

Date: **April 1, 2025**



Greg Nawrotzki
GT Wireless Engineering, PLLC
56 Dearborn Drive
Old Tappan, NJ 07675
(617) 694-4291
greg@gt-we.com

Albul Engineering, LLC
3840 E. Robinson Road
Amherst, NY 14228
(716) 650-8147
dalbul@albuleng.com

Subject

Structural Analysis Report

GT Wireless Engineering

Project Number: GT.015.0032

AT&T Mobility

Site Name: NWL06362
Site Number: SINY008246
FA Number: 14652291

Albul Engineering

Project Number: 35661.GTW.RTP.G418900.0

Site Data

1 Van Wyck Street, Croton on Hudson, Westchester County, NY
Latitude: 41° 12' 29.91", Longitude: -73° 53' 15.76"
55.17-Foot-Tall Building

Dear Mr. Nawrotzki,

Per your request, Albul Engineering has performed a structural analysis to evaluate the structural capacity of the existing roof structure of the above referenced building for the addition of wireless telecommunication appurtenances by AT&T Mobility. The analysis has been performed in accordance with the AISC-LRDF 14th Edition and TIA-222-H standards, and 2020 New York State Uniform Code requirements based upon an ultimate 3-second gust wind speed of 123 mph.

Upon reviewing the results of this study, it is our opinion that the structure meets the specified AISC and ASCE code requirements. The existing structure is **adequate** to support the existing and proposed loading as listed in this report.

Structure: 48.2% Pass

We at Albul Engineering appreciate the opportunity of providing our continuing professional services to GT Wireless Engineering and AT&T Mobility. If you have any questions or need further assistance on this or any other projects, please give us a call.

Sincerely,

Dmitriy Albul, P.E.
Professional Engineer
New York License Number: 089075



04-01-25

Expiration Date: 04-30-28

Albul Engineering LLC/COA: PB 106682

CONTENTS

- 1.0 INTRODUCTION
- 1.1 DOCUMENTS PROVIDED
- 2.0 EXISTING AND PROPOSED EQUIPMENT
- 3.0 CODES AND LOADING
- 4.0 STANDARD CONDITIONS FOR ENGINEERING SERVICES ON EXISTING STRUCTURES
- 5.0 ANALYSIS AND ASSUMPTIONS
- 6.0 RESULTS AND CONCLUSION

APPENDIX A PHOTOS AND CALCULATIONS

1.0 INTRODUCTION

The final installation system consists of three (3) mounts that were installed on the existing tower located on the roof of the building with the final equipment installation centerline of 71.0-ft above the ground level. The objective of this report is to assess the existing and proposed installation of antennas and RRH units on the existing non-penetrating ballast frame. This report is limited to the analysis of the existing roof structure only.

1.1 DOCUMENTS PROVIDED

The analysis is based on the following documents:

- Structural Design Report by Sabre Industries 40' 2400SRWD Roof-Top Guyed Tower, dated November 6, 2019
- Roof Structural and Tower Support Structural Analysis by Azimuth Engineering P.C., dated December 17, 2021
- Site Visit Photos by GT Wireless Engineering, dated December 6, 2024
- RFDS by AT&T Mobility, dated February 25, 2025

2.0 EXISTING AND PROPOSED EQUIPMENT

The analysis is based on the following appurtenances:

Mounting Level (ft)	Antenna Centerline (ft)	Qty	Equipment Manufacturer	Equipment Model	Number of Feed Lines	Feed Line Size (in)	Notes
93.75	93.75	5	-	Dipole	7	1/2	2
		1	-	Ground Plane Antenna			
		3	-	Stand-Off			
		1	-	Unistrut Arms			
92.5	92.5	1	-	Yagi	36	1/2	1
87.0	87.0	1	-	Yagi			
71.0	71.0	3	Commscope	5ft T-Arm SF-HPM3-96			
		6	Commscope	NNH4-65B-R3-UPM-V2			
55.0	55.0	3	Ericsson	4494 B14/B29			
		3	Ericsson	4890 B25/B66			
		3	Ericsson	Air6472 B77G B77M			
		3	-	OVP			
		1	Site Pro 1	RT-TTU10HD			

Notes:

1. AT&T Mobility equipment.
2. Equipment by others.

3.0 CODES AND LOADING

The analysis has been performed in accordance with the following codes and loading as adopted in Westchester County, New York:

- 2020 New York State Uniform Code
- Structural Standard for Antenna Supporting Structures, Antennas and Small Wind Turbine Support Structures - ANSI/TIA-222-H
- ASCE 7-16
- AISC 360-16 Specification for Structural Steel Buildings
- Risk Category: III
- Ultimate Wind Speed: 123 MPH
- Exposure Category: C
- Topographic Category: 1
- Wind Speed with Ice: 40 MPH
- Ice Thickness: 1.0"
- Seismic: $S_s=0.291$, $S_1=0.061$
- Ground Snow Load: 30 PSF
- Roof Live Load: 20 PSF

4.0 STANDARD CONDITIONS FOR ENGINEERING SERVICES ON EXISTING STRUCTURES

The analysis is based on the documents listed in Section 1.1. The appurtenance position and condition of antenna mounts have not been verified and assumed to be correct. Unless otherwise noted, the structure and the foundation system are assumed to be in good condition, free of defects and can achieve theoretical strength.

It is assumed that the structure has been maintained and shall be maintained during its service. The superstructure and the foundation system are assumed to be designed with proper engineering practice and fabricated, constructed and erected in accordance with the design documents. Albul Engineering will accept no liability which may arise due to any existing deficiency in design, material, fabrication, erection, construction, etc. or lack of maintenance. Contractor should inspect the condition of the existing structure and notify Albul Engineering for any discrepancies and deficiencies before proceeding with the construction.

The analysis results presented in this report are only applicable for the previously mentioned proposed loading. Any deviation of the proposed equipment and placement will require Albul Engineering to generate an additional structural analysis.

5.0 ANALYSIS AND ASSUMPTIONS

The existing antenna mounts were evaluated by RISA-3D Version 22 a Finite Element Analysis (FEA) software. The existing connections were evaluated by custom developed Excel tool.

tnxTower (version 8.2.4.3), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.

6.0 RESULTS AND CONCLUSION

Based on the results of the structural analysis, we have found that the existing roof structure is **adequate** to support the existing and proposed loading. The roof structure elements would be loaded to the following capacities:

Roof sheathing:	7.7%
Wooden Beams:	28.8%
Diagonal Beams:	9.9%
Vertical Post:	23.4%
Ridge:	48.2%
Plates:	25.4%
Frame Beams:	12.3%
Threaded Rods:	5.6%
Reinforcing Channel:	38.7%
Legs:	8.1%
Bracing Angles:	5.7%
Platform Beams:	5.3%

Should you have any questions or need any clarifications about this report, please contact Albul Engineering at (716) 800-1364.

Sincerely,
Albul Engineering, LLC



04-01-25

Expiration Date: 04-30-28
Albul Engineering LLC/COA: PB 106682
Dmitriy Albul, P.E.
Professional Engineer
New York License Number: 089075

APPENDIX A: PHOTOS AND CALCULATIONS



EXISTING STRUCTURE



Date:	4/1/2025
Site Name:	14652291 Croton on Hudson
Project Engineer:	DVA
Project No:	35661.GTW.RTP.G418900.0
Customer:	GT Wireless Engineering, PLLC
Carrier:	AT&T Mobility

Building Code:	2018	
TIA Standard:	H	
Mount Type:	Rooftop	
Mount Existing?	Existing	
Mount Centerline:	51	ft
Superstructure Height:	58	ft
Structure Type:	Rooftop	

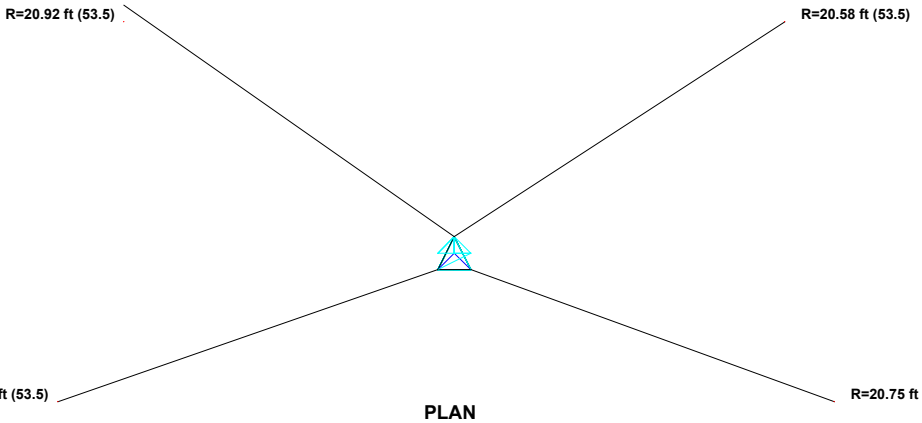
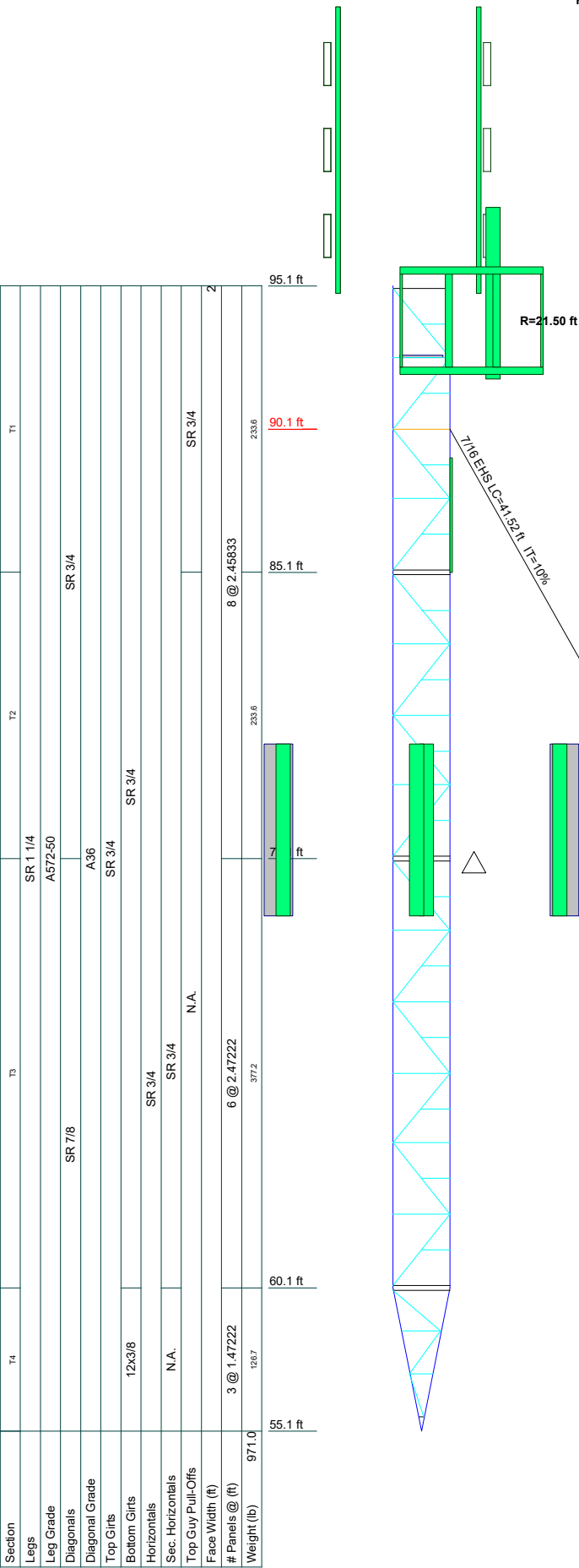
Factors	
Gh:	1.000
K _{zmin} :	0.850
K _z :	1.098
K _d :	0.950
K _{st} :	1.000
Ke:	0.996
Ka:	0.900
I _{ice} :	1.150

q _z :	40.24	psf
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Site Information		
Exposure Category:	C	
Risk Category:	III	
Ground Elevation	118.0	ft
Ultimate Wind Speed:	123	mph
Design Wind Speed:	123	mph
Ice Thickness:	1.00	in
Ice Wind Speed:	40.0	mph
Escalated Ice Thickness:	1.20	in
Topographic Method:	2	
Topographic Category:	1	

Run Seismic?	Yes
Site Soil:	D (Default)
Short-Period Accel. (Ss):	0.2910
1-Second Accel. (S1):	0.0610
Short-Period Design (SDS):	0.3040
1-Second Design (SD1):	0.0980
Short-Period Coeff. (Fa):	1.5670
1-Second Coeff. (Fv):	2.4000
Cs	0.1900
Cs min	0.0300
Amplification Factor (ap):	1.00
Response Mod. (Rp):	2.50
Overstrength (Ωo):	1.00

Service Wind:	30	mph
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DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Stand Off (3)	93.85	18" x 1" Yagi	87.1
12' x 2-1/2" Dipole (2 Element)	93.85	SF-HPM3-96 (3)	76.1
12' x 2-1/2" Dipole (2 Element)	93.85	(2) NNH4-65B-R3-UPM-V2	76.1
12' x 2-1/2" Dipole (2 Element)	93.85	(2) NNH4-65B-R3-UPM-V2	76.1
12' x 2-1/2" Dipole (2 Element)	93.85	(2) NNH4-65B-R3-UPM-V2	76.1
12' x 2-1/2" Dipole (2 Element)	93.85	(2) 8x2 1/2" Pipe Mount	76.1
4'6" x 4'6" Ground Plane Antenna	93.85	(2) 8x2 1/2" Pipe Mount	76.1
Unistrut Arms	93.85	(2) 8x2 1/2" Pipe Mount	76.1
18" x 1" Yagi	92.6		

MATERIAL STRENGTH

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

TOWER DESIGN NOTES

1. Tower is located in Westchester County, New York.
2. Tower designed for Exposure C to the TIA-222-H Standard.
3. Tower designed for a 123 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 40 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category III.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. The existing structure load modification factors, Kes, from TIA-222-H Annex S were considered in this analysis.
9. A demand-capacity ratio of 1.05 was used in this analysis as allowed by TIA-222-H.



Albul Engineering, LLC

3840 E. Robinson Road

Amherst, NY 14228

Phone: (716) 800-1364

FAX:

Job: 14652291 Croton on Hudson

Project: 35661.GTW.RTP.G418900.0

Client: GT Wireless	Drawn by: dalbul	App'd:
Code: TIA-222-H	Date: 04/01/25	Scale: NTS
Path:		Dwg No. E-1

<i>tnxTower</i> <i>Albul Engineering, LLC</i> 3840 E. Robinson Road Amherst, NY 14228 Phone: (716) 800-1364 FAX:	Job 14652291 Croton on Hudson	Page 1 of 19
	Project 35661.GTW.RTP.G418900.0	Date 21:31:58 04/01/25
	Client GT Wireless	Designed by dalbul

Tower Input Data

The main tower is a 3x guyed tower with an overall height of 95.10 ft above the ground line.

The base of the tower is set at an elevation of 55.10 ft above the ground line.

The face width of the tower is 2.00 ft at the top and tapered at the base.

This tower is designed using the TIA-222-H standard.

The following design criteria apply:

Tower is located in Westchester County, New York.

Tower base elevation above sea level: 173.10 ft.

Basic wind speed of 123 mph.

Risk Category III.

Exposure Category C.

Simplified Topographic Factor Procedure for wind speed-up calculations is used.

Topographic Category: 1.

Crest Height: 0.00 ft.

Nominal ice thickness of 1.0000 in.

Ice thickness is considered to increase with height.

Ice density of 56 pcf.

A wind speed of 40 mph is used in combination with ice.

Temperature drop of 50 °F.

Deflections calculated using a wind speed of 60 mph.

The existing structure load modification factors, K_{es} , from TIA-222-H Annex S were considered in this analysis.

A demand-capacity ratio of 1.05 was used in this analysis as allowed by TIA-222-H.

Pressures are calculated at each section.

Stress ratio used in tower member design is 1.

Safety factor used in guy design is 1.

Tower analysis based on target reliabilities in accordance with Annex S.

Load Modification Factors used: $K_{es}(F_w) = 1.0$, $K_{es}(t_i) = 1.0$.

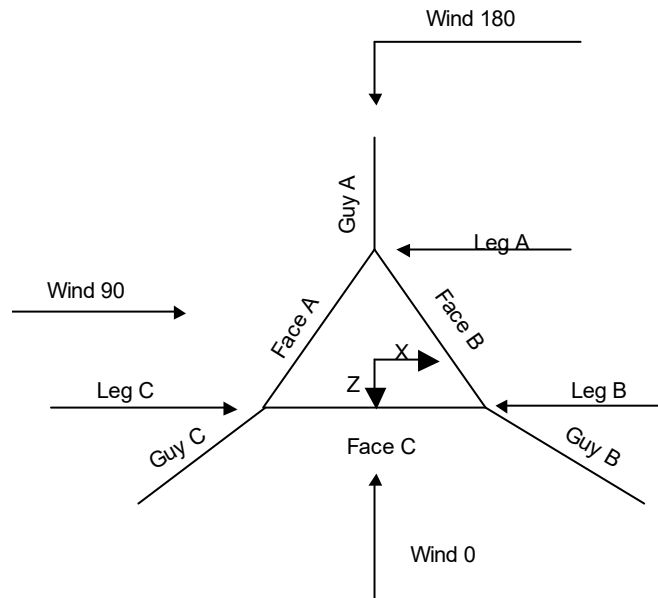
Maximum demand-capacity ratio is: 1.05.

Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

Consider Moments - Legs	Assume Legs Pinned	✓ Calculate Redundant Bracing Forces
Consider Moments - Horizontals	✓ Assume Rigid Index Plate	Ignore Redundant Members in FEA
Consider Moments - Diagonals	✓ Use Clear Spans For Wind Area	✓ SR Leg Bolts Resist Compression
Use Moment Magnification	✓ Use Clear Spans For KL/r	All Leg Panels Have Same Allowable
Use Code Stress Ratios	✓ Retension Guys To Initial Tension	Offset Girt At Foundation
Use Code Safety Factors - Guys	✓ Bypass Mast Stability Checks	✓ Consider Feed Line Torque
Escalate Ice	✓ Use Azimuth Dish Coefficients	✓ Include Angle Block Shear Check
Always Use Max Kz	✓ Project Wind Area of Appurtenances	Use TIA-222-H Bracing Resist. Exemption
Use Special Wind Profile	✓ Alternative Appurt. EPA Calculation	Use TIA-222-H Tension Splice Exemption
✓ Include Bolts In Member Capacity	✓ Autocalc Torque Arm Areas	Poles
Leg Bolts Are At Top Of Section	Add IBC .6D+W Combination	Include Shear-Torsion Interaction
✓ Secondary Horizontal Braces Leg	✓ Sort Capacity Reports By Component	Always Use Sub-Critical Flow
Use Diamond Inner Bracing (4 Sided)	✓ Triangulate Diamond Inner Bracing	Use Top Mounted Sockets
✓ SR Members Have Cut Ends	Treat Feed Line Bundles As Cylinder	Pole Without Linear Attachments
SR Members Are Concentric	Ignore KL/ry For 60 Deg. Angle Legs	Pole With Shroud Or No Appurtenances
Distribute Leg Loads As Uniform	Use ASCE 10 X-Brace Ly Rules	Outside and Inside Corner Radii Are Known

tnxTower Albul Engineering, LLC 3840 E. Robinson Road Amherst, NY 14228 Phone: (716) 800-1364 FAX:	Job 14652291 Croton on Hudson	Page 2 of 19
	Project 35661.GTW.RTP.G418900.0	Date 21:31:58 04/01/25
	Client GT Wireless	Designed by dalbul



Corner & Starmount Guyed Tower

Tower Section Geometry

Tower Section	Tower Elevation	Assembly Database	Description	Section Width	Number of Sections	Section Length
	ft			ft		ft
T1	95.10-85.10			2.00	1	10.00
T2	85.10-75.10			2.00	1	10.00
T3	75.10-60.10			2.00	1	15.00
T4	60.10-55.10			2.00	1	5.00

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	95.10-85.10	2.46	K Brace Left	No	Yes+Steps	1.0000	1.0000
T2	85.10-75.10	2.46	K Brace Left	No	Yes+Steps	1.0000	1.0000
T3	75.10-60.10	2.47	K Brace Left	No	Yes+Steps	1.0000	1.0000
T4	60.10-55.10	1.47	K Brace Right	No	Yes	1.0000	6.0000

<i>tnxTower</i> <i>Albul Engineering, LLC</i> 3840 E. Robinson Road Amherst, NY 14228 Phone: (716) 800-1364 FAX:	Job	14652291 Croton on Hudson	Page	3 of 19
	Project	35661.GTW.RTP.G418900.0	Date	21:31:58 04/01/25
	Client	GT Wireless	Designed by	dalbul

Tower Section Geometry (cont'd)

<i>Tower Elevation ft</i>	<i>Leg Type</i>	<i>Leg Size</i>	<i>Leg Grade</i>	<i>Diagonal Type</i>	<i>Diagonal Size</i>	<i>Diagonal Grade</i>
T1 95.10-85.10	Solid Round	1 1/4	A572-50 (50 ksi)	Solid Round	3/4	A36 (36 ksi)
T2 85.10-75.10	Solid Round	1 1/4	A572-50 (50 ksi)	Solid Round	3/4	A36 (36 ksi)
T3 75.10-60.10	Solid Round	1 1/4	A572-50 (50 ksi)	Solid Round	7/8	A36 (36 ksi)
T4 60.10-55.10	Solid Round	1 1/4	A572-50 (50 ksi)	Solid Round	7/8	A36 (36 ksi)

Tower Section Geometry (cont'd)

<i>Tower Elevation ft</i>	<i>Top Girt Type</i>	<i>Top Girt Size</i>	<i>Top Girt Grade</i>	<i>Bottom Girt Type</i>	<i>Bottom Girt Size</i>	<i>Bottom Girt Grade</i>
T1 95.10-85.10	Solid Round	3/4	A36 (36 ksi)	Solid Round	3/4	A36 (36 ksi)
T2 85.10-75.10	Solid Round	3/4	A36 (36 ksi)	Solid Round	3/4	A36 (36 ksi)
T3 75.10-60.10	Solid Round	3/4	A36 (36 ksi)	Solid Round	3/4	A36 (36 ksi)
T4 60.10-55.10	Solid Round	3/4	A36 (36 ksi)	Flat Bar	12x3/8	A36 (36 ksi)

Tower Section Geometry (cont'd)

<i>Tower Elevation ft</i>	<i>No. of Mid Girts</i>	<i>Mid Girt Type</i>	<i>Mid Girt Size</i>	<i>Mid Girt Grade</i>	<i>Horizontal Type</i>	<i>Horizontal Size</i>	<i>Horizontal Grade</i>
T1 95.10-85.10	None	Solid Round		A36 (36 ksi)	Solid Round	3/4	A36 (36 ksi)
T2 85.10-75.10	None	Solid Round		A36 (36 ksi)	Solid Round	3/4	A36 (36 ksi)
T3 75.10-60.10	None	Solid Round		A36 (36 ksi)	Solid Round	3/4	A36 (36 ksi)
T4 60.10-55.10	None	Solid Round		A36 (36 ksi)	Solid Round	3/4	A36 (36 ksi)

Tower Section Geometry (cont'd)

tnxTower Albul Engineering, LLC 3840 E. Robinson Road Amherst, NY 14228 Phone: (716) 800-1364 FAX:	Job	14652291 Croton on Hudson	Page	4 of 19
	Project	35661.GTW.RTP.G418900.0	Date	21:31:58 04/01/25
	Client	GT Wireless	Designed by	dalbul

Tower Elevation	Secondary Horizontal Type	Secondary Horizontal Size	Secondary Horizontal Grade	Inner Bracing Type	Inner Bracing Size	Inner Bracing Grade
<i>ft</i>						
T1 95.10-85.10	Solid Round	3/4	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T2 85.10-75.10	Solid Round	3/4	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T3 75.10-60.10	Solid Round	3/4	A36 (36 ksi)	Solid Round		A36 (36 ksi)

Tower Section Geometry (cont'd)

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals	Double Angle Stitch Bolt Spacing Horizontals	Double Angle Stitch Bolt Spacing Redundants
<i>ft</i>	<i>ft²</i>	<i>in</i>					<i>in</i>	<i>in</i>	<i>in</i>
T1 95.10-85.10	0.00	0.0000	A36 (36 ksi)	1	1	1	0.0000	0.0000	0.0000
T2 85.10-75.10	0.00	0.0000	A36 (36 ksi)	1	1	1	0.0000	0.0000	0.0000
T3 75.10-60.10	0.00	0.0000	A36 (36 ksi)	1	1	1	0.0000	0.0000	0.0000
T4 60.10-55.10	0.00	0.0000	A36 (36 ksi)	1	1	1	0.0000	0.0000	0.0000

Tower Section Geometry (cont'd)

Tower Elevation	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
T1 95.10-85.10	No	No	1	1 1	0.7 0.7	1 1	0.7 0.7	0.7 0.7	1 1	1 1
T2 85.10-75.10	No	No	1	1 1	0.7 0.7	1 1	0.7 0.7	0.7 0.7	1 1	1 1
T3 75.10-60.10	No	No	1	1 1	0.7 0.7	1 1	0.7 0.7	0.7 0.7	1 1	1 1
T4 60.10-55.10	No	No	1	1 1	0.7 0.7	1 1	0.7 0.7	0.7 0.7	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)

<i>tnxTower</i> <i>Albul Engineering, LLC</i> 3840 E. Robinson Road Amherst, NY 14228 Phone: (716) 800-1364 FAX:	Job	14652291 Croton on Hudson	Page	5 of 19
	Project	35661.GTW.RTP.G418900.0	Date	21:31:58 04/01/25
	Client	GT Wireless	Designed by	dalbul

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 95.10-85.10	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1
T2 85.10-75.10	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1
T3 75.10-60.10	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1
T4 60.10-55.10	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1

Tower Elevation ft	Redundant Horizontal		Redundant Diagonal		Redundant Sub-Diagonal		Redundant Sub-Horizontal		Redundant Vertical		Redundant Hip		Redundant Hip Diagonal	
	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 95.10-85.10	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T2 85.10-75.10	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T3 75.10-60.10	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T4 60.10-55.10	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)

	0.0000	0.75 (2)	0.0000	0.75 (2)					0.0000	0.75 (2)	0.0000	0.75 (2)
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	0.0000	0.75 (3)	0.0000	0.75 (3)					0.0000	0.75 (3)	0.0000	0.75 (3)
--	--------	----------	--------	----------	--	--	--	--	--------	----------	--------	----------

	0.0000	0.75 (4)	0.0000	0.75 (4)					0.0000	0.75 (4)	0.0000	0.75 (4)
--	--------	----------	--------	----------	--	--	--	--	--------	----------	--------	----------

tnxTower Albul Engineering, LLC 3840 E. Robinson Road Amherst, NY 14228 Phone: (716) 800-1364 FAX:	Job	14652291 Croton on Hudson	Page	6 of 19
	Project	35661.GTW.RTP.G418900.0	Date	21:31:58 04/01/25
	Client	GT Wireless	Designed by	dalbul

Tower Section Geometry (cont'd)

Tower Elevation ft	Leg Connection Type	Leg		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.	Bolt Size in	No.
T1 95.10-85.10	Flange	0.7500 A325N	3	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T2 85.10-75.10	Flange	0.7500 A325N	3	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T3 75.10-60.10	Flange	0.7500 A325N	3	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T4 60.10-55.10	Flange	0.7500 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0

Guy Data

Guy Elevation ft	Guy Grade	Guy Size	Initial Tension lb	%	Guy Modulus ksi	Guy Weight plf	L _u ft	Anchor Radius ft	Anchor Azimuth Adj. °	Anchor Elevation ft	End Fitting Efficiency %
90.1	EHS	A 7/16	2080.00	10%	23000	0.399	41.64	20.58	57.0000	53.50	100%
		B 7/16	2080.00	10%	23000	0.399	41.49	20.75	-9.0000	53.50	100%
		C 7/16	2080.00	10%	23000	0.399	41.85	21.50	9.0000	53.50	100%
90.1	EHS	A 7/16	2080.00	10%	23000	0.399	41.80	20.92	-57.0000	53.50	100%

Guy Data(cont'd)

Guy Elevation ft	Mount Type	Torque-Arm Spread ft	Torque-Arm Leg Angle °	Torque-Arm Style	Torque-Arm Grade	Torque-Arm Type	Torque-Arm Size
90.1	Corner						
90.1	Corner						

Guy Data (cont'd)

Guy Elevation ft	Diagonal Grade	Diagonal Type	Upper Diagonal Size	Lower Diagonal Size	Is Strap.	Pull-Off Grade	Pull-Off Type	Pull-Off Size
90.10	A572-50 (50 ksi)	Solid Round			No	A36 (36 ksi)	Solid Round	3/4
90.10	A572-50 (50 ksi)	Solid Round			No	A36 (36 ksi)	Solid Round	3/4

tnxTower Albul Engineering, LLC 3840 E. Robinson Road Amherst, NY 14228 Phone: (716) 800-1364 FAX:	Job	14652291 Croton on Hudson	Page	7 of 19
	Project	35661.GTW.RTP.G418900.0	Date	21:31:58 04/01/25
	Client	GT Wireless	Designed by	dalbul

Guy Data (cont'd)

Guy Elevation	Cable Weight A	Cable Weight B	Cable Weight C	Cable Weight D	Tower Intercept A	Tower Intercept B	Tower Intercept C	Tower Intercept D
ft	lb	lb	lb	lb	ft	ft	ft	ft
90.1	16.61	16.55	16.70		0.17	0.16	0.17	
					0.7 sec/pulse	0.7 sec/pulse	0.7 sec/pulse	
90.1	16.68	0.00	0.00		0.17	0.00	0.00	
					0.7 sec/pulse	0.0 sec/pulse	0.0 sec/pulse	

Guy Data (cont'd)

Guy Elevation ft	Calc K Single Angles	Calc K Solid Rounds	Torque Arm		Pull Off		Diagonal	
			K _x	K _y	K _x	K _y	K _x	K _y
90.1	No	No			1	1	1	1
90.1	No	No			1	1	1	1

Guy Data (cont'd)

Guy Elevation ft	Torque-Arm				Pull Off				Diagonal			
	Bolt Size in	Number	Net Width Deduct in	U	Bolt Size in	Number	Net Width Deduct in	U	Bolt Size in	Number	Net Width Deduct in	U
90.1	0.0000 A325N	0	0.0000	1	0.6250 A325N	0	0.0000	1	0.6250 A325N	0	0.0000	0.75
90.1	0.0000 A325N	0	0.0000	1	0.6250 A325N	0	0.0000	1	0.6250 A325N	0	0.0000	0.75

Guy Pressures

Guy Elevation ft	Guy Location	z ft	q _z psf	q _z Ice psf	Ice Thickness in
90.1	A	71.80	39	4	1.2430
	B	71.80	39	4	1.2430
	C	71.80	39	4	1.2430
90.1	A	71.80	39	4	1.2430

Guy-Mast Forces (Excluding Wind) - No Ice

<i>tnxTower</i> Albul Engineering, LLC 3840 E. Robinson Road Amherst, NY 14228 Phone: (716) 800-1364 FAX:	Job	14652291 Croton on Hudson	Page	8 of 19
	Project	35661.GTW.RTP.G418900.0	Date	21:31:58 04/01/25
	Client	GT Wireless	Designed by	dalbul

Guy Elevation	Guy Location	Chord Angle	Guy Tension Top Bottom lb	F_x	F_y	F_z	M_x	M_y	M_z
ft		°		lb	lb	lb	lb-ft	lb-ft	lb-ft
90.1	A	61.4322	2094.59 2080.00	837.11	1841.48	-543.62	-2126.36	-966.61	0.00
	B	61.8195	2094.59 2080.00	920.25	1848.15	353.25	1067.03	178.06	-1848.15
	C	60.9150	2094.59 2080.00	-947.25	1832.43	363.62	1057.96	-183.28	1832.43
			Sum:	810.11	5522.06	173.24	-1.37	-971.83	-15.72
90.1	A	61.0228	2094.59 2080.00	-848.07	1834.33	-550.74	-2118.10	979.27	0.00
			Sum:	-848.07	1834.33	-550.74	-2118.10	979.27	0.00

Guy-Mast Forces (Excluding Wind) - Ice

Guy Elevation	Guy Location	Chord Angle	Guy Tension Top Bottom lb	F_x	F_y	F_z	M_x	M_y	M_z
ft		°		lb	lb	lb	lb-ft	lb-ft	lb-ft
90.1	A	61.4322	3047.54 2939.63	1200.39	2690.52	-779.54	-3106.74	-1386.10	0.00
	B	61.8195	3046.27 2938.35	1319.06	2698.79	506.34	1558.15	255.22	-2698.79
	C	60.9150	3049.29 2941.38	-1359.13	2679.32	521.72	1546.91	-262.97	2679.32
			Sum:	1160.33	8068.63	248.51	-1.69	-1393.85	-19.47
90.1	A	61.0228	3048.92 2941.01	-1216.67	2681.67	-790.12	-3096.53	1404.89	0.00
			Sum:	-1216.67	2681.67	-790.12	-3096.53	1404.89	0.00

Guy-Mast Forces (Excluding Wind) - Service

Guy Elevation	Guy Location	Chord Angle	Guy Tension Top Bottom lb	F_x	F_y	F_z	M_x	M_y	M_z
ft		°		lb	lb	lb	lb-ft	lb-ft	lb-ft
90.1	A	61.4322	2094.59 2080.00	837.11	1841.48	-543.62	-2126.36	-966.61	0.00
	B	61.8195	2094.59 2080.00	920.25	1848.15	353.25	1067.03	178.06	-1848.15
	C	60.9150	2094.59 2080.00	-947.25	1832.43	363.62	1057.96	-183.28	1832.43
			Sum:	810.11	5522.06	173.24	-1.37	-971.83	-15.72
90.1	A	61.0228	2094.59 2080.00	-848.07	1834.33	-550.74	-2118.10	979.27	0.00
			Sum:	-848.07	1834.33	-550.74	-2118.10	979.27	0.00

tnxTower Albul Engineering, LLC 3840 E. Robinson Road Amherst, NY 14228 Phone: (716) 800-1364 FAX:	Job	14652291 Croton on Hudson	Page	9 of 19
	Project	35661.GTW.RTP.G418900.0	Date	21:31:58 04/01/25
	Client	GT Wireless	Designed by	dalbul

Guy-Tensioning Information

Temperature At Time Of Tensioning																	
Guy Elevation ft	H	V	0 F		20 F		40 F		60 F		80 F		100 F		120 F		
			Initial Tension	Intercept	Initial Tension	Intercept	Initial Tension	Intercept	Initial Tension	Intercept	Initial Tension	Intercept	Initial Tension	Intercept	Initial Tension	Intercept	
			lb	ft	lb	ft	lb	ft	lb	ft	lb	ft	lb	ft	lb	ft	
90.1	A	19.93	36.60	2316	0.15	2238	0.15	2159	0.16	2080	0.17	2001	0.17	1922	0.18	1843	0.19
	B	19.61	36.60	2311	0.15	2233	0.15	2157	0.16	2080	0.16	2003	0.17	1926	0.18	1849	0.19
	C	20.36	36.60	2325	0.15	2243	0.16	2162	0.16	2080	0.17	1998	0.17	1917	0.18	1835	0.19
90.1	A	20.27	36.60	2323	0.15	2242	0.16	2161	0.16	2080	0.17	1999	0.17	1918	0.18	1837	0.19

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
LDF4P-50A (1/2 FOAM)	B	No	No	Ar (CaAa)	76.10 - 56.60	1.0000	0	24	8	2.0000 1.0000	0.6300		0.15
LDF4P-50A (1/2 FOAM) ***	A	No	No	Ar (CaAa)	76.10 - 56.60	1.0000	0	12	6	2.0000 1.0000	0.6300		0.15
LDF4P-50A (1/2 FOAM)	C	No	No	Ar (CaAa)	90.10 - 56.60	1.0000	0.5	7	3	0.5000	0.6300		0.15
Sabre Feedline Ladder	A	No	No	Af (CaAa)	95.10 - 60.10	0.0000	0	1	1	1.4531	1.4531		0.82
Sabre Feedline Ladder	B	No	No	Af (CaAa)	95.10 - 60.10	0.0000	0	1	1	1.4531	1.4531		0.82
Sabre Feedline Ladder	C	No	No	Af (CaAa)	95.10 - 60.10	0.0000	0	1	1	1.4531	1.4531		0.82

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight lb
T1	95.10-85.10	A	0.000	0.000	2.422	0.000	8.25
		B	0.000	0.000	2.422	0.000	8.25
		C	0.000	0.000	4.627	0.000	13.50
T2	85.10-75.10	A	0.000	0.000	3.178	0.000	10.05
		B	0.000	0.000	3.934	0.000	11.85
		C	0.000	0.000	6.832	0.000	18.75
T3	75.10-60.10	A	0.000	0.000	14.973	0.000	39.38
		B	0.000	0.000	26.313	0.000	66.38
		C	0.000	0.000	10.248	0.000	28.12
T4	60.10-55.10	A	0.000	0.000	2.646	0.000	6.30
		B	0.000	0.000	5.292	0.000	12.60
		C	0.000	0.000	1.544	0.000	3.67

Feed Line/Linear Appurtenances Section Areas - With Ice

<i>tnxTower</i> <i>Albul Engineering, LLC</i> 3840 E. Robinson Road Amherst, NY 14228 Phone: (716) 800-1364 FAX:	Job	14652291 Croton on Hudson	Page	10 of 19
	Project	35661.GTW.RTP.G418900.0	Date	21:31:58 04/01/25
	Client	GT Wireless	Designed by	dalbul

