
12. BURIED GROUND RING.
13. (1) #2 SOLID BARE TINNED CU GROUNDING ELECTRODE CONDUCTOR BONDED TO 5/8"X10' COPPER CLAD STEEL GROUNDING ELECTRODES. LOCATE GROUNDING ELECTRODE ADJACENT TO "CABINET". BOND GROUNDING ELECTRODE SYSTEM TO CABINET GROUND RING.
14. #2 AWG CNO.
15. #2 AWG SERVICE GROUND.
16. TO UTILITY SOURCE PER UTILITY REQUIREMENTS (COORDINATE WITH ELECTRIC UTILITY).
17. NEMA 3R TELCO BOX.
18. 2" PVC (RGS ABOVE GROUND) W/PULL STRING AND T1 CABLE.

PANEL "BSC"								
LOAD DESCRIPTION	LOAD (VA)	BRKR SIZE	CKT NO.	PHASE A B	CKT NO.	BRKR SIZE	LOAD (VA)	LOAD DESCRIPTION
BTS CABINET	2.5	20/2	1		2	30/2	2.2	TVSS
	2.5		3		4		2.2	
LIGHTING	.9	10/1	5		6	--	--	SPACE
SPACE	--	--	7		8	--	--	SPACE
SPACE	--	--	9		10	--	--	SPACE
SPACE	--	--	11		12	--	--	SPACE
SPACE	--	--	13		14	--	--	SPACE
SPACE	--	--	15		16	--	--	SPACE
SPACE	--	--	17		18	--	--	SPACE
SPACE	--	--	19		20	--	--	SPACE
SPACE	--	--	21		22	--	--	SPACE
SPACE	--	--	23		24	--	--	SPACE
LOAD SUB-TOTAL	3.5		LOAD SUB-TOTAL		10.3 kVA		4.4	LOAD SUB-TOTAL

100A MCB, 120/240V, 1Φ, 3W (65,000 AIC Min)			
TOTAL CONNECTED LOAD	10.3 kW		
25% OF LARGEST CONT. LOAD	1250 W		
TOTAL LOADS	11.5 kW	48 AMPS	
NOTE: ALL NEW-OPTIONAL BREAKERS PROVIDED BY BSC MFR			

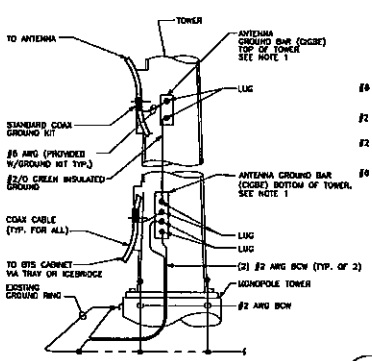
NOTE:
1. CIRCUIT BREAKER SIZES SHOWN ARE TYPICAL. REFER TO EQUIPMENT MANUFACTURING SPECIFICATIONS FOR SITE SPECIFIC CIRCUIT BREAKER REQUIREMENTS.
2. DESIGN BASED ON LOADING SHOWN. ANY CHANGE TO ABOVE LOADING SHALL REQUIRE ENGINEER REVIEW.

3 E-1 **PANEL SCHEDULE**
NOT TO SCALE



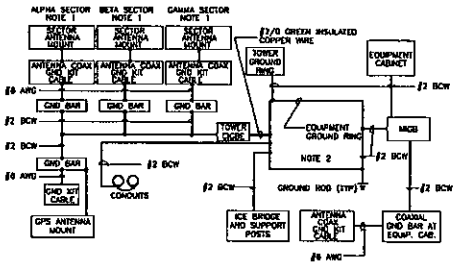
NOTES:
1. THE CLEAN FILL SHALL PASS THROUGH A 3/8" MESH SCREEN AND SHALL NOT CONTAIN SHARP STONES. OTHER BACKFILL SHALL NOT CONTAIN ASHES, CINDERS, SHELLS, FROZEN MATERIAL, LOOSE DEBRIS OR STONES LARGER THAN 2" IN MAXIMUM DIMENSION.
2. WHERE EXISTING UTILITIES ARE LIKELY TO BE ENCOUNTERED, CONTRACTOR SHALL HAND DIG AND PROTECT EXISTING UTILITIES.

5 E-1 **BURIED CONDUIT DETAIL**
NOT TO SCALE



NOTES:
1. NUMBER OF GROUND BARS MAY VARY DEPENDING ON THE TYPE OF TOWER, LOCATION AND CONNECTION ORIENTATION. PROVIDE AS REQUIRED.
2. A SEPARATE GROUND BAR TO BE USED FOR GPS ANTENNA IF REQUIRED.

4 E-1 **ANTENNA CABLE GROUNDING DETAIL**
NOT TO SCALE



NOTES:
1. BOND ANTENNA GROUNDING KIT CABLE AND ANY OTHER ELEMENTS REQUIRING A GROUND CONNECTION (TMA'S, ETC.) TO GROUND BAR.
2. FOR GROUNDING CONNECTION & DETAILS, SEE LAYOUT DRAWINGS.

6 E-1 **SCHEMATIC DIAGRAM - GROUNDING SYSTEM**
NOT TO SCALE

DESIGNED BY: CTC
DRAWN BY: DCB
CHK'D BY: CTC

ISSUED FOR CONSTRUCTION

Pocket COMMUNICATIONS

NATCOMM

POCKET COMMUNICATIONS
WIRELESS COMMUNICATIONS FACILITY
NHCT04437A

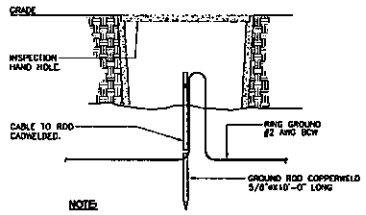
1055 WINTERGREEN AVENUE
HAMDEN, CT

DATE: 8/1/05
SCALE: AS NOTED
JOB NO. 05040.009

ELECTRICAL DETAILS AND NOTES

E-1

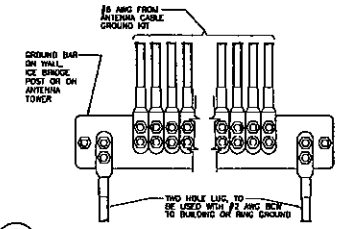
Sheet No. 4 of 5



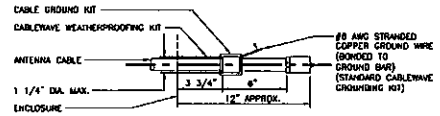
NOTE:

1. INSPECTION HAND HOLE MAY BE CONCRETE OR PVC AND SHALL BE A MINIMUM OF 12" DIA X 18" DEEP.

1 / E-2 GROUND ROD WITH ACCESS DETAIL
NOT TO SCALE



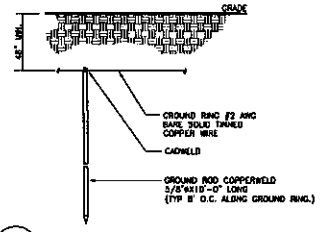
2 / E-2 INSTALLATION OF GROUND WIRE TO GROUND BAR
NOT TO SCALE



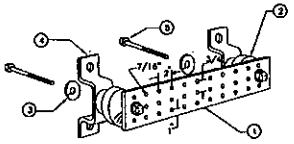
NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
3. WEATHER PROOFING SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.

