

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 10, 2004

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

RE: **EM-VER-018-040524** – Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at 37 Carmen Hill Road, Brookfield, Connecticut.

Dear Attorney Baldwin:


At a public meeting held on June 9, 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 May 24, 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/cm

c: Honorable Jerome T. Murphy, First Selectman, Town of Brookfield
Clare Ann Walsh, Land Use Enforcement Officer, Town of Brookfield
Charter Communications
Christopher B. Fisher, Esq., Cuddy & Feder LLP



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

May 25, 2004

Honorable Jerome T. Murphy
First Selectman
Town of Brookfield
Pocono Road
Brookfield, CT 06804-5106

RE: **EM-VER-018-040524** – Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at 37 Carmen Hill Road, Brookfield, Connecticut.

Dear Mr. Murphy:

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

The Council will consider this item at the next meeting scheduled for June 9, 2004 at 1:30 p.m. in Hearing Room One, Ten Franklin Square, New Britain, Connecticut.

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

Thank you for your cooperation and consideration.

Very truly yours,

S. Derek Phelps
Executive Director

SDP/cm

Enclosure: Notice of Intent

c: Clare Ann Walsh, Land Use Enforcement Officer, Town of Brookfield
Heather Paton, Land Use Office, Town of Brookfield

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

May 24, 2004

Via Hand Delivery

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

Handwritten notes and stamps, including a date stamp that appears to read "MAY 21 2004".

Re: **Notice of Exempt Modification**
37 Carmen Hill Road
Brookfield, Connecticut

Dear Mr. Phelps:

Cellco Partnership d/b/a Verizon Wireless ("Cellco") intends to modify its existing antenna configuration on the existing tower at 37 Carmen Hill Road in Brookfield, 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 Brookfield First Selectman, Jerry Murphy.

The facility consists of an 80-foot self-supporting lattice tower. The tower is owned and operated by Charter Communications Entertainment LP ("Charter"), and is currently shared by AT&T and Cellco. AT&T maintains three (3) antennas on the tower; one at the 74-foot level and two at the 79-foot level. Cellco maintains four (4) antennas on the tower; two at the 71-foot level and two at the 79-foot level. (See Attachment 1 - Project Plans). Cellco intends to remove its existing antennas and install a total of five (5) antennas; three PCS antennas at the 79-foot level and two cellular antennas at the 71-foot level. No changes to Cellco's existing equipment shelter are planned as part of this filing.

Please note that the antenna spacing does not provide the usual 10-foot optimal separation distance as required for most installations. Due to the sector configuration and differences in placement of antennas (face location and degree configuration) for AT&T and Cellco the proposed spacing will not cause interference between the carriers.



Law Offices

BOSTON

HARTFORD

NEW LONDON

STAMFORD

GREENWICH

NEW YORK

SARASOTA

www.rc.com

HART1-1141770-1

S. Derek Phelps
May 24, 2004
Page 2

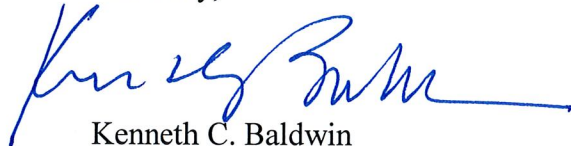
The planned modifications to the Brookfield facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

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 79-foot and 71-foot levels on the 80-foot tower.
2. The proposed replacement of existing antennas will not require an extension of the site boundaries. There will be no change to the existing equipment shelter.
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 only slightly increase radio frequency (RF) power density levels at the facility. Even with this increase, the facility will not exceed the Federal Communications Commission (FCC) adopted safety standard. The existing RF power density calculation at the facility is 52.80 % of the FCC standard. With the antenna modification the combined worst-case RF power density calculations for AT&T and Cellco antennas would be 53.38 % of the FCC standard (See Attachment 2 - Existing and Proposed Power Density Calculations Table).

Also included as Attachment 3 is an engineer's certification verifying that the tower can accommodate AT&T and Cellco antennas and related equipment.

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

Sincerely,



Kenneth C. Baldwin

Attachments

cc: Jerry Murphy, Brookfield First Selectman
Sandy M. Carter



CELLCO PARTNERSHIP

DBA



verizon wireless

BROOKFIELD

**CARMEN HILL ROAD
BROOKFIELD, CONNECTICUT**

PROJECT SUMMARY

SITE NAME: BROOKFIELD
SITE ADDRESS: BROOKFIELD ROAD
 BROOKFIELD, CONNECTICUT
CONTACT PERSON: CELLCO PARTNERSHIP DBA
 VERIZON WIRELESS
 SALES CENTER
 (203) 862-8274
COVERING CODE: CONNECTICUT STATE BUILDING
 AND LIFE SAFETY CODE
APPLICANT: CELLCO PARTNERSHIP DBA
 VERIZON WIRELESS
 798 BROOK STREET, BLDG 5
 ROCKY HILL, CT 06108
ARCHITECT: URS CORPORATION A.E.S.
 ROCKY HILL, CT 06107
M/E/P ENGINEER: URS CORPORATION A.E.S.
 798 BROOK STREET, BLDG 5
 ROCKY HILL, CT 06107
SURFACE: URS CORPORATION A.E.S.
 500 ENTERPRISE DRIVE
 ROCKY HILL, CT 06107

LEGEND

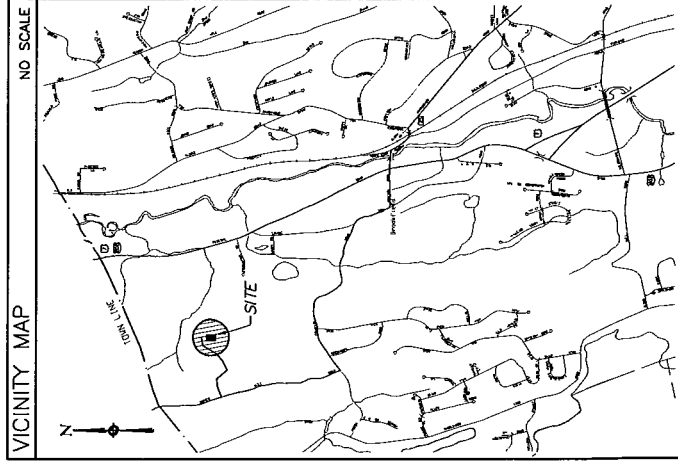
| SYMBOL | DESCRIPTION |
|--------|-----------------------------------|
| ⊕ | SECTION OR DETAIL NUMBER |
| ⊖ | SHEET WHERE DETAIL/SECTION OCCURS |
| — | ELEVATION NUMBER |
| ⊙ | SHEET WHERE ELEVATION OCCURS |

ABBREVIATIONS

| | |
|--------|-------------------|
| W.F. | WINDY IN FIELD |
| V.C. | ON CENTER |
| P.F. | ROUND/SQUARE FOOT |
| TYP. | TYPICAL |
| T.O.C. | TOP OF CONCRETE |
| T.O.W. | TOP OF WALL |

SHEET INDEX

| SHT. NO. | DESCRIPTION |
|----------|---|
| T-1 | TITLE SHEET - GENERAL NOTES AND LEGENDS |
| SC-1 | SITE PLAN |
| SC-2 | TOWER PLAN AND ELEVATIONS |



CELLCO PARTNERSHIP
DBA
verizon wireless

A/E/F/M
URS CORPORATION A.E.S.
798 BROOK STREET, BLDG 5
ROCKY HILL, CONNECTICUT
06108-2488

A/E/S/C
URS CORPORATION A.E.S.
798 BROOK STREET, BLDG 5
ROCKY HILL, CT 06107

PROJECT NO.: 36921463
 JOB NO.: VE1-061
 DRAWN BY: CES
 CHECKED BY:

ISSUED FOR
 05-14-04 STATE COUNCIL-REBE
 05-17-04 STATE COUNCIL-FNL

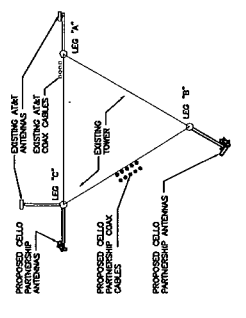
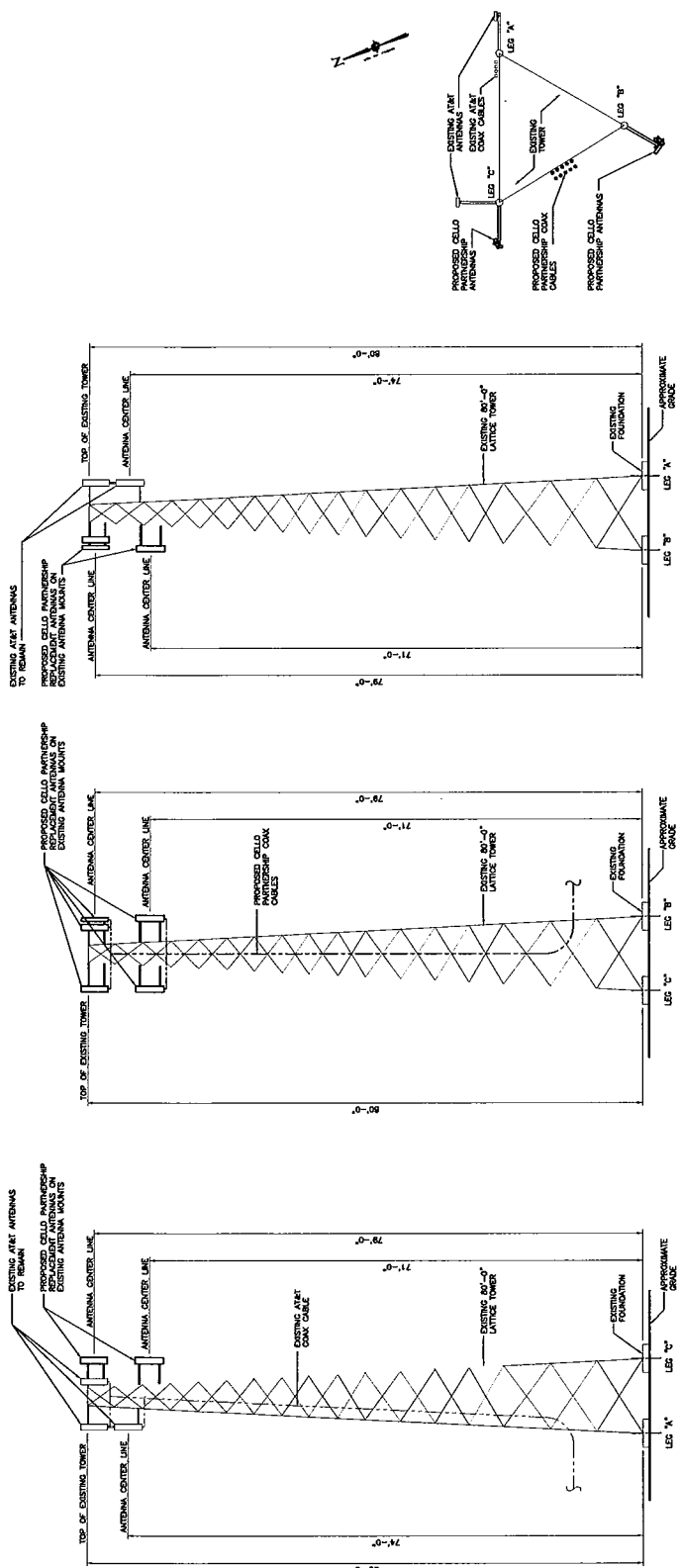
THE INFORMATION CONTAINED
 HEREIN IS UNCLASSIFIED
 EXCEPT WHERE SHOWN
 OTHERWISE. ANY USE OR DISCLOSURE
 OF THIS INFORMATION WHICH
 IS NOT AUTHORIZED BY THE
 ORIGINAL SOURCE AGENCY
 IS STRICTLY PROHIBITED.

BROOKFIELD
 CARMEN HILL ROAD
 BROOKFIELD, CONNECTICUT

SCALE: AS NOTED

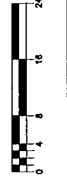
TITLE SHEET-
GENERAL NOTES
AND LEGEND

T-1



1 TOWER PLAN
SCALE: N.T.S.

2 TOWER ELEVATIONS
SCALE: 1/8"=1'-0"



General Power Density

Site Name: Brookfield, CT
 Tower Height: 80 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 | 71 | 0.1284 | 0.56733 | 22.63% |
| AT&T | 880 | 6 | 200 | 1200 | 74 | 0.0788 | 0.56733 | 13.89% |
| Verizon | 1900 | 3 | 285 | 855 | 79 | 0.0493 | 1 | 4.93% |
| Total Percentage of Maximum Permissible Exposure | | | | | | | | 27.56% |

*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

Absolute worst case scenario, maximum values used.



DETAILED STRUCTURAL ANALYSIS AND EVALUATION OF 80' EXISTING SELF SUPPORTING LATTICE TOWER FOR PROPOSED ANTENNA MODIFICATION

Carmen Hill Road
Brookfield, Connecticut

prepared for



Verizon Wireless
99 East River Drive
East Hartford, Connecticut 06108

prepared by

URS

URS CORPORATION
795 BROOK STREET, BUILDING 5
ROCKY HILL, CT 06067
TEL. 860-529-8882

36921460.00000
VZ1-061

May 13, 2004

TABLE OF CONTENTS

1. EXECUTIVE SUMMARY
2. INTRODUCTION
3. ANALYSIS METHODOLOGY AND LOADING CONDITIONS
4. FINDINGS AND EVALUATION
5. CONCLUSIONS
6. DRAWINGS AND DATA
 - STRUCTURE SHEET SK-1: COAXIAL TRANSMISSION LINES MOUNTING CONFIGURATION
 - ERI TOWER OUTPUT DATA FOR PROPOSED ANTENNA LOADING
 - PREVIOUS TOWER ANALYSIS AND CONSTRUCTION INSPECTION PERFORMED BY PAUL K. TAORMINA, P.E., FOR HOUSATONIC CABLEVISION
 - TOWER INVENTORY PERFORMED BY CSB COMMUNICATIONS FOR URS

1. EXECUTIVE SUMMARY

This report summarizes the structural analysis of the 80' self-supporting lattice tower located on Carmen Hill Road in Brookfield, Connecticut. The analysis was conducted in accordance with the TIA/EIA-222-E standard for wind velocity of 85 mph and 85 mph concurrent with 1/2" ice design wind load with reduction. The antenna loading considered in the analysis consists of all existing and proposed antennas, transmission lines, and ancillary items as outlined in the Analysis Methodology and Loading Condition Section of this report. The proposed Verizon Wireless modification is to remove existing antennas and cables and replace with the following:

| Antenna and Mount | Carrier | Antenna Center Elevation |
|--|---------------------|--------------------------|
| (3) DB932DG90T2E-M antennas on existing antenna mounts with (6) 7/8" coax cables | Verizon Wireless | 79'-0" |
| (2) DB854DG90ESX antennas on existing antenna mounts with (4) 7/8" coax cables | Verizon Wireless | 71'-0" |

The results of the analysis indicate that the tower structure is in compliance with the proposed loading conditions. The tower and its foundation are considered feasible with the TIA/EIA-222-E wind load classification specified above and all the existing and proposed antenna loading.


This analysis is based on:

- 1) The tower structure's theoretical capacity not including any assessment of the condition of the tower.
- 2) Tower and foundation evaluation performed by Paul K. Taormina, P.E., dated May 24, 1978 and foundation letter supplement by Paul K. Taormina, P.E. dated June 3 1978. Both are included in section 6 of this report.
- 3) Tower inventory performed by CSB communications for URS dated January 9, 2004 included in section 6 of this report.
- 4) Antenna and mount configuration as specified on the following page of this report.
- 5) Verizon coaxial cables are relocated and installed as specified on Structure Sheet SK-1 in Section 6 of this report.
- 6) TIA/EIA-222-E wind load classification.

This report is only valid as per the assumptions and data utilized in this report for antenna inventory, mounts and associated cables. The user of this report shall field verify the assumption of the antenna and mount configuration. Notify the engineer in writing immediately if any of the information in this report is found to be other than specified.

If you should have any questions, please call.

Sincerely,
URS Corporation AES


Richard A. Sambor, P.E.
Manager Facilities Design



RAS/ddm

cc: Mark Gauger – Verizon Wireless
D.R., CF – URS

2. INTRODUCTION

The subject tower is located on Carmen Hill Road in Brookfield, Connecticut. The structure is a self supporting 80' steel tapered lattice tower manufactured by Rohn Industries Incorporated.

The tower is constructed of hollow pipe legs and diagonal angle braces. The tower members are all bolted. The width of the tower face is 4'-6 3/4" at the top and 10'-6 3/4" at the bottom. The tower geometry and structural member properties were taken from Rohn Industries Incorporated standard design sheets for their SSV tower series found in the tower analysis and evaluation performed by Paul K. Taormina, P.E., dated May 24, 1978 located in section 6 of this report.

The existing structure supports several communication antennas. The antenna and mount configuration is as follows:

| ANTENNA & MOUNT DESCRIPTION | CARRIER | CENTERLINE ELEVATION |
|---|--|----------------------|
| (1) Allgon 7125.16.05.00 and (1) Allgon 7250.03 antenna on sidearm mounts with (3) 7/8" coax cables | AT&T Wireless (existing) | @ 79' |
| (3) DB932DG90T2E-M antennas on existing antenna mounts with (6) 7/8" coax cables * | Verizon Wireless (proposed) | @ 79' |
| (1) Allgon 7250.03 antenna on sidearm mount with (2) 7/8" coax cable | AT&T Wireless (existing) | @ 74' |
| (2) DB854DG90ESX antennas on existing antenna mounts with (4) 7/8" coax cables * | Verizon Wireless (proposed) | @ 71' |

* Remove existing Verizon Wireless coaxial cables and supports and install new Verizon Wireless coaxial cables as shown on Structure Sheet SK-1 in Section 6 of this report.

This structural analysis of the communications tower was performed by URS Corporation, AES (URS) for Verizon Wireless. The purpose of this analysis was to analyze the existing tower for its existing and proposed antenna loads. This analysis was conducted to evaluate twist (rotation), sway (deflection) and stress on the tower, and the effect of forces to the foundation of the tower resulting from existing and proposed antenna arrangements.

3. ANALYSIS METHODOLOGY AND LOADING CONDITIONS

Methodology:

The structural analysis was done in accordance with the TIA/EIA-222-E, Structural Standard 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).

The analysis was conducted using ERI Tower 3.0. The two load conditions were evaluated as shown below which were compared to allowable stresses according to AISC and TIA/EIA. The load combinations were investigated in ERI Tower 3.0 to determine the stress, sway and rotation.

Load Condition 1 = 85 mph Wind Load + Tower Dead Load

Load Condition 2 = 74 mph Wind Load (with ½" radial ice) + Tower Dead Load

The TIA/EIA standard permits one-third increase in allowable stresses for towers and monopoles less than 700 feet tall. For purposes of this analysis, allowable stresses of tower members were increased by one-third in computing the load capacity; in addition, the appropriate "k" factors were assigned to each member.

4. FINDINGS AND EVALUATION

The combined axial and bending stresses on the tower structure were evaluated to compare with the allowable stress in accordance with AISC. The analysis indicates that the tower legs, diagonal members and horizontal members have sufficient capacity to carry the loads applied.

Additionally, the imposed loads on the tower anchor bolts and foundation are under the allowable loads in the Rohn Industries Incorporated standard design sheets for their SSV tower series found in the tower analysis and evaluation performed by Paul K. Taormina, P.E., dated May 24, 1978 located in section 6 of this report.

5. CONCLUSIONS

The results of the analysis indicate that the structure is in compliance with the loading conditions and the materials and member sizes for the tower. The tower is considered feasible with the TIA/EIA-222-E wind load classification specified above and the existing and proposed antenna loading.

Limitations/Assumptions:

This report is based on the following:

- A. Tower is properly installed and maintained.
- B. All members were as specified in the original Construction Documents and are in good condition.
- C. All required members are in place.
- D. All bolts are in place and are properly tightened.
- E. Tower is in plumb condition.
- F. All members protective coating is in good condition.
- G. All tower members were properly designed, detailed, fabricated, installed, and have been properly maintained since erection.

URS is not responsible for any modifications completed prior to or hereafter in which URS is not or was not directly involved. Modifications include but are not limited to:

- A. Removing/Replacing antennas
- B. Adding antennas and amplifiers

URS 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 information contained and set forth herein. If you are aware of any information which conflicts with that which is contained herein, or you are aware of any defects arising from original design, material, fabrication, or erection deficiencies, you should disregard this report and immediately contact URS. URS disclaims all liability for any representation, recommendation, or conclusion not expressly stated herein.

Ongoing and Periodic Inspection and Maintenance by the Owner:

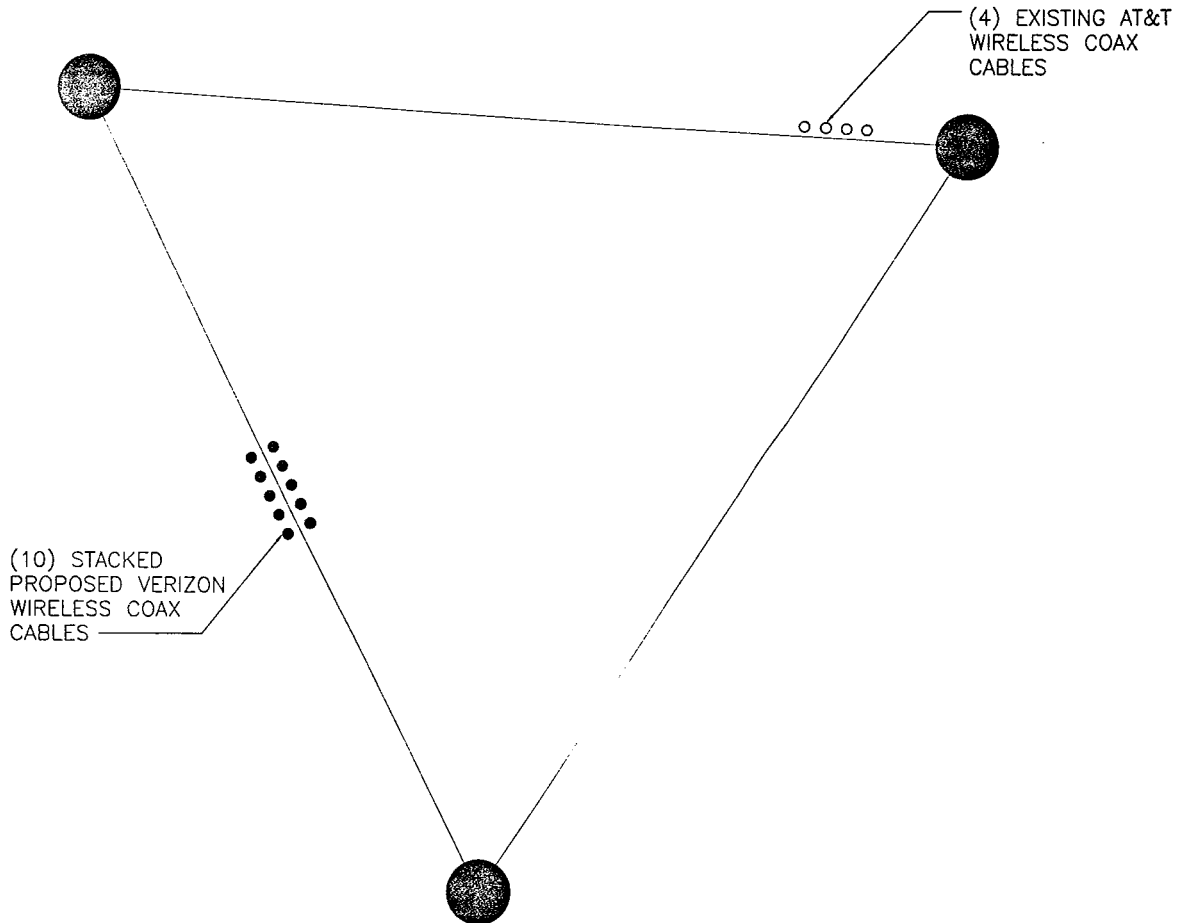
After the Contractor has successfully completed the installation and the work has been accepted, the tower owner will be responsible for the ongoing and periodic inspection and maintenance of the tower and reinforcing system.