<i>Tower Section</i>	<i>Tower Elevation ft</i>	<i>Face or Leg</i>	<i>Ice Thickness in</i>	<i>A_R ft²</i>	<i>A_F ft²</i>	<i>C_AA_A In Face ft²</i>	<i>C_AA_A Out Face ft²</i>	<i>Weight lb</i>
T1	95.10-85.10	A	1.272	0.000	0.000	4.965	0.000	51.21
		B		0.000	0.000	4.965	0.000	51.21
		C		0.000	0.000	9.767	0.000	99.42
T2	85.10-75.10	A	1.257	0.000	0.000	7.057	0.000	80.20
		B		0.000	0.000	7.746	0.000	103.97
		C		0.000	0.000	14.487	0.000	145.78
T3	75.10-60.10	A	1.235	0.000	0.000	39.075	0.000	515.64
		B		0.000	0.000	49.399	0.000	870.51
		C		0.000	0.000	21.555	0.000	214.78
T4	60.10-55.10	A	1.216	0.000	0.000	7.384	0.000	102.00
		B		0.000	0.000	9.793	0.000	184.43
		C		0.000	0.000	3.293	0.000	32.36

Feed Line Center of Pressure

<i>Section</i>	<i>Elevation ft</i>	<i>CP_X in</i>	<i>CP_Z in</i>	<i>CP_X Ice in</i>	<i>CP_Z Ice in</i>
T1	95.10-85.10	-1.4655	0.7044	-0.7582	0.4708
T2	85.10-75.10	-2.2080	0.8725	-1.3264	0.6348
T3	75.10-60.10	-0.3565	-2.0662	-0.6036	-1.3721
T4	60.10-55.10	-0.1011	-1.4816	-0.1058	-0.3655

Shielding Factor Ka

<i>Tower Section</i>	<i>Feed Line Record No.</i>	<i>Description</i>	<i>Feed Line Segment Elev.</i>	<i>K_a No Ice</i>	<i>K_a Ice</i>
T1	4	LDF4P-50A (1/2 FOAM)	85.10 - 90.10	0.6000	0.4724
T1	5	Sabre Feedline Ladder	85.10 - 95.10	0.6000	0.4724
T1	6	Sabre Feedline Ladder	85.10 - 95.10	0.6000	0.4724
T1	7	Sabre Feedline Ladder	85.10 - 95.10	0.6000	0.4724
T2	1	LDF4P-50A (1/2 FOAM)	75.10 - 76.10	0.6000	0.4762
T2	2	LDF4P-50A (1/2 FOAM)	75.10 - 76.10	0.6000	0.4762
T2	4	LDF4P-50A (1/2 FOAM)	75.10 - 85.10	0.6000	0.4762
T2	5	Sabre Feedline Ladder	75.10 - 85.10	0.6000	0.4762
T2	6	Sabre Feedline Ladder	75.10 - 85.10	0.6000	0.4762
T2	7	Sabre Feedline Ladder	75.10 - 85.10	0.6000	0.4762
T3	1	LDF4P-50A (1/2 FOAM)	60.10 - 75.10	0.6000	0.4832
T3	2	LDF4P-50A (1/2 FOAM)	60.10 - 75.10	0.6000	0.4832
T3	4	LDF4P-50A (1/2 FOAM)	60.10 - 75.10	0.6000	0.4832
T3	5	Sabre Feedline Ladder	60.10 - 75.10	0.6000	0.4832
T3	6	Sabre Feedline Ladder	60.10 - 75.10	0.6000	0.4832
T3	7	Sabre Feedline Ladder	60.10 - 75.10	0.6000	0.4832
T4	1	LDF4P-50A (1/2 FOAM)	56.60 - 60.10	0.6000	0.1382
T4	2	LDF4P-50A (1/2 FOAM)	56.60 - 60.10	0.6000	0.1382
T4	4	LDF4P-50A (1/2 FOAM)	56.60 - 60.10	0.6000	0.1382

<i>tnxTower</i> <i>Albul Engineering, LLC</i> 3840 E. Robinson Road Amherst, NY 14228 Phone: (716) 800-1364 FAX:	Job	14652291 Croton on Hudson	Page	11 of 19
	Project	35661.GTW.RTP.G418900.0	Date	21:31:58 04/01/25
	Client	GT Wireless	Designed by	dalbul

Discrete Tower Loads

<i>Description</i>	<i>Face or Leg</i>	<i>Offset Type</i>	<i>Offsets: Horz Lateral Vert ft ft ft</i>	<i>Azimuth Adjustment °</i>	<i>Placement ft</i>		<i>C_{AA} Front ft²</i>	<i>C_{AA} Side ft²</i>	<i>Weight lb</i>
Stand Off (3)	C	None		0.0000	93.85	No Ice	8.45	8.45	750.00
						1/2" Ice	10.98	10.98	975.00
						1" Ice	13.52	13.52	1200.00
12' x 2-1/2" Dipole (2 Element)	A	From Leg	1.68 0.97 6.00	0.0000	93.85	No Ice	3.15	3.15	54.00
						1/2" Ice	4.35	4.35	78.00
						1" Ice	5.55	5.55	102.00
12' x 2-1/2" Dipole (2 Element)	A	From Leg	1.68 0.97 6.00	0.0000	93.85	No Ice	3.15	3.15	54.00
						1/2" Ice	4.35	4.35	78.00
						1" Ice	5.55	5.55	102.00
12' x 2-1/2" Dipole (2 Element)	B	From Leg	1.68 0.97 6.00	0.0000	93.85	No Ice	3.15	3.15	54.00
						1/2" Ice	4.35	4.35	78.00
						1" Ice	5.55	5.55	102.00
12' x 2-1/2" Dipole (2 Element)	C	From Leg	1.68 0.97 6.00	0.0000	93.85	No Ice	3.15	3.15	54.00
						1/2" Ice	4.35	4.35	78.00
						1" Ice	5.55	5.55	102.00
12' x 2-1/2" Dipole (2 Element)	C	From Leg	1.68 0.97 6.00	0.0000	93.85	No Ice	3.15	3.15	54.00
						1/2" Ice	4.35	4.35	78.00
						1" Ice	5.55	5.55	102.00
4'6" x 4'6" Ground Plane Antenna	B	Stand-Off Right	3.00 0.00 1.00	0.0000	93.85	No Ice	1.20	1.20	20.00
						1/2" Ice	1.70	1.70	35.00
						1" Ice	2.20	2.20	50.00
Unistrut Arms	B	Stand-Off Right	1.50 0.00 0.00	0.0000	93.85	No Ice	2.70	2.70	100.00
						1/2" Ice	4.38	4.38	130.00
						1" Ice	6.05	6.05	160.00
18" x 1" Yagi	A	From Leg	0.50 0.00 0.00	0.0000	92.60	No Ice	0.15	0.01	1.50
						1/2" Ice	0.26	0.02	3.38
						1" Ice	0.38	0.05	6.75
18" x 1" Yagi	B	From Leg	0.00 0.00 0.00	0.0000	87.10	No Ice	0.15	0.01	1.50
						1/2" Ice	0.26	0.02	3.38
						1" Ice	0.38	0.05	6.75

SF-HPM3-96 (3)	C	None		0.0000	76.10	No Ice	5.25	5.25	250.00
						1/2" Ice	6.83	6.83	325.00
						1" Ice	8.40	8.40	400.00
(2) NNH4-65B-R3-UPM-V2	A	From Leg	1.50 0.00 0.00	0.0000	76.10	No Ice	12.27	5.34	73.90
						1/2" Ice	12.77	5.79	143.94
						1" Ice	13.27	6.26	220.57
(2) NNH4-65B-R3-UPM-V2	B	From Leg	1.50 0.00 0.00	0.0000	76.10	No Ice	12.27	5.34	73.90
						1/2" Ice	12.77	5.79	143.94
						1" Ice	13.27	6.26	220.57
(2) NNH4-65B-R3-UPM-V2	C	From Leg	1.50 0.00 0.00	0.0000	76.10	No Ice	12.27	5.34	73.90
						1/2" Ice	12.77	5.79	143.94
						1" Ice	13.27	6.26	220.57
(2) 8'x2 1/2" Pipe Mount	A	From Leg	1.50 0.00 0.00	0.0000	76.10	No Ice	2.30	2.30	40.50
						1/2" Ice	3.13	3.13	57.38
						1" Ice	3.62	3.62	79.58
(2) 8'x2 1/2" Pipe Mount	B	From Leg	1.50 0.00 0.00	0.0000	76.10	No Ice	2.30	2.30	40.50
						1/2" Ice	3.13	3.13	57.38
						1" Ice	3.62	3.62	79.58
(2) 8'x2 1/2" Pipe Mount	C	From Leg	1.50 0.00 0.00	0.0000	76.10	No Ice	2.30	2.30	40.50
						1/2" Ice	3.13	3.13	57.38
						1" Ice	3.62	3.62	79.58

tnxTower Albul Engineering, LLC 3840 E. Robinson Road Amherst, NY 14228 Phone: (716) 800-1364 FAX:	Job	14652291 Croton on Hudson	Page	12 of 19
	Project	35661.GTW.RTP.G418900.0	Date	21:31:58 04/01/25
	Client	GT Wireless	Designed by	dalbul

Tower Pressures - No Ice

$$G_H = 0.850$$

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
T1 95.10-85.10	90.10	1.238	41	21.042	A	0.000	3.427	2.083	60.80	2.422	0.000
					B	0.000	3.427		60.80	2.422	0.000
					C	0.000	3.664		56.86	4.627	0.000
T2 85.10-75.10	80.10	1.208	40	21.042	A	0.000	3.427	2.083	60.80	3.178	0.000
					B	0.000	3.427		60.80	3.934	0.000
					C	0.000	3.664		56.86	6.832	0.000
T3 75.10-60.10	67.60	1.165	38	31.562	A	0.000	5.273	3.125	59.26	14.973	0.000
					B	0.000	5.273		59.26	26.313	0.000
					C	0.000	5.629		55.52	10.248	0.000
T4 60.10-55.10	57.60	1.127	37	5.531	A	0.096	1.673	1.069	60.44	2.646	0.000
					B	0.096	1.673		60.44	5.292	0.000
					C	0.096	1.673		60.44	1.544	0.000

Tower Pressure - With Ice

$$G_H = 0.850$$

Section Elevation	z	K_Z	q_z	t_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	in	ft ²		ft ²	ft ²	ft ²		ft ²	ft ²
T1 95.10-85.10	90.10	1.238	4	1.2715	23.161	A	0.000	12.220	6.322	51.73	4.965	0.000
						B	0.000	12.220		51.73	4.965	0.000
						C	0.000	13.261		47.67	9.767	0.000
T2 85.10-75.10	80.10	1.208	4	1.2566	23.136	A	0.000	12.118	6.272	51.76	7.057	0.000
						B	0.000	12.118		51.76	7.746	0.000
						C	0.000	13.149		47.70	14.487	0.000
T3 75.10-60.10	67.60	1.165	4	1.2355	34.651	A	0.000	17.907	9.302	51.95	39.075	0.000
						B	0.000	17.907		51.95	49.399	0.000
						C	0.000	19.435		47.87	21.555	0.000
T4 60.10-55.10	57.60	1.127	4	1.2159	6.564	A	0.096	5.561	3.149	55.66	7.384	0.000
						B	0.096	5.561		55.66	9.793	0.000
						C	0.096	5.561		55.66	3.293	0.000

Tower Pressure - Service

$$G_H = 0.850$$

tnxTower Albul Engineering, LLC 3840 E. Robinson Road Amherst, NY 14228 Phone: (716) 800-1364 FAX:	Job	14652291 Croton on Hudson	Page	13 of 19
	Project	35661.GTW.RTP.G418900.0	Date	21:31:58 04/01/25
	Client	GT Wireless	Designed by	dalbul

Section Elevation	z	K _Z	q _z	A _G	F _a c e	A _F	A _R	A _{leg}	Leg %	C _{AA} In Face ft ²	C _{AA} Out Face ft ²
ft	ft		psf	ft ²		ft ²	ft ²	ft ²			
T1 95.10-85.10	90.10	1.238	10	21.042	A	0.000	3.427	2.083	60.80	2.422	0.000
					B	0.000	3.427		60.80	2.422	0.000
					C	0.000	3.664		56.86	4.627	0.000
T2 85.10-75.10	80.10	1.208	9	21.042	A	0.000	3.427	2.083	60.80	3.178	0.000
					B	0.000	3.427		60.80	3.934	0.000
					C	0.000	3.664		56.86	6.832	0.000
T3 75.10-60.10	67.60	1.165	9	31.562	A	0.000	5.273	3.125	59.26	14.973	0.000
					B	0.000	5.273		59.26	26.313	0.000
					C	0.000	5.629		55.52	10.248	0.000
T4 60.10-55.10	57.60	1.127	9	5.531	A	0.096	1.673	1.069	60.44	2.646	0.000
					B	0.096	1.673		60.44	5.292	0.000
					C	0.096	1.673		60.44	1.544	0.000

Tower Forces - No Ice - Wind Normal To Face

Section Elevation	Add Weight	Self Weight	F _a c e	e	C _F	q _z	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb				psf			ft ²	lb	plf	
T1 95.10-85.10	30.00	233.56	A	0.163	2.725	41	1	1	1.950	306.16	30.62	C
			B	0.163	2.725		1	1	1.950			
			C	0.174	2.685		1	1	2.090			
T2 85.10-75.10	40.65	233.56	A	0.163	2.725	40	1	1	1.950	368.60	36.86	B
			B	0.163	2.725		1	1	1.950			
			C	0.174	2.685		1	1	2.090			
T3 75.10-60.10	133.88	377.19	A	0.167	2.71	38	1	1	3.003	1105.69	73.71	B
			B	0.167	2.71		1	1	3.003			
			C	0.178	2.67		1	1	3.214			
T4 60.10-55.10	22.57	126.69	A	0.32	2.245	37	1	1	1.109	244.01	48.80	B
			B	0.32	2.245		1	1	1.109			
			C	0.32	2.245		1	1	1.109			
Sum Weight:	227.10	971.00								2024.46		

Tower Forces - No Ice - Wind 60 To Face

Section Elevation	Add Weight	Self Weight	F _a c e	e	C _F	q _z	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb				psf			ft ²	lb	plf	
T1 95.10-85.10	30.00	233.56	A	0.163	2.725	41	0.8	1	1.950	306.16	30.62	C
			B	0.163	2.725		0.8	1	1.950			
			C	0.174	2.685		0.8	1	2.090			
T2 85.10-75.10	40.65	233.56	A	0.163	2.725	40	0.8	1	1.950	378.65	37.86	C
			B	0.163	2.725		0.8	1	1.950			
			C	0.174	2.685		0.8	1	2.090			
T3 75.10-60.10	133.88	377.19	A	0.167	2.71	38	0.8	1	3.003	1120.12	74.67	C
			B	0.167	2.71		0.8	1	3.003			
			C	0.178	2.67		0.8	1	3.214			
T4 60.10-55.10	22.57	126.69	A	0.32	2.245	37	0.8	1	1.089	242.66	48.53	C
			B	0.32	2.245		0.8	1	1.089			
			C	0.32	2.245		0.8	1	1.089			

tnxTower Albul Engineering, LLC 3840 E. Robinson Road Amherst, NY 14228 Phone: (716) 800-1364 FAX:	Job	14652291 Croton on Hudson	Page	14 of 19
	Project	35661.GTW.RTP.G418900.0	Date	21:31:58 04/01/25
	Client	GT Wireless	Designed by	dalbul

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
ft	lb	lb										
Sum Weight:	227.10	971.00								2047.58		

Tower Forces - No Ice - Wind 90 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
ft	lb	lb										
T1 95.10-85.10	30.00	233.56	A B C	0.163 0.163 0.174	2.725 2.725 2.685	41	0.85 0.85 0.85	1 1 1	1.950 1.950 2.090	306.16	30.62	C
T2 85.10-75.10	40.65	233.56	A B C	0.163 0.163 0.174	2.725 2.725 2.685	40	0.85 0.85 0.85	1 1 1	1.950 1.950 2.090	380.94	38.09	C
T3 75.10-60.10	133.88	377.19	A B C	0.167 0.167 0.178	2.71 2.71 2.67	38	0.85 0.85 0.85	1 1 1	3.003 3.003 3.214	1153.29	76.89	C
T4 60.10-55.10	22.57	126.69	A B C	0.32 0.32 0.32	2.245 2.245 2.245	37	0.85 0.85 0.85	1 1 1	1.094 1.094 1.094	250.48	50.10	C
Sum Weight:	227.10	971.00								2090.87		

Tower Forces - With Ice - Wind Normal To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
ft	lb	lb										
T1 95.10-85.10	201.84	577.27	A B C	0.528 0.528 0.573	1.867 1.867 1.824	4	1 1 1	1 1 1	8.558 8.558 9.637	92.62	9.26	C
T2 85.10-75.10	329.95	570.92	A B C	0.524 0.524 0.568	1.871 1.871 1.827	4	1 1 1	1 1 1	8.459 8.459 9.522	99.24	9.92	C
T3 75.10-60.10	1600.93	872.23	A B C	0.517 0.517 0.561	1.879 1.879 1.833	4	1 1 1	1 1 1	12.432 12.432 13.986	219.60	14.64	B
T4 60.10-55.10	318.80	283.56	A B C	0.862 0.862 0.862	1.875 1.875 1.875	4	1 1 1	1 1 1	5.293 5.293 5.293	39.85	7.97	B
Sum Weight:	2451.52	2303.97								451.31		

Tower Forces - With Ice - Wind 60 To Face

tnxTower Albul Engineering, LLC 3840 E. Robinson Road Amherst, NY 14228 Phone: (716) 800-1364 FAX:	Job	14652291 Croton on Hudson	Page	15 of 19
	Project	35661.GTW.RTP.G418900.0	Date	21:31:58 04/01/25
	Client	GT Wireless	Designed by	dalbul

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
ft	lb	lb										
T1 95.10-85.10	201.84	577.27	A	0.528	1.867	4	0.8	1	8.558	92.62	9.26	C
			B	0.528	1.867		0.8	1	8.558			
			C	0.573	1.824		0.8	1	9.637			
T2 85.10-75.10	329.95	570.92	A	0.524	1.871	4	0.8	1	8.459	101.65	10.17	C
			B	0.524	1.871		0.8	1	8.459			
			C	0.568	1.827		0.8	1	9.522			
T3 75.10-60.10	1600.93	872.23	A	0.517	1.879	4	0.8	1	12.432	227.44	15.16	C
			B	0.517	1.879		0.8	1	12.432			
			C	0.561	1.833		0.8	1	13.986			
T4 60.10-55.10	318.80	283.56	A	0.862	1.875	4	0.8	1	5.274	39.73	7.95	C
			B	0.862	1.875		0.8	1	5.274			
			C	0.862	1.875		0.8	1	5.274			
Sum Weight:	2451.52	2303.97								461.44		

Tower Forces - With Ice - Wind 90 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
ft	lb	lb										
T1 95.10-85.10	201.84	577.27	A	0.528	1.867	4	0.85	1	8.558	92.67	9.27	C
			B	0.528	1.867		0.85	1	8.558			
			C	0.573	1.824		0.85	1	9.637			
T2 85.10-75.10	329.95	570.92	A	0.524	1.871	4	0.85	1	8.459	102.11	10.21	C
			B	0.524	1.871		0.85	1	8.459			
			C	0.568	1.827		0.85	1	9.522			
T3 75.10-60.10	1600.93	872.23	A	0.517	1.879	4	0.85	1	12.432	233.61	15.57	C
			B	0.517	1.879		0.85	1	12.432			
			C	0.561	1.833		0.85	1	13.986			
T4 60.10-55.10	318.80	283.56	A	0.862	1.875	4	0.85	1	5.278	40.15	8.03	C
			B	0.862	1.875		0.85	1	5.278			
			C	0.862	1.875		0.85	1	5.278			
Sum Weight:	2451.52	2303.97								468.54		

Tower Forces - Service - Wind Normal To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
ft	lb	lb										
T1 95.10-85.10	30.00	233.56	A	0.163	2.725	10	1	1	1.950	72.85	7.29	C
			B	0.163	2.725		1	1	1.950			
			C	0.174	2.685		1	1	2.090			
T2 85.10-75.10	40.65	233.56	A	0.163	2.725	9	1	1	1.950	87.71	8.77	B
			B	0.163	2.725		1	1	1.950			
			C	0.174	2.685		1	1	2.090			
T3 75.10-60.10	133.88	377.19	A	0.167	2.71	9	1	1	3.003	263.10	17.54	B
			B	0.167	2.71		1	1	3.003			
			C	0.178	2.67		1	1	3.214			

tnxTower Albul Engineering, LLC 3840 E. Robinson Road Amherst, NY 14228 Phone: (716) 800-1364 FAX:	Job	14652291 Croton on Hudson	Page	17 of 19
	Project	35661.GTW.RTP.G418900.0	Date	21:31:58 04/01/25
	Client	GT Wireless	Designed by	dalbul

Discrete Appurtenance Pressures - No Ice $G_H = 0.850$

Description	Aiming Azimuth °	Weight lb	Offset _x ft	Offset _z ft	z ft	K _z	q _z psf	C _{AAc} Front ft ²	C _{AAc} Side ft ²
Stand Off (3)	0.0000	750.00	0.00	0.00	93.85	1.249	41	8.45	8.45
12' x 2-1/2" Dipole (2 Element)	0.0000	54.00	0.97	-2.83	99.85	1.265	41	3.15	3.15
12' x 2-1/2" Dipole (2 Element)	0.0000	54.00	0.97	-2.83	99.85	1.265	41	3.15	3.15
12' x 2-1/2" Dipole (2 Element)	120.0000	54.00	1.97	2.26	99.85	1.265	41	3.15	3.15
12' x 2-1/2" Dipole (2 Element)	240.0000	54.00	-2.94	0.58	99.85	1.265	41	3.15	3.15
12' x 2-1/2" Dipole (2 Element)	240.0000	54.00	-2.94	0.58	99.85	1.265	41	3.15	3.15
4'6" x 4'6" Ground Plane Antenna	150.0000	20.00	2.50	3.18	94.85	1.252	41	1.20	1.20
Unistrut Arns	150.0000	100.00	1.75	1.88	93.85	1.249	41	2.70	2.70
18" x 1" Yagi	0.0000	1.50	0.00	-1.65	92.60	1.245	41	0.15	0.01
18" x 1" Yagi	120.0000	1.50	1.00	0.58	87.10	1.229	40	0.15	0.01
SF-HPM3-96 (3)	0.0000	250.00	0.00	0.00	76.10	1.195	39	5.25	5.25
NNH4-65B-R3-UPM-V2	0.0000	147.80	0.00	-2.65	76.10	1.195	39	24.54	10.68
NNH4-65B-R3-UPM-V2	120.0000	147.80	2.30	1.33	76.10	1.195	39	24.54	10.68
NNH4-65B-R3-UPM-V2	240.0000	147.80	-2.30	1.33	76.10	1.195	39	24.54	10.68
8'x2 1/2" Pipe Mount	0.0000	81.00	0.00	-2.65	76.10	1.195	39	4.60	4.60
8'x2 1/2" Pipe Mount	120.0000	81.00	2.30	1.33	76.10	1.195	39	4.60	4.60
8'x2 1/2" Pipe Mount	240.0000	81.00	-2.30	1.33	76.10	1.195	39	4.60	4.60
Sum Weight:		2079.40							

Discrete Appurtenance Pressures - With Ice $G_H = 0.850$

Description	Aiming Azimuth °	Weight lb	Offset _x ft	Offset _z ft	z ft	K _z	q _z psf	C _{AAc} Front ft ²	C _{AAc} Side ft ²	t _z in
Stand Off (3)	0.0000	1324.52	0.00	0.00	93.85	1.249	4	14.92	14.92	1.2767
12' x 2-1/2" Dipole (2 Element)	0.0000	115.66	0.97	-2.83	99.85	1.265	4	6.23	6.23	1.2846
12' x 2-1/2" Dipole (2 Element)	0.0000	115.66	0.97	-2.83	99.85	1.265	4	6.23	6.23	1.2846
12' x 2-1/2" Dipole (2 Element)	120.0000	115.66	1.97	2.26	99.85	1.265	4	6.23	6.23	1.2846
12' x 2-1/2" Dipole (2 Element)	240.0000	115.66	-2.94	0.58	99.85	1.265	4	6.23	6.23	1.2846
12' x 2-1/2" Dipole (2 Element)	240.0000	115.66	-2.94	0.58	99.85	1.265	4	6.23	6.23	1.2846
4'6" x 4'6" Ground Plane Antenna	150.0000	58.34	2.50	3.18	94.85	1.252	4	2.48	2.48	1.2781
Unistrut Arns	150.0000	176.60	1.75	1.88	93.85	1.249	4	6.98	6.98	1.2767
18" x 1" Yagi	0.0000	10.05	0.00	-1.65	92.60	1.245	4	0.45	0.06	1.2750
18" x 1" Yagi	120.0000	9.95	1.00	0.58	87.10	1.229	4	0.44	0.06	1.2672
SF-HPM3-96 (3)	0.0000	437.53	0.00	0.00	76.10	1.195	4	9.19	9.19	1.2502
NNH4-65B-R3-UPM-V2	0.0000	528.13	0.00	-2.65	76.10	1.195	4	27.05	12.98	1.2502
NNH4-65B-R3-UPM-V2	120.0000	528.13	2.30	1.33	76.10	1.195	4	27.05	12.98	1.2502
NNH4-65B-R3-UPM-V2	240.0000	528.13	-2.30	1.33	76.10	1.195	4	27.05	12.98	1.2502
8'x2 1/2" Pipe Mount	0.0000	189.71	0.00	-2.65	76.10	1.195	4	7.74	7.74	1.2502
8'x2 1/2" Pipe Mount	120.0000	189.71	2.30	1.33	76.10	1.195	4	7.74	7.74	1.2502
8'x2 1/2" Pipe Mount	240.0000	189.71	-2.30	1.33	76.10	1.195	4	7.74	7.74	1.2502
Sum		4748.81								

tnxTower Albul Engineering, LLC 3840 E. Robinson Road Amherst, NY 14228 Phone: (716) 800-1364 FAX:	Job	14652291 Croton on Hudson	Page	18 of 19
	Project	35661.GTW.RTP.G418900.0	Date	21:31:58 04/01/25
	Client	GT Wireless	Designed by	dalbul

Description	Aiming Azimuth °	Weight lb	Offset _x ft	Offset _z ft	z ft	K _z	q _z psf	C _A A _C Front ft ²	C _A A _C Side ft ²	t _z in
	Weight:									

Discrete Appurtenance Pressures - Service $G_H = 0.850$

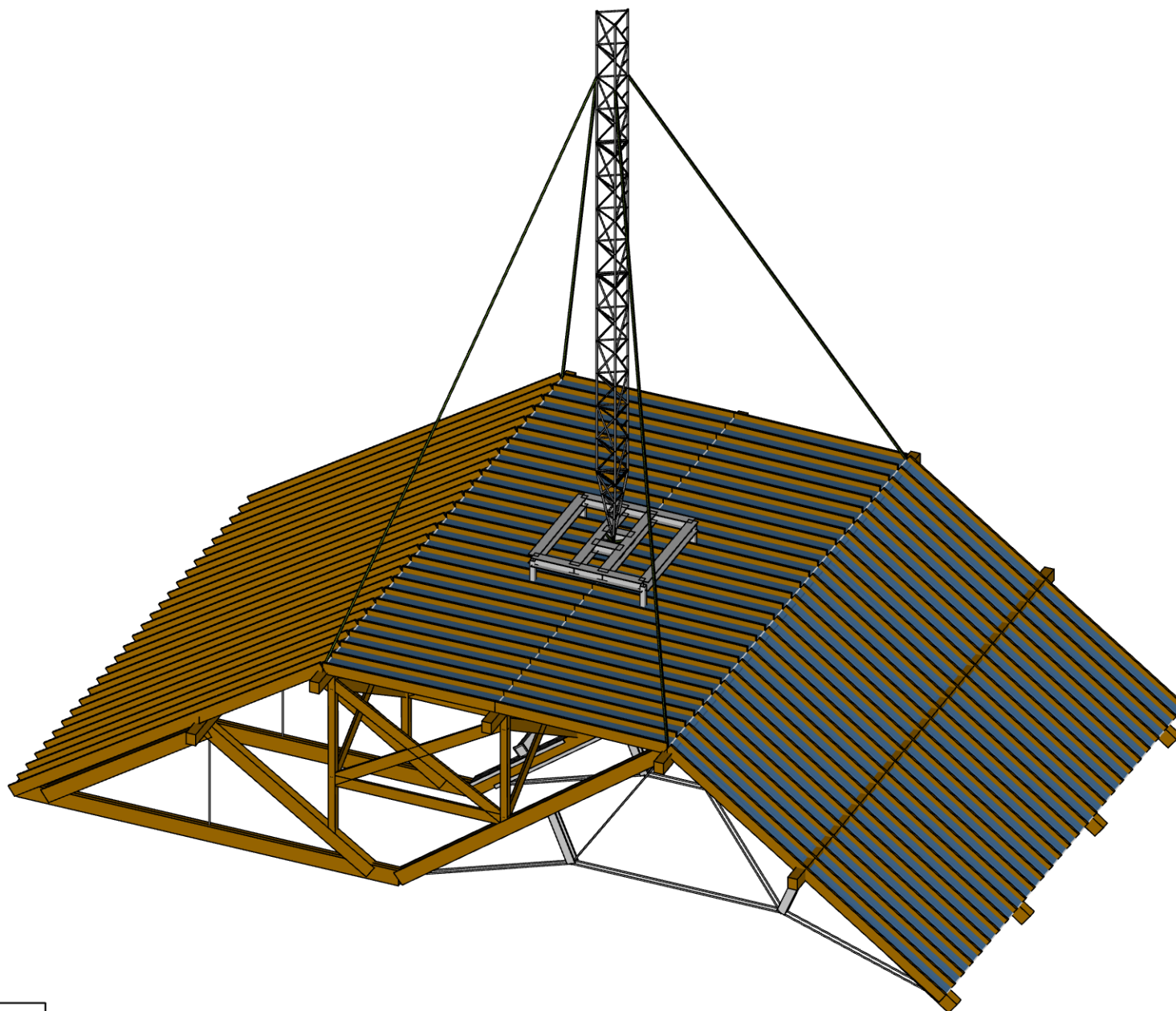
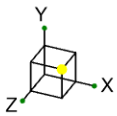
Description	Aiming Azimuth °	Weight lb	Offset _x ft	Offset _z ft	z ft	K _z	q _z psf	C _A A _C Front ft ²	C _A A _C Side ft ²
Stand Off (3)	0.0000	750.00	0.00	0.00	93.85	1.249	10	8.45	8.45
12' x 2-1/2" Dipole (2 Element)	0.0000	54.00	0.97	-2.83	99.85	1.265	10	3.15	3.15
12' x 2-1/2" Dipole (2 Element)	0.0000	54.00	0.97	-2.83	99.85	1.265	10	3.15	3.15
12' x 2-1/2" Dipole (2 Element)	120.0000	54.00	1.97	2.26	99.85	1.265	10	3.15	3.15
12' x 2-1/2" Dipole (2 Element)	240.0000	54.00	-2.94	0.58	99.85	1.265	10	3.15	3.15
12' x 2-1/2" Dipole (2 Element)	240.0000	54.00	-2.94	0.58	99.85	1.265	10	3.15	3.15
4'6" x 4'6" Ground Plane Antenna	150.0000	20.00	2.50	3.18	94.85	1.252	10	1.20	1.20
Unistrut Arms	150.0000	100.00	1.75	1.88	93.85	1.249	10	2.70	2.70
18" x 1" Yagi	0.0000	1.50	0.00	-1.65	92.60	1.245	10	0.15	0.01
18" x 1" Yagi	120.0000	1.50	1.00	0.58	87.10	1.229	10	0.15	0.01
SF-HPM3-96 (3)	0.0000	250.00	0.00	0.00	76.10	1.195	9	5.25	5.25
NNH4-65B-R3-UPM-V2	0.0000	147.80	0.00	-2.65	76.10	1.195	9	24.54	10.68
NNH4-65B-R3-UPM-V2	120.0000	147.80	2.30	1.33	76.10	1.195	9	24.54	10.68
NNH4-65B-R3-UPM-V2	240.0000	147.80	-2.30	1.33	76.10	1.195	9	24.54	10.68
8'x2 1/2" Pipe Mount	0.0000	81.00	0.00	-2.65	76.10	1.195	9	4.60	4.60
8'x2 1/2" Pipe Mount	120.0000	81.00	2.30	1.33	76.10	1.195	9	4.60	4.60
8'x2 1/2" Pipe Mount	240.0000	81.00	-2.30	1.33	76.10	1.195	9	4.60	4.60
Sum		2079.40							
Weight:									

Force Totals (Does not include forces on guys)

Load Case	Vertical Forces lb	Sum of Forces X lb	Sum of Forces Z lb	Sum of Torques lb-ft
Leg Weight	502.75			
Bracing Weight	468.25			
Total Member Self-Weight	971.00			
Guy Weight	66.55			
Total Weight	3344.05			
Wind 0 deg - No Ice		0.00	-4933.51	-88.66
Wind 30 deg - No Ice		2501.53	-4332.78	-686.73
Wind 60 deg - No Ice		4449.49	-2568.92	-41.58
Wind 90 deg - No Ice		5182.19	0.00	697.29
Wind 120 deg - No Ice		4279.59	2470.82	47.08
Wind 150 deg - No Ice		2381.31	4124.54	-556.95
Wind 180 deg - No Ice		0.00	4897.39	88.66
Wind 210 deg - No Ice		-2484.15	4302.68	686.73
Wind 240 deg - No Ice		-4420.56	2552.21	41.58
Wind 270 deg - No Ice		-5147.43	0.00	-697.29
Wind 300 deg - No Ice		-4278.42	-2470.15	-47.08

<i>tnxTower</i> <i>Albul Engineering, LLC</i> 3840 E. Robinson Road Amherst, NY 14228 Phone: (716) 800-1364 FAX:	Job	14652291 Croton on Hudson	Page	19 of 19
	Project	35661.GTW.RTP.G418900.0	Date	21:31:58 04/01/25
	Client	GT Wireless	Designed by	dalbul

<i>Load Case</i>	<i>Vertical Forces</i>	<i>Sum of Forces X</i>	<i>Sum of Forces Z</i>	<i>Sum of Torques</i>
<i>lb</i>	<i>lb</i>	<i>lb</i>	<i>lb</i>	<i>lb-ft</i>
Wind 330 deg - No Ice		-2381.31	-4124.54	556.95
Member Ice	1332.97			
Guy Ice	425.61			
Total Weight Ice	9996.46			
Wind 0 deg - Ice		0.00	-910.56	-6.50
Wind 30 deg - Ice		463.26	-802.38	-61.49
Wind 60 deg - Ice		822.32	-474.77	17.87
Wind 90 deg - Ice		956.94	0.00	92.43
Wind 120 deg - Ice		798.24	460.86	24.37
Wind 150 deg - Ice		449.29	778.20	-50.22
Wind 180 deg - Ice		0.00	891.18	6.50
Wind 210 deg - Ice		-453.62	785.70	61.49
Wind 240 deg - Ice		-805.74	465.20	-17.87
Wind 270 deg - Ice		-937.68	0.00	-92.43
Wind 300 deg - Ice		-798.14	-460.81	-24.37
Wind 330 deg - Ice		-449.29	-778.20	50.22
Total Weight	3344.05			
Wind 0 deg - Service		0.00	-1173.95	-21.10
Wind 30 deg - Service		595.25	-1031.00	-163.41
Wind 60 deg - Service		1058.77	-611.28	-9.89
Wind 90 deg - Service		1233.12	0.00	165.92
Wind 120 deg - Service		1018.34	587.94	11.20
Wind 150 deg - Service		566.64	981.45	-132.53
Wind 180 deg - Service		0.00	1165.35	21.10
Wind 210 deg - Service		-591.11	1023.84	163.41
Wind 240 deg - Service		-1051.89	607.31	9.89
Wind 270 deg - Service		-1224.85	0.00	-165.92
Wind 300 deg - Service		-1018.07	-587.78	-11.20
Wind 330 deg - Service		-566.64	-981.45	132.53



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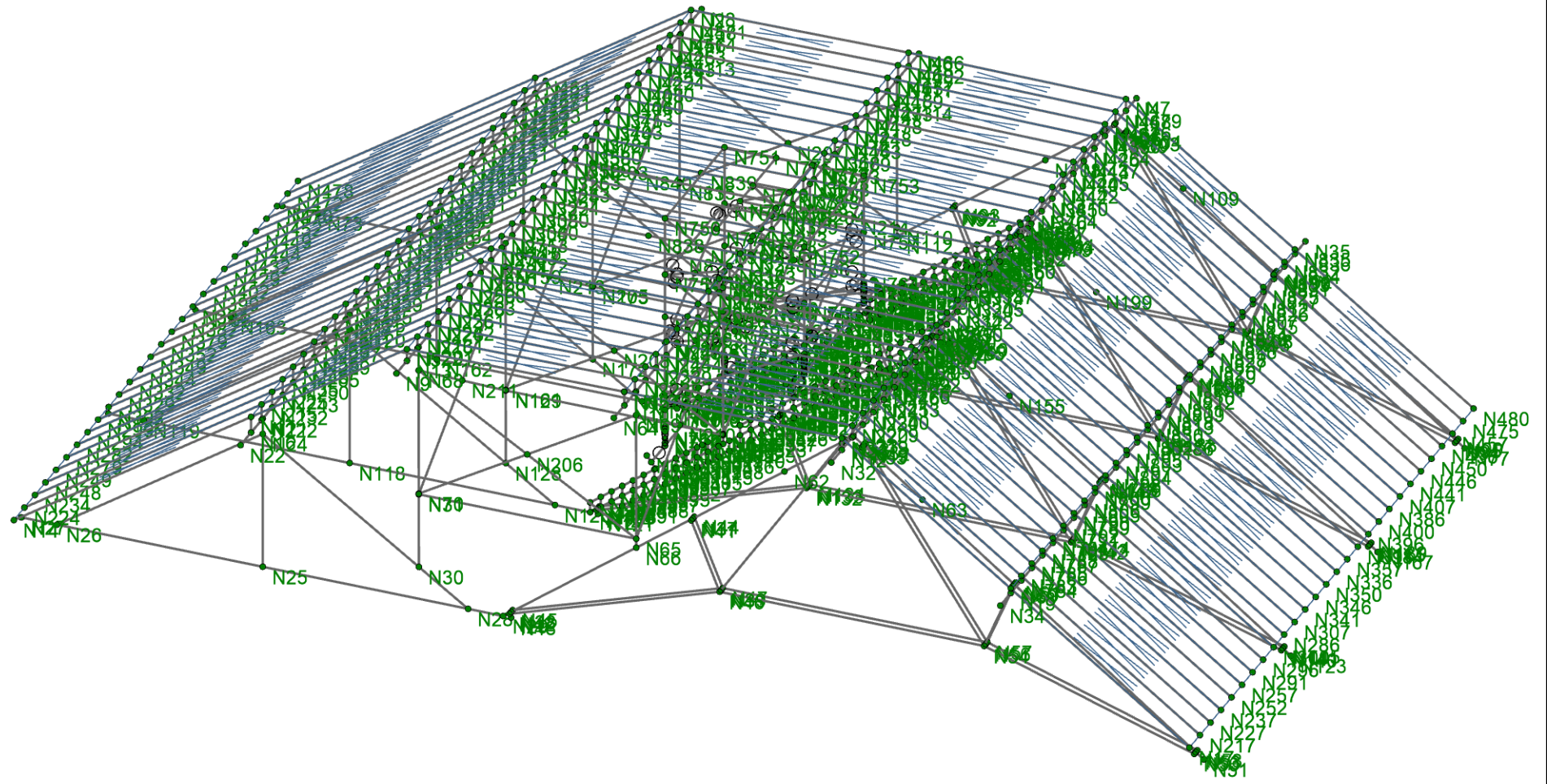
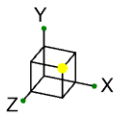
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14652291 Croton on Hudson