3 / E-2 CABLE GROUNDING ANTENNA DETAIL
NOT TO SCALE



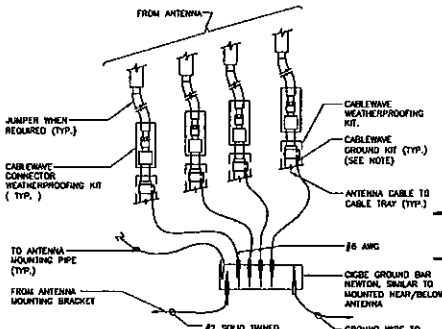
4 / E-2 GROUND ROD DETAIL
NOT TO SCALE



NOTES:

1. TINNED COPPER GROUND BAR, 1/4"X 4"X 20", NEWTON INSTRUMENT CO. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION
2. INSULATORS, NEWTON INSTRUMENT CAT. NO. 3061-4
3. 5/8" LOCK WASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015-8
4. WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT NO. A-8035
5. 5/8-11 X 1" H.H.C.S.BOLTS, NEWTON INSTRUMENT CO. CAT NO. 3012-1
6. LABEL "DO NOT DISCONNECT".
7. SECTOR CIGBE GROUND BAR TO BE SIZED FOR (4) ANTENNAS AND (4) BRACKETS OR MASTS. ALL OTHER GROUND BARS SHALL BE SIZED TO ACCOMMODATE ALL GROUNDING CONNECTIONS REQUIRED PLUS PROVIDE SIX SPARE CAPACITY.

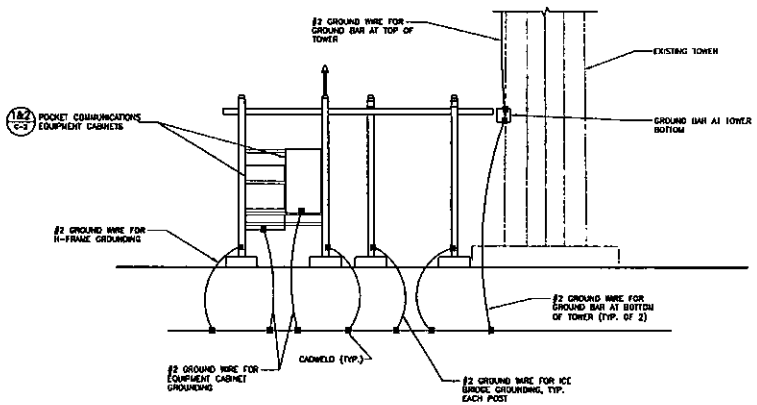
5 / E-2 GROUND BAR DETAIL
NOT TO SCALE



NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE.
2. QTY OF CABLES FROM ANTENNA AS REQUIRED BY OWNER.

6 / E-2 CONNECTION OF GROUND WIRES TO GROUND BAR
NOT TO SCALE



NOTES:

1. USE IN DETAIL IN CONJUCTION WITH SCHEMATIC GROUNDING DIAGRAM.

7 / E-2 GROUNDING RISER
NOT TO SCALE

DESIGNED BY: CFC
DRAWN BY: DCB
CHK'D BY: CFC

DATE	DRAWN BY	CHK'D BY	DESCRIPTION
5/7/09	DCB	CFC	ISSUED FOR CONSTRUCTION

pocket COMMUNICATIONS

NATIONAL

POCKET COMMUNICATIONS
WIRELESS COMMUNICATIONS FACILITY
NHCT04437A
1355 WHITNEYVILLE AVENUE
HAMDEN, CT

DATE: 5/7/09
SCALE: AS NOTED
JOB NO. 8004.0.009

GROUNDING DETAILS

E-2

Sheet No. 5 of 8

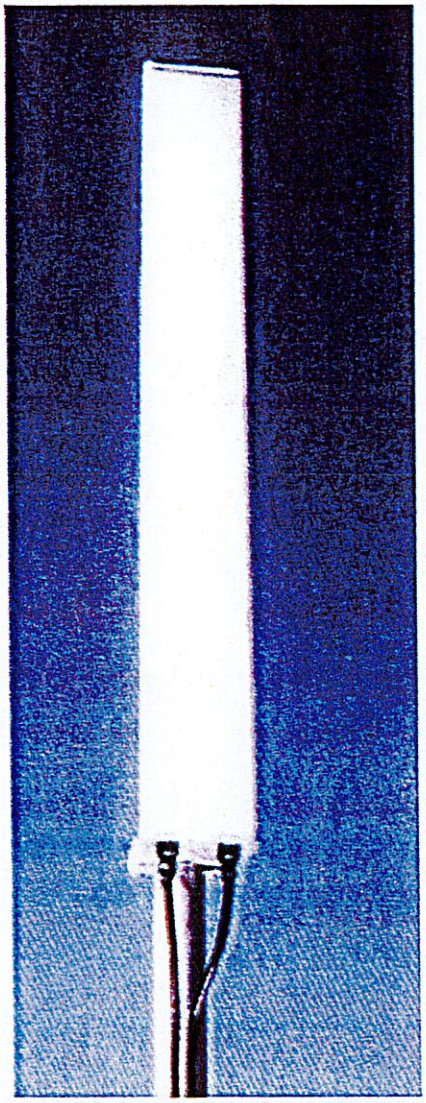
EXHIBIT B
EQUIPMENT SPECIFICATIONS

Technical Data Sheet | **APXV18-206517S-C**

Optimizer® Panel Dual Polarized Antenna

Product Description

This variable tilt antenna provides exceptional suppression of all upper sidelobes at all downtilt angles. It also features null fill and a wide downtilt range with optional remote tilt.



Features/Benefits

- Variable electrical downtilt - provides enhanced precision in controlling intercell interference. The tilt is infield adjustable 0-10 deg.
- High Suppression of all Upper Sidelobes (Typically <-20dB).
- Optional remote tilt - can be retrofitted.
- Broadband design.
- Dual polarization.
- Low profile for low visual impact.

Technical Features

Frequency Band	3G/UMTS (Single, Broad, Dual and Triple-Band)
Horizontal Pattern	Directional
Antenna Type	Panel Dual Polarized
Electrical Down Tilt Option	Variable

