



STATE OF CONNECTICUT  
CONNECTICUT SITING COUNCIL

Ten Franklin Square  
New Britain, Connecticut 06051  
Phone: (860) 827-2935  
Fax: (860) 827-2950

August 30, 2001

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

RE: **EM-VER-040-010815** - Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located off of Newgate Road, East Granby, Connecticut.

Dear Attorney Baldwin:


At a public meeting held on August 29, 2001, 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 August 15, 2001. 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,

  
Mortimer A. Gelston  
Chairman

MAG/RKE/laf

c: Honorable David K. Kilbon, First Selectman, Town of East Granby  
Richard A. Nelson, Zoning Enforcement Officer, Town of East Granby  
Julie M. Donaldson, Esq., Hurwitz & Sagarin LLC  
Ronald C. Clark, Nextel Communications

# ROBINSON & COLE LLP

HARTFORD • STAMFORD • GREENWICH • NEW YORK • BOSTON

LAW OFFICES

280 Trumbull Street  
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860-275-8200  
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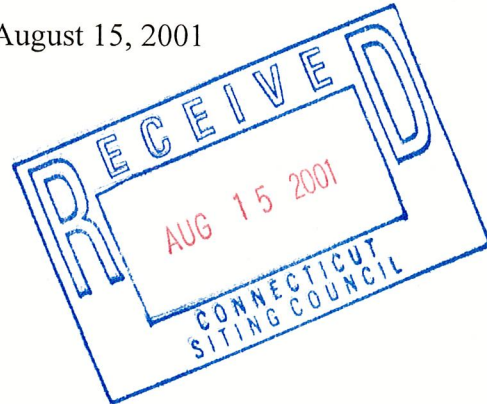
EM-VER-040-010815

Kenneth C. Baldwin  
860-275-8345  
Internet: kbaldwin@rc.com

August 15, 2001

*Via Hand Delivery*

Mr. Joel M. Rinebold  
Executive Director  
Connecticut Siting Council  
10 Franklin Square  
New Britain, CT 06051



**Re: Notice of Exempt Modification  
Newgate Road  
East Granby, Connecticut**

Dear Mr. Rinebold:

Cellco Partnership d/b/a Verizon Wireless ("Cellco") intends to modify its antenna configuration on the existing "facility" tower off Newgate Road in East Granby, 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 East Granby First Selectman, David K. Kilbon.

Cellco's facility consists of its twelve (12) panel-type antennas attached at the top of a 75-foot tower and a single-story equipment shelter near the base of the tower. Cellco now intends to remove the twelve (12) existing panel antennas and replace them with three (3) Metawave® panel antennas at the same level on the tower. Specifications for the Metawave® antennas are attached hereto. There are no changes proposed to any ground mounted structures or equipment.

The planned modifications to the East Granby 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 at the 74-foot level on the existing 75-foot tower.

# ROBINSON & COLE LLP

Mr. Joel M. Rinebold

August 15, 2001

Page 2

2. The proposed antenna modification does not effect any ground level equipment or structure and therefore will not require an extension of facility boundaries.

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

4. The operation of the Metawave® antennas does not result in an increase in existing radio frequency (RF) power density levels at the facility. Updated RF power density calculations were therefore not performed for Cellco use at this facility.

Also attached is a copy of a structural analysis verifying that the tower can accommodate the proposed antenna modification.

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

Sincerely,



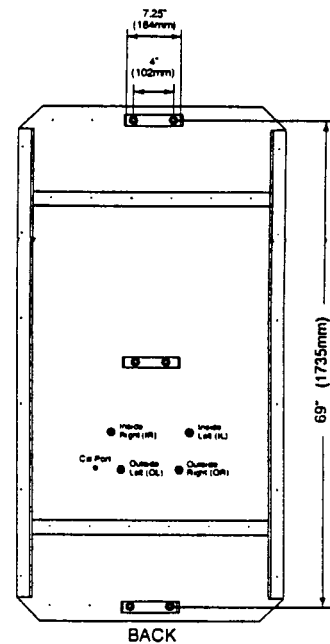
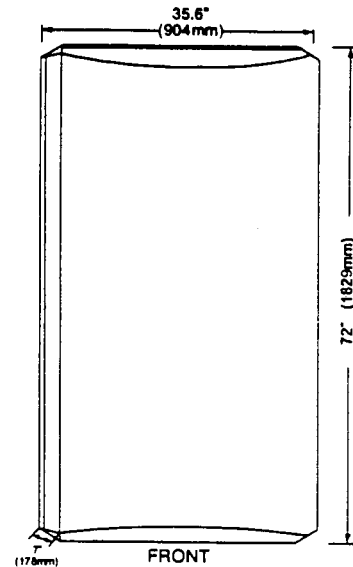
Kenneth C. Baldwin

KCB/kmd

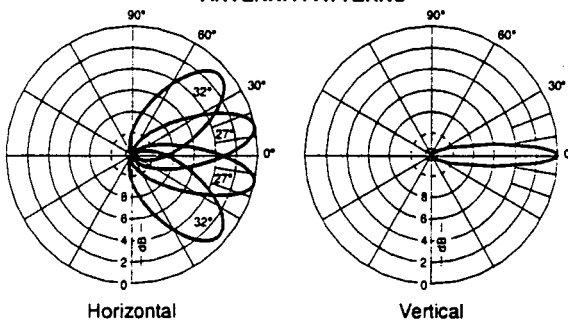
Attachments

cc: David K. Kilbon, East Granby First Selectman  
Sandy M. Carter

Part Number	155-0007-02
Terminations	Antenna Ports: 7/16 DIN Calibration Port: Type N-Female
Frequency Range	824-896 MHz
Gain	Outer Beams: 15.9 dBd (18.0 dBi) Inner Beams: 16.9 dBd (19.0 dBi)
VSWR	Input Ports: 1.5 : 1 Calibration Port: 1.8 : 1
Beamwidth ( $\pm 3^\circ$ ) (3dB from max)	Horizontal: 2 outer beams $32^\circ \pm 3^\circ$ , 2 inner beams $27^\circ \pm 3^\circ$ Vertical: $11^\circ \pm 2^\circ$
Azimuth Pointing Angle ( $\pm 2^\circ$ )	2 Outer Beams: $\pm 45^\circ$ 2 Inner Beams: $\pm 15^\circ$
Side Lobe Level	Inside: $\geq 10.25$ dBc, down from main beam Outside: $\geq 8.25$ dBc, down from main beam
Front-to-Back Ratio	25 dB
Polarization	Vertical
Max. Input Power	250 Watts, per beam 500 Watts, composite
Weight	75 lb (34 kg)
Wind Area	17.8 ft <sup>2</sup> (1.65 m <sup>2</sup> )
Wind Load	712 lbf (3167N) 320 kp (at 100 mph)
Max. Wind Speed	125 mph (201 km/h)
Material	Reflector: Pass. Aluminum Radiators: Silver-Plated Brass Radome: ABS, UV Resistant Mounting Hdw: Galvanized Steel
Color, Radome	Gray
Mounting	DB380 pipe mount kit (max. 3.5" OD), included
Downtilt Bracket	Optional
Weather Protection	Fully protected by backplate and radome
Lightning Protection	All metal parts grounded
Packing Size	74" x 41" x 10" (188 x 104 x 25.4 cm)
Shipping Weight	131 lbs (59.4 kg)



#### ANTENNA PATTERNS



In CDMA systems, SpotLight 2000 combines beams to create custom sector patterns. You can use SpotLight's Beam Controller software to define, model and display CDMA sectors.

## METAWAVE®

10735 Willows Road NE, Redmond, WA 98052 USA

Tel: (425) 702-5600 Fax: (425) 702-5970

www.metawave.com

# SPOTLIGHT™ 2000

## CABLE RECOMMENDATIONS AND CONNECTOR REQUIREMENTS

Metawave advises the following connector requirements and cable recommendations:

### CONNECTOR SPECIFICATIONS (required)

The Metawave SpotLight system employs duplexers on all antenna transmission lines. In a duplexed system, each transmission line carries both receive and transmit signals. A drawback to duplexed systems is their sensitivity to intermodulation (IMD) generated in the antenna or transmission line.

To reduce the possibility of IMD, Metawave has specified that RF connectors on the transmission line jumpers be silver plated or white bronze. Other materials may work satisfactorily in most systems, but certain combinations of metals may be susceptible to oxidation. This oxidation may contribute to the generation of IMD. In an effort to reduce IMD and optimize system performance, Metawave requires that only silver plated or white bronze connectors be used on all transmission line jumpers.

### CABLE SPECIFICATIONS (recommended)

Metawave highly recommends the use of Amphenol cables, particularly on the cables from the Polyphasers to the IDLS. The Amphenol cable provides for consistent connections and ease of assembly. The Amphenol cables require no soldering or silicon to seal the joint. It also uses a captive pin technology and has the silicon embedded in the o-rings.

The Amphenol cable has a proprietary technology in that the inner insulation will pull away easily from the center conductor of the cable so the assembler does not have to scrape the insulation away, as is the case with other vendor cables. When employing the scraping method, there is a high risk of nicking the center conductor, which increases the risk of IMD problems.

Jumpers & Connectors: Antenna ports to RF Transmission Lines:

- AFC4-50J  
    ½" Hardline Annular
- A4PNM  
    N Connector Male Silver Plating
- A4WNM  
    N Connector Male White Bronze
- A4PDM  
    7/16 DIN Connector Male Silver Plating
- A4WDM  
    7/16 DIN Connector Male White Bronze

Cables & Connectors: Polyphasers to SpotLight IDLS:

- SFC4-50J  
    ½" Hardline SuperFlex
- S4PNM  
    N Connector Male Silver Plating
- S4WNM  
    N Connector Male White Bronze
- S4PDM

7/16 DIN Connector Male Silver Plating

- S4WDM

7/16 DIN Connector Male White Bronze

## CABLE PREP TOOLS

The cable prep tool fits into a regular drill chuck and allows for quick and consistent preparation of the cable end for the specific connector.

- TXL-ST-S4  
Superflex drill style cable prep tool
- TXL-ST-A4  
Annular drill style cable prep tool

The flare tool is used on the annular type cables and makes locking the connector body to the cable quicker and easier.