Partial Roof Structure Model

SK-1

14652291 Croton on Hudson.rt3



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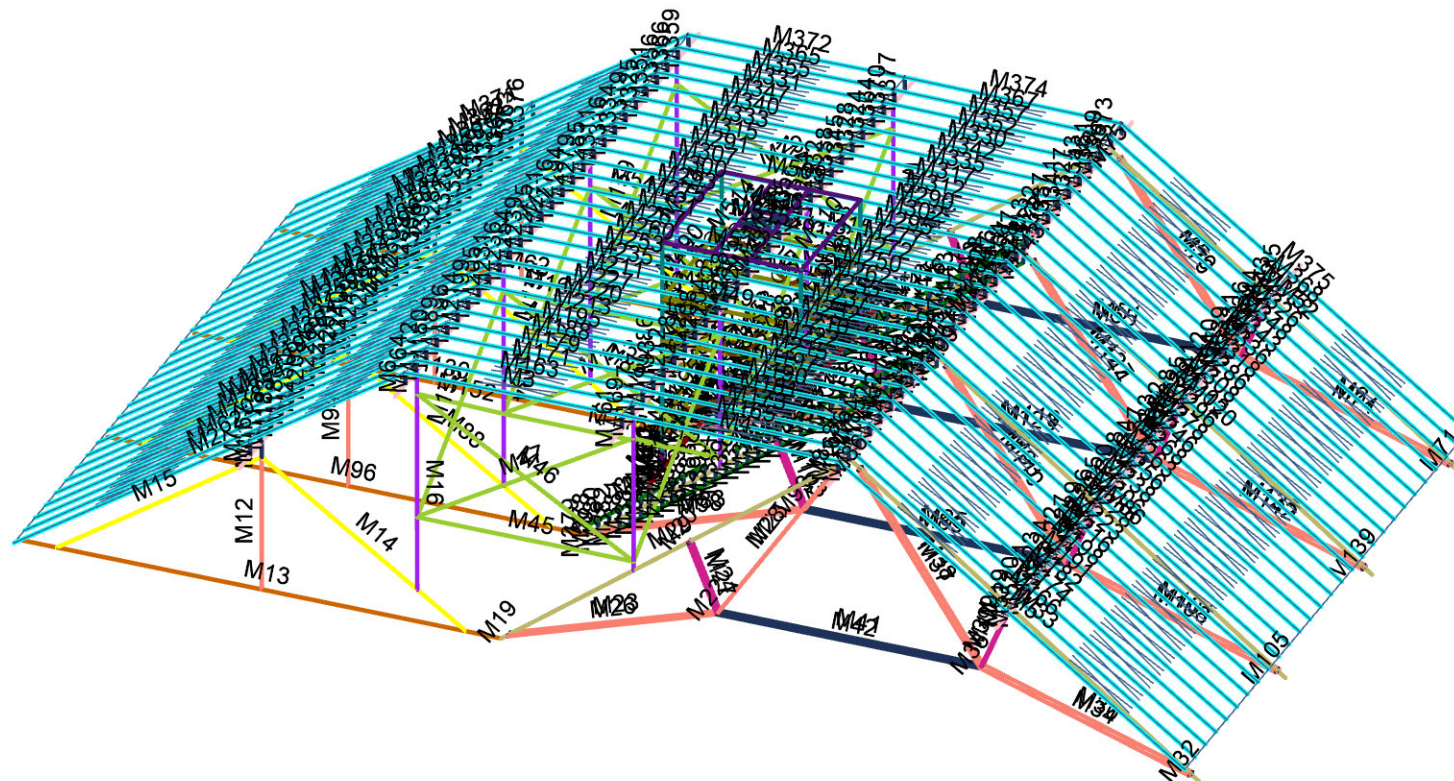
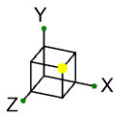
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14652291 Croton on Hudson

Node Labels

SK-2

14652291 Croton on Hudson.rt3



- Section Sets
- TWR_LEG_T1
 - TWR_TOP_GIRT_T1
 - TWR_BOT_GIRT_T1
 - TWR_DIAG_T1
 - TWR_HORZ_T1
 - TWR_LEG_T2
 - TWR_TOP_GIRT_T2
 - TWR_BOT_GIRT_T2
 - TWR_HORZ_T2
 - TWR_LEG_T3
 - TWR_TOP_GIRT_T3
 - TWR_HORZ_T3
 - TWR_DIAG_T3
 - Plates
 - Threaded Rods (0.875")
 - Threaded Rods (1")
 - Reinforcing Channel
 - Frame Beams
 - Bottom Plates
 - Leg Plates
 - Legs
 - Diagonal Angles
 - Horizontal Angles
 - Platform Beams
 - TWR_STEP_T1
 - TWR_PULLOFFTOP_T1_1
 - TWR_DIAG_T2_1
 - TWR_STEP_T2
 - TWR_BOT_GIRT_T3
 - TWR_STEP_T3
 - TWR_LEG_T4
 - TWR_TOP_GIRT_T4
 - TWR_BOT_GIRT_T4
 - TWR_DIAG_T4
 - TWR_HORZ_T4
 - Roof sheathing
 - Beams
 - Diagonal Beams (A)
 - Vert Post
 - Diagonal Beams (B)
 - Central Beams
 - Ridge
 - TWR_GUYC_T1
 - TWR_GUYB_T1
 - TWR_GUYA_T1

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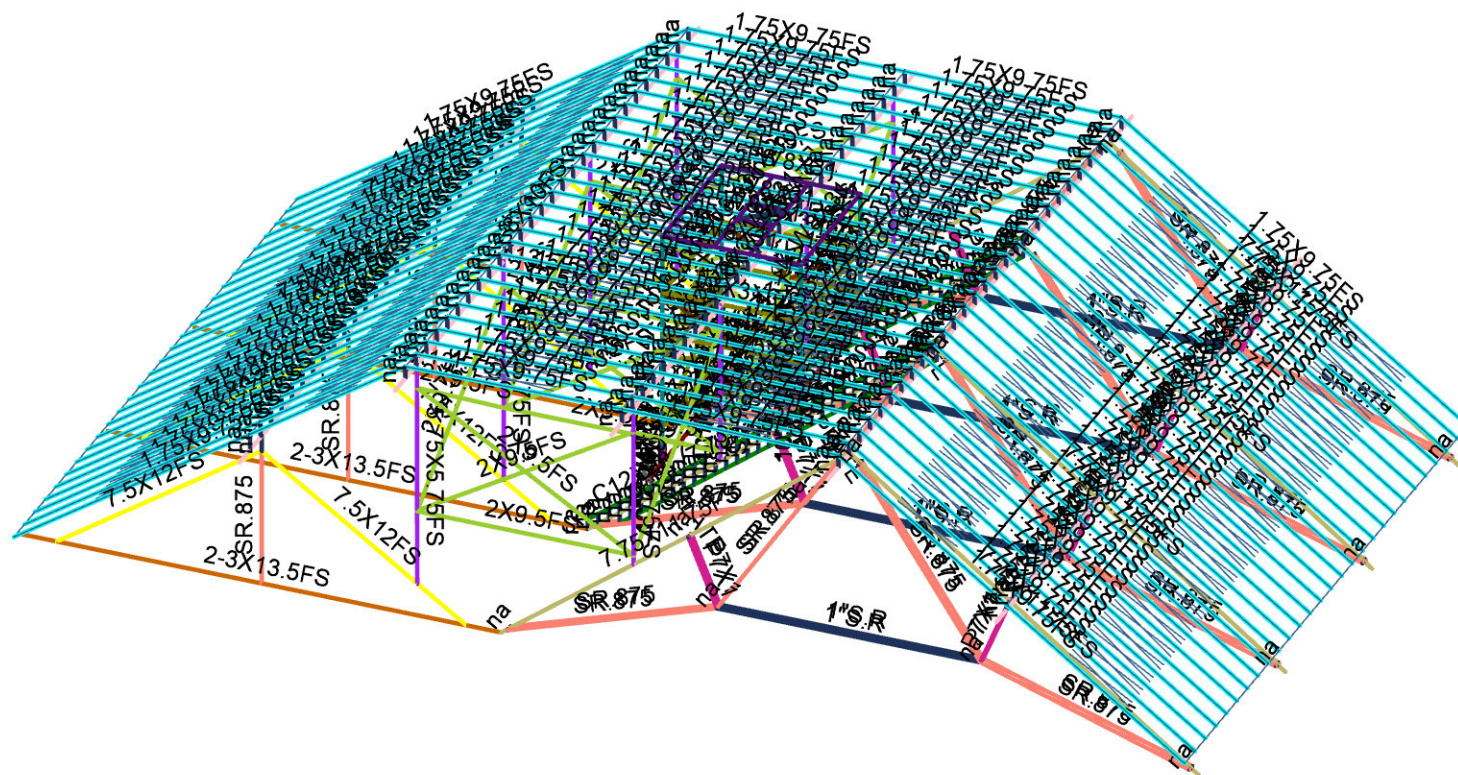
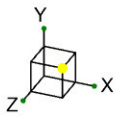
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14652291 Croton on Hudson

Member Labels

SK-3

14652291 Croton on Hudson.rt3



- Section Sets
- TWR_LEG_T1
 - TWR_TOP_GIRT_T1
 - TWR_BOT_GIRT_T1
 - TWR_DIAG_T1
 - TWR_HORZ_T1
 - TWR_LEG_T2
 - TWR_TOP_GIRT_T2
 - TWR_BOT_GIRT_T2
 - TWR_HORZ_T2
 - TWR_LEG_T3
 - TWR_TOP_GIRT_T3
 - TWR_HORZ_T3
 - TWR_DIAG_T3
 - Plates
 - Threaded Rods (0.875")
 - Threaded Rods (1")
 - Reinforcing Channel
 - Frame Beams
 - Bottom Plates
 - Leg Plates
 - Legs
 - Diagonal Angles
 - Horizontal Angles
 - Platform Beams
 - TWR_STEP_T1
 - TWR_PULLOFFTOP_T1_1
 - TWR_DIAG_T2_1
 - TWR_STEP_T2
 - TWR_BOT_GIRT_T3
 - TWR_STEP_T3
 - TWR_LEG_T4
 - TWR_TOP_GIRT_T4
 - TWR_BOT_GIRT_T4
 - TWR_DIAG_T4
 - TWR_HORZ_T4
 - Roof sheathing
 - Beams
 - Diagonal Beams (A)
 - Vert Post
 - Diagonal Beams (B)
 - Central Beams
 - Ridge
 - TWR_GUYC_T1
 - TWR_GUYB_T1
 - TWR_GUYA_T1

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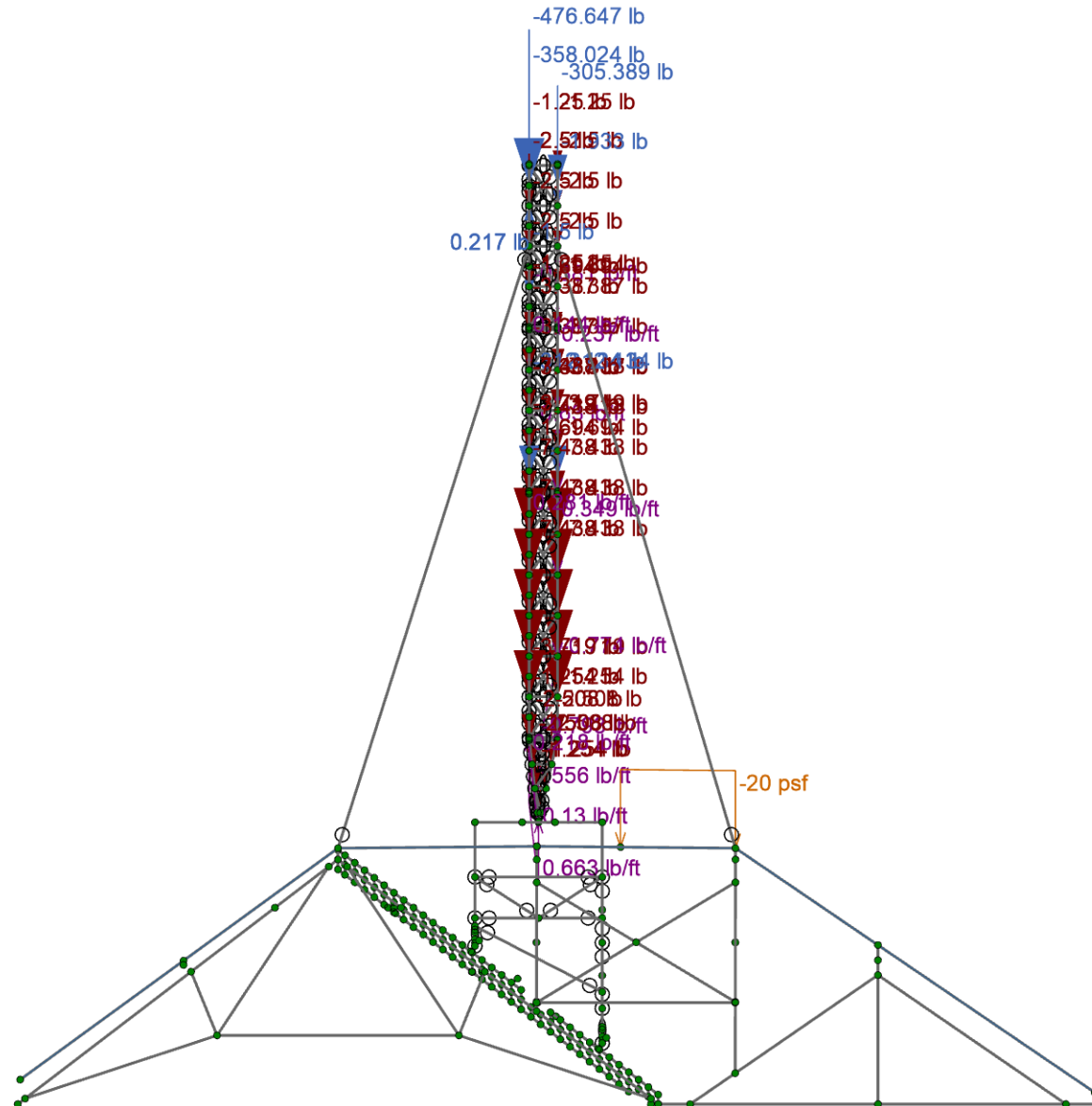
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14652291 Croton on Hudson

Member Shapes

SK-4

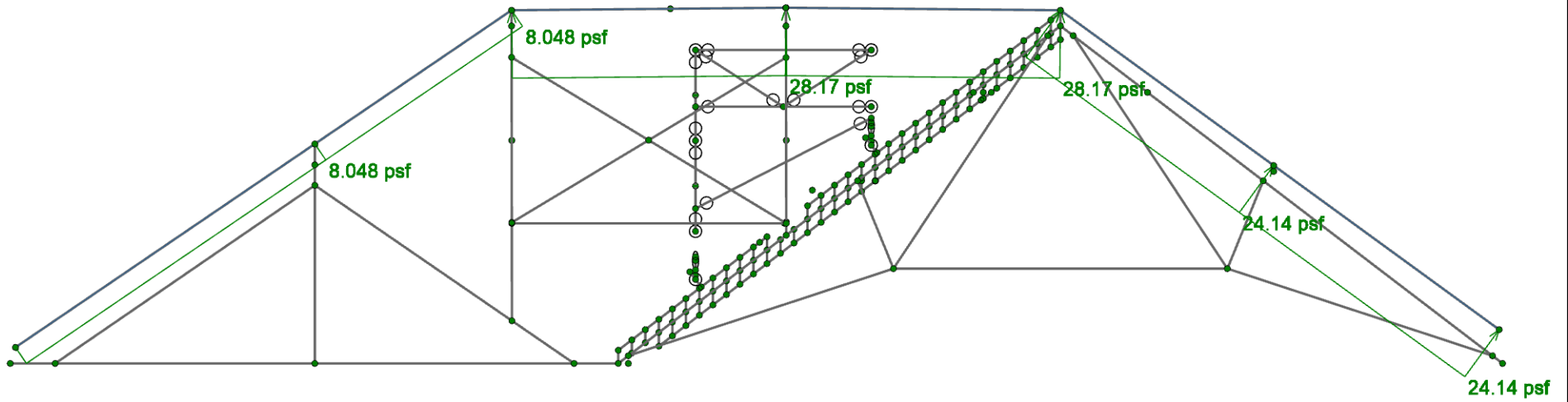
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Dead Load

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Loads: BLC 41, Roof Wind Load WL+X
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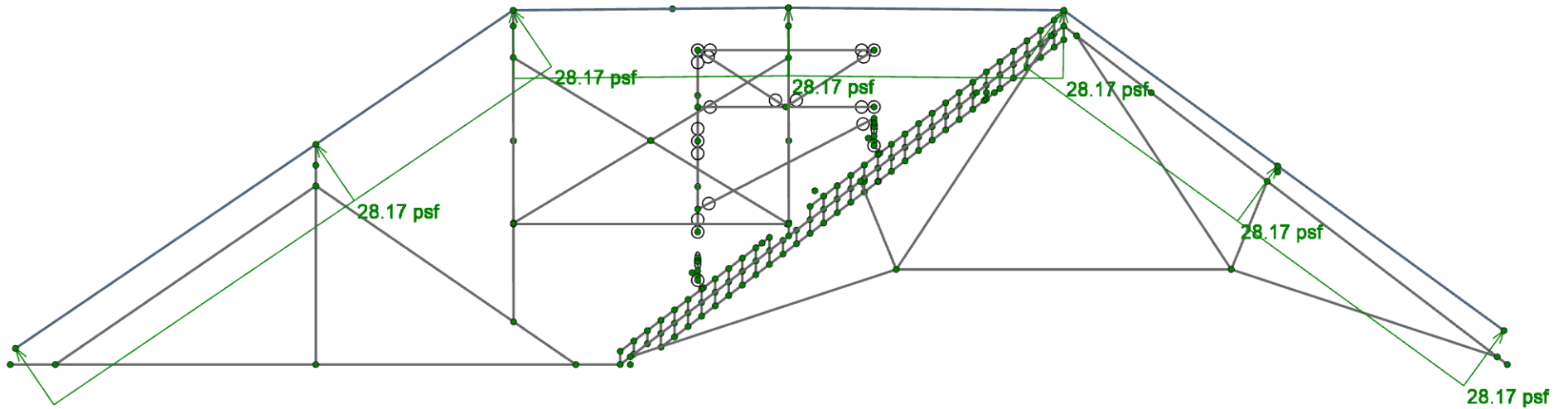
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Roof Wind Load WL+X

SK-6

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Loads: BLC 42, Roof Wind Load WL+Z
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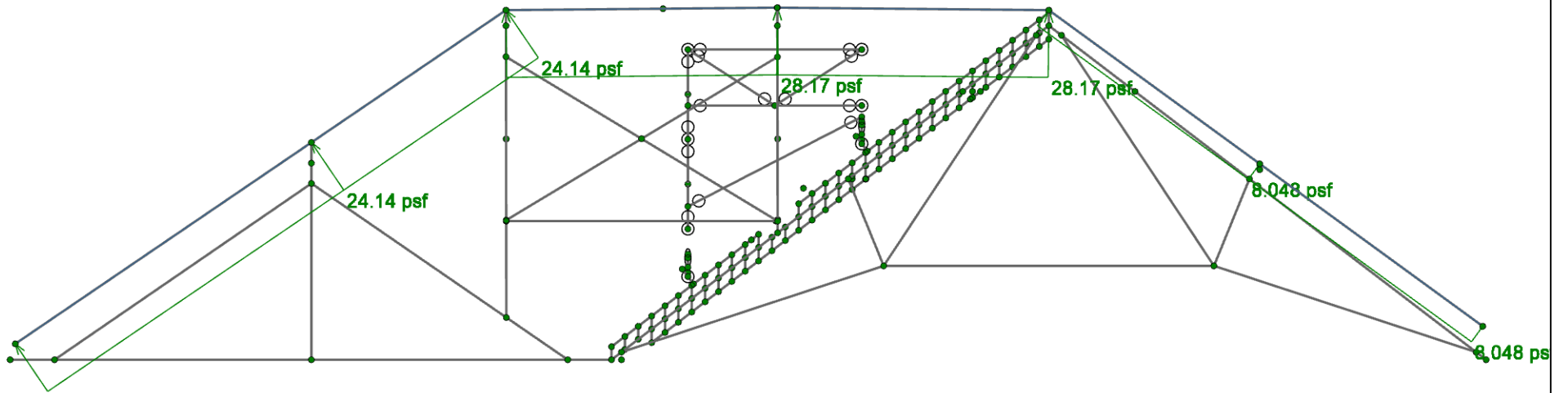
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Roof Wind Load WL+Z

SK-7

14652291 Croton on Hudson.rt3



Loads: BLC 43, Roof Wind Load WL-X
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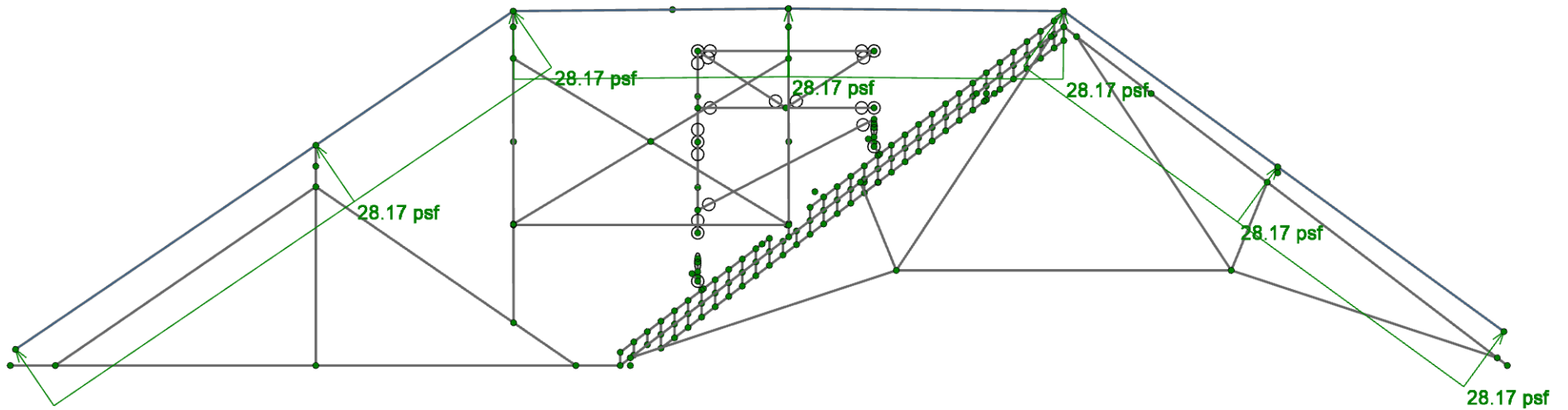
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14652291 Croton on Hudson

Roof Wind Load WL-X

SK-8

14652291 Croton on Hudson.rt3



Loads: BLC 44, Roof Wind Load WL-Z
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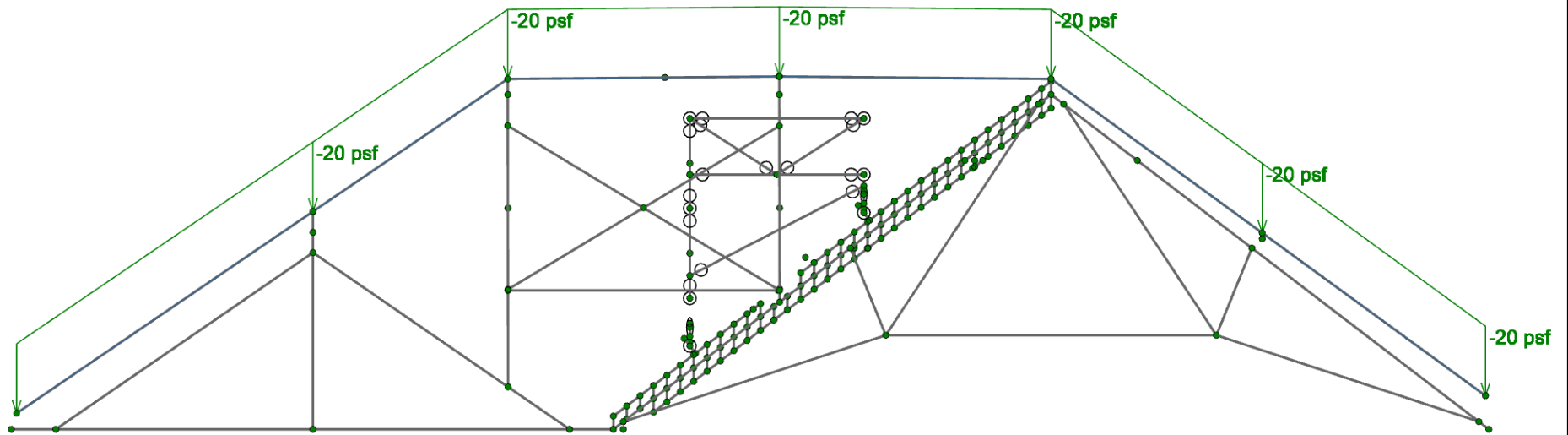
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Roof Wind Load WL-Z

SK-9

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Loads: BLC 45, Roof Live Load



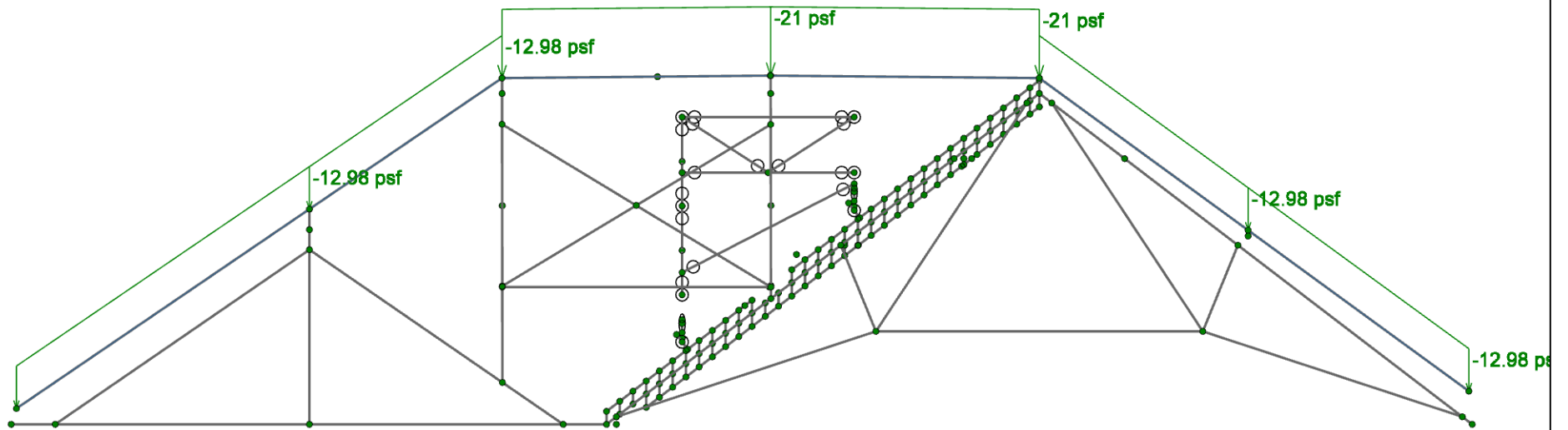
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Roof Live Load

SK-10

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Loads: BLC 46, Roof Snow Load



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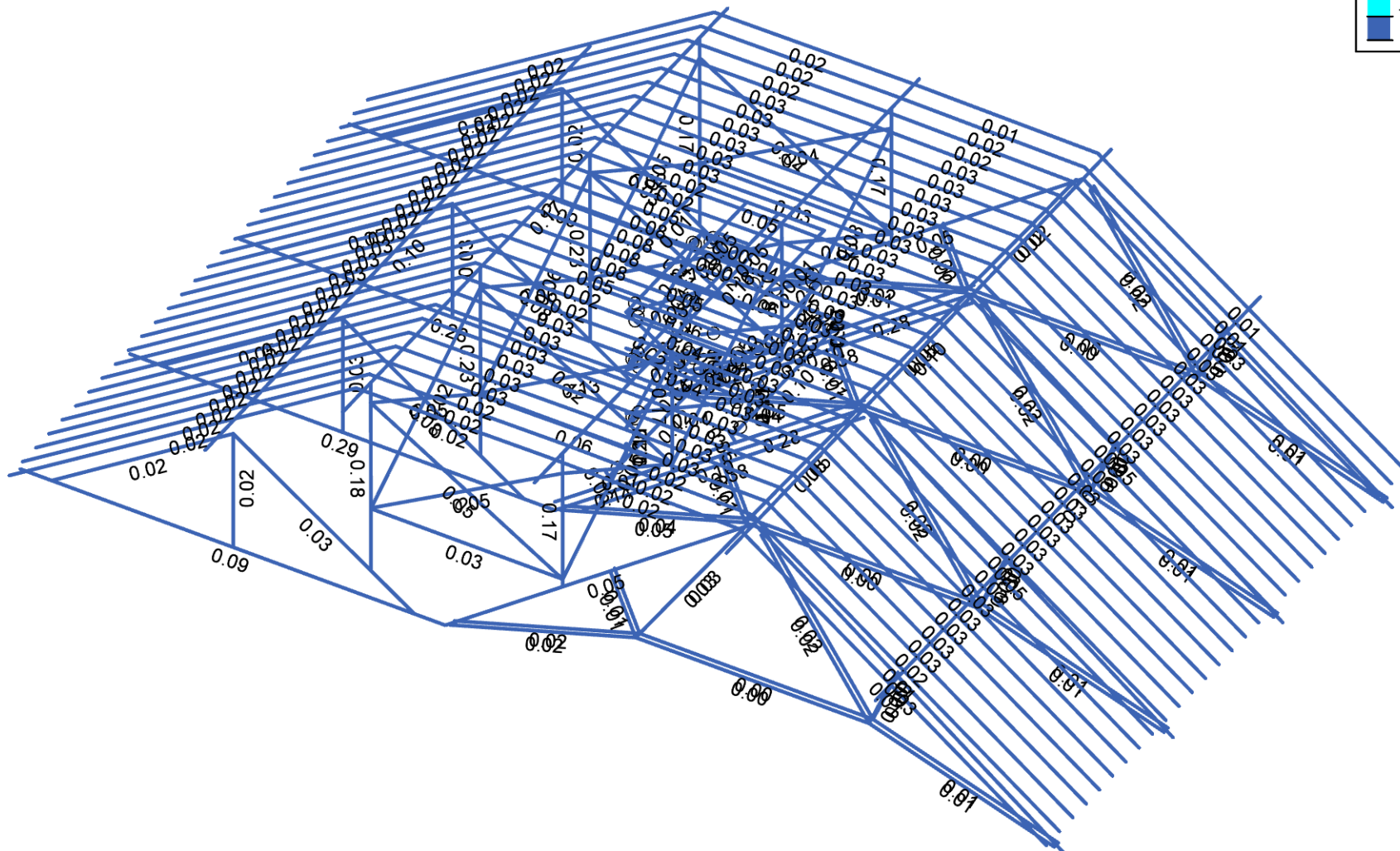
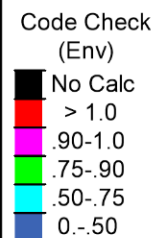
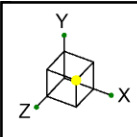
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Roof Snow Load

SK-11

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Member Code Checks Displayed (Enveloped)
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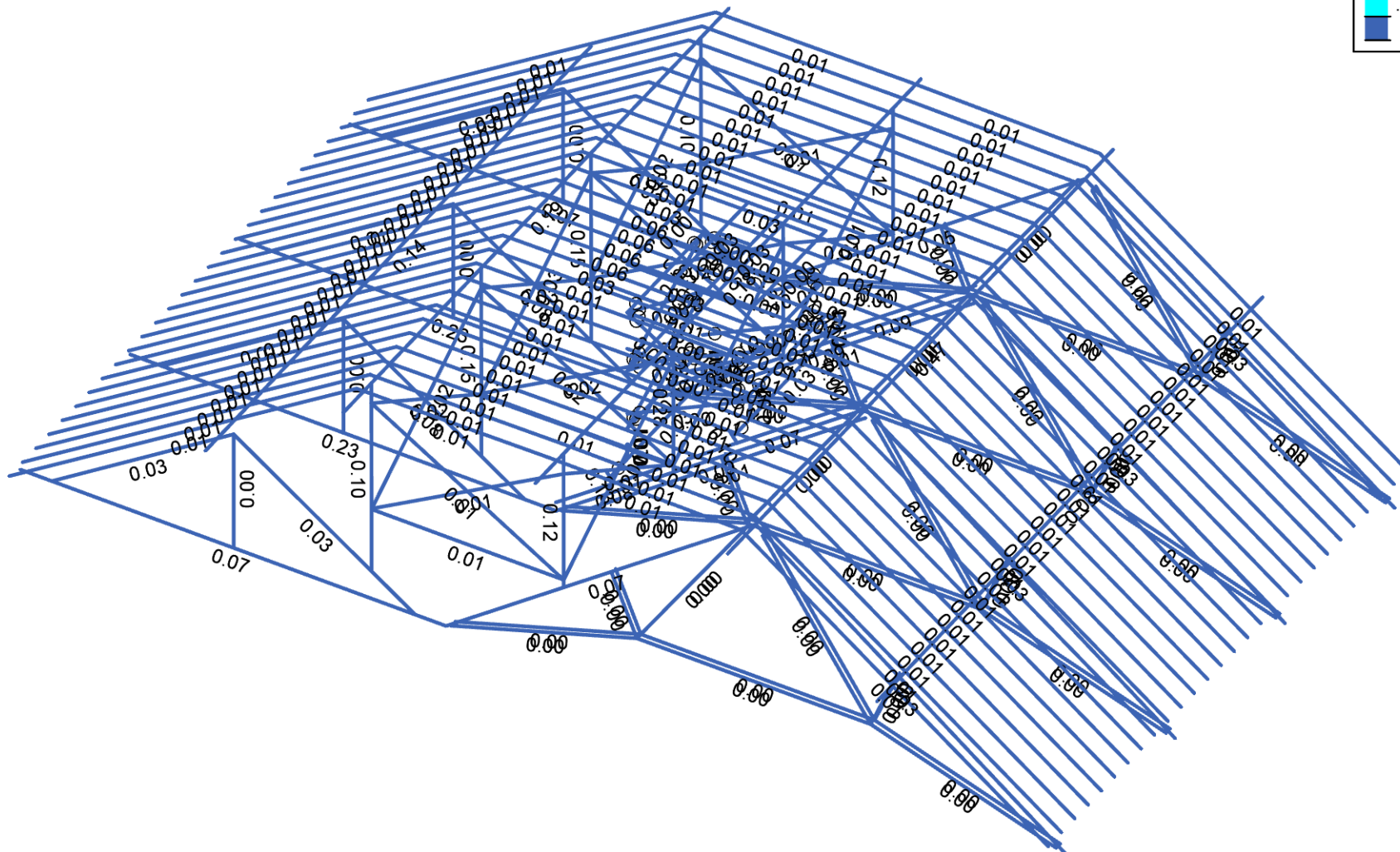
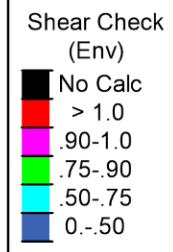
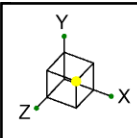
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14652291 Croton on Hudson

Member Bending Check

SK-12

14652291 Croton on Hudson.rt3



Member Shear Checks Displayed (Enveloped)
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14652291 Croton on Hudson

Member Shear Check

SK-13

14652291 Croton on Hudson.rt3

Model Settings

Number of Reported Sections	5
Number of Internal Sections	100
Member Area Load Mesh Size (in ²)	144
Consider Shear Deformation	Yes
Consider Torsional Warping	Yes
Approximate Mesh Size (in)	12
Transfer Forces Between Intersecting Wood Walls	Yes
Increase Wood Wall Nailing Capacity for Wind Loads	Yes
Include P-Delta for Walls	Yes
Optimize Masonry and Wood Walls	No
Maximum Number of Iterations	3
Single	No
Multiple (Optimum)	Yes
Maximum	No

Global Axis corresponding to vertical direction	Y
Convert Existing Data	Yes
Default Global Plane for z-axis	XZ
Plate Local Axis Orientation	Nodal

Hot Rolled Steel	AISC 15th (360-16): LRFD
Stiffness Adjustment	Yes (Iterative)
Notional Annex	None
Connections	AISC 15th (360-16): LRFD
Cold Formed Steel	AISI S100-20: LRFD
Stiffness Adjustment	Yes (Iterative)
Wood	AWC NDS-18 / SDPWS-21 LRFD
Temperature	< 100F
Concrete	ACI 318-19
Masonry	TMS 402-16: Strength
Aluminum	AA ADM1-20: LRFD
Structure Type	Building
Stiffness Adjustment	Yes (Iterative)
Stainless	AISC 14th (360-10): LRFD
Stiffness Adjustment	Yes (Iterative)