Technical Data Sheet **APXV18-206517S-C**

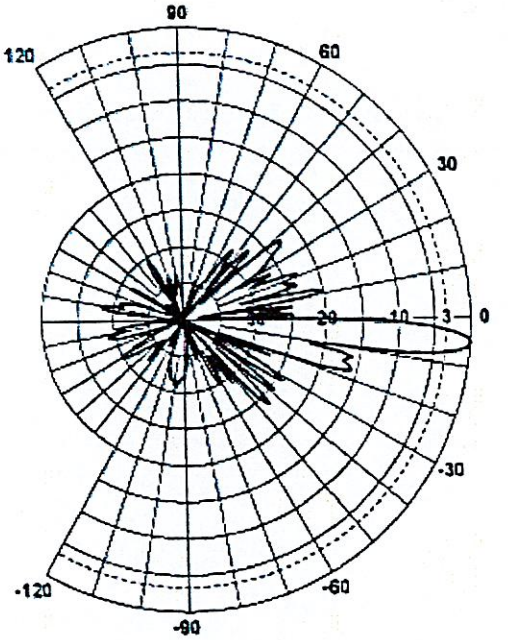
Optimizer® Panel Dual Polarized Antenna

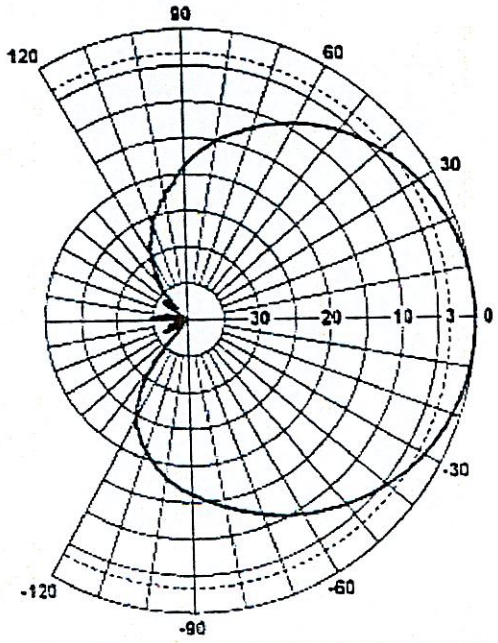
Gain, dBi (dBd)	18.8 (16.7) , 19.0 (16.9)
Frequency Range, MHz	1710-1900 , 1900-2170
Connector Type	(2) 7-16 DIN Female
Connector Location	Bottom
Mount Type	Downtilt
Electrical Downtilt, deg	0-10
Horizontal Beamwidth, deg	67 , 63
Mounting Hardware	APM40-2
Rated Wind Speed, km/h (mph)	160 (100)
VSWR	< 1.5:1
Vertical Beamwidth, deg	5.0 , 4.6
Upper Sidelobe Suppression, dB	>17 , >18 all (Typically >20)
Polarization	Dual pol +/-45°
Front-To-Back Ratio, dB	> 30
Maximum Power Input, W	300
Isolation between Ports, dB	> 30
Lightning Protection	Direct Ground
3rd Order IMP @ 2 x 43 dBm, dBc	> 150
7th Order IMP @ 2x46 dBm, dBc	> 170
Overall Length, m (ft)	1.85 (6.06)
Dimensions - HxWxD, mm (in)	1850 x 175 x 80 (72.0 x 6.8 x 3.15)
Weight w/o Mtg Hardware, kg (lb)	12 (26.4)
Weight w/ Mtg Hardware, kg (lb)	14.8 (32.5)
Radiating Element Material	Brass
Radome Material	Fiberglass
Reflector Material	Aluminum
Max Wind Loading Area, m^2 (ft^2)	0.31 (3.3)
Survival Wind Speed, km/h (mph)	200 (125)
Maximum Thrust @ Rated Wind, N (lbf)	558 (125)
Front Thrust @ Rated Wind, N (lbf)	558 (125)
Shipping Weight, kg (lb)	18.3 (39.8)
Packing Dimensions, HxWxD, mm (in)	2021 x 260 x 200 (79.5 x 10.2 x 7.8)
Packing Dimensions - HxWxD, m (ft)	2.0 x 0.26 x 0.2 (6.6 x 0.85 x 0.65)

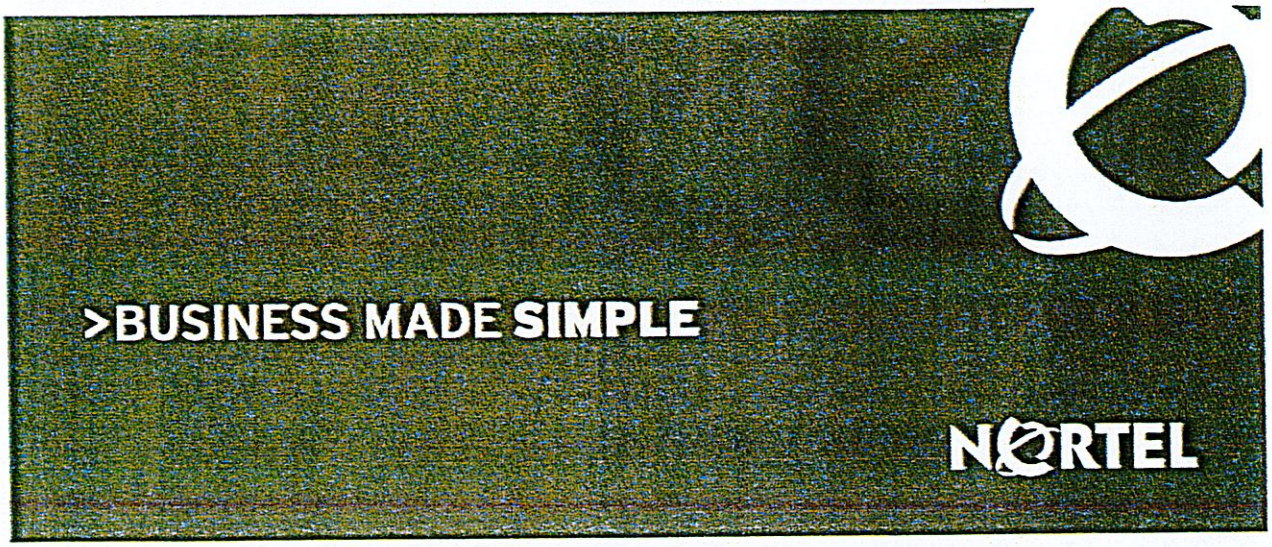
Notes

For additional mounting information please click "Additional Product Information" below.

Optimizer® Panel Dual Polarized Antenna





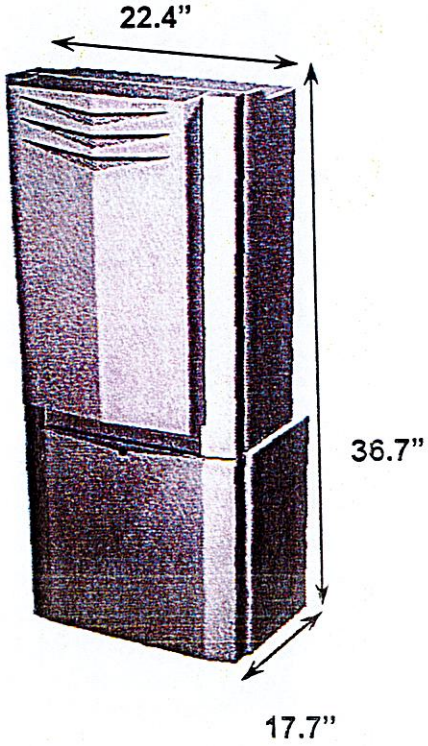


CDMA BTS 3231 AWS 1.7/2.1 GHz (Outdoor/Indoor)

CDMA BTS 3231

Industry's Highest Capacity AWS Micro BTS

The CDMA BTS 3231 is the latest extension to Nortel Networks BTS (Base Transceiver Station) portfolio providing the ideal solution for urban, sub-urban and rural deployments. The CDMA BTS 3231 is a 3-carrier, 3-sector outdoor/indoor BTS operating at the AWS band of 1.7/2.1 GHz supporting IS-95, 1XRTT and 1xEV-DO simultaneously. BTS 3231 provides flexible deployments solutions including floor, rack, and wall mount options. The power consumption of BTS3231 is industry leading consuming only 630W for 3C3S. The BTS 3231 is also very light at 240lbs making it easy to transport to hard to reach locations such as the top of a high rise building.



CDMA BTS 3231

The 3 sector functionality of the 3231 will provide a 4-6dB gain over an omni unit of comparable size in both the forward and reverse links as a result of the increased gain of the antennas. This increase in gain will translate directly into an increase in coverage allowing the customer to minimize the number of cell sites deployed.

Focused on reducing deployment expenses the BTS 3231 implements a simplified architecture that minimizes module count to 2 primary units, the radio module and the digital module. This simplification results in reduced time for deployment, reduced replacement time, and a lighter weight product collectively resulting in reduced operational expense. Small, light and feature rich the BTS3231 facilitates rapid network deployments allowing an operator to generate revenues from geographical areas that had no or very poor coverage. The BTS 3231 requires NBSS15.0 load.

KEY CUSTOMER BENEFITS

- High RF Coverage with ample Channel Element Support:
  - 3 sector product provides 4-6dB gain over an Omni equivalent
  - High forward link power of 18w/carrier-sector provides excellent coverage
  - Extended Coverage for Rural / Coastal areas with 54W PA power, 75W with Sector Power Pooling enabled offering better performance and capacity
  - Excellent reverse link RX Sensitivity of -127 dBm for balanced link
  - Reduces cell site count providing significant network savings
  - Up to 896 channel elements providing ample BTS-to-mobile links planning for capacity increases from SPP and EVRC-B

- Ease of Deployment and Reduced Operational Expenditure:
  - Light weight 240 lbs for easy shipment and installation
  - Reduced size and weight simplifies zoning issues, provides more deployment options, improves time to market
  - High power efficiency with 630W typical for reduced utility expenses
  - Simplified architecture enables easy deployment and reduced replacement time and cost
  - Reduced noise level equivalent to typical office environment
  - Enhanced VSWR feature reduces site visits for antenna tests

- Multiple Deployment Options:
  - Floor mounting
  - Pole mounting enables footprint savings with minimal loading of 240lbs
  - Supports overlay with PCS Metro Cell products, PCS BTS3031, and PCS BTS3030