The owner shall refer to TIA/EIA-222-E, for recommendations for maintenance and inspection. The frequency of the inspection and maintenance intervals is to be determined by the owner based upon actual site and environmental conditions. It is recommended that a complete and thorough inspection of the entire tower structural system is performed at least yearly and more frequently as conditions warrant. According to TIA/EIA-222-E. It is recommended that the structure be inspected after severe wind and/or ice storms or other extreme loading conditions.

6.) DRAWINGS AND DATA

**STRUCTURE SHEET SK-1: COAXIAL TRANSMISSION LINES MOUNTING
CONFIGURATION**

80 FT. SELF-SUPPORTED LATTICE TOWER
CARMEN HILL ROAD, BROOKFIELD, CT.
COAX TRANSMISSION LINES MOUNTING CONFIGURATION



INSTALLATION NOTES:

1. REMOVE EXISTING VERIZON WIRELESS COAXIAL CABLES AND INSTALL PROPOSED (10) VERIZON WIRELESS 7/8" COAX CABLES STACKED (5-ON-5) ON TOWER FACE OPPOSITE TOWER LEG SUPPORTING EXISTING AT&T WIRELESS CABLES.

1 EXISTING TOWER AND CABLE RUNS
 SK-1 SCALE: NTS

Job No: 921462
 Designed by:
 Drawn by: BAL
 Checked by:
 Approved by:

URS CORPORATION AES
 795 BROOK STREET, BLDG 5
 ROCKY HILL, CONNECTICUT
 1-860-520-8882

CELLCO PARTNERSHIP DBA
 VERIZON WIRELESS
 WIRELESS COMMUNICATIONS FACILITY
 SITE ADDRESS:
 BROOKFIELD
 CARMEN HILL ROAD
 BROOKFIELD, CONNECTICUT 06804

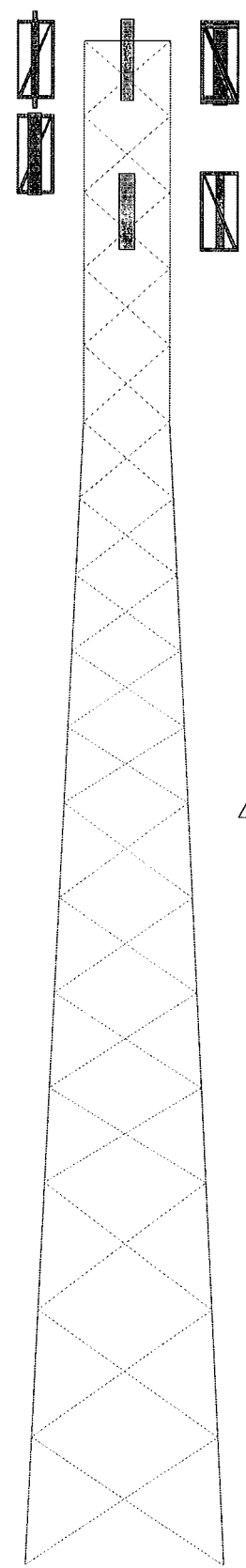
| REV. | DATE | DESCRIPTION |
|------|------|-------------|
| | | |
| | | |
| | | |

Scale: AS NOTED Date: 05-13-04
 Job No. VZ1 061 File No. SK-1

Dwg. No.
SK-1
 Dwg. 1 of 1

ERI TOWER OUPUT DATA

| | | | | | | | | |
|-----------------|--------|------------|------------------|------------|------|-------------|------------------|-------------|
| Section | T1 | ROHN 2 STD | T2 | ROHN 2.5 S | T3 | ROHN 2.5 EH | T4 | ROHN 2.5 EH |
| Leg Grade | | | | | | | | |
| Diagonals | | | L1 1/2x1 1/2x1/8 | | | | L1 3/4x1 3/4x1/8 | |
| Diagonal Grade | | | | | | | | |
| Top Girts | | | | | N.A. | | | |
| Face Width (ft) | 4.5208 | | | 6.5625 | | 8.5625 | | 10.5625 |
| # Panels @ (ft) | | 10 @ 4 | | 4 @ 5 | | 3 @ 6.66667 | | |
| Weight (K) | 0.5 | | 0.5 | 0.8 | | 0.8 | | 2.4 |



APPURTENANCES

| TYPE | ELEVATION | TYPE | ELEVATION |
|-------------------------------------|-----------|-------------------------------------|-----------|
| 7250.03 w/Mount Pipe (ATT) | 79 | 7125.16.05.00 w/Mount Pipe (ATT) | 78.75 |
| Generic Stand-Off Mount (ATT) | 79 | Generic Stand-Off Mount (ATT) | 78.75 |
| DB932DG90E-M w/Mount Pipe (Verizon) | 79 | 7125.16.05.00 w/Mount Pipe (ATT) | 74 |
| Generic Stand-Off Mount (Verizon) | 79 | Generic Stand-Off Mount (ATT) | 74 |
| DB774G90ESXM w/Mount Pipe (Verizon) | 79 | DB774G90ESXM w/Mount Pipe (Verizon) | 71 |
| Generic Stand-Off Mount (Verizon) | 79 | Generic Stand-Off Mount (Verizon) | 71 |
| DB774G90ESXM w/Mount Pipe (Verizon) | 79 | DB774G90ESXM w/Mount Pipe (Verizon) | 71 |
| Generic Stand-Off Mount (Verizon) | 79 | Generic Stand-Off Mount (Verizon) | 71 |

MATERIAL STRENGTH

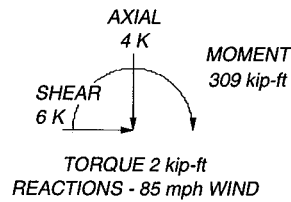
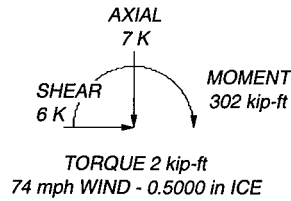
| GRADE | Fy | Fu | GRADE | Fy | Fu |
|---------|--------|--------|-------|--------|--------|
| A572-50 | 50 ksi | 65 ksi | A36 | 36 ksi | 58 ksi |

TOWER DESIGN NOTES

1. Tower designed for a 85 mph basic wind in accordance with the TIA/EIA-222-F Standard.
2. Tower is also designed for a 74 mph basic wind with 0.50 in ice.
3. Deflections are based upon a 50 mph wind.
4. TOWER RATING: 77.5%

MAX PIER FORCES:

DOWN: 35 K
 UPLIFT: -31 K
 SHEAR: 4 K



| | | | |
|-----------------------|--|--|-----------------------------|
| URS Corp. AES | | Job: 80' Lattice Tower (Rohn SSV) | |
| 795 Brook Street | | Project: Carmen Hill Road, Brookfield, CT | |
| Rocky Hill, CT 06067 | | Client: Verizon Wireless | Drawn by: Daniel D. McClure |
| Phone: (860) 529-8882 | | Code: TIA/EIA-222-F | Date: 05/17/04 |
| FAX: (860) 529-5566 | | Path: P:\F12\ERI Files\80' Lattice Tower.cad | Scale: NTS |
| | | | Dwg No. E-1 |

| | | |
|---|--|---|
| ERITower URS Corp. AES 795 Brook Street Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-5566 | Job 80' Lattice Tower (Rohn SSV) | Page 1 of 22 |
| | Project Carmen Hill Road, Brookfield, CT | Date 12:57:19 05/17/04 |
| | Client Verizon Wireless | Designed by Daniel D. McClure |

Tower Input Data

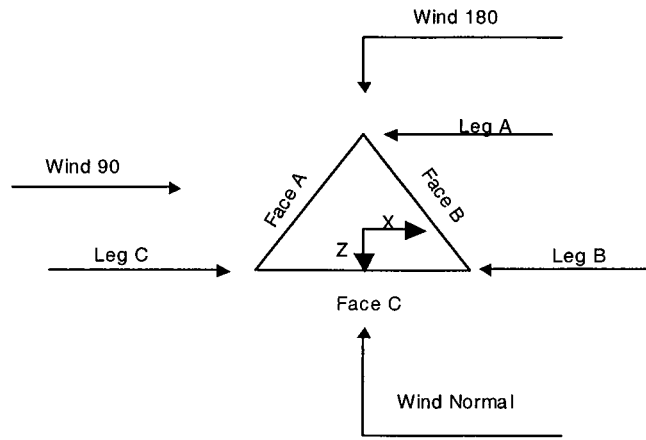
The main tower is a 3x free standing tower with an overall height of 80.00 ft above the ground line.
The base of the tower is set at an elevation of 0.00 ft above the ground line.
The face width of the tower is 4.52 ft at the top and 10.56 ft at the base.
This tower is designed using the TIA/EIA-222-F standard.
The following design criteria apply:

- Basic wind speed of 85 mph.
- Nominal ice thickness of 0.5000 in.
- Ice density of 56 pcf.
- A wind speed of 74 mph is used in combination with ice.
- Temperature drop of 50 °F.
- Deflections calculated using a wind speed of 50 mph.
- A non-linear (P-delta) analysis was used.
- Pressures are calculated at each section.
- Stress ratio used in tower member design is 1.333.
- Local bending stresses due to climbing loads and feedline supports are not considered

Options

- | | | |
|---|--|--|
| <ul style="list-style-type: none"> Consider Moments - Legs Consider Moments - Horizontals Consider Moments - Diagonals Use Moment Magnification √ Use Code Stress Ratios √ Use Code Safety Factors - Guys Escalate Ice Always Use Max Kz Use Special Wind Profile √ Include Bolts In Member Capacity √ Leg Bolts Are At Top Of Section √ Secondary Horizontal Braces Leg Use Diamond Inner Bracing (4 Sided) | <ul style="list-style-type: none"> Distribute Leg Loads As Uniform Assume Legs Pinned √ Assume Rigid Index Plate √ Use Clear Spans For Wind Area √ Use Clear Spans For KL/r √ Retension Guys To Initial Tension Bypass Mast Stability Checks √ Use Azimuth Dish Coefficients Project Wind Area of Appurt. √ Autocalc Torque Arm Areas √ SR Members Have Cut Ends Sort Capacity Reports By Component Add IBC .6D+W Combination | <ul style="list-style-type: none"> Treat Feedline Bundles As Cylinder Use ASCE 10 X-Brace Ly Rules √ Calculate Redundant Bracing Forces Ignore Redundant Members in FEA √ SR Leg Bolts Resist Compression √ All Leg Panels Have Same Allowable Offset Girt At Foundation √ Consider Feedline Torque Include Angle Block Shear Check <li style="background-color: #cccccc;">Poles Include Shear-Torsion Interaction Always Use Sub-Critical Flow Use Top Mounted Sockets |
|---|--|--|

| | | |
|---|--|---|
| ERITower URS Corp. AES 795 Brook Street Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-5566 | Job 80' Lattice Tower (Rohn SSV) | Page 2 of 22 |
| | Project Carmen Hill Road, Brookfield, CT | Date 12:57:19 05/17/04 |
| | Client Verizon Wireless | Designed by Daniel D. McClure |



Triangular Tower

Tower Section Geometry

| Tower Section | Tower Elevation | Assembly Database | Description | Section Width | Number of Sections | Section Length |
|---------------|-----------------|-------------------|-------------|---------------|--------------------|----------------|
| | ft | | | ft | | ft |
| T1 | 80.00-60.00 | | | 4.52 | 1 | 20.00 |
| T2 | 60.00-40.00 | | | 4.52 | 1 | 20.00 |
| T3 | 40.00-20.00 | | | 6.56 | 1 | 20.00 |
| T4 | 20.00-0.00 | | | 8.56 | 1 | 20.00 |

Tower Section Geometry (cont'd)

| Tower Section | Tower Elevation | Diagonal Spacing | Bracing Type | Has K Brace End Panels | Has Horizontals | Top Girt Offset | Bottom Girt Offset |
|---------------|-----------------|------------------|--------------|------------------------|-----------------|-----------------|--------------------|
| | ft | ft | | | | in | in |
| T1 | 80.00-60.00 | 4.00 | X Brace | No | No | 0.0000 | 0.0000 |
| T2 | 60.00-40.00 | 4.00 | X Brace | No | No | 0.0000 | 0.0000 |
| T3 | 40.00-20.00 | 5.00 | X Brace | No | No | 0.0000 | 0.0000 |
| T4 | 20.00-0.00 | 6.67 | X Brace | No | No | 0.0000 | 0.0000 |

Tower Section Geometry (cont'd)

| | | |
|---|--|---|
| ERITower URS Corp. AES 795 Brook Street Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-5566 | Job 80' Lattice Tower (Rohn SSV) | Page 4 of 22 |
| | Project Carmen Hill Road, Brookfield, CT | Date 12:57:19 05/17/04 |
| | Client Verizon Wireless | Designed by Daniel D. McClure |

| Tower Elevation ft | Calc K Single Angles | Calc K Solid Rounds | K Factors ¹ | | | | | | | |
|-----------------------|-------------------------|------------------------|------------------------|---------------------|---------------------|-----------------|--------|--------|----------------|----------------|
| | | | Legs | X Brace Diags | K Brace Diags | Single Diags | Girts | Horiz. | Sec. Horiz. | Inner Brace |
| | | | | X Y | X Y | X Y | X Y | X Y | X Y | X Y |
| | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

¹Note: K factors are applied to member segment lengths. K-braces without inner supporting members will have the K factor in the out-of-plane direction applied to the overall length.

Tower Section Geometry (cont'd)

| Tower Elevation ft | Leg | | Diagonal | | Top Girt | | Bottom Girt | | Mid Girt | | Long Horizontal | | Short Horizontal | |
|-----------------------|---------------------------|---|---------------------------|------|---------------------------|------|------------------------------|------|------------------------------|------|------------------------------|------|------------------------------|------|
| | Net Width Deduct in | U | Net Width Deduct in | U | Net Width Deduct in | U | Net Width Deduct in | U | Net Width Deduct in | U | Net Width Deduct in | U | Net Width Deduct in | U |
| T1 80.00-60.00 | 0.0000 | 1 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 |
| T2 60.00-40.00 | 0.0000 | 1 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 |
| T3 40.00-20.00 | 0.0000 | 1 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 |
| T4 20.00-0.00 | 0.0000 | 1 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 |

Tower Section Geometry (cont'd)

| Tower Elevation ft | Leg Connection Type | Leg Bolt Size in | No. | Diagonal | | Top Girt | | Bottom Girt | | Mid Girt | | Long Horizontal | | Short Horizontal | |
|-----------------------|------------------------|------------------------|-----|-----------------|-----|-----------------|-----|-----------------|-----|-----------------|-----|-----------------|-----|------------------|-----|
| | | | | Bolt Size in | No. | Bolt Size in | No. | Bolt Size in | No. | Bolt Size in | No. | Bolt Size in | No. | Bolt Size in | No. |
| T1 80.00-60.00 | Flange | 0.6250 | 3 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 0 |
| | | A325N | | A325N | | A325N | | A325N | | A325N | | A325N | | A325N | |
| T2 60.00-40.00 | Flange | 0.6250 | 3 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 0 |
| | | A325N | | A325N | | A325N | | A325N | | A325N | | A325N | | A325N | |
| T3 40.00-20.00 | Flange | 0.6250 | 3 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 0 |
| | | A325N | | A325N | | A325N | | A325N | | A325N | | A325N | | A325N | |
| T4 20.00-0.00 | Flange | 0.6250 | 3 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 0 | 0.6250 | 0 |
| | | A325N | | A325N | | A325N | | A325N | | A325N | | A325N | | A325N | |

Feed Line/Linear Appurtenances - Entered As Round Or Flat

| Description | Face or Leg | Allow Shield | Component Type | Placement ft | Total Number | Number Per Row | Clear Spacing in | Width or Diameter in | Perimeter in | Weight plf |
|------------------|-------------------|-----------------|-------------------|-----------------|-----------------|-------------------|------------------------|----------------------------|-----------------|---------------|
| 7/8 (AT&T) | C | No | Ar (Leg) | 80.00 - 7.00 | 4 | 4 | 1.5000 | 1.1100 | | 0.54 |
| 7/8 (Verizon) | B | No | Ar (CfAe) | 80.00 - 7.75 | 10 | 5 | 1.5000 | 1.1100 | | 0.54 |

| | | |
|---|--|---|
| ERITower URS Corp. AES 795 Brook Street Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-5566 | Job 80' Lattice Tower (Rohn SSV) | Page 5 of 22 |
| | Project Carmen Hill Road, Brookfield, CT | Date 12:57:19 05/17/04 |
| | Client Verizon Wireless | Designed by Daniel D. McClure |

Feed Line/Linear Appurtenances Section Areas

| Tower Section | Tower Elevation ft | Face | A _R ft ² | A _F ft ² | C _A A _A In Face ft ² | C _A A _A Out Face ft ² | Weight K |
|---------------|-----------------------|------|-----------------------------------|-----------------------------------|---|--|-------------|
| T1 | 80.00-60.00 | A | 7.400 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | B | 9.250 | 0.000 | 0.000 | 0.000 | 0.11 |
| | | C | 7.400 | 0.000 | 0.000 | 0.000 | 0.04 |
| T2 | 60.00-40.00 | A | 7.400 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | B | 9.250 | 0.000 | 0.000 | 0.000 | 0.11 |
| | | C | 7.400 | 0.000 | 0.000 | 0.000 | 0.04 |
| T3 | 40.00-20.00 | A | 7.400 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | B | 9.250 | 0.000 | 0.000 | 0.000 | 0.11 |
| | | C | 7.400 | 0.000 | 0.000 | 0.000 | 0.04 |
| T4 | 20.00-0.00 | A | 4.810 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | B | 5.666 | 0.000 | 0.000 | 0.000 | 0.07 |
| | | C | 4.810 | 0.000 | 0.000 | 0.000 | 0.03 |

Feed Line/Linear Appurtenances Section Areas - With Ice

| Tower Section | Tower Elevation ft | Face or Leg | Ice Thickness in | A _R ft ² | A _F ft ² | C _A A _A In Face ft ² | C _A A _A Out Face ft ² | Weight K |
|---------------|-----------------------|-------------|---------------------|-----------------------------------|-----------------------------------|---|--|-------------|
| T1 | 80.00-60.00 | A | 0.500 | 14.067 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | B | | 17.583 | 0.000 | 0.000 | 0.000 | 0.30 |
| | | C | | 14.067 | 0.000 | 0.000 | 0.000 | 0.12 |
| T2 | 60.00-40.00 | A | 0.500 | 14.067 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | B | | 17.583 | 0.000 | 0.000 | 0.000 | 0.30 |
| | | C | | 14.067 | 0.000 | 0.000 | 0.000 | 0.12 |
| T3 | 40.00-20.00 | A | 0.500 | 14.067 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | B | | 17.583 | 0.000 | 0.000 | 0.000 | 0.30 |
| | | C | | 14.067 | 0.000 | 0.000 | 0.000 | 0.12 |
| T4 | 20.00-0.00 | A | 0.500 | 9.143 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | B | | 10.770 | 0.000 | 0.000 | 0.000 | 0.19 |
| | | C | | 9.143 | 0.000 | 0.000 | 0.000 | 0.08 |

Feed Line Center of Pressure

| Section | Elevation ft | CP _x in | CP _z in | CP _x Ice in | CP _z Ice in |
|---------|-----------------|-----------------------|-----------------------|------------------------------|------------------------------|
| T1 | 80.00-60.00 | -0.8306 | 0.4795 | -1.0006 | 0.5777 |
| T2 | 60.00-40.00 | -1.0659 | 0.6154 | -1.2759 | 0.7366 |
| T3 | 40.00-20.00 | -1.4013 | 0.8091 | -1.7209 | 0.9936 |
| T4 | 20.00-0.00 | -1.3634 | 0.7872 | -1.7565 | 1.0141 |

Discrete Tower Loads

| | | | | |
|---|----------------|----------------------------------|--------------------|-------------------|
| ERITower URS Corp. AES 795 Brook Street Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-5566 | Job | 80' Lattice Tower (Rohn SSV) | Page | 6 of 22 |
| | Project | Carmen Hill Road, Brookfield, CT | Date | 12:57:19 05/17/04 |
| | Client | Verizon Wireless | Designed by | Daniel D. McClure |

| Description | Face or Leg | Offset Type | Offsets: Horz Lateral Vert | Azimuth Adjustment | Placement | C _A A _{Front} | C _A A _{Side} | Weight | |
|-------------------------------------|-------------|-------------|----------------------------|--------------------|-----------|-----------------------------------|----------------------------------|--------------|--------------|
| | | | ft | ° | ft | ft ² | ft ² | K | |
| 7250.03 w/Mount Pipe (AT&T) | C | From Leg | 3.00 0.00 0.00 | 30.0000 | 79.00 | No Ice 1/2" Ice | 4.45 5.03 | 3.54 4.72 | 0.04 0.08 |
| Generic Stand-Off Mount (AT&T) | C | From Leg | 3.00 0.00 0.00 | 30.0000 | 79.00 | No Ice 1/2" Ice | 1.00 1.40 | 1.00 1.40 | 0.04 0.08 |
| 7125.16.05.00 w/Mount Pipe (AT&T) | B | From Leg | 3.00 0.00 0.00 | 60.0000 | 78.75 | No Ice 1/2" Ice | 9.38 10.11 | 7.43 8.57 | 0.04 0.12 |
| Generic Stand-Off Mount (AT&T) | B | From Leg | 3.00 0.00 0.00 | 60.0000 | 78.75 | No Ice 1/2" Ice | 1.00 1.40 | 1.00 1.40 | 0.04 0.08 |
| 7125.16.05.00 w/Mount Pipe (AT&T) | C | From Leg | 3.00 0.00 0.00 | 30.0000 | 74.00 | No Ice 1/2" Ice | 9.38 10.11 | 7.43 8.57 | 0.04 0.12 |
| Generic Stand-Off Mount (AT&T) | C | From Leg | 3.00 0.00 0.00 | 30.0000 | 74.00 | No Ice 1/2" Ice | 1.00 1.40 | 1.00 1.40 | 0.04 0.08 |
| DB774G90ESXM w/Mount Pipe (Verizon) | A | From Leg | 3.00 0.00 0.00 | -60.0000 | 71.00 | No Ice 1/2" Ice | 5.38 6.07 | 4.14 5.17 | 0.04 0.08 |
| Generic Stand-Off Mount (Verizon) | A | From Leg | 3.00 0.00 0.00 | -60.0000 | 71.00 | No Ice 1/2" Ice | 1.00 1.40 | 1.00 1.40 | 0.04 0.08 |
| DB774G90ESXM w/Mount Pipe (Verizon) | B | From Leg | 3.00 0.00 0.00 | 30.0000 | 71.00 | No Ice 1/2" Ice | 5.38 6.07 | 4.14 5.17 | 0.04 0.08 |
| Generic Stand-Off Mount (Verizon) | B | From Leg | 3.00 0.00 0.00 | 30.0000 | 71.00 | No Ice 1/2" Ice | 1.00 1.40 | 1.00 1.40 | 0.04 0.08 |
| DB932DG90E-M w/Mount Pipe (Verizon) | A | From Leg | 3.00 0.00 0.00 | -60.0000 | 79.00 | No Ice 1/2" Ice | 4.18 4.81 | 3.74 4.78 | 0.04 0.08 |
| Generic Stand-Off Mount (Verizon) | A | From Leg | 3.00 0.00 0.00 | -60.0000 | 79.00 | No Ice 1/2" Ice | 1.00 1.40 | 1.00 1.40 | 0.04 0.08 |
| DB774G90ESXM w/Mount Pipe (Verizon) | B | From Leg | 3.00 0.00 0.00 | 30.0000 | 79.00 | No Ice 1/2" Ice | 5.38 6.07 | 4.14 5.17 | 0.04 0.08 |
| Generic Stand-Off Mount (Verizon) | B | From Leg | 3.00 0.00 0.00 | 30.0000 | 79.00 | No Ice 1/2" Ice | 1.00 1.40 | 1.00 1.40 | 0.04 0.08 |
| DB774G90ESXM w/Mount Pipe (Verizon) | C | From Leg | 3.00 0.00 0.00 | 0.0000 | 79.00 | No Ice 1/2" Ice | 5.38 6.07 | 4.14 5.17 | 0.04 0.08 |
| Generic Stand-Off Mount (Verizon) | C | From Leg | 3.00 0.00 0.00 | 0.0000 | 79.00 | No Ice 1/2" Ice | 1.00 1.40 | 1.00 1.40 | 0.04 0.08 |