Compression Stress Block	Rectangular Stress Block
Analyze using Cracked Sections	Yes
Leave room for horizontal rebar splices (2*d bar spacing)	Yes
List forces which were ignored for design in the Detail Report	Yes

Column Min Steel	1
Column Max Steel	8
Rebar Material Spec	ASTM A615
Warn if beam-column framing arrangement is not understood	No
Number of Shear Regions	4
Region 2 & 3 Spacing Increase Increment (in)	4

Code	ASCE 7-16
Risk Category	I or II
Drift Cat	Other

Model Settings (Continued)

Base Elevation (ft)	531.99
Include the weight of the structure in base shear calcs	No
S_s (g)	0.048
SD_1 (g)	0.077
SD_s (g)	0.173
T_1 (sec)	6
T_Z (sec)	
T_X (sec)	
C_Z	0.02
C_X	0.02
$C_{Exp. Z}$	0.75
$C_{Exp. X}$	0.75
R_Z	3
R_X	3
$\Omega_0 Z$	1
$\Omega_0 X$	1
$C_0 Z$	4
$C_0 X$	4
ρ_Z	1
ρ_X	1

Member Primary Data

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	M1	N9	N8		Ridge	Beam	Rectangular	DF	Typical
2	M2	N14	N5		Roof sheathing	Beam	Rectangular Double	DF	Typical
3	M3	N5	N15		Roof sheathing	Beam	Rectangular Double	DF	Typical
4	M4	N15	N3		Roof sheathing	Beam	Rectangular Double	DF	Typical
5	M5	N3	N17		Roof sheathing	Beam	Rectangular Double	DF	Typical
6	M6	N13	N5		RIGID	None	None	RIGID	Typical
7	M7	N16	N11		RIGID	None	None	RIGID	Typical
8	M8	N12	N3		RIGID	None	None	RIGID	Typical
9	M9	N19	N18		RIGID	None	None	RIGID	Typical
10	M10	N22	N23		Ridge	Beam	Rectangular	DF	Typical
11	M11	N24	N21		RIGID	None	None	RIGID	Typical
12	M12	N25	N24		Threaded Rods (0.875")	Beam	BAR	A36 Gr.36	Typical
13	M13	N27	N29		Beams	Beam	Rectangular Double	DF	Typical
14	M14	N28	N24		Diagonal Beams (A)	Beam	Rectangular Double	DF	Typical
15	M15	N26	N24		Diagonal Beams (A)	Beam	Rectangular Double	DF	Typical
16	M16	N30	N20		Vert Post	Column	Rectangular	DF	Typical
17	M17	N32	N7		Ridge	Beam	Rectangular	DF	Typical
18	M18	N34	N35		Ridge	Beam	Rectangular	DF	Typical
19	M19	N42	N45		RIGID	None	None	RIGID	Typical
20	M20	N41	N44		RIGID	None	None	RIGID	Typical
21	M21	N40	N43		RIGID	None	None	RIGID	Typical
22	M22	N46	N47		RIGID	None	None	RIGID	Typical
23	M23	N45	N47		Threaded Rods (0.875")	Beam	BAR	A36 Gr.36	Typical
24	M24	N47	N44		Plates	Beam	RECT	A992	Typical
25	M25	N47	N43		Threaded Rods (0.875")	Beam	BAR	A36 Gr.36	Typical
26	M26	N42	N46		Threaded Rods (0.875")	Beam	BAR	A36 Gr.36	Typical
27	M27	N46	N41		Plates	Beam	RECT	A992	Typical
28	M28	N46	N40		Threaded Rods (0.875")	Beam	BAR	A36 Gr.36	Typical
29	M29	N29	N33		Diagonal Beams (B)	Beam	Rectangular	DF	Typical
30	M30	N58	N57		Threaded Rods (0.875")	Beam	BAR	A36 Gr.36	Typical
31	M31	N60	N61		RIGID	None	None	RIGID	Typical
32	M32	N50	N58		RIGID	None	None	RIGID	Typical
33	M33	N51	N33		Diagonal Beams (B)	Beam	Rectangular	DF	Typical
34	M34	N50	N54		Threaded Rods (0.875")	Beam	BAR	A36 Gr.36	Typical
35	M35	N54	N57		RIGID	None	None	RIGID	Typical
36	M36	N55	N52		RIGID	None	None	RIGID	Typical
37	M37	N54	N55		Threaded Rods (0.875")	Beam	BAR	A36 Gr.36	Typical
38	M38	N57	N52		Threaded Rods (0.875")	Beam	BAR	A36 Gr.36	Typical
39	M39	N54	N60		Plates	Beam	RECT	A992	Typical
40	M40	N57	N61		Plates	Beam	RECT	A992	Typical
41	M41	N47	N57		Threaded Rods (1")	Beam	BAR	A36 Gr.36	Typical
42	M42	N46	N54		Threaded Rods (1")	Beam	BAR	A36 Gr.36	Typical
43	M43	N64	N6		Ridge	Beam	Rectangular	DF	Typical
44	M44	N66	N67		Vert Post	Column	Rectangular	DF	Typical
45	M45	N31	N65		Central Beams	Beam	Rectangular	DF	Typical
46	M46	N68	N65		Central Beams	Beam	Rectangular	DF	Typical
47	M47	N70	N69		Central Beams	Beam	Rectangular	DF	Typical
48	M48	N113	N110		Central Beams	Beam	Rectangular	DF	Typical
49	M49	N90	N88		Threaded Rods (0.875")	Beam	BAR	A36 Gr.36	Typical
50	M50	N82	N71		Vert Post	Column	Rectangular	DF	Typical
51	M51	N88	N98		Threaded Rods (1")	Beam	BAR	A36 Gr.36	Typical
52	M52	N77	N84		Diagonal Beams (B)	Beam	Rectangular	DF	Typical
53	M53	N98	N102		Plates	Beam	RECT	A992	Typical
54	M54	N80	N74		Diagonal Beams (A)	Beam	Rectangular Double	DF	Typical
55	M55	N86	N96		Threaded Rods (1")	Beam	BAR	A36 Gr.36	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
56	M56	N92	N93		RIGID	None	None	RIGID	Typical
57	M57	N74	N79		RIGID	None	None	RIGID	Typical
58	M58	N78	N90		RIGID	None	None	RIGID	Typical
59	M59	N98	N104		Threaded Rods (0.875")	Beam	BAR	A36 Gr.36	Typical
60	M60	N72	N74		Threaded Rods (0.875")	Beam	BAR	A36 Gr.36	Typical
61	M61	N81	N84		Diagonal Beams (B)	Beam	Rectangular	DF	Typical
62	M62	N76	N81		Beams	Beam	Rectangular Double	DF	Typical
63	M63	N73	N74		Diagonal Beams (A)	Beam	Rectangular Double	DF	Typical
64	M64	N78	N86		Threaded Rods (0.875")	Beam	BAR	A36 Gr.36	Typical
65	M65	N86	N88		RIGID	None	None	RIGID	Typical
66	M66	N107	N106		RIGID	None	None	RIGID	Typical
67	M67	N99	N98		Threaded Rods (0.875")	Beam	BAR	A36 Gr.36	Typical
68	M68	N86	N92		Plates	Beam	RECT	A992	Typical
69	M69	N88	N93		Plates	Beam	RECT	A992	Typical
70	M70	N101	N102		RIGID	None	None	RIGID	Typical
71	M71	N94	N99		RIGID	None	None	RIGID	Typical
72	M72	N96	N98		RIGID	None	None	RIGID	Typical
73	M73	N96	N101		Plates	Beam	RECT	A992	Typical
74	M74	N94	N96		Threaded Rods (0.875")	Beam	BAR	A36 Gr.36	Typical
75	M75	N89	N104		RIGID	None	None	RIGID	Typical
76	M76	N96	N89		Threaded Rods (0.875")	Beam	BAR	A36 Gr.36	Typical
77	M77	N88	N106		Threaded Rods (0.875")	Beam	BAR	A36 Gr.36	Typical
78	M78	N86	N107		Threaded Rods (0.875")	Beam	BAR	A36 Gr.36	Typical
79	M79	N115	N114		Central Beams	Beam	Rectangular	DF	Typical
80	M80	N112	N111		Vert Post	Column	Rectangular	DF	Typical
81	M81	N83	N110		Central Beams	Beam	Rectangular	DF	Typical
82	M82	N159	N156		Central Beams	Beam	Rectangular	DF	Typical
83	M83	N136	N134		Threaded Rods (0.875")	Beam	BAR	A36 Gr.36	Typical
84	M84	N128	N116		Vert Post	Column	Rectangular	DF	Typical
85	M85	N134	N144		Threaded Rods (1")	Beam	BAR	A36 Gr.36	Typical
86	M86	N123	N130		Diagonal Beams (B)	Beam	Rectangular	DF	Typical
87	M87	N144	N148		Plates	Beam	RECT	A992	Typical
88	M88	N126	N120		Diagonal Beams (A)	Beam	Rectangular Double	DF	Typical
89	M89	N132	N142		Threaded Rods (1")	Beam	BAR	A36 Gr.36	Typical
90	M90	N138	N139		RIGID	None	None	RIGID	Typical
91	M91	N120	N125		RIGID	None	None	RIGID	Typical
92	M92	N124	N136		RIGID	None	None	RIGID	Typical
93	M93	N144	N150		Threaded Rods (0.875")	Beam	BAR	A36 Gr.36	Typical
94	M94	N118	N120		Threaded Rods (0.875")	Beam	BAR	A36 Gr.36	Typical
95	M95	N127	N130		Diagonal Beams (B)	Beam	Rectangular	DF	Typical
96	M96	N122	N127		Beams	Beam	Rectangular Double	DF	Typical
97	M97	N119	N120		Diagonal Beams (A)	Beam	Rectangular Double	DF	Typical
98	M98	N124	N132		Threaded Rods (0.875")	Beam	BAR	A36 Gr.36	Typical
99	M99	N132	N134		RIGID	None	None	RIGID	Typical
100	M100	N153	N152		RIGID	None	None	RIGID	Typical
101	M101	N145	N144		Threaded Rods (0.875")	Beam	BAR	A36 Gr.36	Typical
102	M102	N132	N138		Plates	Beam	RECT	A992	Typical
103	M103	N134	N139		Plates	Beam	RECT	A992	Typical
104	M104	N147	N148		RIGID	None	None	RIGID	Typical
105	M105	N140	N145		RIGID	None	None	RIGID	Typical
106	M106	N142	N144		RIGID	None	None	RIGID	Typical
107	M107	N142	N147		Plates	Beam	RECT	A992	Typical
108	M108	N140	N142		Threaded Rods (0.875")	Beam	BAR	A36 Gr.36	Typical
109	M109	N135	N150		RIGID	None	None	RIGID	Typical
110	M110	N142	N135		Threaded Rods (0.875")	Beam	BAR	A36 Gr.36	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
111	M111	N134	N152		Threaded Rods (0.875")	Beam	BAR	A36 Gr.36	Typical
112	M112	N132	N153		Threaded Rods (0.875")	Beam	BAR	A36 Gr.36	Typical
113	M113	N161	N160		Central Beams	Beam	Rectangular	DF	Typical
114	M114	N158	N157		Vert Post	Column	Rectangular	DF	Typical
115	M115	N129	N156		Central Beams	Beam	Rectangular	DF	Typical
116	M116	N203	N200		Central Beams	Beam	Rectangular	DF	Typical
117	M117	N180	N178		Threaded Rods (0.875")	Beam	BAR	A36 Gr.36	Typical
118	M118	N172	N117		Vert Post	Column	Rectangular	DF	Typical
119	M119	N178	N188		Threaded Rods (1")	Beam	BAR	A36 Gr.36	Typical
120	M120	N167	N174		Diagonal Beams (B)	Beam	Rectangular	DF	Typical
121	M121	N188	N192		Plates	Beam	RECT	A992	Typical
122	M122	N170	N164		Diagonal Beams (A)	Beam	Rectangular Double	DF	Typical
123	M123	N176	N186		Threaded Rods (1")	Beam	BAR	A36 Gr.36	Typical
124	M124	N182	N183		RIGID	None	None	RIGID	Typical
125	M125	N164	N169		RIGID	None	None	RIGID	Typical
126	M126	N168	N180		RIGID	None	None	RIGID	Typical
127	M127	N188	N194		Threaded Rods (0.875")	Beam	BAR	A36 Gr.36	Typical
128	M128	N162	N164		Threaded Rods (0.875")	Beam	BAR	A36 Gr.36	Typical
129	M129	N171	N174		Diagonal Beams (B)	Beam	Rectangular	DF	Typical
130	M130	N166	N171		Beams	Beam	Rectangular Double	DF	Typical
131	M131	N163	N164		Diagonal Beams (A)	Beam	Rectangular Double	DF	Typical
132	M132	N168	N176		Threaded Rods (0.875")	Beam	BAR	A36 Gr.36	Typical
133	M133	N176	N178		RIGID	None	None	RIGID	Typical
134	M134	N197	N196		RIGID	None	None	RIGID	Typical
135	M135	N189	N188		Threaded Rods (0.875")	Beam	BAR	A36 Gr.36	Typical
136	M136	N176	N182		Plates	Beam	RECT	A992	Typical
137	M137	N178	N183		Plates	Beam	RECT	A992	Typical
138	M138	N191	N192		RIGID	None	None	RIGID	Typical
139	M139	N184	N189		RIGID	None	None	RIGID	Typical
140	M140	N186	N188		RIGID	None	None	RIGID	Typical
141	M141	N186	N191		Plates	Beam	RECT	A992	Typical
142	M142	N184	N186		Threaded Rods (0.875")	Beam	BAR	A36 Gr.36	Typical
143	M143	N179	N194		RIGID	None	None	RIGID	Typical
144	M144	N186	N179		Threaded Rods (0.875")	Beam	BAR	A36 Gr.36	Typical
145	M145	N178	N196		Threaded Rods (0.875")	Beam	BAR	A36 Gr.36	Typical
146	M146	N176	N197		Threaded Rods (0.875")	Beam	BAR	A36 Gr.36	Typical
147	M147	N205	N204		Central Beams	Beam	Rectangular	DF	Typical
148	M148	N202	N201		Vert Post	Column	Rectangular	DF	Typical
149	M149	N173	N200		Central Beams	Beam	Rectangular	DF	Typical
150	M150	N65	N160		Central Beams	Beam	Rectangular	DF	Typical
151	M151	N156	N69		Central Beams	Beam	Rectangular	DF	Typical
152	M152	N129	N68		Central Beams	Beam	Rectangular	DF	Typical
153	M153	N31	N159		Central Beams	Beam	Rectangular	DF	Typical
154	M154	N200	N160		Central Beams	Beam	Rectangular	DF	Typical
155	M155	N156	N204		Central Beams	Beam	Rectangular	DF	Typical
156	M156	N129	N203		Central Beams	Beam	Rectangular	DF	Typical
157	M157	N110	N204		Central Beams	Beam	Rectangular	DF	Typical
158	M158	N200	N114		Central Beams	Beam	Rectangular	DF	Typical
159	M159	N173	N113		Central Beams	Beam	Rectangular	DF	Typical
160	M160	N173	N159		Central Beams	Beam	Rectangular	DF	Typical
161	M161	N10	N15		RIGID	None	None	RIGID	Typical
162	M162	N224	N216		Roof sheathing	Beam	Rectangular Double	DF	Typical
163	M163	N216	N223		Roof sheathing	Beam	Rectangular Double	DF	Typical
164	M164	N221	N216		RIGID	None	None	RIGID	Typical
165	M165	N223	N220		Roof sheathing	Beam	Rectangular Double	DF	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
166	M166	N220	N217		Roof sheathing	Beam	Rectangular Double	DF	Typical
167	M167	N222	N215		RIGID	None	None	RIGID	Typical
168	M168	N219	N220		RIGID	None	None	RIGID	Typical
169	M169	N218	N223		RIGID	None	None	RIGID	Typical
170	M170	N234	N226		Roof sheathing	Beam	Rectangular Double	DF	Typical
171	M171	N226	N233		Roof sheathing	Beam	Rectangular Double	DF	Typical
172	M172	N231	N226		RIGID	None	None	RIGID	Typical
173	M173	N233	N230		Roof sheathing	Beam	Rectangular Double	DF	Typical
174	M174	N230	N227		Roof sheathing	Beam	Rectangular Double	DF	Typical
175	M175	N232	N225		RIGID	None	None	RIGID	Typical
176	M176	N229	N230		RIGID	None	None	RIGID	Typical
177	M177	N228	N233		RIGID	None	None	RIGID	Typical
178	M178	N248	N236		Roof sheathing	Beam	Rectangular Double	DF	Typical
179	M179	N236	N244		Roof sheathing	Beam	Rectangular Double	DF	Typical
180	M180	N242	N236		RIGID	None	None	RIGID	Typical
181	M181	N244	N241		Roof sheathing	Beam	Rectangular Double	DF	Typical
182	M182	N241	N237		Roof sheathing	Beam	Rectangular Double	DF	Typical
183	M183	N243	N235		RIGID	None	None	RIGID	Typical
184	M184	N240	N241		RIGID	None	None	RIGID	Typical
185	M185	N249	N238		Roof sheathing	Beam	Rectangular Double	DF	Typical
186	M186	N250	N245		RIGID	None	None	RIGID	Typical
187	M187	N239	N244		RIGID	None	None	RIGID	Typical
188	M188	N238	N247		Roof sheathing	Beam	Rectangular Double	DF	Typical
189	M189	N251	N238		RIGID	None	None	RIGID	Typical
190	M190	N247	N246		Roof sheathing	Beam	Rectangular Double	DF	Typical
191	M191	N246	N252		Roof sheathing	Beam	Rectangular Double	DF	Typical
192	M192	N253	N246		RIGID	None	None	RIGID	Typical
193	M193	N254	N247		RIGID	None	None	RIGID	Typical
194	M194	N279	N256		Roof sheathing	Beam	Rectangular Double	DF	Typical
195	M195	N256	N266		Roof sheathing	Beam	Rectangular Double	DF	Typical
196	M196	N263	N256		RIGID	None	None	RIGID	Typical
197	M197	N266	N262		Roof sheathing	Beam	Rectangular Double	DF	Typical
198	M198	N262	N257		Roof sheathing	Beam	Rectangular Double	DF	Typical
199	M199	N280	N272		RIGID	None	None	RIGID	Typical
200	M200	N265	N255		RIGID	None	None	RIGID	Typical
201	M201	N281	N278		RIGID	None	None	RIGID	Typical
202	M202	N260	N262		RIGID	None	None	RIGID	Typical
203	M203	N282	N258		Roof sheathing	Beam	Rectangular Double	DF	Typical
204	M204	N283	N268		RIGID	None	None	RIGID	Typical
205	M205	N284	N274		RIGID	None	None	RIGID	Typical
206	M206	N285	N286		Roof sheathing	Beam	Rectangular Double	DF	Typical
207	M207	N287	N276		RIGID	None	None	RIGID	Typical
208	M208	N288	N277		RIGID	None	None	RIGID	Typical
209	M209	N289	N269		RIGID	None	None	RIGID	Typical
210	M210	N277	N276		Roof sheathing	Beam	Rectangular Double	DF	Typical
211	M211	N275	N268		Roof sheathing	Beam	Rectangular Double	DF	Typical
212	M212	N259	N266		RIGID	None	None	RIGID	Typical
213	M213	N258	N271		Roof sheathing	Beam	Rectangular Double	DF	Typical
214	M214	N290	N258		RIGID	None	None	RIGID	Typical
215	M215	N271	N270		Roof sheathing	Beam	Rectangular Double	DF	Typical
216	M216	N270	N291		Roof sheathing	Beam	Rectangular Double	DF	Typical
217	M217	N292	N270		RIGID	None	None	RIGID	Typical
218	M218	N293	N271		RIGID	None	None	RIGID	Typical
219	M219	N294	N272		Roof sheathing	Beam	Rectangular Double	DF	Typical
220	M220	N272	N267		Roof sheathing	Beam	Rectangular Double	DF	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
221	M221	N295	N264		RIGID	None	None	RIGID	Typical
222	M222	N267	N264		Roof sheathing	Beam	Rectangular Double	DF	Typical
223	M223	N264	N296		Roof sheathing	Beam	Rectangular Double	DF	Typical
224	M224	N297	N261		RIGID	None	None	RIGID	Typical
225	M225	N298	N267		RIGID	None	None	RIGID	Typical
226	M226	N299	N274		Roof sheathing	Beam	Rectangular Double	DF	Typical
227	M227	N274	N277		Roof sheathing	Beam	Rectangular Double	DF	Typical
228	M228	N276	N300		Roof sheathing	Beam	Rectangular Double	DF	Typical
229	M229	N301	N273		RIGID	None	None	RIGID	Typical
230	M230	N302	N275		Roof sheathing	Beam	Rectangular Double	DF	Typical
231	M231	N303	N275		RIGID	None	None	RIGID	Typical
232	M232	N268	N285		Roof sheathing	Beam	Rectangular Double	DF	Typical
233	M233	N304	N285		RIGID	None	None	RIGID	Typical
234	M234	N329	N306		Roof sheathing	Beam	Rectangular Double	DF	Typical
235	M235	N306	N316		Roof sheathing	Beam	Rectangular Double	DF	Typical
236	M236	N313	N306		RIGID	None	None	RIGID	Typical
237	M237	N316	N312		Roof sheathing	Beam	Rectangular Double	DF	Typical
238	M238	N312	N307		Roof sheathing	Beam	Rectangular Double	DF	Typical
239	M239	N330	N322		RIGID	None	None	RIGID	Typical
240	M240	N315	N305		RIGID	None	None	RIGID	Typical
241	M241	N331	N328		RIGID	None	None	RIGID	Typical
242	M242	N310	N312		RIGID	None	None	RIGID	Typical
243	M243	N332	N308		Roof sheathing	Beam	Rectangular Double	DF	Typical
244	M244	N333	N318		RIGID	None	None	RIGID	Typical
245	M245	N334	N324		RIGID	None	None	RIGID	Typical
246	M246	N335	N336		Roof sheathing	Beam	Rectangular Double	DF	Typical
247	M247	N337	N326		RIGID	None	None	RIGID	Typical
248	M248	N338	N327		RIGID	None	None	RIGID	Typical
249	M249	N339	N319		RIGID	None	None	RIGID	Typical
250	M250	N327	N326		Roof sheathing	Beam	Rectangular Double	DF	Typical
251	M251	N325	N318		Roof sheathing	Beam	Rectangular Double	DF	Typical
252	M252	N309	N316		RIGID	None	None	RIGID	Typical
253	M253	N308	N321		Roof sheathing	Beam	Rectangular Double	DF	Typical
254	M254	N340	N308		RIGID	None	None	RIGID	Typical
255	M255	N321	N320		Roof sheathing	Beam	Rectangular Double	DF	Typical
256	M256	N320	N341		Roof sheathing	Beam	Rectangular Double	DF	Typical
257	M257	N342	N320		RIGID	None	None	RIGID	Typical
258	M258	N343	N321		RIGID	None	None	RIGID	Typical
259	M259	N344	N322		Roof sheathing	Beam	Rectangular Double	DF	Typical
260	M260	N322	N317		Roof sheathing	Beam	Rectangular Double	DF	Typical
261	M261	N345	N314		RIGID	None	None	RIGID	Typical
262	M262	N317	N314		Roof sheathing	Beam	Rectangular Double	DF	Typical
263	M263	N314	N346		Roof sheathing	Beam	Rectangular Double	DF	Typical
264	M264	N347	N311		RIGID	None	None	RIGID	Typical
265	M265	N348	N317		RIGID	None	None	RIGID	Typical
266	M266	N349	N324		Roof sheathing	Beam	Rectangular Double	DF	Typical
267	M267	N324	N327		Roof sheathing	Beam	Rectangular Double	DF	Typical
268	M268	N326	N350		Roof sheathing	Beam	Rectangular Double	DF	Typical
269	M269	N351	N323		RIGID	None	None	RIGID	Typical
270	M270	N352	N325		Roof sheathing	Beam	Rectangular Double	DF	Typical
271	M271	N353	N325		RIGID	None	None	RIGID	Typical
272	M272	N318	N335		Roof sheathing	Beam	Rectangular Double	DF	Typical
273	M273	N354	N335		RIGID	None	None	RIGID	Typical
274	M274	N379	N356		Roof sheathing	Beam	Rectangular Double	DF	Typical
275	M275	N356	N366		Roof sheathing	Beam	Rectangular Double	DF	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
276	M276	N363	N356		RIGID	None	None	RIGID	Typical
277	M277	N366	N362		Roof sheathing	Beam	Rectangular Double	DF	Typical
278	M278	N362	N357		Roof sheathing	Beam	Rectangular Double	DF	Typical
279	M279	N380	N372		RIGID	None	None	RIGID	Typical
280	M280	N365	N355		RIGID	None	None	RIGID	Typical
281	M281	N381	N378		RIGID	None	None	RIGID	Typical
282	M282	N360	N362		RIGID	None	None	RIGID	Typical
283	M283	N382	N358		Roof sheathing	Beam	Rectangular Double	DF	Typical
284	M284	N383	N368		RIGID	None	None	RIGID	Typical
285	M285	N384	N374		RIGID	None	None	RIGID	Typical
286	M286	N385	N386		Roof sheathing	Beam	Rectangular Double	DF	Typical
287	M287	N387	N376		RIGID	None	None	RIGID	Typical
288	M288	N388	N377		RIGID	None	None	RIGID	Typical
289	M289	N389	N369		RIGID	None	None	RIGID	Typical
290	M290	N377	N376		Roof sheathing	Beam	Rectangular Double	DF	Typical
291	M291	N375	N368		Roof sheathing	Beam	Rectangular Double	DF	Typical
292	M292	N359	N366		RIGID	None	None	RIGID	Typical
293	M293	N358	N371		Roof sheathing	Beam	Rectangular Double	DF	Typical
294	M294	N390	N358		RIGID	None	None	RIGID	Typical
295	M295	N371	N370		Roof sheathing	Beam	Rectangular Double	DF	Typical
296	M296	N370	N391		Roof sheathing	Beam	Rectangular Double	DF	Typical
297	M297	N392	N370		RIGID	None	None	RIGID	Typical
298	M298	N393	N371		RIGID	None	None	RIGID	Typical
299	M299	N394	N372		Roof sheathing	Beam	Rectangular Double	DF	Typical
300	M300	N372	N367		Roof sheathing	Beam	Rectangular Double	DF	Typical
301	M301	N395	N364		RIGID	None	None	RIGID	Typical
302	M302	N367	N364		Roof sheathing	Beam	Rectangular Double	DF	Typical
303	M303	N364	N396		Roof sheathing	Beam	Rectangular Double	DF	Typical
304	M304	N397	N361		RIGID	None	None	RIGID	Typical
305	M305	N398	N367		RIGID	None	None	RIGID	Typical
306	M306	N399	N374		Roof sheathing	Beam	Rectangular Double	DF	Typical
307	M307	N374	N377		Roof sheathing	Beam	Rectangular Double	DF	Typical
308	M308	N376	N400		Roof sheathing	Beam	Rectangular Double	DF	Typical
309	M309	N401	N373		RIGID	None	None	RIGID	Typical
310	M310	N402	N375		Roof sheathing	Beam	Rectangular Double	DF	Typical
311	M311	N403	N375		RIGID	None	None	RIGID	Typical
312	M312	N368	N385		Roof sheathing	Beam	Rectangular Double	DF	Typical
313	M313	N404	N385		RIGID	None	None	RIGID	Typical
314	M314	N429	N406		Roof sheathing	Beam	Rectangular Double	DF	Typical
315	M315	N406	N416		Roof sheathing	Beam	Rectangular Double	DF	Typical
316	M316	N413	N406		RIGID	None	None	RIGID	Typical
317	M317	N416	N412		Roof sheathing	Beam	Rectangular Double	DF	Typical
318	M318	N412	N407		Roof sheathing	Beam	Rectangular Double	DF	Typical
319	M319	N430	N422		RIGID	None	None	RIGID	Typical
320	M320	N415	N405		RIGID	None	None	RIGID	Typical
321	M321	N431	N428		RIGID	None	None	RIGID	Typical
322	M322	N410	N412		RIGID	None	None	RIGID	Typical
323	M323	N432	N408		Roof sheathing	Beam	Rectangular Double	DF	Typical
324	M324	N433	N418		RIGID	None	None	RIGID	Typical
325	M325	N434	N424		RIGID	None	None	RIGID	Typical
326	M326	N435	N436		Roof sheathing	Beam	Rectangular Double	DF	Typical
327	M327	N437	N426		RIGID	None	None	RIGID	Typical
328	M328	N438	N427		RIGID	None	None	RIGID	Typical
329	M329	N439	N419		RIGID	None	None	RIGID	Typical
330	M330	N427	N426		Roof sheathing	Beam	Rectangular Double	DF	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
331	M331	N425	N418		Roof sheathing	Beam	Rectangular Double	DF	Typical
332	M332	N409	N416		RIGID	None	None	RIGID	Typical
333	M333	N408	N421		Roof sheathing	Beam	Rectangular Double	DF	Typical
334	M334	N440	N408		RIGID	None	None	RIGID	Typical
335	M335	N421	N420		Roof sheathing	Beam	Rectangular Double	DF	Typical
336	M336	N420	N441		Roof sheathing	Beam	Rectangular Double	DF	Typical
337	M337	N442	N420		RIGID	None	None	RIGID	Typical
338	M338	N443	N421		RIGID	None	None	RIGID	Typical
339	M339	N444	N422		Roof sheathing	Beam	Rectangular Double	DF	Typical
340	M340	N422	N417		Roof sheathing	Beam	Rectangular Double	DF	Typical
341	M341	N445	N414		RIGID	None	None	RIGID	Typical
342	M342	N417	N414		Roof sheathing	Beam	Rectangular Double	DF	Typical
343	M343	N414	N446		Roof sheathing	Beam	Rectangular Double	DF	Typical
344	M344	N447	N411		RIGID	None	None	RIGID	Typical
345	M345	N448	N417		RIGID	None	None	RIGID	Typical
346	M346	N449	N424		Roof sheathing	Beam	Rectangular Double	DF	Typical
347	M347	N424	N427		Roof sheathing	Beam	Rectangular Double	DF	Typical
348	M348	N426	N450		Roof sheathing	Beam	Rectangular Double	DF	Typical
349	M349	N451	N423		RIGID	None	None	RIGID	Typical
350	M350	N452	N425		Roof sheathing	Beam	Rectangular Double	DF	Typical
351	M351	N453	N425		RIGID	None	None	RIGID	Typical
352	M352	N418	N435		Roof sheathing	Beam	Rectangular Double	DF	Typical
353	M353	N454	N435		RIGID	None	None	RIGID	Typical
354	M354	N470	N456		Roof sheathing	Beam	Rectangular Double	DF	Typical
355	M355	N456	N465		Roof sheathing	Beam	Rectangular Double	DF	Typical
356	M356	N463	N456		RIGID	None	None	RIGID	Typical
357	M357	N465	N462		Roof sheathing	Beam	Rectangular Double	DF	Typical
358	M358	N462	N457		Roof sheathing	Beam	Rectangular Double	DF	Typical
359	M359	N471	N2		RIGID	None	None	RIGID	Typical
360	M360	N464	N455		RIGID	None	None	RIGID	Typical
361	M361	N460	N462		RIGID	None	None	RIGID	Typical
362	M362	N472	N458		Roof sheathing	Beam	Rectangular Double	DF	Typical
363	M363	N473	N467		RIGID	None	None	RIGID	Typical
364	M364	N459	N465		RIGID	None	None	RIGID	Typical
365	M365	N458	N469		Roof sheathing	Beam	Rectangular Double	DF	Typical
366	M366	N474	N458		RIGID	None	None	RIGID	Typical
367	M367	N469	N468		Roof sheathing	Beam	Rectangular Double	DF	Typical
368	M368	N468	N475		Roof sheathing	Beam	Rectangular Double	DF	Typical
369	M369	N476	N468		RIGID	None	None	RIGID	Typical
370	M370	N477	N469		RIGID	None	None	RIGID	Typical
371	M371	N478	N2		Roof sheathing	Beam	Rectangular Double	DF	Typical
372	M372	N2	N466		Roof sheathing	Beam	Rectangular Double	DF	Typical
373	M373	N479	N4		RIGID	None	None	RIGID	Typical
374	M374	N466	N4		Roof sheathing	Beam	Rectangular Double	DF	Typical
375	M375	N4	N480		Roof sheathing	Beam	Rectangular Double	DF	Typical
376	M376	N481	N461		RIGID	None	None	RIGID	Typical
377	M377	N482	N466		RIGID	None	None	RIGID	Typical
378	M378	N483	N484		RIGID	None	None	RIGID	Typical
379	M379	N127	N485		RIGID	None	None	RIGID	Typical
380	M380	N486	N487		RIGID	None	None	RIGID	Typical
381	M381	N488	N493		RIGID	None	None	RIGID	Typical
382	M382	N491	N490		RIGID	None	None	RIGID	Typical
383	M383	N497	N500		RIGID	None	None	RIGID	Typical
384	M384	N495	N496		RIGID	None	None	RIGID	Typical
385	M385	N502	N501		RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
386	M386	N507	N513		RIGID	None	None	RIGID	Typical
387	M387	N505	N506		RIGID	None	None	RIGID	Typical
388	M388	N508	N518		RIGID	None	None	RIGID	Typical
389	M389	N515	N514		RIGID	None	None	RIGID	Typical
390	M390	N516	N509		RIGID	None	None	RIGID	Typical
391	M391	N510	N503		RIGID	None	None	RIGID	Typical
392	M392	N544	N551		RIGID	None	None	RIGID	Typical
393	M393	N543	N519		RIGID	None	None	RIGID	Typical
394	M394	N525	N535		RIGID	None	None	RIGID	Typical
395	M395	N521	N552		RIGID	None	None	RIGID	Typical
396	M396	N523	N524		RIGID	None	None	RIGID	Typical
397	M397	N526	N541		RIGID	None	None	RIGID	Typical
398	M398	N537	N536		RIGID	None	None	RIGID	Typical
399	M399	N538	N539		RIGID	None	None	RIGID	Typical
400	M400	N531	N530		RIGID	None	None	RIGID	Typical
401	M401	N545	N529		RIGID	None	None	RIGID	Typical
402	M402	N532	N553		RIGID	None	None	RIGID	Typical
403	M403	N548	N547		RIGID	None	None	RIGID	Typical
404	M404	N557	N562		RIGID	None	None	RIGID	Typical
405	M405	N559	N555		RIGID	None	None	RIGID	Typical
406	M406	N556	N561		RIGID	None	None	RIGID	Typical
407	M407	N566	N571		RIGID	None	None	RIGID	Typical
408	M408	N568	N564		RIGID	None	None	RIGID	Typical
409	M409	N565	N570		RIGID	None	None	RIGID	Typical
410	M410	N574	N575		RIGID	None	None	RIGID	Typical
411	M411	N576	N577		RIGID	None	None	RIGID	Typical
412	M412	N491	N576	270	Reinforcing Channel	Beam	Channel	A36 Gr.36	Typical
413	M413	N623	N629		RIGID	None	None	RIGID	Typical
414	M414	N635	N655		RIGID	None	None	RIGID	Typical
415	M415	N642	N641		RIGID	None	None	RIGID	Typical
416	M416	N622	N578		RIGID	None	None	RIGID	Typical
417	M417	N666	N614		RIGID	None	None	RIGID	Typical
418	M418	N667	N668		RIGID	None	None	RIGID	Typical
419	M419	N584	N595		RIGID	None	None	RIGID	Typical
420	M420	N634	N579		RIGID	None	None	RIGID	Typical
421	M421	N647	N646		RIGID	None	None	RIGID	Typical
422	M422	N643	N656		RIGID	None	None	RIGID	Typical
423	M423	N585	N630		RIGID	None	None	RIGID	Typical
424	M424	N588	N669	270	Reinforcing Channel	Beam	Channel	A36 Gr.36	Typical
425	M425	N588	N593		RIGID	None	None	RIGID	Typical
426	M426	N597	N620		RIGID	None	None	RIGID	Typical
427	M427	N669	N591		RIGID	None	None	RIGID	Typical
428	M428	N658	N664		RIGID	None	None	RIGID	Typical
429	M429	N582	N632		RIGID	None	None	RIGID	Typical
430	M430	N670	N612		RIGID	None	None	RIGID	Typical
431	M431	N616	N615		RIGID	None	None	RIGID	Typical
432	M432	N617	N618		RIGID	None	None	RIGID	Typical
433	M433	N608	N606		RIGID	None	None	RIGID	Typical
434	M434	N624	N604		RIGID	None	None	RIGID	Typical
435	M435	N609	N625		RIGID	None	None	RIGID	Typical
436	M436	N626	N621		RIGID	None	None	RIGID	Typical
437	M437	N589	N586		RIGID	None	None	RIGID	Typical
438	M438	N600	N605		RIGID	None	None	RIGID	Typical
439	M439	N637	N638		RIGID	None	None	RIGID	Typical
440	M440	N639	N583		RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
441	M441	N650	N580		RIGID	None	None	RIGID	Typical
442	M442	N596	N652		RIGID	None	None	RIGID	Typical
443	M443	N603	N594		RIGID	None	None	RIGID	Typical
444	M444	N659	N592		RIGID	None	None	RIGID	Typical
445	M445	N607	N610		RIGID	None	None	RIGID	Typical
446	M446	N599	N663		RIGID	None	None	RIGID	Typical
447	M447	N171	N613		RIGID	None	None	RIGID	Typical
448	M448	N692	N694	323	Frame Beams	Beam	Tube	A500 Gr.B RECT	Typical
449	M449	N691	N695	180	Bottom Plates	Beam	RECT	A36 Gr.36	Typical
450	M450	N693	N696	180	Bottom Plates	Beam	RECT	A36 Gr.36	Typical
451	M451	N701	N702	180	Bottom Plates	Beam	RECT	A36 Gr.36	Typical
452	M452	N698	N699	180	Bottom Plates	Beam	RECT	A36 Gr.36	Typical
453	M453	N703	N700	323	Frame Beams	Beam	Tube	A500 Gr.B RECT	Typical
454	M454	N485	N518	90	Reinforcing Channel	Beam	Channel	A36 Gr.36	Typical
455	M455	N535	N577	90	Reinforcing Channel	Beam	Channel	A36 Gr.36	Typical
456	M456	N605	N591	90	Reinforcing Channel	Beam	Channel	A36 Gr.36	Typical
457	M457	N613	N604	90	Reinforcing Channel	Beam	Channel	A36 Gr.36	Typical
458	M458	N706	N707		RIGID	None	None	RIGID	Typical
459	M459	N709	N710		RIGID	None	None	RIGID	Typical
460	M460	N710	N711		Leg Plates	Beam	RECT	A36 Gr.36	Typical
461	M461	N707	N708		Leg Plates	Beam	RECT	A36 Gr.36	Typical
462	M462	N713	N714		RIGID	None	None	RIGID	Typical
463	M463	N715	N716		Leg Plates	Beam	RECT	A36 Gr.36	Typical
464	M464	N726	N720		RIGID	None	None	RIGID	Typical
465	M465	N719	N725		Leg Plates	Beam	RECT	A36 Gr.36	Typical
466	M466	N723	N724		Leg Plates	Beam	RECT	A36 Gr.36	Typical
467	M467	N718	N719		RIGID	None	None	RIGID	Typical
468	M468	N721	N723		RIGID	None	None	RIGID	Typical
469	M469	N722	N727		Leg Plates	Beam	RECT	A36 Gr.36	Typical
470	M470	N742	N736		RIGID	None	None	RIGID	Typical
471	M471	N734	N741		Leg Plates	Beam	RECT	A36 Gr.36	Typical
472	M472	N739	N740		Leg Plates	Beam	RECT	A36 Gr.36	Typical
473	M473	N731	N735		Leg Plates	Beam	RECT	A36 Gr.36	Typical
474	M474	N729	N749		Leg Plates	Beam	RECT	A36 Gr.36	Typical
475	M475	N733	N734		RIGID	None	None	RIGID	Typical
476	M476	N737	N739		RIGID	None	None	RIGID	Typical
477	M477	N728	N746		RIGID	None	None	RIGID	Typical
478	M478	N738	N743		Leg Plates	Beam	RECT	A36 Gr.36	Typical
479	M479	N748	N745		RIGID	None	None	RIGID	Typical
480	M480	N746	N747		Leg Plates	Beam	RECT	A36 Gr.36	Typical
481	M481	N744	N731		RIGID	None	None	RIGID	Typical
482	M482	N714	N712		RIGID	None	None	RIGID	Typical
483	M483	N736	N732		RIGID	None	None	RIGID	Typical
484	M484	N745	N730		RIGID	None	None	RIGID	Typical
485	M485	N720	N717		RIGID	None	None	RIGID	Typical
486	M486	N716	N750		Legs	Beam	Tube	A500 Gr.B RECT	Typical
487	M487	N727	N751		Legs	Beam	Tube	A500 Gr.B RECT	Typical
488	M488	N743	N752		Legs	Beam	Tube	A500 Gr.B RECT	Typical
489	M489	N749	N753		Legs	Beam	Tube	A500 Gr.B RECT	Typical
490	M490	N754	N755	180	Horizontal Angles	Beam	Single Angle	A36 Gr.36	Typical
491	M491	N755	N757	180	Horizontal Angles	Beam	Single Angle	A36 Gr.36	Typical
492	M492	N757	N756	180	Horizontal Angles	Beam	Single Angle	A36 Gr.36	Typical
493	M493	N756	N754	180	Horizontal Angles	Beam	Single Angle	A36 Gr.36	Typical
494	M494	N758	N759	180	Horizontal Angles	Beam	Single Angle	A36 Gr.36	Typical
495	M495	N760	N761	180	Horizontal Angles	Beam	Single Angle	A36 Gr.36	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
496	M496	N759	N754		Horizontal Angles	Beam	Single Angle	A36 Gr.36	Typical
497	M497	N755	N758		Horizontal Angles	Beam	Single Angle	A36 Gr.36	Typical
498	M498	N761	N758		Horizontal Angles	Beam	Single Angle	A36 Gr.36	Typical
499	M499	N759	N760		Horizontal Angles	Beam	Single Angle	A36 Gr.36	Typical
500	M500	N763	N764	180	Horizontal Angles	Beam	Single Angle	A36 Gr.36	Typical
501	M501	N764	N765	180	Horizontal Angles	Beam	Single Angle	A36 Gr.36	Typical
502	M502	N765	N762	180	Horizontal Angles	Beam	Single Angle	A36 Gr.36	Typical
503	M503	N767	N756		Diagonal Angles	HBrace	Single Angle	A36 Gr.36	Typical
504	M504	N767	N754		Diagonal Angles	HBrace	Single Angle	A36 Gr.36	Typical
505	M505	N766	N755		Diagonal Angles	HBrace	Single Angle	A36 Gr.36	Typical
506	M506	N766	N757		Diagonal Angles	HBrace	Single Angle	A36 Gr.36	Typical
507	M507	N768	N771		Diagonal Angles	HBrace	Single Angle	A36 Gr.36	Typical
508	M508	N769	N770		Diagonal Angles	HBrace	Single Angle	A36 Gr.36	Typical
509	M509	N751	N753		Platform Beams	Beam	Wide Flange	A992	Typical
510	M510	N753	N752		Platform Beams	Beam	Wide Flange	A992	Typical
511	M511	N751	N750		Platform Beams	Beam	Wide Flange	A992	Typical
512	M512	N750	N752		Platform Beams	Beam	Wide Flange	A992	Typical
513	M513	N772	N773		Platform Beams	Beam	Wide Flange	A992	Typical
514	M514	N774	N775		Platform Beams	Beam	Wide Flange	A992	Typical
515	M515	N776	N777		Platform Beams	Beam	Wide Flange	A992	Typical
516	M516	N778	N779		Platform Beams	Beam	Wide Flange	A992	Typical
517	M517	N776	N779		RIGID	None	None	RIGID	Typical
518	M518	N777	N778		RIGID	None	None	RIGID	Typical
519	M519	N784	N783		RIGID	None	None	RIGID	Typical
520	M520	N786	N785		RIGID	None	None	RIGID	Typical
521	M521	N787	N788		RIGID	None	None	RIGID	Typical
522	M522	N789	N790		RIGID	None	None	RIGID	Typical
523	M523	N793	N794		RIGID	None	None	RIGID	Typical
524	M524	N791	N792		RIGID	None	None	RIGID	Typical
525	M525	N804	N797		RIGID	None	None	RIGID	Typical
526	M526	N796	N798		RIGID	None	None	RIGID	Typical
527	M527	N805	N806		RIGID	None	None	RIGID	Typical
528	M528	N801	N802		RIGID	None	None	RIGID	Typical
529	M529	N799	N800		RIGID	None	None	RIGID	Typical
530	M530	N803	N795		RIGID	None	None	RIGID	Typical
531	M531	N826	N812		RIGID	None	None	RIGID	Typical
532	M532	N822	N810		RIGID	None	None	RIGID	Typical
533	M533	N809	N811		RIGID	None	None	RIGID	Typical
534	M534	N829	N830		RIGID	None	None	RIGID	Typical
535	M535	N819	N820		RIGID	None	None	RIGID	Typical
536	M536	N817	N825		RIGID	None	None	RIGID	Typical
537	M537	N813	N818		RIGID	None	None	RIGID	Typical
538	M538	N821	N808		RIGID	None	None	RIGID	Typical
539	M539	N815	N807		RIGID	None	None	RIGID	Typical
540	M540	N823	N814		RIGID	None	None	RIGID	Typical
541	M541	N827	N828		RIGID	None	None	RIGID	Typical
542	M542	N816	N824		RIGID	None	None	RIGID	Typical
543	M543	N834	N832		RIGID	None	None	RIGID	Typical
544	M544	N831	N833		RIGID	None	None	RIGID	Typical
545	M545	N836	N835		RIGID	None	None	RIGID	Typical
546	M546	N782	N1		RIGID	None	None	RIGID	Typical
547	M547	N83	N203		Central Beams	Beam	Rectangular	DF	Typical
548	M548	N842	N841	90	TWR LEG T1	Column	None	A572-50	Typical
549	M549	N844	N843	90	TWR LEG T1	Column	None	A572-50	Typical
550	M550	N846	N845	90	TWR LEG T1	Column	None	A572-50	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
551	M551	N847	N848		TWR TOP GIRT T1	Beam	None	A36	Typical
552	M552	N848	N849		TWR TOP GIRT T1	Beam	None	A36	Typical
553	M553	N849	N847		TWR TOP GIRT T1	Beam	None	A36	Typical
554	M554	N850	N851		TWR BOT GIRT T1	Beam	None	A36	Typical
555	M555	N851	N852		TWR BOT GIRT T1	Beam	None	A36	Typical
556	M556	N852	N850		TWR BOT GIRT T1	Beam	None	A36	Typical
557	M557	N850	N853		TWR DIAG T1	Column	None	A36	Typical
558	M558	N851	N854		TWR DIAG T1	Column	None	A36	Typical
559	M559	N852	N855		TWR DIAG T1	Column	None	A36	Typical
560	M560	N856	N857		TWR STEP T1	Beam	None	A36	Typical
561	M561	N855	N853		TWR HORZ T1	Beam	None	A36	Typical
562	M562	N853	N854		TWR HORZ T1	Beam	None	A36	Typical
563	M563	N854	N855		TWR HORZ T1	Beam	None	A36	Typical
564	M564	N853	N858		TWR DIAG T1	Column	None	A36	Typical
565	M565	N854	N859		TWR DIAG T1	Column	None	A36	Typical
566	M566	N855	N860		TWR DIAG T1	Column	None	A36	Typical
567	M567	N861	N862		TWR STEP T1	Beam	None	A36	Typical
568	M568	N858	N859		TWR_PULLOFFTOP_T1_1	Beam	None	A36	Typical
569	M569	N859	N860		TWR_PULLOFFTOP_T1_1	Beam	None	A36	Typical
570	M570	N860	N858		TWR_PULLOFFTOP_T1_1	Beam	None	A36	Typical
571	M571	N858	N863		TWR DIAG T1	Column	None	A36	Typical
572	M572	N859	N864		TWR DIAG T1	Column	None	A36	Typical
573	M573	N860	N865		TWR DIAG T1	Column	None	A36	Typical
574	M574	N866	N867		TWR STEP T1	Beam	None	A36	Typical
575	M575	N865	N863		TWR HORZ T1	Beam	None	A36	Typical
576	M576	N863	N864		TWR HORZ T1	Beam	None	A36	Typical
577	M577	N864	N865		TWR HORZ T1	Beam	None	A36	Typical
578	M578	N863	N847		TWR DIAG T1	Column	None	A36	Typical
579	M579	N864	N848		TWR DIAG T1	Column	None	A36	Typical
580	M580	N865	N849		TWR DIAG T1	Column	None	A36	Typical
581	M581	N868	N869		TWR STEP T1	Beam	None	A36	Typical
582	M582	N870	N842	90	TWR LEG T2	Column	None	A572-50	Typical
583	M583	N871	N844	90	TWR LEG T2	Column	None	A572-50	Typical
584	M584	N872	N846	90	TWR LEG T2	Column	None	A572-50	Typical
585	M585	N873	N874		TWR TOP GIRT T2	Beam	None	A36	Typical
586	M586	N874	N875		TWR TOP GIRT T2	Beam	None	A36	Typical
587	M587	N875	N873		TWR TOP GIRT T2	Beam	None	A36	Typical
588	M588	N876	N877		TWR BOT GIRT T2	Beam	None	A36	Typical
589	M589	N877	N878		TWR BOT GIRT T2	Beam	None	A36	Typical
590	M590	N878	N876		TWR BOT GIRT T2	Beam	None	A36	Typical
591	M591	N876	N879		TWR DIAG T2 1	Column	None	A36	Typical
592	M592	N877	N880		TWR DIAG T2 1	Column	None	A36	Typical
593	M593	N878	N881		TWR DIAG T2 1	Column	None	A36	Typical
594	M594	N882	N883		TWR STEP T2	Beam	None	A36	Typical
595	M595	N881	N879		TWR HORZ T2	Beam	None	A36	Typical
596	M596	N879	N880		TWR HORZ T2	Beam	None	A36	Typical
597	M597	N880	N881		TWR HORZ T2	Beam	None	A36	Typical
598	M598	N879	N884		TWR DIAG T2 1	Column	None	A36	Typical
599	M599	N880	N885		TWR DIAG T2 1	Column	None	A36	Typical
600	M600	N881	N886		TWR DIAG T2 1	Column	None	A36	Typical
601	M601	N887	N888		TWR STEP T2	Beam	None	A36	Typical
602	M602	N884	N885		TWR HORZ T2	Beam	None	A36	Typical
603	M603	N885	N886		TWR HORZ T2	Beam	None	A36	Typical
604	M604	N886	N884		TWR HORZ T2	Beam	None	A36	Typical
605	M605	N884	N889		TWR DIAG T2 1	Column	None	A36	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
606	M606	N885	N890		TWR DIAG T2 1	Column	None	A36	Typical
607	M607	N886	N891		TWR DIAG T2 1	Column	None	A36	Typical
608	M608	N892	N893		TWR STEP T2	Beam	None	A36	Typical
609	M609	N891	N889		TWR HORZ T2	Beam	None	A36	Typical
610	M610	N889	N890		TWR HORZ T2	Beam	None	A36	Typical
611	M611	N890	N891		TWR HORZ T2	Beam	None	A36	Typical
612	M612	N889	N873		TWR DIAG T2 1	Column	None	A36	Typical
613	M613	N890	N874		TWR DIAG T2 1	Column	None	A36	Typical
614	M614	N891	N875		TWR DIAG T2 1	Column	None	A36	Typical
615	M615	N894	N895		TWR STEP T2	Beam	None	A36	Typical
616	M616	N896	N870	90	TWR LEG T3	Column	None	A572-50	Typical
617	M617	N897	N871	90	TWR LEG T3	Column	None	A572-50	Typical
618	M618	N898	N872	90	TWR LEG T3	Column	None	A572-50	Typical
619	M619	N899	N900		TWR TOP GIRT T3	Beam	None	A36	Typical
620	M620	N900	N901		TWR TOP GIRT T3	Beam	None	A36	Typical
621	M621	N901	N899		TWR TOP GIRT T3	Beam	None	A36	Typical
622	M622	N902	N903		TWR BOT GIRT T3	Beam	None	A36	Typical
623	M623	N903	N904		TWR BOT GIRT T3	Beam	None	A36	Typical
624	M624	N904	N902		TWR BOT GIRT T3	Beam	None	A36	Typical
625	M625	N902	N905		TWR DIAG T3	Column	None	A36	Typical
626	M626	N903	N906		TWR DIAG T3	Column	None	A36	Typical
627	M627	N904	N907		TWR DIAG T3	Column	None	A36	Typical
628	M628	N908	N909		TWR STEP T3	Beam	None	A36	Typical
629	M629	N907	N905		TWR HORZ T3	Beam	None	A36	Typical
630	M630	N905	N906		TWR HORZ T3	Beam	None	A36	Typical
631	M631	N906	N907		TWR HORZ T3	Beam	None	A36	Typical
632	M632	N905	N910		TWR DIAG T3	Column	None	A36	Typical
633	M633	N906	N911		TWR DIAG T3	Column	None	A36	Typical
634	M634	N907	N912		TWR DIAG T3	Column	None	A36	Typical
635	M635	N913	N914		TWR STEP T3	Beam	None	A36	Typical
636	M636	N910	N911		TWR HORZ T3	Beam	None	A36	Typical
637	M637	N911	N912		TWR HORZ T3	Beam	None	A36	Typical
638	M638	N912	N910		TWR HORZ T3	Beam	None	A36	Typical
639	M639	N910	N915		TWR DIAG T3	Column	None	A36	Typical
640	M640	N911	N916		TWR DIAG T3	Column	None	A36	Typical
641	M641	N912	N917		TWR DIAG T3	Column	None	A36	Typical
642	M642	N918	N919		TWR STEP T3	Beam	None	A36	Typical
643	M643	N917	N915		TWR HORZ T3	Beam	None	A36	Typical
644	M644	N915	N916		TWR HORZ T3	Beam	None	A36	Typical
645	M645	N916	N917		TWR HORZ T3	Beam	None	A36	Typical
646	M646	N915	N920		TWR DIAG T3	Column	None	A36	Typical
647	M647	N916	N921		TWR DIAG T3	Column	None	A36	Typical
648	M648	N917	N922		TWR DIAG T3	Column	None	A36	Typical
649	M649	N923	N924		TWR STEP T3	Beam	None	A36	Typical
650	M650	N920	N921		TWR HORZ T3	Beam	None	A36	Typical
651	M651	N921	N922		TWR HORZ T3	Beam	None	A36	Typical
652	M652	N922	N920		TWR HORZ T3	Beam	None	A36	Typical
653	M653	N920	N925		TWR DIAG T3	Column	None	A36	Typical
654	M654	N921	N926		TWR DIAG T3	Column	None	A36	Typical
655	M655	N922	N927		TWR DIAG T3	Column	None	A36	Typical
656	M656	N928	N929		TWR STEP T3	Beam	None	A36	Typical
657	M657	N927	N925		TWR HORZ T3	Beam	None	A36	Typical
658	M658	N925	N926		TWR HORZ T3	Beam	None	A36	Typical
659	M659	N926	N927		TWR HORZ T3	Beam	None	A36	Typical
660	M660	N925	N899		TWR DIAG T3	Column	None	A36	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
661	M661	N926	N900		TWR DIAG T3	Column	None	A36	Typical
662	M662	N927	N901		TWR DIAG T3	Column	None	A36	Typical
663	M663	N930	N931		TWR STEP T3	Beam	None	A36	Typical
664	M664	N1	N896		TWR LEG T4	Column	None	A572-50	Typical
665	M665	N1	N897		TWR LEG T4	Column	None	A572-50	Typical
666	M666	N1	N898		TWR LEG T4	Column	None	A572-50	Typical
667	M667	N932	N933		TWR TOP GIRT T4	Beam	None	A36	Typical
668	M668	N933	N934		TWR TOP GIRT T4	Beam	None	A36	Typical
669	M669	N934	N932		TWR TOP GIRT T4	Beam	None	A36	Typical
670	M670	N935	N936	6.587	TWR BOT GIRT T4	Beam	None	A36	Typical
671	M671	N936	N937	6.587	TWR BOT GIRT T4	Beam	None	A36	Typical
672	M672	N937	N935	6.587	TWR BOT GIRT T4	Beam	None	A36	Typical
673	M673	N936	N938		TWR DIAG T4	Column	None	A36	Typical
674	M674	N937	N939		TWR DIAG T4	Column	None	A36	Typical
675	M675	N935	N940		TWR DIAG T4	Column	None	A36	Typical
676	M676	N938	N939		TWR HORZ T4	Beam	None	A36	Typical
677	M677	N939	N940		TWR HORZ T4	Beam	None	A36	Typical
678	M678	N940	N938		TWR HORZ T4	Beam	None	A36	Typical
679	M679	N938	N941		TWR DIAG T4	Column	None	A36	Typical
680	M680	N939	N942		TWR DIAG T4	Column	None	A36	Typical
681	M681	N940	N943		TWR DIAG T4	Column	None	A36	Typical
682	M682	N943	N941		TWR HORZ T4	Beam	None	A36	Typical
683	M683	N941	N942		TWR HORZ T4	Beam	None	A36	Typical
684	M684	N942	N943		TWR HORZ T4	Beam	None	A36	Typical
685	M685	N941	N932		TWR DIAG T4	Column	None	A36	Typical
686	M686	N942	N933		TWR DIAG T4	Column	None	A36	Typical
687	M687	N943	N934		TWR DIAG T4	Column	None	A36	Typical
688	M688	N3	N858		TWR GUYC T1	Beam	None	EHS Cable Gen	Typical
689	M689	N4	N859		TWR GUYB T1	Beam	None	EHS Cable Gen	Typical
690	M690	N2	N860		TWR GUYA T1	Beam	None	EHS Cable Gen	Typical
691	M691	N5	N860		TWR GUYA T1	Beam	None	EHS Cable Gen	Typical