- TXL-FT-12  
Annular cable flare tool

## SUPPLIER OF PRODUCTS

Amphenol Corporation, Wireless Cable Products

[www.amphenol.com](http://www.amphenol.com)

# SPOTLIGHT™ 2000

## ANTENNA BRACING RECOMMENDATION

Metawave, and our antenna manufacturer (Decibel), recommend the following antenna bracing for the high-gain antenna with the 80° analog transmit antenna (used for Analog Pass-Thru functionality):

### BRACING RECOMMENDATION

Metawave recommends applying an azimuth arm brace to either side of the high-gain multibeam antenna. For the brace it is recommended that the following be used:

- ½" threaded rod for lengths up to 2 feet
- 1" rigid conduit (or equivalent) up to 6 feet
- 1-1/4" rigid conduit up to 10 feet

All of the hardware used on exterior antenna and tower structures should be galvanized, stainless steel, or aluminum. Metawave advises against using cable and turnbuckle bracing methods as those impose undue stress on the antenna structure. Due to a variety of install situations, no single connecting bracket and hardware package can be assembled. However, case appropriate materials can be found among offerings of manufacturers such as Andrew, B-Line, Decibel, Rohn, Unistrut, Valmont/Microflect, etc.

# SPOTLIGHT™ 2000

## RACK ENVELOPE & COMPONENT (approx.) WEIGHT REQUIREMENTS

### RACK ENVELOPE REQUIREMENTS

#### RACK

SpotLight racks require the following minimum envelope dimensions:

#### 19" RACK

##### Standard Rack

- 90" tall x 30" deep x 23.13" wide

##### Short (non-standard) Rack

- 82.88" tall x 30" deep x 23.13" wide

#### 25" RACK

##### Standard Rack

- 90" tall x 30" deep x 29.13" wide

##### Short (non-standard) Rack

- 82.88" tall x 30" deep x 29.13" wide

### COMPONENT (approx.) WEIGHT REQUIREMENTS

25" rack with cages:	300 lbs. ea.
19" rack with cages:	250 lbs. ea.
LPA's (30 & 50 W):	38 lbs. ea.
SMU's:	14 lbs. ea.
IDLS's:	34 lbs. ea.
RX FRU's:	5.20 lbs. ea.
TX FRU's:	5.20 lbs. ea.
Controller FRU's:	5.20 lbs. ea.
fan assy (on 19" rack):	25 lbs.
cables and misc:	50 lbs. per rack
standard gain antenna (or EDT):	47 lbs.
high gain antenna (or EDT):	75 lbs.
analog transmit (80 degree) antenna:	90 lbs.
(25" rack loaded - ~1,366; 19" rack loaded - ~500 lbs.)	



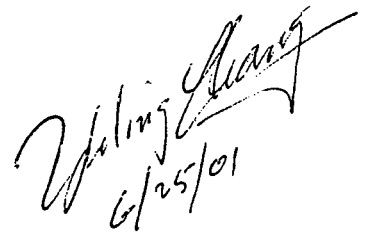
STRUCTURAL ANALYSIS AND REPORT  
FOR  
VERIZON  
OF THE  
75 FOOT MONOPOLE  
AT  
EAST GRANBY, CONNECTICUT

BY  
YULING CHANG, P.E.

2223-02

June 25, 2001  
L & W ENGINEERING  
25 Aladdin Avenue Dumont, NJ 07628

YULING CHANG



Yuling Chang  
6/25/01

CONNECTICUT PROFESSIONAL ENGINEER  
NO. 16564

L & W Engineering Structural Analysis and Report  
For Verizon Wireless  
Of the 75 Foot Monopole at East Granby, Connecticut

PURPOSE:

The purpose of this report is to re-analyze an existing 75 foot Monopole, located at East Granby, Connecticut, to determine if this pole will meet the requirements of TIA/EIA-222-F, while replacing eight ALP 9212 and four ALP 9209 antennas with three Metawave 155-0007 antennas, mounted on the platform at 74 foot elevation.

DESCRIPTION:

The structure is a 75 foot tall, three section round monopole supplied by Summit Manufacturing Inc., with a base diameter of 20" and top diameter of 11.5". The pole has one platform at the top of the pole. The pole information was based on Summit Manufacturing drawing 936-D1, and the previous analysis performed by L & W Engineering Corp. This analysis assumes the pole steel is in its original state with no deterioration due to weather or field modification.

REFERENCES:

1. "Structural Standards for Steel Antenna Towers and Antenna Supporting Structures (ANSI/TIA/EIA-222-F-96)," Telecommunications Industry Association Arlington, VA.
2. AISC Manual of Steel Construction, Ninth Edition.
3. Summit Manufacturing Inc. drawing #936-D1, for Pole details.
4. Allgon System catalogs for antenna information.

PROCEDURE:

This structural analysis was conducted using STAAD III/ISDS. STAAD III is an integrated structural design program, capable of performing structural analysis, and tower and building structure design. The structure is modeled with all of its members. A basic wind speed of 80 MPH, with and without 1/2" radial ice, was used for calculating the stresses and reaction forces under TIA/EIA-222-F with the following load combinations:

- 1)  $D + W_0$
- 2)  $D + 0.75W_1 + I$

$D$  is the dead weight of the structure and appurtenances.  $W_0$  is the design wind load on the structure and appurtenances without ice.  $W_1$  is the design wind load on the structure and appurtenances with 1/2" radial ice on the pole members.  $I$  is the weight of the ice. The pole and support members were checked by the computer against the AISC code. The results and stress levels for each member are shown on the attached computer output pages.

CONCLUSION:

The analysis results show that the pole and all of the support members meet the requirements of TIA/EIA-222-F, and the AISC allowable stress requirements. The maximum shear equals 4,550 lb. The vertical load is 5,930 lb. The maximum moment is 3,167 in-kips.

The maximum anchor bolt tension is 55.71 kips and is less than the 2" A36 anchor bolt allowable tension of 60.0 kips.

Therefore, the pole is adequate to support the proposed antennas in accordance TIA/EIA standard.

The foundation information is not available and was not evaluated.



Job No **2223-02** Sheet No **1 of 6** Rev

Software licensed to Yuling Chang

Job Title **75 ft MONOPOLE AT EAST GRANBY**

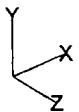
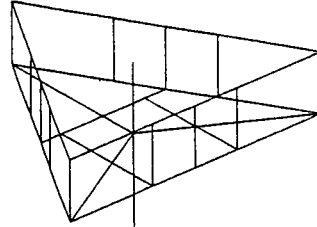
Part

Ref

By **Y. CHANG** Date **21-Jun-01** Chd

Client **VERIZON**

File **S22232.std** Date/Time **24-Jun-2001 20:27**



Subject	W.O. No.	Sheet No.
FOR VERIZON OF THE 75 FT MONOPOLE AT EAST GRANBY, CT.	2223-02	2 of 6
Prepared by	Rev. No.	Date
Y. CHANG		06/24/01

WIND LOAD CALCULATION FOR ANTENNA SUPPORT STRUCTURES,  
PER ANSI/EIA/TIA-222-F

HORIZONTAL WIND FORCE

$$F = q_z G_H [C_F A_E + \Sigma(C_A A_A)]^{(lb)}$$

BUT NOT TO EXCEED  $2 q_z G_H A_G$

WHERE  $A_E = D_F A_F + D_R A_R R_R$  (ft<sup>2</sup>)

$$F = q_z G_H [C_F (D_F A_F + D_R A_R R_R) + \Sigma(C_A A_A)]^{(lb)}$$

FOR BASIC WIND SPEED = V (MILES PER HOUR)

HEIGHT OF TOWER = h (FEET)

z = HEIGHT ABOVE GROUND TO MIDPOINT OF SECTION

$$K_z = [z / 33]^{2/7}$$

$$q_z = 0.00256 K_z V^2 \text{ (lb/ft}^2 \text{)}$$

GUST FACTOR,  $G_H$

$$G_H = 0.65 + 0.60/(h/33)^{1/7}$$

$$1.00 \leq G_H \leq 1.25$$

SOLIDITY RATIO, e

$$e = (A_F + A_R) / A_G$$

FORCE COEFFICIENTS,  $C_F$

$$C_F = 4.0e^2 - 5.9e + 4.0 \text{ (FOR SQUARE CROSS SECTIONS)}$$

$$C_F = 3.4e^2 - 4.7e + 3.4 \text{ (FOR TRIANGULAR CROSS SECTIONS)}$$

$$R_R = 0.51e^2 + 0.57$$

$$R_R \leq 1.0$$

FOR  $C_F$  AND FORCE CALCULATION SEE NEXT SHEET

Subject	FOR VERIZON OF THE 75 FT MONOPOLE AT EAST GRANBY, CT.	W.O. No.	2223-02	Sheet No.	3 of 6
Prepared by	Y. CHANG	Rev. No.		Date	06/24/2001

WIND LOAD FOR CANTILEVERED TUBULAR STRUCTURE

POLE HIGHT (Ft)      H =      75.00 FT  
WIND SPEED (MPH)      V =      80.00 MPH  
ICE THICKNESS      It =      0.50 IN  
EXPOSURE Coe.      Kz =      1.0372  
GUST FACTOR      Gh =      1.69  
VELOCITY Pre.      qz =      16.99 PSF

WIND FORCE =  $qz \times Gh (Cf \times Ae)$

MEMBER	MEMBER		WIND	ICE		WIND/ICE
SIZE	WEIGHT	Cf	LOAD	LOAD	Cf/I	.75Wi
	lb/FT		Wo	I		lb/FT
			lb/FT	lb/FT		
C-4	31.05	0.59	17.86	7.33	0.59	14.56
C-3	34.75	0.59	19.99	8.17	0.59	16.16
C-2	38.45	0.59	22.12	9.00	0.59	17.75
C-1	42.14	0.59	24.25	9.84	0.59	19.35
B-4	39.58	0.59	22.77	9.26	0.59	18.24
B-3	43.49	0.59	25.02	10.15	0.59	19.93
B-2	47.38	0.59	27.26	11.03	0.59	21.61
B-1	51.30	0.59	29.51	11.91	0.59	23.30
A-4	48.22	0.59	27.74	11.22	0.59	21.97
A-3	51.94	0.59	29.88	12.06	0.59	23.58
A-2	55.67	0.59	32.03	12.90	0.59	25.19
A-1	59.40	0.59	34.17	13.74	0.59	26.79

Subject FOR VERIZON OF THE 75 FT MONOPOLE AT EAST GRANBY, CT.	W.O. No. 2223-02		Sheet No. 4 of 6
	Prepared by Y.CHANG	Rev. No.	Date 06/24/2001

ANTENNA LOAD AT 33 FT AGL. FOR 75 FT TOWE  
 BASED ON WIND SPEED OF 80 MPH

$$F = .00256 V^2 \cdot Gh \cdot Ca \cdot Aa \quad \text{or for Dish } F = Ca \cdot V^2 \cdot Gh \cdot Aa$$

$$.00256 V^2 = 16.384 \quad Gh = 1.184$$

ANTENNA TYPE	ANTENNA WEIGHT Lb. WT	PROJ. Area in <sup>2</sup> Aa	COEFF. Ca	MOM ARM ARM	TORQUE ARM HOR-ARM	LATERAL THRUST Lb. Fa	BENDING MOMENT FT-Lb Wm	WIND TORQUE FT-Lb Mt	DISH SHEAR Lb. Es
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**METAWAVE**