Tower Pressures - No Ice

| | | |
|---|--|---|
| ERITower URS Corp. AES 795 Brook Street Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-5566 | Job 80' Lattice Tower (Rohn SSV) | Page 7 of 22 |
| | Project Carmen Hill Road, Brookfield, CT | Date 12:57:19 05/17/04 |
| | Client Verizon Wireless | Designed by Daniel D. McClure |

$$G_H = 1.179$$

| Section Elevation ft | z ft | K _Z | q _z psf | A _G ft ² | F a c e e | A _F ft ² | A _R ft ² | A _{leg} ft ² | Leg % | C _A A _A In Face ft ² | C _A A _A Out Face ft ² |
|-------------------------|---------|----------------|-----------------------|-----------------------------------|--------------|-----------------------------------|-----------------------------------|-------------------------------------|-------|---|--|
| T1 80.00-60.00 | 70.00 | 1.24 | 23 | 94.374 | A | 8.296 | 15.317 | 7.917 | 33.53 | 0.000 | 0.000 |
| | | | | | B | 8.296 | 17.167 | | 31.09 | | |
| | | | | | C | 8.296 | 15.317 | | 33.53 | | |
| T2 60.00-40.00 | 50.00 | 1.126 | 21 | 114.796 | A | 8.248 | 15.330 | 7.930 | 33.63 | 0.000 | 0.000 |
| | | | | | B | 8.248 | 17.180 | | 31.19 | | |
| | | | | | C | 8.248 | 15.330 | | 33.63 | | |
| T3 40.00-20.00 | 30.00 | 1 | 18 | 156.048 | A | 8.791 | 16.999 | 9.599 | 37.22 | 0.000 | 0.000 |
| | | | | | B | 8.791 | 18.849 | | 34.73 | | |
| | | | | | C | 8.791 | 16.999 | | 37.22 | | |
| T4 20.00-0.00 | 10.00 | 1 | 18 | 196.048 | A | 9.949 | 14.409 | 9.599 | 39.41 | 0.000 | 0.000 |
| | | | | | B | 9.949 | 15.265 | | 38.07 | | |
| | | | | | C | 9.949 | 14.409 | | 39.41 | | |

Tower Pressure - With Ice

$$G_H = 1.179$$

| Section Elevation ft | z ft | K _Z | q _z psf | t _z in | A _G ft ² | F a c e e | A _F ft ² | A _R ft ² | A _{leg} ft ² | Leg % | C _A A _A In Face ft ² | C _A A _A Out Face ft ² |
|-------------------------|---------|----------------|-----------------------|----------------------|-----------------------------------|--------------|-----------------------------------|-----------------------------------|-------------------------------------|-------|---|--|
| T1 80.00-60.00 | 70.00 | 1.24 | 17 | 0.5000 | 96.041 | A | 11.743 | 25.317 | 11.250 | 30.36 | 0.000 | 0.000 |
| | | | | | | B | 11.743 | 28.833 | | 27.73 | | |
| | | | | | | C | 11.743 | 25.317 | | 30.36 | | |
| T2 60.00-40.00 | 50.00 | 1.126 | 16 | 0.5000 | 116.465 | A | 11.914 | 25.336 | 11.270 | 30.25 | 0.000 | 0.000 |
| | | | | | | B | 11.914 | 28.853 | | 27.64 | | |
| | | | | | | C | 11.914 | 25.336 | | 30.25 | | |
| T3 40.00-20.00 | 30.00 | 1 | 14 | 0.5000 | 157.716 | A | 12.698 | 27.005 | 12.938 | 32.59 | 0.000 | 0.000 |
| | | | | | | B | 12.698 | 30.522 | | 29.94 | | |
| | | | | | | C | 12.698 | 27.005 | | 32.59 | | |
| T4 20.00-0.00 | 10.00 | 1 | 14 | 0.5000 | 197.716 | A | 13.739 | 22.082 | 12.938 | 36.12 | 0.000 | 0.000 |
| | | | | | | B | 13.739 | 23.708 | | 34.55 | | |
| | | | | | | C | 13.739 | 22.082 | | 36.12 | | |

Tower Pressure - Service

$$G_H = 1.179$$

| Section Elevation ft | z ft | K _Z | q _z psf | A _G ft ² | F a c e e | A _F ft ² | A _R ft ² | A _{leg} ft ² | Leg % | C _A A _A In Face ft ² | C _A A _A Out Face ft ² |
|-------------------------|---------|----------------|-----------------------|-----------------------------------|--------------|-----------------------------------|-----------------------------------|-------------------------------------|-------|---|--|
| T1 80.00-60.00 | 70.00 | 1.24 | 8 | 94.374 | A | 8.296 | 15.317 | 7.917 | 33.53 | 0.000 | 0.000 |
| | | | | | B | 8.296 | 17.167 | | 31.09 | | |
| | | | | | C | 8.296 | 15.317 | | 33.53 | | |
| T2 60.00-40.00 | 50.00 | 1.126 | 7 | 114.796 | A | 8.248 | 15.330 | 7.930 | 33.63 | 0.000 | 0.000 |
| | | | | | B | 8.248 | 17.180 | | 31.19 | | |
| | | | | | C | 8.248 | 15.330 | | 33.63 | | |
| T3 40.00-20.00 | 30.00 | 1 | 6 | 156.048 | A | 8.791 | 16.999 | 9.599 | 37.22 | 0.000 | 0.000 |

| | | |
|---|--|---|
| ERITower URS Corp. AES 795 Brook Street Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-5566 | Job 80' Lattice Tower (Rohn SSV) | Page 8 of 22 |
| | Project Carmen Hill Road, Brookfield, CT | Date 12:57:19 05/17/04 |
| | Client Verizon Wireless | Designed by Daniel D. McClure |

| Section Elevation | z | K _Z | q _z | A _G | F _{a c e} | A _F | A _R | A _{leg} | Leg % | C _A A _A In Face | C _A A _A Out Face |
|-------------------|-------|----------------|----------------|-----------------|--------------------|-----------------|-----------------|------------------|-------|---------------------------------------|--|
| ft | ft | | psf | ft ² | | ft ² | ft ² | ft ² | | ft ² | ft ² |
| T4 20.00-0.00 | 10.00 | 1 | 6 | 196.048 | B | 8.791 | 18.849 | 9.599 | 34.73 | 0.000 | 0.000 |
| | | | | | C | 8.791 | 16.999 | | 37.22 | | |
| | | | | | A | 9.949 | 14.409 | | 39.41 | | |
| | | | | | B | 9.949 | 15.265 | | 38.07 | | |
| | | | | | C | 9.949 | 14.409 | | 39.41 | | |

Tower Forces - No Ice - Wind Normal To Face

| Section Elevation | Add Weight | Self Weight | F _{a c e} | e | C _F | R _R | D _F | D _R | A _E | F | w | Ctrl. Face |
|-------------------|------------|-------------|--------------------|-------|----------------|----------------|----------------|----------------|------------------|------|-------|------------|
| ft | K | K | | | | | | | ft ² | K | plf | |
| T1 80.00-60.00 | 0.15 | 0.51 | A | 0.25 | 2.437 | 0.602 | 1 | 1 | 17.515 | 1.20 | 60.19 | B |
| | | | B | 0.27 | 2.379 | 0.607 | 1 | 1 | 18.718 | | | |
| | | | C | 0.25 | 2.437 | 0.602 | 1 | 1 | 17.515 | | | |
| T2 60.00-40.00 | 0.15 | 0.47 | A | 0.205 | 2.578 | 0.592 | 1 | 1 | 17.316 | 1.15 | 57.26 | B |
| | | | B | 0.222 | 2.526 | 0.595 | 1 | 1 | 18.471 | | | |
| | | | C | 0.205 | 2.578 | 0.592 | 1 | 1 | 17.316 | | | |
| T3 40.00-20.00 | 0.15 | 0.61 | A | 0.165 | 2.716 | 0.584 | 1 | 1 | 18.717 | 1.16 | 57.82 | B |
| | | | B | 0.177 | 2.674 | 0.586 | 1 | 1 | 19.837 | | | |
| | | | C | 0.165 | 2.716 | 0.584 | 1 | 1 | 18.717 | | | |
| T4 20.00-0.00 | 0.09 | 0.76 | A | 0.124 | 2.869 | 0.578 | 1 | 1 | 18.276 | 1.17 | 58.38 | B |
| | | | B | 0.129 | 2.852 | 0.578 | 1 | 1 | 18.779 | | | |
| | | | C | 0.124 | 2.869 | 0.578 | 1 | 1 | 18.276 | | | |
| Sum Weight: | 0.55 | 2.36 | | | | | | OTM | 187.90 kip-ft | 4.67 | | |

Tower Forces - No Ice - Wind 45 To Face

| Section Elevation | Add Weight | Self Weight | F _{a c e} | e | C _F | R _R | D _F | D _R | A _E | F | w | Ctrl. Face |
|-------------------|------------|-------------|--------------------|-------|----------------|----------------|----------------|----------------|------------------|------|-------|------------|
| ft | K | K | | | | | | | ft ² | K | plf | |
| T1 80.00-60.00 | 0.15 | 0.51 | A | 0.25 | 2.437 | 0.602 | 0.825 | 1 | 16.064 | 1.11 | 55.52 | B |
| | | | B | 0.27 | 2.379 | 0.607 | 0.825 | 1 | 17.266 | | | |
| | | | C | 0.25 | 2.437 | 0.602 | 0.825 | 1 | 16.064 | | | |
| T2 60.00-40.00 | 0.15 | 0.47 | A | 0.205 | 2.578 | 0.592 | 0.825 | 1 | 15.873 | 1.06 | 52.79 | B |
| | | | B | 0.222 | 2.526 | 0.595 | 0.825 | 1 | 17.028 | | | |
| | | | C | 0.205 | 2.578 | 0.592 | 0.825 | 1 | 15.873 | | | |
| T3 40.00-20.00 | 0.15 | 0.61 | A | 0.165 | 2.716 | 0.584 | 0.825 | 1 | 17.179 | 1.07 | 53.34 | B |
| | | | B | 0.177 | 2.674 | 0.586 | 0.825 | 1 | 18.298 | | | |
| | | | C | 0.165 | 2.716 | 0.584 | 0.825 | 1 | 17.179 | | | |
| T4 20.00-0.00 | 0.09 | 0.76 | A | 0.124 | 2.869 | 0.578 | 0.825 | 1 | 16.535 | 1.06 | 52.96 | B |
| | | | B | 0.129 | 2.852 | 0.578 | 0.825 | 1 | 17.038 | | | |
| | | | C | 0.124 | 2.869 | 0.578 | 0.825 | 1 | 16.535 | | | |
| Sum Weight: | 0.55 | 2.36 | | | | | | OTM | 173.11 kip-ft | 4.29 | | |

Tower Forces - No Ice - Wind 60 To Face

| | | |
|---|--|---|
| ERITower URS Corp. AES 795 Brook Street Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-5566 | Job 80' Lattice Tower (Rohn SSV) | Page 9 of 22 |
| | Project Carmen Hill Road, Brookfield, CT | Date 12:57:19 05/17/04 |
| | Client Verizon Wireless | Designed by Daniel D. McClure |

| Section Elevation ft | Add Weight K | Self Weight K | F a c e | e | C _F | R _R | D _F | D _R | A _E ft ² | F K | w plf | Ctrl. Face |
|-------------------------|-----------------|------------------|---------|-------|----------------|----------------|----------------|----------------|-----------------------------------|--------|----------|------------|
| T1 80.00-60.00 | 0.15 | 0.51 | A | 0.25 | 2.437 | 0.602 | 0.8 | 1 | 15.856 | 1.10 | 54.85 | B |
| | | | B | 0.27 | 2.379 | 0.607 | 0.8 | 1 | 17.059 | | | |
| | | | C | 0.25 | 2.437 | 0.602 | 0.8 | 1 | 15.856 | | | |
| T2 60.00-40.00 | 0.15 | 0.47 | A | 0.205 | 2.578 | 0.592 | 0.8 | 1 | 15.667 | 1.04 | 52.15 | B |
| | | | B | 0.222 | 2.526 | 0.595 | 0.8 | 1 | 16.821 | | | |
| | | | C | 0.205 | 2.578 | 0.592 | 0.8 | 1 | 15.667 | | | |
| T3 40.00-20.00 | 0.15 | 0.61 | A | 0.165 | 2.716 | 0.584 | 0.8 | 1 | 16.959 | 1.05 | 52.70 | B |
| | | | B | 0.177 | 2.674 | 0.586 | 0.8 | 1 | 18.078 | | | |
| | | | C | 0.165 | 2.716 | 0.584 | 0.8 | 1 | 16.959 | | | |
| T4 20.00-0.00 | 0.09 | 0.76 | A | 0.124 | 2.869 | 0.578 | 0.8 | 1 | 16.286 | 1.04 | 52.19 | B |
| | | | B | 0.129 | 2.852 | 0.578 | 0.8 | 1 | 16.789 | | | |
| | | | C | 0.124 | 2.869 | 0.578 | 0.8 | 1 | 16.286 | | | |
| Sum Weight: | 0.55 | 2.36 | | | | | | OTM | 171.00 kip-ft | 4.24 | | |

Tower Forces - No Ice - Wind 90 To Face

| Section Elevation ft | Add Weight K | Self Weight K | F a c e | e | C _F | R _R | D _F | D _R | A _E ft ² | F K | w plf | Ctrl. Face |
|-------------------------|-----------------|------------------|---------|-------|----------------|----------------|----------------|----------------|-----------------------------------|--------|----------|------------|
| T1 80.00-60.00 | 0.15 | 0.51 | A | 0.25 | 2.437 | 0.602 | 0.85 | 1 | 16.271 | 1.12 | 56.18 | B |
| | | | B | 0.27 | 2.379 | 0.607 | 0.85 | 1 | 17.474 | | | |
| | | | C | 0.25 | 2.437 | 0.602 | 0.85 | 1 | 16.271 | | | |
| T2 60.00-40.00 | 0.15 | 0.47 | A | 0.205 | 2.578 | 0.592 | 0.85 | 1 | 16.079 | 1.07 | 53.43 | B |
| | | | B | 0.222 | 2.526 | 0.595 | 0.85 | 1 | 17.234 | | | |
| | | | C | 0.205 | 2.578 | 0.592 | 0.85 | 1 | 16.079 | | | |
| T3 40.00-20.00 | 0.15 | 0.61 | A | 0.165 | 2.716 | 0.584 | 0.85 | 1 | 17.399 | 1.08 | 53.98 | B |
| | | | B | 0.177 | 2.674 | 0.586 | 0.85 | 1 | 18.518 | | | |
| | | | C | 0.165 | 2.716 | 0.584 | 0.85 | 1 | 17.399 | | | |
| T4 20.00-0.00 | 0.09 | 0.76 | A | 0.124 | 2.869 | 0.578 | 0.85 | 1 | 16.783 | 1.07 | 53.74 | B |
| | | | B | 0.129 | 2.852 | 0.578 | 0.85 | 1 | 17.286 | | | |
| | | | C | 0.124 | 2.869 | 0.578 | 0.85 | 1 | 16.783 | | | |
| Sum Weight: | 0.55 | 2.36 | | | | | | OTM | 175.22 kip-ft | 4.35 | | |

Tower Forces - With Ice - Wind Normal To Face

| Section Elevation ft | Add Weight K | Self Weight K | F a c e | e | C _F | R _R | D _F | D _R | A _E ft ² | F K | w plf | Ctrl. Face |
|-------------------------|-----------------|------------------|---------|-------|----------------|----------------|----------------|----------------|-----------------------------------|--------|----------|------------|
| T1 80.00-60.00 | 0.43 | 0.93 | A | 0.386 | 2.093 | 0.646 | 1 | 1 | 28.096 | 1.26 | 63.10 | B |
| | | | B | 0.422 | 2.021 | 0.661 | 1 | 1 | 30.802 | | | |
| | | | C | 0.386 | 2.093 | 0.646 | 1 | 1 | 28.096 | | | |
| T2 60.00-40.00 | 0.43 | 0.89 | A | 0.32 | 2.245 | 0.622 | 1 | 1 | 27.678 | 1.21 | 60.30 | B |
| | | | B | 0.35 | 2.171 | 0.632 | 1 | 1 | 30.163 | | | |
| | | | C | 0.32 | 2.245 | 0.622 | 1 | 1 | 27.678 | | | |
| T3 40.00-20.00 | 0.43 | 1.08 | A | 0.252 | 2.432 | 0.602 | 1 | 1 | 28.964 | 1.21 | 60.51 | B |
| | | | B | 0.274 | 2.367 | 0.608 | 1 | 1 | 31.264 | | | |

| | | | | | |
|---|----------------|----------------------------------|-------------|--------------------|-------------------|
| ERITower URS Corp. AES 795 Brook Street Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-5566 | Job | 80' Lattice Tower (Rohn SSV) | Page | 10 of 22 | |
| | Project | Carmen Hill Road, Brookfield, CT | | Date | 12:57:19 05/17/04 |
| | Client | Verizon Wireless | | Designed by | Daniel D. McClure |

| Section Elevation | Add Weight | Self Weight | F a c e | e | C _F | R _R | D _F | D _R | A _E | F | w | Ctrl. Face |
|-------------------|------------|-------------|---------|-------|----------------|----------------|----------------|----------------|-----------------|------|-------|------------|
| ft | K | K | e | | | | | | ft ² | K | plf | |
| T4 20.00-0.00 | 0.27 | 1.25 | C | 0.252 | 2.432 | 0.602 | 1 | 1 | 28.964 | 1.19 | 59.57 | B |
| | | | A | 0.181 | 2.66 | 0.587 | 1 | 1 | 26.695 | | | |
| | | | B | 0.189 | 2.632 | 0.588 | 1 | 1 | 27.686 | | | |
| | | | C | 0.181 | 2.66 | 0.587 | 1 | 1 | 26.695 | | | |
| Sum Weight: | 1.55 | 4.15 | | | | | OTM | 196.85 | 4.87 | | | |
| | | | | | | | | kip-ft | | | | |

Tower Forces - With Ice - Wind 45 To Face

| Section Elevation | Add Weight | Self Weight | F a c e | e | C _F | R _R | D _F | D _R | A _E | F | w | Ctrl. Face |
|-------------------|------------|-------------|---------|-------|----------------|----------------|----------------|----------------|-----------------|------|-------|------------|
| ft | K | K | e | | | | | | ft ² | K | plf | |
| T1 80.00-60.00 | 0.43 | 0.93 | A | 0.386 | 2.093 | 0.646 | 0.825 | 1 | 26.041 | 1.18 | 58.89 | B |
| | | | B | 0.422 | 2.021 | 0.661 | 0.825 | 1 | 28.748 | | | |
| | | | C | 0.386 | 2.093 | 0.646 | 0.825 | 1 | 26.041 | | | |
| T2 60.00-40.00 | 0.43 | 0.89 | A | 0.32 | 2.245 | 0.622 | 0.825 | 1 | 25.593 | 1.12 | 56.13 | B |
| | | | B | 0.35 | 2.171 | 0.632 | 0.825 | 1 | 28.078 | | | |
| | | | C | 0.32 | 2.245 | 0.622 | 0.825 | 1 | 25.593 | | | |
| T3 40.00-20.00 | 0.43 | 1.08 | A | 0.252 | 2.432 | 0.602 | 0.825 | 1 | 26.741 | 1.12 | 56.21 | B |
| | | | B | 0.274 | 2.367 | 0.608 | 0.825 | 1 | 29.042 | | | |
| | | | C | 0.252 | 2.432 | 0.602 | 0.825 | 1 | 26.741 | | | |
| T4 20.00-0.00 | 0.27 | 1.25 | A | 0.181 | 2.66 | 0.587 | 0.825 | 1 | 24.291 | 1.09 | 54.40 | B |
| | | | B | 0.189 | 2.632 | 0.588 | 0.825 | 1 | 25.282 | | | |
| | | | C | 0.181 | 2.66 | 0.587 | 0.825 | 1 | 24.291 | | | |
| Sum Weight: | 1.55 | 4.15 | | | | | OTM | 183.18 | 4.51 | | | |
| | | | | | | | | kip-ft | | | | |

Tower Forces - With Ice - Wind 60 To Face

| Section Elevation | Add Weight | Self Weight | F a c e | e | C _F | R _R | D _F | D _R | A _E | F | w | Ctrl. Face |
|-------------------|------------|-------------|---------|-------|----------------|----------------|----------------|----------------|-----------------|------|-------|------------|
| ft | K | K | e | | | | | | ft ² | K | plf | |
| T1 80.00-60.00 | 0.43 | 0.93 | A | 0.386 | 2.093 | 0.646 | 0.8 | 1 | 25.747 | 1.17 | 58.29 | B |
| | | | B | 0.422 | 2.021 | 0.661 | 0.8 | 1 | 28.454 | | | |
| | | | C | 0.386 | 2.093 | 0.646 | 0.8 | 1 | 25.747 | | | |
| T2 60.00-40.00 | 0.43 | 0.89 | A | 0.32 | 2.245 | 0.622 | 0.8 | 1 | 25.295 | 1.11 | 55.53 | B |
| | | | B | 0.35 | 2.171 | 0.632 | 0.8 | 1 | 27.780 | | | |
| | | | C | 0.32 | 2.245 | 0.622 | 0.8 | 1 | 25.295 | | | |
| T3 40.00-20.00 | 0.43 | 1.08 | A | 0.252 | 2.432 | 0.602 | 0.8 | 1 | 26.424 | 1.11 | 55.59 | B |
| | | | B | 0.274 | 2.367 | 0.608 | 0.8 | 1 | 28.725 | | | |
| | | | C | 0.252 | 2.432 | 0.602 | 0.8 | 1 | 26.424 | | | |
| T4 20.00-0.00 | 0.27 | 1.25 | A | 0.181 | 2.66 | 0.587 | 0.8 | 1 | 23.947 | 1.07 | 53.66 | B |
| | | | B | 0.189 | 2.632 | 0.588 | 0.8 | 1 | 24.939 | | | |
| | | | C | 0.181 | 2.66 | 0.587 | 0.8 | 1 | 23.947 | | | |
| Sum Weight: | 1.55 | 4.15 | | | | | OTM | 181.22 | 4.46 | | | |
| | | | | | | | | kip-ft | | | | |

| | | |
|---|--|---|
| ERITower URS Corp. AES 795 Brook Street Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-5566 | Job 80' Lattice Tower (Rohn SSV) | Page 11 of 22 |
| | Project Carmen Hill Road, Brookfield, CT | Date 12:57:19 05/17/04 |
| | Client Verizon Wireless | Designed by Daniel D. McClure |

Tower Forces - With Ice - Wind 90 To Face

| Section Elevation | Add Weight | Self Weight | F a c e | e | C _F | R _R | D _F | D _R | A _E | F | w | Ctrl. Face |
|-------------------|------------|-------------|---------|-------|----------------|----------------|----------------|----------------|-----------------|------|-------|------------|
| ft | K | K | | | | | | | ft ² | K | plf | |
| T1 80.00-60.00 | 0.43 | 0.93 | A | 0.386 | 2.093 | 0.646 | 0.85 | 1 | 26.334 | 1.19 | 59.49 | B |
| | | | B | 0.422 | 2.021 | 0.661 | 0.85 | 1 | 29.041 | | | |
| | | | C | 0.386 | 2.093 | 0.646 | 0.85 | 1 | 26.334 | | | |
| T2 60.00-40.00 | 0.43 | 0.89 | A | 0.32 | 2.245 | 0.622 | 0.85 | 1 | 25.890 | 1.13 | 56.72 | B |
| | | | B | 0.35 | 2.171 | 0.632 | 0.85 | 1 | 28.376 | | | |
| | | | C | 0.32 | 2.245 | 0.622 | 0.85 | 1 | 25.890 | | | |
| T3 40.00-20.00 | 0.43 | 1.08 | A | 0.252 | 2.432 | 0.602 | 0.85 | 1 | 27.059 | 1.14 | 56.82 | B |
| | | | B | 0.274 | 2.367 | 0.608 | 0.85 | 1 | 29.360 | | | |
| | | | C | 0.252 | 2.432 | 0.602 | 0.85 | 1 | 27.059 | | | |
| T4 20.00-0.00 | 0.27 | 1.25 | A | 0.181 | 2.66 | 0.587 | 0.85 | 1 | 24.634 | 1.10 | 55.14 | B |
| | | | B | 0.189 | 2.632 | 0.588 | 0.85 | 1 | 25.626 | | | |
| | | | C | 0.181 | 2.66 | 0.587 | 0.85 | 1 | 24.634 | | | |
| Sum Weight: | 1.55 | 4.15 | | | | | | OTM | 185.13 kip-ft | 4.56 | | |