TECHNICAL SPECIFICATIONS

Capacity:	1-3 Carriers, 1-3 Sectors (any combination of DO or 1X)
	High channel element capacity 896 max (integrated 128 CE's)
	4 digital expansion slots for XCEM's / DOMs
	Up to 3 DOM-A or Up to 4 XCEM192 (Mix of DOM-A/XCEM192)
Physical Parameters:	Physical dimensions W22.4"xH36.7"xD17.7"
	Weight 240 lbs max w/o battery
	785 lbs max w/ batteries
Enhanced Features:	Patented Sector Power Pooling
	Enhanced VSWR ±1 dB accuracy (0-10db return loss)
RF Performance:	Tx Power 18 Watt / Carrier-Sector, up to 25W with SPP enabled
	High Power Mode provides 54W/sector, up to 75W with SPP enabled
	Rx Sensitivity performance of -127 dBm (typical)
	Optional BAS IMF filters (target delivery 4Q08)
Backhaul:	IP Backhaul NBSS16.0
	4 T1/E1 Backhaul (1x) + 4 T1/E1 per DOM
	Supports Daisy Chaining
	2U of user space (example - microwave backhaul)
Power System	Input Voltage AC 180 to 240 VAC
	VLRA batteries, 12 hrs backup for 3C3S (typical conditions)
	Customer equipment AC outlet (120 VAC, 15A)
Deployment considerations:	6 customer configurable alarms
	Supports floor, pole and wall mounting
	Operating temperature: -40°C to +50°C

No battery enclosure, Radio Module and Digital Module installed, 4 CEM/DOM modules in door.

--End--

Electrical requirements

The BTS 3231 is available in a North American AC Powered outdoor enclosure. BTS 3231 supports integrated battery back-up through a single string of VRLA batteries.

AC power

The AC Power enters the BTS 3231 through a three conductor feed (L1, L2 & N) with an optional ACEG which terminates at the DU. The AC feed consists of closely coupled conductors with optional ACEG to minimize differential impedance and EMC effects. The AC connections are attached onto a terminal strip located in the GFI assembly. For power feed cable length constraints, refer to "AC Power Feed Gauge and Length" (page 26). The Protective Earth Ground (PEG) for the AC system is not the ACEG. The PEG terminates at the designated location on the back of the enclosure. Refer to "Grounding" (page 32).

Table 7
BTS 3231 AC Input Power Specifications

Specification		Min.	Nom.	Max.	Units
Input Operating Voltage, V_I	Normal continuous	175	200 - 240	275	Vrms
	Normal continuous conditional[b]			300	Vrms
	Normal continuous conditional[b] [c]	150			Vrms
	Abnormal, temporary, no damage[b] [d]			325	Vrms
	Dropout V_{Inom} to 0V to V_{Inom}, no operational upset[a]	20	70		ms
Input Operating frequency		45	50/60	66	Hz
BTS Input Current Rating	BTS 3231, North America			16	A

Table 7
BTS 3231 AC Input Power Specifications (cont'd.)

Recommended BTS Input Circuit Breaker Rating	BTS 3231, North America	20			A
Input Inrush Current	Magnitude, excluding EMC Capacitors			25	Apk
Input feed type	BTS 3231, North America	3 W + PE			
Input Power Factor	BTS transmitting RF	0.96			
Input Flicker	IEC 61000-3-3	Compliant			
Input Harmonic Distortion	IEC 61000-3-2	Compliant			
The hold-up duration will be longer for lower RF transmit levels and lower voltage magnitude dips. In this extended region certain AC input specifications such as power factor may not be met. In this extended region the BTS may shut-down or transfer to battery back-up when present when operating fully configured and at full capacity. In this extended region the BTS may shutdown or transfer to battery back-up when present to self protect. 1.2/50 µs voltage transient combination waveform, 2 Ω generator output impedance.					

AC Power Feed Gauge and Length

The minimum required cable gauge is determined by the larger of:

- the input overcurrent protection device (BTS power feed circuit breaker) rating and the resulting required minimum cable ampacity and therefore gauge, or
- the maximum allowable voltage drop and the resulting required minimum gauge.

Table 8 "BTS 3231 Minimum AC Power Feed Conductor Gauge" (page 26) presents the recommended minimum AC power feed conductor gauge according to generally accepted ampacity guidelines.

Table 8
BTS 3231 Minimum AC Power Feed Conductor Gauge

System	Feed Breaker	System Rating	Cable Gauge
BTS 3231	20 A	16 A	#12 AWG (3.3 mm^2)

The maximum distance at which BTS 3231 can be deployed from its power source is a function of both the feeder resistive voltage drop and inductance and is generally dictated by national and local building electrical codes. A general guideline for the maximum allowed voltage drop is 3% of the line voltage.

Table 9 "BTS 3231 Maximum AC Feed Cable Length, One Way" (page 27) presents the maximum one way cable lengths possible, given the accepted range of feed cable gauges and the assumptions indicated in the list.

Table 9
BTS 3231 Maximum AC Feed Cable Length, One Way

Wire Gauge	Cable Length, Meters	
	208 V AC	240 V AC
#6 AWG (13 mm^2)	123	162
#8 AWG (8.4 mm^2)	77	102
#10 AWG (5.3 mm^2)	48	63
#12 AWG (3.3 mm^2)	29	39

1. All lengths are one way straight distances in meters (i.e. the length of each of the supply and return conductor).
2. Worst case operation with full rectifier output capacity (i.e. full battery charging), full auxiliary AC outlet loading, and full continuous cabinet AC heater operation (i.e. cold start) is assumed.
3. A round trip feed cable voltage drop of 3% is assumed.
4. A worst case maximum external ambient temperature of 50 °C assumed.
5. A 90 °C cable rating is assumed.
6. BTS 3231 accepts #6 AWG solid conductor or #8 AWG multi-stranded conductor maximum.
7. BTS 3231 requires #12 AWG minimum to meet general code requirements.

Power Budget

Refer to section "Power Consumption Estimations" (page 29)and Table 12 "BTS 3231 AC Input Power Consumption" (page 29) to determine the overall BTS power consumption. Use the thermal load power values to determine expected longer term average power consumption for purposes such as determining battery back-up durations, or average thermal loading. Use the input operating power values to determine the limits of short term peak power for purposes such as rectifier, and feed breaker capacity sizing.

Power Provisioning

No additional power provisioning is required when an AC BTS 3231 is ordered.

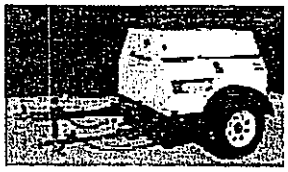
CH&E Power Zone

EMPOWERING REAL PEOPLE

MLG15 Lite Generator

Interim Tier IV EPA Approved Engine

Magnum recognizes environmental responsibility and continues to meet emission regulations with the addition of their Interim Tier IV Generator line. The MLG15 generator is powered by a Mitsubishi diesel engine. Proven power you can trust, while maximizing fuel efficiency and high performance.



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More Information

Manuals
- Operating & Parts

Affordable, Reliable, Mobile

ALWAYS check for

Power

The MLG15 diesel generator provides just the right combination of output, flexibility, ruggedness, efficiency and affordability for on-the-go, smaller-to-midsize, single phase power needs.

updated parts information before placing a parts order.

Features

Tough

- Full tubular steel frame, with lockable enclosure
- Durable, fade resistant, white baked on powder coat finish
- Stainless steel hinges, exterior hardware and pad lockable door latches

Tech. Specs.