155-0007	75	17.8	1.4	3		483	1450	0
L864 BEACON	86	2.74	0.8			43		



<b>Subject</b> FOR VERIZON OF THE 75 FT MONOPOLE AT EAST GRANBY, CT.	<b>W.O. No.</b> 2223-02	<b>Sheet No.</b> 5 of 6
<b>Prepared by</b> Y.CHANG	<b>Rev. No.</b>	<b>Date</b> 06/24/2001

ANTENNA LOAD AT SUPPORT FOR                      75 FT TOWER

BASED ON WIND SPEED OF                              80 MPH

ANT. No.	ANTENNA TYPE	LOCATION FT	Kz	WT Lb.	LATERAL THRUST Lb.	BENDING MOMENT FT-Lb	WIND TORQUE FT-Lb	DISH SHEAR Lb.
1	BEACON	75	1.264	86	54			
2	METAWAVE 155	74	1.260	75	609	1827		
3	SCALA CA 2	74	1.260	75	609	1827		
4	6812-3	74	1.260	75	609	1827		

Subject FOR VERIZON OF THE 75 FT MONOPOLE AT EAST GRANBY, CT.		W.O. No. 2223-02	Sheet No. 6 of 6
Prepared by Y. CHANG		Rev. No.	Date 06/24/2001

### ICE & WIND LOAD CALCULATION FOR APPURTENANCE

TOWER HEIGHT (FT)    H =        75.00 FT  
 WIND SPEED (MPH)     V =        80.00 MPH  
 ICE THICKNESS        It =        0.50 IN  
 GUST FACTOR           Gh =        1.184  
 VELOCITY Pre.        qz =        16.38 x Kz PSF

$$qz = 0.00256 Kz V^2$$

$$\text{WIND FORCE} = qz \times Gh \text{ (Ca} \times \text{Aa)}$$

APPURT. SIZE	APPURT. WEIGHT lb/FT	Ca	Aa FT <sup>2</sup> /FT	WIND LOAD Wo WIND	ICE LOAD I lb/FT	Aa/I FT <sup>2</sup> /FT	WIND/ICE .75Wi WIND/ICE
7/8-COAX	0.33	1.2	0.091	2.11	0.971	0.131	3.04

1

□

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*****
*
*           S T A A D - III
*           Revision 22.3b
*           Proprietary Program of
*           Research Engineers, Inc.
*           Date=      JUN 21, 2001
*           Time=      23:19:24
*           Build No.  2473
*           USER ID: L & W Engineering Corp.
*
*****

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□

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1. STAAD SPACE "L & W ENGINEERING -ANALYSIS OF EAST GRANBY 75 FT MONOPOLE"
2. *FILE NAME "S2223-2" EAST GRANBY 75' POLE
3. UNIT FEET POUND
4. JOINT COORDINATES
5. 1 0 0 0; 2 0 8 0; 3 0 16 0; 4 0 23.5 0; 5 0 31.9 0; 6 0 40.3 0
6. 7 0 48.7 0; 8 0 57.47 0; 9 0 66.23 0; 10 0 71.5 0; 11 0 75 0
7. 12 -6.75 71.5 3.897; 13 -2.25 71.5 3.897; 14 0 71.5 3.897
8. 15 2.25 71.5 3.897; 16 6.75 71.5 3.897; 17 4.5 71.5 0
9. 18 3.375 71.5 -1.949; 19 2.25 71.5 -3.897; 20 0 71.5 -7.794
10. 21 -4.5 71.5 0; 22 -3.375 71.5 -1.949; 23 -2.25 71.5 -3.897
11. 48 -6.75 74.5 3.897; 49 -2.25 74.5 3.897; 50 0 74.5 3.897
12. 51 2.25 74.5 3.897; 52 6.75 74.5 3.897; 53 4.5 74.5 0
13. 54 3.375 74.5 -1.949; 55 2.25 74.5 -3.897; 56 0 74.5 -7.794
14. 57 -4.5 74.5 0; 58 -3.375 74.5 -1.949; 59 -2.25 74.5 -3.897
15. 60 -2.25 71.5 -1.949; 61 2.25 71.5 -1.949
16. MEMBER INCIDENCES
17. 1 1 2; 2 2 3; 3 3 4; 4 4 5; 5 5 6; 6 6 7; 7 7 8; 8 8 9; 9 9 10
18. 10 10 11; 11 12 13; 12 13 14; 13 14 15; 14 15 16; 15 16 17; 16 17 18
19. 17 18 19; 18 19 20; 19 12 21; 20 21 22; 21 22 23; 22 23 20; 47 48 49
20. 48 49 50; 49 50 51; 50 51 52; 51 52 53; 52 53 54; 53 54 55; 54 55 56
21. 55 48 57; 56 57 58; 57 58 59; 58 59 56; 101 10 12; 102 10 16; 103 10 20
22. 107 22 60; 108 60 61; 109 61 18; 110 13 60; 111 15 61; 213 12 48
23. 214 13 49; 215 14 50; 216 15 51; 217 16 52; 218 17 53; 219 18 54
24. 220 19 55; 221 20 56; 222 21 57; 223 22 58; 224 23 59
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26. *27 28 29 30
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32. *43 36 45
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34. *46 47 44
35. *201 24 36 212
36. *225 64 76 236
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38. TABLE 1 ANGLES
39. END
40. UNIT INCHES POUND
41. MEMBER PROPERTY AMERICAN

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"L & W ENGINEERING -ANALYSIS OF EAST GRANBY 75 FT MONOPO -- PAGE NO. 2  
\*FILE NAME "S2223-2" EAST GRANBY 75' POLE  
42. 101 TO 103 107 TO 111 TABLE ST PIPS30  
43. 47 TO 58 213 TO 224 TABLE ST PIPS20  
44. 11 TO 22 TABLE ST C6X13  
45. 1 PRIS AX 17.08 AY 11.39 AZ 11.39 IY 1010.26 IZ 1010.26 YD 22 ZD 22  
46. 2 PRIS AX 16 AY 10.67 AZ 10.67 IY 829.92 IZ 829.92 YD 20.6 ZD 20.6  
47. 3 PRIS AX 14.91 AY 9.94 AZ 9.94 IY 672.43 IZ 672.43 YD 19.24 ZD 19.24  
48. 4 PRIS AX 14.73 AY 9.82 AZ 9.82 IY 647.26 IZ 647.26 YD 19 ZD 19  
49. 5 PRIS AX 13.59 AY 9.06 AZ 9.06 IY 508.42 IZ 508.42 YD 17.55 ZD 17.55  
50. 6 PRIS AX 12.46 AY 8.31 AZ 8.31 IY 391.75 IZ 391.75 YD 16.11 ZD 16.11  
51. 7 PRIS AX 9.08 AY 6.05 AZ 6.05 IY 270.14 IZ 270.14 YD 15.61 ZD 15.61  
52. 8 PRIS AX 8.28 AY 5.52 AZ 5.52 IY 204.36 IZ 204.36 YD 14.24 ZD 14.24  
53. 9 PRIS AX 7.47 AY 4.98 AZ 4.98 IY 150.23 IZ 150.23 YD 12.87 ZD 12.87  
54. 10 PRIS AX 6.66 AY 4.44 AZ 4.44 IY 106.62 IZ 106.62 YD 11.5 ZD 11.5  
55. \*MEMBER TRUSS  
56. \*202 TO 465  
57. CONSTANTS  
58. E 2.9E+007 ALL  
59. DENSITY 0.283 ALL  
60. ALPHA 6.5E-006 ALL  
61. \*BETA 45. MEMBER 1 TO 172 176 TO 207  
62. \*PRINT JOINT COORDINATES  
63. \*PRINT MEMBER INFORMATION  
64. SUPPORTS  
65. 1 FIXED  
66. UNIT FEET POUND  
67. LOAD 1 "DEAD LOAD VERT."  
68. SELFWEIGHT Y -1  
69. \*ANTENNA LOAD \*\*  
70. JOINT LOAD  
71. \*\* BEACON \*\*  
72. 11 FY -86  
73. MEMBER LOAD  
74. \*\* BELL ATLANTIC ANTENNA 1-8 ALP-9212 \*\*  
75. \*213 214 216 217 CON GY -26.7  
76. \*218 TO 221 CON GY -26.7  
77. \*\* BELL ATLANTIC NEW ANTENNA 9 -12 ALP-9209 \*\*  
78. \*213 222 TO 224 CON GY -15.3  
79. \*\* BELL ATLANTIC NEW ANTENNA 2 -4 METAWAVE 155-0007 \*\*  
80. 213 217 221 CON GY -75  
81. \*APPURTENANCE LOAD  
82. 2 TO 10 UNI GY -4  
83. LOAD 2 " ICE LOAD "  
84. MEMBER LOAD  
85. 1 UNI GY -13.74  
86. 2 UNI GY -12.9  
87. 3 UNI GY -12.06  
88. 4 UNI GY -11.22  
89. 5 UNI GY -11.03  
90. 6 UNI GY -10.15  
91. 7 UNI GY -9.26  
92. 8 UNI GY -9  
93. 9 UNI GY -8.17  
94. 10 UNI GY -7.33  
95. 11 TO 22 UNI GY -2.06  
96. 101 TO 103 107 TO 111 UNI GY -2.44  
97. \*201 TO 236 35 TO 58 71 TO 82 UNI GY -2.06