Tower Forces - Service - Wind Normal To Face

| Section Elevation | Add Weight | Self Weight | F a c e | e | C _F | R _R | D _F | D _R | A _E | F | w | Ctrl. Face |
|-------------------|------------|-------------|---------|-------|----------------|----------------|----------------|----------------|-----------------|------|-------|------------|
| ft | K | K | | | | | | | ft ² | K | plf | |
| T1 80.00-60.00 | 0.15 | 0.51 | A | 0.25 | 2.437 | 0.602 | 1 | 1 | 17.515 | 0.42 | 20.83 | B |
| | | | B | 0.27 | 2.379 | 0.607 | 1 | 1 | 18.718 | | | |
| | | | C | 0.25 | 2.437 | 0.602 | 1 | 1 | 17.515 | | | |
| T2 60.00-40.00 | 0.15 | 0.47 | A | 0.205 | 2.578 | 0.592 | 1 | 1 | 17.316 | 0.40 | 19.81 | B |
| | | | B | 0.222 | 2.526 | 0.595 | 1 | 1 | 18.471 | | | |
| | | | C | 0.205 | 2.578 | 0.592 | 1 | 1 | 17.316 | | | |
| T3 40.00-20.00 | 0.15 | 0.61 | A | 0.165 | 2.716 | 0.584 | 1 | 1 | 18.717 | 0.40 | 20.01 | B |
| | | | B | 0.177 | 2.674 | 0.586 | 1 | 1 | 19.837 | | | |
| | | | C | 0.165 | 2.716 | 0.584 | 1 | 1 | 18.717 | | | |
| T4 20.00-0.00 | 0.09 | 0.76 | A | 0.124 | 2.869 | 0.578 | 1 | 1 | 18.276 | 0.40 | 20.20 | B |
| | | | B | 0.129 | 2.852 | 0.578 | 1 | 1 | 18.779 | | | |
| | | | C | 0.124 | 2.869 | 0.578 | 1 | 1 | 18.276 | | | |
| Sum Weight: | 0.55 | 2.36 | | | | | | OTM | 65.02 kip-ft | 1.62 | | |

Tower Forces - Service - Wind 45 To Face

| Section Elevation | Add Weight | Self Weight | F a c e | e | C _F | R _R | D _F | D _R | A _E | F | w | Ctrl. Face |
|-------------------|------------|-------------|---------|-------|----------------|----------------|----------------|----------------|-----------------|------|-------|------------|
| ft | K | K | | | | | | | ft ² | K | plf | |
| T1 80.00-60.00 | 0.15 | 0.51 | A | 0.25 | 2.437 | 0.602 | 0.825 | 1 | 16.064 | 0.38 | 19.21 | B |
| | | | B | 0.27 | 2.379 | 0.607 | 0.825 | 1 | 17.266 | | | |
| | | | C | 0.25 | 2.437 | 0.602 | 0.825 | 1 | 16.064 | | | |
| T2 60.00-40.00 | 0.15 | 0.47 | A | 0.205 | 2.578 | 0.592 | 0.825 | 1 | 15.873 | 0.37 | 18.27 | B |
| | | | B | 0.222 | 2.526 | 0.595 | 0.825 | 1 | 17.028 | | | |
| | | | C | 0.205 | 2.578 | 0.592 | 0.825 | 1 | 15.873 | | | |

| | | | | | |
|---|----------------|----------------------------------|-------------|--------------------|-------------------|
| ERITower URS Corp. AES 795 Brook Street Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-5566 | Job | 80' Lattice Tower (Rohn SSV) | Page | 12 of 22 | |
| | Project | Carmen Hill Road, Brookfield, CT | | Date | 12:57:19 05/17/04 |
| | Client | Verizon Wireless | | Designed by | Daniel D. McClure |

| Section Elevation | Add Weight | Self Weight | F a c e | e | C _F | R _R | D _F | D _R | A _E | F | w | Ctrl. Face |
|-------------------|------------|-------------|---------|-------|----------------|----------------|----------------|----------------|-----------------|------|-------|------------|
| ft | K | K | e | | | | | | ft ² | K | plf | |
| T3 40.00-20.00 | 0.15 | 0.61 | A | 0.165 | 2.716 | 0.584 | 0.825 | 1 | 17.179 | 0.37 | 18.46 | B |
| | | | B | 0.177 | 2.674 | 0.586 | 0.825 | 1 | 18.298 | | | |
| | | | C | 0.165 | 2.716 | 0.584 | 0.825 | 1 | 17.179 | | | |
| T4 20.00-0.00 | 0.09 | 0.76 | A | 0.124 | 2.869 | 0.578 | 0.825 | 1 | 16.535 | 0.37 | 18.33 | B |
| | | | B | 0.129 | 2.852 | 0.578 | 0.825 | 1 | 17.038 | | | |
| | | | C | 0.124 | 2.869 | 0.578 | 0.825 | 1 | 16.535 | | | |
| Sum Weight: | 0.55 | 2.36 | | | | | | OTM | 59.90 kip-ft | 1.49 | | |

Tower Forces - Service - Wind 60 To Face

| Section Elevation | Add Weight | Self Weight | F a c e | e | C _F | R _R | D _F | D _R | A _E | F | w | Ctrl. Face |
|-------------------|------------|-------------|---------|-------|----------------|----------------|----------------|----------------|-----------------|------|-------|------------|
| ft | K | K | e | | | | | | ft ² | K | plf | |
| T1 80.00-60.00 | 0.15 | 0.51 | A | 0.25 | 2.437 | 0.602 | 0.8 | 1 | 15.856 | 0.38 | 18.98 | B |
| | | | B | 0.27 | 2.379 | 0.607 | 0.8 | 1 | 17.059 | | | |
| | | | C | 0.25 | 2.437 | 0.602 | 0.8 | 1 | 15.856 | | | |
| T2 60.00-40.00 | 0.15 | 0.47 | A | 0.205 | 2.578 | 0.592 | 0.8 | 1 | 15.667 | 0.36 | 18.05 | B |
| | | | B | 0.222 | 2.526 | 0.595 | 0.8 | 1 | 16.821 | | | |
| | | | C | 0.205 | 2.578 | 0.592 | 0.8 | 1 | 15.667 | | | |
| T3 40.00-20.00 | 0.15 | 0.61 | A | 0.165 | 2.716 | 0.584 | 0.8 | 1 | 16.959 | 0.36 | 18.24 | B |
| | | | B | 0.177 | 2.674 | 0.586 | 0.8 | 1 | 18.078 | | | |
| | | | C | 0.165 | 2.716 | 0.584 | 0.8 | 1 | 16.959 | | | |
| T4 20.00-0.00 | 0.09 | 0.76 | A | 0.124 | 2.869 | 0.578 | 0.8 | 1 | 16.286 | 0.36 | 18.06 | B |
| | | | B | 0.129 | 2.852 | 0.578 | 0.8 | 1 | 16.789 | | | |
| | | | C | 0.124 | 2.869 | 0.578 | 0.8 | 1 | 16.286 | | | |
| Sum Weight: | 0.55 | 2.36 | | | | | | OTM | 59.17 kip-ft | 1.47 | | |

Tower Forces - Service - Wind 90 To Face

| Section Elevation | Add Weight | Self Weight | F a c e | e | C _F | R _R | D _F | D _R | A _E | F | w | Ctrl. Face |
|-------------------|------------|-------------|---------|-------|----------------|----------------|----------------|----------------|-----------------|------|-------|------------|
| ft | K | K | e | | | | | | ft ² | K | plf | |
| T1 80.00-60.00 | 0.15 | 0.51 | A | 0.25 | 2.437 | 0.602 | 0.85 | 1 | 16.271 | 0.39 | 19.44 | B |
| | | | B | 0.27 | 2.379 | 0.607 | 0.85 | 1 | 17.474 | | | |
| | | | C | 0.25 | 2.437 | 0.602 | 0.85 | 1 | 16.271 | | | |
| T2 60.00-40.00 | 0.15 | 0.47 | A | 0.205 | 2.578 | 0.592 | 0.85 | 1 | 16.079 | 0.37 | 18.49 | B |
| | | | B | 0.222 | 2.526 | 0.595 | 0.85 | 1 | 17.234 | | | |
| | | | C | 0.205 | 2.578 | 0.592 | 0.85 | 1 | 16.079 | | | |
| T3 40.00-20.00 | 0.15 | 0.61 | A | 0.165 | 2.716 | 0.584 | 0.85 | 1 | 17.399 | 0.37 | 18.68 | B |
| | | | B | 0.177 | 2.674 | 0.586 | 0.85 | 1 | 18.518 | | | |
| | | | C | 0.165 | 2.716 | 0.584 | 0.85 | 1 | 17.399 | | | |
| T4 20.00-0.00 | 0.09 | 0.76 | A | 0.124 | 2.869 | 0.578 | 0.85 | 1 | 16.783 | 0.37 | 18.59 | B |
| | | | B | 0.129 | 2.852 | 0.578 | 0.85 | 1 | 17.286 | | | |
| | | | C | 0.124 | 2.869 | 0.578 | 0.85 | 1 | 16.783 | | | |
| Sum Weight: | 0.55 | 2.36 | | | | | | OTM | 60.63 kip-ft | 1.50 | | |

| | | |
|---|--|---|
| ERITower URS Corp. AES 795 Brook Street Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-5566 | Job 80' Lattice Tower (Rohn SSV) | Page 13 of 22 |
| | Project Carmen Hill Road, Brookfield, CT | Date 12:57:19 05/17/04 |
| | Client Verizon Wireless | Designed by Daniel D. McClure |

Force Totals

| Load Case | Vertical Forces K | Sum of Forces X K | Sum of* Forces Z K | Sum of Overturning Moments, M _x kip-ft | Sum of Overturning Moments, M _z kip-ft | Sum of Torques kip-ft |
|--------------------------|----------------------|-------------------------|-----------------------------|--|--|--------------------------|
| Leg Weight | 1.25 | | | | | |
| Bracing Weight | 1.11 | | | | | |
| Total Member Self-Weight | 2.36 | | | | | |
| Total Weight | 3.54 | | | 0.35 | -0.17 | |
| Wind 0 deg - No Ice | | 0.00 | -6.25 | -307.75 | -0.17 | -0.33 |
| Wind 30 deg - No Ice | | 2.96 | -5.13 | -255.50 | -147.88 | 0.74 |
| Wind 45 deg - No Ice | | 4.15 | -4.15 | -207.05 | -207.57 | 1.20 |
| Wind 60 deg - No Ice | | 5.03 | -2.91 | -145.25 | -252.36 | 1.57 |
| Wind 90 deg - No Ice | | 5.92 | 0.00 | 0.35 | -295.60 | 1.99 |
| Wind 120 deg - No Ice | | 5.41 | 3.12 | 154.40 | -266.99 | 1.90 |
| Wind 135 deg - No Ice | | 4.15 | 4.15 | 207.76 | -207.57 | 1.61 |
| Wind 150 deg - No Ice | | 2.96 | 5.13 | 256.20 | -147.88 | 1.25 |
| Wind 180 deg - No Ice | | 0.00 | 5.81 | 291.55 | -0.17 | 0.28 |
| Wind 210 deg - No Ice | | -2.96 | 5.13 | 256.20 | 147.54 | -0.74 |
| Wind 225 deg - No Ice | | -4.15 | 4.15 | 207.76 | 207.23 | -1.20 |
| Wind 240 deg - No Ice | | -5.41 | 3.12 | 154.40 | 266.65 | -1.57 |
| Wind 270 deg - No Ice | | -5.92 | 0.00 | 0.35 | 295.26 | -1.99 |
| Wind 300 deg - No Ice | | -5.03 | -2.91 | -145.25 | 252.02 | -1.86 |
| Wind 315 deg - No Ice | | -4.15 | -4.15 | -207.05 | 207.23 | -1.61 |
| Wind 330 deg - No Ice | | -2.96 | -5.13 | -255.50 | 147.54 | -1.25 |
| Member Ice | 1.80 | | | | | |
| Total Weight Ice | 7.07 | | | 0.83 | -0.52 | |
| Wind 0 deg - Ice | | 0.00 | -6.23 | -299.89 | -0.52 | -0.48 |
| Wind 30 deg - Ice | | 2.96 | -5.13 | -249.45 | -145.02 | 0.50 |
| Wind 45 deg - Ice | | 4.15 | -4.15 | -202.14 | -203.49 | 0.93 |
| Wind 60 deg - Ice | | 5.04 | -2.91 | -141.72 | -247.42 | 1.30 |
| Wind 90 deg - Ice | | 5.92 | 0.00 | 0.83 | -289.52 | 1.76 |
| Wind 120 deg - Ice | | 5.40 | 3.12 | 151.19 | -260.95 | 1.78 |
| Wind 135 deg - Ice | | 4.15 | 4.15 | 203.80 | -203.49 | 1.55 |
| Wind 150 deg - Ice | | 2.96 | 5.13 | 251.11 | -145.02 | 1.26 |
| Wind 180 deg - Ice | | 0.00 | 5.82 | 285.92 | -0.52 | 0.43 |
| Wind 210 deg - Ice | | -2.96 | 5.13 | 251.11 | 143.98 | -0.50 |
| Wind 225 deg - Ice | | -4.15 | 4.15 | 203.80 | 202.45 | -0.93 |
| Wind 240 deg - Ice | | -5.40 | 3.12 | 151.19 | 259.92 | -1.30 |
| Wind 270 deg - Ice | | -5.92 | 0.00 | 0.83 | 288.48 | -1.76 |
| Wind 300 deg - Ice | | -5.04 | -2.91 | -141.72 | 246.38 | -1.73 |
| Wind 315 deg - Ice | | -4.15 | -4.15 | -202.14 | 202.45 | -1.55 |
| Wind 330 deg - Ice | | -2.96 | -5.13 | -249.45 | 143.98 | -1.26 |
| Total Weight | 3.54 | | | 0.35 | -0.17 | |
| Wind 0 deg - Service | | 0.00 | -2.16 | -106.16 | 0.00 | -0.11 |
| Wind 30 deg - Service | | 1.02 | -1.77 | -88.08 | -51.11 | 0.26 |
| Wind 45 deg - Service | | 1.44 | -1.44 | -71.32 | -71.77 | 0.41 |
| Wind 60 deg - Service | | 1.74 | -1.01 | -49.93 | -87.26 | 0.54 |
| Wind 90 deg - Service | | 2.05 | 0.00 | 0.45 | -102.22 | 0.69 |
| Wind 120 deg - Service | | 1.87 | 1.08 | 53.75 | -92.33 | 0.66 |
| Wind 135 deg - Service | | 1.44 | 1.44 | 72.22 | -71.77 | 0.56 |
| Wind 150 deg - Service | | 1.02 | 1.77 | 88.98 | -51.11 | 0.43 |
| Wind 180 deg - Service | | 0.00 | 2.01 | 101.21 | 0.00 | 0.10 |
| Wind 210 deg - Service | | -1.02 | 1.77 | 88.98 | 51.11 | -0.26 |
| Wind 225 deg - Service | | -1.44 | 1.44 | 72.22 | 71.77 | -0.41 |
| Wind 240 deg - Service | | -1.87 | 1.08 | 53.75 | 92.33 | -0.54 |
| Wind 270 deg - Service | | -2.05 | 0.00 | 0.45 | 102.22 | -0.69 |
| Wind 300 deg - Service | | -1.74 | -1.01 | -49.93 | 87.26 | -0.64 |
| Wind 315 deg - Service | | -1.44 | -1.44 | -71.32 | 71.77 | -0.56 |

| | | |
|---|--|---|
| ERITower URS Corp. AES 795 Brook Street Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-5566 | Job 80' Lattice Tower (Rohn SSV) | Page 14 of 22 |
| | Project Carmen Hill Road, Brookfield, CT | Date 12:57:19 05/17/04 |
| | Client Verizon Wireless | Designed by Daniel D. McClure |

| Load Case | Vertical Forces K | Sum of Forces X K | Sum of Forces Z K | Sum of Overturning Moments, M_x kip-ft | Sum of Overturning Moments, M_z kip-ft | Sum of Torques kip-ft |
|------------------------|----------------------|-------------------------|-------------------------|---|---|--------------------------|
| Wind 330 deg - Service | | -1.02 | -1.77 | -88.08 | 51.11 | -0.43 |

Load Combinations

| Comb. No. | Description |
|-----------|-----------------------------|
| 1 | Dead Only |
| 2 | Dead+Wind 0 deg - No Ice |
| 3 | Dead+Wind 30 deg - No Ice |
| 4 | Dead+Wind 45 deg - No Ice |
| 5 | Dead+Wind 60 deg - No Ice |
| 6 | Dead+Wind 90 deg - No Ice |
| 7 | Dead+Wind 120 deg - No Ice |
| 8 | Dead+Wind 135 deg - No Ice |
| 9 | Dead+Wind 150 deg - No Ice |
| 10 | Dead+Wind 180 deg - No Ice |
| 11 | Dead+Wind 210 deg - No Ice |
| 12 | Dead+Wind 225 deg - No Ice |
| 13 | Dead+Wind 240 deg - No Ice |
| 14 | Dead+Wind 270 deg - No Ice |
| 15 | Dead+Wind 300 deg - No Ice |
| 16 | Dead+Wind 315 deg - No Ice |
| 17 | Dead+Wind 330 deg - No Ice |
| 18 | Dead+Ice+Temp |
| 19 | Dead+Wind 0 deg+Ice+Temp |
| 20 | Dead+Wind 30 deg+Ice+Temp |
| 21 | Dead+Wind 45 deg+Ice+Temp |
| 22 | Dead+Wind 60 deg+Ice+Temp |
| 23 | Dead+Wind 90 deg+Ice+Temp |
| 24 | Dead+Wind 120 deg+Ice+Temp |
| 25 | Dead+Wind 135 deg+Ice+Temp |
| 26 | Dead+Wind 150 deg+Ice+Temp |
| 27 | Dead+Wind 180 deg+Ice+Temp |
| 28 | Dead+Wind 210 deg+Ice+Temp |
| 29 | Dead+Wind 225 deg+Ice+Temp |
| 30 | Dead+Wind 240 deg+Ice+Temp |
| 31 | Dead+Wind 270 deg+Ice+Temp |
| 32 | Dead+Wind 300 deg+Ice+Temp |
| 33 | Dead+Wind 315 deg+Ice+Temp |
| 34 | Dead+Wind 330 deg+Ice+Temp |
| 35 | Dead+Wind 0 deg - Service |
| 36 | Dead+Wind 30 deg - Service |
| 37 | Dead+Wind 45 deg - Service |
| 38 | Dead+Wind 60 deg - Service |
| 39 | Dead+Wind 90 deg - Service |
| 40 | Dead+Wind 120 deg - Service |
| 41 | Dead+Wind 135 deg - Service |
| 42 | Dead+Wind 150 deg - Service |
| 43 | Dead+Wind 180 deg - Service |
| 44 | Dead+Wind 210 deg - Service |
| 45 | Dead+Wind 225 deg - Service |
| 46 | Dead+Wind 240 deg - Service |
| 47 | Dead+Wind 270 deg - Service |
| 48 | Dead+Wind 300 deg - Service |
| 49 | Dead+Wind 315 deg - Service |

| | | |
|---|--|---|
| ERITower URS Corp. AES 795 Brook Street Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-5566 | Job 80' Lattice Tower (Rohn SSV) | Page 15 of 22 |
| | Project Carmen Hill Road, Brookfield, CT | Date 12:57:19 05/17/04 |
| | Client Verizon Wireless | Designed by Daniel D. McClure |

| Comb. No. | Description |
|-----------|-----------------------------|
| 50 | Dead+Wind 330 deg - Service |

Maximum Member Forces

| Section No. | Elevation ft | Component Type | Condition | Gov. Load Comb. | Force K | Major Axis Moment kip-ft | Minor Axis Moment kip-ft |
|-------------|--------------|----------------|------------------|-----------------|---------|--------------------------|--------------------------|
| T1 | 80 - 60 | Leg | Max Tension | 10 | 7.71 | 0.01 | -0.01 |
| | | | Max. Compression | 7 | -8.67 | -0.04 | -0.02 |
| | | | Max. Mx | 14 | 0.03 | -0.27 | -0.07 |
| | | | Max. My | 3 | -0.23 | -0.06 | -0.31 |
| | | | Max. Vy | 6 | -0.27 | 0.00 | 0.00 |
| | | Diagonal | Max. Vx | 3 | 0.28 | 0.00 | 0.00 |
| | | | Max Tension | 6 | 1.45 | 0.00 | 0.00 |
| | | | Max. Compression | 14 | -1.48 | 0.00 | 0.00 |
| | | | Max. Mx | 24 | 1.13 | 0.01 | -0.00 |
| | | | Max. Vy | 24 | -0.01 | 0.01 | -0.00 |
| | | Top Girt | Max Tension | 2 | 0.06 | 0.00 | 0.00 |
| | | | Max. Compression | 15 | -0.06 | 0.00 | 0.00 |
| | | | Max. Mx | 18 | 0.00 | -0.02 | 0.00 |
| | | | Max. Vy | 18 | 0.02 | 0.00 | 0.00 |
| T2 | 60 - 40 | Leg | Max Tension | 10 | 16.44 | -0.03 | -0.00 |
| | | | Max. Compression | 7 | -18.32 | 0.03 | -0.00 |
| | | | Max. Mx | 30 | -18.07 | 0.05 | -0.00 |
| | | | Max. My | 9 | -0.49 | -0.00 | -0.05 |
| | | | Max. Vy | 27 | -0.02 | -0.04 | -0.00 |
| | | Diagonal | Max. Vx | 9 | 0.02 | -0.00 | -0.05 |
| | | | Max Tension | 14 | 1.11 | 0.00 | 0.00 |
| | | | Max. Compression | 14 | -1.13 | 0.00 | 0.00 |
| | | | Max. Mx | 24 | 0.55 | 0.01 | -0.00 |
| | | | Max. Vy | 27 | 0.01 | 0.01 | -0.00 |
| T3 | 40 - 20 | Leg | Max Tension | 10 | 23.41 | -0.05 | -0.00 |
| | | | Max. Compression | 7 | -26.32 | 0.04 | -0.00 |
| | | | Max. Mx | 30 | -26.20 | 0.14 | 0.00 |
| | | | Max. My | 9 | -0.89 | -0.00 | -0.09 |
| | | | Max. Vy | 27 | -0.05 | -0.13 | -0.00 |
| | | Diagonal | Max. Vx | 9 | 0.03 | -0.00 | -0.09 |
| | | | Max Tension | 31 | 1.25 | 0.00 | 0.00 |
| | | | Max. Compression | 31 | -1.32 | 0.00 | 0.00 |
| | | | Max. Mx | 27 | 0.68 | 0.01 | -0.00 |
| | | | Max. Vy | 27 | 0.01 | 0.01 | -0.00 |
| T4 | 20 - 0 | Leg | Max Tension | 10 | 29.66 | -0.06 | -0.00 |
| | | | Max. Compression | 24 | -34.31 | 0.00 | 0.00 |
| | | | Max. Mx | 27 | 26.16 | -0.17 | -0.00 |
| | | | Max. My | 9 | -1.07 | -0.00 | -0.11 |
| | | | Max. Vy | 27 | 0.06 | -0.17 | -0.00 |
| | | Diagonal | Max. Vx | 9 | -0.04 | -0.00 | -0.11 |
| | | | Max Tension | 31 | 1.59 | 0.00 | 0.00 |
| | | | Max. Compression | 31 | -1.57 | 0.00 | 0.00 |
| | | | Max. Mx | 21 | 0.63 | 0.02 | 0.00 |
| | | | Max. Vy | 21 | 0.01 | 0.02 | 0.00 |