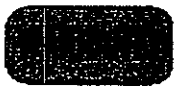
- MLG15

Literature / Sales

- Generator Lit.
- Service Kit Lit.
- Sales Support

Reliable

- Key switch to preheat (glow plug), start & stop
- Automatic low oil level / high temp shutdown alerts
- 70A Start limit main breaker
- 2 year - 2,000 hour warranty
- Marathon voltage regulation within +/- 1%



- Warranty Overview
- Warranty Claim Policy

Ease for Your Users

- Self-priming 4 cylinder Mitsubishi engine
- External convenience outlets with individual breaker switches
- External emergency stop switch

Specifications

Output

3 Phase - Standby **kW (kVA)**	N/A
Amps **480V (208V)**	N/A
3 Phase - Prime **kW (kVA)**	N/A
Amps **480V (208V)**	N/A
1 Phase - Standby **kW (kVA)**	14.0 (14.0)
Amps **240V**	58
1 Phase - Prime **kW (kVA)**	13.0 (13.0)
Amps **240V**	54
AC Voltage 1-phase	120, 240
AC Voltage 3-phase	N/A
Frequency **Hz**	60
Power Factor	1.0 (1 Phase)
Generator - Brand / Type / Insulation	Marathon / Brushless / F
Sound (dB(A) 23 ft @ prime)	68

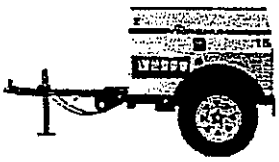
Size and Weight

Skid Mounted - L x W x H **in (m)**	N/A
Dry Weight **lbs (kg)**	N/A
Operating Weight **lbs (kg)**	N/A
Trailer Mounted - L x W x H **in (m)**	105 x 67 x 56 (2.67 x 1.70 x 1.42)
Dry Weight **lbs (kg)**	1425 (646)

Operating Weight **lbs (kg)**	1823 (827)
Engine	
Type	Interim Tier IV
Brand	Mitsubishi
Aspiration	Natural
Power - Prime @ 1800 rpm **hp (kWm)**	22.3 (16.6)
Displacement **cubic in (L)**	107 (1.8)
Cylinders	4
Speed **rpm**	1800
Fuel Consumption - Prime **gph (Lph)**	1.30 (4.92)
Capacities	
Fuel Tank **gal (L)**	56 (212)
Approximate Run Time **hrs**	43
Coolant **qt (L)**	11.6 (11.0)
Electrical Distribution	
Battery - 12V	1 - 12V 440 CCA Wet Cell
Main Circuit Breaker Size **A**	70
Voltage Selection	N/A
Voltage Regulation	+/-1%
120V - 20A GFI Duplex Outlets - qty	2
240V - 30A Twist Lock Outlets - qty	2
240V - 50A Twist Lock Outlets - qty	2
Trailer	
Number of Axles	1
Capacity - Axle Rating **lbs (kg)**	2200 (998)
Tire Size **in**	15
Brakes	N/A
Hitch	2" Ball
Maximum Tire Pressure **psi**	50
Options	
Powertrain (Engine/Gen)	• 60/40 Coolant • Heated Fuel Filter • Engine Heater - Lower Radiator Hose • Oil Drain Valve Kit
Controls	• Battery, 720 CCA Gel Cell • Battery, 720 CCA Wet Cell • Battery, 685 CCA Gel Cell • No Battery • Battery Disconnect, Lockable • Battery Charger, 2 Amp • Alternative Outlet Panel Options (Consult factory for details)

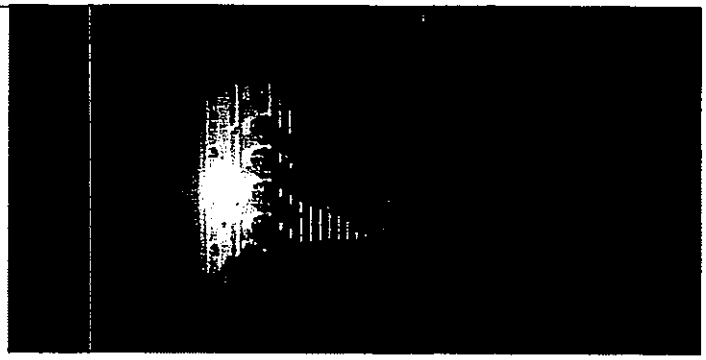
Cabinet/Fuel Tank	• Interior Cabinet Light • Level Indicator • 56 Gallon Fuel Tank • Fuel Tank Cap - Vent w/ Lanyard • Spare Tire & Carrier • Lift Structure • Liquid Containment/Quiet Pack
Trailer	• Tube & Sleeve Jack • Combo Hitch - 2.5" Ring/2" Ball • 2.5" Ring • 3" Ring • 3" Ring (1.625 TH) • Plug Adapter, 4 Flat to 6 Round • Plug Adapter, 4 Flat to 7 Pin • Plug Adapter, 4 Flat to 7 Round Spade • Outrigger Package

Product Images (click small image to pop-up larger version)



Exalt

EX-5r Series



All-Outdoor, Carrier-Class, Tri-Band 5 GHz TDD Radio System for Low, Medium and High Capacity Ethernet and TDM Applications

The EX-5r series of all-outdoor digital microwave radios is the first family of carrier-class, tri-band TDD radios available in the 5.2 – 5.8 GHz license-exempt bands. Radios in the EX-5r line support capacities ranging from 27 Mbps to an industry-leading 440 Mbps of aggregate user throughput, from zero to four T1/E1s and both 100BaseT and GbE interfaces. Featuring native TDM and native Ethernet transport and full software configurability and upgradeability, the EX-5r series was designed to meet demanding backhaul requirements of enterprise organizations and service providers seeking the performance benefits of an all-outdoor configuration.

Carrier-class TDD. The EX-5r series radios combine native TDM and native Ethernet transport with low, fixed latency to deliver guaranteed throughput and service quality. Capacity can be allocated variably between TDM and Ethernet via software, while the selectable throughput symmetry control feature enables radio capacity to efficiently match asymmetric traffic requirements.

Industry-leading Spectrum Management. The EX-5r radios include selectable channel bandwidth and 1 MHz tuning resolution, yielding up to 54 non-overlapping frequency channels and up to 415 center frequencies of operation. These capabilities, combined with selectable modulation and superior system gain, provide unparalleled interference avoidance and transmission resiliency. A built-in spectrum analyzer is even included to accelerate deployment and simplify troubleshooting.

ExaltSync Synchronization. The ExaltSync technology embedded in the EX-5r series radios allows multiple radio systems to be collocated in close proximity without self-interference, minimizing antenna separation and ensuring reuse of scarce spectrum across all collocated systems.

Security, Management and Data Networking. The EX-5r radios deliver the highest data and management security available with optional 128- and 256-bit AES encryption and secure SNMP v3 management, together with enhanced fault management and diagnostic features. The 802.1Q VLAN option provides built-in network administration and security flexibility.

EX-5r series radios are available in both integrated antenna and external antenna (connectorized) versions.

Primary Specifications		EX-5r Lite / EX-5r-c Lite	EX-5r v3 / EX-5r-c v2	EX-5r GigE / EX-5r-c GigE
Maximum Capacity[1]	TDM	4xT1/E1		
	Ethernet (Aggregate)	100 Mbps	200 Mbps	440 Mbps
Frequency (GHz)		Tri-band: 5.250-5.350, 5.470-5.725, 5.725-5.850		
Range[2]		> 30 miles at 99.999% throughput availability		

[1] Please refer to the Exalt Throughput and Range Specification document for detailed capacity information.

[2] Distance based upon FCC regulations, average climate and terrain, 6' dish antennas, 3 dB transmission system losses at each end. Longer or shorter distances will apply for alternative antennas, country regulations, transmission system losses, path topologies and radio configurations. See Exalt's link budget and path planning tool to model your scenario.

EXHIBIT C
STRUCTURAL ANANYSIS

NATCOMM INC.
CONSULTING ENGINEERS

Structural Analysis Report

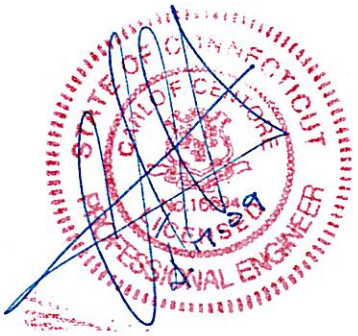
195' Existing Valmont Lattice Tower

Pocket Wireless Site Ref: NHCT0437

1055 Wintergreen Ave.
Hamden, CT

Natcomm Project No. 09040-CO.9

Date: May 1, 2009



Prepared for:

Construction Services of Branford, LLC
63-3 North Branford Road
Branford, CT 06405

p: 203.488.0580
f: 203.488.8587
w: nat-eng.com
63-2 N. Branford Rd.
Branford, CT 06405

Natcomm, Inc.
Structural Lattice Tower Analysis
195' Existing Valmont Lattice Tower
Hamden, CT
May 1, 2009

Table of Contents

Natcomm, Inc.
Structural Lattice Tower Analysis
195' Existing Valmont Lattice Tower
Hamden, CT
May 1, 2009

Introduction

The purpose of this report is to summarize the results of the non-linear, P-Δ structural analysis of the antenna installation proposed by Pocket Wireless on the existing self supporting lattice tower located in Hamden, Connecticut.