\*FILE NAME "S2223-2" EAST GRANBY 75' POLE

- 98. \*16 TO 34 59 TO 70 130 TO 134 UNI GY -3.69
- 99. \*APPURTENANCE LOAD
- 100. MEMBER LOAD
- 101. 2 TO 9 UNI GY -1
- 102. LOAD 3 "WIND LOAD HORIZ. X"
- 103. MEMBER LOAD
- 104. 1 UNI GX 34.17
- 105. 2 UNI GX 32.03
- 106. 3 UNI GX 29.88
- 107. 4 UNI GX 29.51
- 108. 5 UNI GX 27.26
- 109. 6 UNI GX 25.02
- 110. 7 UNI GX 24.25
- 111. 8 UNI GX 22.12
- 112. 9 UNI GX 19.99
- 113. 10 UNI GX 17.86
- 114. 11 TO 22 UNI GX 10.18
- 115. 101 TO 103 UNI GX 10.18
- 116. \*ANTENNA LOAD
- 117. JOINT LOAD
- 118. \*\* BEACON \*\*
- 119. 11 FX 86
- 120. MEMBER LOAD
- 121. \*\* BELL ATLANTIC ANTENNA 1-8 ALP-9212 \*\*
- 122. \*213 214 216 217 CON GX 141
- 123. \*218 TO 221 CON GX 141
- 124. \*\* BELL ATLANTIC NEW ANTENNA 9 -12 ALP-9209 \*\*
- 125. \*213 222 TO 224 CON GX 73
- 126. \*\* BELL ATLANTIC NEW ANTENNA 2 -4 METAWAVE 155-0007 \*\*
- 127. 213 217 221 CON GX 609
- 128. \*APPURTENANCE LOAD
- 129. 2 TO 4 UNI GX 19.68
- 130. LOAD 4 "WIND LOAD HORIZ. Z"
- 131. MEMBER LOAD
- 132. 1 UNI GZ 34.17
- 133. 2 UNI GZ 32.03
- 134. 3 UNI GZ 29.88
- 135. 4 UNI GZ 29.51
- 136. 5 UNI GZ 27.26
- 137. 6 UNI GZ 25.02
- 138. 7 UNI GZ 24.25
- 139. 8 UNI GZ 22.12
- 140. 9 UNI GZ 19.99
- 141. 10 UNI GZ 17.86
- 142. 11 TO 22 UNI GZ 10.18
- 143. 101 TO 103 UNI GZ 10.18
- 144. \*ANTENNA LOAD
- 145. JOINT LOAD
- 146. \*\* BEACON \*\*
- 147. 11 FZ 54
- 148. MEMBER LOAD
- 149. \*\* BELL ATLANTIC ANTENNA 1-8 ALP-9212 \*\*
- 150. \*213 214 216 217 CON GZ 141
- 151. \*218 TO 221 CON GZ 141
- 152. \*\* BELL ATLANTIC NEW ANTENNA 9 -12 ALP-9209 \*\*
- 153. \*213 222 TO 224 CON GZ 73

\*FILE NAME "S2223-2" EAST GRANBY 75' POLE

154. \*\* BELL ATLANTIC NEW ANTENNA 2 -4 METAWAVE 155-0007 \*\*  
155. 213 217 221 CON GZ 609  
156. LOAD 5 "WIND LOAD HORIZ. X W/ICE "  
157. MEMBER LOAD  
158. 1 UNI GX 26.79  
159. 2 UNI GX 25.19  
160. 3 UNI GX 23.58  
161. 4 UNI GX 23.3  
162. 5 UNI GX 21.61  
163. 6 UNI GX 19.93  
164. 7 UNI GX 19.35  
165. 8 UNI GX 17.75  
166. 9 UNI GX 16.16  
167. 10 UNI GX 14.56  
168. 11 TO 22 UNI GX 10.18  
169. 101 TO 103 UNI GX 10.18  
170. \*APPURTENANCE LOAD  
171. 2 TO 4 UNI GX 19.68  
172. \*ANTENNA LOAD  
173. JOINT LOAD  
174. \*\* BEACON \*\*  
175. 11 FX 54  
176. MEMBER LOAD  
177. \*\* BELL ATLANTIC ANTENNA 1-8 ALP-9212 \*\*  
178. \*213 214 216 217 CON GX 141  
179. \*218 TO 221 CON GX 141  
180. \*\* BELL ATLANTIC NEW ANTENNA 9 -12 ALP-9209 \*\*  
181. \*213 222 TO 224 CON GX 73  
182. \*\* BELL ATLANTIC NEW ANTENNA 2 -4 METAWAVE 155-0007 \*\*  
183. 213 217 221 CON GX 609  
184. \*APPURTENANCE LOAD  
185. 2 TO 4 UNI GX 19.68  
186. LOAD 6 "WIND LOAD HORIZ. Z W/ICE"  
187. MEMBER LOAD  
188. 1 UNI GZ 26.79  
189. 2 UNI GZ 25.19  
190. 3 UNI GZ 23.58  
191. 4 UNI GZ 23.3  
192. 5 UNI GZ 21.61  
193. 6 UNI GZ 19.93  
194. 7 UNI GZ 19.35  
195. 8 UNI GZ 17.75  
196. 9 UNI GZ 16.16  
197. 10 UNI GZ 14.56  
198. 11 TO 22 UNI GZ 9.18  
199. 101 TO 103 UNI GZ 9.18  
200. \*ANTENNA LOAD  
201. JOINT LOAD  
202. \*\* BEACON \*\*  
203. 11 FZ 54  
204. MEMBER LOAD  
205. \*\* BELL ATLANTIC ANTENNA 1-8 ALP-9212 \*\*  
206. \*213 214 216 217 CON GZ 141  
207. \*218 TO 221 CON GZ 141  
208. \*\* BELL ATLANTIC NEW ANTENNA 9 -12 ALP-9209 \*\*  
209. \*213 222 TO 224 CON GZ 73

\*FILE NAME "S2223-2" EAST GRANBY 75' POLE

210. \*\* BELL ATLANTIC NEW ANTENNA 2 -4 METAWAVE 155-0007 \*\*  
211. 213 217 221 CON GZ 609  
212. \*APPURTENANCE LOAD  
213. 2 TO 4 UNI GZ 19.68  
214. LOAD COMBINATION 7  
215. 1 1.0 3 1.0  
216. LOAD COMBINATION 8  
217. 1 1.0 4 1.0  
218. LOAD COMBINATION 9  
219. 1 1.0 2 1.0 5 1.0  
220. LOAD COMBINATION 10  
221. 1 1.0 2 1.0 6 1.0  
222. UNIT INCHES KIP  
223. PERFORM ANALYSIS

□

P R O B L E M   S T A T I S T I C S  
-----

NUMBER OF JOINTS/MEMBER+ELEMENTS/SUPPORTS =    37/    54/    1  
ORIGINAL/FINAL BAND-WIDTH =    23/    8  
TOTAL PRIMARY LOAD CASES =    6, TOTAL DEGREES OF FREEDOM =    216  
SIZE OF STIFFNESS MATRIX =    11664 DOUBLE PREC. WORDS  
REQRD/AVAIL. DISK SPACE =    12.16/    75.1 MB, EXMEM = 1957.1 MB

□

++ Processing Element Stiffness Matrix.                    23:19:26  
++ Processing Global Stiffness Matrix.                    23:19:26  
++ Processing Triangular Factorization.                    23:19:26  
++ Calculating Joint Displacements.                        23:19:26  
++ Calculating Member Forces.                              23:19:26

224. LOAD LIST 7 TO 10  
225. PRINT ANALYSIS RESULTS

JOINT DISPLACEMENT (INCH RADIANS)      STRUCTURE TYPE = SPACE  
 -----

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
1	7	.00000	.00000	.00000	.00000	.00000	.00000
	8	.00000	.00000	.00000	.00000	.00000	.00000
	9	.00000	.00000	.00000	.00000	.00000	.00000
	10	.00000	.00000	.00000	.00000	.00000	.00000
2	7	.47585	-.00090	-.00003	.00000	.00000	-.00960
	8	.00000	-.00090	.45582	.00921	.00000	.00000
	9	.46289	-.00109	-.00003	.00000	.00000	-.00932
3	7	1.88734	-.00176	-.00011	.00000	.00000	-.01946
	8	.00000	-.00176	1.81507	.01879	.00000	.00000
	9	1.83126	-.00214	-.00014	.00000	.00000	-.01883
4	7	4.08331	-.00254	-.00024	.00000	.00000	-.02899
	8	.00000	-.00254	3.94146	.02814	.00000	.00000
	9	3.95250	-.00308	-.00032	.00000	.00000	-.02797
5	7	7.48219	-.00332	-.00048	.00000	.00000	-.03805
	8	.00000	-.00332	7.24808	.03708	.00000	.00000
	9	7.22664	-.00402	-.00064	.00000	.00000	-.03662
6	7	11.79621	-.00405	-.00082	.00000	.00000	-.04709
	8	.00000	-.00405	11.45930	.04603	.00000	.00000
	9	11.37674	-.00490	-.00108	-.00001	.00000	-.04530
7	7	17.01098	-.00474	-.00128	-.00001	.00000	-.05584
	8	.00000	-.00474	16.56073	.05466	.00000	.00000
	9	16.39356	-.00573	-.00169	-.00001	.00000	-.05373
8	7	23.39640	-.00559	-.00195	-.00001	.00000	-.06473
	8	.00000	-.00559	22.81604	.06344	.00000	.00000
	9	22.54186	-.00673	-.00257	-.00001	.00000	-.06236
9	7	30.58094	-.00638	-.00288	-.00001	.00000	-.07101
	8	.00000	-.00638	29.85958	.06963	.00000	.00000
	9	29.46739	-.00766	-.00381	-.00001	.00000	-.06848
10	7	35.14302	-.00685	-.00361	-.00001	.00000	-.07278
	8	.00000	-.00685	34.33292	.07136	.00000	.00000
	9	33.86773	-.00819	-.00477	-.00002	.00000	-.07021
11	7	38.20084	-.00688	-.00414	-.00001	.00000	-.07281
	8	.00000	-.00688	37.33086	.07138	.00000	.00000
	9	36.81703	-.00823	-.00547	-.00002	.00000	-.07023
12	7	35.14502	5.92124	-.00410	.00010	-.00017	-.07723
	8	.00060	-3.93819	34.33615	.07658	-.00008	.00096
	9	33.86974	5.66697	-.00525	.00013	-.00017	-.07459
	10	.00058	-3.83483	32.75223	.07343	-.00007	.00103



