



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

www.ct.gov/csc

June 25, 2004

Kenneth C. Baldwin, Esq.
Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103-3597

RE: **EM-VER-032-040614** - Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at 1776 Main Street, Coventry, Connecticut.

Dear Attorney Baldwin:

At a public meeting held on June 23, 2004, 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 June 14, 2004. 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

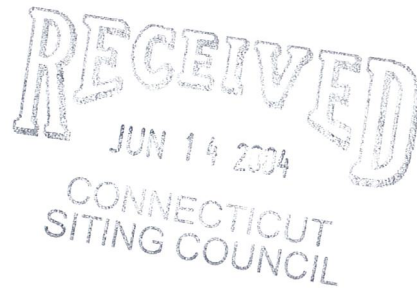
c: Honorable James E. Clark, Chairman Town Council, Town of Coventry
Eric M. Trott, Director of Planning & Development, Town of Coventry
Thomas J. Regan, Esq., Brown Rudnick Berlack Israels LLP
Thomas F. Flynn III, Nextel Communications, Inc.

280 Trumbull Street
Hartford, CT 06103-3597
Main (860) 275-8200
Fax (860) 275-8299
kbaldwin@rc.com
Direct (860) 275-8345

June 14, 2004

Via Hand Delivery

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



Re: **Notice of Exempt Modification**
1776 Main Street
Coventry, Connecticut

Dear Mr. Phelps:

Cellco Partnership d/b/a Verizon Wireless ("Cellco") intends to install antennas on an existing municipal tower located at Coventry Town Hall, 1776 Main Street in Coventry, Connecticut. Please accept this letter as notification pursuant to R.C.S.A. § 16-50j-73, for 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 Town Manager, John Elsesser

The existing facility consists of a 190-foot self-supporting lattice tower, owned and operated by the Town of Coventry ("Town") and capable of supporting multiple carriers. The Town maintains emergency service antennas at various levels on the tower. The tower is also shared by Sprint PCS at the 180-foot level and Nextel at the 130-foot level. Cellco proposes to install twelve (12) panel-type antennas (6 PCS and 6 Cellular) at the 150-foot level on the tower and a 12' x 30' single-story equipment shelter near the base of the tower. (See Attachment 1 - Project Plans).

The planned modifications to the Coventry 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 overall height of the existing tower. Cellco's antennas will be mounted with their centerline at the 150-foot level on the 190-foot tower.



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S. Derek Phelps
June 14, 2004
Page 2

2. The proposed installation of twelve (12) panel-type antennas and a 12' x 30' equipment shelter will not require an extension of the site boundaries. While Cellco will expand the existing fence line, all improvements will remain within the Town Parcel.

3. The proposed modification will not increase the noise levels at the facility by six decibels or more.

4. The operation of the antennas will not increase radio frequency (RF) power density levels at the facility to a level at or above the Federal Communications Commission (FCC) adopted safety standard. The worst-case RF power density calculations for Sprint PCS, Nextel and Cellco would be 13.38% of the applicable FCC Standard (See Attachment 2).

Also included as Attachment 3 is an engineer's certification verifying that the tower can accommodate the existing and proposed antennas and related equipment.

For the foregoing reasons, Cellco respectfully submits that the proposed antenna installation at the Coventry facility tower constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,



Kenneth C. Baldwin

Attachments

cc: John Elsesser, Town Manager
Sandy M. Carter



Cellco Partnership

d.b.a. *verizon* wireless

WIRELESS COMMUNICATIONS FACILITY
COVENTRY EAST

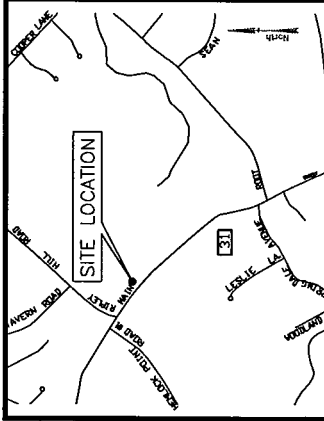
PROJECT: 00011050458
LOCATION CODE: 1700322173
1776 MAIN STREET - ROUTE 31
COVENTRY, CONNECTICUT 06238

SHEET INDEX	
SHEET NO.	DESCRIPTION
T-1	TITLE SHEET
SC-1	COMPOUND PLAN & TOWER ELEVATIONS
SC-2	EXISTING ANTENNA MAPPING

NOTE 1:
THESE DRAWINGS ARE SCHEMATIC.
FINAL EQUIPMENT LOCATIONS, ANTENNA TYPES,
AND ANTENNA AZIMUTHS WILL BE FINALIZED
UPON COMPLETION OF DESIGN.

NOTE 2:
THIS DOCUMENT WAS DEVELOPED TO REFLECT A
SPECIFIC SITE AND ITS SITE CONDITIONS AND IS
NOT TO BE USED FOR ANOTHER SITE OR WHEN
OTHER CONDITIONS PERTAIN. REUSE OF THIS
DOCUMENT IS AT THE SOLE RISK OF THE USER.

STRUCTURAL NOTE:
NEW CONSTRUCTION REPRESENTED ON THESE
PLANS IS PROPOSED PREDICATED ON THE
REQUIREMENT THAT A STRUCTURAL ANALYSIS BE
PERFORMED BY A LICENSED CONNECTICUT
PROFESSIONAL STRUCTURAL ENGINEER AND
CERTIFICATION IS GIVEN BY THE ENGINEER THAT
THE EXISTING TOWER AND ALL EXISTING AND
PROPOSED ANTENNAS AND APPURTENANCES
SUPPORTED BY THE TOWER AND ANY REQUIRED
IMPROVEMENTS AND REINFORCEMENTS HAVE
SUFFICIENT STRUCTURAL CAPACITY AND COMPLY
WITH THE CONNECTICUT BUILDING CODE AND ALL
APPLICABLE EIA/TIA CRITERIA. NO WORK
PROPOSED HEREON SHALL BE PROGRESSED
WITHOUT CONFIRMATION OF THIS CERTIFICATION.



LOCATION MAP

DRIVING DIRECTIONS (FROM EAST HARTFORD):

MERGE ONTO I-84 E (US-6 E). TAKE EXIT
59 TO I-384 E. CONTINUE ONTO US-6 E
(US-44, BOLTON RD). CONTINUE ONTO
US-44 E (BOLTON RD). CONTINUE ONTO
US-44 (BOSTON TPK). TURN RIGHT ONTO
CT-31 (MAIN ST).

PROJECT SUMMARY

SITE NAME: COVENTRY
SITE ADDRESS: 1776 MAIN STREET - ROUTE 31
COVENTRY, CT 06238
PROPERTY OWNER: TOWN OF COVENTRY
1712 MAIN STREET
COVENTRY, CT 06238
LESSOR: TOWN OF COVENTRY
1712 MAIN STREET
COVENTRY, CT 06238
LESSEE: CELCO PARTNERSHIP
d.b.a VERIZON WIRELESS
99 EAST RIVER DR.
EAST HARTFORD, CT 06108

APPLICANT: CELCO PARTNERSHIP
d.b.a VERIZON WIRELESS
99 EAST RIVER DR.
EAST HARTFORD, CT 06108
CONTACT PERSON: SANDY CARTER
CELCO PARTNERSHIP
d.b.a VERIZON WIRELESS
(860) 830-8219
CENTER OF TOWER: LATITUDE: 41° 46' 47.75" N
LONGITUDE: 72° 18' 34.50" W
GROUND ELEVATION: 719.7' AMSL
(COORDINATES PROVIDED BY
CELCO PARTNERSHIP)

PROJECT DESCRIPTION:

THE PROJECT CONSISTS OF THE INSTALLATION AND OPERATION OF 3 SECTORS OF 4 PANEL ANTENNAS PER SECTOR WHICH SHALL BE MOUNTED TO THE EXISTING TOWER, AND INSTALLING A 12' WIDE BY 30' LONG EQUIPMENT SHELTER. THIS SYSTEM WILL BOTH TRANSMIT AND RECEIVE RADIO SIGNALS.

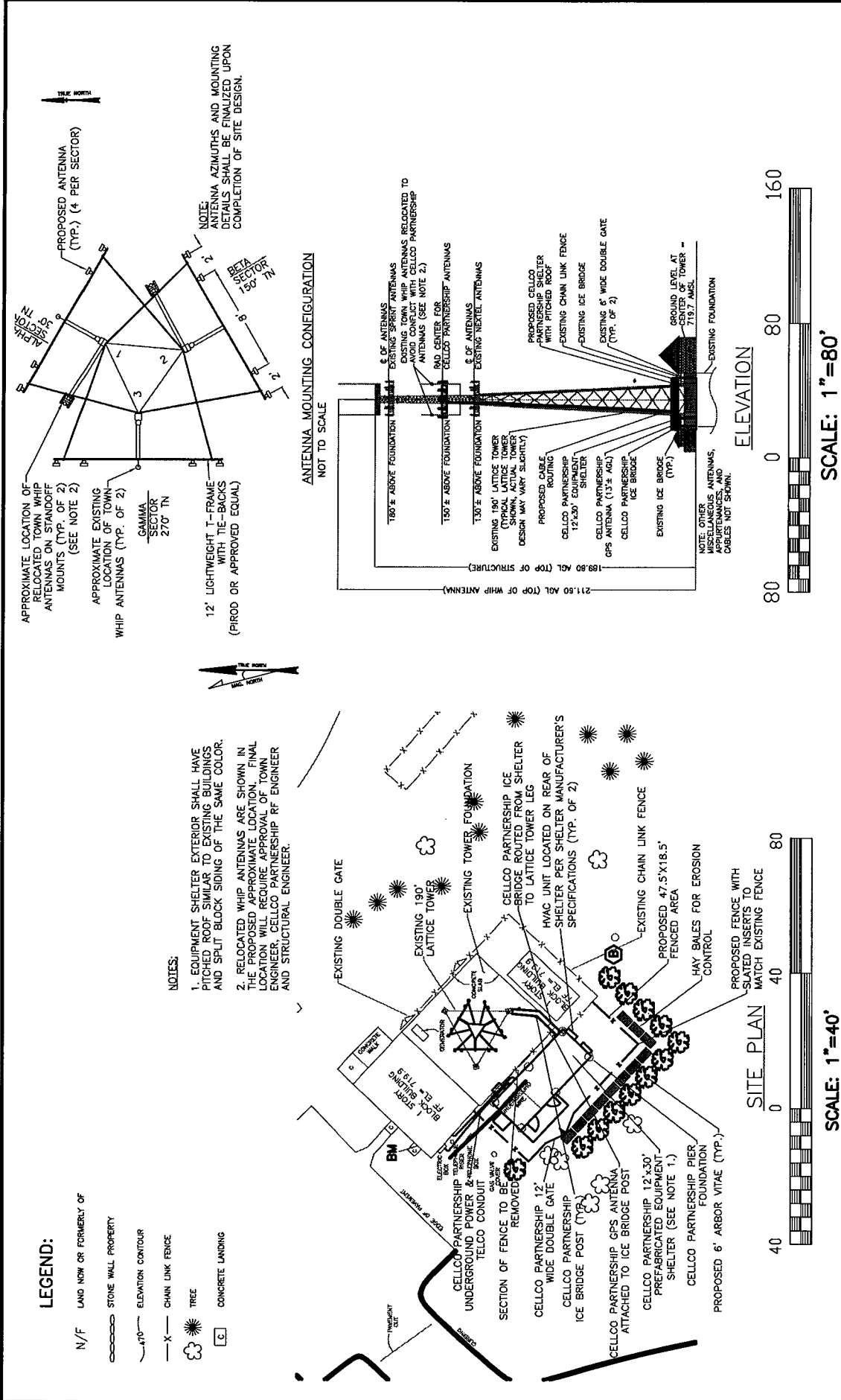
No.	DATE	By	Description
2	5/27/04	RRC	REVISED
1	5/13/04	EAE	UPDATE FROM S.C.
0	02/24/04	JSG	FINAL S.C.
A	02/17/04	WLC	PRELIM S.C.