Maximum Reactions

| | | | | | |
|---|----------------|----------------------------------|-------------|--------------------|-------------------|
| ERITower URS Corp. AES 795 Brook Street Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-5566 | Job | 80' Lattice Tower (Rohn SSV) | Page | 16 of 22 | |
| | Project | Carmen Hill Road, Brookfield, CT | | Date | 12:57:19 05/17/04 |
| | Client | Verizon Wireless | | Designed by | Daniel D. McClure |

| Location | Condition | Gov. Load Comb. | Vertical K | Horizontal, X K | Horizontal, Z K |
|----------|---------------------|-----------------|------------|-----------------|-----------------|
| Leg C | Max. Vert | 30 | 35.32 | 3.10 | -1.71 |
| | Max. H _x | 13 | 34.92 | 3.33 | -1.82 |
| | Max. H _z | 21 | -28.05 | -3.04 | 1.82 |
| | Min. Vert | 5 | -30.70 | -2.96 | 1.61 |
| | Min. H _x | 22 | -28.90 | -3.18 | 1.75 |
| | Min. H _z | 13 | 34.92 | 3.33 | -1.82 |
| Leg B | Max. Vert | 24 | 35.42 | -3.11 | -1.68 |
| | Max. H _x | 32 | -28.81 | 3.19 | 1.73 |
| | Max. H _z | 33 | -27.95 | 3.05 | 1.79 |
| | Min. Vert | 15 | -30.67 | 2.97 | 1.60 |
| | Min. H _x | 7 | 34.95 | -3.34 | -1.81 |
| | Min. H _z | 7 | 34.95 | -3.34 | -1.81 |
| Leg A | Max. Vert | 19 | 35.23 | -0.03 | 3.54 |
| | Max. H _x | 31 | 2.26 | 0.33 | -0.17 |
| | Max. H _z | 2 | 34.87 | -0.02 | 3.80 |
| | Min. Vert | 10 | -30.74 | 0.02 | -3.37 |
| | Min. H _x | 23 | 2.26 | -0.33 | -0.17 |
| | Min. H _z | 27 | -28.99 | 0.02 | -3.63 |

Tower Mast Reaction Summary

| Load Combination | Vertical | Shear _x | Shear _z | Overturning Moment, M _x | Overturning Moment, M _z | Torque |
|----------------------------|----------|--------------------|--------------------|------------------------------------|------------------------------------|--------|
| | K | K | K | kip-ft | kip-ft | kip-ft |
| Dead Only | 3.54 | 0.00 | 0.00 | 0.35 | -0.17 | 0.00 |
| Dead+Wind 0 deg - No Ice | 3.54 | 0.00 | -6.25 | -308.21 | -0.17 | -0.33 |
| Dead+Wind 30 deg - No Ice | 3.54 | 2.96 | -5.13 | -255.88 | -148.11 | 0.74 |
| Dead+Wind 45 deg - No Ice | 3.54 | 4.15 | -4.15 | -207.37 | -207.90 | 1.20 |
| Dead+Wind 60 deg - No Ice | 3.54 | 5.03 | -2.91 | -145.47 | -252.75 | 1.58 |
| Dead+Wind 90 deg - No Ice | 3.54 | 5.92 | 0.00 | 0.36 | -296.04 | 1.99 |
| Dead+Wind 120 deg - No Ice | 3.54 | 5.41 | 3.12 | 154.64 | -267.39 | 1.90 |
| Dead+Wind 135 deg - No Ice | 3.54 | 4.15 | 4.15 | 208.07 | -207.89 | 1.61 |
| Dead+Wind 150 deg - No Ice | 3.54 | 2.96 | 5.13 | 256.58 | -148.10 | 1.25 |
| Dead+Wind 180 deg - No Ice | 3.54 | 0.00 | 5.81 | 292.00 | -0.17 | 0.28 |
| Dead+Wind 210 deg - No Ice | 3.54 | -2.96 | 5.13 | 256.58 | 147.76 | -0.74 |
| Dead+Wind 225 deg - No Ice | 3.54 | -4.15 | 4.15 | 208.07 | 207.55 | -1.20 |
| Dead+Wind 240 deg - No Ice | 3.54 | -5.41 | 3.12 | 154.64 | 267.05 | -1.58 |
| Dead+Wind 270 deg - No Ice | 3.54 | -5.92 | 0.00 | 0.36 | 295.70 | -1.99 |
| Dead+Wind 300 deg - No Ice | 3.54 | -5.03 | -2.91 | -145.47 | 252.41 | -1.86 |
| Dead+Wind 315 deg - No Ice | 3.54 | -4.15 | -4.15 | -207.37 | 207.56 | -1.61 |
| Dead+Wind 330 deg - No Ice | 3.54 | -2.96 | -5.13 | -255.88 | 147.77 | -1.25 |
| Dead+Ice+Temp | 7.07 | -0.00 | -0.00 | 0.83 | -0.52 | 0.00 |
| Dead+Wind 0 deg+Ice+Temp | 7.07 | 0.00 | -6.23 | -300.73 | -0.52 | -0.48 |
| Dead+Wind 30 deg+Ice+Temp | 7.07 | 2.96 | -5.13 | -250.16 | -145.43 | 0.50 |
| Dead+Wind 45 deg+Ice+Temp | 7.07 | 4.15 | -4.15 | -202.71 | -204.08 | 0.94 |
| Dead+Wind 60 deg+Ice+Temp | 7.07 | 5.04 | -2.91 | -142.11 | -248.13 | 1.31 |
| Dead+Wind 90 deg+Ice+Temp | 7.07 | 5.92 | 0.00 | 0.84 | -290.35 | 1.76 |
| Dead+Wind 120 deg+Ice+Temp | 7.07 | 5.40 | 3.12 | 151.63 | -261.68 | 1.78 |
| Dead+Wind 135 deg+Ice+Temp | 7.07 | 4.15 | 4.15 | 204.39 | -204.08 | 1.55 |
| Dead+Wind 150 deg+Ice+Temp | 7.07 | 2.96 | 5.13 | 251.83 | -145.43 | 1.26 |
| Dead+Wind 180 deg+Ice+Temp | 7.07 | 0.00 | 5.82 | 286.74 | -0.52 | 0.43 |
| Dead+Wind 210 deg+Ice+Temp | 7.07 | -2.96 | 5.13 | 251.83 | 144.39 | -0.50 |
| Dead+Wind 225 deg+Ice+Temp | 7.07 | -4.15 | 4.15 | 204.38 | 203.04 | -0.94 |
| Dead+Wind 240 deg+Ice+Temp | 7.07 | -5.40 | 3.12 | 151.63 | 260.64 | -1.31 |
| Dead+Wind 270 deg+Ice+Temp | 7.07 | -5.92 | 0.00 | 0.84 | 289.31 | -1.76 |
| Dead+Wind 300 deg+Ice+Temp | 7.07 | -5.04 | -2.91 | -142.11 | 247.09 | -1.73 |
| Dead+Wind 315 deg+Ice+Temp | 7.07 | -4.15 | -4.15 | -202.71 | 203.04 | -1.55 |

| | | |
|---|--|---|
| ERITower URS Corp. AES 795 Brook Street Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-5566 | Job 80' Lattice Tower (Rohn SSV) | Page 17 of 22 |
| | Project Carmen Hill Road, Brookfield, CT | Date 12:57:19 05/17/04 |
| | Client Verizon Wireless | Designed by Daniel D. McClure |

| Load Combination | Vertical | Shear _x | Shear _z | Overturning Moment, M _x | Overturning Moment, M _z | Torque |
|-----------------------------|----------|--------------------|--------------------|------------------------------------|------------------------------------|--------|
| | K | K | K | kip-ft | kip-ft | kip-ft |
| Dead+Wind 330 deg+Ice+Temp | 7.07 | -2.96 | -5.13 | -250.16 | 144.40 | -1.26 |
| Dead+Wind 0 deg - Service | 3.54 | 0.00 | -2.16 | -106.42 | -0.17 | -0.11 |
| Dead+Wind 30 deg - Service | 3.54 | 1.02 | -1.77 | -88.31 | -51.36 | 0.26 |
| Dead+Wind 45 deg - Service | 3.54 | 1.44 | -1.44 | -71.52 | -72.04 | 0.41 |
| Dead+Wind 60 deg - Service | 3.54 | 1.74 | -1.01 | -50.10 | -87.56 | 0.55 |
| Dead+Wind 90 deg - Service | 3.54 | 2.05 | 0.00 | 0.35 | -102.55 | 0.69 |
| Dead+Wind 120 deg - Service | 3.54 | 1.87 | 1.08 | 53.74 | -92.63 | 0.66 |
| Dead+Wind 135 deg - Service | 3.54 | 1.44 | 1.44 | 72.23 | -72.04 | 0.56 |
| Dead+Wind 150 deg - Service | 3.54 | 1.02 | 1.77 | 89.01 | -51.36 | 0.43 |
| Dead+Wind 180 deg - Service | 3.54 | 0.00 | 2.01 | 101.27 | -0.17 | 0.10 |
| Dead+Wind 210 deg - Service | 3.54 | -1.02 | 1.77 | 89.01 | 51.02 | -0.26 |
| Dead+Wind 225 deg - Service | 3.54 | -1.44 | 1.44 | 72.23 | 71.70 | -0.41 |
| Dead+Wind 240 deg - Service | 3.54 | -1.87 | 1.08 | 53.74 | 92.29 | -0.55 |
| Dead+Wind 270 deg - Service | 3.54 | -2.05 | 0.00 | 0.35 | 102.21 | -0.69 |
| Dead+Wind 300 deg - Service | 3.54 | -1.74 | -1.01 | -50.10 | 87.22 | -0.64 |
| Dead+Wind 315 deg - Service | 3.54 | -1.44 | -1.44 | -71.52 | 71.70 | -0.56 |
| Dead+Wind 330 deg - Service | 3.54 | -1.02 | -1.77 | -88.31 | 51.02 | -0.43 |

Solution Summary

| Load Comb. | Sum of Applied Forces | | | Sum of Reactions | | | % Error |
|------------|-----------------------|---------|---------|------------------|---------|---------|---------|
| | PX K | PY K | PZ K | PX K | PY K | PZ K | |
| 1 | 0.00 | -3.54 | 0.00 | 0.00 | 3.54 | 0.00 | 0.000% |
| 2 | 0.00 | -3.54 | -6.25 | 0.00 | 3.54 | 6.25 | 0.004% |
| 3 | 2.96 | -3.54 | -5.13 | -2.96 | 3.54 | 5.13 | 0.004% |
| 4 | 4.15 | -3.54 | -4.15 | -4.15 | 3.54 | 4.15 | 0.001% |
| 5 | 5.03 | -3.54 | -2.91 | -5.03 | 3.54 | 2.91 | 0.001% |
| 6 | 5.92 | -3.54 | 0.00 | -5.92 | 3.54 | -0.00 | 0.004% |
| 7 | 5.41 | -3.54 | 3.12 | -5.41 | 3.54 | -3.12 | 0.004% |
| 8 | 4.15 | -3.54 | 4.15 | -4.15 | 3.54 | -4.15 | 0.004% |
| 9 | 2.96 | -3.54 | 5.13 | -2.96 | 3.54 | -5.13 | 0.004% |
| 10 | 0.00 | -3.54 | 5.81 | 0.00 | 3.54 | -5.81 | 0.001% |
| 11 | -2.96 | -3.54 | 5.13 | 2.96 | 3.54 | -5.13 | 0.004% |
| 12 | -4.15 | -3.54 | 4.15 | 4.15 | 3.54 | -4.15 | 0.004% |
| 13 | -5.41 | -3.54 | 3.12 | 5.41 | 3.54 | -3.12 | 0.004% |
| 14 | -5.92 | -3.54 | 0.00 | 5.92 | 3.54 | -0.00 | 0.004% |
| 15 | -5.03 | -3.54 | -2.91 | 5.03 | 3.54 | 2.91 | 0.001% |
| 16 | -4.15 | -3.54 | -4.15 | 4.15 | 3.54 | 4.15 | 0.001% |
| 17 | -2.96 | -3.54 | -5.13 | 2.96 | 3.54 | 5.13 | 0.004% |
| 18 | 0.00 | -7.07 | 0.00 | 0.00 | 7.07 | 0.00 | 0.000% |
| 19 | 0.00 | -7.07 | -6.23 | 0.00 | 7.07 | 6.23 | 0.002% |
| 20 | 2.96 | -7.07 | -5.13 | -2.96 | 7.07 | 5.13 | 0.002% |
| 21 | 4.15 | -7.07 | -4.15 | -4.15 | 7.07 | 4.15 | 0.002% |
| 22 | 5.04 | -7.07 | -2.91 | -5.04 | 7.07 | 2.91 | 0.002% |
| 23 | 5.92 | -7.07 | 0.00 | -5.92 | 7.07 | -0.00 | 0.002% |
| 24 | 5.40 | -7.07 | 3.12 | -5.40 | 7.07 | -3.12 | 0.002% |
| 25 | 4.15 | -7.07 | 4.15 | -4.15 | 7.07 | -4.15 | 0.002% |
| 26 | 2.96 | -7.07 | 5.13 | -2.96 | 7.07 | -5.13 | 0.002% |
| 27 | 0.00 | -7.07 | 5.82 | 0.00 | 7.07 | -5.82 | 0.002% |
| 28 | -2.96 | -7.07 | 5.13 | 2.96 | 7.07 | -5.13 | 0.002% |
| 29 | -4.15 | -7.07 | 4.15 | 4.15 | 7.07 | -4.15 | 0.002% |
| 30 | -5.40 | -7.07 | 3.12 | 5.40 | 7.07 | -3.12 | 0.002% |
| 31 | -5.92 | -7.07 | 0.00 | 5.92 | 7.07 | -0.00 | 0.002% |
| 32 | -5.04 | -7.07 | -2.91 | 5.04 | 7.07 | 2.91 | 0.002% |
| 33 | -4.15 | -7.07 | -4.15 | 4.15 | 7.07 | 4.15 | 0.002% |
| 34 | -2.96 | -7.07 | -5.13 | 2.96 | 7.07 | 5.13 | 0.002% |
| 35 | 0.00 | -3.54 | -2.16 | 0.00 | 3.54 | 2.16 | 0.002% |

| | | | | |
|---|----------------|----------------------------------|--------------------|-------------------|
| ERITower URS Corp. AES 795 Brook Street Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-5566 | Job | 80' Lattice Tower (Rohn SSV) | Page | 18 of 22 |
| | Project | Carmen Hill Road, Brookfield, CT | Date | 12:57:19 05/17/04 |
| | Client | Verizon Wireless | Designed by | Daniel D. McClure |

| Load Comb. | Sum of Applied Forces | | | Sum of Reactions | | | % Error |
|------------|-----------------------|---------|---------|------------------|---------|---------|---------|
| | PX K | PY K | PZ K | PX K | PY K | PZ K | |
| 36 | 1.02 | -3.54 | -1.77 | -1.02 | 3.54 | 1.77 | 0.002% |
| 37 | 1.44 | -3.54 | -1.44 | -1.44 | 3.54 | 1.44 | 0.003% |
| 38 | 1.74 | -3.54 | -1.01 | -1.74 | 3.54 | 1.01 | 0.002% |
| 39 | 2.05 | -3.54 | 0.00 | -2.05 | 3.54 | -0.00 | 0.002% |
| 40 | 1.87 | -3.54 | 1.08 | -1.87 | 3.54 | -1.08 | 0.002% |
| 41 | 1.44 | -3.54 | 1.44 | -1.44 | 3.54 | -1.44 | 0.002% |
| 42 | 1.02 | -3.54 | 1.77 | -1.02 | 3.54 | -1.77 | 0.002% |
| 43 | 0.00 | -3.54 | 2.01 | 0.00 | 3.54 | -2.01 | 0.003% |
| 44 | -1.02 | -3.54 | 1.77 | 1.02 | 3.54 | -1.77 | 0.002% |
| 45 | -1.44 | -3.54 | 1.44 | 1.44 | 3.54 | -1.44 | 0.002% |
| 46 | -1.87 | -3.54 | 1.08 | 1.87 | 3.54 | -1.08 | 0.002% |
| 47 | -2.05 | -3.54 | 0.00 | 2.05 | 3.54 | -0.00 | 0.002% |
| 48 | -1.74 | -3.54 | -1.01 | 1.74 | 3.54 | 1.01 | 0.002% |
| 49 | -1.44 | -3.54 | -1.44 | 1.44 | 3.54 | 1.44 | 0.003% |
| 50 | -1.02 | -3.54 | -1.77 | 1.02 | 3.54 | 1.77 | 0.002% |

Non-Linear Convergence Results

| Load Combination | Converged? | Number of Cycles | Displacement Tolerance | Force Tolerance |
|------------------|------------|------------------|------------------------|-----------------|
| 1 | Yes | 6 | 0.0000001 | 0.0000001 |
| 2 | Yes | 8 | 0.0000001 | 0.00011695 |
| 3 | Yes | 8 | 0.0000001 | 0.00013862 |
| 4 | Yes | 9 | 0.0000001 | 0.00005174 |
| 5 | Yes | 9 | 0.0000001 | 0.00005349 |
| 6 | Yes | 8 | 0.0000001 | 0.00013913 |
| 7 | Yes | 8 | 0.0000001 | 0.00011723 |
| 8 | Yes | 8 | 0.0000001 | 0.00012453 |
| 9 | Yes | 8 | 0.0000001 | 0.00013872 |
| 10 | Yes | 9 | 0.0000001 | 0.00005350 |
| 11 | Yes | 8 | 0.0000001 | 0.00013876 |
| 12 | Yes | 8 | 0.0000001 | 0.00012455 |
| 13 | Yes | 8 | 0.0000001 | 0.00011723 |
| 14 | Yes | 8 | 0.0000001 | 0.00013912 |
| 15 | Yes | 9 | 0.0000001 | 0.00005349 |
| 16 | Yes | 9 | 0.0000001 | 0.00005173 |
| 17 | Yes | 8 | 0.0000001 | 0.00013858 |
| 18 | Yes | 6 | 0.0000001 | 0.00000001 |
| 19 | Yes | 9 | 0.0000001 | 0.00008942 |
| 20 | Yes | 9 | 0.0000001 | 0.00009674 |
| 21 | Yes | 9 | 0.0000001 | 0.00010128 |
| 22 | Yes | 9 | 0.0000001 | 0.00010309 |
| 23 | Yes | 9 | 0.0000001 | 0.00009689 |
| 24 | Yes | 9 | 0.0000001 | 0.00008982 |
| 25 | Yes | 9 | 0.0000001 | 0.00009237 |
| 26 | Yes | 9 | 0.0000001 | 0.00009701 |
| 27 | Yes | 9 | 0.0000001 | 0.00010328 |
| 28 | Yes | 9 | 0.0000001 | 0.00009707 |
| 29 | Yes | 9 | 0.0000001 | 0.00009241 |
| 30 | Yes | 9 | 0.0000001 | 0.00008981 |
| 31 | Yes | 9 | 0.0000001 | 0.00009684 |
| 32 | Yes | 9 | 0.0000001 | 0.00010302 |
| 33 | Yes | 9 | 0.0000001 | 0.00010119 |
| 34 | Yes | 9 | 0.0000001 | 0.00009663 |
| 35 | Yes | 8 | 0.0000001 | 0.00012883 |
| 36 | Yes | 8 | 0.0000001 | 0.00013617 |

| | | | | |
|---|---------|----------------------------------|-------------|-------------------|
| ERITower URS Corp. AES 795 Brook Street Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-5566 | Job | 80' Lattice Tower (Rohn SSV) | Page | 19 of 22 |
| | Project | Carmen Hill Road, Brookfield, CT | Date | 12:57:19 05/17/04 |
| | Client | Verizon Wireless | Designed by | Daniel D. McClure |

| | | | | |
|----|-----|---|------------|------------|
| 37 | Yes | 8 | 0.00000001 | 0.00014088 |
| 38 | Yes | 8 | 0.00000001 | 0.00014279 |
| 39 | Yes | 8 | 0.00000001 | 0.00013640 |
| 40 | Yes | 8 | 0.00000001 | 0.00012942 |
| 41 | Yes | 8 | 0.00000001 | 0.00013193 |
| 42 | Yes | 8 | 0.00000001 | 0.00013666 |
| 43 | Yes | 8 | 0.00000001 | 0.00014311 |
| 44 | Yes | 8 | 0.00000001 | 0.00013668 |
| 45 | Yes | 8 | 0.00000001 | 0.00013194 |
| 46 | Yes | 8 | 0.00000001 | 0.00012940 |
| 47 | Yes | 8 | 0.00000001 | 0.00013636 |
| 48 | Yes | 8 | 0.00000001 | 0.00014274 |
| 49 | Yes | 8 | 0.00000001 | 0.00014082 |
| 50 | Yes | 8 | 0.00000001 | 0.00013611 |

Maximum Tower Deflections - Service Wind

| Section No. | Elevation ft | Horz. Deflection in | Gov. Load Comb. | Tilt ° | Twist ° |
|-------------|-----------------|------------------------|-----------------|-----------|------------|
| T1 | 80 - 60 | 1.372 | 40 | 0.1476 | 0.0391 |
| T2 | 60 - 40 | 0.764 | 40 | 0.1284 | 0.0225 |
| T3 | 40 - 20 | 0.323 | 40 | 0.0728 | 0.0103 |
| T4 | 20 - 0 | 0.084 | 40 | 0.0323 | 0.0036 |

Critical Deflections and Radius of Curvature - Service Wind

| Elevation ft | Appurtenance | Gov. Load Comb. | Deflection in | Tilt ° | Twist ° | Radius of Curvature ft |
|-----------------|----------------------------|-----------------|------------------|-----------|------------|---------------------------|
| 79.00 | 7250.03 w/Mount Pipe | 40 | 1.340 | 0.1472 | 0.0383 | 96495 |
| 78.75 | 7125.16.05.00 w/Mount Pipe | 40 | 1.332 | 0.1471 | 0.0381 | 96495 |
| 74.00 | 7125.16.05.00 w/Mount Pipe | 40 | 1.181 | 0.1448 | 0.0339 | 80412 |
| 71.00 | DB774G90ESXM w/Mount Pipe | 40 | 1.087 | 0.1428 | 0.0314 | 53608 |

Maximum Tower Deflections - Design Wind

| Section No. | Elevation ft | Horz. Deflection in | Gov. Load Comb. | Tilt ° | Twist ° |
|-------------|-----------------|------------------------|-----------------|-----------|------------|
| T1 | 80 - 60 | 3.947 | 7 | 0.4233 | 0.1131 |
| T2 | 60 - 40 | 2.200 | 7 | 0.3692 | 0.0650 |
| T3 | 40 - 20 | 0.931 | 7 | 0.2096 | 0.0298 |
| T4 | 20 - 0 | 0.243 | 7 | 0.0930 | 0.0105 |

Critical Deflections and Radius of Curvature - Design Wind

| | | |
|---|--|---|
| ERITower URS Corp. AES 795 Brook Street Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-5566 | Job 80' Lattice Tower (Rohn SSV) | Page 20 of 22 |
| | Project Carmen Hill Road, Brookfield, CT | Date 12:57:19 05/17/04 |
| | Client Verizon Wireless | Designed by Daniel D. McClure |

| Elevation | Appurtenance | Gov. Load Comb. | Deflection | Tilt | Twist | Radius of Curvature |
|-----------|----------------------------|-----------------|------------|--------|--------|---------------------|
| ft | | | in | ° | ° | ft |
| 79.00 | 7250.03 w/Mount Pipe | 7 | 3.855 | 0.4221 | 0.1106 | 33901 |
| 78.75 | 7125.16.05.00 w/Mount Pipe | 7 | 3.832 | 0.4218 | 0.1100 | 33901 |
| 74.00 | 7125.16.05.00 w/Mount Pipe | 7 | 3.397 | 0.4155 | 0.0980 | 28251 |
| 71.00 | DB774G90ESXM w/Mount Pipe | 7 | 3.127 | 0.4100 | 0.0906 | 18834 |