JOINT DISPLACEMENT (INCH RADIANS)      STRUCTURE TYPE = SPACE  
 -----

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
13	7	35.14512	1.74229	.00073	-.00021	-.00008	-.07756
	8	.00021	-3.91262	34.33694	.07602	.00005	.00014
	9	33.86983	1.62861	-.00041	-.00025	-.00008	-.07498
	10	.00020	-3.80776	32.75297	.07279	.00004	.00015
14	7	35.14512	-.35282	-.00362	-.00010	.00027	-.07765
	8	.00000	-3.91073	34.33690	.07608	.00000	.00000
	9	33.86983	-.39691	-.00478	-.00014	.00027	-.07508
	10	.00000	-3.80583	32.75288	.07285	.00000	.00000
15	7	35.14509	-2.45002	-.00789	-.00004	-.00009	-.07772
	8	-.00020	-3.91262	34.33694	.07602	-.00004	-.00014
	9	33.86980	-2.42460	-.00904	-.00008	-.00009	-.07515
	10	-.00020	-3.80776	32.75296	.07279	-.00004	-.00015
16	7	35.14497	-6.66359	-.00315	.00063	-.00017	-.07862
	8	-.00059	-3.93820	34.33614	.07658	.00008	-.00096
	9	33.86968	-6.50057	-.00432	.00066	-.00017	-.07612
	10	-.00059	-3.83483	32.75223	.07343	.00007	-.00103
17	7	35.15735	-4.54253	-.00984	.00007	-.00006	-.07773
	8	-.00090	-.35847	34.33625	.07626	-.00008	.00000
	9	33.88206	-4.44810	-.01100	.00007	-.00005	-.07513
	10	-.00079	-.40314	32.75228	.07307	-.00007	.00002
18	7	35.15657	-3.49373	-.00917	.00009	.00008	-.07742
	8	-.00005	1.42397	34.33569	.07624	.00008	.00007
	9	33.88127	-3.43436	-.01033	.00010	.00008	-.07480
	10	-.00004	1.30451	32.75178	.07306	.00008	.00011
19	7	35.15667	-2.44819	-.00903	-.00016	.00000	-.07758
	8	-.00217	3.20440	34.33679	.07621	.00006	.00013
	9	33.88135	-2.42387	-.01018	-.00016	.00000	-.07499
	10	-.00202	3.01018	32.75280	.07302	.00005	.00015
20	7	35.14779	-.37617	-.00358	-.00084	.00022	-.07747
	8	.00000	6.75774	34.33521	.07583	.00000	.00000
	9	33.87248	-.42342	-.00473	-.00093	.00022	-.07489
	10	.00000	6.41250	32.75132	.07255	.00000	.00000
21	7	35.15738	3.83138	.00261	.00004	-.00006	-.07771
	8	.00089	-.35847	34.33624	.07626	.00008	.00000
	9	33.88206	3.64761	.00144	.00004	-.00006	-.07515
	10	.00080	-.40314	32.75228	.07307	.00007	-.00002
22	7	35.15657	2.78273	.00195	-.00002	.00008	-.07767
	8	.00005	1.42397	34.33569	.07624	-.00008	-.00007
	9	33.88127	2.63345	.00079	-.00001	.00008	-.07513
	10	.00006	1.30450	32.75179	.07306	-.00008	-.00011
23	7	35.15675	1.73364	.00189	-.00001	.00000	-.07773
	8	.00217	3.20440	34.33678	.07621	-.00006	-.00013
	9	33.88145	1.61886	.00074	-.00002	.00001	-.07517
	10	.00202	3.01018	32.75280	.07302	-.00005	-.00015
48	7	37.96822	5.92122	-.00565	-.00003	.00003	-.07749
	8	.00003	-3.93821	37.10667	.07607	.00034	.00001
	9	36.60020	5.66694	-.00722	-.00004	.00003	-.07491
	10	.00001	-3.83485	35.40765	.07287	.00035	.00001

JOINT DISPLACEMENT (INCH RADIANS)      STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
49	7	37.96802	1.74233	-.00581	-.00013	.00000	-.07790
	8	-.00001	-3.91268	37.08091	.07626	.00029	.00019
	9	36.59999	1.62865	-.00809	-.00016	.00001	-.07531
	10	-.00003	-3.80783	35.38112	.07305	.00030	.00020
50	7	37.96802	-.35282	-.00689	-.00008	.00007	-.07782
	8	.00000	-3.91073	37.07710	.07619	.00000	.00000
	9	36.59999	-.39690	-.00928	-.00011	.00007	-.07524
	10	-.00002	-3.80583	35.37718	.07297	.00000	.00000
51	7	37.96812	-2.45017	-.00735	.00001	-.00005	-.07816
	8	.00000	-3.91268	37.08092	.07626	-.00029	-.00019
	9	36.60010	-2.42475	-.00963	-.00002	-.00006	-.07559
	10	-.00001	-3.80783	35.38112	.07305	-.00030	-.00020
52	7	37.96847	-6.66361	-.00405	-.00003	.00002	-.07751
	8	-.00004	-3.93822	37.10667	.07607	-.00034	-.00001
	9	36.60046	-6.50058	-.00565	-.00004	.00002	-.07494
	10	-.00004	-3.83484	35.40766	.07287	-.00035	-.00001
53	7	37.95993	-4.54264	.00075	.00029	.00017	-.07783
	8	.00943	-.35860	37.10078	.07659	-.00006	-.00017
	9	36.59137	-4.44822	-.00053	.00029	.00018	-.07525
	10	.00894	-.40327	35.40204	.07340	-.00005	-.00016
54	7	37.95708	-3.49373	.00235	.00002	.00003	-.07771
	8	.00908	1.42397	37.10085	.07637	.00008	-.00001
	9	36.58832	-3.43435	.00118	.00002	.00004	-.07513
	10	.00838	1.30451	35.40224	.07317	.00008	.00001
55	7	37.95891	-2.44820	.00131	-.00003	-.00016	-.07765
	8	.00622	3.20444	37.10248	.07644	.00015	-.00005
	9	36.59033	-2.42389	.00004	-.00004	-.00017	-.07506
	10	.00569	3.01021	35.40375	.07324	.00014	-.00003
56	7	37.97028	-.37619	-.00506	-.00005	-.00018	-.07751
	8	.00000	6.75771	37.10620	.07603	.00000	.00000
	9	36.60225	-.42344	-.00666	-.00006	-.00018	-.07493
	10	.00000	6.41248	35.40717	.07284	.00000	.00000
57	7	37.96251	3.83138	-.00898	-.00011	.00010	-.07776
	8	-.00946	-.35860	37.10077	.07659	.00006	.00017
	9	36.59500	3.64761	-.01026	-.00010	.00008	-.07519
	10	-.00896	-.40327	35.40205	.07340	.00005	.00016
58	7	37.96089	2.78273	-.01000	-.00007	.00003	-.07776
	8	-.00910	1.42397	37.10084	.07637	-.00008	.00001
	9	36.59357	2.63346	-.01116	-.00007	.00003	-.07519
	10	-.00839	1.30451	35.40224	.07317	-.00008	.00000
59	7	37.96169	1.73355	-.00967	-.00023	-.00009	-.07783
	8	-.00620	3.20444	37.10248	.07644	-.00015	.00005
	9	36.59419	1.61877	-.01095	-.00024	-.00008	-.07527
	10	-.00571	3.01021	35.40374	.07324	-.00014	.00003
60	7	35.15657	1.73454	.00077	.00000	.00007	-.07761
	8	.00003	1.42301	34.33688	.07619	-.00007	-.00006
	9	33.88126	1.61945	-.00038	.00001	.00007	-.07507
	10	.00004	1.30297	32.75291	.07302	-.00006	-.00009

□

JOINT DISPLACEMENT (INCH RADIANS)      STRUCTURE TYPE = SPACE  
-----

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN	
□	61	7	35.15657	-2.44883	-.00793	.00008	.00007	-.07740
		8	-.00004	1.42302	34.33688	.07619	.00007	.00006
		9	33.88126	-2.42480	-.00908	.00009	.00007	-.07479
		10	-.00002	1.30297	32.75290	.07302	.00006	.00010

□

SUPPORT REACTIONS -UNIT KIP INCH      STRUCTURE TYPE = SPACE  
-----

JOINT	LOAD	FORCE-X	FORCE-Y	FORCE-Z	MOM-X	MOM-Y	MOM Z	
□	1	7	-5.05	4.87	.00	.16	.00	3166.68
		8	.00	4.87	-4.55	-3025.11	.00	.00
		9	-5.07	5.93	.00	.21	.00	3085.22
		10	.00	5.93	-4.54	-2917.59	.00	.00

MEMBER END FORCES      STRUCTURE TYPE = SPACE

-----  
 ALL UNITS ARE -- KIP    INCH

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
1	7	1	4.87	5.05	.00	.00	-.16	3166.68
		2	-4.41	-4.78	.00	.00	.16	-2695.12
	8	1	4.87	.00	-4.55	.00	3025.11	.00
		2	-4.41	.00	4.27	.00	-2601.78	.00
	9	1	5.93	5.07	.00	.00	-.21	3085.22
		2	-5.35	-4.86	.00	.00	.21	-2608.72
10	1	5.93	.00	-4.54	.00	2917.59	.00	
	2	-5.35	.00	4.32	.00	-2492.38	.00	
2	7	2	4.41	4.78	.00	.00	-.16	2695.12
		3	-3.94	-4.36	.00	.00	.16	-2256.54
	8	2	4.41	.00	-4.27	.00	2601.78	.00
		3	-3.94	.00	4.02	.00	-2203.88	.00
	9	2	5.35	4.86	.00	.00	-.21	2608.72
		3	-4.77	-4.34	.00	.00	.21	-2167.29
10	2	5.35	.00	-4.32	.00	2492.38	.00	
	3	-4.77	.00	3.96	.00	-2094.69	.00	
3	7	3	3.94	4.36	.00	.00	-.16	2256.54
		4	-3.53	-3.99	.00	.00	.16	-1880.72
	8	3	3.94	.00	-4.02	.00	2203.87	.00
		4	-3.53	.00	3.79	.00	-1852.46	.00
	9	3	4.77	4.34	.00	.00	-.21	2167.30
		4	-4.27	-3.87	.00	.00	.21	-1797.94
10	3	4.77	.00	-3.96	.00	2094.69	.00	
	4	-4.27	.00	3.64	.00	-1752.60	.00	
4	7	4	3.53	3.99	.00	.00	-.16	1880.72
		5	-3.08	-3.58	.00	.00	.16	-1499.36
	8	4	3.53	.00	-3.79	.00	1852.45	.00
		5	-3.08	.00	3.54	.00	-1482.65	.00
	9	4	4.27	3.87	.00	.00	-.21	1797.94
		5	-3.71	-3.34	.00	.00	.21	-1434.58
10	4	4.27	.00	-3.64	.00	1752.60	.00	
	5	-3.71	.00	3.28	.00	-1404.02	.00	
5	7	5	3.08	3.58	.00	.00	-.16	1499.37
		6	-2.66	-3.35	.00	.00	.16	-1150.36
	8	5	3.08	.00	-3.54	.00	1482.65	.00
		6	-2.66	.00	3.32	.00	-1136.88	.00
	9	5	3.71	3.34	.00	.00	-.21	1434.58
		6	-3.19	-3.16	.00	.00	.21	-1106.90
10	5	3.71	.00	-3.28	.00	1404.02	.00	
	6	-3.19	.00	3.10	.00	-1082.77	.00	