Dewberry-Goodkind, Inc.
A Dewberry Company
59 Elm Street, Suite 101
New Haven, CT 06510
P. (203) 776-2277
F. (203) 776-2288
Engineers
Planners
Surveyors

SCALE: AS SHOWN
DESIGNED BY: EAE
DATE: 05/11/04

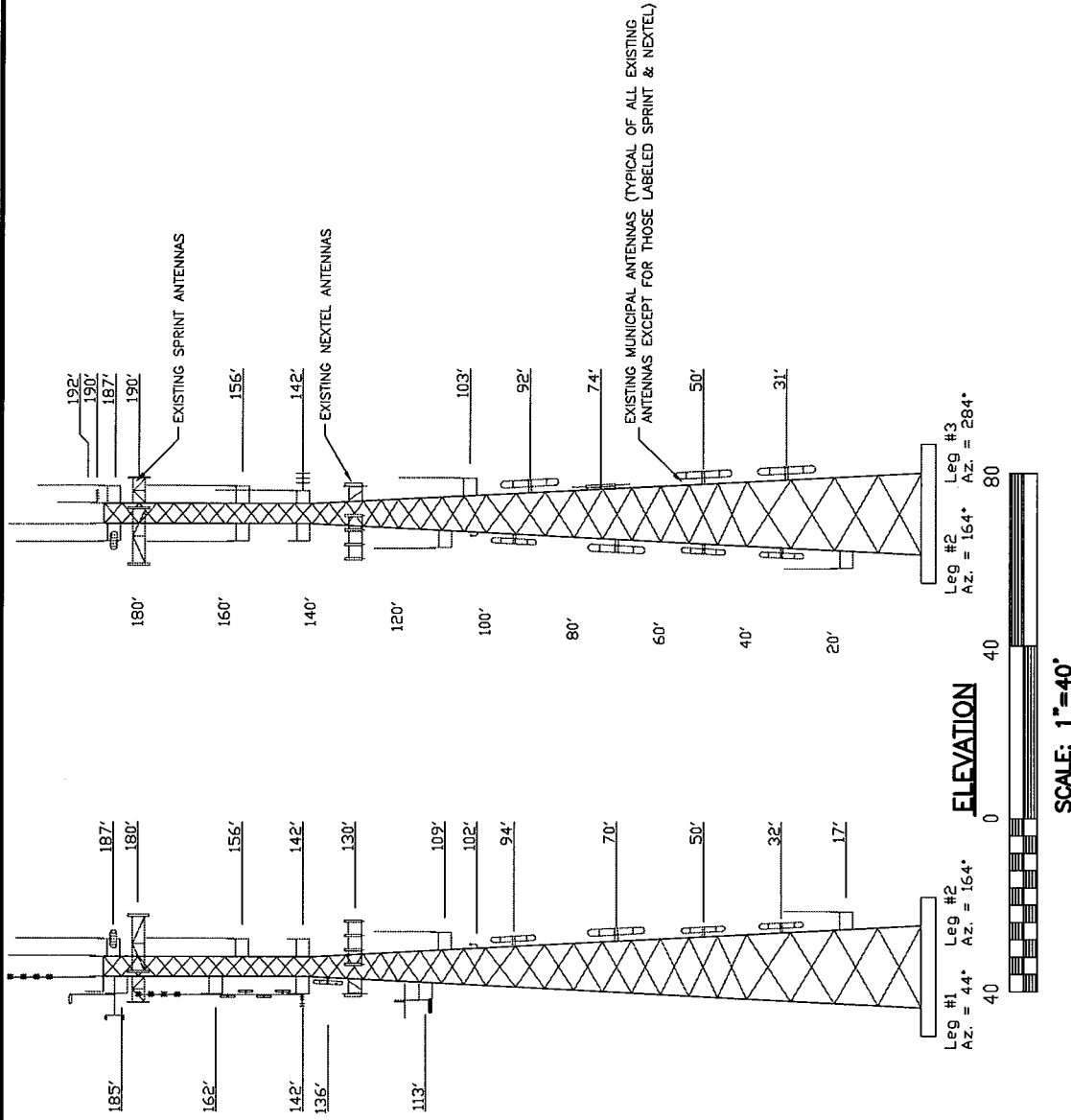
TITLE SHEET
SITE NAME: **COVENTRY EAST**
1776 MAIN STREET
COVENTRY, CONNECTICUT

Cellco Partnership
d.b.a. *verizon* wireless
SHEET NO. **T1**



2	5/27/04	RRC	REVISED	Dewberry-Goodkind, Inc. A Dewberry Company 59 Elm Street, Suite 101 New Haven, CT 06510 P: (203) 776-2277 F: (203) 776-2288	SCALE: AS SHOWN DESIGNED BY: EAE DATE: 05/11/04	Cellco Partnership d.b.a. verizon wireless	COMPOUND PLAN & TOWER ELEVATION	SHEET NO. SC1
1	5/13/04	EAE	UPDATE FROM S.C.					
0	02/24/04	JSG	FINAL S.C.					
A	02/17/04	WLC	PRELIM S.C.					
No.	DATE	By	Description	SITE NAME: COVENTRY EAST 1776 MAIN STREET COVENTRY, CONNECTICUT				

Q:\3649\06-Coventry\cadd\cell\Siting Council\2004518\SC2.dwg
Thu, May 27 2004 1:53:09pm



NOTE:
THE INFORMATION SHOWN ON THIS PAGE WAS PROVIDED TO
DEWBERRY BY ROBERT ADAIR, P.E. OF ALL POINTS
TECHNOLOGY CORP.

2		5/27/04	RRC	REVISED	Dewberry-Goodkind, Inc. A Dewberry Company 59 Elm Street, Suite 101 New Haven, CT 06510 p. (203) 776-2277 f. (203) 776-2288	SCALE: AS SHOWN DESIGNED BY: EAE DATE: 05/11/04	EXISTING ANTENNA MAPPING	Cellco Partnership d.b.a. verizon wireless
1		5/13/04	EAE	UPDATE FROM S.C.				
0		02/24/04	JSG	FINAL S.C.				
A		02/17/04	WLC	PRELIM S.C.				
No.	DATE	By	Description	SITE NAME: COVENTRY EAST 1776 MAIN STREET COVENTRY, CONNECTICUT		SHEET NO. SC2		

General Power Density

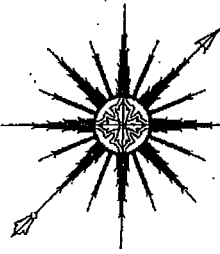
Site Name: Coventry East
 Tower Height: VZW @ 150 FT

Operator	Operating Frequency (MHz)	Number of Trans.	ERP Per Trans. (watts)	Total ERP (watts)	Distance to Target (feet)	Calculated Power Density (mW/cm ²)	Maximum Permissible Exposure* (mW/cm ²)	Fraction of MPE (%)
Verizon	880	9	200	1800	150	0.0288	0.56733	5.07%
Verizon	1900	3	285	855	150	0.0137	1	1.37%
Sprint	1900	11	200	2200	180	0.0244	1	2.44%
Nextel	851	12	100	1200	130	0.0255	0.5673	4.50%
Total Percentage of Maximum Permissible Exposure								13.38%

*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

MHz = Megahertz
 mW/cm² = milliwatts per square centimeter
 ERP = Effective Radiated Power





ALL-POINTS TECHNOLOGY CORPORATION, P.C.

June 3, 2004

Verizon Wireless
99 East River Drive, 9th Floor
East Hartford, CT 06108

Attn: Wayne Lukachek
Re: 190' ROHN Model SSV Tower
Coventry, Connecticut

Dear Wayne,

All-Points Technology Corporation, P.C. performed a structural analysis of the 190' ROHN Model SSV tower located at the Town Hall in Coventry, Connecticut for Verizon Wireless' proposed antenna array. Our analysis, dated March 4, 2004, indicated the tower could accommodate the proposed array.

Subsequent to completion of the analysis, it was determined that rotation or adjustment of existing antennas/mounts and removal of an unused sidearm currently installed near the proposed array may be necessary to provide clearance for Verizon's antennas. These changes are structurally acceptable and do not increase stresses on the tower.

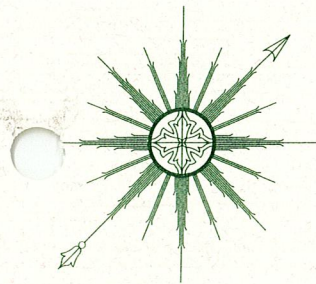
Please feel free to call if you have any questions.