The host tower is a 195-ft, three legged, tapered lattice tower originally designed and manufactured by Valmont Structures. The tower geometry and structure member sizes were taken from the original Valmont tower drawings, dated July 29, 2004. Foundation information was taken from a Tectonic foundation drawing, dated September 21, 2004. Antenna and appurtenance inventory were taken from a tower inventory sheet provided by Message Center Management.

The aforementioned drawings by Valmont and Tectonic, and the tower inventory sheet are located in section 4 of this report for reference.

The tower is made of ten (10) tapered vertical sections consisting of truss legs and one (1) 5-ft welded top assembly. Diagonal lateral support bracing consists of structural steel angle shapes. The vertical tower sections are connected by bolted flange plates while the legs and bracing are connected by welded and bolted gusset connections. The width of the tower face is 5-ft at the top and 24-ft at the base.

Pocket Wireless proposes the installation of three (3) panel antennas. Refer to the Antenna and Appurtenance Summary below for a detailed description of the proposed antenna configuration.

Antenna and Appurtenance Summary

The existing tower supports several communication antennas. The existing and proposed loads considered in the analysis consist of the following:

- MARCUS (Existing):
  Antennas: Two (2) Decibel DB638 omni-directional (whip) antennas leg mounted with a RAD center elevation of ±195-ft above the existing tower base.
  Coax Cables: Two (2) 1-1/4" Ø coax cables running on a leg/face of the existing tower as specified in Section 3 of this report.
- MISC (Existing):
  Antenna: One (1) PG1DOF-0093-610, one (1) DB809KT4, one (1) DB638, one (1) DB205, and one (1) PD220 omni-directional (whip) antennas mounted on two (2) 12' T-Frames with a RAD center elevation of ±175-ft above the tower base.
  Coax Cable: Four (4) 7/8" and one (1) 1/2" Ø coax cable running on a leg/face of the existing tower as specified in Section 3 of this report.
- NEXTEL (Existing):
  Antennas: Eight (8) Decibel DB844G65VTZASX and four (4) Decibel DB846G90A-XY panel antennas mounted on three (3) 12-ft T-Frames with a RAD center elevation of ±150-ft above the existing tower base.
  Coax Cables: Twelve (12) 1-5/8" Ø coax cables running on a leg/face of the existing tower as specified in Section 3 of this report.

- ACES (Existing):
  Antennas: One (1) PD1142 omni-directional (whip) antenna mounted on one (1) 12-ft T-Frame with a RAD center elevation of ±110-ft above the existing tower base.
  Coax Cables: One (1) 1/2" ∅ coax cable running on a leg/face of the existing tower as specified in Section 3 of this report.
- UNKNOWN (Existing):
  Antennas: One (1) vacant 12-ft T-Frame with a RAD center elevation of ±110-ft above the existing tower base.
- VERIZON (Existing):
  Antenna: One (1) Decibel DB230 omni-directional (whip) antenna leg mounted with a RAD center elevation of ±85-ft above the tower base.
  Coax Cable: One (1) 7/8" ∅ coax cable running on a leg/face of the existing tower as specified in Section 3 of this report.
- VERIZON (Existing):
  Antenna: One (1) PD220 omni-directional (whip) antenna on a 3-ft side mount standoff with an elevation of ±80-ft above the tower base.
  Coax Cable: One (1) 7/8" ∅ coax cable running on a leg/face of the existing tower as specified in Section 3 of this report.
- VERIZON (Existing):
  Antenna: One (1) DB809 omni-directional (whip) antenna on a 1-ft-6-in side mount standoff with an elevation of ±70-ft above the tower base.
  Coax Cable: One (1) 7/8" ∅ coax cable running on a leg/face of the existing tower as specified in Section 3 of this report.
- SKYTEL (Existing):
  Antenna: One (1) DB225 omni-directional (whip) antenna leg mounted with an elevation of ±65-ft above the tower base.
  Coax Cable: One (1) 7/8" ∅ coax cable running on a leg/face of the existing tower as specified in Section 3 of this report.
- **POCKET (Proposed):**
  Antennas: Three (3) RFS APXV18-206517-C panel antennas flush mounted to the tower legs with a RAD center elevation of ±160-ft above the existing tower base.
  Coax Cables: Six (6) 1-5/8" ∅ coax cables running on a leg/face of the existing tower as specified in Section 3 of this report.

Primary Assumptions Used in the Analysis

- The tower structure's theoretical capacity not including any assessment of the condition of the tower.
- The tower carries the horizontal and vertical loads due to the weight of antennas, ice load and wind.
- Tower is properly installed and maintained.
- Tower is in plumb condition.
- Tower loading for antennas and mounts as listed in this report.
- All bolts are appropriately tightened providing the necessary connection continuity.
- All welds are fabricated with ER-70S-6 electrodes.
- All members are assumed to be as specified in the original tower design documents.
- All members are "hot dipped" galvanized in accordance with ASTM A123 and ASTM A153 Standards.
- All member protective coatings are in good condition.
- All tower members were properly designed, detailed, fabricated, installed and have been properly maintained since erection.
- Any deviation from the analyzed antenna loading will require a new analysis for verification of structural adequacy.
- **All coax cables to be routed as specified in Section 3 of this report.**

Analysis

The existing tower was analyzed using a comprehensive computer program entitled RISATower. The program analyzes the tower, considering the worst case loading condition. The tower is considered as loaded by concentric forces along the tower legs, and the model assumes that the leg members are subjected to bending, axial, and shear forces.

The existing tower was analyzed for 90 mph basic wind speed (fastest mile) with no ice and 75% reduction of wind force with ½ inch accumulative ice to determine stresses in members as per guidelines of TIA/EIA-222-F-96 entitled "Structural Standards for Steel Antenna Towers and Antenna Supporting Structures", the American Institute of Steel Construction (AISC) and the Manual of Steel Construction; Allowable Stress Design (ASD).

Tower Loading

Tower loading was determined by the basic wind speed as applied to projected surface areas with modification factors per TIA/EIA-222-F, gravity loads of the tower structure and its components, and the application of ½" radial ice tower structure and its components.

Basic Wind Speed:	New Haven; v = 85 mph (fastest mile)	*[Section 16 of TIA/EIA-222-F-96]*
	Hamden; v = 110 mph (3 second gust) equivalent to v = 90 mph (fastest mile)	*[Appendix K of the 2005 CT Building Code Supplement]*
	Appendix K wind speed Controls	
Load Cases:	Load Case 1; 90 mph wind speed w/ no ice plus gravity load – used in calculation of tower stresses and rotation. This load case typically controls the design.	*[Section 2.3.16 of TIA/EIA-222-F-96]*
	Load Case 2; 78 mph wind speed w/ ½" radial ice plus gravity load – used in calculation of tower stresses. The 78 mph wind speed velocity represents 75% of the wind pressure generated by the 90 mph wind speed.	*[Section 2.3.16 of TIA/EIA-222-F-96]*
	Load Case 3; Seismic – not checked	*[Section 1614.5 of State Bldg. Code 2005] does not control in the design of this structure type*

Natcomm, Inc.
Structural Lattice Tower Analysis
195' Existing Valmont Lattice Tower
Hamden, CT
May 1, 2009

Tower Capacity

Tower stresses were calculated utilizing the structural analysis software RISATower. Allowable stresses were determined based on Table 5 of the TIA/EIA code with a 1/3 increase per Section 3.1.1.1 of the same code.

Calculated stresses were found to be within allowable limits. In Load Case 2, per RISATower "Section Capacity Table", this tower was found to be at **37.9%** of its total capacity.