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP INCH

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
6	7	6	2.66	3.35	.00	.00	-.16	1150.36
		7	-2.27	-3.14	.00	.00	.16	-823.49
	8	6	2.66	.00	-3.32	.00	1136.87	.00
		7	-2.27	.00	3.11	.00	-813.24	.00
	9	6	3.19	3.16	.00	.00	-.21	1106.90
		7	-2.70	-2.99	.00	.00	.21	-796.82
10	6	3.19	.00	-3.10	.00	1082.77	.00	
	7	-2.70	.00	2.93	.00	-779.12	.00	
7	7	7	2.27	3.14	.00	.00	-.16	823.50
		8	-1.96	-2.92	.00	.00	.16	-504.48
	8	7	2.27	.00	-3.11	.00	813.25	.00
		8	-1.96	.00	2.89	.00	-497.59	.00
	9	7	2.70	2.99	.00	.00	-.21	796.81
		8	-2.31	-2.82	.00	.00	.21	-490.79
	10	7	2.70	.00	-2.93	.00	779.12	.00
		8	-2.31	.00	2.76	.00	-479.82	.00
8	7	8	1.96	2.92	.00	.00	-.16	504.47
		9	-1.68	-2.73	.00	.00	.16	-207.22
	8	8	1.96	.00	-2.89	.00	497.60	.00
		9	-1.68	.00	2.70	.00	-203.65	.00
	9	8	2.31	2.82	.00	.00	-.21	490.79
		9	-1.94	-2.67	.00	.00	.21	-202.22
	10	8	2.31	.00	-2.76	.00	479.84	.00
		9	-1.94	.00	2.60	.00	-197.96	.00
9	7	9	1.68	2.73	.00	.00	-.16	207.17
		10	-1.53	-2.62	.00	.00	.16	-37.86
	8	9	1.68	.00	-2.70	.00	203.65	.00
		10	-1.53	.00	2.59	.00	-36.31	.00
	9	9	1.94	2.67	.00	.00	-.22	202.24
		10	-1.74	-2.58	.00	.00	.21	-36.20
	10	9	1.94	.00	-2.60	.00	197.92	.00
		10	-1.74	.00	2.52	.00	-36.06	.00
10	7	10	.18	.15	.00	.00	.00	4.99
		11	-.09	-.09	.00	.00	.00	.07
	8	10	.18	.00	-.12	.00	3.57	.00
		11	-.09	.00	.05	.00	-.02	.00
	9	10	.20	.10	.00	.00	.00	3.30
		11	-.09	-.05	.00	.00	.00	-.02
	10	10	.20	.00	-.11	.00	3.36	.00
		11	-.09	.00	.06	.00	.04	.00
11	7	12	-.23	.02	.00	.02	-.16	2.92
		13	.18	.04	.00	-.02	-.07	-3.63

MEMBER END FORCES      STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP    INCH

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
8	12		.81	.18	-.02	.03	.13	12.00
			-.81	-.12	-.02	-.03	-.14	-3.73
9	12		-.22	.04	.00	.02	-.16	4.09
			.17	.03	.00	-.02	-.07	-3.79
10	12		.79	.21	-.02	.04	.13	13.18
			-.79	-.14	-.02	-.04	-.12	-3.90
12	7	13	-.03	-.03	.03	-.01	-.85	1.21
		14	.01	.06	-.03	.01	-.06	-2.49
8	13		.83	.03	-.02	-.01	.24	2.99
			-.83	.00	.00	.01	.03	-2.54
9	13		-.03	-.03	.03	-.01	-.85	1.31
			.00	.06	-.03	.01	-.06	-2.55
10	13		.82	.03	-.02	-.01	.22	3.09
			-.82	.00	.00	.01	.03	-2.60
13	7	14	.13	-.07	.03	-.01	-.05	.26
		15	-.15	.10	-.03	.01	-.85	-2.46
8	14		.83	.00	.00	.01	-.03	2.54
			-.83	.03	-.02	-.01	-.24	-2.99
9	14		.12	-.07	.03	-.01	-.05	.32
			-.14	.10	-.03	.01	-.85	-2.55
10	14		.82	.00	.00	.01	-.02	2.60
			-.82	.03	-.02	-.01	-.22	-3.09
14	7	15	.22	-.25	.00	-.04	-.09	1.11
		16	-.27	.31	.00	.04	-.17	-16.29
8	15		.81	-.12	-.02	-.03	.14	3.73
			-.81	.18	-.02	.03	-.13	-12.00
9	15		.24	-.27	.00	-.04	-.09	1.27
			-.28	.33	.00	.04	-.18	-17.46
10	15		.79	-.14	-.02	-.04	.12	3.90
			-.79	.21	-.02	.04	-.13	-13.18
15	7	16	.83	.25	-.04	.03	.62	15.00
		17	-.81	-.19	.00	-.03	.39	-3.04
8	16		-.11	.28	.01	.04	-.04	14.16
			.15	-.22	.01	-.04	-.02	-.64
9	16		.84	.27	-.04	.03	.62	16.18
			-.82	-.21	.00	-.03	.39	-3.23
10	16		-.10	.30	.01	.04	-.04	15.34
			.14	-.23	.01	-.04	-.01	-.83
16	7	17	.79	.09	.00	.03	-.27	3.60
		18	-.78	-.06	-.02	-.03	-.05	-1.55
8	17		-.23	.10	-.01	.01	.03	2.17
			.25	-.07	.02	-.01	.45	.24

MEMBER END FORCES      STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP    INCH

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	9	17	.79	.10	.00	.04	-.26	3.78
		18	-.78	-.07	-.02	-.04	-.05	-1.51
	10	17	-.21	.11	-.01	.01	.03	2.35
		18	.23	-.08	.02	-.01	.41	.28
	17	7	.70	.00	-.03	-.03	.41	2.37
		19	-.69	.03	.01	.03	.14	-2.76
	8	18	-.45	.03	.02	.00	-.13	1.33
		19	.47	.00	.00	.00	-.14	-.80
	9	18	.71	-.01	-.03	-.03	.41	2.29
		19	-.69	.04	.01	.03	.13	-2.92
	10	18	-.44	.03	.01	.00	-.12	1.25
		19	.46	.01	.00	.00	-.13	-.97
	18	7	.59	-.05	-.01	-.01	-.22	4.23
		20	-.56	.11	-.03	.01	-.34	-8.38
	8	19	-.56	.03	.00	-.02	.19	2.76
		20	.60	.03	.02	.02	.33	-2.70
	9	19	.59	-.06	-.01	-.02	-.23	4.41
		20	-.57	.13	-.03	.02	-.34	-9.56
	10	19	-.55	.02	.00	-.02	.17	2.93
		20	.58	.05	.02	.02	.30	-3.89
	19	7	-.78	.08	-.04	-.02	.61	4.25
		21	.76	-.02	.00	.02	.38	-1.76
	8	12	-.11	.28	-.01	-.04	.04	14.17
		21	.15	-.22	-.01	.04	.01	-.64
	9	12	-.77	.10	-.04	-.03	.61	5.43
		21	.75	-.03	.00	.03	.38	-1.96
	10	12	-.11	.30	-.01	-.04	.04	15.34
		21	.14	-.23	-.01	.04	.01	-.83
	20	7	-.70	.02	.00	.01	-.29	.61
		22	.69	.01	-.02	-.01	-.08	-.57
	8	21	-.24	.10	.01	-.01	-.03	2.17
		22	.26	-.07	-.02	.01	-.45	.24
	9	21	-.69	.03	.00	.00	-.30	.79
		22	.68	.01	-.02	.00	-.08	-.53
	10	21	-.22	.11	.01	-.01	-.03	2.35
		22	.24	-.08	-.02	.01	-.41	.28
	21	7	-.59	-.05	-.03	-.01	.43	-.37
		23	.58	.08	.01	.01	.17	-1.40
	8	22	-.43	.03	-.02	.00	.13	1.32
		23	.45	.00	.00	.00	.14	-.80
	9	22	-.58	-.06	-.03	.00	.43	-.44
		23	.57	.09	.01	.00	.18	-1.56



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MEMBER END FORCES      STRUCTURE TYPE = SPACE

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 ALL UNITS ARE -- KIP    INCH

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	10	22	-.44	.03	-.01	.00	.11	1.25
		23	.45	.01	.00	.00	.12	-.97
22	7	23	-.53	-.16	-.01	.04	-.22	.51
		20	.51	.22	-.03	-.04	-.34	-10.93
	8	23	-.56	.03	.00	.02	-.19	2.76
		20	.60	.03	-.02	-.02	-.33	-2.70
	9	23	-.53	-.18	-.01	.04	-.22	.69
		20	.51	.25	-.03	-.04	-.34	-12.12
	10	23	-.54	.02	.00	.02	-.17	2.93
		20	.58	.05	-.02	-.02	-.30	-3.89
47	7	48	.12	-.02	.00	.04	.04	-.43
		49	-.12	.03	.00	-.04	.02	-.87
	8	48	.02	-.02	.01	-.07	-.32	-.79
		49	-.02	.04	-.01	.07	-.36	-.80
	9	48	.12	-.02	.00	.04	.02	-.48
		49	-.12	.03	.00	-.04	.01	-.92
	10	48	.02	-.02	.01	-.07	-.34	-.84
		49	-.02	.04	-.01	.07	-.37	-.84
48	7	49	.00	-.08	.00	-.04	-.06	-1.12
		50	.00	.08	.00	.04	.04	-1.04
	8	49	.00	.01	.00	.05	.23	.26
		50	.00	.00	.00	-.05	-.19	-.05
	9	49	.00	-.07	.00	-.04	-.06	-1.10
		50	.00	.08	.00	.04	.03	-1.03
	10	49	-.01	.01	.00	.06	.23	.28
		50	.01	.00	.00	-.06	-.20	-.05
49	7	50	-.11	-.09	.00	-.06	.07	-1.02
		51	.11	.10	.00	.06	-.10	-1.53
	8	50	.00	.00	.00	-.05	.19	.06
		51	.00	.01	.00	.05	-.23	-.26
	9	50	-.12	-.09	.00	-.06	.07	-1.02
		51	.12	.10	.00	.06	-.11	-1.55
	10	50	-.01	.00	.00	-.06	.20	.05
		51	.01	.01	.00	.06	-.23	-.28
50	7	51	-.20	.02	.00	.01	.08	.25
		52	.20	-.01	.00	-.01	.13	.57
	8	51	.02	.04	-.01	.07	.36	.80
		52	-.02	-.02	.01	-.07	.32	.79
	9	51	-.21	.03	.00	.01	.09	.30
		52	.21	-.01	.00	-.01	.15	.62
	10	51	.02	.04	-.01	.07	.37	.85
		52	-.02	-.02	.01	-.07	.34	.84

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MEMBER END FORCES      STRUCTURE TYPE = SPACE

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 ALL UNITS ARE -- KIP    INCH