Sincerely,
All-Points Technology Corporation, P.C.

Robert E. Adair, P.E.
Principal

CTI41370 Coventry ltr 6-3-04.doc





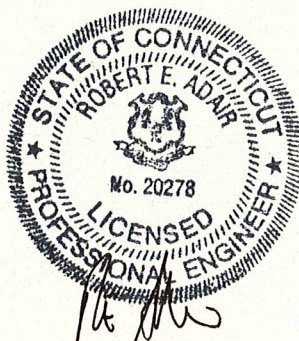
ALL-POINTS TECHNOLOGY CORPORATION, P.C.

**STRUCTURAL ANALYSIS REPORT
190' SELF-SUPPORTING TOWER
COVENTRY, CONNECTICUT**

Prepared for
Verizon Wireless

Verizon Site: Coventry East

March 4, 2004



APT Project #CT141370

STRUCTURAL ANALYSIS REPORT
of
190' SELF-SUPPORTING TOWER
COVENTRY, CONNECTICUT
prepared for
Verizon Wireless

EXECUTIVE SUMMARY:

All-Points Technology Corporation, P.C. (APT) performed a condition assessment and structural analysis of this 190-foot ROHN self-supporting tower. The analysis was performed with the addition of the following:

- Six DB844F90 and six DB948F85 panel antennas on three 12' sector mounts at 150'. Waveguide cables are to be twelve 1-5/8" cables.

Our analysis indicates the tower and foundation are capable of supporting the proposed antennas. Waveguide cables must be installed behind an existing waveguide ladder.

INTRODUCTION:

A condition assessment and structural analysis was performed on the above-mentioned communications tower by APT for Verizon Wireless. The tower is located at the Town Hall in Coventry, Connecticut.

The structure is a 190-foot, galvanized steel, self-supporting Model SSV tower manufactured by ROHN. It is a three-legged structure with tubular steel legs and angle steel X-bracing.

Robert E. Adair, P.E. visited the tower site on February 17, 2004 to record information regarding physical and dimensional properties of the structure and its appurtenances. Mr. Adair climbed the structure in its entirety to compile data necessary to perform the structural analysis. The analysis also relied on ROHN tower and foundation drawings provided by Verizon Wireless

The analysis was performed in accordance with EIA/TIA-222-F using the following antenna inventory (proposed antennas shown in **bold** text):

All-Points Technology Corporation

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

3 Saddlebrook Drive
Killingworth, CT 06419
(860) 663-1697

Antenna	Elev.	Leg	Mount	Coax.
(2) Obstruction lights	192'	3	Leg	Romex
PD1142-3 omni whip	192'	3	Pipe extension	1-1/4"
DB420 16-bay dipole	192'	1	Pipe extension	1-1/4"
ASP705 20' omni whip	192'	2	Pipe extension	7/8"
3' yagi	190'	3	Pipe extension	7/8"
4' omni whip	190'	1	4' standoff	1/4"
Paraflector grid	187'	2	4' sidearm	7/8"
ASP705 20' omni whip	187'	2	On above sidearm	7/8"
PD1142-2A whip	187'	3	4' sidearm	1/2"
Halo; double halo	185'	1	4' sidearm	7/8", 1/2"
(6) DB980H90 panels	180'	All	(3) 14' sector mounts	(6) 1-5/8"
DB420 16-bay dipole	162'	1	4' sidearm	7/8"
ASP705 20' omni whip	156'	2	4' sidearm	7/8"
ASP705 20' omni whip	156'	3	4' sidearm	7/8"
(6) DB844F90, (6) DB948F85	150'	All	(3) 12' sector mounts	(12) 1-5/8"
DB264 4-bay dipole	142'	1	4' sidearm	7/8"
DB436 yagi	142'	1	On above sidearm	1/2"
Empty 4' sidearm	142'	2	N.A.	None
DB230 yagi	142'	3	4' sidearm	1/2"
18' omni whip	142'	3	On above sidearm	7/8"
Single dipole	136'	1	Leg	1/2"
(12) DB844H90 panels	130'	All	(3) 10' sector mounts	(12) 1-1/4"
PD128 ground plane omni	113'	1	4' sidearm	1/2"
Astron horizontal omni	113'	1	On above sidearm	1/2"
14' omni whip	109'	2	4' sidearm	7/8"
14' omni whip	103'	3	4' sidearm	7/8"
GPS	102'	2	1' standoff plate	1/2"
DB212 single dipole	94'	2	Leg	1/2"
Large single dipole	92'	3	Leg	7/8"
PD320 single dipole	74'	3	Leg	7/8"
Large single dipole	70'	2	Leg	1/2"
DB212 single dipole	50'	2	Leg	1/2"
Large single dipole	50'	3	Leg	1/2"
DB212 single dipole	32'	2	Leg	1/2"
Large single dipole	31'	3	Leg	1/2"
PD400 12' omni whip	17'	2	4' sidearm	1/2"

All-Points Technology Corporation

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

3 Saddlebrook Drive
 Killingworth, CT 06419
 (860) 663-1697

CONDITION ASSESSMENT:

- **General Condition:** The tower, a galvanized steel structure, appeared to be in excellent condition. No signs of movement or overstress of the tower were noted.
- **Connections of Lattice Bracing:** Connections were visually inspected to the maximum extent practicable. All connections that were observed appeared to be sound, with no loose or missing bolts noted.
- **Antenna Connections:** Antenna mounting hardware was in good condition, with corrosion-resistant hardware and galvanized members prevalent.
- **Splice Connections:** Connections were visually inspected to the maximum extent practicable. All splice connections appeared to be in good condition.
- **Base Foundations:** Visible concrete appeared to be in good condition. No evidence of movement or failure was observed.

STRUCTURAL ANALYSIS:

Methodology: The structural analysis was done in accordance with EIA/TIA-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-inch of radial ice over the entire structure and all appurtenances. The EIA/TIA Standard requires a minimum wind speed of 85 miles per hour for Tolland County, Connecticut.

The tower was analyzed by calculating the resultant wind loading and associated maximum bending moments, shear forces, and axial loads. The moments and forces were used to calculate stresses in leg and bracing members, which were compared to allowable stresses according to AISC.

Two loading conditions were evaluated in accordance with EIA/TIA-222-F to determine tower capacity. The more demanding of the two cases is used to calculate tower capacity:

All-Points Technology Corporation

150 Old Westside Road
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(860) 663-1697

- Case 1 = Wind Load (without ice) + Tower Dead Load
- Case 2 = 0.75 Wind Load (with ice) + Ice Load + Tower Dead Load

In addition, the TIA/EIA standard 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 when computing the load capacity values shown below.

Analysis: Analysis of the tower was conducted in accordance with the criteria outlined herein with antennas as previously described. Our analysis determined the existing tower is capable of supporting the proposed antennas.

The following table summarizes the results of the analysis based on compressive stresses of leg members:

Elevation	Capacity
0-20'	73%
20'-40'	89%
40'-60'	90%
60'-80'	91%
80'-100'	80%
100'-120'	86%
120'-140'	88%
140'-160'	82%
160'-180'	63%
180'-190'	15%

Bracing Members:

Bracing is installed in an X-brace configuration, with each compression member paired with a corresponding tension member. Bracing was evaluated by calculating allowable compression and tension capacities and assessing each tower section's ability to resist calculated shear forces. Bracing members were found to be adequately sized for the proposed loads.

Splice and Anchor Bolts:

Splice and anchor bolts were evaluated under the proposed loading. All bolts were found to be adequately sized for the proposed loads.

All-Points Technology Corporation

150 Old Westside Road
North Conway, NH 03860
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(860) 663-1697

Base Foundation:

Evaluation of the existing foundation was performed from ROHN drawings provided. The mat foundation was found to be adequately sized for the additional loads.

Base reactions imposed with the additional antennas were calculated as follows:

Uplift:	220.0 kips
Compression:	246.9 kips
Total Shear:	37.6 kips
Overturning Moment:	3797 ft-kips

CONCLUSIONS AND RECOMMENDATIONS:

Our structural analysis indicates the 190-foot ROHN self-supporting tower located on in Coventry, Connecticut is capable of supporting Verizon Wireless's proposed antenna loading.

Waveguide cables must be installed on the back side of an existing waveguide ladder to minimize wind load.

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 tower members were properly designed, detailed, fabricated, and installed and have been properly maintained since erection.

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:

All-Points Technology Corporation

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

3 Saddlebrook Drive
Killingworth, CT 06419
(860) 663-1697

1. Replacing or reinforcing bracing members.
2. Reinforcing leg members in any manner.
3. Installing antenna mounts or side arms.
4. 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 is contrary to that which is contained herein, or you are aware of any defects arising from the original design, material, fabrication and 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.