Hot Rolled Steel Properties

	Label	E [psi]	G [psi]	Nu	Therm. Coeff. [1e ⁻⁵ F ⁻¹]	Density [k/ft ³]	Yield [ksi]	Ry	Fu [ksi]	Rt
1	A572-50	2.9e+7	1.12e+7	0.295	0.65	0.49	50	1.1	58	1.2
2	A36	2.9e+7	1.12e+7	0.295	0.65	0.49	36	1.5	58	1.2
3	A992	2.9e+7	1.115e+7	0.3	0.65	0.49	50	1.1	65	1.1
4	A36 Gr.36	2.9e+7	1.115e+7	0.3	0.65	0.49	36	1.5	58	1.2
5	A572 Gr.50	2.9e+7	1.115e+7	0.3	0.65	0.49	50	1.1	65	1.1
6	A500 Gr.B RND	2.9e+7	1.115e+7	0.3	0.65	0.527	42	1.4	58	1.3
7	A500 Gr.B RECT	2.9e+7	1.115e+7	0.3	0.65	0.527	46	1.4	58	1.3
8	A500 Gr.C RND	2.9e+7	1.115e+7	0.3	0.65	0.527	46	1.4	62	1.3
9	A500 Gr.C RECT	2.9e+7	1.115e+7	0.3	0.65	0.527	50	1.4	62	1.3
10	A53 Gr.B	2.9e+7	1.115e+7	0.3	0.65	0.49	35	1.6	60	1.2
11	A1085	2.9e+7	1.115e+7	0.3	0.65	0.49	50	1.4	65	1.3
12	A913 Gr.65	2.9e+7	1.115e+7	0.3	0.65	0.49	65	1.1	80	1.1

Wood Properties

	Label	Type	Database	Species	Grade	Cm	Ci	Emod	Nu	Therm. Coeff. [1e ⁻⁵ F ⁻¹]	Density [k/ft ³]
1	DF	Solid Sawn	Visually Graded	Douglas Fir-Larch	No.1			1	0.3	0.3	0.035
2	SP	Solid Sawn	Visually Graded	Southern Pine	No.1			1	0.3	0.3	0.035
3	HF	Solid Sawn	Visually Graded	Hem-Fir	No.1			1	0.3	0.3	0.035
4	SPF	Solid Sawn	Visually Graded	Spruce-Pine-fir	No.1			1	0.3	0.3	0.035

Wood Properties (Continued)

	Label	Type	Database	Species	Grade	Cm	Ci	Emod	Nu	Therm. Coeff. [1e ⁻⁶ F ⁻¹]	Density [k/ft ³]
5	24F-1.8E DF Balanced	Glulam	NDS Table 5A	24F-1.8E DF BAL	na			1	0.3	0.3	0.035
6	24F-1.8E DF Unbalanced	Glulam	NDS Table 5A	24F-1.8E DF UNBAL	na			1	0.3	0.3	0.035
7	24F-1.8E SP Balanced	Glulam	NDS Table 5A	24F-1.8E SP BAL	na			1	0.3	0.3	0.035
8	24F-1.8E SP Unbalanced	Glulam	NDS Table 5A	24F-1.8E SP UNBAL	na			1	0.3	0.3	0.035
9	1.3E-1600F VERSALAM	SCL	Boise Cascade	1.3E-1600F VERSALAM	na			1	0.3	0.3	0.035
10	1.35E LSL SolidStart	SCL	Louisiana Pacific	1.35E LSL SolidStart	na			1	0.3	0.3	0.035
11	1.4E RIGIDLAM LVL	SCL	Roseburg Forest Products 2023	1.4E RIGIDLAM LVL	na			1	0.3	0.3	0.035
12	2.0E DF Parallam PSL	SCL	TrusJoist	2.0E DF Parallam PSL	na			1	0.3	0.3	0.035
13	LVL PRL 1.5E 2250F	Custom	N/A	LVL PRL 1.5E 2250F	na			1	0.3	0.3	0.035
14	LVL Microlam 1.9E 2600F	Custom	N/A	LVL Microlam 1.9E 2600F	na			1	0.3	0.3	0.035
15	PSL Parallam 2.0E 2900F	Custom	N/A	PSL Parallam 2.0E 2900F	na			1	0.3	0.3	0.035
16	LSL TimberStrand 1.55E 2325F	Custom	N/A	LSL TimberStrand 1.55E 2325F	na			1	0.3	0.3	0.035

Hot Rolled Steel Design Parameters

	Label	Shape	Length [in]	Lb y-y [in]	Lb z-z [in]	Lcomp top [in]	Lcomp bot [in]	L-Torque [in]	K y-y	K z-z	Channel Conn. a [in]	Function
1	M12	Threaded Rods (0.875")	94.34			Lbyy					N/A	N/A Lateral
2	M23	Threaded Rods (0.875")	147.658			Lbyy					N/A	N/A Lateral
3	M24	Plates	50.252			Lbyy					N/A	N/A Lateral
4	M25	Threaded Rods (0.875")	147.941			Lbyy					N/A	N/A Lateral
5	M26	Threaded Rods (0.875")	147.658			Lbyy					N/A	N/A Lateral
6	M27	Plates	50.252			Lbyy					N/A	N/A Lateral
7	M28	Threaded Rods (0.875")	147.941			Lbyy					N/A	N/A Lateral
8	M30	Threaded Rods (0.875")	147.658			Lbyy					N/A	N/A Lateral
9	M34	Threaded Rods (0.875")	147.658			Lbyy					N/A	N/A Lateral
10	M37	Threaded Rods (0.875")	147.941			Lbyy					N/A	N/A Lateral
11	M38	Threaded Rods (0.875")	147.941			Lbyy					N/A	N/A Lateral
12	M39	Plates	50.252			Lbyy					N/A	N/A Lateral
13	M40	Plates	50.252			Lbyy					N/A	N/A Lateral
14	M41	Threaded Rods (1")	176.662			Lbyy					N/A	N/A Lateral
15	M42	Threaded Rods (1")	176.662			Lbyy					N/A	N/A Lateral
16	M49	Threaded Rods (0.875")	147.658			Lbyy					N/A	N/A Lateral
17	M51	Threaded Rods (1")	176.662			Lbyy					N/A	N/A Lateral
18	M53	Plates	50.252			Lbyy					N/A	N/A Lateral
19	M55	Threaded Rods (1")	176.662			Lbyy					N/A	N/A Lateral
20	M59	Threaded Rods (0.875")	147.941			Lbyy					N/A	N/A Lateral
21	M60	Threaded Rods (0.875")	94.34			Lbyy					N/A	N/A Lateral
22	M64	Threaded Rods (0.875")	147.658			Lbyy					N/A	N/A Lateral
23	M67	Threaded Rods (0.875")	147.658			Lbyy					N/A	N/A Lateral
24	M68	Plates	50.252			Lbyy					N/A	N/A Lateral
25	M69	Plates	50.252			Lbyy					N/A	N/A Lateral
26	M73	Plates	50.252			Lbyy					N/A	N/A Lateral
27	M74	Threaded Rods (0.875")	147.658			Lbyy					N/A	N/A Lateral
28	M76	Threaded Rods (0.875")	147.941			Lbyy					N/A	N/A Lateral
29	M77	Threaded Rods (0.875")	147.941			Lbyy					N/A	N/A Lateral
30	M78	Threaded Rods (0.875")	147.941			Lbyy					N/A	N/A Lateral
31	M83	Threaded Rods (0.875")	147.658			Lbyy					N/A	N/A Lateral
32	M85	Threaded Rods (1")	176.662			Lbyy					N/A	N/A Lateral
33	M87	Plates	50.252			Lbyy					N/A	N/A Lateral
34	M89	Threaded Rods (1")	176.662			Lbyy					N/A	N/A Lateral
35	M93	Threaded Rods (0.875")	147.941			Lbyy					N/A	N/A Lateral
36	M94	Threaded Rods (0.875")	94.34			Lbyy					N/A	N/A Lateral
37	M98	Threaded Rods (0.875")	147.658			Lbyy					N/A	N/A Lateral
38	M101	Threaded Rods (0.875")	147.658			Lbyy					N/A	N/A Lateral
39	M102	Plates	50.252			Lbyy					N/A	N/A Lateral
40	M103	Plates	50.252			Lbyy					N/A	N/A Lateral

Hot Rolled Steel Design Parameters (Continued)

Label	Shape	Length [in]	Lb y-y [in]	Lb z-z [in]	Lcomp top [in]	Lcomp bot [in]	L-Torque [in]	K y-y	K z-z	Channel Conn.	a [in]	Function
41 M107	Plates	50.252			Lbyy					N/A	N/A	Lateral
42 M108	Threaded Rods (0.875")	147.658			Lbyy					N/A	N/A	Lateral
43 M110	Threaded Rods (0.875")	147.941			Lbyy					N/A	N/A	Lateral
44 M111	Threaded Rods (0.875")	147.941			Lbyy					N/A	N/A	Lateral
45 M112	Threaded Rods (0.875")	147.941			Lbyy					N/A	N/A	Lateral
46 M117	Threaded Rods (0.875")	147.658			Lbyy					N/A	N/A	Lateral
47 M119	Threaded Rods (1")	176.662			Lbyy					N/A	N/A	Lateral
48 M121	Plates	50.252			Lbyy					N/A	N/A	Lateral
49 M123	Threaded Rods (1")	176.662			Lbyy					N/A	N/A	Lateral
50 M127	Threaded Rods (0.875")	147.941			Lbyy					N/A	N/A	Lateral
51 M128	Threaded Rods (0.875")	94.34			Lbyy					N/A	N/A	Lateral
52 M132	Threaded Rods (0.875")	147.658			Lbyy					N/A	N/A	Lateral
53 M135	Threaded Rods (0.875")	147.658			Lbyy					N/A	N/A	Lateral
54 M136	Plates	50.252			Lbyy					N/A	N/A	Lateral
55 M137	Plates	50.252			Lbyy					N/A	N/A	Lateral
56 M141	Plates	50.252			Lbyy					N/A	N/A	Lateral
57 M142	Threaded Rods (0.875")	147.658			Lbyy					N/A	N/A	Lateral
58 M144	Threaded Rods (0.875")	147.941			Lbyy					N/A	N/A	Lateral
59 M145	Threaded Rods (0.875")	147.941			Lbyy					N/A	N/A	Lateral
60 M146	Threaded Rods (0.875")	147.941			Lbyy					N/A	N/A	Lateral
61 M412	Reinforcing Channel	267.401			Lbyy					N/A	N/A	Lateral
62 M424	Reinforcing Channel	267.401			Lbyy					N/A	N/A	Lateral
63 M448	Frame Beams	140.161			Lbyy					N/A	N/A	Lateral
64 M449	Bottom Plates	10			Lbyy					N/A	N/A	Lateral
65 M450	Bottom Plates	10			Lbyy					N/A	N/A	Lateral
66 M451	Bottom Plates	10			Lbyy					N/A	N/A	Lateral
67 M452	Bottom Plates	10			Lbyy					N/A	N/A	Lateral
68 M453	Frame Beams	140.161			Lbyy					N/A	N/A	Lateral
69 M454	Reinforcing Channel	99			Lbyy					N/A	N/A	Lateral
70 M455	Reinforcing Channel	168.401			Lbyy					N/A	N/A	Lateral
71 M456	Reinforcing Channel	168.401			Lbyy					N/A	N/A	Lateral
72 M457	Reinforcing Channel	99			Lbyy					N/A	N/A	Lateral
73 M460	Leg Plates	10			Lbyy					N/A	N/A	Lateral
74 M461	Leg Plates	10			Lbyy					N/A	N/A	Lateral
75 M463	Leg Plates	7			Lbyy					N/A	N/A	Lateral
76 M465	Leg Plates	10			Lbyy					N/A	N/A	Lateral
77 M466	Leg Plates	10			Lbyy					N/A	N/A	Lateral
78 M469	Leg Plates	7			Lbyy					N/A	N/A	Lateral
79 M471	Leg Plates	10			Lbyy					N/A	N/A	Lateral
80 M472	Leg Plates	10			Lbyy					N/A	N/A	Lateral
81 M473	Leg Plates	10			Lbyy					N/A	N/A	Lateral
82 M474	Leg Plates	7			Lbyy					N/A	N/A	Lateral
83 M478	Leg Plates	7			Lbyy					N/A	N/A	Lateral
84 M480	Leg Plates	10			Lbyy					N/A	N/A	Lateral
85 M486	Legs	149.486			Lbyy					N/A	N/A	Lateral
86 M487	Legs	149.486			Lbyy					N/A	N/A	Lateral
87 M488	Legs	78.422			Lbyy					N/A	N/A	Lateral
88 M489	Legs	78.422			Lbyy					N/A	N/A	Lateral
89 M490	Horizontal Angles	96			Lbyy					N/A	N/A	Lateral
90 M491	Horizontal Angles	92.991			Lbyy					N/A	N/A	Lateral
91 M492	Horizontal Angles	96			Lbyy					N/A	N/A	Lateral
92 M493	Horizontal Angles	92.991			Lbyy					N/A	N/A	Lateral
93 M494	Horizontal Angles	96			Lbyy					N/A	N/A	Lateral
94 M495	Horizontal Angles	96			Lbyy					N/A	N/A	Lateral
95 M496	Horizontal Angles	107.331			Lbyy					N/A	N/A	Lateral

Hot Rolled Steel Design Parameters (Continued)

Label	Shape	Length [in]	Lb y-y [in]	Lb z-z [in]	Lcomp top [in]	Lcomp bot [in]	L-Torque [in]	K y-y	K z-z	Channel Conn. a [in]	Function	
96 M497	Horizontal Angles	107.331			Lbyy					N/A	N/A	Lateral
97 M498	Horizontal Angles	107.331			Lbyy					N/A	N/A	Lateral
98 M499	Horizontal Angles	107.331			Lbyy					N/A	N/A	Lateral
99 M500	Horizontal Angles	92.991			Lbyy					N/A	N/A	Lateral
100 M501	Horizontal Angles	96			Lbyy					N/A	N/A	Lateral
101 M502	Horizontal Angles	92.991			Lbyy					N/A	N/A	Lateral
102 M503	Diagonal Angles	55.334			Lbyy					N/A	N/A	Lateral
103 M504	Diagonal Angles	55.334			Lbyy					N/A	N/A	Lateral
104 M505	Diagonal Angles	55.334			Lbyy					N/A	N/A	Lateral
105 M506	Diagonal Angles	55.334			Lbyy					N/A	N/A	Lateral
106 M507	Diagonal Angles	104.649			Lbyy					N/A	N/A	Lateral
107 M508	Diagonal Angles	104.649			Lbyy					N/A	N/A	Lateral
108 M509	Platform Beams	92.991			Lbyy					N/A	N/A	Lateral
109 M510	Platform Beams	96			Lbyy					N/A	N/A	Lateral
110 M511	Platform Beams	96			Lbyy					N/A	N/A	Lateral
111 M512	Platform Beams	92.991			Lbyy					N/A	N/A	Lateral
112 M513	Platform Beams	96			Lbyy					N/A	N/A	Lateral
113 M514	Platform Beams	96			Lbyy					N/A	N/A	Lateral
114 M515	Platform Beams	24			Lbyy					N/A	N/A	Lateral
115 M516	Platform Beams	24			Lbyy					N/A	N/A	Lateral
116 M548	TWR LEG T1	120	29.5	29.5	29.5	29.5	29.5	1	1	N/A	N/A	Lateral
117 M549	TWR LEG T1	120	14.75	14.75	14.75	14.75	14.75	1	1	N/A	N/A	Lateral
118 M550	TWR LEG T1	120	29.5	29.5	29.5	29.5	29.5	1	1	N/A	N/A	Lateral
119 M551	TWR TOP GIRT T1	24	24	24	24	24	24	0.7	0.7	N/A	N/A	Lateral
120 M552	TWR TOP GIRT T1	24	24	24	24	24	24	0.7	0.7	N/A	N/A	Lateral
121 M553	TWR TOP GIRT T1	24	24	24	24	24	24	0.7	0.7	N/A	N/A	Lateral
122 M554	TWR BOT GIRT T1	24	24	24	24	24	24	0.7	0.7	N/A	N/A	Lateral
123 M555	TWR BOT GIRT T1	24	24	24	24	24	24	0.7	0.7	N/A	N/A	Lateral
124 M556	TWR BOT GIRT T1	24	24	24	24	24	24	0.7	0.7	N/A	N/A	Lateral
125 M557	TWR DIAG T1	38.03	38.03	38.03	38.03	38.03	38.03	0.7	0.7	N/A	N/A	Lateral
126 M558	TWR DIAG T1	38.03	38.03	38.03	38.03	38.03	38.03	0.7	0.7	N/A	N/A	Lateral
127 M559	TWR DIAG T1	38.03	38.03	38.03	38.03	38.03	38.03	0.7	0.7	N/A	N/A	Lateral
128 M560	TWR STEP T1	12	12.004	12.004	12.004	12.004	12.004	1	1	N/A	N/A	Lateral
129 M561	TWR HORZ T1	24	24	24	24	24	24	0.7	0.7	N/A	N/A	Lateral
130 M562	TWR HORZ T1	24	24	24	24	24	24	0.7	0.7	N/A	N/A	Lateral
131 M563	TWR HORZ T1	24	24	24	24	24	24	0.7	0.7	N/A	N/A	Lateral
132 M564	TWR DIAG T1	38.03	38.03	38.03	38.03	38.03	38.03	0.7	0.7	N/A	N/A	Lateral
133 M565	TWR DIAG T1	38.03	38.03	38.03	38.03	38.03	38.03	0.7	0.7	N/A	N/A	Lateral
134 M566	TWR DIAG T1	38.03	38.03	38.03	38.03	38.03	38.03	0.7	0.7	N/A	N/A	Lateral
135 M567	TWR STEP T1	12	12.004	12.004	12.004	12.004	12.004	1	1	N/A	N/A	Lateral
136 M568	TWR PULLOFFTOP T1 1	24	24	24	24	24	24	1	1	N/A	N/A	Lateral
137 M569	TWR PULLOFFTOP T1 1	24	24	24	24	24	24	1	1	N/A	N/A	Lateral
138 M570	TWR PULLOFFTOP T1 1	24	24	24	24	24	24	1	1	N/A	N/A	Lateral
139 M571	TWR DIAG T1	38.03	38.03	38.03	38.03	38.03	38.03	0.7	0.7	N/A	N/A	Lateral
140 M572	TWR DIAG T1	38.03	38.03	38.03	38.03	38.03	38.03	0.7	0.7	N/A	N/A	Lateral
141 M573	TWR DIAG T1	38.03	38.03	38.03	38.03	38.03	38.03	0.7	0.7	N/A	N/A	Lateral
142 M574	TWR STEP T1	12	12.004	12.004	12.004	12.004	12.004	1	1	N/A	N/A	Lateral
143 M575	TWR HORZ T1	24	24	24	24	24	24	0.7	0.7	N/A	N/A	Lateral
144 M576	TWR HORZ T1	24	24	24	24	24	24	0.7	0.7	N/A	N/A	Lateral
145 M577	TWR HORZ T1	24	24	24	24	24	24	0.7	0.7	N/A	N/A	Lateral
146 M578	TWR DIAG T1	38.03	38.03	38.03	38.03	38.03	38.03	0.7	0.7	N/A	N/A	Lateral
147 M579	TWR DIAG T1	38.03	38.03	38.03	38.03	38.03	38.03	0.7	0.7	N/A	N/A	Lateral
148 M580	TWR DIAG T1	38.03	38.03	38.03	38.03	38.03	38.03	0.7	0.7	N/A	N/A	Lateral
149 M581	TWR STEP T1	12	12.004	12.004	12.004	12.004	12.004	1	1	N/A	N/A	Lateral
150 M582	TWR LEG T2	120	29.5	29.5	29.5	29.5	29.5	1	1	N/A	N/A	Lateral