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
51	7	52	-.06	-.02	.01	-.04	-.23	-.79
		53	.06	.03	-.01	.04	-.13	-.62
	8	52	-.21	.00	.00	.04	-.09	-.43
		53	.21	.02	.00	-.04	.11	-.19
	9	52	-.07	-.02	.01	-.04	-.25	-.84
		53	.07	.04	-.01	.04	-.14	-.67
10	52	-.21	-.01	.00	.05	-.11	-.48	
	53	.21	.02	.00	-.05	.10	-.24	
52	7	53	-.04	.06	.01	-.02	.01	.93
		54	.04	-.05	-.01	.02	-.18	.48
	8	53	-.14	.09	.00	.02	-.12	1.33
		54	.14	-.08	.00	-.02	.08	.90
	9	53	-.04	.06	.01	-.02	.01	.95
		54	.04	-.05	-.01	.02	-.19	.49
10	53	-.13	.09	.00	.02	-.12	1.35	
	54	.13	-.08	.00	-.02	.06	.91	
53	7	54	.02	.04	.00	.02	.20	.55
		55	-.02	-.03	.00	-.02	-.07	.40
	8	54	-.03	.07	.00	.00	-.08	.86
		55	.03	-.06	.00	.00	.02	.95
	9	54	.01	.04	-.01	.02	.22	.54
		55	-.01	-.03	.01	-.02	-.08	.37
10	54	-.04	.07	.00	.00	-.07	.85	
	55	.04	-.06	.00	.00	.02	.92	
54	7	55	.10	.04	-.01	.04	.16	.92
		56	-.10	-.02	.01	-.04	.15	.71
	8	55	.07	.03	.00	-.06	-.07	.70
		56	-.07	-.01	.00	.06	-.18	.28
	9	55	.09	.04	-.01	.03	.17	.97
		56	-.09	-.02	.01	-.03	.16	.77
10	55	.06	.03	.00	-.06	-.07	.74	
	56	-.06	-.01	.00	.06	-.16	.34	
55	7	48	-.01	-.01	.00	-.07	-.15	-.21
		57	.01	.02	.00	.07	-.10	-.51
	8	48	-.21	.00	.00	-.04	.09	-.43
		57	.21	.02	.00	.04	-.11	-.19
	9	48	-.02	-.01	.00	-.08	-.13	-.27
		57	.02	.02	.00	.08	-.09	-.55
10	48	-.21	-.01	.00	-.05	.11	-.48	
	57	.21	.02	.00	.05	-.10	-.24	
56	7	57	-.08	-.03	.00	-.01	.02	-.49
		58	.08	.04	.00	.01	-.07	-.48

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MEMBER END FORCES      STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP INCH

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
□	8	57	-.13	.09	.00	-.02	.12	1.33
		58	.13	-.08	.00	.02	-.08	.90
	9	57	-.08	-.03	.00	-.01	.02	-.46
		58	.08	.04	.00	.01	-.06	-.47
	10	57	-.14	.09	.00	-.02	.12	1.35
		58	.14	-.08	.00	.02	-.06	.91
57	7	58	-.13	-.05	.00	.01	.10	-.55
		59	.13	.06	.00	-.01	-.08	-.84
	8	58	-.04	.07	.00	.00	.09	.86
		59	.04	-.06	.00	.00	-.02	.95
	9	58	-.14	-.05	.00	.01	.08	-.56
		59	.14	.06	.00	-.01	-.08	-.86
	10	58	-.04	.07	.00	.00	.07	.85
		59	.04	-.06	.00	.00	-.02	.92
58	7	59	-.17	.02	.00	.07	.13	.20
		56	.17	.00	.00	-.07	.07	.28
	8	59	.07	.03	.00	.06	.07	.70
		56	-.07	-.01	.00	-.06	.18	.28
	9	59	-.18	.02	.00	.07	.12	.25
		56	.18	.00	.00	-.07	.05	.33
	10	59	.06	.03	.00	.06	.07	.74
		56	-.06	-.01	.00	-.06	.17	.34
101	7	10	1.40	.22	.03	2.17	-.65	5.59
		12	-1.33	-.16	.01	-2.17	-.34	11.79
	8	10	-.78	.58	.04	3.78	-.87	29.55
		12	.74	-.52	.03	-3.78	.06	22.18
	9	10	1.40	.28	.03	2.17	-.65	8.25
		12	-1.33	-.20	.01	-2.17	-.34	14.00
	10	10	-.76	.64	.04	3.78	-.79	32.20
		12	.72	-.57	.02	-3.78	.05	24.40
102	7	10	-1.36	.68	.03	2.21	-.65	35.96
		16	1.29	-.62	.01	-2.21	-.34	24.97
	8	10	-.78	.58	-.04	-3.78	.87	29.55
		16	.74	-.52	-.03	3.78	-.06	22.18
	9	10	-1.35	.74	.03	2.22	-.65	38.62
		16	1.29	-.66	.01	-2.22	-.34	27.18
	10	10	-.76	.64	-.04	-3.78	.79	32.20
		16	.72	-.57	-.02	3.78	-.05	24.40
103	7	10	.02	.45	-.06	-4.39	1.30	20.91
		20	-.02	-.39	-.02	4.39	.47	18.44
	8	10	1.62	.18	.00	.00	.00	3.37
		20	-1.54	-.12	.00	.00	.00	10.82

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MEMBER END FORCES      STRUCTURE TYPE = SPACE

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 ALL UNITS ARE -- KIP    INCH

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z	
□	9	10	.02	.51	-.06	-4.39	1.30	23.61	
		20	-.02	-.43	-.02	4.39	.47	20.68	
	10	10	1.59	.24	.00	.00	.00	6.07	
		20	-1.52	-.17	.00	.00	.00	13.06	
107	7	22	.02	.03	.06	-.11	-.37	-.18	
		60	-.02	-.03	-.06	.11	-.48	.58	
	8	22	.08	.04	-.06	.31	.33	.16	
		60	-.08	-.03	.06	-.31	.49	.29	
	9	22	.01	.05	.06	-.11	-.37	-.12	
		60	-.01	-.04	-.06	.11	-.48	.70	
	10	22	.08	.05	-.06	.32	.31	.22	
		60	-.08	-.04	.06	-.32	.45	.41	
	108	7	60	-.01	.00	.03	-.14	-.87	-.52
			61	.01	.03	-.03	.14	-.86	-.16
8		60	.08	.02	.00	.00	-.22	-.03	
		61	-.08	.02	.00	.00	.22	.03	
9		60	.00	.01	.03	-.14	-.87	-.59	
		61	.00	.04	-.03	.14	-.85	-.09	
10		60	.08	.02	.00	.00	-.21	-.11	
		61	-.08	.02	.00	.00	.21	.11	
109		7	61	.01	-.05	.07	-.06	-.50	-.24
			18	-.01	.06	-.07	.06	-.38	-.51
	8	61	.08	-.03	.06	-.31	-.46	-.29	
		18	-.08	.04	-.06	.31	-.31	-.16	
	9	61	-.02	-.06	.07	-.07	-.50	-.36	
		18	.02	.07	-.07	.07	-.39	-.57	
	10	61	.08	-.04	.06	-.32	-.45	-.41	
		18	-.08	.05	-.06	.32	-.30	-.22	
	110	7	13	.03	.02	-.03	-.06	.97	.03
			60	-.03	.02	.03	.06	1.35	.03
8		13	-.05	.03	.00	-.25	.04	.42	
		60	.05	.01	.00	.25	-.25	.31	
9		13	.03	.03	-.03	-.12	.97	.06	
		60	-.03	.03	.03	.12	1.34	.03	
10		13	-.06	.04	.00	-.30	.04	.44	
		60	.06	.02	.00	.30	-.23	.32	
111		7	15	-.03	.02	-.03	.40	.96	.15
			61	.03	.02	.03	-.40	1.36	-.08
	8	15	-.06	.03	.00	.25	-.04	.42	
		61	.06	.01	.00	-.25	.25	.31	
	9	15	-.03	.03	-.03	.45	.95	.18	
		61	.03	.03	.03	-.45	1.36	-.07	

MEMBER END FORCES      STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP INCH

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z	
10	15	61	-.06	.04	.00	.30	-.04	.44	
			.06	.02	.00	-.30	.23	.32	
213	7	12	.06	.49	.01	-.11	-.32	6.23	
		48	.02	.12	-.01	.11	-.18	.48	
	8	12	.06	.08	-.42	-.23	4.47	1.98	
		48	.02	-.08	-.19	.23	-.46	.96	
	9	12	.06	.50	.02	-.11	-.41	6.38	
		48	.02	.11	-.02	.11	-.23	.55	
	10	12	.06	.09	-.41	-.22	4.38	2.13	
		48	.03	-.09	-.20	.22	-.50	1.04	
	214	7	13	-.03	.12	.00	-.05	.00	2.35
			49	.04	-.12	.00	.05	-.08	1.99
8		13	.06	.03	-.01	-.13	.38	.49	
		49	-.05	-.03	.01	.13	.12	.54	
9		13	-.03	.12	.00	-.05	.03	2.37	
		49	.04	-.12	.00	.05	-.08	2.01	
10		13	.06	.03	-.01	-.14	.40	.51	
		49	-.05	-.03	.01	.14	.12	.57	
215		7	14	.00	.12	.00	.10	.01	2.23
			50	.01	-.12	.00	-.10	-.02	2.05
	8	14	.00	.00	.00	.00	.01	.00	
		50	.01	.00	.00	.00	-.11	.00	
	9	14	.00	.12	.00	.10	.01	2.23	
		50	.01	-.12	.00	-.10	-.03	2.05	
	10	14	.00	.00	.00	.00	.01	.00	
		50	.01	.00	.00	.00	-.11	.00	
	216	7	15	.13	.08	-.01	-.02	.12	1.75
			51	-.12	-.08	.01	.02	.07	1.28
8		15	.06	-.03	-.01	.13	.38	-.49	
		51	-.05	.03	.01	-.13	.12	-.54	
9		15	.14	.08	-.01	-.02	.14	1.73	
		51	-.12	-.08	.01	.02	.07	1.26	
10		15	.06	-.03	-.01	.14	.40	-.51	
		51	-.05	.03	.01	-.14	.12	-.57	
217		7	16	.06	.37	.06	-.10	-1.39	3.29
			52	.03	.24	-.06	.10	-.67	-1.00
	8	16	.06	-.08	-.42	.23	4.47	-1.99	
		52	.02	.08	-.19	-.23	-.46	-.96	
	9	16	.06	.36	.06	-.10	-1.47	3.14	
		52	.03	.25	-.06	.10	-.72	-1.07	
	10	16	.06	-.09	-.41	.22	4.38	-2.14	
		52	.03	.09	-.20	-.22	-.50	-1.04	