Bolt Design Data

| Section No. | Elevation | Component Type | Bolt Grade | Bolt Size | Number Of Bolts | Maximum Load per Bolt | Allowable Load | Ratio Load Allowable | Allowable Ratio | Criteria |
|-------------|-----------|----------------|------------|-----------|-----------------|-----------------------|----------------|----------------------|-----------------|--------------|
| | ft | | | in | | K | K | | | |
| T1 | 80 | Leg | A325N | 0.6250 | 3 | 0.09 | 13.50 | 0.007 ✓ | 1.333 | Bolt Tension |
| T2 | 60 | Leg | A325N | 0.6250 | 3 | 3.30 | 13.50 | 0.244 ✓ | 1.333 | Bolt Tension |
| T3 | 40 | Leg | A325N | 0.6250 | 3 | 6.03 | 13.50 | 0.447 ✓ | 1.333 | Bolt Tension |
| T4 | 20 | Leg | A325N | 0.6250 | 3 | 8.43 | 13.50 | 0.625 ✓ | 1.333 | Bolt Tension |

Compression Checks

Leg Design Data (Compression)

| Section No. | Elevation | Size | L | L _u | Kl/r | F _a | A | Actual P | Allow. P _a | Ratio P/P _a |
|-------------|-----------|--------------|-------|----------------|----------------|----------------|-----------------|----------|-----------------------|------------------------|
| | ft | | ft | ft | | ksi | in ² | K | K | |
| T1 | 80 - 60 | ROHN 2 STD | 20.00 | 4.00 | 61.0 K=1.00 | 22.549 | 1.0745 | -8.67 | 24.23 | 0.358 ✓ |
| T2 | 60 - 40 | ROHN 2 STD | 20.03 | 4.01 | 61.1 K=1.00 | 22.531 | 1.0745 | -18.32 | 24.21 | 0.757 ✓ |
| T3 | 40 - 20 | ROHN 2.5 STD | 20.03 | 5.01 | 63.4 K=1.00 | 22.122 | 1.7040 | -26.32 | 37.70 | 0.698 ✓ |
| T4 | 20 - 0 | ROHN 2.5 EH | 20.03 | 6.68 | 86.7 K=1.00 | 17.635 | 2.2535 | -34.31 | 39.74 | 0.863 ✓ |

Diagonal Design Data (Compression)

| Section No. | Elevation | Size | L | L _u | Kl/r | F _a | A | Actual P | Allow. P _a | Ratio P/P _a |
|-------------|-----------|------------------|------|----------------|-----------------|----------------|-----------------|----------|-----------------------|------------------------|
| | ft | | ft | ft | | ksi | in ² | K | K | |
| T1 | 80 - 60 | L1 1/2x1 1/2x1/8 | 6.04 | 2.89 | 116.9 K=1.00 | 10.719 | 0.3594 | -1.48 | 3.85 | 0.383 ✓ |
| T2 | 60 - 40 | L1 1/2x1 1/2x1/8 | 7.51 | 3.76 | 152.3 K=1.00 | 6.435 | 0.3594 | -1.08 | 2.31 | 0.465 ✓ |

| | | |
|---|--|---|
| ERITower URS Corp. AES 795 Brook Street Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-5566 | Job 80' Lattice Tower (Rohn SSV) | Page 21 of 22 |
| | Project Carmen Hill Road, Brookfield, CT | Date 12:57:19 05/17/04 |
| | Client Verizon Wireless | Designed by Daniel D. McClure |

| Section No. | Elevation ft | Size | L ft | L _u ft | KL/r | F _a ksi | A in ² | Actual P K | Allow. P _a K | Ratio P P _a |
|-------------|-----------------|------------------|---------|----------------------|-----------------|-----------------------|----------------------|---------------|----------------------------|------------------------------|
| T3 | 40 - 20 | L1 1/2x1 1/2x1/8 | 9.70 | 4.86 | 196.8 K=1.00 | 3.857 | 0.3594 | -1.32 | 1.39 | 0.954 ✓ |
| T4 | 20 - 0 | L1 3/4x1 3/4x1/8 | 11.66 | 5.89 | 203.8 K=1.00 | 3.596 | 0.4219 | -1.57 | 1.52 | 1.033 ✓ |

KL/R > 200 (C) - 106

Top Girt Design Data (Compression)

| Section No. | Elevation ft | Size | L ft | L _u ft | KL/r | F _a ksi | A in ² | Actual P K | Allow. P _a K | Ratio P P _a |
|-------------|-----------------|----------|---------|----------------------|----------------|-----------------------|----------------------|---------------|----------------------------|------------------------------|
| T1 | 80 - 60 | L3x3x1/4 | 4.52 | 4.32 | 87.6 K=1.00 | 14.485 | 1.4400 | -0.06 | 20.86 | 0.003 ✓ |

Tension Checks

Leg Design Data (Tension)

| Section No. | Elevation ft | Size | L ft | L _u ft | KL/r | F _a ksi | A in ² | Actual P K | Allow. P _a K | Ratio P P _a |
|-------------|-----------------|--------------|---------|----------------------|------|-----------------------|----------------------|---------------|----------------------------|------------------------------|
| T1 | 80 - 60 | ROHN 2 STD | 20.00 | 4.00 | 61.0 | 30.000 | 1.0745 | 7.71 | 32.24 | 0.239 ✓ |
| T2 | 60 - 40 | ROHN 2 STD | 20.03 | 4.01 | 61.1 | 30.000 | 1.0745 | 16.44 | 32.24 | 0.510 ✓ |
| T3 | 40 - 20 | ROHN 2.5 STD | 20.03 | 5.01 | 63.4 | 30.000 | 1.7040 | 23.41 | 51.12 | 0.458 ✓ |
| T4 | 20 - 0 | ROHN 2.5 EH | 20.03 | 6.68 | 86.7 | 30.000 | 2.2535 | 29.66 | 67.61 | 0.439 ✓ |

Diagonal Design Data (Tension)

| Section No. | Elevation ft | Size | L ft | L _u ft | KL/r | F _a ksi | A in ² | Actual P K | Allow. P _a K | Ratio P P _a |
|-------------|-----------------|------------------|---------|----------------------|-------|-----------------------|----------------------|---------------|----------------------------|------------------------------|
| T1 | 80 - 60 | L1 1/2x1 1/2x1/8 | 6.04 | 2.89 | 74.5 | 21.600 | 0.3594 | 1.45 | 7.76 | 0.187 ✓ |
| T2 | 60 - 40 | L1 1/2x1 1/2x1/8 | 6.19 | 3.11 | 80.3 | 21.600 | 0.3594 | 1.11 | 7.76 | 0.142 ✓ |
| T3 | 40 - 20 | L1 1/2x1 1/2x1/8 | 9.28 | 4.65 | 119.9 | 21.600 | 0.3594 | 1.25 | 7.76 | 0.161 ✓ |
| T4 | 20 - 0 | L1 3/4x1 3/4x1/8 | 12.21 | 6.16 | 135.5 | 21.600 | 0.4219 | 1.59 | 9.11 | 0.174 ✓ |

| | | |
|---|--|---|
| ERITower URS Corp. AES 795 Brook Street Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-5566 | Job 80' Lattice Tower (Rohn SSV) | Page 22 of 22 |
| | Project Carmen Hill Road, Brookfield, CT | Date 12:57:19 05/17/04 |
| | Client Verizon Wireless | Designed by Daniel D. McClure |

| Section No. | Elevation ft | Size | L ft | L _n ft | Kl/r | F _a ksi | A in ² | Actual P K | Allow. P _a K | Ratio P P _a |
|-------------|-----------------|------|---------|----------------------|------|-----------------------|----------------------|------------------|-------------------------------|------------------------------|
|-------------|-----------------|------|---------|----------------------|------|-----------------------|----------------------|------------------|-------------------------------|------------------------------|

Top Girt Design Data (Tension)

| Section No. | Elevation ft | Size | L ft | L _n ft | Kl/r | F _a ksi | A in ² | Actual P K | Allow. P _a K | Ratio P P _a |
|-------------|-----------------|----------|---------|----------------------|------|-----------------------|----------------------|------------------|-------------------------------|------------------------------|
| T1 | 80 - 60 | L3x3x1/4 | 4.52 | 4.32 | 55.8 | 21.600 | 1.4400 | 0.06 | 31.10 | 0.002 ✓ |

Section Capacity Table

| Section No. | Elevation ft | Component Type | Size | Critical Element | P K | SF*P _{allow} K | % Capacity | Pass Fail | |
|-------------|-----------------|-------------------|------------------|---------------------|--------|----------------------------|-----------------|--------------|-------------|
| T1 | 80 - 60 | Leg | ROHN 2 STD | 2 | -8.67 | 32.30 | 26.8 | Pass | |
| | | Diagonal | L1 1/2x1 1/2x1/8 | 7 | -1.48 | 5.13 | 28.7 | Pass | |
| T2 | 60 - 40 | Top Girt | L3x3x1/4 | 6 | -0.06 | 27.80 | 0.2 | Pass | |
| | | Leg | ROHN 2 STD | 38 | -18.32 | 32.27 | 56.8 | Pass | |
| T3 | 40 - 20 | Diagonal | L1 1/2x1 1/2x1/8 | 40 | -1.08 | 3.08 | 34.9 | Pass | |
| | | Leg | ROHN 2.5 STD | 71 | -26.32 | 50.25 | 52.4 | Pass | |
| T4 | 20 - 0 | Diagonal | L1 1/2x1 1/2x1/8 | 73 | -1.32 | 1.85 | 71.6 | Pass | |
| | | Leg | ROHN 2.5 EH | 98 | -34.31 | 52.98 | 64.8 | Pass | |
| | | Diagonal | L1 3/4x1 3/4x1/8 | 106 | -1.57 | 2.02 | 77.5 | Pass | |
| | | | | | | | Summary | | |
| | | | | | | | Leg (T4) | 64.8 | Pass |
| | | | | | | | Diagonal (T4) | 77.5 | Pass |
| | | | | | | | Top Girt (T1) | 0.2 | Pass |
| | | | | | | | Bolt Checks | 46.9 | Pass |
| | | | | | | | RATING = | 77.5 | Pass |

**PREVIOUS TOWER ANALYSIS, EVALUATION, AND FOUNDATION
INSPECTION PERFORMED BY PAUL K. TAORMINA, P.E., FOR
HOUSATONIC CABLEVISION**

PAUL K. TAORMINA

Professional Engineer
25 Grayrock Road
Trumbull, Conn. 06611
Phone 268-8924

Mr. John Ziegler
Building Inspector
Town of Brookfield B'ldg Dep't
Brookfield Center, Conn. 06805

June 3, 1978

Reference: Housatonic Cablevision 80' tower off North Mtn. Road,
Brookfield, Conn.

Dear Mr. Ziegler,

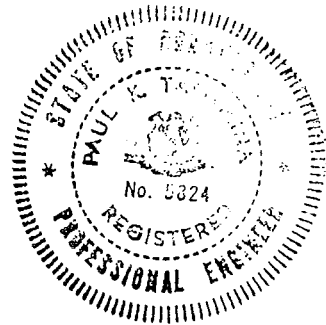
Per our telephone conversation of Friday, June 2, 1978, I am confirming my approval of the referenced tower footing installation by E.J. McCarty Inc. On the afternoon of June 2, I visited the site of the tower with Mr. Gary Pascura of E.J. McCarty Inc. The footing forms and re-bar were in place ready for the concrete to be poured. Due to the ledge encountered at the site, the two rear 5 1/2' x 5 1/2' footings have been combined into one long footing approximately 6' x 15' with the required reinforcing bar placed at the correct locations under each of the tower legs. The front footing is approximately 6' x 8'. Both footings will be 2 1/2' thick with a total height of 8 1/2', which includes the footing plus a 6' high 2' diameter pad. The re-bars consist of two mats 18" apart with #4 bars 5x5 spaced 12" oc. for each footing and #4 bars for the lateral ties 12" oc. for the 2' diameter pads. All the reinforcement is equal to or greater than the Rohn Manufacturing Co. specifications.

Please feel free to call me at the above number or at 744-4000 ext. 5300 if I can be of further assistance on this project.

cc E.J. McCarty
G. Kemp

Very truly yours,

Paul K. Taormina, P.E.
Paul K. Taormina, P.E.



PAUL K. TAORMINA

B.P. 4306

Professional Engineer

25 Grayrock Road
Trumbull, Conn. 06611
Phone 268-8924

May 24, 1978

Mr. George Kemp
c/o Kemp Communications Inc.
150 Lost Acres Road
North Granby, Conn. 06060

Reference: 80' Tower, Brookfield, Conn. for Housatonic Cablevision

Dear Mr. Kemp,

I visited the site of the referenced 80' tower with Mr. Steve Doherty on Thursday, May 18, 1978 in order to assess the soil conditions for the tower footings and piers. I found the soil at the site to be well suited for the tower installation, since it consists of a combination of medium clay, ledge and sand capable of supporting at least 4000 lbs/ft².

Enclosed are calculations which apply the Connecticut Basic Building Code for radio and television towers to the Rohn Manufacturing Company specifications. The dead loads of the tower and antenna, a 2" ice accumulation and a 30 lbs/ft² wind load for heights of greater than 50 feet were taken into consideration. The Rohn Manufacturing Co. specifications were found to be equal to or greater than the Connecticut Basic Building Code requirements. An uplift force of two times the maximum wind loading can be sustained by the present footing and pad as called out in section 427.32 of the Connecticut Code. A sealed Rohn Manufacturing drawing D-700200 R6 for the foundation is also enclosed.

In addition, I recommend installing a curtain drain around the tower as shown in the attached calculations. This would minimize any drainage and soil erosion problems at the tower foundation. The tower installation as proposed meets all of the Connecticut Basic Building Code requirements as well as the Rohn Manufacturing Co. specifications. Please contact me at the above address or through the offices of E.J. McCarty if further assistance is required.

cc E.J. McCarty

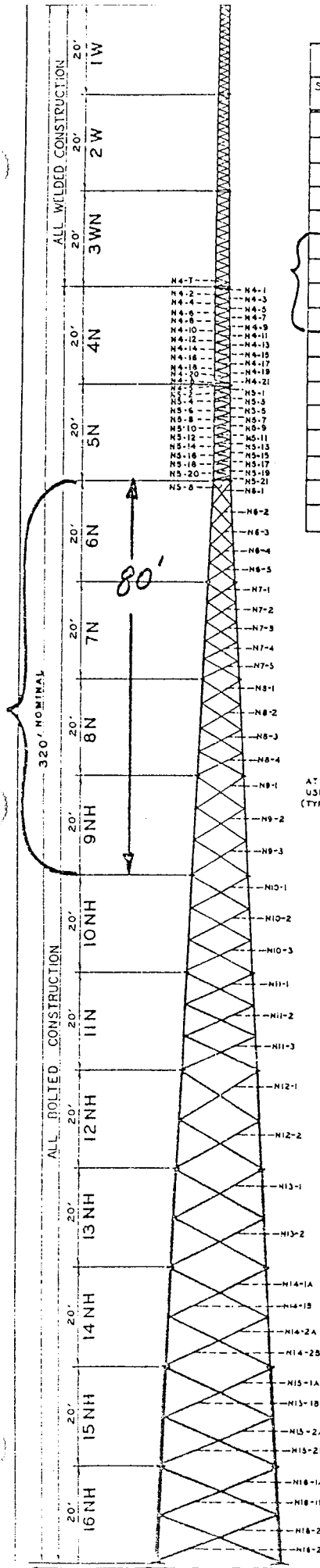
Very truly yours,

Paul K. Taormina, P.E.
Paul K. Taormina, P.E.

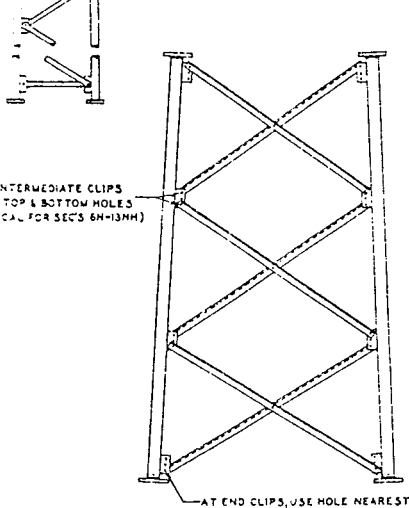
TOWER SCHEDULE

| SECTION NO. | SPREAD DIMENSION | | TOWER LEGS | TOWER BRACES | FLANGE PLATES | | FLANGE BOLTS | BRACE BOLTS |
|-------------|------------------|------------|-------------------|------------------------|---------------------------------------|---------------------------------------|-----------------|-----------------|
| | UPPER | LOWER | 50 KSI YIELD STR. | 50 KSI YIELD STR. | TOP | BOTTOM | | |
| 1W | 1'-2" | 1'-2" | 9/16" Ø SOLID | 3/8" Ø SOLID | 3 X 3 X 3/8 2 1/2" B.C. | 3 X 3 X 3/8 2 1/2" B.C. | 12-3/8 X 1/2" | NONE |
| 2W | 1'-2" | 1'-6" | 3/4" Ø SOLID | 3/8" Ø SOLID | 3 X 3 X 3/8 2 1/2" B.C. | 3 X 3 X 3/8 2 1/2" B.C. | 12-3/8 X 1/2" | NONE |
| 3WN | 1'-6" | 1'-10" | 1 1/16" Ø SOLID | 7/16" Ø SOLID | 3 X 3 X 3/8 2 1/2" B.C. | 4 X 4 X 1/2" 1 1/2" B.C. | 12-1 1/2 X 2" | NONE |
| 4N | 1'-10" | 2'-2" | 1 1/4" Ø SOLID | 5/8" Ø SOLID | 4 X 4 X 1/2" 1 1/2" B.C. | 4 1/2 X 4 1/2 X 5/8 1 1/4" B.C. | 12-5/8 X 2 1/4" | 72-3/8 X 1 1/2" |
| 5N | 2'-2" | 2'-8" | 1 1/8" Ø SOLID | 5/8" Ø SOLID | 4 1/2 X 4 1/2 X 5/8 1 1/4" B.C. | 4 1/2 X 4 1/2 X 5/8 1 1/4" B.C. | 12-5/8 X 2 1/4" | 72-3/8 X 1 1/2" |
| 6N | 2'-6" | 4'-6 1/4" | 2" Ø PIPE | L 1 1/2 X 1 1/2 X 1/8 | 4 1/2 X 4 1/2 X 1/2 1 1/4" B.C. | 5 X 5 X 3/4" 1 1/2" B.C. | 12-5/8 X 2 1/4" | 75-1/2 X 1 1/4" |
| 7N | 4'-6 1/4" | 6'-6 3/4" | 2" Ø PIPE | L 1 1/2 X 1 1/2 X 1/8 | 5 X 5 X 3/4" 1 1/2" B.C. | 5 X 5 X 3/4" 1 1/2" B.C. | 12-5/8 X 2 1/4" | 75-1/2 X 1 1/4" |
| 8N | 6'-6 3/4" | 8'-6 3/4" | 2 1/2" Ø PIPE | L 1 1/2 X 1 1/2 X 1/8 | 5 X 5 X 3/4" 1 1/2" B.C. | 5 X 5 X 3/4" 1 1/2" B.C. | 12-5/8 X 2 1/4" | 60-1/2 X 1 1/4" |
| 9NH | 8'-6 3/4" | 10'-6 3/4" | 2 1/2" EH PIPE | L 1 1/2 X 1 1/2 X 1/8 | 5 X 5 X 3/4" 1 1/2" B.C. | 5 X 5 X 3/4" 1 1/2" B.C. | 12-5/8 X 2 1/4" | 45-1/2 X 1 1/4" |
| 10NH | 10'-6 3/4" | 12'-7 1/4" | 2 1/2" EH PIPE | L 2 X 2 X 1/8 | 5 X 5 X 3/4" 1 1/2" B.C. | 6 X 6 X 3/4" 1 1/2" B.C. | 12-3/8 X 2 3/4" | 45-1/2 X 1 1/4" |
| 11N | 12'-7 1/4" | 14'-7 7/8" | 3" Ø PIPE | L 2 1/2 X 2 1/2 X 3/16 | 6 X 6 X 3/4" 1 1/2" B.C. | 7 X 7 X 1" 1 1/2" B.C. | 12-7/8 X 3 1/2" | 45-1/2 X 1 1/4" |
| 12NH | 14'-7 7/8" | 16'-8 3/8" | 3 1/2" EH PIPE | L 3 X 3 X 3/16 | 7 X 7 X 1" 1 1/2" B.C. | 7 X 7 X 1" 1 1/2" B.C. | 12-7/8 X 3 1/2" | 30-5/8 X 1 1/2" |
| 13NH | 16'-8 3/8" | 18'-8 3/8" | 4" EH PIPE | L 3 X 3 X 3/16 | 7 X 7 X 1" 1 1/2" B.C. | 7 X 7 X 1" 1 1/2" B.C. | 12-7/8 X 3 1/2" | 30-5/8 X 1 1/2" |
| 14NH | 18'-8 3/8" | 20'-9 3/8" | 4" EH PIPE | L 3 1/2 X 3 1/2 X 1/4 | 7 X 7 X 1" 1 1/2" B.C. | 9 1/2 X 9 1/2 X 1 1/4" 1 1/2" B.C. | 12-1 X 4 1/4" | 54-5/8 X 1 1/4" |
| 15NH | 20'-9 3/8" | 22'-9 3/8" | 5" EH PIPE | L 4 X 4 X 1/4 | 9 1/2 X 9 1/2 X 1 1/4" 1 1/2" B.C. | 9 1/2 X 9 1/2 X 1 1/4" 1 1/2" B.C. | 12-1 X 4 1/4" | 54-5/8 X 1 1/4" |
| 16NH | 22'-9 3/8" | 24'-9 3/8" | 5" EH PIPE | L 4 X 4 X 1/4 | 9 1/2 X 9 1/2 X 1 1/4" 1 1/2" B.C. | 9 1/2 X 9 1/2 X 1 1/4" 1 1/2" B.C. | 12-1 X 4 1/4" | 54-5/8 X 1 1/4" |

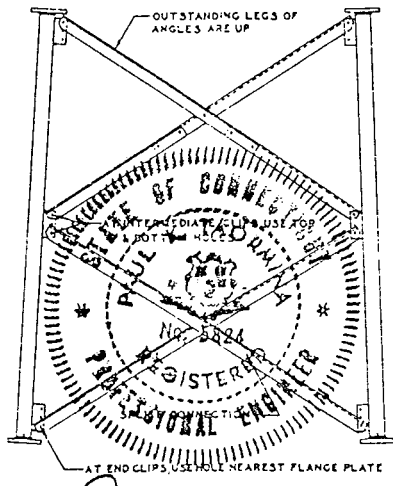
* ASTERISK INDICATES THAT THE BOTTOM FLANGE # OF THAT SECTION IS OFFSET



BRACING DETAILS FOR SECTIONS 4N & 5N



BRACING DETAIL FOR SECTIONS 6N-13NH



BRACING DETAIL FOR SECTIONS 14NH-16NH

| WEIGHTS | | | |
|----------|------|--------|-------|
| SEC. NO. | LEGS | BRACES | TOTAL |
| 1W | --- | --- | 116 |
| 2W | --- | --- | 160 |
| 3WN | --- | --- | 230 |
| 4N | 260 | 175 | 435 |
| 5N | 345 | 195 | 540 |
| 6N | 290 | 190 | 480 |
| 7N | 300 | 245 | 545 |
| 8N | 426 | 274 | 700 |
| 9NH | 535 | 305 | 840 |
| 10NH | 545 | 400 | 945 |
| 11N | 570 | 840 | 1410 |
| 12NH | 905 | 825 | 1730 |
| 13NH | 1050 | 910 | 1960 |
| 14NH | 1110 | 1625 | 2735 |
| 15NH | 1530 | 2000 | 3530 |
| 16NH | 1530 | 2150 | 3680 |

GENERAL NOTES:

- 1 LEG MARK NO'S ARE THE SAME AS SECTION NO'S AND ARE STAMPED AT THE BASE OF EACH LEG OF EACH SECTION.
- 2 ALL MARK NO'S METAL STAMPED BEFORE GALVANIZING.
- 3 PAL NUTS PROVIDED FOR ALL TOWER BOLTS.
- 4 STEP BOLTS PROVIDED ON ONE LEG FOR SECTIONS 6N THRU 11N, AND STEP BOLTS ON 3 LEGS FOR SECTIONS 12NH THRU 16NH.
- 5 ALL TOWER MEMBERS ARE HOT-DIPPED GALVANIZED AFTER FABRICATION.
- 6 SEE DWG. D-700200 FOR FOUNDATION DETAILS.