Tower Section	Component	Stress Ratio (percentage of capacity)	Result
Leg (T3)	100.00'-120.00'	37.9%	**PASS**

Foundation and Anchors

The existing foundation consists of three (3) 6-ft x 8-ft reinforced concrete piers concentrically bearing on the existing sub grade. The existing foundation locations and dimensions were taken from the aforementioned Tectonic foundation drawing available in Section 4 of this report. Allowable bearing pressure was assumed to be 50,000 psi for the analysis. Tower legs are connected to the three (3) piers by means of (12) 1-1/4" ∅, ASTM A687 anchor bolts per leg, embedded into the concrete foundation structure.

Review of the foundation and anchor design consisted of verification of applied loads obtained from the tower design calculations and code checks of allowable stresses:

- The tower leg reactions developed from the governing Load Case 2 were used in the verification of the foundation:

Leg Reactions	Vector	Proposed Load (kips)
Leg	Shear	**28**
	Compression	**244**
	Uplift	**184**

- The anchor bolts were found to be within allowable limits.

Tower Section	Component	Stress Ratio (percentage of capacity)	Result
Anchor Bolts	Tension	17.9%	**PASS**

- The foundation was found to be within allowable limits.

Foundation	Design Limit	IBC 2003/2005 CT State Building Code Section 3108.4.2 (FS)[1]	Proposed Loading (FS)[1]	Result
Reinf. Conc. Pier w/ Rock Anchors	Uplift	2.0	2.93	**PASS**

Note 1: FS denotes Factor of Safety

Conclusion

This analysis shows that the subject tower **is adequate** to support the proposed antenna configuration.

The analysis is based, in part, on the information provided to this office by Pocket Wireless. If the existing conditions are different than the information in this report, Natcomm, Inc. must be contacted for resolution of any potential issues.

Please feel free to call with any questions or comments.

Respectfully Submitted by:

4.17.2009

Carlo F. Centore, PE
Principal ~ Structural Engineer

Standard Conditions for Furnishing of Professional Engineering Services on Existing Structures

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessarily limited to:

- Information supplied by the client regarding the structure itself, its foundations, the soil conditions, the antenna and feed line loading on the structure and its components, or other relevant information.
- Information from the field and/or drawings in the possession of Natcomm, Inc. or generated by field inspections or measurements of the structure.
- It is the responsibility of the client to ensure that the information provide to Natcomm, Inc. and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and are in an un-corroded condition and have not deteriorated. It is therefore assumed that its capacity has not significantly changed from the "as new" condition.
- All services will be performed to the codes specified by the client, and we do not imply to meet any other codes or requirements unless explicitly agreed in writing. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement. In the absence of information to the contrary, all work will be performed in accordance with the latest revision of ANSI/ASCE10 & ANSI/EIA-222
- All services performed, results obtained, and recommendations made are in accordance with generally accepted engineering principles and practices. Natcomm, Inc. is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

GENERAL DESCRIPTION OF STRUCTURAL ANALYSIS PROGRAM

RISATower, is an integrated structural analysis and design software package for Designed specifically for the telecommunications industry, RISATower, formerly ERITower, automates much of the tower analysis and design required by the TIA/EIA 222 Standard.

RISATower Features:

- RISATower can analyze and design 3- and 4-sided guyed towers, 3- and 4-sided self-supporting towers and either round or tapered ground mounted poles with or without guys.
- The program analyzes towers using the TIA-222-G (2005) standard or any of the previous TIA/EIA standards back to RS-222 (1959). Steel design is checked using the AISC ASD 9th Edition or the AISC LRFD specifications.
- Linear and non-linear (P-delta) analyses can be used in determining displacements and forces in the structure. Wind pressures and forces are automatically calculated.
- Extensive graphics plots include material take-off, shear-moment, leg compression, displacement, twist, feed line, guy anchor and stress plots.
- RISATower contains unique features such as True Cable behavior, hog rod take-up, foundation stiffness and much more.

EXHIBIT D
EMISSIONS STUDY

C Squared Systems, LLC
920 Candia Road
Manchester, NH 03109
Phone: (603) 657 9702
E-mail:
support@csquaredsystems.com

Calculated Radio Frequency Emissions

NHCT0437A

1055 Wintergreen Ave, Hamden, CT 06514

Table of Contents

List of Tables

1. Introduction

The purpose of this report is to investigate compliance with applicable FCC regulations for the proposed Pocket antennas to be installed on the existing lattice tower located at 1055 Wintergreen Ave, Hamden, CT 06514.

These calculations assume that the antennas are operating at 100 percent capacity, that all antenna channels are transmitting simultaneously, and that the radio transmitters are operating at full power. Obstructions (trees, buildings etc.) that would normally attenuate the signal are not taken into account. As a result, the predicted signal levels are much more conservative (higher) than the actual signal levels will be from the finished installation.

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter (mW/ cm^2). The number of mW/cm^2 emitted is called the power density. The general population exposure limit for the cellular band is 0.567-0.593 mW/ cm^2, and the general population exposure limit for the PCS/AWS band is 1.0 mW/ cm^2. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

The FCC general population / uncontrolled limits set the maximum exposure to which most people may be subjected. 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 cannot exercise control over their exposure.

Higher exposure limits are permitted under the occupational / controlled exposure category, but only for persons who are exposed as a consequence of their employment and who have been made fully aware of the potential for exposure (through training), and they must be able to exercise control over their exposure. General population / uncontrolled limits are five times more stringent than the levels that are acceptable for occupational, or radio frequency trained individuals.

The FCC describes exposure to radio frequency (RF) energy in terms of percentage of maximum permissible exposure (MPE) with 100% being the maximum allowed. Rather than the FCC presenting the user specification in terms of complex power density figures over a specified surface area, this MPE measure is particularly useful, and even more so when considering that power density limits actually vary by frequency because of the different absorptive properties of the human body at different frequencies.

MPE limits are specified as time-averaged exposure limits. This means that exposure can be averaged over 30 minutes for general population / uncontrolled exposure (or 6 minutes for occupational / controlled exposure). However, for the case of exposure of the general public, time averaging is usually not applied because of uncertainties over exact exposure conditions and difficulty in controlling time of exposure. Therefore, the typical conservative approach is to assume that any RF exposure to the general public will be continuous.

Finally, it should be noted that the MPE limits adopted by the FCC for both general population / uncontrolled exposure and for occupational / controlled exposure incorporate a substantial margin of safety and have been established to be well below levels generally accepted as having the potential to cause adverse health effects.

2. FCC Guidelines for Evaluating RF Radiation Exposure Limits

In 1985, the FCC established rules to regulate radio frequency (RF) exposure from FCC licensed antenna facilities. In 1996, the FCC updated these rules, which were further amended in August 1997 by OET Bulletin 65 Edition 97-01. These new rules include limits for Maximum Permissible Exposure (MPE) for transmitters operating between 300 kHz and 100 GHz. The FCC MPE limits are based on exposure limits recommended by the National Council on Radiation Protection and Measurements (NCRP), the exposure limits developed by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) and adopted by the American National Standards Institute (ANSI).

Attachment B contains excerpts from OET Bulletin 65 and defines the Maximum Exposure Limit. As shown in these excerpts, each frequency band has different exposure limits, requiring power density to be reported as a percent of Maximum Permissible Exposure (MPE) when dealing with carriers transmitting in different frequency bands.

3. RF Exposure Prediction Methods

The emission field calculation results displayed in the following figures were generated using the following formula as outlined in FCC bulletin OET 65:

$$\text{Power Density} = \left(\frac{1.6^2 \times EIRP}{4\pi \times R^2} \right)$$

Where:

EIRP = Effective Isotropic Radiated Power

R = Radial Distance = $\sqrt{(H^2 + V^2)}$

H = Horizontal Distance from antenna

V = Vertical Distance from bottom of antenna

1.6 = Ground Reflection Factor

4. Calculation Results

Table 1 below outlines the power density information for the site. All information for carriers other than Pocket is based on the current CSC database.