All-Points Technology Corporation

150 Old Westside Road
North Conway, NH 03860
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3 Saddlebrook Drive
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(860) 663-1697

Appendix A

Tower Drawings

TOWER DESIGN LOADS

DESIGN WIND LOAD PER ANS/ETA-1.991, 90 MPH BASIC WIND SPEED CONCURRENT WITH 1/2" RADIAL WIND LOAD. THIS TOWER IS DESIGNED TO SUPPORT THE FOLLOWING LOADS:

ELEVATION (FT)	ANTENNA TYPE	E.P.A. (SF) W/ICE	LINE SIZE (NOM)
TOP	(3) DB809 ANTENNAS W/(3) STUB MOUNTS	21.0 (TOTAL)	(3) 7/8" (TOTAL)
189	(1) ASP705, (1) T1900 & (2) PD1142 ANTENNAS W/(4) 3" SIDE ARMS	25.0 (TOTAL)	(2) 7/8" & (2) 1/2" (TOTAL)
165	(1) ASP701 ANTENNA & (2) PD458 ANTENNAS W/(3) 3" SIDE ARMS	29.0 (TOTAL)	(3) 7/8" (TOTAL)
141	(1) PD1142, (1) DP499 & (2) DB264 ANTENNAS W/(4) 3" SIDE ARMS	32.0 (TOTAL)	(4) 1/2" (TOTAL)
117	(1) PD128 ANTENNA & (3) PD1142 ANTENNAS W/(4) 3" SIDE ARMS	48.0 (TOTAL)	(4) 1/2" (TOTAL)
93	(3) PD320 ANTENNAS W/(3) 3" SIDE ARMS	22.0 (TOTAL)	(3) 1/2" (TOTAL)
90	(1) DB230 ANTENNA & (1) DB499 ANTENNA EACH LEG MOUNTED	12.0 (TOTAL)	(2) 1/2" (TOTAL)

SEE STRESS ANALYSIS FOR A COMPLETE LISTING OF ALL LOADS ON TOWER

SECTION MEMBER SCHEDULE

SECTION	LEG	BRACE
SIZE	BOLTED LANCE CONNECTION NO.	SIZE
6A	PIPE 2 STD	L 1.75X3/16
6B	PIPE 2 STD	L 1.75X3/16
7	PIPE 3 E.H.	L 1.75X3/16
8	PIPE 3 E.H.	L 1.75X3/16
9	PIPE 3 E.H.	L 2.5X3/16
11	PIPE 6 E.H.	L 3X3/1/4
12	PIPE 6 E.H.	L 3X3/1/4
13	PIPE 6 E.H.	L 3X3/1/4

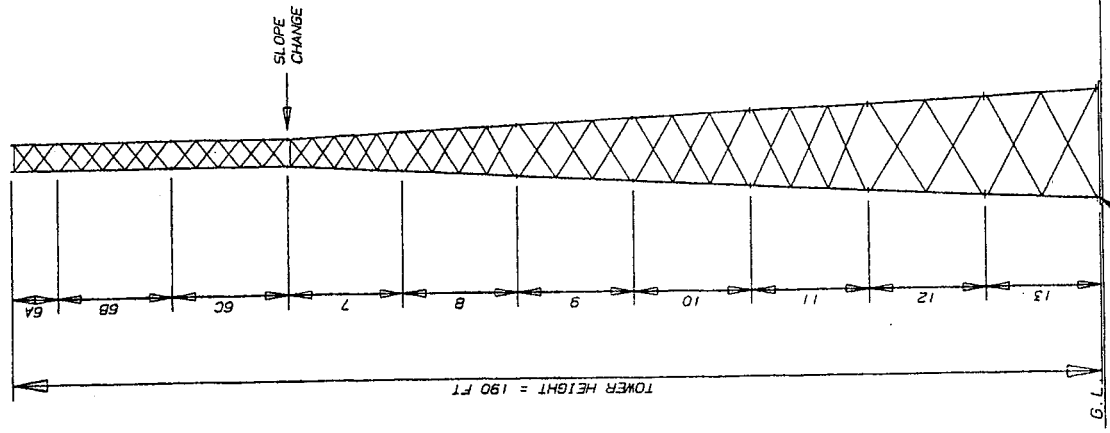
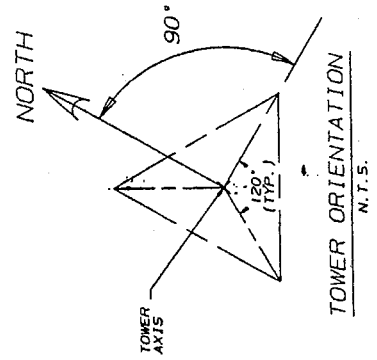
NOTE: SECTION MEMBERS ARE FOR REFERENCE ONLY FOR NOMINAL FACE WIDTH DIMENSIONS, REFER TO STRESS ANALYSIS.

GENERAL NOTES

1. ROHN COMMUNICATION TOWER DESIGNS CONFORM TO E.I.A. -222-E UNLESS OTHERWISE SPECIFIED UNDER TOWER DESIGN LOADING.
2. THE DESIGN LOADING CRITERIA INDICATED HAS BEEN PROVIDED TO BE ROHN. THE DESIGN LOADING CRITERIA HAS BEEN ASSUMED TO BE BASED ON SITE-SPECIFIC DATA IN ACCORDANCE WITH ANS/ETA-222-E AND MUST BE VERIFIED UNDER THE TOWER DESIGN LOADING TABLE ARE PROVIDED BY OTHERS UNLESS OTHERWISE SPECIFIED.
3. TOWER MEMBER DESIGN DOES NOT INCLUDE STRESSES DUE TO ERECTION STAGE ERECTION EQUIPMENT AND CONDITIONS ARE UNKNOWN. DESIGN ASSUMES COMPETENT AND QUALIFIED PERSONNEL WILL ERECT THE TOWER.
4. WORK SHALL BE IN ACCORDANCE WITH E.I.A. -222-E. STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES. YIELD STRENGTH OF STRUCTURAL STEEL MEMBERS SHALL BE 50 KSI EXCEPT AS NOTED BELOW.
5. ANGLE BRACES L1.75X3/16 THRU L 2.5X3/16 SHALL BE 36 KSI. STRUCTURAL PLATES SHALL BE 36 KSI.
6. FIELD CONNECTIONS SHALL BE BOLTED. NO FIELD WELDS SHALL BE ALLOWED.
7. STRUCTURAL BOLTS SHALL CONFORM TO ASTM A-325, EXCEPT WHERE NOTED.
8. PAIL BOLTS SHALL BE PROVIDED FOR ALL TOWER BOLTS.
9. STRUCTURAL STEEL FABRICATION SHALL BE HOT-DIPPED GALVANNEAL AFTER FABRICATION IN ACCORDANCE WITH E.I.A. -222-E.
10. ALL HIGH STRENGTH BOLTS ARE TO BE TIGHTENED TO A "SNUGTIGHT" CONDITION AS DEFINED IN THE NOVEMBER 13, 1985, AISC "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS".
11. PURCHASER SHALL VERIFY THE INSTALLATION IS IN CONFORMANCE WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS FOR OBSTRUCTION MARKING AND LIGHTING.
12. TOLERANCE ON TOWER STEEL HEIGHT IS EQUAL TO PLUS 1/4" OR MINUS 1/2".
13. DESIGN ASSUMES THAT, AS A MINIMUM, MAINTENANCE AND INSPECTION WILL BE PERFORMED OVER THE LIFE OF THE STRUCTURE IN ACCORDANCE WITH E.I.A. -222-E.
14. TOWER ORIENTATION PROVIDED BY THE CUSTOMER.
15. DESIGN ASSUMES THAT ANTENNA TRANSMISSION LINES AND WAVEGUIDE LADDERS ARE EVENLY DISTRIBUTED OVER TWO TOWER FACES.
16. DESIGN ASSUMES ALL ANTENNAS ARE MOUNTED SYMMETRICALLY TO MINIMIZE TORQUE.
17. ROHN-LOC SAFETY DEVICE SHALL BE PROVIDED FOR CLIMBING THE ENTIRE HEIGHT OF THE TOWER.
18. TWO 15-HOLE WAVEGUIDE LADDERS SHALL BE PROVIDED FROM 10' TO TOP OF TOWER.
19. FOR FOUNDATION DETAILS, SEE DRAWING NUMBER A962579.

TUBULAR MEMBER PROPERTIES

MEMBER	O.D. (IN)	THICK. (IN)
PIPE 2 STD	2.375	0.154
PIPE 2 STD	2.875	0.203
PIPE 3 E.H.	3.500	0.300
PIPE 3 E.H.	4.000	0.317
PIPE 4 E.H.	5.000	0.375
PIPE 6 E.H.	6.625	0.432
PIPE 6 E.H.	6.750	0.375



TOWER REACTIONS

COMPRESSION	= 267.0 KIPS
TENSION	= 240.6 KIPS
TOTAL SHEAR	= 4123.5 FT-KIPS
O.T.M.	

ROHN

190' SSV TOWER DESIGN FOR COMMUNICATIONS & ELECTRONICS

TOWER SITE: COVENTRY TOWN HALL
COUNTY: TOLLAND, CT

Title: 190' SSV TOWER DESIGN FOR COMMUNICATIONS & ELECTRONICS

ENG. FILE: 33814PH DRAWING NO.: A962578

No.	Revision Description	Date
1	AS BUILT	07/24/96

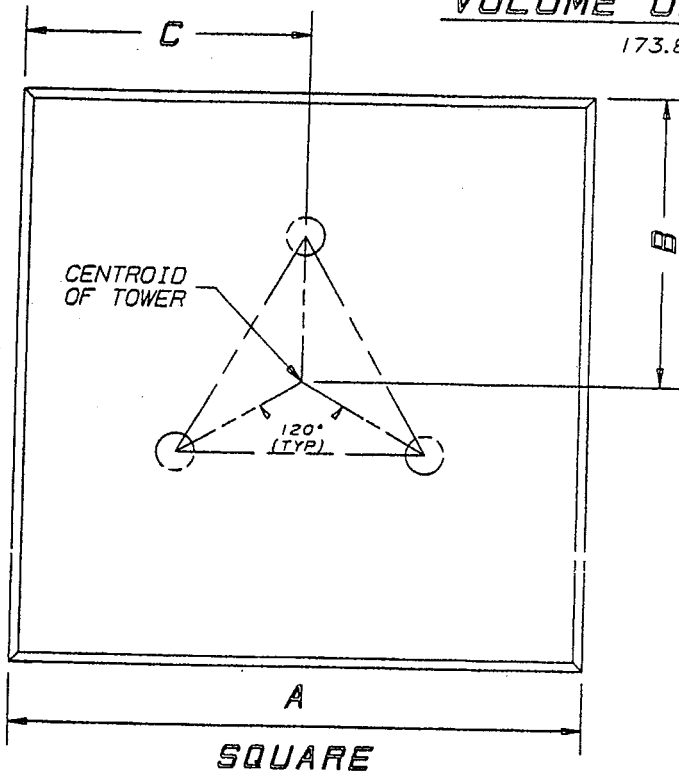
THIS DRAWING IS THE PROPERTY OF ROHN. IT IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS WITHOUT OUR WRITTEN CONSENT.

Scale: NONE
 Drawn: DLB
 Checked: [Signature]
 App. Eng.: [Signature]
 App. Sales: [Signature]

NOTE: SEE TOWER ASSEMBLY DRAWING FOR FOUNDATION LAYOUT AND ANCHORAGE EMBEDMENT DRAWING NUMBER.