Paul K. ...

R4 CHANGED 11NH, 15NH, 16NH BRACE MAT'L & WTS, 12-10-79 JER

R1 FLANGE BOLTS IN SEC. 3W WERE 2 1/2" LG. W/3/16" SCS

R2' SECT. 3WN WAS 3W

R1' SECS 4W & 5W REPL. BY 4N & 5N

NO. DESCRIPTION DATE

ROHN

MODEL S.S.V. TOWER
HEAVY SERIES

E-58C101

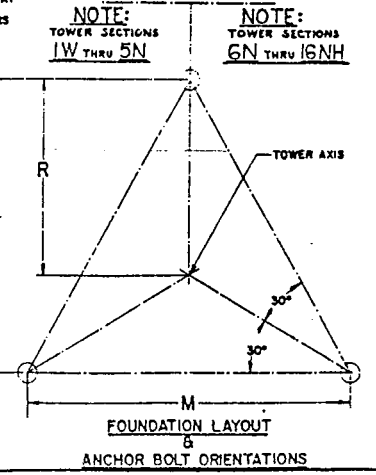
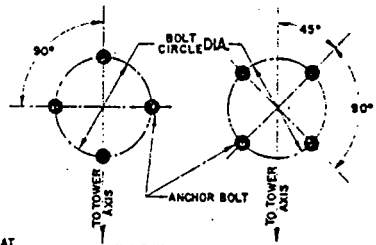
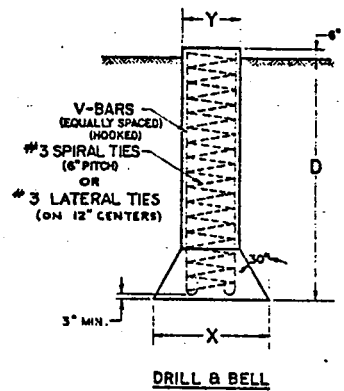
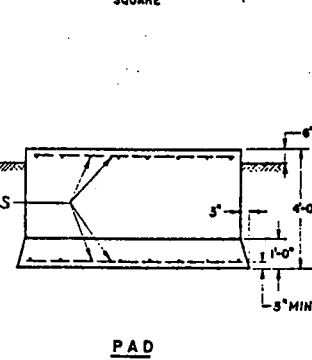
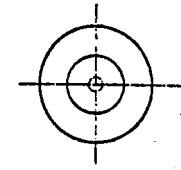
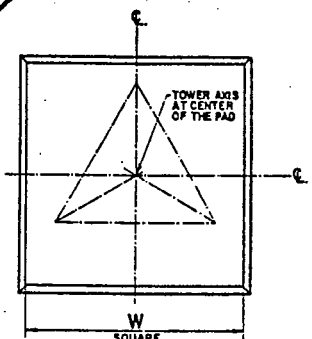
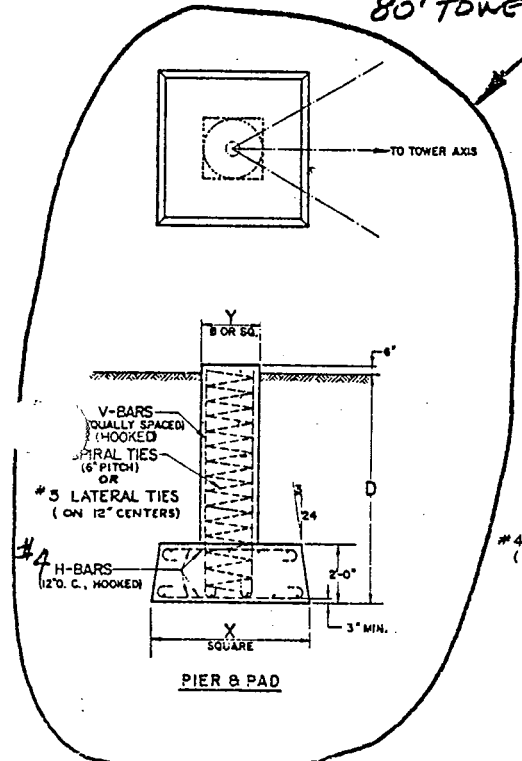
FOUNDATION DATA

| TOWER BASE SEC. NO. | MAX. ALLOWABLE LEG STRESS LBS. | MAX. ALLOWABLE SHEAR LBS. | ANCHOR BOLT DATA | | | | | | PIER & PAD | | | | | | PAD | | DRILL & BELL | | | | | |
|---------------------|--------------------------------|---------------------------|-------------------|------------|-----------|-------------|------------------|-------|------------|-------|-------|--------|--------|------------------------|--------------|--------|--------------------|--------|-------|-------|--------|--------------------|
| | | | LAYOUT DIMENSIONS | | | SIZE | BOLT CIRCLE DIA. | PROJ. | D | X | Y | V-BARS | H-BARS | REQD. CONC. ROUND PIER | CONC. CU YDS | W | REQD. CONC. CU YDS | D | X | Y | V-BARS | REQD. CONC. CU YDS |
| | | | M | N | R | | | | | | | | | | | | | | | | | |
| 1W | | | 1-2" | 1-0 1/2" | 0-8 1/2" | 12-1/8 x 18 | 2 1/2 | 2 1/2 | | | | | | | | 3-0" | 1.4 | | | | | |
| 2W | | | 1-6" | 1-3 3/8" | 0-10 3/8" | 12-1/8 x 18 | 2 1/2 | 2 1/2 | | | | | | | | 4-0" | 2.5 | | | | | |
| 3W | | | 1-10" | 1-7 1/4" | 1-0 1/2" | 12-1/8 x 24 | 3 1/2 | 3 | | | | | | | | 5-0" | 3.8 | | | | | |
| 4I | | | 2-2" | 1-10 1/2" | 1-3" | 12-1/8 x 30 | 4 1/2 | 3 1/2 | | | | | | | | 6-6" | 6.4 | | | | | |
| 5N | | | 2-6" | 2-2" | 1-5 3/8" | 12-1/8 x 30 | 4 1/2 | 3 1/2 | | | | | | | | 7-6" | 8.5 | | | | | |
| 6N | | | 4-6 1/4" | 3-11" | 2-7 3/8" | 12-1/8 x 30 | 4 1/2 | 3 1/2 | | | | | | | | 8-0" | 9.6 | | | | | |
| 7N | 25,300 | 1,000 | 6-6 3/4" | 5-8 3/8" | 3-9 1/2" | 12-1/8 x 30 | 4 1/2 | 3 1/2 | 6'-6" | 4'-6" | 1'-6" | 6#5 | #4 | 5.5 | 5.8 | 10'-0" | 15.0 | 8'-0" | 4'-0" | 2'-0" | 6#5 | 3.8 |
| 8N | 39,400 | 1,300 | 8-6 3/4" | 7-5" | 4-11 3/8" | 12-1/8 x 30 | 4 1/2 | 3 1/2 | 8'-0" | 5'-0" | 2'-0" | 8#5 | #4 | 7.8 | 8.3 | | | 9'-0" | 5'-0" | 2'-6" | 8#5 | 6.7 |
| 9NH | 42,000 | 2,400 | 10-6 3/4" | 9-1 1/2" | 6-1 3/8" | 12-1/8 x 30 | 4 1/2 | 3 1/2 | 8'-6" | 5'-6" | 2'-0" | 8#6 | #4 | 9.2 | 9.8 | | | 9'-6" | 5'-0" | 2'-6" | 8#6 | 7.0 |
| 10NH | 42,000 | 2,400 | 12-7 1/4" | 10-11" | 7-3 3/8" | 12-1/8 x 36 | 5 1/2 | 4 | 8'-6" | 6'-6" | 2'-0" | 8#6 | #4 | 9.2 | 9.8 | | | 9'-6" | 5'-0" | 2'-6" | 8#6 | 7.0 |
| 11N | 48,700 | 2,400 | 14-7 3/4" | 12-8 1/8" | 8-5 1/8" | 12-1/8 x 42 | 7 1/2 | 5 | 9'-3" | 5'-6" | 2'-0" | 8#6 | #4 | 9.4 | 10.2 | | | 10'-0" | 5'-0" | 2'-6" | 8#6 | 7.3 |
| 12NH | 64,200 | 4,000 | 16-8 3/4" | 14-5 1/2" | 9-7 1/8" | 12-1/8 x 42 | 7 1/2 | 5 | 9'-3" | 6'-0" | 2'-0" | 8#7 | #4 | 10.7 | 11.4 | | | 10'-6" | 6'-0" | 3'-0" | 8#7 | 11.4 |
| 13NH | 85,600 | 7,000 | 18-8 3/4" | 16-2 1/8" | 10-9 3/8" | 12-1/8 x 42 | 7 1/2 | 5 | 10'-6" | 6'-0" | 2'-6" | 12#7 | #4 | 12.9 | 14.3 | | | 12'-0" | 6'-0" | 3'-0" | 12#7 | 12.5 |
| 14NH | 85,600 | 7,000 | 20-9 3/4" | 17-11 1/8" | 12-0" | 12-1 x 48 | 9 1/2 | 5 1/2 | 10'-6" | 6'-0" | 2'-6" | 12#7 | #4 | 12.9 | 14.3 | | | 12'-0" | 6'-0" | 3'-0" | 12#7 | 12.5 |
| 15NH | 135,000 | 10,000 | 22-9 3/4" | 19-8 3/8" | 13-1 1/8" | 12-1 x 72 | 9 1/2 | 5 1/2 | 12'-0" | 7'-0" | 3'-0" | 16#8 | #5 | 19.2 | 21.3 | | | 15'-0" | 6'-0" | 3'-0" | 16#8 | 14.9 |
| 16NH | 135,000 | 10,000 | 24-9 3/4" | 21-5 3/8" | 14-3 1/8" | 12-1 x 72 | 9 1/2 | 5 1/2 | 12'-0" | 7'-0" | 3'-0" | 16#8 | #5 | 19.2 | 21.3 | | | 15'-0" | 6'-0" | 3'-0" | 16#8 | 14.9 |

LEG STRESS AND SHEAR VALUES ARE FOR ONE LEG.

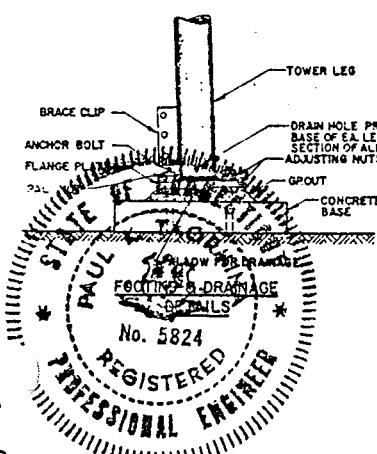
CONCRETE QUANTITIES SHOWN ARE FOR THREE PIERS.

BROOKFIELD INSTALLATION
80' TOWER



GENERAL NOTES:

- (1) CONCRETE, 3,000 P.S.I. MIN. ULTIMATE STRENGTH
- (2) ASTM A-615 GRADE 40 DEFORMED REBARS.
- (3) FOUNDATION DESIGN BASED ON THE FOLLOWING:
 - a. 4,000 PSF SOIL FOR ALL PIER & PAD.
 - b. 4,000 PSF SOIL FOR SECTIONS 7NH-NH DRILL & BELL.
 - c. 6,000 PSF SOIL FOR SECTIONS 15NH & 16NH DRILL & BELL.
- (4) ALL FORMS MUST BE REMOVED FROM CONCRETE BEFORE PLACING COMPACTED BACKFILL.
- (5) MINIMUM COVER ON ALL REBARS IS 2" EXCEPT AS NOTED.
- (6) ALL ANCHOR BOLTS ASTM A-307 QUALITY.
- (7) FOUNDATIONS DESIGNED FOR E.I.A. NORMAL SOIL EXCEPT AS NOTED IN NO. (3).



Paul K. Jaomin

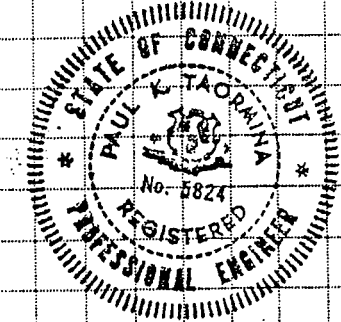
| REV | DESCRIPTION | DATE |
|-----|-------------------------------------|--------------|
| R1 | ADDED PAD FOUNDATION FOR SEC. 3W | 12-11-72 JER |
| R2 | ADDED REINFORCING TO PAD FOUNDATION | 2/18/73 GLS |
| R3 | REBAR COVERAGE REV. | 2/18/73 GWA |
| R2 | SECT. 3WH WAS 3W | 7/6/77 GWA |
| R1 | SECTS. 4W & 3W REPL. BY 4N & 5N | 4/27/78 GWA |

ROHN
 ALTERNATE FOUNDATIONS
 FOR
 MODEL SSV TOWERS, NH SERIES

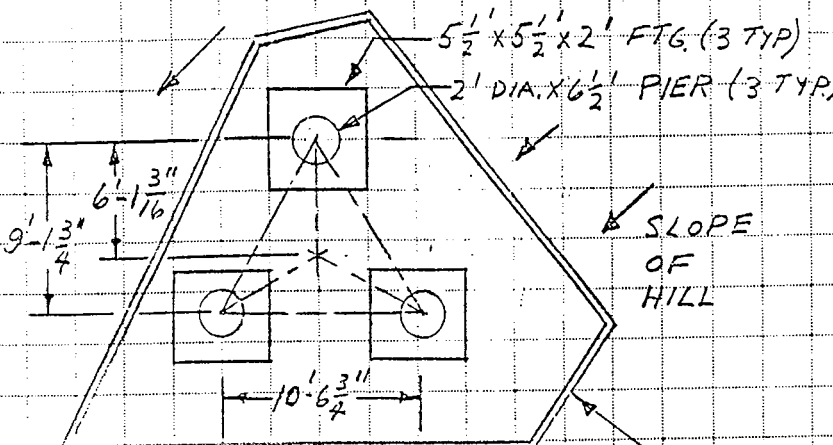
11-12-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30-31-32-33-34-35-36-37-38-39-40-41-42-43-44-45-46-47-48-49-50-51-52-53-54-55-56-57-58-59-60-61-62-63-64-65-66-67-68-69-70-71-72-73-74-75-76-77-78-79-80-81-82-83-84-85-86-87-88-89-90-91-92-93-94-95-96-97-98-99-100

HOUSATONIC CABLEVISION 80' TOWER INSTALLATION

BROOKFIELD, CONN.

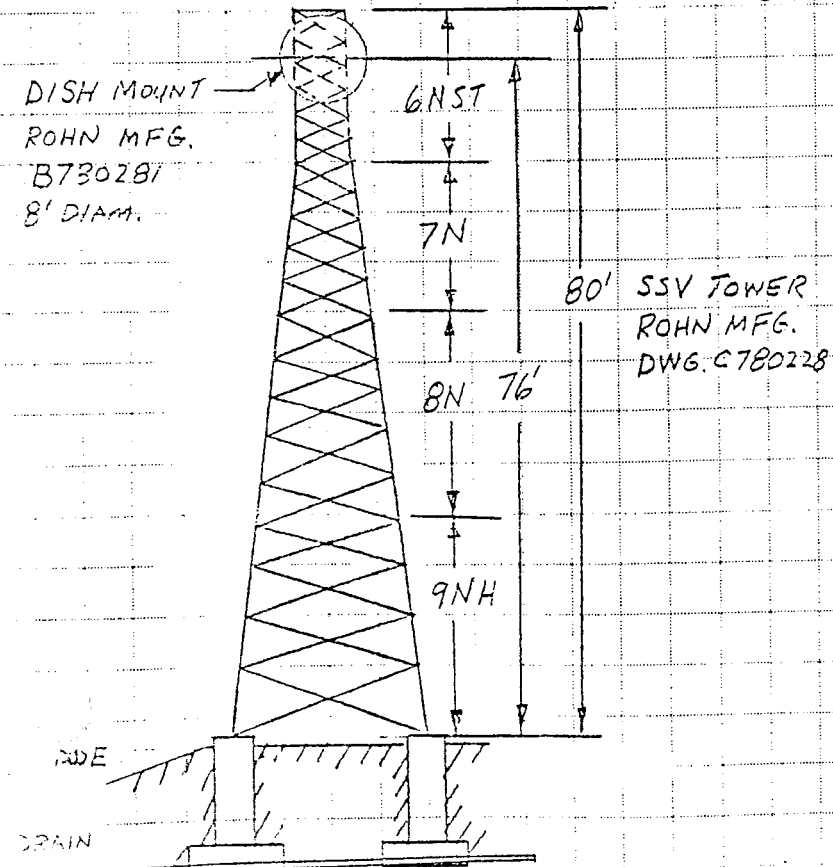


Paul K. Taormina



9' - 1 3/4"
 6' - 1 1/16"
 3"
 SLOPE OF HILL
 LARGE OF CURTAIN DRAIN

CURTAIN DRAIN 4" DIA. PERFORATED PIPE IN GRAVEL BED PLACED AROUND 3 - 5 1/2' x 5 1/2' x 2' FOOTINGS. SLOPE OF CURTAIN DRAIN 1/4" PER FOOT



DISH MOUNT
 ROHN MFG.
 B730281
 8' DIAM.

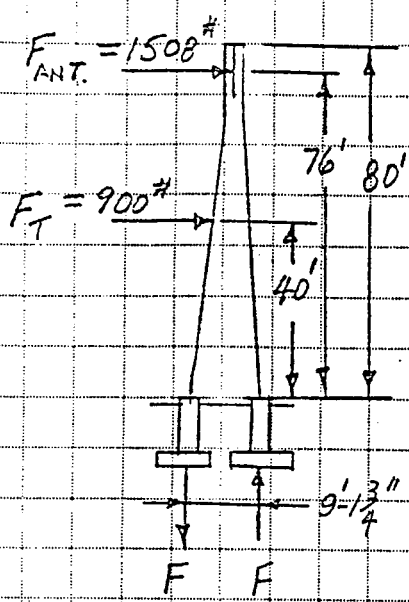
80'
 SSV TOWER
 ROHN MFG.
 DWG. C780228

LOAD SUMMARY

- 1) SOIL CONDITIONS - 4000 #/FT²
- 2) DEAD LOADS TOWER

| | |
|----------------------------|------------|
| SECTION 6NST - 20' | 480 # |
| " 7N - 20' | 545 # |
| " 8N - 20' | 700 # |
| " 9NH - 20' | 840 # |
| 8' DIA ANTENNA | 150 # EST. |
| TOTAL DEAD LOAD = 2715 LBS | |
- 3) WIND LOADS - 30 #/FT²
 - SECTION 427.3 CONN. BLDG CODE
- 4) UPLIFT = 2 TIMES WIND UPLIFT FOR ANCHORAGE OF FOUNDATION
 - SECTION 427.32 CONN. BLDG CODE
- 5) ICE LOAD - 2 INCHES ON PROJECTED AREA OF TOWER AND ANTENNA

WIND UPLIFT



F_{ANT} = FORCE OF WIND ON ANTENNA
 F_T = " " " " TOWER ; $A_T = 30 \text{ FT}^2$
 (C 780228)
 $F_{ANT} = P_W A_A = 30 \left(\frac{\pi 8^2}{4} \right) = 1508 \#$

$F_T = P_W A_T = 30(30) = 900 \#$

$M_{OT} = F_T \left(\frac{80}{2} \right) + F_{ANT} (76)$

$M_{OT} = 900(40) + 1508(76) = 150608 \#'$

$2 M_{OT} = F d = M_R$ FACTOR OF 2 FOR UPLIFT SECT. 427.32
 $2(150,608) = F(9'-13\frac{3}{4}")$

$F = 32935 \#$ UPLIFT FORCE

WITH 2" ICE ON TOWER DEAD LOAD ADDITIONAL IS WICE

$W_{ICE} = (A_A + A_T) t_{ICE} P_{ICE} = (50.24 + 30) \left(\frac{2}{12} \right) (62.4)$
 $W_{ICE} = 835 \text{ LBS}$

$F_{DL} = \text{TOTAL DEAD LOAD} = W_{ICE} + DL = 835 + 2715 = 3550 \text{ LBS}$

$F_{DL/LEG} = 1184 \text{ LBS.}$

$F_{LEG} = F + F_{DL/LEG} = 32935 + 1184 = 34119 \#$

$F_{MAX} = 42000$ GIVEN BY ROHN FOR EACH LEG

$S.F. = \frac{F_{MAX}}{F_{LEG}} = \frac{42000}{34119} = 1.23$

FOOTING AREA REQD - $5\frac{1}{2}' \times 5\frac{1}{2}'$ OK. $A = 30.25 \text{ FT}^2$

$P_B = \frac{V_{MAX}}{A_F}$ where $P_B = \text{SOIL BEARING PRESSURE}$
 $A_F = \text{AREA OF FOOTING REQD}$

$A_F = \frac{42000 + 150 \left[5\frac{1}{2}' \times 5\frac{1}{2}' \times 2' + \frac{\pi 2^2 (6)}{4} \right]}{4000}$ $V_{MAX} = F_{MAX} + W_{FTG}$
 $= 13.48 \text{ FT}^2$; $S.F. = \frac{A}{A_F} = \frac{30.25}{13.48} = 2.24$

TOWER INVENTORY PERFORMED BY CSB COMMUNICATIONS FOR URS

**Tower Inventory
Carmen Hill Road
Brookfield CT
80' Self-Supporter**

**Performed by: Adrien Paradis of
CSB Communications on
1/09/2004**

Mount Type – 3' x 4' Sidearm (2" Pipe)
Antenna Type & Quantity – (1) Panel
Antenna Manufacture – Allgon
Antenna Model # - 7125.16.05.00
Color Code – Green white
Jumper – ½"
Coax Size & Quantity – (1) 7/8"

Carrier – ~~Verizon~~ AT&T

Elevation – 78'-9"

Location – C Leg

Azimuth – 20

Mount Type – 3' x 4' Sidearm (2" Pipe) with Stiff-arm back to the A leg.