Hot Rolled Steel Design Parameters (Continued)

Label	Shape	Length [in]	Lb y-y [in]	Lb z-z [in]	Lcomp top [in]	Lcomp bot [in]	L-Torque [in]	K y-y	K z-z	Channel Conn.	a [in]	Function
151 M583	TWR LEG T2	120	14.75	14.75	14.75	14.75	14.75	1	1	N/A	N/A	Lateral
152 M584	TWR LEG T2	120	29.5	29.5	29.5	29.5	29.5	1	1	N/A	N/A	Lateral
153 M585	TWR TOP GIRT T2	24	24	24	24	24	24	0.7	0.7	N/A	N/A	Lateral
154 M586	TWR TOP GIRT T2	24	24	24	24	24	24	0.7	0.7	N/A	N/A	Lateral
155 M587	TWR TOP GIRT T2	24	24	24	24	24	24	0.7	0.7	N/A	N/A	Lateral
156 M588	TWR BOT GIRT T2	24	24	24	24	24	24	0.7	0.7	N/A	N/A	Lateral
157 M589	TWR BOT GIRT T2	24	24	24	24	24	24	0.7	0.7	N/A	N/A	Lateral
158 M590	TWR BOT GIRT T2	24	24	24	24	24	24	0.7	0.7	N/A	N/A	Lateral
159 M591	TWR DIAG T2 1	38.03	38.03	38.03	38.03	38.03	38.03	0.7	0.7	N/A	N/A	Lateral
160 M592	TWR DIAG T2 1	38.03	38.03	38.03	38.03	38.03	38.03	0.7	0.7	N/A	N/A	Lateral
161 M593	TWR DIAG T2 1	38.03	38.03	38.03	38.03	38.03	38.03	0.7	0.7	N/A	N/A	Lateral
162 M594	TWR STEP T2	12	12.004	12.004	12.004	12.004	12.004	1	1	N/A	N/A	Lateral
163 M595	TWR HORZ T2	24	24	24	24	24	24	0.7	0.7	N/A	N/A	Lateral
164 M596	TWR HORZ T2	24	24	24	24	24	24	0.7	0.7	N/A	N/A	Lateral
165 M597	TWR HORZ T2	24	24	24	24	24	24	0.7	0.7	N/A	N/A	Lateral
166 M598	TWR DIAG T2 1	38.03	38.03	38.03	38.03	38.03	38.03	0.7	0.7	N/A	N/A	Lateral
167 M599	TWR DIAG T2 1	38.03	38.03	38.03	38.03	38.03	38.03	0.7	0.7	N/A	N/A	Lateral
168 M600	TWR DIAG T2 1	38.03	38.03	38.03	38.03	38.03	38.03	0.7	0.7	N/A	N/A	Lateral
169 M601	TWR STEP T2	12	12.004	12.004	12.004	12.004	12.004	1	1	N/A	N/A	Lateral
170 M602	TWR HORZ T2	24	24	24	24	24	24	0.7	0.7	N/A	N/A	Lateral
171 M603	TWR HORZ T2	24	24	24	24	24	24	0.7	0.7	N/A	N/A	Lateral
172 M604	TWR HORZ T2	24	24	24	24	24	24	0.7	0.7	N/A	N/A	Lateral
173 M605	TWR DIAG T2 1	38.03	38.03	38.03	38.03	38.03	38.03	0.7	0.7	N/A	N/A	Lateral
174 M606	TWR DIAG T2 1	38.03	38.03	38.03	38.03	38.03	38.03	0.7	0.7	N/A	N/A	Lateral
175 M607	TWR DIAG T2 1	38.03	38.03	38.03	38.03	38.03	38.03	0.7	0.7	N/A	N/A	Lateral
176 M608	TWR STEP T2	12	12.004	12.004	12.004	12.004	12.004	1	1	N/A	N/A	Lateral
177 M609	TWR HORZ T2	24	24	24	24	24	24	0.7	0.7	N/A	N/A	Lateral
178 M610	TWR HORZ T2	24	24	24	24	24	24	0.7	0.7	N/A	N/A	Lateral
179 M611	TWR HORZ T2	24	24	24	24	24	24	0.7	0.7	N/A	N/A	Lateral
180 M612	TWR DIAG T2 1	38.03	38.03	38.03	38.03	38.03	38.03	0.7	0.7	N/A	N/A	Lateral
181 M613	TWR DIAG T2 1	38.03	38.03	38.03	38.03	38.03	38.03	0.7	0.7	N/A	N/A	Lateral
182 M614	TWR DIAG T2 1	38.03	38.03	38.03	38.03	38.03	38.03	0.7	0.7	N/A	N/A	Lateral
183 M615	TWR STEP T2	12	12.004	12.004	12.004	12.004	12.004	1	1	N/A	N/A	Lateral
184 M616	TWR LEG T3	180	29.667	29.667	29.667	29.667	29.667	1	1	N/A	N/A	Lateral
185 M617	TWR LEG T3	180	14.833	14.833	14.833	14.833	14.833	1	1	N/A	N/A	Lateral
186 M618	TWR LEG T3	180	29.667	29.667	29.667	29.667	29.667	1	1	N/A	N/A	Lateral
187 M619	TWR TOP GIRT T3	24	24	24	24	24	24	0.7	0.7	N/A	N/A	Lateral
188 M620	TWR TOP GIRT T3	24	24	24	24	24	24	0.7	0.7	N/A	N/A	Lateral
189 M621	TWR TOP GIRT T3	24	24	24	24	24	24	0.7	0.7	N/A	N/A	Lateral
190 M622	TWR BOT GIRT T3	24	24	24	24	24	24	0.7	0.7	N/A	N/A	Lateral
191 M623	TWR BOT GIRT T3	24	24	24	24	24	24	0.7	0.7	N/A	N/A	Lateral
192 M624	TWR BOT GIRT T3	24	24	24	24	24	24	0.7	0.7	N/A	N/A	Lateral
193 M625	TWR DIAG T3	38.159	38.159	38.159	38.159	38.159	38.159	0.7	0.7	N/A	N/A	Lateral
194 M626	TWR DIAG T3	38.159	38.159	38.159	38.159	38.159	38.159	0.7	0.7	N/A	N/A	Lateral
195 M627	TWR DIAG T3	38.159	38.159	38.159	38.159	38.159	38.159	0.7	0.7	N/A	N/A	Lateral
196 M628	TWR STEP T3	12	12.004	12.004	12.004	12.004	12.004	1	1	N/A	N/A	Lateral
197 M629	TWR HORZ T3	24	24	24	24	24	24	0.7	0.7	N/A	N/A	Lateral
198 M630	TWR HORZ T3	24	24	24	24	24	24	0.7	0.7	N/A	N/A	Lateral
199 M631	TWR HORZ T3	24	24	24	24	24	24	0.7	0.7	N/A	N/A	Lateral
200 M632	TWR DIAG T3	38.159	38.159	38.159	38.159	38.159	38.159	0.7	0.7	N/A	N/A	Lateral
201 M633	TWR DIAG T3	38.159	38.159	38.159	38.159	38.159	38.159	0.7	0.7	N/A	N/A	Lateral
202 M634	TWR DIAG T3	38.159	38.159	38.159	38.159	38.159	38.159	0.7	0.7	N/A	N/A	Lateral
203 M635	TWR STEP T3	12	12.004	12.004	12.004	12.004	12.004	1	1	N/A	N/A	Lateral
204 M636	TWR HORZ T3	24	24	24	24	24	24	0.7	0.7	N/A	N/A	Lateral
205 M637	TWR HORZ T3	24	24	24	24	24	24	0.7	0.7	N/A	N/A	Lateral

Hot Rolled Steel Design Parameters (Continued)

Label	Shape	Length [in]	Lb y-y [in]	Lb z-z [in]	Lcomp top [in]	Lcomp bot [in]	L-Torque [in]	K y-y	K z-z	Channel Conn. a [in]	Function
206M638	TWR HORZ T3	24	24	24	24	24	24	0.7	0.7	N/A	Lateral
207M639	TWR DIAG T3	38.159	38.159	38.159	38.159	38.159	38.159	0.7	0.7	N/A	Lateral
208M640	TWR DIAG T3	38.159	38.159	38.159	38.159	38.159	38.159	0.7	0.7	N/A	Lateral
209M641	TWR DIAG T3	38.159	38.159	38.159	38.159	38.159	38.159	0.7	0.7	N/A	Lateral
210M642	TWR STEP T3	12	12.004	12.004	12.004	12.004	12.004	1	1	N/A	Lateral
211M643	TWR HORZ T3	24	24	24	24	24	24	0.7	0.7	N/A	Lateral
212M644	TWR HORZ T3	24	24	24	24	24	24	0.7	0.7	N/A	Lateral
213M645	TWR HORZ T3	24	24	24	24	24	24	0.7	0.7	N/A	Lateral
214M646	TWR DIAG T3	38.159	38.159	38.159	38.159	38.159	38.159	0.7	0.7	N/A	Lateral
215M647	TWR DIAG T3	38.159	38.159	38.159	38.159	38.159	38.159	0.7	0.7	N/A	Lateral
216M648	TWR DIAG T3	38.159	38.159	38.159	38.159	38.159	38.159	0.7	0.7	N/A	Lateral
217M649	TWR STEP T3	12	12.004	12.004	12.004	12.004	12.004	1	1	N/A	Lateral
218M650	TWR HORZ T3	24	24	24	24	24	24	0.7	0.7	N/A	Lateral
219M651	TWR HORZ T3	24	24	24	24	24	24	0.7	0.7	N/A	Lateral
220M652	TWR HORZ T3	24	24	24	24	24	24	0.7	0.7	N/A	Lateral
221M653	TWR DIAG T3	38.159	38.159	38.159	38.159	38.159	38.159	0.7	0.7	N/A	Lateral
222M654	TWR DIAG T3	38.159	38.159	38.159	38.159	38.159	38.159	0.7	0.7	N/A	Lateral
223M655	TWR DIAG T3	38.159	38.159	38.159	38.159	38.159	38.159	0.7	0.7	N/A	Lateral
224M656	TWR STEP T3	12	12.004	12.004	12.004	12.004	12.004	1	1	N/A	Lateral
225M657	TWR HORZ T3	24	24	24	24	24	24	0.7	0.7	N/A	Lateral
226M658	TWR HORZ T3	24	24	24	24	24	24	0.7	0.7	N/A	Lateral
227M659	TWR HORZ T3	24	24	24	24	24	24	0.7	0.7	N/A	Lateral
228M660	TWR DIAG T3	38.159	38.159	38.159	38.159	38.159	38.159	0.7	0.7	N/A	Lateral
229M661	TWR DIAG T3	38.159	38.159	38.159	38.159	38.159	38.159	0.7	0.7	N/A	Lateral
230M662	TWR DIAG T3	38.159	38.159	38.159	38.159	38.159	38.159	0.7	0.7	N/A	Lateral
231M663	TWR STEP T3	12	12.004	12.004	12.004	12.004	12.004	1	1	N/A	Lateral
232M664	TWR LEG T4	61.579	18.132	18.132	18.132	18.132	18.132	1	1	N/A	Lateral
233M665	TWR LEG T4	61.579	18.132	18.132	18.132	18.132	18.132	1	1	N/A	Lateral
234M666	TWR LEG T4	61.579	18.132	18.132	18.132	18.132	18.132	1	1	N/A	Lateral
235M667	TWR TOP GIRT T4	23.6	23.6	23.6	23.6	23.6	23.6	0.7	0.7	N/A	Lateral
236M668	TWR TOP GIRT T4	23.6	23.6	23.6	23.6	23.6	23.6	0.7	0.7	N/A	Lateral
237M669	TWR TOP GIRT T4	23.6	23.6	23.6	23.6	23.6	23.6	0.7	0.7	N/A	Lateral
238M670	TWR BOT GIRT T4	2.4	2.4	2.4	2.4	2.4	2.4	0.7	0.7	N/A	Lateral
239M671	TWR BOT GIRT T4	2.4	2.4	2.4	2.4	2.4	2.4	0.7	0.7	N/A	Lateral
240M672	TWR BOT GIRT T4	2.4	2.4	2.4	2.4	2.4	2.4	0.7	0.7	N/A	Lateral
241M673	TWR DIAG T4	18.748	18.748	18.748	18.748	18.748	18.748	0.7	0.7	N/A	Lateral
242M674	TWR DIAG T4	18.748	18.748	18.748	18.748	18.748	18.748	0.7	0.7	N/A	Lateral
243M675	TWR DIAG T4	18.748	18.748	18.748	18.748	18.748	18.748	0.7	0.7	N/A	Lateral
244M676	TWR HORZ T4	9.467	9.467	9.467	9.467	9.467	9.467	0.7	0.7	N/A	Lateral
245M677	TWR HORZ T4	9.467	9.467	9.467	9.467	9.467	9.467	0.7	0.7	N/A	Lateral
246M678	TWR HORZ T4	9.467	9.467	9.467	9.467	9.467	9.467	0.7	0.7	N/A	Lateral
247M679	TWR DIAG T4	22.029	22.029	22.029	22.029	22.029	22.029	0.7	0.7	N/A	Lateral
248M680	TWR DIAG T4	22.029	22.029	22.029	22.029	22.029	22.029	0.7	0.7	N/A	Lateral
249M681	TWR DIAG T4	22.029	22.029	22.029	22.029	22.029	22.029	0.7	0.7	N/A	Lateral
250M682	TWR HORZ T4	16.533	16.533	16.533	16.533	16.533	16.533	0.7	0.7	N/A	Lateral
251M683	TWR HORZ T4	16.533	16.533	16.533	16.533	16.533	16.533	0.7	0.7	N/A	Lateral
252M684	TWR HORZ T4	16.533	16.533	16.533	16.533	16.533	16.533	0.7	0.7	N/A	Lateral
253M685	TWR DIAG T4	26.813	26.813	26.813	26.813	26.813	26.813	0.7	0.7	N/A	Lateral
254M686	TWR DIAG T4	26.813	26.813	26.813	26.813	26.813	26.813	0.7	0.7	N/A	Lateral
255M687	TWR DIAG T4	26.813	26.813	26.813	26.813	26.813	26.813	0.7	0.7	N/A	Lateral

Wood Design Parameters

Label	Shape	Length [in]	le2 [in]	le1 [in]	le-bend top [in]	le-bend bot [in]	Cr	y sway	z sway
1	M1	Ridge	492	Segment	Segment	Segment	Segment		
2	M2	Roof sheathing	317.428	0	0	0	0		

Wood Design Parameters (Continued)

	Label	Shape	Length [in]	le2 [in]	le1 [in]	le-bend top [in]	le-bend bot [in]	Cr	y sway	z sway
3	M3	Roof sheathing	145.198	0	0	0	0			
4	M4	Roof sheathing	145.198	0	0	0	0			
5	M5	Roof sheathing	287.222	0	0	0	0			
6	M10	Ridge	492	Segment	Segment	Segment	Segment			
7	M13	Beams	321.704	Segment	Segment	Segment	Segment			
8	M14	Diagonal Beams (A)	166.459			Lbyy				
9	M15	Diagonal Beams (A)	166.655			Lbyy				
10	M16	Vert Post	156.147	Segment	Segment	Segment	Segment			
11	M17	Ridge	492	Segment	Segment	Segment	Segment			
12	M18	Ridge	492	Segment	Segment	Segment	Segment			
13	M29	Diagonal Beams (B)	294.401	Segment	Segment	Segment	Segment			
14	M33	Diagonal Beams (B)	294.401	Segment	Segment	Segment	Segment			
15	M43	Ridge	492	Segment	Segment	Segment	Segment			
16	M44	Vert Post	110.85	Segment	Segment	Segment	Segment			
17	M45	Central Beams	145.192	100	100	100	100			
18	M46	Central Beams	169.849	Segment	Segment	Segment	Segment			
19	M47	Central Beams	169.354	Segment	Segment	Segment	Segment			
20	M48	Central Beams	169.822	Segment	Segment	Segment	Segment			
21	M50	Vert Post	156.147	Segment	Segment	Segment	Segment			
22	M52	Diagonal Beams (B)	294.401	Segment	Segment	Segment	Segment			
23	M54	Diagonal Beams (A)	166.459			Lbyy				
24	M61	Diagonal Beams (B)	294.401	Segment	Segment	Segment	Segment			
25	M62	Beams	321.704	Segment	Segment	Segment	Segment			
26	M63	Diagonal Beams (A)	166.655			Lbyy				
27	M79	Central Beams	169.354	Segment	Segment	Segment	Segment			
28	M80	Vert Post	110.85	Segment	Segment	Segment	Segment			
29	M81	Central Beams	145.192	100	100	100	100			
30	M82	Central Beams	169.822	Segment	Segment	Segment	Segment			
31	M84	Vert Post	156.147	Segment	Segment	Segment	Segment			
32	M86	Diagonal Beams (B)	294.401	Segment	Segment	Segment	Segment			
33	M88	Diagonal Beams (A)	166.459			Lbyy				
34	M95	Diagonal Beams (B)	294.401	Segment	Segment	Segment	Segment			
35	M96	Beams	321.704	Segment	Segment	Segment	Segment			
36	M97	Diagonal Beams (A)	166.655			Lbyy				
37	M113	Central Beams	169.354	Segment	Segment	Segment	Segment			
38	M114	Vert Post	110.85	Segment	Segment	Segment	Segment			
39	M115	Central Beams	145.192	100	100	100	100			
40	M116	Central Beams	169.822	Segment	Segment	Segment	Segment			
41	M118	Vert Post	156.147	Segment	Segment	Segment	Segment			
42	M120	Diagonal Beams (B)	294.401	Segment	Segment	Segment	Segment			
43	M122	Diagonal Beams (A)	166.459			Lbyy				
44	M129	Diagonal Beams (B)	294.401	Segment	Segment	Segment	Segment			
45	M130	Beams	321.704	Segment	Segment	Segment	Segment			
46	M131	Diagonal Beams (A)	166.655			Lbyy				
47	M147	Central Beams	169.354	Segment	Segment	Segment	Segment			
48	M148	Vert Post	110.85	Segment	Segment	Segment	Segment			
49	M149	Central Beams	145.192	100	100	100	100			
50	M150	Central Beams	165.416	Segment	Segment	Segment	Segment			
51	M151	Central Beams	165.396	Segment	Segment	Segment	Segment			
52	M152	Central Beams	165.472	Segment	Segment	Segment	Segment			
53	M153	Central Beams	165.465	Segment	Segment	Segment	Segment			
54	M154	Central Beams	165.396	Segment	Segment	Segment	Segment			
55	M155	Central Beams	165.396	Segment	Segment	Segment	Segment			
56	M156	Central Beams	165.465	Segment	Segment	Segment	Segment			
57	M157	Central Beams	165.396	Segment	Segment	Segment	Segment			

Wood Design Parameters (Continued)

	Label	Shape	Length [in]	le2 [in]	le1 [in]	le-bend top [in]	le-bend bot [in]	Cr	y sway	z sway
58	M158	Central Beams	165.396	Segment	Segment	Segment	Segment			
59	M159	Central Beams	165.465	Segment	Segment	Segment	Segment			
60	M160	Central Beams	165.465	Segment	Segment	Segment	Segment			
61	M162	Roof sheathing	317.428	0	0	0	0			
62	M163	Roof sheathing	145.198	0	0	0	0			
63	M165	Roof sheathing	145.198	0	0	0	0			
64	M166	Roof sheathing	287.222	0	0	0	0			
65	M170	Roof sheathing	317.428	0	0	0	0			
66	M171	Roof sheathing	145.198	0	0	0	0			
67	M173	Roof sheathing	145.198	0	0	0	0			
68	M174	Roof sheathing	287.222	0	0	0	0			
69	M178	Roof sheathing	317.428	0	0	0	0			
70	M179	Roof sheathing	145.198	0	0	0	0			
71	M181	Roof sheathing	145.198	0	0	0	0			
72	M182	Roof sheathing	287.222	0	0	0	0			
73	M185	Roof sheathing	317.428	0	0	0	0			
74	M188	Roof sheathing	145.198	0	0	0	0			
75	M190	Roof sheathing	145.198	0	0	0	0			
76	M191	Roof sheathing	287.222	0	0	0	0			
77	M194	Roof sheathing	317.428	0	0	0	0			
78	M195	Roof sheathing	145.198	0	0	0	0			
79	M197	Roof sheathing	145.198	0	0	0	0			
80	M198	Roof sheathing	287.222	0	0	0	0			
81	M203	Roof sheathing	317.428	0	0	0	0			
82	M206	Roof sheathing	287.222	0	0	0	0			
83	M210	Roof sheathing	145.198	0	0	0	0			
84	M211	Roof sheathing	145.198	0	0	0	0			
85	M213	Roof sheathing	145.198	0	0	0	0			
86	M215	Roof sheathing	145.198	0	0	0	0			
87	M216	Roof sheathing	287.222	0	0	0	0			
88	M219	Roof sheathing	317.428	0	0	0	0			
89	M220	Roof sheathing	145.198	0	0	0	0			
90	M222	Roof sheathing	145.198	0	0	0	0			
91	M223	Roof sheathing	287.222	0	0	0	0			
92	M226	Roof sheathing	317.428	0	0	0	0			
93	M227	Roof sheathing	145.198	0	0	0	0			
94	M228	Roof sheathing	287.222	0	0	0	0			
95	M230	Roof sheathing	317.428	0	0	0	0			
96	M232	Roof sheathing	145.198	0	0	0	0			
97	M234	Roof sheathing	317.428	0	0	0	0			
98	M235	Roof sheathing	145.198	0	0	0	0			
99	M237	Roof sheathing	145.198	0	0	0	0			
100	M238	Roof sheathing	287.222	0	0	0	0			
101	M243	Roof sheathing	317.428	0	0	0	0			
102	M246	Roof sheathing	287.222	0	0	0	0			
103	M250	Roof sheathing	145.198	0	0	0	0			
104	M251	Roof sheathing	145.198	0	0	0	0			
105	M253	Roof sheathing	145.198	0	0	0	0			
106	M255	Roof sheathing	145.198	0	0	0	0			
107	M256	Roof sheathing	287.222	0	0	0	0			
108	M259	Roof sheathing	317.428	0	0	0	0			
109	M260	Roof sheathing	145.198	0	0	0	0			
110	M262	Roof sheathing	145.198	0	0	0	0			
111	M263	Roof sheathing	287.222	0	0	0	0			
112	M266	Roof sheathing	317.428	0	0	0	0			

Wood Design Parameters (Continued)

	Label	Shape	Length [in]	le2 [in]	le1 [in]	le-bend top [in]	le-bend bot [in]	Cr	y sway	z sway
113	M267	Roof sheathing	145.198	0	0	0	0			
114	M268	Roof sheathing	287.222	0	0	0	0			
115	M270	Roof sheathing	317.428	0	0	0	0			
116	M272	Roof sheathing	145.198	0	0	0	0			
117	M274	Roof sheathing	317.428	0	0	0	0			
118	M275	Roof sheathing	145.198	0	0	0	0			
119	M277	Roof sheathing	145.198	0	0	0	0			
120	M278	Roof sheathing	287.222	0	0	0	0			
121	M283	Roof sheathing	317.428	0	0	0	0			
122	M286	Roof sheathing	287.222	0	0	0	0			
123	M290	Roof sheathing	145.198	0	0	0	0			
124	M291	Roof sheathing	145.198	0	0	0	0			
125	M293	Roof sheathing	145.198	0	0	0	0			
126	M295	Roof sheathing	145.198	0	0	0	0			
127	M296	Roof sheathing	287.222	0	0	0	0			
128	M299	Roof sheathing	317.428	0	0	0	0			
129	M300	Roof sheathing	145.198	0	0	0	0			
130	M302	Roof sheathing	145.198	0	0	0	0			
131	M303	Roof sheathing	287.222	0	0	0	0			
132	M306	Roof sheathing	317.428	0	0	0	0			
133	M307	Roof sheathing	145.198	0	0	0	0			
134	M308	Roof sheathing	287.222	0	0	0	0			
135	M310	Roof sheathing	317.428	0	0	0	0			
136	M312	Roof sheathing	145.198	0	0	0	0			
137	M314	Roof sheathing	317.428	0	0	0	0			
138	M315	Roof sheathing	145.198	0	0	0	0			
139	M317	Roof sheathing	145.198	0	0	0	0			
140	M318	Roof sheathing	287.222	0	0	0	0			
141	M323	Roof sheathing	317.428	0	0	0	0			
142	M326	Roof sheathing	287.222	0	0	0	0			
143	M330	Roof sheathing	145.198	0	0	0	0			
144	M331	Roof sheathing	145.198	0	0	0	0			
145	M333	Roof sheathing	145.198	0	0	0	0			
146	M335	Roof sheathing	145.198	0	0	0	0			
147	M336	Roof sheathing	287.222	0	0	0	0			
148	M339	Roof sheathing	317.428	0	0	0	0			
149	M340	Roof sheathing	145.198	0	0	0	0			
150	M342	Roof sheathing	145.198	0	0	0	0			
151	M343	Roof sheathing	287.222	0	0	0	0			
152	M346	Roof sheathing	317.428	0	0	0	0			
153	M347	Roof sheathing	145.198	0	0	0	0			
154	M348	Roof sheathing	287.222	0	0	0	0			
155	M350	Roof sheathing	317.428	0	0	0	0			
156	M352	Roof sheathing	145.198	0	0	0	0			
157	M354	Roof sheathing	317.428	0	0	0	0			
158	M355	Roof sheathing	145.198	0	0	0	0			
159	M357	Roof sheathing	145.198	0	0	0	0			
160	M358	Roof sheathing	287.222	0	0	0	0			
161	M362	Roof sheathing	317.428	0	0	0	0			
162	M365	Roof sheathing	145.198	0	0	0	0			
163	M367	Roof sheathing	145.198	0	0	0	0			
164	M368	Roof sheathing	287.222	0	0	0	0			
165	M371	Roof sheathing	317.428	0	0	0	0			
166	M372	Roof sheathing	145.198	0	0	0	0			
167	M374	Roof sheathing	145.198	0	0	0	0			

Wood Design Parameters (Continued)

	Label	Shape	Length [in]	le2 [in]	le1 [in]	le-bend top [in]	le-bend bot [in]	Cr	y sway	z sway
168	M375	Roof sheathing	287.222	0	0	0	0			
169	M547	Central Beams	165.465	Segment	Segment	Segment	Segment			

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in ²]	Iyy [in ⁴]	Izz [in ⁴]	J [in ⁴]
1	TWR_LEG_T1	SR11/4	Column	None	A572-50	Typical	1.227	0.12	0.12	0.24
2	TWR_TOP_GIRT_T1	SR3/4	Beam	None	A36	Typical	0.442	0.016	0.016	0.031
3	TWR_BOT_GIRT_T1	SR3/4	Beam	None	A36	Typical	0.442	0.016	0.016	0.031
4	TWR_DIAG_T1	SR3/4	Column	None	A36	Typical	0.442	0.016	0.016	0.031
5	TWR_HORZ_T1	SR3/4	Beam	None	A36	Typical	0.442	0.016	0.016	0.031
6	TWR_LEG_T2	SR11/4	Column	None	A572-50	Typical	1.227	0.12	0.12	0.24
7	TWR_TOP_GIRT_T2	SR3/4	Beam	None	A36	Typical	0.442	0.016	0.016	0.031
8	TWR_BOT_GIRT_T2	SR3/4	Beam	None	A36	Typical	0.442	0.016	0.016	0.031
9	TWR_DIAG_T2	SR7/8	Column	None	A36	Typical	0.601	0.029	0.029	0.058
10	TWR_HORZ_T2	SR3/4	Beam	None	A36	Typical	0.442	0.016	0.016	0.031
11	TWR_LEG_T3	SR11/4	Column	None	A572-50	Typical	1.227	0.12	0.12	0.24
12	TWR_TOP_GIRT_T3	SR3/4	Beam	None	A36	Typical	0.442	0.016	0.016	0.031
13	TWR_HORZ_T3	SR3/4	Beam	None	A36	Typical	0.442	0.016	0.016	0.031
14	TWR_DIAG_T3	SR7/8	Column	None	A36	Typical	0.601	0.029	0.029	0.058
15	TWR_PULLOFFTOP_T1	FLATBAR3X3/8	Beam	None	A36	Typical	1.125	0.013	0.844	0.049
16	Plates	P7X1	Beam	RECT	A992	Typical	7	0.583	28.583	2.123
17	Threaded Rods (0.875")	SR.875	Beam	BAR	A36 Gr.36	Typical	0.601	0.029	0.029	0.058
18	Threaded Rods (1")	1"S.R	Beam	BAR	A36 Gr.36	Typical	0.785	0.049	0.049	0.098
19	Reinforcing Channel	C12X20.7	Beam	Channel	A36 Gr.36	Typical	6.08	3.86	129	0.369
20	Frame Beams	HSS8X8X4	Beam	Tube	A500 Gr.B RECT	Typical	7.1	70.7	70.7	111
21	Bottom Plates	10"X0.625"PLATE	Beam	RECT	A36 Gr.36	Typical	6.25	0.203	52.083	0.782
22	Leg Plates	10"X1/4"PLATE	Beam	RECT	A36 Gr.36	Typical	2.5	0.013	20.833	0.051
23	Legs	HSS4X4X4	Beam	Tube	A500 Gr.B RECT	Typical	3.37	7.8	7.8	12.8
24	Diagonal Angles	L3X3X6	HBrace	Single Angle	A36 Gr.36	Typical	2.11	1.75	1.75	0.101
25	Horizontal Angles	L3X3X6	Beam	Single Angle	A36 Gr.36	Typical	2.11	1.75	1.75	0.101
26	Platform Beams	W8X31	Beam	Wide Flange	A992	Typical	9.13	37.1	110	0.536
27	TWR_STEP_T1	SR3/4	Beam	None	A36	Typical	0.442	0.016	0.016	0.031
28	TWR_PULLOFFTOP_T1_1	SR3/4	Beam	None	A36	Typical	0.442	0.016	0.016	0.031
29	TWR_DIAG_T2_1	SR3/4	Column	None	A36	Typical	0.442	0.016	0.016	0.031
30	TWR_STEP_T2	SR3/4	Beam	None	A36	Typical	0.442	0.016	0.016	0.031
31	TWR_BOT_GIRT_T3	SR3/4	Beam	None	A36	Typical	0.442	0.016	0.016	0.031
32	TWR_STEP_T3	SR3/4	Beam	None	A36	Typical	0.442	0.016	0.016	0.031
33	TWR_LEG_T4	SR11/4	Column	None	A572-50	Typical	1.227	0.12	0.12	0.24
34	TWR_TOP_GIRT_T4	SR3/4	Beam	None	A36	Typical	0.442	0.016	0.016	0.031
35	TWR_BOT_GIRT_T4	FLATBAR12X3/8	Beam	None	A36	Typical	4.5	0.053	54	0.207
36	TWR_DIAG_T4	SR7/8	Column	None	A36	Typical	0.601	0.029	0.029	0.058
37	TWR_HORZ_T4	SR3/4	Beam	None	A36	Typical	0.442	0.016	0.016	0.031

Wood Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in ²]	Iyy [in ⁴]	Izz [in ⁴]	J [in ⁴]
1	WOOD1A	2X6	Beam	None	DF	Typical	8.25	1.547	20.797	5.125
2	Roof sheathing	1.75X9.75FS	Beam	Rectangular Double	DF	Typical	17.062	4.354	135.167	15.449
3	Beams	2-3X13.5FS	Beam	Rectangular Double	DF	Typical	81	243	1230.188	700.725
4	Diagonal Beams (A)	7.5X12FS	Beam	Rectangular Double	DF	Typical	90	421.875	1080	1031.496
5	Vert Post	5.75X5.75FS	Column	Rectangular	DF	Typical	33.062	91.094	91.094	153.949
6	Diagonal Beams (B)	7.75X11.75FS	Beam	Rectangular	DF	Typical	91.062	455.787	1047.693	1077.519
7	Crossbar	3X10	Beam	Rectangular	DF	Typical	23.125	12.044	164.886	39.978
8	strut	2X6	Beam	Rectangular	DF	Typical	8.25	1.547	20.797	5.125

Wood Section Sets (Continued)

	Label	Shape	Type	Design List	Material	Design Rule	Area [in ²]	I _{yy} [in ⁴]	I _{zz} [in ⁴]	J [in ⁴]
9	Central Beams	2X9.5FS	Beam	Rectangular	DF	Typical	19	6.333	142.896	21.974
10	Ridge	8X10FS	Beam	Rectangular	DF	Typical	80	426.667	666.667	875.867

Node Boundary Conditions

	Node Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot [k-ft/rad]	Y Rot [k-ft/rad]	Z Rot [k-ft/rad]
1	N282	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N279	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	N475	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
4	N444	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
5	N257	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
6	N296	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
7	N472	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
8	N123	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
9	N167	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
10	N382	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
11	N402	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
12	N357	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
13	N224	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
14	N234	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
15	N237	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
16	N329	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
17	N386	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
18	N332	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
19	N391	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
20	N286	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
21	N341	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
22	N478	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
23	N394	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
24	N399	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
25	N436	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
26	N441	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
27	N14	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
28	N352	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
29	N336	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
30	N291	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
31	N76	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
32	N77	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
33	N217	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
34	N249	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
35	N166	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
36	N346	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
37	N349	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
38	N252	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
39	N379	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
40	N307	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
41	N300	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
42	N400	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
43	N452	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
44	N429	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
45	N432	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
46	N446	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
47	N449	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
48	N457	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
49	N396	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
50	N51	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

Node Boundary Conditions (Continued)

	Node Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot [k-ft/rad]	Y Rot [k-ft/rad]	Z Rot [k-ft/rad]
51	N302	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
52	N122	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
53	N299	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
54	N350	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
55	N27	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
56	N480	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
57	N227	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
58	N17	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
59	N294	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
60	N407	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
61	N344	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
62	N248	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
63	N450	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
64	N470	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
65	N171	Reaction	Reaction	Reaction			
66	N29	Reaction	Reaction	Reaction			
67	N127	Reaction	Reaction	Reaction			
68	N81	Reaction	Reaction	Reaction			
69	N8	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
70	N35	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
71	N6	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
72	N9	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
73	N22	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
74	N64	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
75	N7	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
76	N23	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
77	N32	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
78	N34	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
79	N861	Tether N11	Tether N11	Tether N11	Tether N11	Tether N11	Tether N11
80	N887	Tether N24	Tether N24	Tether N24	Tether N24	Tether N24	Tether N24
81	N913	Tether N37	Tether N37	Tether N37	Tether N37	Tether N37	Tether N37
82	N923	Tether N42	Tether N42	Tether N42	Tether N42	Tether N42	Tether N42

Material Take-Off

	Material	Size	Pieces	Length[in]	Weight[K]
1	General Members				
2	RIGID		263	2317.8	0
3	EHS Cable Gen	GUY7/16	4	2045.5	0.067
4	Total General		267	4363.4	0.067
5					
6	Hot Rolled Steel				
7	A36 Gr.36	1"S.R	8	1413.3	0.315
8	A36 Gr.36	C12X20.7	6	1069.6	1.844
9	A36 Gr.36	10"X0.625"PLATE	4	40	0.071
10	A36 Gr.36	10"X1/4"PLATE	12	108	0.077
11	A36 Gr.36	L3X3X6	19	1711.9	1.024
12	A500 Gr.B RECT	HSS8X8X4	2	280.3	0.607
13	A500 Gr.B RECT	HSS4X4X4	4	455.8	0.468
14	A992	P7X1	16	804	1.596
15	A992	W8X31	8	618	1.6
16	A36 Gr.36	SR.875	36	5107	0.871
17	Total HR Steel		115	11607.9	8.473
18					
19	Wood				
20	DF	1.75X9.75FS	112	25061.3	8.661

Material Take-Off (Continued)

	Material	Size	Pieces	Length[in]	Weight[K]
21	DF	2-3X13.5FS	4	1286.8	2.111
22	DF	2X9.5FS	24	3922.7	1.51
23	DF	5.75X5.75FS	8	1068	0.715
24	DF	7.5X12FS	8	1332.5	2.429
25	DF	7.75X11.75FS	8	2355.2	4.344
26	DF	8X10FS	5	2460	3.986
27	Total Wood		169	37486.5	23.757
28					
29	Plate Elements	Thickness (in)		Volume (yds^3)	
30	gen Plywood	0.5	162	4.4	4.152
31	Total Plates		162	4.4	4.152