Carrier	Antenna Height (Feet)	Operating Frequency (MHz)	Number of Trans.	Effective Radiated Power (ERP) Per Transmitter (Watts)	Power Density (mw/cm^2)	Limit	%MPE
Mobile Comm	246	931	1	250	0.0015	0.6207	0.24%
Page America	242	931	1	150	0.0009	0.6207	0.15%
Bellsouth Wireless	242	930	1	30	0.0002	0.6200	0.03%
Tri State Radio	145	929	1	300	0.0051	0.6193	0.83%
Skytel	128	930	1	250	0.0055	0.6200	0.88%
Utility Comm	69	461	1	200	0.0151	0.3073	4.91%
Verizon Wireless	165	880	9	200	0.0238	0.5867	4.05%
Verizon Wireless	165	1900	3	285	0.0113	1.2667	0.89%
Nextel	150	851	12	100	0.0194	0.5673	3.43%
Pocket	160	2130-2133.75	3	631	0.0287	1.0000	2.87%
Destiner	225	940	-	-	0.0071	0.6267	1.13%
Pronet	205	454	-	-	0.0008	0.3027	0.26%
Airtouch	203	158	-	-	0.0262	0.2000	13.10%
Metrocall	203	930	-	-	0.0078	0.6200	1.26%
UI	152	49	-	-	0.0078	0.2000	3.90%
PageNet	148	940	-	-	0.0148	0.6267	2.36%
Tri State Radio	140	931	-	-	0.0110	0.6207	1.77%
UI	138	451	-	-	0.0094	0.3007	3.13%
Protel	126	454	-	-	0.0020	0.3027	0.66%
Emergency Medical	116	463	-	-	0.0040	0.3087	1.30%
Arch CT Paging	115	929	-	-	0.0408	0.6193	6.59%
Airtouch	88	152	-	-	0.0232	0.2000	11.60%
Teligent	61	25000	-	-	0.0001	1.0000	0.01%
						Total	**65.35%**

Table 1: Existing & Proposed Carrier Information

5. Conclusion

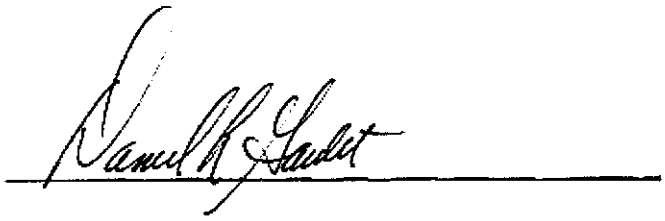
The above analysis verifies that emissions from the existing site will be below the maximum power density levels as outlined by the FCC in the OET Bulletin 65 Ed. 97-01. Even when using conservative methods, the cumulative power density from the proposed transmit antennas at the existing facility is well below the limits for the general public. The highest expected percent of Maximum Permissible Exposure at the base of the tower[1] is 65.35% of the FCC limit.

As noted in the introduction, obstructions (trees, buildings etc.) that would normally attenuate the signal are not taken into account. As a result, the predicted signal levels are more conservative (higher) than the actual signal levels will be from the finished installation.

[1] There are two lattice towers and a small, Rohn tower located at 1055 Wintergreen Avenue. Since the CSC database does not distinguish between the three towers, the 65.35% MPE represents the cumulative %MPE for all transmitters on all three towers.

6. Statement of Certification

I certify to the best of my knowledge that the statements in this report are true and accurate. The calculations follow guidelines set forth in ANSI/IEEE Std. C95.3, ANSI/IEE Std. C95.1 and FCC OET Bulletin 65 Edition 97-01.



May 8, 2009
Date

Daniel l. Goulet
C Squared Systems, LLC

Attachment A: References

OET Bulletin 65 - Edition 97-01 - August 1997 Federal Communications Commission Office of Engineering & Technology

ANSI C95.1-1982, American National Standard Safety Levels With Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 300 kHz to 100 GHz. IEEE-SA Standards Board

IEEE Std C95.3-1991 (Reaff 1997), IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave. IEEE-SA Standards Board

Attachment B: FCC Limits for Maximum Permissible Exposure (MPE)

(A) Limits for Occupational/Controlled Exposure

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

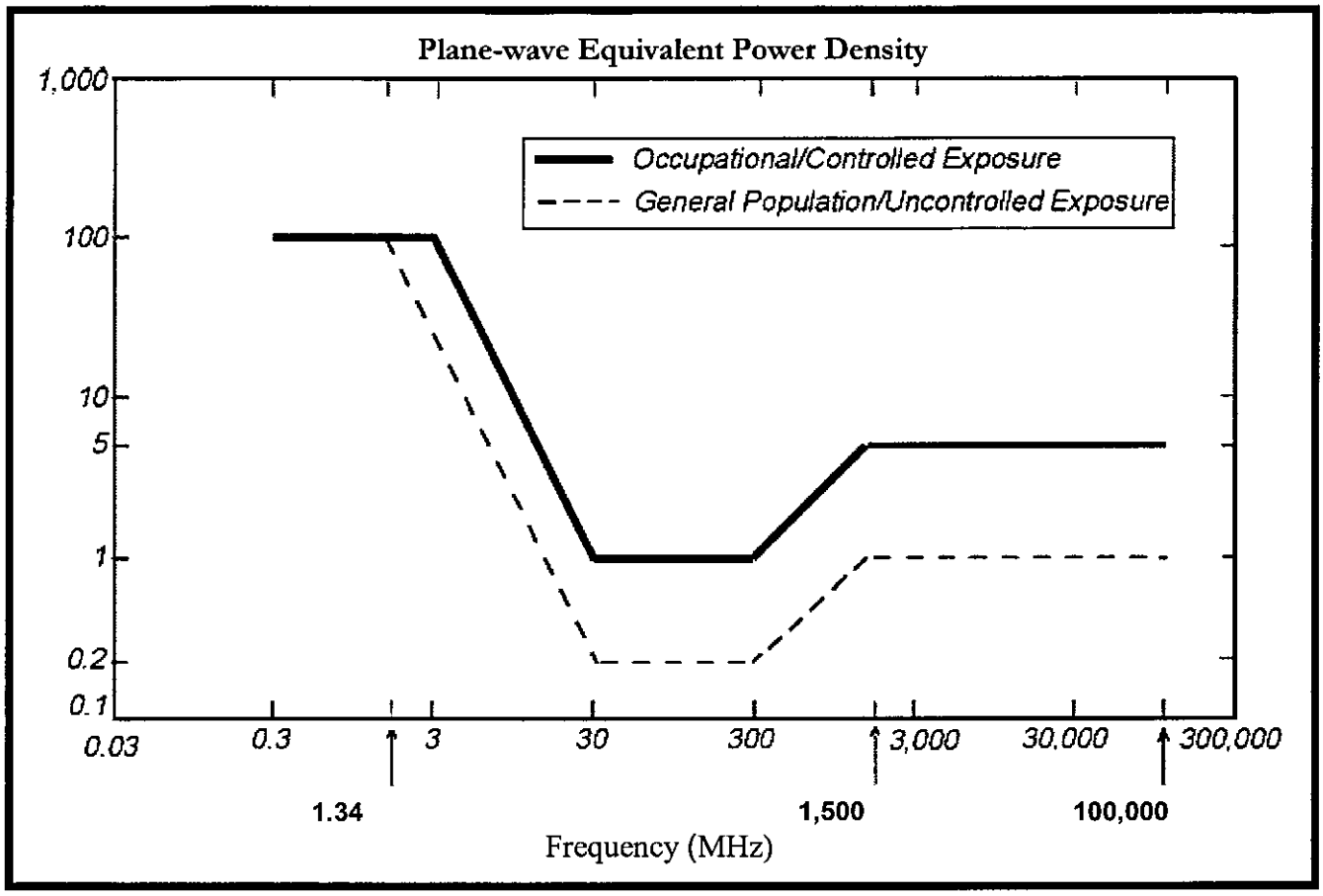
(B) Limits for General Population/Uncontrolled Exposure

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

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

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

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



• FCC Limits for Maximum Permissible Exposure (MPE)