Antenna Type & Quantity – (1) Panel

Antenna Manufacture – Allgon

Antenna Model # - 7125.16.05.00

Color Code – Green

Jumper – ½"

Coax Size & Quantity – (1) 7/8"

Carrier – ~~Verizon~~ AT&T

Elevation – 74'

Location – A Leg

Azimuth – 20

Mount Type – 4' x 9' Sidearm (2" Pipe)

Antenna Type & Quantity – (1) Panel

Antenna Manufacture – Allgon

Antenna Model # - 7125.16.05.00

Color Code – 3 Green

Jumper – ½"

Coax Size & Quantity – (1) 7/8"

Carrier – AT&T

Elevation – 79'

Location – A Leg

Azimuth – 20

Mount Type – Same mount as above

Antenna Type & Quantity – (1) Panel

Antenna Manufacture – Allgon

Antenna Model # - 7250.03

Jumper – ½"

Coax Size & Quantity – (2) 7/8"

Carrier – Verizon

Elevation – 69'-6"

Location – B Leg

Azimuth – 140

Mount Type – 3' x 4' Sidearm (2" Pipe)

Antenna Type & Quantity – (1) Panel

Antenna Manufacture – Allgon

Antenna Model # - 7120.16.33.00

Color Code - Blue

Jumper – ½"

Coax Size & Quantity – (1) 7/8"

Carrier – Verizon

Elevation – 78'-2"

Location – B Leg

Azimuth - 140

Mount Type – 3' x 4' Sidearm (2" Pipe)

Antenna Type & Quantity – (1) Panel

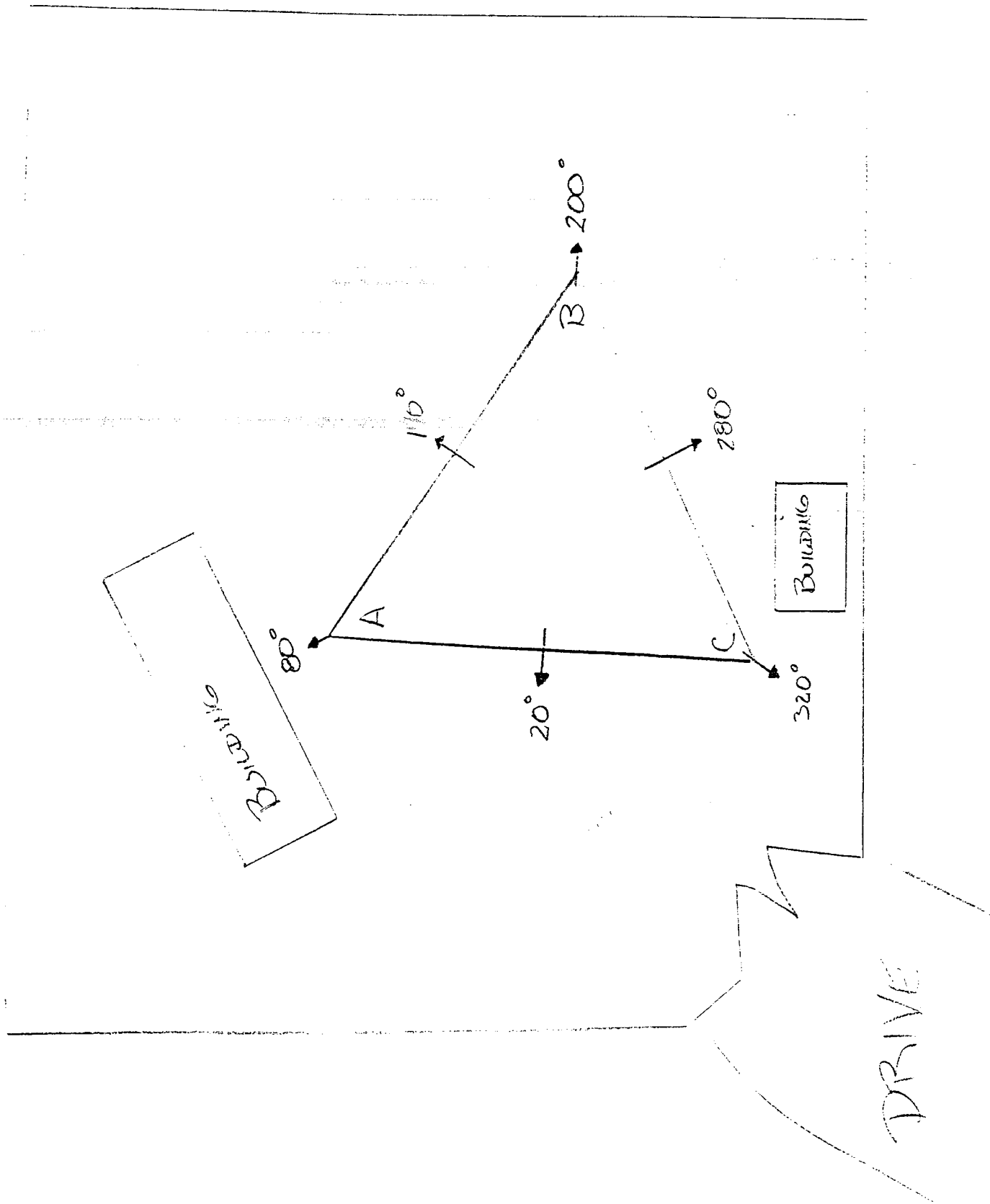
Antenna Manufacture – Allgon

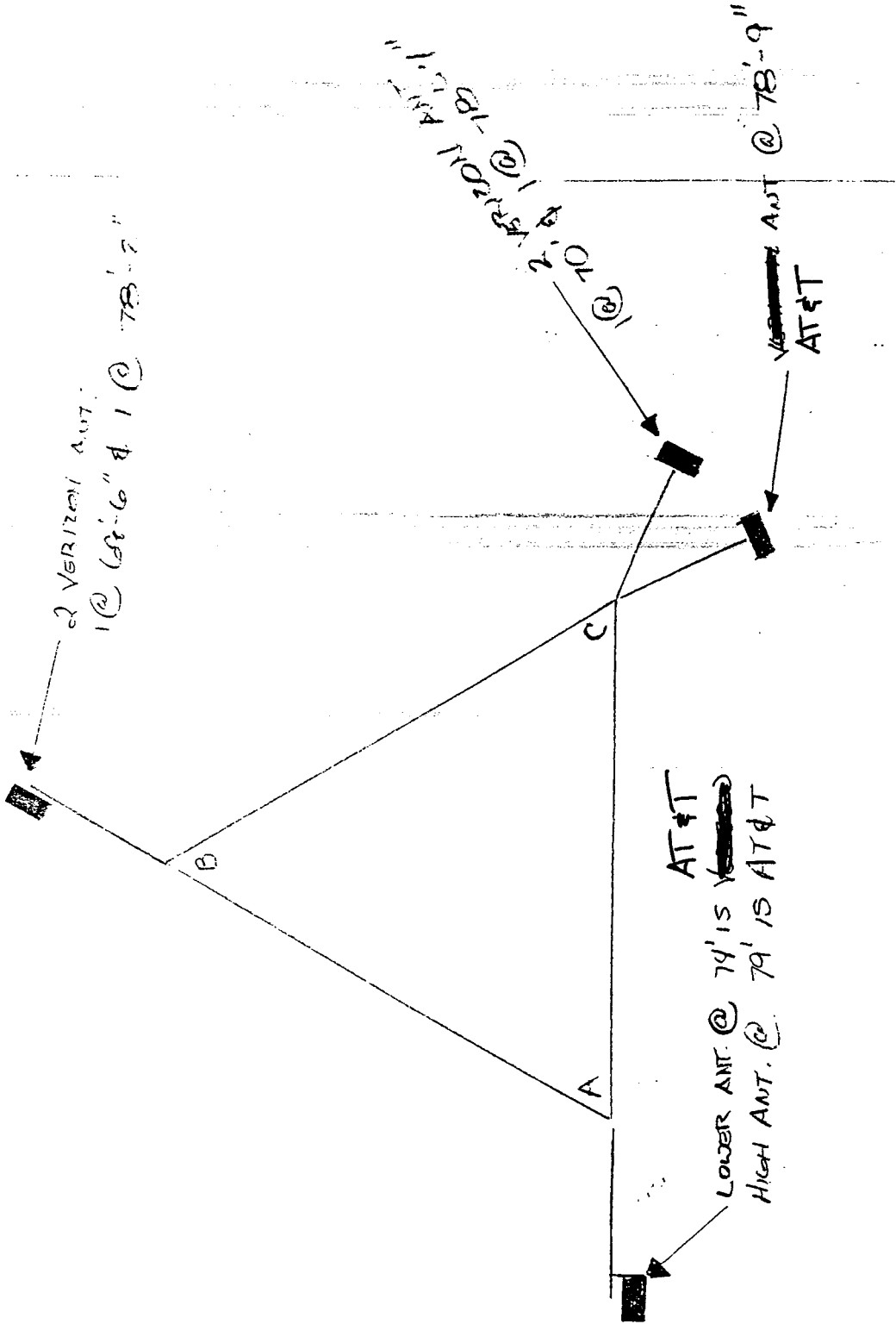
Antenna Model # - 7120.16.33.00

Color Code – Blue White

Jumper – ½"

Coax Size & Quantity – (1) 7/8"



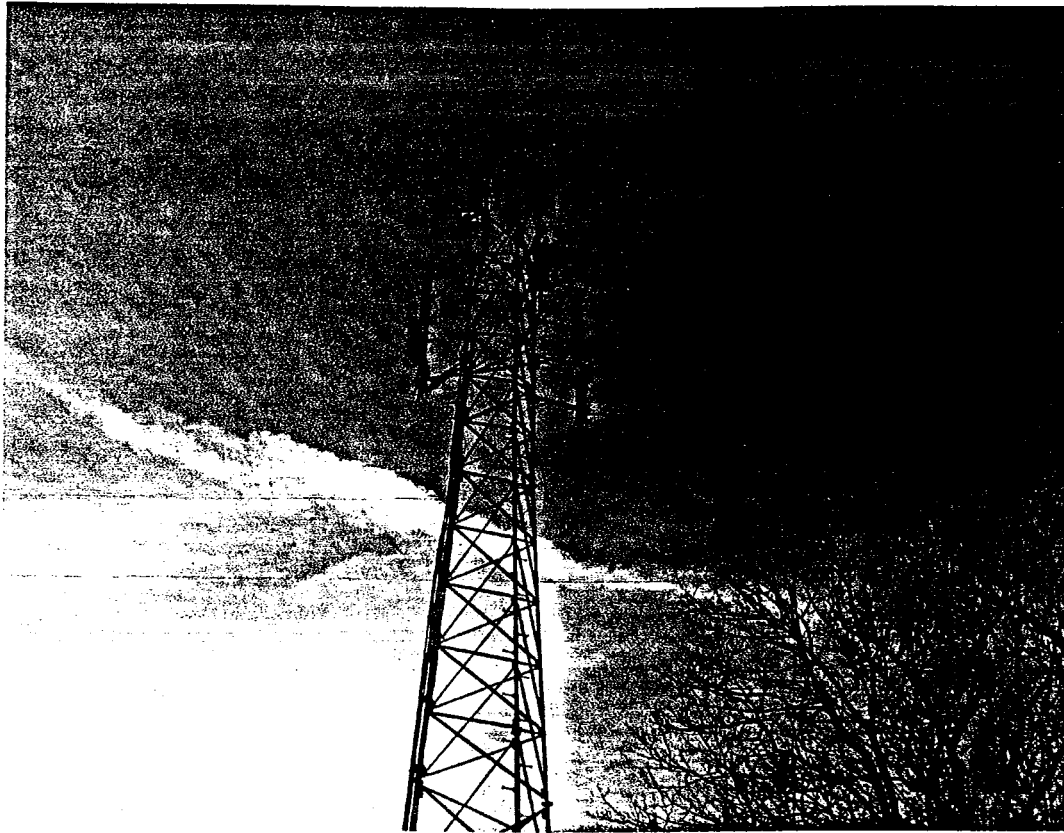




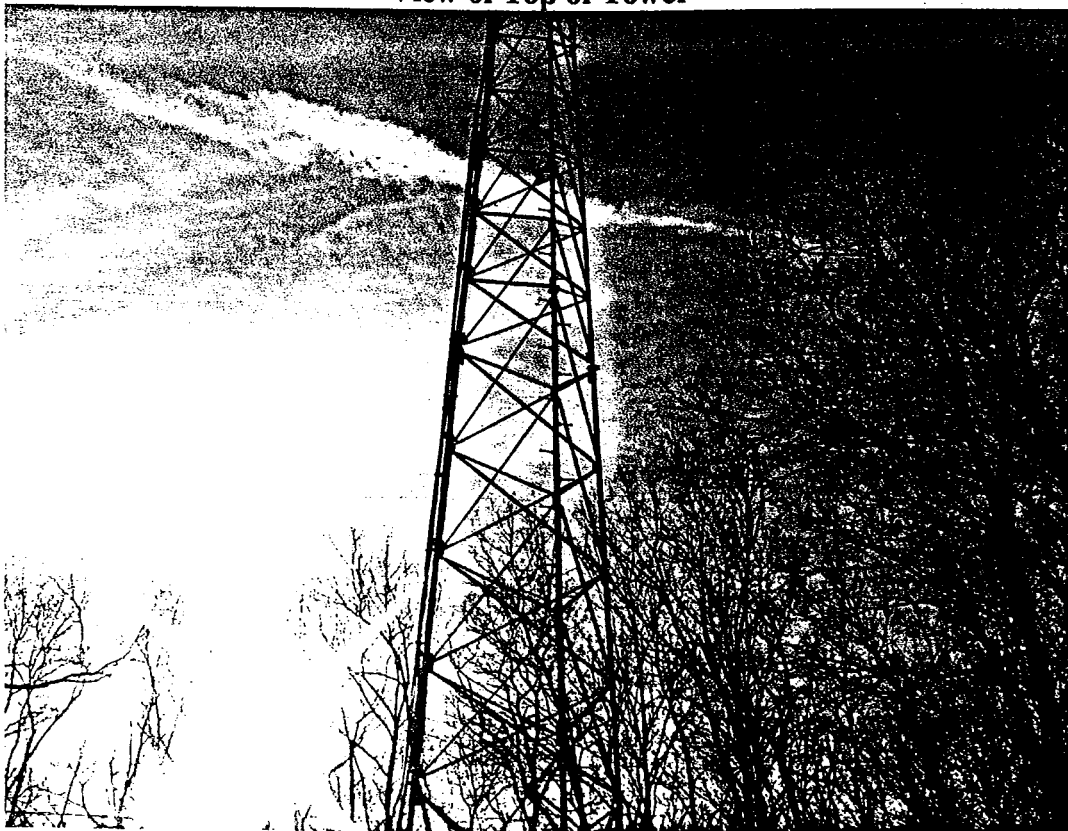
Cluster support bracket



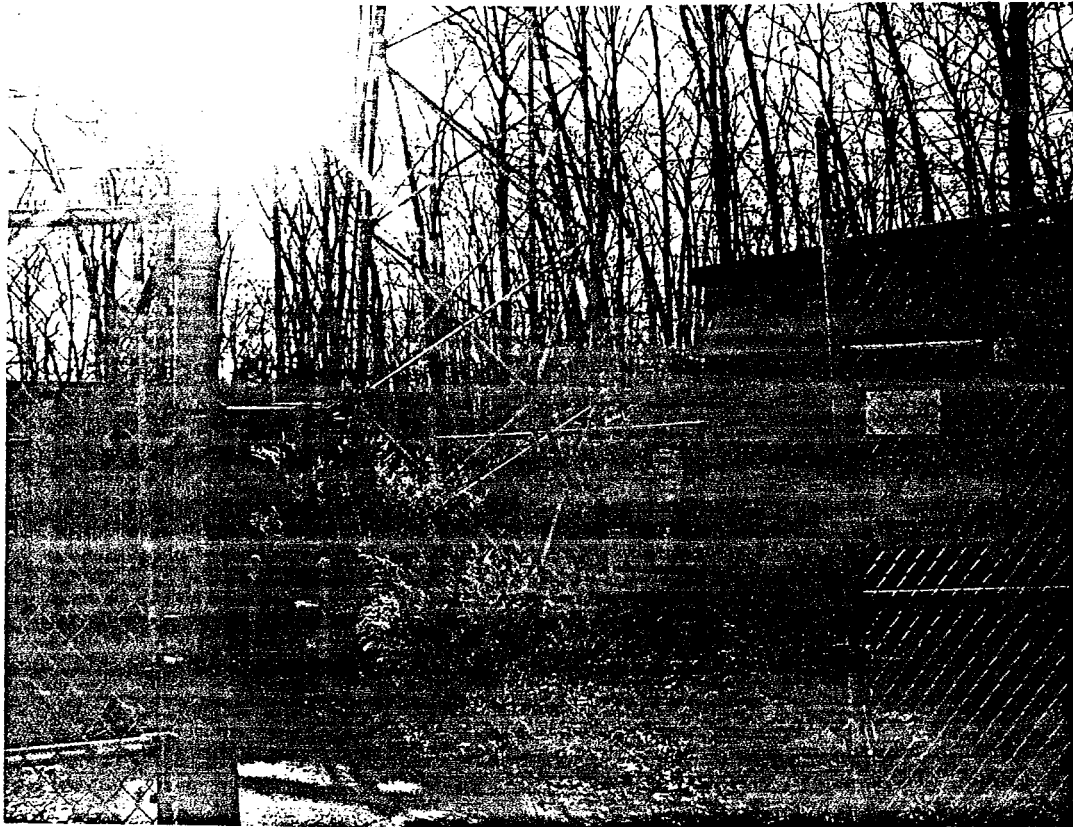
Super Cross bracket



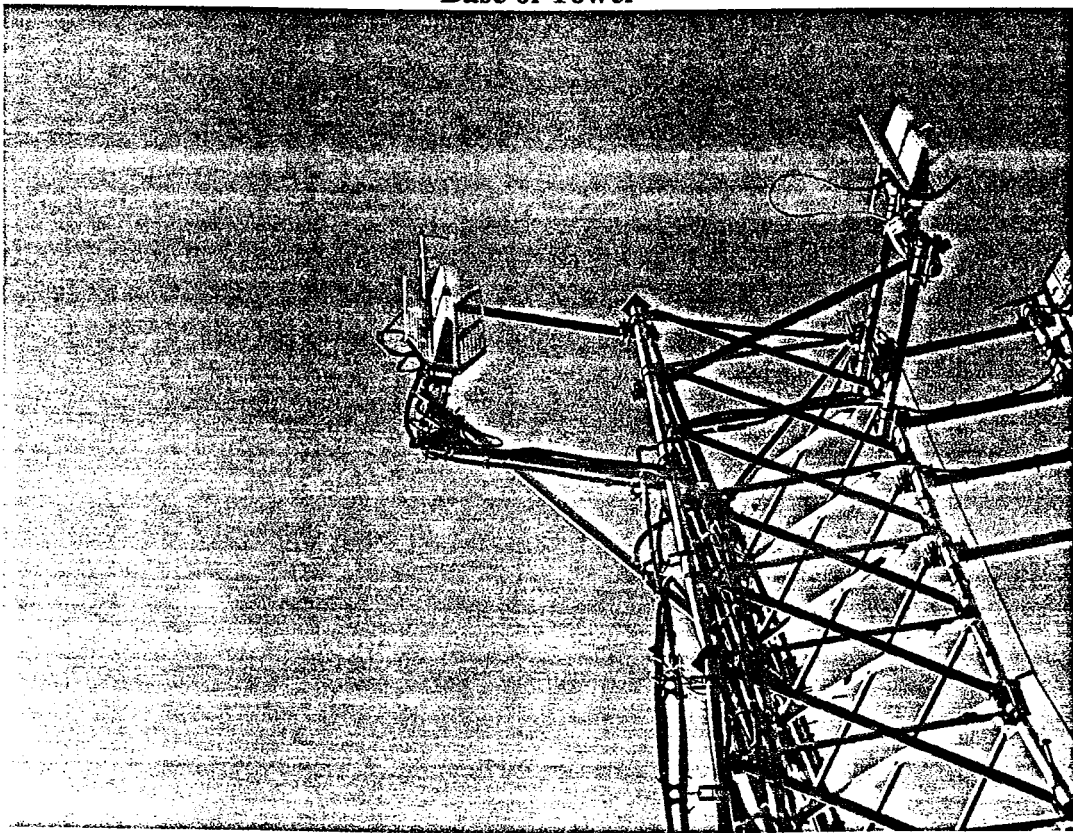
View of Top of Tower



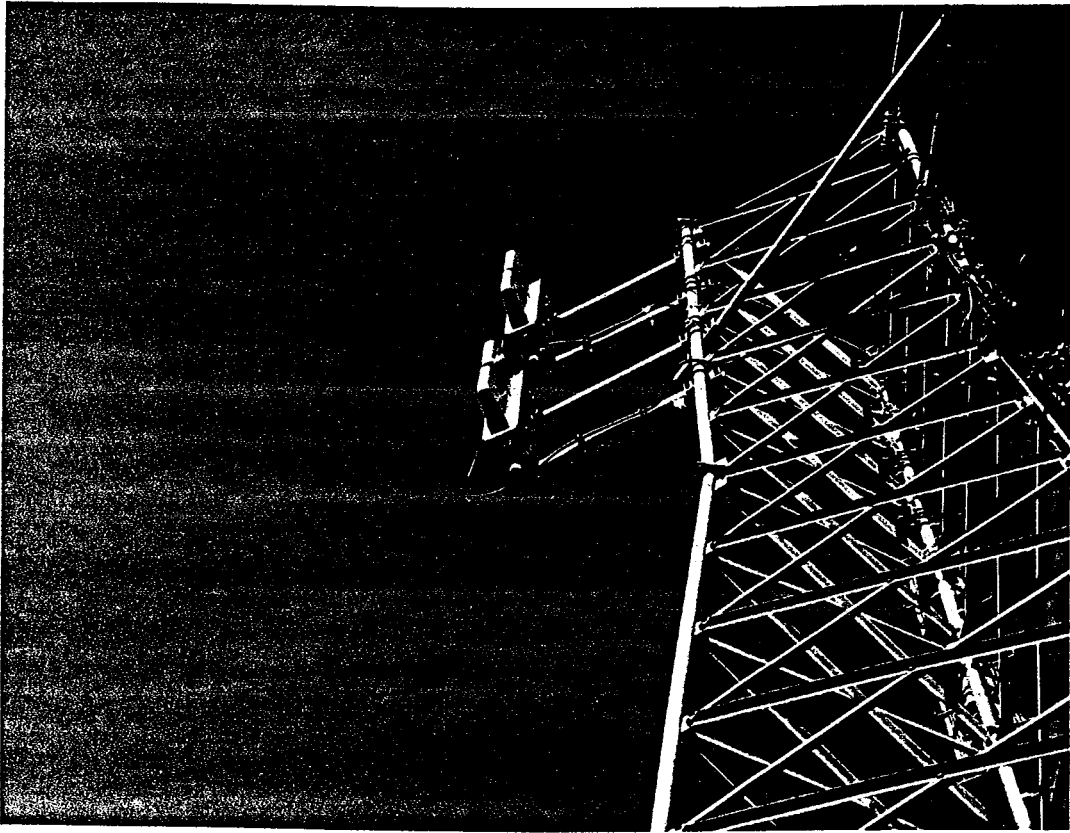
View of Mid Span of Tower



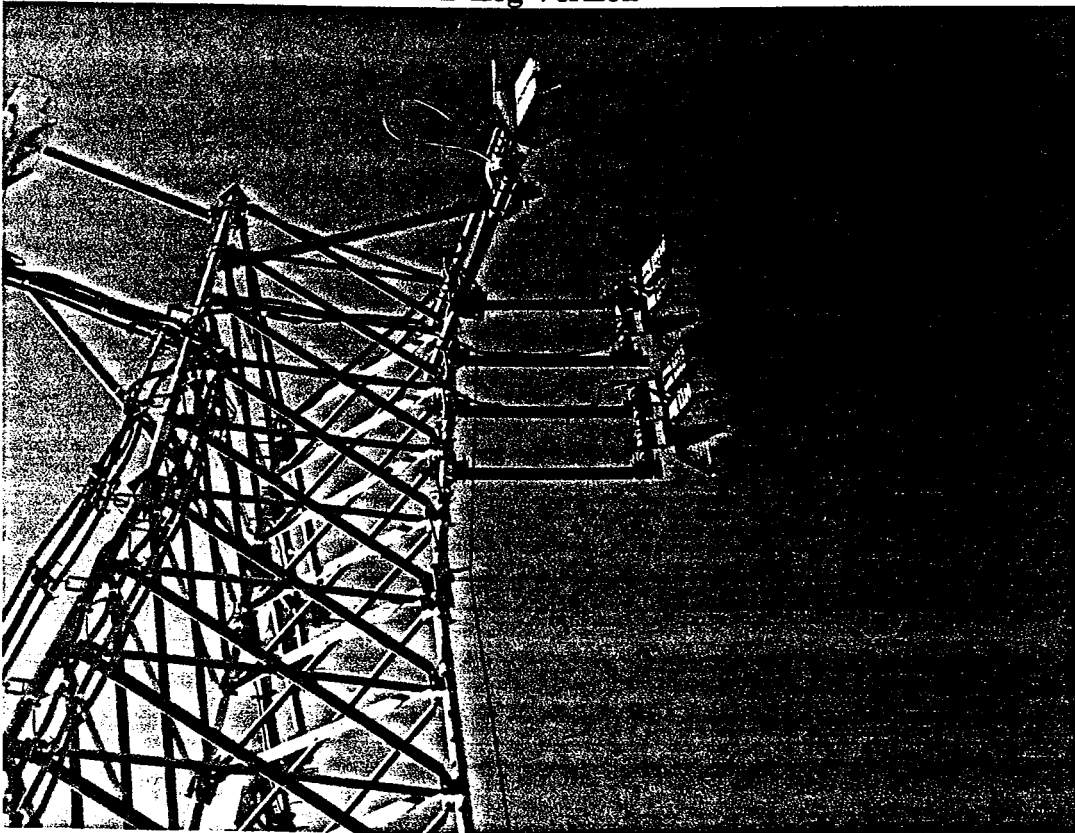
Base of Tower



A Leg Verizon & AT&T



B Leg Verizon



C Leg Verizon