VOLUME OF CONCRETE

173.8 CUBIC YARDS -



DIMENSIONS	
A	32'-0"
B	16'-0"
C	16'-0"
D	4'-6"
E	4'-0"
F	1'-9"
G	2'-8"

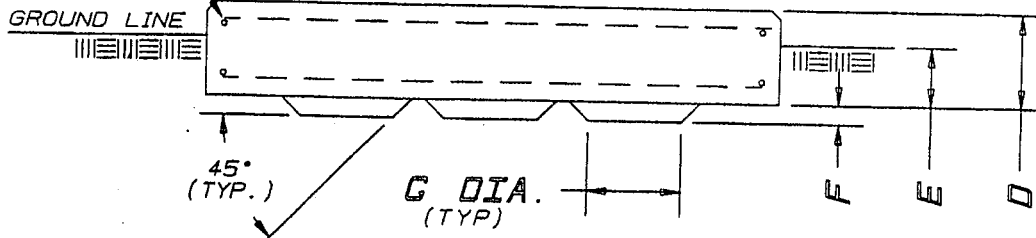
SQUARE

PLAN

REACTIONS

MAXIMUM O.T.M. = 4129.5 FT.-KIPS -
 TOTAL TOWER WT. = 36.0 KIPS -
 TOTAL SHEAR = 42.4 KIPS -
 MAX. SHEAR/LEG = 28.3 KIPS -
 MAX. TEN./LEG = 240.6 KIPS -
 MAX. COMP./LEG = 267.0 KIPS -

(33) NO. 7 HORIZ. BARS
 EQUALLY SPACED EACH WAY,
 TOP & BOTTOM
 (132 TOTAL).

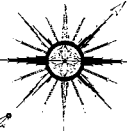


ELEVATION

TOWER SITE: COVENTRY TOWN HALL, CT -

SHEET 1 OF 3

No. ▲ Revision Description			▲ Date ▲ Rev By ▲ Ckd By ▲ Appd By		
THIS DRAWING IS THE PROPERTY OF ROHN. IT IS NOT TO BE REPRODUCED, COPIED OR TRACED IN WHOLE OR IN PART WITHOUT OUR WRITTEN CONSENT.			ROHN		
Scale: NONE	By	Date	Title:		
Drawn: DLB	07/24/96		MAT FOUNDATION DETAILS FOR COMMUNICATIONS & ELECTRONICS		
Checked: PM	7-24-96				
App. Eng.: XK	7/25/96				
App. Sales:					
ENG. FILE: 33814PH			DRAWING NO.: A962579-1		



TOWER MAPPING

SHEET: 1 OF 2

SCALE: 1" = 30'

DRAWN BY: REA

DATE: 18 FEB 04

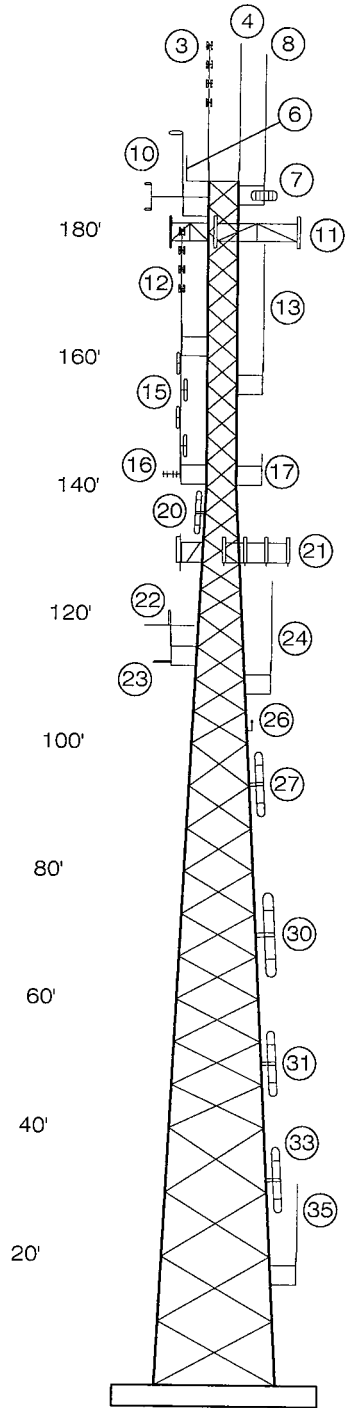
APT JOB #CT141370



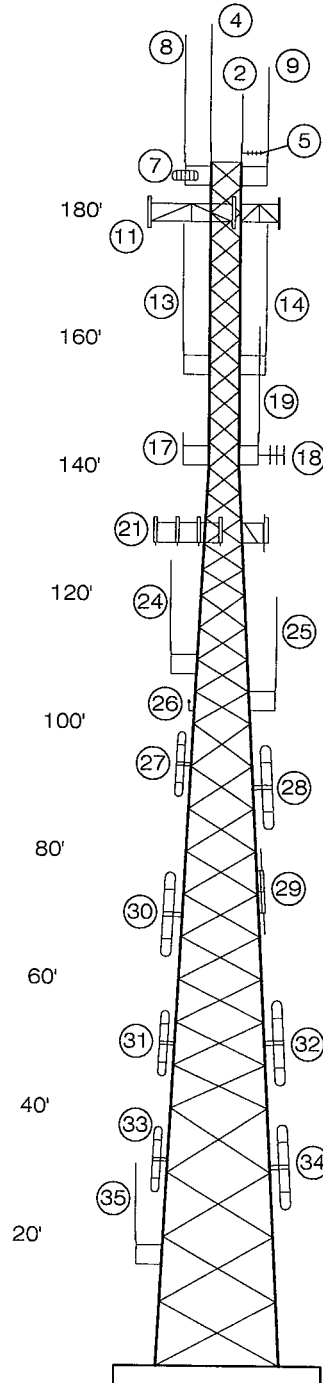
99 EAST RIVER DRIVE
 9TH FLOOR
 E. HARTFORD, CT 06108

Verizon Site #1700322173
 Coventry East

190' ROHN SSV TOWER
 COVENTRY, CONNECTICUT



Leg #1 Leg #2
 Az. = 44° Az. = 164°



Leg #2 Leg #3
 Az. = 164° Az. = 284°



ANTENNA LISTING

SHEET: 2 OF 2

SCALE: N.A.

DRAWN BY: REA

DATE: 18 FEB 04

APT JOB #CT141370


99 EAST RIVER DRIVE
9TH FLOOR
E. HARTFORD, CT 06108Verizon Site #1700322173
Coventry East190' ROHN SSV TOWER
COVENTRY, CONNECTICUT

Antenna Inventory (as of February 17, 2004):

No.	Antenna	Elev.	Leg	Mount	Coax.
1	(2) Obstruction lights	192'	3	Leg	Romex
2	PD1142-3 omni whip	192'	3	Pipe extension	1-1/4"
3	DB420 16-bay dipole	192'	1	Pipe extension	1-1/4"
4	ASP705 20' omni whip	192'	2	Pipe extension	7/8"
5	3' yagi	190'	3	Pipe extension	7/8"
6	4' omni whip	190'	1	4' standoff	1/4"
7	Paraflector grid	187'	2	4' sidearm	7/8"
8	ASP705 20' omni whip	187'	2	On above sidearm	7/8"
9	PD1142-2A whip	187'	3	4' sidearm	1/2"
10	Halo; double halo	185'	1	4' sidearm	7/8", 1/2"
11	(6) DB980H90 panels	180'	All	(3) 14' sector mounts	(6) 1-5/8"
12	DB420 16-bay dipole	162'	1	4' sidearm	7/8"
13	ASP705 20' omni whip	156'	2	4' sidearm	7/8"
14	ASP705 20' omni whip	156'	3	4' sidearm	7/8"
15	DB264 4-bay dipole	142'	1	4' sidearm	7/8"
16	DB436 yagi	142'	1	On above sidearm	1/2"
17	Empty 4' sidearm	142'	2	N.A.	None
18	DB230 yagi	142'	3	4' sidearm	1/2"
19	18' omni whip	142'	3	On above sidearm	7/8"
20	Single dipole	136'	1	Leg	1/2"
21	(12) DB844H90 panels	130'	All	(3) 10' sector mounts	(12) 1-1/4"
22	PD128 ground plane omni	113'	1	4' sidearm	1/2"
23	Astron horizontal omni	113'	1	On above sidearm	1/2"
24	14' omni whip	109'	2	4' sidearm	7/8"
25	14' omni whip	103'	3	4' sidearm	7/8"
26	GPS	102'	2	1' standoff plate	1/2"
27	DB212 single dipole	94'	2	Leg	1/2"
28	Large single dipole	92'	3	Leg	7/8"
29	PD320 single dipole	74'	3	Leg	7/8"
30	Large single dipole	70'	2	Leg	1/2"
31	DB212 single dipole	50'	2	Leg	1/2"
32	Large single dipole	50'	3	Leg	1/2"
33	DB212 single dipole	32'	2	Leg	1/2"
34	Large single dipole	31'	3	Leg	1/2"
35	PD400 12' omni whip	17'	2	4' sidearm	1/2"