MEMBER END FORCES      STRUCTURE TYPE = SPACE

-----  
 ALL UNITS ARE -- KIP    INCH

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
218	7	17	.10	.01	-.02	-.12	.48	.28
		53	-.09	-.01	.02	.12	.25	.17
	8	17	.12	.04	-.06	-.01	1.35	.74
		53	-.11	-.04	.06	.01	.99	.55
	9	17	.10	.01	-.02	-.13	.47	.27
		53	-.09	-.01	.02	.13	.24	.15
10	17	.12	.04	-.06	-.01	1.33	.73	
	53	-.11	-.04	.06	.01	.98	.53	
219	7	18	.00	.04	-.05	.03	.80	.86
		54	.01	-.04	.05	-.03	.87	.55
	8	18	.00	.05	-.09	.00	1.67	.94
		54	.01	-.05	.09	.00	1.54	.86
	9	18	.00	.04	-.05	.03	.78	.90
		54	.01	-.04	.05	-.03	.87	.55
10	18	.00	.05	-.09	.00	1.65	.98	
	54	.01	-.05	.09	.00	1.53	.87	
220	7	19	.02	.04	-.07	.09	1.27	.75
		55	-.01	-.04	.07	-.09	1.13	.68
	8	19	-.03	.05	-.09	-.05	1.70	.96
		55	.04	-.05	.09	.05	1.45	.77
	9	19	.02	.04	-.07	.09	1.28	.76
		55	-.01	-.04	.07	-.09	1.16	.68
10	19	-.02	.05	-.09	-.05	1.71	.96	
	55	.03	-.05	.09	.05	1.48	.77	
221	7	20	.06	.46	-.07	.21	1.70	5.65
		56	.02	.14	.07	-.21	.85	.12
	8	20	.07	.00	-.49	.00	6.13	.00
		56	.02	.00	-.12	.00	.43	.00
	9	20	.06	.46	-.08	.21	1.87	5.65
		56	.03	.14	.08	-.21	.93	.12
10	20	.06	.00	-.49	.00	6.30	.00	
	56	.02	.00	-.12	.00	.52	.00	
222	7	21	.00	.03	.05	-.08	-.98	.60
		57	.01	-.03	-.05	.08	-.83	.55
	8	21	.12	-.04	-.06	.01	1.35	-.74
		57	-.11	.04	.06	-.01	.99	-.55
	9	21	.00	.03	.05	-.08	-1.00	.61
		57	.01	-.03	-.05	.08	-.85	.57
10	21	.12	-.04	-.06	.01	1.33	-.73	
	57	-.11	.04	.06	-.01	.98	-.53	
223	7	22	.00	.03	.05	.02	-.93	.63
		58	.01	-.03	-.05	-.02	-.88	.53

MEMBER END FORCES      STRUCTURE TYPE = SPACE

-----  
 ALL UNITS ARE -- KIP' INCH

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	8	22	.00	-.05	-.09	.00	1.67	-.94
		58	.01	.05	.09	.00	1.54	-.86
	9	22	.00	.03	.05	.02	-.95	.60
		58	.01	-.03	-.05	-.02	-.88	.53
	10	22	.00	-.05	-.09	.00	1.65	-.98
		58	.01	.05	.09	.00	1.53	-.87
224	7	23	.08	.02	.04	.05	-.75	.48
		59	-.07	-.02	-.04	-.05	-.52	.37
	8	23	-.03	-.05	-.09	.05	1.70	-.96
		59	.04	.05	.09	-.05	1.46	-.77
	9	23	.09	.02	.03	.05	-.73	.47
		59	-.08	-.02	-.03	-.05	-.50	.36
	10	23	-.02	-.05	-.09	.05	1.71	-.96
		59	.03	.05	.09	-.05	1.48	-.78

\*\*\*\*\* END OF LATEST ANALYSIS RESULT \*\*\*\*\*

- 226. \*PRINT MEMBER STRESS
- 227. PARAMETER
- 228. CODE AISC
- 229. FYLD 50 MEMB 1 TO 10
- 230. RATIO 1.33 ALL
- 231. CHECK CODE ALL

STAAD-III CODE CHECKING - (AISC)  
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ALL UNITS ARE - KIP INCH (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
1	PRI SMAT	PASS 4.87 C	AISC- H1-3 -.16	1.159 3166.68	7 .00
2	PRI SMAT	PASS 4.41 C	AISC- H1-3 -.16	1.125 2695.12	7 .00
3	PRI SMAT	PASS 3.94 C	AISC- H1-3 -.16	1.085 2256.54	7 .00
4	PRI SMAT	PASS 3.53 C	AISC- H1-3 -.16	.929 1880.72	7 .00
5	PRI SMAT	PASS 3.08 C	AISC- H1-3 -.16	.871 1499.37	7 .00
6	PRI SMAT	PASS 2.66 C	AISC- H1-3 -.16	.796 1150.36	7 .00
7	PRI SMAT	PASS 2.27 C	AISC- H1-3 -.16	.802 823.50	7 .00
8	PRI SMAT	PASS 1.96 C	AISC- H1-3 -.16	.594 504.47	7 .00



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ALL UNITS ARE - KIP INCH (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
9	PRI SMAT	PASS 1.68 C	AISC- H1-3 -.16	.304 207.17	7 .00
10	PRI SMAT	PASS .18 C	AISC- H1-3 .00	.010 4.99	7 .00
11	ST C6X 13	PASS .79 C	AISC- H1-3 .13	.131 13.18	10 .00
12	ST C6X 13	PASS .03 T	AISC- H2-1 -.85	.071 1.31	9 .00
13	ST C6X 13	PASS .14 C	AISC- H1-3 .85	.082 2.55	9 27.00
14	ST C6X 13	PASS .28 C	AISC- H1-3 .18	.158 17.46	9 54.00
15	ST C6X 13	PASS .84 C	AISC- H1-3 .62	.192 16.18	9 .00
16	ST C6X 13	PASS .79 C	AISC- H1-3 -.26	.058 3.78	9 .00
17	ST C6X 13	PASS .70 C	AISC- H1-3 .41	.057 2.37	7 .00
18	ST C6X 13	PASS .57 C	AISC- H1-3 .34	.113 9.56	9 54.00

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ALL UNITS ARE - KIP INCH (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
19	ST C6X 13	PASS .11 T	AISC- H2-1 .04	.127 15.34	10 .00
20	ST C6X 13	PASS .26 T	AISC- H2-1 .45	.037 -.24	8 27.00
21	ST C6X 13	PASS .58 T	AISC- H2-1 .43	.041 -.44	9 .00
22	ST C6X 13	PASS .51 T	AISC- H2-1 .34	.128 12.12	9 54.00
47	ST PIP S20	PASS .12 C	AISC- H1-3 .00	.075 .92	9 54.00
48	ST PIP S20	PASS .00 T	AISC- H2-1 .00	.084 1.12	7 .00
49	ST PIP S20	PASS .12 T	AISC- H2-1 .00	.122 1.56	9 27.00
50	ST PIP S20	PASS .02 C	AISC- H1-3 .00	.070 .92	10 .00
51	ST PIP S20	PASS .07 T	AISC- H2-1 .00	.069 .88	9 .00

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ALL UNITS ARE - KIP INCH (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
52	ST PIP S20	PASS .13 T	AISC- H2-1 .00	.108 1.36	10 .00
53	ST PIP S20	PASS .03 T	AISC- H2-1 .00	.072 .95	8 26.99
54	ST PIP S20	PASS .09 C	AISC- H1-3 .00	.079 .98	9 .00
55	ST PIP S20	PASS .21 T	AISC- H2-1 .00	.046 .49	10 .00
56	ST PIP S20	PASS .14 T	AISC- H2-1 .00	.108 1.36	10 .00
57	ST PIP S20	PASS .04 T	AISC- H2-1 .00	.073 .95	8 26.99
58	ST PIP S20	PASS .06 C	AISC- H1-3 .00	.060 .75	10 .00
101	ST PIP S30	PASS .76 T	AISC- H2-1 .00	.801 32.21	10 .00
102	ST PIP S30	PASS 1.35 T	AISC- H2-1 .00	.970 38.63	9 .00

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ALL UNITS ARE - KIP INCH (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
103	ST PIP S30	PASS .02 C	AISC- H1-3 .00	.577 23.64	9 .00
107	ST PIP S30	PASS .01 C	AISC- H1-3 .00	.021 .85	9 13.50
108	ST PIP S30	PASS .00 T	AISC- H2-1 .00	.026 1.05	9 .00
109	ST PIP S30	PASS .02 T	AISC- H2-1 .00	.017 .69	9 13.50
110	ST PIP S30	PASS .03 C	AISC- H1-3 .00	.034 1.35	7 70.15
111	ST PIP S30	PASS .03 T	AISC- H2-1 .00	.034 1.36	7 70.15
213	ST PIP S20	PASS .06 C	AISC- H1-3 .00	.483 6.39	9 .00
214	ST PIP S20	PASS .03 T	AISC- H2-1 .00	.179 2.37	9 .00
215	ST PIP S20	PASS .00 C	AISC- H1-3 .00	.168 2.23	7 .00

□

ALL UNITS ARE - KIP INCH (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
216	ST PIP S20	PASS .13 C	AISC- H1-3 .00	.138 1.75	7 .00
217	ST PIP S20	PASS .06 C	AISC- H1-3 .00	.370 4.89	8 .00
218	ST PIP S20	PASS .12 C	AISC- H1-3 .00	.121 1.54	8 .00
219	ST PIP S20	PASS .00 C	AISC- H1-3 .00	.144 1.92	8 .00
220	ST PIP S20	PASS .02 T	AISC- H2-1 .00	.148 1.96	10 .00
221	ST PIP S20	PASS .06 C	AISC- H1-3 .00	.476 6.30	10 .00
222	ST PIP S20	PASS .12 C	AISC- H1-3 .00	.121 1.54	8 .00
223	ST PIP S20	PASS .00 C	AISC- H1-3 .00	.144 1.92	8 .00
224	ST PIP S20	PASS .02 T	AISC- H2-1 .00	.148 1.97	10 .00

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232. UNIT FEET KIP

"L & W ENGINEERING -ANALYSIS OF EAST GRANBY 75 FT MOBILE -- PAGE NO. 20  
\*FILE NAME "S2223-2" EAST GRANBY 75' POLE  
233. FINISH

\*\*\*\*\* END OF STAAD-III \*\*\*\*\*

\*\*\*\* DATE= JUN 21,2001 TIME= 23:19:27 \*\*\*\*

\*\*\*\*\*  
\* For questions on STAAD-III, contact: \*  
\* Research Engineers, Inc at Build No. 2473 \*  
\* West Coast: Ph- (714) 974-2500 Fax- (714) 921-2543 \*  
\* East Coast: Ph- (978) 688-3626 Fax- (978) 685-7230 \*  
\*\*\*\*\*