Basic Load Cases

	BLC Description	Category	Y Gravity	Nodal	Point	Distributed	Area(Member)	Surface(Plate/Wall)
1	Dead	DL	-1	63	42	12	1	
2	Guy Weight	None						
3	No Ice Wind 0 deg	WL-Z		63	105	30		
4	No Ice Wind 30 deg	None		126	109	42		
5	No Ice Wind 60 deg	None		126	119	40		
6	No Ice Wind 90 deg	WL+X		63	91	32		
7	No Ice Wind 120 deg	None		126	120	44		
8	No Ice Wind 150 deg	None		126	114	44		
9	No Ice Wind 180 deg	WL+Z		63	105	30		
10	No Ice Wind 210 deg	None		126	109	42		
11	No Ice Wind 240 deg	None		126	119	40		
12	No Ice Wind 270 deg	WL-X		63	91	32		
13	No Ice Wind 300 deg	None		126	120	44		
14	No Ice Wind 330 deg	None		126	114	44		
15	Ice	OL1		63	42	152		
16	Temperature Drop	None				144		
17	Ice Wind 0 deg	OL2		63	102	23		
18	Ice Wind 30 deg	None		126	106	25		
19	Ice Wind 60 deg	None		126	110	29		
20	Ice Wind 90 deg	OL3		63	89	24		
21	Ice Wind 120 deg	None		126	117	32		
22	Ice Wind 150 deg	None		126	109	39		
23	Ice Wind 180 deg	OL4		63	102	23		
24	Ice Wind 210 deg	None		126	106	25		
25	Ice Wind 240 deg	None		126	110	29		
26	Ice Wind 270 deg	OL5		63	89	24		
27	Ice Wind 300 deg	None		126	117	32		
28	Ice Wind 330 deg	None		126	109	39		
29	Service Wind 0 deg	None		63	101	25		
30	Service Wind 30 deg	None		126	105	35		
31	Service Wind 60 deg	None		126	113	34		
32	Service Wind 90 deg	None		63	88	28		
33	Service Wind 120 deg	None		126	116	44		
34	Service Wind 150 deg	None		126	109	44		
35	Service Wind 180 deg	None		63	101	25		
36	Service Wind 210 deg	None		126	105	35		
37	Service Wind 240 deg	None		126	113	34		
38	Service Wind 270 deg	None		63	88	28		
39	Service Wind 300 deg	None		126	116	44		
40	Service Wind 330 deg	None		126	109	44		
41	Roof Wind Load WL+X	WL+X						162

Basic Load Cases (Continued)

	BLC Description	Category	Y Gravity	Nodal	Point	Distributed	Area(Member)	Surface(Plate/Wall)
42	Roof Wind Load WL+Z	WL+Z						162
43	Roof Wind Load WL-X	WL-X						162
44	Roof Wind Load WL-Z	WL-Z						162
45	Roof Live Load	RLL						162
46	Roof Snow Load	SL						162
47	Roof Wind Load WL+X (R)	WLX+R						162
48	Roof Wind Load WL+Z (R)	WLZ+R						162
49	Roof Wind Load WL-X (R)	WLX-R						162
50	Roof Wind Load WL-Z (R)	WLZ-R						162
51	BLC 1 Transient Area Loads	None				24		

Load Combinations

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	1.4D	Yes	Y	DL	1.4								
2	1.2D+1.6L+0.5S	Yes	Y	DL	1.2	LL	1.6	SL	0.5				
3	1.2D+1.6L+0.5RLL	Yes	Y	DL	1.2	LL	1.6	RLL	0.5				
4	1.2D+1.6RLL+L	Yes	Y	DL	1.2	RLL	1.6	LL	1				
5	1.2D+1.6S+L	Yes	Y	DL	1.2	SL	1.6	LL	1				
6	1.2D+1.6S+0.5W0	Yes	Y	DL	1.2	SL	1.6	WL+X	0.5				
7	1.2D+1.6S+0.5W90	Yes	Y	DL	1.2	SL	1.6	WL+Z	0.5				
8	1.2D+1.6S+0.5W180	Yes	Y	DL	1.2	SL	1.6	WL-X	0.5				
9	1.2D+1.6S+0.5W270	Yes	Y	DL	1.2	SL	1.6	WL-Z	0.5				
10	1.2D+1.6RLL+0.5W0	Yes	Y	DL	1.2	RLL	1.6	WL+X	0.5				
11	1.2D+1.6RLL+0.5W90	Yes	Y	DL	1.2	RLL	1.6	WL+Z	0.5				
12	1.2D+1.6RLL+0.5W180	Yes	Y	DL	1.2	RLL	1.6	WL-X	0.5				
13	1.2D+1.6RLL+0.5W270	Yes	Y	DL	1.2	RLL	1.6	WL-Z	0.5				
14	1.2D+0.5W0	Yes	Y	DL	1.2	WL+X	0.5						
15	1.2D+0.5W90	Yes	Y	DL	1.2	WL+Z	0.5						
16	1.2D+0.5W180	Yes	Y	DL	1.2	WL-X	0.5						
17	1.2D+0.5W270	Yes	Y	DL	1.2	WL-Z	0.5						
18	1.2D+W0+L+0.5S	Yes	Y	DL	1.2	WL+X	1	LL	1	SL	0.5		
19	1.2D+W90+L+0.5S	Yes	Y	DL	1.2	WL+Z	1	LL	1	SL	0.5		
20	1.2D+W180+L+0.5S	Yes	Y	DL	1.2	WL-X	1	LL	1	SL	0.5		
21	1.2D+W270+L+0.5S	Yes	Y	DL	1.2	WL-Z	1	LL	1	SL	0.5		
22	1.2D+W0+L+0.5RLL	Yes	Y	DL	1.2	WL+X	1	LL	1	RLL	0.5		
23	1.2D+W90+L+0.5RLL	Yes	Y	DL	1.2	WL+Z	1	LL	1	RLL	0.5		
24	1.2D+W180+L+0.5RLL	Yes	Y	DL	1.2	WL-X	1	LL	1	RLL	0.5		
25	1.2D+W270+L+0.5RLL	Yes	Y	DL	1.2	WL-Z	1	LL	1	RLL	0.5		
26	1.2D+W0+L	Yes	Y	DL	1.2	WL+X	1	LL	1				
27	1.2D+W90+L	Yes	Y	DL	1.2	WL+Z	1	LL	1				
28	1.2D+W180+L	Yes	Y	DL	1.2	WL-X	1	LL	1				
29	1.2D+W270+L	Yes	Y	DL	1.2	WL-Z	1	LL	1				
30	0.9D+W0	Yes	Y	DL	0.9	WL+X	1						
31	0.9D+W90	Yes	Y	DL	0.9	WL+Z	1						
32	0.9D+W180	Yes	Y	DL	0.9	WL-X	1						
33	0.9D+W270	Yes	Y	DL	0.9	WL-Z	1						
34	1.2D+1.6L+0.2Di+0.5S	Yes	Y	DL	1.2	LL	1.6	OL1	0.2	SL	0.5		
35	1.2D+L+Di+Wi0+0.5S	Yes	Y	DL	1.2	LL	1	OL1	1	OL2	1	SL	0.5
36	1.2D+L+Di+Wi90+0.5S	Yes	Y	DL	1.2	LL	1	OL1	1	OL3	1	SL	0.5
37	1.2D+L+Di+Wi180+0.5S	Yes	Y	DL	1.2	LL	1	OL1	1	OL4	1	SL	0.5
38	1.2D+L+Di+Wi270+0.5S	Yes	Y	DL	1.2	LL	1	OL1	1	OL5	1	SL	0.5
39	0.9D+Di+Wi0	Yes	Y	DL	0.9	OL1	1	OL2	1				
40	0.9D+Di+Wi90	Yes	Y	DL	0.9	OL1	1	OL3	1				
41	0.9D+Di+Wi180	Yes	Y	DL	0.9	OL1	1	OL4	1				
42	0.9D+Di+Wi270	Yes	Y	DL	0.9	OL1	1	OL5	1				

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
43	1.2D+Di	Yes	Y	DL	1.2	OL1	1						
44	1.2D+Eh0+L+0.2S	Yes	Y	DL	1.2	ELX	1	LL	1	SL	0.2		
45	1.2D+Eh90+L+0.2S	Yes	Y	DL	1.2	ELZ	1	LL	1	SL	0.2		
46	1.2D+Eh180+L+0.2S	Yes	Y	DL	1.2	ELX	-1	LL	1	SL	0.2		
47	1.2D+Eh270+L+0.2S	Yes	Y	DL	1.2	ELZ	-1	LL	1	SL	0.2		
48	0.9D+Eh0	Yes	Y	DL	0.9	ELX	1						
49	0.9D+Eh90	Yes	Y	DL	0.9	ELZ	1						
50	0.9D+Eh180	Yes	Y	DL	0.9	ELX	-1						
51	0.9D+Eh270	Yes	Y	DL	0.9	ELZ	-1						
52	1.2D+1.6S+0.5W0 ®	Yes	Y	DL	1.2	SL	1.6	WLX+R	0.5				
53	1.2D+1.6S+0.5W90 ®	Yes	Y	DL	1.2	SL	1.6	WLZ+R	0.5				
54	1.2D+1.6S+0.5W180 ®	Yes	Y	DL	1.2	SL	1.6	WLX-R	0.5				
55	1.2D+1.6S+0.5W270 ®	Yes	Y	DL	1.2	SL	1.6	WLZ-R	0.5				
56	1.2D+1.6RLL+0.5W0 ®	Yes	Y	DL	1.2	RLL	1.6	WLX+R	0.5				
57	1.2D+1.6RLL+0.5W90 ®	Yes	Y	DL	1.2	RLL	1.6	WLZ+R	0.5				
58	1.2D+1.6RLL+0.5W180 ®	Yes	Y	DL	1.2	RLL	1.6	WLX-R	0.5				
59	1.2D+1.6RLL+0.5W270 ®	Yes	Y	DL	1.2	RLL	1.6	WLZ-R	0.5				
60	1.2D+0.5W0 ®	Yes	Y	DL	1.2	WLX+R	0.5						
61	1.2D+0.5W90 ®	Yes	Y	DL	1.2	WLZ+R	0.5						
62	1.2D+0.5W180 ®	Yes	Y	DL	1.2	WLX-R	0.5						
63	1.2D+0.5W270 ®	Yes	Y	DL	1.2	WLZ-R	0.5						
64	1.2D+W0+L+0.5S ®	Yes	Y	DL	1.2	WLX+R	1	LL	1	SL	0.5		
65	1.2D+W90+L+0.5S ®	Yes	Y	DL	1.2	WLZ+R	1	LL	1	SL	0.5		
66	1.2D+W180+L+0.5S ®	Yes	Y	DL	1.2	WLX-R	1	LL	1	SL	0.5		
67	1.2D+W270+L+0.5S ®	Yes	Y	DL	1.2	WLZ-R	1	LL	1	SL	0.5		
68	1.2D+W0+L+0.5RLL ®	Yes	Y	DL	1.2	WLX+R	1	LL	1	RLL	0.5		
69	1.2D+W90+L+0.5RLL ®	Yes	Y	DL	1.2	WLZ+R	1	LL	1	RLL	0.5		
70	1.2D+W180+L+0.5RLL ®	Yes	Y	DL	1.2	WLX-R	1	LL	1	RLL	0.5		
71	1.2D+W270+L+0.5RLL ®	Yes	Y	DL	1.2	WLZ-R	1	LL	1	RLL	0.5		
72	1.2D+W0+L ®	Yes	Y	DL	1.2	WLX+R	1	LL	1				
73	1.2D+W90+L ®	Yes	Y	DL	1.2	WLZ+R	1	LL	1				
74	1.2D+W180+L ®	Yes	Y	DL	1.2	WLX-R	1	LL	1				
75	1.2D+W270+L ®	Yes	Y	DL	1.2	WLZ-R	1	LL	1				
76	0.9D+W0 ®	Yes	Y	DL	0.9	WLX+R	1						
77	0.9D+W90 ®	Yes	Y	DL	0.9	WLZ+R	1						
78	0.9D+W180 ®	Yes	Y	DL	0.9	WLX-R	1						
79	0.9D+W270 ®	Yes	Y	DL	0.9	WLZ-R	1						

Envelope Node Reactions

	Node Label		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1	N282	max	1414.449	4	1543.068	4	189.851	56	82.551	78	56.009	78	1489.561	4
2		min	-197.355	30	-529.708	33	-165.954	78	-101.491	56	-68.913	56	-695.281	31
3	N279	max	1377.435	58	1499.519	4	64.769	56	17.368	31	11.852	31	1476.852	4
4		min	-212.185	30	-521.824	31	-41.642	31	-25.806	58	-17.407	58	-718.74	31
5	N475	max	15.29	32	876.158	58	219.369	58	108.241	76	88.66	58	678.289	76
6		min	-618.531	56	-315.951	33	-156.462	76	-120.839	58	-78.699	76	-927.549	58
7	N444	max	1373.053	58	1494.962	4	34.44	31	23.181	4	15.609	4	1468.152	4
8		min	-225.712	30	-532.331	33	-60.469	56	-9.727	30	-6.599	30	-716.256	33
9	N257	max	218.571	32	1629.332	4	47.592	58	3.4	33	13.263	4	1088.12	33
10		min	-1377.402	56	-620.863	33	-28.434	76	-18.468	4	-2.441	33	-1756.956	58
11	N296	max	165.425	32	1686.38	4	74.515	70	62.722	76	40.501	70	1148.188	33
12		min	-1420.007	56	-614.403	33	-88.144	76	-55.754	70	-45.652	76	-1863.853	58
13	N472	max	543.494	58	914.834	56	255.473	56	145.515	78	98.855	78	781.135	58
14		min	17.407	30	-379.739	31	-85.226	31	-248.034	56	-168.973	56	-141.567	30
15	N123	max	828.721	33	3260.229	4	1.117	58	4.039	52	10	58	-521.97	33

Envelope Node Reactions (Continued)

	Node Label		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
16		min	-3657.798	4	-284.631	33	-0.279	33	-2.586	32	-1.296	33	-1195.477	4
17	N167	max	843.542	33	3263.19	4	0.473	31	2.532	31	2.824	31	-523.211	33
18		min	-3662.137	4	-294.802	33	-0.963	58	-3.261	52	-9.04	58	-1195.145	4
19	N382	max	1371.963	4	1515.165	4	287.215	56	263.597	74	178.726	74	1371.169	4
20		min	-111.965	33	-460.31	33	-433.369	74	-122.201	56	-83.137	56	-536.814	33
21	N402	max	1313.33	4	1449.71	4	465.464	78	246.589	56	167.695	56	1265.186	4
22		min	-164.33	33	-512.726	33	-486.519	56	-255.497	78	-173.329	78	-538.27	33
23	N357	max	147.295	32	1679.717	4	59.509	70	45.32	64	32.386	70	1074.571	31
24		min	-1475.575	56	-582.825	33	-58.94	76	-44.601	70	-32.873	64	-1702.85	58
25	N224	max	585.137	12	943.495	56	273.144	33	227.009	56	154.689	56	766.393	58
26		min	-176.109	30	-415.363	33	-254.736	11	-154.222	78	-104.776	78	-214.647	31
27	N234	max	816.226	58	1024.128	4	377.46	78	249.476	56	169.94	56	979.799	4
28		min	-100.73	30	-449.058	31	-394.065	56	-245.106	78	-166.33	78	-466.769	31
29	N237	max	138.271	32	1356.478	4	56.321	64	46.97	70	57.566	64	987.635	31
30		min	-1102.508	56	-513.631	33	-30.165	70	-79.348	64	-34.271	70	-1536.651	58
31	N329	max	1200.944	4	1496.394	56	469.806	74	94.913	56	64.589	56	1242.899	58
32		min	-39.943	33	-553.484	31	-411.396	56	-208.804	74	-141.516	74	-461.231	30
33	N386	max	110.183	32	1686.759	58	54.572	76	59.564	70	46.35	76	1342.191	31
34		min	-1376.324	56	-616.754	33	-57.33	70	-63.75	76	-43.288	70	-2116.457	58
35	N332	max	1372.156	4	1515.383	4	431.028	74	122.991	56	83.674	56	1369.022	4
36		min	-108.326	33	-460.109	33	-289.033	56	-262.662	74	-178.096	74	-542.094	33
37	N391	max	106.142	32	1647.517	4	69.233	70	53.731	76	45.159	70	1238.76	31
38		min	-1411.989	56	-589.119	33	-46.385	76	-62.179	70	-38.958	76	-1901.12	58
39	N286	max	89.517	32	1771.051	58	18.308	26	31.419	72	15.602	70	1800.659	76
40		min	-1313.538	56	-645.067	33	3.953	54	-21.431	70	-22.87	72	-2493.612	58
41	N341	max	105.58	32	1646.427	4	46.728	76	61.937	70	39.081	76	1240.156	31
42		min	-1410.944	56	-586.979	33	-68.748	70	-53.899	76	-44.982	70	-1900.212	58
43	N478	max	175.057	58	548.666	56	224.907	66	16.906	78	11.523	78	265.31	58
44		min	-22.014	76	-134.169	31	-34.457	76	-102.358	56	-70.053	56	-39.956	76
45	N394	max	1200.218	4	1496.329	56	409.867	56	209.313	74	141.855	74	1249.54	58
46		min	-43.317	33	-555.603	33	-472.159	74	-94.6	56	-64.378	56	-436.011	30
47	N399	max	1106.584	4	1605.209	56	340.072	78	119.278	56	81.207	56	1218.153	58
48		min	-17.649	30	-645.346	33	-403.374	56	-90.919	78	-61.618	78	-478.642	30
49	N436	max	123.001	32	1348.816	4	30.817	70	79.008	64	34.543	70	987.774	33
50		min	-1093.56	56	-513.765	33	-55.734	64	-47.339	70	-57.315	64	-1533.614	58
51	N441	max	204.127	33	1676.143	4	69.509	76	38.446	70	23.654	76	1092.392	33
52		min	-1423.602	56	-626.171	33	-66.449	58	-32.413	76	-27.919	70	-1792.277	58
53	N14	max	199.355	58	524.208	56	250.365	31	106.754	24	72.965	24	278.148	58
54		min	-5.35	76	-287.785	31	-526.014	21	-101.314	31	-68.932	31	-90.895	30
55	N352	max	1531.249	4	1659.027	4	47.076	56	54.644	74	37.051	74	1555.693	4
56		min	-116.513	33	-447.667	33	-89.216	74	-23.348	56	-15.879	56	-614.376	33
57	N336	max	176.045	32	1700.089	4	22.597	70	16.441	64	11.559	70	1028.068	33
58		min	-1514.286	56	-590.117	33	-24.808	76	-15.918	70	-11.936	64	-1654.248	58
59	N291	max	207.611	32	1679.697	4	65.882	58	32.855	76	27.333	70	1101.11	33
60		min	-1427.814	56	-625.415	33	-69.857	76	-37.636	70	-23.972	76	-1793.189	58
61	N76	max	1351.986	56	1341.904	56	12.509	56	29.296	78	40.746	31	2397.238	56
62		min	-554.614	31	-187.003	31	-5.049	33	-23.317	68	-94.624	56	-100.828	31
63	N77	max	553.99	32	1484.75	4	6.812	4	26.58	64	67.24	58	-567.963	33
64		min	-1287.63	4	-50.939	32	-1.84	33	-19.457	78	-24.393	30	-1047.024	1
65	N217	max	14.112	32	885.637	58	156.472	76	118.613	58	79.716	76	734.046	31
66		min	-626.621	56	-320.416	33	-219.55	58	-109.641	76	-87.043	58	-923.804	58
67	N249	max	1263.346	58	1397.857	4	125.383	74	67.696	68	46.029	68	1387.246	4
68		min	-193.301	30	-500.02	31	-70.557	68	-101.54	74	-68.886	74	-707.134	31
69	N166	max	3435.548	56	2918.582	56	0.344	30	8.429	13	7.942	56	4846.796	56
70		min	-1223.638	33	-704.701	33	-0.878	4	-2.939	31	1.223	78	-926.62	33

Envelope Node Reactions (Continued)

Node Label			X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
71	N346	max	146.725	32	1679.239	4	59.25	76	44.237	70	33.088	64	1073.071	33
72		min	-1474.666	56	-582.372	33	-58.971	70	-45.617	64	-32.122	70	-1703.46	58
73	N349	max	1531.288	4	1659.054	4	87.434	74	24.49	56	16.656	56	1555.52	4
74		min	-116.296	33	-448.011	33	-48.654	56	-53.629	74	-36.365	74	-616.828	33
75	N252	max	193.217	32	1523.871	4	31.545	52	18.477	78	34.881	64	1054.184	33
76		min	-1267.475	56	-583.516	33	-8.024	33	-48.128	64	-13.403	78	-1681.864	58
77	N379	max	1476.14	4	1618.163	4	150.663	56	165.268	74	112.057	74	1505.763	4
78		min	-117.807	33	-447.961	33	-267.807	74	-70.73	56	-48.11	56	-589.885	33
79	N307	max	85.884	32	1729.71	58	-7.762	5	39.281	70	15.62	76	1650.299	76
80		min	-1337.899	56	-627.517	33	-40.474	26	-21.642	76	-28.519	70	-2311.364	58
81	N300	max	114.447	32	1688.209	58	56.663	70	64.429	76	42.527	70	1337.472	31
82		min	-1378.146	56	-619.847	33	-54.982	76	-58.514	70	-46.841	76	-2115.915	58
83	N400	max	87.136	32	1771.767	58	-4.824	54	22.241	70	22.346	72	1798.279	76
84		min	-1312.482	56	-645.939	33	-21.236	26	-30.695	72	-16.188	70	-2497.229	58
85	N452	max	1064.522	58	1231.275	4	222.149	56	183.535	74	124.503	74	1208.258	4
86		min	-134.03	30	-433.535	33	-254.266	74	-160.696	56	-109.517	56	-568.292	33
87	N429	max	1398.061	4	1525.095	4	320.582	78	177.006	56	120.31	56	1422.545	4
88		min	-198.718	33	-534.941	33	-322.558	56	-177.275	78	-120.262	78	-657.578	33
89	N432	max	1411.051	4	1539.495	4	169.261	78	99.509	56	67.566	56	1484.006	4
90		min	-211.085	30	-543.725	33	-186.557	56	-84.815	78	-57.553	78	-708.799	33
91	N446	max	206.536	32	1624.503	4	28.317	76	18.867	4	0.393	33	1078.125	33
92		min	-1371.849	56	-622.523	33	-47.811	58	-0.591	33	-13.549	4	-1755.353	58
93	N449	max	1258.817	58	1392.836	4	76.238	68	97.414	74	66.078	74	1376.586	4
94		min	-199.44	30	-496.441	33	-118.265	74	-70.856	68	-48.176	68	-676.61	33
95	N457	max	62.565	32	1142.477	58	80.732	58	96.085	72	54.595	58	897.395	33
96		min	-880.272	56	-423.469	33	-77.483	76	-74.233	58	-69.823	72	-1310.445	58
97	N396	max	84.958	32	1731.376	58	40.025	26	21.739	76	28.382	70	1647.717	76
98		min	-1338.083	56	-630.765	33	7.758	5	-39.091	70	-15.689	76	-2315.273	58
99	N51	max	707.466	32	1522.226	4	1.64	33	18.034	78	23.934	31	-561.613	33
100		min	-1338.077	4	-128.271	32	-6.913	4	-27.4	64	-67.615	58	-1051.7	1
101	N302	max	1107.808	4	1605.848	56	404.581	56	90.226	78	61.141	78	1209.311	58
102		min	-12.005	30	-657.316	31	-338.783	78	-119.795	56	-81.558	56	-508.941	30
103	N122	max	3439.262	56	2921.674	56	1.08	13	2.175	33	1.35	31	4850.205	56
104		min	-1208.699	32	-699.422	32	-0.655	31	-10.019	11	-9.081	13	-912.151	32
105	N299	max	1315.396	4	1451.115	4	488.811	56	253.816	78	172.182	78	1262.271	4
106		min	-154.954	33	-503.757	33	-463.008	78	-247.881	56	-168.572	56	-541.429	31
107	N350	max	175.862	32	1699.967	4	25.1	76	15.531	70	12.133	64	1029.925	33
108		min	-1513.959	56	-590.141	33	-22.038	70	-16.712	64	-11.278	70	-1654.619	58
109	N27	max	1356.541	56	1346.443	56	7.899	33	24.837	68	100.01	56	2403.271	56
110		min	-865.939	31	-453.563	31	-13.304	56	-35.506	31	-46.352	33	-542.996	31
111	N480	max	6.114	78	518.478	58	112.655	64	58.408	76	54.959	58	150.824	33
112		min	-241.999	56	-184.975	31	-62.043	70	-74.423	58	-42.463	76	-273.169	58
113	N227	max	74.166	32	1150.428	58	77.881	76	73.802	58	70.063	72	918.652	31
114		min	-890.719	56	-423.476	33	-80.031	58	-96.414	72	-54.281	58	-1312.51	58
115	N17	max	14.306	32	518.906	58	62.532	70	72.313	58	43.446	76	192.879	31
116		min	-250.133	56	-187.709	33	-112.42	64	-59.77	76	-53.436	58	-267.283	58
117	N294	max	1400.775	4	1527.539	4	325.257	56	175.314	78	118.924	78	1424.544	4
118		min	-186.117	33	-523.836	33	-317.835	78	-178.649	56	-121.427	56	-645.739	33
119	N407	max	165.311	33	1683.803	4	87.675	76	56.707	70	45.252	76	1144.067	31
120		min	-1416.946	56	-613.117	33	-75.31	70	-62.169	76	-41.191	70	-1863.257	58
121	N344	max	1476.243	4	1618.26	4	265.809	74	71.794	56	48.834	56	1505.15	4
122		min	-116.528	33	-448.61	33	-152.362	56	-164.254	74	-111.373	74	-596.551	33
123	N248	max	1069.008	58	1235.473	4	263.366	74	157.188	56	107.137	56	1218.102	4
124		min	-150.674	30	-461.716	31	-215.028	56	-188.292	74	-127.738	74	-638.096	31
125	N450	max	178.472	32	1517.509	4	8.553	32	48.176	64	13.194	78	1047.857	33

Envelope Node Reactions (Continued)

	Node Label		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
126		min	-1260.274	56	-584.824	33	-31.264	52	-18.186	78	-34.911	64	-1679.335	58
127	N470	max	811.141	58	1025.648	4	395.692	56	241.823	78	164.097	78	980.627	4
128		min	-43.646	30	-365.429	31	-370.49	78	-250.973	56	-170.951	56	-339.445	33
129	N171	max	6152.956	66	10188.812	4	76.491	13	0	79	0	79	0	79
130		min	-4182.993	76	-1099.656	33	-78.055	31	0	1	0	1	0	1
131	N29	max	2491.06	66	3753.168	4	1211.608	25	0	79	0	79	0	79
132		min	-2642.237	30	-2132.009	31	-1090.888	31	0	1	0	1	0	1
133	N127	max	6169.153	66	10399.818	4	83.404	33	0	79	0	79	0	79
134		min	-4162.98	76	-1839.335	33	-120.275	23	0	1	0	1	0	1
135	N81	max	2534.482	66	3239.729	4	101.438	56	0	79	0	79	0	79
136		min	-1845.487	76	-809.907	33	-14.755	32	0	1	0	1	0	1
137	N8	max	387.573	32	2513.359	12	1039.03	12	1449.076	31	515.579	32	135.791	54
138		min	-255.889	6	-1228.774	30	-926.971	30	-4119.18	56	-616.232	56	-57.907	30
139	N35	max	87.178	70	1112.937	58	527.167	58	1310.332	76	420.744	58	72.364	76
140		min	-258.493	26	-440.08	31	-240.232	33	-2344.558	58	-654.341	72	-96.257	58
141	N6	max	187.268	32	2095.817	4	1046.891	5	1026.947	32	294.63	32	90.174	30
142		min	-307.103	4	-409.996	33	-709.481	32	-3794.781	5	-528.367	56	-112.63	58
143	N9	max	431.475	32	2490.628	56	637.437	33	4145.243	56	623.211	56	132.685	54
144		min	-275.036	6	-709.273	33	-920.595	56	-1247.703	33	-615.926	32	-106.052	30
145	N22	max	320.383	24	1772.36	13	2401.478	33	2595.551	56	417.116	22	104.794	10
146		min	-253.655	30	-1157.465	31	-1872.209	11	-1619.182	31	-505.819	32	-88.946	32
147	N64	max	209.943	32	2157.932	4	716.576	32	3882.011	5	526.753	56	112.254	30
148		min	-305.444	4	-555.772	32	-1058.512	5	-1243.577	32	-345.967	32	-107.721	58
149	N7	max	182.503	32	1493.685	10	1042.094	10	479.691	32	179.901	32	106.169	58
150		min	-251.89	22	-725.223	32	-590.848	32	-2031.748	58	-272.649	18	-145.421	72
151	N23	max	172.389	24	1486.879	56	1486.988	56	681.221	31	258.867	32	106.329	56
152		min	-62.045	30	-233.606	31	-801.766	31	-2528.907	56	-227.293	56	-53.437	78
153	N32	max	196.196	32	1954.327	22	547.31	32	2220.561	58	275.984	18	106.851	58
154		min	-265.072	22	-751.78	32	-1163.423	10	-529.921	33	-213.908	32	-144.846	72
155	N34	max	74.244	70	1123.432	58	241.646	31	2348.455	58	669.434	72	71.233	76
156		min	-295.624	26	-493.197	33	-526.228	58	-1307.152	76	-404.188	58	-97.939	58
157	Totals:	max	18041.701	70	139968.695	4	4933.448	25						
158		min	-17561.299	76	-33696.629	31	-4897.318	31						

Envelope AISC 15TH (360-16): LRFD Member Steel Code Checks

	Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [lb-ft]	phi*Mn z-z [lb-ft]	Cb	Eqn
1	M424	C12X20.7	0.387	267.401	58	0.01	267.401	z	4	12195.517	196992	7437.645	58655.841	2.944	H1-1a
2	M412	C12X20.7	0.385	267.401	58	0.009	267.401	z	4	12195.517	196992	7437.645	56444.803	2.833	H1-1a
3	M455	C12X20.7	0.282	45.609	37	0.072	45.609	z	52	30749.384	196992	7437.645	69120	2.048	H1-1a
4	M456	C12X20.7	0.279	45.609	37	0.086	45.609	z	37	30749.384	196992	7437.645	69120	2.106	H1-1a
5	M461	10"X1/4"PLATE	0.254	0	23	0.005	7.917	z	23	29416.038	81000	421.875	16875	2	H1-1b
6	M460	10"X1/4"PLATE	0.179	0	23	0.005	7.917	z	23	29416.038	81000	421.875	16875	2	H1-1b
7	M472	10"X1/4"PLATE	0.163	0	27	0.01	7.917	y	28	29416.038	81000	421.875	16875	2	H1-1b
8	M466	10"X1/4"PLATE	0.155	0	28	0.004	7.917	y	27	29416.038	81000	421.875	16875	2	H1-1b
9	M454	C12X20.7	0.137	54.656	37	0.084	54.656	z	27	87395.738	196992	7437.645	69120	1.9	H1-1b
10	M448	HSS8X8X4	0.123	21.9	37	0.032	0	y	37	257409.08	293940	66287.772	66287.772	1.058	H1-1b
11	M457	C12X20.7	0.121	54.656	38	0.099	54.656	z	37	87395.738	196992	7437.645	69120	2.812	H1-1b
12	M463	10"X1/4"PLATE	0.114	5.031	23	0.013	7	z	23	49361.791	81000	421.875	16875	3	H1-1b
13	M465	10"X1/4"PLATE	0.112	0	29	0.004	7.917	y	23	29416.038	81000	421.875	16875	2	H1-1b
14	M471	10"X1/4"PLATE	0.109	0	27	0.007	7.917	y	28	29416.038	81000	421.875	16875	2	H1-1b
15	M478	10"X1/4"PLATE	0.109	5.031	27	0.023	7	y	28	49361.791	81000	421.875	16875	3	H1-1b
16	M480	10"X1/4"PLATE	0.105	0	43	0.014	7.917	y	22	29416.038	81000	421.875	16875	2	H1-1b
17	M453	HSS8X8X4	0.103	70.08	37	0.027	140.161	y	36	257409.08	293940	66287.772	66287.772	1.014	H1-1b
18	M486	HSS4X4X4	0.092	149.486	23	0.01	12.457	z	23	72875.084	139518	16180.5	16180.5	3	H1-1b
19	M469	10"X1/4"PLATE	0.089	5.031	28	0.011	7	y	27	49361.791	81000	421.875	16875	3	H1-1b

Envelope AISC 15TH (360-16): LRFD Member Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[in]	LC Shear Check	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [lb-ft]	phi*Mn z-z [lb-ft]	Cb	Eqn	
20	M489	HSS4X4X4	0.081	78.422	27	0.015	1.634	y	32	116682.094	139518	16180.5	16180.5	2.551	H1-1b
21	M487	HSS4X4X4	0.08	149.486	28	0.011	149.486	y	28	72875.084	139518	16180.5	16180.5	3	H1-1b
22	M450	10"X0.625"PLATE	0.072	0	7	0.122	0	y	38	172261.933	202500	2636.719	42187.5	2.691	H1-1b
23	M488	HSS4X4X4	0.072	78.422	37	0.012	1.634	y	28	116682.094	139518	16180.5	16180.5	2.6	H1-1b
24	M474	10"X1/4"PLATE	0.066	5.031	38	0.034	7	y	22	49361.791	81000	421.875	16875	3	H1-1b
25	M473	10"X1/4"PLATE	0.063	0	28	0.01	7.917	y	22	29416.038	81000	421.875	16875	2	H1-1b
26	M449	10"X0.625"PLATE	0.057	0	27	0.13	0	y	37	172261.933	202500	2636.719	42187.5	3	H1-1b
27	M500	L3X3X6	0.057	46.495	26	0.004	46.495	y	23	18607.732	68364	2307.398	4787.632	1.233	H2-1
28	M146	SR.875	0.056	147.941	52	0.001	147.941	1	297.005	19482.783	284.124	284.124	1	H1-1b*	
29	M111	SR.875	0.055	147.941	52	0.001	147.941	1	297.005	19482.783	284.124	284.124	1	H1-1b*	
30	M145	SR.875	0.055	147.941	52	0.001	147.941	1	297.005	19482.783	284.124	284.124	1	H1-1b*	
31	M112	SR.875	0.055	147.941	52	0.001	147.941	1	297.005	19482.783	284.124	284.124	1	H1-1b*	
32	M451	10"X0.625"PLATE	0.054	0	37	0.099	0	y	37	172261.933	202500	2636.719	42187.5	2.973	H1-1b
33	M514	W8X31	0.053	59	37	0.029	76	y	37	348068.617	410850	52791.334	113877.375	1.962	H1-1b
34	M513	W8X31	0.052	37	37	0.029	20	y	37	348068.617	410850	52791.334	113877.375	1.964	H1-1b
35	M509	W8X31	0.049	33.903	37	0.032	61.994	y	37	351648.588	410850	52791.334	113877.375	1.219	H1-1b
36	M512	W8X31	0.048	33.903	37	0.032	31.966	y	37	351648.588	410850	52791.334	113877.375	1.22	H1-1b
37	M499	L3X3X6	0.048	53.666	23	0.002	53.666	y	4	13967.61	68364	2307.398	4475.362	1.068	H2-1
38	M98	SR.875	0.047	147.658	52	0.002	0	1	298.144	19482.783	284.124	284.124	1	H1-1b*	
39	M452	10"X0.625"PLATE	0.047	0	52	0.102	0	y	37	172261.933	202500	2636.719	42187.5	2.963	H1-1b
40	M117	SR.875	0.047	147.658	52	0.002	0	1	298.144	19482.783	284.124	284.124	1	H1-1b*	
41	M501	L3X3X6	0.045	48	1	0.002	96	y	23	17459.512	68364	2307.398	4669.554	1.136	H2-1
42	M132	SR.875	0.045	147.658	52	0.002	0	1	298.144	19482.783	284.124	284.124	1	H1-1b*	
43	M83	SR.875	0.045	147.658	52	0.002	0	1	298.144	19482.783	284.124	284.124	1	H1-1b*	
44	M497	L3X3X6	0.044	53.666	23	0.002	53.666	y	24	13967.61	68364	2307.398	4538.655	1.128	H2-1
45	M508	L3X3X6	0.043	51.234	4	0.003	104.649	y	23	14692.93	68364	2307.398	4575.104	1.136	H2-1
46	M507	L3X3X6	0.042	51.234	4	0.003	104.649	y	23	14692.93	68364	2307.398	4575.104	1.136	H2-1
47	M502	L3X3X6	0.042	46.495	26	0.004	46.495	y	23	18607.732	68364	2307.398	4829.551	1.286	H2-1
48	M494	L3X3X6	0.04	48	1	0.002	96	y	1	17459.512	68364	2307.398	4669.554	1.136	H2-1
49	M492	L3X3X6	0.038	48	1	0.002	96	y	23	17459.512	68364	2307.398	4669.554	1.136	H2-1
50	M490	L3X3X6	0.037	48	1	0.002	96	y	23	17459.512	68364	2307.398	4669.554	1.136	H2-1
51	M495	L3X3X6	0.037	48	1	0.002	96	y	1	17459.512	68364	2307.398	4669.554	1.136	H2-1
52	M491	L3X3X6	0.036	46.495	1	0.003	92.991	y	23	18607.732	68364	2307.398	4703.407	1.136	H2-1
53	M493	L3X3X6	0.036	46.495	1	0.003	92.991	y	23	18607.732	68364	2307.398	4703.407	1.136	H2-1
54	M498	L3X3X6	0.033	53.666	29	0.002	53.666	y	27	13967.61	68364	2307.398	4469.048	1.062	H2-1
55	M496	L3X3X6	0.032	53.666	29	0.002	53.666	y	24	13967.61	68364	2307.398	4445.212	1.041	H2-1
56	M128	SR.875	0.03	94.34	4	0	94.34	68	730.379	19482.783	284.124	284.124	1	H1-1b*	
57	M94	SR.875	0.03	94.34	4	0	94.34	68	730.379	19482.783	284.124	284.124	1	H1-1b*	
58	M25	SR.875	0.029	147.941	18	0.001	0	29	297.005	19482.783	284.124	284.124	1	H1-1b*	
59	M28	SR.875	0.025	147.941	18	0.001	0	29	297.005	19482.783	284.124	284.124	1	H1-1b*	
60	M60	SR.875	0.022	94.34	56	0	94.34	68	730.379	19482.783	284.124	284.124	1	H1-1b*	
61	M12	SR.875	0.022	94.34	56	0	94.34	68	730.379	19482.783	284.124	284.124	1	H1-1b*	
62	M505	L3X3X6	0.022	27.091	22	0.001	55.334	y	1	42408.041	68364	2307.398	5185.582	1.136	H2-1
63	M59	SR.875	0.022	147.941	1	0.001	147.941	1	297.005	19482.783	284.124	284.124	1	H1-1b*	
64	M37	SR.875	0.021	147.941	1	0.001	147.941	1	297.005	19482.783	284.124	284.124	1	H1-1b*	
65	M506	L3X3X6	0.021	27.091	28	0.001	55.334	y	23	42408.041	68364	2307.398	5185.582	1.136	H2-1
66	M78	SR.875	0.021	147.941	64	0.001	147.941	1	297.005	19482.783	284.124	284.124	1	H1-1b*	
67	M77	SR.875	0.021	147.941	52	0.001	147.941	1	297.005	19482.783	284.124	284.124	1	H1-1b*	
68	M76	SR.875	0.021	147.941	1	0.001	147.941	1	297.005	19482.783	284.124	284.124	1	H1-1b*	
69	M38	SR.875	0.021	147.941	1	0.001	147.941	1	297.005	19482.783	284.124	284.124	1	H1-1b*	
70	M503	L3X3X6	0.019	27.091	24	0.001	55.334	y	29	42408.041	68364	2307.398	5185.582	1.136	H2-1
71	M144	SR.875	0.018	147.941	28	0.001	147.941	1	297.005	19482.783	284.124	284.124	1	H1-1b*	
72	M93	SR.875	0.018	147.941	28	0.001	147.941	1	297.005	19482.783	284.124	284.124	1	H1-1b*	
73	M127	SR.875	0.018	147.941	28	0.001	147.941	1	297.005	19482.783	284.124	284.124	1	H1-1b*	
74	M110	SR.875	0.018	147.941	28	0.001	147.941	1	297.005	19482.783	284.124	284.124	1	H1-1b*	