Appendix B

Photographs

VERIZON WIRELESS
190' SELF-SUPPORTING TOWER
COVENTRY, CONNECTICUT

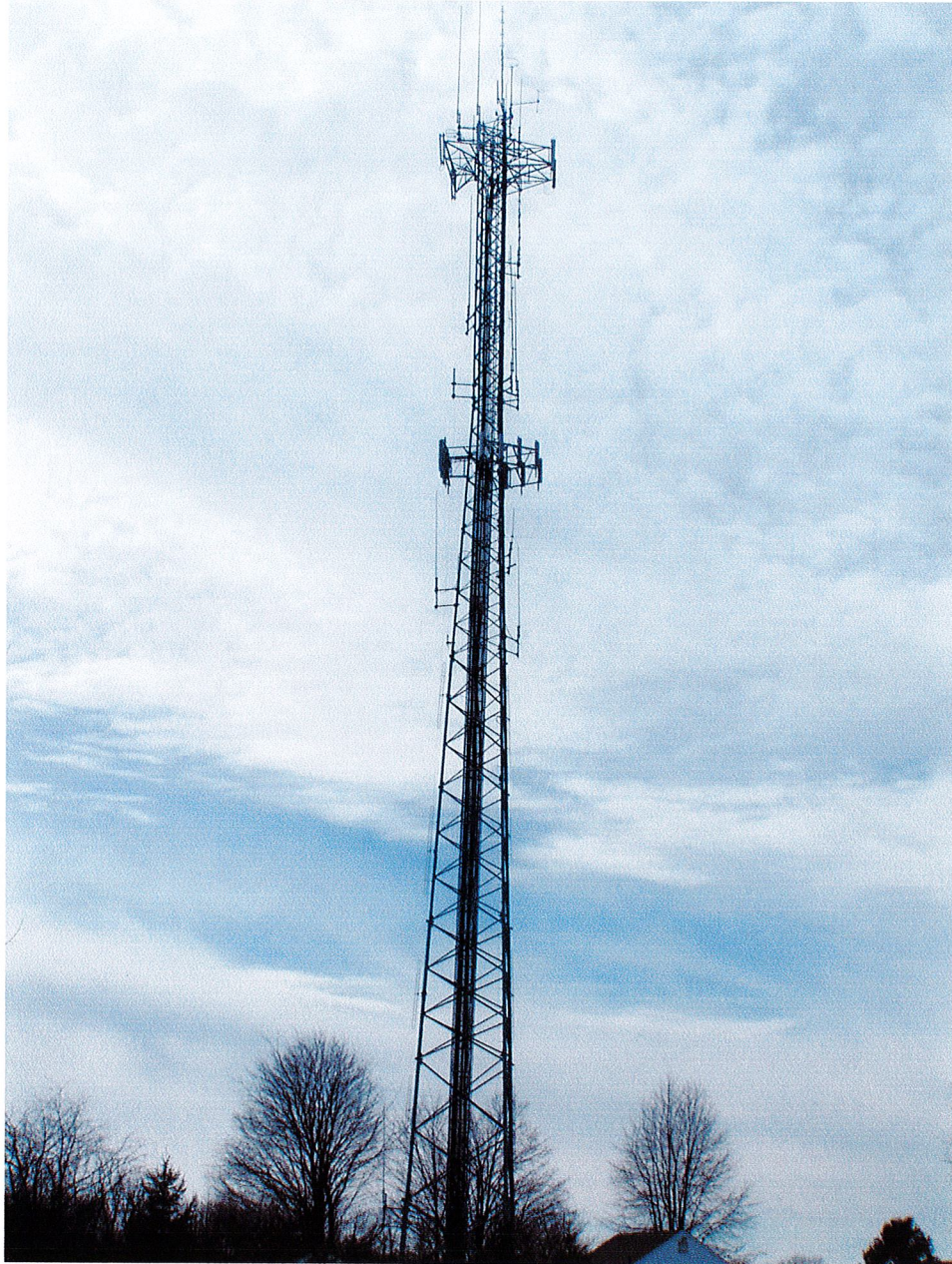
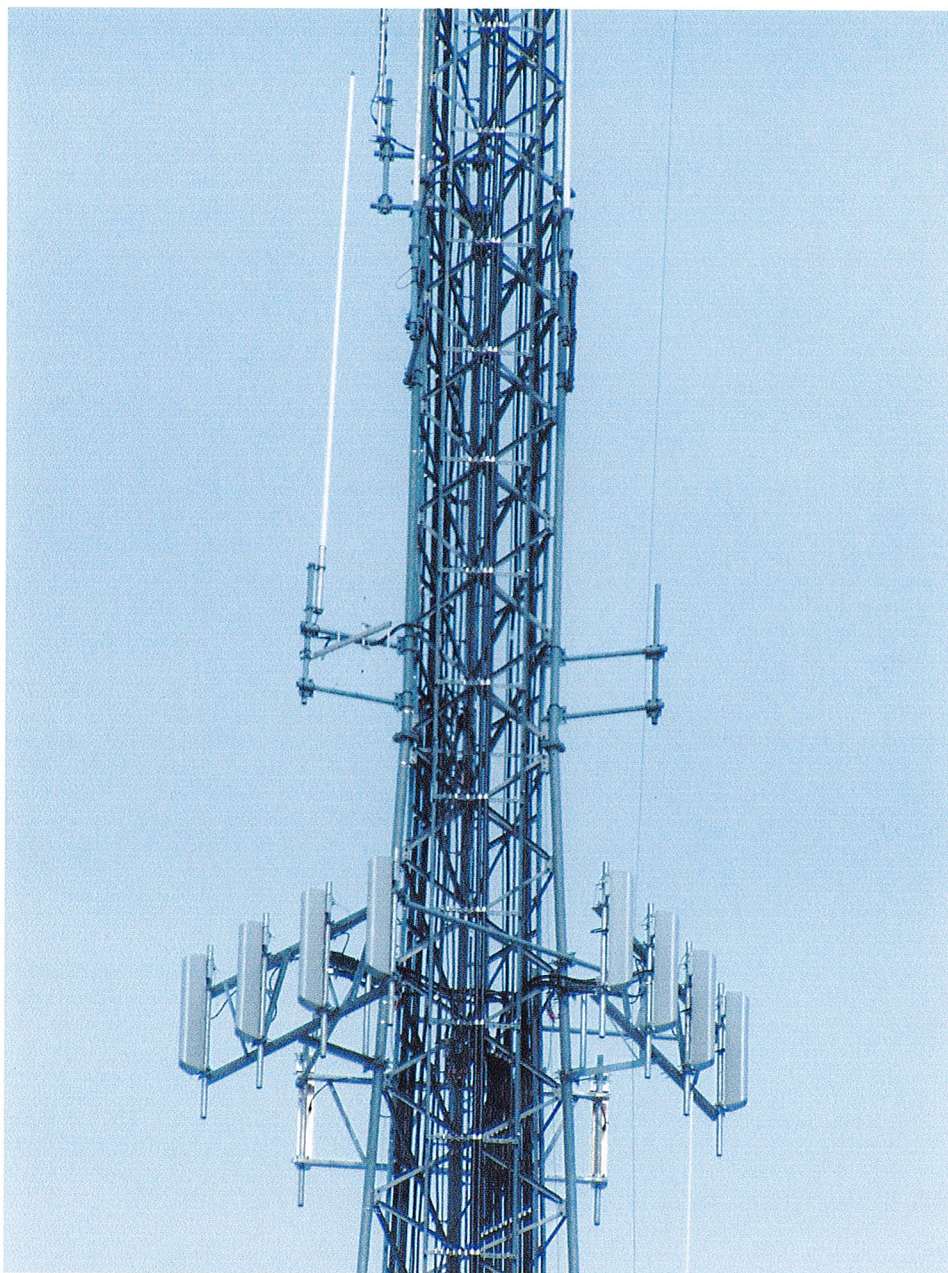


Photo showing overview of 190' ROHN
Model SSV self-supporting tower.

VERIZON WIRELESS
190' SELF-SUPPORTING TOWER
COVENTRY, CONNECTICUT



Telephoto view of existing antennas from 120' to 165'.

Appendix C

Calculations

All-Points Technology Corp., P.C.

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

Client: **Verizon Wireless**
Job: **Coventry East, CT**
Calculated By: **R. Adair**

Job No.: **CT141370**
Date: **19-Feb-04**

General Information

Tower Manufacturer ROHN
Tower Type SSV
Total Height of Tower 190 ft.
Wind Speed EIA-TIA Tolland County 85 mph.
Radial Ice 0.5 in.
25% Reduction for wind load w/ice yes (yes or no)
1/3 increase for allowable loads yes (yes or no)
Number of faces 3 faces

Antenna Force 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 $Cr=((Ca^2)+(Cs^2))^{(1/2)}$

$Gh=.65+.60/(h/33)^{(1/7)} =$

$Gh= 1.12$

V as specified EIA-222-F

Fy 50 ksi
E (Modulus of Elasticity) 29000 ksi
Fb 0.6
K 1

Section No.	Section Length	Leg Spread @ Base of section	Leg Size (Description)	Data Ref	Width of Leg to Wind	Leg Properties		
						Area	r _z	Unbraced Lengths
1	20	18.99	8" EHS	53.00	8.75	9.87	2.96	120.00
2	20	16.99	6" X-Str.	50.00	6.63	8.40	2.19	120.00
3	20	14.85	6" EHS	49.00	6.63	6.71	2.23	80.00
4	20	12.92	5" X-Str.	44.00	5.56	6.11	1.84	80.00
5	20	10.83	5" X-Str.	44.00	5.56	6.11	1.84	80.00
6	20	8.83	4" X-Str.	37.00	4.50	4.41	1.48	60.00
7	20	6.76	3 1/2" X-Str.	32.00	4.00	3.68	1.31	48.00
8	20	4.72	3" X-Str.	27.00	3.50	3.02	1.14	48.00
9	20	4.69	2 1/2" Std.	22.00	2.88	1.70	0.95	48.00
10	10	4.65	2" Std.	18.00	2.38	1.07	0.79	48.00
Top		4.65						
	190							

All-Points Technology Corp., P.C.

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

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 Job: **Coventry East, CT**
 Calculated By: **R. Adair**

Job No.: **CT141370**
 Date: **19-Feb-04**

Tower Summary

Section	1		type						
	Ag =	374	sf		z =	10	ft		
		Quantity Per Face	Length (ft.)	Width (in.)	Area (sf)	Area w/ ice	Wt. Per ft.	Wt. (lbs.) Tower	Wt. (lbs.) Ice
<u>Round Members</u>									
Leg		2	20.0	8.8	29.2	32.5	33.6	2015.1	338.9
<u>Flat Members</u>									
Diagonal		4	19.9	3.5	23.2	29.8	5.8	1381.8	741.2

Section	2		type						
	Ag =	329	sf		z =	30	ft		
		Quantity Per Face	Length (ft.)	Width (in.)	Area (sf)	Area w/ ice	Wt. Per ft.	Wt. (lbs.) Tower	Wt. (lbs.) Ice
<u>Round Members</u>									
Leg		2	20.0	6.6	22.1	25.4	28.6	1715.0	261.0
<u>Flat Members</u>									
Diagonal		4	18.2	3.0	18.2	24.3	4.9	1073.0	596.1

Section	3		type						
	Ag =	289	sf		z =	50	ft		
		Quantity Per Face	Length (ft.)	Width (in.)	Area (sf)	Area w/ ice	Wt. Per ft.	Wt. (lbs.) Tower	Wt. (lbs.) Ice
<u>Round Members</u>									
Leg		2	20.0	6.6	22.1	25.4	22.8	1370.0	261.0
<u>Flat Members</u>									
Diagonal		6	14.9	3.0	22.3	29.7	4.9	1309.8	727.7

Section	4		type						
	Ag =	247	sf		z =	70	ft		
		Quantity Per Face	Length (ft.)	Width (in.)	Area (sf)	Area w/ ice	Wt. Per ft.	Wt. (lbs.) Tower	Wt. (lbs.) Ice
<u>Round Members</u>									
Leg		2	20.0	5.6	18.5	21.9	20.8	1247.5	222.1
<u>Flat Members</u>									
Diagonal		6	13.2	2.5	16.4	23.0	3.1	726.9	552.5

All-Points Technology Corp., P.C.

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

Client: **Verizon Wireless**
 Job: **Coventry East, CT**
 Calculated By: **R. Adair**

Job No.: **CT141370**
 Date: **19-Feb-04**

Section	5		type						
	Ag =	206	sf	z =		90	ft		
		Quantity Per							
		Face	Length (ft.)	Width (in.)	Area (sf)	Area w/ ice	Wt. Per ft.	Wt. (lbs.) Tower	Wt. (lbs.) Ice
<u>Round Members</u>									
Leg		2	20.0	5.6	18.5	21.9	20.8	1247.5	222.1
<u>Flat Members</u>									
Diagonal		6	11.4	2.5	14.3	20.0	3.1	630.7	479.4

Section	6		type						
	Ag =	163	sf	z =		110	ft		
		Quantity Per							
		Face	Length (ft.)	Width (in.)	Area (sf)	Area w/ ice	Wt. Per ft.	Wt. (lbs.) Tower	Wt. (lbs.) Ice
<u>Round Members</u>									
Leg		2	20.0	4.5	15.0	18.3	15.0	900.4	183.2
<u>Flat Members</u>									
Diagonal		8	8.9	1.8	10.4	16.3	2.1	452.1	373.2

Section	7		type						
	Ag =	121	sf	z =		130	ft		
		Quantity Per							
		Face	Length (ft.)	Width (in.)	Area (sf)	Area w/ ice	Wt. Per ft.	Wt. (lbs.) Tower	Wt. (lbs.) Ice
<u>Round Members</u>									
Leg		2	20.0	4.0	13.3	16.7	12.5	751.3	164.9
<u>Flat Members</u>									
Diagonal		10	6.7	1.75	9.7	15.3	2.1	423.8	349.8

Section	8		type						
	Ag =	100	sf	z =		150	ft		
		Quantity Per							
		Face	Length (ft.)	Width (in.)	Area (sf)	Area w/ ice	Wt. Per ft.	Wt. (lbs.) Tower	Wt. (lbs.) Ice
<u>Round Members</u>									
Leg		2	20.0	3.5	11.7	15.0	10.3	616.6	146.5
<u>Flat Members</u>									
Diagonal		10	5.9	1.75	8.6	13.5	2.1	374.2	308.9
Horizontal		1	4.4	2.0	0.7	1.1	2.1	28.2	25.8

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Job No.: **CT141370**
 Date: **19-Feb-04**

<i>Section</i>	<i>9</i>	<i>type</i>							
	Ag = 98	sf		z = 170	ft				
	Quantity Per Face	Length (ft.)	Width (in.)	Area (sf)	Area w/ ice	Wt. Per ft.	Wt. (lbs.) Tower	Wt. (lbs.) Ice	
<u>Round Members</u>									
Leg	2	20.0	2.875	9.6	12.9	5.8	347.1	123.6	
<u>Flat Members</u>									
Diagonal	10	5.9	1.8	8.6	13.5	2.1	375.8	310.2	

<i>Section</i>	<i>10</i>	<i>type</i>							
	Ag = 48	sf		z = 185	ft				
	Quantity Per Face	Length (ft.)	Width (in.)	Area (sf)	Area w/ ice	Wt. Per ft.	Wt. (lbs.) Tower	Wt. (lbs.) Ice	
<u>Round Members</u>									
Leg	2	10.0	2.375	4.0	5.6	3.6	109.2	52.7	
<u>Flat Members</u>									
Diagonal	5	5.9	1.75	4.3	6.8	2.1	188.8	155.8	
Horizontal	1	4.5	2.0	0.7	1.1		0.0	26.0	

All-Points Technology Corp., P.C.
 150 Old Westside Road
 North Conway, NH 03860
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 Job: **Coventry East, CT**
 Calculated By: **R. Adair**

Job No.: **CT141370**
 Date: **19-Feb-04**

Proposed Wind Load Without Ice

Section	Midpoint Height	Areas			Factors				Kz	Qz	Gh	e	Cf	Wind Load	Section Length	Uniform Load
		Gross	Flats	Rounds	Aa	Df	Dr	Ca								
1	10	374.4	23.2	29.2	40.1	1	1	1.2	0.58	1.00	18.50	0.14	2.81	3403 lbs.	20	170 lbs/ft.
2	30	329.4	18.2	22.1	31.0	1	1	1.2	0.58	1.00	18.50	0.12	2.88	2918 lbs.	20	146 lbs/ft.
3	50	288.7	22.3	22.1	35.1	1	1	1.2	0.58	1.13	20.83	0.15	2.76	3466 lbs.	20	173 lbs/ft.
4	70	246.8	16.4	18.5	27.2	1	1	1.2	0.58	1.24	22.93	0.14	2.80	3286 lbs.	20	164 lbs/ft.
5	90	205.9	14.3	18.5	25.1	1	1	1.2	0.58	1.33	24.64	0.16	2.74	3322 lbs.	20	166 lbs/ft.
6	110	163.4	10.4	15.0	19.1	1	1	1.2	0.58	1.41	26.09	0.16	2.75	3050 lbs.	20	152 lbs/ft.
7	130	121.5	9.7	13.3	17.6	1	1	1.2	0.59	1.48	27.37	0.19	2.63	2720 lbs.	20	136 lbs/ft.
8	150	99.9	9.3	11.7	16.2	1	1	1.2	0.59	1.54	28.51	0.21	2.56	2391 lbs.	20	120 lbs/ft.
9	170	98.2	8.6	9.6	14.2	1	1	1.2	0.59	1.60	29.55	0.19	2.65	2349 lbs.	20	117 lbs/ft.
10	185	48.5	5.1	4.0	7.4	1	1	1.2	0.59	1.64	30.27	0.19	2.64	968 lbs.	10	97 lbs/ft.

Proposed Wind Load With Ice

Section	Midpoint Height	Areas			Factors				Kz	Qz	Gh	e	Cf	Wind Load	Section Length	Uniform Load
		Gross	Flats	Rounds	Ae	Ai	Df	Dr								
1	10	374.4	29.8	32.5	48.8	1	1	1.2	0.58	1.00	18.50	0.17	2.71	4181 lbs.	20	209 lbs/ft.
2	30	329.4	24.3	25.4	39.1	1	1	1.2	0.58	1.00	18.50	0.15	2.77	3685 lbs.	20	184 lbs/ft.
3	50	288.7	29.7	25.4	44.7	1	1	1.2	0.59	1.13	20.83	0.19	2.63	4360 lbs.	20	218 lbs/ft.
4	70	246.8	23.0	21.9	35.9	1	1	1.2	0.59	1.24	22.93	0.18	2.66	4236 lbs.	20	212 lbs/ft.
5	90	205.9	20.0	21.9	32.9	1	1	1.2	0.59	1.33	24.64	0.20	2.59	4270 lbs.	20	213 lbs/ft.
6	110	163.4	16.3	18.3	27.2	1	1	1.2	0.59	1.41	26.09	0.21	2.56	4066 lbs.	20	203 lbs/ft.
7	130	121.5	15.3	16.7	25.4	1	1	1.2	0.61	1.48	27.37	0.26	2.40	3672 lbs.	20	184 lbs/ft.
8	150	99.9	14.6	15.0	23.8	1	1	1.2	0.61	1.54	28.51	0.30	2.31	3293 lbs.	20	165 lbs/ft.
9	170	98.2	13.5	12.9	21.4	1	1	1.2	0.61	1.60	29.55	0.27	2.38	3280 lbs.	20	164 lbs/ft.
10	185	48.5	7.9	5.6	11.3	1	1	1.2	0.61	1.64	30.27	0.28	2.35	1385 lbs.	10	138 lbs/ft.

All-Points Technology Corp., P.C.