Envelope AISC 15TH (360-16): LRFD Member Steel Code Checks (Continued)

Member	Shape	Code Check	Loc[in]	LC Shear Check	Loc[in]	DirLC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [lb-ft]	phi*Mn z-z [lb-ft]	Cb	Eqn			
75	M26	SR.875	0.018	147.658	6	0.002	0	1	298.144	19482.783	284.124	284.124	1	H1-1b*	
76	M504	L3X3X6	0.017	27.667	24	0.001	55.334	y	1	42408.041	68364	2307.398	5185.582	1.136	H2-1
77	M23	SR.875	0.016	147.658	6	0.002	0	1	298.144	19482.783	284.124	284.124	1	H1-1b*	
78	M49	SR.875	0.016	147.658	52	0.002	0	1	298.144	19482.783	284.124	284.124	1	H1-1b*	
79	M67	SR.875	0.015	147.658	1	0.002	0	1	298.144	19482.783	284.124	284.124	1	H1-1b*	
80	M74	SR.875	0.015	147.658	1	0.002	0	1	298.144	19482.783	284.124	284.124	1	H1-1b*	
81	M34	SR.875	0.015	147.658	1	0.002	0	1	298.144	19482.783	284.124	284.124	1	H1-1b*	
82	M30	SR.875	0.015	147.658	1	0.002	0	1	298.144	19482.783	284.124	284.124	1	H1-1b*	
83	M64	SR.875	0.014	147.658	52	0.002	0	1	298.144	19482.783	284.124	284.124	1	H1-1b*	
84	M135	SR.875	0.013	147.658	28	0.002	0	1	298.144	19482.783	284.124	284.124	1	H1-1b*	
85	M142	SR.875	0.013	147.658	28	0.002	0	1	298.144	19482.783	284.124	284.124	1	H1-1b*	
86	M108	SR.875	0.013	147.658	28	0.002	0	1	298.144	19482.783	284.124	284.124	1	H1-1b*	
87	M101	SR.875	0.013	147.658	28	0.002	0	1	298.144	19482.783	284.124	284.124	1	H1-1b*	
88	M136	P7X1	0.012	0	52	0.001	50.252	y	5	52184.737	315000	6562.5	45937.5	1.563	H1-1b*
89	M103	P7X1	0.012	0	52	0.001	50.252	y	5	52184.737	315000	6562.5	45937.5	1.567	H1-1b*
90	M137	P7X1	0.012	0	52	0.001	50.252	y	5	52184.737	315000	6562.5	45937.5	1.719	H1-1b*
91	M102	P7X1	0.012	0	52	0.001	50.252	y	5	52184.737	315000	6562.5	45937.5	1.718	H1-1b*
92	M511	W8X31	0.01	96	23	0.004	96	y	23	348068.617	410850	52791.334	113877.375	1.661	H1-1b
93	M24	P7X1	0.009	50.252	26	0.003	0	y	27	52184.737	315000	6562.5	45937.5	1.833	H1-1b
94	M510	W8X31	0.007	96	23	0.004	96	y	23	348068.617	410850	52791.334	113877.375	1.717	H1-1b
95	M27	P7X1	0.007	50.252	26	0.002	0	y	27	52184.737	315000	6562.5	45937.5	1.528	H1-1b
96	M68	P7X1	0.004	0	64	0.001	0	y	72	52184.737	315000	6562.5	45937.5	2.728	H1-1b*
97	M121	P7X1	0.004	50.252	64	0	50.252	y	52	52184.737	315000	6562.5	45937.5	1.635	H1-1b
98	M107	P7X1	0.004	50.252	64	0	50.252	y	52	52184.737	315000	6562.5	45937.5	1.636	H1-1b
99	M141	P7X1	0.004	50.252	64	0	50.252	y	52	52184.737	315000	6562.5	45937.5	1.632	H1-1b
100	M87	P7X1	0.004	50.252	64	0	50.252	y	52	52184.737	315000	6562.5	45937.5	1.63	H1-1b
101	M69	P7X1	0.004	0	52	0.001	0	y	27	52184.737	315000	6562.5	45937.5	1.783	H1-1b*
102	M53	P7X1	0.004	0	1	0.001	0	y	58	52184.737	315000	6562.5	45937.5	1.489	H1-1b*
103	M39	P7X1	0.004	0	1	0.001	0	y	58	52184.737	315000	6562.5	45937.5	1.493	H1-1b*
104	M40	P7X1	0.004	0	28	0.001	50.252	y	4	52184.737	315000	6562.5	45937.5	1.557	H1-1b*
105	M73	P7X1	0.003	0	1	0.001	50.252	y	4	52184.737	315000	6562.5	45937.5	1.664	H1-1b*
106	M42	1"S.R	0.002	176.662	32	0.002	0	32	355.321	25446.895	424.112	424.112	1	H1-1b*	
107	M41	1"S.R	0.001	176.662	32	0.002	0	32	355.321	25446.895	424.112	424.112	1	H1-1b*	
108	M51	1"S.R	0	176.662	79	0	176.662	79	355.321	25446.895	424.112	424.112	1	H1-1a	
109	M55	1"S.R	0	176.662	79	0	176.662	79	355.321	25446.895	424.112	424.112	1	H1-1a	
110	M85	1"S.R	0	176.662	79	0	176.662	79	355.321	25446.895	424.112	424.112	1	H1-1a	
111	M89	1"S.R	0	176.662	79	0	176.662	79	355.321	25446.895	424.112	424.112	1	H1-1a	
112	M119	1"S.R	0	176.662	79	0	176.662	79	355.321	25446.895	424.112	424.112	1	H1-1a	
113	M123	1"S.R	0	176.662	79	0	176.662	79	355.321	25446.895	424.112	424.112	1	H1-1a	
114	M515	W8X31	0	24	79	0.001	24	y	1	406613.824	410850	52791.334	113877.375	2.383	H1-1b*
115	M516	W8X31	0	24	79	0.001	24	y	1	406613.824	410850	52791.334	113877.375	2.383	H1-1b*

Envelope AWC NDS-18 / SDPWS-21 LRFD Member Wood Code Checks

	Member	Shape	Code Check	Loc[in]	LCShear Check	Loc[in]	DirLCFc'	[ksi]	Ft'	[ksi]	Fb1'	[ksi]	Fb2'	[ksi]	Fv'	[ksi]	RB	CL	CP	Eqn
1	M96	2-3X13.5FS	0.288	321.704	56	0.233	321.704	y	56	1.729	1.312	1.942	2.332	0.389	2.962	0.999	0.593	3.9-3		
2	M130	2-3X13.5FS	0.286	321.704	56	0.237	321.704	y	56	1.729	1.312	1.942	2.332	0.389	2.962	0.999	0.593	3.9-3		
3	M84	5.75X5.75FS	0.234	156.147	54	0.154	139.882	y	7	2.149	1.782	2.591	2.591	0.367	1.701	1	0.995	3.9-3		
4	M118	5.75X5.75FS	0.233	156.147	54	0.151	139.882	y	54	2.149	1.782	2.591	2.591	0.367	1.701	1	0.995	3.9-3		
5	M148	5.75X5.75FS	0.183	0	7	0.276	0	y	7	2.158	1.782	2.591	2.591	0.367	1.047	1	0.999	3.9-3		
6	M114	5.75X5.75FS	0.177	0	19	0.286	0	y	7	2.158	1.782	2.591	2.591	0.367	1.047	1	0.999	3.9-1		
7	M16	5.75X5.75FS	0.176	156.147	5	0.105	156.147	z	56	2.149	1.782	2.591	2.591	0.367	1.701	1	0.995	3.9-1		
8	M44	5.75X5.75FS	0.175	110.85	52	0.121	110.85	z	52	2.149	1.782	2.591	2.591	0.367	1.706	1	0.995	3.9-1		
9	M50	5.75X5.75FS	0.172	156.147	5	0.105	156.147	z	56	2.149	1.782	2.591	2.591	0.367	1.701	1	0.995	3.9-1		
10	M1	8X10FS	0.171	0	56	0.191	174.25	z	54	2.154	1.782	2.59	2.591	0.367	1.628	1	0.997	3.9-3		
11	M80	5.75X5.75FS	0.171	110.85	52	0.122	110.85	z	52	2.149	1.782	2.591	2.591	0.367	1.706	1	0.995	3.9-3		

Envelope AWC NDS-18 / SDPWS-21 LRFD Member Wood Code Checks (Continued)

Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	F _{c'} [ksi]	F _{t'} [ksi]	F _{b1'} [ksi]	F _{b2'} [ksi]	F _{v'} [ksi]	RB	CL	CP	Eqn	
12	M43	8X10FS	0.156	0	5	0.178	174.25	y	52	2.154	1.782	2.59	2.591	0.367	1.628	1	0.997	3.9-3
13	M113	2X9.5FS	0.137	0	19	0.017	84.677	y	5	0.415	1.604	2.294	2.375	0.389	14.172	0.966	0.128	3.6-3
14	M147	2X9.5FS	0.132	0	19	0.017	84.677	y	5	0.415	1.604	2.294	2.375	0.389	14.172	0.966	0.128	3.6-3
15	M82	2X9.5FS	0.12	0	19	0.02	0	y	19	0.413	1.604	2.294	2.375	0.389	14.189	0.966	0.127	3.9-1
16	M17	8X10FS	0.118	317.75	72	0.482	317.75	y	58	2.159	1.782	2.59	2.591	0.367	0.989	1	1	3.9-1
17	M116	2X9.5FS	0.114	0	19	0.019	0	y	37	0.413	1.604	2.294	2.375	0.389	14.189	0.966	0.127	3.9-1
18	M10	8X10FS	0.1	0	56	0.143	317.75	y	56	2.154	1.782	2.59	2.591	0.367	1.628	1	0.997	3.9-3
19	M18	8X10FS	0.1	492	58	0.08	0	y	58	2.154	1.782	2.59	2.591	0.367	1.628	1	0.997	3.9-3
20	M95	7.75X11.75FS	0.099	0	56	0.093	0	y	52	1.997	1.458	2.914	2.157	0.367	1.145	1	1	3.9-3
21	M129	7.75X11.75FS	0.097	0	56	0.092	0	y	52	1.997	1.458	2.914	2.157	0.367	1.145	1	1	3.9-3
22	M13	2-3X13.5FS	0.088	0	56	0.074	321.704	y	56	1.728	1.312	1.942	2.332	0.389	2.986	0.999	0.593	3.9-3
23	M62	2-3X13.5FS	0.087	0	56	0.072	321.704	y	56	1.728	1.312	1.942	2.332	0.389	2.986	0.999	0.593	3.9-3
24	M267	1.75X9.75FS	0.081	0	29	0.055	0	y	1	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1
25	M251	1.75X9.75FS	0.081	0	29	0.055	0	y	1	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1
26	M260	1.75X9.75FS	0.081	0	29	0.055	0	y	1	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1
27	M275	1.75X9.75FS	0.08	0	29	0.055	0	y	1	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1
28	M88	7.5X12FS	0.08	39.881	4	0.08	0	y	5	1.068	1.458	2.897	2.157	0.367	5.959	0.994	0.535	3.9-3
29	M122	7.5X12FS	0.079	39.881	4	0.082	0	y	5	1.068	1.458	2.897	2.157	0.367	5.959	0.994	0.535	3.9-3
30	M158	2X9.5FS	0.076	165.396	4	0.014	165.396	y	37	0.434	1.604	2.297	2.375	0.389	14.012	0.967	0.134	3.9-1
31	M151	2X9.5FS	0.074	165.396	4	0.014	165.396	y	37	0.433	1.604	2.297	2.375	0.389	14.014	0.967	0.134	3.9-1
32	M115	2X9.5FS	0.061	36.298	52	0.012	145.192	y	56	0.299	1.604	2.269	2.375	0.389	15.411	0.955	0.092	3.9-1
33	M149	2X9.5FS	0.06	34.786	52	0.012	145.192	y	56	0.299	1.604	2.269	2.375	0.389	15.411	0.955	0.092	3.9-1
34	M160	2X9.5FS	0.056	0	56	0.027	0	y	4	0.433	1.604	2.297	2.85	0.389	14.018	0.967	0.134	3.9-1
35	M156	2X9.5FS	0.056	0	56	0.027	0	y	4	0.433	1.604	2.297	2.85	0.389	14.018	0.967	0.134	3.9-1
36	M29	7.75X11.75FS	0.055	0	56	0.071	0	y	13	1.997	1.458	2.914	2.157	0.367	1.145	1	1	3.9-3
37	M61	7.75X11.75FS	0.053	0	56	0.048	0	y	56	1.997	1.458	2.914	2.157	0.367	1.145	1	1	3.9-3
38	M159	2X9.5FS	0.052	165.465	56	0.017	0	y	5	0.433	1.604	2.297	2.375	0.389	14.017	0.967	0.134	3.9-1
39	M152	2X9.5FS	0.052	165.472	56	0.017	0	y	5	0.433	1.604	2.297	2.375	0.389	14.018	0.967	0.134	3.9-1
40	M97	7.5X12FS	0.051	0	56	0.013	166.655	y	56	1.066	1.458	2.897	2.157	0.367	5.963	0.994	0.534	3.6-3
41	M131	7.5X12FS	0.051	0	56	0.013	166.655	y	56	1.066	1.458	2.897	2.157	0.367	5.963	0.994	0.534	3.6-3
42	M253	1.75X9.75FS	0.05	0	29	0.032	0	y	1	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1
43	M293	1.75X9.75FS	0.05	0	29	0.032	0	y	1	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1
44	M150	2X9.5FS	0.049	0	18	0.015	84.431	y	7	0.433	1.604	2.297	2.85	0.389	14.019	0.967	0.134	3.6-3
45	M47	2X9.5FS	0.048	0	7	0.011	84.677	y	7	0.415	1.604	2.294	2.85	0.389	14.17	0.966	0.128	3.6-3
46	M120	7.75X11.75FS	0.047	294.401	52	0.025	294.401	y	1	1.997	1.458	2.914	2.157	0.367	1.287	1	0.999	3.9-3
47	M86	7.75X11.75FS	0.047	294.401	52	0.025	294.401	y	1	1.997	1.458	2.914	2.157	0.367	1.287	1	0.999	3.9-3
48	M46	2X9.5FS	0.046	0	7	0.014	0	y	52	0.413	1.604	2.294	2.375	0.389	14.188	0.966	0.128	3.9-1
49	M155	2X9.5FS	0.046	0	5	0.017	165.396	y	37	0.433	1.604	2.297	2.85	0.389	14.017	0.967	0.134	3.9-1
50	M154	2X9.5FS	0.043	0	5	0.017	165.396	y	37	0.433	1.604	2.297	2.85	0.389	14.017	0.967	0.134	3.9-1
51	M79	2X9.5FS	0.043	0	7	0.01	84.677	y	54	0.415	1.604	2.294	2.85	0.389	14.172	0.966	0.128	3.6-3
52	M48	2X9.5FS	0.041	0	54	0.014	0	y	52	0.413	1.604	2.294	2.375	0.389	14.189	0.966	0.127	3.9-1
53	M195	1.75X9.75FS	0.037	145.198	33	0.009	0	y	1	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1
54	M213	1.75X9.75FS	0.037	145.198	33	0.009	0	y	1	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1
55	M343	1.75X9.75FS	0.036	137.627	31	0.007	287.222	y	1	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1
56	M198	1.75X9.75FS	0.036	137.627	31	0.007	140.619	y	27	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1
57	M336	1.75X9.75FS	0.036	137.627	31	0.008	287.222	y	58	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1
58	M216	1.75X9.75FS	0.036	137.627	31	0.008	287.222	y	58	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1
59	M333	1.75X9.75FS	0.036	145.198	33	0.009	0	y	1	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1
60	M340	1.75X9.75FS	0.036	145.198	33	0.009	0	y	1	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1
61	M188	1.75X9.75FS	0.035	145.198	33	0.009	145.198	y	27	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1
62	M220	1.75X9.75FS	0.035	145.198	33	0.009	0	y	1	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1
63	M335	1.75X9.75FS	0.035	83.186	31	0.011	145.198	y	58	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1
64	M250	1.75X9.75FS	0.035	145.198	58	0.009	145.198	y	1	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-3
65	M272	1.75X9.75FS	0.035	145.198	58	0.009	145.198	y	1	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-3
66	M215	1.75X9.75FS	0.035	83.186	31	0.011	145.198	y	58	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1

Envelope AWC NDS-18 / SDPWS-21 LRFD Member Wood Code Checks (Continued)

Member	Shape	Code	Check	Loc[in]	LC	Shear	Check	Loc[in]	Dir	LC	Fc' [ksi]	Ft' [ksi]	Fb1' [ksi]	Fb2' [ksi]	Fv' [ksi]	RB	CL	CP	Eqn
67	M342	1.75X9.75FS	0.035	80.162	31	0.011	145.198	y 5	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1		
68	M315	1.75X9.75FS	0.035	145.198	33	0.009	0	y 1	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1		
69	M197	1.75X9.75FS	0.035	81.674	33	0.011	145.198	y 5	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1		
70	M347	1.75X9.75FS	0.035	145.198	33	0.009	145.198	y 27	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1		
71	M348	1.75X9.75FS	0.034	137.627	31	0.009	140.619	y 72	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1		
72	M262	1.75X9.75FS	0.034	145.198	58	0.01	0	y 72	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-3		
73	M277	1.75X9.75FS	0.034	145.198	58	0.01	0	y 72	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-3		
74	M318	1.75X9.75FS	0.034	137.627	31	0.009	287.222	y 58	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1		
75	M223	1.75X9.75FS	0.034	137.627	33	0.009	287.222	y 58	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1		
76	M191	1.75X9.75FS	0.034	137.627	31	0.009	140.619	y 72	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1		
77	M54	7.5X12FS	0.034	166.459	66	0.031	166.459	y 4	1.068	1.458	2.897	2.157	0.367	5.959	0.994	0.535	3.9-1		
78	M255	1.75X9.75FS	0.033	145.198	58	0.011	0	y 72	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-3		
79	M295	1.75X9.75FS	0.033	145.198	58	0.011	0	y 72	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-3		
80	M246	1.75X9.75FS	0.033	137.627	31	0.007	287.222	y 58	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1		
81	M268	1.75X9.75FS	0.033	137.627	31	0.007	287.222	y 58	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1		
82	M222	1.75X9.75FS	0.033	84.699	33	0.012	145.198	y 58	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1		
83	M227	1.75X9.75FS	0.033	145.198	33	0.008	0	y 1	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1		
84	M317	1.75X9.75FS	0.033	83.186	33	0.012	145.198	y 58	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1		
85	M330	1.75X9.75FS	0.033	81.674	31	0.012	145.198	y 52	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1		
86	M14	7.5X12FS	0.033	166.459	66	0.031	166.459	y 4	1.068	1.458	2.897	2.157	0.367	5.959	0.994	0.535	3.9-1		
87	M190	1.75X9.75FS	0.033	81.674	33	0.012	145.198	y 52	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1		
88	M312	1.75X9.75FS	0.033	145.198	58	0.012	145.198	y 58	3.24	1.604	2.375	2.85	0.389	0	1	1	3.9-3		
89	M210	1.75X9.75FS	0.032	145.198	58	0.012	145.198	y 58	3.24	1.604	2.375	2.85	0.389	0	1	1	3.9-3		
90	M291	1.75X9.75FS	0.032	145.198	33	0.008	0	y 1	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1		
91	M179	1.75X9.75FS	0.032	145.198	29	0.01	145.198	y 19	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1		
92	M278	1.75X9.75FS	0.032	137.627	31	0.008	287.222	y 58	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1		
93	M263	1.75X9.75FS	0.032	137.627	31	0.008	287.222	y 58	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1		
94	M228	1.75X9.75FS	0.032	137.627	33	0.009	287.222	y 58	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1		
95	M286	1.75X9.75FS	0.032	137.627	31	0.009	287.222	y 58	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1		
96	M33	7.75X11.75FS	0.032	294.401	29	0.029	294.401	y 58	1.997	1.458	2.914	2.157	0.367	1.287	1	0.999	3.9-1		
97	M331	1.75X9.75FS	0.031	145.198	29	0.01	145.198	y 19	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1		
98	M52	7.75X11.75FS	0.031	294.401	27	0.029	294.401	y 58	1.997	1.458	2.914	2.157	0.367	1.287	1	0.999	3.9-1		
99	M45	2X9.5FS	0.03	145.192	56	0.011	145.192	y 4	0.299	1.604	2.269	2.85	0.389	15.411	0.955	0.092	3.9-1		
100	M182	1.75X9.75FS	0.03	137.627	33	0.011	140.619	y 72	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1		
101	M326	1.75X9.75FS	0.03	137.627	31	0.011	140.619	y 72	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1		
102	M296	1.75X9.75FS	0.03	137.627	33	0.009	137.627	y 72	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1		
103	M256	1.75X9.75FS	0.03	137.627	31	0.009	137.627	y 72	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1		
104	M308	1.75X9.75FS	0.03	137.627	31	0.009	137.627	y 72	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1		
105	M238	1.75X9.75FS	0.03	137.627	31	0.01	137.627	y 72	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1		
106	M206	1.75X9.75FS	0.029	137.627	31	0.009	0	y 58	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1		
107	M303	1.75X9.75FS	0.029	137.627	31	0.01	137.627	y 72	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1		
108	M81	2X9.5FS	0.029	145.192	56	0.011	145.192	y 4	0.299	1.604	2.269	2.85	0.389	15.411	0.955	0.092	3.9-1		
109	M237	1.75X9.75FS	0.029	145.198	58	0.01	145.198	y 1	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-3		
110	M302	1.75X9.75FS	0.029	145.198	58	0.011	145.198	y 1	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-3		
111	M171	1.75X9.75FS	0.028	145.198	29	0.011	145.198	y 19	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1		
112	M194	1.75X9.75FS	0.028	191.779	31	0.009	0	y 1	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1		
113	M181	1.75X9.75FS	0.028	81.674	33	0.014	145.198	y 52	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1		
114	M352	1.75X9.75FS	0.028	81.674	31	0.014	145.198	y 52	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1		
115	M211	1.75X9.75FS	0.028	145.198	33	0.009	0	y 1	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1		
116	M185	1.75X9.75FS	0.027	191.779	31	0.01	0	y 56	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1		
117	M203	1.75X9.75FS	0.027	191.779	31	0.009	0	y 1	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1		
118	M235	1.75X9.75FS	0.027	145.198	33	0.008	0	y 1	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1		
119	M307	1.75X9.75FS	0.027	145.198	33	0.009	0	y 1	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1		
120	M270	1.75X9.75FS	0.027	317.428	54	0.009	0	y 1	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-3		
121	M266	1.75X9.75FS	0.027	317.428	54	0.009	0	y 1	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-3		

Envelope AWC NDS-18 / SDPWS-21 LRFD Member Wood Code Checks (Continued)

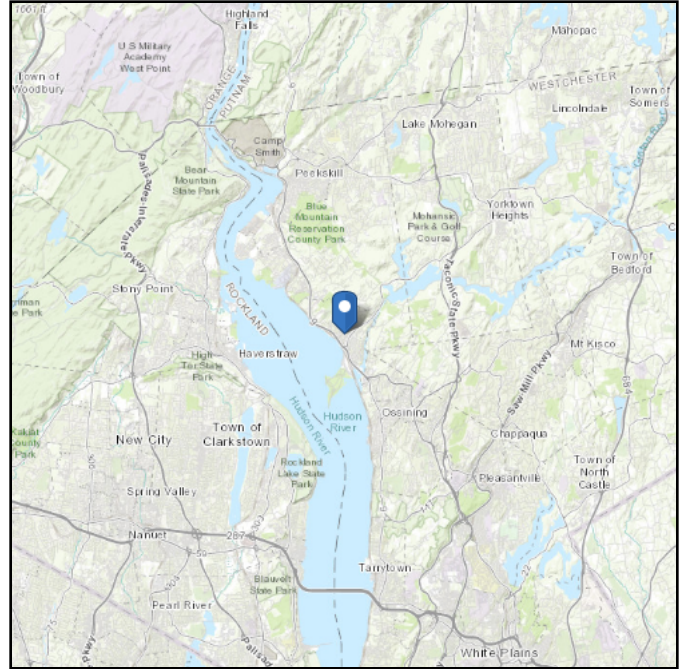
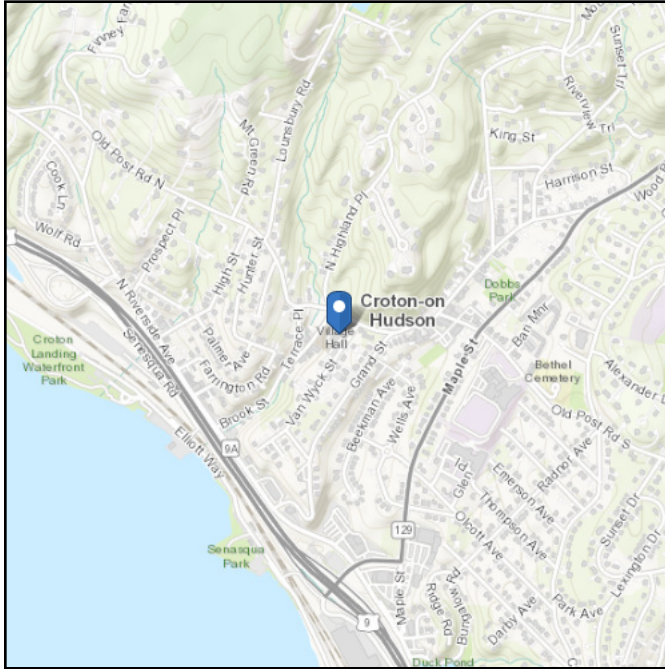
Member	Shape	Code	Check	Loc[in]	LC	Shear	Check	Loc[in]	Dir	LC	Fc'	[ksi]	Ft'	[ksi]	Fb1'	[ksi]	Fb2'	[ksi]	Fv'	[ksi]	RB	CL	CP	Eqn
122	M259	1.75X9.75FS	0.027	317.428	54	0.009	0	y	1	3.24	1.604	2.375	2.85	0.389	0	1	1	3.9-3						
123	M274	1.75X9.75FS	0.027	317.428	54	0.009	0	y	1	3.24	1.604	2.375	2.85	0.389	0	1	1	3.9-3						
124	M339	1.75X9.75FS	0.027	191.779	33	0.009	0	y	1	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1						
125	M355	1.75X9.75FS	0.027	145.198	29	0.01	145.198	y	19	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1						
126	M323	1.75X9.75FS	0.026	191.779	33	0.009	0	y	1	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1						
127	M300	1.75X9.75FS	0.026	145.198	33	0.008	0	y	1	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1						
128	M232	1.75X9.75FS	0.026	145.198	58	0.01	145.198	y	58	3.24	1.604	2.375	2.85	0.389	0	1	1	3.9-3						
129	M290	1.75X9.75FS	0.026	145.198	58	0.01	145.198	y	58	3.24	1.604	2.375	2.85	0.389	0	1	1	3.9-3						
130	M230	1.75X9.75FS	0.025	191.779	31	0.009	0	y	1	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1						
131	M243	1.75X9.75FS	0.025	317.428	54	0.01	0	y	66	3.24	1.604	2.375	2.85	0.389	0	1	1	3.9-3						
132	M283	1.75X9.75FS	0.025	317.428	54	0.01	0	y	66	3.24	1.604	2.375	2.85	0.389	0	1	1	3.9-3						
133	M346	1.75X9.75FS	0.025	191.779	33	0.01	0	y	56	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1						
134	M219	1.75X9.75FS	0.025	191.779	31	0.009	0	y	56	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1						
135	M314	1.75X9.75FS	0.025	191.779	33	0.009	0	y	66	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1						
136	M153	2X9.5FS	0.025	165.465	4	0.018	82.733	y	5	0.433	1.604	2.297	2.85	0.389	14.017	0.967	0.134	3.9-3						
137	M306	1.75X9.75FS	0.025	191.779	33	0.009	0	y	1	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1						
138	M547	2X9.5FS	0.025	165.465	4	0.017	82.733	y	4	0.433	1.604	2.297	2.85	0.389	14.017	0.967	0.134	3.9-3						
139	M178	1.75X9.75FS	0.025	191.779	31	0.011	0	y	56	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1						
140	M234	1.75X9.75FS	0.024	191.779	31	0.009	0	y	1	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1						
141	M157	2X9.5FS	0.024	165.396	52	0.015	84.421	y	7	0.434	1.604	2.297	2.85	0.389	14.012	0.967	0.134	3.9-3						
142	M299	1.75X9.75FS	0.024	191.779	31	0.009	0	y	1	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1						
143	M174	1.75X9.75FS	0.024	137.627	33	0.013	287.222	y	58	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1						
144	M357	1.75X9.75FS	0.024	145.198	58	0.014	145.198	y	52	3.24	1.604	2.375	2.85	0.389	0	1	1	3.9-3						
145	M310	1.75X9.75FS	0.024	188.473	29	0.009	0	y	66	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1						
146	M226	1.75X9.75FS	0.023	191.779	31	0.009	0	y	66	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1						
147	M358	1.75X9.75FS	0.023	137.627	31	0.013	287.222	y	58	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1						
148	M173	1.75X9.75FS	0.023	145.198	58	0.014	145.198	y	52	3.24	1.604	2.375	2.85	0.389	0	1	1	3.9-3						
149	M350	1.75X9.75FS	0.022	191.779	33	0.011	0	y	56	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1						
150	M163	1.75X9.75FS	0.022	0	29	0.01	145.198	y	19	3.24	1.604	2.375	2.85	0.389	0	1	1	3.9-1						
151	M15	7.5X12FS	0.022	166.655	56	0.026	166.655	y	56	1.066	1.458	2.897	2.157	0.367	5.963	0.994	0.534	3.9-3						
152	M63	7.5X12FS	0.022	166.655	56	0.026	166.655	y	56	1.066	1.458	2.897	2.157	0.367	5.963	0.994	0.534	3.9-3						
153	M165	1.75X9.75FS	0.022	0	28	0.014	145.198	y	52	3.24	1.604	2.375	2.85	0.389	0	1	1	3.9-1						
154	M170	1.75X9.75FS	0.021	191.779	31	0.012	0	y	56	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1						
155	M365	1.75X9.75FS	0.02	145.198	29	0.009	0	y	7	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1						
156	M354	1.75X9.75FS	0.02	0	56	0.012	0	y	56	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-3						
157	M162	1.75X9.75FS	0.02	188.473	27	0.012	0	y	56	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1						
158	M367	1.75X9.75FS	0.02	0	28	0.013	145.198	y	52	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1						
159	M362	1.75X9.75FS	0.02	0	1	0.012	0	y	56	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-3						
160	M2	1.75X9.75FS	0.019	0	1	0.012	0	y	56	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-3						
161	M371	1.75X9.75FS	0.019	0	1	0.012	0	y	56	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-3						
162	M372	1.75X9.75FS	0.017	145.198	29	0.009	145.198	y	19	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1						
163	M3	1.75X9.75FS	0.016	0	29	0.01	145.198	y	19	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1						
164	M166	1.75X9.75FS	0.016	137.627	72	0.014	287.222	y	58	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-3						
165	M368	1.75X9.75FS	0.016	137.627	72	0.014	287.222	y	58	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-3						
166	M4	1.75X9.75FS	0.016	0	28	0.013	145.198	y	52	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1						
167	M374	1.75X9.75FS	0.015	145.198	70	0.013	145.198	y	52	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1						
168	M5	1.75X9.75FS	0.013	0	29	0.012	287.222	y	58	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1						
169	M375	1.75X9.75FS	0.012	0	28	0.012	287.222	y	58	3.24	1.604	2.375	2.375	0.389	0	1	1	3.9-1						

ASCE Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-16
Risk Category: III
Soil Class: D - Stiff Soil

Latitude: 41.208308
Longitude: -73.887711
Elevation: 118.00327077741687 ft (NAVD 88)



Wind

Results:

Wind Speed	123 Vmph
10-year MRI	75 Vmph
25-year MRI	84 Vmph
50-year MRI	89 Vmph
100-year MRI	95 Vmph

Data Source: ASCE/SEI 7-16, Fig. 26.5-1C and Figs. CC.2-1–CC.2-4, and Section 26.5.2

Date Accessed: Tue Apr 01 2025

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-16 Standard. Wind speeds correspond to approximately a 3% probability of exceedance in 50 years (annual exceedance probability = 0.000588, MRI = 1,700 years).

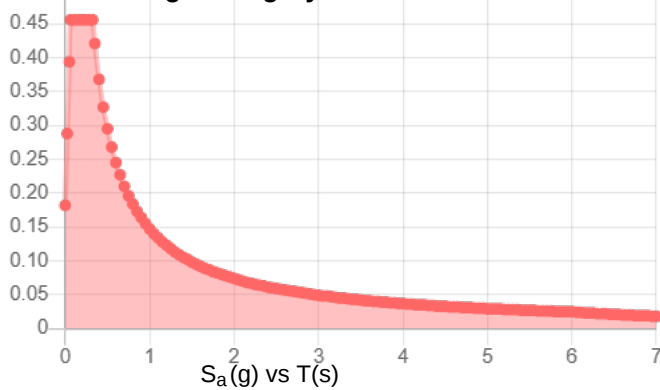
Site is not in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2.

Site Soil Class: D - Stiff Soil

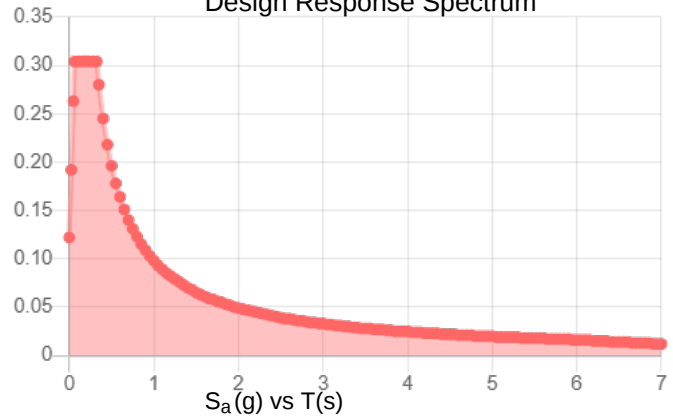
Results:

S_S :	0.291	S_{D1} :	0.098
S_1 :	0.061	T_L :	6
F_a :	1.567	PGA :	0.18
F_v :	2.4	PGA _M :	0.259
S_{MS} :	0.456	F_{PGA} :	1.441
S_{M1} :	0.147	I_e :	1.25
S_{DS} :	0.304	C_v :	0.882

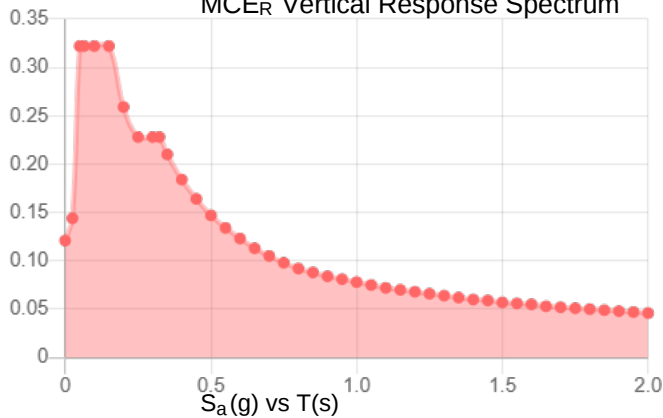
Seismic Design Category: B **MCE_R Response Spectrum**



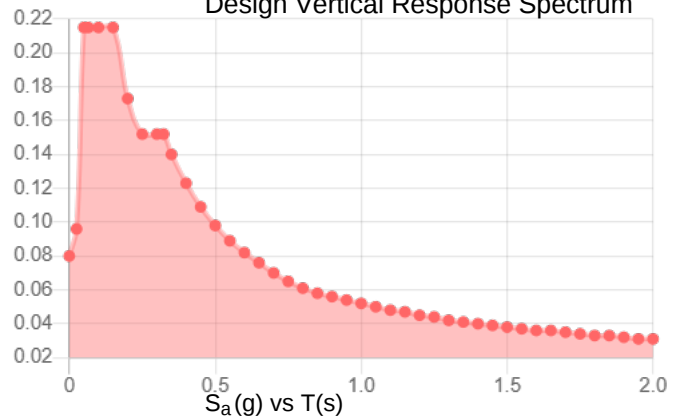
Design Response Spectrum



MCE_R Vertical Response Spectrum



Design Vertical Response Spectrum



Data Accessed: Tue Apr 01 2025

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness: 1.00 in.
Concurrent Temperature: 15 F
Gust Speed 40 mph

Data Source: Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8

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Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 500-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

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