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

Client: **Verizon Wireless**
 Job: **Coventry East, CT**
 Calculated By: **R. Adair**

Job No.: **CT141370**
 Date: **19-Feb-04**

Uplift Due to Moment Minus 1/3 Dead & Ice Loads

Elev.	Existing			Proposed		
	W _o -DL	.75W _l -DL-I	W _l -DL-I	W _o -DL	.75W _l -DL-I	W _l -DL-I
0	200.4	198.6	269.4	220.0	216.9	293.8
20	190.2	190.9	258.5	209.2	208.6	282.2
40	172.4	174.1	235.5	190.8	191.3	258.4
60	151.7	154.1	208.3	169.0	170.3	229.8
80	132.3	135.3	182.7	148.3	150.3	202.7
100	102.3	104.3	140.9	116.3	117.4	158.4
120	89.6	93.2	125.7	100.6	103.5	139.4
140	69.1	72.6	97.7	74.4	77.5	104.3
160	29.0	30.4	41.2	29.0	30.4	41.2
180	3.5	3.9	5.4	3.5	3.9	5.4

Tension in Bolts

Elev.	# of Bolts	Existing			Proposed		
		W _o -DL	.75W _l -DL-I	W _l -DL-I	W _o -DL	.75W _l -DL-I	W _l -DL-I
0	8	25.05	24.82	33.68	27.50	27.11	36.73
20	8	23.77	23.86	32.31	26.15	26.08	35.27
40	6	28.74	29.01	39.25	31.80	31.88	43.07
60	6	25.28	25.68	34.71	28.16	28.38	38.30
80	4	33.06	33.82	45.68	37.08	37.57	50.68
100	4	25.57	26.06	35.22	29.09	29.35	39.60
120	4	22.40	23.30	31.43	25.16	25.87	34.86
140	4	17.29	18.14	24.43	18.60	19.37	26.07
160	4	7.26	7.60	10.30	7.26	7.60	10.30
180	4	0.88	0.98	1.35	0.88	0.98	1.35

Maximum Shear in Bolts

Elev.	Bolt Size (dia.)	Existing			Proposed		
		W _o	.75W _l	W _l	W _o	.75W _l	W _l
0	1	1.48	1.48	1.97	1.57	1.56	2.08
20	1	1.33	1.34	1.79	1.42	1.42	1.90
40	1	1.61	1.63	2.17	1.73	1.74	2.32
60	1	1.41	1.44	1.91	1.53	1.55	2.06
80	1	1.83	1.88	2.50	2.01	2.05	2.73
100	1	1.55	1.60	2.13	1.72	1.76	2.35
120	7/8	1.25	1.30	1.73	1.43	1.46	1.95
140	7/8	0.84	0.89	1.19	1.02	1.06	1.41
160	3/4	0.56	0.60	0.80	0.56	0.60	0.80
180	5/8	0.18	0.21	0.28	0.18	0.21	0.28

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Evaluation of Bracing Members

Center Bolted? Yes
 Yield Strength (F_y): 36 ksi $C_c = 126.1$

Section	Member	K Value	Length (ft.)	Area (in. ²)	r_x (in.)	r_z (in.)	kL/r_x	kL/r_z
1	L3.5 x 3.5 x 1/4	1.0	19.85	1.690	1.090	0.694	163.9	171.6
2	L3 x 3 x 1/4	1.0	18.25	1.440	0.930	0.592	176.6	184.9
3	L3 x 3 x 1/4	1.0	14.85	1.440	0.930	0.592	143.7	150.5
4	L2.5 x 2.5 x 3/16	1.0	13.15	0.902	0.778	0.495	152.2	159.5
5	L2.5 x 2.5 x 3/16	1.0	11.41	0.902	0.778	0.495	132.0	138.3
6	L1.75 x 1.75 x 3/16	1.0	8.89	0.621	0.537	0.343	148.9	155.4
7	L1.75 x 1.75 x 3/16	1.0	6.66	0.621	0.537	0.343	111.7	116.6
8	L1.75 x 1.75 x 3/16	1.0	5.88	0.621	0.537	0.343	98.6	102.9
9	L1.75 x 1.75 x 3/16	1.0	5.91	0.621	0.537	0.343	99.0	103.4
10	L1.75 x 1.75 x 3/16	1.0	5.94	0.621	0.537	0.343	99.5	103.8

Section	All. Tens. (k)	F_a (ksi)	All. Comp. (k)	Brace Angle	All. Shear	Act. Shear	Stress Ratio
1	48.55	5.07	11.39	0.51	73.5	37.6	51%
2	41.37	4.37	8.36	0.56	60.7	34.2	56%
3	41.37	6.59	12.62	0.45	64.6	31.3	48%
4	25.91	5.87	7.05	0.51	39.1	27.9	71%
5	25.91	7.80	9.36	0.60	50.6	24.5	49%
6	17.84	6.18	5.10	0.57	33.5	21.2	63%
7	17.84	10.77	8.90	0.61	38.0	17.6	46%
8	17.84	12.60	10.41	0.70	37.3	12.7	34%
9	17.84	12.55	10.36	0.71	37.1	7.2	19%
10	17.84	12.49	10.31	0.71	37.0	2.5	7%

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Job No.: **CT141370**
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Evaluation of Leg Members

Section	Size	K/r	Cc	Fa allow	133% Allow	<i>Existing</i>		<i>Proposed</i>	
						D+W _o	D+.75W _{I+I}	D+W _o	D+.75W _{I+I}
1	8" EHS	40.49	106.94	25.76	34.35	22.06	22.95	24.15	25.02
2	6" X-Str.	54.79	106.94	23.58	31.44	24.39	25.56	26.77	27.90
3	6" EHS	35.96	106.94	26.38	35.18	27.55	28.97	30.43	31.79
4	5" X-Str.	43.48	106.94	25.33	33.77	26.50	27.98	29.47	30.87
5	5" X-Str.	43.48	106.94	25.33	33.77	23.05	24.43	25.80	27.10
6	4" X-Str.	40.54	106.94	25.75	34.34	24.77	26.20	28.11	29.43
7	3 1/2" X-Str.	36.64	106.94	26.29	35.05	25.86	27.72	29.01	30.76
8	3" X-Str.	42.11	106.94	25.53	34.04	24.09	25.96	26.00	27.81
9	2 1/2" Std.	50.69	106.94	24.24	32.32	18.54	20.22	18.54	20.22
10	2" Std.	60.99	106.94	22.54	30.06	3.92	4.63	3.92	4.63

Percent Capacity

Section	Elev.	<i>Existing</i>			<i>Proposed</i>			<i>Maximum</i>	
		D+W _o	D+.75W _{I+I}	Secondary	D+W _o	D+.75W _{I+I}	Secondary	Existing	Proposed
1	0	64%	67%	0%	70%	73%	0%	67%	73%
2	20	78%	81%	0%	85%	89%	0%	81%	89%
3	40	78%	82%	0%	86%	90%	0%	82%	90%
4	60	78%	83%	0%	87%	91%	0%	83%	91%
5	80	68%	72%	0%	76%	80%	0%	72%	80%
6	100	72%	76%	0%	82%	86%	0%	76%	86%
7	120	74%	79%	0%	83%	88%	0%	79%	88%
8	140	71%	76%	0%	76%	82%	0%	76%	82%
9	160	57%	63%	0%	57%	63%	0%	63%	63%
10	180	13%	15%	0%	13%	15%	0%	15%	15%

Maximum Reactions:

		Design:	Exceedance:
Uplift:	220.0 kips	240.6	None
Compression:	246.9 kips	267.0	None
Total Shear:	37.6 kips	42.4	None
Overturning Moment:	3796.7 ft-kips	4129.5	None

FAX COVER SHEET

COMMUNICATIONS & ELECTRONICS

Alan J Koepke
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TRANSMITTAL MESSAGE

SITING COUNSEL file #
EM-VER-832-040614
Requested info on Coventry Town
TOWER ATTACHED

If you received this in error please call Alan or Barbara at 860-742-1899, collect, for disposition instructions.

COVENTRY TOWN HALL TOWER

ORIGINAL INSTALLATION Sept 1, 1996
 Revision: November 17, 2003

Tower leg orientation: Leg # 1 - 44 degree's
 Leg # 2 - 164 degree's
 Leg # 3 - 284 degree's

Cable Cable TOP Antenna Antenna FREQUENCY COLOR LEG # COMMENTS
 NO.# Type Conn Model Conn type CODE HGTH

ERP

Cable NO.#	Cable Type	TOP Conn	Antenna Model	Antenna Conn type	FREQUENCY	COLOR CODE	LEG #	COMMENTS	HGTH	Power
6	1 1/4"	NF	PD-1142	SO-239	75.98	Ong	3-190	QVEC Hub tx		80W
1a	1 1/4"	NF	DB-420	NM	449.875	Wht	1-190	K1JCL Rptr		1000W
2	7/8"	NF	ASP-705	NF	450-470	Blue	2-190	Master Rx		- 0 -
5	1/2"	NF	PD-1142	SO-239	33.80	Red	3-190	Fire		200W
18	7/8"	NF	ASP-705	NF	450-470	Yellow	2-160	Mstr Tx# 2		750W
17	7/8"	NF	ASP-705	NF	450-470	wht/yel	3-160	Mstr Tx# 1		600W
19	7/8"	NF	DB-420	NM	450-470	vio/red	1-160	8/1/97		100W
21a	7/8"	OUT OF SERVICE			145.47	Blu/wht	3-140			- 0 -
22	7/8"	NF	DB-264	NM	145.63	Violet	1-140	Packet vhf		- 30W
22b	1/2"	NF	DB-436	NF	440.925	R/R/Blu	1-140			15W
21b	1/2"	NF	DB-230	NF	173.20375	R/R/wht	3-140	Alarm to Kx		8W
7	1/2"	NF	6m Halo	NM	50.400	Grey	1-190	AM rptr		30W
23	7/8 AL	NF	RFS-1151	SO-239	420.5	Green	3-120	UHF link		2W
3	7/8"	NF	APC-1362	NF	152.0075	yel/blu	2-190	HB pag fire		250W
4	7/8"	NF	Scala	NF	903-928	vio/yel	3-188	link to Box		4W
28	7/8"	NF	DB-212	NM	33.44	yel/red	3-95	Fire x-band		40W
26	7/8"	NF	PD-320	NM	45.40	yel/grn	3-75	Highway		80W
27	1/2"	NF	PD-320	NM	45.14	vio/wht	2-95	Police		80W
38	1/2"	NF	PD-400	SO-239	UHF x-band	blu/yel	2-20	x-band UHF		2W
33	1/2"	NF	DB-212	NM	33.80	R/Bl/Grn	2-75	back-up 80		200W
36	1/2"	NF	PD-320	NM	45 spare	ong/yel	2-55	spare 45mc		- 0 -
37	1/2"	NF	DB-212	NM	33 spare	Grey/blu	3-55			- 0 -
25	7/8al	SO			153.955	Ong/Red	1-120	VHF CP		- 100W
24	7/8al	SO	Spare Pos		Spare Mount	Grn/Blu	2-125			- 0 -
3a	7/8"	NF	Scala MF960B	NF	903-928	vio/yel/yel	2-188	link to KX		- 4W
39	1/2"	NF	PD-320	NM	45.14	vio/wht/wht	3-110	Police		80W
?	1/2"	NF	PD-128	NM	47.54	yel/yel/yel	1-115	Laidlaw		50W
? A	1/2"		Stovepipe				1-115	State PD		4W
?	1/2"	NF	DB-212	NM	72.68	yel	1-150	QVEC Rx		- 0 -

Print date: November 17, 2003

PREPARED BY: ALAN J. KOEPKE
 860-742-1899